ROQUET

MASTER

TECHNICAL CATALOG

Interactive Edition

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MASTER MENU

ROQUET

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Cylinders

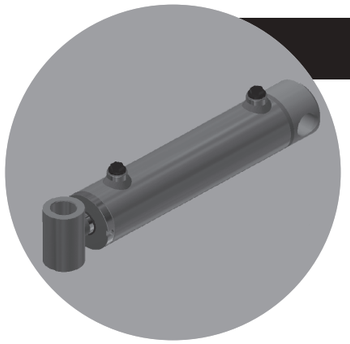


Roquet Hydraulics, S.L.
Antoni Figueras, 91, bloc B
08551 Tona | Barcelona | Spain
Phone: +34 938 124 664
www.roquetgroup.com

Roquet
making moves

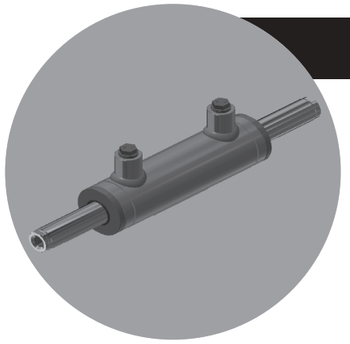
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Roquet making moves



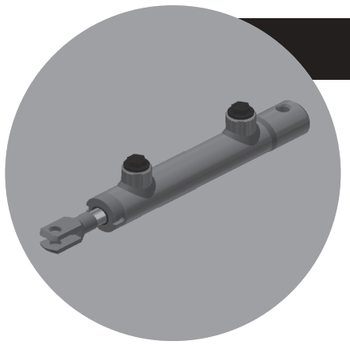
Front Loader Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Main weldings 100% robotized
- Top Class Painting Process & Nano-Ceramic preparation process
- High rod corrosion resistance: NSS or CASS rating
- Automated assembly and test for high volumes
- Rod diameter from 20 to 60 mm
- Tube Internal diameter from 40 to 110 mm
- Best-in-class highly automated manufacturing



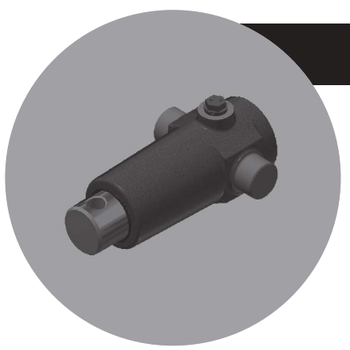
Steering Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Main weldings 100% robotized
- Top Class Painting Process & Nano-Ceramic preparation process
- High rod corrosion resistance: NSS or CASS rating
- Low Friction premium sealing system
- Rod diameter from 20 to 45 mm
- Tube Internal diameter from 35 to 80 mm
- Best-in-class highly automated manufacturing



Coupler Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Main weldings 100% robotized
- Top Class Painting Process & Nano-Ceramic preparation process
- High rod corrosion resistance: NSS or CASS rating
- Low Friction premium sealing system
- Rod diameter from 16 to 45 mm
- Tube Internal diameter from 35 to 80 mm
- Best-in-class highly automated manufacturing



Casting Cylinders

- Special body design on demand
- Top Class Painting Process & Nano-Ceramic preparation process
- High rod corrosion resistance: NSS or CASS rating
- Rod diameter from 20 to 60 mm
- Nodular and laminar casting



SSL CTL Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Rod Friction Welding. Wide range of Rod materials: C45, 38MnV56, ...
- High rod corrosion resistance: NSS or CASS rating
- Main weldings 100% robotized
- Cushioned options both ends
- Top Class Painting Process & Nano-Ceramic preparation process
- Rod diameter from 20 to 60 mm
- Tube Internal diameter from 40 to 110 mm
- Forging Components, wide range of bearing types
- Best-in-class highly automated manufacturing



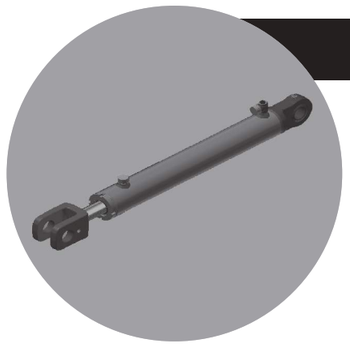
MEX Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Rod Friction Welding. Wide range of Rod materials: C45, 38MnV56, ...
- High rod corrosion resistance: NSS or CASS rating
- Main weldings 100% robotized
- Cushioned options both ends. Bucket & Arms robust designs
- Top Class Painting Process & Nano-Ceramic preparation process
- Integrated Valve blocs
- Rod diameter from 20 to 60 mm
- Tube Internal diameter from 40 to 110 mm
- Forging Components, wide range of bearing types
- Best-in-class highly automated manufacturing



CWL Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Rod Friction Welding
- Wide range of Rod materials: C45, 38MnV56, ...
- High rod corrosion resistance: NSS or CASS rating
- Main weldings 100% robotized
- Top Class Painting Process & Nano-Ceramic preparation process
- Rod diameter from 20 to 100 mm
- Tube Internal diameter from 40 to 150 mm
- Forging Components, wide range of bearing types
- Best-in-class highly automated manufacturing



Steering Cylinders

- Tube Internal Diameter Finished (Honing & SRB) after welding
- Rod Friction Welding
- Wide range of Rod materials: C45, 38MnV56, ...
- High rod corrosion resistance: NSS or CASS rating
- Main weldings 100% robotized
- Top Class Painting Process & Nano-Ceramic preparation process
- Rod diameter from 20 to 60 mm
- Tube Internal diameter from 40 to 110 mm
- Forging Components, wide range of bearing types
- Best-in-class highly automated manufacturing

MENU

MENU

M
BOMBAS DE ENGRANAJES
GEAR PUMPS



Roquet
making moves

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Sistema de codificación	1	M	1,5	D	F	09	R	-***	*Coding system*

Tipo / *Type*

1	Sin polea / *Without pulley*

Modelo / *Model*

M	Bomba de engranajes *Gear pump*

Caudal bomba a 1500 rpm y 0 bar
Pump flow rate at 1500 rpm and 0 bar

Ver hoja técnica / *See technical data*

Sentido de giro / *Rotation direction*

D	Derecha / *Clockwise*
I	Izquierda / *Counterclockwise*
R	Reversible / *Reversible*

Código / *Code*

Formas conexión tomas / *Port connection forms*



R T

Tipo de tapa / *Fixing flange*

09 - 22

Forma eje motriz / *Driving shaft form*

B - F - Q

HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas críticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones finales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY *Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.*

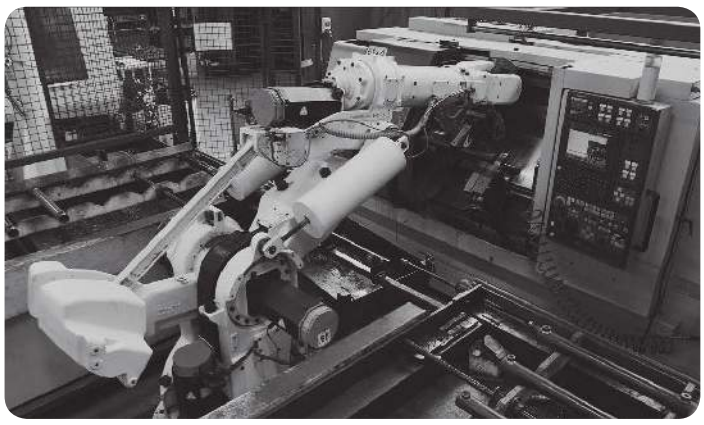
TECHNOLOGY *Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.*

RELIABILITY *A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.*

CAPABILITY *400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.*









Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.
Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.
Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.
Gama de temperaturas del fluido hidráulico +5º C +80º C.
El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.
La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.
Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars. Conexión por rosca G.
Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.
Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.

NOTA IMPORTANTE: En versión estándar la conexión es de rosca G.

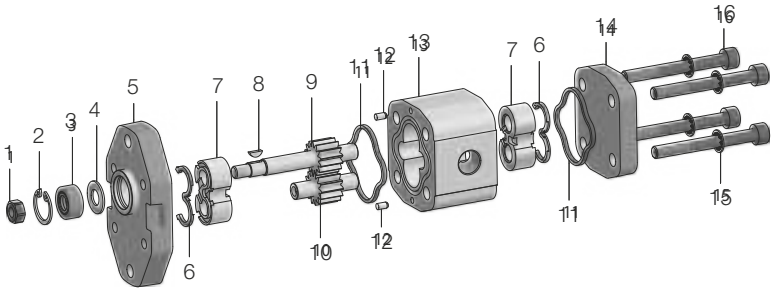
Our pumps are hydrostatically balanced and have automatic lateral adjustment.
We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.
To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.
Oil temperature range +5ºC - +80ºC.
Filtration is extremely important since most problems are due to oil contamination.
The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.
The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar. Connection by threaded G.
Rotation direction: Clockwise or anti-clockwise when facing the shaft end.
Before starting the pump, make sure the direction of rotation is correct.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L.
Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
ROQUETHYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUETHYDRAULICS, S.L. in case of doubt.
ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Partes de una bomba / *Pump parts*



1	Tuerca *Nut*
2	Anillo elástico *Circlip*
3	Retén aceite *Oil seal*
4	Arandela tope retén *Shaft seal end ring*
5	Tapa frontal *Front flange*
6	Junta de compensación *Compensation gaske*
7	Conjunto cojinete apoyo *Bearing assembly*
8	Chaveta *Key*

9	Rueda motriz *Drive shaft*
10	Rueda conducida *Driven shaft*
11	Junta de tope *Housing gasket*
12	Pasador *Pin*
13	Cuerpo bomba *Pump housing*
14	Tapa posterior *Back cover*
15	Arandelas *Washers*
16	Tornillos *Screws*



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	0,50 *(0,13)*	0,75 *(0,20)*	1 *(0,26)*	1,25 *(0,33)*	1,5 *(0,39)*	2 *(0,52)*
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	0,33 *(0,02)*	0,5 *(0,03)*	0,66 *(0,04)*	0,83 *(0,05)*	1 *(0,06)*	1,33 *(0,08)*
Presión máx. continua en ***Cont. max. pressure***	bar *(PSI)*	225 *(3.263)*					175 *(2.538)*
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	250 *(3.625)*					200 *(2.900)*
R.P.M. a presión continua ***R.P.M. at cont. pressure***		5.000			4.000		3.000
R.P.M. máximas ***Max. R.P.M.***		10.000			8.000		6.000
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar *(1450 PSI)*	1.000					
	175 bar *(2538 PSI)*	1.500					
	250 bar *(3625 PSI)*	3.000		2.500			—
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG					
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46					
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H					
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F					
Depresión máximo en aspiración ***Max. suction depresion***		< 0,3 bar					

CONEXIONES TIPO R
ROQUETHYDRAULICS, S.L. recomienda utilizar implantaciones roscadas cilíndricas: con cierre por arista de estanqueidad, junta plana o junta tórica. (Ver normas: DIN 3852, ISO1179, ISO 9974 y ISO 6149). No se recomienda utilizar otras implantaciones tipo cónicas, etc. A continuación se detallan los pares de apriete para implantaciones roscadas cilíndricas.

CONNECTION TYPES R
ROQUETHYDRAULICS, S.L. recomends to use threaded fittings with parallel threads: with sealing face, with flat seal or with o-ring seal (Standards: DIN 3852, ISO1179, ISO 9974 y ISO6149). It is not recomended to use conic type fittings, etc. Guide for tightening torques for threaded fittings with parallel threads.

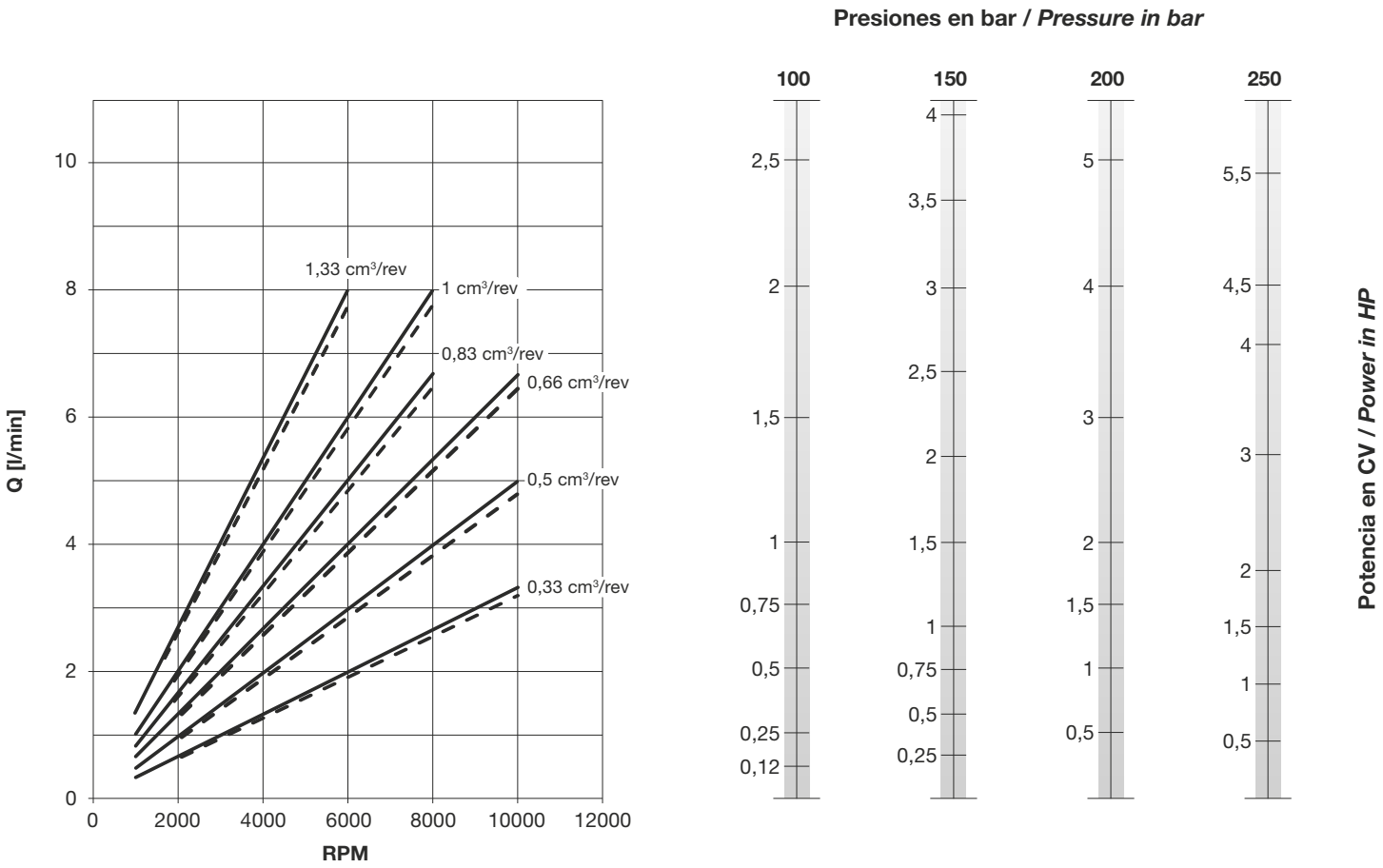
PAR DE APRIETE / *ASSEMBLY TORQUE*

Rosca (ISO 228-1) *Thread Size (ISO 228-1)*	Par de apriete min. (Nm) *Assembly Torque min. (Nm)*	Par de apriete máx. (Nm) *Assembly Torque max. (Nm)*
1/8" G	20	25
1/4" G	50	55
3/8" G	80	90
1/2" G	100	100
3/4" G	200	220
1" G	380	420

ACCIONAMIENTO DE LAS BOMBAS
Deben utilizarse acoplamientos entre bomba y accionamiento que eviten la transmisión de esfuerzos tanto axiales como laterales. Las bombas en su configuración estandard no admiten este tipo de esfuerzos, causando una disminución rápida de su vida util.

PUMP DRIVING DEVICES
It must be used a driving device to avoid the transmision of axial and radial loads to the axis of the pump. Standard flanges and pumps are not designed to handle this loads and this causes a reduction of its working life.

Gráfico de caudales, rendimientos y potencias según cilindrada
Flow, performance and power chart according to displacement

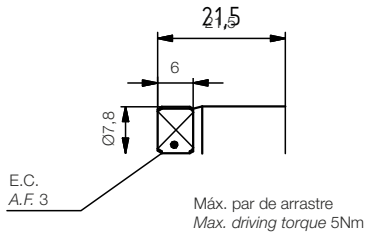


NOTA: Estos diagramas han sido obtenidos con un aceite de 4,5 E de viscosidad y una temperatura de 4,5°C.
NOTE: *These results have been obtained with 4,5º E viscosity oil and 50º deg. C (122°F).*

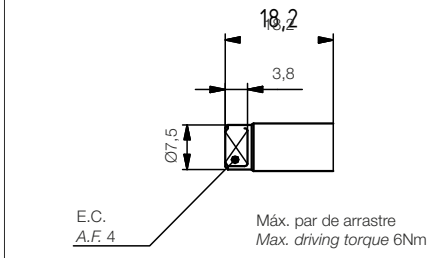
Tipos de eje motriz disponibles / *Available drive shaft forms*

NOTA: Las longitudes de los ejes se dan respecto la cara A de las tapas (ver tipos de tapas frontales).
NOTE: *The lengths of the shafts are given from the side A of the covers (see front flange types).*

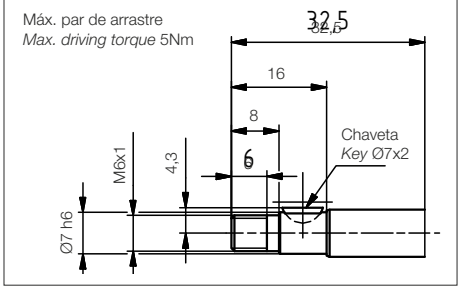
Eje forma B / *Shaft form B*



Eje forma Q / *Shaft form Q*

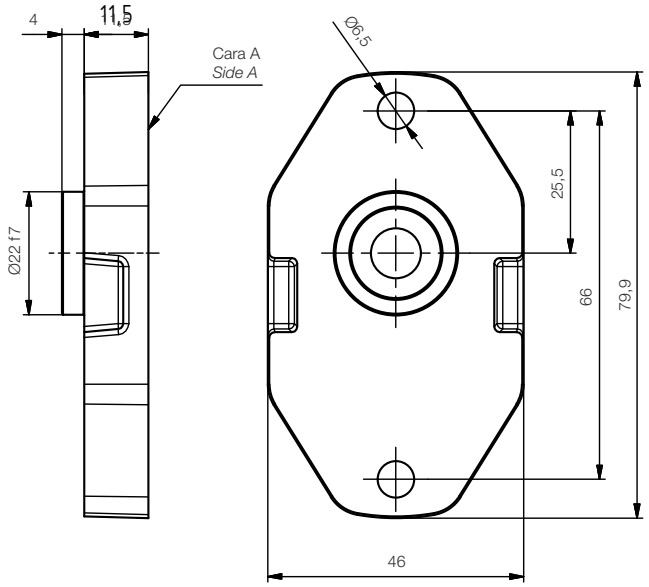


Eje forma F / *Shaft form F*

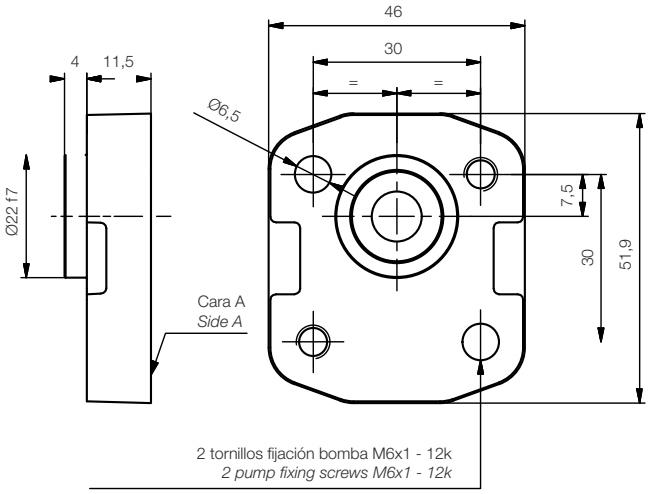


Tipos de tapas frontales disponibles / *Available front flanges types*

Tapa tipo 09 / *Front flange type 09*

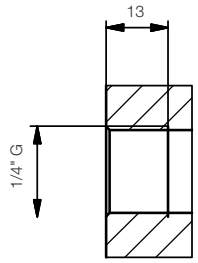


Tapa tipo 22 / *Front flange type 22*



Formas de conexión de tomas disponibles / *Available port connection forms*

Tomas forma R / *Port form R*

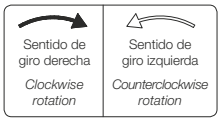


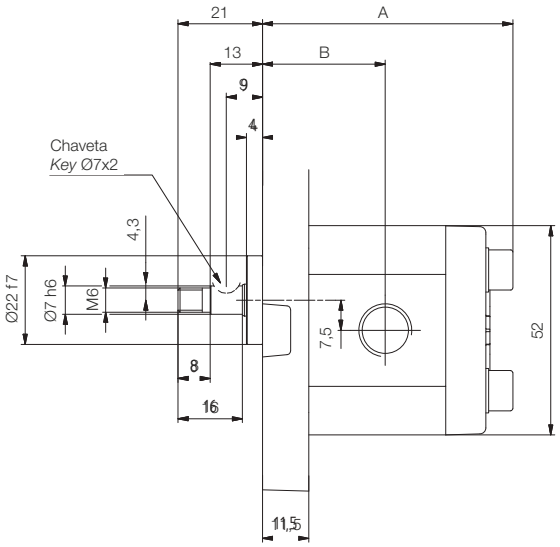
NOTA: Las dimensiones de las tomas son las mismas para bombas de un sentido de rotación y reversibles.

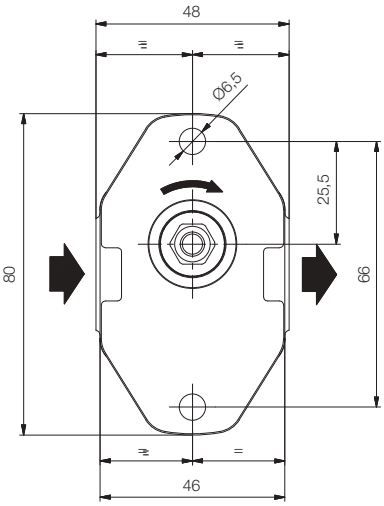
NOTE: *Port dimensions are the same for single rotation and reversible pumps.*

Tapa tipo 09 / *Front flange type 09*

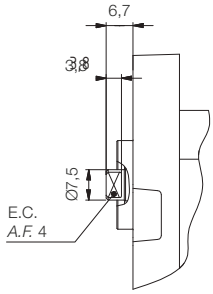
Eje forma F / *Shaft form F*

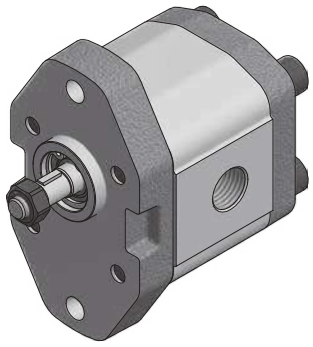






Eje forma Q / *Shaft form Q*





Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1M0,5D▲09R	0,33	53,5	26,5	0,56
1M0,75D▲09R	0,5	57	27,5	0,61
1M1D▲09R	0,66	58,2	28	0,63
1M1,25D▲09R	0,83	61	28	0,65
1M1,5D▲09R	1	62,2	30,5	0,67
1M2D▲09R	1,33	67	30,5	0,69

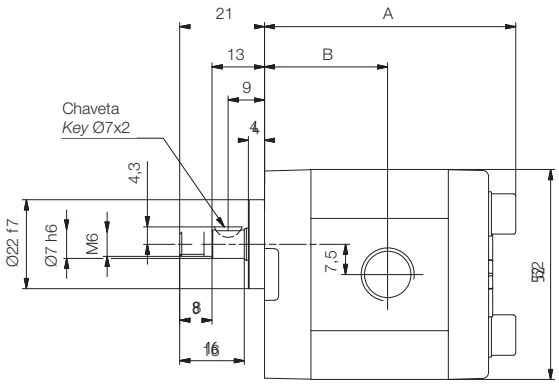
▲ Forma de eje / *Shaft form*.

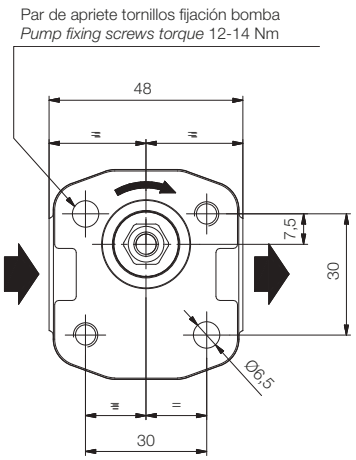
NOTA: Para tipos de ejes y dimensiones de tomas disponibles, consultar página 7.
NOTE: *For available shaft forms and port dimensions, see page 7.*

Tapa tipo 22 / *Front flange type 22*

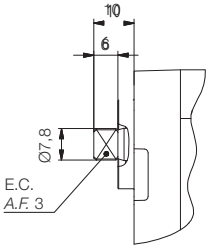
Eje forma F / *Shaft form F*

Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*





Eje forma B / *Shaft form B*



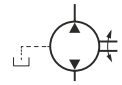


Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1M0,5D▲22R	0,33	53,5	26,5	0,52
1M0,75D▲22R	0,5	57	27,5	0,54
1M1D▲22R	0,66	58,2	28	0,56
1M1,25D▲22R	0,83	61	28	0,58
1M1,5D▲22R	1	62,2	30,5	0,60
1M2D▲22R	1,33	67	30,5	0,62

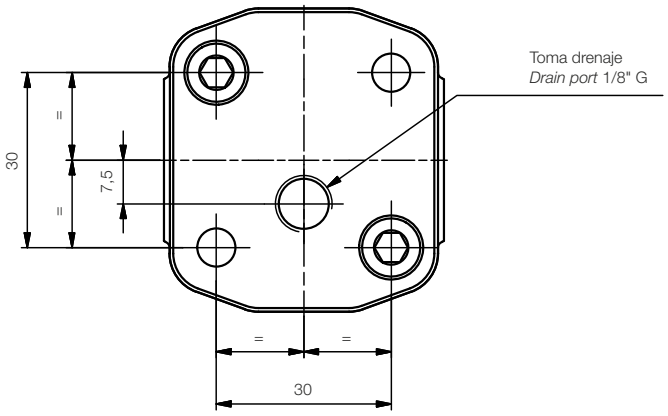
▲ Forma de eje / *Shaft form*.

NOTA: Para tipos de ejes y dimensiones de tomas disponibles, consultar página 7.
NOTE: *For available shaft forms and port dimensions, see page 7.*

Tapa trasera para bombas reversibles
Back cover for reversible pumps



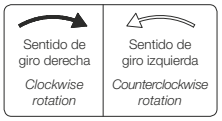


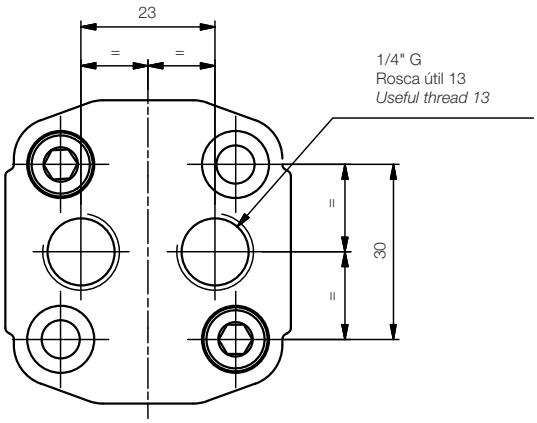


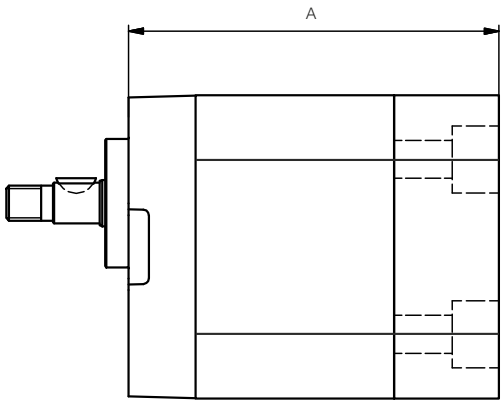
Conexión tomas T
Port connection form T



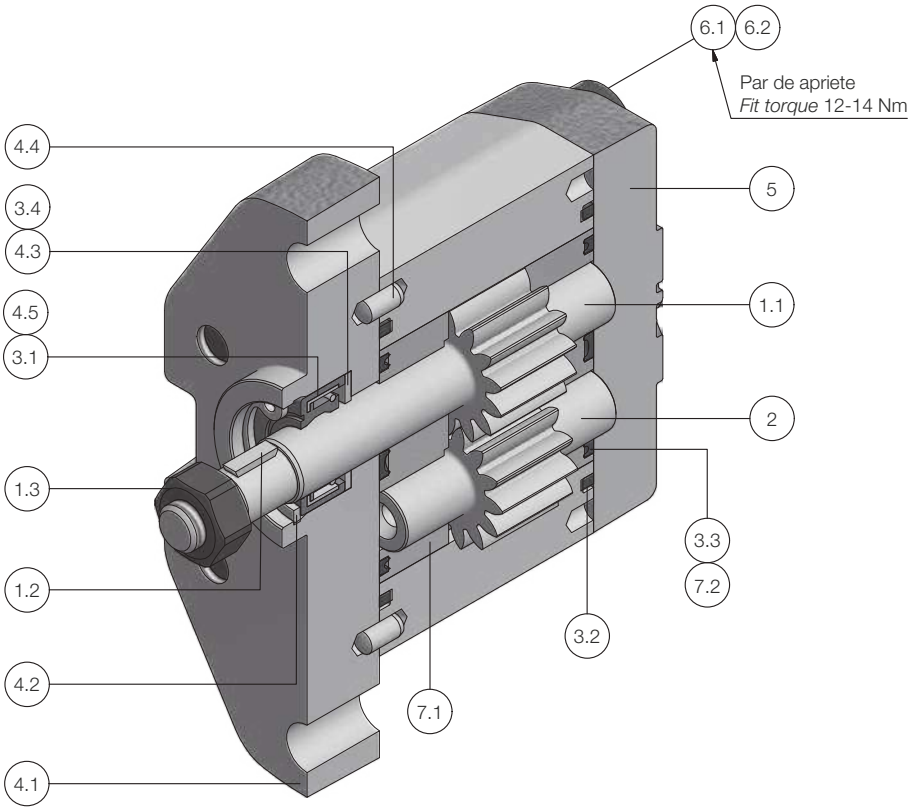
Tapa posterior para bombas con tomas traseras
Back cover for pumps with rear ports

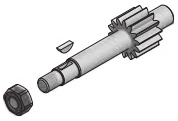
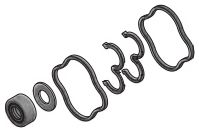


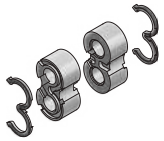




Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A
1M0,5DF22T	0,33	55,5
1M0,75DF22T	0,5	57,5
1M1DF22T	0,66	59,5
1M1,25DF22T	0,83	61,5
1M1,5DF22T	1	63,5
1M2DF22T	1,33	67,5



Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
1	Kit eje motriz *Drive shaft kit*	
2	Eje conducido *Driven shaft*	
3	Kit juntas *Seals kit*	
4	Kit tapa delantera *Front flange kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
5	Tapa posterior *Back cover*	
6	Kit tornillos fijación *Fixing screws kit*	
7	Kit cojinetes apoyo *Bearing assemblies kit*	

NOTA: Consultar las referencias disponibles con el departamento comercial.
NOTE: *For available references contact the sales department.*

MENU

Roquet
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MENU

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LO
BOMBAS DE ENGRANAJES
GEAR PUMPS



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HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas críticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones finales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY *Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.*

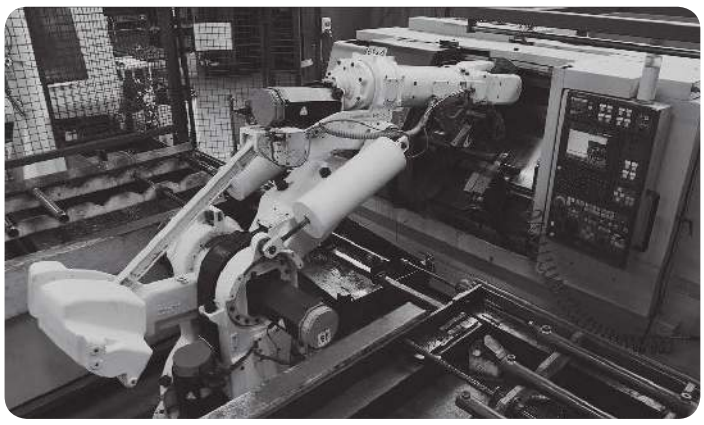
TECHNOLOGY *Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.*

RELIABILITY *A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.*

CAPABILITY *400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.*









Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.
Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.
Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.
Gama de temperaturas del fluido hidráulico +5º C +80º C.
El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.
La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.
Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars. Conexión por bridas S.A.E. o rosca G.
Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.
Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.
Presentamos en el apartado de bombas dobles, varios tipos de fijación con sus ejes más normales. No obstante se podrán construir bombas dobles con las mismas fijaciones que las simples y sus ejes correspondientes.
Estas consideraciones también son validas para bombas triples y cuadruples, que podemos fabricar.

NOTA IMPORTANTE: En versión estándar la conexión es de rosca G.

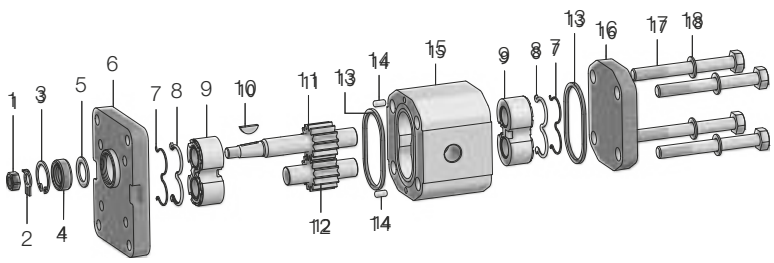
Our pumps are hydrostatically balanced and have automatic lateral adjustment.
We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.
To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.
Oil temperature range +5ºC - +80ºC.
Filtration is extremely important since most problems are due to oil contamination.
The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.
The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar. Connection by SAE flange or threaded G.
Rotation direction: Clockwise or anti-clockwise when facing the shaft end.
Before starting the pump, make sure the direction of rotation is correct.
Double and multiple pumps are available with all shafts and flanges shown for single pumps.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

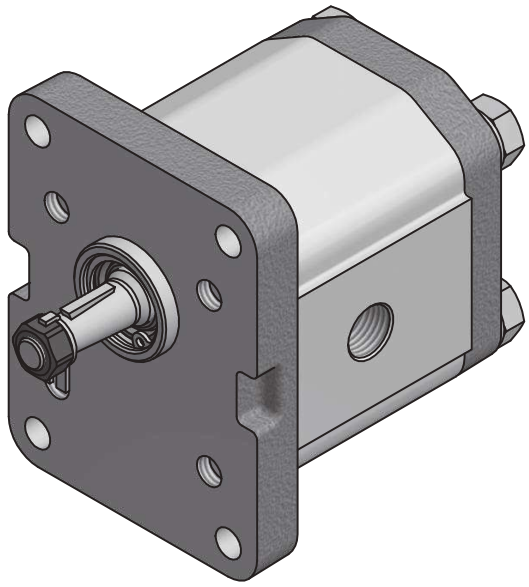
Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L.
Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
ROQUETHYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUETHYDRAULICS, S.L. in case of doubt.
ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Partes de una bomba / *Pump parts*



1	Tuerca *Nut*	10	Chaveta *Key*
2	Fijador tuerca *Safety washer*	11	Rueda motriz *Drive shaft*
3	Anillo elástico *Circlip*	12	Rueda conducida *Driven shaft*
4	Retén aceite *Oil seal*	13	Junta de tope *Housing gasket*
5	Arandela tope retén *Shaft seal end ring*	14	Pasador *Pin*
6	Tapa frontal *Front flange*	15	Cuerpo bomba *Pump housing*
7	Junta antiextrusión *Anti-extrusion gasket*	16	Tapa posterior *Back cover*
8	Junta de compensación *Compensation gasket*	17	Tornillos *Screws*
9	Conjunto cojinete apoyo *Bearing assembly*	18	Arandelas *Washers*



Caudal bomba *Pump flow rate*	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	1,5 *(0,40)*	3 *(0,79)*	5 *(1,32)*	7,5 *(1,98)*	10 *(2,64)*
Cilindrada *Displacement*	cm^3/v - cc/rev *(in^3/rev)*	1 *(0,06)*	2 *(0,12)*	3,3 *(0,20)*	5 *(0,31)*	6,6 *(0,40)*
Presión máx. continua en *Cont. max. pressure*	bar *(PSI)*	275 *(3990)*		240 *(3480)*	185 *(2685)*	135 *(1960)*
Presión máx. inter 5 seg. max. *Intermittent max. pressure*	bar *(PSI)*	300 *(4350)*		275 *(3990)*	200 *(2900)*	150 *(2175)*
R.P.M. a presión continua *R.P.M. at cont. pressure*		5.000		4.000	3.000	
R.P.M. máximas *Max. R.P.M.*		6.000		5.000	4.000	3.000
Mínimas R.P.M. según presión *Min. R.P.M. at given pressures*	100 bar *(1450 PSI)*	1.000		750	500	
	175 bar *(2540 PSI)*	1.500	1.250		1.000	—
	250 bar *(3625 PSI)*	2.000	1.750	1.500	—	—
	300 bar *(4350 PSI)*	3.000	2.000	—	—	—
Aceite recomendado *Fluid to be used*		ISO 6743 tipo HM, HV ó HG				
Viscosidad *Viscosity range*		ISO 3448 cat. VG32-VG46				
Grado de limpieza del aceite *Recommended fluid cleanliness*		19/16 s/. ISO 4406 ó RP70H				
Temperatura de trabajo del aceite *Oil temperature*		-20°C... +80°C -4°F.. +176°F				
Depresión máximo en aspiración *Max. suction depresion*		< 0,3 bar				

CONEXIONES TIPO R
ROQUETHYDRAULICS, S.L. recomienda utilizar implantaciones roscadas cilíndricas: con cierre por arista de estanqueidad, junta plana o junta tórica. (Ver normas: DIN 3852, ISO1179, ISO 9974 y ISO 6149). No se recomienda utilizar otras implantaciones tipo cónicas, etc. A continuación se detallan los pares de apriete para implantaciones roscadas cilíndricas.

CONNECTION TYPES R
ROQUETHYDRAULICS, S.L. recomends to use threaded fittings with parallel threads: with sealing face, with flat seal or with o-ring seal (Standards: DIN 3852, ISO1179, ISO 9974 y ISO6149). It is not recomended to use conic type fittings, etc. Guide for tightening torques for threaded fittings with parallel threads.

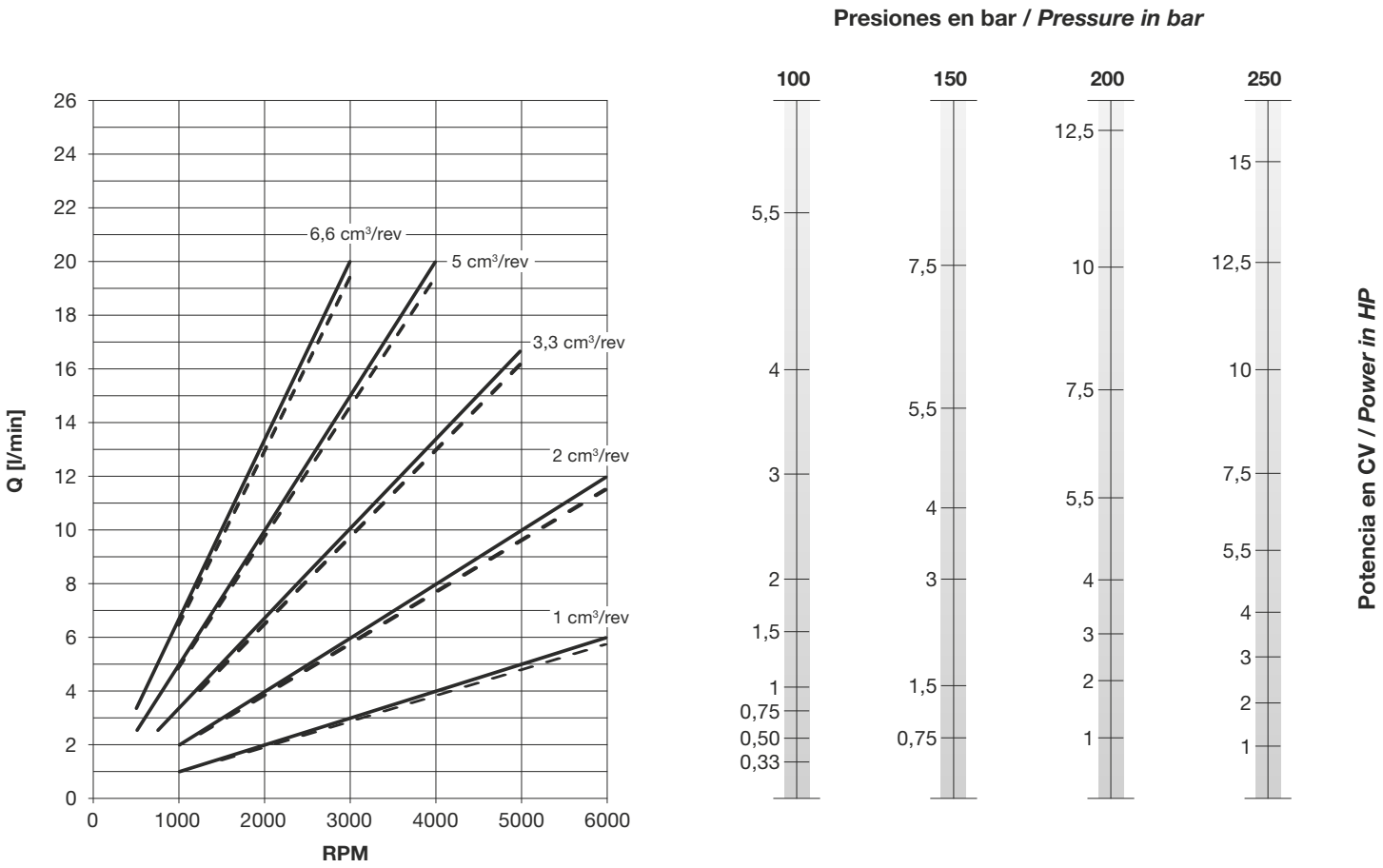
PAR DE APRIETE / *ASSEMBLY TORQUE*

Rosca (ISO 228-1) *Thread Size (ISO 228-1)*	Par de apriete min. (Nm) *Assembly Torque min. (Nm)*	Par de apriete máx. (Nm) *Assembly Torque max. (Nm)*
1/8" G	20	25
1/4" G	50	55
3/8" G	80	90
1/2" G	100	100
3/4" G	200	220
1" G	380	420

ACCIONAMIENTO DE LAS BOMBAS
Deben utilizarse acoplamientos entre bomba y accionamiento que eviten la transmisión de esfuerzos tanto axiales como laterales. Las bombas en su configuración estandard no admiten este tipo de esfuerzos, causando una disminución rápida de su vida util.

PUMP DRIVING DEVICES
It must be used a driving device to avoid the transmision of axial and radial loads to the axis of the pump. Standard flanges and pumps are not designed to handle this loads and this causes a reduction of its working life.

Gráfico de caudales, rendimientos y potencias según cilindrada
Flow, performance and power chart according to displacement



NOTA: Estos diagramas han sido obtenidos con un aceite de viscosidad VG 46 y una temperatura de 50°C.
NOTE: *These results have been obtained with VG 46 viscosity oil and at 50 deg. C (122°F).*

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Sistema de codificación	1	L0	3	D	E	10	R	/	V	42	T***	-***	*Coding system*

Tipo / *Type*

1	Sin polea / *Without pulley*
2	Con polea / *With pulley*

Modelo / *Model*

L0	Simple / *Simple*
LQ	Múltiple / *Multiple* (L0+L0)
LP	Múltiple / *Multiple* (L0+M)

Caudal bomba a 1500 rpm y 0 bar
Pump flow rate at 1500 rpm and 0 bar

Ver hoja técnica / *See technical data*

Sentido de giro / *Rotation direction*

D	Derecha / *Clockwise*
I	Izquierda / *Counterclockwise*
R	Reversible / *Reversible*

Forma eje motriz / *Drive shaft form*

B-C-E-H-J-Z

Tipo polea / *Pulley type*

P-R

Código / *Code*

Variantes con válvulas / *Alternatives with valves*

VA	**Válvula de aspiración - retención / *Check valve***

Válvula limitadora / *Relief valve*

Modelo precintable y taraje estándar /
Tamper-proof seable model and standard set pressure

	Rango de taraje / *Pressure range*
V11	Tarada a / *Set at* 80 bar (5-80 bar)
V12	Tarada a / *Set at* 160 bar (85-175 bar)
V13	Tarada a / *Set at* 200 bar (180-250 bar)

Modelo con precinto y taraje específico /
Tamper-proof sealed model and specific set pressure

	Rango de taraje / *Pressure range*
V41T* **	5-80 bar
V42T* **	85-175 bar
V43T* **	180-250 bar

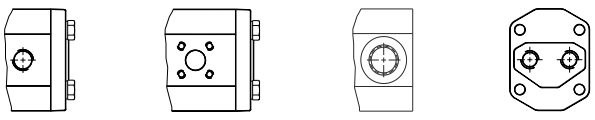
En la válvula limitadora con precinto, los caracteres *** se deben sustituir por la presión de taraje (3 dígitos) de la válvula limitadora.

*In tamper-proof sealed model, the signs *** have to be replaced by the set pressure (3 numbers) of the relief valve.*

Ejemplo / *Example* 1: 1L03DE10R/V41T060

Ejemplo / *Example* 2: 1L07,5DE10R/V12

Formas conexión tomas / *Port connection forms*

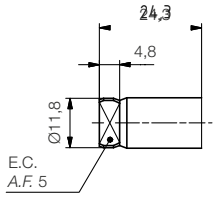


Tipo de tapa / *Fixing flange*

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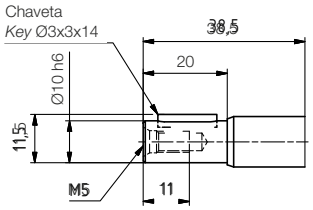
Tipos de eje motriz disponibles / *Available drive shaft forms*

Eje forma B / *Shaft form B*



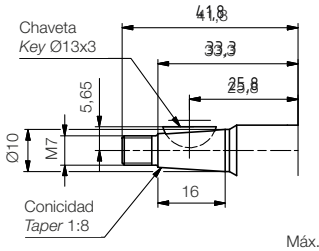
Máx. par de arrastre
Max. driving torque 25Nm

Eje forma C / *Shaft form C*



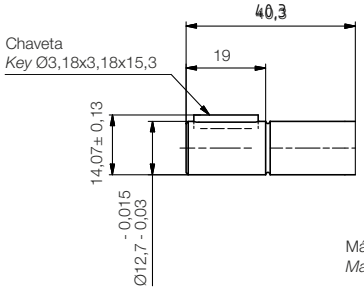
Máx. par de arrastre
Max. driving torque 25Nm

Eje forma E / *Shaft form E*



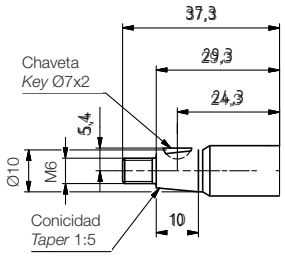
Máx. par de arrastre
Max. driving torque 30Nm

Eje forma H / *Shaft form H*



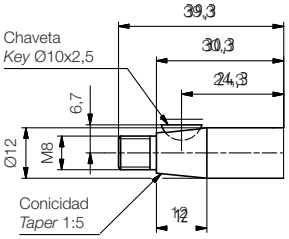
Máx. par de arrastre
Max. driving torque 30Nm

Eje forma J / *Shaft form J*



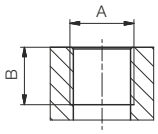
Máx. par de arrastre
Max. driving torque 26Nm

Eje forma Z / *Shaft form Z*



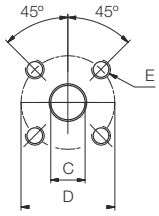
Máx. par de arrastre
Max. driving torque 40Nm

Formas de conexión de tomas disponibles / *Available port connection forms*

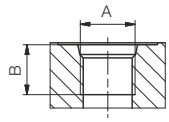


Tomas R / *R Ports*	1 sentido de rotación / *1 rotation direction*				Reversible	
Caudal / *Flow* (1500 rpm)	Aspiración / *Suction*		Presión / *Pressure*			
	A	B	A	B	A	B
1,5 l/min ... 5 l/min	3/8" BSP	15	1/4" BSP	15	3/8" BSP	15
7,5 l/min ... 10 l/min	1/2" BSP	15	3/8" BSP	15	1/2" BSP	15

Dimensiones según ISO 1179-1 / *Dimensions according to ISO 1179-1*



Tomas F / *F Ports*	1 sentido de rotación / *1 rotation direction*					
Caudal / *Flow* (1500 rpm)	Aspiración / *Suction*			Presión / *Pressure*		
	C	D	E	C	D	E
1,5 l/min ... 10 l/min	14	30	M6x10	11	30	M6x10

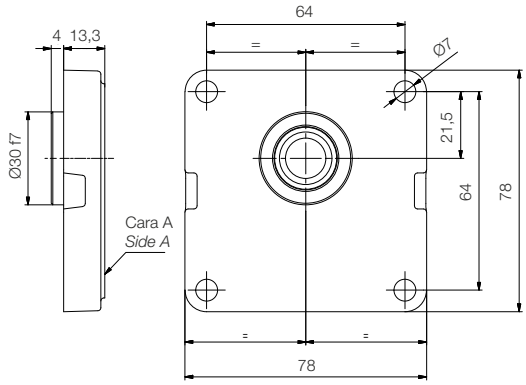


Tomas S / *S Ports*	1 sentido de rotación / *1 rotation direction*			
Caudal / *Flow* (1500 rpm)	Aspiración / *Suction*		Presión / *Pressure*	
	A	B	A	B
1,5 l/min ... 10 l/min	3/4"-16 UNF	15	9/16"-18 UNF	13

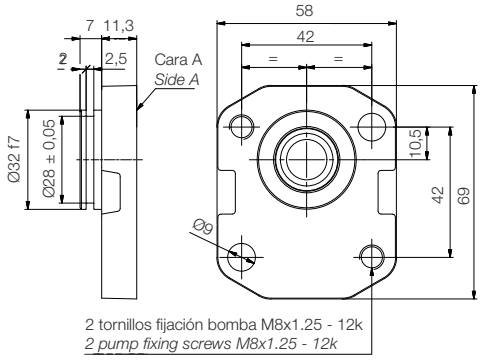
Dimensiones según ISO 11926-1 / *Dimensions according to ISO 11926-1*

Tipos de tapas frontales disponibles / *Available front flanges types*

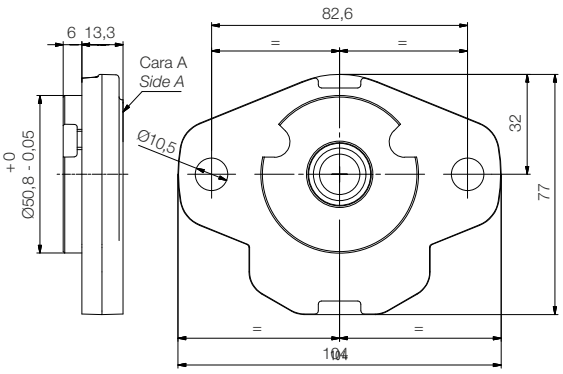
Tapa tipo 01 / *Front flange type 01*



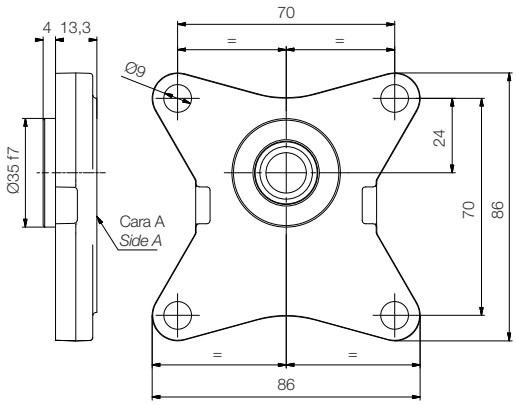
Tapa tipo 22 / *Front flange type 22*



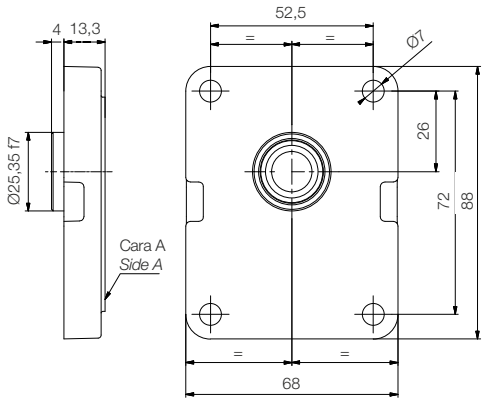
Tapa tipo 09 / *Front flange type 09*



Tapa tipo 27 / *Front flange type 27*

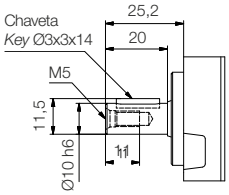


Tapa tipo 10 / *Front flange type 10*



NOTA: La longitud del eje motriz varía en función del grosor de la tapa frontal.
NOTE: *The useful length of the drive shaft varies depending on the front flange thickness.*

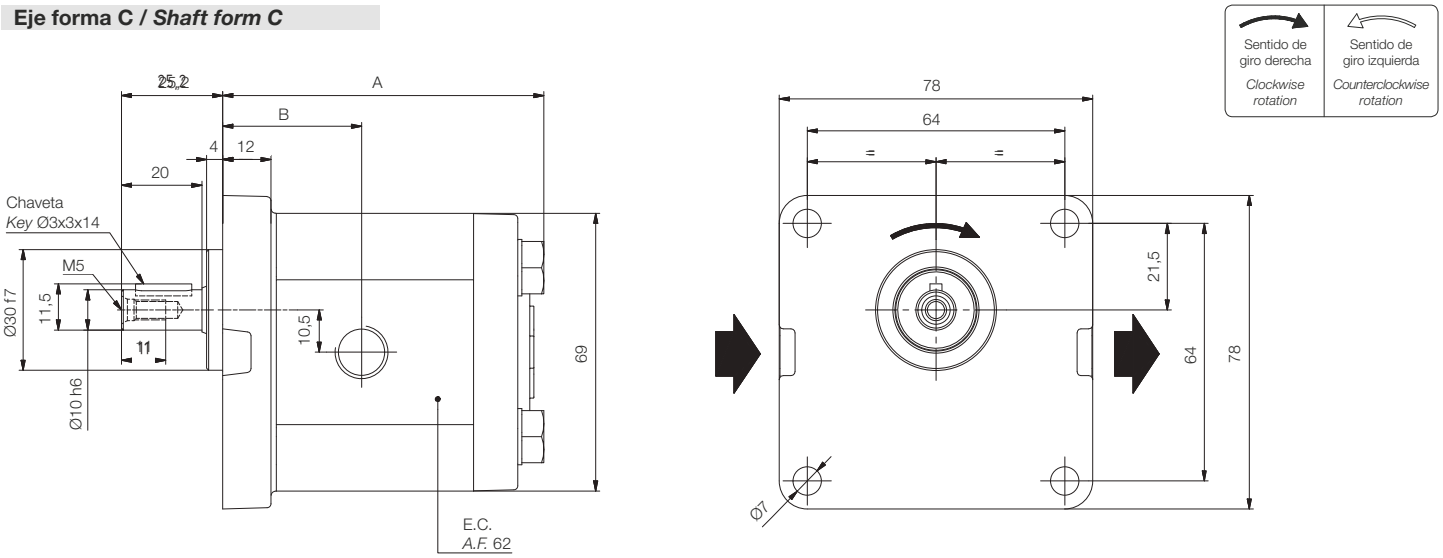
Ejemplo: Combinación de un eje tipo C con una tapa tipo 01
Example: *Combination of a C type shaft with a 01 type front flange*



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Tapa tipo 01 / *Front flange type 01*

Eje forma C / *Shaft form C*



Eje forma B / *Shaft form B*



Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5D▲01R	1	67,8	31	1,35
1L03D▲01R	2	72,8	31	1,44
1L05D▲01R	3,3	79,8	34,5	1,52
1L07,5D▲01R	5	88,3	37,5	1,64
1L010D▲01R	6,6	96,8	42,8	1,77

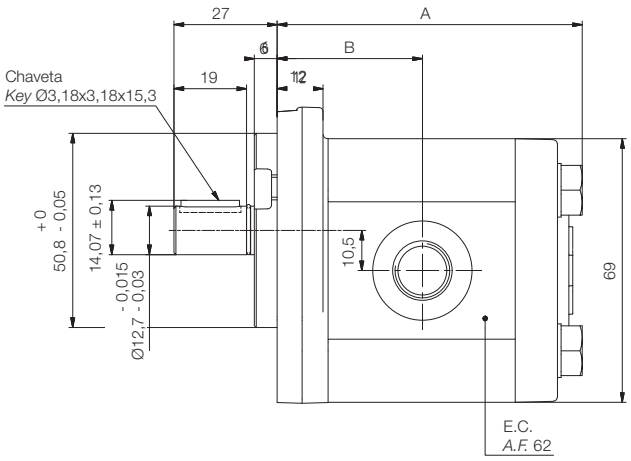
▲ Forma de eje / *Shaft form*.

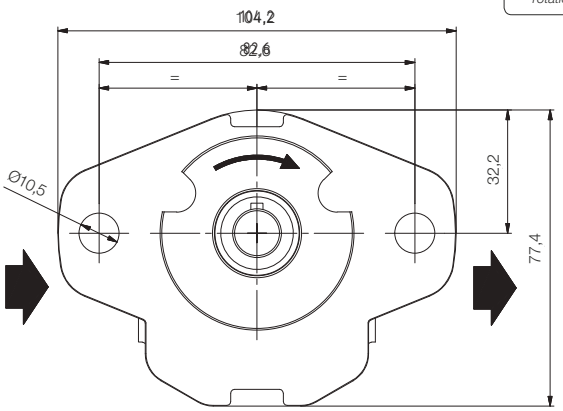
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

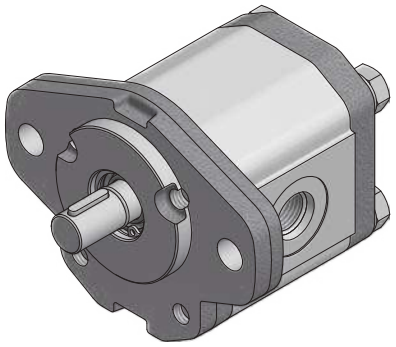
Tapa tipo 09 / *Front flange type 09*

Eje forma H / *Shaft form H*

Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*





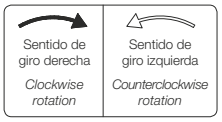


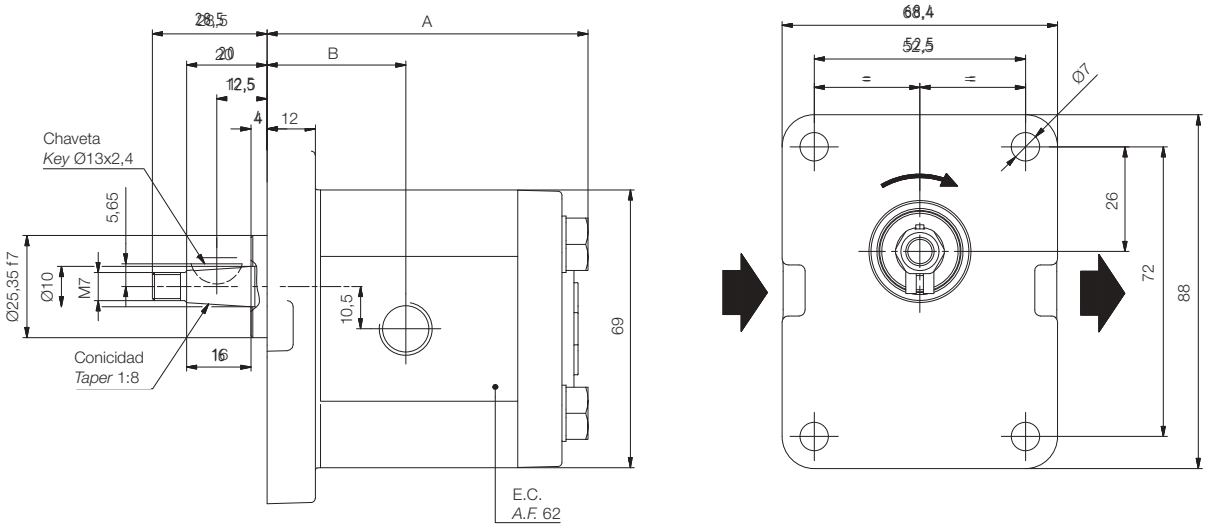
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5DH09S	1	67,8	32	1,38
1L03DH09S	2	72,8	35	1,47
1L05DH09S	3,3	79,8	38	1,55
1L07,5DH09S	5	88,3	42	1,67
1L010DH09S	6,6	96,8	47	1,79

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

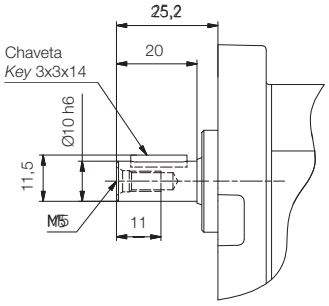
Tapa tipo 10 / *Front flange type 10*

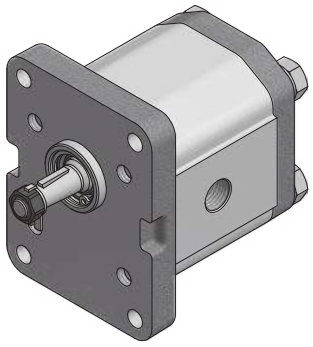
Eje forma E / *Shaft form E*





Eje forma C / *Shaft form C*





Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5D▲10R	1	67,8	31	1,38
1L03D▲10R	2	72,8	31	1,47
1L05D▲10R	3,3	79,8	34,5	1,55
1L07,5D▲10R	5	88,3	37,5	1,67
1L010D▲10R	6,6	96,8	42,8	1,79

▲ Forma de eje / *Shaft form*.

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

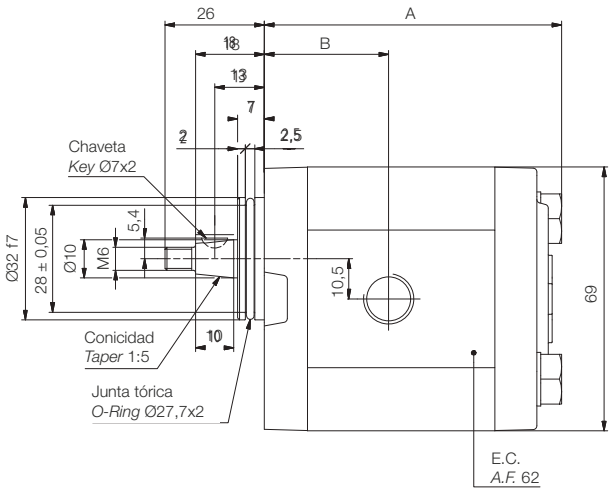
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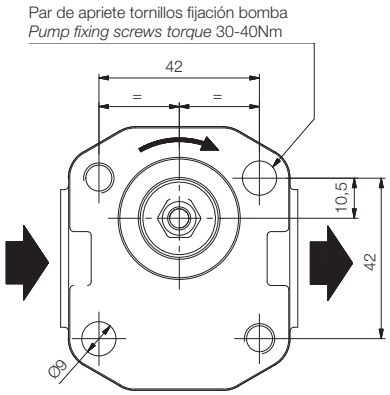
Tapa tipo 22 / *Front flange type 22*

Eje forma J / *Shaft form J*

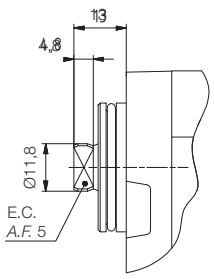
Sentido de giro derecha *Clockwise rotation*

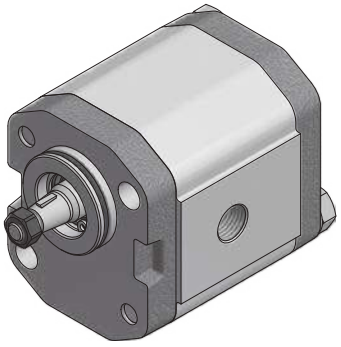
Sentido de giro izquierda *Counterclockwise rotation*





Eje forma B / *Shaft form B*





Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5D▲22R	1	65,8	29	1,04
1L03D▲22R	2	70,8	29	1,13
1L05D▲22R	3,3	77,8	32,5	1,21
1L07,5D▲22R	5	86,3	35,5	1,33
1L010D▲22R	6,6	94,8	40,8	1,46

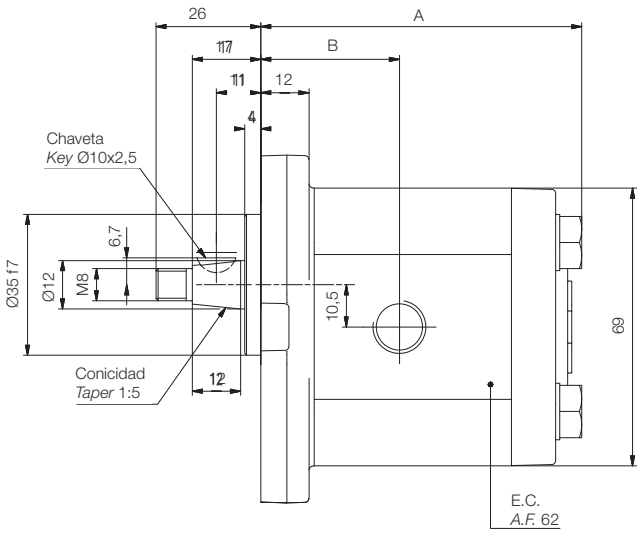
▲ Forma de eje / *Shaft form*.

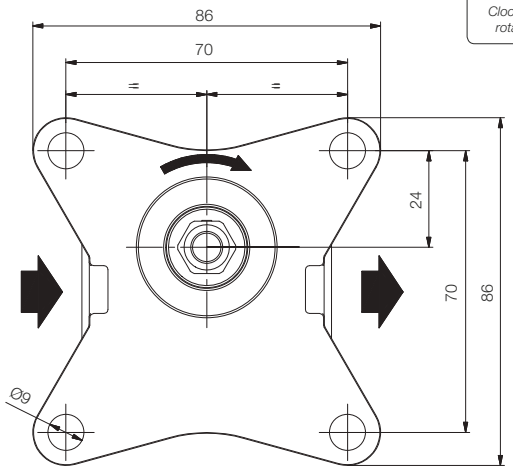
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

Tapa tipo 27 / *Front flange type 27*

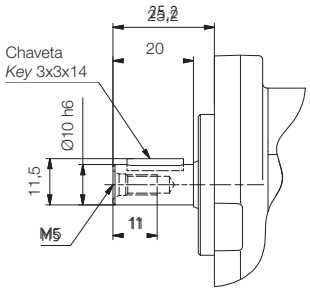
Eje forma Z / *Shaft form Z*

Sentido de giro derecha *Clockwise rotation* | Sentido de giro izquierda *Counterclockwise rotation*

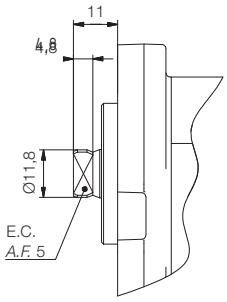


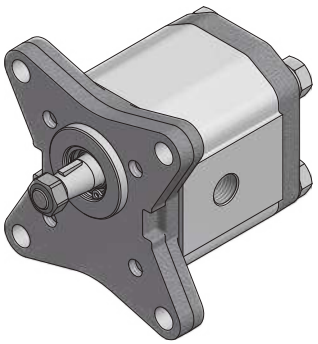


Eje forma C / *Shaft form C*



Eje forma B / *Shaft form B*





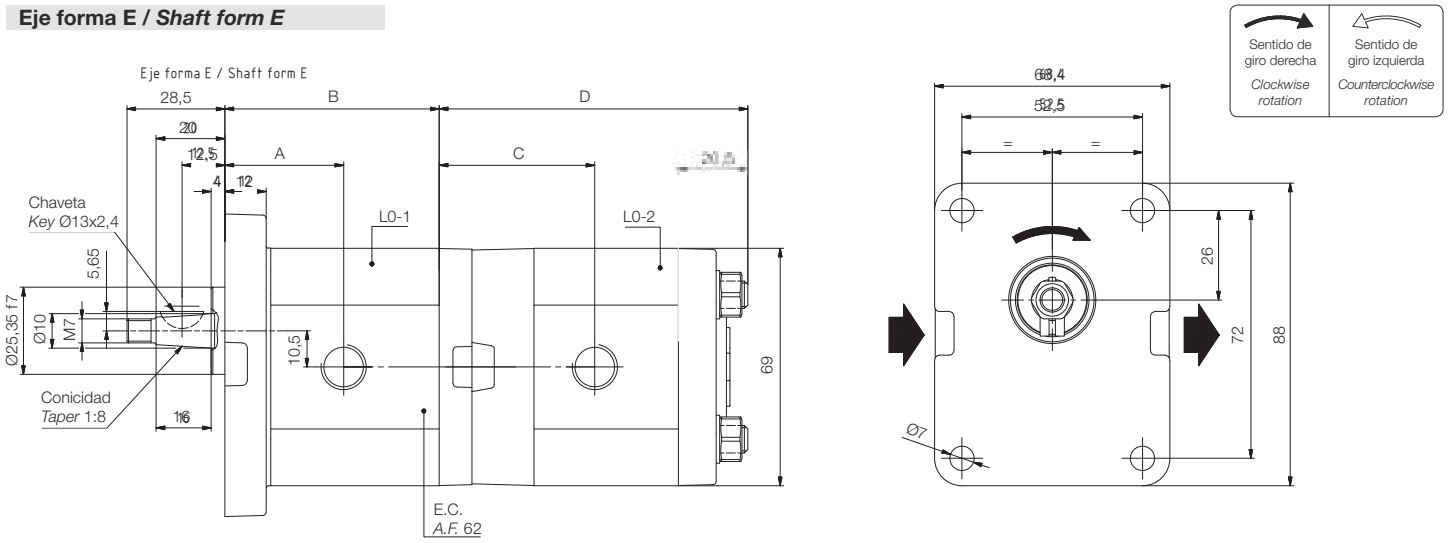
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5D▲27R	1	67,8	31	1,20
1L03D▲27R	2	72,8	31	1,29
1L05D▲27R	3,3	79,8	34,5	1,37
1L07,5D▲27R	5	88,3	37,5	1,49
1L010D▲27R	6,6	96,8	42,8	1,61

▲ Forma de eje / *Shaft form*.

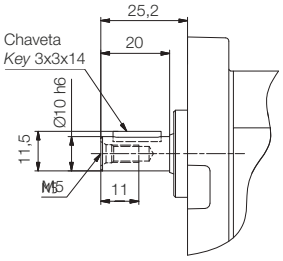
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

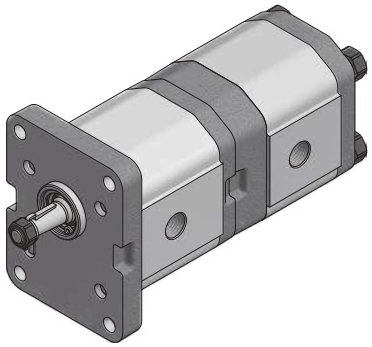
Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*



Eje forma C / *Shaft form C*





Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 25 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 25 Nm.

La tabla siguiente hace referencia a la etapa frontal (L0-1) de la bomba múltiple LQ.
The following table refers to the front stage (L0-1) of the LQ multiple pump.

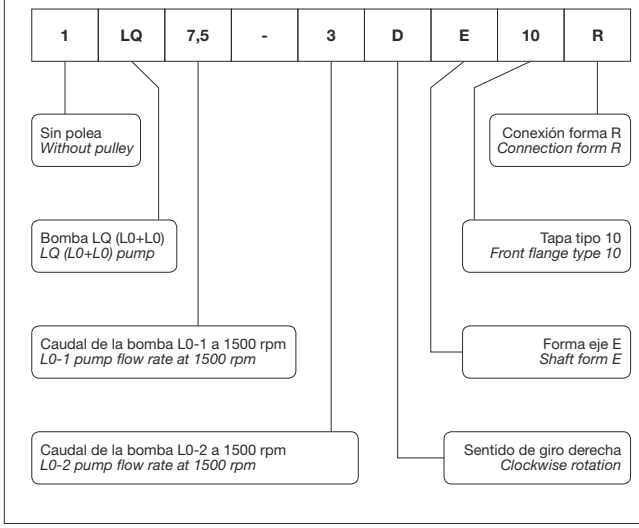
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1LQ1,5-■D▲10R	1	31,0	50,3	1,2
1LQ3-■D▲10R	2	31,0	55,3	1,3
1LQ5-■D▲10R	3,3	34,5	62,3	1,4
1LQ7,5-■D▲10R	5	37,5	70,8	1,5
1LQ10-■D▲10R	6,6	42,8	79,3	1,6

■ Caudal etapa posterior (L0-2). Ver tabla / *Rear stage flow (L0-2). See table.*
▲ Forma de eje / *Shaft form*.

La tabla siguiente hace referencia a la etapa posterior (L0-2) de la bomba múltiple LQ.
The following table refers to the rear stage (L0-2) of the LQ multiple pump.

■	Cilindrada cm³/rev *Displacement cm³/rev*	C	D	Peso kg *Weight kg*
1,5	1	41,7	84,7	1,2
3	2	41,7	89,7	1,3
5	3,3	45,2	96,7	1,4
7,5	5	48,2	105,2	1,5
10	6,6	53,5	114,7	1,6

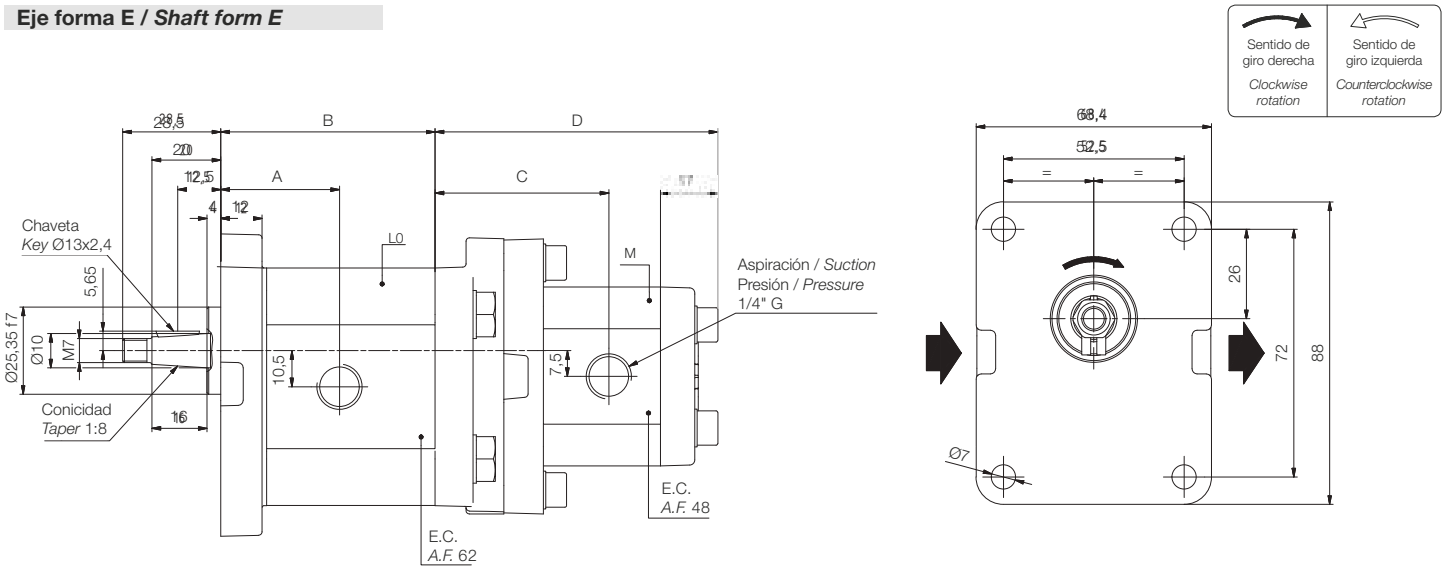
Ejemplo referencia comercial bomba LQ
Part number example LQ pump

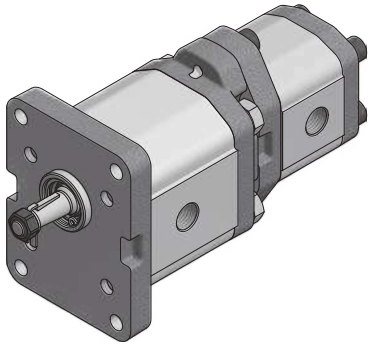


NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
***NOTE:** For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*





Máximo par de arrastre entre bombas 5 Nm / *Maximum driving torque between stages 5 Nm.*

La tabla siguiente hace referencia a la etapa frontal (L0) de la bomba múltiple LP.
The following table refers to the front stage (L0) of the LP multiple pump.

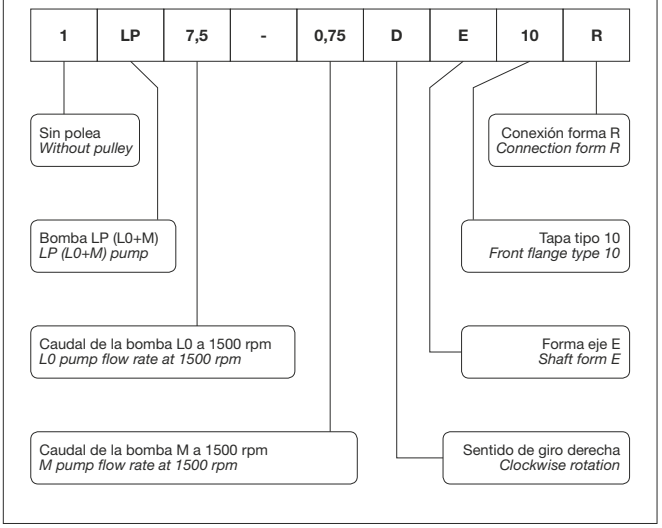
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1LP1,5-■D▲10R	1	31,0	50,3	1,2
1LP3-■D▲10R	2	31,0	55,3	1,3
1LP5-■D▲10R	3,3	34,5	62,3	1,4
1LP7,5-■D▲10R	5	37,5	70,8	1,5
1LP10-■D▲10R	6,6	42,8	79,3	1,6

■ Caudal etapa posterior (M). Ver tabla / *Rear stage flow (M). See table.*
▲ Forma de eje / *Shaft form*.

La tabla siguiente hace referencia a la etapa posterior (M) de la bomba múltiple LP.
The following table refers to the rear stage (M) of the LP multiple pump.

■	Cilindrada cm³/rev *Displacement cm³/rev*	C	D	Peso kg *Weight kg*
0,5	0,33	46,5	74,0	0,55
0,75	0,5	47,5	76,0	0,60
1	0,66	48,0	78,0	0,60
1,25	0,83	48,0	80,0	0,65
1,5	1	50,5	82,0	0,70
2	1,33	50,5	86,0	0,70

Ejemplo referencia comercial bomba LP
Part number example LP pump



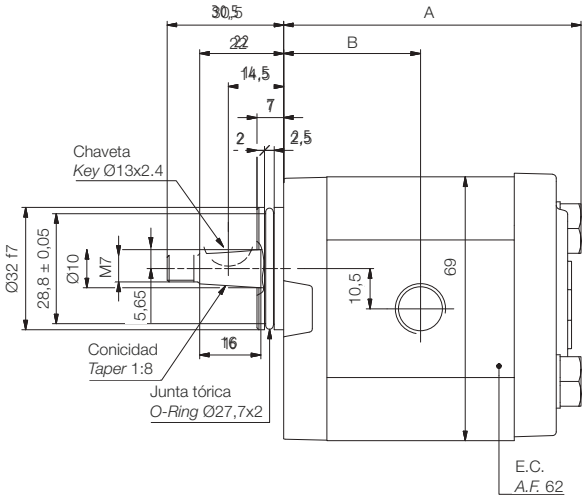
NOTAS: Bomba L0: para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
Bomba M: para dimensiones y tipos de toma disponibles consultar catálogo M.

NOTES: L0 pump: *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*
M pump: *for dimensions and port types see M catalog.*

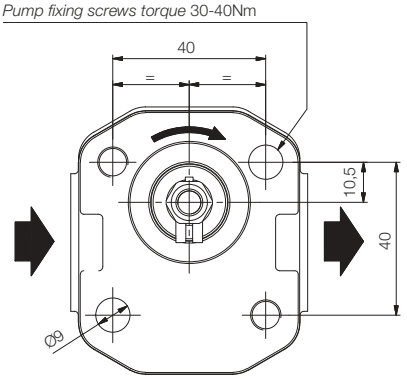
Tapa tipo 22 / *Front flange type 22*

Eje forma E / *Shaft form E*

Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*

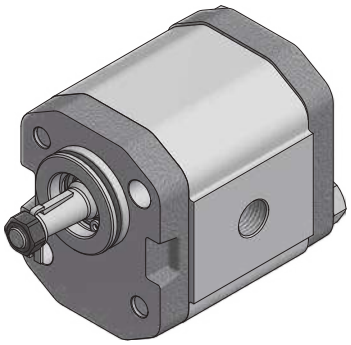


Par de apriete tornillos fijación bomba
Pump fixing screws torque 30-40Nm



NOTA 1: El modelo de bomba L0F solo está disponible con tapa frontal tipo 22.
NOTE 1: *The pump model L0F is only available with front flange type 22.*

NOTA 2: Consultar disponibilidad y opciones de configuración con el departamento comercial.
NOTE 2: *Contact the sales department for availability and configuration options.*



Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L0F1,5D▲22R	1	65,8	29,8	1,04
1L0F3D▲22R	2	70,8	32,3	1,13
1L0F5D▲22R	3,3	77,8	35,8	1,21
1L0F7,5D▲22R	5	86,3	40,1	1,33
1L0F10D▲22R	6,6	94,8	44,3	1,46

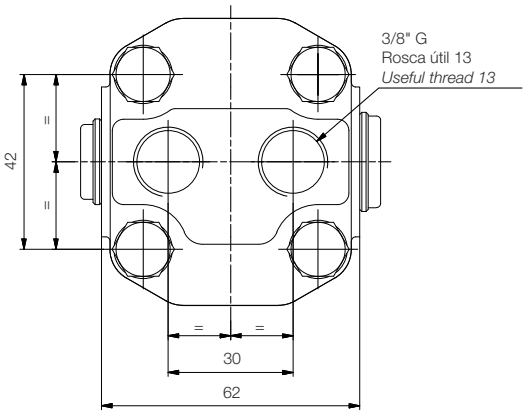
▲ Forma de eje / *Shaft form*.

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

Conexión con tomas T
Port connection form T

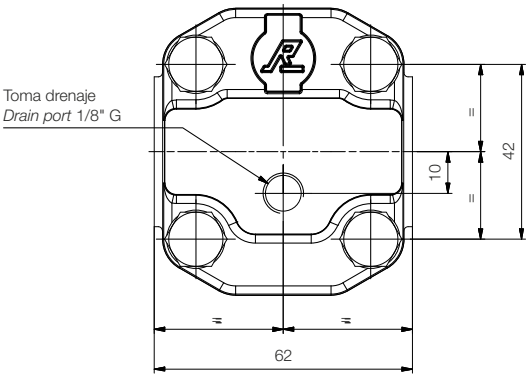
Tapa posterior para bombas con tomas traseras
Back cover for pumps with rear ports

Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*



Tapa trasera para bombas reversibles
Back cover for reversible pumps

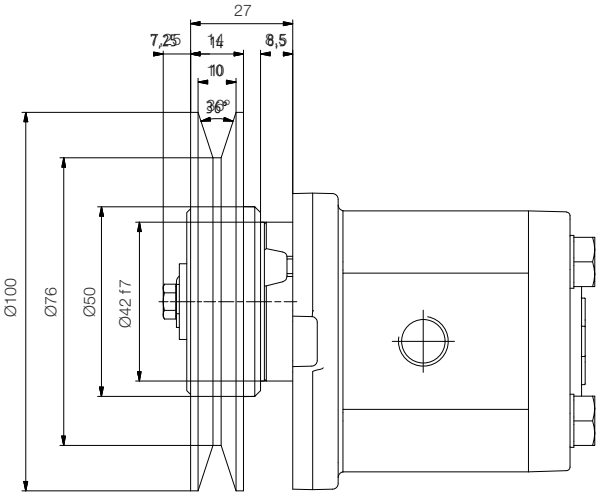
Sentido de giro reversible
Reversible rotation



Tipos de polea / *Types of pulley*

Tipo P / *Type P*

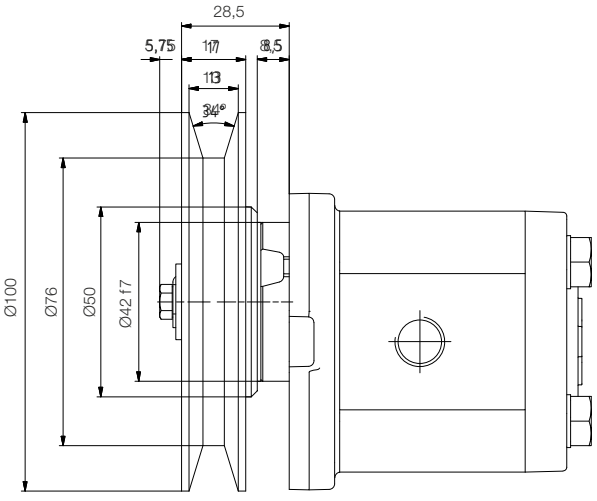
Con correa tipo Z
With belt type Z



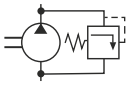
Tipo R / *Type R*

Con correa tipo A
With belt type A

Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*

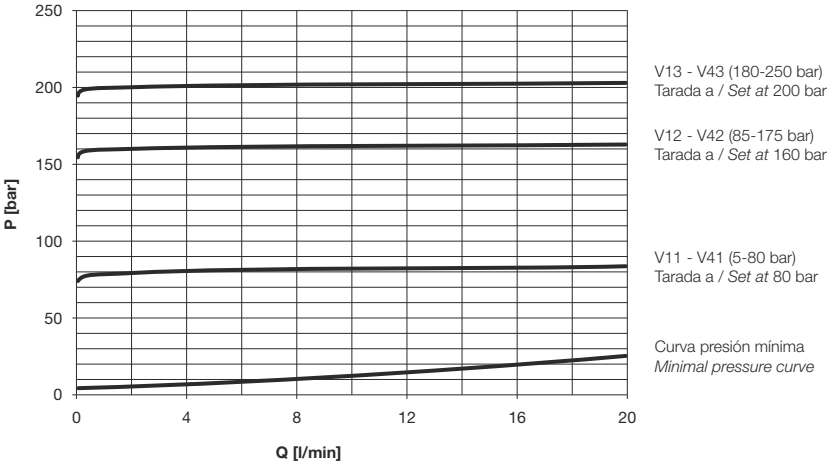


NOTA: Opción solo disponible con tapa tipo 01. Para medidas de fijación bomba ver página 9.
***NOTE:** Option only available with flange type 01. For pump fixing dimensions see page 9.*



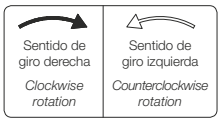
V - Válvula limitadora / *V - Relief valve*

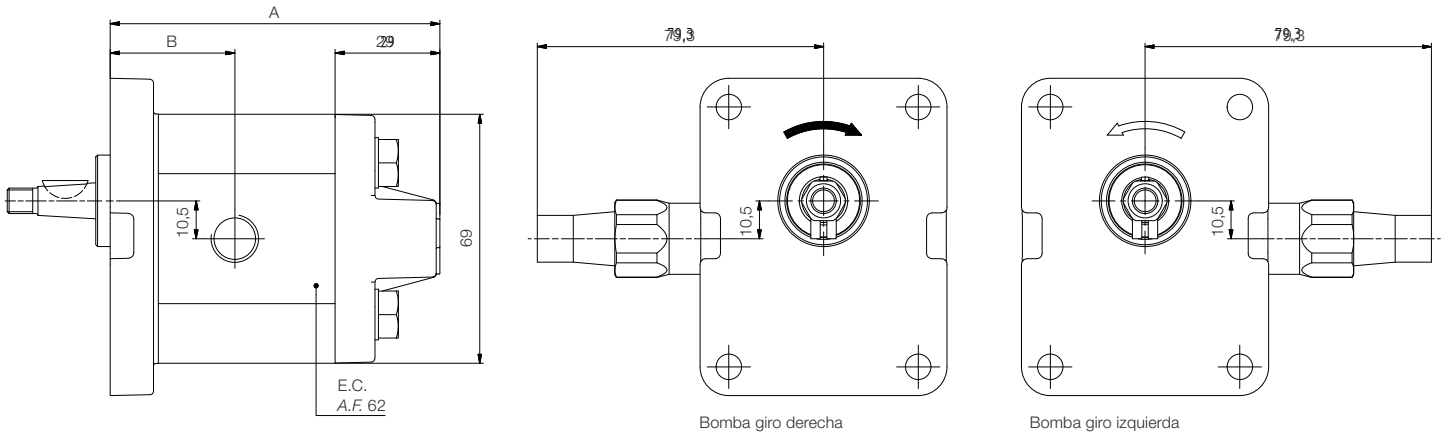
Diagrama presión-caudal válvula limitadora según rango de taraje
Relief valve pressure-flow diagram depending on pressure range



NOTA: Este gráfico ha sido obtenido con un aceite de viscosidad cinemática de 32cSt.
NOTE: *The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.*

Tapa tipo 10 / *Flange type 10*



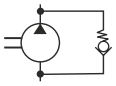


Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5DE10R/V■	1	79,3	31	1,55
1L03DE10R/V■	2	84,3	31	1,63
1L05DE10R/V■	3,3	91,3	34,5	1,72
1L07,5DE10R/V■	5	99,8	37,5	1,83
1L010DE10R/V■	6,6	108,3	42,8	2,07

■ Modelo de válvula limitadora (ver página 7) / *Relief valve model (see page 7)*.

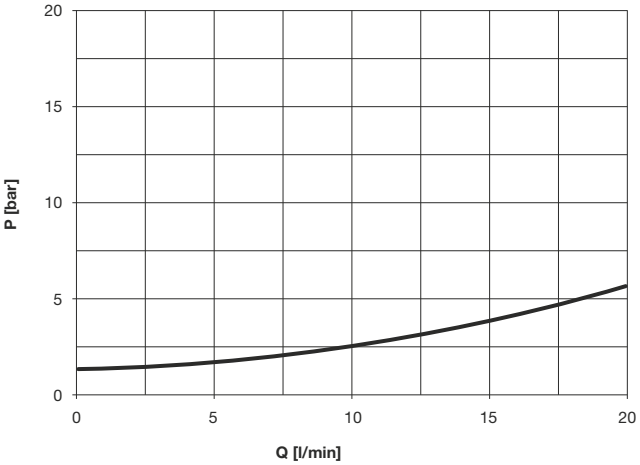
NOTA: Esta bomba con válvula limitadora está disponible con cualquiera de las tapas y ejes que se representan en este catálogo, pero solo con cuerpos con tomas R. Consultar con el departamento comercial para otras opciones.
NOTE: *This pump with relief valve is available with any fixing flange and shaft form shown in this catalogue, but only with pump housings with R ports. For other options, contact the sales department.*

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*



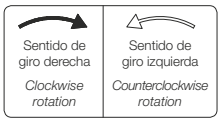
VA - Válvula de aspiración - retención / *VA - Check valve*

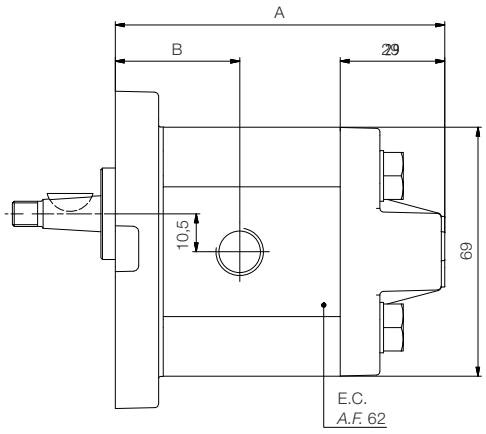
Diagrama presión-caudal válvula de aspiración - retención
Check valve pressure-flow diagram

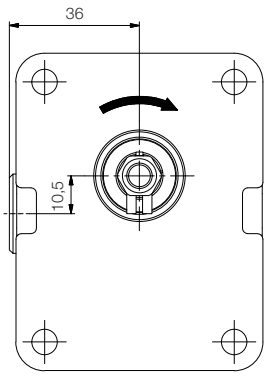


NOTA: Este gráfico ha sido obtenido con un aceite de viscosidad cinemática de 32cSt.
NOTE: *The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.*

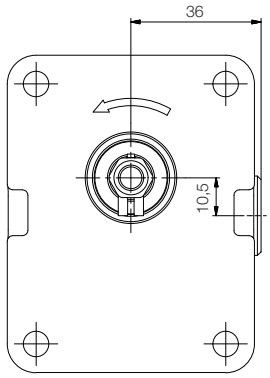
Tapa tipo 10 / *Flange type 10*







Bomba giro derecha
Clockwise rotation pump

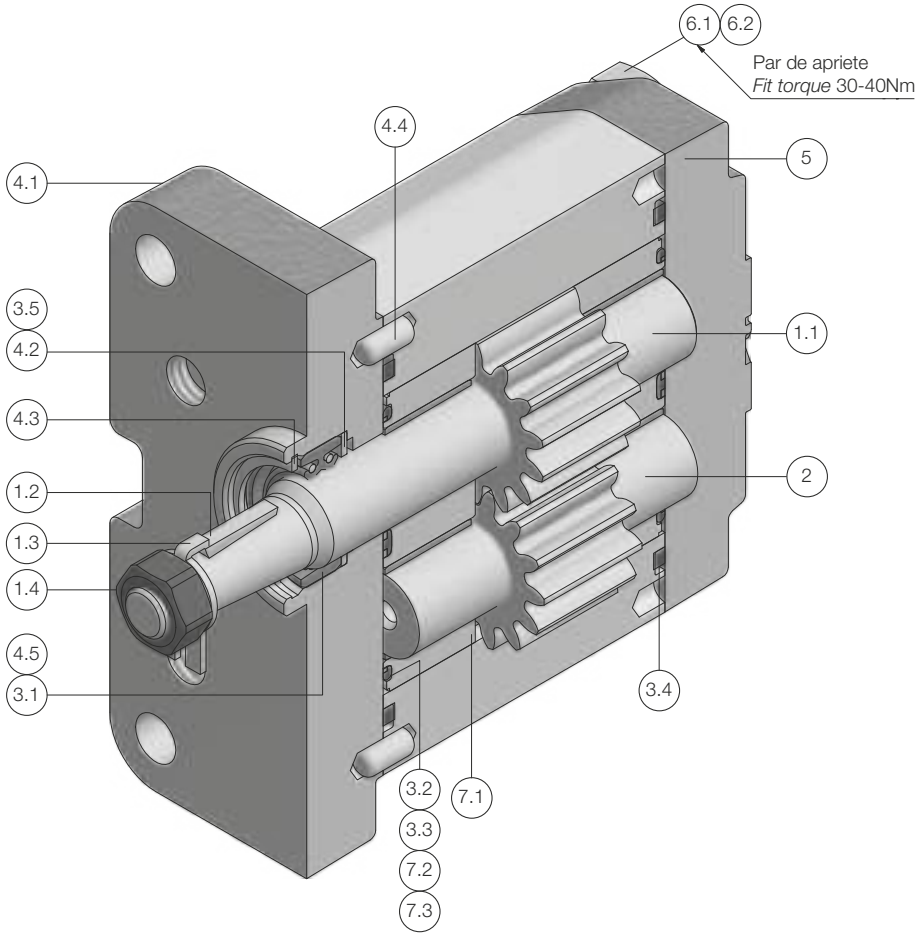


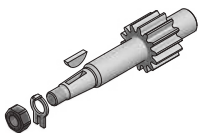
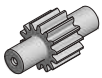
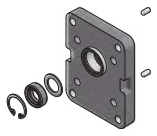
Bomba giro izquierda
Counterclockwise rotation pump

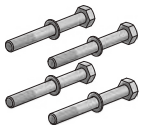
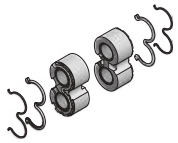
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1L01,5DE10R/VA	1	79,3	31	1,49
1L03DE10R/VA	2	84,3	31	1,58
1L05DE10R/VA	3,3	91,3	34,5	1,66
1L07,5DE10R/VA	5	99,8	37,5	1,78
1L010DE10R/VA	6,6	108,3	42,8	2,02

NOTA: Esta bomba con válvula antirretorno está disponible con cualquiera de las tapas y ejes que se representan en este catálogo, pero solo con cuerpos con tomas R. Consultar con el departamento comercial para otras opciones.
NOTE: *This pump with check valve is available with any fixing flange and shaft form shown in this catalogue, but only with pump housings with R ports. For other options, contact the sales department.*

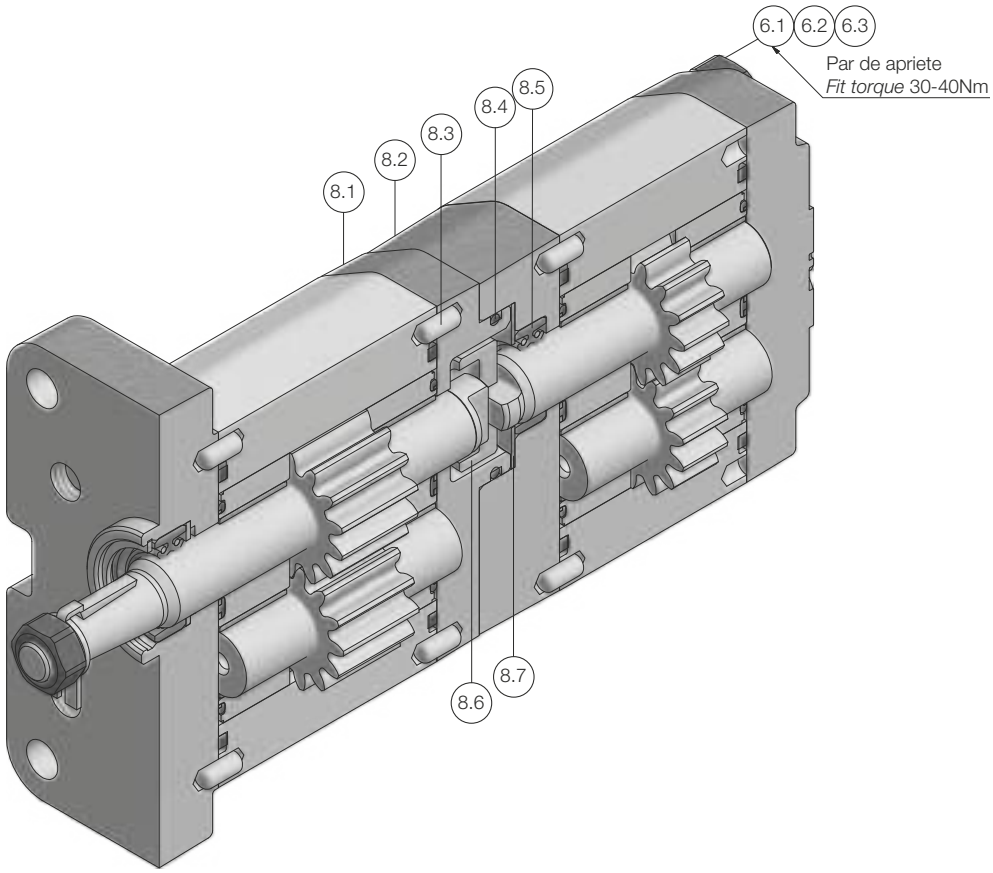
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

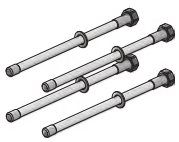


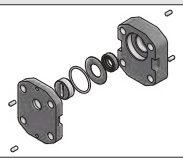
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
1	Kit eje motriz *Drive shaft kit*	
2	Eje conducido *Driven shaft*	
3	Kit juntas *Seals kit*	
4	Kit tapa delantera *Front flange kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
5	Tapa posterior *Back cover*	
6	Kit tornillos fijación *Fixing screws kit*	
7	Kit cojinetes apoyo *Bearing assemblies kit*	

NOTA: Consultar las referencias disponibles con el departamento comercial.
NOTE: *For available references contact the sales department.*



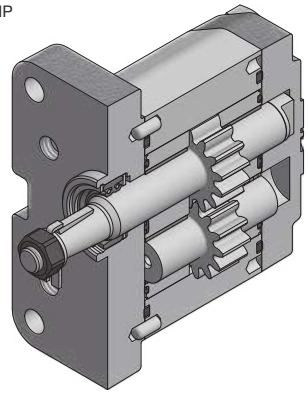
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
6	Kit espárragos fijación *Fixing rods kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapas intermedias *Intermediate flanges kit*	

NOTA: Se puede crear una bomba doble LQ uniendo una bomba de referencia estándar y sufijo -SMP con una bomba estándar con eje tipo L y tapa frontal tipo 26. Se ofrece el kit de tapas intermedias y el kit del eje tipo L para poder transformar la bomba.
NOTE: *A LQ double pump can be assembled from a pump with standard reference and suffix -SMP and a pump with shaft form L and front flange type 26. The intermediate flanges kit and the L shaft kit are offered in order to transform the pump.*

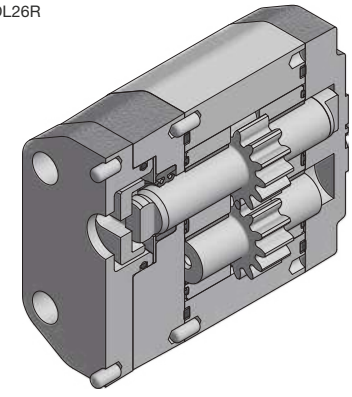
Bomba delantera con sufijo -SMP
Front pump with -SMP suffix

Ejemplo
Example 1L05DE10R-SMP

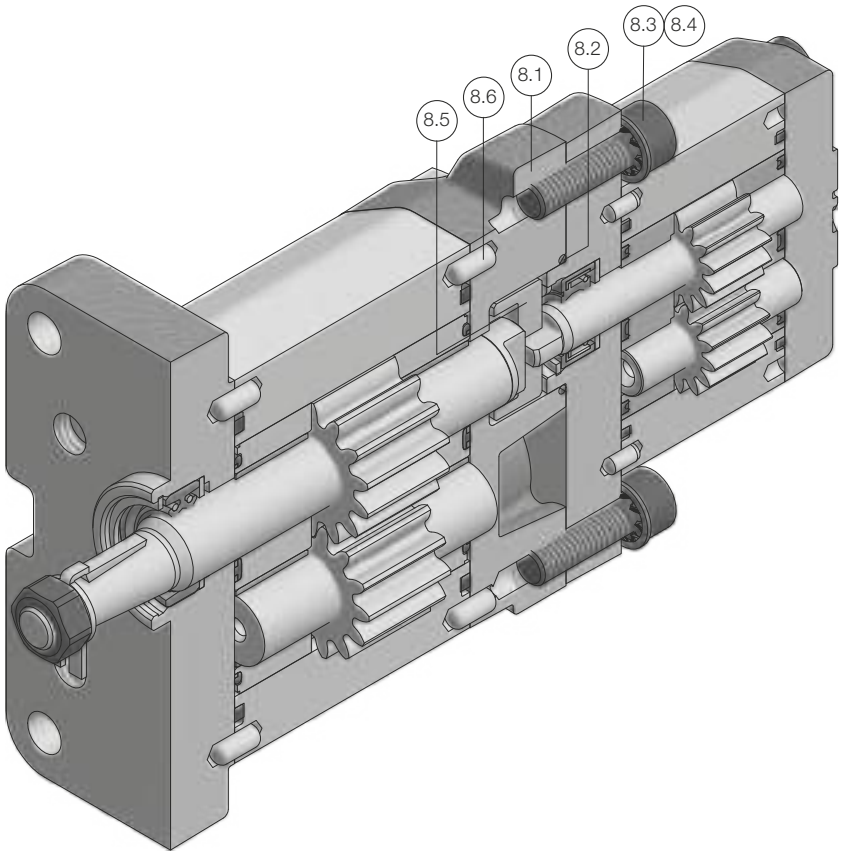


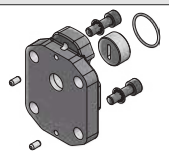
Bomba trasera con eje tipo L y tapa tipo 26
Rear pump with shaft form L and front flange type 26

Ejemplo
Example 1L03DL26R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

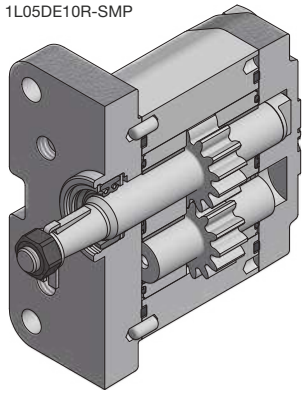


Nº de kit ***Kit number***	**Descripción** ***Description***	**Piezas** ***Parts***
8	Kit tapa intermedia *Intermediate flange kit*	

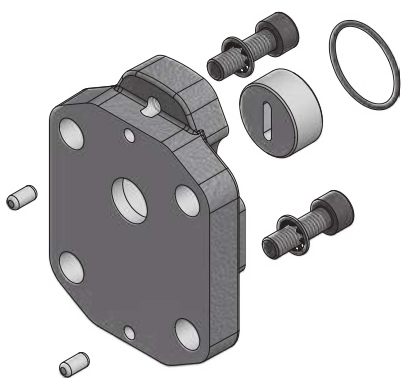
NOTA: Se puede crear una bomba doble LP uniendo una bomba L0 de referencia estándar y sufijo -SMP, un kit de tapa intermedia y una bomba M estándar con eje tipo B y tapa frontal tipo 09.
NOTE: *A LP double pump can be assembled from a L0 pump with standard reference and suffix -SMP, an intermediate flange kit and a standard M pump with shaft form B and front flange type 09.*

Bomba L0 delantera con sufijo -SMP
Front pump L0 with -SMP suffix

Ejemplo
Example 1L05DE10R-SMP

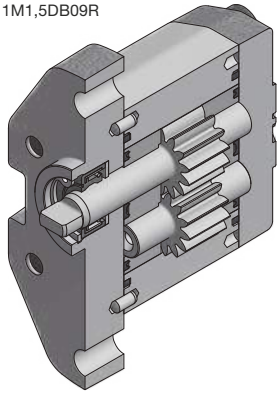


Kit tapa intermedia LP
LP intermediate flange kit



Bomba M trasera con eje tipo B y tapa tipo 09
Rear pump M with shaft form B and front flange type 09

Ejemplo
Example 1M1,5DB09R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

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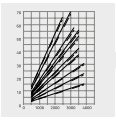
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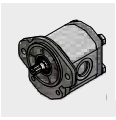
General information - Pumps 3
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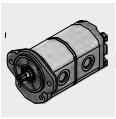
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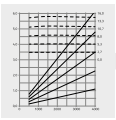
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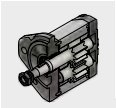
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Features

Roquet gear pumps offer:
- High efficiency thanks to the specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear pumps.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of pumps delivered are tested.
- Option to create multiple pumps combining different Roquet pump models.
- Different multiple pumps inlets connected, common inlet & separate stages.
- Front flanges with outboard bearing configurations.
- Back covers with integrated valves.

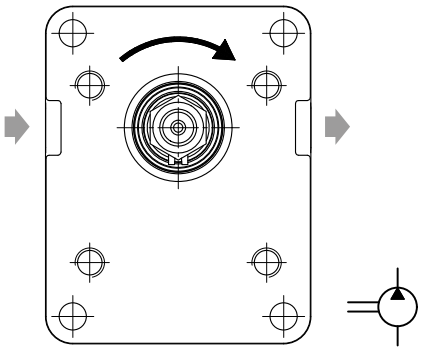
Technical information

Displacement range	4 – 26,7 cm^3/rev
Shafts, flanges and ports	According to European, German and American standards
Direction of rotation	Clockwise, counterclockwise and reversible
Inlet port pressure range	0,7 – 1,5 bar (absolute pressure)
Fluid	Recommended Mineral oil - ISO 6743 tipo HM, HV o HG
Viscosity	Recommended viscosity at work 20-80 cSt (mm^2/s) Maximum viscosity allowed at start 800 cSt (mm^2/s)
Oil working temperature	Recommended temperature 50°C – Material NBR (-30/+80°C) FKM (-20/+120°C)
Cleanliness	ISO 4406 22/19/16

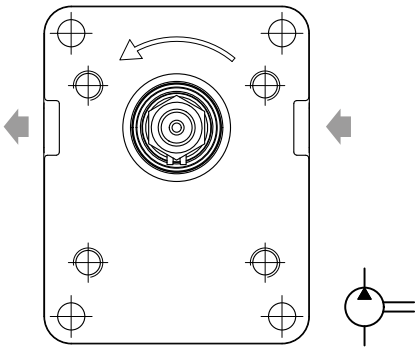
Direction of rotation

The direction of rotation is always defined looking at the pump from the front flange.

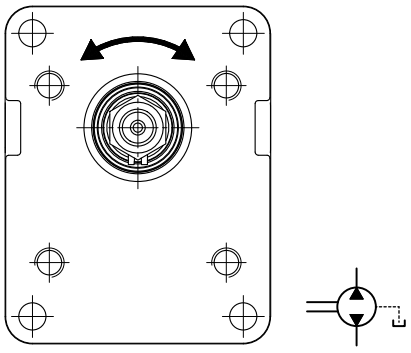
Clockwise



Counterclockwise



Reversible



Common formulas

$$v = \frac{Q}{6 \cdot A} \quad [m/s]$$

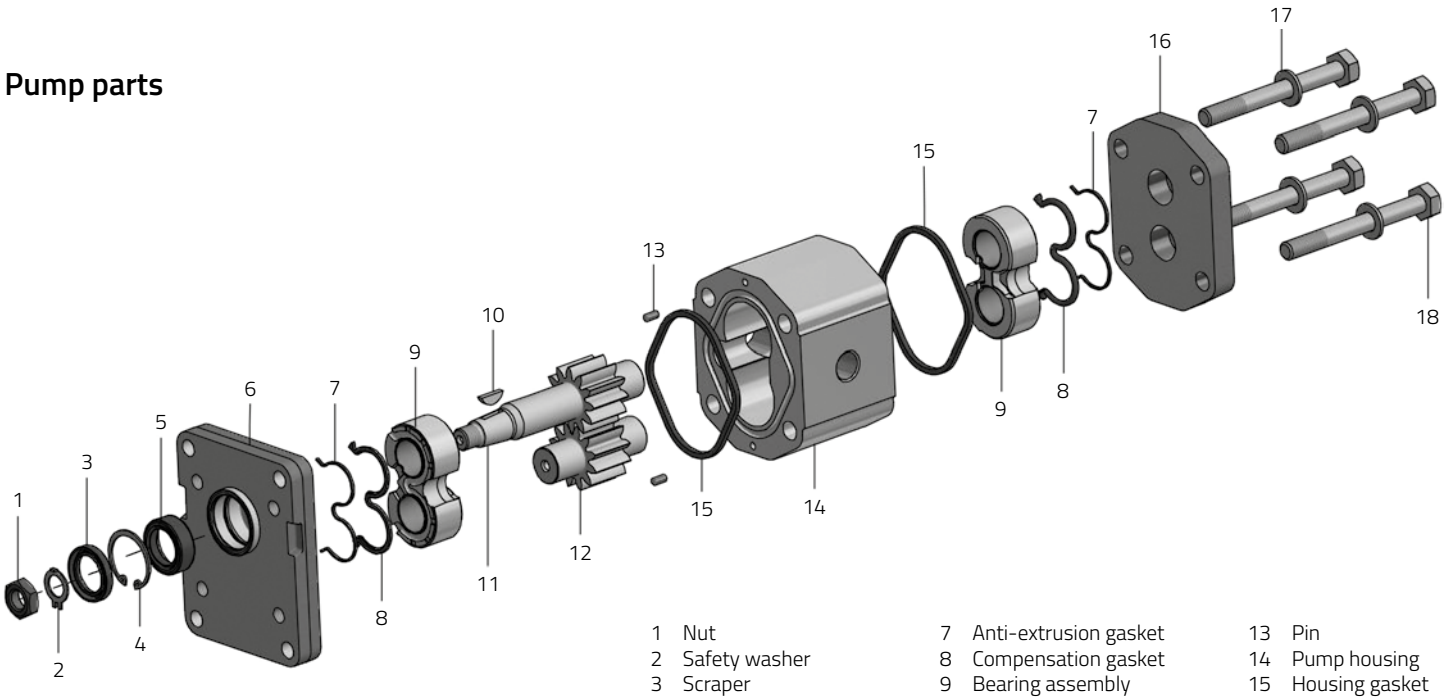
$$Q = \frac{V \cdot n \cdot \eta_{vol}}{1000} \quad [l/min]$$

$$M = \frac{(V \cdot \Delta p)}{(62{,}8 \cdot \eta_{hm})} \quad [N \cdot m]$$

$$P = \frac{(Q \cdot \Delta p)}{(600 \cdot \eta_t)} \quad [kW]$$

v = fluid speed [m/s]
Q = pump flow [l/min]
A = tube section [cm^2]
V = pump displacement [cm^3/rev]
n = rotation speed [rev/min]
Δp = pressure difference [bar]
M = necessary driving torque [N · m]
P = necessary driving power [kW]
η_{vol} = volumetric efficiency (≈0,95) [%]
η_{hm} = hydromechanic al efficiency (≈0,89) [%]
η_t = total efficiency (≈0,85) [%]

Pump parts



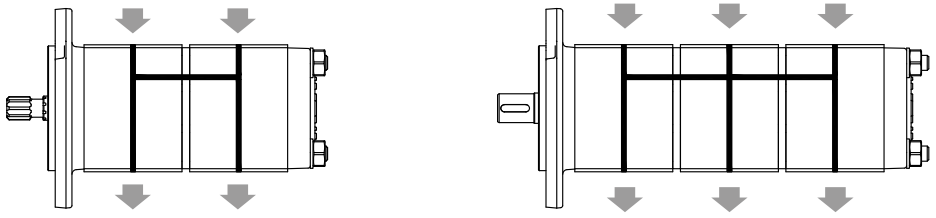
1	Nut	7	Anti-extrusion gasket	13	Pin
2	Safety washer	8	Compensation gasket	14	Pump housing
3	Scraper	9	Bearing assembly	15	Housing gasket
4	Circlip	10	Key	16	Back cover
5	Shaft seal	11	Drive shaft	17	Washers
6	Front flange	12	Driven shaft	18	Bolts

Installation recommendations

- Avoid radial and axial forces on the pump shaft for longer pump lifetime.
- The shafts of the pump have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- If these forces cannot be avoided, versions with outboard bearings can be offered.
- Avoid rotation speeds lower than those shown in the "technical data" section.
- Avoid pump starts under load at low temperatures.
- When starting, clean the whole installation before first run of system.
- Submerged installation recommended.
- If the pump shall be paitned, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible pumps, if possible, connect the drain to tank.

Versions

Standard version (Inlets connected)

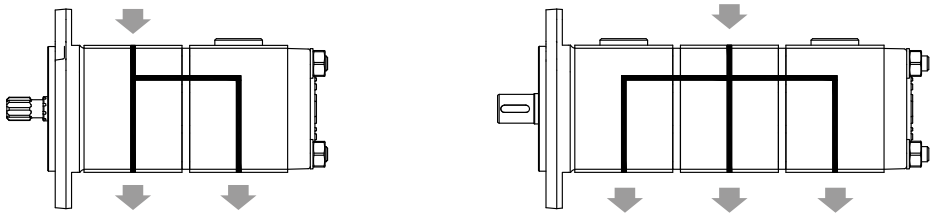


The oil can pass between sections.

Reference

· (Without code).

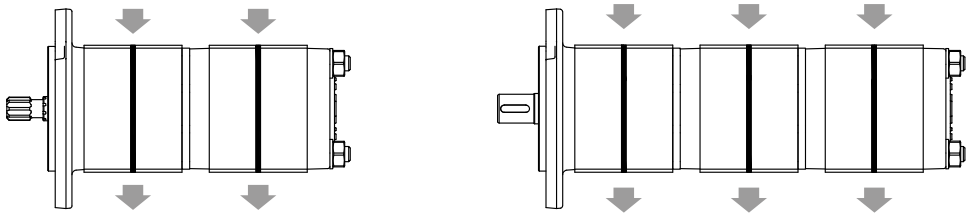
Common inlet



Designed to use less inlets than outlets.

- CI1 (Common inlet, body 1 inlet port).
- CI2 (Common inlet, body 2 inlet port).

Separate stages version



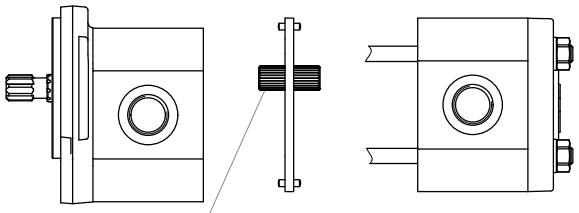
· SS (Separate stages).

Note: The pump length and the intermediate flanges are different than the above ones.

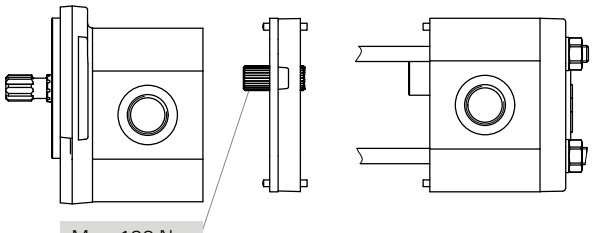
Driving torques

Driving torques between pumps

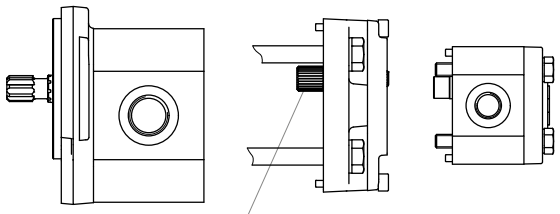
G+G - Common inlet



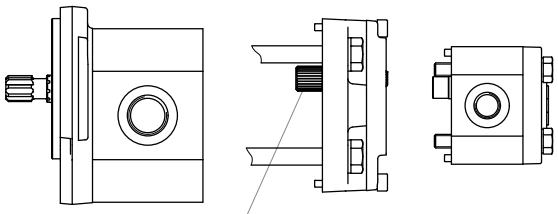
G+G - Separate stages

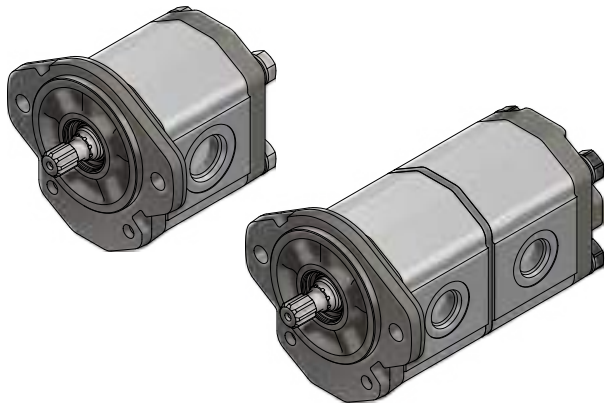


G+GS - Common inlet



G+GS - Separate stages







G Pump technical data (Aluminium body)

Displacement	cm³/v-cc/rev (in³/rev)	4 (0,24)	6 (0,37)	8 (0,49)	10,7 (0,65)	12 (0,73)	14,7 (0,90)	16 (0,98)	18 (1,10)	20,7 (1,26)	23,3 (1,42)	26,7 (1,62)
Cont. max. pressure	bar (psi)	275 (3990)					250 (3625)		225 (3265)	200 (2900)	180 (2610)	170 (2465)
Intermittent max. pressure	bar (psi)	300 (4350)					275 (3990)		250 (3625)	225 (3265)	200 (2900)	190 (2755)
Maximum peak pressure	bar (psi)	310 (4495)					285 (4135)		260 (3770)	235 (3410)	210 (3045)	200 (2900)
R.P.M. at cont. pressure		3500			3000		2500		2300		2000	
Max. R.P.M		4000			3500				3200		3000	2500
Min. R.P.M. at given pressures	100 bar (1450 psi)	500										
	175 bar (2540 psi)	1100		1200	1000		850				750	
	250 bar (3625 psi)	1400			1300		1200		1100		–	
	300 bar (4350 psi)	1750			1500		–					

Note: Pressures obtained with flanged bodies.

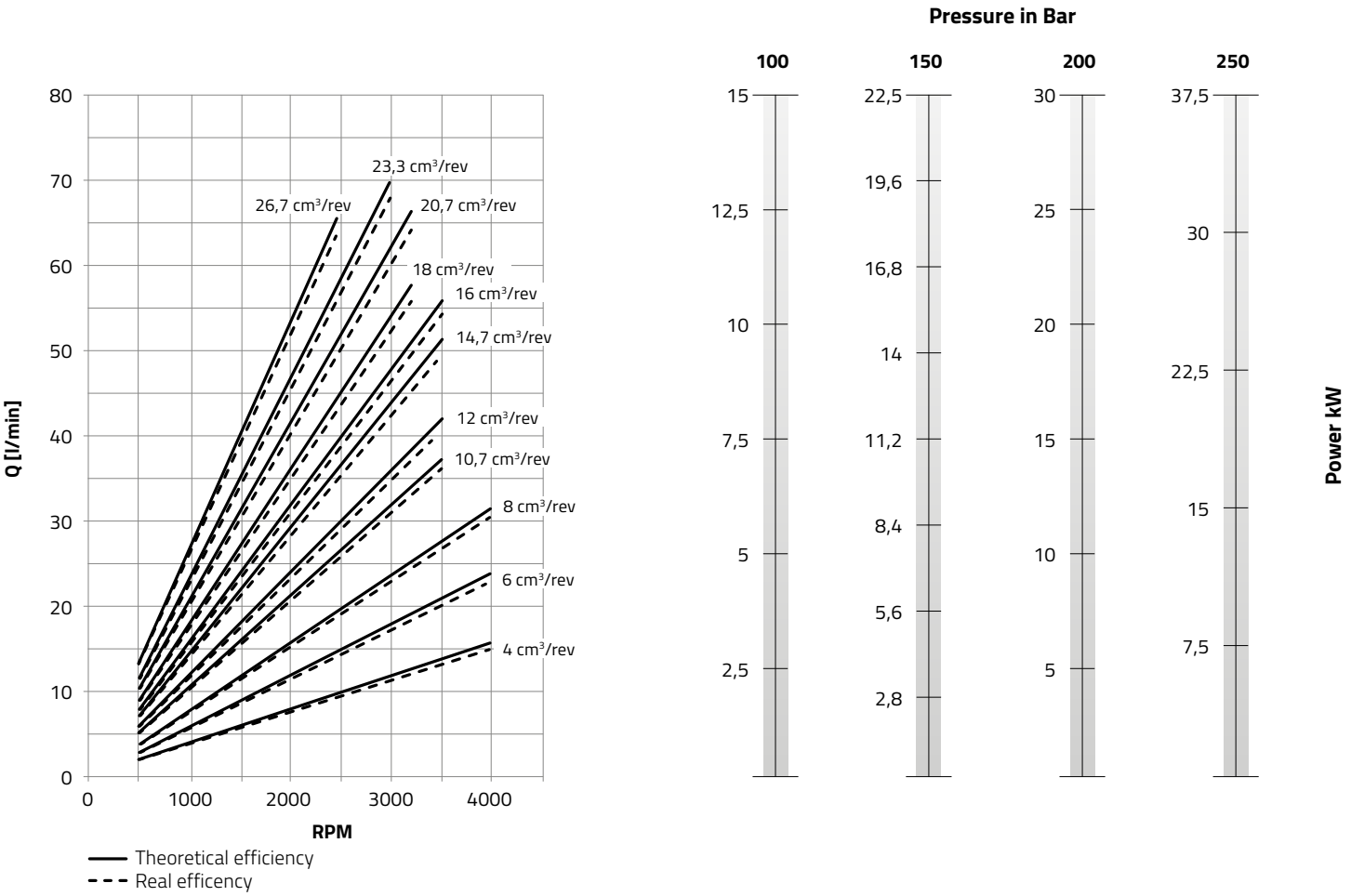
GN Pump technical data (Cast iron body)

Displacement	cm³/v-cc/rev (in³/rev)	4 (0,24)	6 (0,37)	8 (0,49)	10,7 (0,65)	12 (0,73)	14,7 (0,90)	16 (0,98)	18 (1,10)	20,7 (1,26)	23,3 (1,42)	26,7 (1,62)
Cont. max. pressure	bar (psi)	290 (4205)					275 (3990)		250 (3625)	235 (3410)	225 (3265)	215 (3120)
Intermittent max. pressure	bar (psi)	350 (5075)					330 (4785)		300 (4350)	275 (3990)	260 (3770)	250 (3625)
Maximum peak pressure	bar (psi)	360 (5220)					340 (4930)		310 (4495)	285 (4135)	270 (3915)	260 (3770)
R.P.M. at cont. pressure		3500			3000		2500		2300		2000	
Max. R.P.M		4000			3500				3200		3000	2500
Min. R.P.M. at given pressures	100 bar (1450 psi)	500										
	175 bar (2540 psi)	1100		1200	1000		850				750	
	250 bar (3625 psi)	1400			1300		1200		1100		–	
	300 bar (4350 psi)	1750			1500		–					

Note: With regard to all reversible pumps (G and GN), maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

Note: The definition of the pressure ranges is shown on page 7.

Flow, performance and power chart according to displacement



NOTE: The values shown in the above diagram have boeen obtained using 32cSt Kinematic viscosity oil.

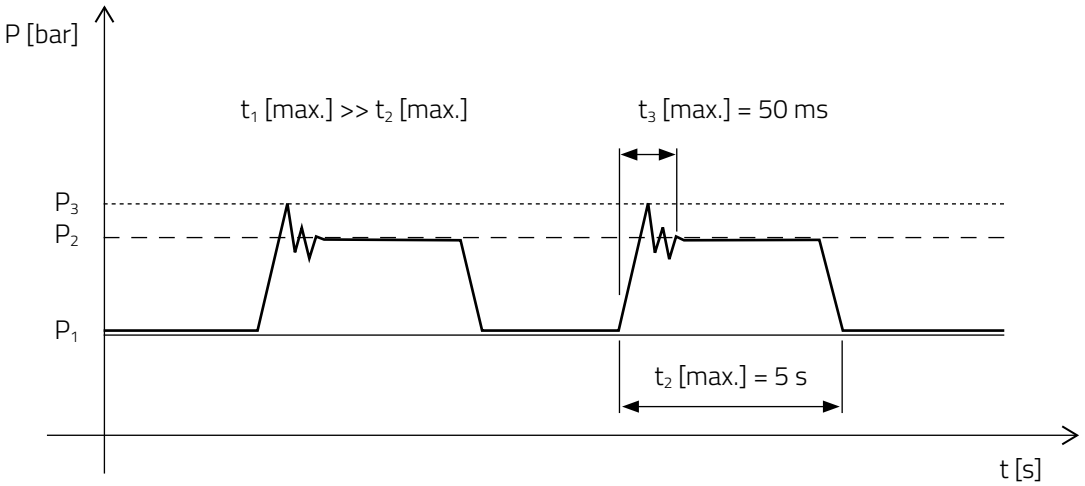
Pressure definition

Technical data tables show 3 levels of maximum pressure to which a pump can be used:

P_1, t_1 – Maximum continuous pressure ————

P_2, t_2 – Maximum intermittent pressure — — —

P_3, t_3 – Maximum peak pressure ----------



								Optional					
Coding System	**1**	**G**	**15C**	**D**	**E**	**10**	**R**		**/**	**V**	**42**	**T*****	**-*****

Type

1	Without pulley
2	With pulley
5	Pump with floating shaft and back-up bearing

Model

G	Single – Aluminium body
GN	Single – Cast iron body
GM	Multiple (G+G)
GNM	Multiple (GN+GN)
GS	Multiple (G+G0)
GNS	Multiple (GN+G0)

Pump Displacement [cm³/rev] & [in³/rev]

4C	4,0	0,24
6C	6,0	0,37
8C	8,0	0,49
11C	10,7	0,65
12C	12,0	0,73
15C	14,7	0,90
16C	16,0	0,98
18C	18,0	1,10
21C	20,7	1,26
23C	23,3	1,42
27C	26,7	1,62

Rotation Direction

D	Clockwise
I	Counterclockwise
R	Reversible

Drive Shaft Form

D	SAE B - 13 teeth — SAE J498b
E	European tapered 1:8
G	SAE A - 9 teeth — SAE J498b
H	SAE A - Ø15,88 straight
J	German tapered 1:5
K	SAE - 11 teeth — SAE J498b
L	SAE - Ø19,05 straight
T	DIN-5482 - 9 teeth
Q	Multiple pumps — (SS)
Z	Multiple pumps — (CI)

For more options see shafts

Code

V	FKM seals and shaft seal
RV	Only FKM shaft seal
ID	Internal drain

Alternatives with Valves

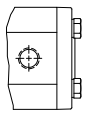
VA	Check valve
V@	Relief valve
VBP@	Low pressure relief valve
RC@V@	Priority flow valve
VC@V@	Flow control valve

See variants with valves

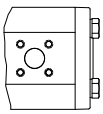
Chamber Type

	Standard
CI@	Common inlet
SS	Separate stages

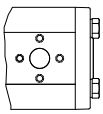
Port Connection Forms



R
BSP thread



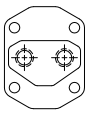
F
German standard



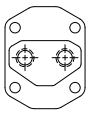
B
European standard



S
SAE thread



T
Rear ports - BSP



U
Rear ports - SAE

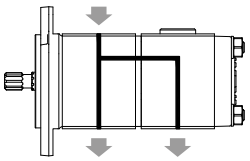
For more options see ports

Mounting Flange

09	SAE A - 2 bolts
10	European flange
22	German standard - 2 bolts
23	German standard
89	SAE B - 2 bolts
00	Multiple pumps

For more options see flanges

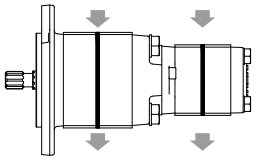
Part number example GM Pump



1	GM	15C	-	6C	D	E	10	R	-	CI1

- 1: Without pulley
- GM: GM Pump (G+G)
- 15C: Displacement of the Pump G-1 [cm³/rev]
- 6C: Displacement of the Pump G-2 [cm³/rev]
- D: Clockwise Rotation
- E: Shaft form: E
- 10: Front flange type: 10
- R: Connection type: R
- CI1: Common Inlet (Inlet1)

Part number example GS Pump



1	GS	15C	-	5C	D	E	10	R	-	SS

- 1: Without pulley
- GS: GS Pump (G+G0)
- 15C: Displacement of the Pump G [cm³/rev]
- 5C: Displacement of the Pump G0 [cm³/rev]
- D: Clockwise Rotation
- E: Shaft form: E
- 10: Front flange type: 10
- R: Connection type: R
- SS: Separate Stages

Pumps and motors codification with integrated valves

Relief valve

Tamper-proof sealable model and standard set pressure

	Pressure range
V11	Set at 80 bar (5-80 bar)
V12	Set at 160 bar (85-175 bar)
V13	Set at 200 bar (180-250 bar)

Tamper-proof sealed model and specific set pressure

	Pressure range
V41T* **	5-80 bar
V42T* **	85-175 bar
V43T* **	180-250 bar

In the relief valve with tamper-proof cap, the signs *** have to be replaced by the set pressure (3 numbers) of the valve.
See minimum set pressure curve (page 29).

Example 1: 1G18CDE10R/V12

Example 2: 1G11CDE10R/V41T060

Flow control valve with relief valve

VC	@	V	@

Controlled flow

05	5 l/min
08	8 l/min
12	12 l/min
16	16 l/min
22	22 l/min

Tamper-proof sealable model and standard set pressure

	Pressure range
11	Set at 80 bar (5-80 bar)
12	Set at 160 bar (85-175 bar)
13	Set at 200 bar (180-250 bar)

See minimum set pressure curve (page 30).

Example: 1G8CDE10R/VC05V13

Check valve

VA	See pressure diagram - flow (page 29). Example: 1G11CDE10R/VA

Low pressure relief valve

VBPT**	The signs ** have to be replaced by the set pressure (2 numbers). See minimum set pressure curve (page 29). Example: 1G15CDE10R/VBP14

Priority flow rate with relief valve

RC	@	V	@

Priority flow PF

05	5 l/min
06	6 l/min
08	8 l/min
10	10 l/min
12	12 l/min
14	14 l/min
16	16 l/min
18	18 l/min
20	20 l/min

Model without valve

00	Without relief valve

Tamper-proof sealable model and standard set pressure

	Pressure range
11	Set at 80 bar (5-80 bar)
12	Set at 160 bar (85-175 bar)
13	Set at 200 bar (180-250 bar)

Tamper-proof sealed model and specific set pressure

	Pressure range
41T* **	5-80 bar
42T* **	85-175 bar
43T* **	180-250 bar

In the relief valve with tamper-proof cap, the signs *** have to be replaced by the set pressure (3 numbers) of the valve. See minimum set pressure curve (page 30).

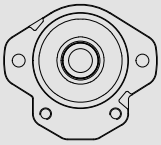
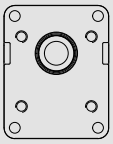
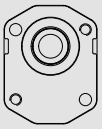
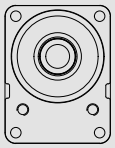
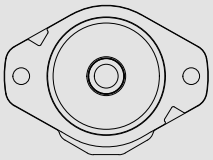
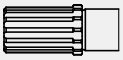
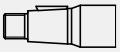
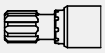
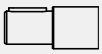
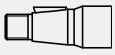
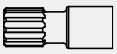
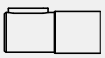
Example 1: 1G11CDE10R/RC08V41T060

Example 2: 1G16CDE10R/RC16V12

Return to Pumps
Return to Motors
MENU

Drive shaft-front flange common combinations

The table below only contains the most common combinations. Contact the Sales Department for other combinations.

	09  SAE A – 2 bolts	10  European	19  German 2 bolts	22  German 2 bolts	23  German	89  SAE B – 2 bolts
D  SAE B – 13 teeth						D 89
E  European tapered 1:8		E 10				
G  SAE A – 9 teeth	G 09					
H  SAE A – Ø15,88 straight	H 09					
J  German tapered 1:5				J 22	J 23	
K  SAE – 11 teeth	K 09					
L  SAE – Ø19,05 straight	L 09					
T  DIN-5482 – 9 teeth					T 23	
W  Tang			W19			

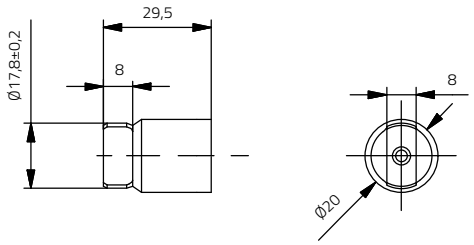
Drive shafts

Contact with the Sales Department for other combinations.

NOTE: The drive shaft lenght is given from the side A of the front flanges (see pages 14 and 15).

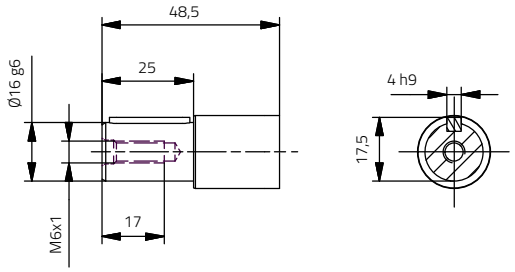
Shaft form B

Roquet Tang — Max. driving torque 65 Nm



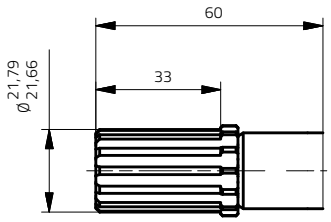
Shaft form C

UNE – Ø16 straight — Max. driving torque 55 Nm



Shaft form D

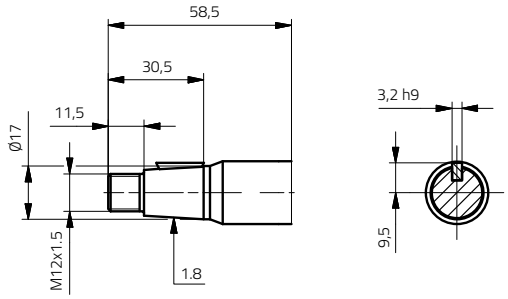
SAE B – 13 teeth — Max. driving torque 110 Nm



SAE J498b
13 teeth
Pitch 16/32
Side fit
Pressure angle 30 deg

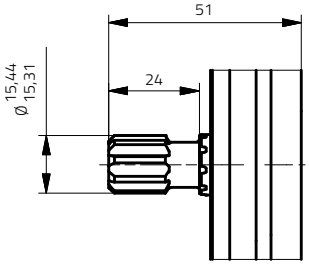
Shaft form E

European tapered 1:8 — Max. driving torque 160 Nm



Shaft form G

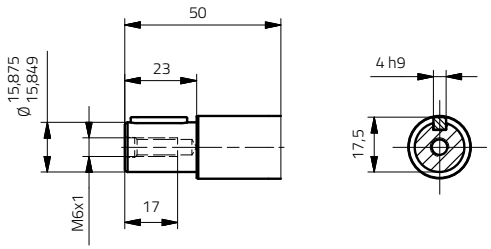
SAE A – 9 teeth — Max. driving torque 110 Nm



SAE J498b
9 teeth
Pitch 16/32
Side fit
Pressure angle 30 deg

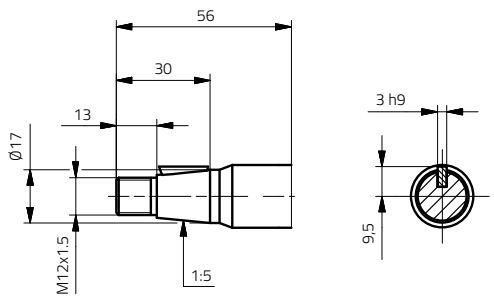
Shaft form H

SAE A – Ø15,88 straight — Max. driving torque 55 Nm



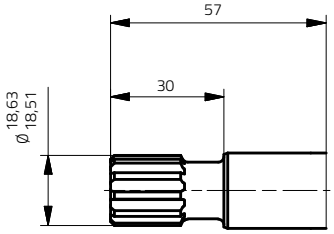
Shaft form J

German tapered 1:5 — Max. driving torque 155 Nm



Shaft form K

SAE – 11 teeth — Max. driving torque 184 Nm



SAE J498b
11 teeth
Pitch 16/32
Side fit
Pressure angle 30 deg

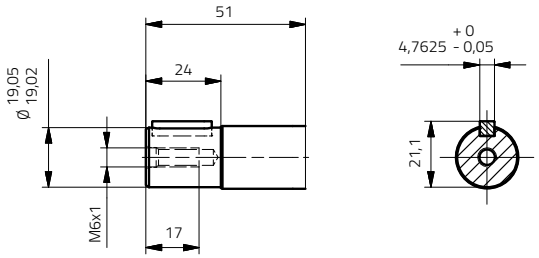
Drive shafts

Contact with the Sales Department for other combinations.

NOTE: The drive shaft lenght is given from the side A of the front flanges (see pages 14 and 15).

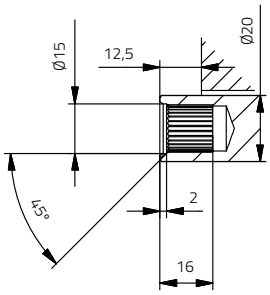
Shaft form L

SAE – Ø19,05 straight — Max. driving torque 100 Nm



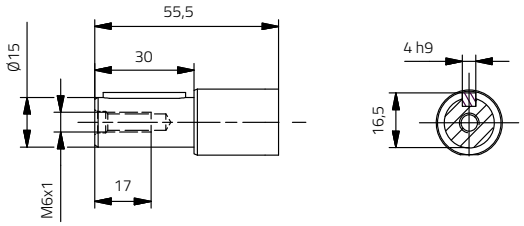
Shaft form Q

28 teeth — Max. driving torque 100 Nm



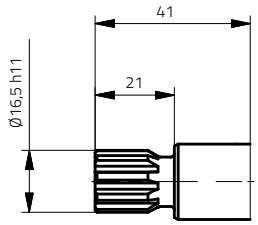
Shaft form R

Ø15 straight — Max. driving torque 55 Nm



Shaft form T

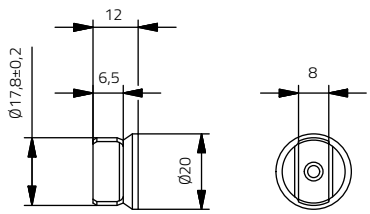
DIN-5482 – 9 teeth — Max. driving torque 130 Nm



DIN-5482
9 teeth
B 17x14

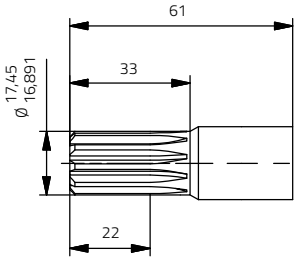
Shaft form W

Tang Ø17,8 — Max. driving torque 65 Nm



Shaft form X

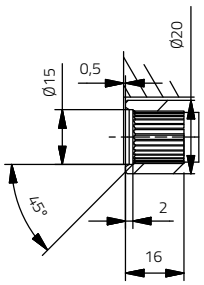
SAE A – 10 teeth — Max. driving torque 140 Nm



SAE J498b
10 teeth
Pitch 16/32
Side fit
Pressure angle 30 deg

Shaft form Z

28 teeth — Max. driving torque 100 Nm



The shaft doesn't protrude

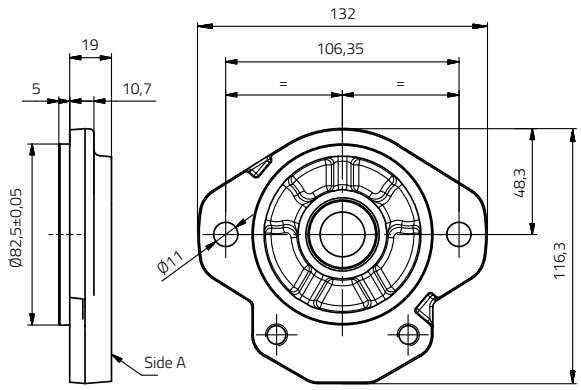
Return to Pumps
Return to Motors
MENU

Front flanges

Contact with the Sales Department for other combinations.

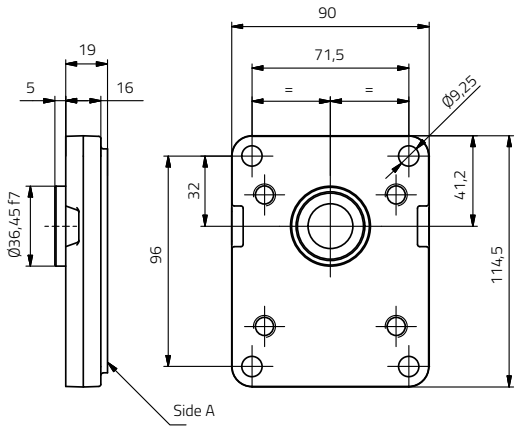
Front flange type 09

SAE A – 2 bolts



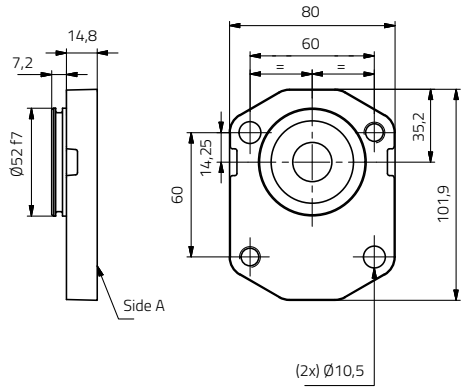
Front flange type 10

European standard



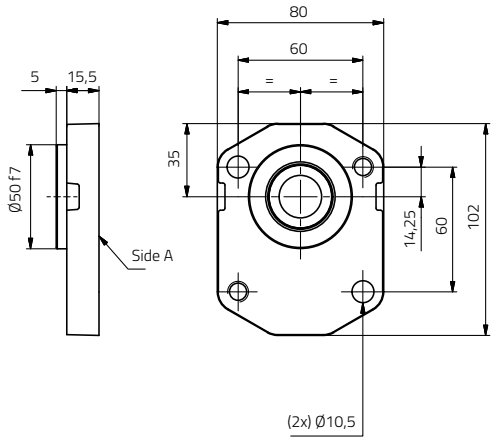
Front flange type 19

German standard – 2 bolts (Without shaft seal)



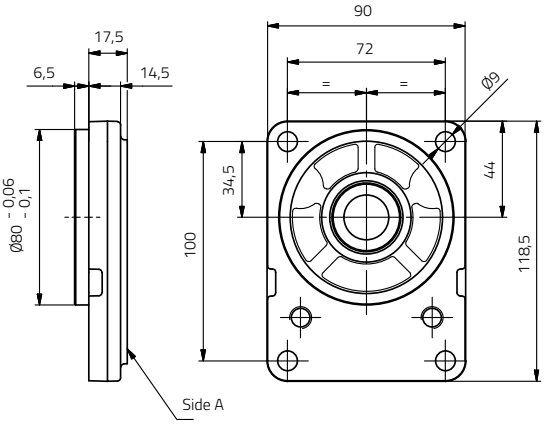
Front flange type 22

German standard – 2 bolts (With shaft seal)



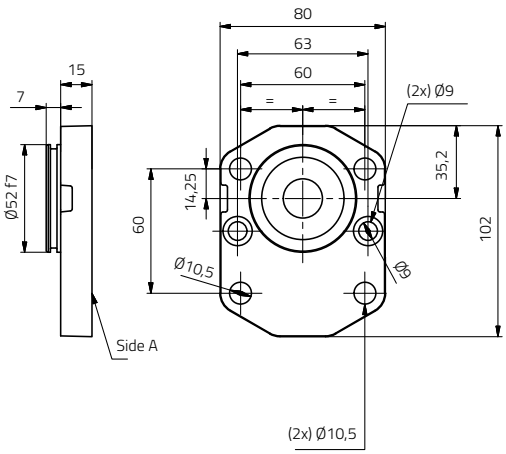
Front flange type 23

German standard



Front flange type 29

German standard (High pressure)

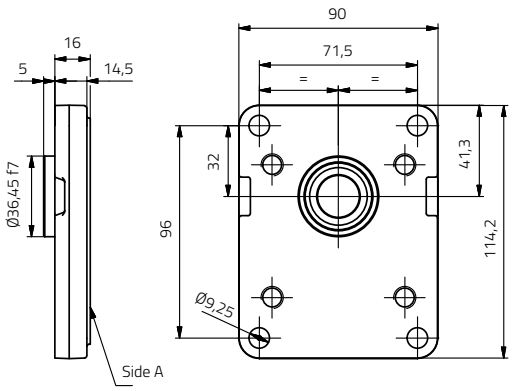


Front flanges

Contact with the Sales Department for other combinations.

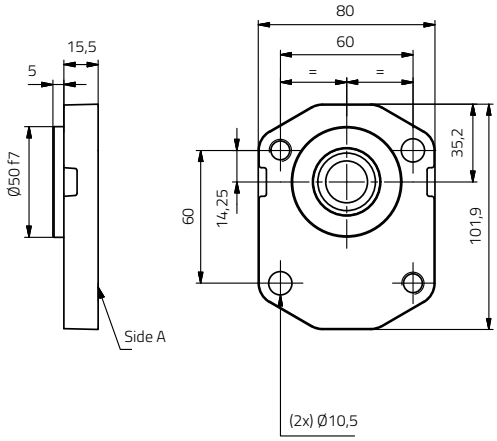
Front flange type 31

European standard for B shaft



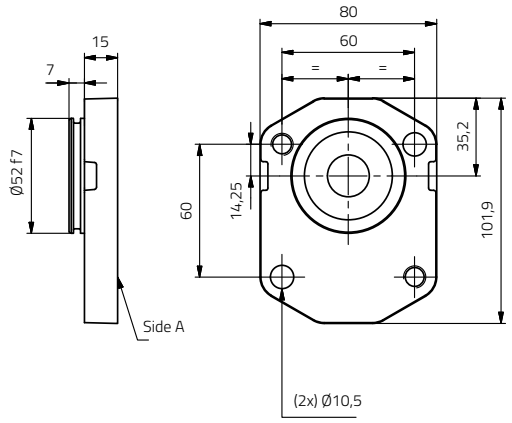
Front flange type 55

German standard – 2 bolts (opposed diagonal from 22 flange)



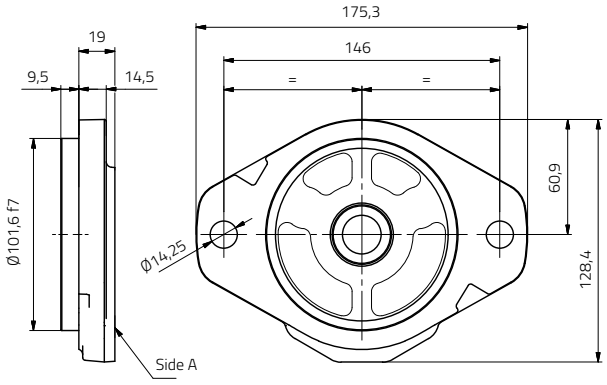
Front flange type 61

German standard – 2 bolts (opposed diagonal from 19 flange)

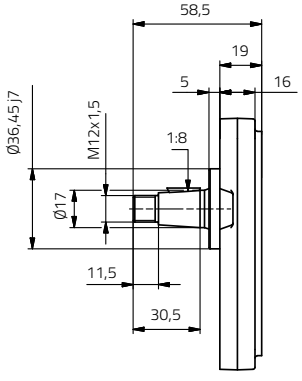


Front flange type 89

SAE B – 2 bolts



Example



NOTE: The useful length of the drive shaft varies depending on the front flange thickness.

Return to Pumps

Return to Motors

MENU

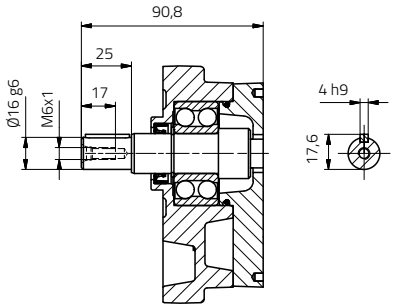
Front flanges and shaft with outrigger bearing

Each drive shaft and front flange on this page can be combined.

Maximum radial load 125 daN — Maximum axial load 125 daN

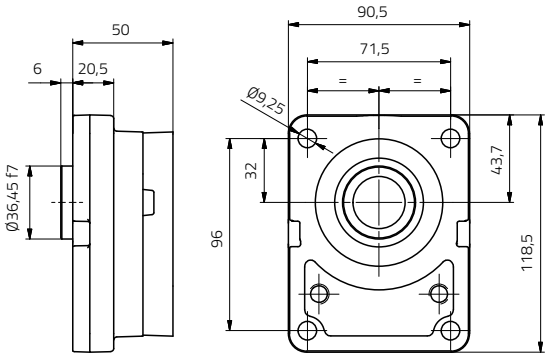
Shaft form C

Straight Ø16 — Max. driving torque 70 Nm



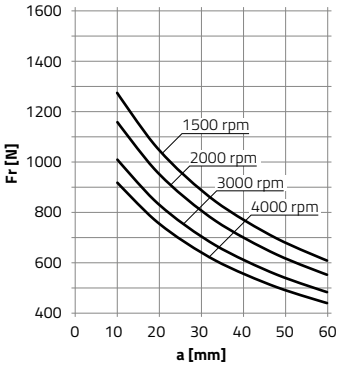
Front flange type 10

European standard



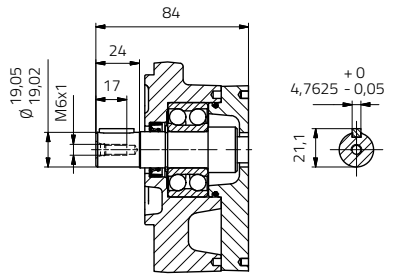
Outrigger bearing life · 1000 h

When an axial load is applied, Fr is reduced to 0.7Fa. Service life at L = 1000 h.



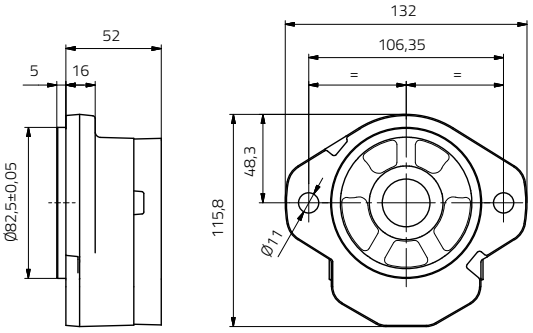
Shaft form L

SAE – Ø19,05 straight — Max. driving torque 100 Nm



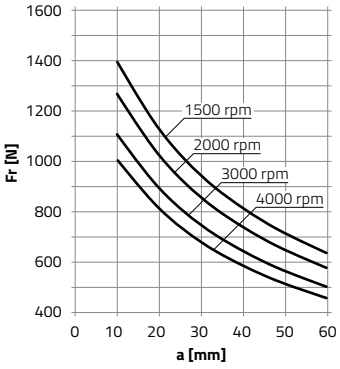
Front flange type 09

SAE A – 2 bolts



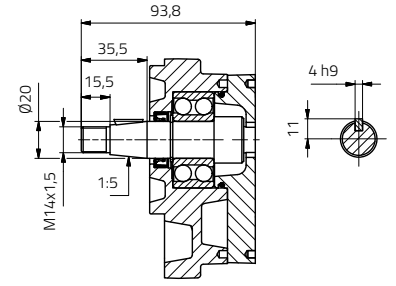
Outrigger bearing life · 1000 h

When an axial load is applied, Fr is reduced to 0.7Fa. Service life at L = 1000 h.



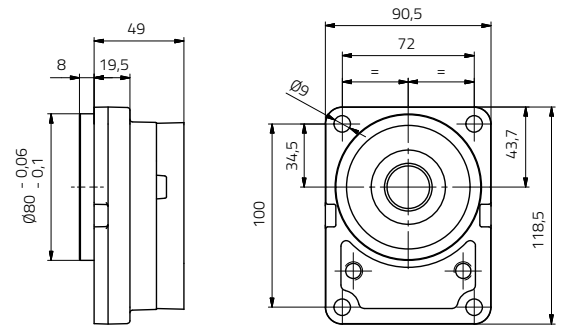
Shaft form V

German tapered 1:5 — Max. driving torque 100 Nm



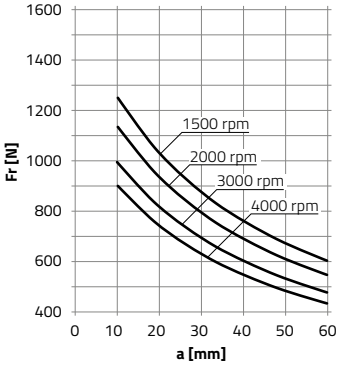
Front flange type 23

German standard



Outrigger bearing life · 1000 h

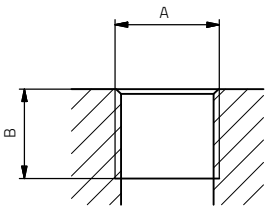
When an axial load is applied, Fr is reduced to 0.7Fa. Service life at L = 1000 h.



NOTE: Length "**a**" refers to the distance between the mating face and the equivalent force Fr applied.

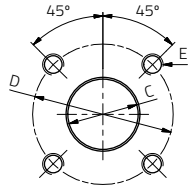
Ports

Side ports



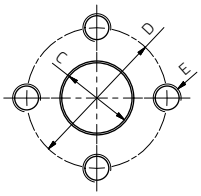
R Ports	1 rotation direction				Reversible	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
4	3/8" BSP	15	3/8" BSP	15	3/8" BSP	15
6 ... 14,7	1/2" BSP	18	3/8" BSP	15	1/2" BSP	18
16 ... 26,7	3/4" BSP	17	1/2" BSP	18	3/4" BSP	17

Dimensions according to ISO 1179-1 (Parallel threads)



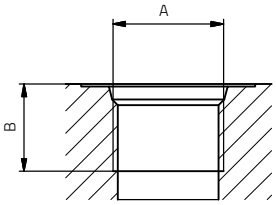
F Ports	1 rotation direction						Reversible		
Displacement [cm³/rev]	Suction			Pressure					
	C	D	E	C	D	E	C	D	E
4 ... 6	15	40	M6	15	35	M6	20	40	M6
8 ... 26,7	20	40	M6	15	35	M6	20	40	M6

Flanged ports - German standard



B Ports	1 rotation direction						Reversible		
Displacement [cm³/rev]	Suction			Pressure					
	C	D	E	C	D	E	C	D	E
4 ... 6	13,5	30	M6	13,5	30	M6	13,5	30	M6
8 ... 12	20	40	M8	15	30	M6	15	30	M6
15 ... 26,7	20	40	M8	15	30	M6	20	40	M8

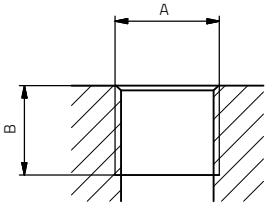
Flanged ports - European standard



S Ports	1 rotation direction				Reversible	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
4 ... 26,7	1" 1/16-12 UNF	19	7/8"-14 UNF	17	7/8"-14 UNF	17

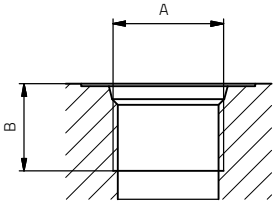
Dimensions according to ISO 11926-1 (Parallel threads)

Rear ports



T Ports	1 rotation direction + Reversible				Drain	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
4 ... 26,7	1/2" BSP	15	1/2" BSP	15	1/4" G	14

Dimensions according to ISO 1179-1 (Parallel threads)



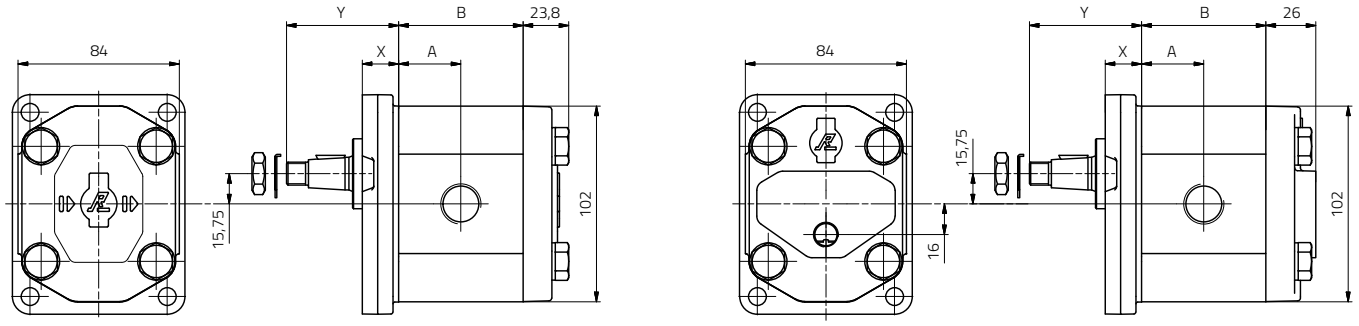
U Ports	1 rotation direction				Reversible		Drain	
Displacement [cm³/rev]	Suction		Pressure					
	A	B	A	B	A	B	A	B
4 ... 26,7	1"1/16-12 UNF	19	7/8"-14 UNF	17	7/8"-14 UNF	17	9/16"-18 UNF	14

Dimensions according to ISO 11926-1 (Parallel threads)

Return to Pumps
Return to Motors
MENU

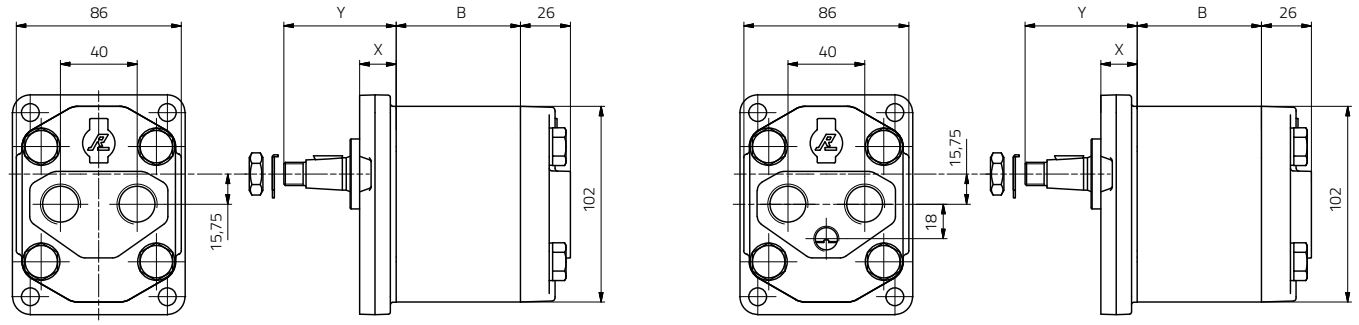
Single pumps and motors (G)

Side ports



Single rotation — Reversible

Rear Ports



Single rotation — Reversible

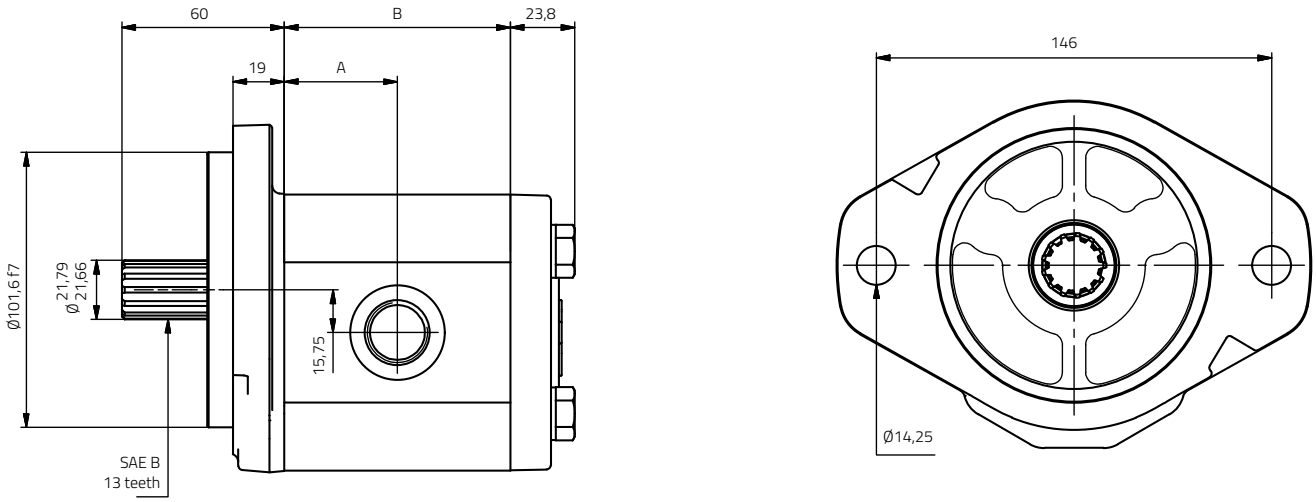
Displacement [cm³/rev]	A	B	Weight (Kg) Ex. 1G@C@E10@	Weight (Kg) Ex. 1GN@C@E10@	Weight (Kg) Ex. 1G@C@Z00@	Weight (Kg) Ex. 1GN@C@Z00@
4	23,4	46,8	3,3	4,3	2,2	3,1
6	25,2	50,3	3,4	4,5	2,3	3,3
8	26,8	53,5	3,5	4,6	2,4	3,5
10,7	29	58	3,6	4,8	2,5	3,7
12	30,3	60,5	3,8	5	2,6	3,8
14,7	32,4	64,8	3,9	5,2	2,7	4
16	33,5	67	4	5,4	2,8	4,1
18	35,3	70,5	4,2	5,7	2,9	4,3
20,7	37,5	75	4,4	6	3	4,5
23,3	39,8	79,5	4,6	6,3	3,1	4,7
26,7	41,8	83,5	4,9	6,6	3,3	4,9

Front flange type	X [mm]
09	19
10	19
19	14,8
22	15,5
23	17,5
29	15
31	16
55	15,5
61	16
89	19

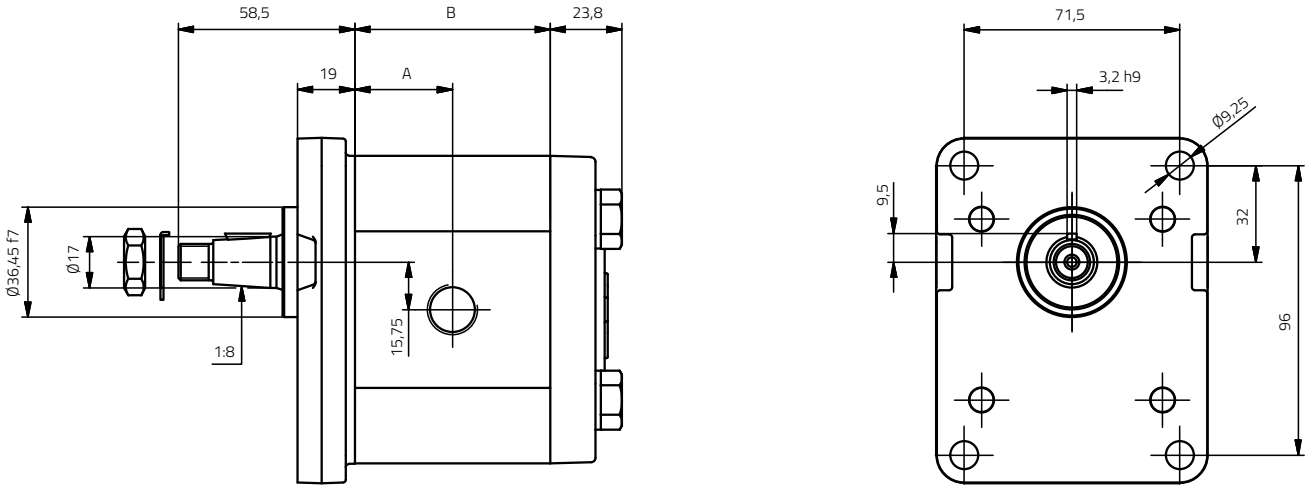
Shaft form	Y [mm]
B	29,5
C	48,5
D	60
E	58,5
G	51
H	50
J	56
K	57
L	51
Q	12,5
R	55,5
T	41
X	61
Z	0,5

Configuration and dimension examples

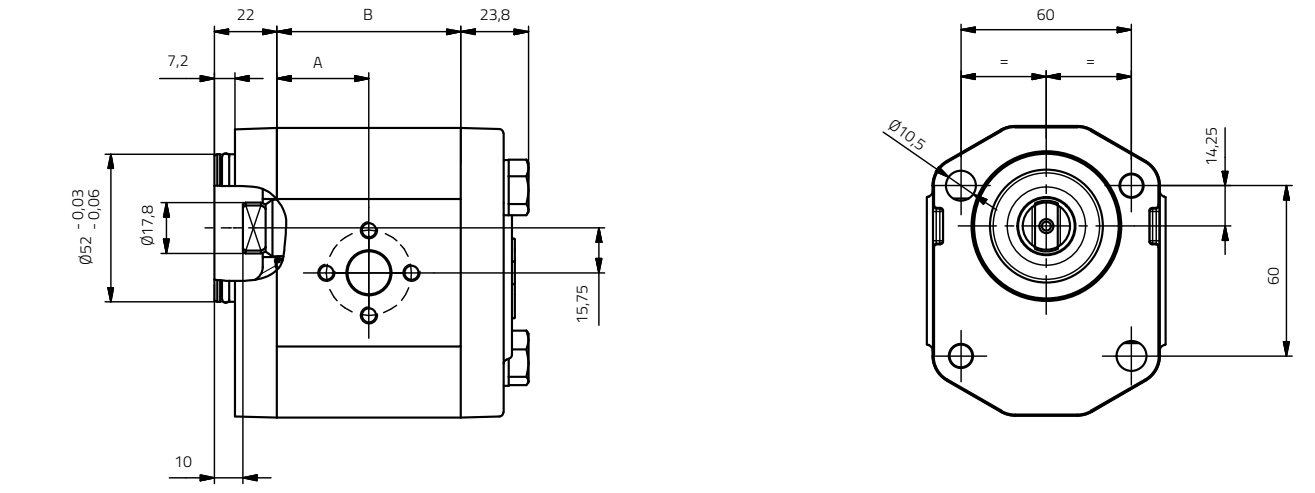
1G@CDD89S



1G@CDE10R



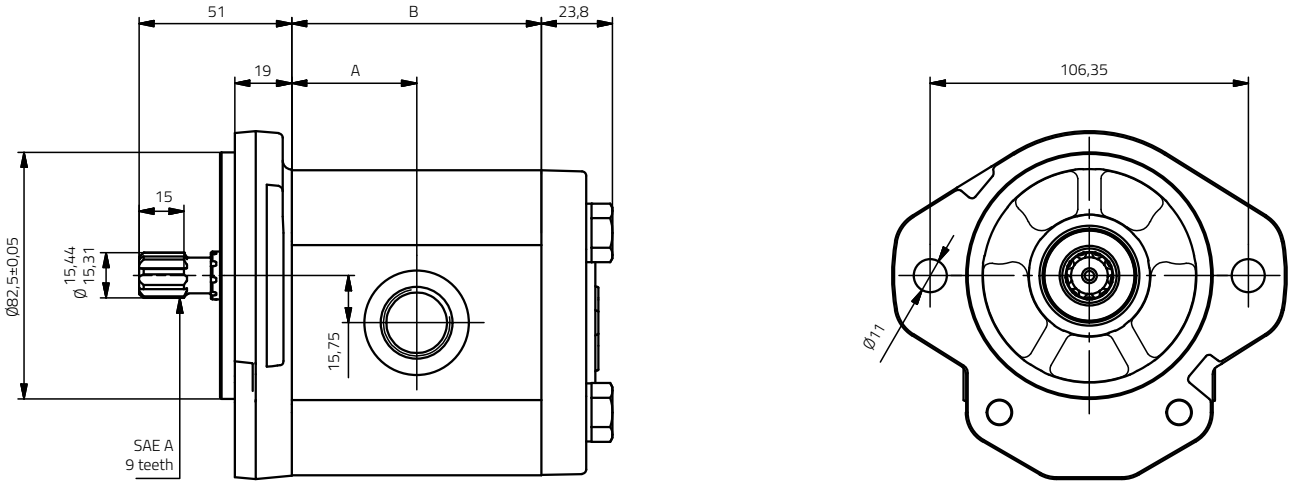
1G@CDW19B



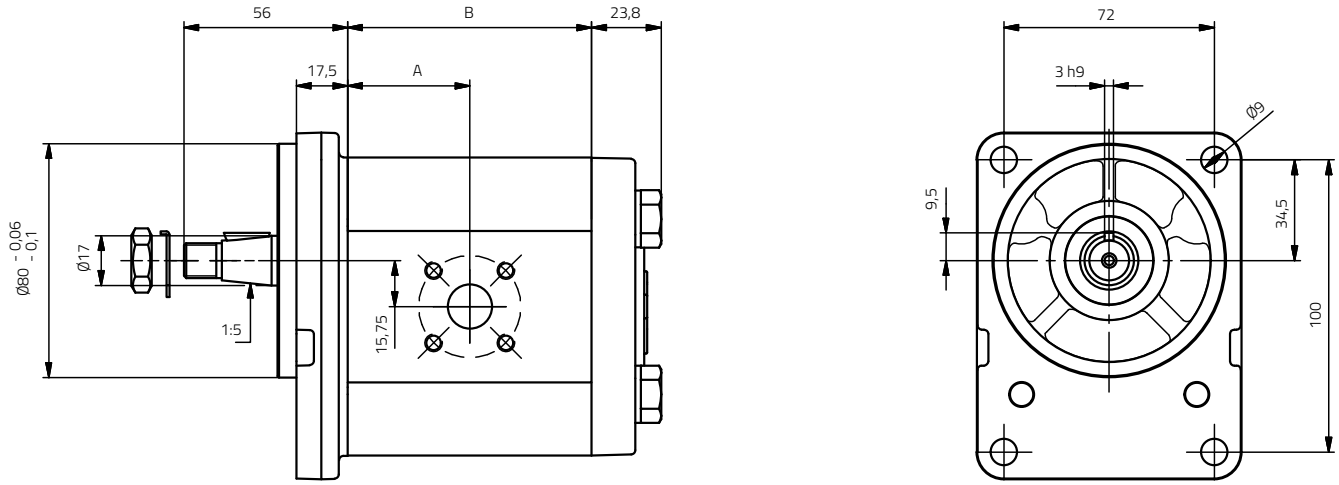
NOTE: Check general dimensions in the "dimensions" section (Page 18).

Configuration and dimension examples

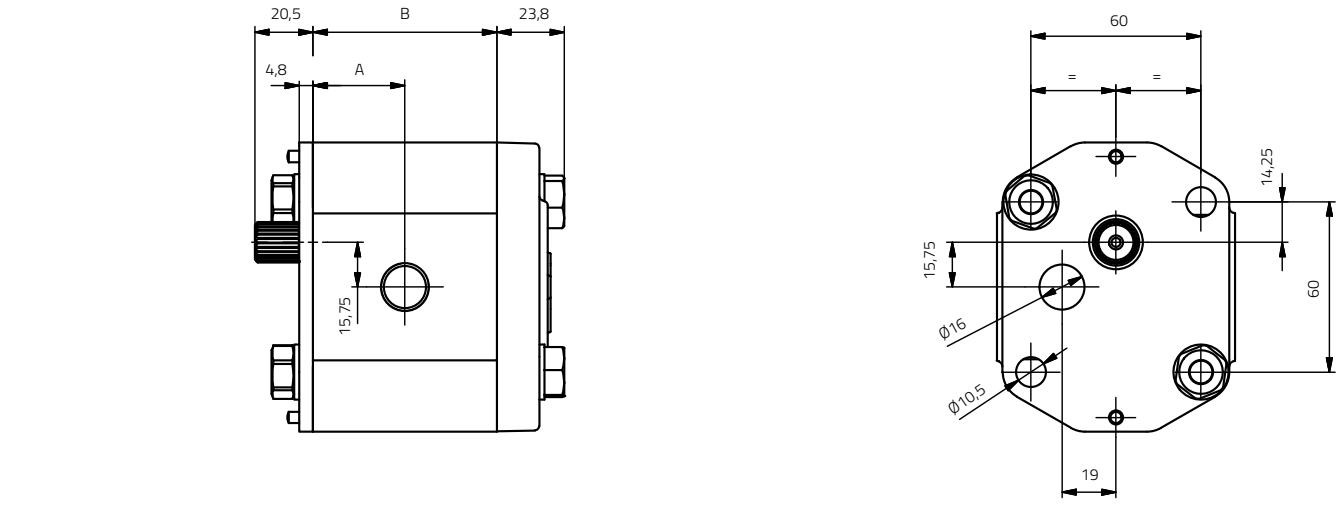
1G@CDG09S



1G@CDJ23F



1G@CDZ00R

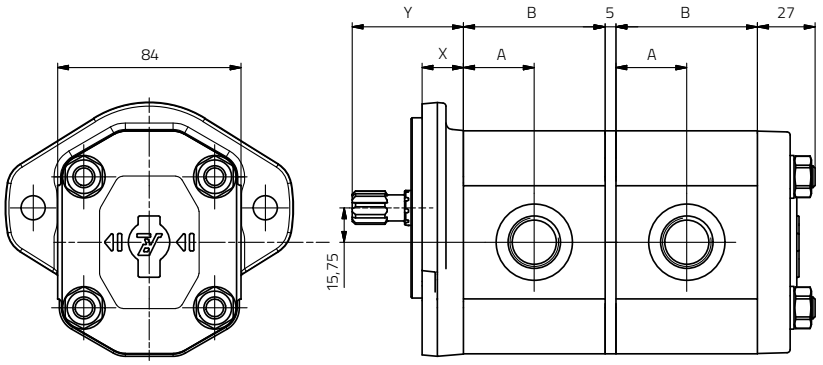


NOTE: Check general dimensions in the "dimensions" section (Page 18).

Multiple pumps

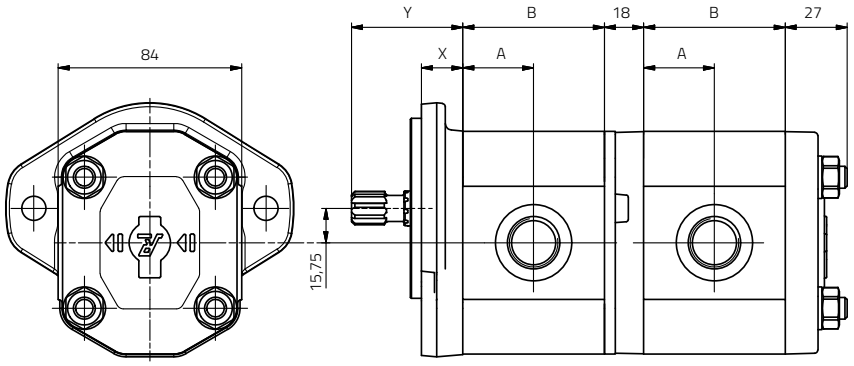
Multiple pump G (GM)

Standard
Common inlet



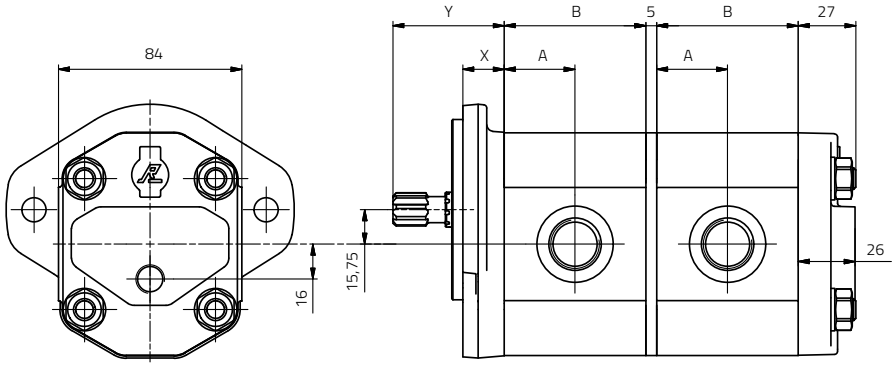
Multiple pump G (GM)

Separate Stages



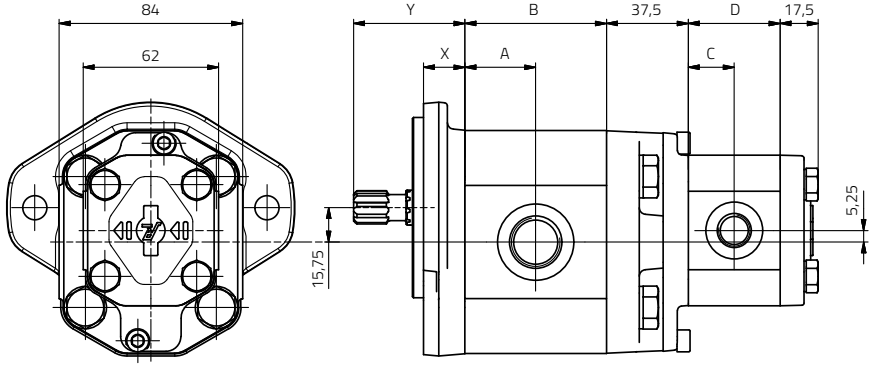
Multiple pump G (GM)

Reversible



Multiple pump G-G0 (GS)

Standard
Common inlet
Separate Stages
Reversible



NOTE: Check general dimensions in the "dimensions" section (Page 18).

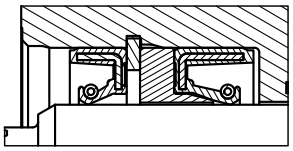
Features

Roquet gear motors offer:
- High efficiency thanks to the specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear motors.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of motors delivered are tested.
- Front flanges with outboard bearing configurations.
- Back covers with integrated valves for motors.

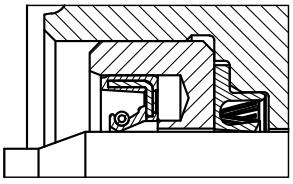
Technical information

Displacement range	4 – 26,7 cm^3/rev
Shafts, flanges and ports	According to European, German and American standards
Direction of rotation	Clockwise, counterclockwise and reversible
Fluid	Recommended Mineral oil - ISO 6743 tipo HM, HV o HG
Viscosity	Recommended viscosity at work 20-80 cSt (mm^2/s) Maximum viscosity allowed at start 800 cSt (mm^2/s)
Oil working temperature	Recommended temperature 50°C – Material NBR (-30/+80°C) FKM (-20/+120°C)
Cleanliness	ISO 4406 22/19/16

Standard motor shaft seal
Maximum drain line pressure - 5 bar (72 psi)
(Maximum pressure value at minimum R.P.M.)



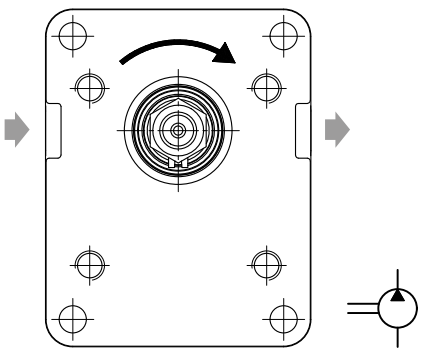
Peak pressure motor shaft seal (-LP)
Maximum drain line pressure - 20 bar (290 psi)
(Maximum pressure value at minimum R.P.M.)



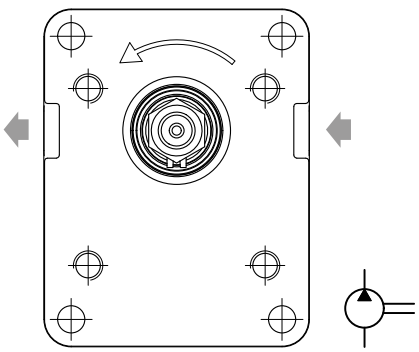
Direction of rotation

The direction of rotation is always defined looking at the motor from the front flange.

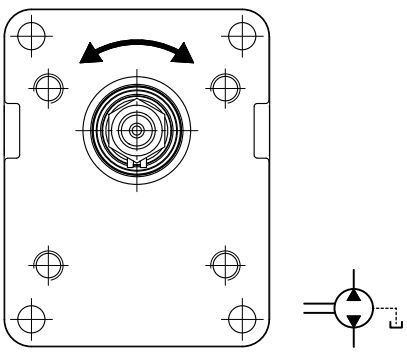
Clockwise



Counterclockwise



Reversible



Common formulas

$$v = \frac{Q}{(6 \cdot A)} \quad [m/s]$$

$$n = \frac{Q \cdot 1000 \cdot \eta_{vol}}{V} \quad [min^{-1}]$$

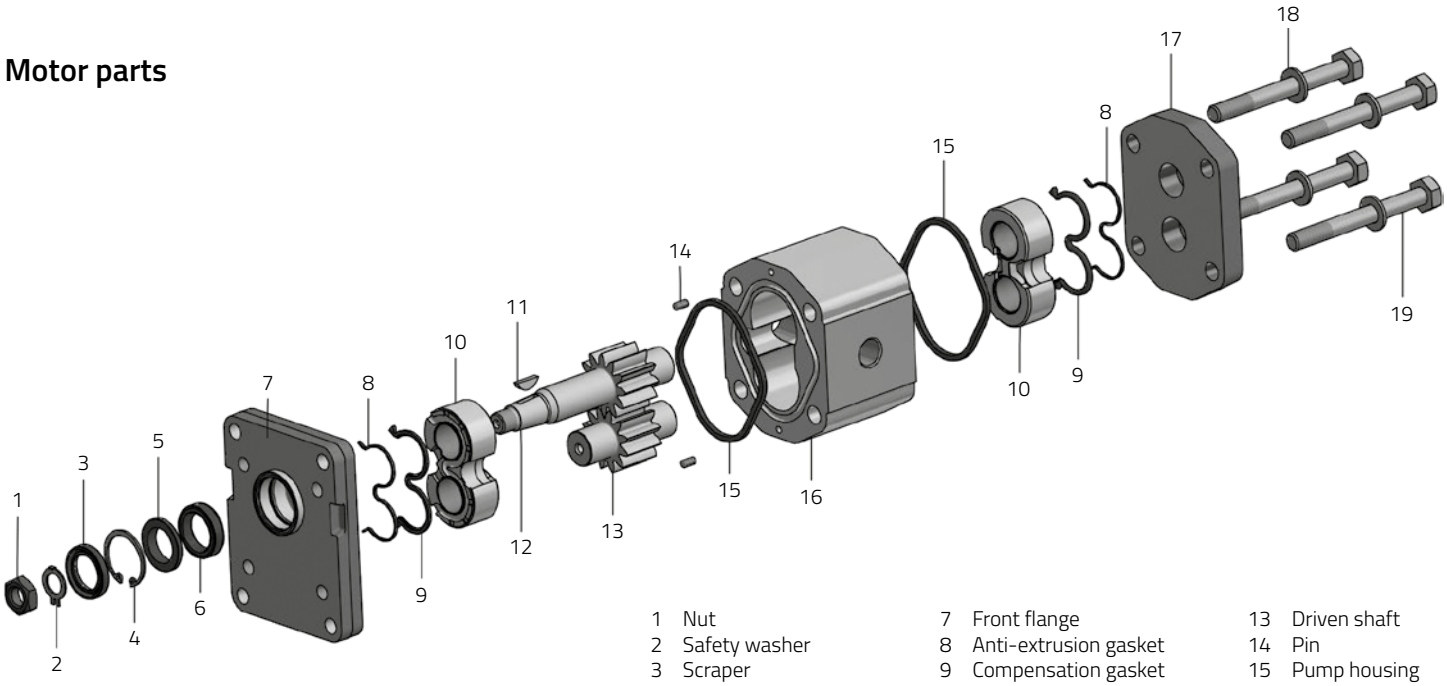
$$M = \frac{(V \cdot \Delta p \cdot \eta_{hm})}{(62{,}8)} \quad [N \cdot m]$$

$$P = \frac{(Q \cdot \Delta p)}{(600 \cdot \eta_t)} \quad [kW]$$

v = fluid speed [m/s]
Q = pump flow [l/min]
A = tube section [cm^2]
V = pump displacement [cm^3/rev]
n = rotation speed [rev/min]
Δp = pressure difference [bar]
M = necessary driving torque [N · m]
P = necessary driving power [kW]
η_{vol} = volumetric efficiency (≈0,95) [%]
η_{hm} = hydromechanic al efficiency (≈0,85) [%]
η_t = total efficiency (≈0,82) [%]

Note: Use a minimum pressure of 20 bar to ensure the starting torque.

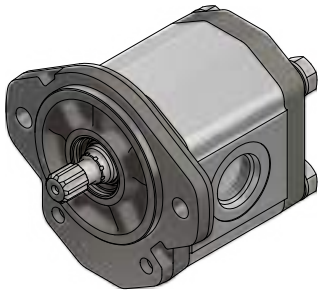
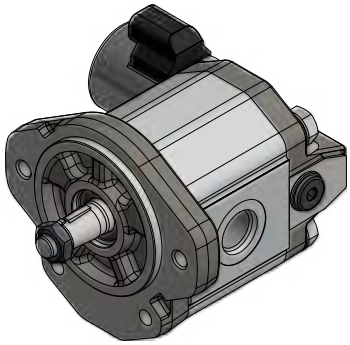
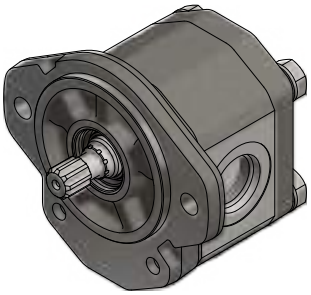
Motor parts



1	Nut	7	Front flange	13	Driven shaft
2	Safety washer	8	Anti-extrusion gasket	14	Pin
3	Scraper	9	Compensation gasket	15	Pump housing
4	Circlip	10	Bearing assembly	16	Housing gasket
5	Shaft seal ring	11	Key	17	Back cover
6	Shaft seal	12	Drive shaft	18	Washers
				19	Bolts

Installation recommendations

- Avoid radial and axial forces on the motor shaft for longer pump lifetime.
- The shafts of the motor have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- If these forces cannot be avoided, versions with outboard bearings can be offered.
- Avoid rotation speeds lower than those shown in the “technical data” section.
- Avoid motor starts under load at low temperatures.
- When starting, clean the whole installation before first run of system.
- If the motor shall be paitned, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible motors, if possible, connect the drain to tank.

MG motor technical data (Aluminium body)

Displacement	cm³/v-cc/rev (in³/rev)	4 (0,24)	6 (0,37)	8 (0,49)	10,7 (0,65)	12 (0,73)	14,7 (0,90)	16 (0,98)	18 (1,10)	20,7 (1,26)	23,3 (1,42)	26,7 (1,62)
Cont. max. pressure	bar (psi)	275 (3990)					250 (3625)		225 (3265)	200 (2900)	180 (2610)	170 (2465)
Intermittent max. pressure	bar (psi)	300 (4350)					275 (3990)		250 (3625)	225 (3265)	200 (2900)	190 (2755)
Maximum peak pressure	bar (psi)	310 (4495)					285 (4135)		260 (3770)	235 (3410)	210 (3045)	200 (2900)
R.P.M. at cont. pressure		3500			3000		2500		2300		2000	
Max. R.P.M		4000			3500				3200		3000	2500
Min. R.P.M. at given pressures	100 bar (1450 psi)	500										
	175 bar (2540 psi)	1100		1200	1000		850				750	
	250 bar (3625 psi)	1400			1300		1200		1100		–	
	300 bar (4350 psi)	1750			1500		–					

Note: Pressures obtained with flanged bodies.

MGN motor technical data (Cast iron body)

Displacement	cm³/v-cc/rev (in³/rev)	4 (0,24)	6 (0,37)	8 (0,49)	10,7 (0,65)	12 (0,73)	14,7 (0,90)	16 (0,98)	18 (1,10)	20,7 (1,26)	23,3 (1,42)	26,7 (1,62)
Cont. max. pressure	bar (psi)	290 (4205)					275 (3990)		250 (3625)	235 (3410)	225 (3265)	215 (3120)
Intermittent max. pressure	bar (psi)	310 (4495)					300 (4350)		280 (4060)	275 (3990)	260 (3770)	250 (3625)
Maximum peak pressure	bar (psi)	325 (4715)					310 (4495)		300 (4350)	285 (4135)	270 (3915)	260 (3770)
R.P.M. at cont. pressure		3500			3000		2500		2300		2000	
Max. R.P.M		4000			3500				3200		3000	2500
Min. R.P.M. at given pressures	100 bar (1450 psi)	500										
	175 bar (2540 psi)	1100		1200	1000		850				750	
	250 bar (3625 psi)	1400			1300		1200		1100		–	
	300 bar (4350 psi)	1750			1500		–					

Note: With regard to all reversible motors (MG and MGN), maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

Note: The definition of the pressure ranges is shown on page 7.

								Optional					
Coding System	**1**	**MG**	**15C**	**D**	**E**	**10**	**R**		**/**	**V**	**42**	**T*****	**-*****

Type

1	Without pulley
2	With pulley
5	Motor with floating shaft and back-up bearing

Model

MG	Single – Aluminium body
MGN	Single – Cast iron body

Motor Displacement [cm³/rev] & [in³/rev]

4C	4,0	0,24
6C	6,0	0,37
8C	8,0	0,49
11C	10,7	0,65
12C	12,0	0,73
15C	14,7	0,90
16C	16,0	0,98
18C	18,0	1,10
21C	20,7	1,26
23C	23,3	1,42
27C	26,7	1,62

Rotation Direction

D	Clockwise
I	Counterclockwise
R	Reversible

Drive Shaft Form

D	SAE B - 13 teeth
E	European tapered 1:8
G	SAE A - 9 teeth
H	SAE A - Ø15,88 straight
J	German tapered 1:5
K	SAE - 11 teeth
L	SAE - Ø19,05 straight
T	DIN-5482 - 9 teeth

For more options see shafts

Code

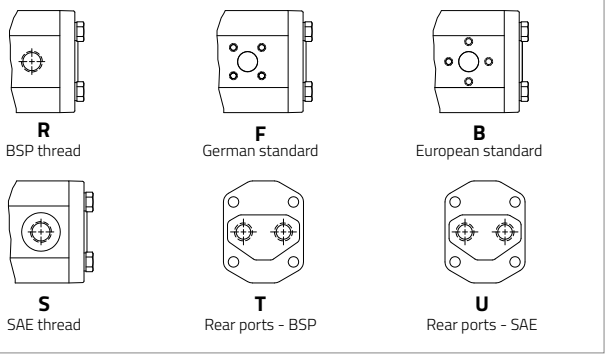
V	FKM seals and shaft seal
RV	Only FKM shaft seal
ID	Internal drain
LP	Peak pressure shaft seal

Alternatives with Valves

VA	Check valve
V@	Relief valve

See variants with valves

Port Connection Forms



R BSP thread
F German standard
B European standard
S SAE thread
T Rear ports - BSP
U Rear ports - SAE

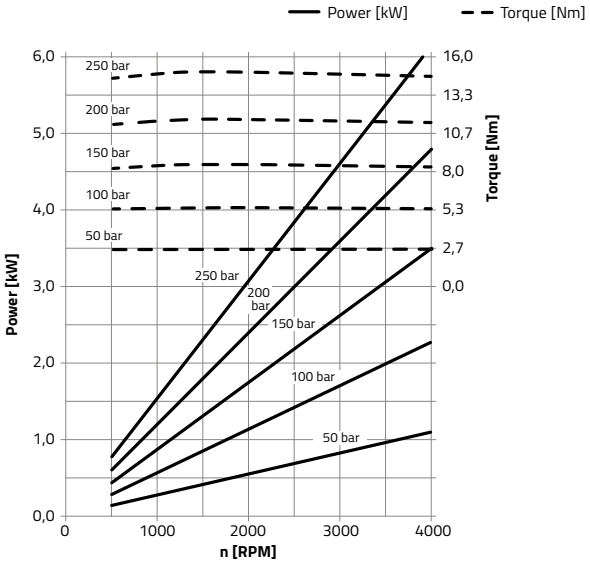
For more options see ports

Mounting Flange

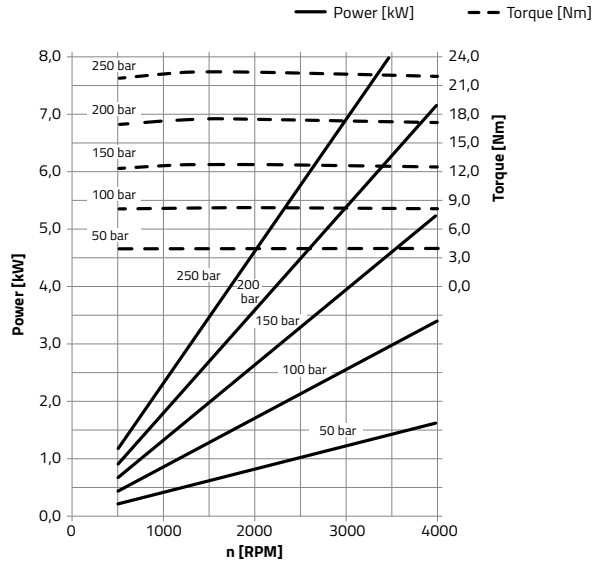
09	SAE A - 2 bolts
10	European flange
22	German standard - 2 bolts
23	German standard
89	SAE B - 2 bolts

For more options see flanges

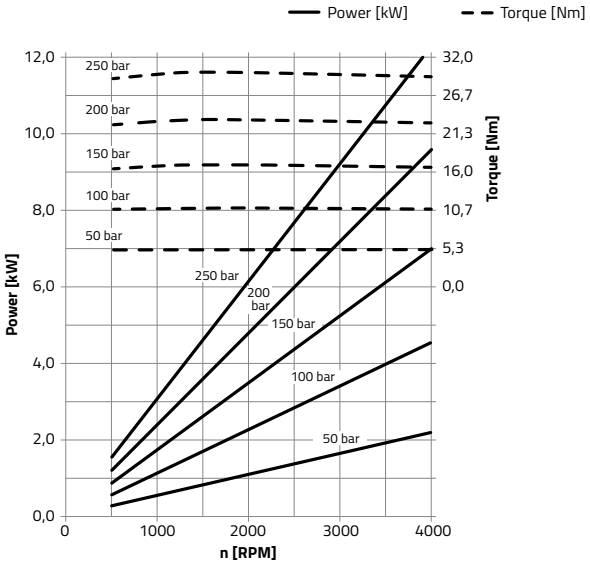
1MG4C - 4 cm³/rev



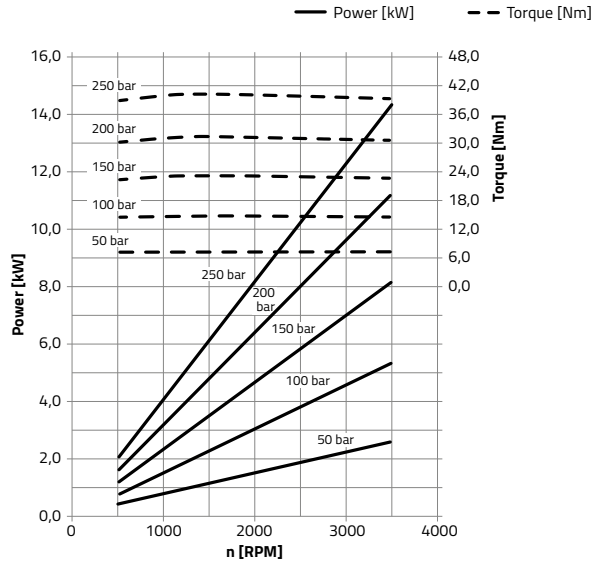
1MG6C - 6 cm³/rev



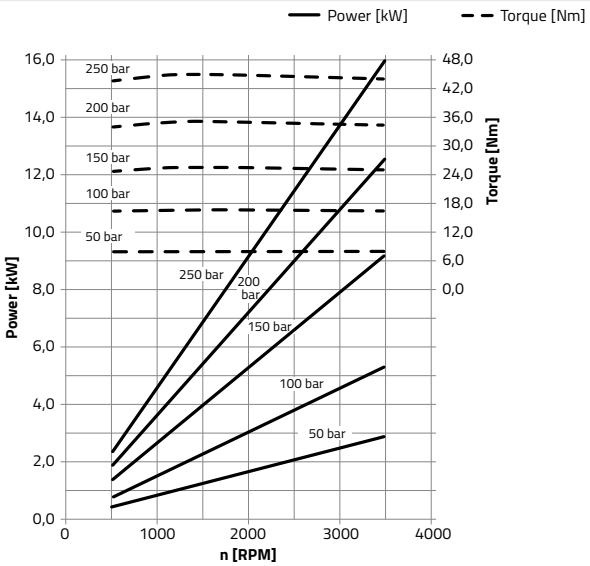
1MG8C - 8 cm³/rev



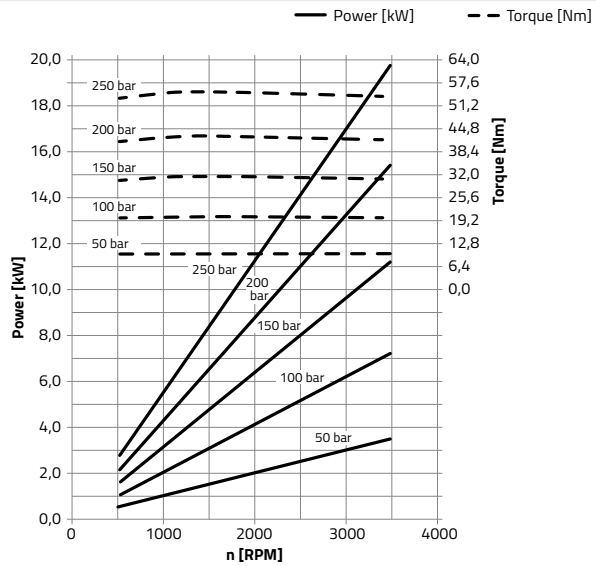
1MG11C - 10,7 cm³/rev



1MG12C - 12 cm³/rev

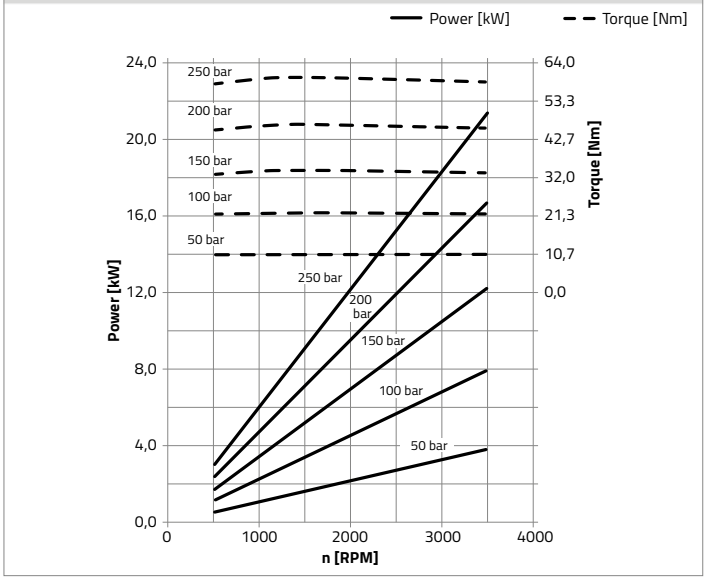


1MG15C - 14,7 cm³/rev

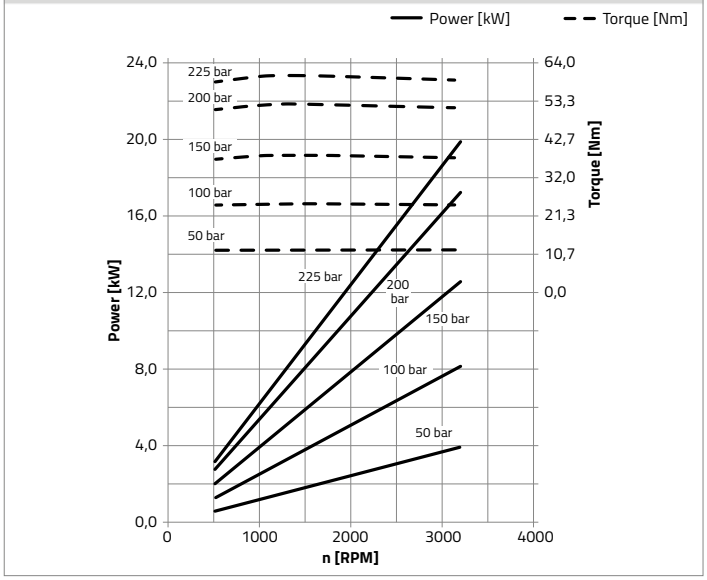


NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

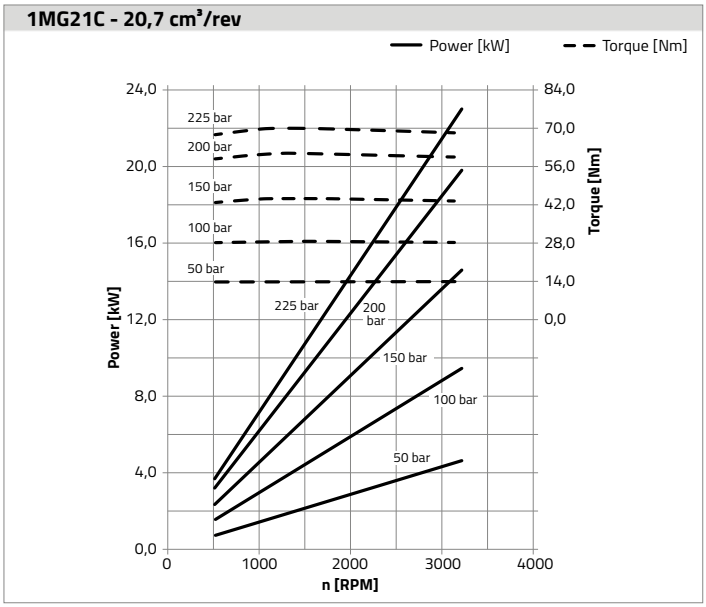
1MG16C - 16 cm³/rev



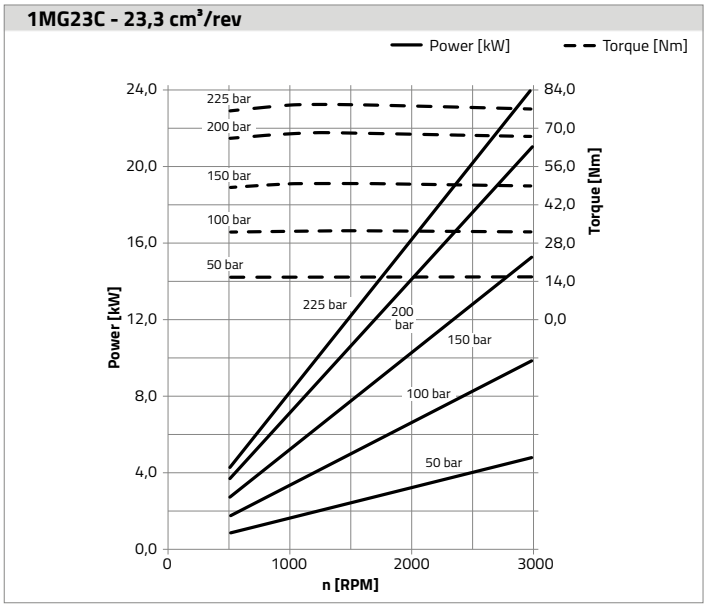
1MG18C - 18 cm³/rev



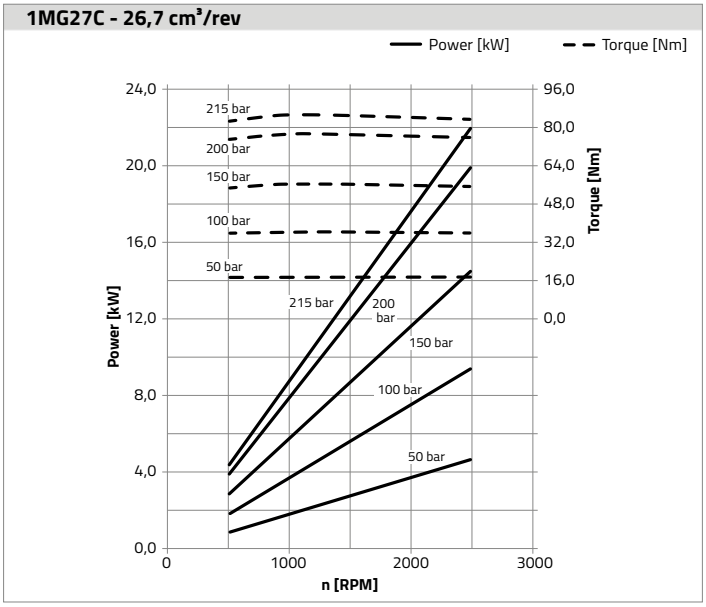
1MG21C - 20,7 cm³/rev



1MG23C - 23,3 cm³/rev



1MG27C - 26,7 cm³/rev



NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

Flow, performance and power chart according to displacement

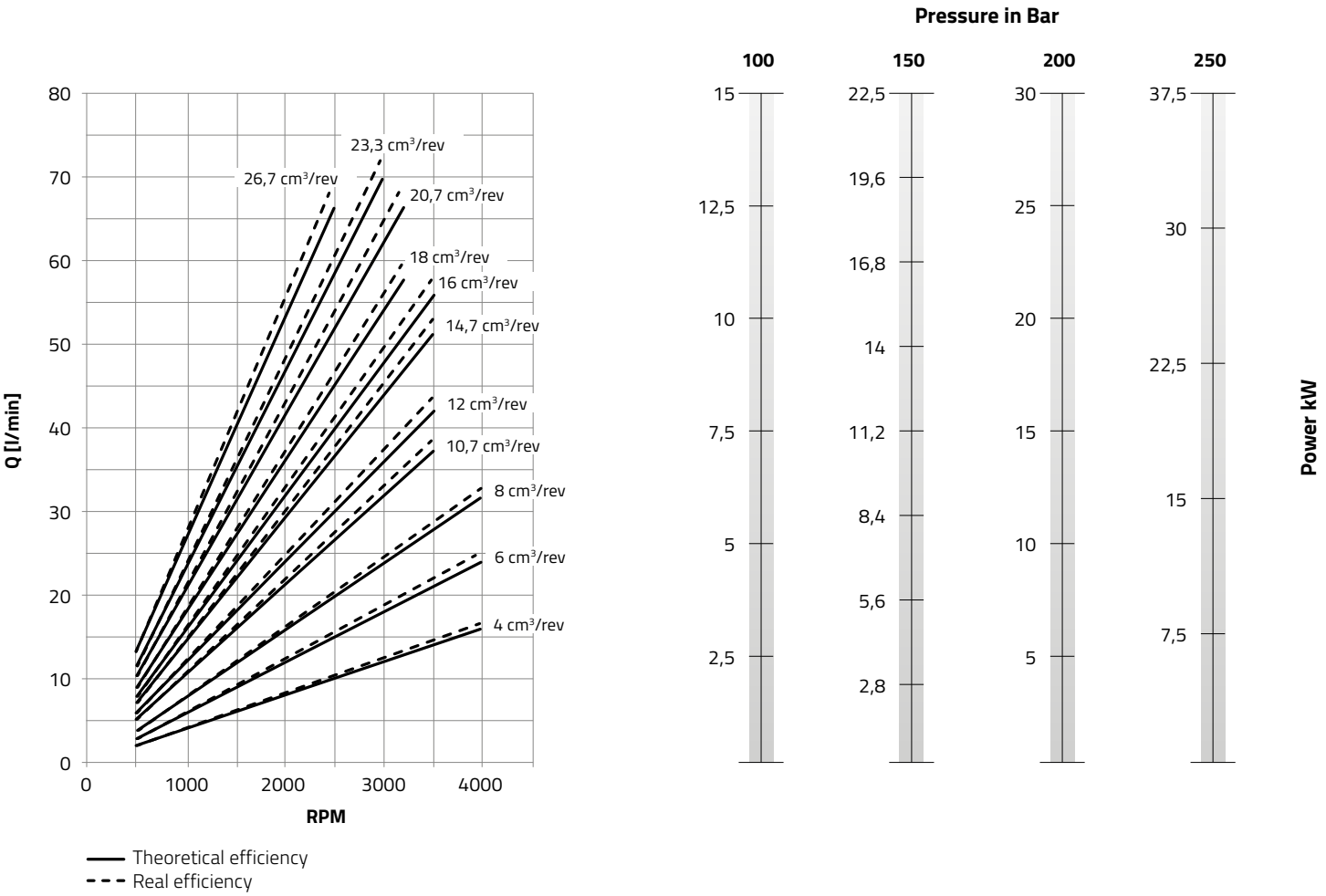
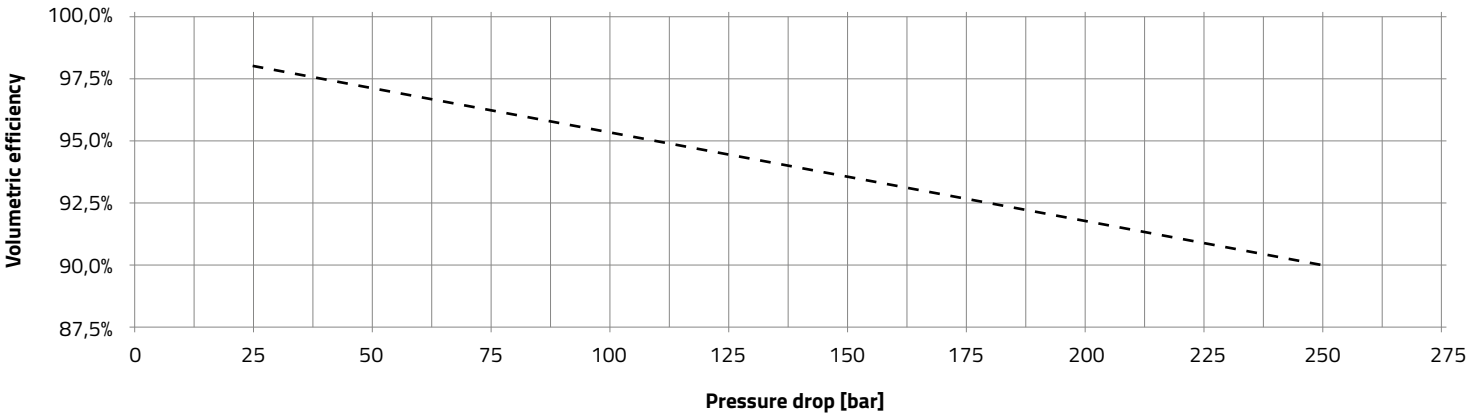


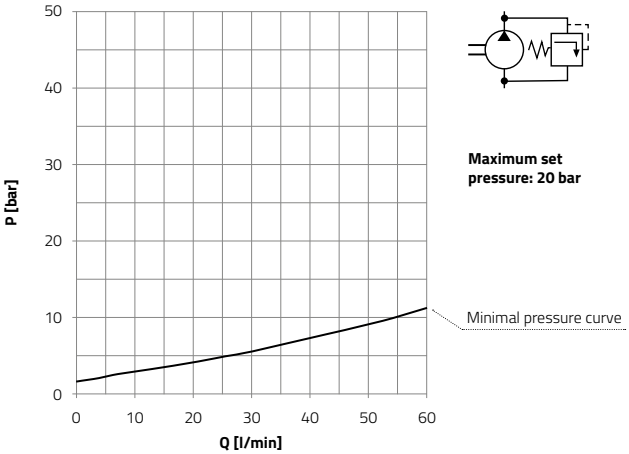
Diagram of the volumetric efficiency at 1500 R.P.M.



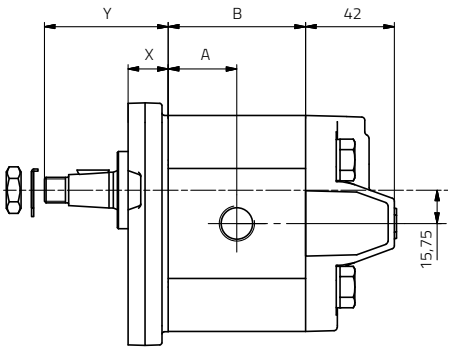
NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

Low pressure relief valve

Minimum setting pressure diagram

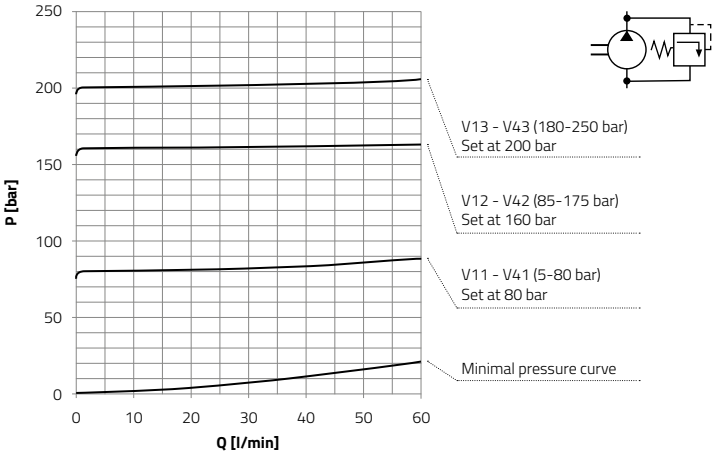


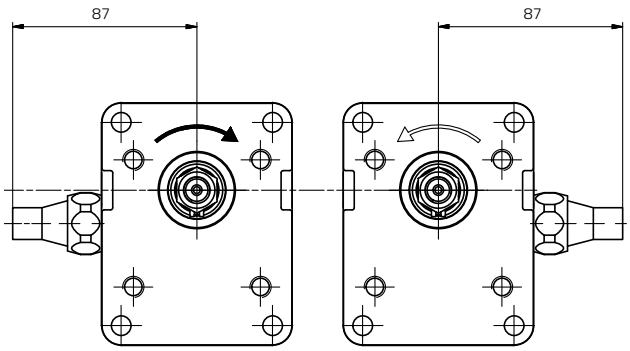
NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.



Relief valve

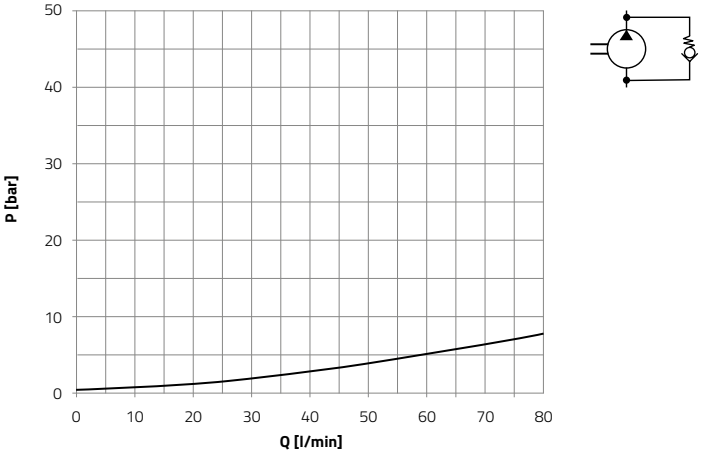
Relief valve pressure-flow diagram depending on pressure range



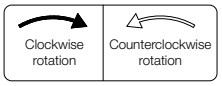


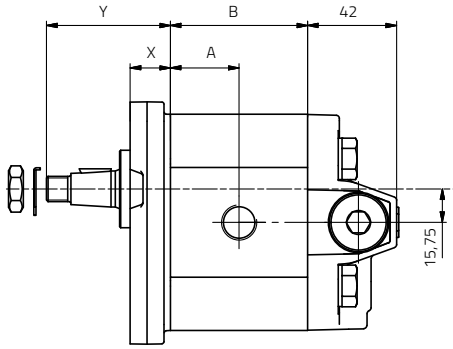
Check valve

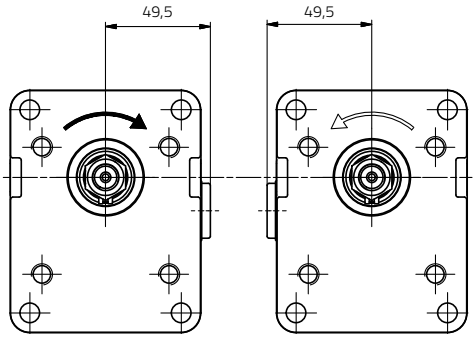
Check valve pressure-flow diagram



NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.



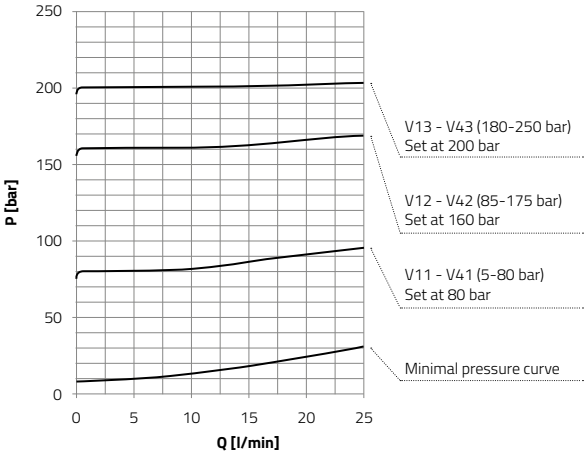


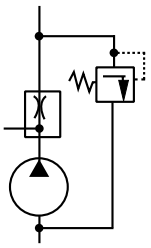


NOTE: Check general dimensions in the "dimensions" section (Page 18).

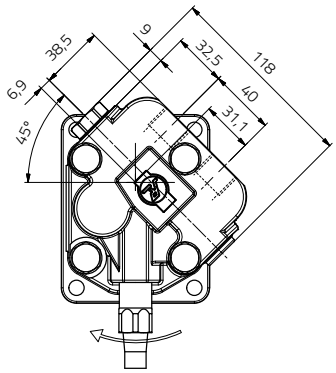
Priority flow valve

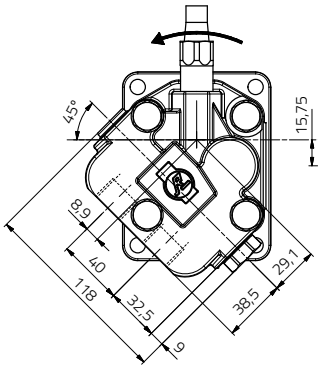
Relief valve pressure-flow diagram depending on pressure range

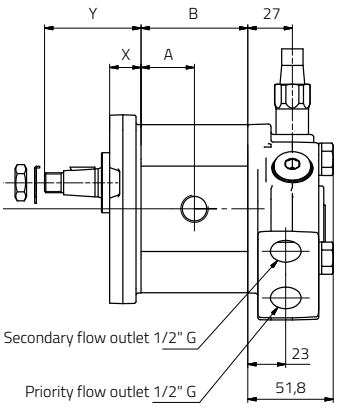




NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.

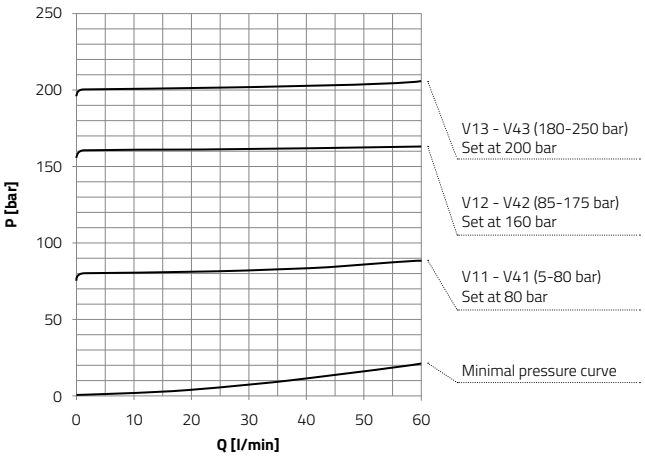


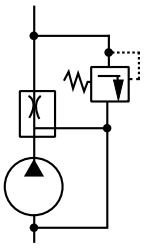


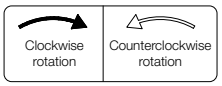


Flow control valve and relief valve

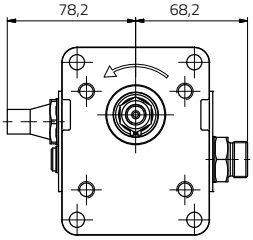
Relief valve pressure-flow diagram depending on pressure range

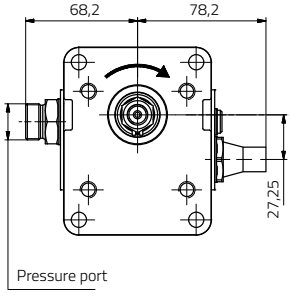


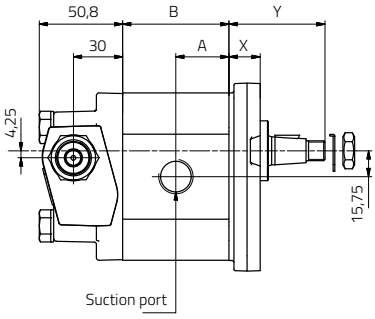




NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil.



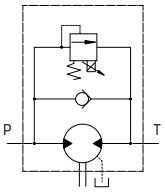


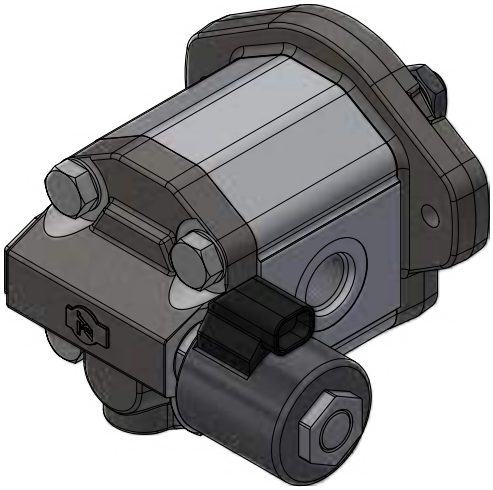


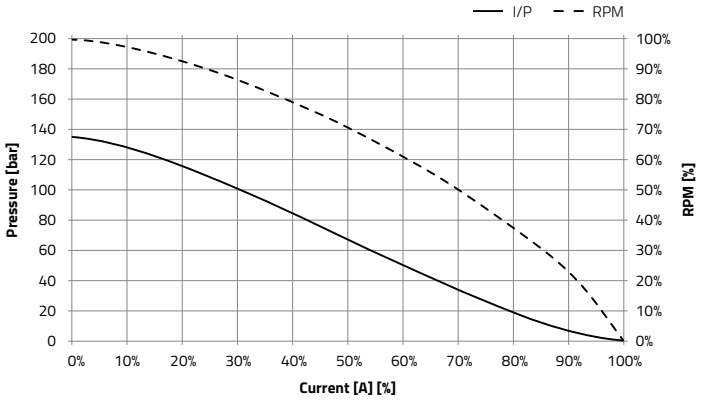
NOTE: Check general dimensions in the "dimensions" section (Page 18).

Motor with pressure propotional relief valve

- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC
- Connectors – Deutsch DT04-2P
  DIN 43650 / ISO 4400



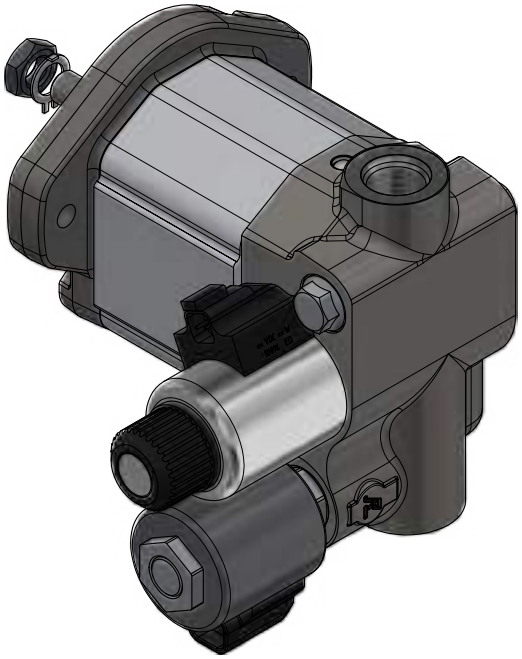


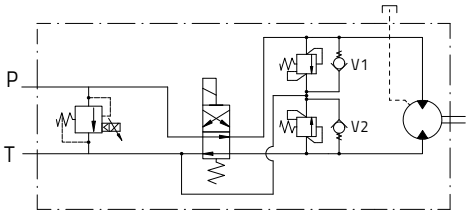


NOTE: Graph of valve behavior adjusted at 135 bar and motor's RPM [%], in function of electric current [A] [%].

Motor with electrical overcharge – suction valve

- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC
- Connectors – Deutsch DT04-2P
  DIN 43650 / ISO 4400

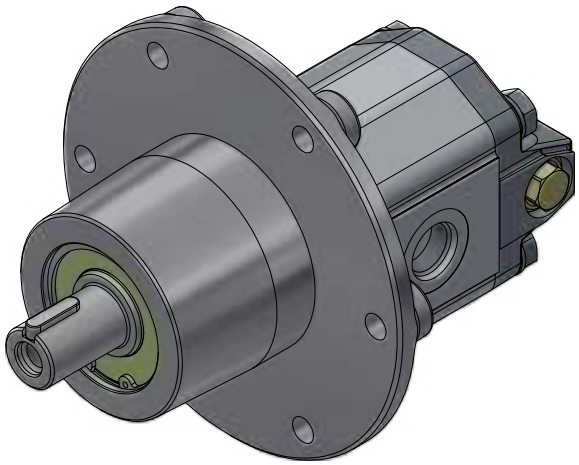


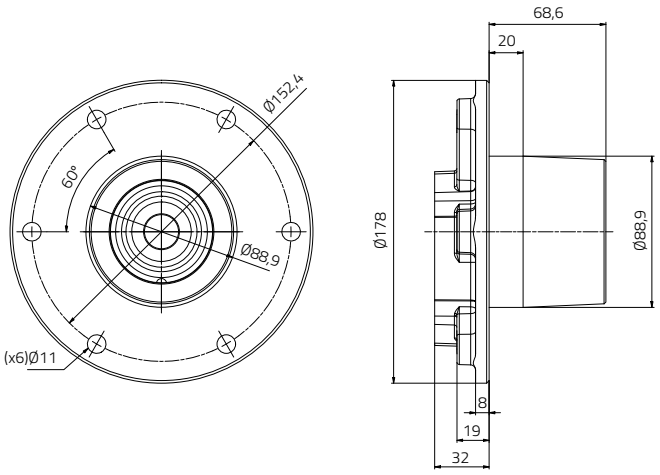


NOTE: Please contact Sales Department for more information about available ports, displacements, pressure setting and minimum order quantity.

Motors and pumps with type 45 front flanges

Aluminium front flange with 6 fastening points, optimal for motors used for mowers.
· Standard front flanges and displacements available for this option.

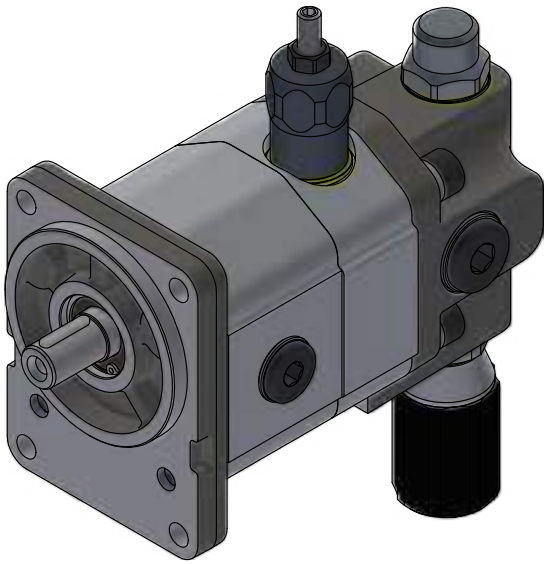


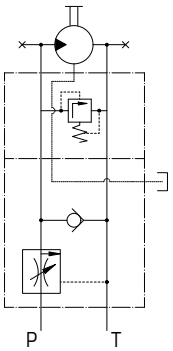


NOTE: Please contact Sales Department for more information about minimum order quantity.

Motor for seeders

· Motors for seeders available with pressure relief valve, flow control valve, and anti-cavitation valve.
· Standard front flanges and displacements available for this option.

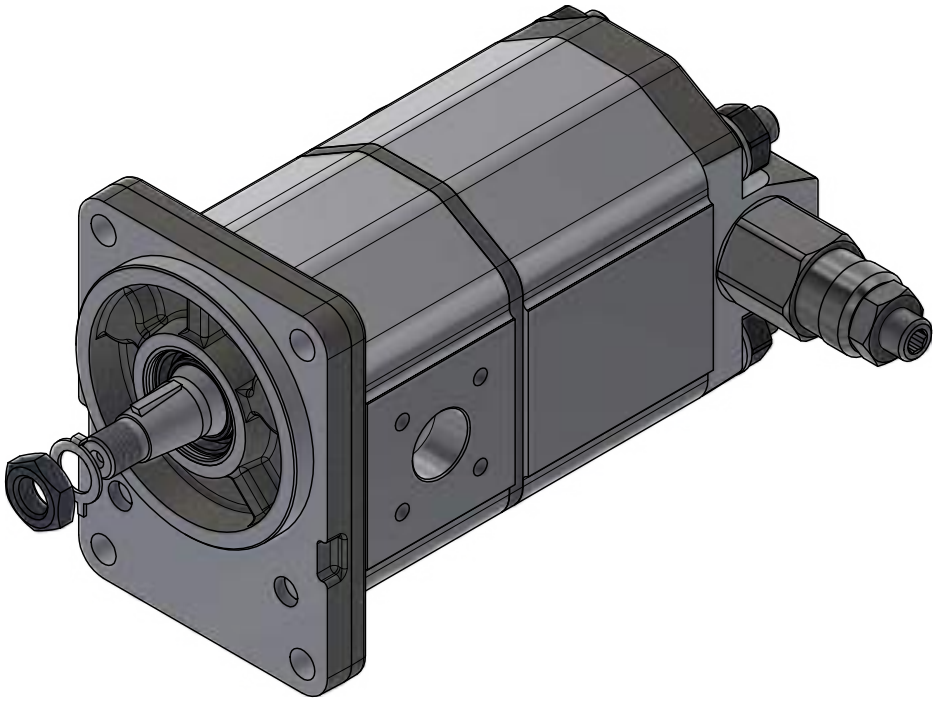


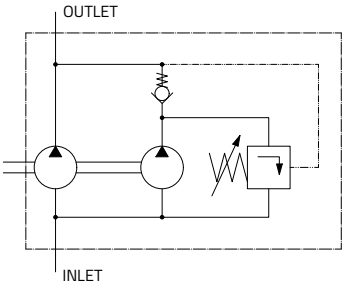


NOTE: Please contact Sales Department for more information about minimum order quantity.

High-Low multiple pump

Multiple High-Low pump is a double stage pump optimal for cutting machines, presses, clamping mechanisms and other aplications whom require a fast movement at low pressure, and a slow movement at high pressure.

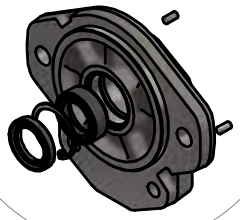




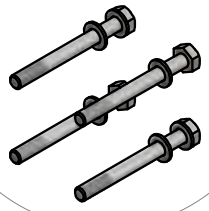
- Front flanges, drive shafts and ports most common available.
- Multiple displacement combinations available.
- Pressure settings available:
  - 50 - 100 bar (Default adjustment - 70 bar)
  - 90 - 180 bar (Default adjustment - 130 bar)

NOTE: Please contact Sales Department for more information about available ports, displacements, pressure setting and minimum order quantity.

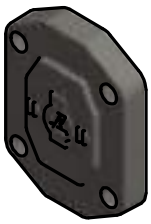
KB04
Front flange Kit



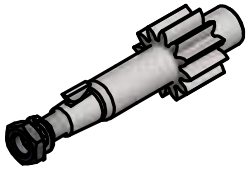
KB06
Fixing bults Kit

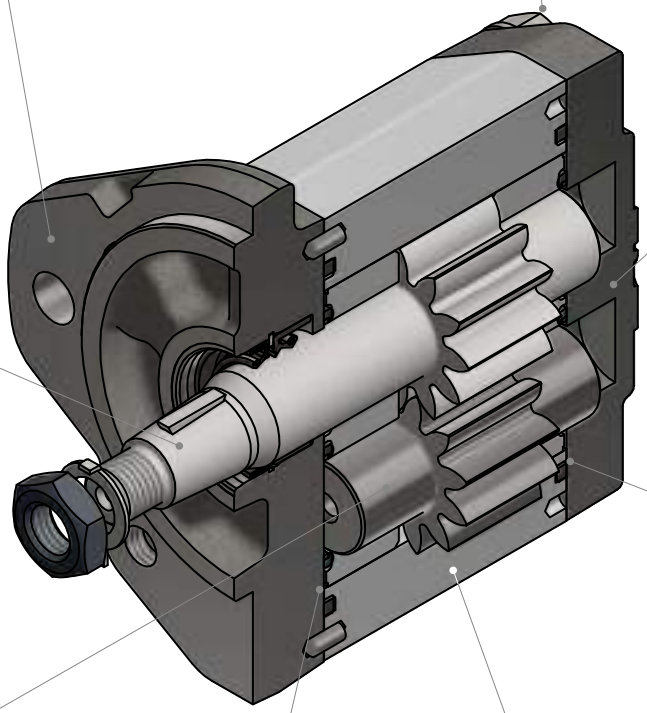


KB05
Back cover



KB01
Drive shaft Kit





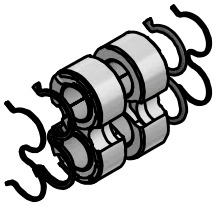
KB03
Seal Kit



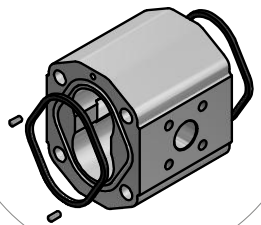
KB02
Driven shaft



KB07
Bearing assemblies Kit

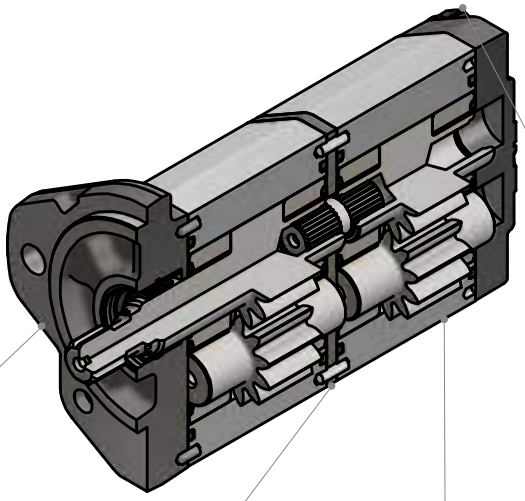


KB09
Body Kit

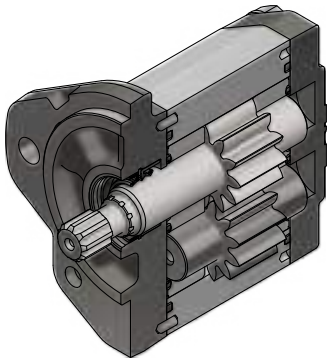


NOTE: For available reference contact the Sales Department or look in the spare parts catalogue.

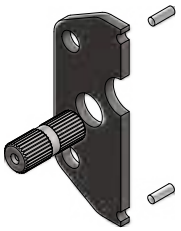
Type GM



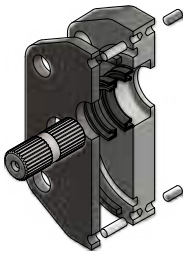
Standard pump
Example: 1G15CDG09S



KB08
Intermediate flange kit



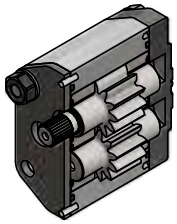
Common inlet



Separate stages

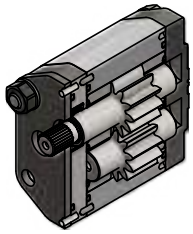
Rear standard and common inlet pump

Example: 1G15CDZ00S

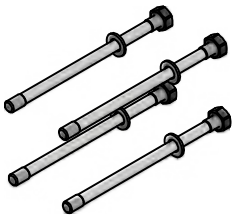


Rear separate stages pump

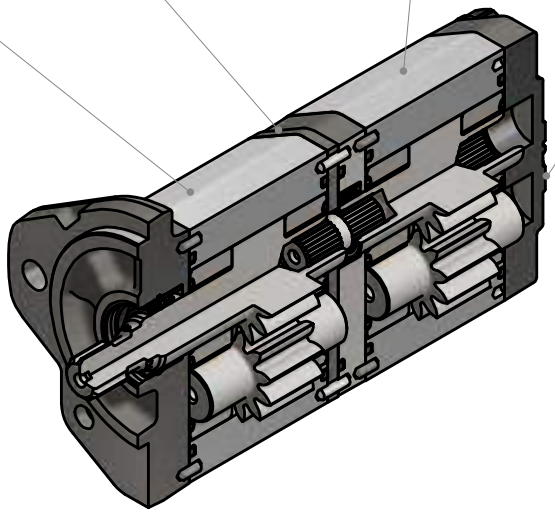
Example: 1G15CDQ00S



KB06
Rods Kit

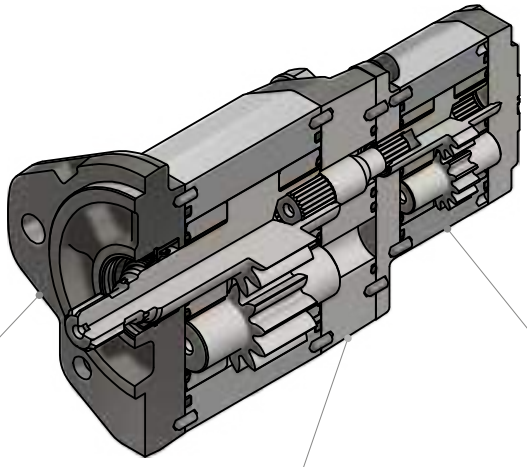


Separate stages type GM

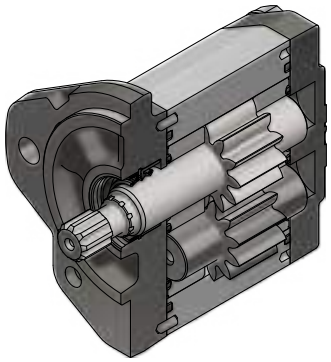


NOTE: A GM double pump can be assembled from a pump with standard reference and a pump with Z or Q shaft form for separate stages.
The Z or Q kit are offered in order to transform the pump.
For available reference contact the Sales Department or look at the spare parts catalogue.

Type GS

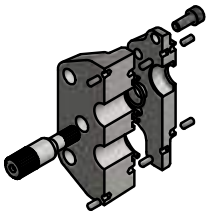


Standard front pump
Example: 1G15CDG09S



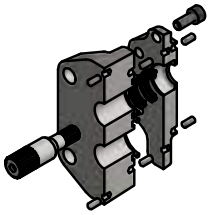
Common inlet intermediate flange kit

Example: KB0800G0G0D00-CID
Example: KB0800G0G0D00-CII

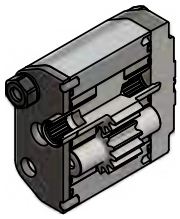


Standard intermediate flange kit and separate stages flange kit

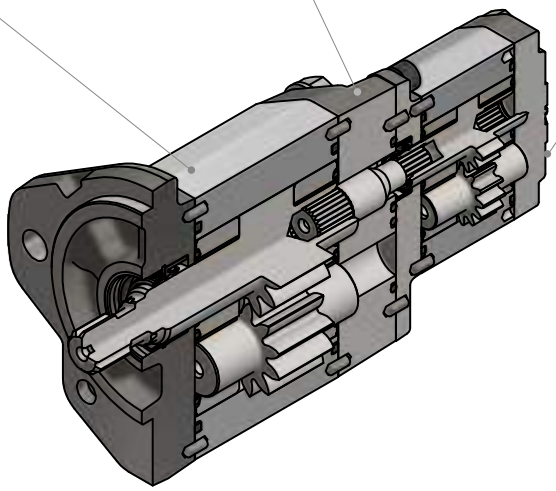
Example: KB0800G0G0D00
Example: KB0800G0G0D00-SS



Rear standard pump
Example: 1G03CDS00S



Separate stages type GS



NOTE: A GS double pump can be assembled from a pump with standard reference and a pump with S shaft.
Is offered an intermediate flange kit for standard, common inlet or separate stages versions.
For available reference contact the Sales Department or look at the spare parts catalogue.

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GLA Series

Group 3 gear pumps and motors



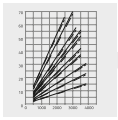
New

Roquet
making moves

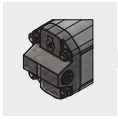
www.roquetgroup.com

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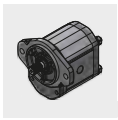
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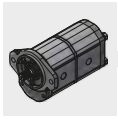
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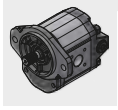


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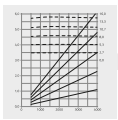


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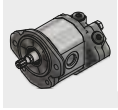


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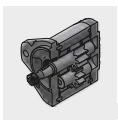
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Features

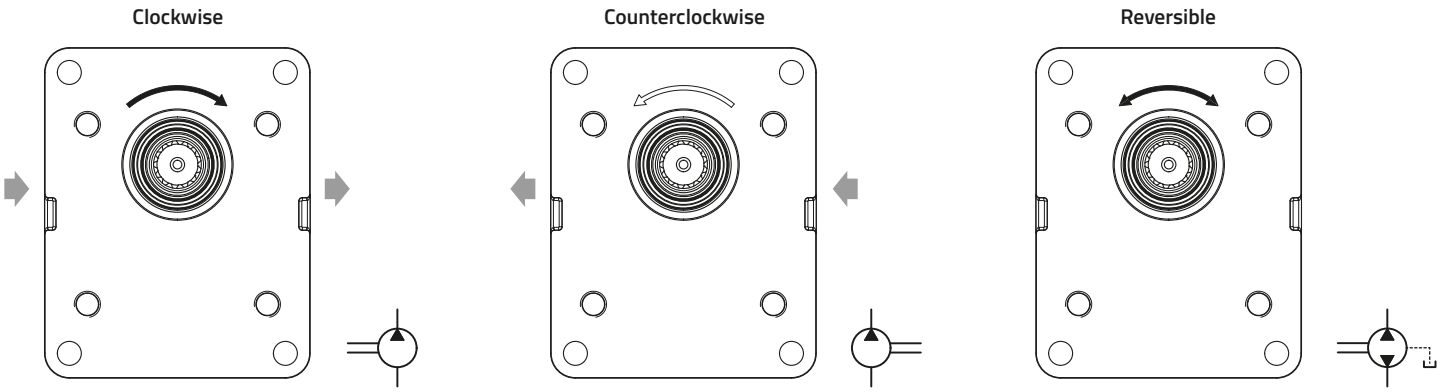
Roquet gear pumps offer:
- High efficiency due to specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear pumps.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of delivered pumps are tested.
- Option to create multiple pumps by combining different Roquet pump models.
- Different multiple pumps: connected inlets, common inlet & separate stages.
- Back covers with integrated valves.

Technical information

Displacement range	18 – 56 cm^3/rev
Shafts, flanges and ports	According to European, German and American standards
Direction of rotation	Clockwise, counterclockwise and reversible
Inlet port pressure range	0,7 – 1,5 bar (absolute pressure)
Fluid	Recommended Mineral oil - ISO 6743 type HM, HV or HG
Viscosity	Recommended viscosity at work 20-80 cSt (mm^2/s) Maximum viscosity allowed at start 800 cSt (mm^2/s)
Oil working temperature	Recommended temperature 50°C – Material NBR (-30/+80°C) FKM (-20/+110°C)
Cleanliness	ISO 4406 22/19/16

Direction of rotation

The direction of rotation is always defined looking at the pump from the front flange.



Common formulas

$$v = \frac{Q}{6 \cdot A} \quad [m/s]$$

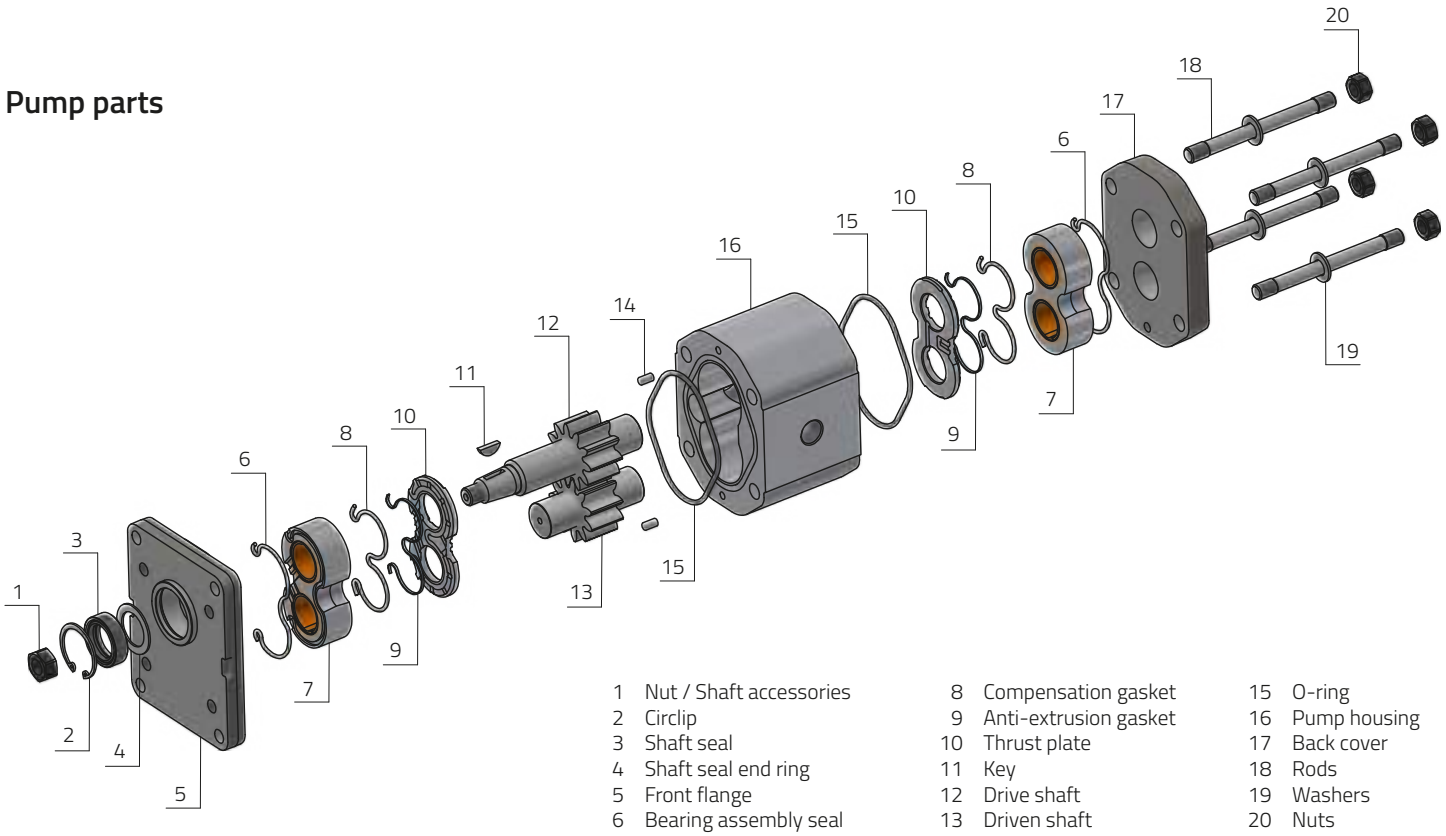
$$Q = \frac{V \cdot n \cdot \eta_{vol}}{1000} \quad [l/min]$$

$$M = \frac{V \cdot \Delta p}{62{,}8 \cdot \eta_{hm}} \quad [N \cdot m]$$

$$P = \frac{Q \cdot \Delta p}{600 \cdot \eta_t} \quad [kW]$$

v = fluid speed [m/s]
Q = pump flow [l/min]
A = tube section [cm^2]
V = pump displacement [cm^3/rev]
n = rotation speed [rev/min]
Δp = pressure difference [bar]
M = necessary driving torque [N · m]
P = necessary driving power [kW]
η_{vol} = volumetric efficiency (≈0,95) [%]
η_{hm} = hydromechanical efficiency (≈0,89) [%]
η_t = total efficiency (≈0,85) [%]

Pump parts



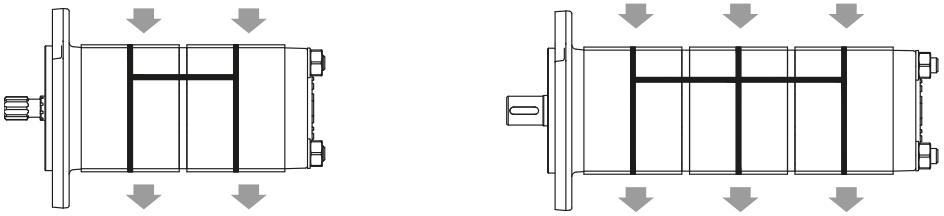
1	Nut / Shaft accessories	8	Compensation gasket	15	O-ring
2	Circlip	9	Anti-extrusion gasket	16	Pump housing
3	Shaft seal	10	Thrust plate	17	Back cover
4	Shaft seal end ring	11	Key	18	Rods
5	Front flange	12	Drive shaft	19	Washers
6	Bearing assembly seal	13	Driven shaft	20	Nuts
7	Bearing assembly	14	Pin		

Installation recommendations

- Avoid radial and axial forces on the pump shaft for a longer pump lifetime.
- The shafts of the pump have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- Avoid rotation speeds lower than those shown in the "TECHNICAL DATA" section.
- Avoid pump starts under load at low temperatures.
- When starting, clean the whole installation before first run of the system.
- Submerged installation recommended.
- If the pump shall be painted, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible pumps, if possible, connect the drain to tank.

Versions

Standard version (Connected inlets)

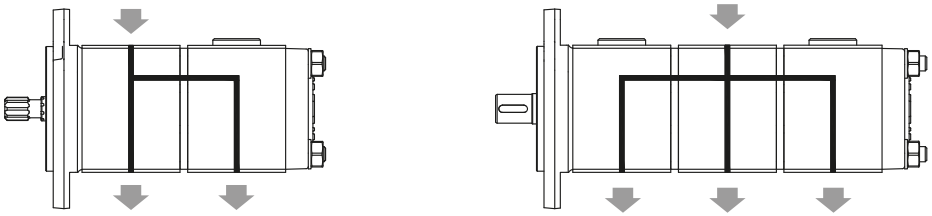


The oil can pass between sections.

Reference

· (Without code).

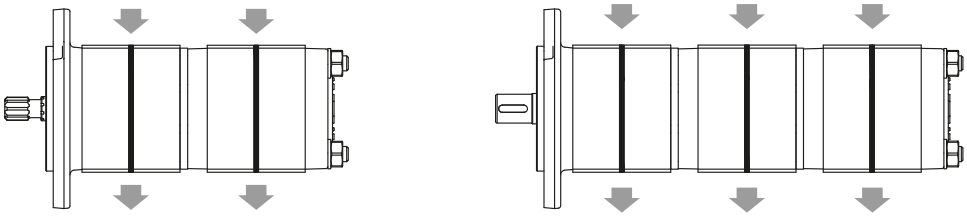
Common inlet



Designed to use less inlets than outlets.

- CI1 (Common inlet, body 1 inlet port).
- CI2 (Common inlet, body 2 inlet port).

Separate stages version



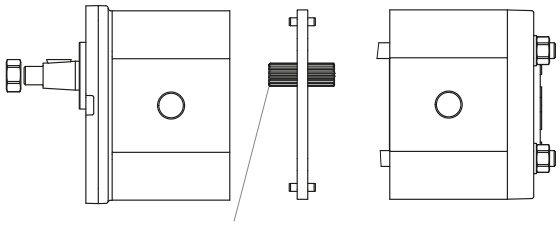
SS (Separate stages).

Note: The pump length and the intermediate flanges are different than the above ones.

Driving torques

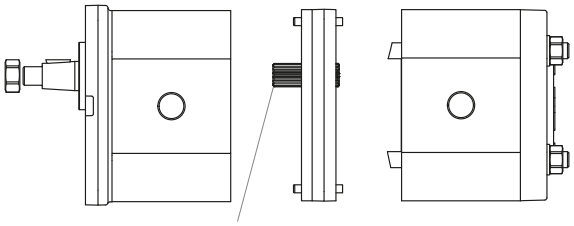
Driving torques between pumps

GLA+GLA - Standard & common inlet



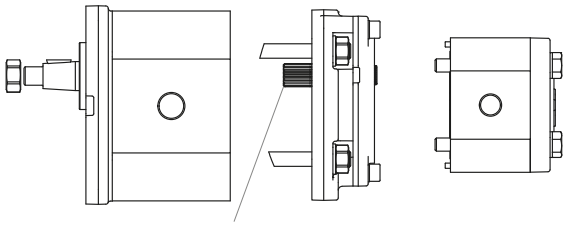
Max. 280 Nm

GLA+GLA - Separate stages



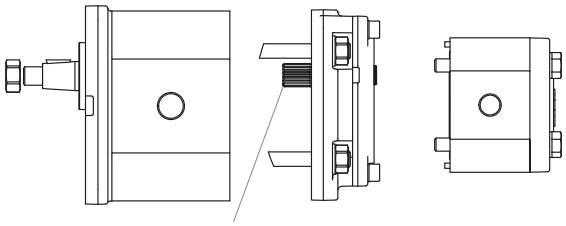
Max. 280 Nm

GLA+G - Standard & common inlet

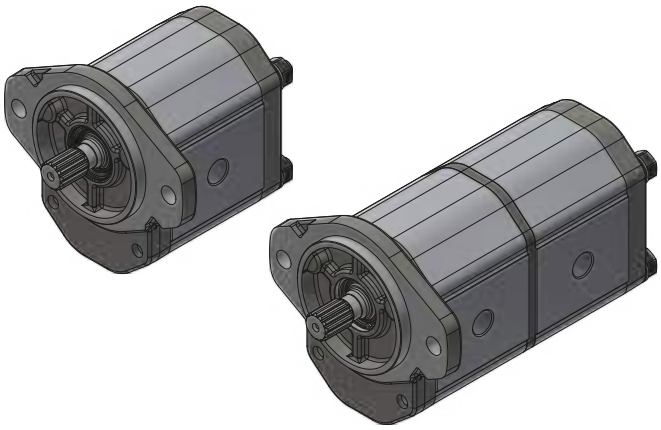


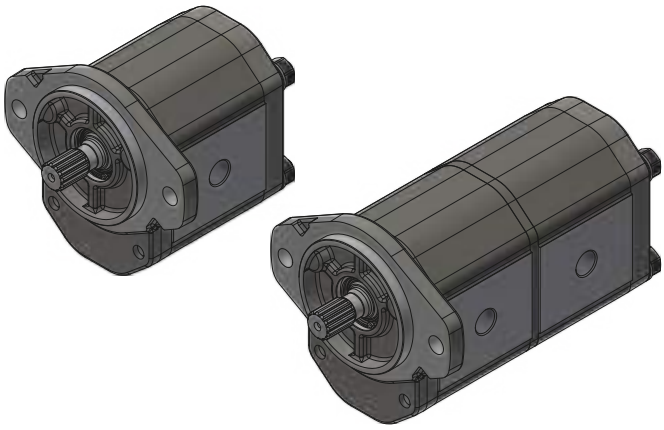
Max. 100 Nm

GLA+G - Separate stages



Max. 100 Nm





GLA Pump technical data (Aluminium body)

Displacement	cm³/v-cc/rev (in³/rev)	18 (1,10)	24 (1,46)	30 (1,83)	36 (2,20)	44 (2,69)	50 (3,05)	56 (3,42)
Cont. max. pressure	bar (PSI)	250			225	200	185	175
Intermittent max. pressure	bar (PSI)	275			250	225	210	200
Maximum peak pressure	bar (PSI)	285			260	235	220	210
R.P.M. at cont. pressure		2500			2300		2200	
Max. R.P.M		3000			2800		2600	
Min. R.P.M. at given pressures	100 bar (1450 PSI)	500						
	175 bar (2540 PSI)	800			700		600	
	250 bar (3625 PSI)	1500			900	–	–	

Note: Pressures obtained with flanged bodies.

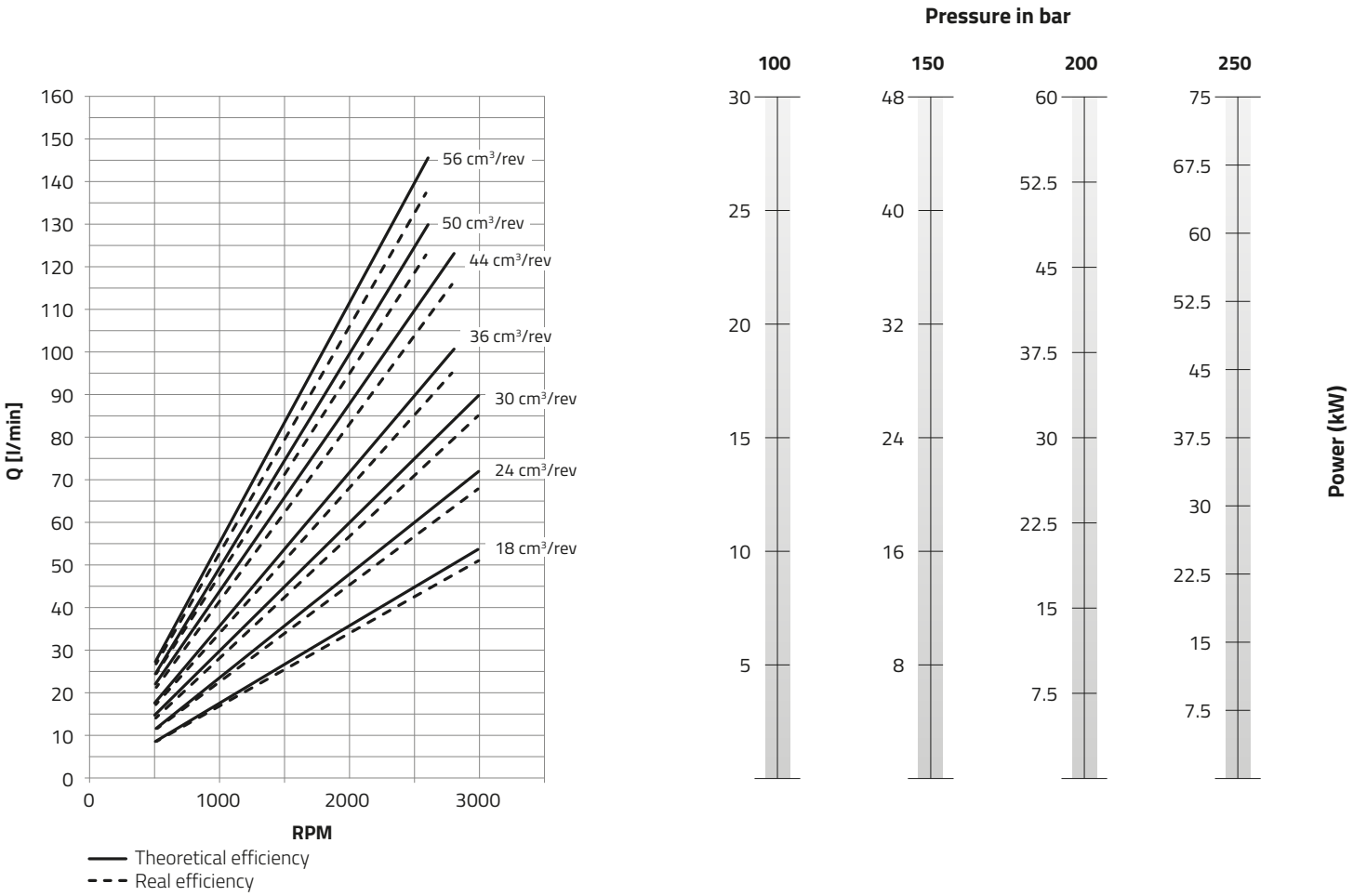
GLAN Pump technical data (Cast iron body)

Displacement	cm³/v-cc/rev (in³/rev)	18 (1,10)	24 (1,46)	30 (1,83)	36 (2,20)	44 (2,69)	50 (3,05)	56 (3,42)
Cont. max. pressure	bar (PSI)	300			275	250	230	215
Intermittent max. pressure	bar (PSI)	325			300	275	255	240
Maximum peak pressure	bar (PSI)	335			310	285	265	250
R.P.M. at cont. pressure		2500			2300		2200	
Max. R.P.M		3000			2800		2600	
Min. R.P.M. at given pressures	100 bar (1450 PSI)	500						
	175 bar (2540 PSI)	800			700		600	
	250 bar (3625 PSI)	1500			900	–	–	

Note: For all reversible pumps (GLA and GLAN), the maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

Note: The definition of the pressure ranges is shown on page 7.

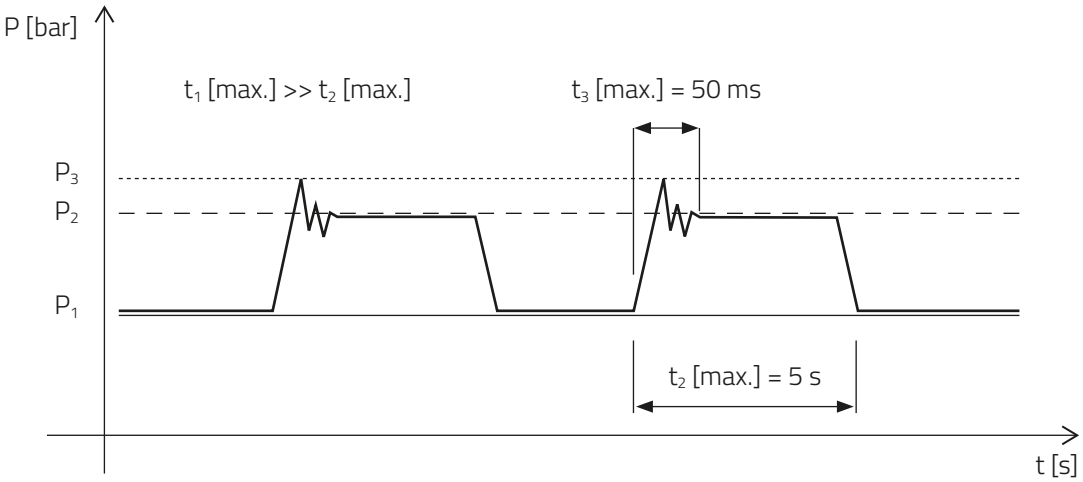
Flow, performance and power chart according to displacement



NOTE: The values shown in the above diagram have been obtained using 32cSt Kinematic viscosity oil.

Pressure definition

Technical data tables show 3 levels of maximum pressure at which a pump can be used:
P_1, t_1 – Maximum continuous pressure ———
P_2, t_2 – Maximum intermittent pressure — — —
P_3, t_3 – Maximum peak pressure ----------



								Optional					
Coding System	**1**	**GLA**	**36C**	**D**	**E**	**10**	**R**		**/**	**V**	**42**	**T*****	**-*****

Type

1	Without pulley
2	With pulley
6	Pump with DIN 5462 spline shaft for ZF assembly with bearing assembly and shaft seal
12	Pump with DIN 5462 spline shaft, double shaft seal and external leak

Model

GLA	Single – Aluminium body
GLAN	Single – Cast iron body
GLL	Multiple (GLA+GLA)
GLLN	Multiple (GLAN+GLAN)
GLD	Multiple (GLA+G)
GLDN	Multiple (GLAN+GN)

Pump displacement [cm³/rev] & [in³/rev]

18C	18,0	1,10
24C	27,0	1,65
30C	30,0	1,83
36C	36,0	2,20
44C	44,0	2,69
50C	50,0	3,05
56C	56,0	3,42

Rotation direction

D	Clockwise
I	Counterclockwise
R	Reversible

Drive Shaft Form

C	Ø24 straight
D	DIN 5463 - 6 teeth
E	European tapered 1:8
G	SAE B - 13 teeth
H	SAE B - Ø22,22 straight
J	German tapered 1:5
W	Tang Ø27
X	DIN 5462 - 8 teeth
Q	Multiple pumps - (SS)
Z	Multiple pumps - (CI)

Please check the shafts for more options

Code

V	FKM seals and shafts seals (Viton)
RV	Only FKM shaft seal (Viton)
ID	Internal drain

Alternatives with valves

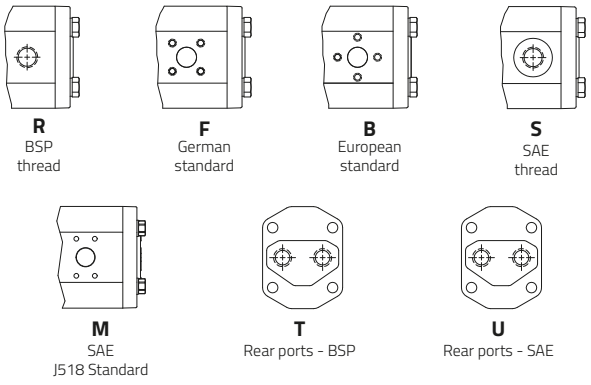
VA	Check valve
V@	Relief valve
VBP@	Low pressure relief valve

Please check the variants with valves

Chamber type

	Standard
CI@	Common inlet
SS	Separate stages

Port Connection Forms



R BSP thread
F German standard
B European standard
S SAE thread
M SAE J518 Standard
T Rear ports - BSP
U Rear ports - SAE

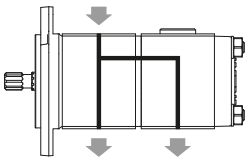
Please check the ports for more information

Front Flange

09	SAE B - 2 bolts
10	European standard
19	2 bolts (without shaft seal)
23	German standard
90	SAE A - 2 bolts
00	Multiple pumps

Please check the flanges for more options

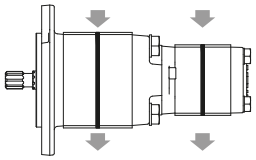
Part number example GLL Pump



1	GLL	36C	-	24C	D	G	09	R	-	CI1

- 1 — Without pulley
- GLL — GLL Pump (GLA+GLA)
- 36C — Displacement of the Pump GLA-1 [cm³/rev]
- 24C — Displacement of the Pump GLA-2 [cm³/rev]
- D — Clockwise rotation
- G — Shaft form: G
- 09 — Front flange type: 09
- R — Connection type: R
- CI1 — Common inlet (Body 1)

Part number example GLD Pump



1	GLD	36C	-	15C	D	G	09	R	-	SS

- 1 — Without pulley
- GLD — GLD Pump (GLA+G)
- 36C — Displacement of the Pump GLA [cm³/rev]
- 15C — Displacement of the Pump G [cm³/rev]
- D — Clockwise rotation
- G — Shaft form: G
- 09 — Front flange type: 09
- R — Connection type: R
- SS — Separated stages

Pumps and motors codification with integrated valves

Please contact our Sales Department for other configurations.

Relief valve

Tamper-proof sealable model and standard set pressure

	Pressure range
V11	Set at 80 bar (5-80 bar)
V12	Set at 160 bar (85-175 bar)
V13	Set at 200 bar (180-250 bar)

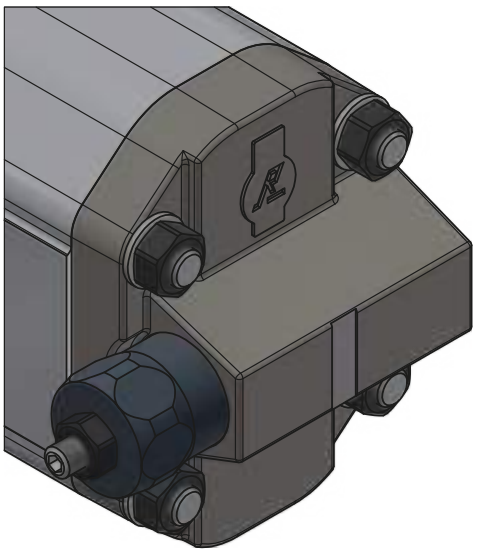
Tamper-proof sealed model and specific set pressure

	Pressure range
V41T* **	5-80 bar
V42T* **	85-175 bar
V43T* **	180-250 bar

In the relief valve with tamper-proof cap, the signs *** have to be replaced by the set pressure (3 numbers) of the valve.
Please check the minimum set pressure curve (on page 31).
Example 1: 1GLA24CDE10R/V12
Example 2: 1GLA36CDE10R/V41T060

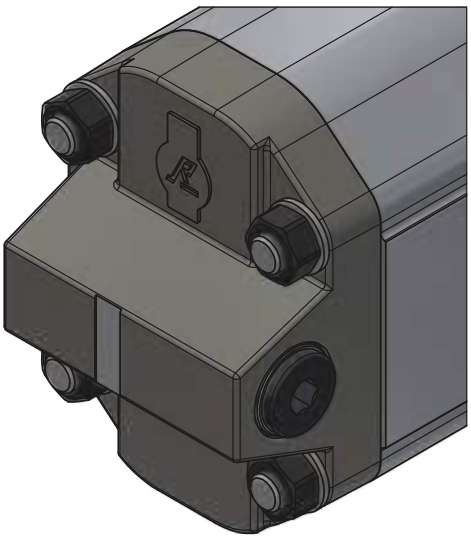
Low pressure relief valve

VBPT**	The signs ** have to be replaced by the set pressure (2 numbers). Please check the minimum set pressure curve (on page 30). Example: 1GLA24CDE10R/VBPT14



Check valve

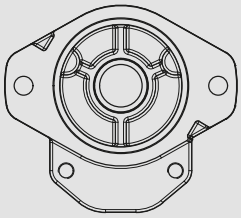
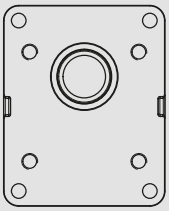
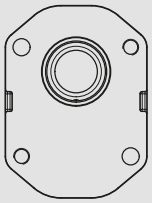
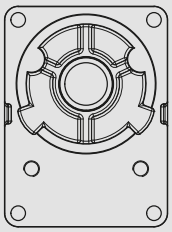
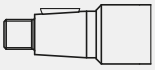
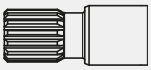
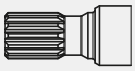
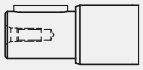
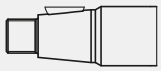
VA	Please check pressure diagram - flow (page 32). Example: 1GLA24CDE10R/VA



Return to Pumps
Return to Motors
MENU

Drive shaft-front flange common combinations

The table below only contains the most common combinations. Please contact our Sales Department for other combinations.

	09	10	19	23
	 SAE B – 2 bolts	 European	 German - 2 bolts	 German
E  European tapered 1:8		E10		
F  SAE B-B – 15 teeth	F09			
G  SAE B – 13 teeth	G09			
H  SAE B – Ø22,22 straight	H09			
J  German tapered 1:5				J23
W  Tang			W19	

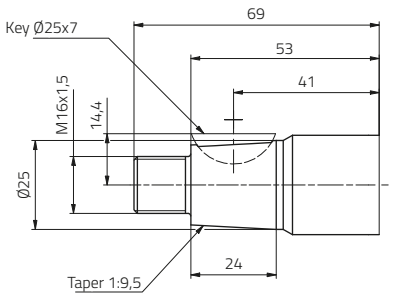
Drive shafts

Please contact our Sales Department for other combinations.

NOTE: The drive shaft length is given from the side A of the front flanges (please check pages 14 and 15).

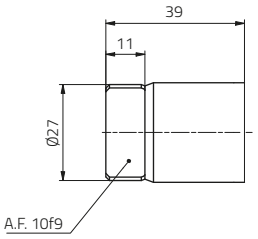
Shaft form A

Tapered 1:9,5 — Max. driving torque 250 Nm



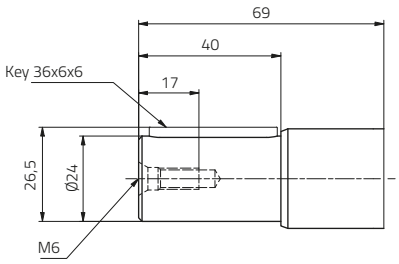
Shaft form B

Roquet tang — Max. driving torque 120 Nm



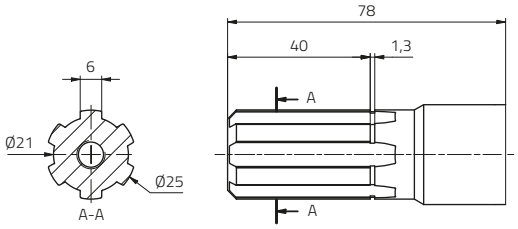
Shaft form C

Ø24 straight — Max. driving torque 300 Nm



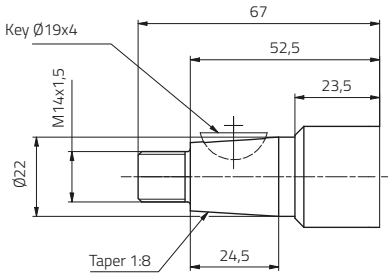
Shaft form D

DIN 5463 – 6 teeth — Max. driving torque 300 Nm



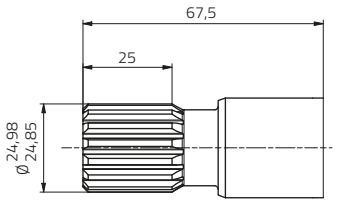
Shaft form E

European tapered 1:8 — Max. driving torque 250 Nm



Shaft form F

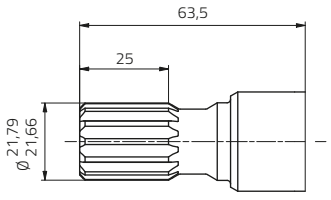
SAE B-B – 15 teeth — Max. driving torque 450 Nm



SAE J498b
Pitch 16/32
15 teeth
Pressure angle 30 deg

Shaft form G

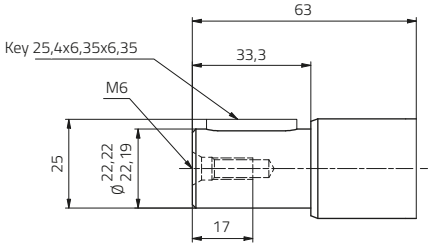
SAE B – 13 teeth — Max. driving torque 300 Nm



SAE J498b
Pitch 16/32
13 teeth
Pressure angle 30 deg

Shaft form H

SAE B - Ø22,22 straight — Max. driving torque 200 Nm



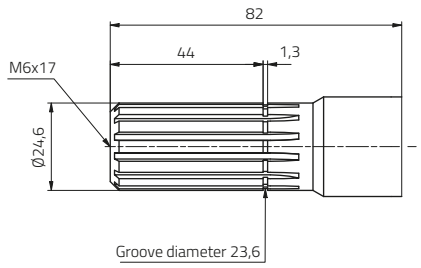
Drive shafts

Please contact our Sales Department for other combinations.

NOTE: The drive shaft length is given from the side A of the front flanges (please check pages 14 and 15).

Shaft form I

Max. driving torque 320 Nm

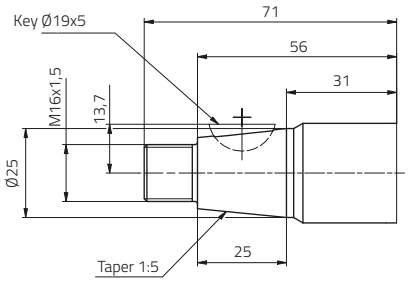


13 teeth
Module 1.667
Pressure angle 20 deg

Shaft form J

German tapered 1:5

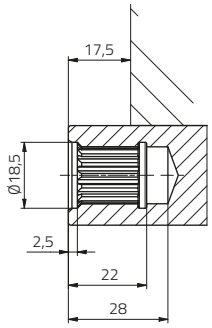
Max. driving torque 285 Nm



Shaft form Q

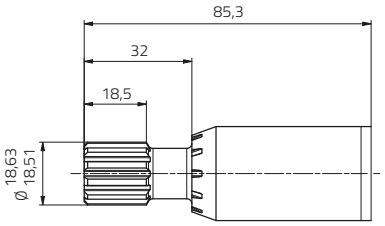
16 teeth

Max. driving torque 280 Nm



SAE – 11 teeth

Max. driving torque 184 Nm

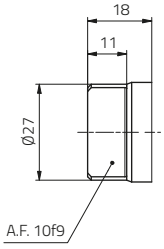


SAE J498b
Pitch 16/32
11 teeth
Pressure angle 30 deg

Shaft form W

Tang Ø27

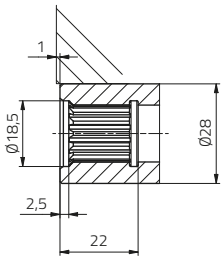
Max. driving torque 120 Nm



Shaft form Z

16 teeth

Max. driving torque 280 Nm



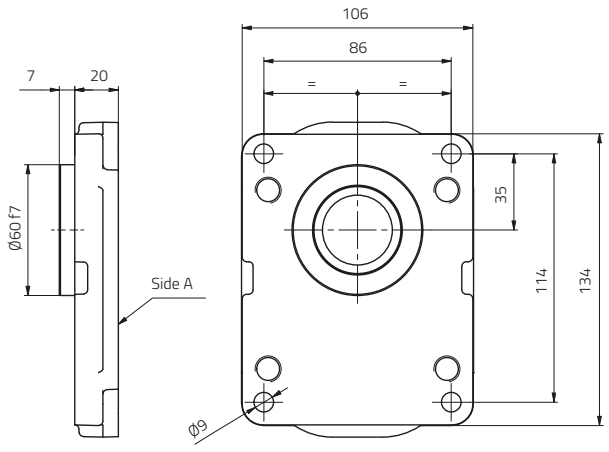
The shaft doesn't protrude

Return to Pumps
Return to Motors
MENU

Front flanges

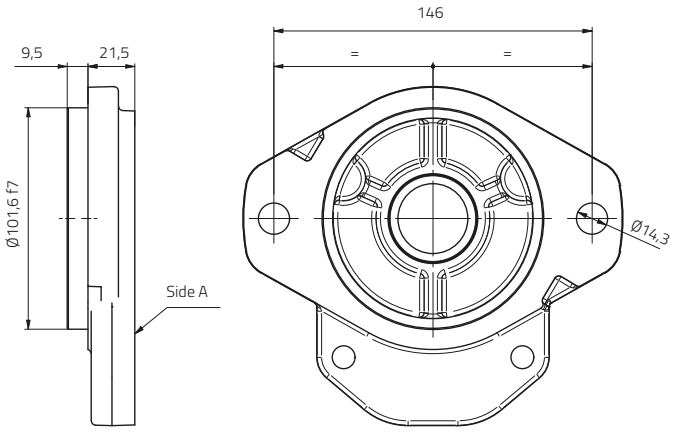
Please contact our Sales Department for other combinations.

Front flange type 01



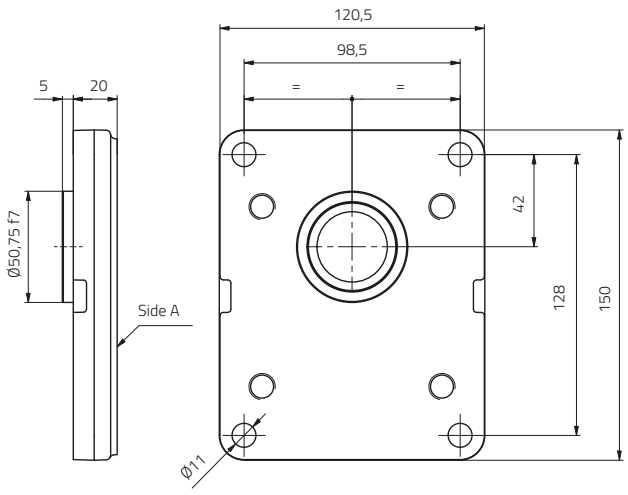
Front flange type 09

SAE B – 2 bolts



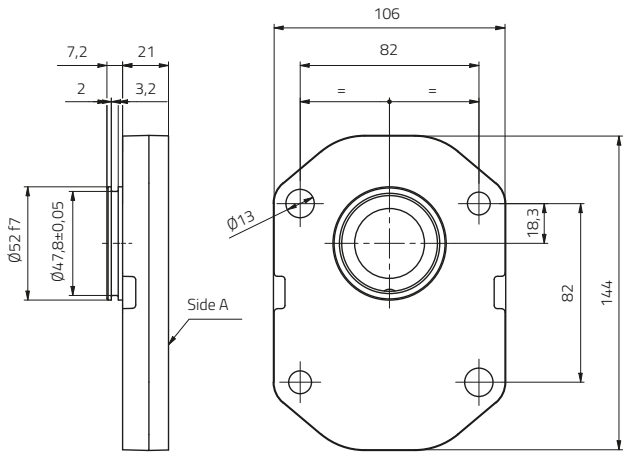
Front flange type 10

European standard



Front flange type 19

2 bolts (without shaft seal)

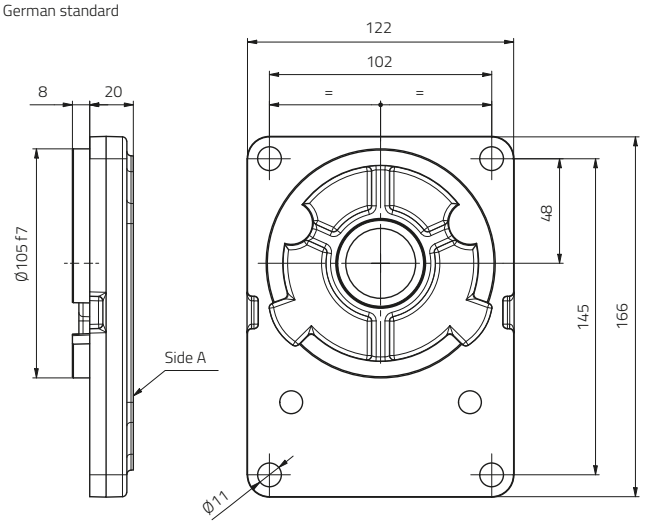


Front flanges

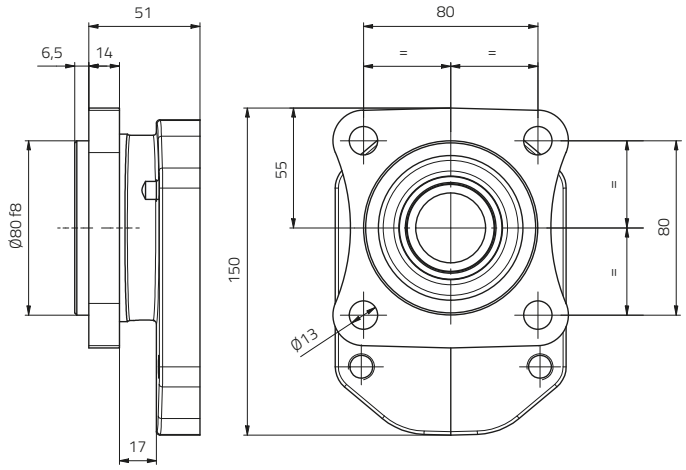
Please contact our Sales Department for other combinations.

Front flange type 23

German standard

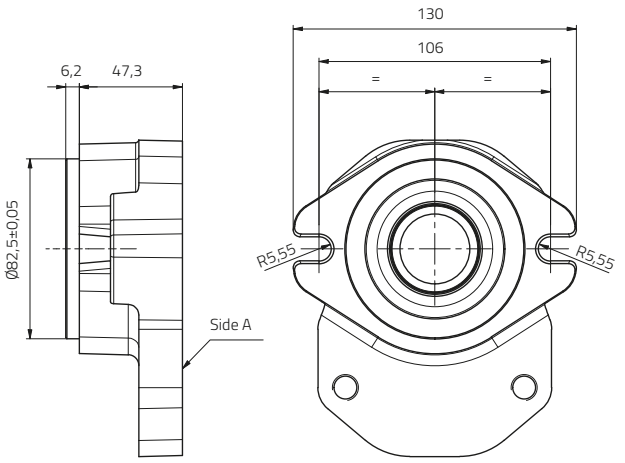


Front flange type 51



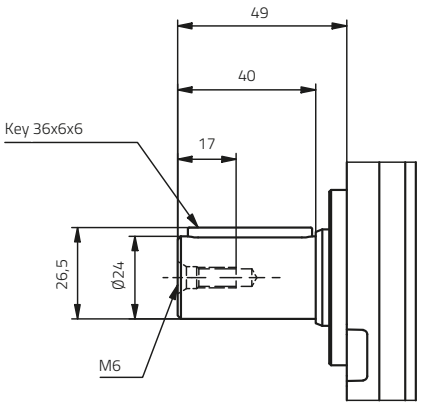
Front flange type 90

SAE A – 2 bolts



NOTE: This flange requires special shafts.

Example – Shaft form C with front flange type 10 combination



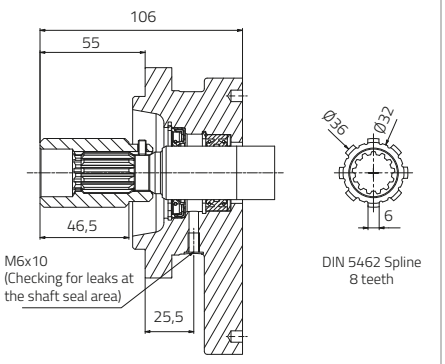
NOTE: The useful length of the drive shaft varies depending on the front flange thickness.

Return to Pumps
Return to Motors
MENU

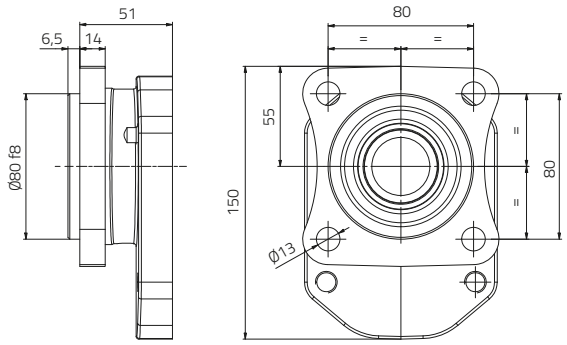
Front flange and shaft with 12GLA configuration

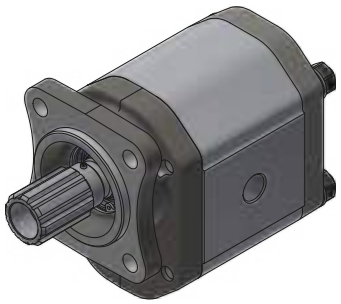
Shaft form G

Max. driving torque 300 Nm



Front flange type 51



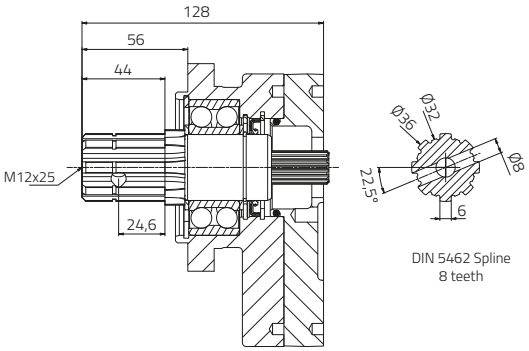


Front flange and shaft with 6GLA configuration

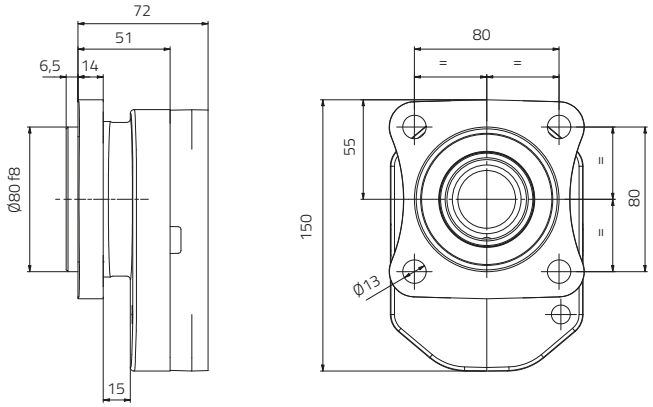
Maximum radial load 275 daN – Maximum axial load 275 daN

Shaft form X

Max. driving torque 280 Nm

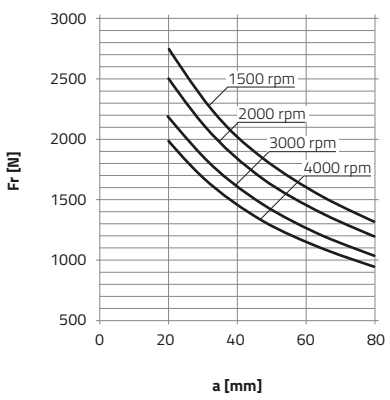


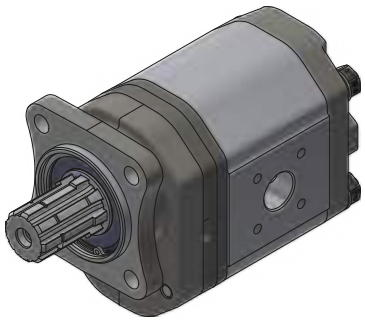
Front flange type 50



Outrigger bearing life · 1000 h

When an axial load is applied, Fr is reduced to 0,7Fa. Service life at L = 1000 h.

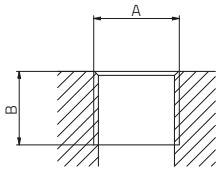




NOTE: The length "**a**" refers to the distance between the mating face and the equivalent force Fr applied.

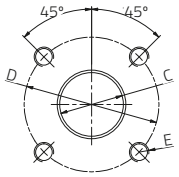
Ports

Side ports



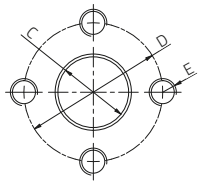
R Ports	1 rotation direction				Reversible	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
18 ... 36	3/4" BSP	18	1/2" BSP	16	3/4" BSP	18
44 ... 56	1" BSP	18,5	3/4" BSP	18	1" BSP	18,5

Dimensions according to ISO 1179-1



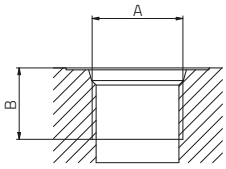
F Ports	1 rotation direction						Reversible		
Displacement [cm³/rev]	Suction			Pressure					
	C	D	E	C	D	E	C	D	E
18 ... 56	26	55	M8	19	55	M8	26	55	M8

Flanged ports - German standard



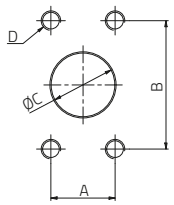
B Ports	1 rotation direction						Reversible		
Displacement [cm³/rev]	Suction			Pressure					
	C	D	E	C	D	E	C	D	E
18	19	40	M8	19	40	M8	19	40	M8
24 ... 56	26	51	M10	19	40	M8	26	51	M10

Flanged ports - European standard



S Ports	1 rotation direction				Reversible	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
18 ... 44	1 5/8"-12 UN	19	1 5/16"-12 UN	19	1 5/16"-12 UN	19
50 ... 56	1 7/8"-12 UN	19	1 5/8"-12 UN	19	1 5/8"-12 UN	19

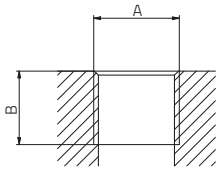
Dimensions according to ISO 11926-1



M Ports	1 rotation direction								Reversible			
Displacement [cm³/rev]	Suction				Pressure							
	A	B	C	D	A	B	C	D	A	B	C	D
18 ... 30	30,2	58,7	32	M10	22,2	47,6	19	M10	26,2	52,4	26	M10
36 ... 56					26,2	52,4	26	M10				

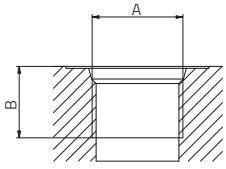
J518 SAE Standard

Rear ports



T Ports	1 rotation direction + Reversible				Drain	
Displacement [cm³/rev]	Suction		Pressure			
	A	B	A	B	A	B
18 ... 56	3/4" BSP	18	3/4" BSP	18	3/8" BSP	14

Dimensions according to ISO 1179-1



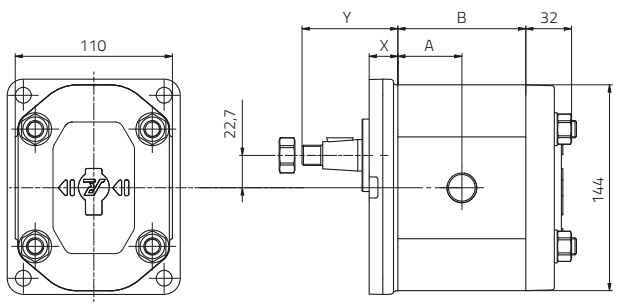
U Ports	1 rotation direction				Reversible		Drain	
Displacement [cm³/rev]	Suction		Pressure					
	A	B	A	B	A	B	A	B
18 ... 56	1 5/16"-12 UN	19	1 1/16"-12 UN	19	1 1/16"-12 UN	19	9/16"-18 UNF	14

Dimensions according to ISO 11926-1

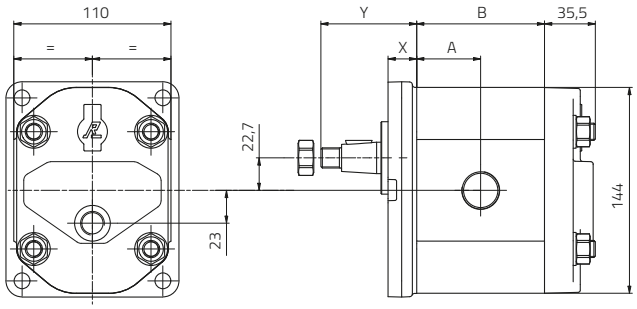
Return to Pumps
Return to Motors
MENU

Single pumps and motors (GLA)

Side ports

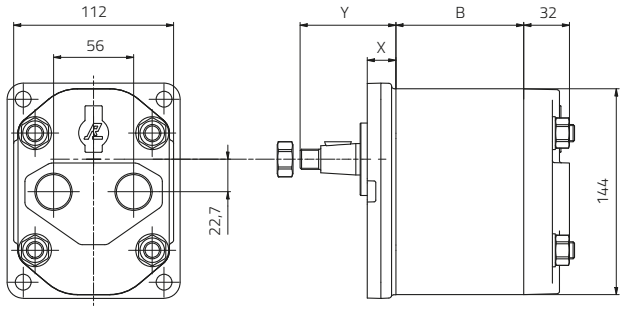


Single rotation

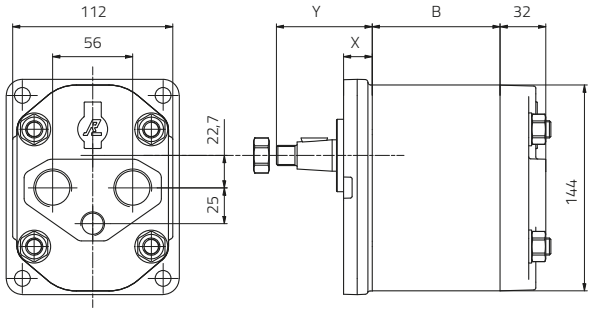


Reversible

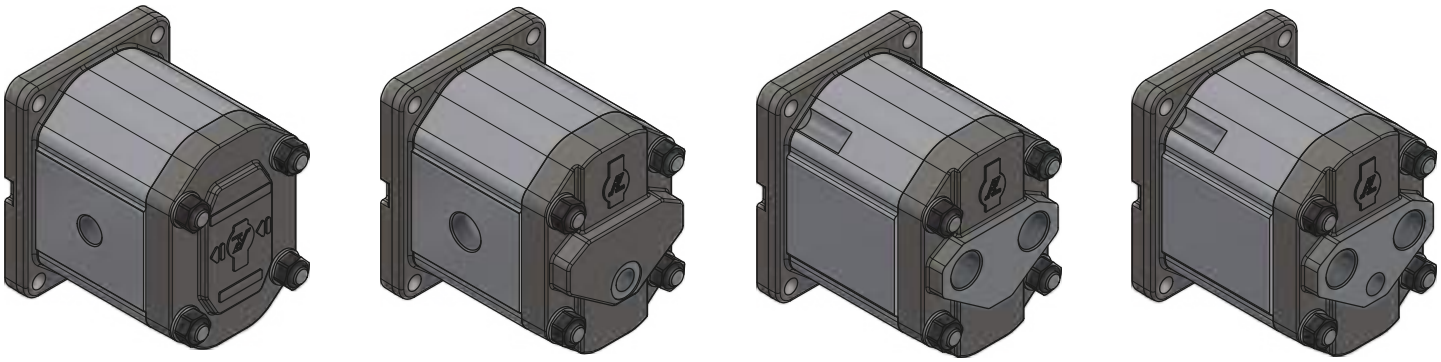
Rear ports



Single rotation



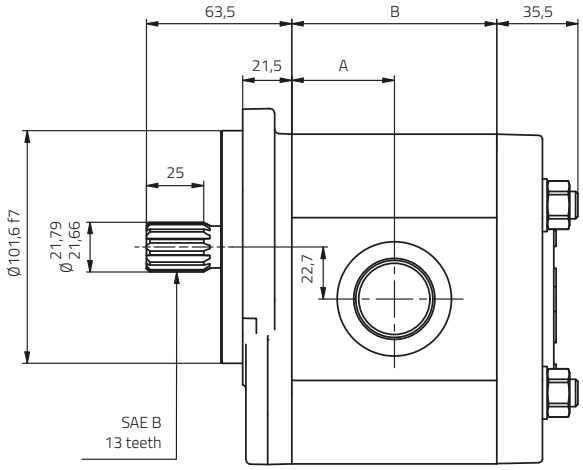
Reversible

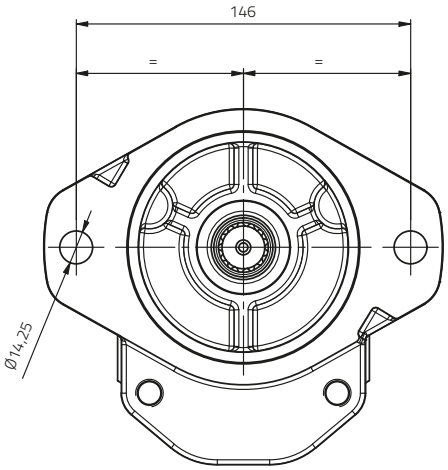


NOTE: Please check the general dimensions in the "dimensions" section (on page 22).

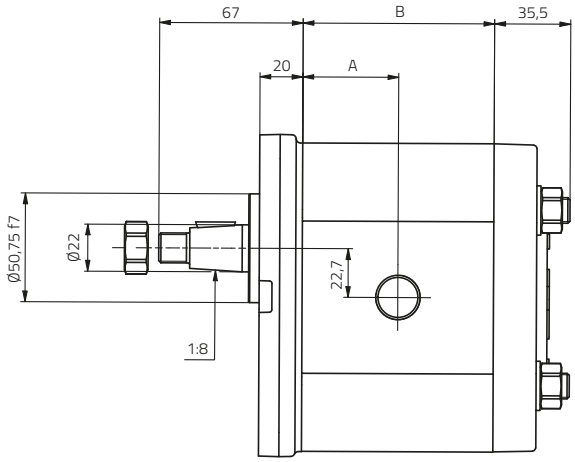
Configuration and dimensions examples

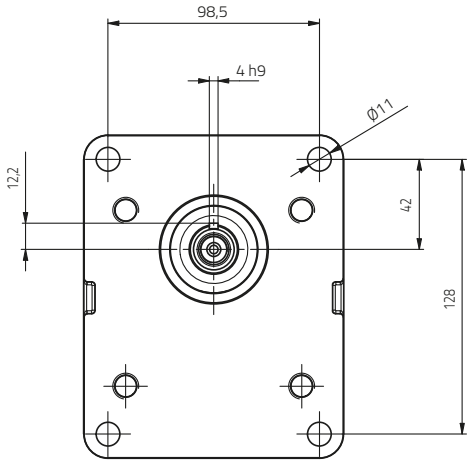
1GLA@CDG09S



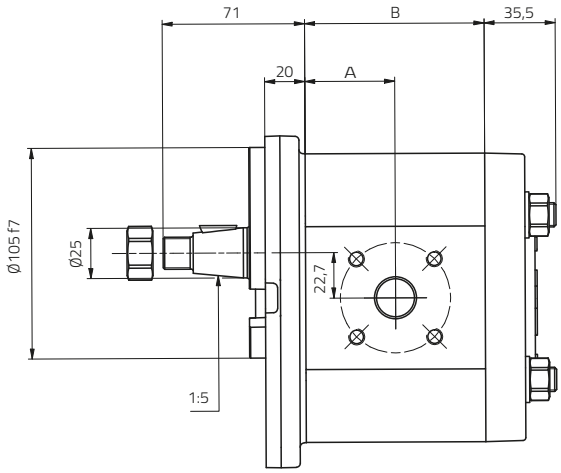


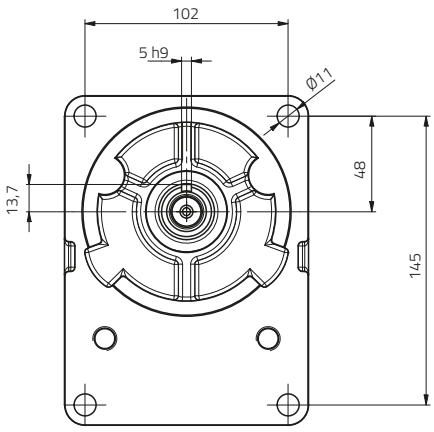
1GLA@CDE10R





1GLA@CDJ23F

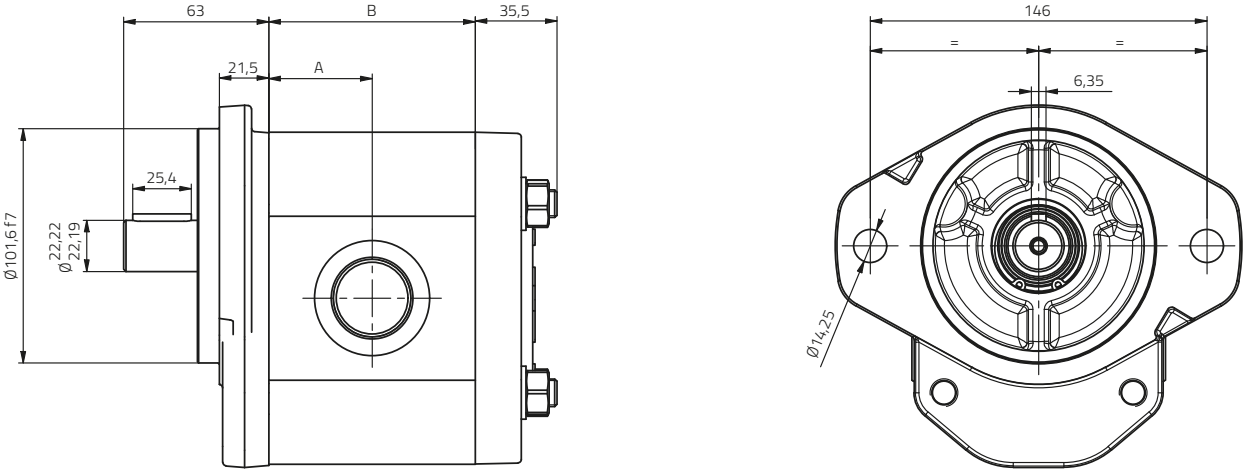




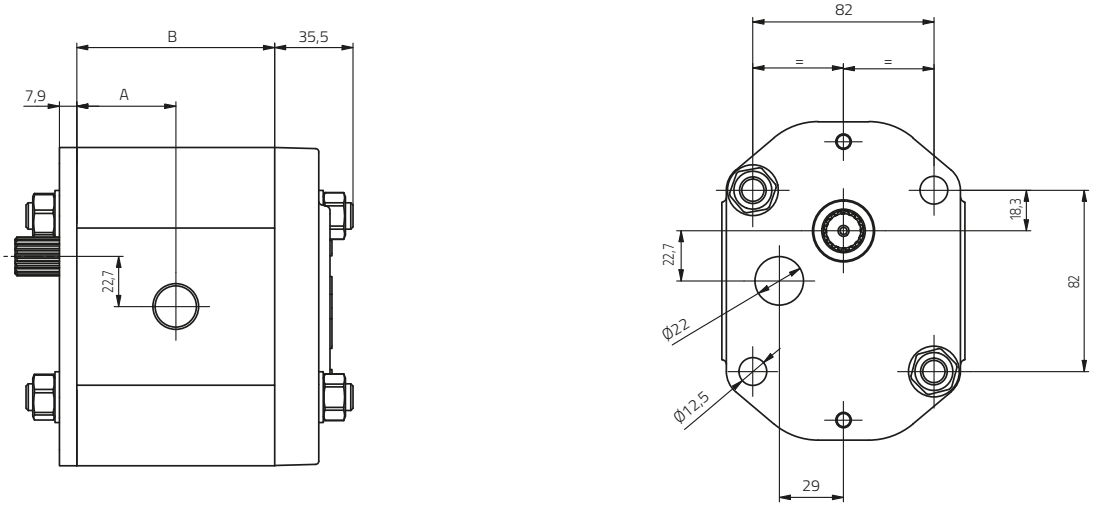
NOTE: Please check the general dimensions in the "dimensions" section (on page 22).

Configuration and dimensions examples

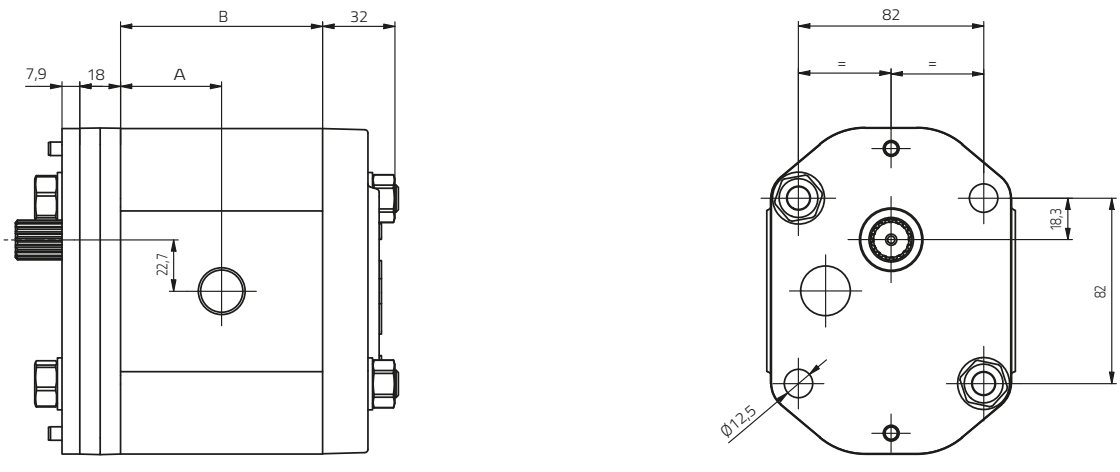
1GLA@CDH09S



1GLA@CDZ00R



1GLA@CDQ00R

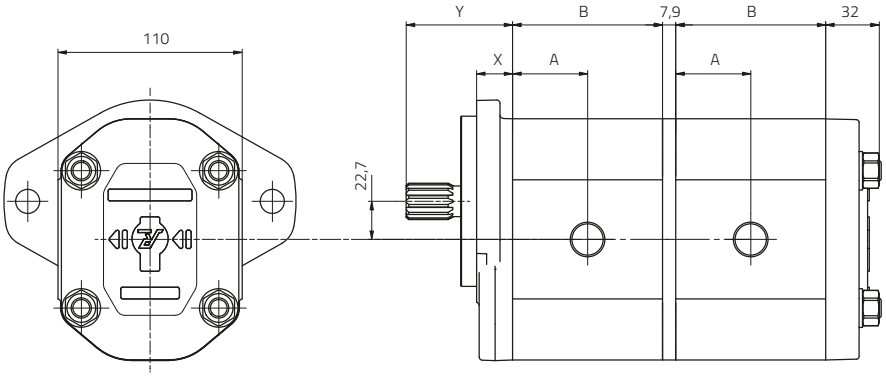


NOTE: Please check the general dimensions in the "dimensions" section (on page 22).

Multiple pumps

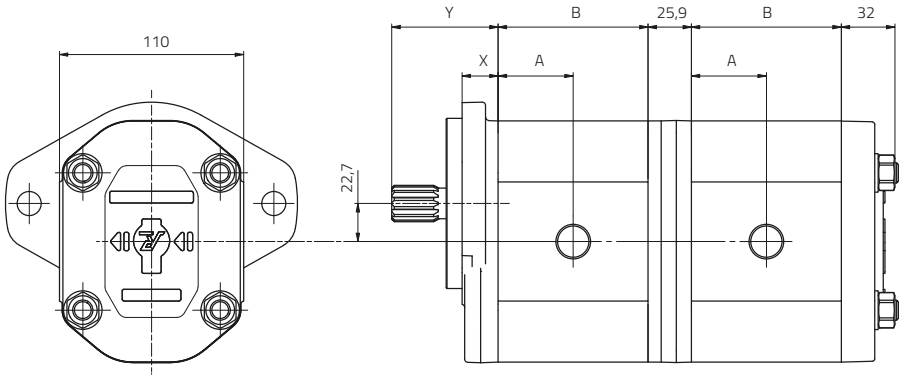
Multiple pump GLA (GLL)

Standard
Common inlet



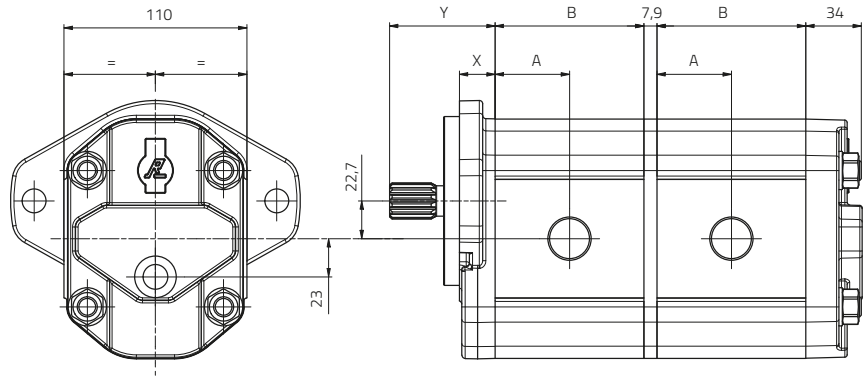
Multiple pump GLA (GLL)

Separate stages



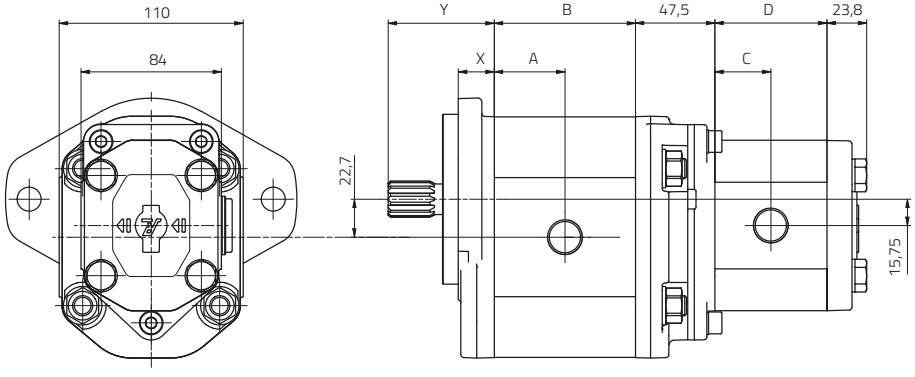
Multiple pump GLA (GLL)

Reversible



Multiple pump GLA-G (GLD)

Standard
Common inlet
Separate stages
Reversible



NOTE: Please check the general dimensions in the "dimensions" section (on page 22).

Overall dimensions (GLA)

Displacement [cm³/rev]	A	B	Weight (Kg) Ex. 1GLA@C@E10@	Weight (Kg) Ex. 1GLAN@C@E10@	Weight (Kg) Ex. 1GLA@C@Z00@	Weight (Kg) Ex. 1GLAN@C@Z00@
18	37,3	74,5	7,5	10,2	5,7	8,5
24	39,8	79,5	7,7	10,6	6,0	8,9
30	42,3	84,5	8,0	11,0	6,2	9,3
36	44,8	89,5	8,2	11,5	6,4	9,6
44	48,0	96,0	8,5	12,0	6,7	10,2
50	50,3	100,5	8,7	12,3	6,9	10,6
56	52,8	105,5	8,9	12,8	7,2	11,0

Front flange type	X [mm]
01	20
09	21,5
10	20
19	21
23	20
50	51
90	47,3

Shaft form	Y [mm]
A	69
B	39
C	69
D	78
E	67
F	67,5
G	63,5
H	63
I	82
J	71
Q	17,5
T	85,3
W	18
Z	1

General dimensions (G) for multiple pumps GLD

Displacement [cm³/rev]	C	D	Weight (Kg) Ex. 1G@C@Q40@	Weigt (Kg) Ex. 1GN@C@Q40@
4	23,4	46,8	2,9	3,8
6	25,2	50,3	3	4
8	26,8	53,5	3,1	4,2
10,7	29	58	3,2	4,4
12	30,3	60,5	3,3	4,5
14,7	32,4	64,8	3,4	4,7
16	33,5	67	3,5	4,8
18	35,3	70,5	3,6	5
20,7	37,5	75	3,7	5,2
23,3	39,8	79,5	3,8	5,4
26,7	41,8	83,5	3,9	5,6

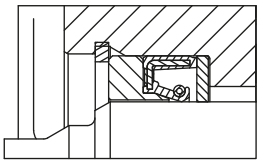
Features

Roquet gear motors offer:
- High efficiency due to specialized production processes.
- Axial compensation through floating bearings.
- High quality bushings for gear motors.
- Aluminium or cast iron body.
- Front flange and back cover made of cast iron.
- NBR seals in the standard version.
- FKM seals available for high temperature applications.
- 100% of motors delivered are tested.
- Back covers with integrated valves for motors.

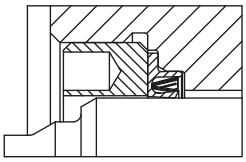
Technical information

Displacement range	18 – 56 cm^3/rev
Shafts, flanges and ports	According to European, German and American standards
Direction of rotation	Clockwise, counterclockwise and reversible
Fluid	Recommended Mineral oil - ISO 6743 type HM, HV or HG
Viscosity	Recommended viscosity at work 20-80 cSt (mm^2/s) Maximum viscosity allowed at start 800 cSt (mm^2/s)
Oil working temperature	Recommended temperature 50°C – Material NBR (-30/+80°C) FKM (-20/+110°C)
Cleanliness	ISO 4406 22/19/16

Standard motor shaft seal
Maximum drain line pressure - 5 bar (72 psi)
(Maximum pressure value at minimum R.P.M.)



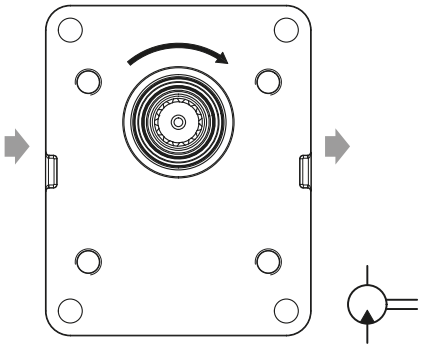
Peak pressure motor shaft seal (- LP)
Maximum drain line pressure - 20 bar (290 psi)
(Maximum pressure value at minimum R.P.M.)



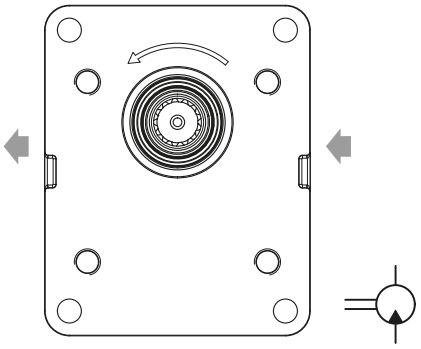
Direction of rotation

The direction of rotation is always defined looking at the motor from the front flange.

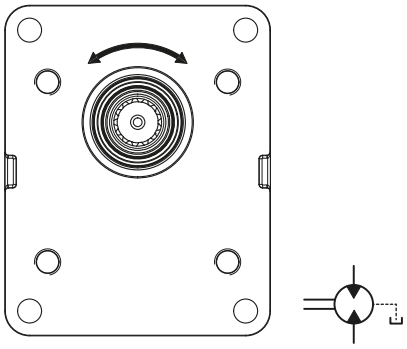
Clockwise



Counterclockwise



Reversible



Common formulas

$$v = \frac{Q}{6 \cdot A} \quad [m/s]$$

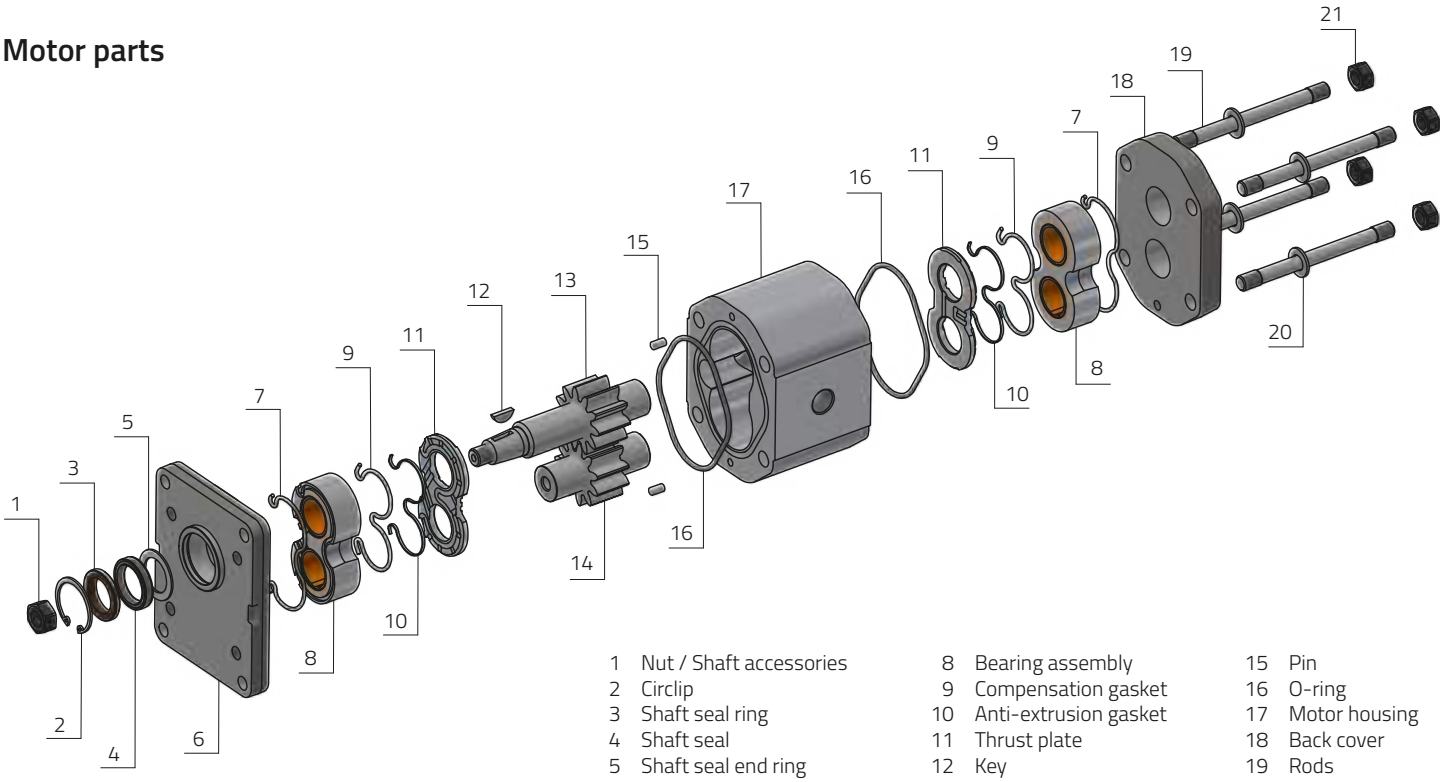
$$n = \frac{Q \cdot 1000 \cdot \eta_{vol}}{V} \quad [min^{-1}]$$

$$M = \frac{V \cdot \Delta p \cdot \eta_{hm}}{62{,}8} \quad [N \cdot m]$$

$$P = \frac{Q \cdot \Delta p \cdot \eta_t}{600} \quad [kW]$$

v = fluid speed [m/s]
Q = motor flow [l/min]
A = tube section [cm^2]
V = motor displacement [cm^3/rev]
n = rotation speed [rev/min]
Δp = pressure difference [bar]
M = Motor torque [N · m]
P = power supplied by the motor [kW]
η_{vol} = volumetric efficiency (≈0,95) [%]
η_{hm} = hydromechanical efficiency (≈0,85) [%]
η_t = total efficiency (≈0,82) [%]

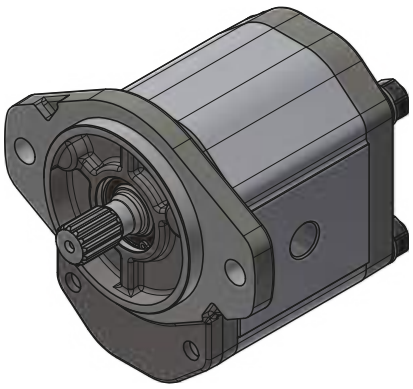
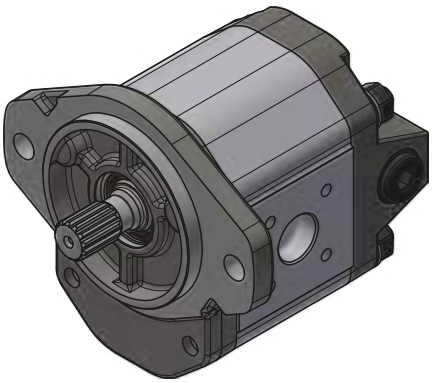
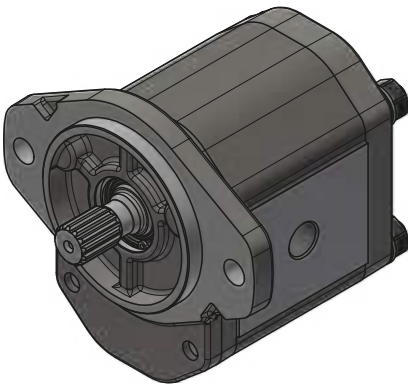
Motor parts



1	Nut / Shaft accessories	8	Bearing assembly	15	Pin
2	Circlip	9	Compensation gasket	16	O-ring
3	Shaft seal ring	10	Anti-extrusion gasket	17	Motor housing
4	Shaft seal	11	Thrust plate	18	Back cover
5	Shaft seal end ring	12	Key	19	Rods
6	Front flange	13	Drive shaft	20	Washers
7	Bearing assembly seal	14	Driven shaft	21	Nuts

Installation recommendations

- Avoid radial and axial forces on the motor shaft for a longer pump lifetime.
- The shafts of the motor have to be well aligned to avoid these forces.
- Elastic couplings are highly recommended.
- Avoid rotational speeds lower than those shown in the "technical data" section.
- Avoid motor start with load at low temperatures.
- When starting, clean the whole installation before first run of the system.
- If the motor shall be painted, protect the seal area and the drive shaft to avoid possible oil leaks.
- In reversible motors, if possible, connect the drain to tank.

MGLA motor technical data (Aluminium body)

Displacement	cm³/v-cc/rev (in³/rev)	18 (1,10)	24 (1,46)	30 (1,83)	36 (2,20)	44 (2,69)	50 (3,05)	56 (3,42)
Cont. max. pressure	bar (PSI)	250			225	200	185	175
Intermittent max. pressure	bar (PSI)	275			250	225	210	200
Maximum peak pressure	bar (PSI)	285			260	235	220	210
R.P.M. at cont. pressure		2500			2300		2200	
Max. R.P.M		3000			2800		2600	
Min. R.P.M. at given pressures	100 bar (1450 PSI)	500						
	175 bar (2540 PSI)	800			700		600	
	250 bar (3625 PSI)	1500			900	–	–	

Note: Pressures obtained with flanged bodies.

MGLAN motor technical data (Cast iron body)

Displacement	cm³/v-cc/rev (in³/rev)	18 (1,10)	24 (1,46)	30 (1,83)	36 (2,20)	44 (2,69)	50 (3,05)	56 (3,42)
Cont. max. pressure	bar (PSI)	300			275	250	230	215
Intermittent max. pressure	bar (PSI)	325			300	275	255	240
Maximum peak pressure	bar (PSI)	335			310	285	265	250
R.P.M. at cont. pressure		2500			2300		2200	
Max. R.P.M		3000			2800		2600	
Min. R.P.M. at given pressures	100 bar (1450 PSI)	500						
	175 bar (2540 PSI)	800			700		600	
	250 bar (3625 PSI)	1500			900	–	–	

Note: For all reversible motors (MGLA and MGLAN), maximum pressure is 250 bar (3600 psi), except for those values where the pressure is lower.

Note: The definition of the pressure ranges is shown on page 7.

								Optional					
Coding system	**1**	**MGLA**	**36C**	**D**	**E**	**10**	**R**		**/**	**V**	**42**	**T*****	**-*****

Type	
1	Without pulley
2	With pulley
6	Motor with DIN 5462 spline shaft for ZF assembly with bearing assembly and shaft seal
12	Motor with DIN 5462 spline shaft with double shaft seal and external leak

Model	
MGLA	Single – Aluminium body
MGLAN	Single – Cast iron body

Motor displacement [cm³/rev] & [in³/rev]		
18C	18,0	1,10
24C	27,0	1,65
30C	30,0	1,83
36C	36,0	2,20
44C	44,0	2,69
50C	50,0	3,05
56C	56,0	3,42

Rotation direction	
D	Clockwise
I	Counterclockwise
R	Reversible

Drive Shaft Form	
C	Ø24 straight
D	DIN 5463 - 6 teeth
E	European tapered 1:8
G	SAE B - 13 teeth
H	SAE B - Ø22,22 straight
J	German tapered 1:5
W	Ø27 tang
X	DIN 5462 - 8 teeth

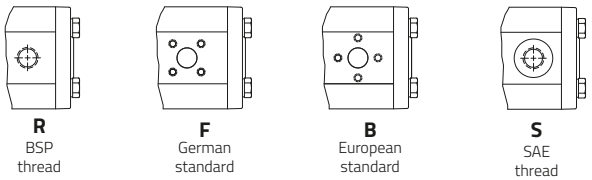
Please check the shafts for more options

Code	
V	FKM seals and shafts seals (Viton)
RV	Only FKM shaft seal (Viton)
ID	Internal drain

Alternatives with valves	
VA	Check valve
V@	Relief valve

Please check variants with valves

Port Connection Forms



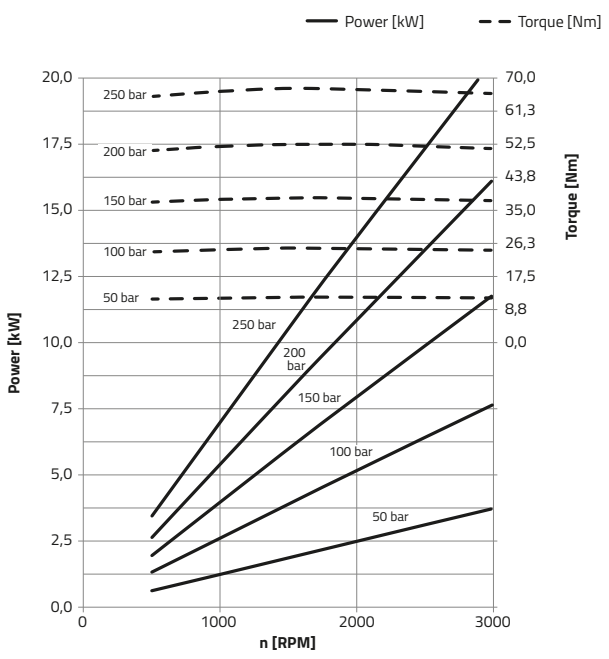
R BSP thread
F German standard
B European standard
S SAE thread
M SAE J518 Standard
T Rear ports - BSP
U Rear ports - SAE

Please check the ports for more information

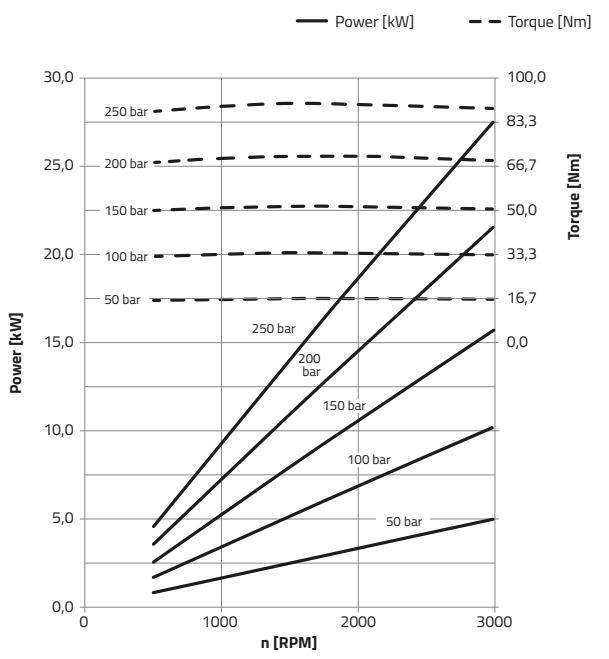
Front Flange	
09	SAE B - 2 bolts
10	European standard
19	2 bolts (without shaft seal)
23	German standard
90	SAE A - 2 bolts

Please check the flanges for more options

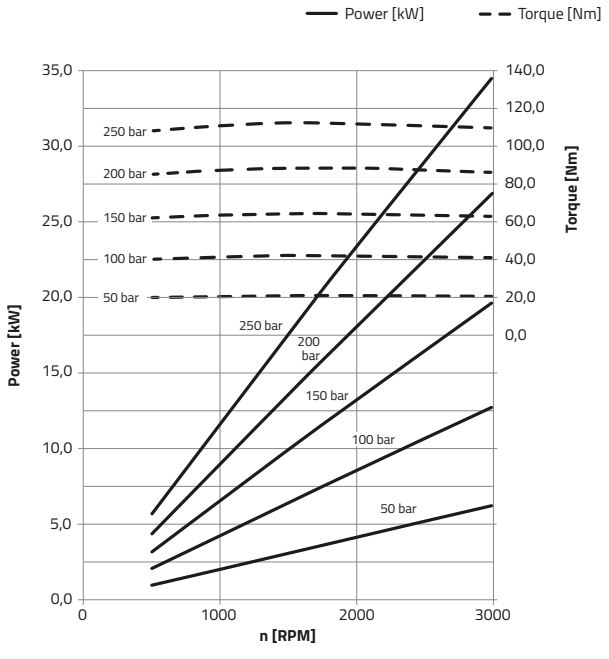
1MGLA18C - 18 cm³/rev



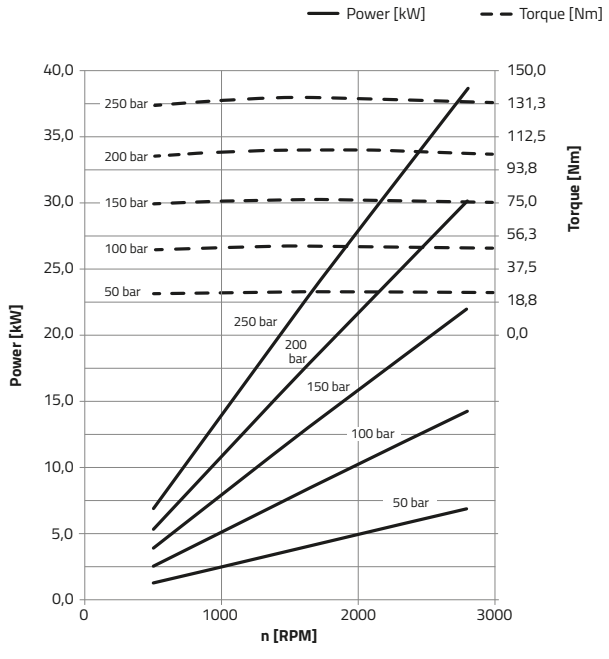
1MGLA24C - 24 cm³/rev



1MGLA30C - 30 cm³/rev

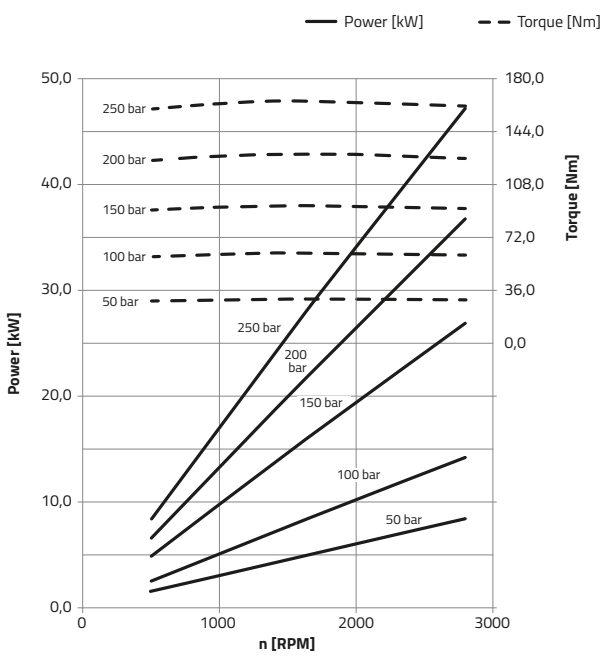


1MGLA36C - 36 cm³/rev

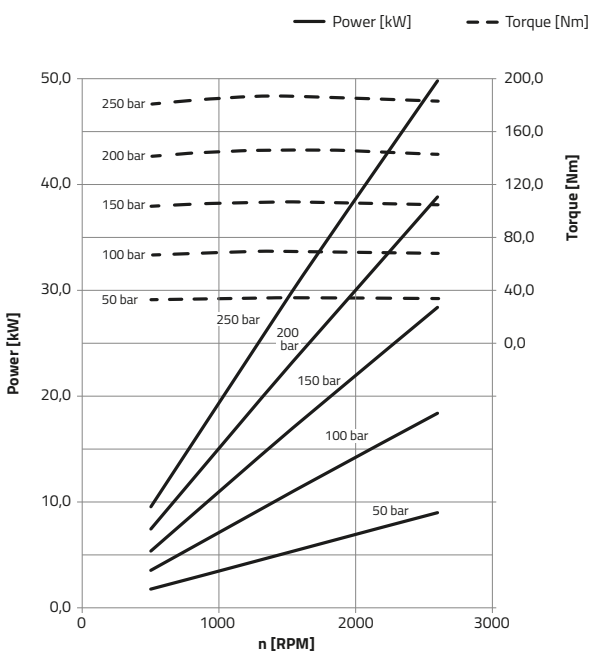


NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

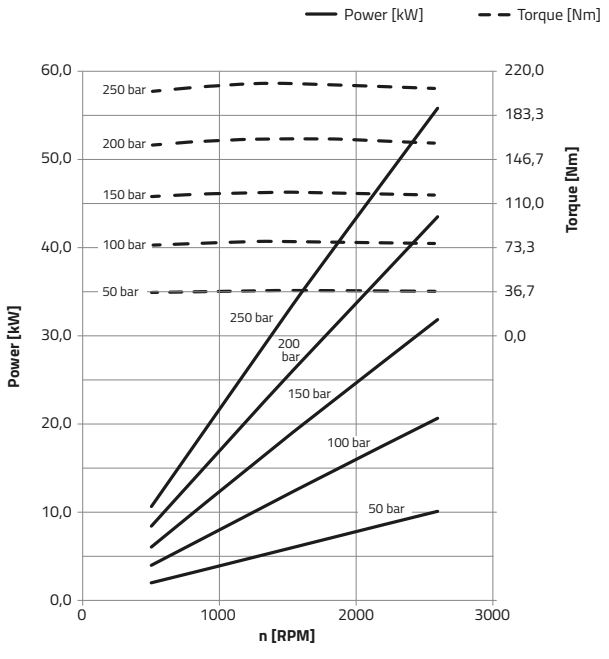
1MGLA44C - 44 cm³/rev



1MGLA50C - 50 cm³/rev



1MGLA56C - 56 cm³/rev



NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

Flow, performance and power chart according to displacement

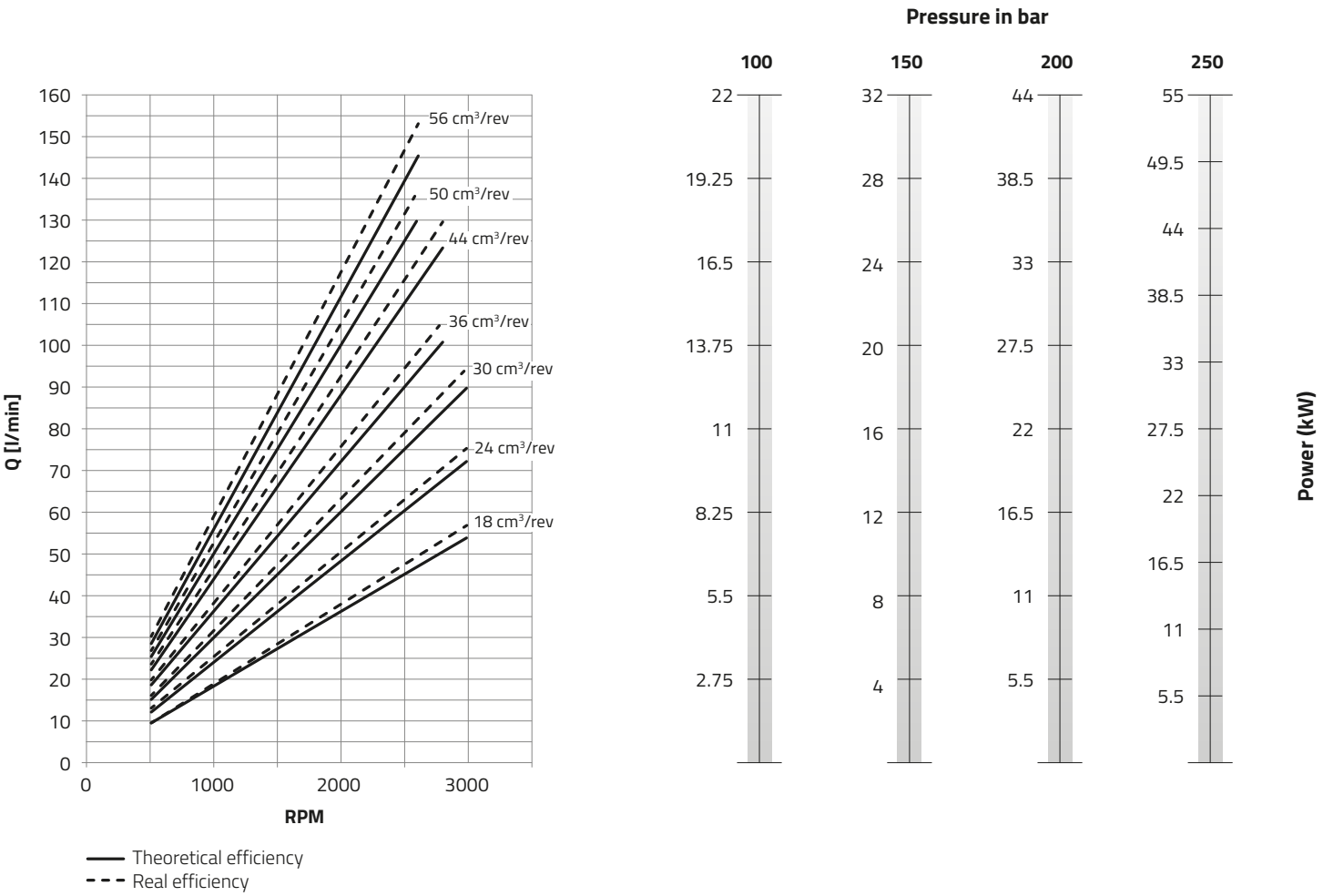
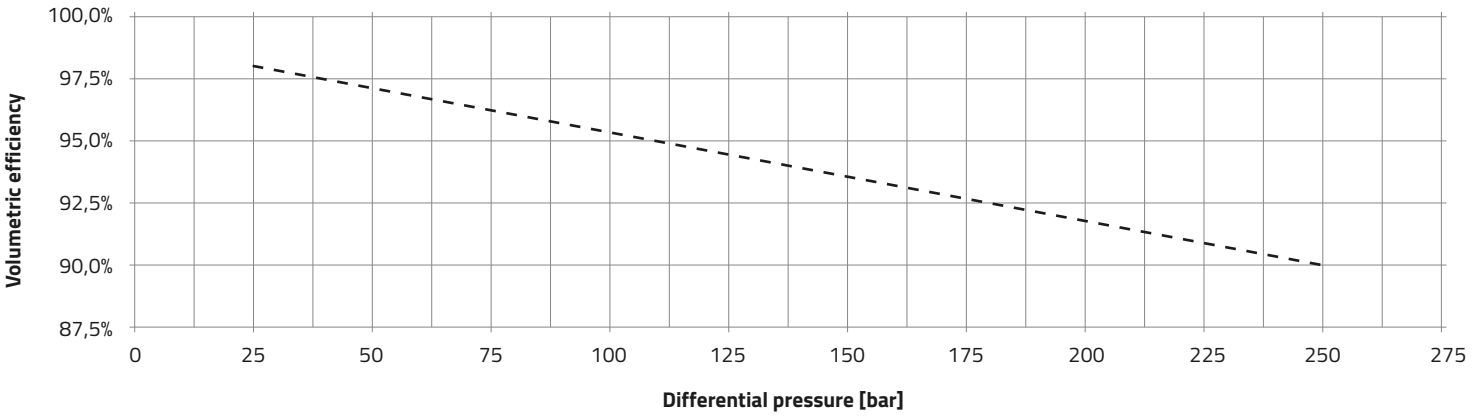


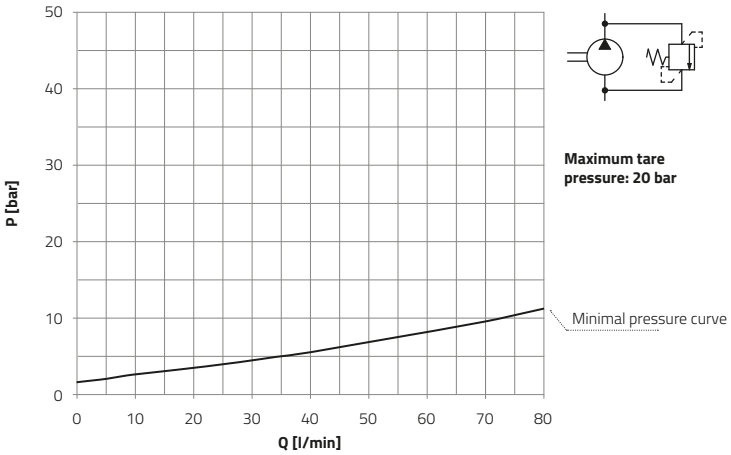
Diagram of the volumetric efficiency at 1500 R.P.M.

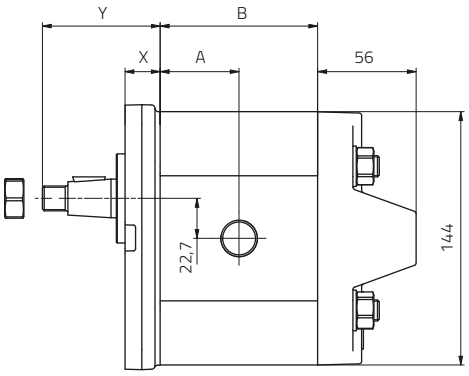


NOTE: The values shown in the above diagram have been obtained using 32cSt kinematic viscosity oil.

Low pressure relief valve

Minimum setting pressure diagram





NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil. Please check the general dimensions in the "dimensions" section (on page 22).

Spare parts kit

Coding system	1	GLA	VBP	-***

Type

1	Type 1

Model

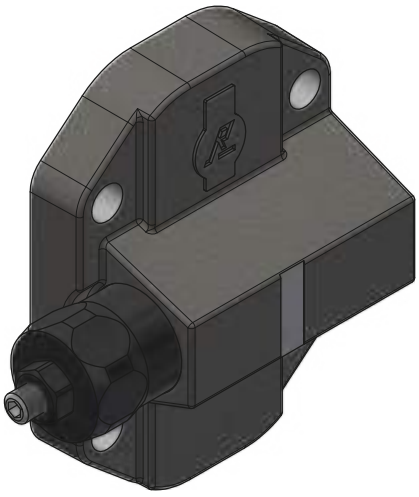
GLA	GLA series

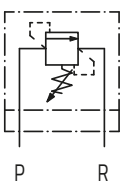
Function

VBP	Low pressure relief valve

Code

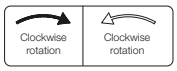
Reference example: **1GLAVBP**



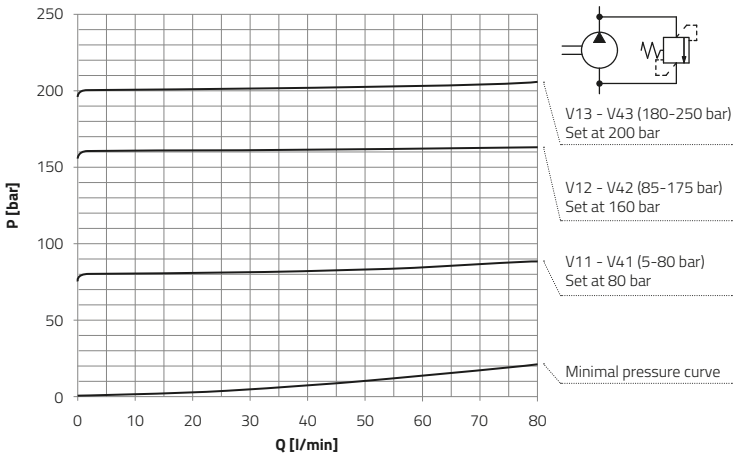


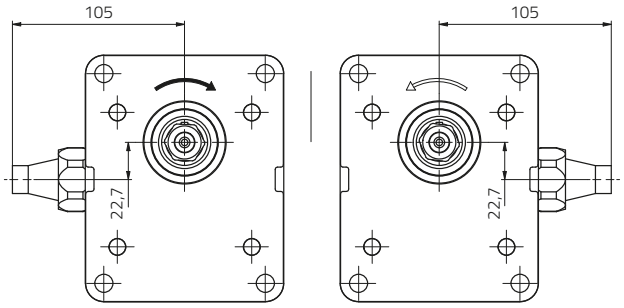
Note:
- The assembly will be delivered with the valve set at 15 bar (45 l/min with VG-22 type oil at 50°C)
- The valve can be regulated between 10 and 20 bar. For settings lower than 10 bar, consult the sales department of Roquet Hydraulics.
- The taper-proof sealing is offered unassembled. Check availability.

Relief valve



Rellef valve pressure-flow diagram depending on pressure range





NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil. Please check the general dimensions in the "dimensions" section (on page 22).

Spare parts kit

Coding system	1	GLA	V	@	@	-***

Type

1	Type 1

Model

GLA	GLA Series

Function

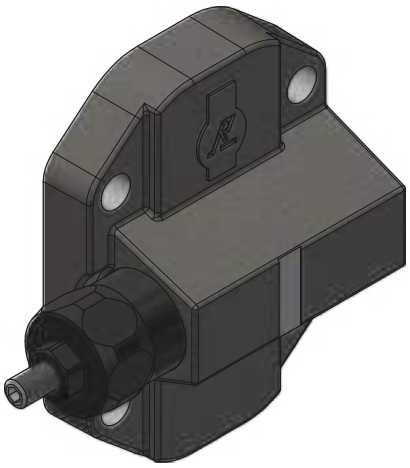
V	Relief valve

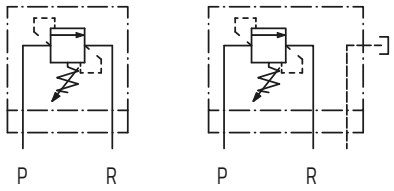
Pressure range

11	Set at 80 bar (5-80 bar)
12	Set at 160 bar (85-175)
13	Set at 200 bar (180-250)

@	Drain port
	No
R	Si

Code

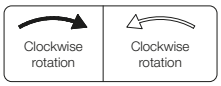




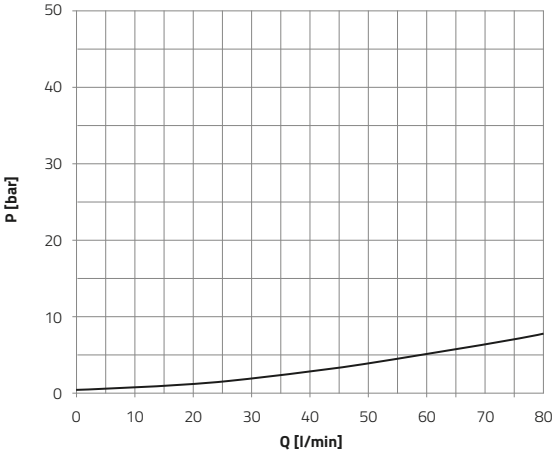
Examples of part number: **1GLAV12, 1GLAV12R**

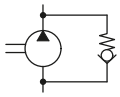
Notes:
- The assembly will be delivered according to the specified setting)45 l/min with VG-22 type oil at 50°C).
- Tamper-proof sealing is offered unassembled. Check availability.

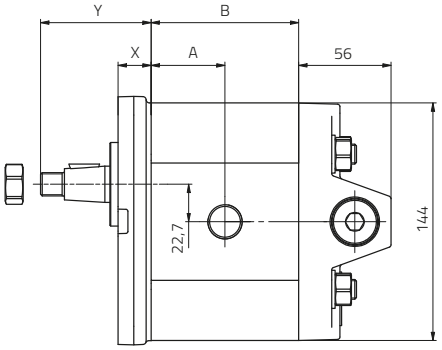
Check valve

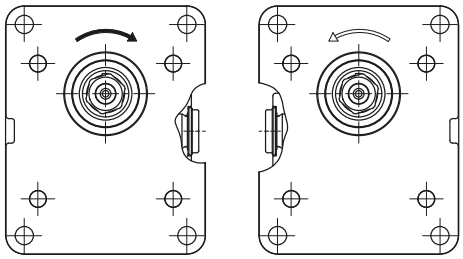


Cleck valve pressure-flow diagram









NOTE: The values shown in the above diagram have been obtained using a 32cSt kinematic viscosity oil. Please check the general dimensions in the "dimensions" section (on page 22).

Spare parts kit

Coding system	1	GLA	VA	@	-***

Type

1	Type 1

Model

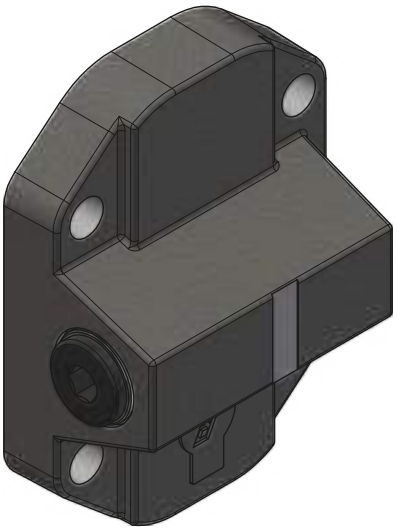
GLA	GLA Series

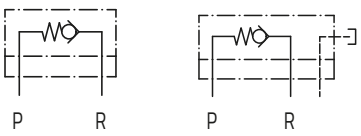
Function

VA	Suction valve

@	**Drain port**
	No
R	Si

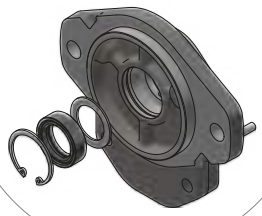
Code





Examples of part number: **1GLAVA, 1GLAVAR**

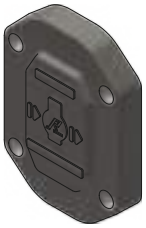
KB04
Front flange Kit



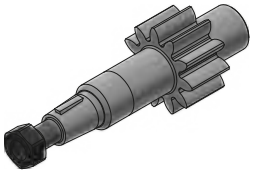
KB06
Rods Kit

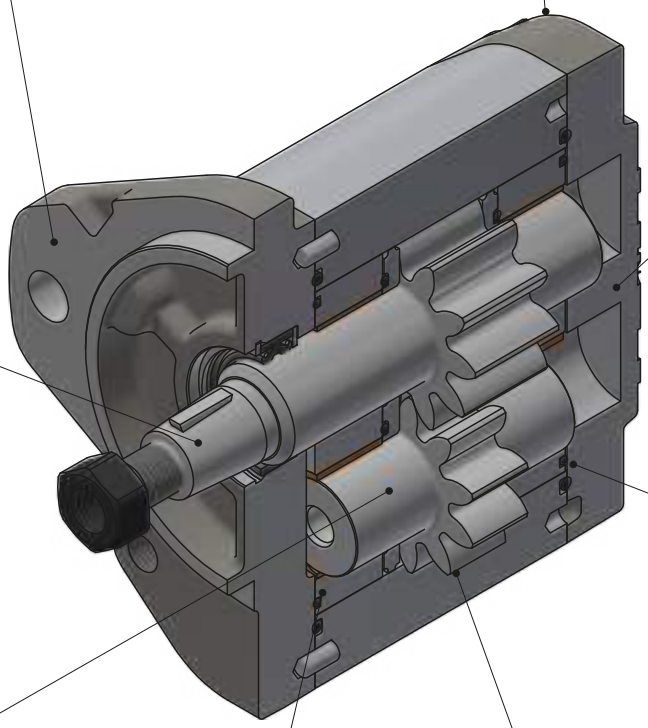


KB05
Back cover Kit

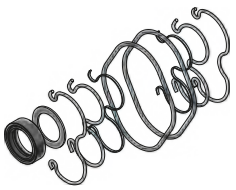


KB01
Drive shaft Kit

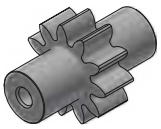




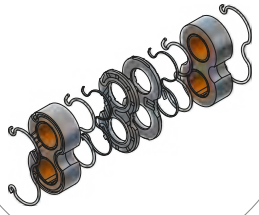
KB03
Seal Kit



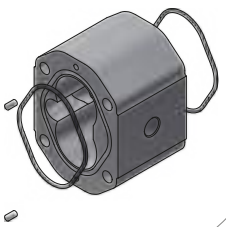
KB02
Driven shaft Kit



KB07
Bearing assemblies Kit

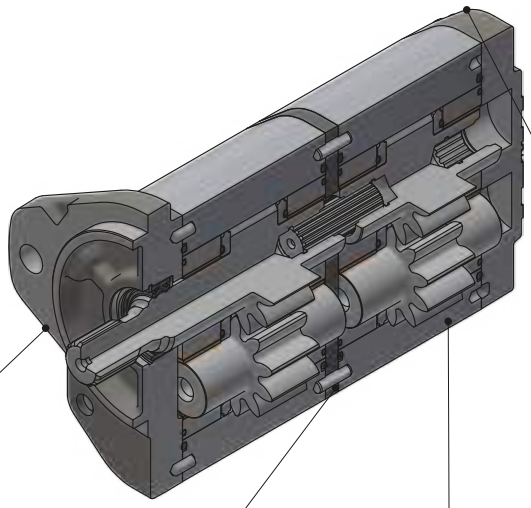


KB09
Body Kit

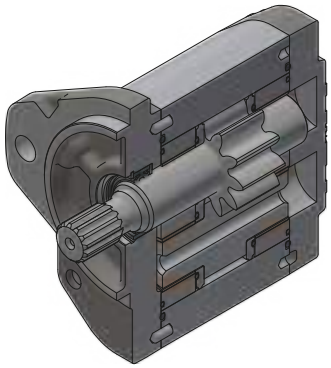


NOTE: For available reference please contact the Sales Department or check the spare parts catalogue.

Connected stages type GLL

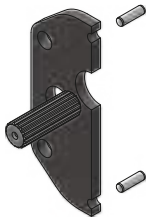


Standard front pump
Example: 1GLA36CDG09R



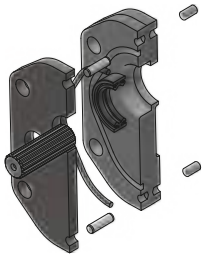
KB08
Intermediate flange kit

Example: KB08GLAGLAS00



Common inlets

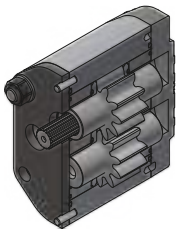
Example: KB08GLAGLAS00-SS



Separate stages

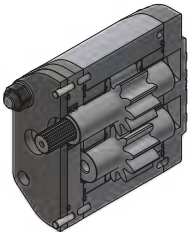
Rear standard and common inlet pump

Example: 1GLA36CDZ00R



Rear separate stages pump

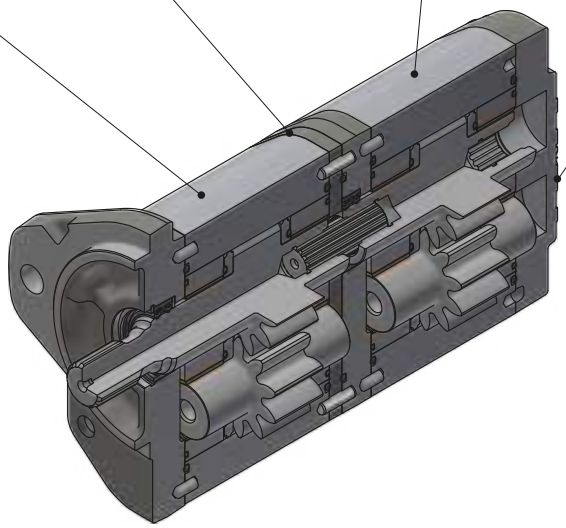
Example: 1GLA36CDQ00R



KB06
Rods Kit

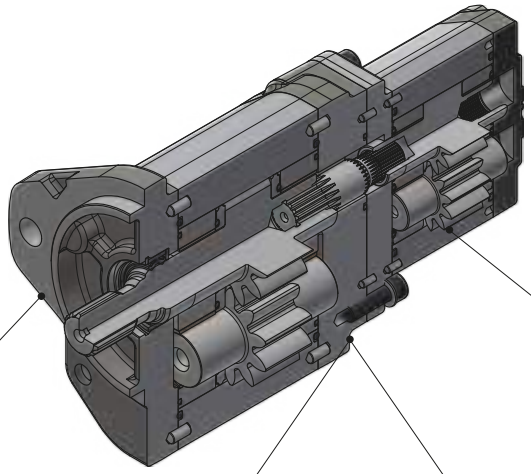


Separate stages type GLL

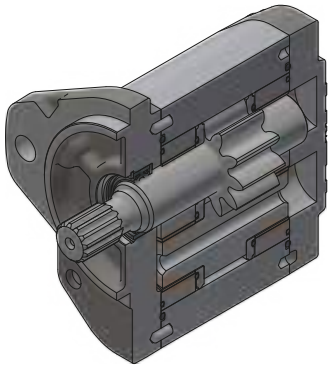


NOTE: A double GLA+GLA pump can be assembled from a pump with standard reference and a pump with Z or Q shaft form for separate stages.
The Z or Q kit are offered in order to transform the pump.
For available reference contact the Sales Department or check the spare parts catalogue.

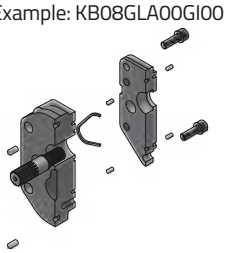
Connected stages type GLD



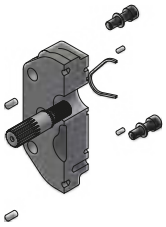
Standard front pump
Example: 1GLA36CDG09R



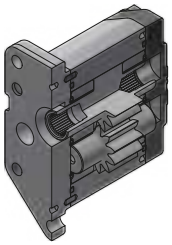
Common inlet intermediate flange kit
Example: KB08GLA00GD00
Example: KB08GLA00GI00



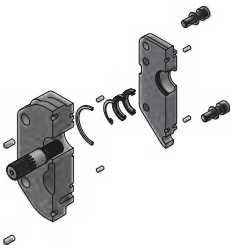
Common inlet intermediate flange kit
Example: KB08GLA00GD00-001
Example: KB08GLA00GI00-001



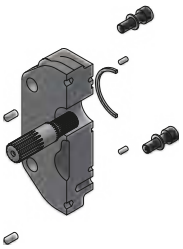
Rear standard and common inlet pump
Example: 1G15CDQ40R



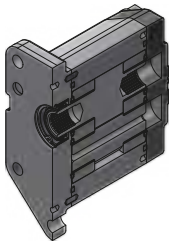
Separate stages intermediate flange kit
Example: KB08GLA00GS00-SS



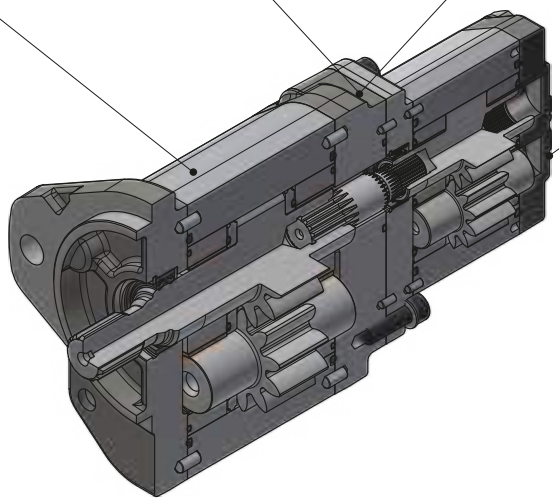
Separate stages intermediate flange kit
Example: KB08GLA00GS00-SS1



Rear separate stages pump
Example: 1G15CDQ40R-SS



Separate stages type GLD



NOTE: A GLA+G double pump can be assembled from a pump with standard reference and a pump with S shaft.
We offer the full intermediate flange kit for standard with the 40 flange from pump G, common inlet or separate stages versions.
For available reference contact the Sales Department or check the spare parts catalogue.

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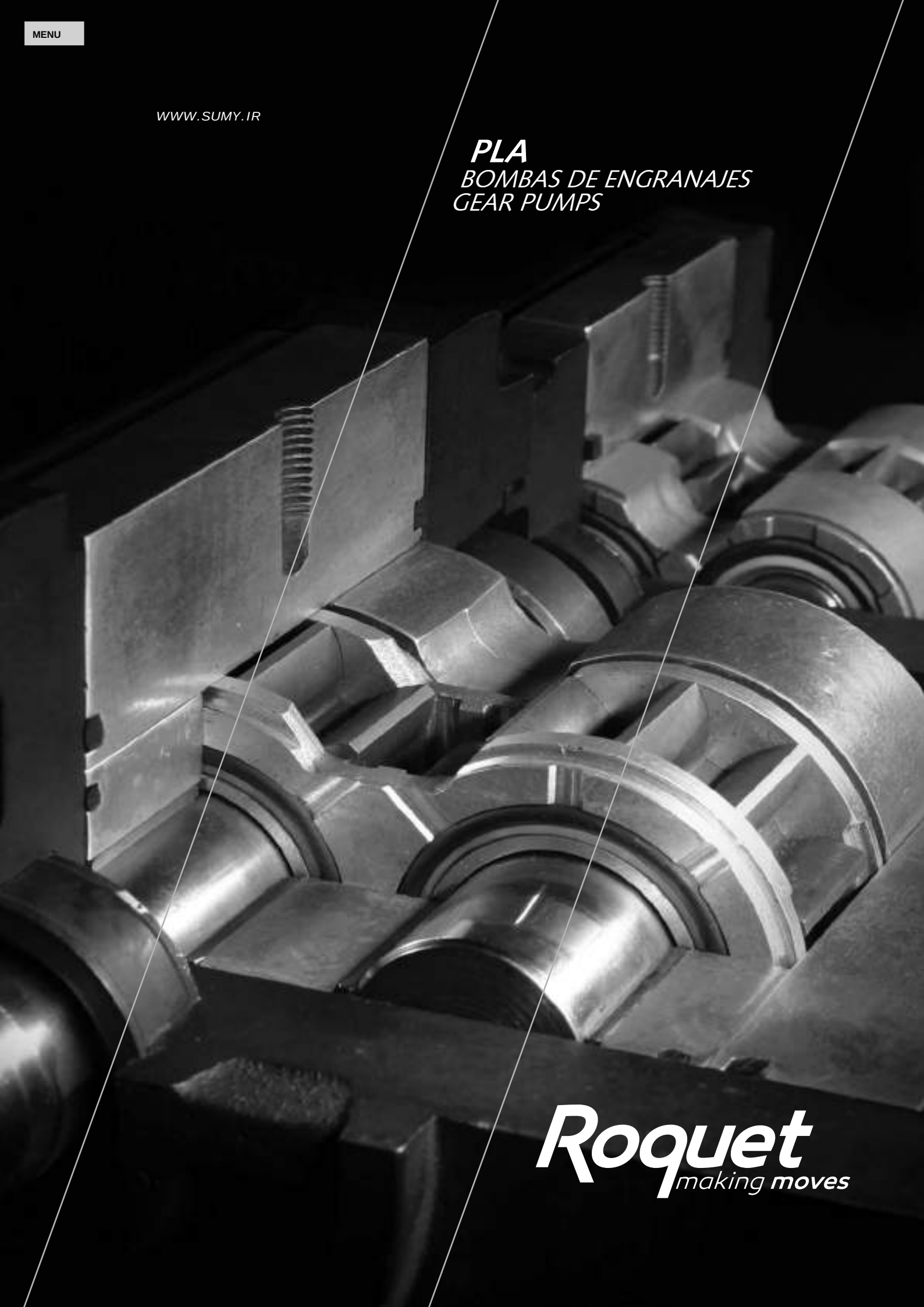
EN.02.10.01/05.24

Our policy is one of continuous improvement. For this reason, the specific specifications of our products may be modified from what is established in this catalogue without prior notificaciton.

MENU

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PLA
BOMBAS DE ENGRANAJES
GEAR PUMPS



Roquet
making moves

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HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas criticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones finales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY *Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.*

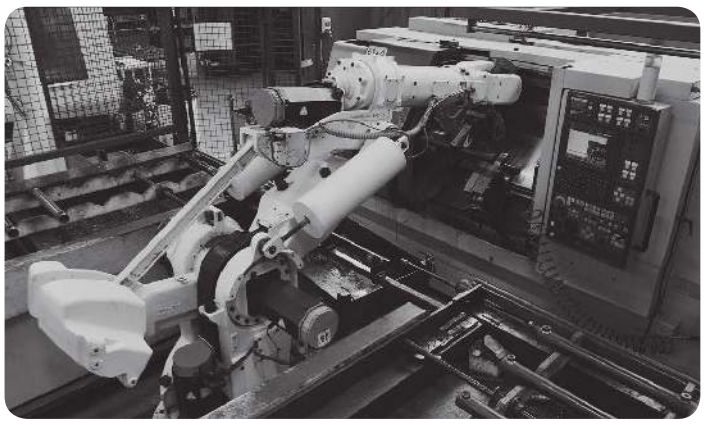
TECHNOLOGY *Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.*

RELIABILITY *A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.*

CAPABILITY *400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.*









Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.
Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.
Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.
Gama de temperaturas del fluido hidráulico +5º C +80º C.
El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.
La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.
Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars. Conexión por bridas S.A.E. o rosca G.
Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.
Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.
Presentamos en el apartado de bombas dobles, varios tipos de fijación con sus ejes más normales. No obstante se podrán construir bombas dobles con las mismas fijaciones que las simples y sus ejes correspondientes.
Estas consideraciones también son validas para bombas triples y cuadruples, que podemos fabricar.

NOTA IMPORTANTE: En versión estándar la conexión es de rosca G.

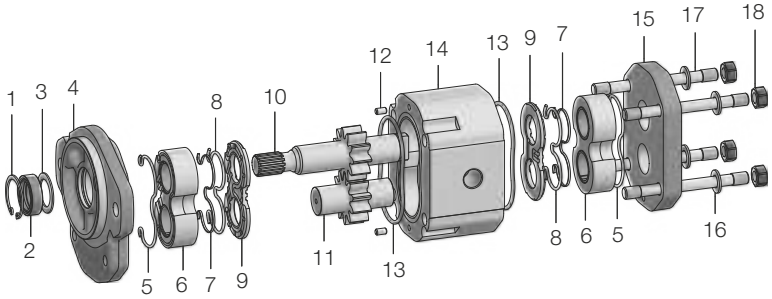
Our pumps are hydrostatically balanced and have automatic lateral adjustment.
We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.
To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.
Oil temperature range +5ºC - +80ºC.
Filtration is extremely important since most problems are due to oil contamination.
The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.
The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar. Connection by SAE flange or threaded G.
Rotation direction: Clockwise or anti-clockwise when facing the shaft end.
Before starting the pump, make sure the direction of rotation is correct.
Double and multiple pumps are available with all shafts and flanges shown for single pumps.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L.
Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
ROQUETHYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUETHYDRAULICS, S.L. in case of doubt.
ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Partes de una bomba / *Pump parts*



1	Anillo elástico *Circlip*
2	Retén aceite *Oil seal*
3	Aro tope retén *Shaft seal end ring*
4	Tapa frontal *Front flange*
5	Junta apoyo cojinete *O-ring*
6	Conjunto cojinete apoyo *Bearing assembly*
7	Junta antiextrusión *Anti-extrusion gasket*
8	Junta de compensación *Compensation gasket*
9	Plaqueta de compensación *Thrust plate*

10	Rueda motriz *Drive shaft*
11	Rueda conducida *Driven shaft*
12	Pasador *Pin*
13	Junta de tope *Housing gasket*
14	Cuerpo bomba *Pump housing*
15	Tapa posterior *Back cover*
16	Arandelas *Washers*
17	Espárragos *Threaded rods*
18	Tuercas *Nuts*



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	27 *(7,1)*	36 *(9,5)*	45 *(11,9)*	54 *(14,3)*	66 *(17,4)*	75 *(19,8)*	84 *(22,2)*
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	18 *(1,1)*	24 *(1,46)*	30 *(1,83)*	36 *(2,2)*	44 *(2,69)*	50 *(3,05)*	56 *(3,42)*
Presión máx. continua en ***Cont. max. pressure***	bar *(PSI)*	250 *(3625)*			225 *(3265)*	200 *(2900)*	185 *(2685)*	175 *(2540)*
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	275 *(3990)*			250 *(3625)*	225 *(3265)*	210 *(3045)*	200 *(2900)*
R.P.M. a presión continua ***R.P.M. at cont. pressure***		2500			2300		2200	
R.P.M. máximas ***Max. R.P.M.***		3000			2800		2600	
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar *(1450 PSI)*	500						
	175 bar *(2540 PSI)*	800			700		600	
	250 bar *(3625 PSI)*	1500			900	-	-	
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG						
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46						
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H						
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F						
Depresión máximo en aspiración ***Max. suction depresion***		< 0,3 bar						



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	27 *(7,1)*	36 *(9,5)*	45 *(11,9)*	54 *(14,3)*	66 *(17,4)*	75 *(19,8)*	84 *(22,2)*
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	18 *(1,1)*	24 *(1,46)*	30 *(1,83)*	36 *(2,2)*	44 *(2,69)*	50 *(3,05)*	56 *(3,42)*
Presión máx. continua en ***Cont. max. pressure***	bar *(PSI)*	300 *(4350)*			275 *(3990)*	250 *(3625)*	230 *(3335)*	215 *(3120)*
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	325 *(4715)*			300 *(4350)*	275 *(3990)*	255 *(3700)*	240 *(3480)*
R.P.M. a presión continua ***R.P.M. at cont. pressure***		2500			2300		2200	
R.P.M. máximas ***Max. R.P.M.***		3000			2800		2600	
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar *(1450 PSI)*	500						
	175 bar *(2540 PSI)*	800			700		600	
	250 bar *(3625 PSI)*	1500			900	-	-	
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG						
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46						
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H						
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F						
Depresión máximo en aspiración ***Max. suction depresion***		< 0,3 bar						

CONEXIONES TIPO R

ROQUETHYDRAULICS, S.L. recomienda utilizar implantaciones roscadas cilindricas: con cierre por arista de estanqueidad, junta plana o junta tórica. (Ver normas: DIN 3852, ISO1179, ISO 9974 y ISO 6149). No se recomienda utilizar otras implantaciones tipo cónicas, etc. A continuación se detallan los pares de apriete para implantaciones roscadas cilindricas.

CONNECTION TYPES R

ROQUETHYDRAULICS, S.L. recomends to use threaded fittings with parallel threads: with sealing face, with flat seal or with o-ring seal (Standards: DIN 3852, ISO1179, ISO 9974 y ISO6149). It is not recomended to use conic type fittings, etc. Guide for tightening torques for threaded fittings with parallel threads.

PAR DE APRIETE / *ASSEMBLY TORQUE*

Rosca (ISO 228-1) *Thread Size (ISO 228-1)*	Par de apriete min. (Nm) *Assembly Torque min. (Nm)*	Par de apriete máx. (Nm) *Assembly Torque max. (Nm)*
1/8" G	20	25
1/4" G	50	55
3/8" G	80	90
1/2" G	100	100
3/4" G	200	220
1" G	380	420

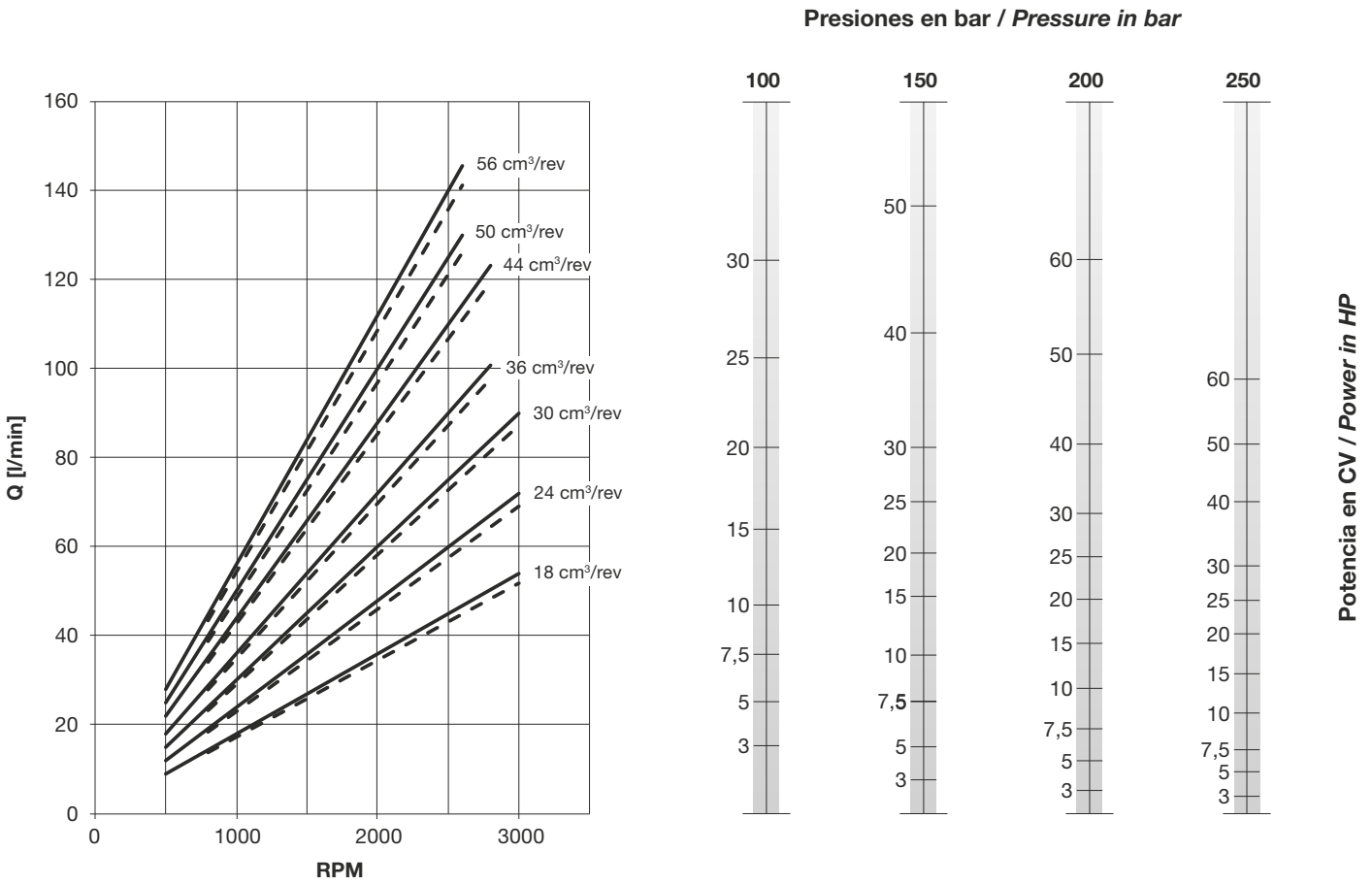
ACCIONAMIENTO DE LAS BOMBAS

Deben utilizarse acoplamientos entre bomba y accionamiento que eviten la transmisión de esfuerzos tanto axiales como laterales. Las bombas en su configuración estandard no admiten este tipo de esfuerzos, causando una disminución rápida de su vida util.

PUMP DRIVING DEVICES

It must be used a driving device to avoid the transmision of axial and radial loads to the axis of the pump. Standard flanges and pumps are not designed to handle this loads and this causes a reduction of its working life.

Gráfico de caudales, rendimientos y potencias según cilindrada
Flow, performance and power chart according to displacement



NOTA: Estos diagramas han sido obtenidos con un aceite de calidad ISO VG 46 y una temperatura de 50º C.
NOTE: *The values shown in the above diagrams have been obtained using ISO VG 46 oil at 50º C.*

Sistema de codificación	1	PLA	36	D	E	10	R	/	V	42	T***	-***	*Coding system*

Tipo / *Type*

1	Sin polea / *Without pulley*
2	Con polea / *With pulley*
6	Bomba con eje estriado para montaje en ZF / *Pump with spline shaft for mounting onto ZF*

Modelo / *Model*

PLA	Simple – Cuerpo aluminio / *Simple – Aluminium body*
PLAN	Simple – Cuerpo fundición / *Simple – Cast iron body*
PLL	Múltiple / *Multiple* PLA+PLA
PLLN	Múltiple / *Multiple* PLAN+PLAN
PLD	Múltiple / *Multiple* PLA+L
PLDN	Múltiple / *Multiple* PLAN+L
PLT	Múltiple / *Multiple* PLA+L0
PLTN	Múltiple / *Multiple* PLAN+L0

Caudal bomba a 1500 rpm y 0 bar / *Pump flow rate at 1500 rpm and 0 bar*

Ver hoja técnica / *See technical data*

Sentido de giro / *Rotation direction*

D	Derecha / *Clockwise*
I	Izquierda / *Counterclockwise*
R	Reversible / *Reversible*

Forma eje motriz / *Drive shaft form*

A-B-C-D-E-G-H-I-J-X-W

Tipo polea / *Pulley type*

P-S-T

Código / *Code*

Variantes con válvulas / *Alternatives with valves*

Válvula limitadora para baja presión / *Low pressure relief valve*

VBPT**	Los caracteres ** se deben sustituir por la presión de taraje (2 dígitos). Ver presión mínima de taraje (página 27). *The signs ** have to be replaced by the set pressure (2 numbers). See minimum set pressure curve (page 27).* Ejemplo / *Example*: 1PLA36DE10R/VBPT12

Válvula limitadora / *Relief valve*

Modelo precintable y taraje estándar / *Tamper-proof seable model and standard set pressure*

	Rango de taraje / *Pressure range*
V11	Tarada a / *Set at* 80 bar (5-80 bar)
V12	Tarada a / *Set at* 160 bar (85-175 bar)
V13	Tarada a / *Set at* 200 bar (180-250 bar)

Modelo con precinto y taraje específico / *Tamper-proof sealed model and specific set pressure*

	Rango de taraje / *Pressure range*
V41T* **	5-80 bar
V42T* **	85-175 bar
V43T* **	180-250 bar

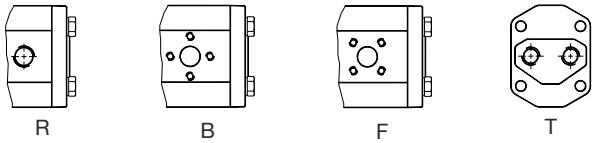
Los caracteres *** se deben sustituir por la presión de taraje (3 dígitos). Ver presión mínima de taraje (página 27).

*The signs *** have to be replaced by the set pressure (3 numbers). See minimum set pressure curve (page 27).*

Ejemplo / *Example* 1: 1PLA66DE10R/V41T060

Ejemplo / *Example* 2: 1PLA45DE10R/V12

Formas conexión tomas / *Port connection forms*



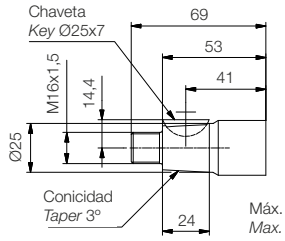
Tipo de tapa / *Fixing flange*

01-09-10-19-23-50

Tipos de eje motriz disponibles / *Available drive shaft forms*

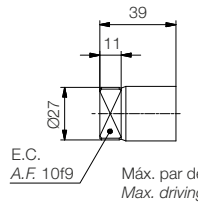
NOTA: Las longitudes de los ejes se dan respecto la cara A de las tapas (ver página 10).
NOTE: *The lengths of the shafts are given from the side A of the covers (see page 10).*

Eje forma A / *Shaft form A*



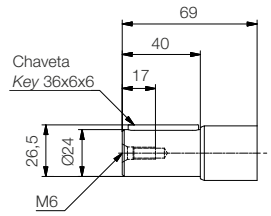
Máx. par de arrastre
Max. driving torque 250Nm

Eje forma B / *Shaft form B*



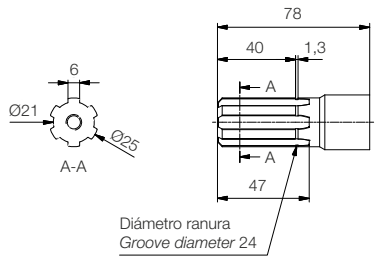
Máx. par de arrastre
Max. driving torque 120Nm

Eje forma C / *Shaft form C*

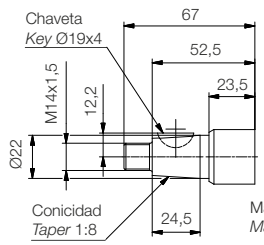


Máx. par de arrastre
Max. driving torque 300Nm

Eje forma D / *Shaft form D*



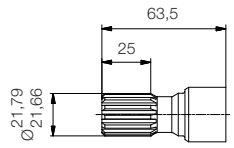
Eje forma E / *Shaft form E*



Máx. par de arrastre
Max. driving torque 250Nm

Cónico europeo / *European tapered*

Eje forma G / *Shaft form G*



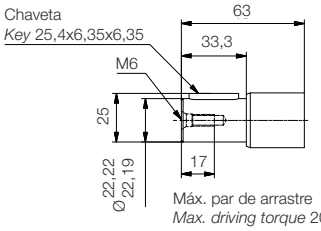
Máx. par de arrastre
Max. driving torque 300Nm

SAE J498b base plana
Diametral pitch 16/32
Ángulo de presión 30º
Número de dientes 13
Ajuste lateral
Clase 1

SAE J498b flat base
Diametral pitch 16/32
Pressure angle 30º
Teeth number 13
Side fit
Type 1

Estriado SAE B / *SAE B Spline*

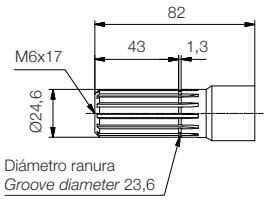
Eje forma H / *Shaft form H*



Máx. par de arrastre
Max. driving torque 200Nm

Cilíndrico SAE B / *SAE B Straight*

Eje forma I / *Shaft form I*



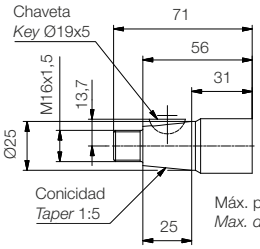
Módulo
Module 1,667

Nº de dientes
Teeth number 13

Máx. par de arrastre
Max. driving torque 320Nm

Estriado NF E22-141 / *NF E22-141 Spline*

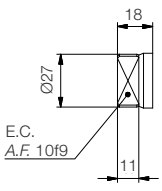
Eje forma J / *Shaft form J*



Máx. par de arrastre
Max. driving torque 285Nm

Cónico alemán / *German tapered*

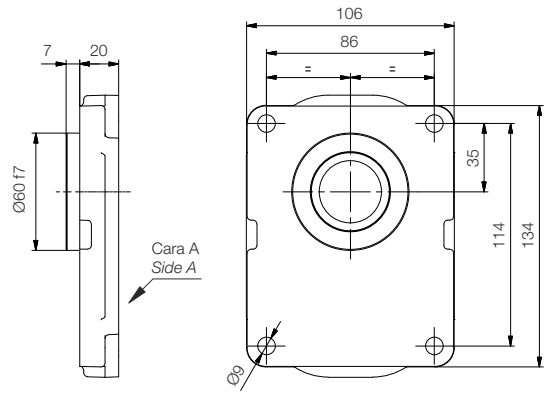
Eje forma W / *Shaft form W*



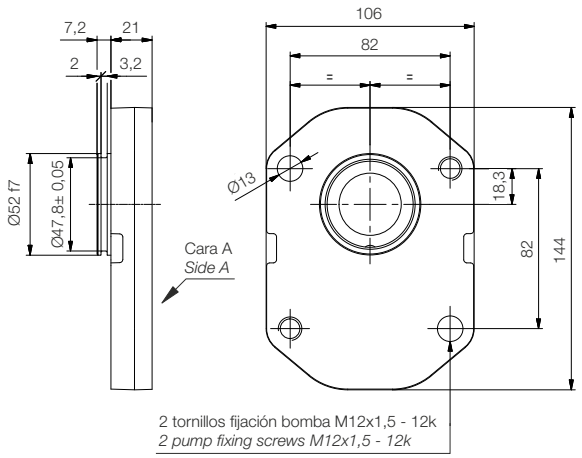
Máx. par de arrastre
Max. driving torque 120Nm

Tipos de tapas frontales disponibles / *Available front flanges types*

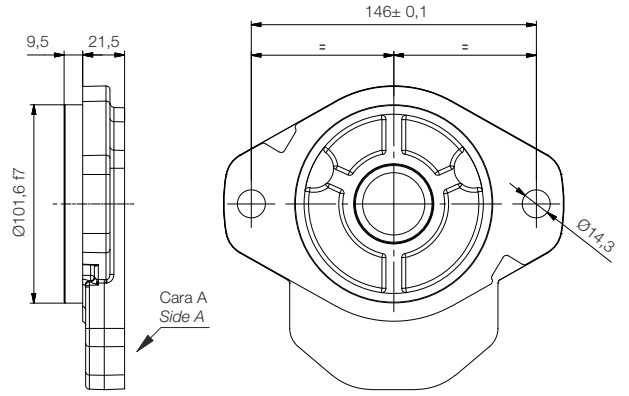
Tapa tipo 01 / *Front flange type 01*



Tapa tipo 19 / *Front flange type 19*

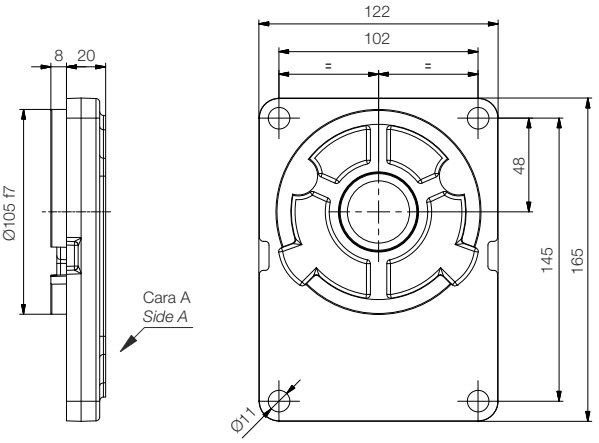


Tapa tipo 09 / *Front flange type 09*



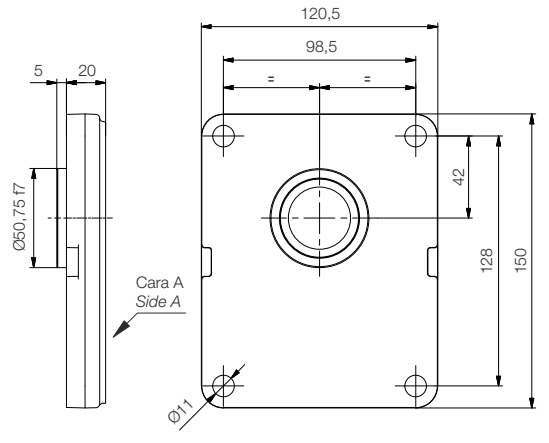
SAE B 2 tornillos / *SAE B 2 bolts*

Tapa tipo 23 / *Front flange type 23*



Alemana / *German*

Tapa tipo 10 / *Front flange type 10*



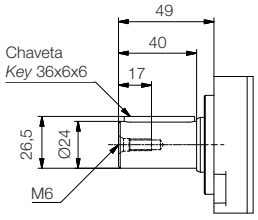
Europea / *European*

NOTA: la longitud útil del eje motriz varía en función del grosor de la tapa frontal.

NOTE: *the useful length of the drive shaft varies depending on the front flange thickness.*

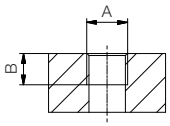
EJEMPLO: combinación de un eje tipo C con una tapa tipo 10.

EXAMPLE: *combination of a C type shaft with a 10 type front flange.*

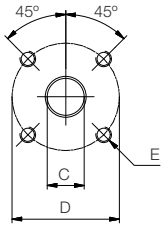


Formas de conexión de tomas disponibles / *Available port connection forms*

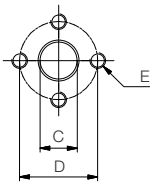
Toma forma R / *Port form R*



Toma forma F / *Port form F*



Toma forma B / *Port form B*

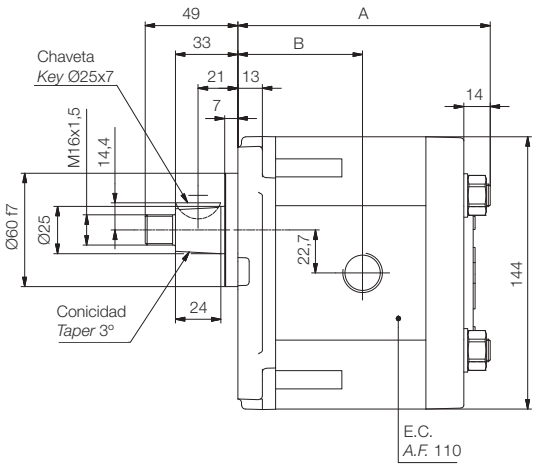


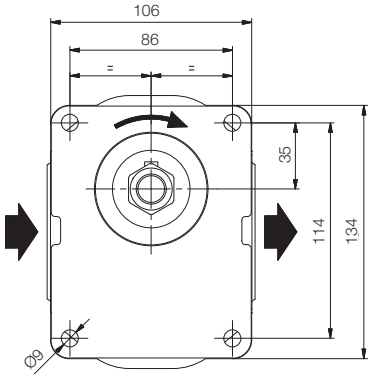
1 SENTIDO DE ROTACION / *1 ROTATION DIRECTION*										
Tipo de toma / *Port type*			**Tipo / *Type* R**		**Tipo / *Type* F**			**Tipo / *Type* B**		
Dimensiones / *Dimensions*			**A**	**B**	**C**	**D**	**E**	**C**	**D**	**E**
Cilindrada bomba ***Pump displacement***	**18**	Aspiración / *Suction*	3/4" BSP	18	26	55	M8x13	19	40	M8x13
		Presión / *Pressure*	1/2" BSP	16	19	55	M8x13	19	40	M8x13
	24	Aspiración / *Suction*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	1/2" BSP	16	19	55	M8x13	19	40	M8x13
	30	Aspiración / *Suction*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	1/2" BSP	16	19	55	M8x13	19	40	M8x13
	36	Aspiración / *Suction*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	1/2" BSP	16	19	55	M8x13	19	40	M8x13
	44	Aspiración / *Suction*	1" BSP	18,5	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	3/4" BSP	18	19	55	M8x13	19	40	M8x13
	50	Aspiración / *Suction*	1" BSP	18,5	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	3/4" BSP	18	19	55	M8x13	19	40	M8x13
	56	Aspiración / *Suction*	1" BSP	18,5	26	55	M8x13	26	51	M10x13
		Presión / *Pressure*	3/4" BSP	18	19	55	M8x13	19	40	M8x13

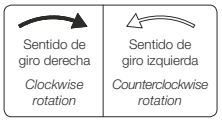
REVERSIBLE / *BIDIRECTIONAL*										
Tipo de toma / *Port type*			**Tipo / *Type* R**		**Tipo / *Type* F**			**Tipo / *Type* B**		
Dimensiones / *Dimensions*			**A**	**B**	**C**	**D**	**E**	**C**	**D**	**E**
Cilindrada bomba ***Pump displacement***	**18**	Aspiración y presión *Suction and Pressure*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
	24	Aspiración y presión *Suction and Pressure*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
	30	Aspiración y presión *Suction and Pressure*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
	36	Aspiración y presión *Suction and Pressure*	3/4" BSP	18	26	55	M8x13	26	51	M10x13
	44	Aspiración y presión *Suction and Pressure*	1" BSP	18,5	26	55	M8x13	26	51	M10x13
	50	Aspiración y presión *Suction and Pressure*	1" BSP	18,5	26	55	M8x13	26	51	M10x13
	56	Aspiración y presión *Suction and Pressure*	1" BSP	18,5	26	55	M8x13	26	51	M10x13

Tapa tipo 01 / *Front flange type 01*

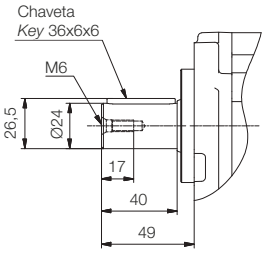
Eje forma A / *Shaft form A*



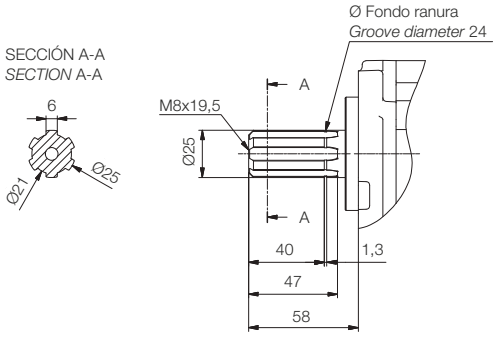




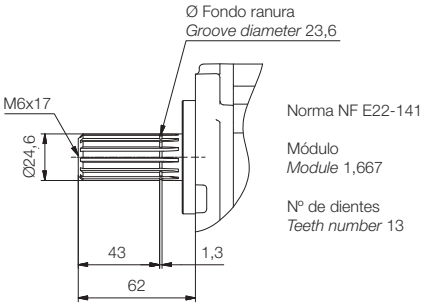
Eje forma C / *Shaft form C*



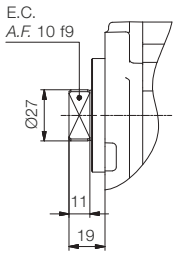
Eje forma D / *Shaft form D*

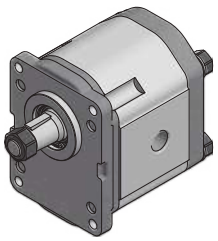


Eje forma I / *Shaft form I*



Eje forma B / *Shaft form B*





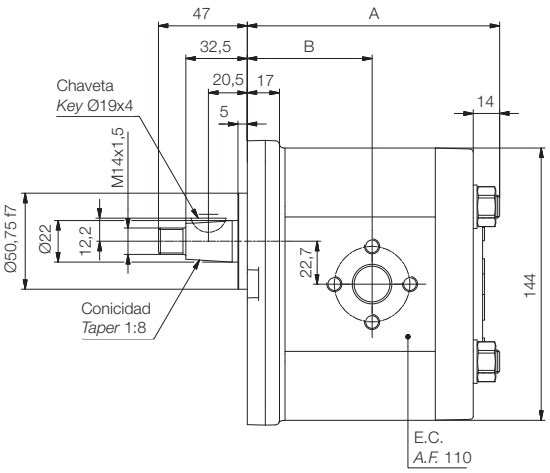
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27D▲01R	18	128,5	66	7,8	10,7
1*36D▲01R	24	133,5		8,1	11,1
1*45D▲01R	30	138,5	71	8,3	11,5
1*54D▲01R	36	143,5		8,6	11,9
1*66D▲01R	44	150,0		8,9	12,5
1*75D▲01R	50	154,5		9,2	12,9
1*84D▲01R	56	159,5		9,4	13,3

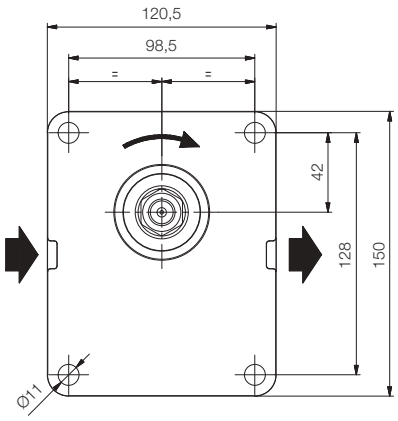
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.* ▲ Forma de eje / *Shaft form*.

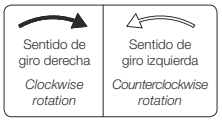
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

Tapa tipo 10 / *Front flange type 10*

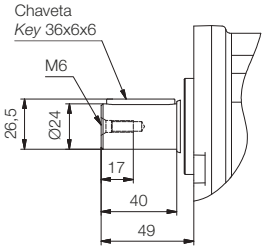
Eje forma E / *Shaft form E*

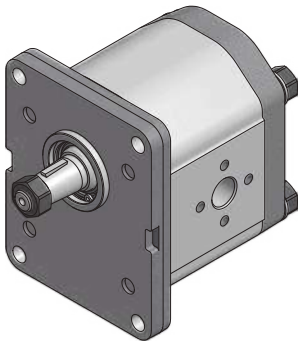






Eje forma C / *Shaft form C*





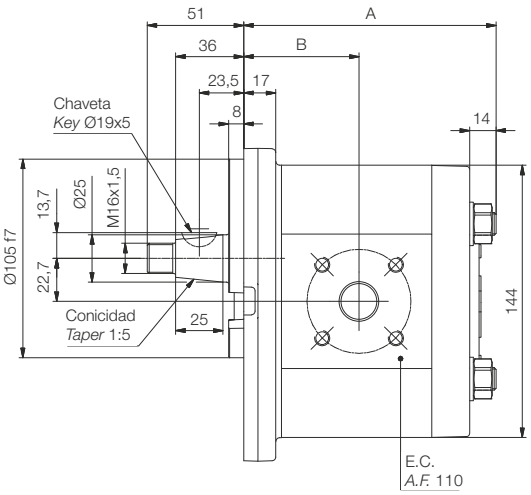
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27D▲10B	18	128,5	58	8,1	11,0
1*36D▲10B	24	133,5	66	8,4	11,4
1*45D▲10B	30	138,5	71	8,6	11,8
1*54D▲10B	36	143,5		8,9	12,3
1*66D▲10B	44	150,0		9,2	12,8
1*75D▲10B	50	154,5		9,5	13,2
1*84D▲10B	56	159,5		9,8	13,6

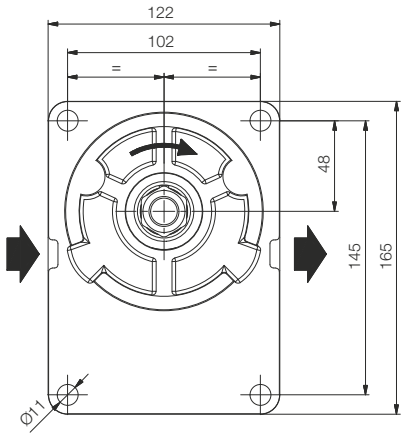
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.* ▲ Forma de eje / *Shaft form*.

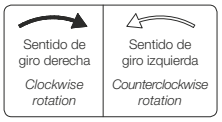
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

Tapa tipo 23 / *Front flange type 23*

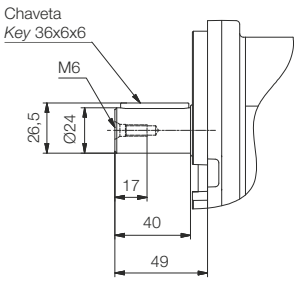
Eje forma J / *Shaft form J*



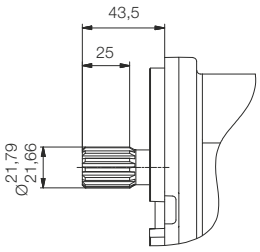




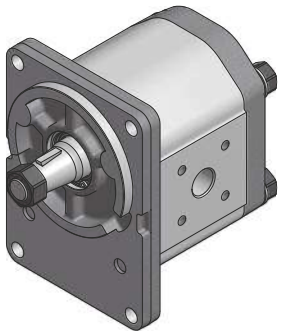
Eje forma C / *Shaft form C*



Eje forma G / *Shaft form G*



SAE J498b base plana	*SAE J498b flat base*
Diametral pitch 16/32	*Diametral pitch 16/32*
Ángulo de presión 30º	*Pressure angle 30º*
Número de dientes 13	*Teeth number 13*
Ajuste lateral	*Side fit*
Clase 1	*Type 1*



Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27D▲23F	18	128,5	61	8,4	11,3
1*36D▲23F	24	133,5		8,7	11,7
1*45D▲23F	30	138,5	64,5	9,0	12,1
1*54D▲23F	36	143,5	66,5	9,2	12,6
1*66D▲23F	44	150,0	69,5	9,6	13,2
1*75D▲23F	50	154,5	73	9,8	13,6
1*84D▲23F	56	159,5	77	10,1	13,9

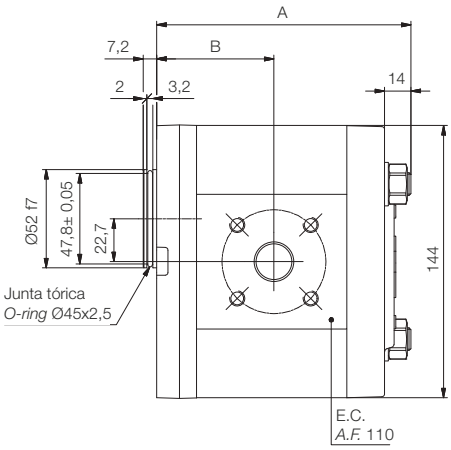
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.* ▲ Forma de eje / *Shaft form*.

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

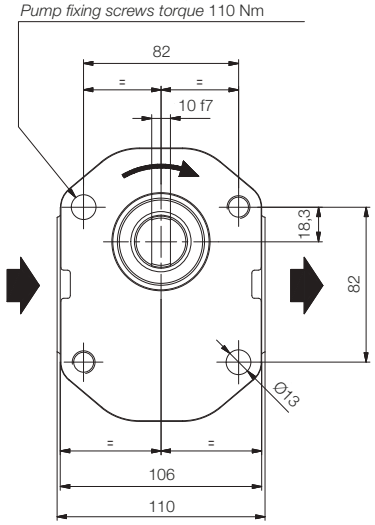
Tapa tipo 19 / *Front flange type 19*

Sentido de giro derecha *Clockwise rotation*

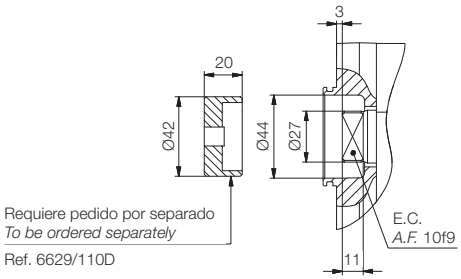
Sentido de giro izquierda *Counterclockwise rotation*

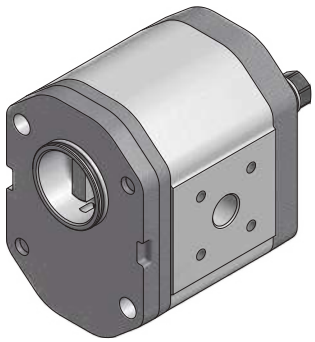


Par de apriete tornillos fijación bomba
Pump fixing screws torque 110 Nm



Eje forma W / *Shaft form W*





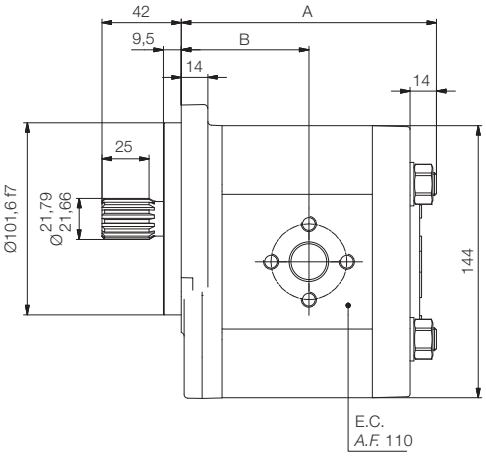
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27DW19F	18	129,5	62	7,5	10,4
1*36DW19F	24	134,5		7,7	10,7
1*45DW19F	30	139,5	65,5	8,0	11,2
1*54DW19F	36	144,5	67,5	8,3	11,6
1*66DW19F	44	151,0	70,5	8,6	12,2
1*75DW19F	50	155,5	74	8,9	12,6
1*84DW19F	56	160,5	78	9,1	13,0

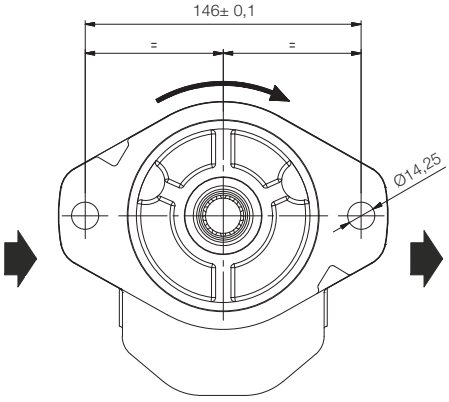
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.*

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

Tapa tipo 09 / *Front flange type 09*

Eje forma G / *Shaft form G*

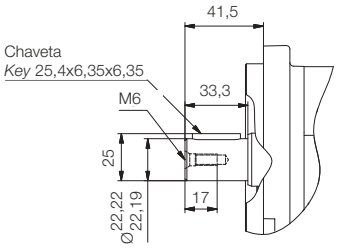




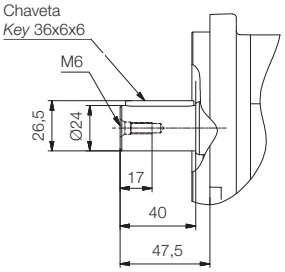
Sentido de giro derecha *Clockwise rotation*	Sentido de giro izquierda *Counterclockwise rotation*

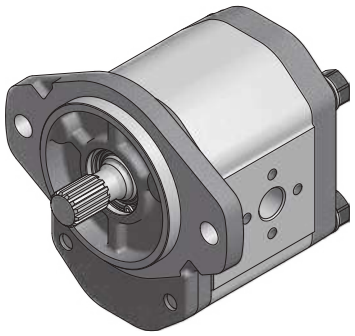
SAE J498b base plana	*SAEJ498b flat base*
Diametral pitch 16/32	*Diametral pitch 16/32*
Ángulo de presión 30º	*Pressure angle 30º*
Número de dientes 13	*Teeth number 13*
Ajuste lateral	*Side fit*
Clase 1	*Type 1*

Eje forma H / *Shaft form H*



Eje forma C / *Shaft form C*





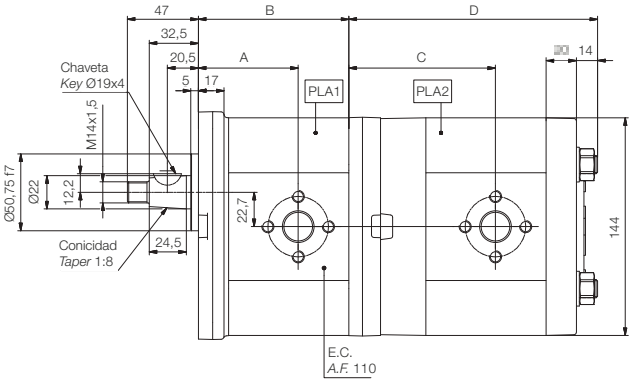
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27D▲09B	18	130,0	59,5	8,2	11,1
1*36D▲09B	24	135,0	67,5	8,5	11,5
1*45D▲09B	30	140,0	72,5	8,7	11,9
1*54D▲09B	36	145,0		9,0	12,3
1*66D▲09B	44	151,5		9,3	12,9
1*75D▲09B	50	156,0		9,6	13,3
1*84D▲09B	56	161,0		9,9	13,7

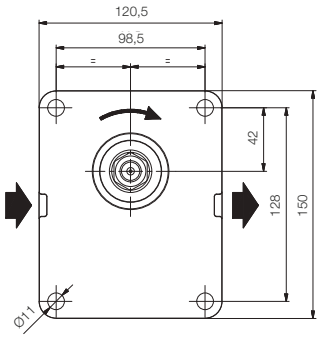
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.* ▲ Forma de eje / *Shaft form*.

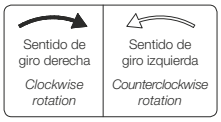
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

Tapa tipo 10 / *Front flange type 10*

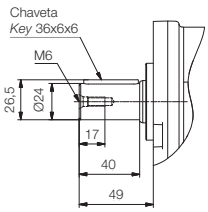
Eje forma E / *Shaft form E*

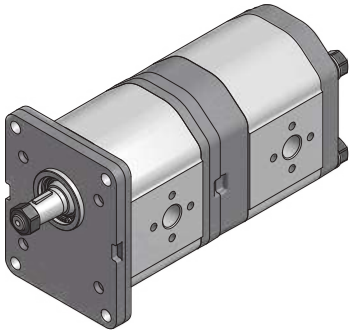






Eje forma C / *Shaft form C*





Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 120 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 120 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLA1) de la bomba múltiple PLL.
The following table refers to the front stage (PLA1) of the PLL multiple pump.

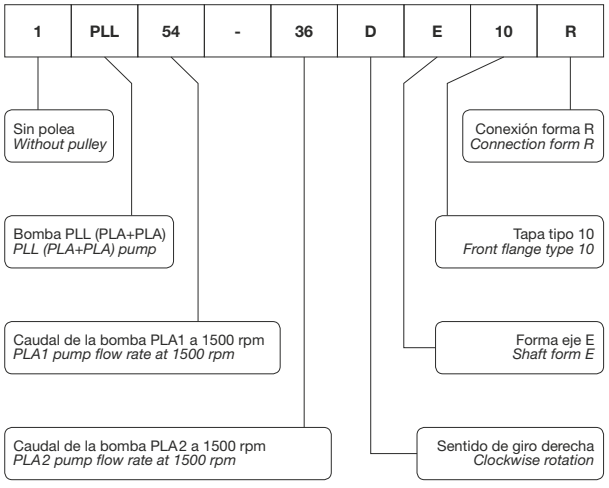
Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27-■D▲10B	18	58	94,5	8,3	11,2
1*36-■D▲10B	24	66	99,5	8,6	11,6
1*45-■D▲10B	30	71	104,5	8,9	12,0
1*54-■D▲10B	36	71	109,5	9,1	12,5
1*66-■D▲10B	44	71	116,0	9,5	13,1
1*75-■D▲10B	50	71	121,0	9,7	13,4
1*84-■D▲10B	56	71	126,0	10,0	13,8

*** PLL** Cuerpo de aluminio / *Aluminium body.* **PLLN** Cuerpo de fundición / *Cast iron body.*
■ Caudal etapa posterior (PLA2). Ver tabla / *Rear stage flow (PLA2). See table.*
▲ Forma de eje / *Shaft form*.

La tabla siguiente hace referencia a la etapa posterior (PLA2) de la bomba múltiple PLL.
The following table refers to the rear stage (PLA2) of the PLL multiple pump.

■	Cilindrada *Displacement* cm³/rev	C	D	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
27	18	108,9	159,4	8,3	11,2
36	24	116,9	164,4	8,6	11,6
45	30	121,9	169,4	8,9	12,0
54	36	121,9	174,4	9,1	12,5
66	44	121,9	180,9	9,5	13,1
75	50	121,9	185,9	9,7	13,4
84	56	121,9	190,9	10,0	13,8

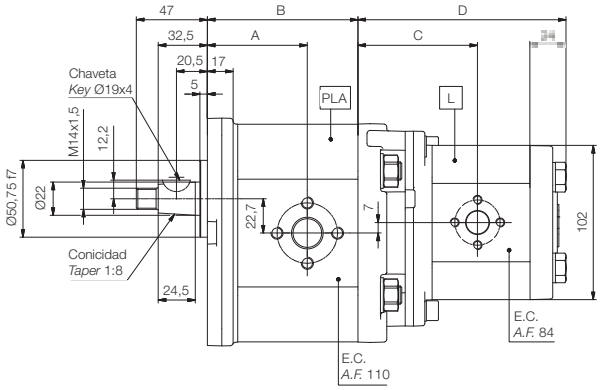
Ejemplo referencia comercial bomba PLL
Part number example PLL pump

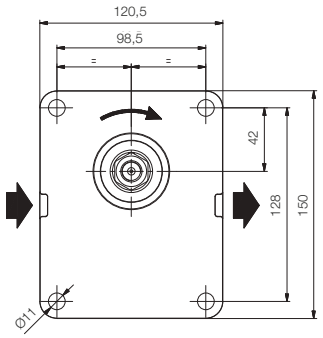


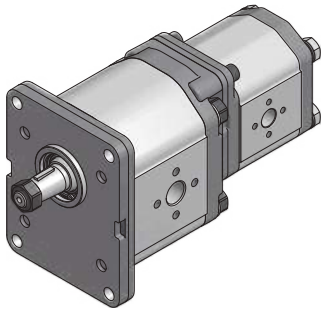
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*



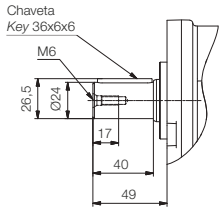




Sentido de giro derecha / *Clockwise rotation*

Sentido de giro izquierda / *Counterclockwise rotation*

Eje forma C / *Shaft form C*



Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 65 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 65 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLA) de la bomba múltiple PLD.
The following table refers to the front stage (PLA) of the PLD multiple pump.

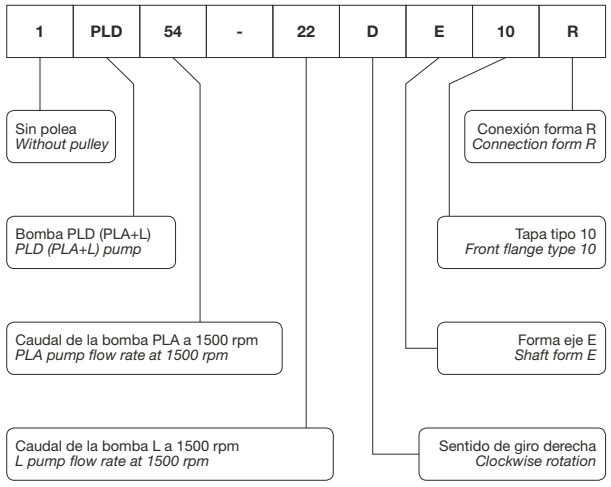
Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27-■D▲10B	18	58	94,5	8,3	11,2
1*36-■D▲10B	24	66	99,5	8,6	11,6
1*45-■D▲10B	30	71	104,5	8,9	12,0
1*54-■D▲10B	36	71	109,5	9,1	12,5
1*66-■D▲10B	44	71	116,0	9,5	13,1
1*75-■D▲10B	50	71	121,0	9,7	13,4
1*84-■D▲10B	56	71	126,0	10,0	13,8

*** PLD** Cuerpo de aluminio / *Aluminium body.* **PLDN** Cuerpo de fundición / *Cast iron body.*
■ Caudal etapa posterior (L). Ver tabla / *Rear stage flow (L). See table.*
▲ Forma de eje / *Shaft form*.

La tabla siguiente hace referencia a la etapa posterior (L) de la bomba múltiple PLD.
The following table refers to the rear stage (L) of the PLD multiple pump.

■	Cilindrada *Displacement* cm³/rev	C	D	L - Peso kg *L - Weight kg*
6	4	72,5	119,6	3,2
9	6	72,5	124,1	3,3
12	8	74,6	127,3	3,4
16	10,6	79,0	131,8	3,5
18	12	79,0	133,3	3,6
22	14,6	79,0	137,6	3,7
24	16	79,0	139,8	3,8
27	18	79,0	142,3	3,9
35	23,3	86,5	151,3	4,1
40	26,6	94,0	155,3	4,3

Ejemplo referencia comercial bomba PLD
Part number example PLD pump

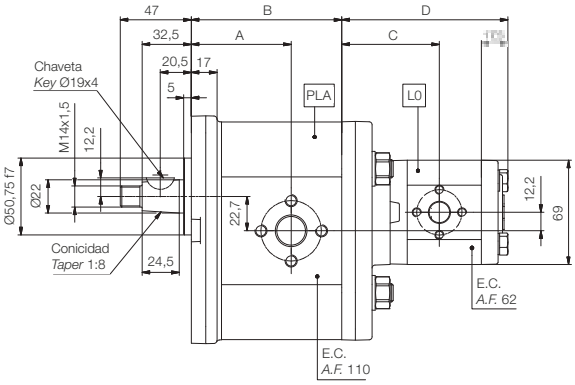


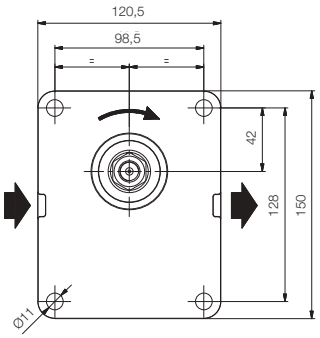
NOTAS
• **Bomba PLA:** para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
• **Bomba L:** para dimensiones y tipos de tomas disponibles consultar catálogo L.

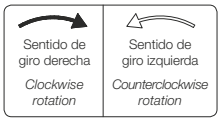
NOTES
• ***PLA pump:*** *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*
• ***L pump:*** *for dimensions and port types see L catalog.*

Tapa tipo 10 / *Front flange type 10*

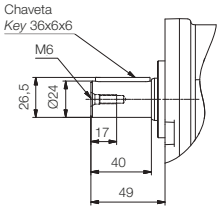
Eje forma E / *Shaft form E*

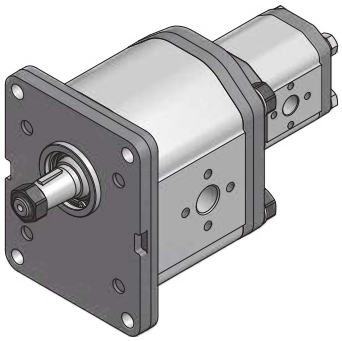






Eje forma C / *Shaft form C*





Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 25 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 25 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLA) de la bomba múltiple PLT.
The following table refers to the front stage (PLA) of the PLT multiple pump.

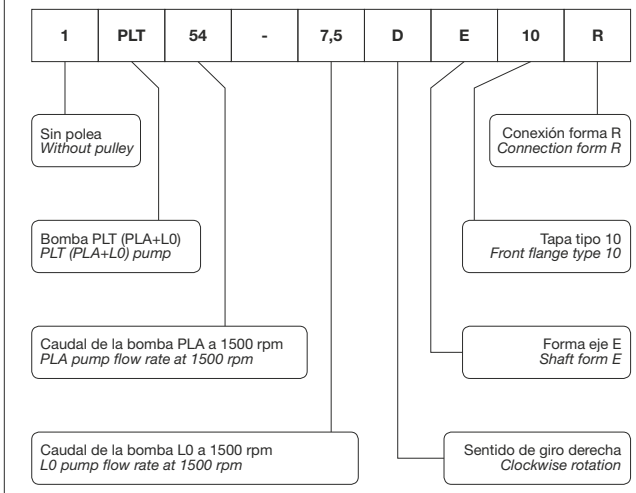
Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27-■D▲10B	18	58	94,5	8,3	11,2
1*36-■D▲10B	24	66	99,5	8,6	11,6
1*45-■D▲10B	30	71	104,5	8,9	12,0
1*54-■D▲10B	36	71	109,5	9,1	12,5
1*66-■D▲10B	44	71	116,0	9,5	13,1
1*75-■D▲10B	50	71	121,0	9,7	13,4
1*84-■D▲10B	56	71	126,0	10,0	13,8

*** PLT** Cuerpo de aluminio / *Aluminium body.* **PLTN** Cuerpo de fundición / *Cast iron body.*
■ Caudal etapa posterior (L0). Ver tabla / *Rear stage flow (L0). See table.*
▲ Forma de eje / *Shaft form*.

La tabla siguiente hace referencia a la etapa posterior (L0) de la bomba múltiple PLT.
The following table refers to the rear stage (L0) of the PLT multiple pump.

■	Cilindrada *Displacement* cm³/rev	C	D	L0 - Peso kg *L0 - Weight kg*
1,5	1	61,0	97,8	1,2
3	2	61,0	102,8	1,3
5	3,3	64,5	109,8	1,4
7,5	5	67,5	117,3	1,5
10	6,6	72,8	126,8	1,6

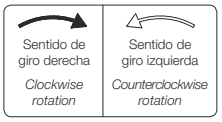
Ejemplo referencia comercial bomba PLT
Part number example PLT pump



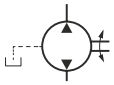
NOTAS
• **Bomba PLA:** para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
• **Bomba L0:** para dimensiones y tipos de tomas disponibles consultar catálogo L0.
NOTES
• ***PLA pump:*** *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*
• ***L0 pump:*** *for dimensions and port types see L0 catalog.*

Conexión con tomas T
Port connection form T



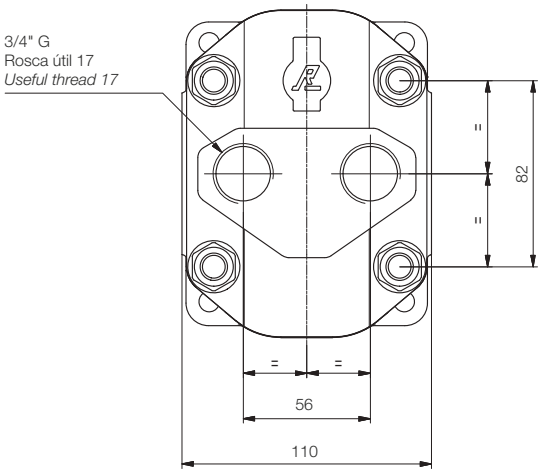


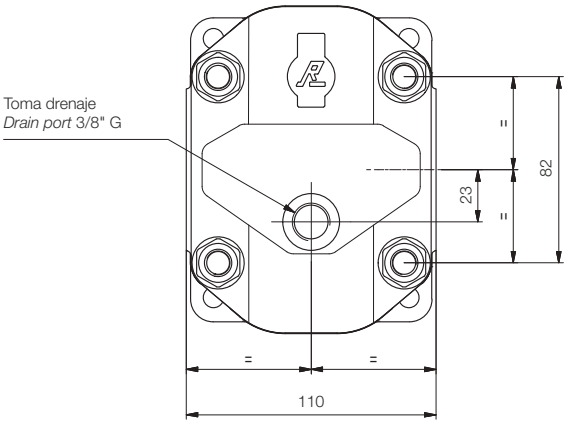
Tapa trasera para bombas reversibles
Back cover for reversible pumps





Tapa posterior para bombas con tomas traseras
Back cover with rear ports

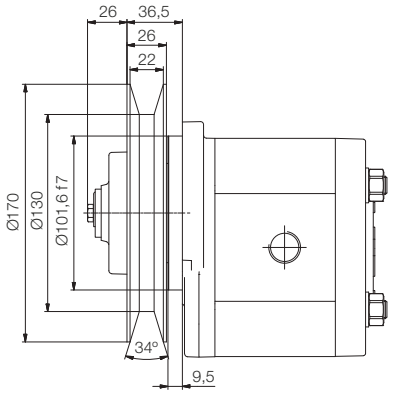




Tipos de polea / *Types of pulley*

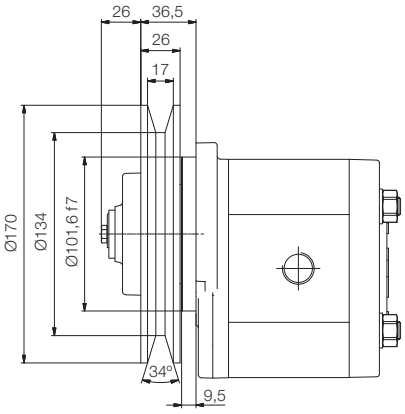
Tipo P / *Type P*

Correa tipo C
Belt type C



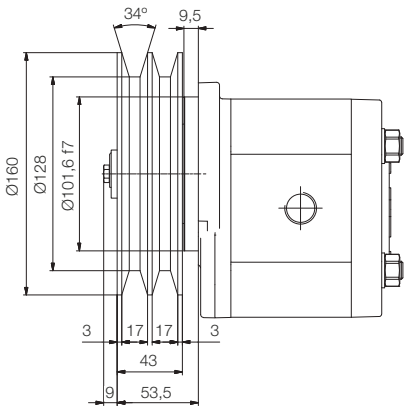
Tipo S / *Type S*

Correa tipo B
Belt type B



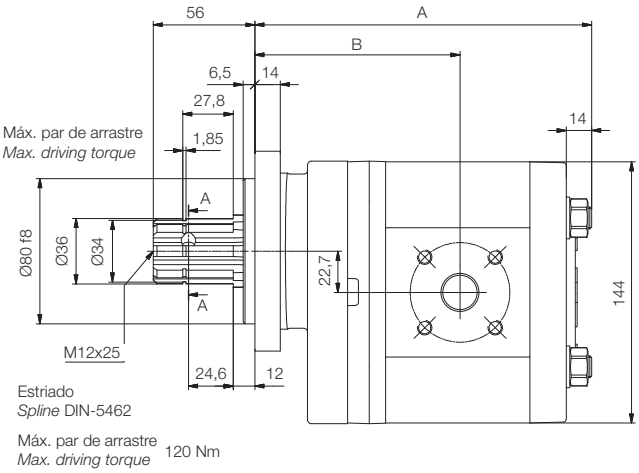
Tipo T / *Type T*

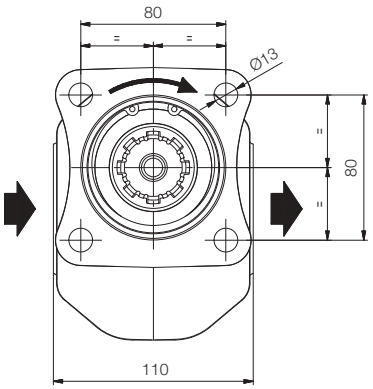
Correa tipo B
Belt type B

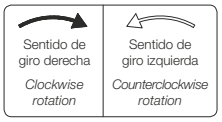


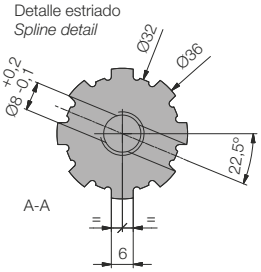
NOTA: Opción solo disponible con tapa tipo 09. Para medidas de fijación bomba ver página 10.
***NOTE:** Option only available with flange type 09. For pump fixing dimensions see page 10.*

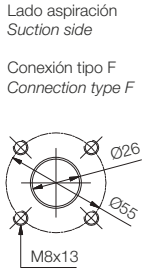
Tapa tipo 50 / *Front flange type 50*











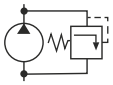


Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
6*27DX50F	18	180,5	113	11,5	14,3
6*36DX50F	24	185,5		11,7	14,7
6*45DX50F	30	190,5	116,5	12,0	15,2
6*54DX50F	36	195,5	118,5	12,3	15,6
6*66DX50F	44	202,0	121,5	12,6	16,2
6*75DX50F	50	206,5	125	12,9	16,6
6*84DX50F	56	211,5	129	13,1	17,0

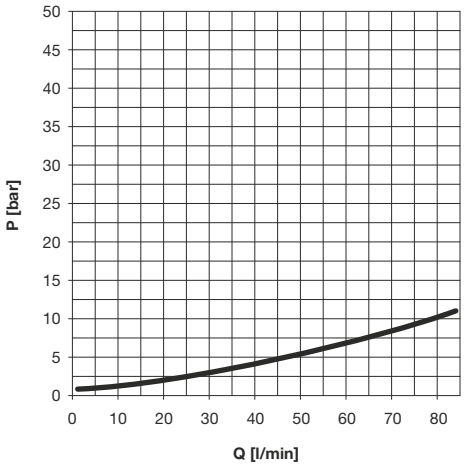
*** PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.*

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 11.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 11.*

VBP- Válvula limitadora para baja presión
Low pressure relief valve



Curva presión mínima taraje /
Minimum setting pressure curve



Presión máxima de taraje: 20 bar.

Maximum set pressure: 20 bar.

V- Válvula limitadora
Relief valve

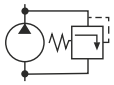
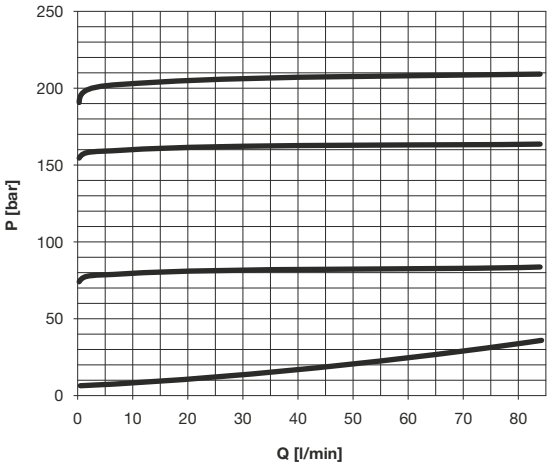


Diagrama presión-caudal válvula limitadora según rango de taraje /
Relief valve pressure-flow diagram depending on pressure range



V13 - V43 (180-250 bar)
Tarada a / *Set at* 200 bar

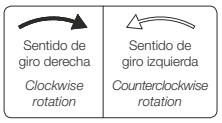
V12 - V42 (85-175 bar)
Tarada a / *Set at* 160 bar

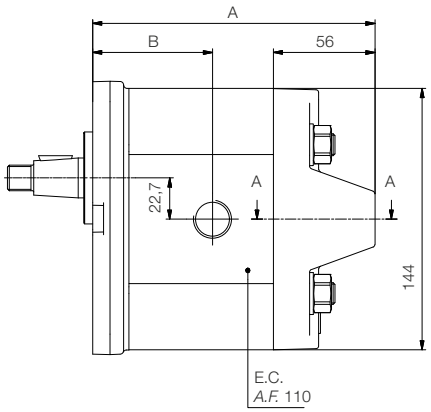
V11 - V41 (5-80 bar)
Tarada a / *Set at* 80 bar

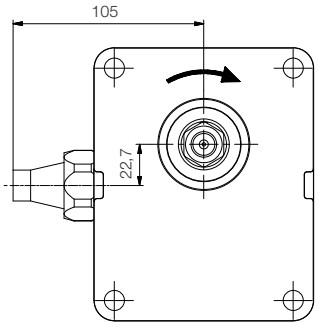
Curva presión mínima
Minimal pressure curve

NOTA: Estos diagramas han sido obtenidos con un aceite de viscosidad cinemática de 32 cSt / ***NOTE:*** *The values shown in the above diagram have been obtained using a 32 cSt kinematic viscosity oil.*

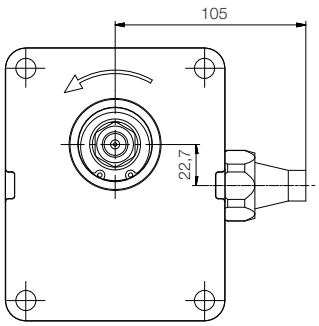
Tapa tipo 10 / *Front flange type 10*







Bomba giro derecha
Clockwise rotation pump



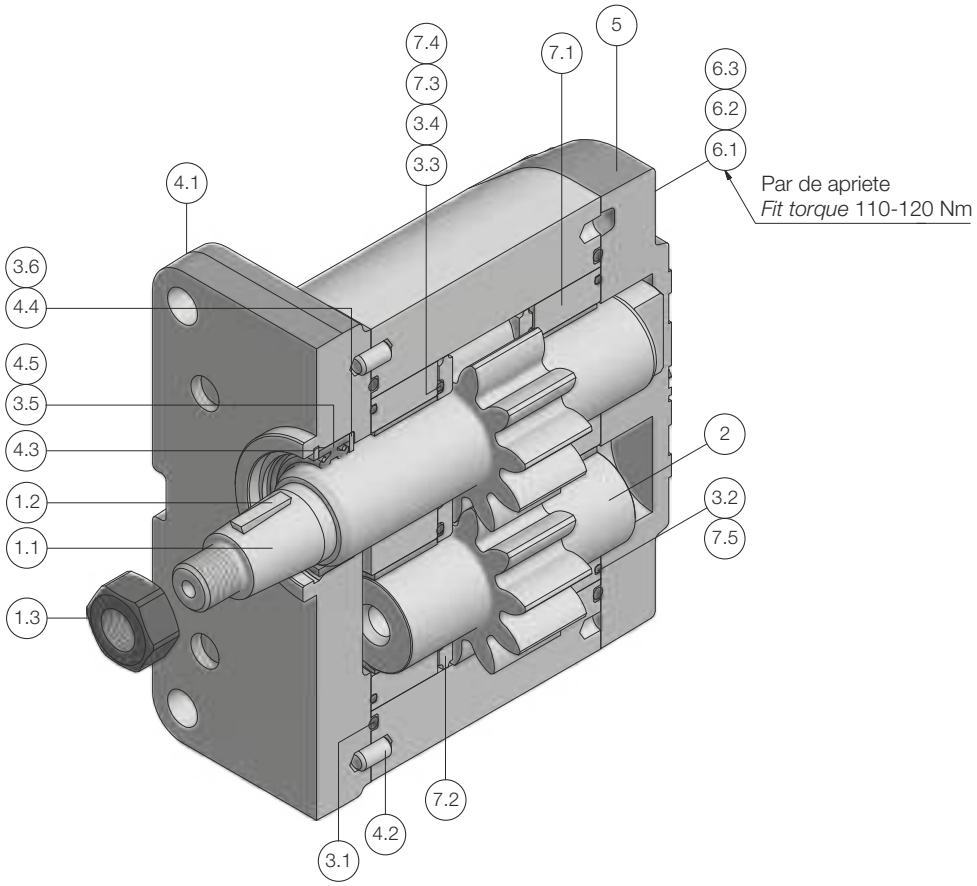
Bomba giro izquierda
Counterclockwise rotation pump

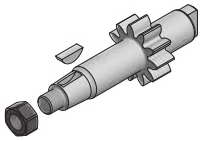
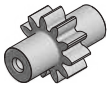
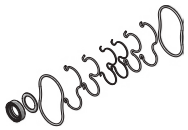
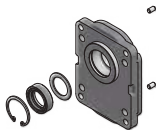
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	PLA - Peso kg *PLA - Weight kg*	PLAN - Peso kg *PLAN - Weight kg*
1*27DE10R/V■	18	150,5	66	9,2	12,0
1*36DE10R/V■	24	155,5		9,4	12,4
1*45DE10R/V■	30	160,5	71	9,7	12,8
1*54DE10R/V■	36	165,5		9,9	13,3
1*66DE10R/V■	44	172		10,3	13,9
1*75DE10R/V■	50	176,5		10,6	14,3
1*84DE10R/V■	56	181,5		10,8	14,7

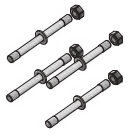
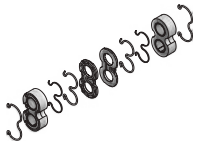
* **PLA** Cuerpo de aluminio / *Aluminium body.* **PLAN** Cuerpo de fundición / *Cast iron body.* — ■ Modelo de válvula limitadora (ver página 8) / *Relief valve model (see page 8).*

NOTA: Esta bomba con válvula limitadora está disponible con cualquiera de las tapas y ejes que se representan en este catálogo, pero solo con cuerpos con tomas R. Consultar con el departamento comercial para otras opciones.

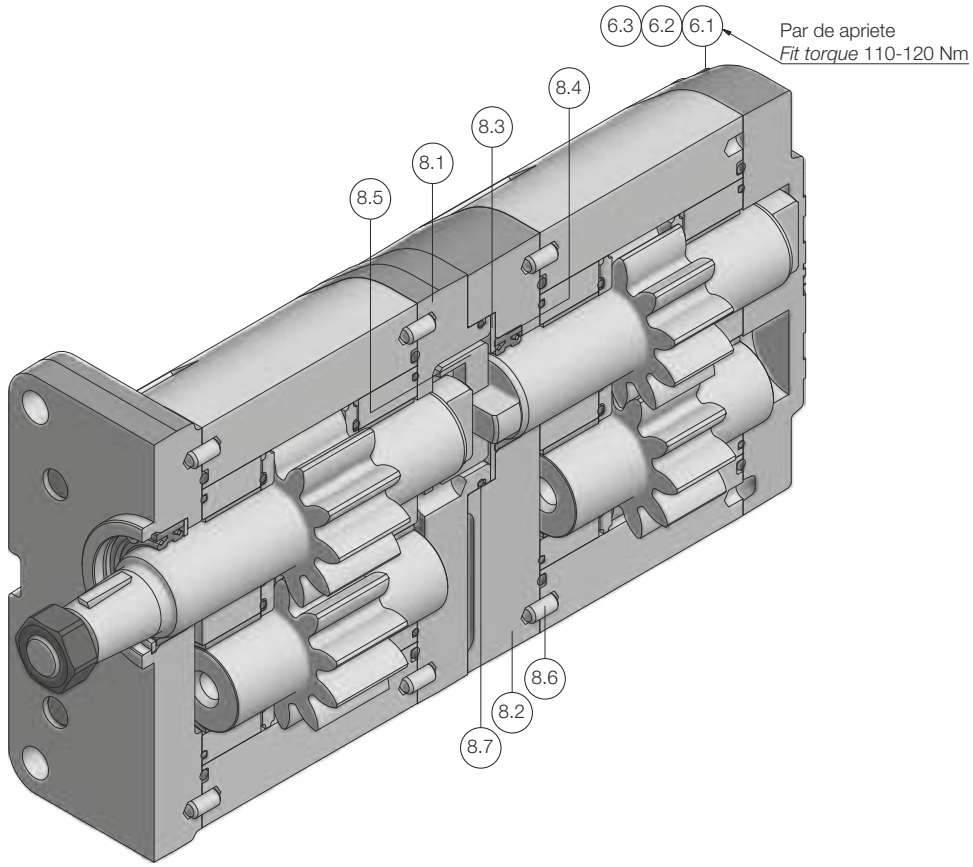
NOTE: *This pump with relief valve is available with any fixing flange and shaft form shown in this catalogue, but only with pump housings with R ports. For other options, contact the sales department.*

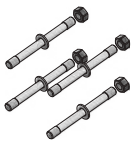


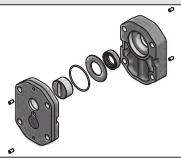
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
1	Kit eje motriz *Drive shaft kit*	
2	Eje conducido *Driven shaft*	
3	Kit juntas *Seals kit*	
4	Kit tapa delantera *Front flange kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
5	Tapa posterior *Back cover*	
6	Kit tornillos fijación *Fixing screws kit*	
7	Kit cojinetes apoyo *Bearing assemblies kit*	

NOTA: Consultar las referencias disponibles con el departamento comercial.
NOTE: *For available references contact the sales department.*



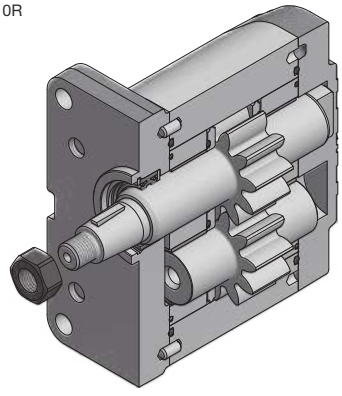
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
6	Kit tornillos fijación *Fixing screws kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapas intermedias *Intermediate flanges kit*	

NOTA: Se puede crear una bomba doble PLL uniendo una bomba de referencia estándar y una bomba estándar con eje tipo L y tapa frontal tipo 26. Se ofrece el kit de tapas intermedias y el kit del eje tipo L para poder transformar la bomba.
NOTE: *A PLL double pump can be assembled from a pump with standard reference and a pump with shaft form L and front flange type 26. The intermediate flanges kit and the L shaft kit are offered in order to transform the pump.*

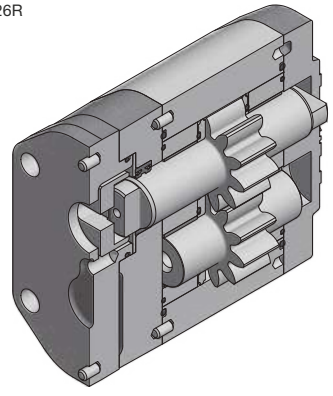
Bomba delantera estándar
Standard front pump

Ejemplo
Example 1PLA54DE10R

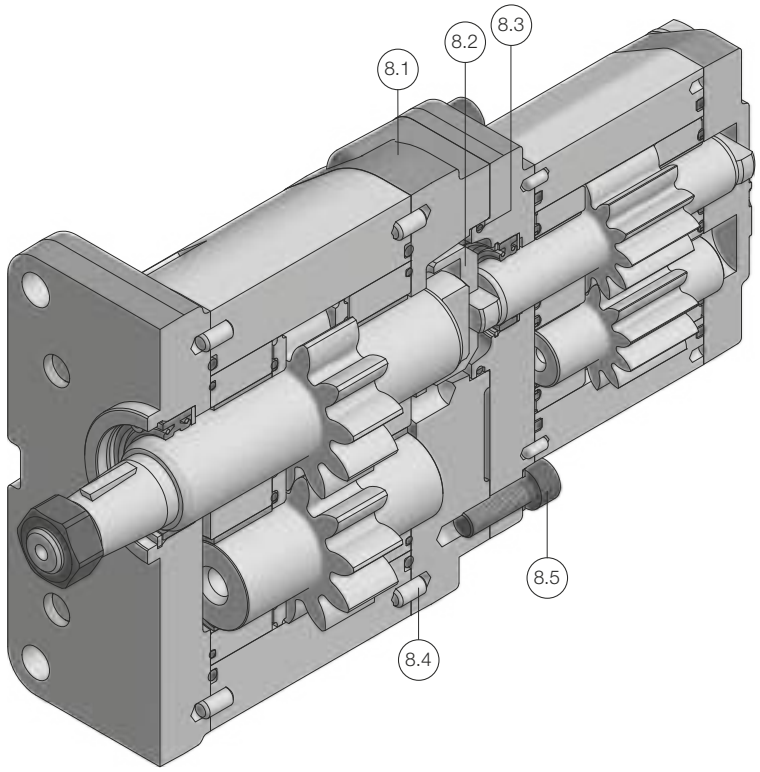


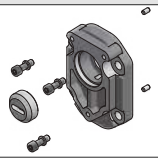
Bomba trasera con eje tipo L y tapa tipo 26
Rear pump with shaft form L and front flange type 26

Ejemplo
Example 1PLA54DL26R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

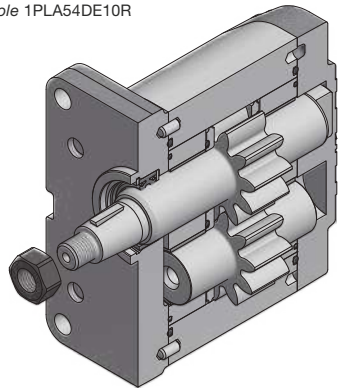


Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapa intermedia *Intermediate flange kit*	

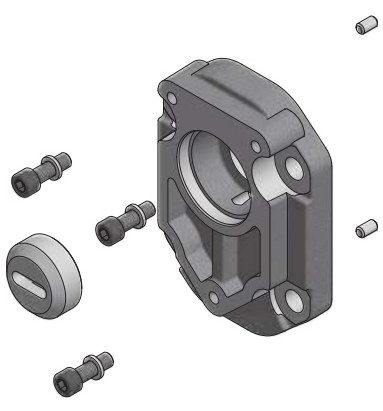
NOTA: Se puede crear una bomba doble PLD uniendo una bomba PLA estándar, un kit de tapa intermedia y una bomba L estándar con eje tipo B y tapa frontal tipo 40.
NOTE: *A PLD double pump can be assembled from a standard PLA pump, an intermediate flange kit and a standard L pump with shaft form B and front flange type 40.*

Bomba delantera PLA estándar
Standard PLA front pump

Ejemplo
Example 1PLA54DE10R

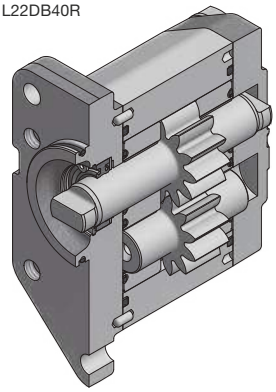


Kit tapa intermedia PLD
PLD intermediate flange kit

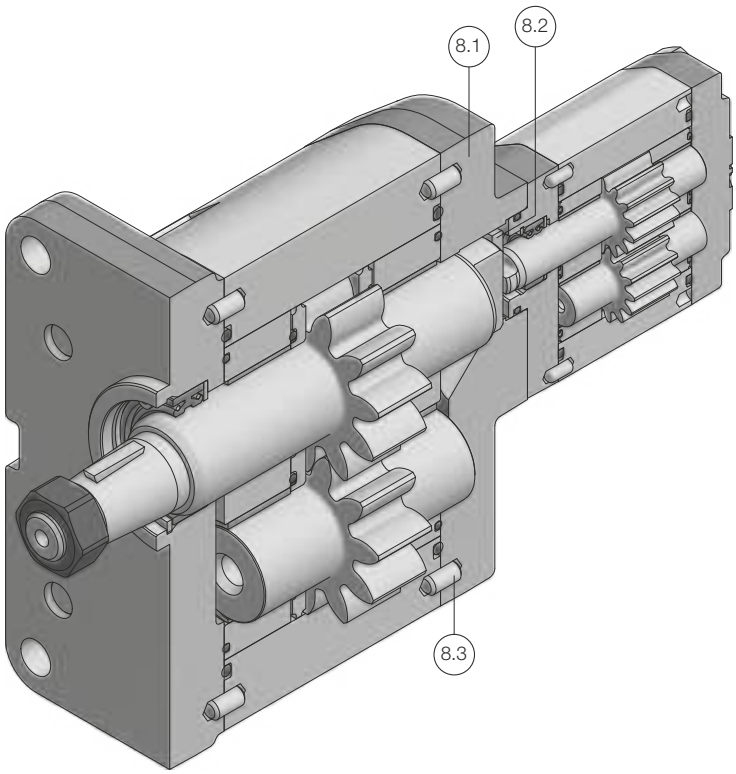


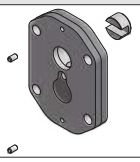
Bomba L trasera con eje tipo B y tapa tipo 40
Rear L pump with shaft form B and front flange type 40

Ejemplo
Example 1L22DB40R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

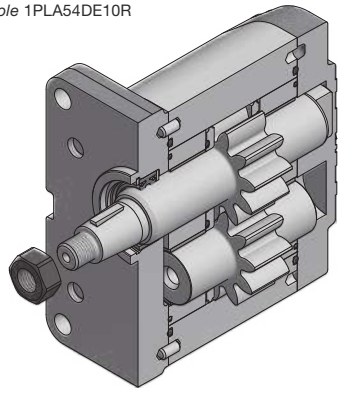


Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapa intermedia *Intermediate flange kit*	

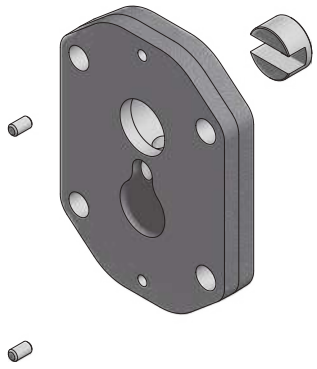
NOTA: Se puede crear una bomba doble PLT uniendo una bomba PLA estándar, un kit de tapa intermedia y una bomba L0 estándar con eje tipo B y tapa frontal tipo 24 (tapa tipo 22 + tornillos de fijación bomba posterior).
NOTE: *A PLT double pump can be assembled from a standard PLA pump, an intermediate flange kit and a standard L0 pump with shaft form B and front flange type 24 (front flange type 22 + rear pump fixing screws).*

Bomba delantera PLA estándar
Standard PLA front pump

Ejemplo
Example 1PLA54DE10R

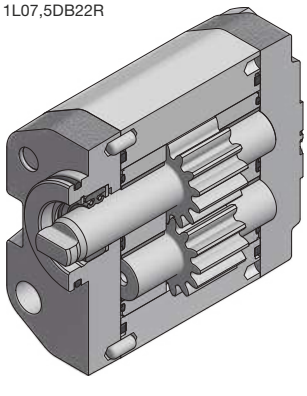


Kit tapa intermedia PLT
PLT intermediate flange kit



Bomba L0 trasera con eje tipo B y tapa tipo 22
Rear L0 pump with shaft form B and front flange type 22

Ejemplo
Example 1L07,5DB22R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*



MENU

MENU

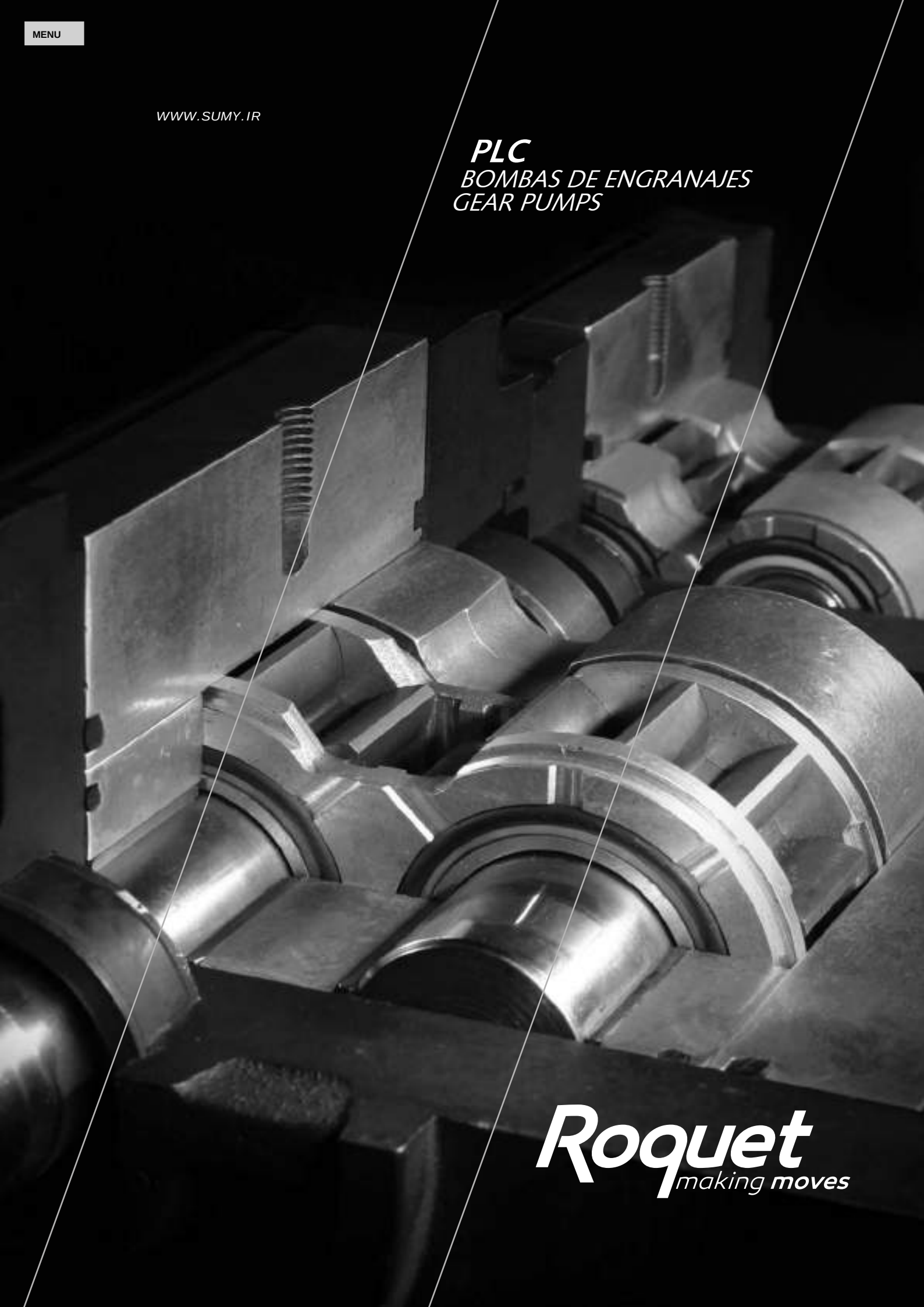
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PLC
BOMBAS DE ENGRANAJES
GEAR PUMPS



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HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas críticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones finales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY *Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.*

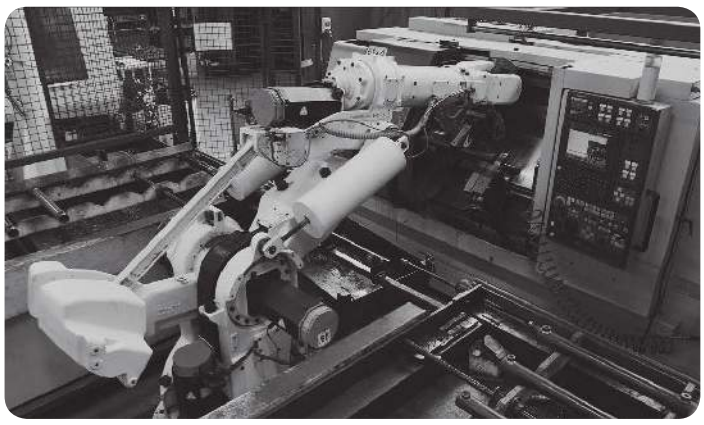
TECHNOLOGY *Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.*

RELIABILITY *A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.*

CAPABILITY *400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.*









Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.
Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.
Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.
Gama de temperaturas del fluido hidráulico +5º C +80º C.
El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.
La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.
Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars. Conexión por bridas S.A.E. o rosca G.
Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.
Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.
Presentamos en el apartado de bombas dobles, varios tipos de fijación con sus ejes más normales. No obstante se podrán construir bombas dobles con las mismas fijaciones que las simples y sus ejes correspondientes.
Estas consideraciones también son validas para bombas triples y cuadruples, que podemos fabricar.

NOTA IMPORTANTE: En versión estándar la conexión es de rosca G.

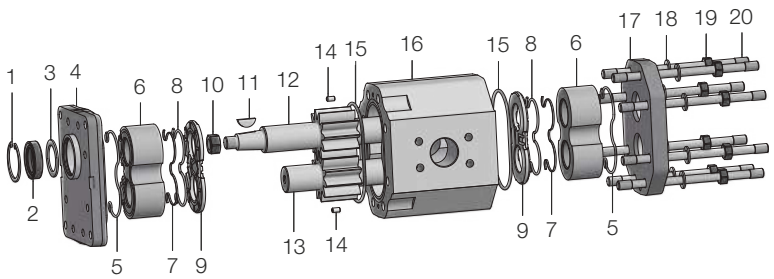
Our pumps are hydrostatically balanced and have automatic lateral adjustment.
We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.
To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.
Oil temperature range +5ºC - +80ºC.
Filtration is extremely important since most problems are due to oil contamination.
The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.
The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar. Connection by SAE flange or threaded G.
Rotation direction: Clockwise or anti-clockwise when facing the shaft end.
Before starting the pump, make sure the direction of rotation is correct.
Double and multiple pumps are available with all shafts and flanges shown for single pumps.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L.
Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
ROQUETHYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

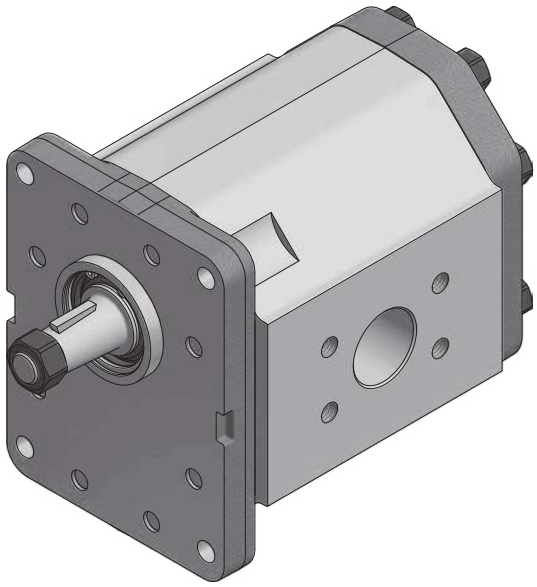
This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUETHYDRAULICS, S.L. in case of doubt.
ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Partes de una bomba / *Pump parts*



1	Anillo elástico *Circlip*
2	Retén aceite *Oil seal*
3	Anillo tope retén *Shaft seal end ring*
4	Tapa frontal *Front flange*
5	Junta apoyo cojinete *O-ring*
6	Conjunto cojinete apoyo *Bearing assembly*
7	Junta antiextrusión *Anti-extrusion gasket*
8	Junta de compensación *Compensation gasket*
9	Plaqueta de compensación *Thrust plate*
10	Tuerca *Nut*

11	Chaveta *Key*
12	Rueda motriz *Drive shaft*
13	Rueda conducida *Driven shaft*
14	Pasador *Pin*
15	Junta de tope *Housing gasket*
16	Cuerpo bomba *Pump housing*
17	Tapa posterior *Back cover*
18	Arandelas *Washers*
19	Tuercas *Nuts*
20	Espárragos *Threaded rods*



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	80 *(21)*	100 *(26)*	125 *(33)*	150 *(40)*	175 *(46)*	200 *(53)*	225 *(59)*
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	53,3 *(3,25)*	66,6 *(4,06)*	83,3 *(5,08)*	100 *(6,10)*	116,6 *(7,12)*	133,3 *(8,13)*	150 *(9,15)*
Presión máx. continua en ***Cont. max. pressure***	bar *(PSI)*	225 *(3265)*					200 *(2900)*	175 *(2540)*
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	250 *(3625)*					225 *(3265)*	200 *(2900)*
R.P.M. máximas ***Max. R.P.M.***		3.000				2.500	2.000	1.750
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar *(1450 PSI)*	400				350		
	175 bar *(2540 PSI)*	450				400		
	250 bar *(3625 PSI)*	550				-	-	-
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG						
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46						
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H						
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F						
Depresión máximo en aspiración ***Max. suction depresion***		< 0,3 bar						

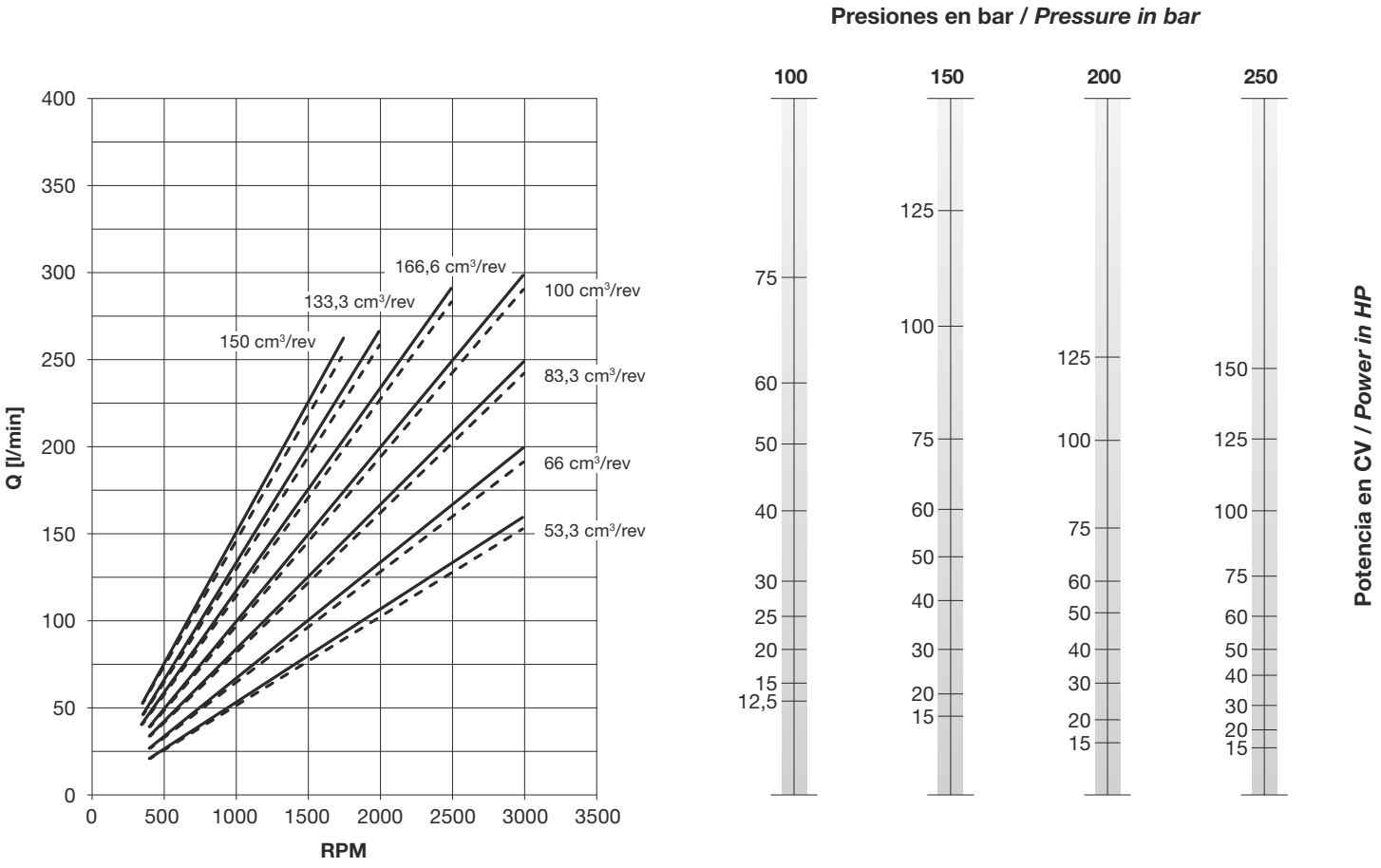
CONEXIONES TIPO M
ROQUET HYDRAULICS, S.L. utiliza conexiones tipo SAE J518 para el modelo de bomba tipo PLC.

ACCIONAMIENTO DE LAS BOMBAS
Deben utilizarse acoplamientos entre bomba y accionamiento que eviten la transmisión de esfuerzos tanto axiales como laterales. Las bombas en su configuración estandard no admiten este tipo de esfuerzos, causando una disminución rápida de su vida util.

CONNECTION TYPE M
ROQUET HYDRAULICS, S.L. uses connections type SAE J518 for the PLC gear pump model.

PUMP DRIVING DEVICES
It must be used a driving device to avoid the transmision of axial and radial loads to the axis of the pump. Standard flanges and pumps are not designed to handle this loads and this causes a reduction of its working life.

Gráfico de caudales, rendimientos y potencias según cilindrada
Flow, performance and power chart according to displacement



NOTA: Estos diagramas han sido obtenidos con un aceite de 4,5ºE (37 cSt) de viscosidad y una temperatura de 50°C.
NOTE: *These results have been obtained with 4,5ºE (37 cSt) viscosity oil and at 50 deg. C (122°F).*

Sistema de codificación	1	PLC	125	D	E	10	M	-***	*Coding system*

Tipo / *Type*

1	Sin polea / *Without pulley*
13	SAE C (2 taladros) con cojinete de apoyo *SAE C (2 holes) with support bearing*
14	SAE C (2 taladros) con dos retenes *SAE C (2 holes) with two oil seals*

Modelo / *Model*

PLC	Simple / *Simple*
PLJ	Múltiple / *Multiple* PLC+PLC
PLK	Múltiple / *Multiple* PLC+PLA
PLH	Múltiple / *Multiple* PLC+L
PLZ	Múltiple / *Multiple* PLC+L0

Caudal bomba a 1500 rpm y 0 bar
Pump flow rate at 1500 rpm and 0 bar

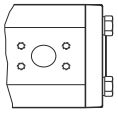
Ver hoja técnica / *See technical data*

Sentido de giro / *Rotation direction*

D	Derecha / *Clockwise*
I	Izquierda / *Counterclockwise*
R	Reversible / *Reversible*

Código / *Code*

Formas conexión tomas
Port connection forms



M

Tipo de tapa / *Fixing flange*

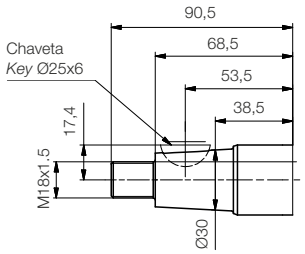
01-09-10-23

Forma eje motriz / *Drive shaft form*

A-B-C-E-G-H-J

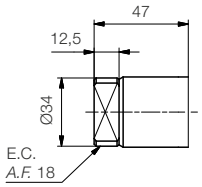
Tipos de eje motriz disponibles / *Available drive shaft forms*

Eje forma A / *Shaft form A*



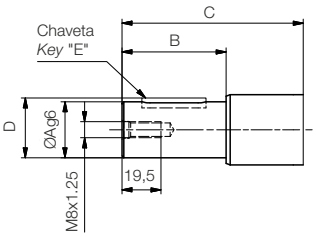
Máx. par de arrastre
Max. driving torque 500 Nm

Eje forma B / *Shaft form B*



Máx. par de arrastre
Max. driving torque 260 Nm

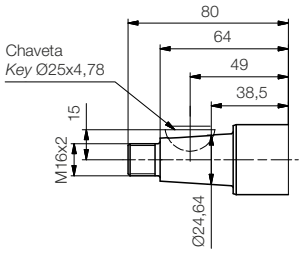
Eje forma C / *Shaft form C*



Caudal / *Displacement* [l/min at 1500 rpm]	A	B	C	D	E
80-150 l/min	28	52	139,5	29,9	5x8x32
175-225 l/min	30	70	157,5	31,9	5x8x50

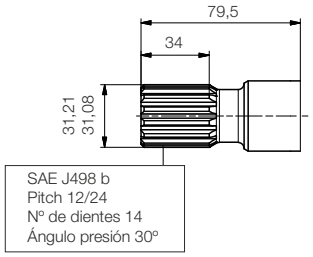
Máx. par de arrastre *Max. driving torque*: 400 Nm (80-150 l/min); 650 Nm (175-225 l/min)

Eje forma E / *Shaft form E*



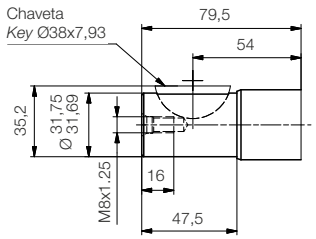
Máx. par de arrastre
Max. driving torque 350 Nm

Eje forma G / *Shaft form G*



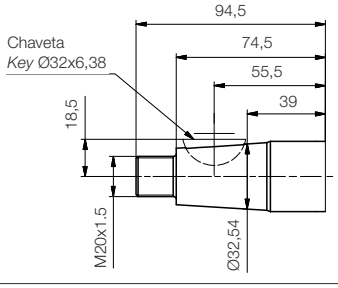
Máx. par de arrastre
Max. driving torque 900 Nm

Eje forma H / *Shaft form H*



Máx. par de arrastre
Max. driving torque 600 Nm

Eje forma J / *Shaft form J*

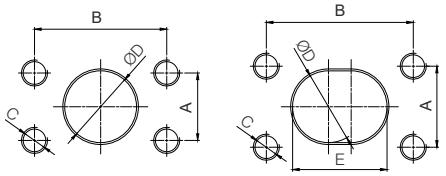


Máx. par de arrastre
Max. driving torque 700 Nm

Formas de conexión de tomas disponibles / *Available port connection forms*

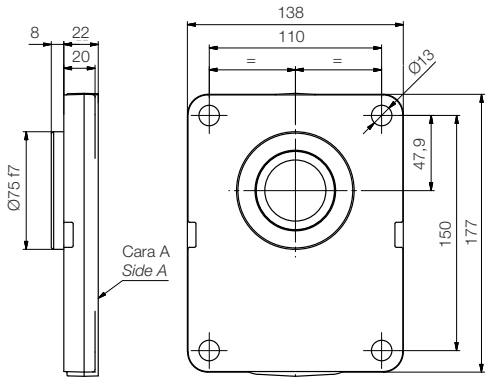
Tomas M / *M Ports*	1 sentido de rotación / *1 rotation direction*								
Caudal / *Flow* (1500 rpm)	Aspiración / *Suction*					Presión / *Pressure*			
	A	B	C	D	E	A	B	C	D
80 l/min ... 125 l/min	35,7	69,9	M12	38	-	30,2	58,7	M10	32
150 l/min ... 225 l/min	42,9	77,8	M12	38	50	35,7	69,9	M12	38

Tomas M / *M Ports*	Reversible			
Caudal / *Flow* (1500 rpm)	A	B	C	D
80 l/min ... 125 l/min	30,2	58,7	M10	32
150 l/min ... 225 l/min	35,7	69,9	M12	38

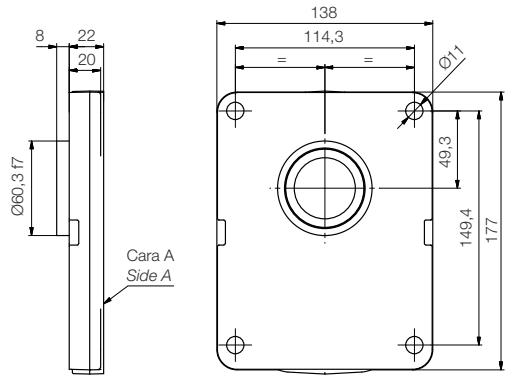


Tipos de tapas frontales disponibles / *Available front flanges types*

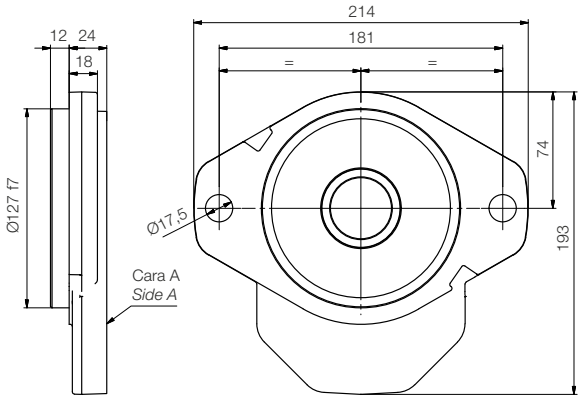
Tapa tipo 01 / *Front flange type 01*



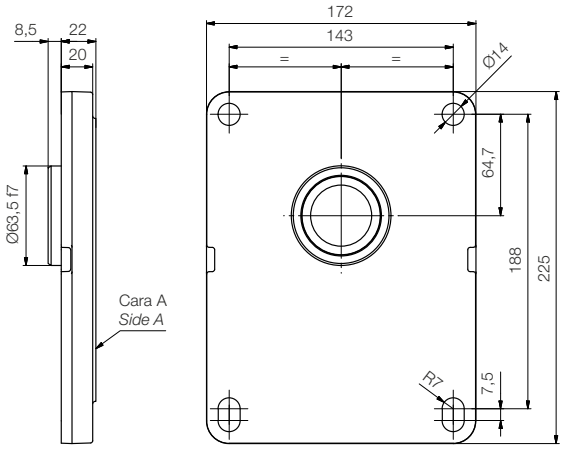
Tapa tipo 10 / *Front flange type 10*



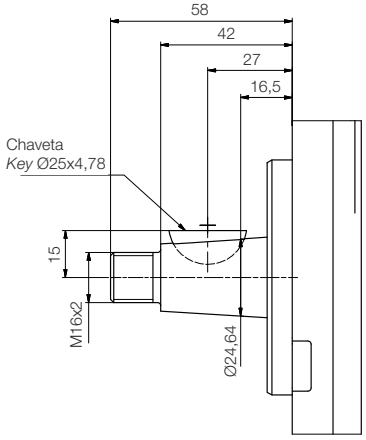
Tapa tipo 09 / *Front flange type 09*



Tapa tipo 23 / *Front flange type 23*



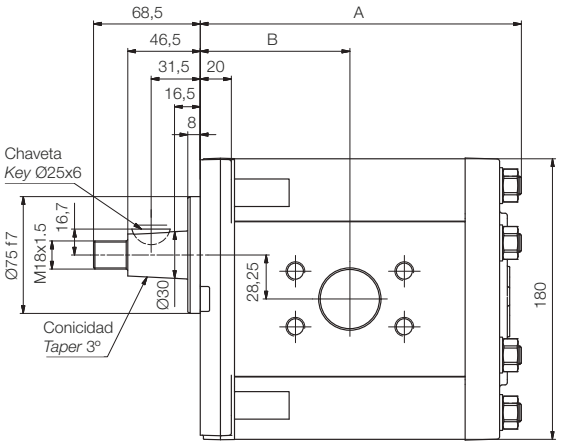
Ejemplo: Combinación de un eje tipo E y una tapa tipo 01
Example: *Combination of a E type shaft with a 01 type front flange*

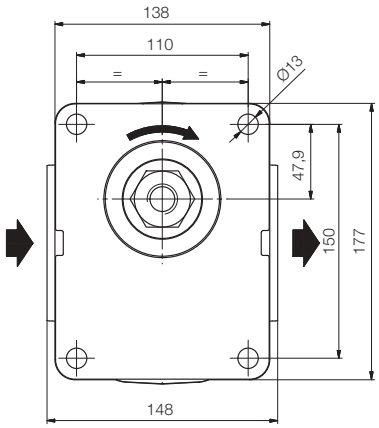


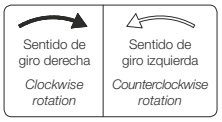
NOTA: La longitud del eje motriz varía en función del grosor de la tapa frontal.
NOTE: *The useful length of the drive shaft varies depending on the front flange thickness.*

Tapa tipo 01 / *Front flange type 01*

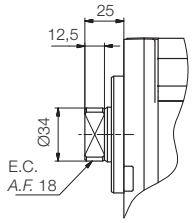
Eje forma A / *Shaft form A*



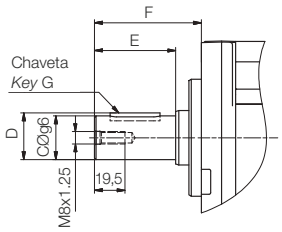


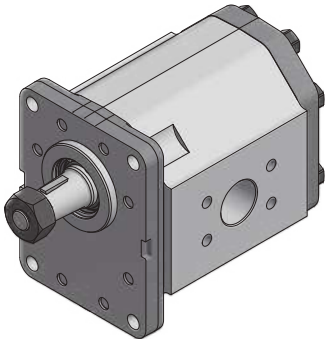


Eje forma B / *Shaft form B*



Eje forma C / *Shaft form C*





Caudal / *Displacement* [l/min at 1500 rpm]	C	D	E	F	G
80-150 l/min	28	29,9	52	68,5	5x8x32
175-250 l/min	30	31,9	70	86,5	5x8x50

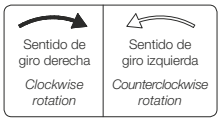
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1PLC80D▲01M	53,3	183	87,0	17,4
1PLC100D▲01M	66,6	190	87,0	17,9
1PLC125D▲01M	83,3	198	92,0	18,4
1PLC150D▲01M	100	206	96,0	19,0
1PLC175D▲01M	116,6	214	100,0	19,8
1PLC200D▲01M	133,3	223	104,0	20,6
1PLC225D▲01M	150	231	108,0	21,3

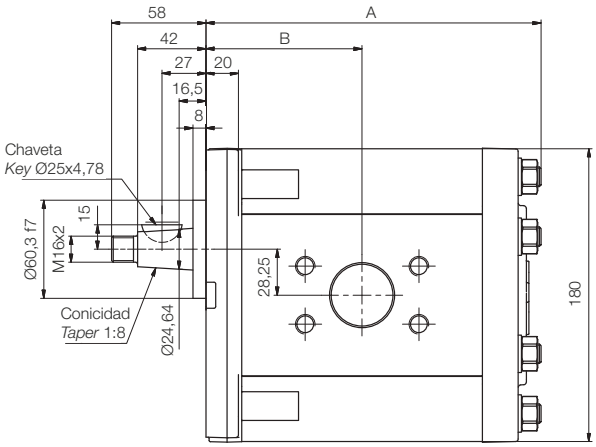
▲ Forma de eje / *Shaft form*.

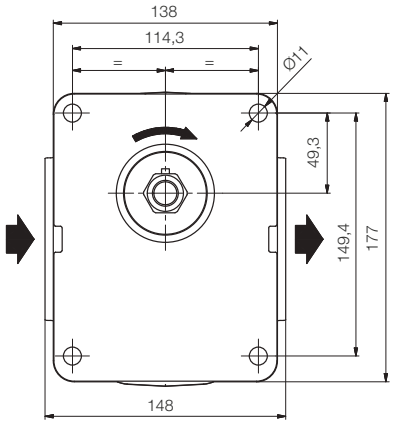
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

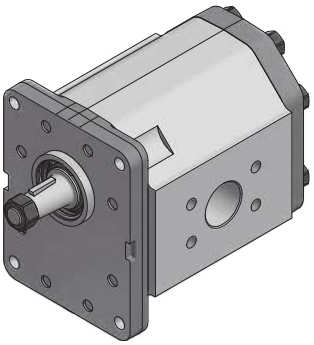
Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*







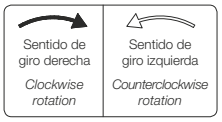


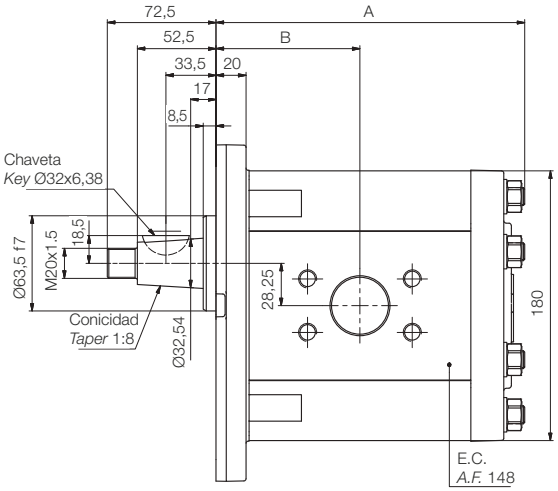
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1PLC80DE10M	53,3	183	87,0	17,5
1PLC100DE10M	66,6	190	87,0	18,0
1PLC125DE10M	83,3	198	92,0	18,5
1PLC150DE10M	100	206	96,0	19,1
1PLC175DE10M	116,6	214	100,0	19,9
1PLC200DE10M	133,3	223	104,0	20,7
1PLC225DE10M	150	231	108,0	21,4

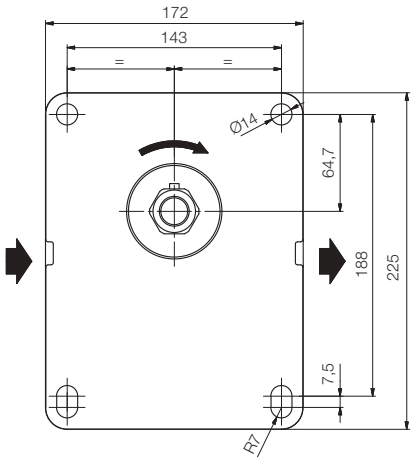
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

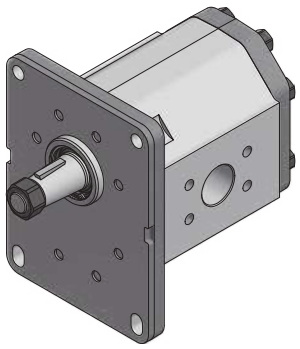
Tapa tipo 23 / *Front flange type 23*

Eje forma J / *Shaft form J*







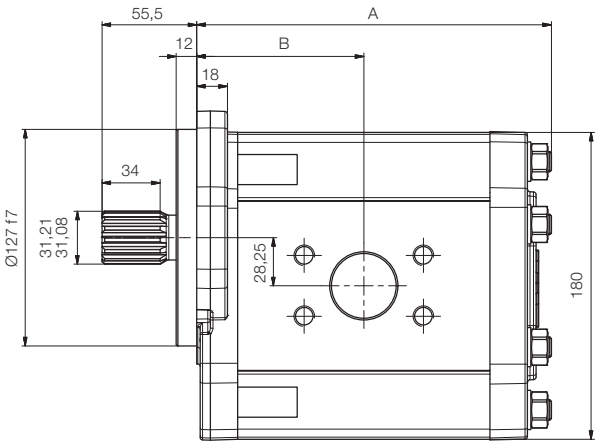


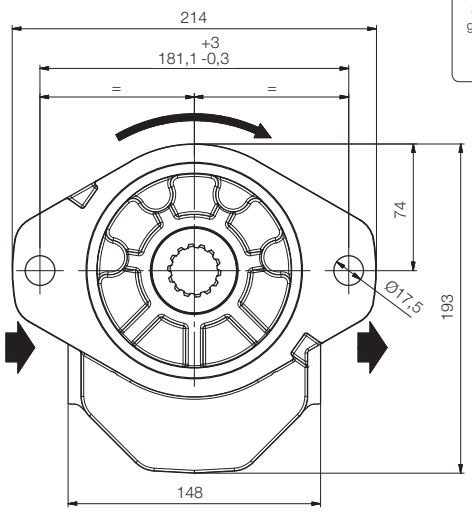
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1PLC80DJ23M	53,3	183	87,0	17,7
1PLC100DJ23M	66,6	190	87,0	18,2
1PLC125DJ23M	83,3	198	92,0	18,7
1PLC150DJ23M	100	206	96,0	19,3
1PLC175DJ23M	116,6	214	100,0	20,1
1PLC200DJ23M	133,3	223	104,0	20,9
1PLC225DJ23M	150	231	108,0	21,6

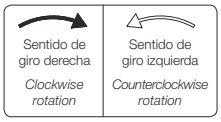
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

Tapa tipo 09 / *Front flange type 09*

Eje forma G / *Shaft form G*



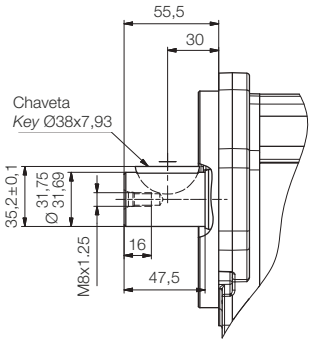


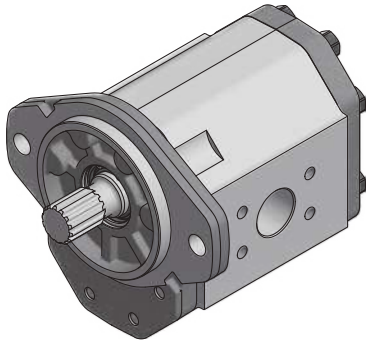


SAE Base plana
Diametral pitch 12/24
Ángulo de presión 30º
Número de dientes 14
Ajuste lateral

SAE flat base
Diametral pitch 12/24
Pressure angle 30º
Teeth number 14
Side fi t

Eje forma H / *Shaft form H*





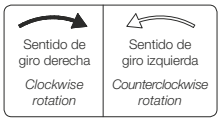
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
1PLC80D▲09M	53,3	185	89,0	17,6
1PLC100D▲09M	66,6	192	89,0	18,1
1PLC125D▲09M	83,3	200	94,0	18,6
1PLC150D▲09M	100	208	98,0	19,2
1PLC175D▲09M	116,6	216	102,0	20,0
1PLC200D▲09M	133,3	225	106,0	20,8
1PLC225D▲09M	150	233	110,0	21,5

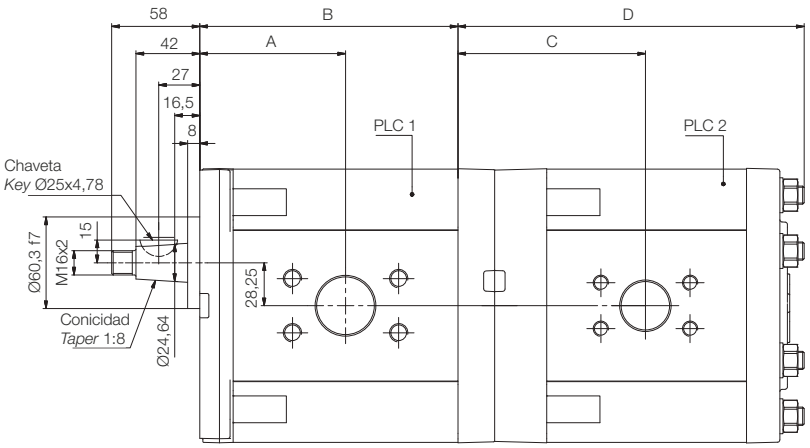
▲ Forma de eje / *Shaft form*.

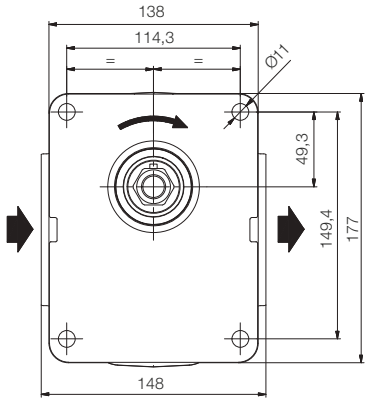
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

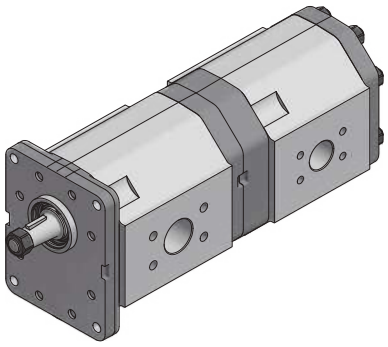
Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*









Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 260 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 260 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLC1) de la bomba múltiple PLJ.
The following table refers to the front stage (PLC1) of the PLJ multiple pump.

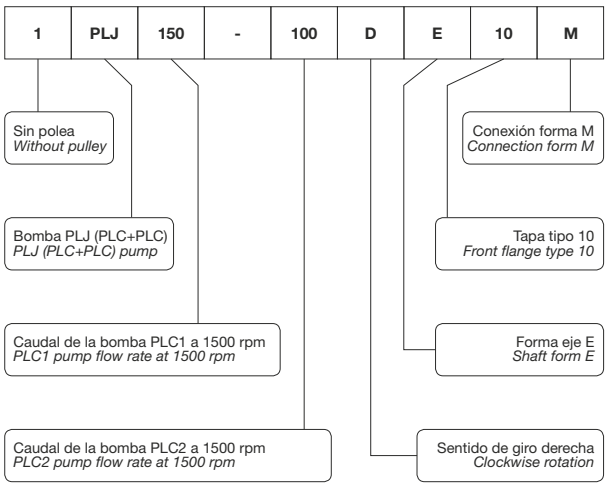
Referencia ***Reference***	**Cilindrada** ***Displacement*** **cm³/rev**	**A**	**B**	**PLC1 - Peso kg** ***PLC1 - Weight kg***
1PLJ80-■DE10M	53,3	87,0	147,0	17,7
1PLJ100-■DE10M	66,6	87,0	153,5	18,2
1PLJ125-■DE10M	83,3	87,0	161,5	18,7
1PLJ150-■DE10M	100	96,0	170,0	19,3
1PLJ175-■DE10M	116,6	96,0	178,0	20,1
1PLJ200-■DE10M	133,3	96,0	186,5	20,9
1PLJ225-■DE10M	150	96,0	194,5	21,6

■ Caudal etapa posterior (PLC2). Ver tabla / *Rear stage flow (PLC2). See table.*

La tabla siguiente hace referencia a la etapa posterior (PLC2) de la bomba múltiple PLJ.
The following table refers to the rear stage (PLC2) of the PLJ multiple pump.

■	**Cilindrada** ***Displacement*** **cm³/rev**	**C**	**D**	**PLC2 - Peso kg** ***PLC2 - Weight kg***
80	53,3	123,5	219,5	17,7
100	66,6	123,5	226,0	18,2
125	83,3	123,5	234,0	18,7
150	100	132,5	242,5	19,3
175	116,6	132,5	250,5	20,1
200	133,3	132,5	259,0	20,9
225	150	132,5	267,0	21,6

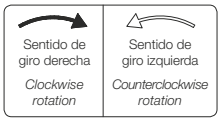
Ejemplo referencia comercial bomba PLJ
Part number example PLJ pump

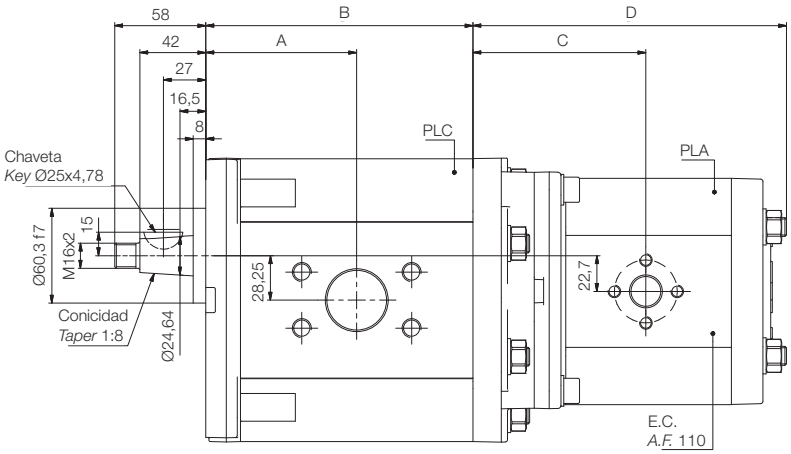


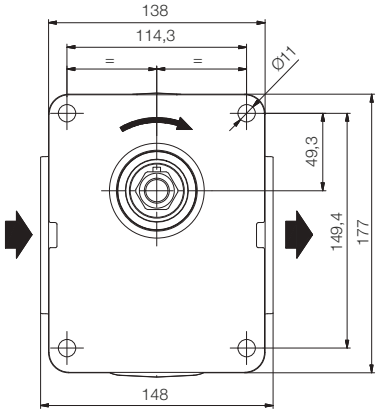
NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
NOTE: *For dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*

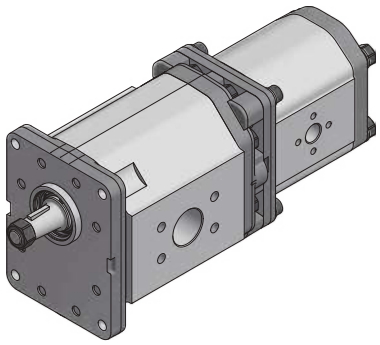
Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*









Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 120 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 120 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLC) de la bomba múltiple PLK.
The following table refers to the front stage (PLC) of the PLK multiple pump.

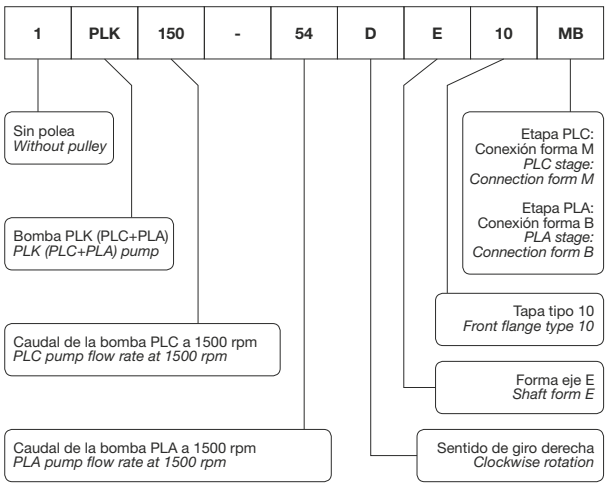
Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLC - Peso kg *PLC - Weight kg*
1PLK80-■DE10MB	53,3	87,0	147,0	17,7
1PLK100-■DE10MB	66,6	87,0	153,5	18,2
1PLK125-■DE10MB	83,3	87,0	161,5	18,7
1PLK150-■DE10MB	100	96,0	170,0	19,3
1PLK175-■DE10MB	116,6	96,0	178,0	20,1
1PLK200-■DE10MB	133,3	96,0	186,5	20,9
1PLK225-■DE10MB	150	96,0	194,5	21,6

■ Caudal etapa posterior (PLA). Ver tabla / *Rear stage flow (PLA). See table.*

La tabla siguiente hace referencia a la etapa posterior (PLA) de la bomba múltiple PLK.
The following table refers to the rear stage (PLA) of the PLK multiple pump.

■	Cilindrada *Displacement* cm³/rev	C	D	PLA - Peso kg *PLA - Weight kg*
27	18	108,9	168,0	8,3
36	24	116,9	173,0	8,6
45	30	121,9	178,0	8,9
54	36	121,9	183,0	9,1
66	44	121,9	189,5	9,5
75	50	121,9	194,5	9,7
84	56	121,9	199,6	10,0

Ejemplo referencia comercial bomba PLK
Part number example PLK pump

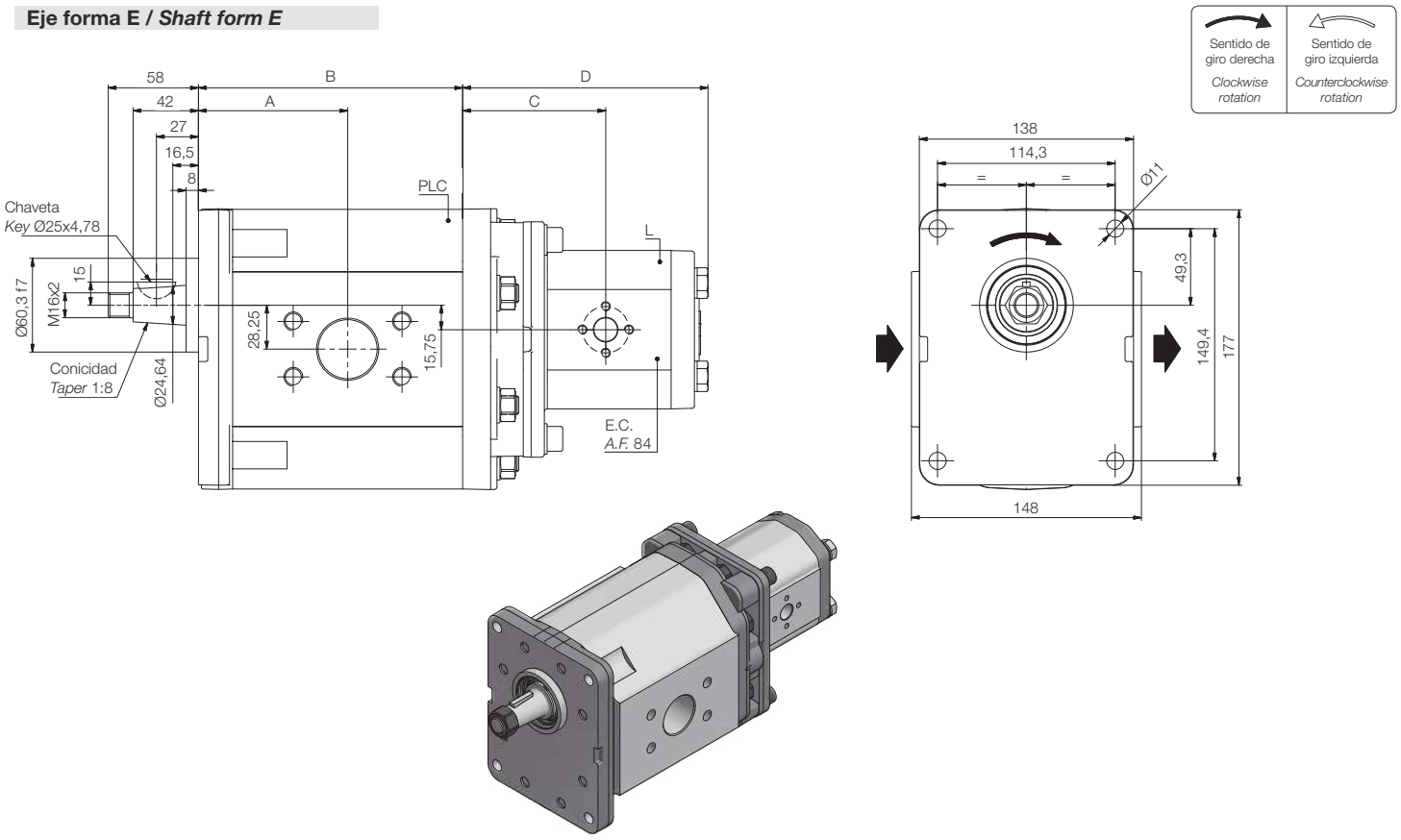


NOTAS: Bomba PLC: para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
Bomba PLA: para dimensiones y tipos de toma disponibles consultar catálogo PLA.

NOTES: PLC pump: *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*
PLA pump: *for dimensions and port types see PLA catalog.*

Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*



Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 65 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 65 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLC) de la bomba múltiple PLH.
The following table refers to the front stage (PLC) of the PLH multiple pump.

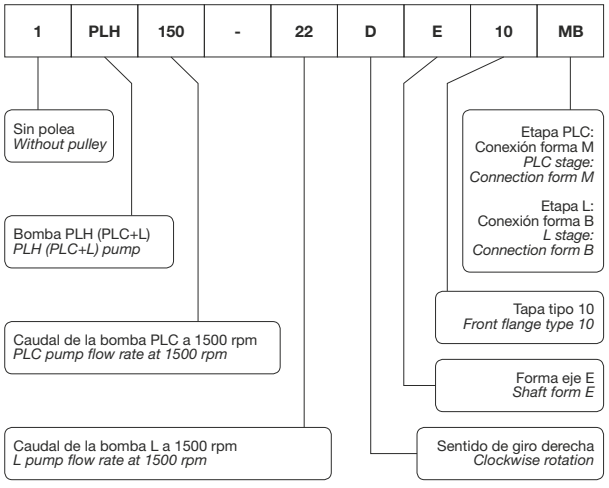
Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLC - Peso kg *PLC - Weight kg*
1PLH80-■DE10MB	53,3	87,0	147,0	17,7
1PLH100-■DE10MB	66,6	87,0	153,5	18,2
1PLH125-■DE10MB	83,3	87,0	161,5	18,7
1PLH150-■DE10MB	100	96,0	170,0	19,3
1PLH175-■DE10MB	116,6	96,0	178,0	20,1
1PLH200-■DE10MB	133,3	96,0	186,5	20,9
1PLH225-■DE10MB	150	96,0	194,5	21,6

■ Caudal etapa posterior (L). Ver tabla / *Rear stage flow (L). See table.*

La tabla siguiente hace referencia a la etapa posterior (L) de la bomba múltiple PLH.
The following table refers to the rear stage (L) of the PLH multiple pump.

■	Cilindrada *Displacement* cm³/rev	C	D	L - Peso kg *L - Weight kg*
6	4	78,0	126,1	3,2
9	6	78,0	130,6	3,3
12	8	80,1	133,5	3,4
16	10,6	84,5	138,2	3,5
18	12	84,5	139,8	3,6
22	14,6	84,5	144,1	3,7
24	16	84,5	146,3	3,8
27	18	84,5	148,8	3,9
35	23,3	92,0	157,8	4,1
40	26,6	99,5	161,8	4,3

Ejemplo referencia comercial bomba PLH
Part number example PLH pump

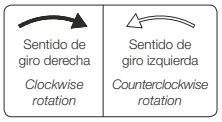


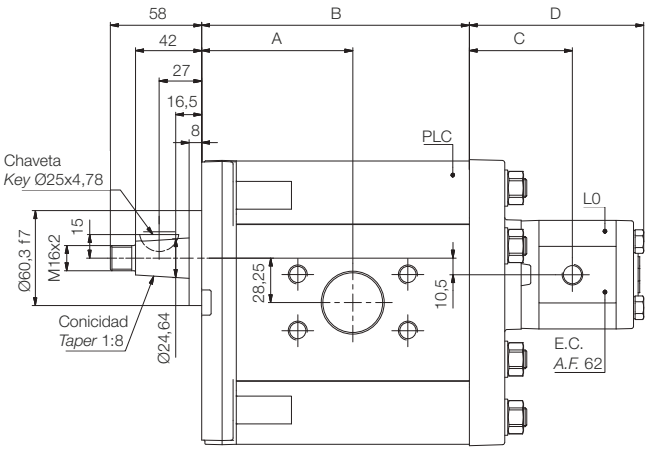
NOTAS: Bomba PLC: para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
Bomba L: para dimensiones y tipos de toma disponibles consultar catálogo L.

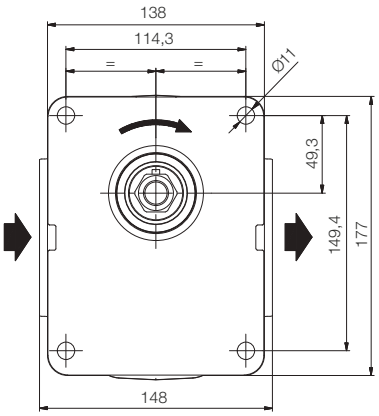
NOTES: PLC pump: *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*
L pump: *for dimensions and port types see L catalog.*

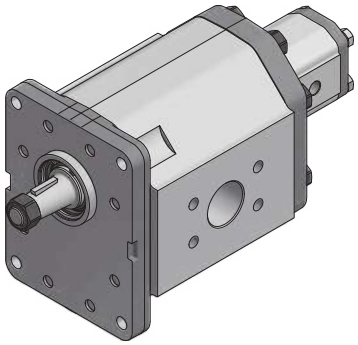
Tapa tipo 10 / *Front flange type 10*

Eje forma E / *Shaft form E*









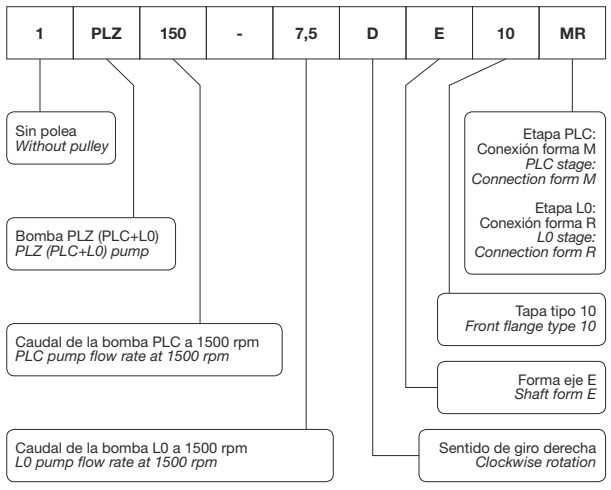
Para montajes de bombas de más de dos etapas, consultar con el departamento comercial. Máximo par de arrastre entre bombas 25 Nm.
For more than two stages pump assemblies, contact the sales department. Maximum driving torque between stages 25 Nm.

La tabla siguiente hace referencia a la etapa frontal (PLC) de la bomba múltiple PLZ.
The following table refers to the front stage (PLC) of the PLZ multiple pump.

Referencia *Reference*	Cilindrada *Displacement* cm³/rev	A	B	PLC - Peso kg *PLC - Weight kg*
1PLZ80-■DE10MR	53,3	87,0	147,0	17,7
1PLZ100-■DE10MR	66,6	87,0	153,5	18,2
1PLZ125-■DE10MR	83,3	87,0	161,5	18,7
1PLZ150-■DE10MR	100	96,0	170,0	19,3
1PLZ175-■DE10MR	116,6	96,0	178,0	20,1
1PLZ200-■DE10MR	133,3	96,0	186,5	20,9
1PLZ225-■DE10MR	150	96,0	194,5	21,6

■ Caudal etapa posterior (L0). Ver tabla / *Rear stage flow (L0). See table.*

Ejemplo referencia comercial bomba PLZ
Part number example PLZ pump



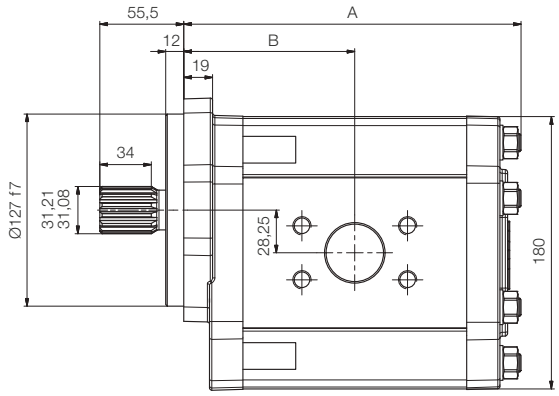
La tabla siguiente hace referencia a la etapa posterior (L0) de la bomba múltiple PLZ.
The following table refers to the rear stage (L0) of the PLZ multiple pump.

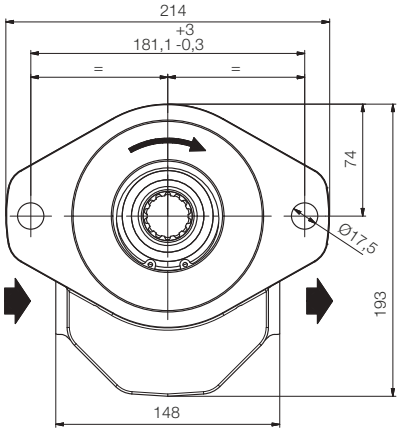
■	Cilindrada *Displacement* cm³/rev	C	D	L - Peso kg *L - Weight kg*
1,5	1	62,0	98,8	1,2
3	2	62,0	103,8	1,3
5	3,3	65,5	110,8	1,4
7,5	5	68,5	118,3	1,5
10	6,6	73,8	127,8	1,6

NOTAS: Bomba PLC: para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.
Bomba L0: para dimensiones y tipos de toma disponibles consultar catálogo L0.
NOTES: PLC pump: *for dimensions and available port types of clockwise (D), counterclockwise (I) or reversible (R) rotation pumps, see page 8.*
L0 pump: *for dimensions and port types see L0 catalog.*

13 PLC y 14 PLC - Tapa tipo 09 / *13 PLC & 14 PLC - Front flange type 09*

Eje forma G / *Shaft form G*





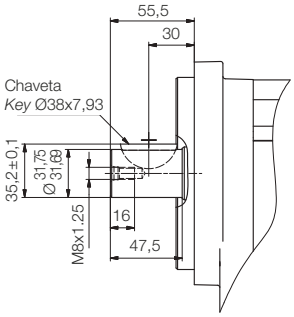
Sentido de giro derecha / *Clockwise rotation*

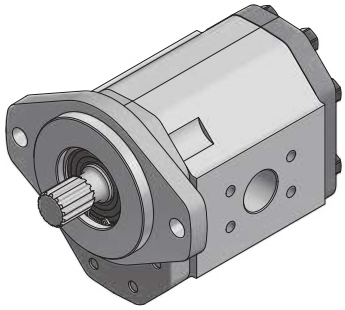
Sentido de giro izquierda / *Counterclockwise rotation*

SAE Base plana
Diametral pitch 12/24
Ángulo de presión 30º
Número de dientes 14
Ajuste lateral

SAE flat base
Diametral pitch 12/24
Pressure angle 30º
Teeth number 14
Side fi t

Eje forma H / *Shaft form H*





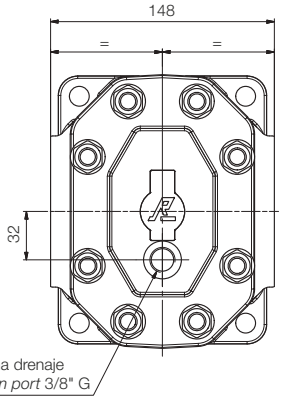
Referencia *Reference*	Cilindrada cm³/rev *Displacement cm³/rev*	A	B	Peso kg *Weight kg*
■PLC80D▲09M	53,3	200	104	15,6
■PLC100D▲09M	66,6	207	104	16,1
■PLC125D▲09M	83,3	215	109	16,6
■PLC150D▲09M	100	223	113	17,2
■PLC175D▲09M	116,6	231	117	18,0
■PLC200D▲09M	133,3	240	121	18,8
■PLC225D▲09M	150	248	125	19,5

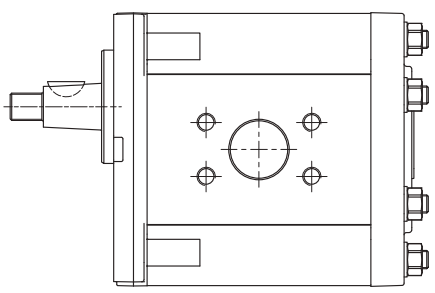
■ **13** Retén y cojinete / *Oil seal and bearing.*
14 Dos retenes / *Two oil seals.*
▲ Forma de eje / *Shaft form*.

NOTA: Para dimensiones y tipos de tomas disponibles de bombas de giro derecha (D), izquierda (I) o reversible (R), consultar página 8.

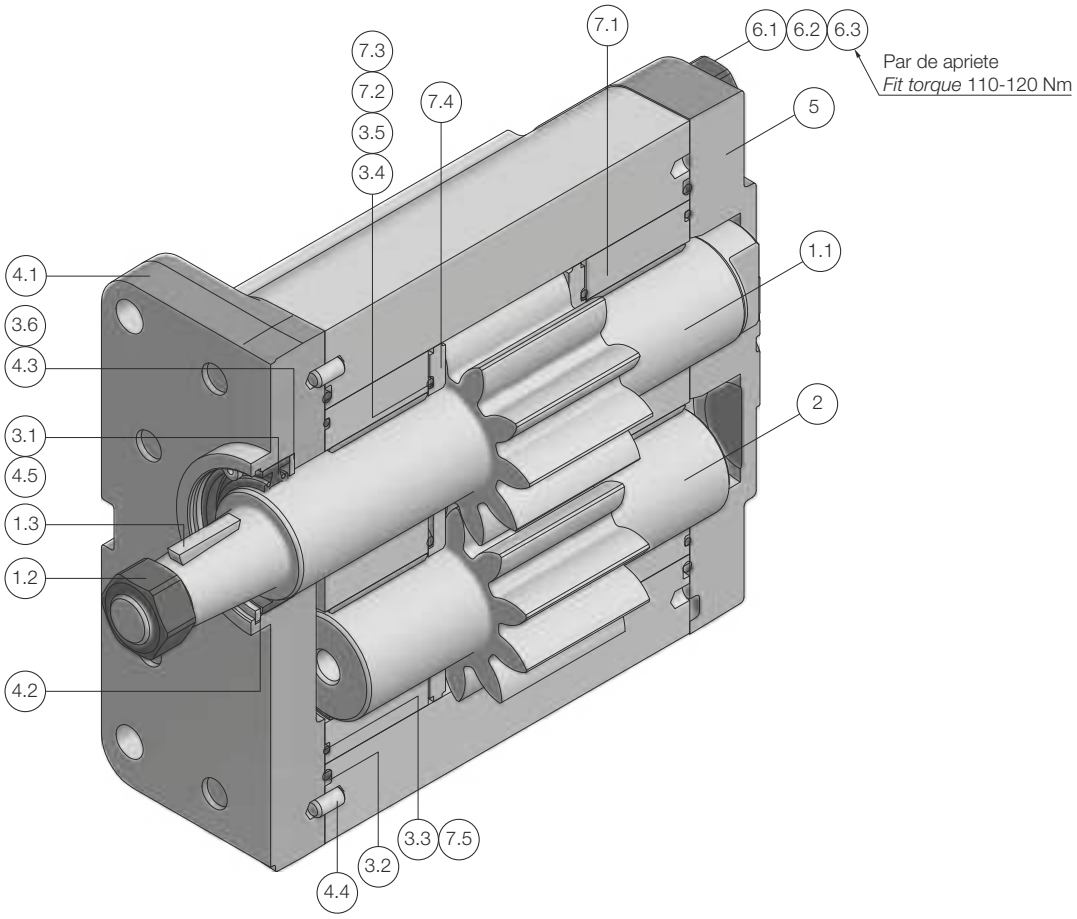
NOTE: *For dimensions and available port types of clockwise (D), counter-clockwise (I) or reversible (R) rotation pumps, see page 8.*

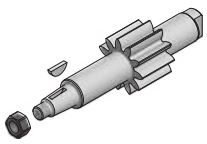
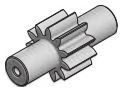
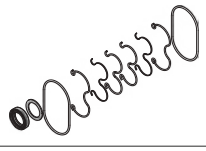
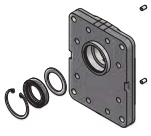
Tapa trasera para bombas reversibles
Back cover for reversible pumps

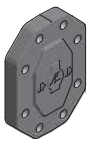
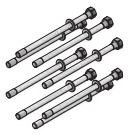
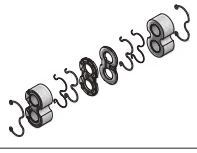




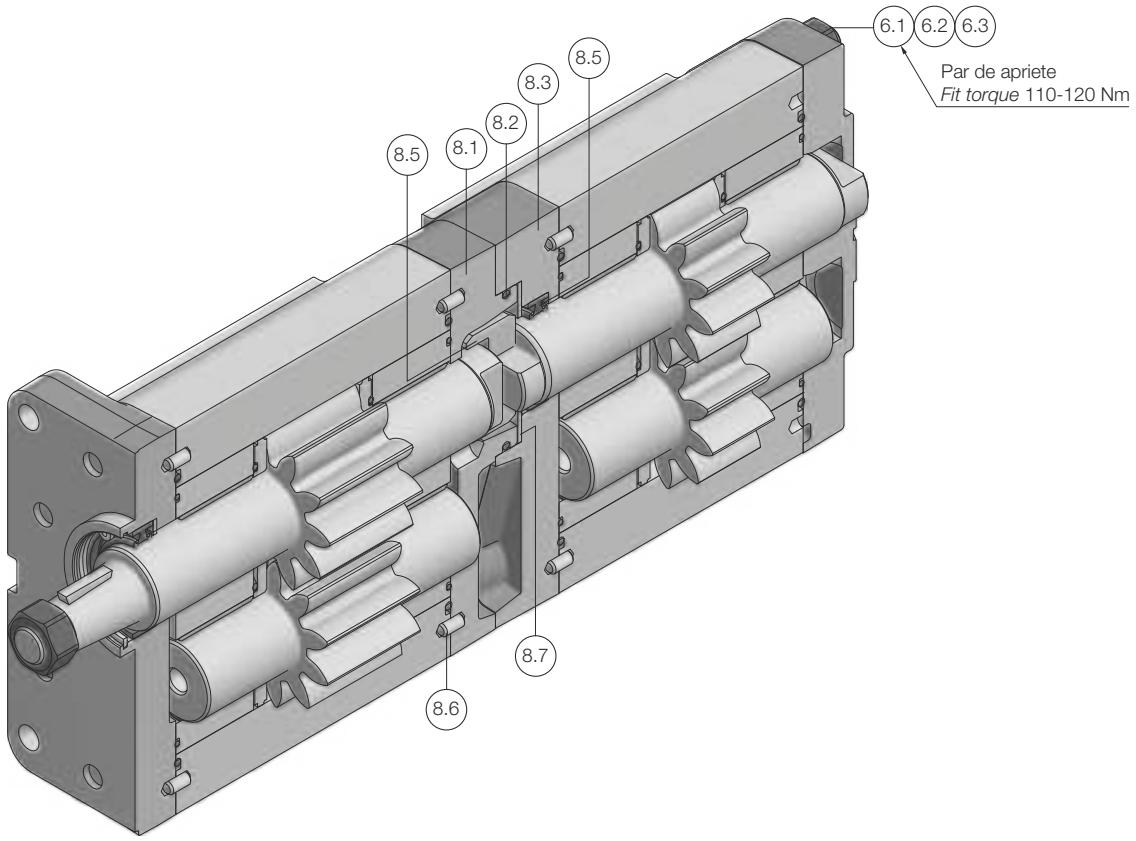
Sentido de giro reversible / *Reversible rotation*

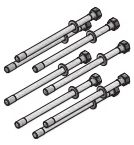


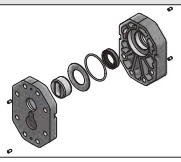
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
1	Kit eje motriz *Drive shaft kit*	
2	Eje conducido *Driven shaft*	
3	Kit juntas *Seals kit*	
4	Kit tapa delantera *Front flange kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
5	Tapa posterior *Back cover*	
6	Kit tornillos fijación *Fixing screws kit*	
7	Kit cojinetes apoyo *Bearing assemblies kit*	

NOTA: Consultar las referencias disponibles con el departamento comercial.
NOTE: *For available references contact the sales department.*



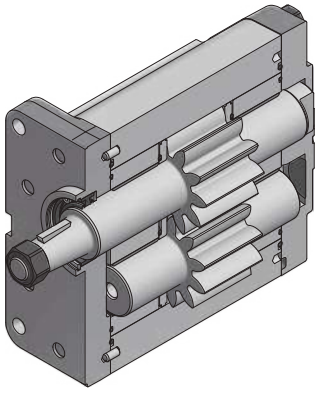
Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
6	Kit tornillos fijación *Fixing screws kit*	

Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapas intermedias *Intermediate flanges kit*	

NOTA: Se puede crear una bomba doble PLJ uniendo una bomba de referencia estándar y una bomba estándar con eje tipo L y tapa frontal tipo 26. Se ofrece el kit de tapas intermedias y el kit del eje tipo L para poder transformar la bomba.
NOTE: *A PLJ double pump can be assembled from a pump with standard reference and a pump with shaft form L and front flange type 26. The intermediate flanges kit and the L shaft kit are offered in order to transform the pump.*

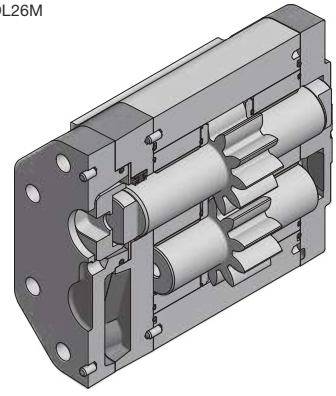
Bomba delantera estándar
Standard front pump

Ejemplo
Example 1PLC150DE10M

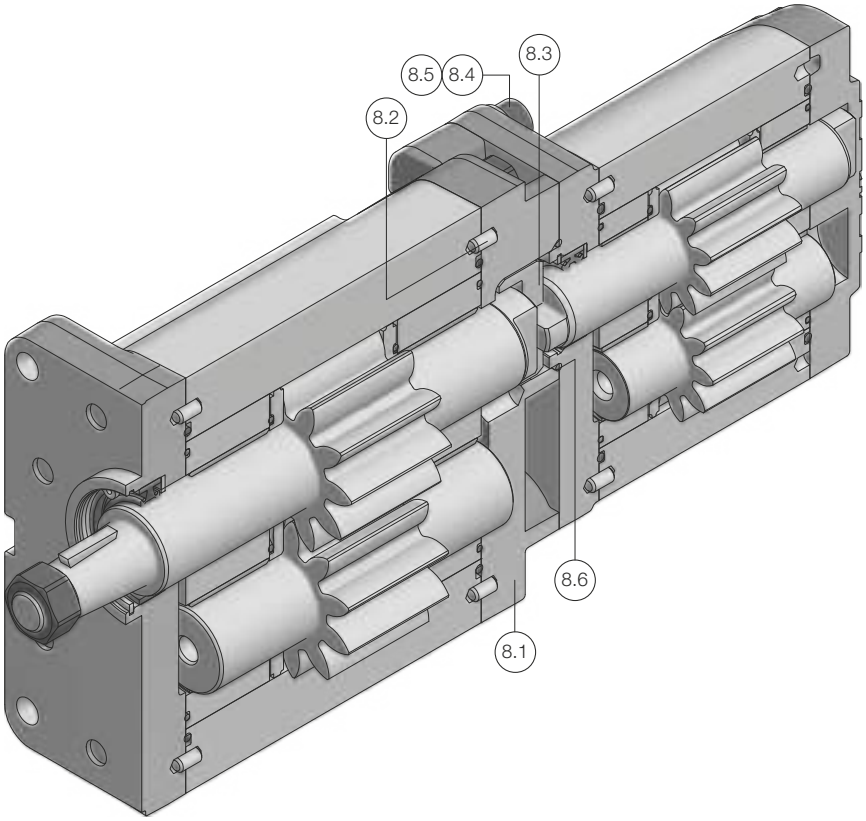


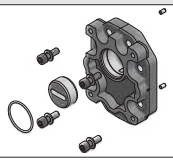
Bomba trasera con eje tipo L y tapa tipo 26
Rear pump with shaft form L and front flange type 26

Ejemplo
Example 1PLC100DL26M



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

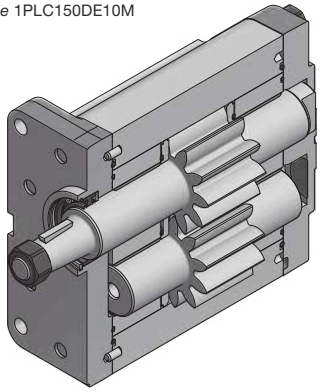


Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapas intermedias *Intermediate flanges kit*	

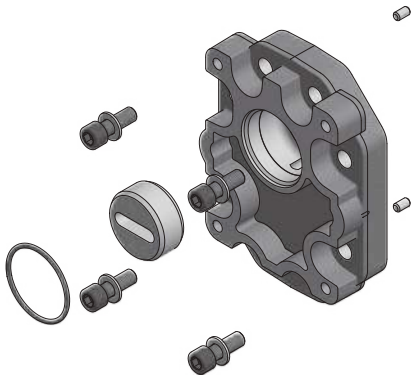
NOTA: Se puede crear una bomba doble PLK uniendo una bomba PLC estándar, un kit de tapa intermedia y una bomba PLA estándar con eje tipo B y tapa frontal tipo 10.
NOTE: *A PLK double pump can be assembled from a standard PLC pump, an intermediate flange kit and a standard PLA pump with shaft form B and front flange type 10.*

Bomba delantera PLC estándar
Standard PLC front pump

Ejemplo
Example 1PLC150DE10M

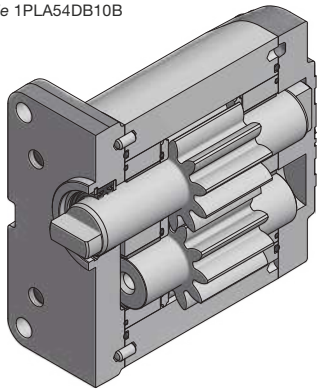


Kit tapa intermedia PLK
PLK intermediate flange kit

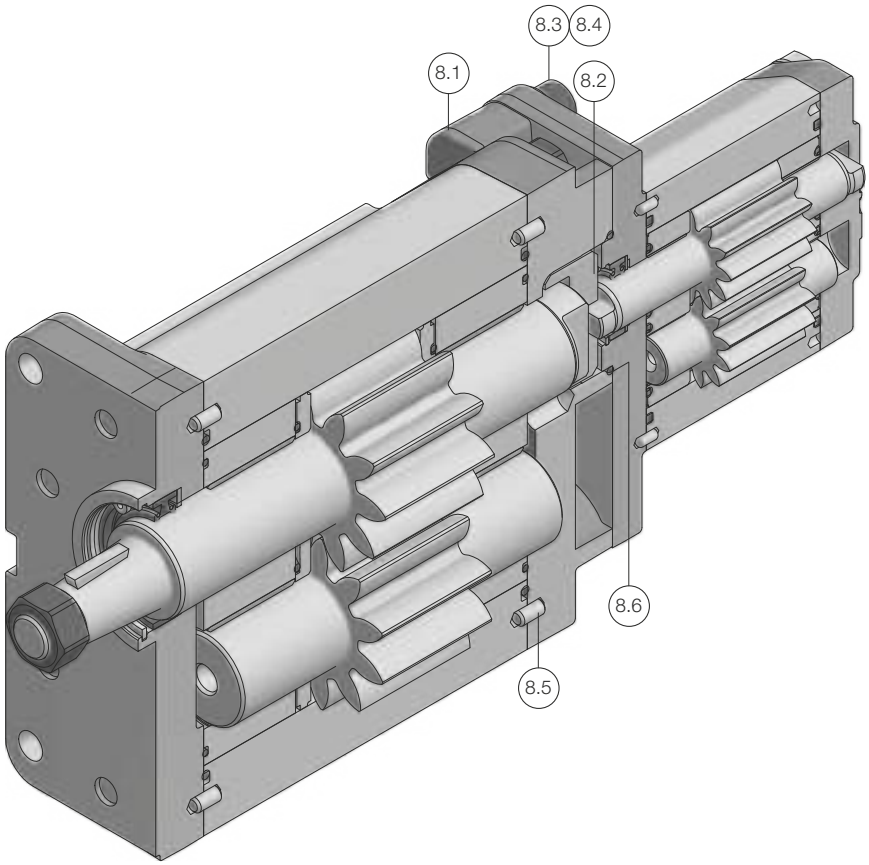


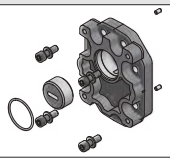
Bomba PLA trasera con eje tipo B y tapa tipo 10
Rear PLA pump with shaft form B and front flange type 10

Ejemplo
Example 1PLA54DB10B



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

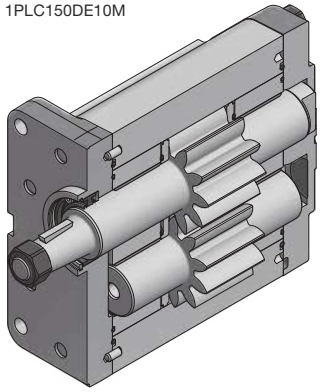


Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapa intermedia *Intermediate flange kit*	

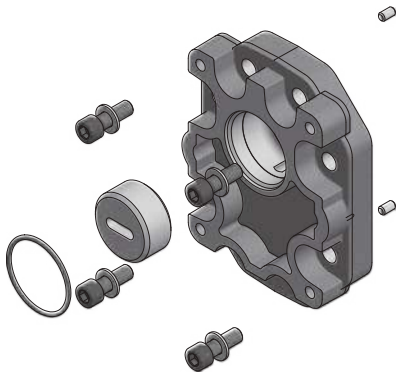
NOTA: Se puede crear una bomba doble PLH uniendo una bomba PLC estándar, un kit de tapa intermedia y una bomba L estándar con eje tipo B y tapa frontal tipo 24.
NOTE: *A PLH double pump can be assembled from a standard PLC pump, an intermediate flange kit and a standard L pump with shaft form B and front flange type 24.*

Bomba delantera PLC estándar
Standard PLC front pump

Ejemplo
Example 1PLC150DE10M

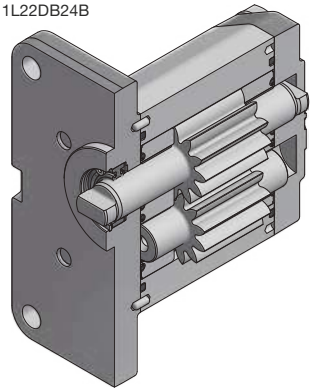


Kit tapa intermedia PLH
PLH intermediate flange kit

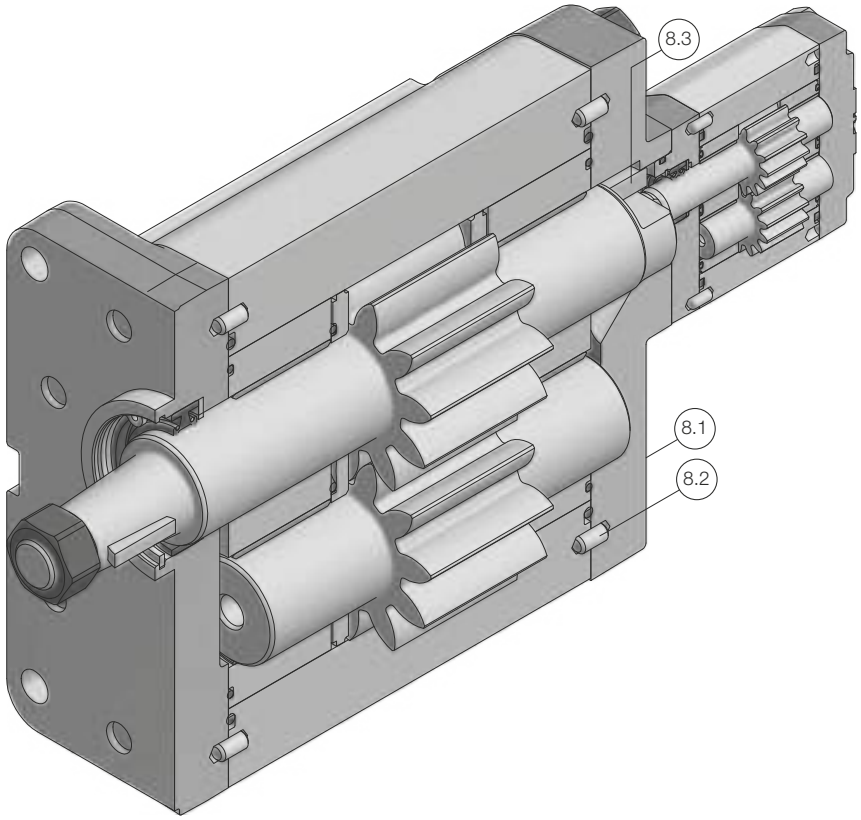


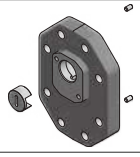
Bomba L trasera con eje tipo B y tapa tipo 24
Rear L pump with shaft form B and front flange type 24

Ejemplo
Example 1L22DB24B



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

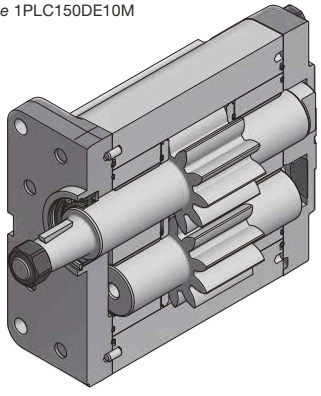


Nº de kit *Kit number*	Descripción *Description*	Piezas *Parts*
8	Kit tapa intermedia *Intermediate flange kit*	

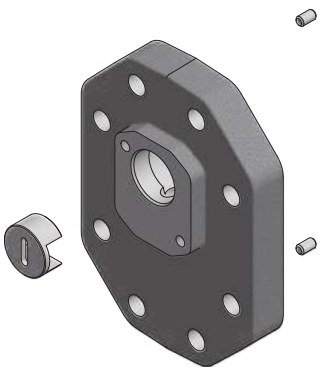
NOTA: Se puede crear una bomba doble PLZ uniendo una bomba PLC estándar, un kit de tapa intermedia y una bomba L0 estándar con eje tipo B y tapa frontal tipo 24 (tapa tipo 22 + tornillos de fijación bomba posterior).
NOTE: *A PLZ double pump can be assembled from a standard PLC pump, an intermediate flange kit and a standard L0 pump with shaft form B and front flange type 24 (front flange type 22 + rear pump fixing screws).*

Bomba delantera PLC estándar
Standard PLC front pump

Ejemplo
Example 1PLC150DE10M

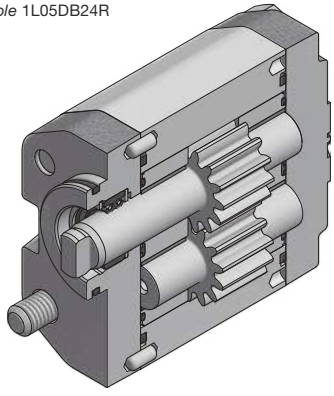


Kit tapa intermedia PLH
PLH intermediate flange kit



Bomba L0 trasera con eje tipo B y tapa tipo 24
Rear L0 pump with shaft form B and front flange type 24

Ejemplo
Example 1L05DB24R



NOTA: Consultar las referencias disponibles con el departamento comercial. / ***NOTE:*** *For available references contact the sales department.*

MENU

Roquet
making moves
WWW.SUMY.IR

MENU

PNA

BOMBAS DE ENGRANAJES
GEAR PUMPS

WWW.SUMY.IR



Roquet
making moves

HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas criticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones fi nales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.

TECHNOLOGY Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.

RELIABILITY A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.

CAPABILITY 400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.









Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L. Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
ROQUETHYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUETHYDRAULICS, S.L. in case of doubt.
ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.

Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.

Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.

Gama de temperaturas del fluido hidráulico +5º C +80º C.

El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.

La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.

Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars.

Conexión por bridas S.A.E. o rosca G.

Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.

Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.

Presentamos en el apartado de bombas dobles, varios tipos de fijación con sus ejes más normales. No obstante se podrán construir bombas dobles con las mismas fijaciones que las simples y sus ejes correspondientes.

Estas consideraciones también son validas para bombas triples y cuadruples, que podemos fabricar.

NOTA IMPORTANTE: En versión stándar la conexión es de rosca G.

Our pumps are hydrostatically balanced and have automatic lateral adjustment.

We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.

To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.

Oil temperature range +5ºC - +80ºC.

Filtration is extremely important since most problems are due to oil contamination.

The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.

The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar.

Connection by SAE flange or threaded G.

Rotation direction: Clockwise or anti-clockwise when facing the shaft end.

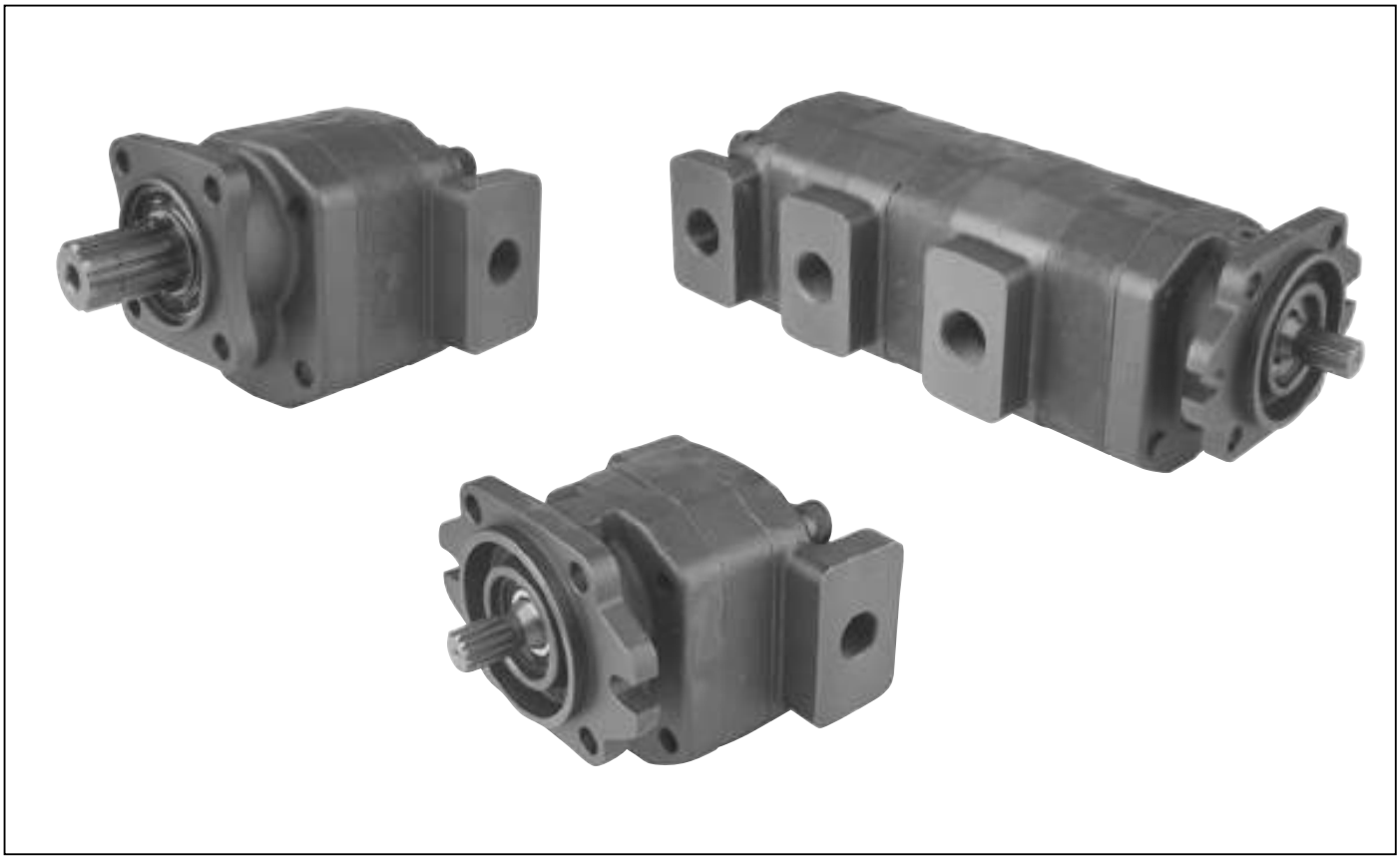
Before starting the pump, make sure the direction of rotation is correct.

Double and multiple pumps are available with all shafts and flanges shown for single pumps.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

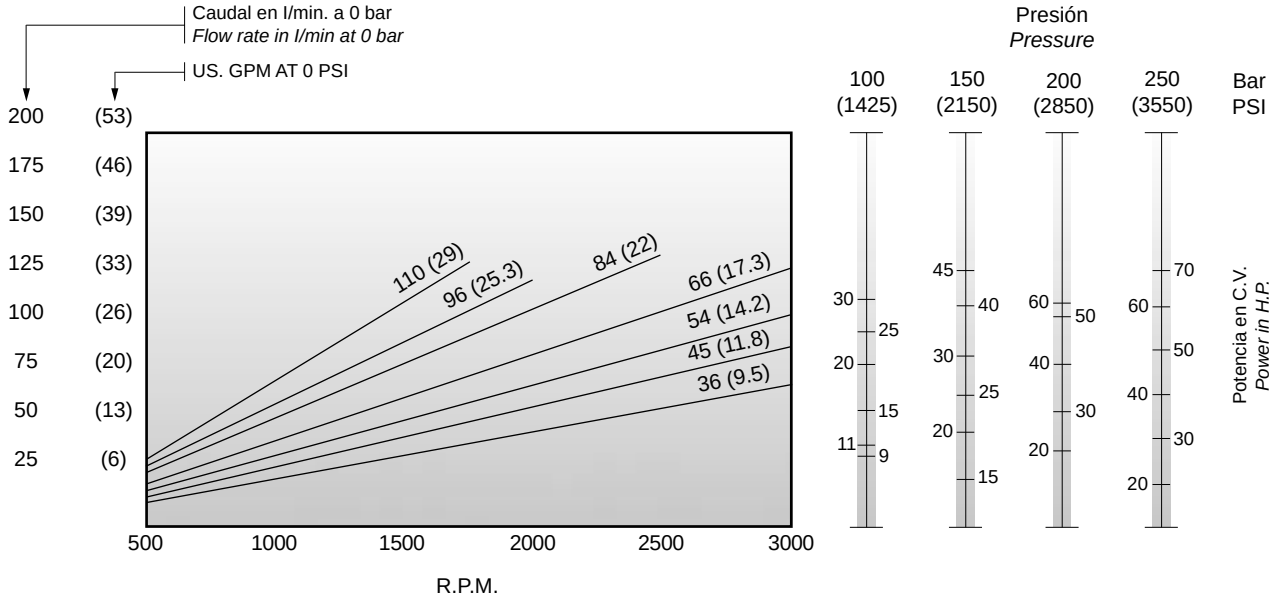
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PNT **17**



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	36 (9,5)	45 (11,8)	54 (14,2)	66 (17,3)	84 (22)	96 (25,3)	110 (29)
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	24 (1,46)	30 (1,82)	36 (2,19)	44 (2,68)	56 (3,41)	64 (3,90)	73,3 (4,46)
Presión máx. contínua en ***Cont. max. pressure***	bar *(PSI)*	270 (3916)		260 (3771)		210 (3046)	180 (2611)	160 (2321)
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	300 (4351)		285 (4133)		250 (3626)	225 (3263)	200 (2901)
R.P.M. máximas ***Max. R.P.M.***		3000				2500	2000	1750
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar (1425 PSI)	400				350		
	175 bar (2500 PSI)	450				350		
	250 bar (3550 PSI)	550				-	-	-
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG						
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46						
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H						
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F						

Diagramas / Diagrams



NOTA: Estos diagramas han sido obtenidos con un aceite de viscosidad VG 46 y una temperatura de 50°C.

NOTE: These results have been obtained with VG 46 viscosity oil and at 50 deg. C (122°F).

SISTEMA DE CODIFICACIÓN — CODING SYSTEM

1	PNA	36	D	B	19	F	–	*

Tipo / Type	
1	Sin polea / Without pulley
13	Con cojinete de apoyo y retén. *With ball bearing and shaft SEAL*
14	Con dos retenes y fuga exterior. *With two shafts seals and external drain.*
16	Eje estriado para montaje en ZF *Shaft section for mounting onto ZF*

Modelo / Model		
PNA	Bomba de engranajes *Gear pump*	
PNL	Bomba múltiple *Multiple-banked*	PNA + PNA
PND	Bomba múltiple *Multiple-banked*	PNA + L
PNT	Bomba múltiple *Multiple-banked*	PNA + LO

Caudal bomba a 1500 RPM a 0 bar *Pump flow rate at 1500 RPM and 0 bar*
Ver hoja técnica *See technical data*

Datos adicionales *Additional data*

Formas conexión tomas *Port connection form*
 T R M (S.A.E.)

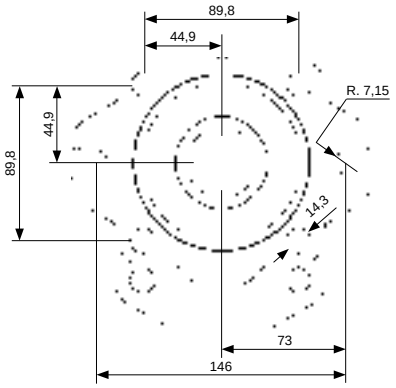
Tipo tapas / Fixing flange
09 - 10 - 11 - 15 - 50 - 90

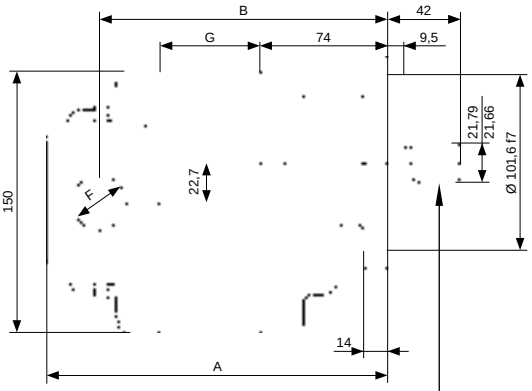
Forma eje motriz / Driving shaft
D - E - G - H - J - M - P - X

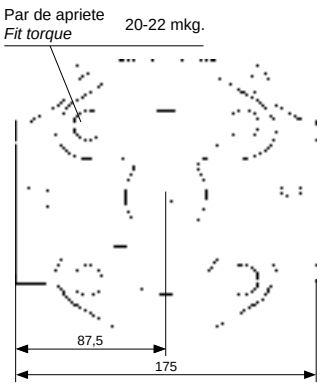
Sentido de giro / Rotation direction	
D	Derecha *Clockwise*
I	Izquierda *Counterclockwise*
R	Reversible *Reversible*

Tapa tipo / Front flange type 09

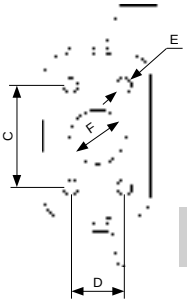
La bomba aquí representada es de giro derecha. / *The drawing above shows a pump turning clockwise.*







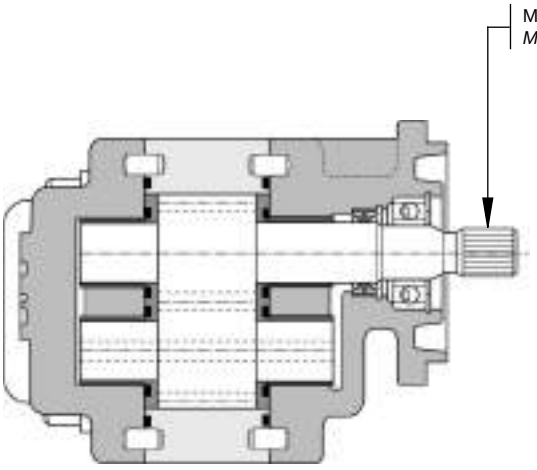
Ejes disponibles:
Available shafts: **G - M - P - H**



Forma de conexión M
Connection form M

Eje forma / *Shaft form G*

Características / *Spline data*
SAE base plana / *SAE falt base*
Diametral pitch 16/32
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 13 / *Teeth number* 13
Ajuste lateral / *Side fit*





▲ 13 PNA... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

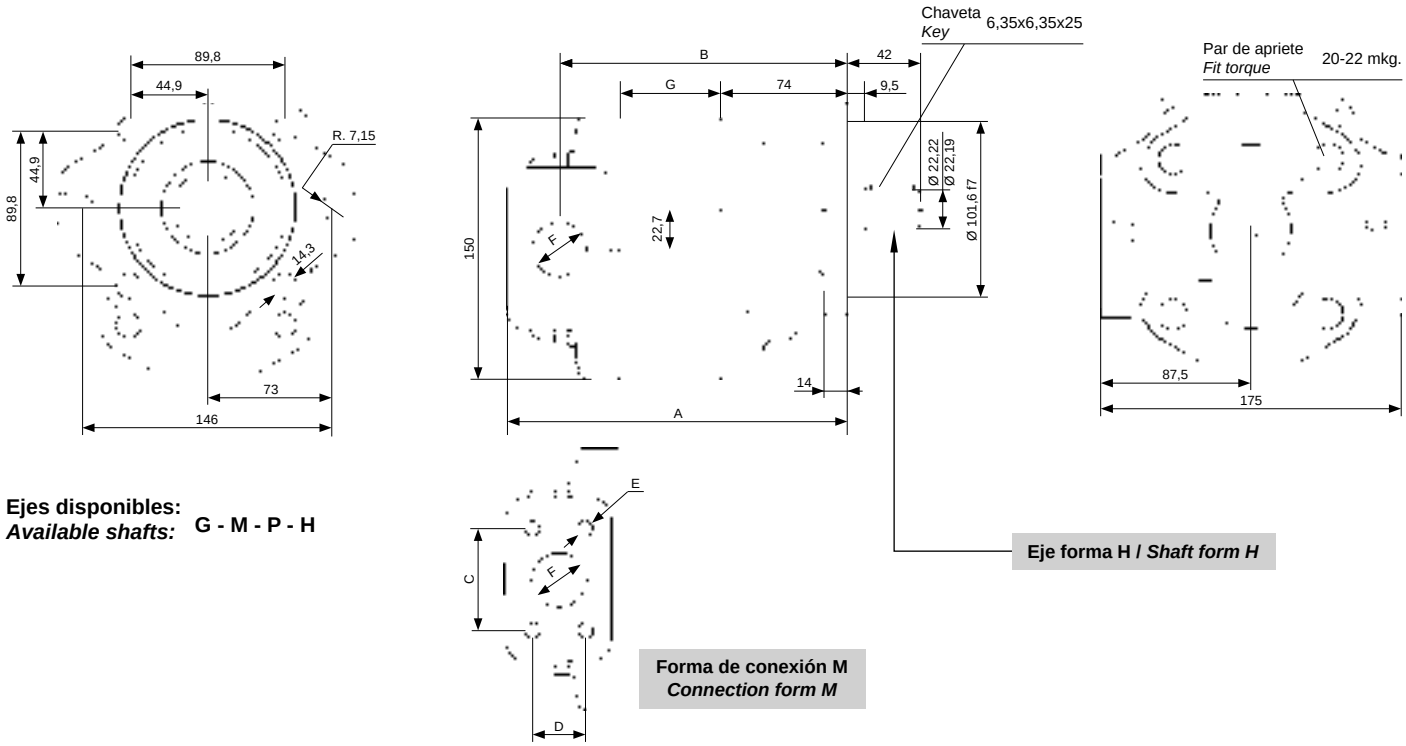
▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	M (S.A.E.)				R	M (S.A.E.)			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
▲PNA 36 D G09 ●	24	1,46	171,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
▲PNA 45 D G09 ●	30	1,82	176,5	145,5	36,5										
▲PNA 54 D G09 ●	36	2,19	181,5	150,5	41,5										
▲PNA 66 D G09 ●	44	2,68	188	157	48										
▲PNA 84 D G09 ●	56	3,41	197,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38
▲PNA 96 D G09 ●	64	3,90	204,5	173,5	64,5										
▲PNA 110 D G09 ●	73,3	4,47	212	181	72										

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 09

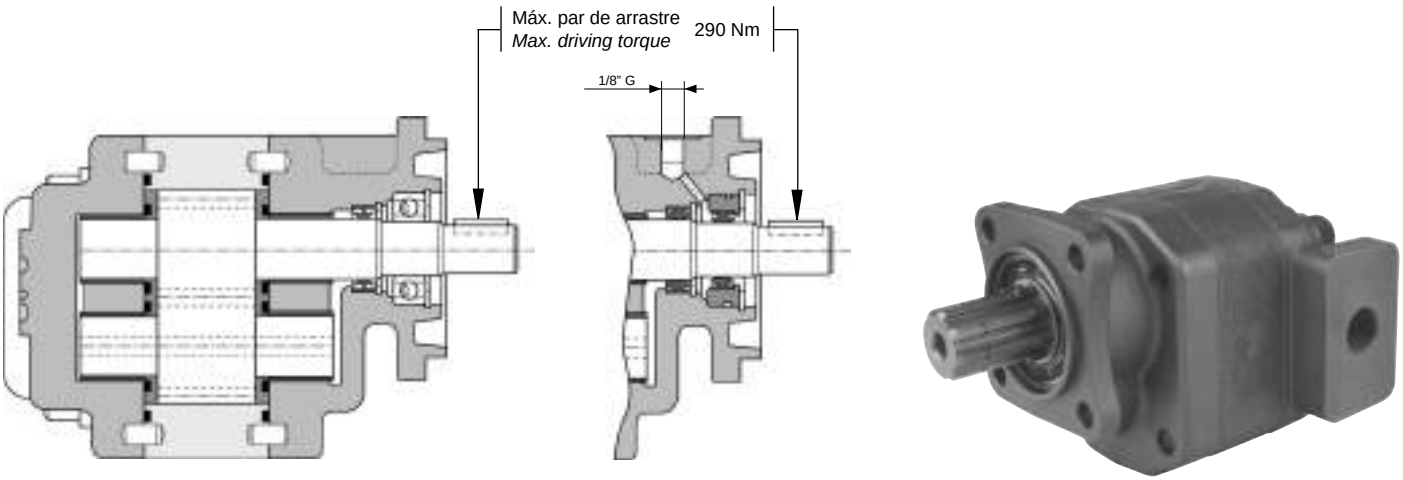
La bomba aquí representada es de giro derecha. / The drawing above shows a pump turning clockwise.



Ejes disponibles:
Available shafts: **G - M - P - H**

Eje forma H / *Shaft form H*

Forma de conexión M
Connection form M



▲ 13 PNA... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

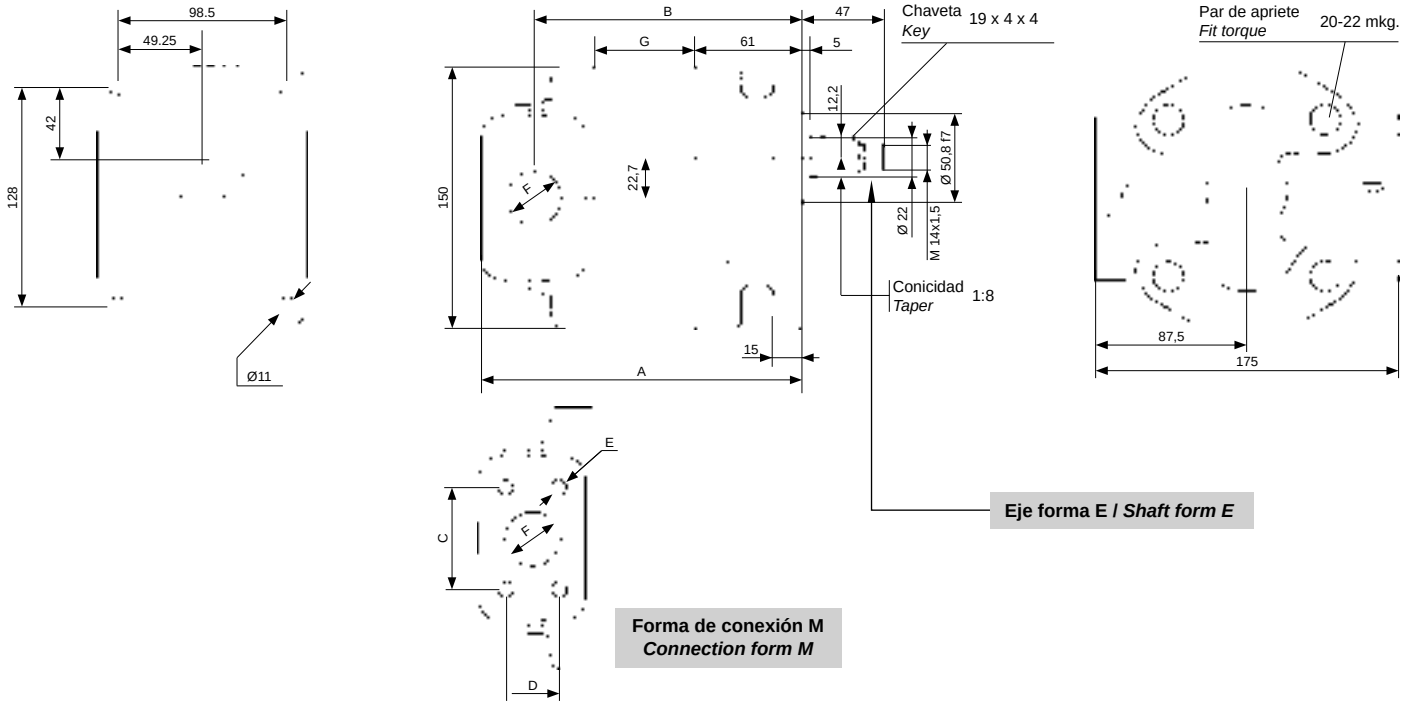
▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

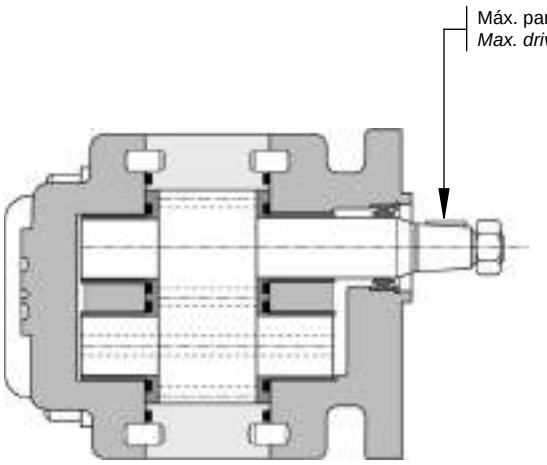
Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	*M (S.A.E.)*				*R*	*M (S.A.E.)*			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
▲ PNA 36 D H09 ●	24	1,46	171,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
▲ PNA 45 D H09 ●	30	1,82	176,5	145,5	36,5										
▲ PNA 54 D H09 ●	36	2,19	181,5	150,5	41,5										
▲ PNA 66 D H09 ●	44	2,68	188	157	48										
▲ PNA 84 D H09 ●	56	3,41	197,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38
▲ PNA 96 D H09 ●	64	3,90	204,5	173,5	64,5										
▲ PNA 110 D H09 ●	73,3	4,47	212	181	72										

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 10

La bomba aquí representada es de giro derecha. / The drawing above shows a pump turning clockwise.





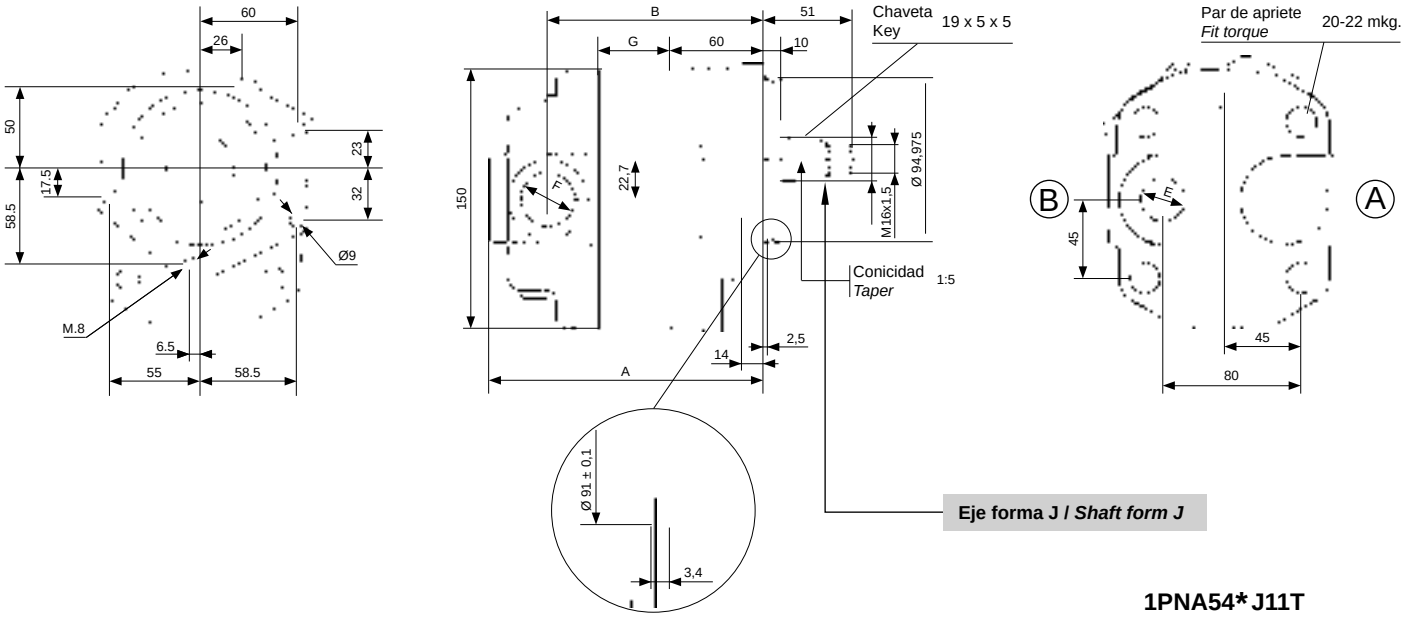
Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	M (S.A.E.)				R	M (S.A.E.)			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
1 PNA 36 D E10 ●	24	1,46	171,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
1 PNA 45 D E10 ●	30	1,82	176,5	145,5	36,5										
1 PNA 54 D E10 ●	36	2,19	181,5	150,5	41,5										
1 PNA 66 D E10 ●	44	2,68	188	157	48										
1 PNA 84 D E10 ●	56	3,41	197,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 11

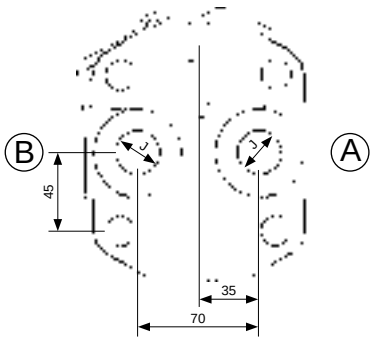
La bomba aquí representada es de giro derecha. / The drawing above shows a pump turning clockwise.

1PNA54* J11T-MAT1



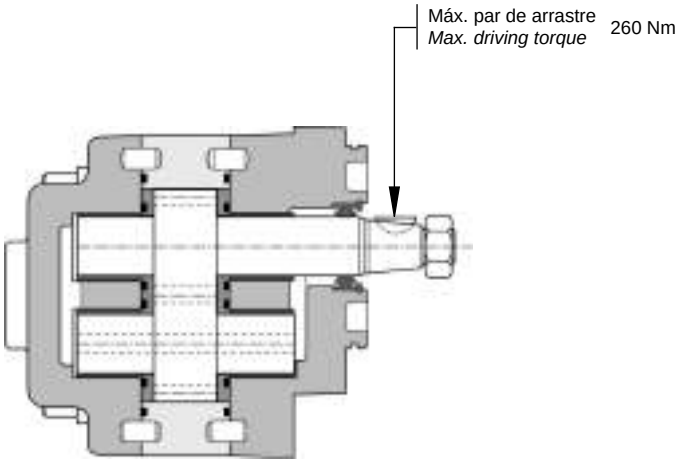
Eje forma J / *Shaft form J*

1PNA54* J11T



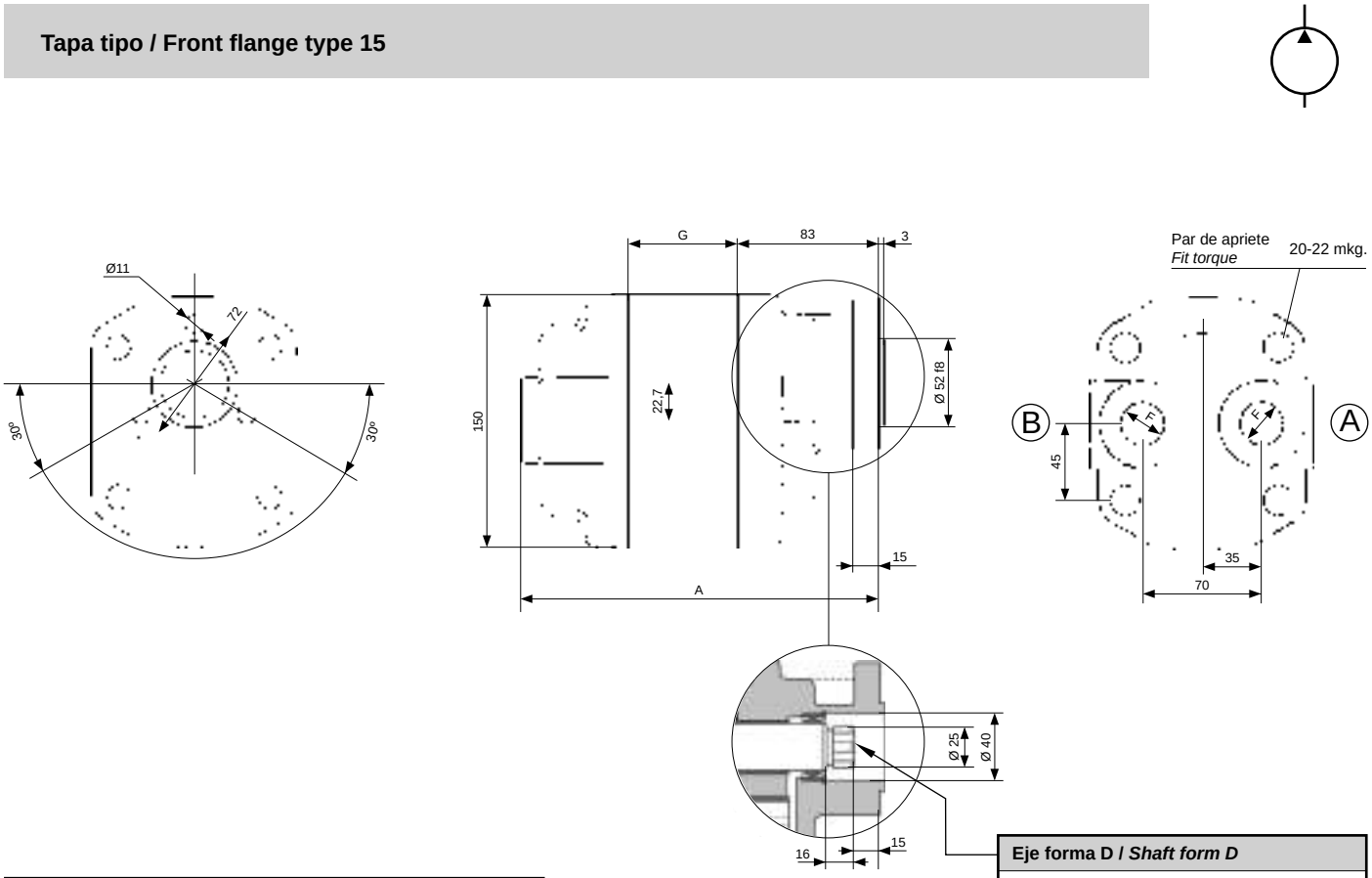
Forma de conexión T
Connection form T

Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T



Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure		Aspiración / Suction	
	cm³/v	cc/r.				F	J	F	J
1 PNA 54 * J11 ●	36	2,19	163,5	132,5	41,5	3/4" G	3/4" G	1" G	3/4" G

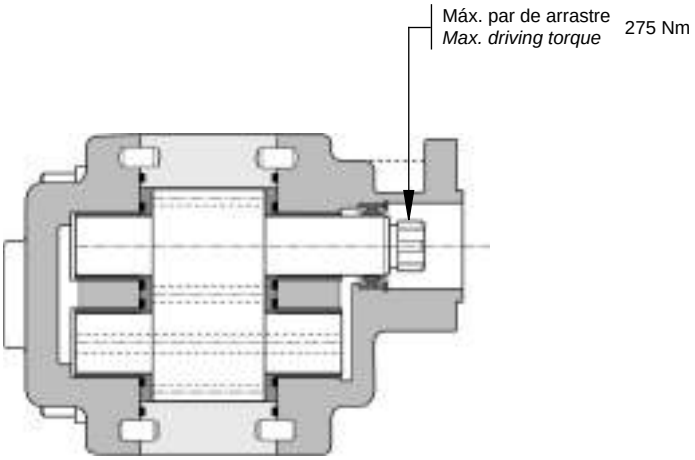
Tapa tipo / Front flange type 15



Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
✱D Derecha *Clockwise*	T	P
✱I Izquierda *Counter Clockwise*	P	T

Eje forma D / *Shaft form D*

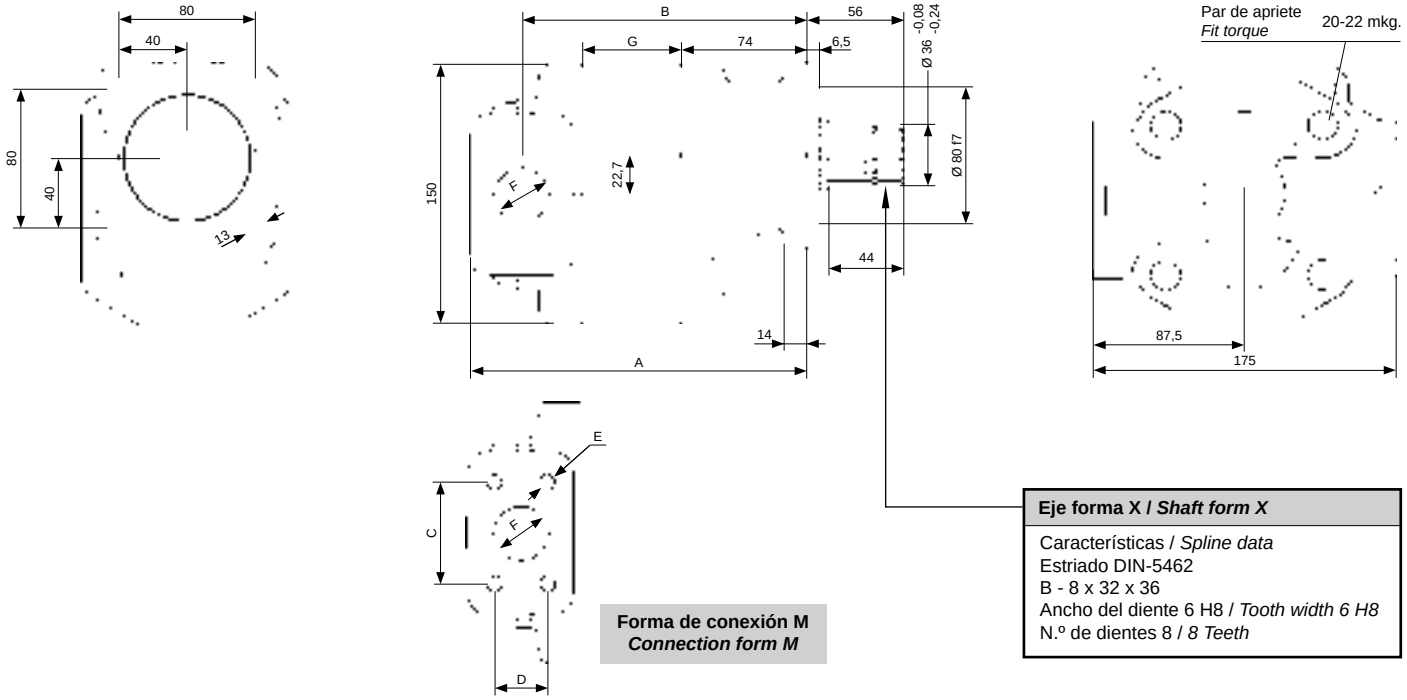
Características / *Spline data*
Estriado UNI-8953
6 x 21 x 25
Ancho del diente 5 / *Tooth width 5*
N.º de dientes 6 / *6 Teeth*



Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure	Aspiración / Suction
	cm³/v	cc/r.				F	F
1 PNA 96 ✱ D15T	64	3,90	213,5	64,5	41,5	3/4" G	1" G

Tapa tipo / Front flange type 50

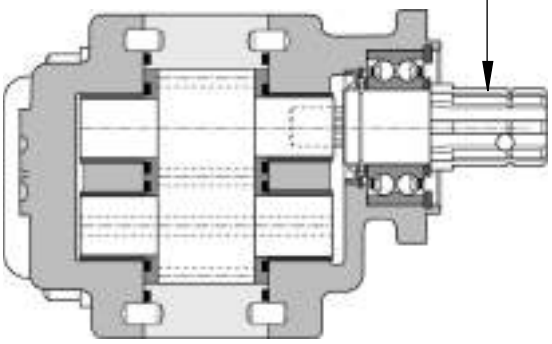
La bomba aquí representada es de giro derecha. / The drawing above shows a pump turning clockwise.



Eje forma X / *Shaft form X*

Características / *Spline data*
Estriado DIN-5462
B - 8 x 32 x 36
Ancho del diente 6 H8 / *Tooth width 6 H8*
N.º de dientes 8 / *8 Teeth*

Forma de conexión M
Connection form M



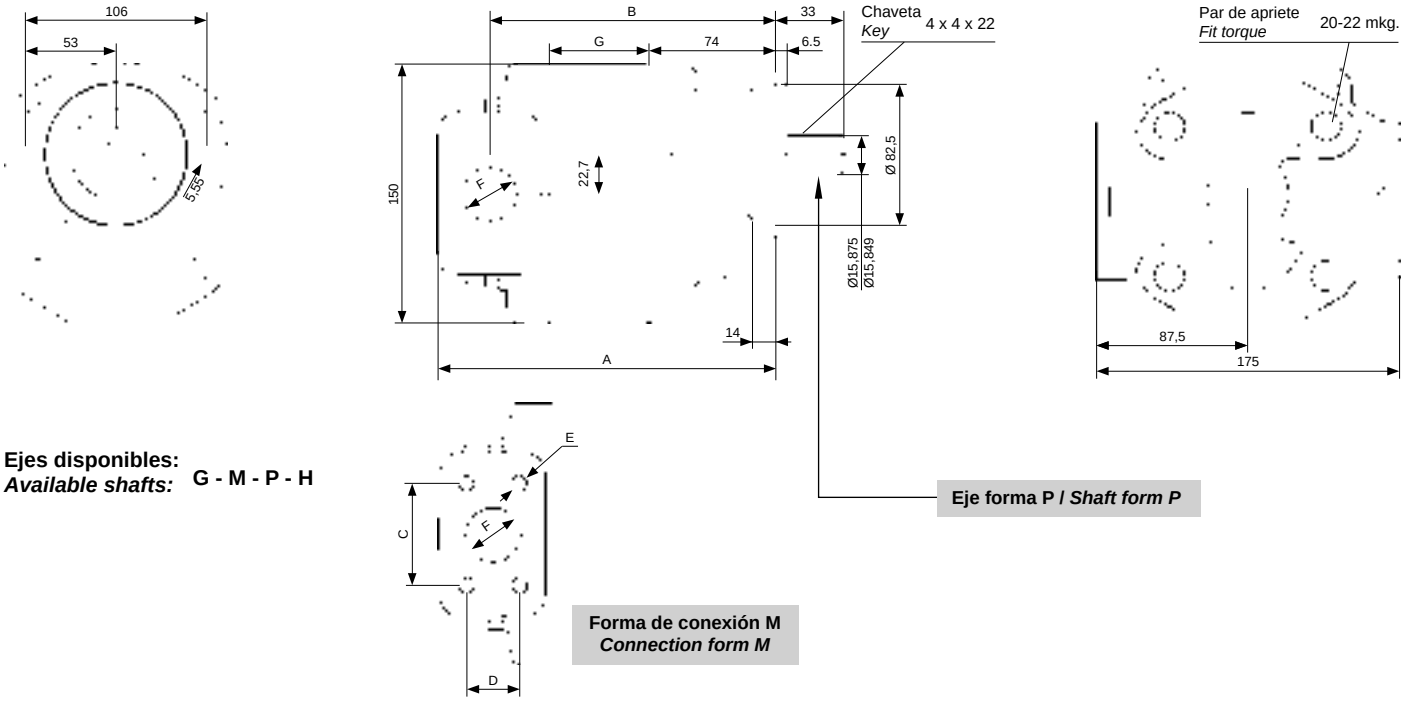


Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	M (S.A.E.)				R	M (S.A.E.)			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
16 PNA 36 D X50 ●	24	1,46	171,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
16 PNA 45 D X50 ●	30	1,82	176,5	145,5	36,5										
16 PNA 54 D X50 ●	36	2,19	181,5	150,5	41,5										
16 PNA 66 D X50 ●	44	2,68	188	157	48										
16 PNA 84 D X50 ●	56	3,41	197,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38
16 PNA 96 D X50 ●	64	3,90	204,5	173,5	64,5										
16 PNA 110 D X50 ●	73,3	4,47	212	181	72										

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 90

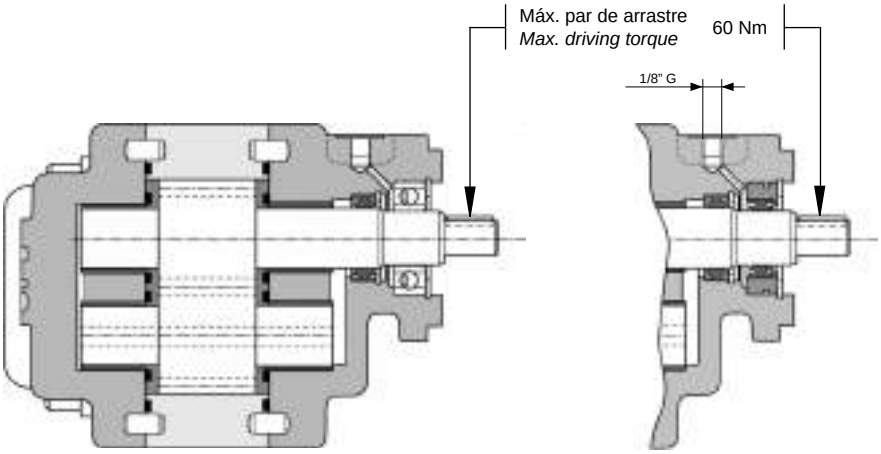
La bomba aquí representada es de giro derecha. / The drawing above shows a pump turning clockwise.



Ejes disponibles:
Available shafts: **G - M - P - H**

Eje forma P / *Shaft form P*

Forma de conexión M
Connection form M



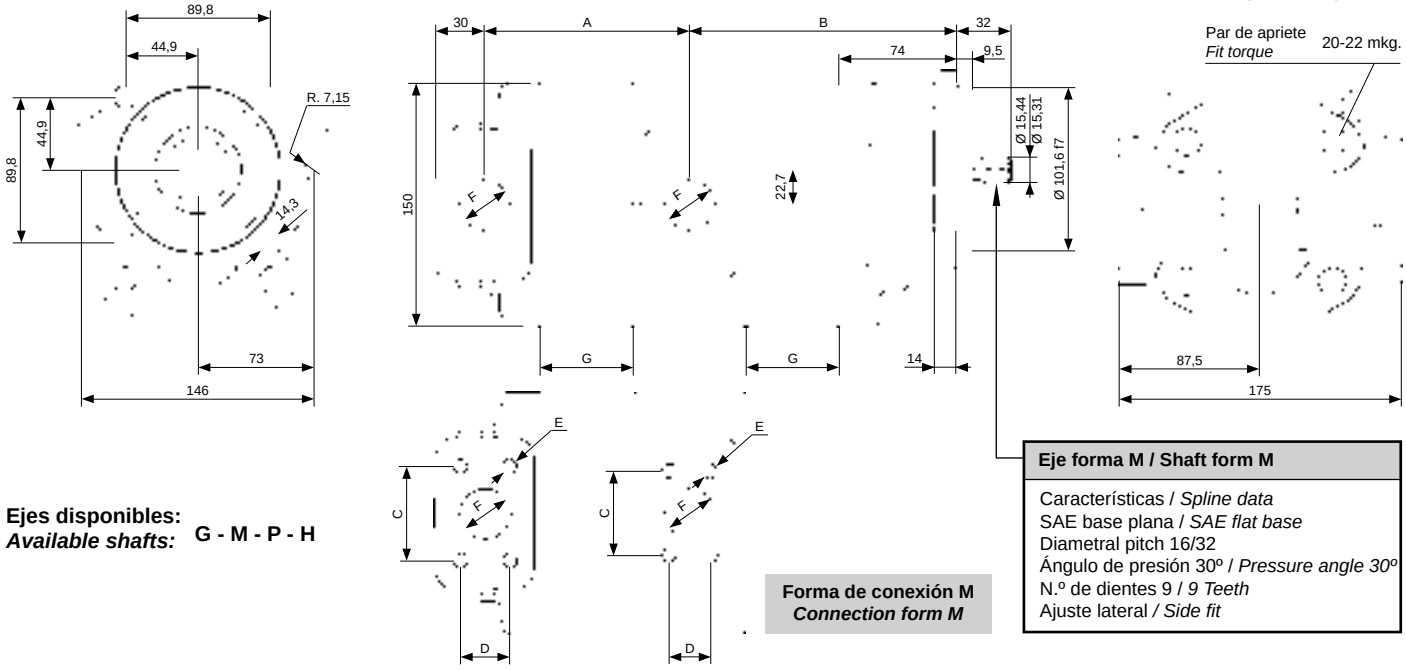
▲ 13 PNA... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	*M (S.A.E.)*				*R*	*M (S.A.E.)*			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
▲ PNA 36 D P90 ●	24	1,46	171,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
▲ PNA 45 D P90 ●	30	1,82	176,5	145,5	36,5										
▲ PNA 54 D P90 ●	36	2,19	181,5	150,5	41,5										
▲ PNA 66 D P90 ●	44	2,68	188	157	48										
▲ PNA 84 D P90 ●	56	3,41	197,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38
▲ PNA 96 D P90 ●	64	3,90	204,5	173,5	64,5										
▲ PNA 110 D P90 ●	73,3	4,47	212	181	72										

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 09

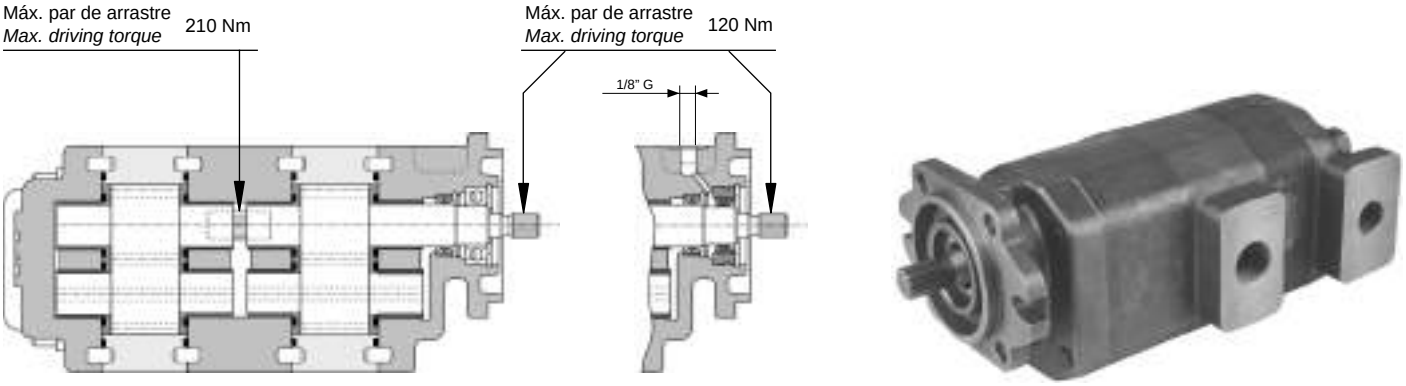


Ejes disponibles:
Available shafts: **G - M - P - H**

Forma de conexión M
Connection form M

Eje forma M / Shaft form M

Características / *Spline data*
SAE base plana / *SAE flat base*
Diametral pitch 16/32
Ángulo de presión 30º / *Pressure angle 30º*
N.º de dientes 9 / *9 Teeth*
Ajuste lateral / *Side fit*



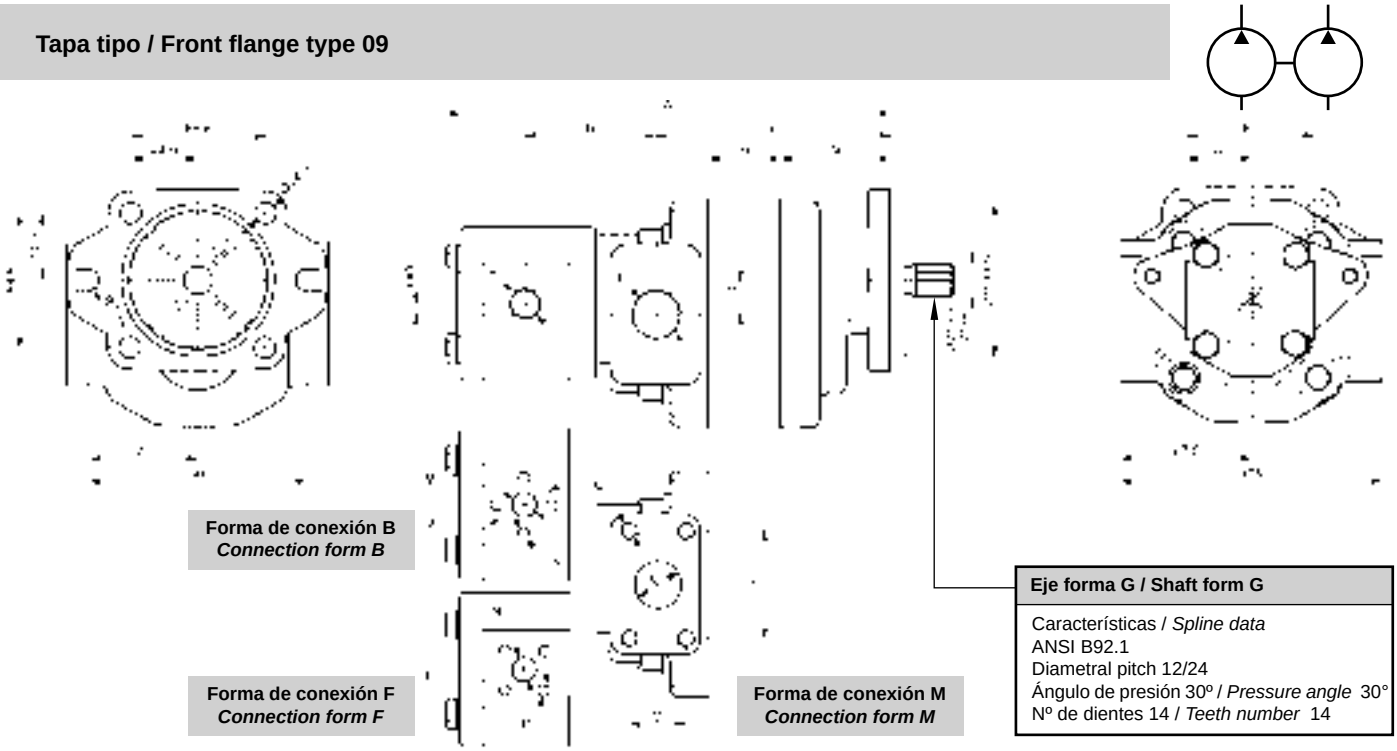
▲ 13 PNA... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

Referencia Reference	Cilindrada Displacement		A	B	G	Presión / Pressure Conexión / Connection					Aspiración / Suction Conexión / Connection				
						R	M (S.A.E.)				R	M (S.A.E.)			
	cm³/v	cc/r.				F	C	D	E	F	F	C	D	E	F
▲PNL 36-36 D M09●	24	1,46	101,5	140,5	31,5	3/4" G	52,4	26,2	M.10	26	1" G	58,7	30,2	M.10	32
▲PNL 45-45 D M09●	30	1,82	106,5	145,5	36,5										
▲PNL 54-54 D M09●	36	2,19	111,5	150,5	41,5										
▲PNL 66-66 D M09●	44	2,68	118	157	48										
▲PNL 84-84 D M09●	56	3,41	127,5	166,5	57,5	1" G	58,7	30,2	M.10	32	1" G 1/4"G	69,9	35,7	M.12	38
▲PNL 96-96 D M09●	64	3,90	134,5	173,5	64,5										
▲PNL 110-110 D M09●	73,3	4,47	142	181	72										

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

Tapa tipo / Front flange type 09



Forma de conexión B
Connection form B

Forma de conexión F
Connection form F

Forma de conexión M
Connection form M

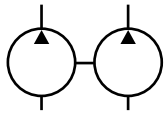
Eje forma G / Shaft form G

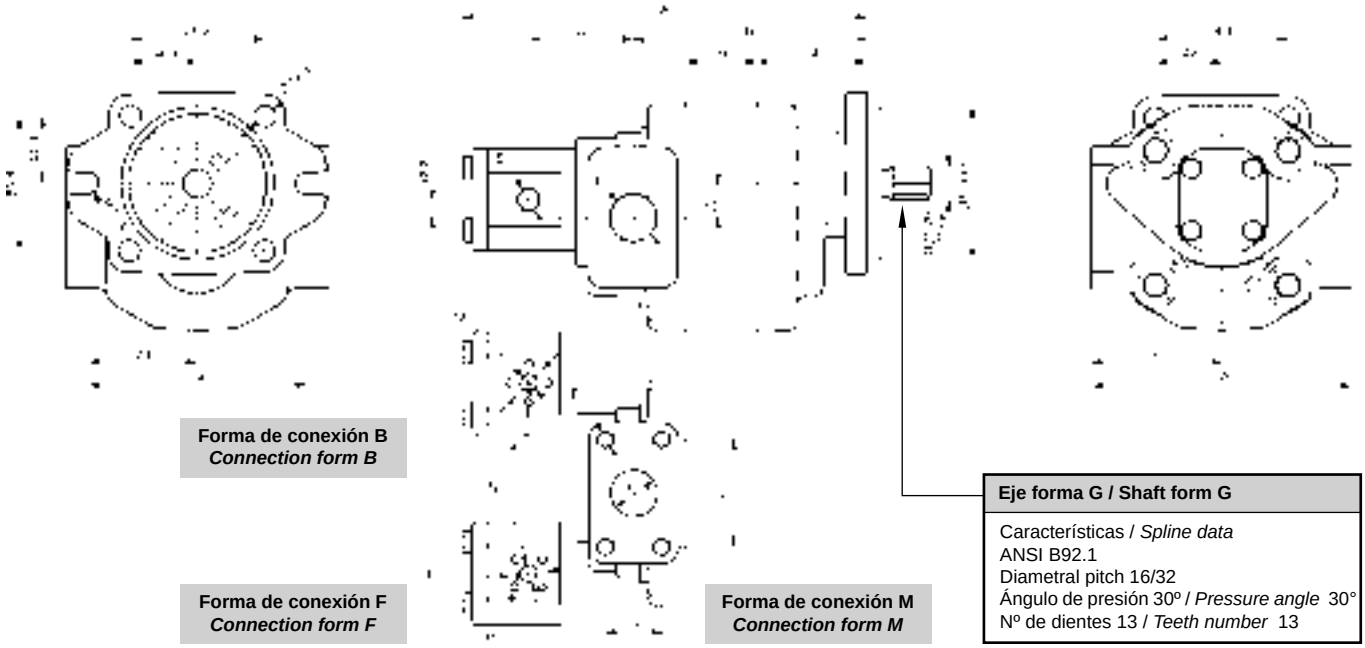
Características / *Spline data*
ANSI B92.1
Diametral pitch 12/24
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 14 / *Teeth number* 14

Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

Referencia *Reference*	Cilindrada *Displacement* cm³/v		A	B	G	H	Presión / *Pressure*												Aspiración / *Suction*											
							Conexión / *Connection*												Conexión / *Connection*											
							M (S.A.E.)				R		B			F			M (S.A.E.)				R		B			F		
	PNA	L					C	D	E	F	S	T	J	K	M	L	P	N	C	D	E	F	S	T	J	K	M	L	P	N
▲ PND 36 - 9 *G09 ●	53.3	6	284.5	140.5	80.5	31.5	52.4	26.2	M50	26	3/8" G	3/4" G	30	M6	13.5	35	M6	15	58.7	30.2	M10	32	3/8" G	3/4" G	30	M6	13.5	40	M6	15
12 *G09 ●		8	288		82.6																									
16 *G09 ●		10.6	292.5												15										40	M8	20			20
22 *G09 ●		14.6	299		87						1/2" G												1/2" G							
27 *G09 ●		18	305																											
35 *G09 ●		23.3	314		94.5																									
▲ PND 45 - 9 *G09 ●	66.6	6	289.5	145.5	80.5	36.5									13.5										30	M6	13.5			15
12 *G09 ●		8	293		82.6																									
16 *G09 ●		10.6	297.5												15										40	M8	20			20
22 *G09 ●		14.6	304		87																									
27 *G09 ●		18	310																											
35 *G09 ●		23.3	319		94.5																									
▲ PND 54 - 9 *G09 ●	83.3	6	294.5	150.5	80.5	41.5									13.5										30	M6	13.5			15
12 *G09 ●		8	298		82.6																									
16 *G09 ●		10.6	302.5												15										40	M8	20			20
22 *G09 ●		14.6	309		87																									
27 *G09 ●		18	315																											
35 *G09 ●		23.3	324		94.5																									
▲ PND 66 - 9 *G09 ●	100	6	301	157	80.5	48									13.5										30	M6	13.5			15
12 *G09 ●		8	304.5		82.6																									
16 *G09 ●		10.6	309												15										40	M8	20			20
22 *G09 ●		14.6	315.5		87																									
27 *G09 ●		18	321.5																											
35 *G09 ●		23.3	330.5		94.5																									
▲ PND 84 - 9 *G09 ●	116,6	6	310.5	166,5	80.5	57.5									13.5										30	M6	13.5			15
12 *G09 ●		8	314		82.6																									
16 *G09 ●		10.6	318.5												15										40	M8	20			20
22 *G09 ●		14.6	325		87																									
27 *G09 ●		18	331																											
35 *G09 ●		23.3	337		94.5																									
▲ PND 96 - 9 *G09 ●	133,3	6	317.5	173.5	80.5	64.5	52.4	26.2	M50	26	3/8" G	1"G			13.5				69.9	35.7	M12	38	3/8" G	1"G 1/4" G	30	M6	13.5			15
12 *G09 ●		8	321		82.6																									
16 *G09 ●		10.6	325.5												15										40	M8	20			20
22 *G09 ●		14.6	332		87																									
27 *G09 ●		18	338																											
35 *G09 ●		23.3	344		94.5																									
▲PND 110 - 9 *G09 ●	150	6	325	181	80.5	72									13.5										30	M6	13.5			15
12 *G09 ●		8	328.5		82.6																									
16 *G09 ●		10.6	333												15										40	M8	20			20
22 *G09 ●		14.6	339.5		87																									
27 *G09 ●		18	345.5																											
35 *G09 ●		23.3	351.5		94.5																									

Tapa tipo / Front flange type 09





Forma de conexión B
Connection form B

Forma de conexión F
Connection form F

Forma de conexión M
Connection form M

Eje forma G / Shaft form G

Características / *Spline data*
ANSI B92.1
Diametral pitch 16/32
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 13 / *Teeth number* 13

Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

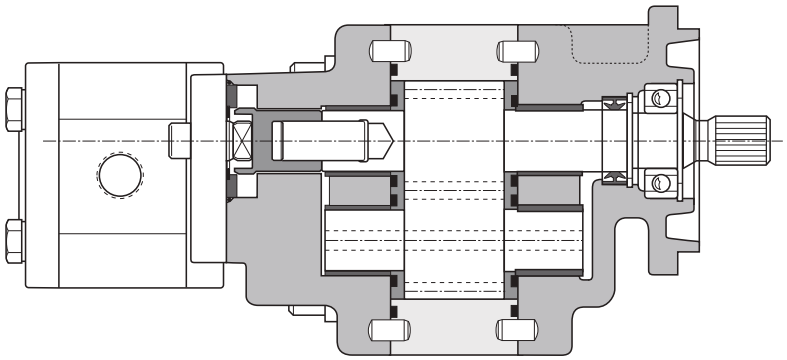
Referencia *Reference*	Cilindrada *Displacement* cm³/v		A	B	G	H	Presión / *Pressure*												Aspiración / *Suction*											
							Conexión / *Connection*												Conexión / *Connection*											
							M (S.A.E.)				*R*		*B*			*F*			*M (S.A.E.)*				*R*		*B*			*F*		
	PNA	L0					C	D	E	F	S	T	J	K	M	L	P	N	C	D	E	F	S	T	J	K	M	L	P	N
▲PNT 36- 1.5 *G09●		1	245		38.2																									
3 *G09●		2	250		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	24	3.3	257	140.5	71.7	31.5																								
7.5*G09●		5	265.5		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	274		80																									
▲PNT 45- 1.5 *G09●		1	250		38.2																									
3 *G09●		2	255		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	30	3.3	262	145.5	71.7	36.5																								
7.5*G09●		5	270.5		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	279		80																									
▲PNT 54- 1.5 *G09●		1	255		38.2		52.4	26.2	M50	26		3/4" G							58.7	30.2	M10	32								
3 *G09●		2	260		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	36	3.3	267	150.5	71.7	41.5																								
7.5*G09●		5	275.5		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	284		80																									
▲PNT 66- 1.5 *G09●		1	261.5		38.2																									
3 *G09●		2	266.5		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	44	3.3	273.5	157	71.7	48																								
7.5*G09●		5	282		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	290.5		80																									
▲PNT 84- 1.5 *G09●		1	271		38.2																									
3 *G09●		2	276		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	56	3.3	283	166.5	71.7	57.5																								
7.5*G09●		5	291.5		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	300		80																									
▲PNT 96- 1.5 *G09●		1	278		38.2																									
3 *G09●		2	283		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	64	3.3	290	173.5	71.7	64.5	52.4	26.2	M50	26		1"G				30	M6	11	69.9	35.7	M12	38						30	M6	14
7.5*G09●		5	298.5		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	307		80																									
▲PNT 110-1.5 *G09●		1	285.5		38.2																									
3 *G09●		2	290.5		38.2						1/4" G		-	-	-								3/8" G		-	-	-			
5 *G09●	73.3	3.3	297.5	181	71.7	72																								
7.5*G09●		5	306		74.7						3/8" G		30	M6	13.5								1/2" G		30	M6	13.5			
10 *G09●		6.6	314.5		80																									

Para bombas reversibles conexión sólo "R", las tomas serán iguales en ambos lados y las medidas corresponderán a la toma de aspiración.
In reversible pumps, threaded ports available "R" only, both ports same dimensions that corresponds to the suction dimension.

PND



▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

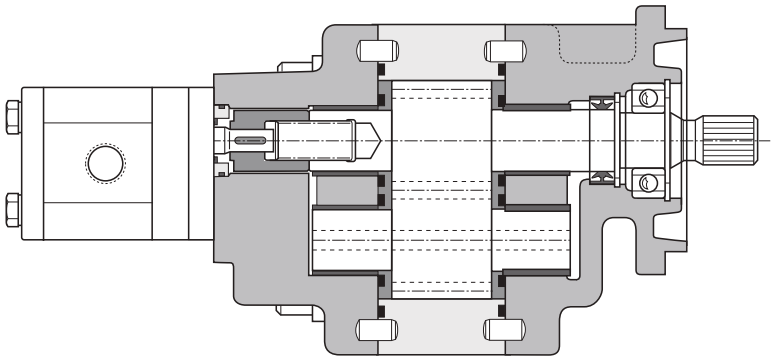


▲ 13 PND... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

PNT



▲ 14 PNA... Con dos retenes y fuga exterior.
With two shafts seals and external drain.



▲ 13 PNT... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

MENU

Roquet
making moves

www.roquetgroup.com

BI.02.07.02/12.20

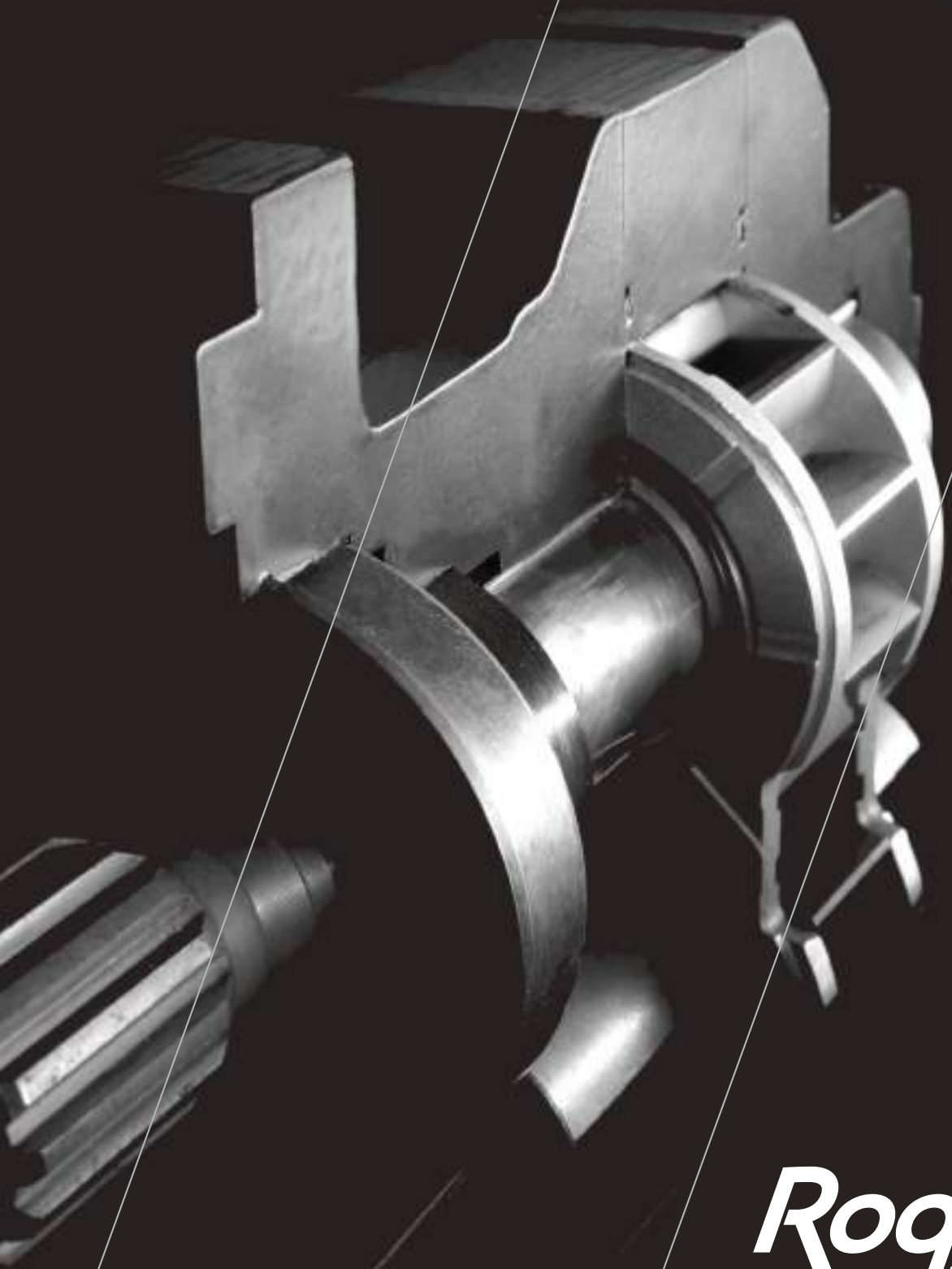
www.ciandisseny.com

MENU

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PNC

BOMBAS DE ENGRANAJES
GEAR PUMPS



Roquet
making moves

HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas criticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones fi nales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.

TECHNOLOGY Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.

RELIABILITY A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.

CAPABILITY 400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.









Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUETHYDRAULICS, S.L. Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUETHYDRAULICS, S.L.
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ROQUETHYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
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ROQUETHYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUETHYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Nuestras bombas están equilibradas hidrostáticamente y provistas de reajuste lateral automático.

Se recomienda el empleo de aceite para instalaciones oleodinámicas con aditivos antiespumantes y de extrema presión.

Para obtener una larga vida, tanto del aceite como de la bomba es preciso trabajar entre una viscosidad de 20 - 80 cSt, según presiones de trabajo a una temperatura de 50º C.

Gama de temperaturas del fluido hidráulico +5º C +80º C.

El apartado de filtraje es muy importante, ya que la mayoría de averías son debidas a la suciedad del aceite. Ver datos técnicos.

La mejor forma de accionamiento es de conexión directa por medio de un acoplamiento elástico, que permite un movimiento mínimo radial y axial de 0,3 a 0,4 mm, por lo que de esta forma quedarán absorbidas todas las vibraciones del motor que tanto perjudican la buena marcha de la bomba.

Los conductos de aspiración serán lo suficientemente dimensionados para que la depresión no exceda de 0,3 bars.

Conexión por bridas S.A.E. o rosca G.

Sentido de giro derecha o izquierda, mirando la bomba por el lado del eje.

Antes de poner por primera vez la bomba en marcha, asegurarse que el sentido de giro es el correcto.

Presentamos en el apartado de bombas dobles, varios tipos de fijación con sus ejes más normales. No obstante se podrán construir bombas dobles con las mismas fijaciones que las simples y sus ejes correspondientes.

Estas consideraciones también son validas para bombas triples y cuadruples, que podemos fabricar.

NOTA IMPORTANTE: En versión stándar la conexión es de rosca G.

Our pumps are hydrostatically balanced and have automatic lateral adjustment.

We recommend the use of the oil for oil-dynamic installations with antifoaming additives and for extreme pressure.

To obtain extended pump life it is necessary to work with oil viscosities between 20 - 80 cSt, relating to working pressure and at a temperature of 50ºC.

Oil temperature range +5ºC - +80ºC.

Filtration is extremely important since most problems are due to oil contamination.

The most efficient drive method is by means of axial flexible coupling, with minimum 0,3 - 0,4 mm. radial and axial movement, thus reducing the effects of vibration and maintaining maximum efficiency of the pump.

The suction pipes should be large enough to ensure that cavitation does not exceed 0,3 Bar.

Connection by SAE flange or threaded G.

Rotation direction: Clockwise or anti-clockwise when facing the shaft end.

Before starting the pump, make sure the direction of rotation is correct.

Double and multiple pumps are available with all shafts and flanges shown for single pumps.

IMPORTANT NOTE: Side ports threaded G are available as standard version.

Índice / Index

Bomba de engranajes / Gear pump PNC

Datos técnicos / Technical data **4-5**
Sistema de codificación / Coding system **6**
Tapa tipo 01 / Front flange type 01 ..... **7**
Tapa tipo 10 / Front flange type 10 ..... **8**
Tapa tipo 09 / Front flange type 09 ..... **9**
Tapa tipo 50 / Front flange type 50 ..... **10**

Bomba de engranajes / Gear pump PNJ

Tapa tipo 09 / Front flange type 09 ..... **11**

Bomba de engranajes / Gear pump PNK

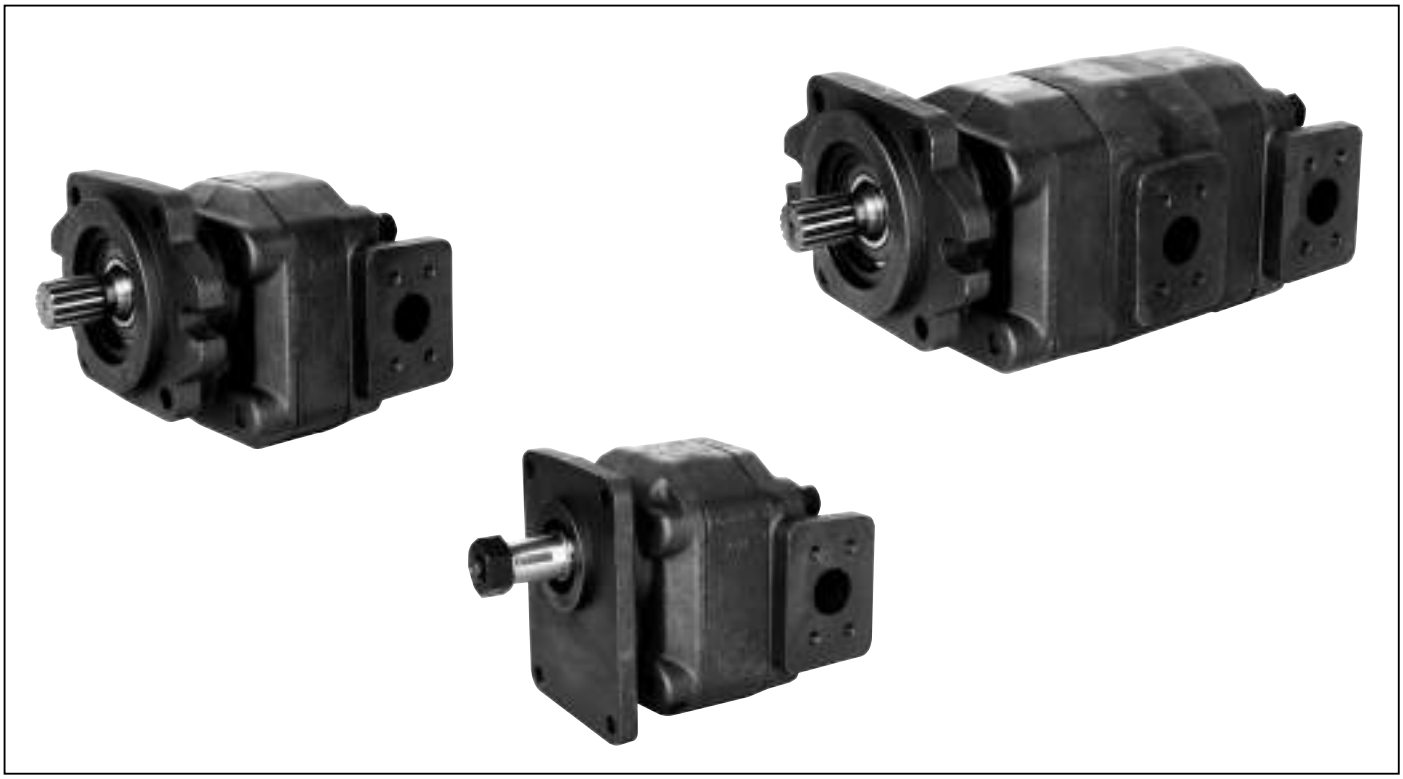
Tapa tipo 09 / Front flange type 09 ..... **12**

Bomba de engranajes / Gear pump PNH

Tapa tipo 09 / Front flange type 09 ..... **13**

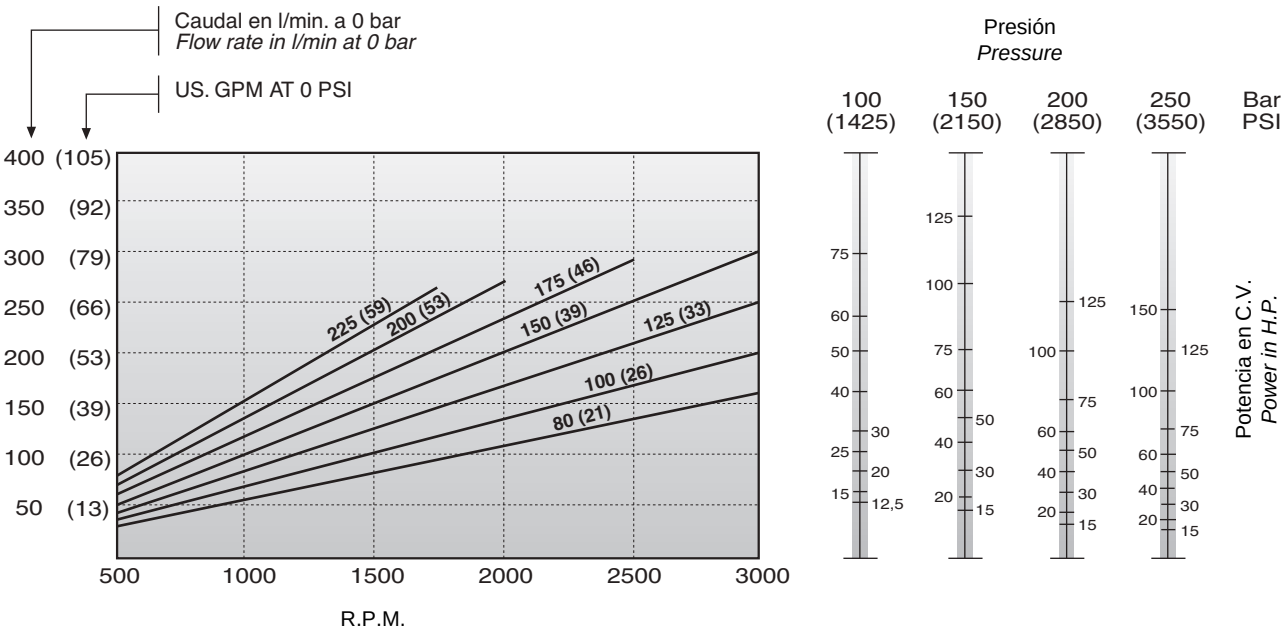
Sección / Section

PNK **14**
PNH **14**



Caudal bomba ***Pump flow rate***	L/min. 1500 R.P.M. *(US. GPM 1500 RPM)*	80 (21)	100 (26)	125 (33)	150 (39)	175 (46)	200 (53)	225 (59)
Cilindrada ***Displacement***	cm^3/v - cc/rev *(in^3/rev)*	53,3 (3,27)	66,6 (4,06)	83,3 (5,08)	100 (6,10)	116,6 (7,11)	133,3 (8,13)	150 (9,15)
Presión máx. contínua en ***Cont. max. pressure***	bar *(PSI)*	260 (3700)		250 (3550)		225 (3200)	200 (2850)	175 (2500)
Presión máx. inter 5 seg. max. ***Intermittent max. pressure***	bar *(PSI)*	290 (4100)		275 (3900)		250 (3550)	225 (3200)	200 (2850)
R.P.M. máximas ***Max. R.P.M.***		3000				2500	2000	1750
Mínimas R.P.M. según presión ***Min. R.P.M. at given pressures***	100 bar (1425 PSI)	400				350		
	175 bar (2500 PSI)	450				400		
	250 bar (3550 PSI)	550				-	-	-
Aceite recomendado ***Fluid to be used***		ISO 6743 tipo HM, HV ó HG						
Viscosidad ***Viscosity range***		ISO 3448 cat. VG32-VG46						
Grado de limpieza del aceite ***Recommended fluid cleanliness***		19/16 s/. ISO 4406 ó RP70H						
Temperatura de trabajo del aceite ***Oil temperature***		-20°C... +80°C -4°F... +176°F						
Temperatura ambiente ***Ambient temperature***		-20°C... +80°C -4°F... +176°F						

Diagramas / Diagrams



NOTA: Estos diagramas han sido obtenidos con un aceite de viscosidad VG 46 y una temperatura de 50°C.

NOTE: These results have been obtained with VG 46 viscosity oil and at 50 deg. C (122°F).

SISTEMA DE CODIFICACIÓN — CODING SYSTEM

1	PNC	80	D	A	01	M	–	*

Tipo / Type

1	Sin polea / Without pulley
13	Con cojinete de apoyo y retén. *With ball bearing and shaft SEAL*
14	Con dos retenes y fuga exterior. *With two shafts seals and external drain.*

Modelo / Model

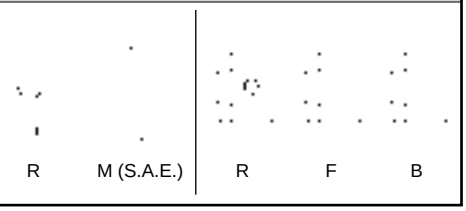
PNC	Bomba de engranajes *Gear pump*	
PNJ	Bomba múltiple *Multiple-banked*	PNC + PNC
PNK	Bomba múltiple *Multiple-banked*	PNC + PNA
PNH	Bomba múltiple *Multiple-banked*	PNC + L
PNZ	Bomba múltiple *Multiple-banked*	PNC + LO

Caudal bomba a 1500 RPM a 0 bar
Pump flow rate at 1500 RPM and 0 bar

Ver hoja técnica
See technical data

Datos adicionales
Additional data

Formas conexión tomas
Port connection form



Tipo tapas / Fixing flange

01 - 09 - 10 - 11 - 50

Forma eje motriz / Driving shaft form

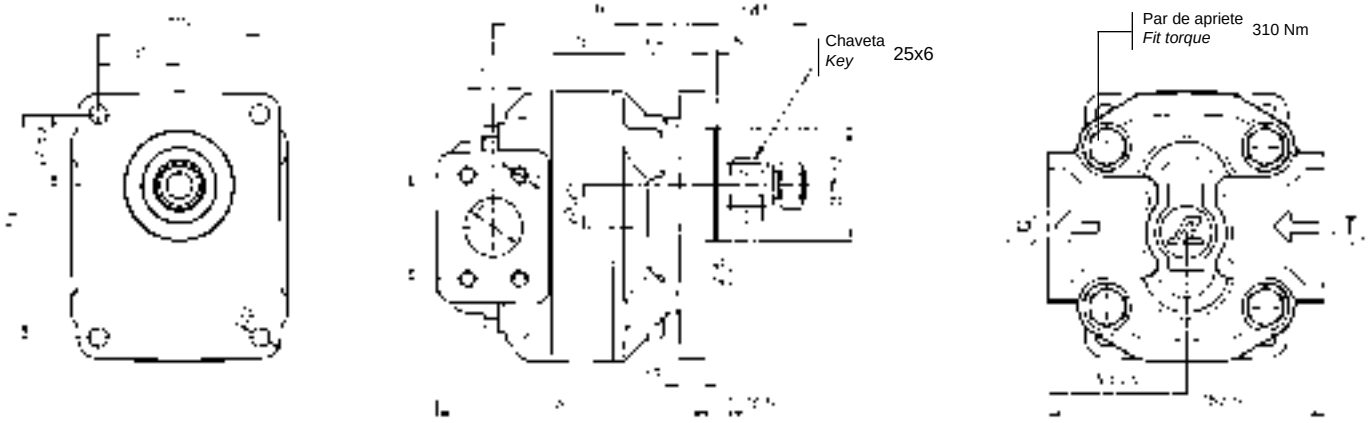
A - E - F - G - H - J - S - X

Sentido de giro / Rotation direction

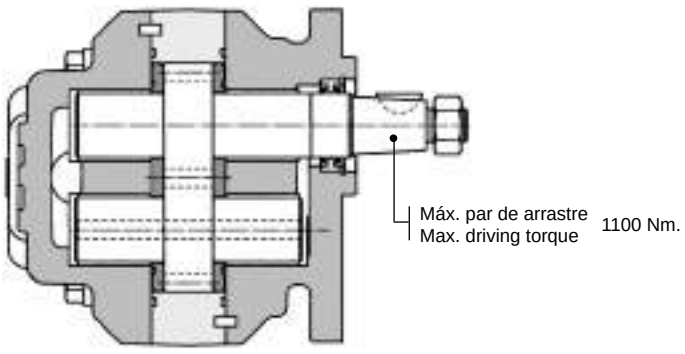
D	Derecha *Clockwise*
I	Izquierda *Counterclockwise*

Tapa tipo / Front flange type 01

Eje forma A / *Shaft form A*



Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

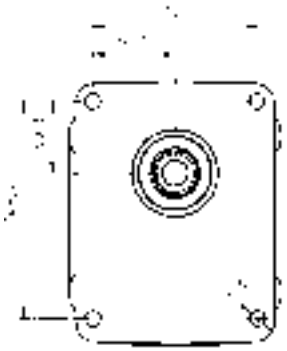


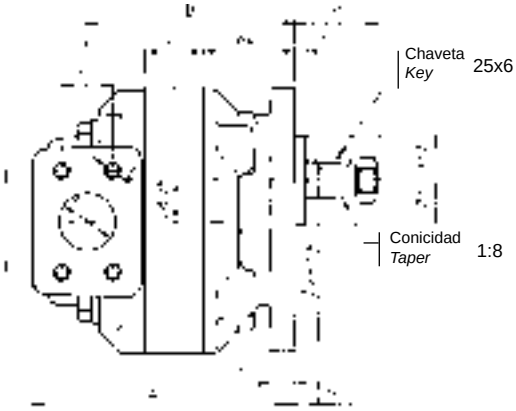


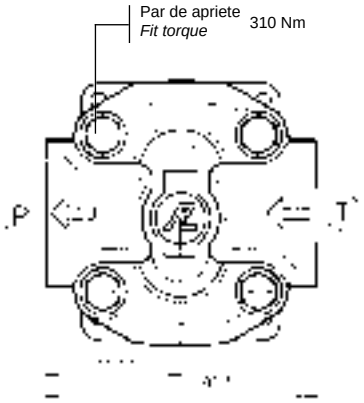
Referencia Reference	Cilindrada cm³/v Displacement cc/r.	G	A	B	Presión Pressure				Aspiración Suction				Peso Weight Kg.
					C	D	E	F	C	D	E	F	
1 PNC80*A01M	53,3	41	184	145	58,7	30,2	M.10	32	69,8	35,7	M.12	38	23
1 PNC100*A01M	66,6	47,5	190,5	151,5									24
1 PNC125*A01M	83,3	55,5	198,5	159,5									25
1 PNC150*A01M	100	64	207	168	69,8	35,7	M.12	38	77,8	42,9	M.12	50	26
1 PNC175*A01M	116,6	72	215	176									27
1 PNC200*A01M	133,3	80,5	223,5	184,5									28
1 PNC225*A01M	150	88,5	231,5	192,5									29

Tapa tipo / Front flange type 10

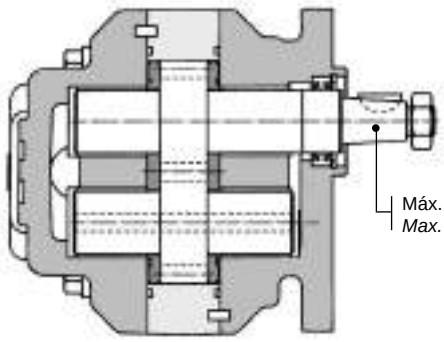
Eje forma E / *Shaft form E*







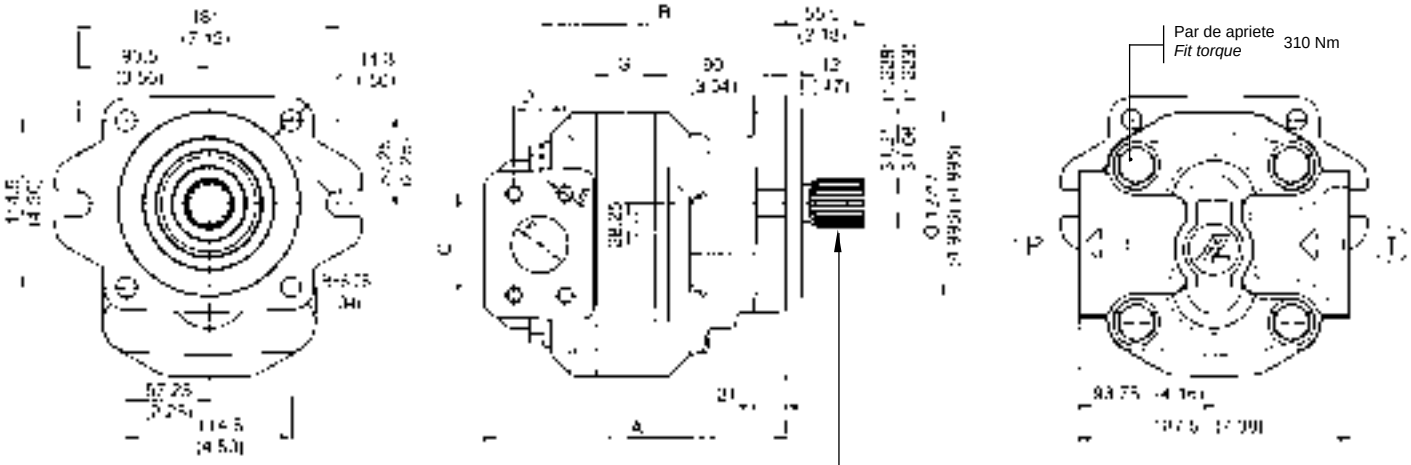
Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T





Referencia Reference	Cilindrada cm³/v Displacement cc/r.	G	A	B	Presión Pressure				Aspiración Suction				Peso Weight Kg.
					C	D	E	F	C	D	E	F	
1 PNC80*E10M	53,3	41	184	145	58,7	30,2	M.10	32	69,8	35,7	M.12	38	23
1 PNC100*E10M	66,6	47,5	190,5	151,5									24
1 PNC125*E10M	83,3	55,5	198,5	159,5									25
1 PNC150*E10M	100	64	207	168	69,8	35,7	M.12	38	77,8	42,9	M.12	50	26
1 PNC175*E10M	116,6	72	215	176									27
1 PNC200*E10M	133,3	80,5	223,5	184,5									28
1 PNC225*E10M	150	88,5	231,5	192,5									29

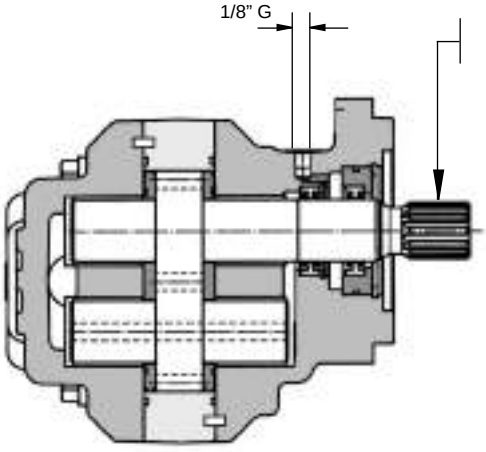
Tapa tipo / Front flange type 09



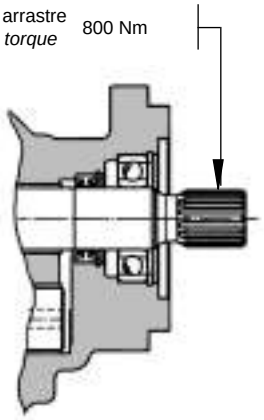
Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

Eje forma / Shaft form G

Características / *Spline data*
ANSI B92.1
Diametral pitch 12/24
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 14 / *Teeth number* 14



▲ 14 PNC... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

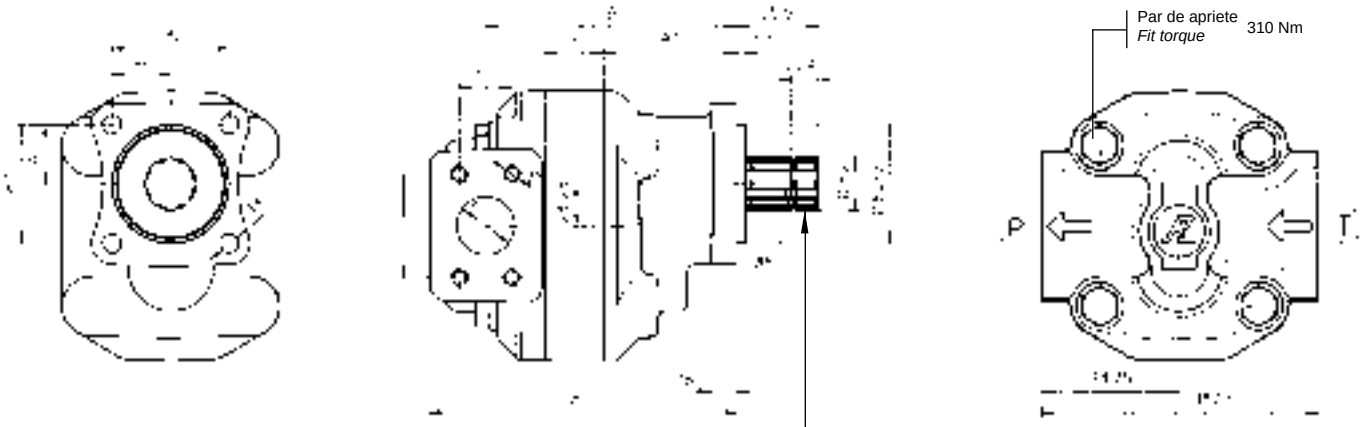


▲ 13 PNC... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.



Referencia Reference	Cilindrada cm³/v Displacement cc/r.		G		A		B		Presión Pressure				Aspiración Suction				Peso Weight	
	cm³/v cc/r.	in³/rev.	mm	in.	mm	in.	mm	in.	C	D	E	F	C	D	E	F	Kg.	Lb.
▲ PNC80*G09M	53,3	3,27	41	(1,61)	210	(8,26)	171	(6,73)	58,7 (2,31)	30,2 (1,18)	M.10	32 (1,25)	69,8 (2,75)	35,7 (1,40)	M.12	38 (1,49)	25,5	56,1
▲ PNC100*G09M	66,6	4,06	47,5	(1,87)	216,5	(8,52)	177,5	(6,98)									26,5	58,3
▲ PNC125*G09M	83,3	5,08	55,5	(2,18)	224,5	(8,83)	185,5	(7,30)									27,5	60,5
▲ PNC150*G09M	100	6,10	64	(2,51)	233	(9,17)	194	(7,63)	69,8 (2,75)	35,7 (1,40)	M.12	38 (1,49)	77,8 (3,06)	42,9 (1,68)	M.12	50 (1,96)	28,5	62,7
▲ PNC175*G09M	116,6	7,11	72	(2,83)	241	(9,48)	202	(7,95)									29,5	64,9
▲ PNC200*G09M	133,3	8,13	80,5	(3,16)	249,5	(9,82)	210,5	(8,28)									30,5	67,1
▲ PNC225*G09M	150	9,15	88,5	(3,48)	257,5	(10,13)	218,5	(8,60)									31,5	69,3

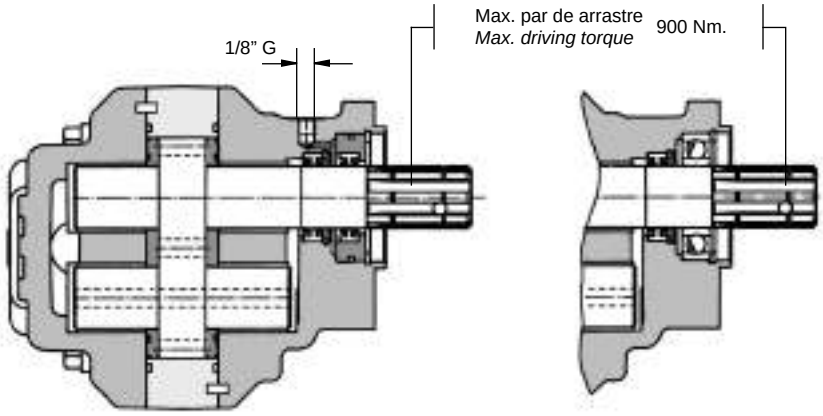
Tapa tipo / Front flange type 50



Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

Eje forma / Shaft form X

Características / *Spline data*
DIN-5462
B - 8 x 32 x 36
Ancho del diente 6 H8 / *Tootd width* 6 H8
Nº de dientes 8 / *Teeth number* 8

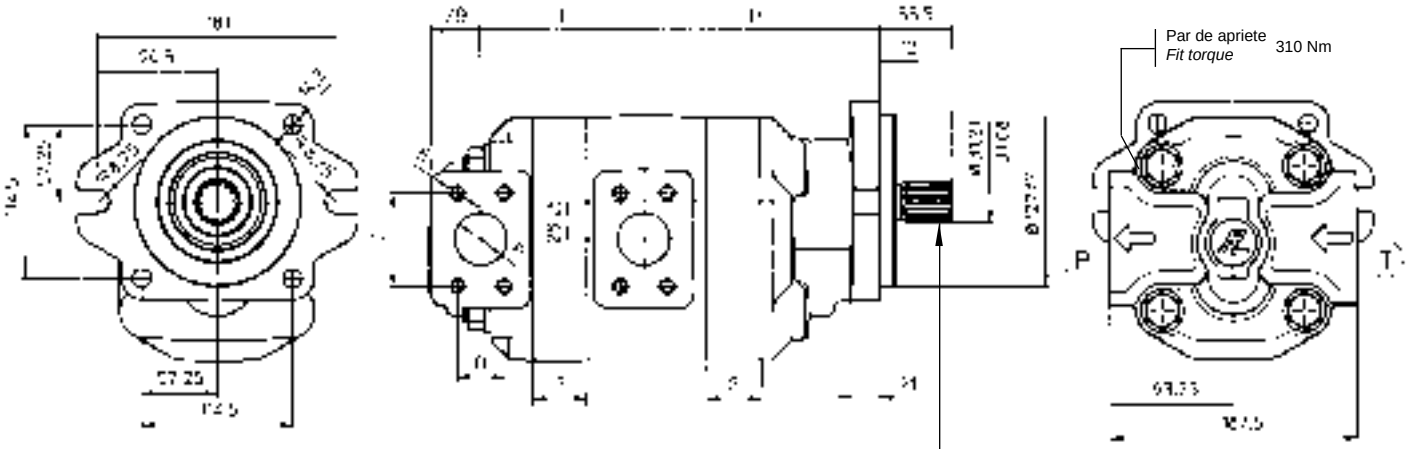


▲ 14 PNC... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

▲ 13 PNC... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

Referencia Reference	Cilindrada cm³/v Displacement cc/r.	G	A	B	Presión Pressure				Aspiración Suction				Peso Weight Kg.
					C	D	E	F	C	D	E	F	
▲ PNC80*X50M	53,3	41	210	171	58,7	30,2	M.10	32	69,8	35,7	M.12	38	24,5
▲ PNC100*X50M	66,6	47,5	216,5	177,5									25,5
▲ PNC125*X50M	83,3	55,5	224,5	185,5									26,5
▲ PNC150*X50M	100	64	233	194	69,8	35,7	M.12	38	77,8	42,9	M.12	50	27,5
▲ PNC175*X50M	116,6	72	241	202									28,5
▲ PNC200*X50M	133,3	80,5	249,5	210,5									29,5
▲ PNC225*X50M	150	88,5	257,5	218,5									30,5

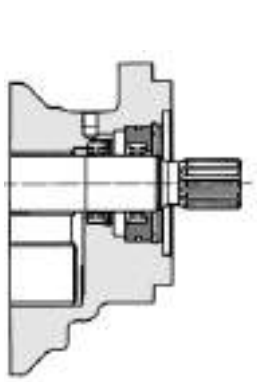
Tapa tipo / Front flange type 09



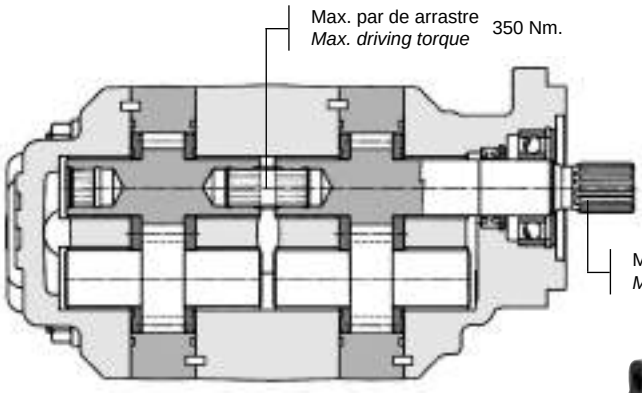
Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
*D Derecha *Clockwise*	T	P
*I Izquierda *Counter Clockwise*	P	T

Eje forma / Shaft form G

Características / *Spline data*
ANSI B92.1
Diametral pitch 12/24
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 4 / *Teeth number* 14



▲
14 PNJ...
Con dos retenes y fuga exterior.
With two shafts seals and external drain.



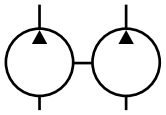
▲
13 PNJ...
Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

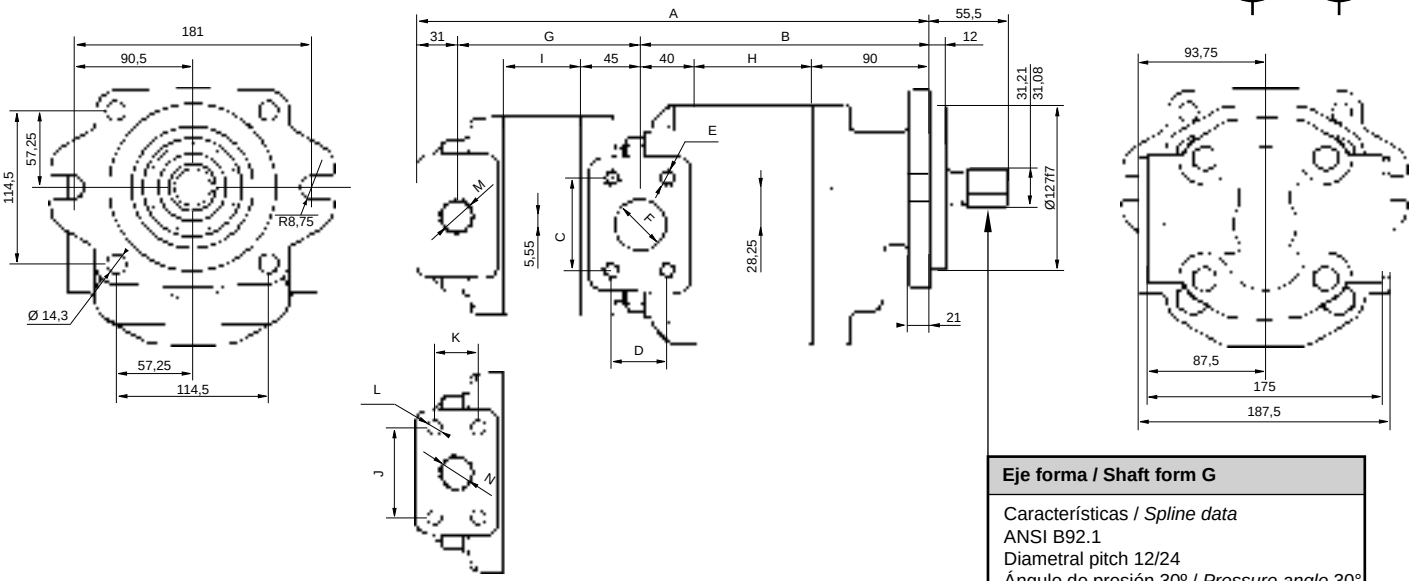


- Sustituir por el caudal deseado a 1500 rpm
  Replace with flow at 1500 rpm

Referencia Reference	G	H	I	Presión Pressure				Aspiración Suction			
				C	D	E	F	C	D	E	F
▲ PNJ80-•*G09M	41	179	124	58,7	30,2	M.10	32	69,8	35,7	M.12	38
▲ PNJ100-•*G09M	47,5	185,5	130,5								
▲ PNJ125-•*G09M	55,5	193,5	138,5								
▲ PNJ150-•*G09M	64	202	147	69,8	35,7	M.12	38	77,8	42,9	M.12	50
▲ PNJ175-•*G09M	72	290	155								
▲ PNJ200-•*G09M	80,5	218,5	163,5								
▲ PNJ225-•*G09M	88,5	226,5	171,5								

Tapa tipo / Front flange type 09





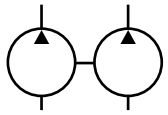
Eje forma / Shaft form G

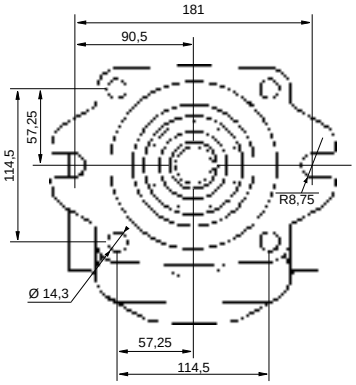
Características / *Spline data*
ANSI B92.1
Diametral pitch 12/24
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 14 / *Teeth number* 14

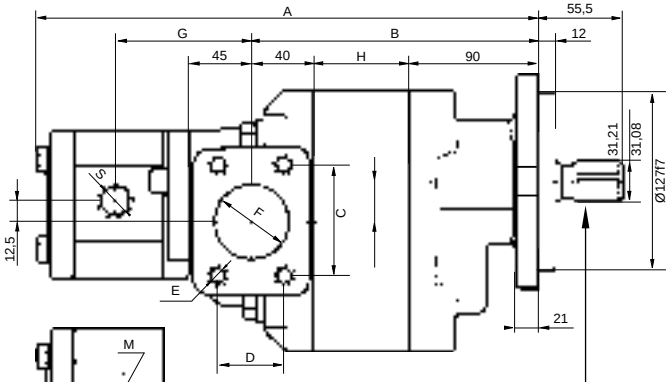
Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
✱D Derecha *Clockwise*	T	P
✱I Izquierda *Counter Clockwise*	P	T

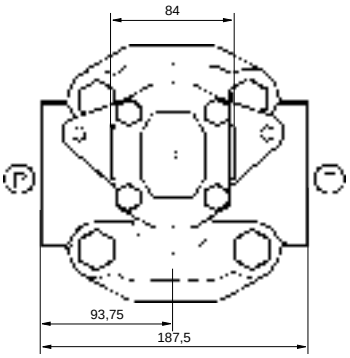
Referencia *Reference*	Cilindrada *Displacement* cm^3/v		A	B	G	H	I	Presión / *Pressure*									Aspiración / *Suction*								
								Conexión / *Connection* M (S.A.E.)								R	Conexión / *Connection* M (S.A.E.)								R
	PNC	PNA						C	D	E	F	J	K	L	N	M	C	D	E	F	J	K	L	N	M
▲ PNK 80 - 36 *G09MR	53.3	24	314	171	111.5	41	31.5	58.7	30.2	M.10	Ø32	52.4	26.2	M.10	26	3/4" G	69.8	35.7	M.12	Ø38	58.7	30.2	M.10	32	1" G
45 *G09MR		30	319		116.5		36.5																		
54 *G09MR		36	324		121.5		41.5																		
66 *G09MR		44	330		128		48																		
▲PNK 100 - 36 *G09MR	66.6	24	320	177.5	111.5	47.5	31.5	58.7	30.2	M.10	Ø32	52.4	26.2	M.10	26	3/4" G	69.8	35.7	M.12	Ø38	58.7	30.2	M.10	32	1 G
45 *G09MR		30	325		116.5		36.5																		
54 *G09MR		36	330		121.5		41.5																		
66 *G09MR		44	337		128		48																		
84 *G09MR		56	346		137.5		57.5					58.7	30.2		32	1" G					69.9	35.7	M.12	38	1"1/4 G
96 *G09MR		64	353		144.5		64.5																		
▲PNK 125 - 36 *G09MR	83.3	24	328	185.5	111.5	55.5	31.5	58.7	30.2	M.10	Ø32	52.4	26.2	M.10	26	3/4" G	69.8	35.7	M.12	Ø38	58.7	30.2	M.10	32	1" G
45 *G09MR		30	333		116.5		36.5																		
54 *G09MR		36	338		121.5		41.5																		
66 *G09MR		44	345		128		48																		
84 *G09MR		56	354		137.5		57.5					58.7	30.2		32	1" G					58.7	30.2	M.10	32	1" G
96 *G09MR		64	361		144.5		64.5																		
110 *G09MR		73,3	369		152		72																		
▲PNK 150 - 36 *G09MR	100	24	337	194	111.5	64	31.5	69.8	35.7	M.12	Ø38	52.4	26.2	M.10	26	3/4" G	77.8	42.9	M.12	Ø50	58.7	30.2	M.10	32	1" G
45 *G09MR		30	342		116.5		36.5																		
54 *G09MR		36	347		121.5		41.5																		
66 *G09MR		44	353		128		48																		
84 *G09MR		56	363		137.5		57.5					58.7	30.2		32	1" G					58.7	30.2	M.10	32	1" G
96 *G09MR		64	370		144.5		64.5																		
110 *G09MR		73,3	377		152		72																		
▲PNK 175 - 36 *G09MR	116,6	24	345	202	111.5	72	31.5	69.8	35.7	M.12	Ø38	52.4	26.2	M.10	26	3/4" G	77.8	42.9	M.12	Ø50	58.7	30.2	M.10	32	1" G
45 *G09MR		30	350		116.5		36.5																		
54 *G09MR		36	355		121.5		41.5																		
66 *G09MR		44	361		128		48																		
84 *G09MR		56	371		137.5		57.5					58.7	30.2		32	1" G					58.7	30.2	M.10	32	1" G
96 *G09MR		64	378		144.5		64.5																		
110 *G09MR		73,3	385		152		72																		
▲PNK 200 - 36 *G09MR	133,3	24	353	210.5	111.5	80.5	31.5	69.8	35.7	M.12	Ø38	52.4	26.2	M.10	26	3/4" G	77.8	42.9	M.12	Ø50	58.7	30.2	M.10	32	1" G
45 *G09MR		30	358		116.5		36.5																		
54 *G09MR		36	363		121.5		41.5																		
66 *G09MR		44	370		128		48																		
84 *G09MR		56	379		137.5		57.5					58.7	30.2		32	1" G					58.7	30.2	M.10	32	1" G
96 *G09MR		64	386		144.5		64.5																		
110 *G09MR		73,3	394		152		72																		
▲PNK 225 - 36 *G09MR	150	24	361	218.5	111.5	88.5	31.5	69.8	35.7	M.12	Ø38	52.4	26.2	M.10	26	3/4" G	77.8	42.9	M.12	Ø50	58.7	30.2	M.10	32	1" G
45 *G09MR		30	366		116.5		36.5																		
54 *G09MR		36	371		121.5		41.5																		
66 *G09MR		44	378		128		48																		
84 *G09MR		56	387		137.5		57.5					58.7	30.2		32	1" G					58.7	30.2	M.10	32	1" G
96 *G09MR		64	394		144.5		64.5																		
110 *G09MR		73,3	402		152		72																		

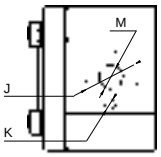
Tapa tipo / Front flange type 09



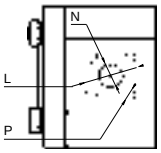








Forma de conexión B
Connection form B



Forma de conexión F
Connection form F

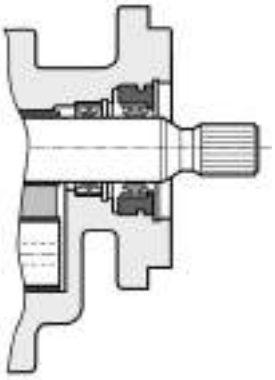
Eje forma / Shaft form G

Características / *Spline data*
ANSI B92.1
Diametral pitch 12/24
Ángulo de presión 30º / *Pressure angle* 30°
Nº de dientes 14 / *Teeth number* 14

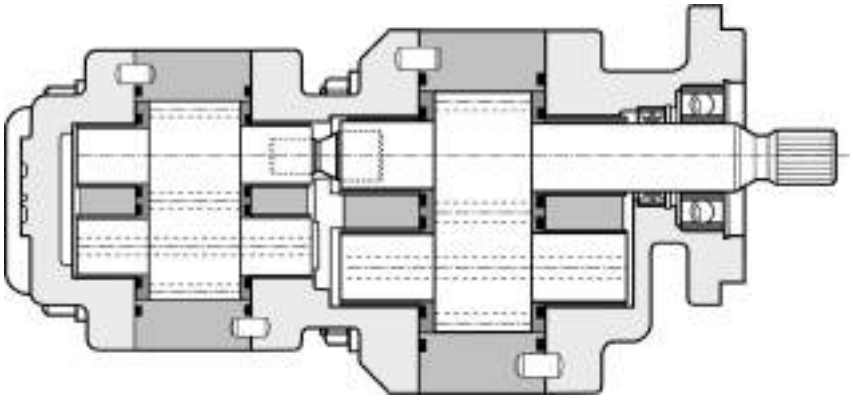
Sentido de giro *Rotation sense*	Aspiración *Suction*	Presión *Pressure*
∗D Derecha *Clockwise*	T	P
∗I Izquierda *Counter Clockwise*	P	T

Referencia *Reference*	Cilindrada *Displacement* cm³/v		A	B	G	H	Presión / *Pressure*										Aspiración / *Suction*											
							Conexión / *Connection*										Conexión / *Connection*											
							M(S.A.E.)				*R*	*B*			*F*			*M(S.A.E.)*				*R*	*B*			*F*		
	PNC	L					C	D	E	F	S	J	K	M	L	P	N	C	D	E	F	S	J	K	M	L	P	N
▲ PNH 80 - 9 *G09MR	53.3	6	304	171	82.5	41	58.7	30.2	M.10	Ø32	3/8" G	30	M.6	13.5	35	M.6	15	69.8	35.7	M.12	Ø38	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	308		84.6									15														
16 *G09MR		10.6	312		88																		40	M.8	20			20
22 *G09MR		14.6	319		88																							
27 *G09MR		18	325		88						1/2" G											3/4" G						
35 *G09MR		23.3	334		95.5																							
▲PNH 100 - 9 *G09MR	66.6	6	311	177.5	82.5	47.5	58.7	30.2	M.10	Ø32	3/8" G	30	M.6	13.5	35	M.6	15	69.8	35.7	M.12	Ø38	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	314		84.6									15														
16 *G09MR		10.6	319		88																		40	M.8	20			20
22 *G09MR		14.6	325		88																							
27 *G09MR		18	331		88						1/2" G											3/4" G						
35 *G09MR		23.3	340		96.5																							
▲PNH 125 - 9 *G09MR	83.3	6	319	185.5	82.5	55.5	58.7	30.2	M.10	Ø32	3/8" G	30	M.6	13.5	35	M.6	15	69.8	35.7	M.12	Ø38	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	322		84.6									15														
16 *G09MR		10.6	327		88																		40	M.8	20			20
22 *G09MR		14.6	333		88																							
27 *G09MR		18	339		88						1/2" G											3/4" G						
35 *G09MR		23.3	348		96.5																							
▲PNH 150 - 9 *G09MR	100	6	327	194	82.5	64	69.8	35.7	M.12	Ø38	3/8" G	30	M.6	13.5	35	M.6	15	77.8	42.9	M.12	Ø50	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	331		84.6									15														
16 *G09MR		10.6	335		88																		40	M.8	20			20
22 *G09MR		14.6	342		88																							
27 *G09MR		18	348		88						1/2" G											3/4" G						
35 *G09MR		23.3	357		96.5																							
▲PNH 175 - 9 *G09MR	116.6	6	335	202	82.5	72	69.8	35.7	M.12	Ø38	3/8" G	30	M.6	13.5	35	M.6	15	77.8	42.9	M.12	Ø50	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	339		84.6									15														
16 *G09MR		10.6	343		88																		40	M.8	20			20
22 *G09MR		14.6	350		88																							
27 *G09MR		18	356		88						1/2" G											3/4" G						
35 *G09MR		23.3	365		96.5																							
▲PNH 200 - 9 *G09MR	133.3	6	344	210.5	82.5	80.5	69.8	35.7	M.12	Ø38	3/8" G	30	M.6	13.5	35	M.6	15	77.8	42.9	M.12	Ø50	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	347		84.6									15														
16 *G09MR		10.6	351		88																		40	M.8	20			20
22 *G09MR		14.6	358		88																							
27 *G09MR		18	364		88						1/2" G											3/4" G						
35 *G09MR		23.3	373		96.5																							
▲PNH 225 - 9 *G09MR	150	6	352	21.5	82.5	88.5	69.8	35.7	M.12	Ø38	3/8" G	30	M.6	13.5	35	M.6	15	77.8	42.9	M.12	Ø50	1/2" G	30	M6	13.5	40	M.6	15
12 *G09MR		8	355		84.6									15														
16 *G09MR		10.6	360		88																		40	M.8	20			20
22 *G09MR		14.6	366		88																							
27 *G09MR		18	372		88						1/2" G											3/4" G						
35 *G09MR		23.3	381		96.5																							

PNK

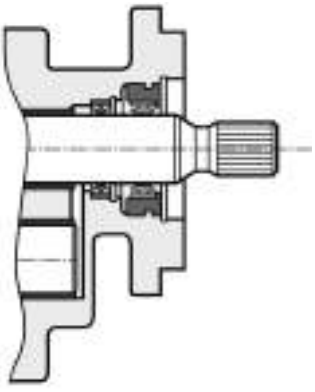


▲
14 PNK... Con dos retenes y fuga exterior.
With two shafts seals and external drain.

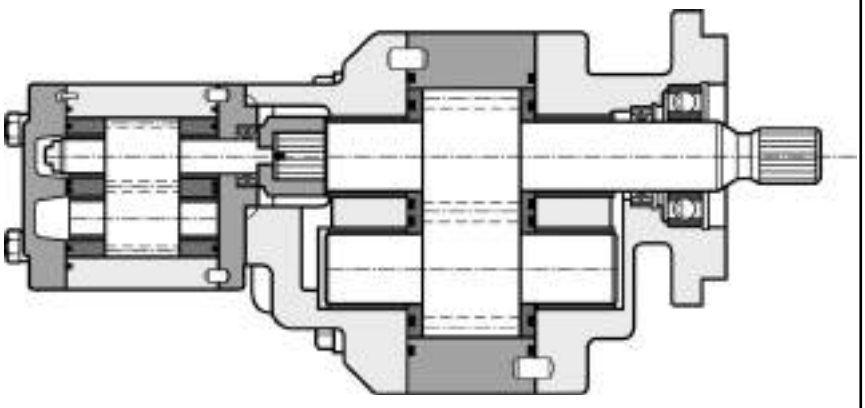


▲
13 PNK... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

PNH



▲
14 PNH... Con dos retenes y fuga exterior.
With two shafts seals and external drain.



▲
13 PNH... Con cojinete de apoyo y retén.
With ball bearing and shaft seal.

MENU

Roquet
making moves

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MENU

102/1102
202/1202
302/1302
504/1504
DISTRIBUIDORES MONOBLOQUE
MONOBLOCK CONTROL VALVES

402/1402
406/1406
407
1408
DISTRIBUIDORES SECCIONALES
SECTIONAL CONTROL VALVES

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Roquet

making **moves**

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Introducción a la empresa
Introduction to the company

HISTORIA Con mas de medio siglo de trayectoria en el sector óleo-dinámico, el GRUPO ROQUET es marca líder en el mercado español y una importante referencia en el mercado internacional.
ROQUET es proveedor en distintos sectores como el agrícola, naval, obras públicas, camiones, energías renovables, sistemas de elevación, minería, alimentación, máquinas-herramienta...

TECNOLOGÍA ROQUET dispone de un importante y amplio departamento de diseño y desarrollo de productos óleo-hidráulicos.
Los centros de trabajo de la compañía disponen de sistemas de producción y control de última generación, para que así nuestros clientes sigan reconociendo nuestros productos por su calidad garantizada en la marca ROQUET.

FIABILIDAD El GRUPO ROQUET ofrece a sus clientes una amplia gama de productos fiables y resistentes; diseñados para poder trabajar en condiciones extremas y por largos periodos, con un rendimiento excelente. El 100% de nuestros productos son verificados y probados antes de ser entregados a nuestros clientes.

CAPACIDAD El GRUPO ROQUET dispone de más de 350 profesionales, y 4 plantas de producción, con una superficie cubierta de 30000m2. La compañía produce anualmente 200000 bombas, 300000 distribuidores, 500000 cilindros, 30000 unidades hidráulicas compactas (motobombas), y una amplia gama de productos y accesorios que son distribuidos mediante su red comercial, presente en 35 países y en los 5 continentes.

HISTORY *With over half a century in experience in fluid power, ROQUET GROUP is the leading brand in the Spanish market, and an important reference in the international market.*
ROQUET supplies many applications such as agricultural, construction, trucks, naval industry, civil engineering, renewable energies, lift systems, machine-tools, food industry...

TECHNOLOGY *ROQUET has an important R&D department for hydraulic fluid power.*
Our workstations and cells use leading edge technology machines and robots, to ensure that ROQUET remains a guarantee of quality.

RELIABILITY *ROQUET GROUP offers its customers a wide range of reliable and robust products, designed to work in extreme conditions and for a very long time, with excellent performance. 100% of our products are checked and oil tested before being delivered to our customers.*

CAPABILITY *The ROQUET GROUP counts on more than 350 trained employees, in 4 production plants, with a total area of 30000m2. The company produces 200000 pumps, 300000 control valves, 500000, cylinders, 30000 hydraulic power packs, and a wide range of products and accessories that are distributed through our sales network in 35 countries across the 5 continents.*





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Distribuidor
Control valve

Presentamos este catálogo de distribuidores destinados a cualquier tipo de aplicación hidráulica que requiera de un control preciso de sus funciones.

ROQUET tiene una amplia experiencia en componentes óleo-dinámicos, en diferentes sectores, tales como: Agricultura, construcción, camiones, industria naval, obras públicas, energías renovables, sistemas de elevación, minería, alimentación, máquinas-herramienta.

Los distribuidores son aplicables a muchas y variadas funciones mecánicas. Se ofrece a nuestros clientes una amplia gama de ellos, para que puedan elegir el producto mas adecuado para su aplicación.

Vea a en este catalogo los distintos modelos de distribuidores, así como sus características, y las diferentes opciones que ofrece cada uno de ellos.

Cordialmente.
Pedro Roquet

We present in this Catalogue our range of control valves designed for any hydraulic application that requires a precise actioning of its functions.

ROQUET has wide experience in fluid power components in several fields such as agriculture, construction, truck applications, renewable energy, lifting systems, mining, food industry, machine-tools...

We offer a wide range of control valves, that fit for several mechanical functions. So our customers can choose the most suitable product for their application.

You will find in this catalogue our different models, their characteristics and performance, and the differents options available for each of them.

Sincerely.
Pedro Roquet

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DISTRIBUIDORES MONOBLOQUE / *MONOBLOCK CONTROL VALVES*

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MANDOS / *CONTROLLERS*

Mando neumático- Mando hidráulico / *Pneumatic controller - Hydraulic controller* ***135***

Este catalogo muestra el producto en su configuración más estándar. Para diseños especiales por favor contacte con PEDRO ROQUET, S.A.
Las especificaciones y datos en este catálogo no están abiertos a ninguna interpretación. Por favor contacte con PEDRO ROQUET, S.A. en caso de duda.
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PEDRO ROQUET, S.A. no es responsable de ningún daño causado por un uso incorrecto del producto.
PEDRO ROQUET, S.A. se reserva el derecho a exigir unas cantidades mínimas en pedidos. Para piezas de recambio se debe conocer exactamente la referencia del producto y su serie.

This Catalogue shows the product in the most standard configuration; customized or special designs are also available. Please contact PEDRO ROQUET S.A.
Data in this catalogue are not open to any interpretation. Please contact PEDRO ROQUET, S.A. in case of doubt.
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PEDRO ROQUET, S.A. is not responsible for any damage caused by incorrect use of the product.
PEDRO ROQUET, S.A. reserves the right to request minimum order quantities. The exact product part number and series must be provided for spare parts orders.

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MENU

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Distribuidores monobloque

Monoblock control valves

Roquet
making **moves**

102-1102

202-1202

302-1302

504-1504

MENU

102 - 1102

Serie
Monobloque
Caudal nominal: 40 l/min
Presión máxima de trabajo: 350 bar

Serial
Monoblock
Nominal flow 40 l/min
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**102**	**1102**
Tomas A y B *Ports A y B*		**3/8" G**	**1/2" G**
Tomas P-P1 *Ports P-P1*		**3/8" G**	**1/2" G**
Tomas R-R1 *Ports R-R1*		**3/8" G**	**1/2" G**
Tomas RP *Ports RP*		**3/8" G**	**1/2" G**
Número máximo de elementos (*) *Maximum spool quantity (*)*		**6**	**2**
Diámetro corredera (mm) *Spool diameter (mm)*		**15**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**5.5**	
Alimentación tipo *Type*		**Serie** *Serie*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**40**	**60**
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**16**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	

NOMENCLATURA DE REFERENCIAS

102	N	1	P	A	12	D	– CODE
1	2	3	4	5	6	7	10

CODING SYSTEMS

1	**Tipo distribuidor** *Control valve type*
102	3/8" G
1102	1/2" G

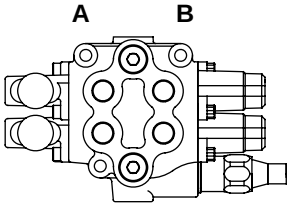
2	**Formas de retorno o sistemas de trabajo** *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
4	**Dos posiciones extrema y central por muelle, movimiento empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
13	**Dos posiciones extremas, por muelle.** *Two end positions, by spring.*
14	**Dos posiciones, neutral y extrema con anclajes, empujando corredera.** *Two positions, neutral and end position by detent, action pushing spool.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring.* *Double end actioned spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
37	**Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamient distinto es necesario código.** *Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.*
42	**Tres posiciones, con anclajes de bolas.** *Three positions with ball bearing detents.*

4	**Tipo palanca mando** *Hand lever type*
P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
I	**Cable.** *Cable control.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
R	**Palanca rotativa.** *Rotative hand lever.*

5 **Posición válvula de seguridad o entrada presión**
Relief valve position / Pressure inlet

A



6 **Válvula seguridad principal**
Main relief valve

Taraje *Setting (bar)*	**Tipo regulación /** *Adjustment*			
	Fija *Fixed*	**Regulable por tornillo** *Screw adjustment*	**Volante** *Knob*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	21	41
85-175 (160)	2	12	22	42
180-250 (200)	3	13	23	43
255-350 (315)	4	14	24	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje y la letra de posición.
For control valves without relief valves, the pressure range and the letter is omitted.

7 **Sistemas de distribución**
Spool types

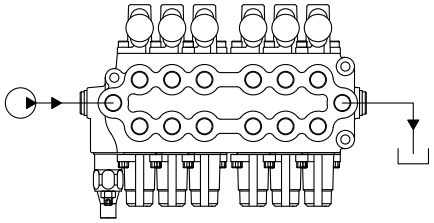
El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.

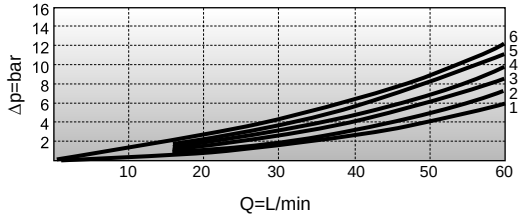
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

10 **Datos adicionales (código)**
Additional data (code)

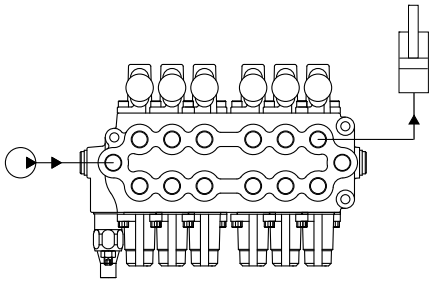
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

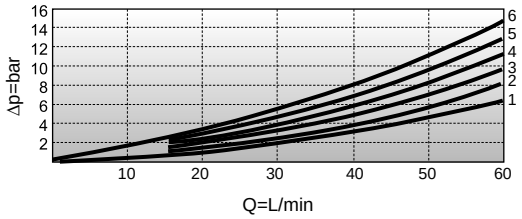
Tomas con retorno (P → R)
Ports to return (P → R)



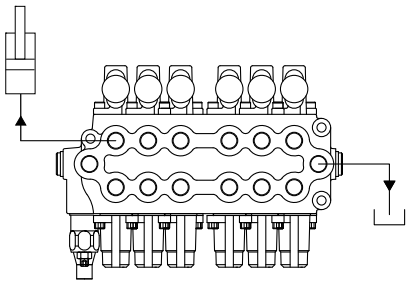


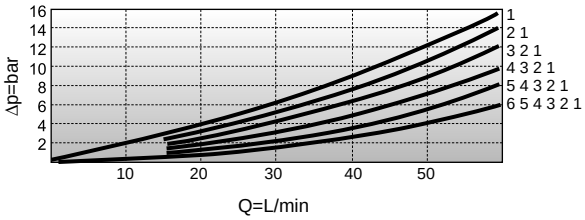
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



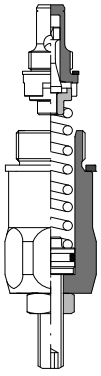


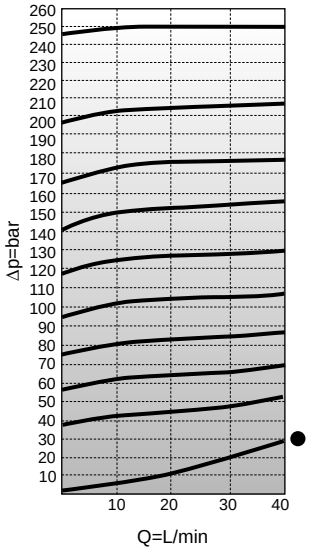
Tomas con retorno (A ó B → R)
Ports to return (A o B → R)





Válvula de seguridad principal
Main relief valve

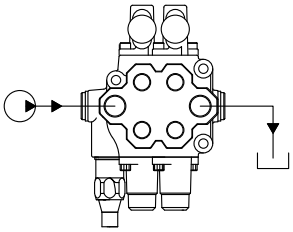


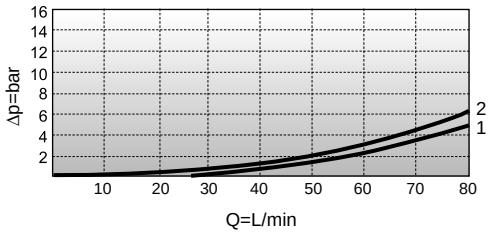


● Curva presión mínima
Minimal pressure curve

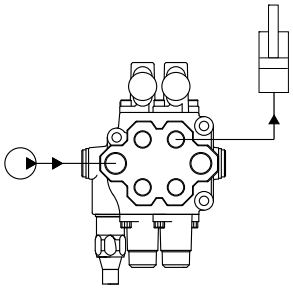
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

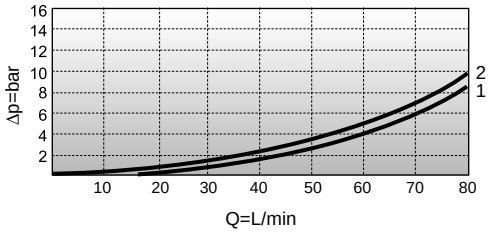
Tomas con retorno (P → R)
Ports to return (P → R)



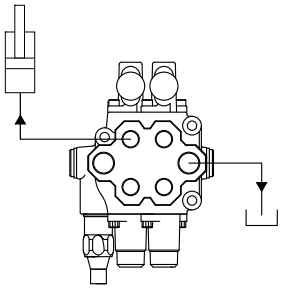


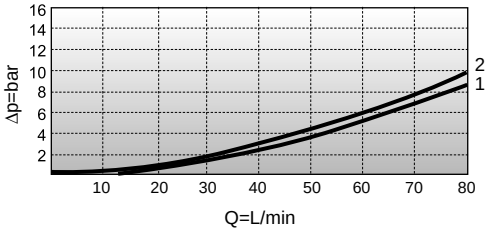
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



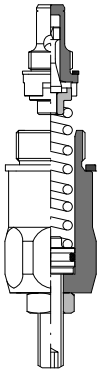


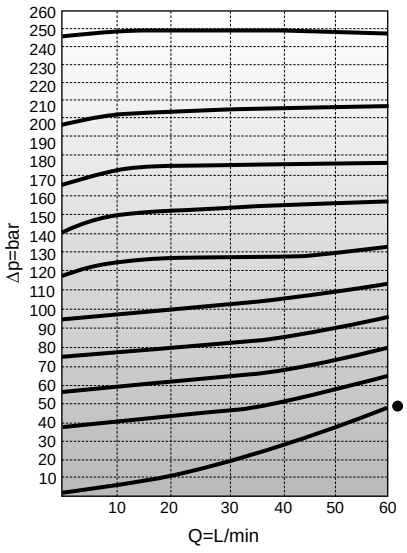
Tomas con retorno (A ó B → R)
Ports to return (A o B → R)





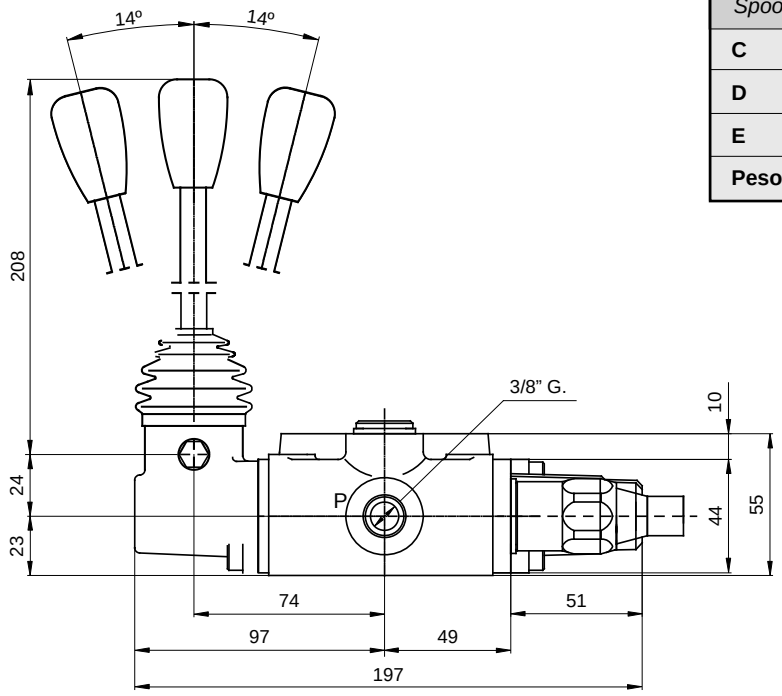
Válvula de seguridad principal
Main relief valve

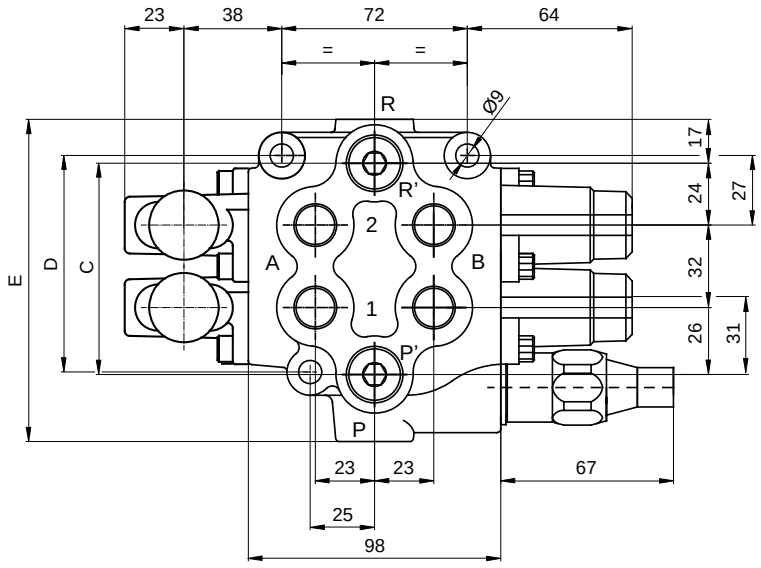


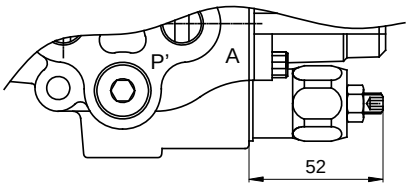


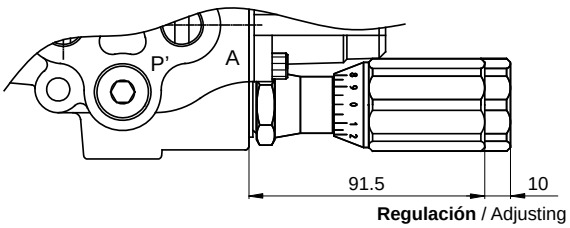
● Curva presión mínima
Minimal pressure curve

N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	50	82	114	162	194	226
D	52	84	116	164	196	228
E	93	125	157	189	237	269
Peso en kg. / *Weight in kg.*	2,6	3,8	5	6,2	9	10



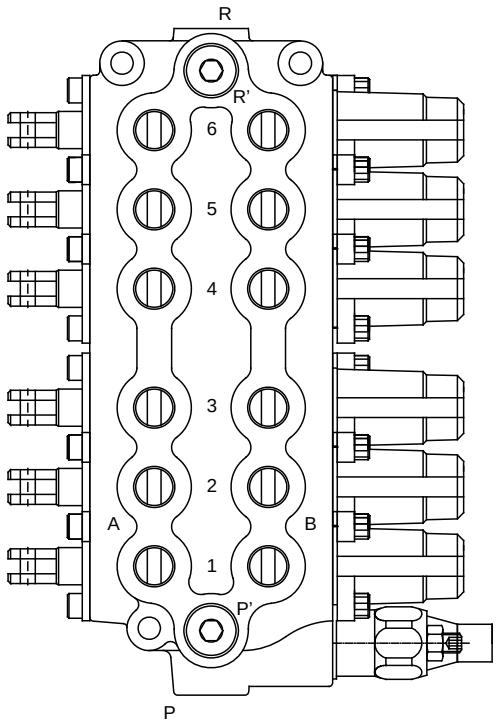




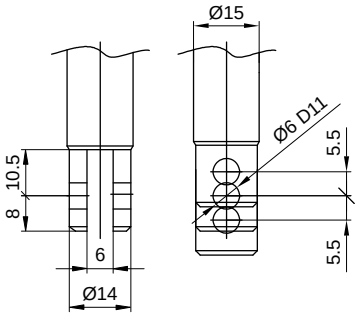


Regulación / Adjusting

DETALLE PARA 5 Y 6 ELEMENTOS / *DETAIL FOR 5 AND 6 SPOOLS*



DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*

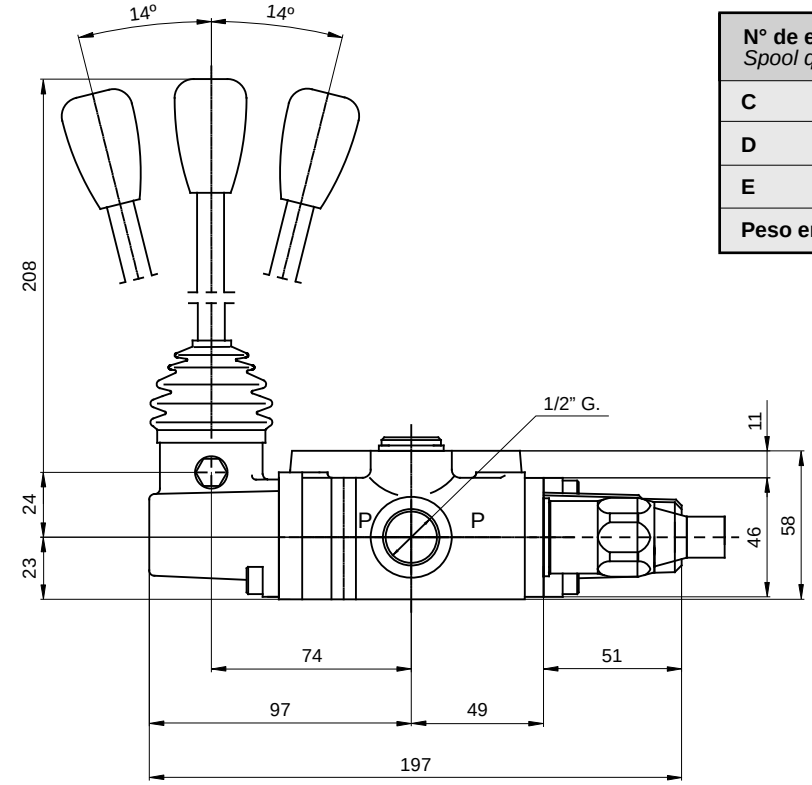


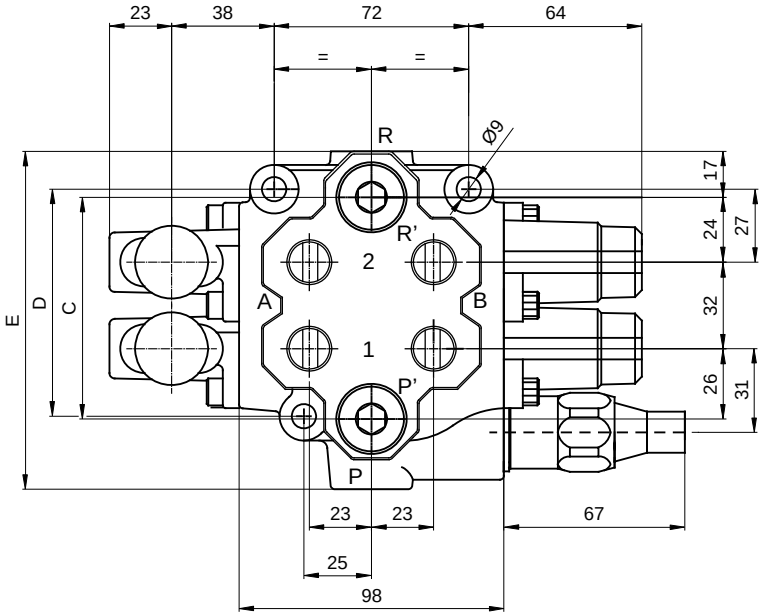
2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*

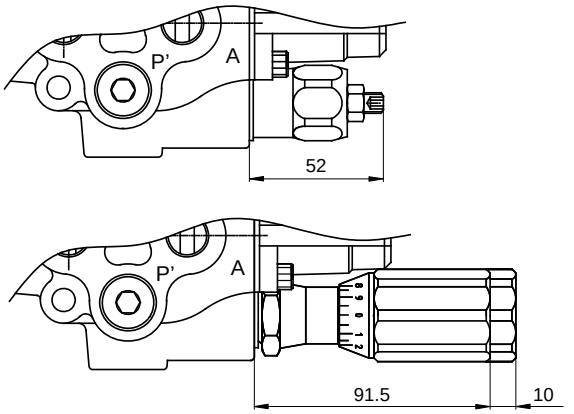
Distribuidor
Control valve

Modelo
Type
1102

N° de elementos *Spool quantity*	**1**	**2**
C	50	82
D	52	84
E	95	127
Peso en kg. / *Weight in kg.*	3	4

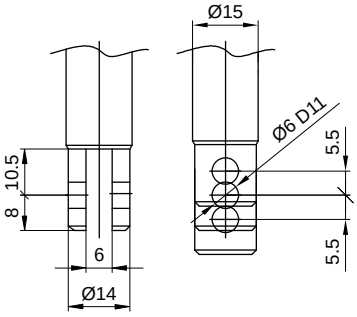




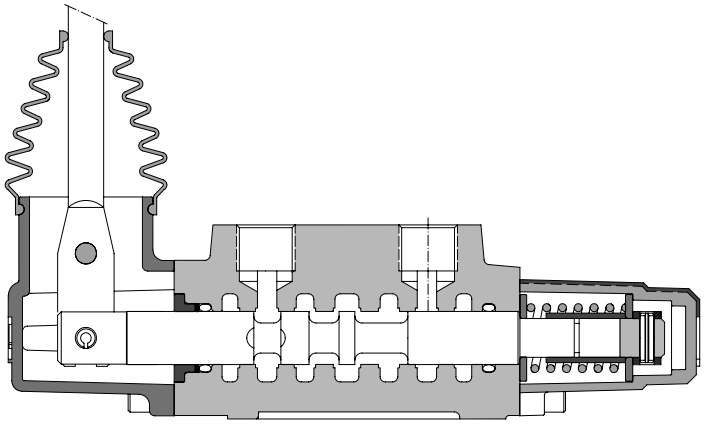


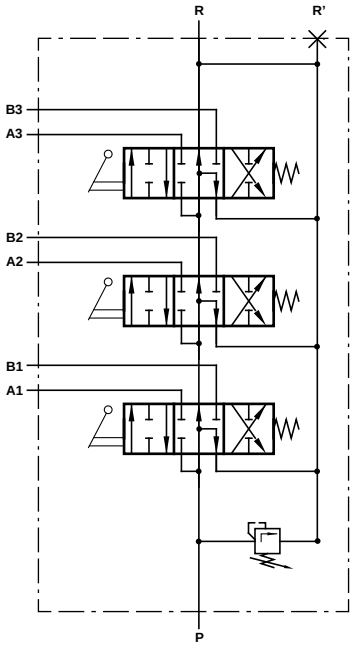
Regulación / Adjusting

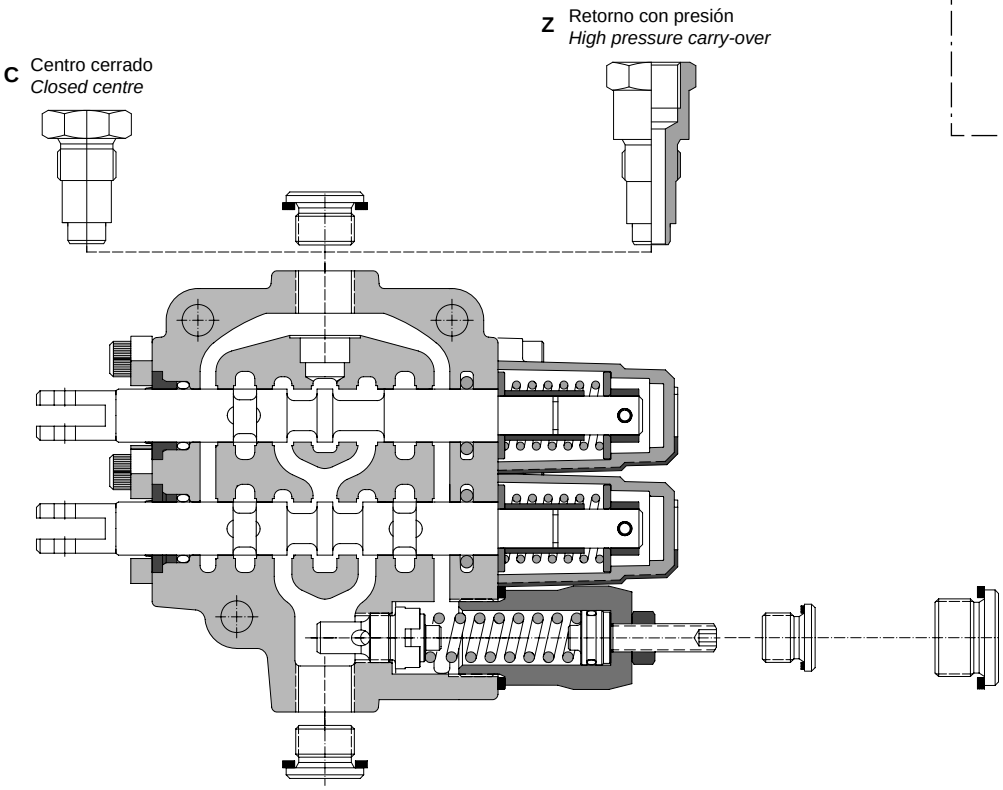
DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*

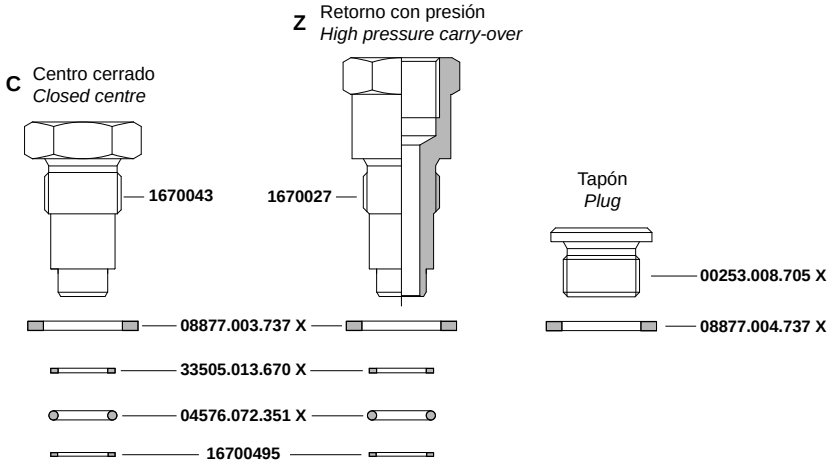




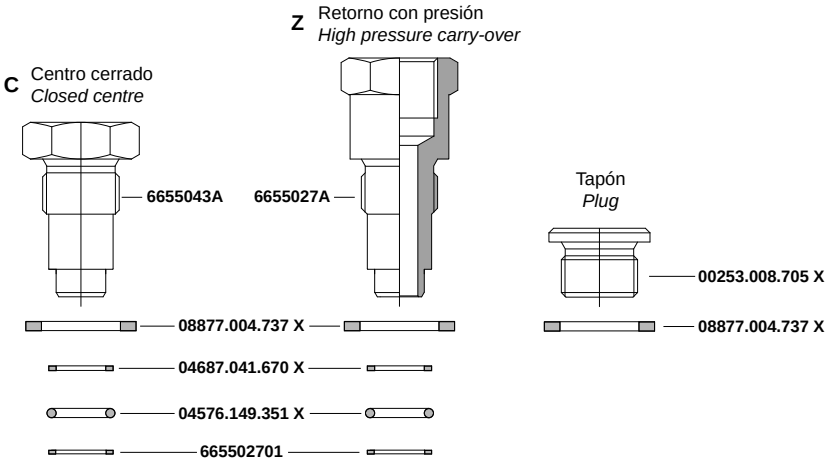


2 Formas de retorno o sistemas de trabajo
Return form

Forma retorno *Return type*		Tomas / *Ports*
		102
N	**Paso libre** *Open centre*	1/2" G
Z	**Retorno con presión** *High pressure carry-over*	3/8" G
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*



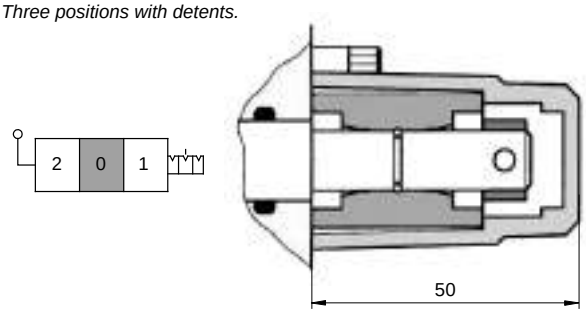
Forma retorno *Return type*		Tomas / *Ports*
		1102
N	**Paso libre** *Open centre*	**1/2" G**
Z	**Retorno con presión** *High pressure carry-over*	**1/2" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*



3 Accionamiento corredera
Spool positions devices

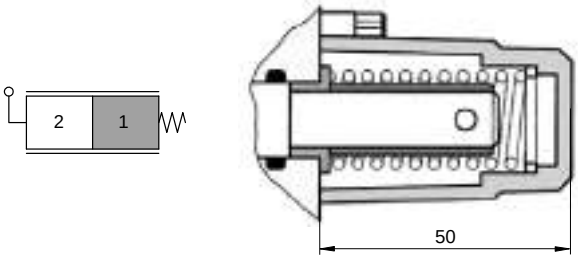
Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



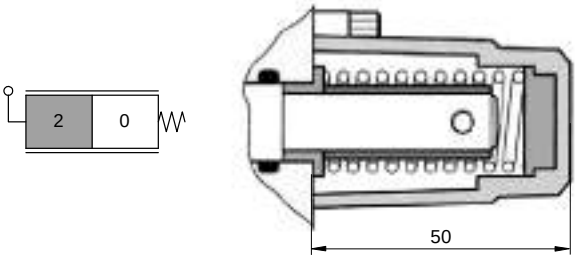
Accionamiento 3
Type 3

Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.



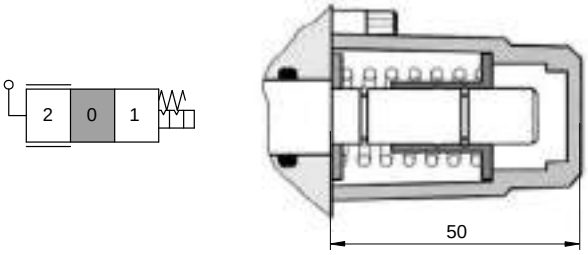
Accionamiento 4
Type 4

Dos posiciones extrema y central por muelle, movimiento empujando corredera.
Two positions, end and neutral position by spring, action pushing spool.



Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.



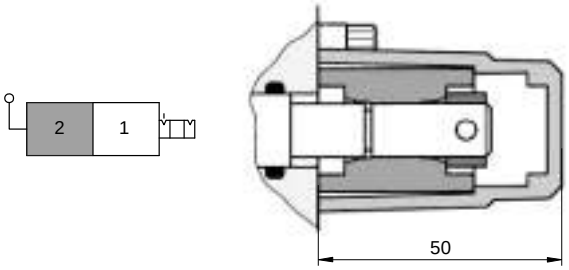
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

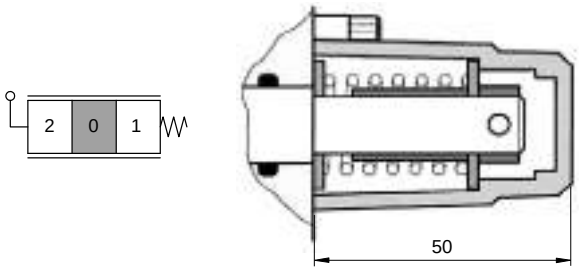
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



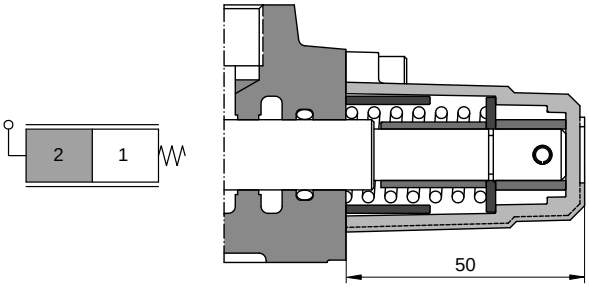
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



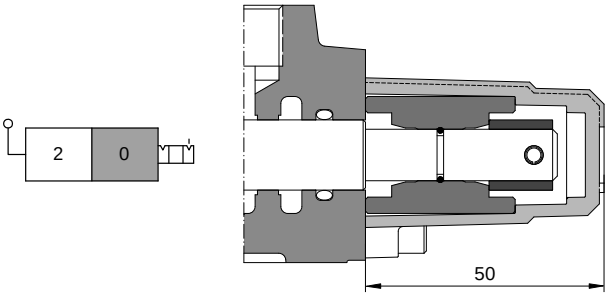
Accionamiento 13
Type 13

Dos posiciones extremas, por muelle.
Two end positions, by spring.



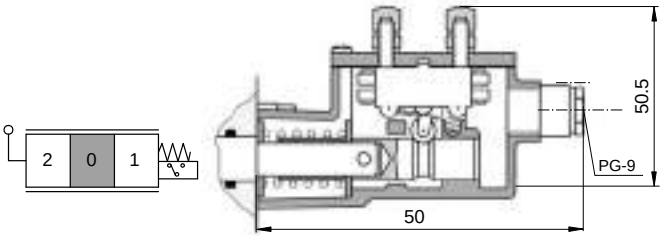
Accionamiento 14
Type 14

Dos posiciones, neutral y extrema con anclajes, empujando corredera.
Two positions, neutral and end position by detent, action pushing spool.



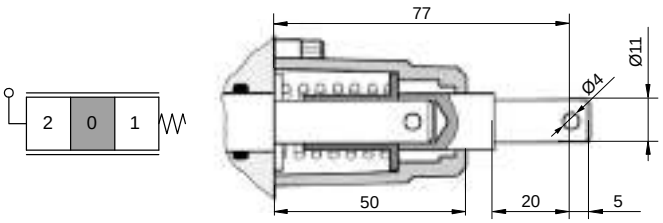
Accionamientos 15
Types 15

Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.



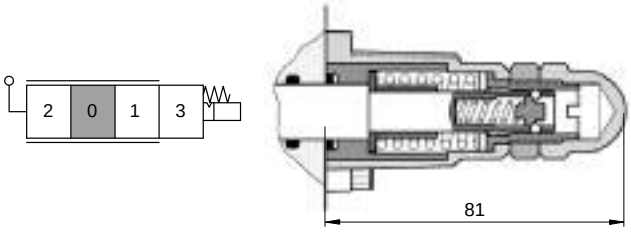
Accionamientos 16
Types 16

Tres posiciones, recuperación a posición neutral por muelle.
Doble salida de corredera.
Three positions, return to neutral position by spring.
Double end actioned spool.



Accionamiento 20
Type 20

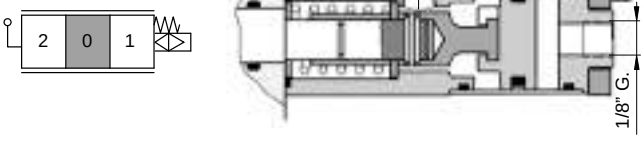
Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



Accionamiento 22
Type 22

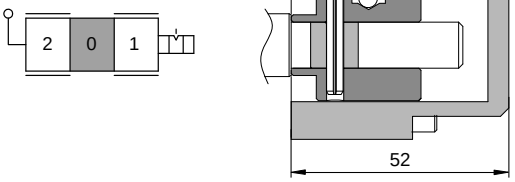
Tres posiciones, pilotaje neumático.
Three positions, pneumatic pilot.

Presión mín.: ≥ 2 bar
Min. pressure:
Presión máx.: ≥ 8 bar
Max. presure:



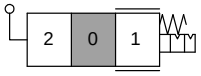
Accionamiento 35
Type 35

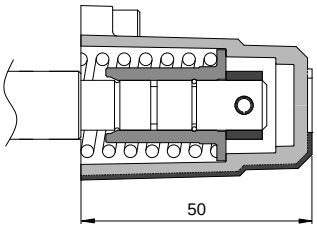
Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.



Accionamiento 36
Type 36

Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.





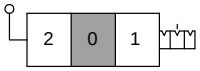
Accionamiento 37
Type 37

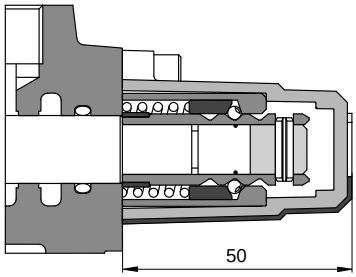
Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamient distinto es necesario código.

Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.

Accionamiento 42
Type 42

Tres posiciones, con anclajes de bolas.
Three positions with ball bearing detents.

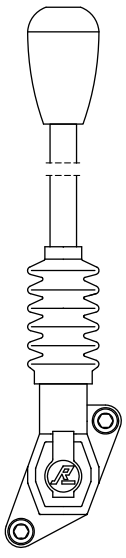


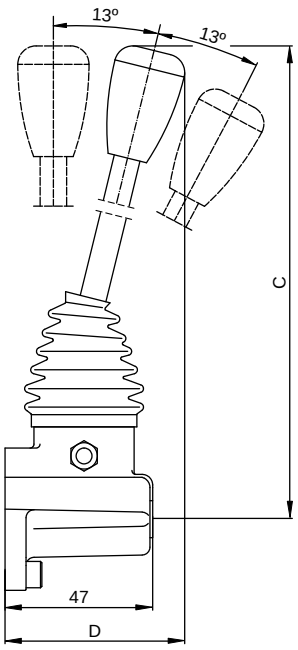


4 Tipo palanca mando
Hand lever type

Palanca
Hand lever

P - Z



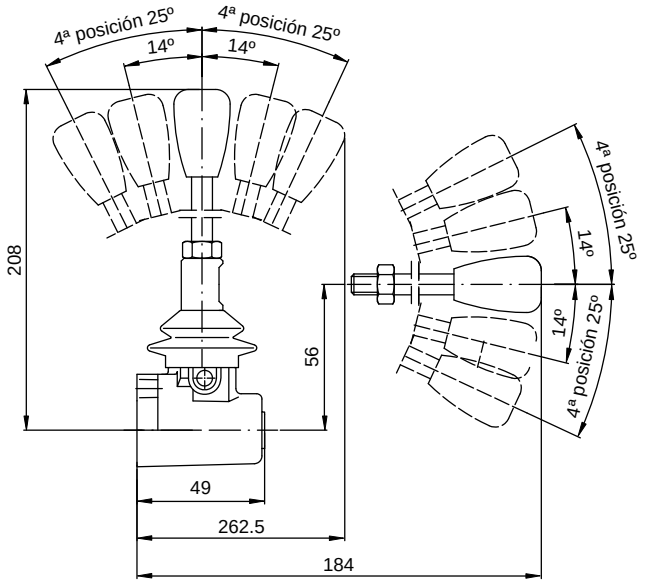


NOTA: Las dimensiones C y D según tipo de palanca.
NOTE: Dimensions C and D depend the kind of hand lever.

Tipo palanca *Type*	**Descripción** *Description*
P	Palanca con protector y varilla. *Lever box with lever and rubber.*
Z	Palanca con protector y sin varilla. *Lever box without lever and with rubber.*

Palanca
Hand lever

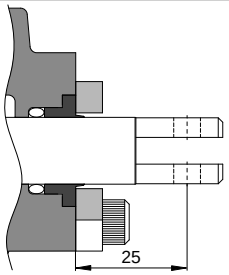
P2 - Z2



Tipo palanca *Type*	**Descripción** *Description*
P2	Palanca con protector y varilla. *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla. *Lever box with rubber boot and without lever.*

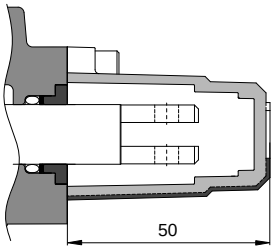
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S



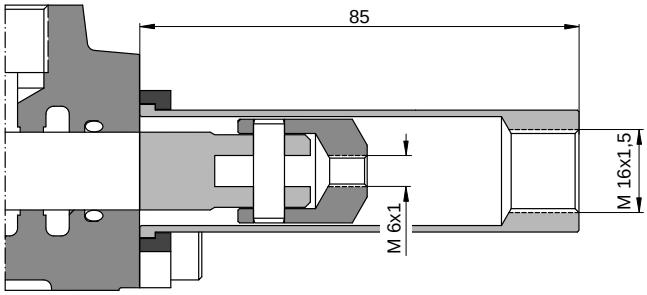
Sin palanca y protector ciego
Spool end cap

T



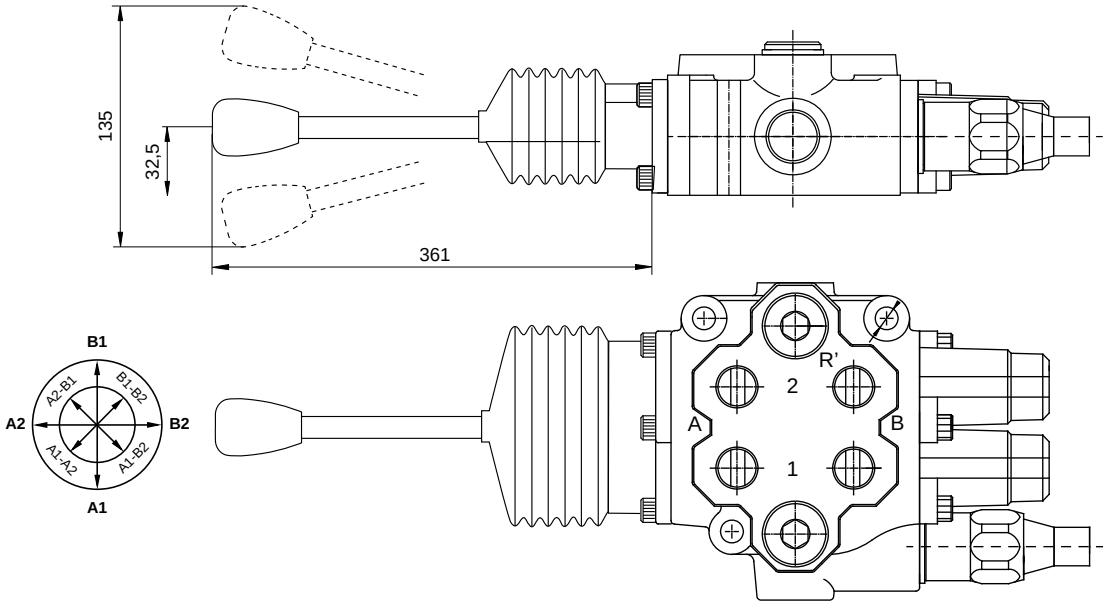
Cable
Cable control

I



Palanca no iguales o múltiples (necesita código)
Mechanical joystick or special options (code is requiered)

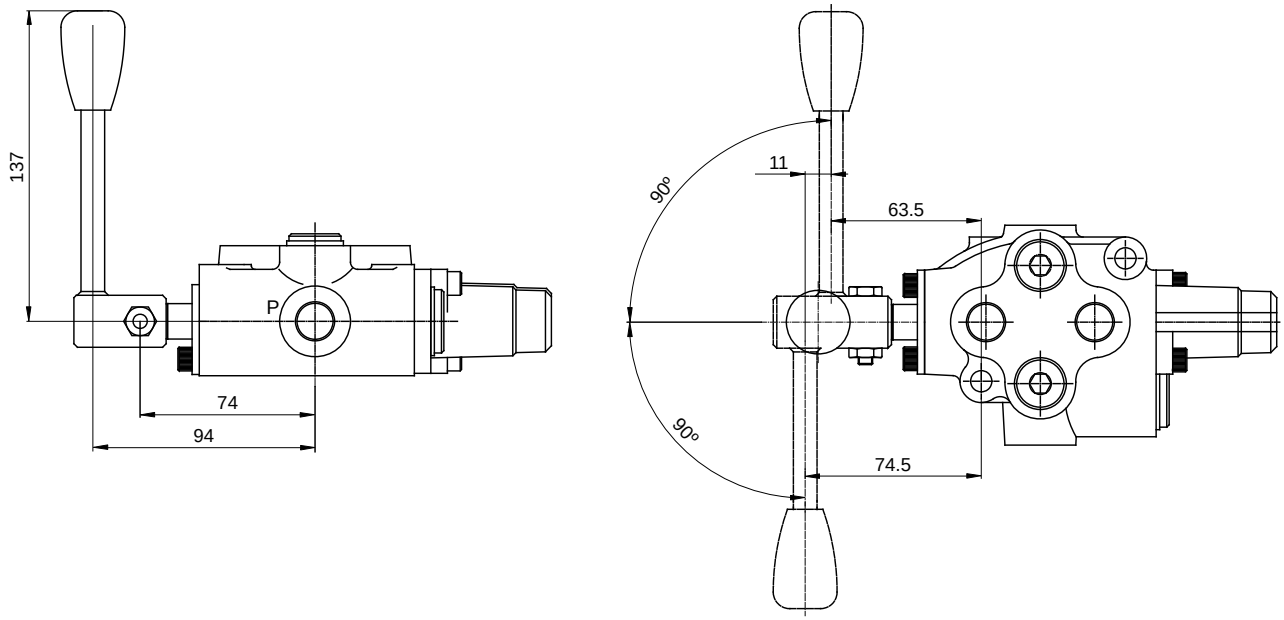
X



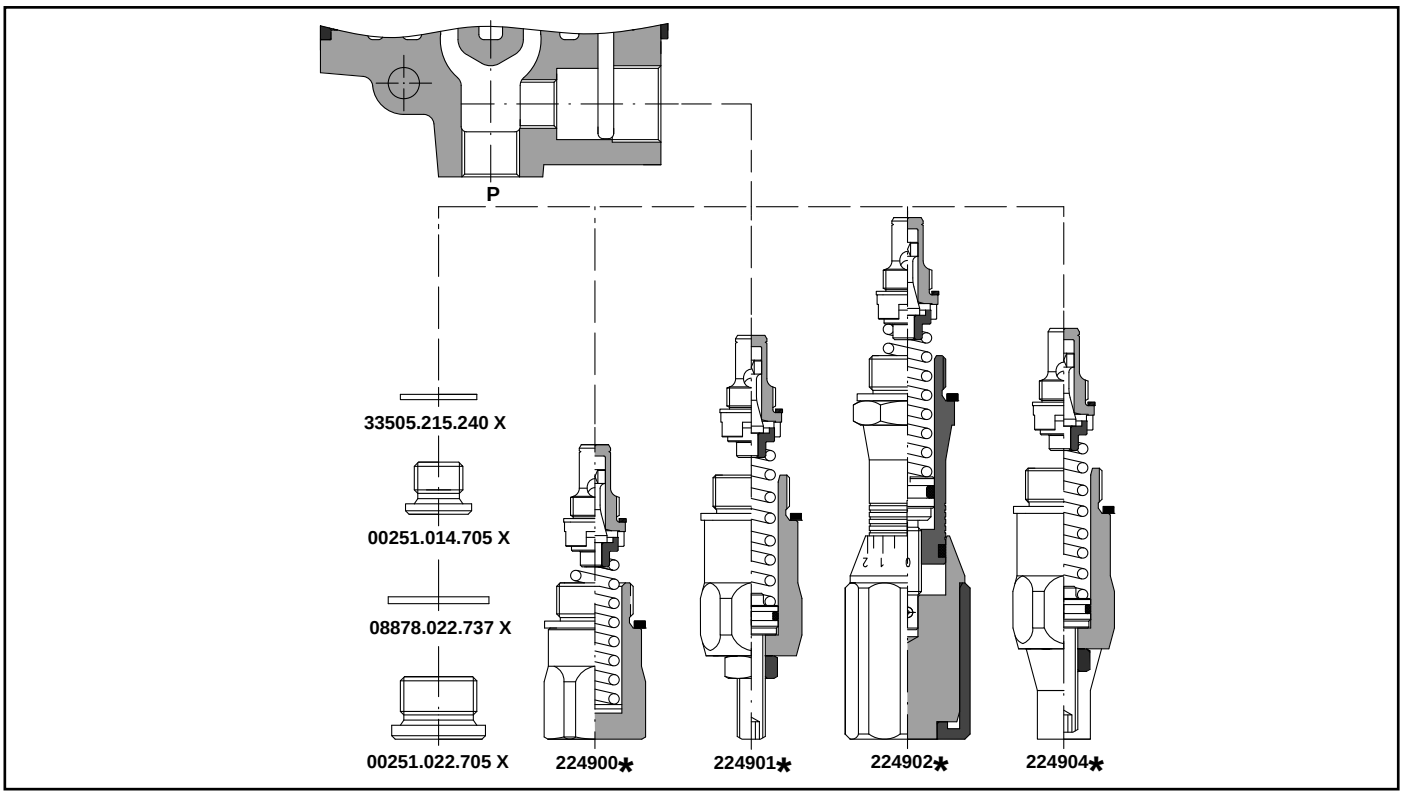
Palanca rotativa
Rotative hand lever

Sólo para accionamiento 35
Only for 35 spool position device
Corredera de acero inoxidable
Stainless steel spool

R



6 Válvula seguridad principal
Main relief valve



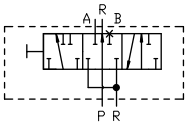
Taraje *Setting*	Fija *Fixed*	Regulable por tornillo *Screw adjustment*	Volante *Knob*	Regulable precintada *Lock wired*	Sin válvula (con tapón) *Without valve (with plug)*
5-80 (80) bar	1	11	21	41	--
85-175 (160) bar	2	12	22	42	--
180-250 (200) bar	3	13	23	43	--
255-350 (315) bar	4	14	24	44	--

7 Sistemas de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

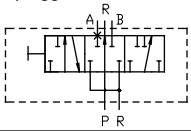
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

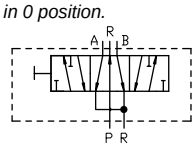
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

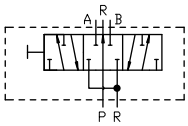
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

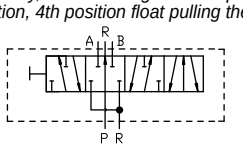
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

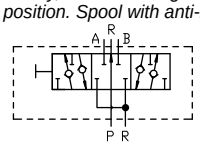
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



Tipo A - *Type A*

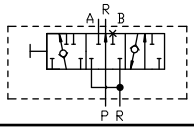
3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0. Corredera válvula antirretorno.

3 positions, 4 way, double acting. A and B ports blocked in 0 position. Spool with anti-return valve.



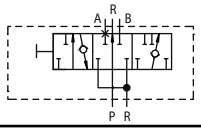
Tipo B - *Type B*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada. Corredera con válvula antirretorno.
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged. Spool with anti-return valve.



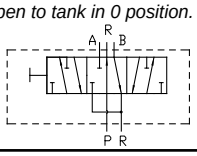
Tipo C - *Type C*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada. Corredera con válvula antirretorno.
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged. Spool with anti-return valve.



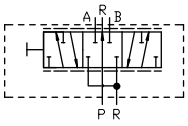
Tipo G - *Type G*

3 Posiciones, 4 vías, doble efecto. Toma A bloqueada y toma B abierta a depósito en posición 0.
3 positions, 4 way, double acting. A port blocked and B port open to tank in 0 position.



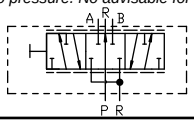
Tipo E - *Type E*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0. Corredera sensibilizada.
3 positions, 4 way, double acting. A and B ports blocked in 0 position. Proportional spool.



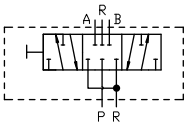
Tipo F - *Type F*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0. Corredera sensibilizada, pero conectando la toma con retorno antes de iniciar la presión. No sirve para aguantar cargas.
3 positions, 4 way, double acting. A and B ports blocked in 0 position. Proportional spool, but connecting port to tank before connection to pressure. No advisable for holding loads.



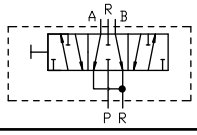
Tipo J - *Type J*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0, con centro cerrado.
3 positions, 4 way, double acting. A and B ports blocked in 0 position, with closed centre.



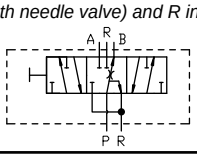
Tipo K - *Type K*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0, con centro cerrado.
3 positions, 4 way, double acting. A and B ports open to tank in 0 position, with closed centre.



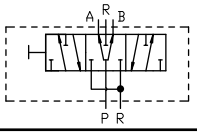
Tipo R - *Type R*

3 Posiciones, 4 vías, doble efecto. Toma A bloqueada y P con toma B (con chiclé) y R en posición 0.
3 positions, 4 way, double acting. A port blocked and P to B port (with needle valve) and R in 0 position.



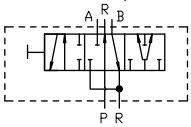
Tipo T - *Type T*

3 Posiciones, 4 vías, doble efecto. P abierto a tomas A y B en posición 0.
3 positions, 4 way, double acting. P open to A and B ports in 0 position.



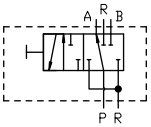
Type U

3 Posiciones, 4 vías, doble efecto. Toma A bloqueada y toma B abierta a depósito en posición 0.
3 positions, 4 way, double acting. A port blocked and B port open to tank in 0 position.



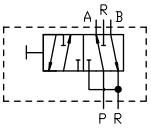
Type M

2 Posiciones, 4 vías, doble efecto. P abierto a toma A y toma B bloqueada en posición 0.
2 positions, 4 way, double acting. P open to A port and B port blocked in 0 position.



Type N

2 Posiciones, 4 vías, doble efecto. P abierto a toma A y toma B abierta a R en posición 0.
2 positions, 4 way, double acting. P open to A port and B port open to R in 0 position.



10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:

- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:

- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

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MENU

WWW.SUMY.IR

Distribuidores monobloque

Monoblock control valves

Roquet
making **moves**

202-1202

302-1302

504-1504

MENU

202-1202

Paralelo
Monobloque
Caudal nominal: 60 l/min
Presión máxima de trabajo: 350 bar

Parallel
Monoblock
Nominal flow 60 l/min
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**202**	**1202**
Tomas A y B *Ports A y B*		**3/8" G**	**1/2" G**
Tomas P-P1 *Ports P-P1*		**1/2" G**	
Tomas R-R1 *Ports R-R1*		**1/2" G**	
Tomas RP *Ports RP*		**1/2" G**	
Número máximo de elementos (*) *Maximum spool quantity (*)*		**2-6**	
Diámetro corredera (mm) *Spool diameter (mm)*		**15**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**5**	
Alimentación tipo *Type*		**Paralelo** *Parallel*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**60**	
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**17**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	

Distribuidor
Control valve

Modelo
Type
202-1202

NOMENCLATURA DE REFERENCIAS

202	N	1	P2	C	12	D	– CODE
1	2	3	4	5	6	7	10

CODING SYSTEMS

1 Tipo distribuidor / *Control valve type*

202	3/8" G
1202	1/2" G

2 Formas de retorno o sistemas de trabajo / *Return form*

N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3 Accionamiento corredera / *Spool positions devices*

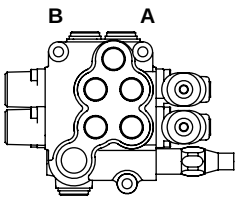
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
24	**Dos posiciones, central y extrema con anclajes, movimiento tirando corredera.** *Two positions, neutral and end position by detent, action pulling spool.*

4 Tipo palanca mando / *Hand lever type*

P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
I	**Cable.** *Cable control.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is required).*

5 Posición válvula de seguridad o entrada presión / *Relief valve position / Pressure inlet*

C



6 Válvula seguridad principal / *Main relief valve*

Taraje *Setting (bar)*	**Tipo regulación /** *Adjustment*	
	Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	11	41
85-175 (160)	12	42
180-250 (200)	13	43
255-350 (315)	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 Sistemas de distribución / *Spool types*

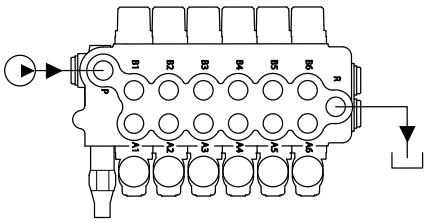
El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.

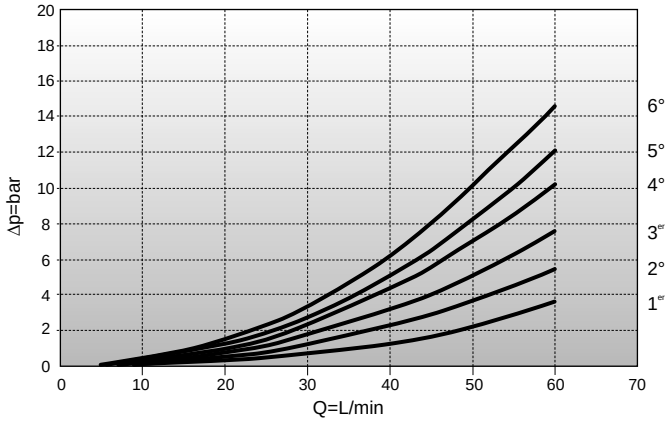
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

10 Datos adicionales (código) / *Additional data (code)*

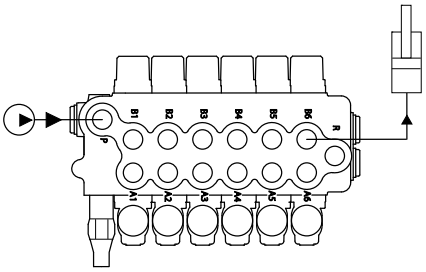
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

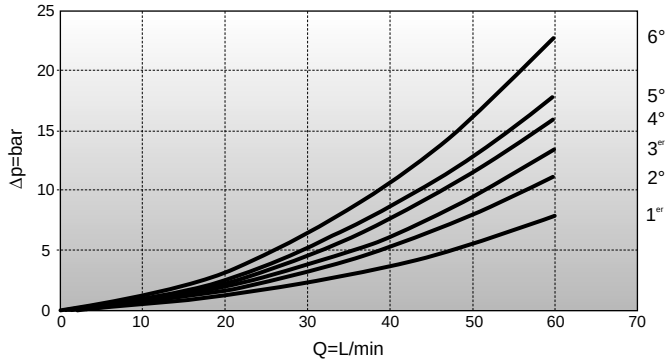
Presión con retorno (P → R)
Pressure to return (P → R)



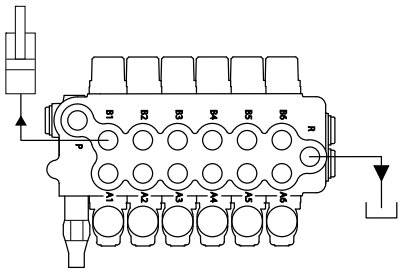


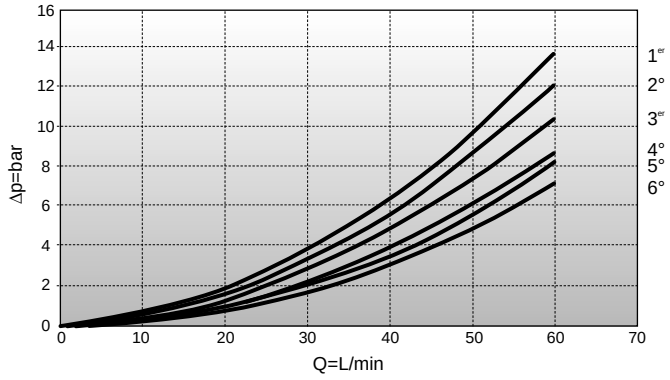
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



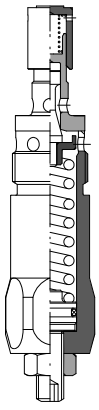


Tomas con retorno (A ó B → R)
Ports to return (A o B → R)

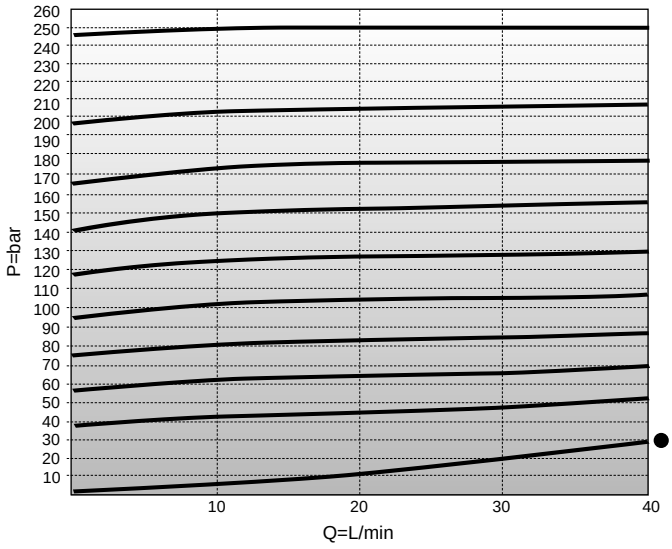




Válvula de seguridad principal y válvula paralelo
Main relief valve and parallel valve

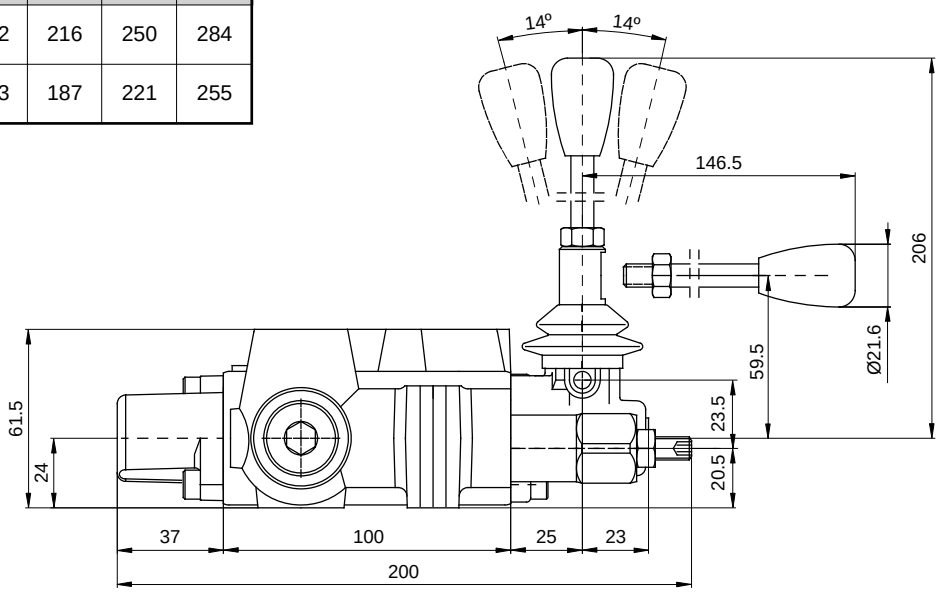


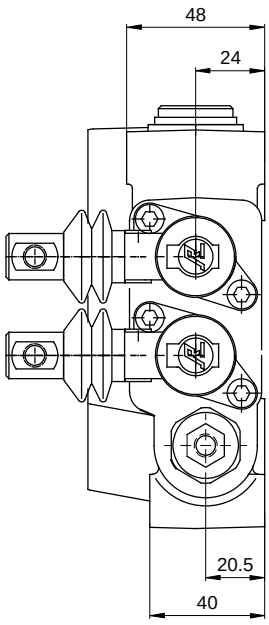
● Curva presión mínima
Minimal pressure curve

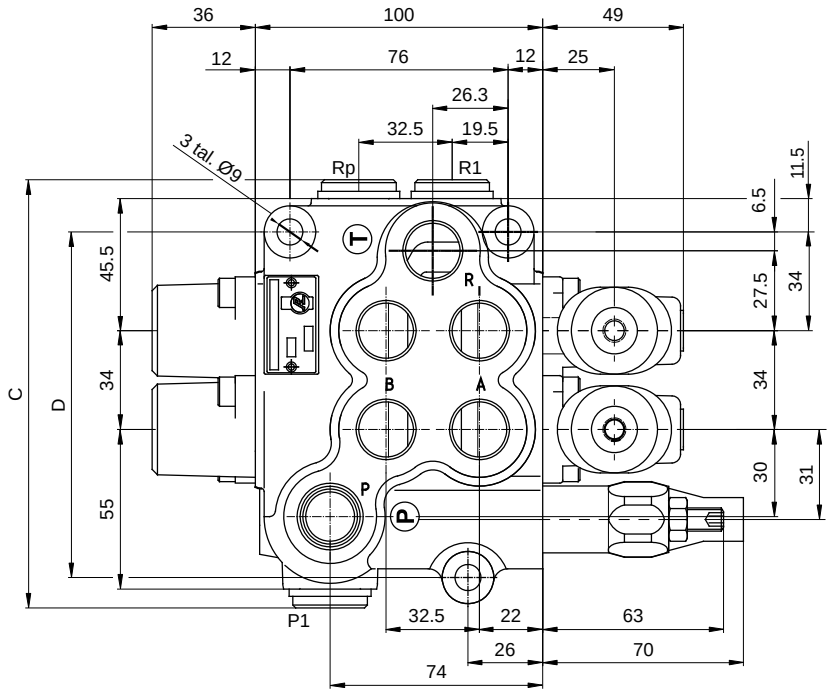


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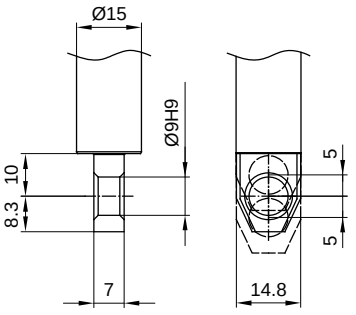
N° de elementos *Number of spools*	**2**	**3**	**4**	**5**	**6**
C	148	182	216	250	284
D	119	153	187	221	255



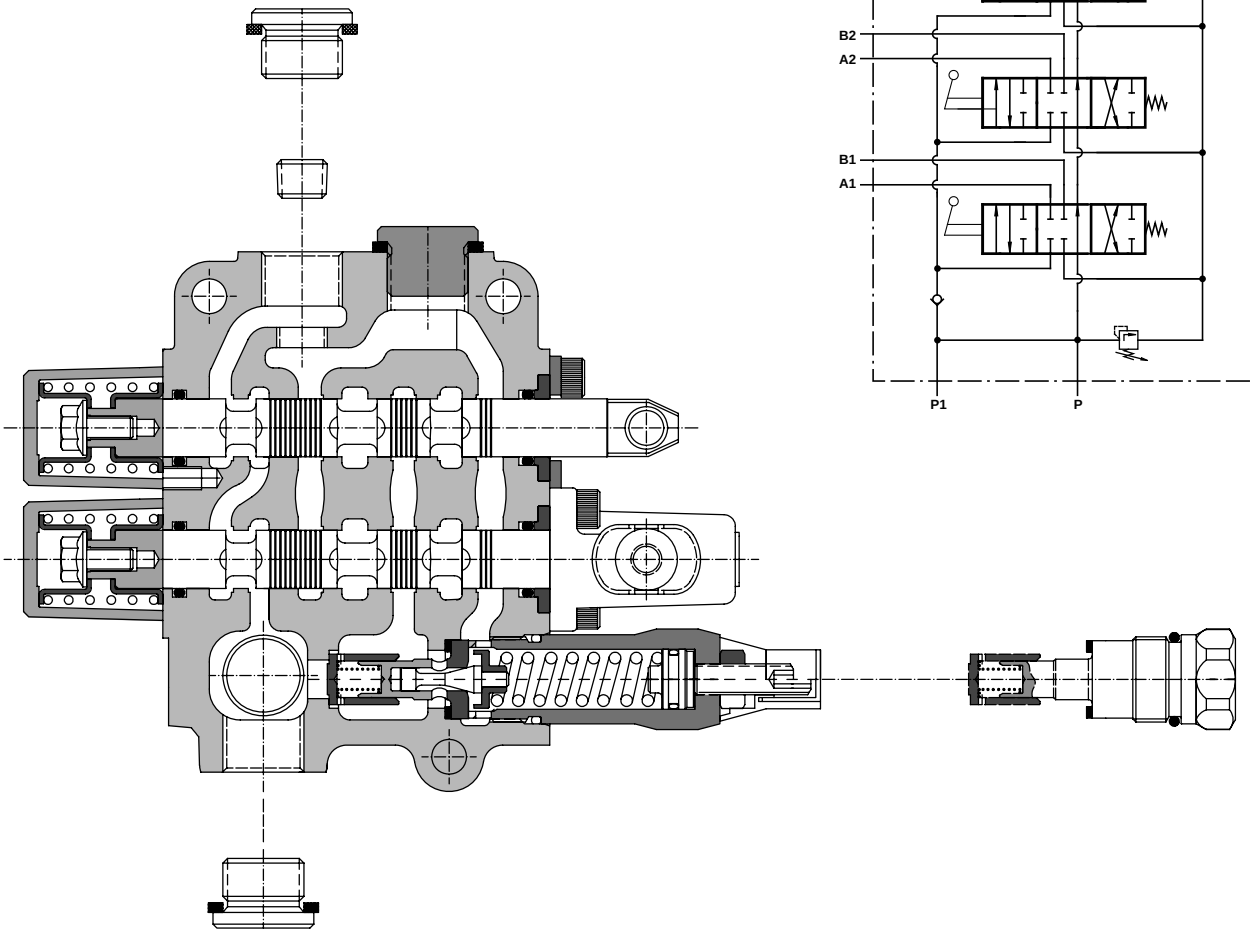




DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



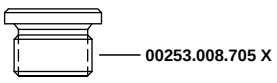
2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*

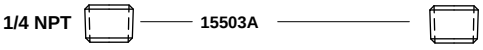


2 Formas de retorno o sistemas de trabajo
Return form

Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	1/2" G
Z	**Retorno con presión** *High pressure carry-over*	1/2" G
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

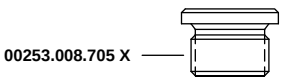
C Centro cerrado *Closed centre*

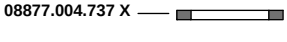




Z Retorno con presión *High pressure carry-over*

Tapón *Plug*

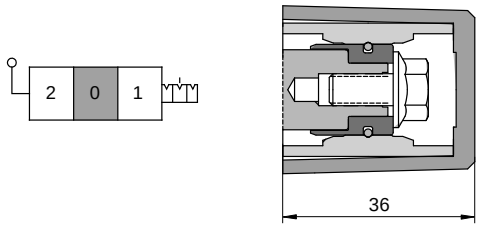




3 Accionamiento corredera
Spool positions devices

Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



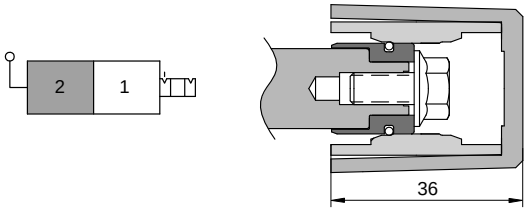
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

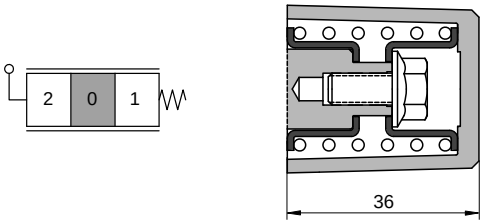
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



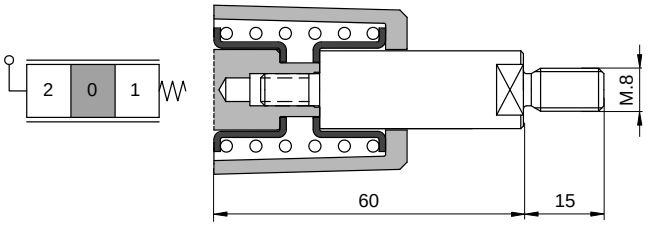
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



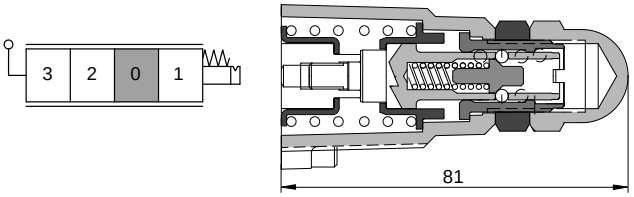
Accionamientos 16
Types 16

Tres posiciones, recuperación a posición neutral por muelle.
Doble salida de corredera.
Three positions, return to neutral position by spring.
Double end actioned spool.



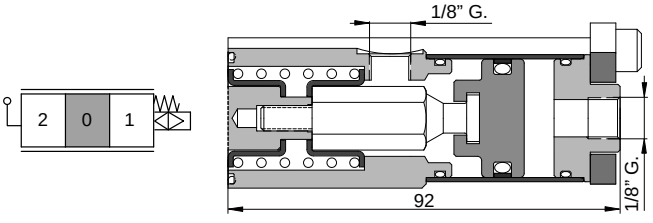
Accionamiento 19
Type 19

Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.
Fourth positions. Fourth position with detent, action pushing spool.



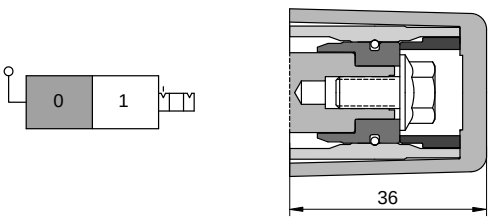
Accionamiento 22
Type 22

Tres posiciones, pilotaje neumático.
Three positions, pneumatic pilot.



Accionamiento 24
Type 24

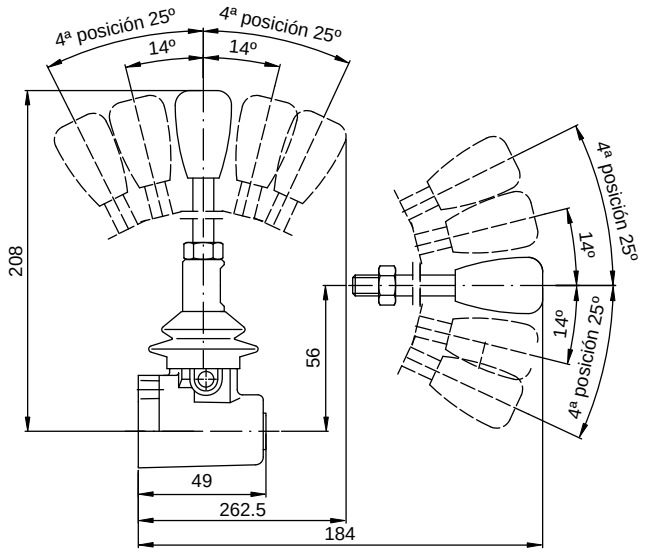
Dos posiciones, central y extrema con anclajes, movimiento tirando corredera.
Two positions, neutral and end position by detent, action pulling spool.



4 Tipo palanca mando
Hand lever type

Palanca
Hand lever

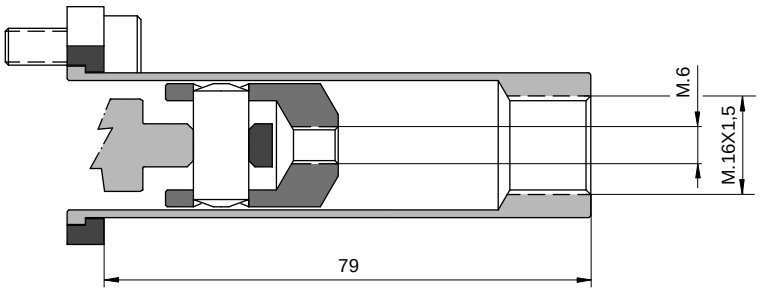
P2 - Z2



Tipo palanca *Type*	Descripción *Description*
P2	Palanca con protector y varilla. *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla. *Lever box with rubber boot and without lever.*

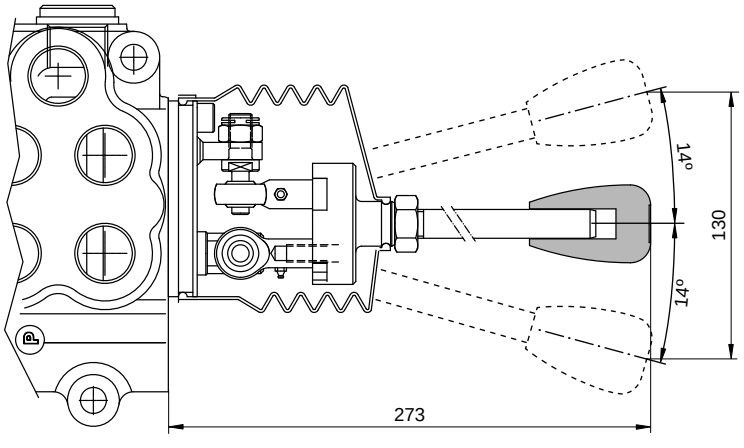
Cable
Cable control

I

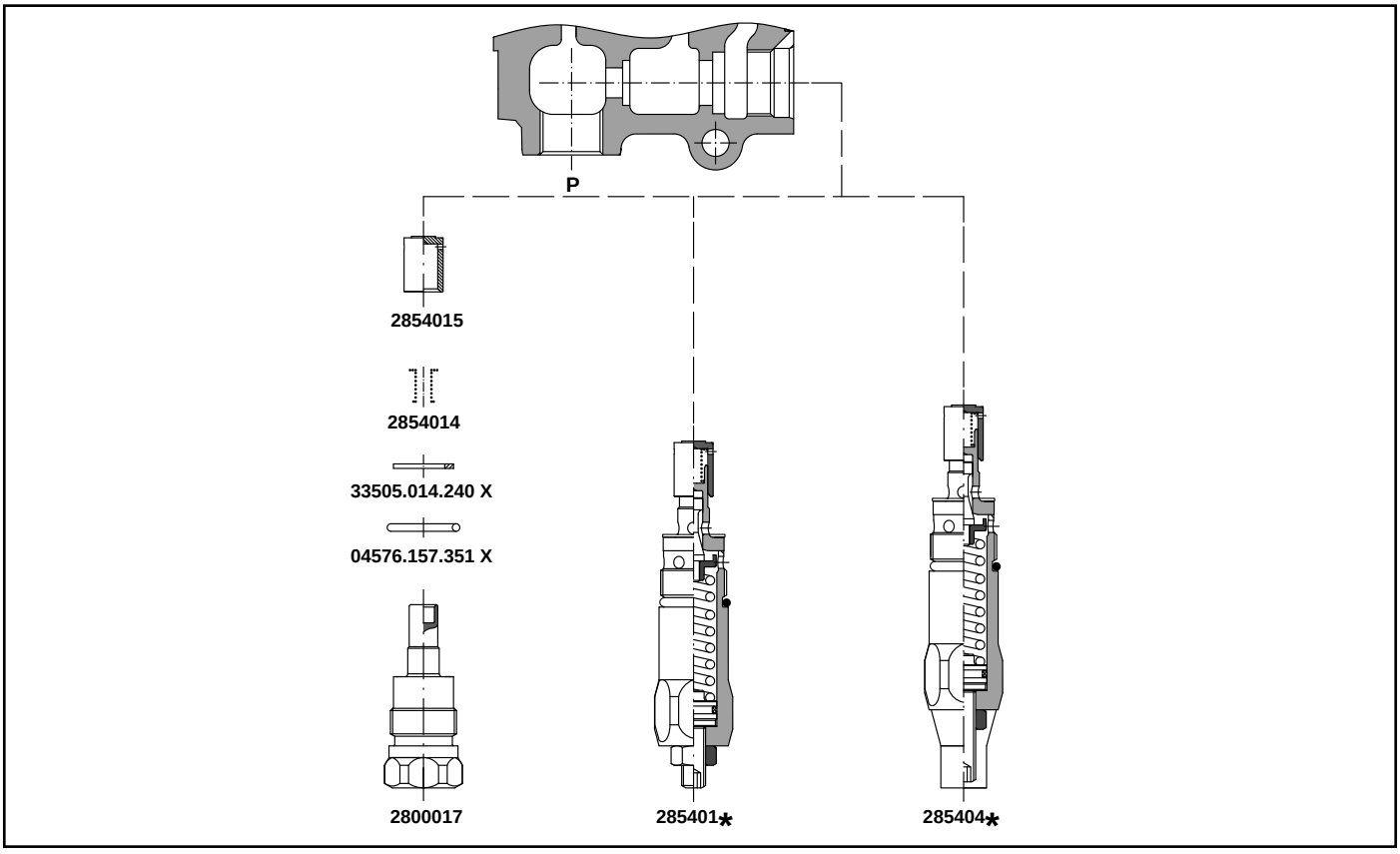


Palanca no iguales o múltiples (necesita código)
Mechanical joystick or special options (code is requiered)

X



6 Válvula seguridad principal
Main relief valve



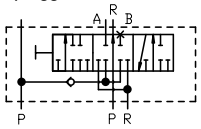
Taraje *Setting*	**Regulable por tornillo** *Screw adjustment*	**Regulable precintada** *Lock wired*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 (80) bar	11	41	--
85-175 (160) bar	12	42	--
180-250 (200) bar	13	43	--
255-350 (315) bar	14	44	--

7 Sistema de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

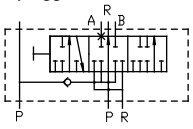
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

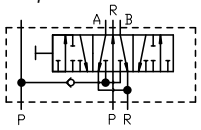
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

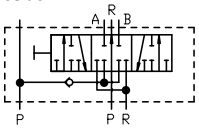
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

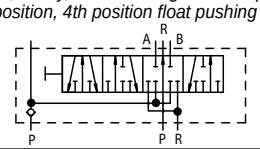
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo M - *Type M*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante empujando corredera.

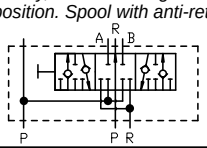
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pushing the spool.



Tipo A - *Type A*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0. Corredera válvula antirretorno.

3 positions, 4 way, double acting. A and B ports blocked in 0 position. Spool with anti-return valve.



10 Datos adicionales (código)
Additional date (code)

CÓDIGO
Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:
- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

CODE
*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:
- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

WWW.SUMY.IR

Distribuidores monobloque

Monoblock control valves

Roquet
making moves

302-1302

504-1504

MENU

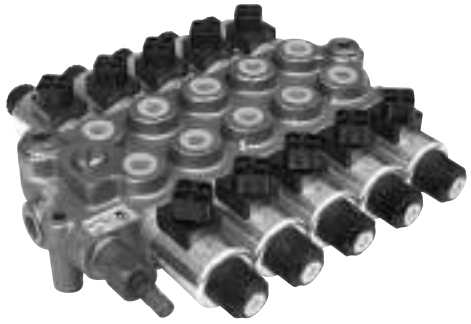
Distribuidor
Control valve

Modelo
Type
302-1302

302 - 1302

Paralelo
Monobloque
Caudal nominal: 60 l/min
Presión máxima de trabajo: 350 bar

Parallel
Monoblock
Nominal flow 60 l/min
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**302**	**1302**
Tomas A y B *Ports A y B*		**3/8" G**	**1/2" G**
Tomas P-P1 *Ports P-P1*		**1/2" G**	
Tomas R-R1 *Ports R-R1*		**1/2" G**	
Tomas RP *Ports RP*		**1/2" G**	
Número máximo de elementos (*) *Maximum spool quantity (*)*		**6**	
Diámetro corredera (mm) *Spool diameter (mm)*		**15**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**5+5 Manual** **3,5+3,5 Eléctrico /** *electrical*	
Alimentación tipo *Type*		**Paralelo** *Parallel*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**60**	
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**18**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	
Gama de tensiones *Control voltage*		**D.C. 12 V - 24 V**	
Conector estándar *Standar conector*		**ISO-4400**	
Potencia electroimán *Solenoid power*		**38 W.**	

NOMENCLATURA DE REFERENCIAS

302	N	1	S	C	12	D	24 – CODE
1	2	3	4	5	6	7	8	10

CODING SYSTEMS

1	**Tipo distribuidor** *Control valve type*
302	3/8" G
1302	1/2" G

2	**Formas de retorno o sistemas de trabajo** *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

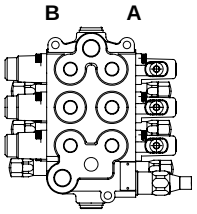
3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
37	**Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamient distinto es necesario código.** *Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.*
83	**Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.** *Three positions; ends position by direct solenoid, neutral position by spring.*
84	**Dos posiciones, neutral y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.*
85	**Dos posiciones, neutral y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.*

4	**Tipo palanca mando** *Hand lever type*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*

4	**Tipo palanca mando** *Hand lever type*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
I	**Cable.** *Cable control.*
ME	**Palanca manual emergencia, y conector DEUSTCH.** *Emergency hand lever, and DEUTSCH connector.*
ML	**Palanca manual emergencia, y conector HIRSCHMANN.** *Emergency hand lever, and HIRSCHMANN connector.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
E	**Distribuidor eléctrico con conectores DEUTSCH.** *DEUTSCH connector by electrical control valve.*
L	**Distribuidor eléctrico con conectores HIRSCHMANN.** *HIRSCHMANN connector by electrical control valve.*

5 **Posición válvula de seguridad o entrada presión**
Relief valve position / Pressure inlet

C



6 **Válvula seguridad principal**
Main relief valve

Taraje *Setting (bar)*	**Tipo regulación /** *Adjustment*	
	Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	11	41
85-175 (160)	12	42
180-250 (200)	13	43
255-350 (315)	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 **Sistemas de distribución**
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.

The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

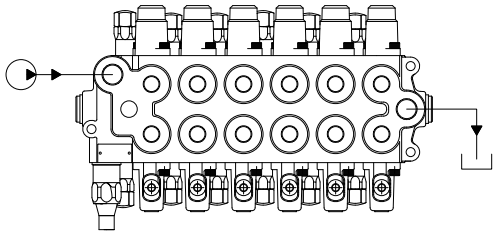
8 **Gama de tensiones para C.C.**
(sólo para accionamiento 83-84-85)
D.C. voltage (only for control types 83-84-85)

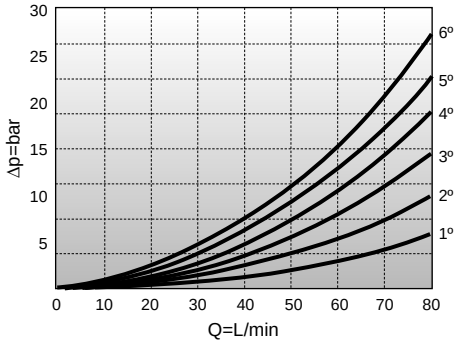
12	12V	**24**	24V

10 **Datos adicionales (código)**
Additional data (code)

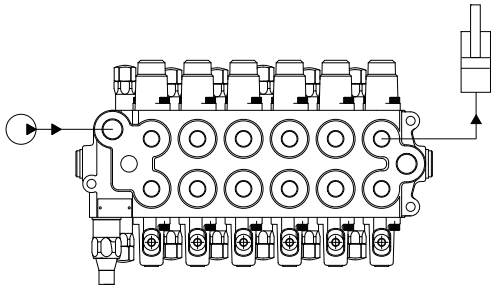
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

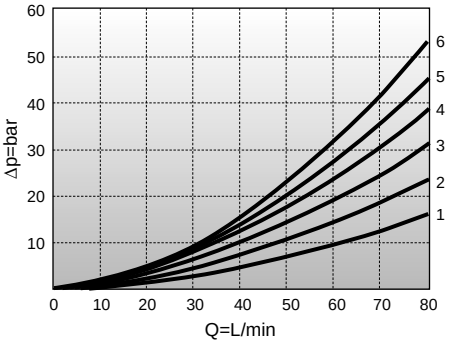
Tomas con retorno (P → R)
Ports to return (P → R)



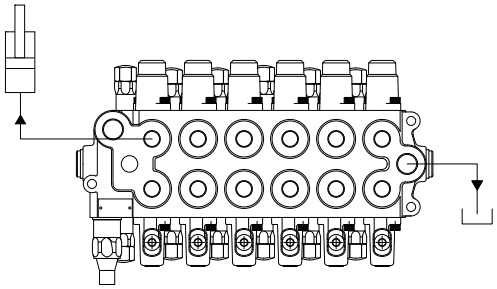


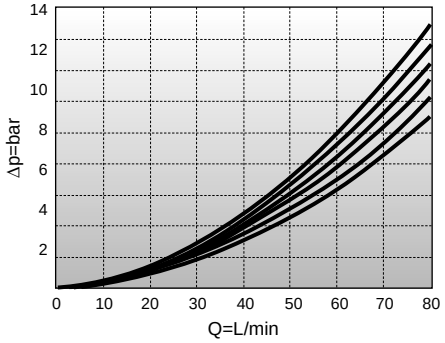
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



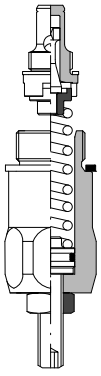


Tomas con retorno (A ó B - R)
Ports to return (A o B - R)

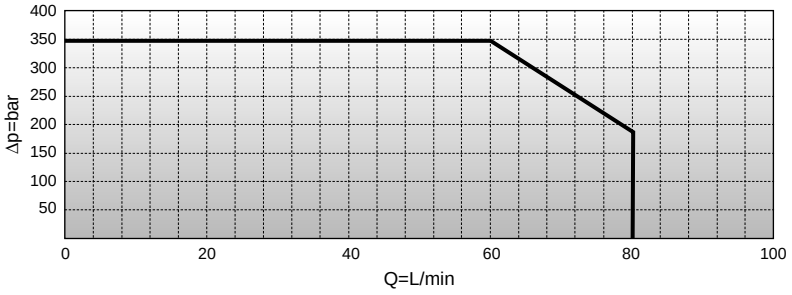




Válvula de seguridad principal
Main relief valve

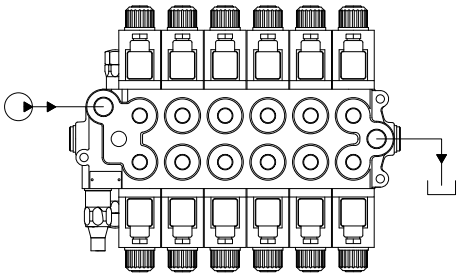


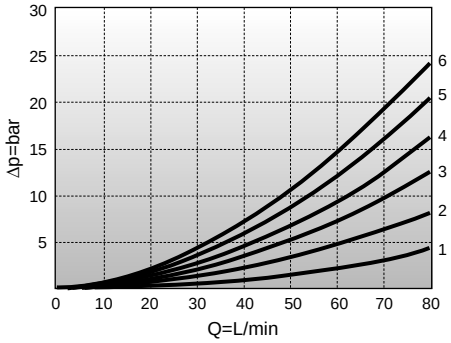
Límites de funcionamiento
Operating limits



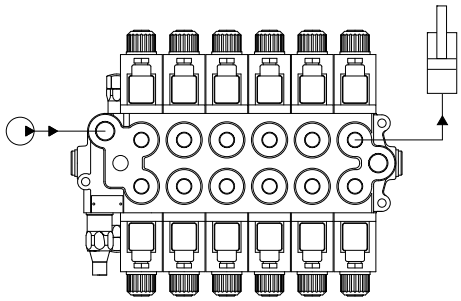
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

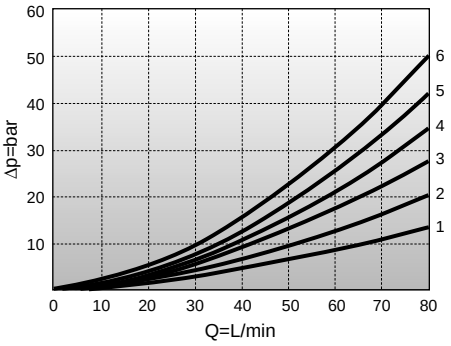
Tomas con retorno (P → R)
Ports to return (P → R)



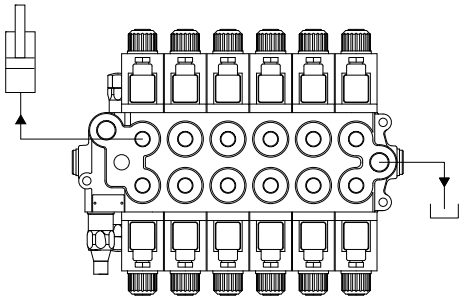


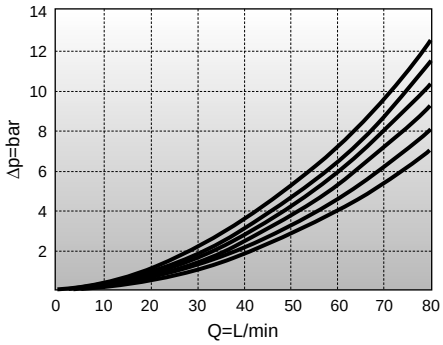
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



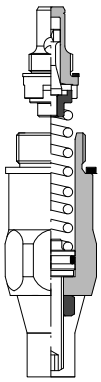


Tomas con retorno (A ó B → R)
Ports to return (A o B → R)

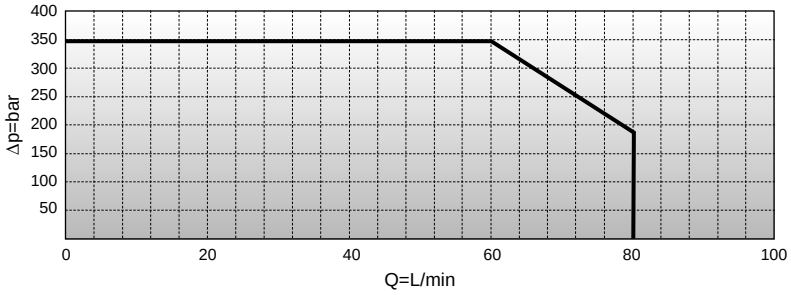




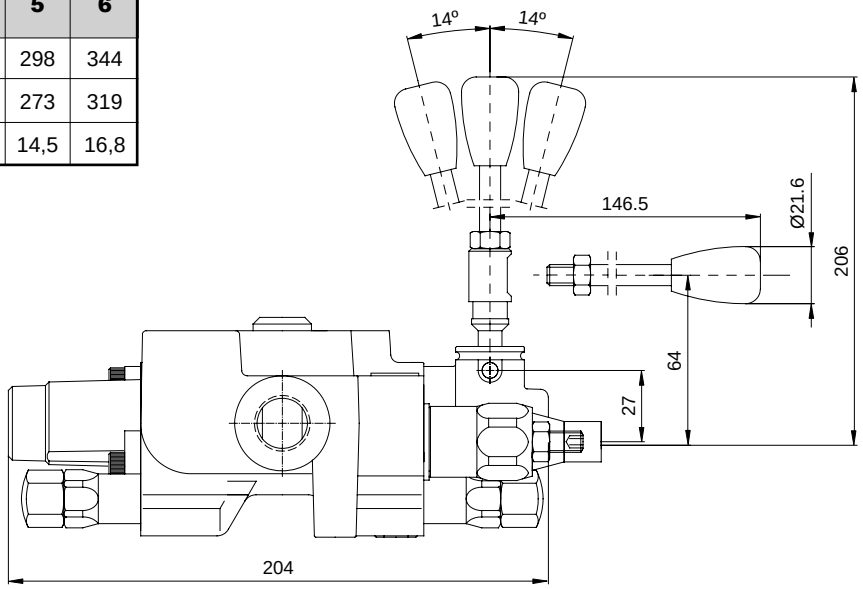
Válvula de seguridad principal
Main relief valve

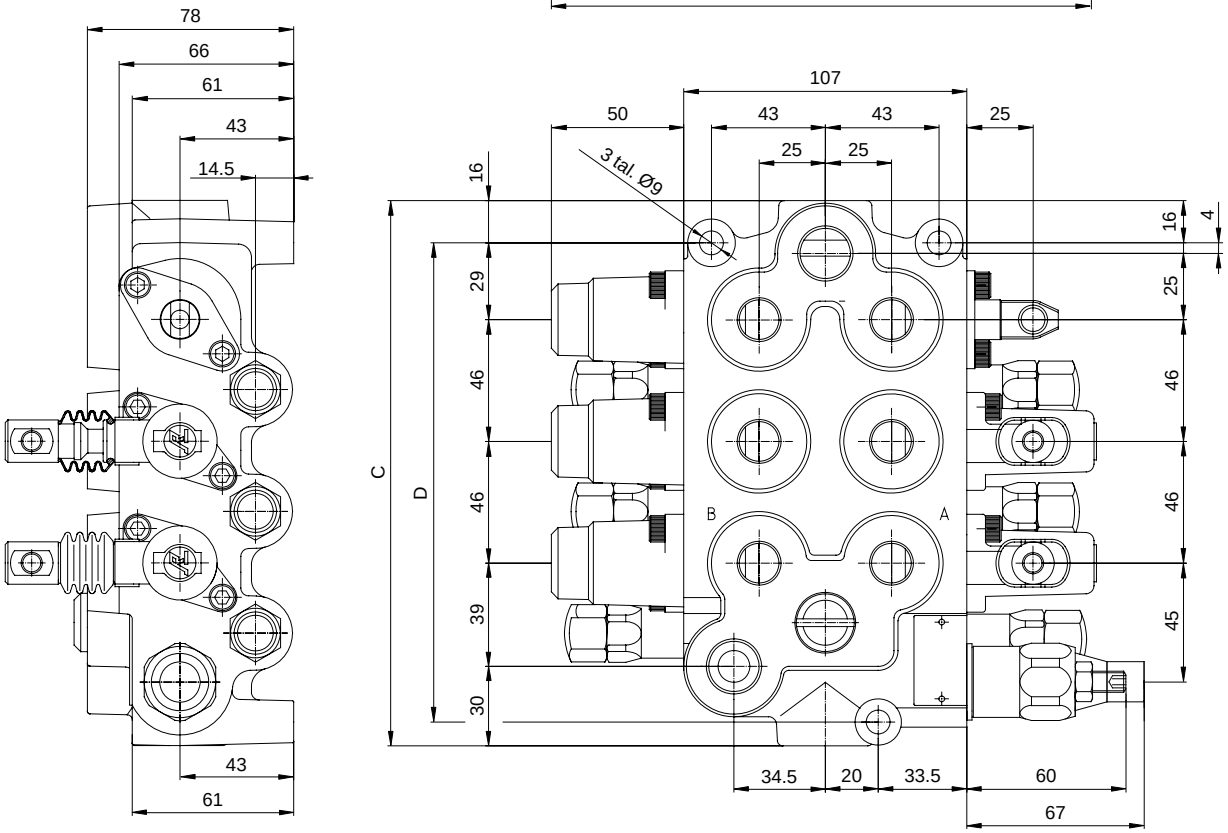


Límites de funcionamiento
Operating limits

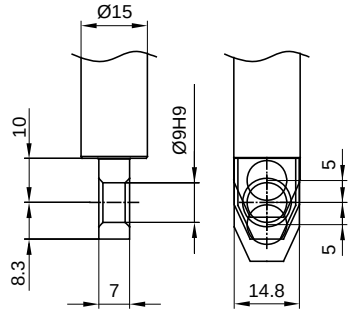


N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	114	160	206	252	298	344
D	89	135	181	227	273	319
Peso en kg. / *Weight in kg.*	5,3	7,6	9,9	12,2	14,5	16,8





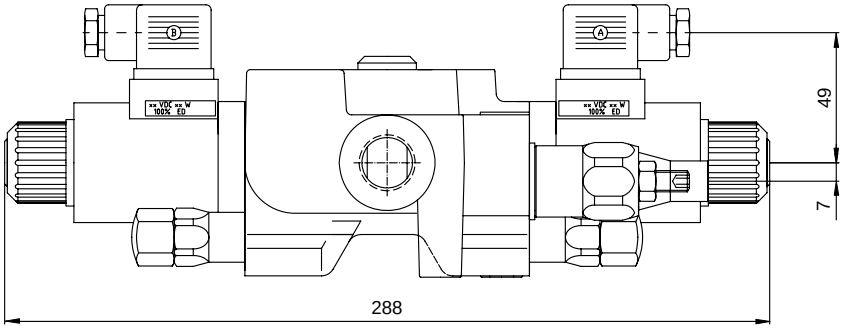
DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*

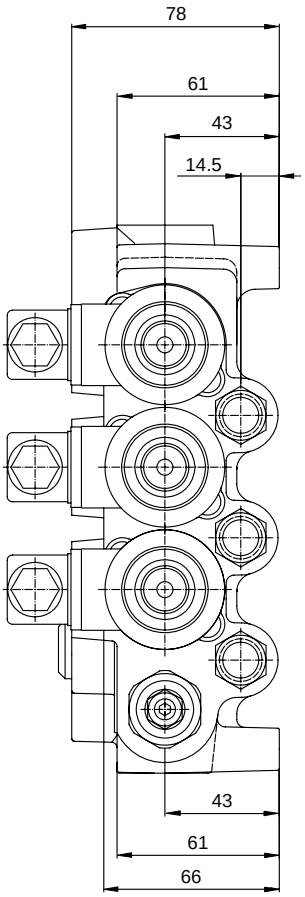


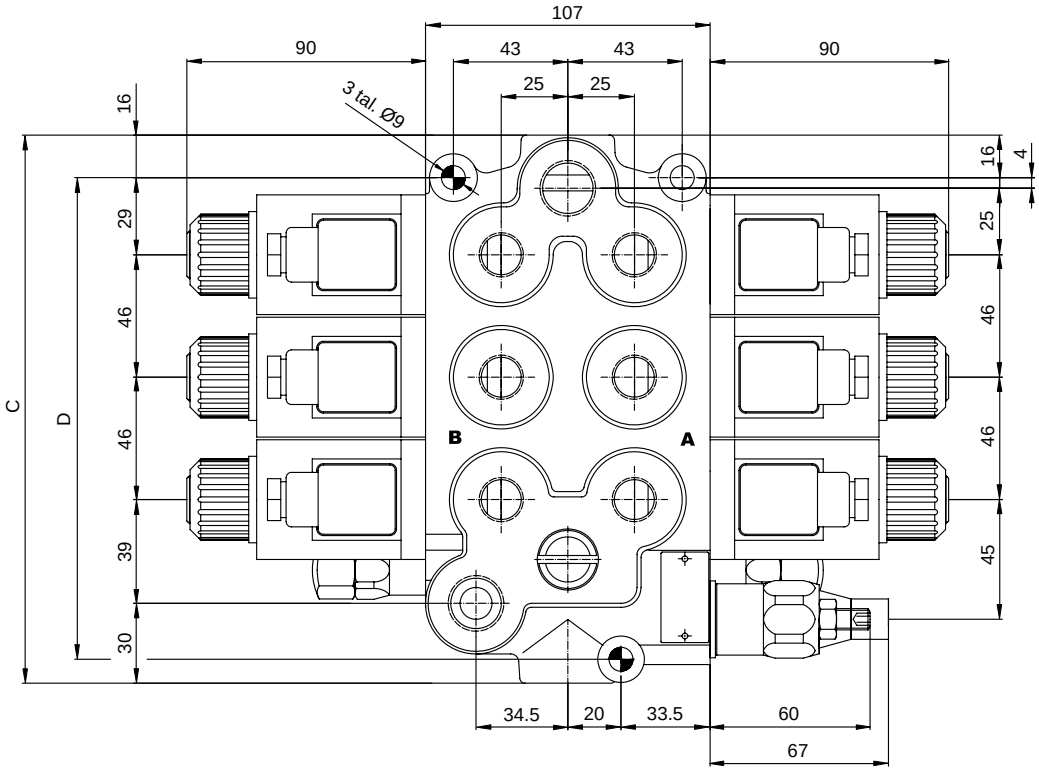
2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*

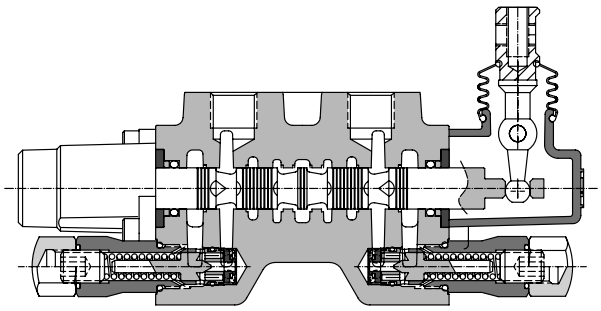
WWW.SUMY.IR

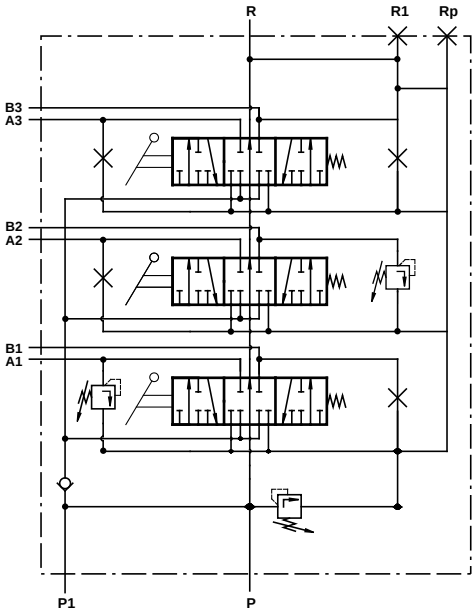
N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	114	160	206	252	298	344
D	89	135	181	227	273	319
Peso en kg. / *Weight in kg.*	5,9	8,2	10,6	12,9	15,4	17,8

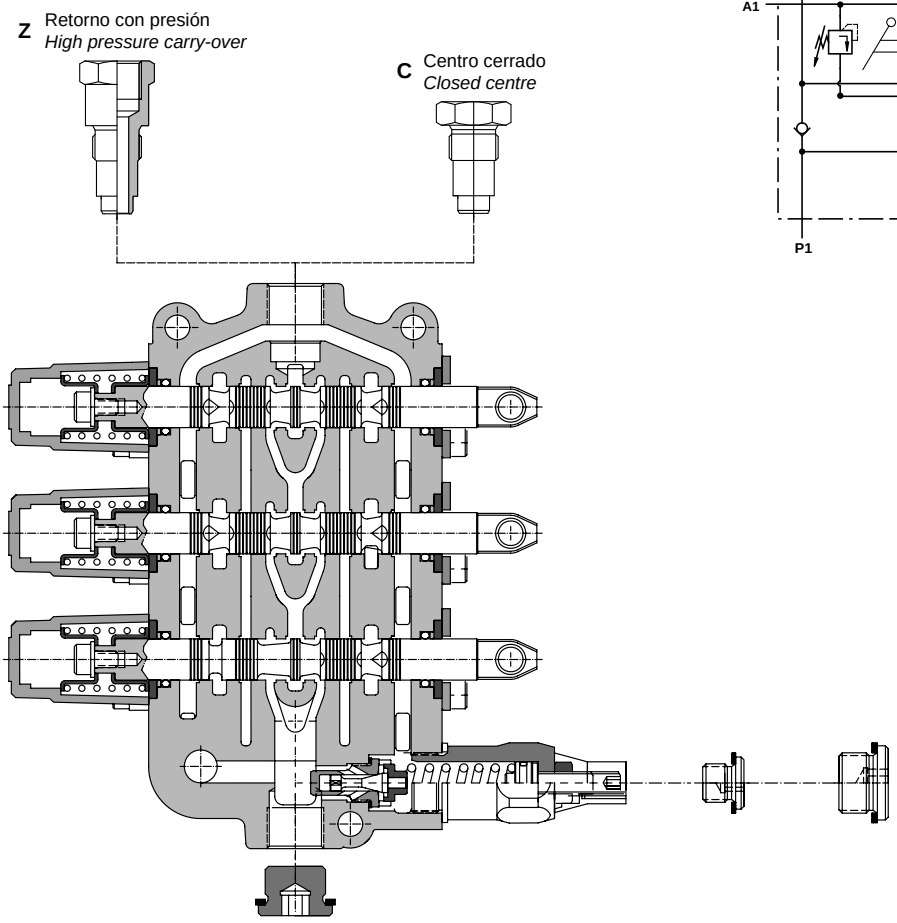






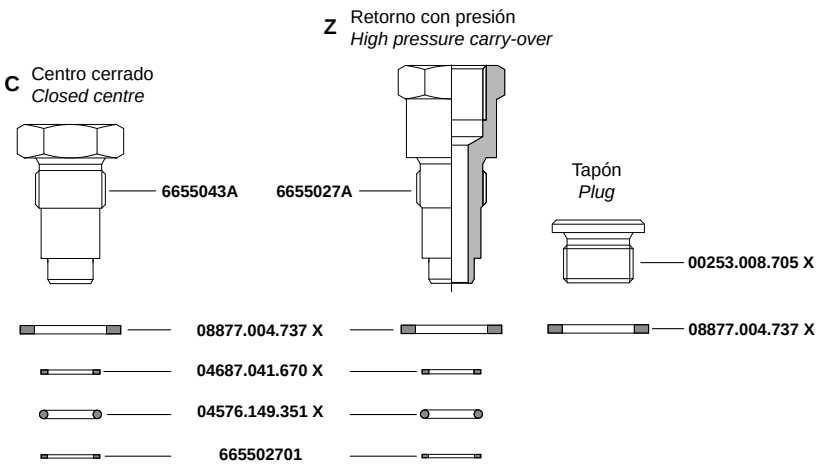




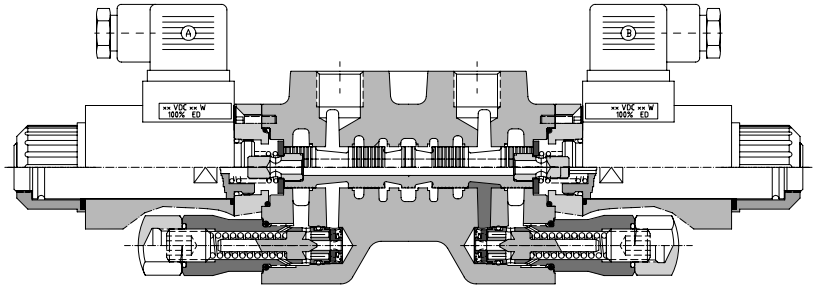


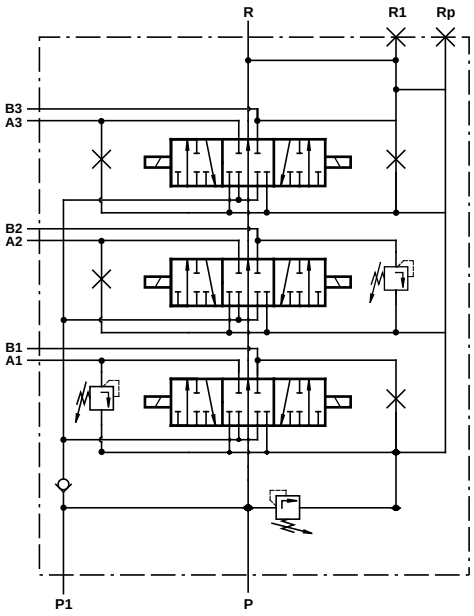
2 Formas de retorno o sistemas de trabajo
Return form

Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	**1/2" G**
Z	**Retorno con presión** *High pressure carry-over*	**1/2" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*



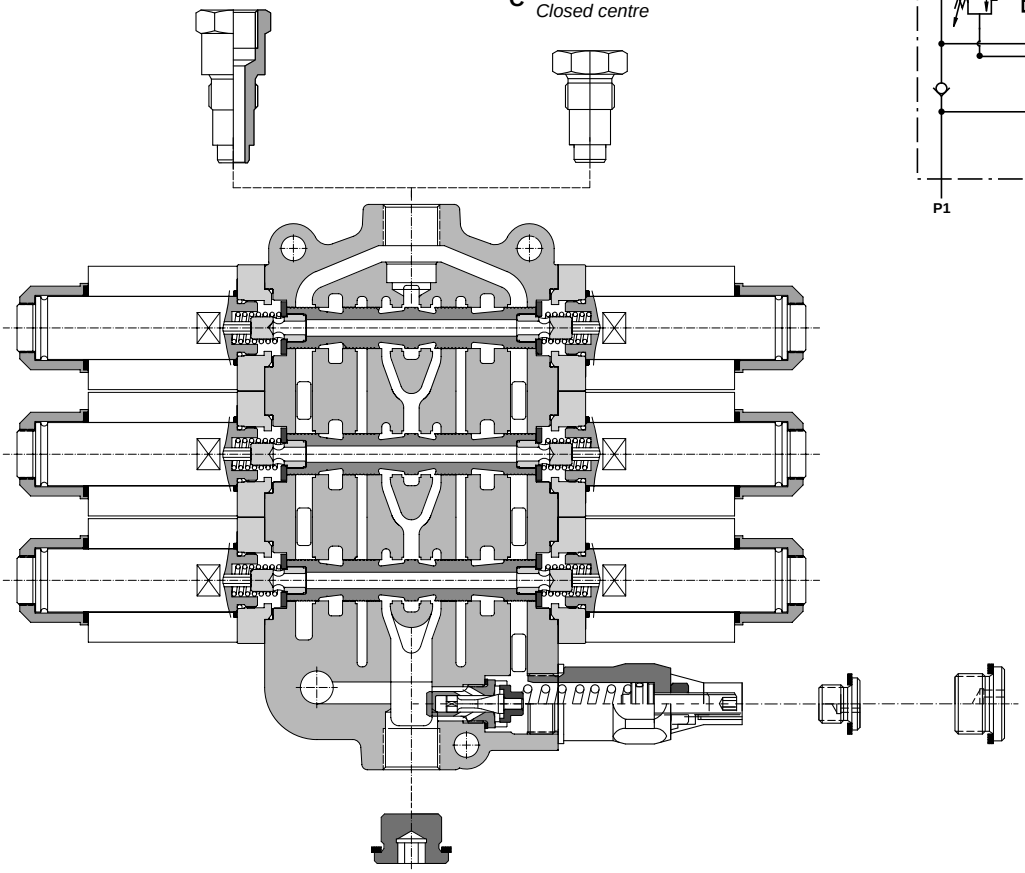
WWW.SUMY.IR





Z Retorno con presión
High pressure carry-over

C Centro cerrado
Closed centre

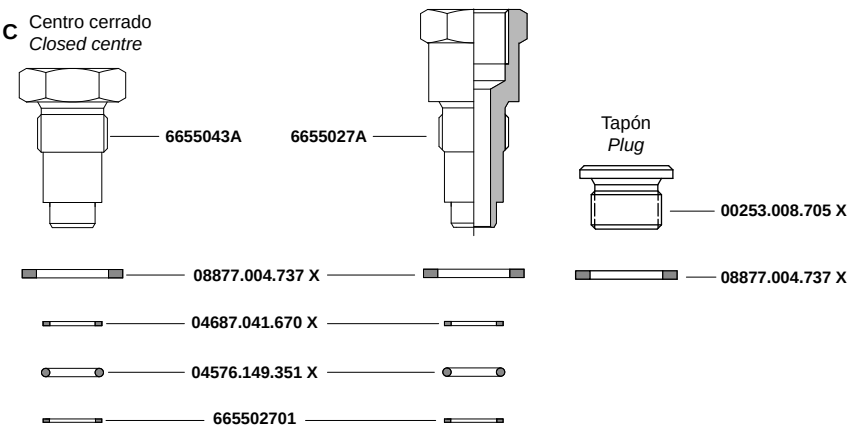


2 Formas de retorno o sistemas de trabajo
Return form

Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	**1/2" G**
Z	**Retorno con presión** *High pressure carry-over*	**1/2" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

C Centro cerrado
Closed centre

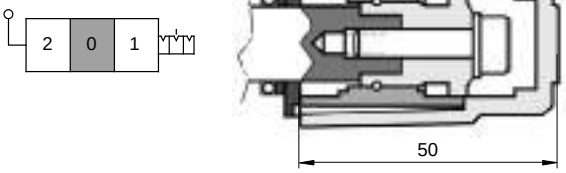
Z Retorno con presión
High pressure carry-over



3 Accionamiento corredera
Spool positions devices

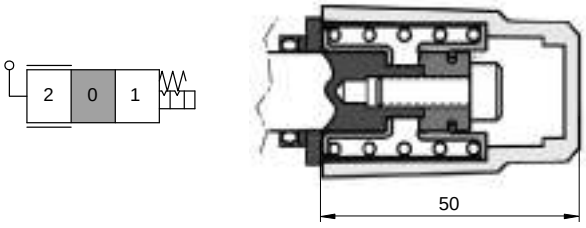
Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.



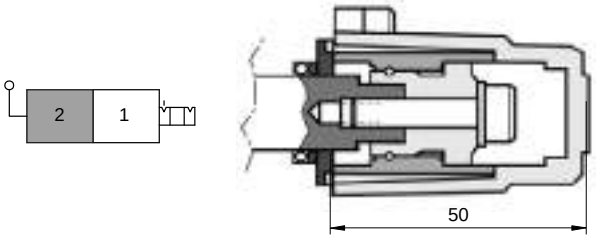
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

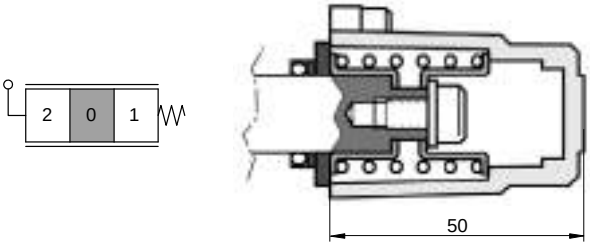
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



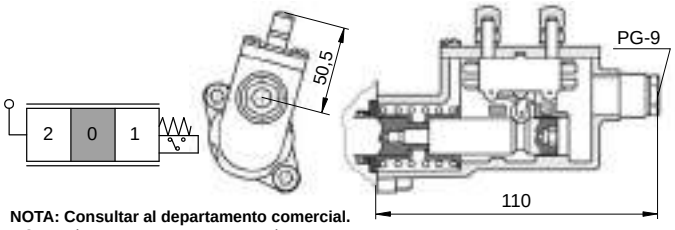
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



Accionamiento 15
Type 15

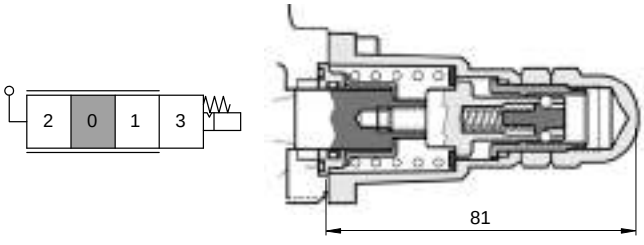
Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.



NOTA: Consultar al departamento comercial.
NOTE: Please contact costumer service.

Accionamiento 20
Type 20

Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



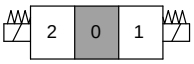
Accionamiento 37
Type 37

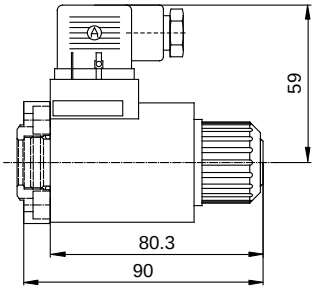
Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamient distinto es necesario código.

Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.

Accionamiento 83
Type 83

Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.
Three positions; ends position by direct solenoid, neutral position by spring.





Accionamiento 84
Type 84

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.
Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.

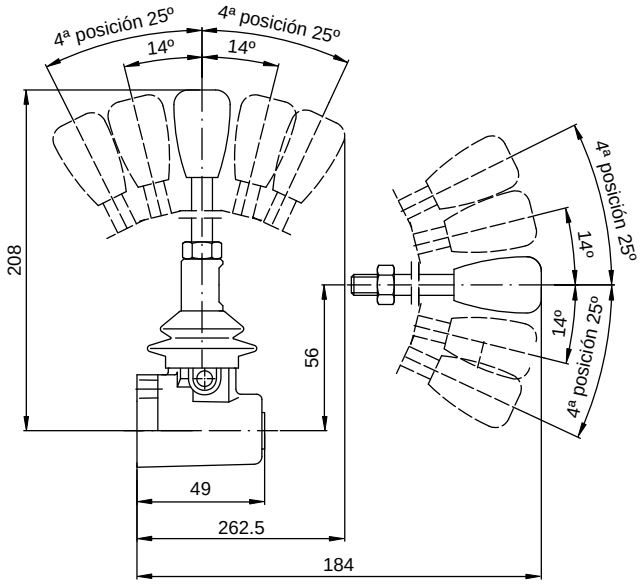
Accionamiento 85
Type 85

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.
Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.

4 Tipo palanca mando
Hand lever type

Palanca
Hand lever

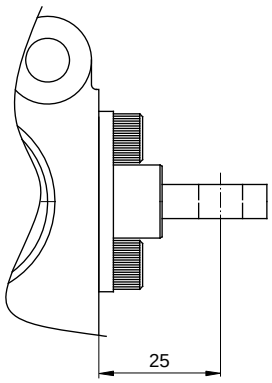
P2 - Z2



Tipo palanca *Type*	**Descripción** *Description*
P2	Palanca con protector y varilla. *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla. *Lever box with rubber boot and without lever.*

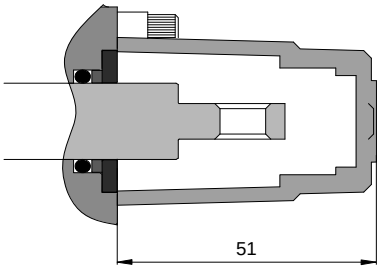
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S



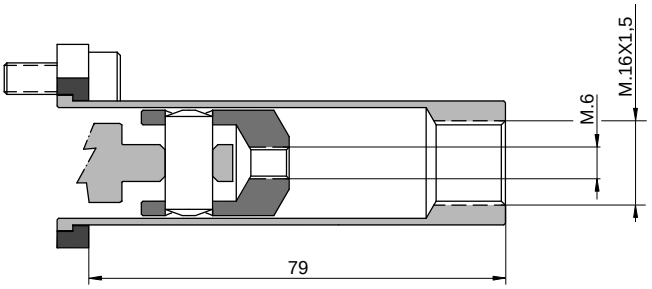
Sin palanca y protector ciego
Spool end cap

T



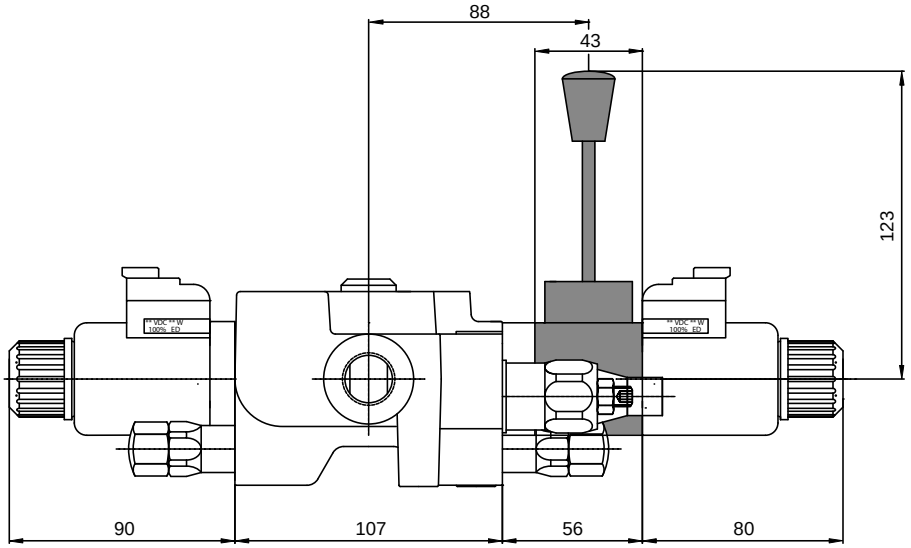
Cable
Cable control

I



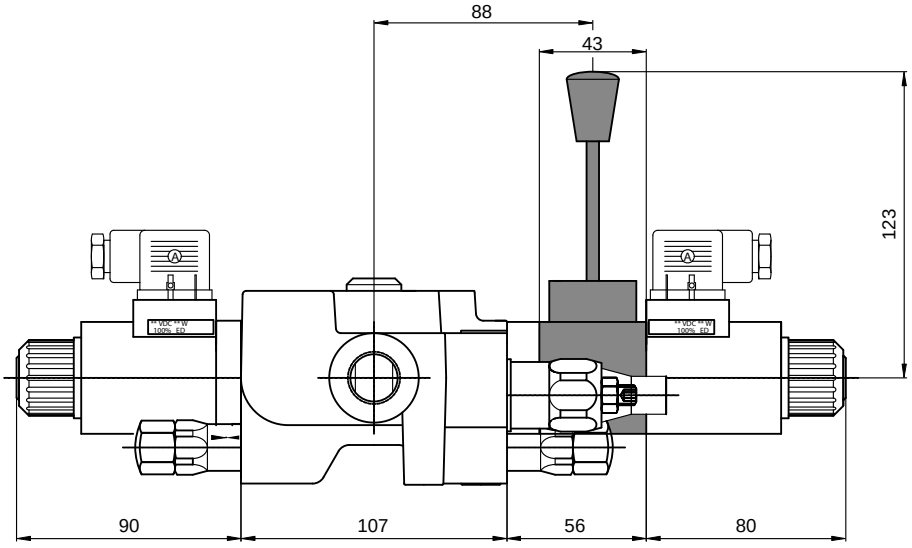
Palanca manual emergencia, y conector DEUSTCH.
Emergency hand lever, and DEUTSCH connector.

ME

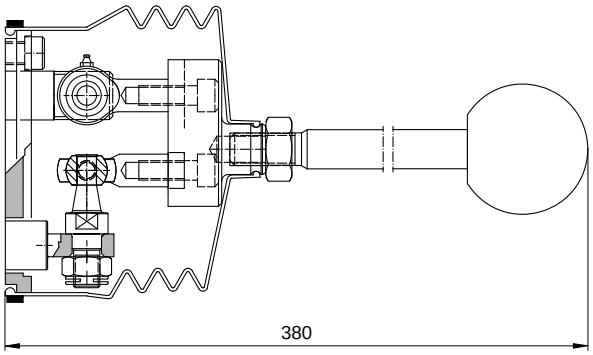


Palanca manual emergencia, y conector HIRSCHMANN.
Emergency hand lever, and HIRSCHMANN connector.

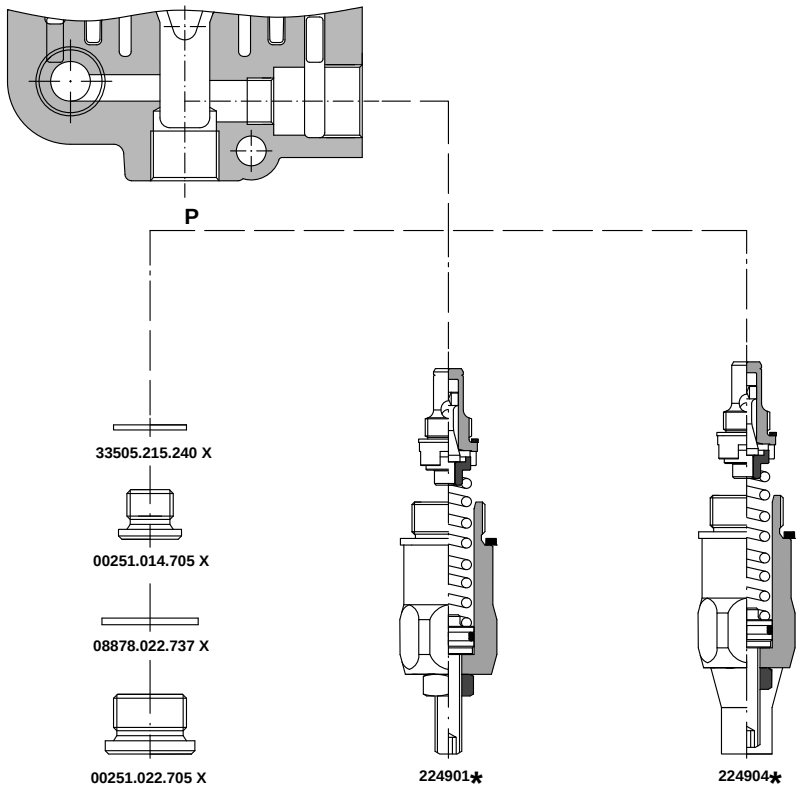
ML



Palancas no iguales o múltiples (necesita código) *Mechanical joystick or special options (code is requiered)*	**X**



6 Válvula seguridad principal
Main relief valve



Taraje *Setting*	**Regulable por tornillo** *Screw adjustment*	**Regulable precintada** *Lock wired*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 (80) bar	11	41	--
85-175 (160) bar	12	42	--
180-250 (200) bar	13	43	--
255-350 (315) bar	14	44	--

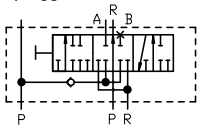
7 Sistema de distribución
Spool types

Manual / *Manual*

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

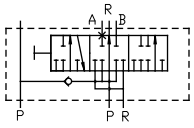
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

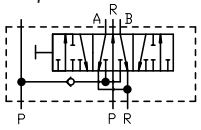
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

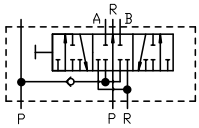
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

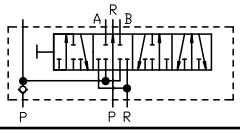
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

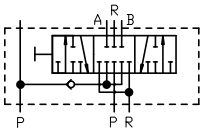
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



Tipo J - *Type J*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0, con centro cerrado.

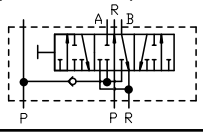
3 positions, 4 way, double acting. A and B ports blocked in 0 position, with closed centre.



Tipo G - *Type G*

3 Posiciones, 4 vías, doble efecto. Toma A bloqueada y toma B abierta a depósito en posición 0.

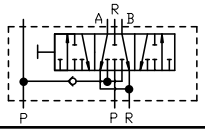
3 positions, 4 way, double acting. A port blocked and B port open to tank in 0 position.



Tipo K - *Type K*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0, con centro cerrado.

3 positions, 4 way, double acting. A and B ports open to tank in 0 position, with closed centre.

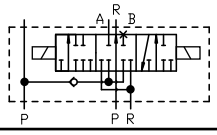


Eléctrico / *Electric*

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

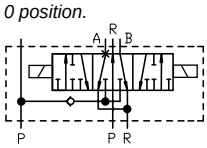
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

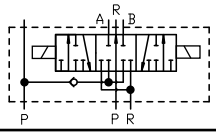
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

3 positions, 4 way, double acting. A and B ports blocked in 0 position.



10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.
Un código especial puede definir:

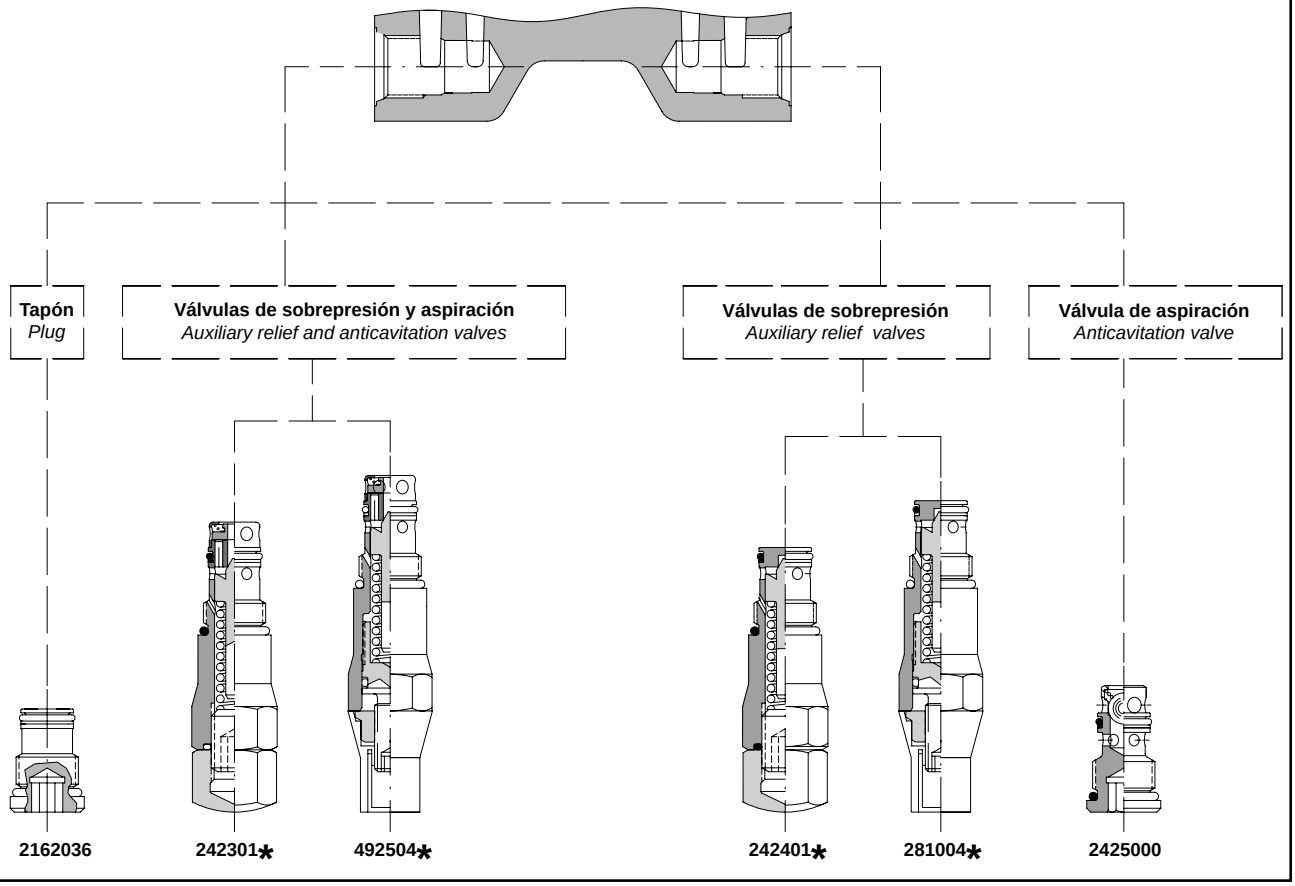
- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.
It is defined by a special code the possibility of:

- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

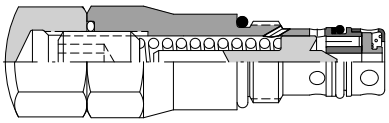
11 **Válvulas auxiliares**
Auxiliary valves



Válvulas de sobrepresión y aspiración
Relief and anticavitation valves

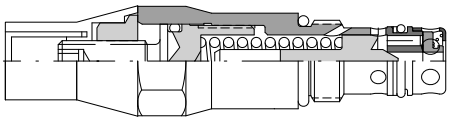
242301*

Regulable
Adjustable

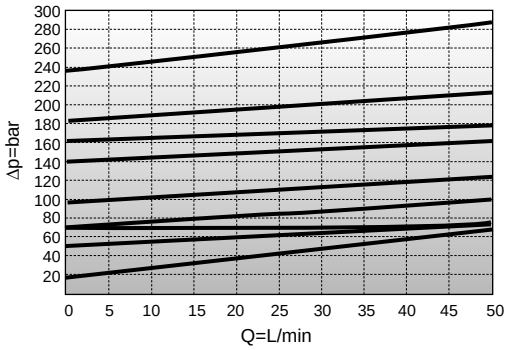


492504*

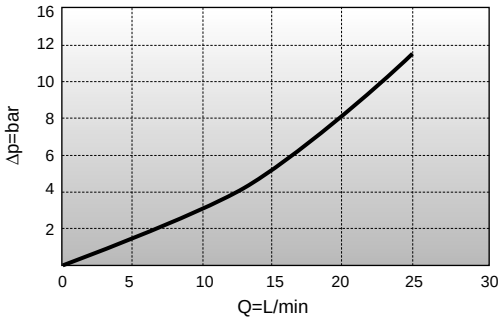
Precintada
Pre set

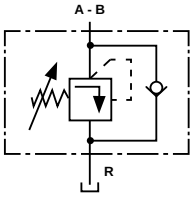


A - B→R



R→A - B

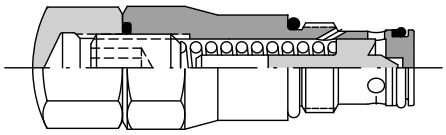




Vàlvulas de sobrepresión
Relief valves

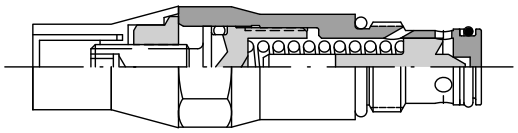
242401*

Regulable
Adjustable

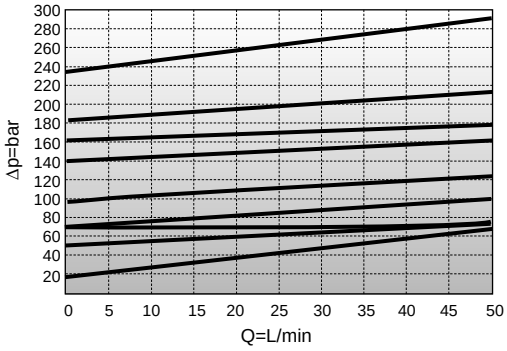


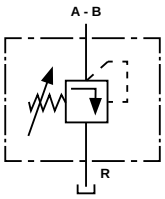
281004*

Precintada
Pre set



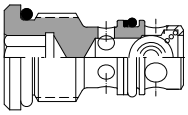
A - B→R



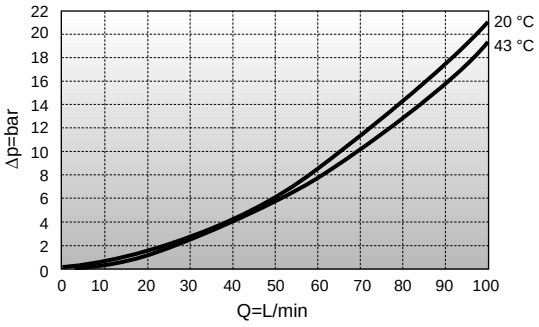


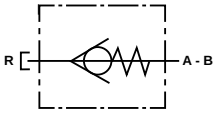
Válvula de aspiración
Anticavitation valve

2425000



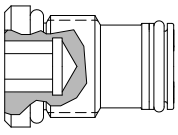
R→A - B





Tapón
Plug

2162036



WWW.SUMY.IR

Distribuidores monobloque

Monoblock control valves

Roquet
making **moves**

504-1504

MENU

504 -1504

Paralelo
Monobloque
Caudal nominal: 80 l/min.
Presión máxima de trabajo: 350 bar

Parallel
Monoblock
Nominal flow 80 l/min.
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**504**	**1504**
Tomas A y B *Ports A y B*		**3/8" G**	**1/2" G**
Tomas P-P1 *Ports P-P1*		**1/2" G**	
Tomas R-R1 *Ports R-R1*		**3/4" G**	
Tomas RP *Ports RP*		**1/2" G**	
Número máximo de elementos (*) *Maximum spool quantity (*)*		**4**	
Diámetro corredera (mm) *Spool diameter (mm)*		**16**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**6**	
Alimentación tipo *Type*		**Paralelo** *Parallel*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**80**	
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**18**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	

Distribuidor
Control valve

Modelo
Type
504-1504

NOMENCLATURA DE REFERENCIAS

504	N	1	P	C	12	D	L12	CODE
1	2	3	4	5	6	7	9	10

CODING SYSTEMS

1 Tipo distribuidor / *Control valve type*

504	3/8" G
1504	1/2" G

2 Formas de retorno o sistemas de trabajo / *Return form*

N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3 Accionamiento corredera / *Spool positions devices*

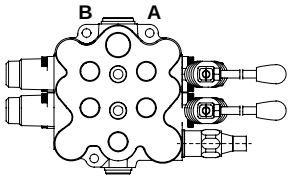
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
14	**Dos posiciones, neutral y extrema con anclajes, empujando corredera.** *Two positions, neutral and end position by detent, action pushing spool.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
37	**Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamiento distinto es necesario código.** *Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.*
42	**Tres posiciones, con anclajes de bolas.** *Three positions with ball bearing detents.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
49	**Dos posiciones extremas, con anclajes de bolas.** *Two end positions with ball bearing detents.*
66	**Tres posiciones, con bloqueo seguridad eléctrico en posición central.** *Three positions, with electrical security lock to neutral position.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*

4 Tipo palanca mando / *Hand lever type*

P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
I	**Cable.** *Cable control.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*

5 Posición válvula de seguridad o entrada presión / *Relief valve position / Pressure inlet*

C



6 Válvula seguridad principal / *Main relief valve*

Taraje *Setting (bar)*	**Tipo regulación /** *Adjustment*	
	Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	11	41
85-175 (160)	12	42
180-250 (200)	13	43
255-350 (315)	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 Sistemas de distribución / *Spool types*

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

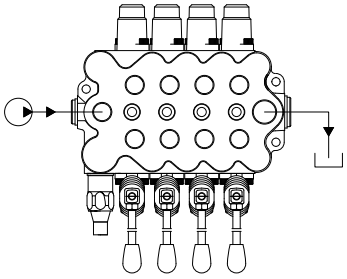
9 Con válvula puesta en vacío eléctrica / *With electrical unloading valve*

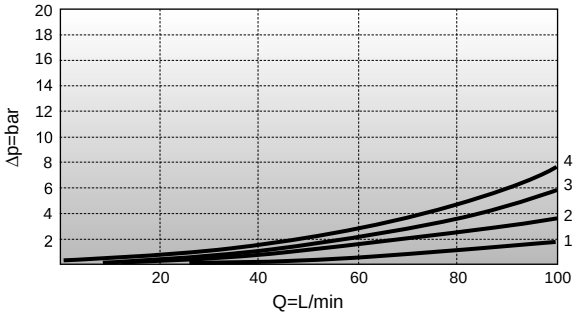
L12	**Eléctrica 12V /** *Electrical 12V (30W).*
L14	**Eléctrica 24V /** *Electrical 24V (30W).*
L0	**Tapón /** *Plug.*
H	**Pilotaje hidráulico /** *Hydraulic piloted.*

10 Datos adicionales (código) / *Additional data (code)*

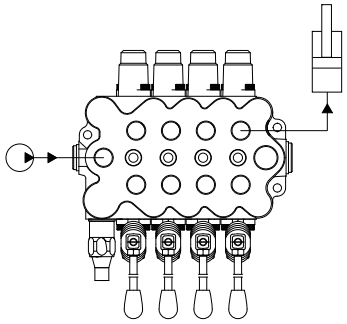
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

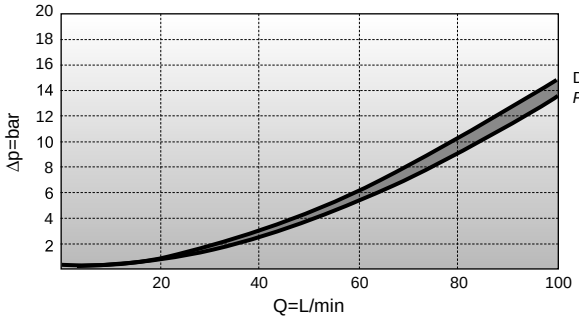
Tomas con retorno (P → R)
Ports to return (P → R)





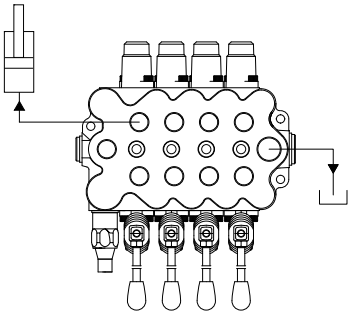
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)

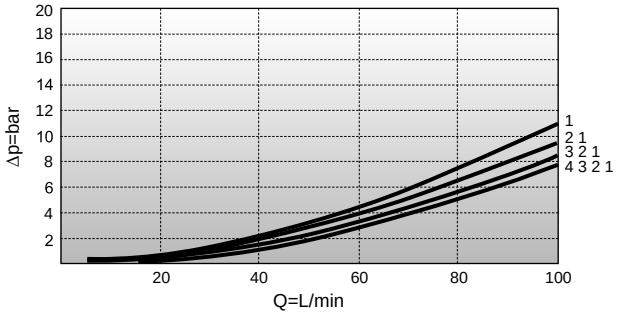




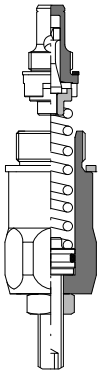
De 1 a 6 elementos
From 1 to 6 elements

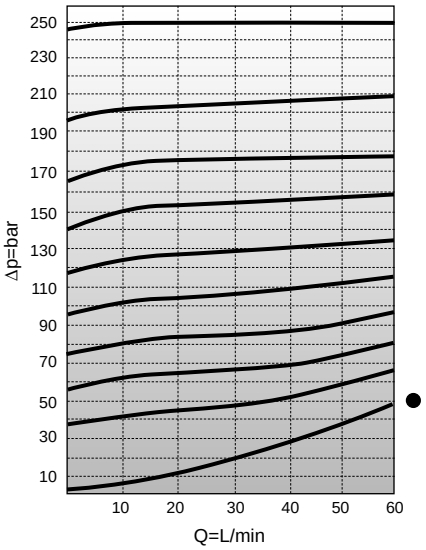
Tomas con retorno (A ó B - R)
Ports to return (A o B - R)





Válvula de seguridad principal
Main relief valve



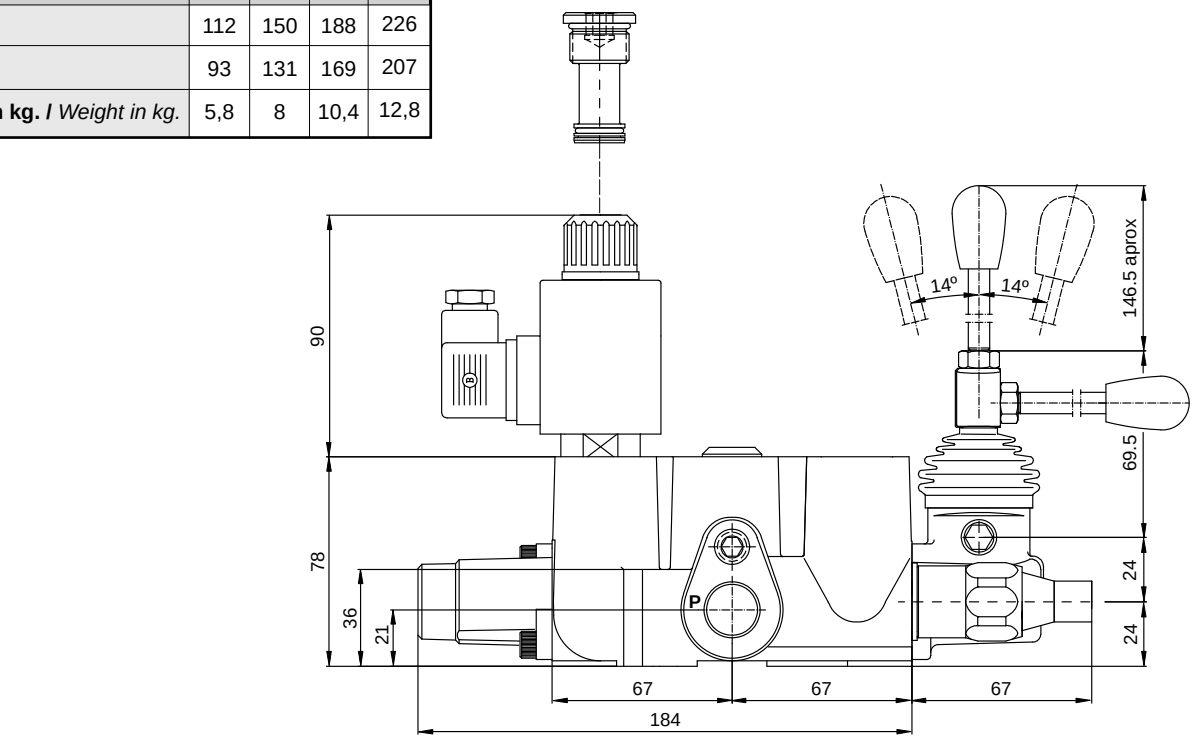


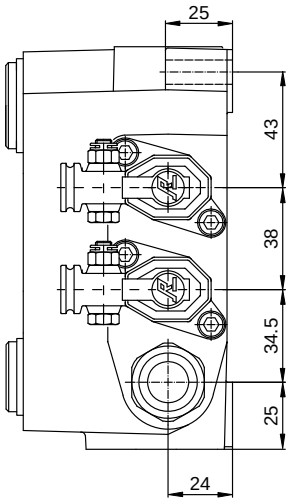
● Curva presión mínima
Minimal pressure curve

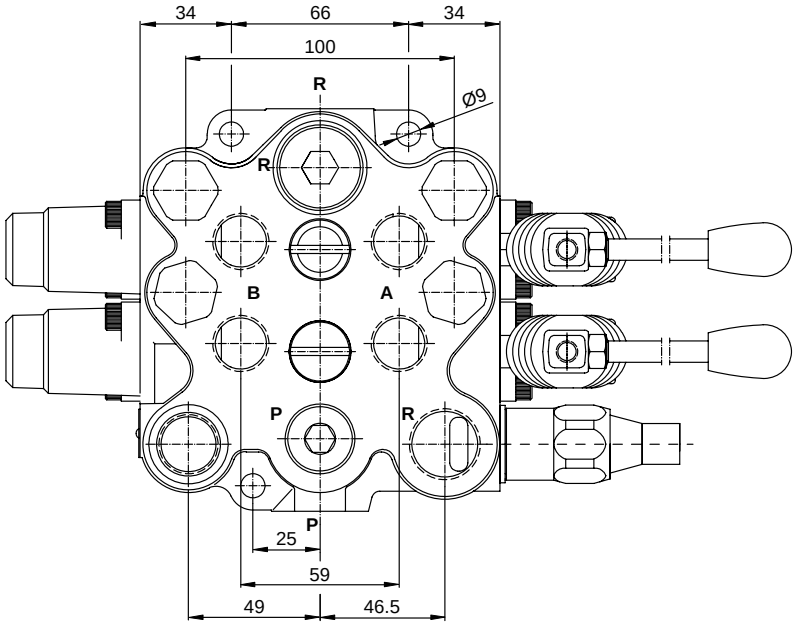
Distribuidor
Control valve

Modelo
Type
504-1504

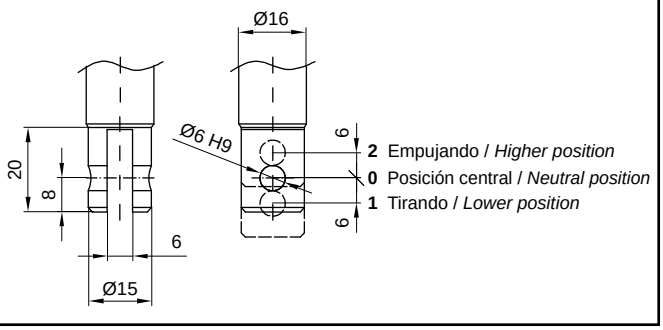
N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**
C	112	150	188	226
D	93	131	169	207
Peso en kg. / *Weight in kg.*	5,8	8	10,4	12,8

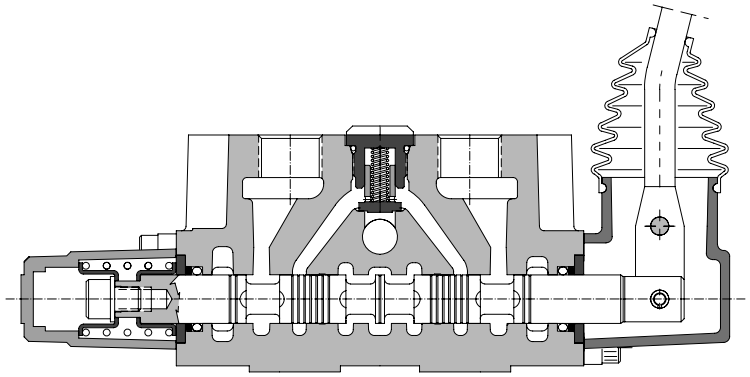


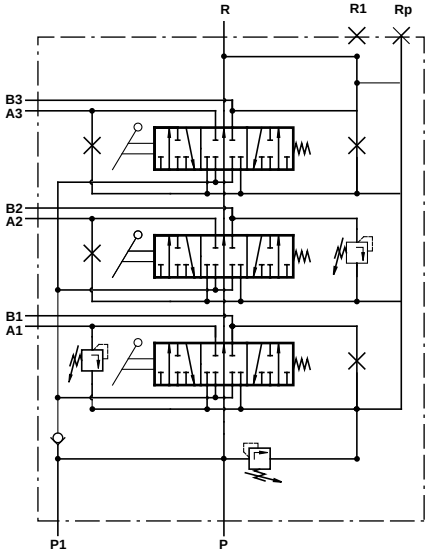




DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



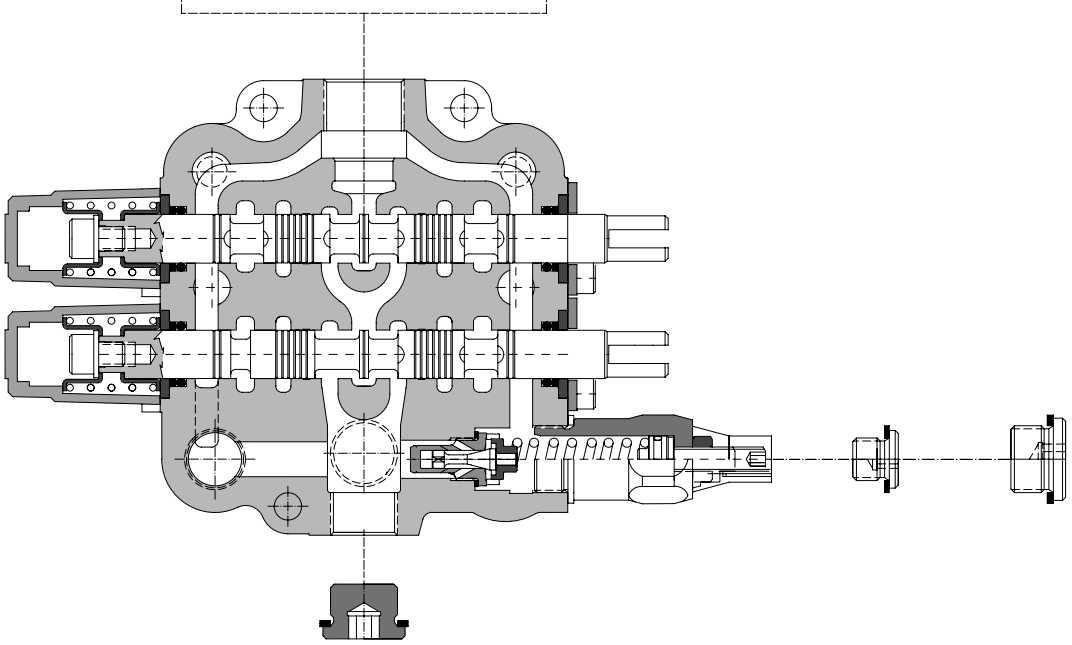




C Centro cerrado
Closed centre

Z Retorno con presión
High pressure carry-over



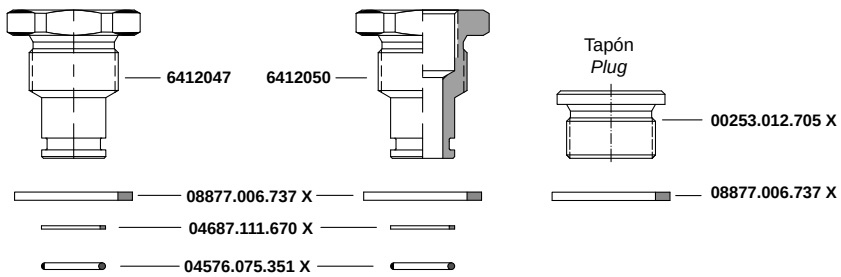


2 Formas de retorno o sistemas de trabajo
Return form

Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	**3/4" G**
Z	**Retorno con presión** *High pressure carry-over*	**1/2" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

C Centro cerrado
Closed centre

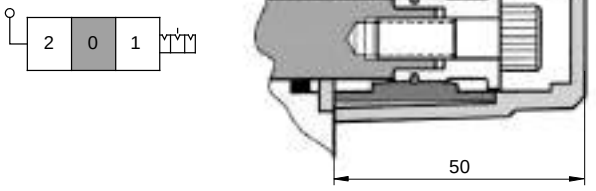
Z Retorno con presión
High pressure carry-over



3 Accionamiento corredera
Spool positions devices

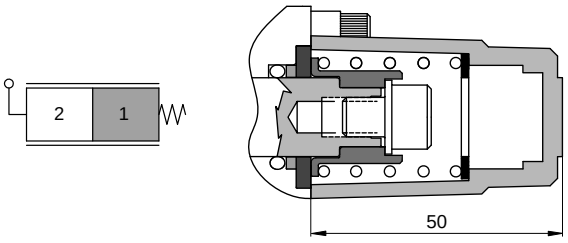
Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



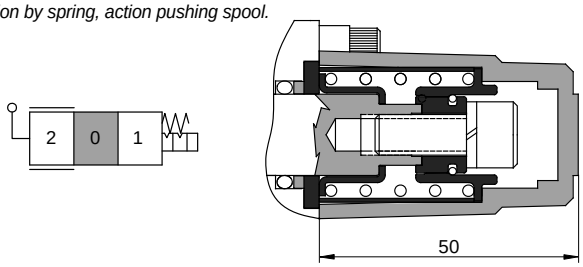
Accionamiento 3
Type 3

Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.



Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.



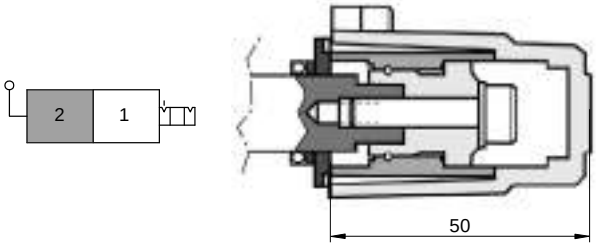
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

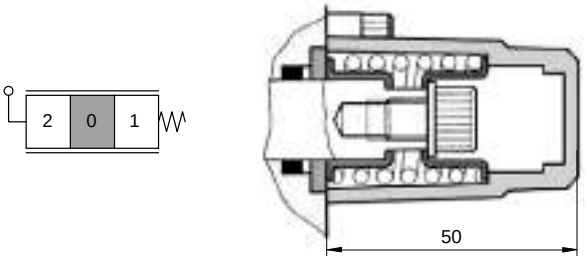
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



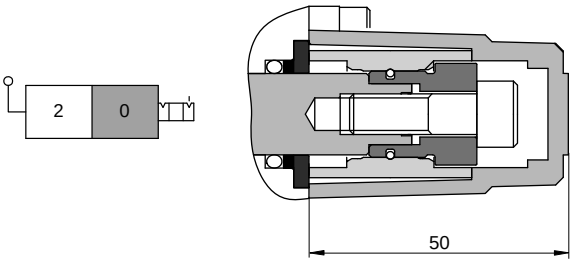
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



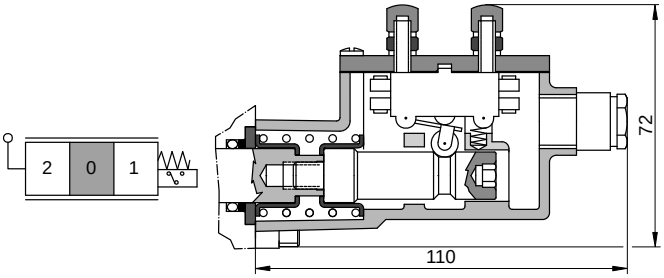
Accionamiento 14
Type 14

Dos posiciones, neutral y extrema con anclajes, empujando corredera.
Two positions, neutral and end position by detent, action pushing spool.



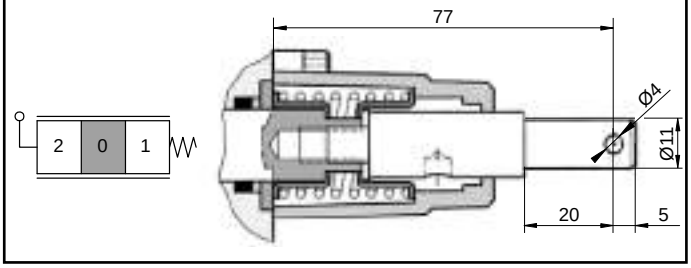
Accionamientos 15
Types 15

Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.



Accionamientos 16
Types 16

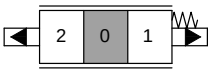
Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.
Three positions, return to neutral position by spring. Double end actioned spool.



Accionamientos 17-71
Types 17-71

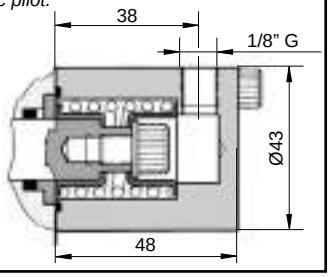
17 **Tres posiciones, pilotaje hidráulico.**
Three positions, hydraulic pilot.

71 **Tres posiciones, pilotaje hidráulico sensibilizado.**
Three positions, sensibilized hydraulic pilot.



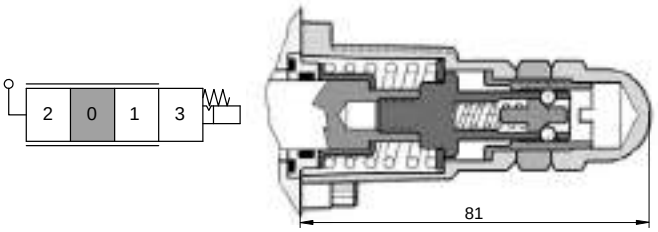
Presión mín.: ≥ 15 bar
Min. pressure:
Presión máx.: ≥ 30 bar
Max. presure:

Presión de pilotaje con muelle 5 – 175 bar.
Pilot pressure required with spring 5 – 175 bar.



Accionamiento 20
Type 20

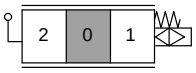
Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



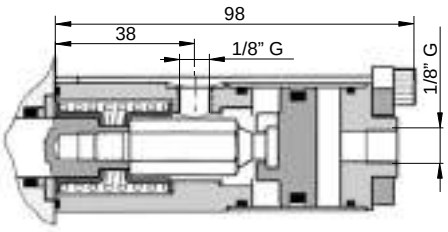
Accionamientos 22-47
Types 22-47

22 **Tres posiciones, pilotaje neumático.**
Three positions, pneumatic pilot.

47 **Tres posiciones, pilotaje neumático sensibilizado.**
Three positions, sensibilized pneumatic pilot.

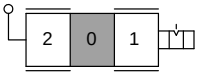


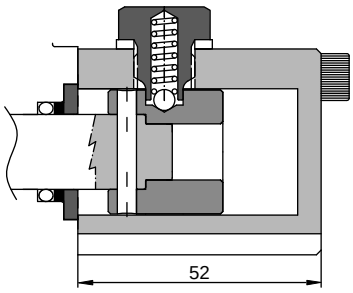
Presión mín.: ≥ 2 bar
Min. pressure:
Presión máx.: ≥ 8 bar
Max. presure:



Accionamiento 35
Type 35

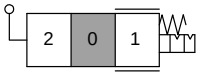
Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.

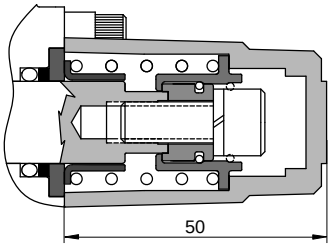




Accionamiento 36
Type 36

Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.





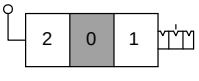
Accionamiento 37
Type 37

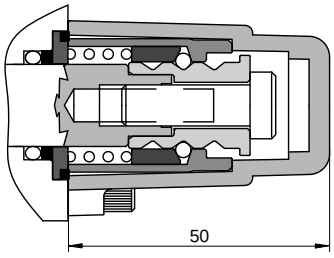
Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamiento distinto es necesario código.

Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.

Accionamiento 42
Type 42

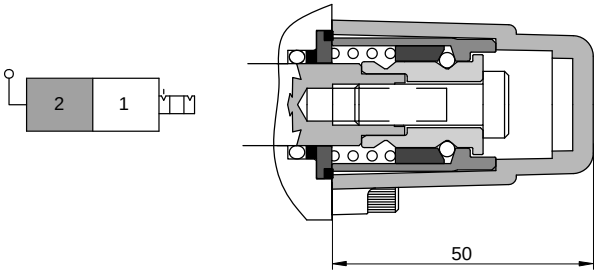
Tres posiciones, con anclajes de bolas.
Three positions with ball bearing detents.





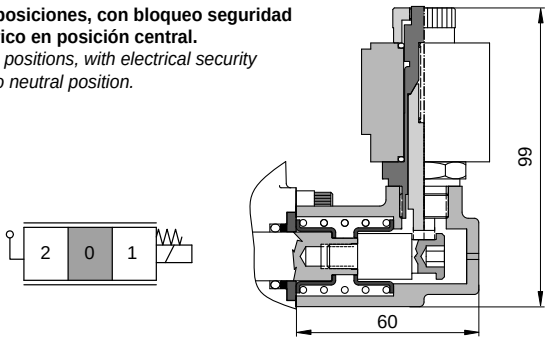
Accionamiento 49
Type 49

Dos posiciones extremas, con anclajes de bolas.
Two end positions with ball bearing detents.



Accionamiento 66
Type 66

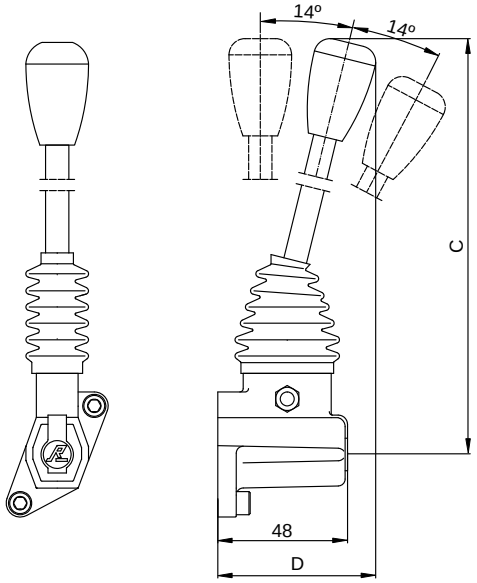
Tres posiciones, con bloqueo seguridad eléctrico en posición central.
Three positions, with electrical security lock to neutral position.



4 Tipo palanca mando
Hand lever type

Palanca con protector y varilla
Lever box with lever and rubber

P - Z

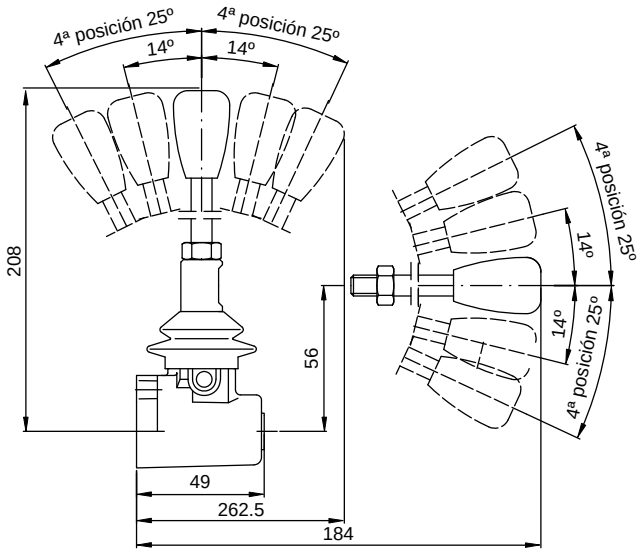


NOTA: Las dimensiones C y D según tipo de palanca.
NOTE: Dimensions C and D depend the kind of hand lever.

Tipo palanca *Type*	**Descripción** *Description*
P	Palanca con protector y varilla. *Lever box with lever and rubber.*
Z	Palanca con protector y sin varilla. *Lever box without lever and with rubber.*

Palanca
Hand lever

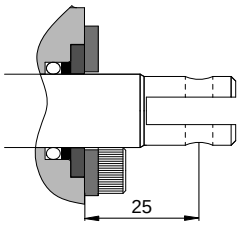
P2 - Z2



Tipo palanca *Type*	**Descripción** *Description*
P2	Palanca con protector y varilla. *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla. *Lever box with rubber boot and without lever.*

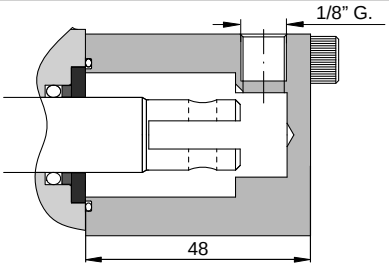
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S



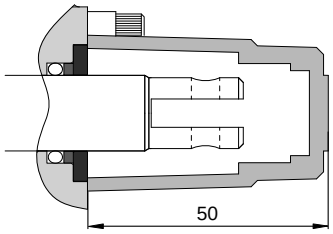
Para accionamiento 17 (pilotaje hidráulico)
Hydraulic pilot (hydraulic pilot)

Y



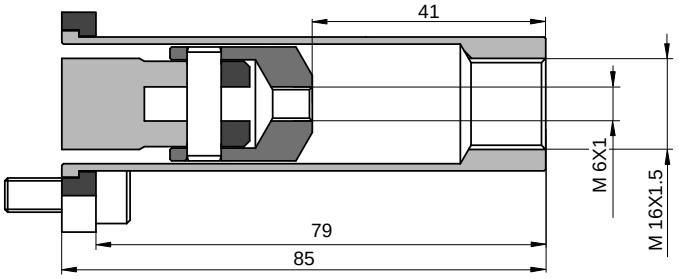
Sin palanca y protector ciego
Spool end cap

T



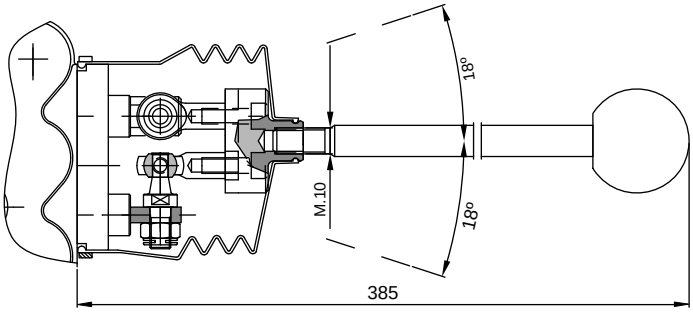
Cable
Cable control

I

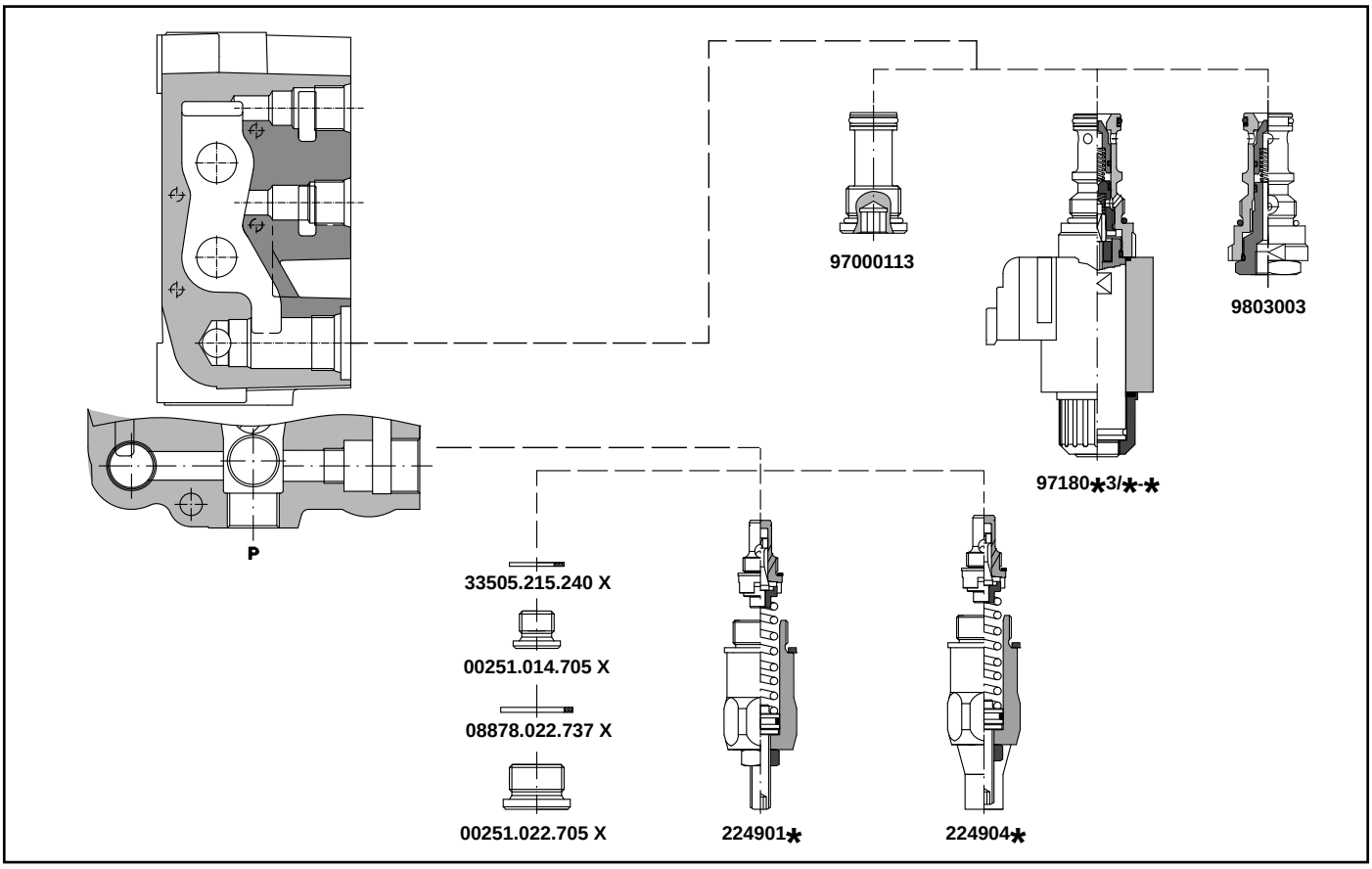


Palancas no iguales o múltiples (necesita código)
Mechanical joystick or special options (code is requiered)

X



6 Válvula seguridad principal y válvula de puesta en vacio
Main relief valve and unloading valve



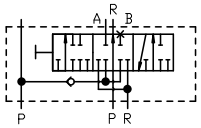
Taraje *Setting*	**Regulable por tornillo** *Screw adjustment*	**Regulable precintada** *Lock wired*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 (80) bar	11	41	--
85-175 (160) bar	12	42	--
180-250 (200) bar	13	43	--
255-350 (315) bar	14	44	--

7 Sistemas de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

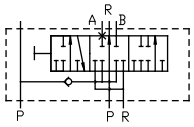
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

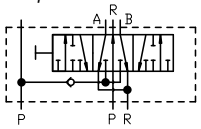
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

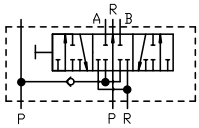
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

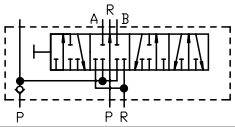
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

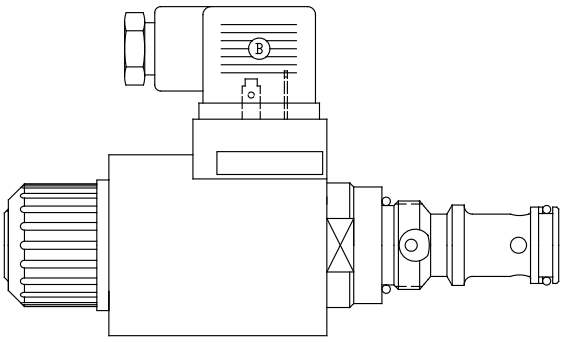
4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

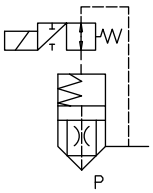
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.

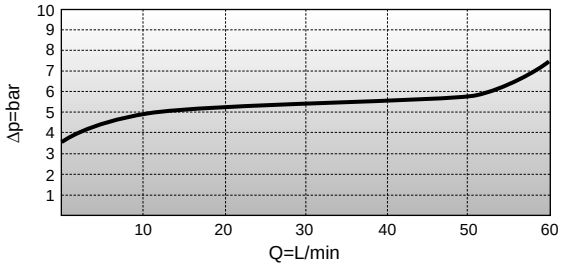


9 **Válvula puesta en vacío**
Unloading valve

ELÉCTRICA / *ELECTRICAL*







Referencia comercial
Part number

97180∗3/∗-∗

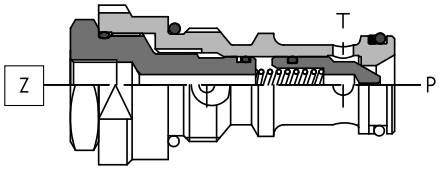
Tipo de conector *Connector type*	
0	HIRSCHMANN ISO 4400
1	DEUTSCH con DIODO *DEUTSCH with DIODE*
2	DEUTSCH sin DIODO *DEUTSCH without DIODE*

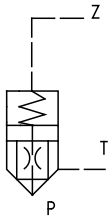
Potencia (W) *Power (W)*	
30	30 W.
38	38 W.

Voltaje (DC) *Voltage (DC)*	
D12	12 V.
D24	24 V.

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	50 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	80 bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC
Gama de tensiones / *Control voltage*	DC 12V - 24V
Factor de marcha / *Duty cicle*	100%
Protección DIN 40050 / *Protection DIN 40050*	IP-65

HIDRÁULICA / *HYDRAULIC*





Referencia comercial *Part number*
9803003

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	50 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	80 bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC

10 Datos adicionales (código)
Additional date (code)

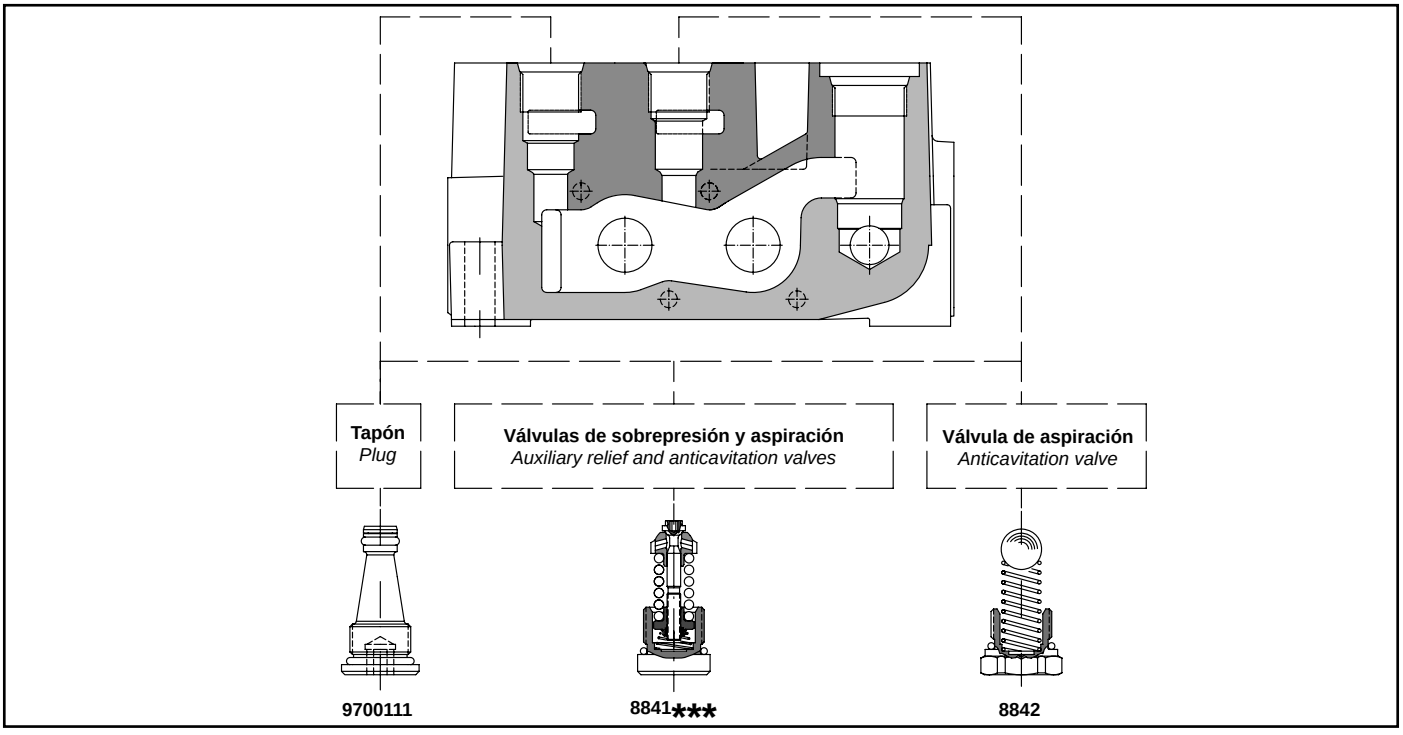
CÓDIGO
Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:
- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

CODE
*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

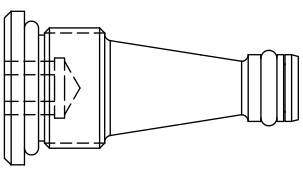
It is defined by a special code the possibility of:
- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

11 Válvulas auxiliares
Auxiliary valves



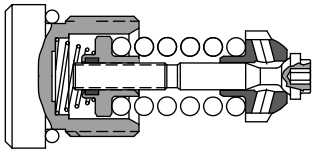
Tapón
Plug

9700111



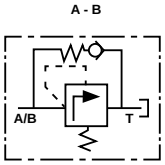
Válvulas de sobrepresión y aspiración
Relief and anticavitation valves

8841***



Taraje estándard
Standard pressure

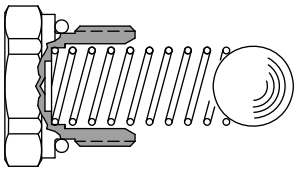
Rfa. *Part number*	**Taraje (bar)** *Setting (bar)*
8841050	50
8841080	80
8841125	125
8841160	160
8841175	175
8841210	210
8841250	250
8841325	325

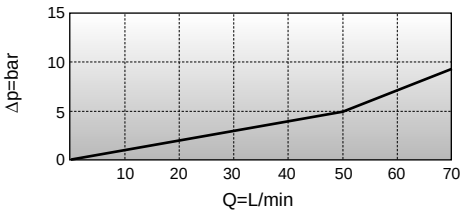


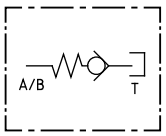
*** Para otros tarajes consultar.**
** To consult for other pressure range.*

Válvula de aspiración
Anticavitation valve

8842







WWW.SUMY.IR

Distribuidores seccionales

Sectional control valves

Roquet
making **moves**

402-1402

406-1406

407

1408

MENU

Distribuidor
Control valve

Modelo
Type
402-1402

402 - 1402

Paralelo
Seccional
Caudal nominal: 50 l/min.
Presión máxima de trabajo: 350 bar

Parallel
Sectional
Nominal flow 50 l/min.
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**402**	**1402**
Tomas A y B *Ports A y B*		**3/8" G**	**1/2" G**
Tomas P-P1 *Ports P-P1*		**1/2" G**	
Tomas R-R1 *Ports R-R1*		**1/2" G**	
Tomas RP *Ports RP*		**1/2" G**	
Número máximo de elementos (*) *Maximum spool quantity (*)*		**7**	
Diámetro corredera (mm) *Spool diameter (mm)*		**15**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**5.5**	
Alimentación tipo *Type*		**Paralelo** *Parallel*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**50**	
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**18**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	

Distribuidor
Control valve

Modelo
Type
402-1402

NOMENCLATURA DE REFERENCIAS

402	N	1	P	A	12	D	24 – L12 – CODE
1	2	3	4	5	6	7	8 9 10

CODING SYSTEMS

1 Tipo distribuidor
Control valve type

402	3/8" G
1402	1/2" G

2 Formas de retorno o sistemas de trabajo
Return form

N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3 Accionamiento corredera
Spool positions devices

2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
4	**Dos posiciones extrema y central por muelle, movimiento empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool, and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
37	**Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamiento distinto es necesario código.** *Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*
83	**Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.** *Three positions; ends position by direct solenoid, neutral position by spring.*
84	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.*
85	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.*

4 Tipo palanca mando
Hand lever type

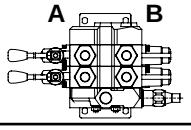
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*

4 Tipo palanca mando
Hand lever type

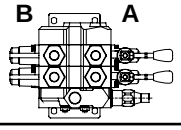
P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
R	**Palanca rotativa.** *Rotative hans lever.*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
I	**Cable.** *Cable control.*
ME	**Palanca manual emergencia, y conector DEUSTCH.** *Emergency hand lever, and DEUTSCH connector.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
E	**Distribuidor eléctrico con conectores DEUTSCH.** *DEUTSCH connector by electrical control valve.*
L	**Distribuidor eléctrico con conectores HIRSCHMANN.** *HIRSCHMANN connector by electrical control valve.*

5 Posición válvula de seguridad o entrada presión
Relief valve position / Pressure inlet

A



C



6 Válvula seguridad principal
Main relief valve

Taraje *Setting (bar)*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 Sistemas de distribución
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

8 Gama de tensiones para C.C. (sólo para accionamiento 83-84-85)
D.C. voltage (only for control types 83-84-85)

12	12V	**24**	24V

9 Con válvula puesta en vacío eléctrica
With electrical unloading valve

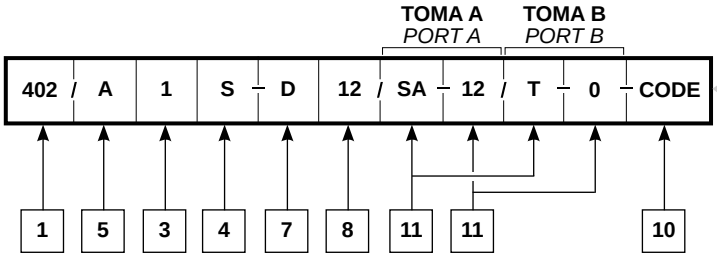
L12	**Eléctrica 12V /** *Electrical 12V (30W).*
L24	**Eléctrica 24V /** *Electrical 24V (30W).*
H	**Pilotaje hidráulico /** *Hydraulic piloted.*

10 Datos adicionales (código)
Additional data (code)

Secciones del distribuidor
Control valve sections

Modelo *Type*
402-1402

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

SECCIONES DE FUNCIONAMIENTO
OPERATING SECTIONS

1	**Tipo distribuidor** *Control valve type*
402	3/8" G
1402	1/2" G

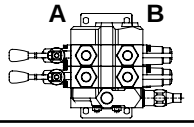
3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
4	**Dos posiciones extrema y central por muelle, movimiento empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool, and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
37	**Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamiento distinto es necesario código.** *Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*
83	**Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.** *Three positions; ends position by direct solenoid, neutral position by spring.*
84	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.*
85	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.*

4	**Tipo palanca mando** *Hand lever type*
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*

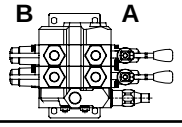
4	**Tipo palanca mando** *Hand lever type*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
R	**Palanca rotativa.** *Rotative hand lever.*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
I	**Cable.** *Cable control.*
ME	**Palanca manual emergencia, y conector DEUSTCH.** *Emergency hand lever, and DEUTSCH connector.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
E	**Distribuidor eléctrico con conectores DEUTSCH.** *DEUTSCH connector by electrical control valve.*
L	**Distribuidor eléctrico con conectores HIRSCHMANN.** *HIRSCHMANN connector by electrical control valve.*

5 **Posición válvula de seguridad o entrada presión**
Relief valve position / Pressure inlet

A



C



7 **Sistemas de distribución**
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

8	**Gama de tensiones para C.C. (sólo para accionamiento 83-84-85)** *D.C. voltage (only for control types 83-84-85)*		
12	12V	**24**	24V

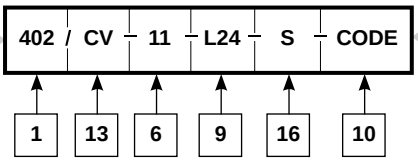
11	**Válvulas auxiliares** *Auxiliary valves*
SA	**Válvula de sobrepresión y aspiración** / *Relief and anticavitation valve*
SD	**Válvula de sobrepresión /** *Relief valve*
A	**Válvula de aspiración /** *Anticavitation valve*
T	**Tapón** / *Plug*
0	**Sección sin tomas para válvulas /** *Sectional without port valves*

11 **Rango de presiones de las válvulas auxiliares**
Auxiliary valve pressure range (pressure set al 22l/min.)

Tipo de regulación / *Adjustment*		**Rango de presión (bar)** *Pressure range (bar)*
Regulable *Adjustable*	**Precintada** *Pre set*	
11	41	5-80 (80)
12	42	85-175 (160)
13	43	180-250 (200)
14	44	255-350 (315)
00		**Sin válvulas auxiliares o con tapón** *Without auxiliary valves or with plug*

10 **Datos adicionales (código)**
Additional data (code)

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

ENTRADA
INLET

1	**Tipo distribuidor** *Control valve type*
402	3/8" G
1402	1/2" G

13	**Tipo de tapa frontal** *Front cover type*
CV	**Con válvula de seguridad** / *With relief valve.*
SV	**Sin válvula de seguridad** / *Without relief valve.*

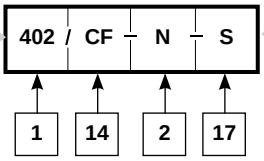
6	**Válvula seguridad principal** *Main relief valve*		
Taraje *Setting*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For valves without reliefs the pressure range number is omitted.

9	**Con válvula puesta en vacío eléctrica** *With electrical unloading valve*
L12	**Eléctrica 12V /** *Electrical 12V (30W).*
L24	**Eléctrica 24V /** *Electrical 24V (30W).*
H	**Pilotaje hidráulico /** *Hydraulic piloted.*

16	**Toma de presión operativa** *Operative pressure port*
S	**Toma frontal** / *Side port*
T	**Toma superiór** / *Top port*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

SALIDA
OUTLET

1	**Tipo distribuidor** *Control valve type*
402	3/8" G
1402	1/2" G

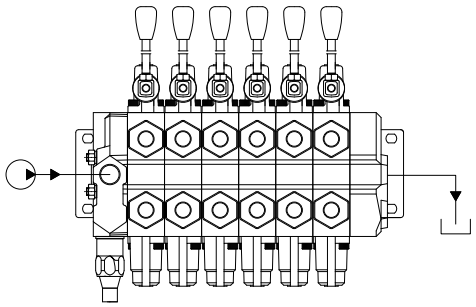
14	**Tapa de salida** *Outlet*
CF	**Tapa de salida** / *Outlet*

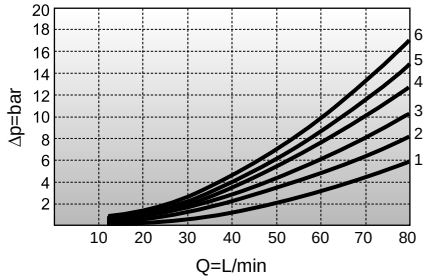
2	**Formas de retorno o sistemas de trabajo** *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

17	**Toma operativa a retorno** *Operative tank port*
S	**Toma frontal** / *Side port*
A	**Toma superiór** / *Around port*

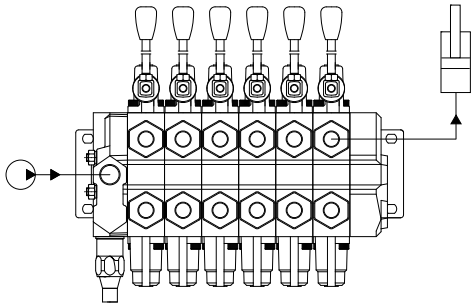
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

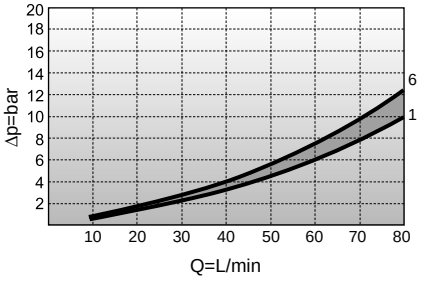
Tomas con retorno (P → R)
Ports to return (P → R)



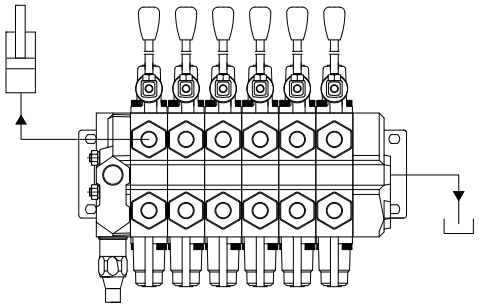


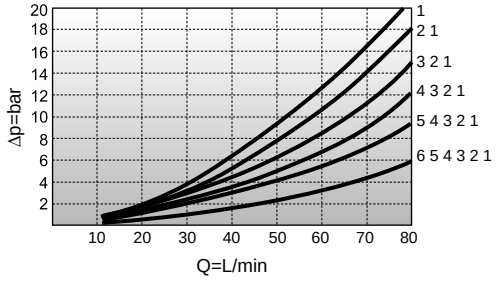
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



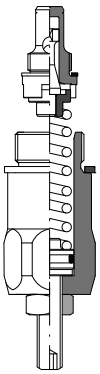


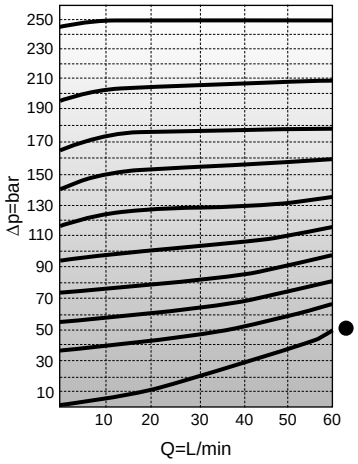
Tomas con retorno (A ó B - R)
Ports to return (A o B - R)



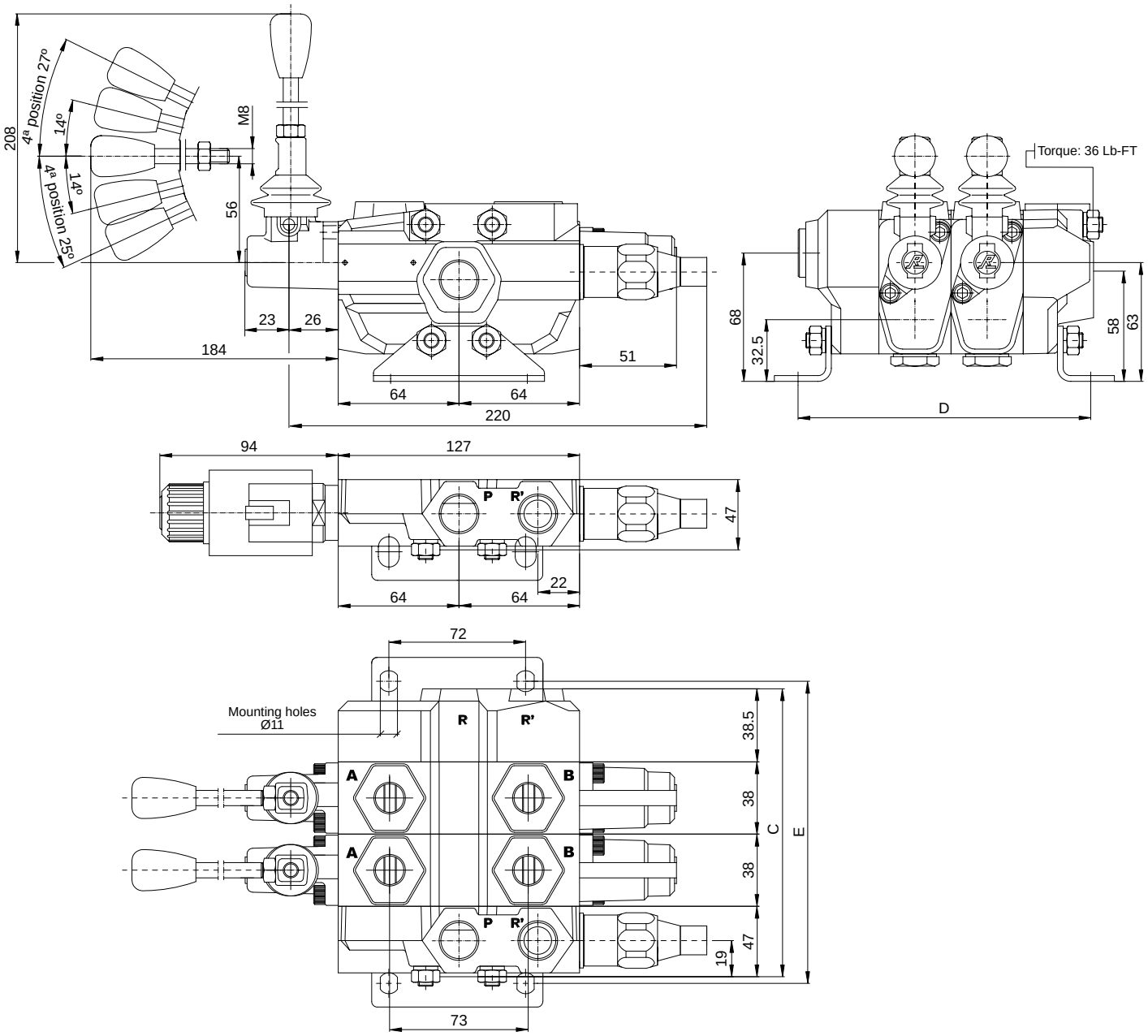


Válvula de seguridad principal
Main relief valve



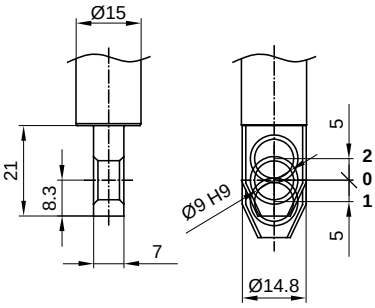


● Curva presión mínima
Minimal pressure curve

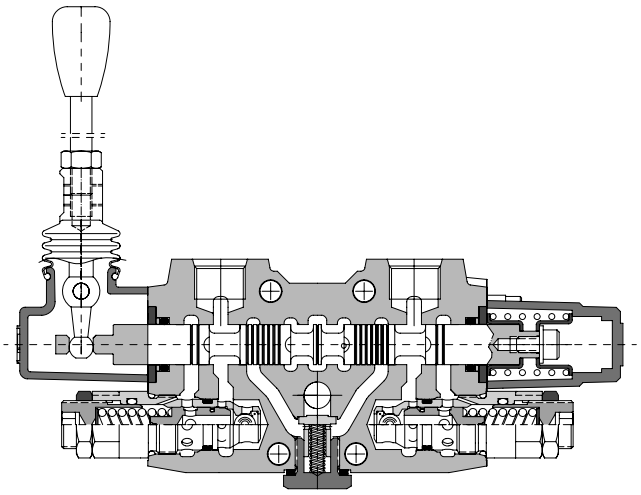


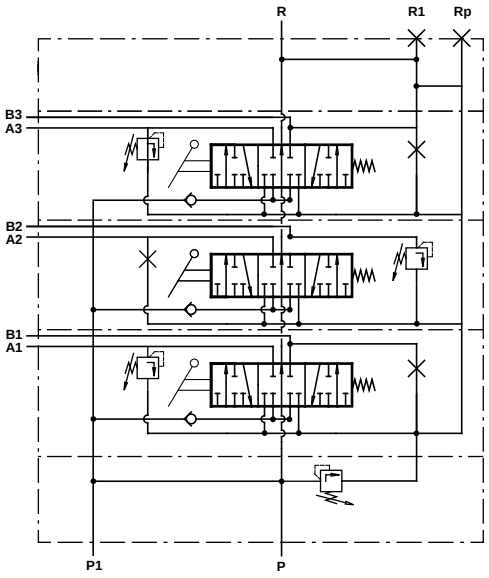
N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	123,5	161,5	199,5	237,5	275,5	313,5
D	126	164	202	240	278	316
E	151	189	227	265	303	341
Peso en kg. / *Weight in kg.*	5	8	11	14	17	20

DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



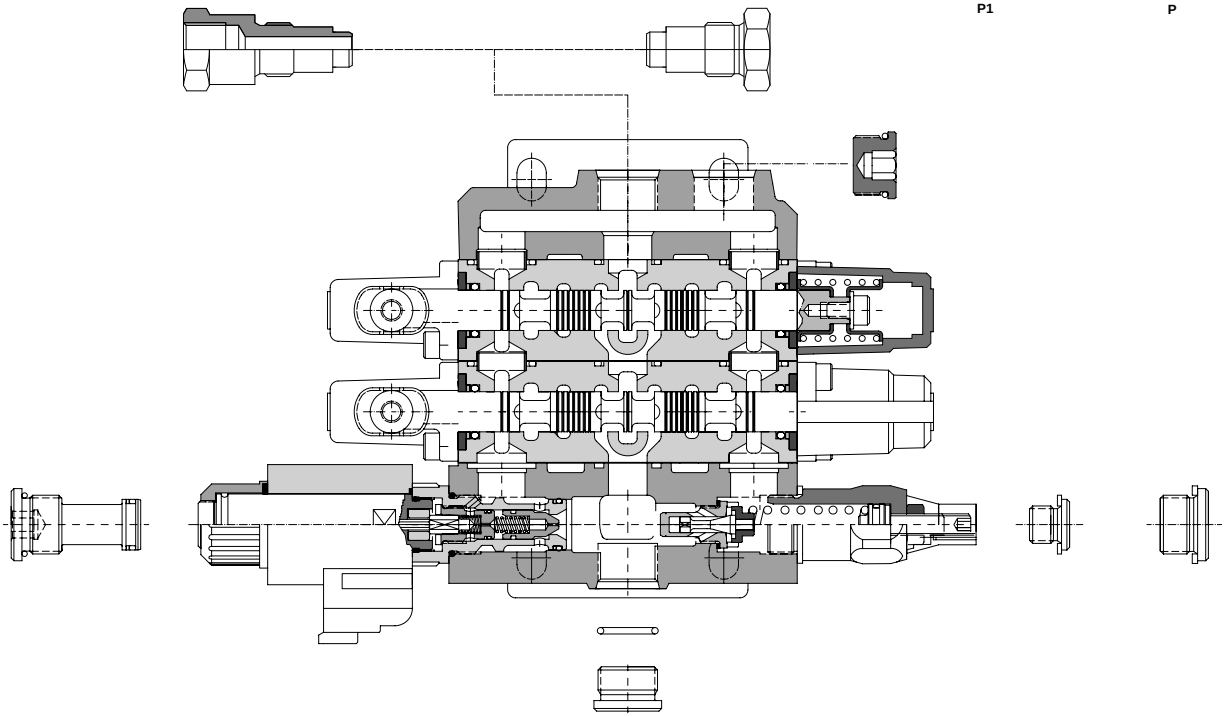
2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*





Z Retorno con presión
High pressure carry-over

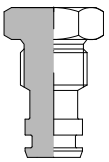
C Centro cerrado
Closed centre



2 Formas de retorno o sistemas de trabajo
Return form

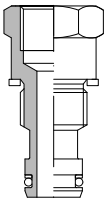
Forma retorno *Return type*		**Tomas /** *Ports*
		T
N	**Paso libre** *Open centre*	**1/2" G**
Z	**Retorno con presión** *High pressure carry-over*	**1/2" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

C Centro cerrado
Closed centre



N8412/178

Z Retorno con presión
High pressure carry-over



N8412/177

Tapón
Plug



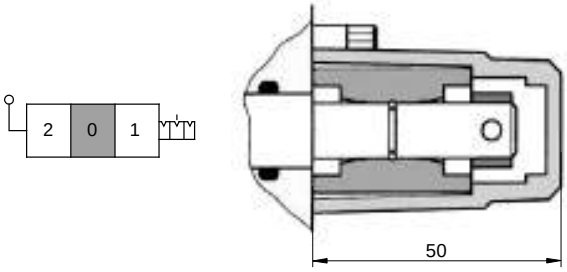
00253.008.705 X

08877.004.737 X

3 Accionamiento corredera
Spool positions devices

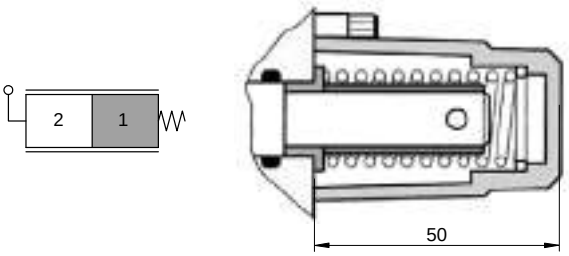
Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



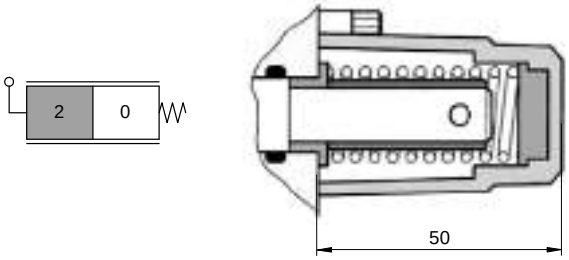
Accionamiento 3
Type 3

Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.



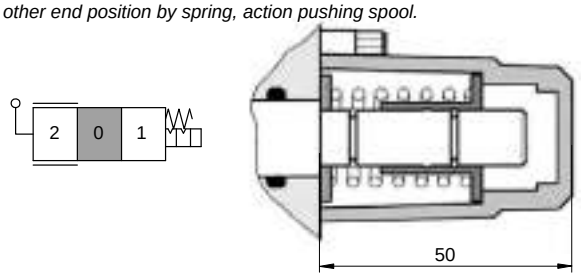
Accionamiento 4
Type 4

Dos posiciones extrema y central por muelle, movimiento empujando corredera.
Two positions, end and neutral position by spring, action pushing spool.



Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.



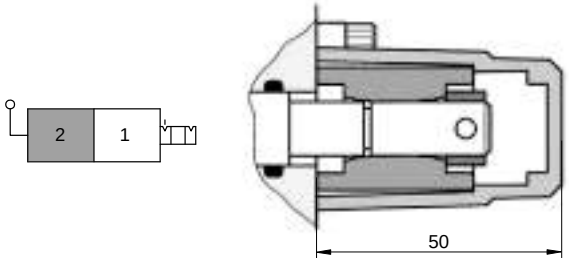
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

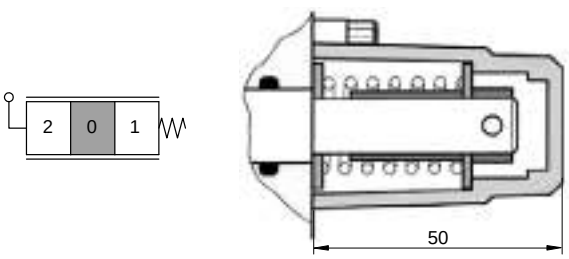
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



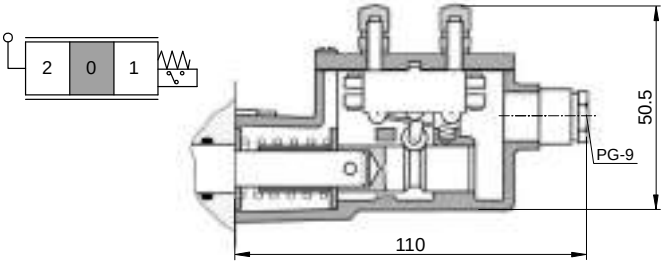
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



Accionamientos 15
Types 15

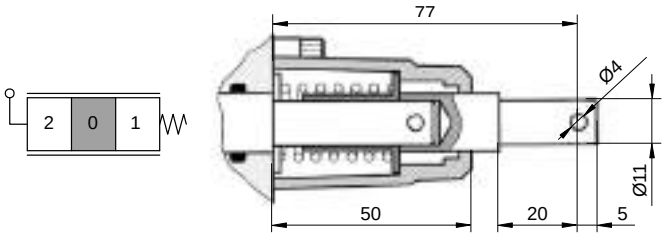
Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.



WWW.SUMY.IR

Accionamientos 16
Types 16

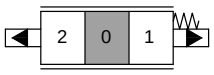
Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.
Three positions, return to neutral position by spring. Double end actioned spool.



Accionamientos 17-71
Types 17-71

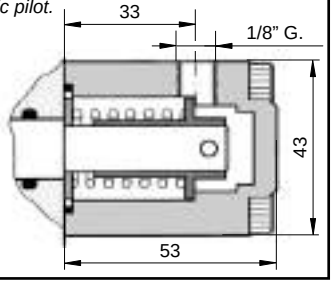
17 **Tres posiciones, pilotaje hidráulico.**
Three positions, hydraulic pilot.

71 **Tres posiciones, pilotaje hidráulico sensibilizado.**
Three positions, sensibilized hydraulic pilot.



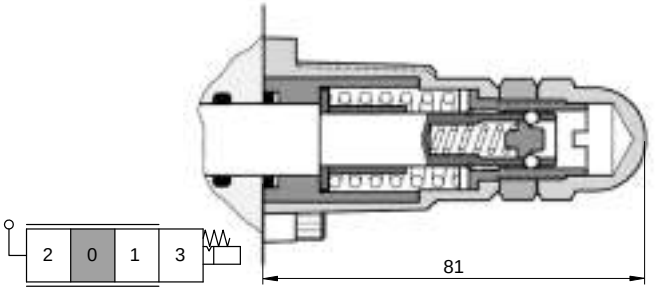
Presión mín.: ≥ 12 bar
Min. pressure:
Presión máx.: ≥ 30 bar
Max. presure:

Presión de pilotaje con muelle 5 – 175 bar.
Pilot pressure required with spring 5 – 175 bar.



Accionamiento 20
Type 20

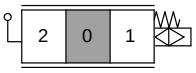
Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



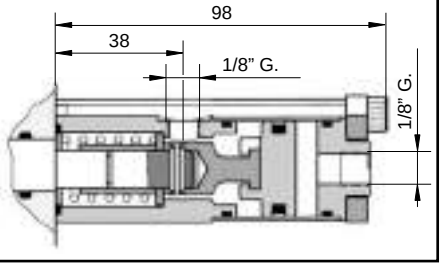
Accionamientos 22-47
Types 22-47

22 **Tres posiciones, pilotaje neumático.**
Three positions, pneumatic pilot.

47 **Tres posiciones, pilotaje neumático sensibilizado.**
Three positions, sensibilized pneumatic pilot.

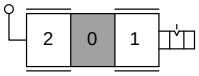


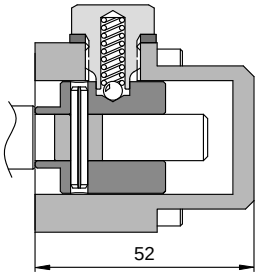
Presión mín.: ≥ 2 bar
Min. pressure:
Presión máx.: ≥ 8 bar
Max. presure:



Accionamiento 35
Type 35

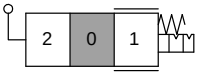
Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.

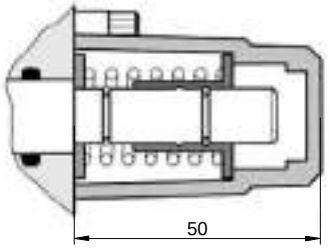




Accionamiento 36
Type 36

Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.





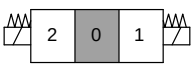
Accionamiento 37
Type 37

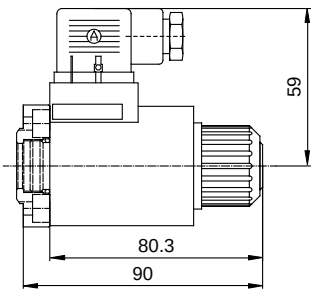
Dos accionamientos (tipo 11), para palanca múltiple. Si se requiere algún accionamiento distinto es necesario código.

Two spool position device (type 11) by joystick. If is required a different spool position device is necessary a code.

Accionamiento 83
Type 83

Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.
Three positions; ends position by direct solenoid, neutral position by spring.





Accionamiento 84
Type 84

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.

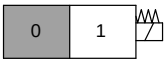
Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.



Accionamiento 85
Type 85

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.

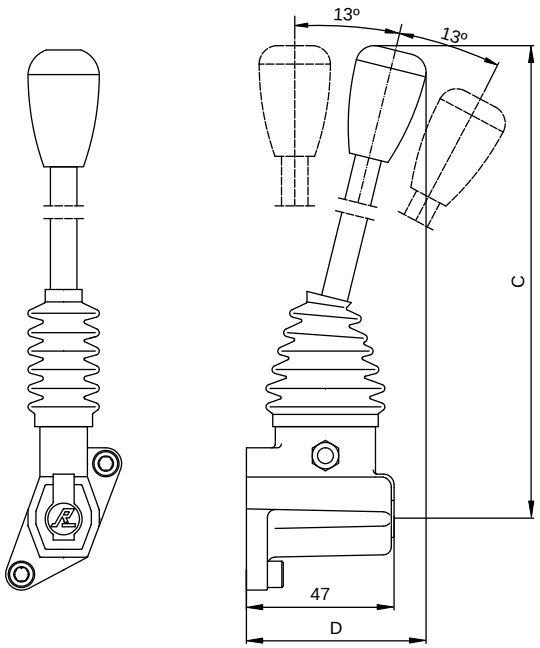
Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.



4 Tipo palanca mando
Hand lever type

Palanca
Hand lever

C - H - P - Z

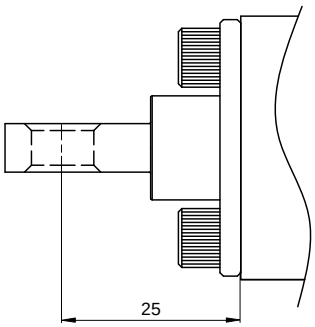


NOTA: Las dimensiones C y D según tipo de palanca.
NOTE: Dimensions C and D depend the kind of hand lever.

Tipo palanca *Type*	**Descripción** *Description*
C	Palanca sin protector y con varilla. *Lever box without rubber and with lever.*
H	Palanca sin protector ni varilla. *Lever box without rubber and lever.*
P	Palanca con protector y varilla. *Lever box with lever and rubber.*
Z	Palanca con protector y sin varilla. *Lever box without lever and with rubber.*
P2	Palanca con protector y varilla. *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla. *Lever box with rubber boot and without lever.*

Tapa sin palanca y corredera vista
Open spool end (no lever box)

S

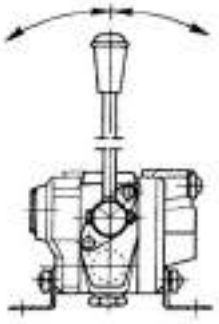


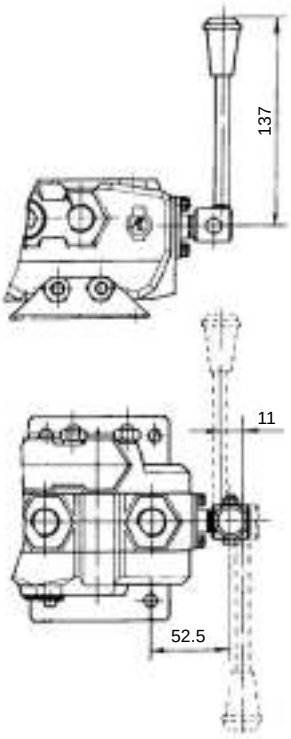
Palanca rotativa
Rotative hand lever

Solo para accionamiento 35
Only for 35 spool position device
Corredera de acero inoxidable
Stainless steel spool

R

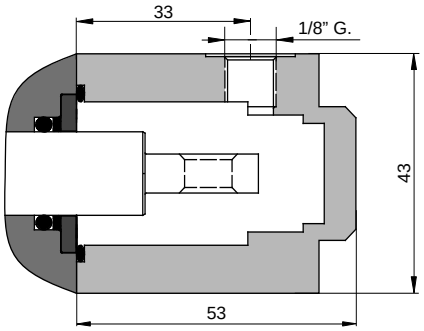
Giro de 90º en ambos lados y mantiene posición.
Lever turns and holds position.





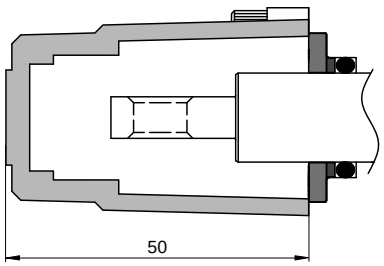
Para accionamiento 17 (pilotaje hidráulico)
Hydraulic pilot (hydraulic pilot)

Y



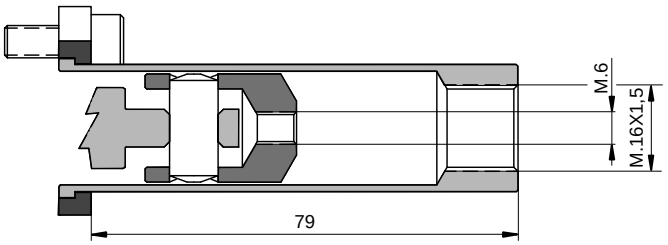
Sin palanca y protector ciego
Spoolen cap

T



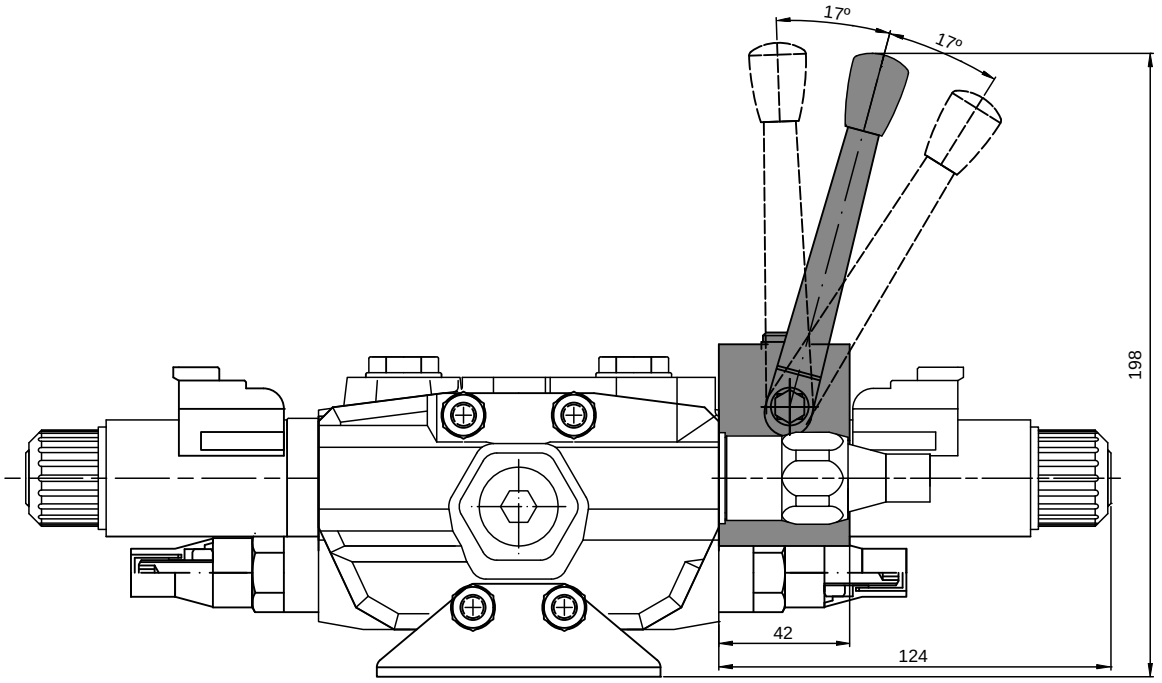
Cable
Cable control

I



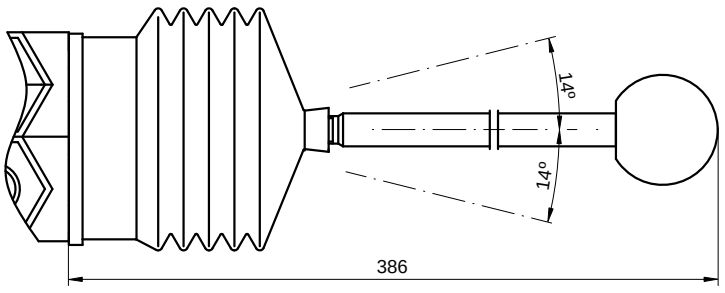
Palanca manual emergencia, y conector DEUSTCH.
Emergency hand lever, and DEUTSCH connector.

ME

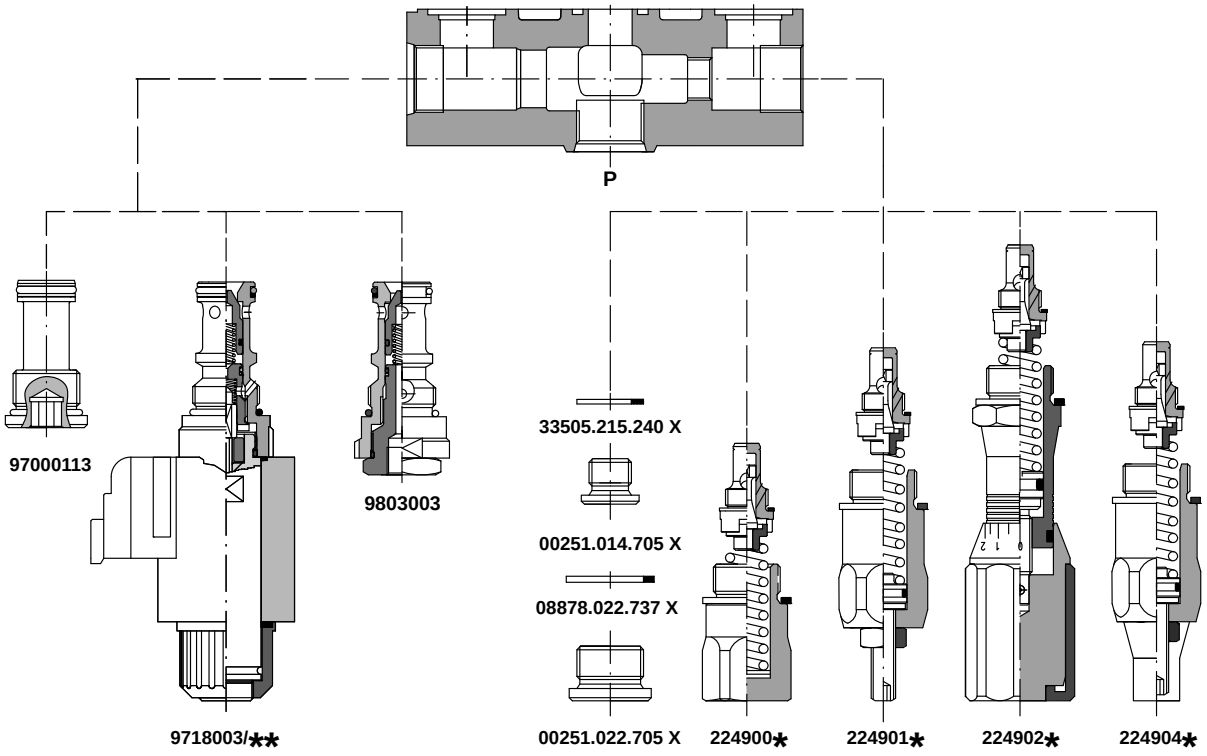


Palancas no iguales o múltiples (necesita código)
Mechanical joystick or special options (code is requiered)

X



6 Válvula seguridad principal y válvula de puesta en vacio
Main relief valve and unloading valve



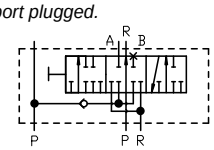
Taraje *Setting*	**Fija** *Fixed*	**Regulable por tornillo** *Screw adjustment*	**Regulable precintada** *Lock wired*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 bar	1	11	41	--
85-175 bar	2	12	42	--
180-250 bar	3	13	43	--
255-350 bar	4	14	44	--

7 Sistema de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

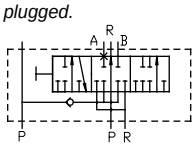
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

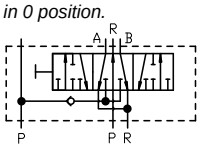
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Type I

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

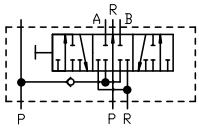
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

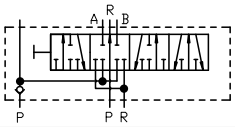
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

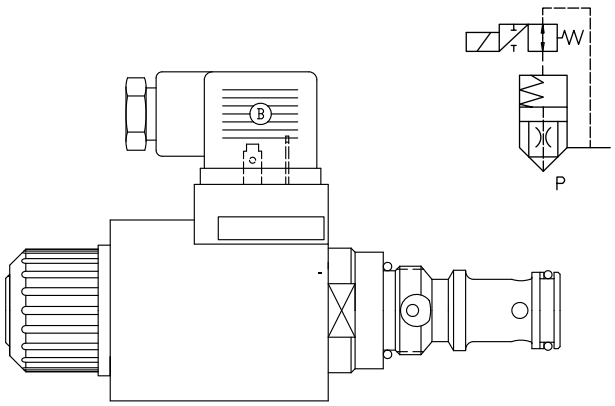
4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

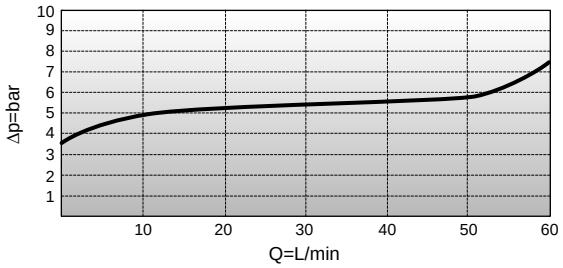
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



9 Con válvula puesta en vacío eléctrica
With electrical unloading valve

ELÉCTRICA / ***ELECTRICAL***





Referencia comercial
Part number

97180✱3/✱-✱

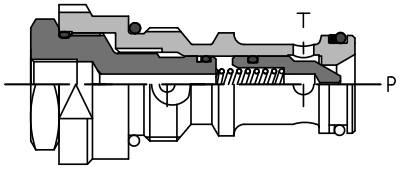
Tipo de conector *Connector type*	
0	HIRSCHMANN ISO 4400
1	DEUTSCH con DIODO *DEUTSCH with DIODE*
2	DEUTSCH sin DIODO *DEUTSCH without DIODE*

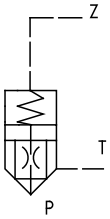
Potencia (W) *Power (W)*	
30	30 W.
38	38 W.

Voltaje (DC) *Voltage (DC)*	
D12	12 V.
D24	24 V.

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	50 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	80 bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC
Gama de tensiones / *Control voltage*	DC 12V - 24V
Factor de marcha / *Duty cicle*	100%
Protección DIN 40050 / *Protection DIN 40050*	IP-65

HIDRÁULICA / ***HYDRAULIC***





Referencia comercial *Part number*
9803003

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	50 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	80 bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC

10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:

- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

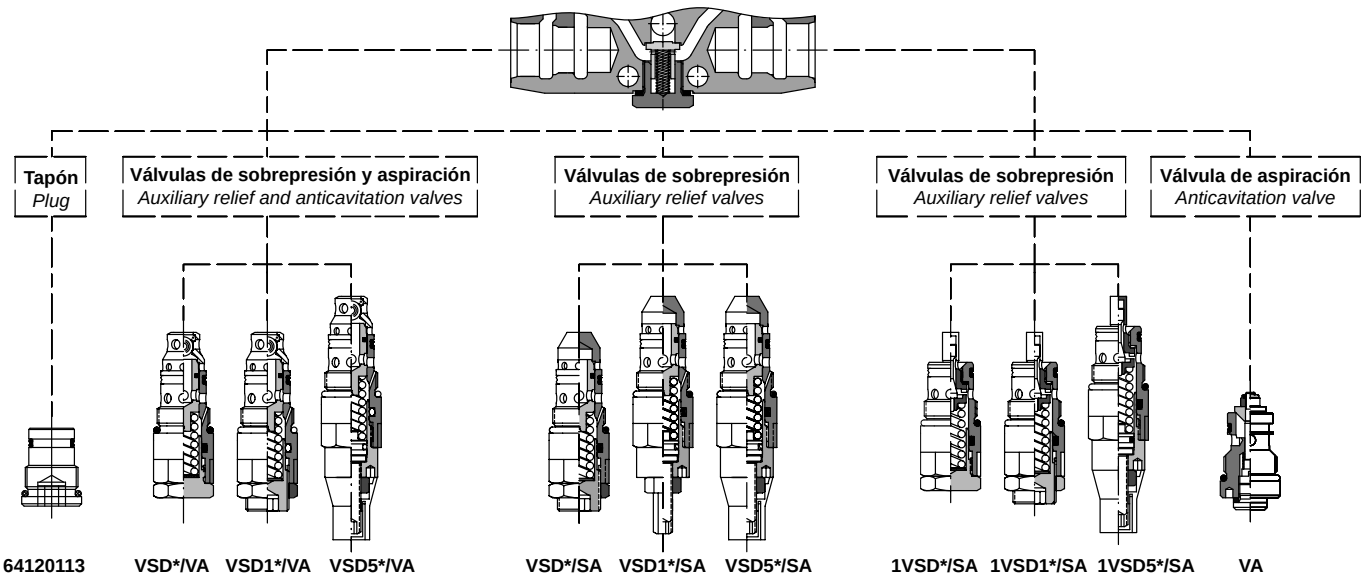
CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:

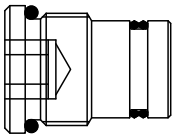
- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

11 Válvulas auxiliares
Auxiliary valves



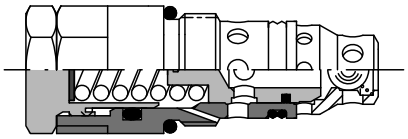
Tapón
Plug

64120113

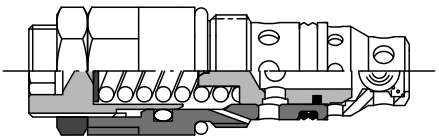


Válvulas sobrepresión y aspiración VSD*/VA
Relief and anticavitation valves VSD/VA*

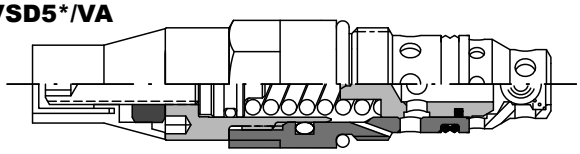
VSD*/VA

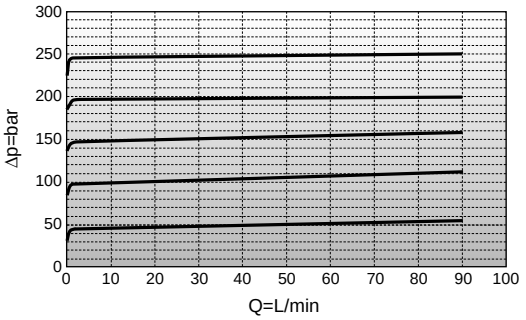


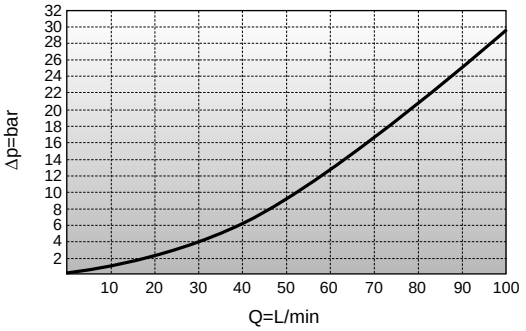
VSD1*/VA

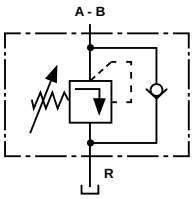


VSD5*/VA



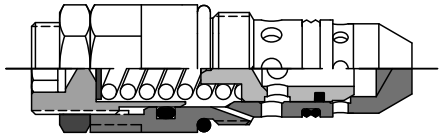




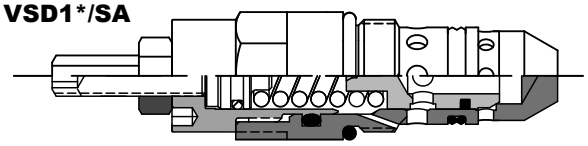


Vàlvulas sobrepresión VSD*/SA
Relief valves VSD/SA*

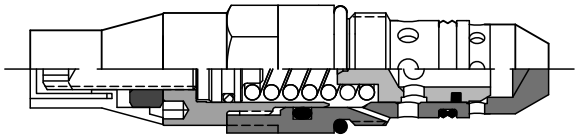
VSD*/SA

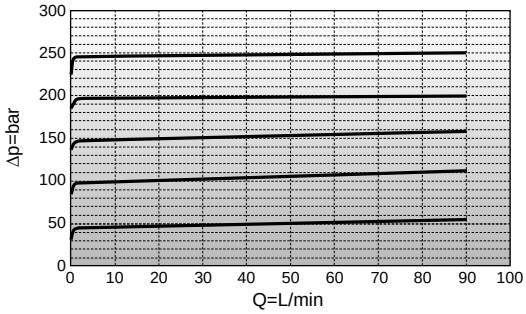


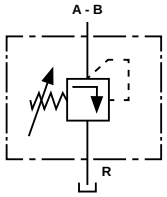
VSD1*/SA



VSD5*/SA

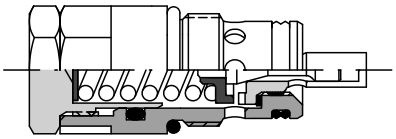




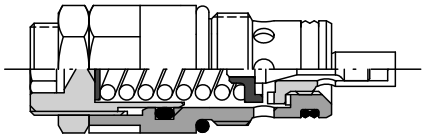


Vàlvulas sobrepresión 1VSD*/SA
Relief valves 1VSD/SA*

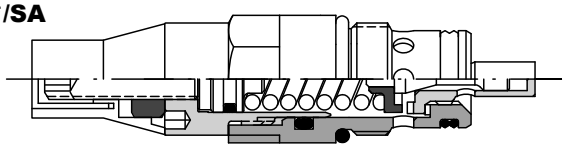
1VSD*/SA

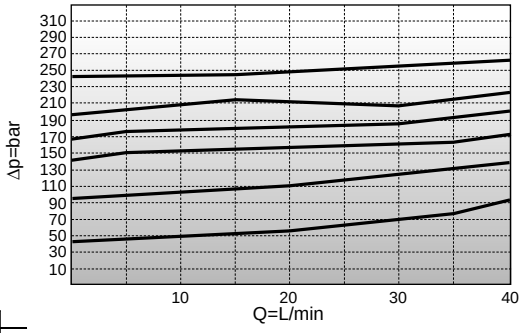


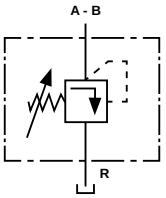
1VSD1*/SA



1VSD5*/SA

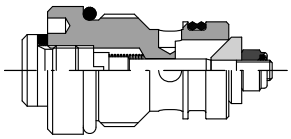


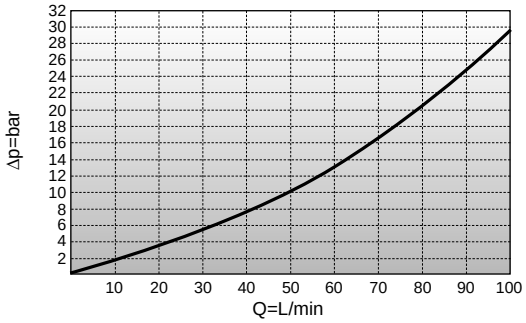


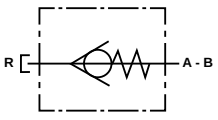


Válvula aspiración VA
Anticavitation valve VA

VA





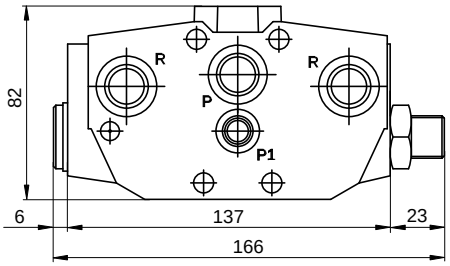


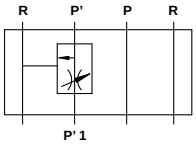
12 Regulador caudal 3 vías para distribuidores
3 way flow control for directional control valves

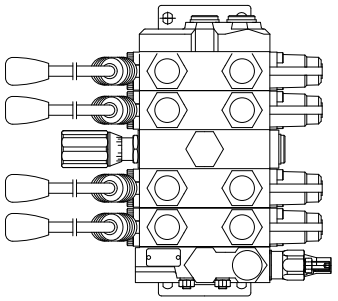
Éste regulador de caudal de 3 vías puede intercalarse en medio de cualquier elemento del distribuidor, independientemente del número de elementos.
El sentido de regulación será en la alimentación por paralelo, quedando los elementos que siguen a continuación regulados al caudal prefijado. El flujo sobrante irá a depósito a la misma presión de trabajo.

This flow control section can be fitted at any position in valve assembly, according to which sections are required with a reduced flow rate.
All sections downstream of this valve can only operated at this reduced flow rate.

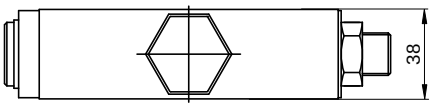
Datos técnicos *Technical data*	
Caudal nominal / *Nominal flow rate*	50 l/min
Caudal mínimo / *Min. flow rate*	5 l/min
Presión máxima de trabajo / *Max. work pressure*	350 bar



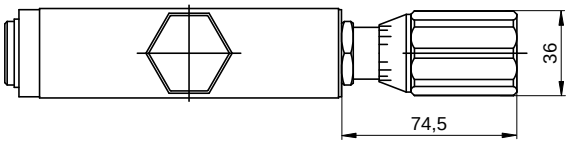




Referencia comercial ROQUET *ROQUET Part number*
M7792002

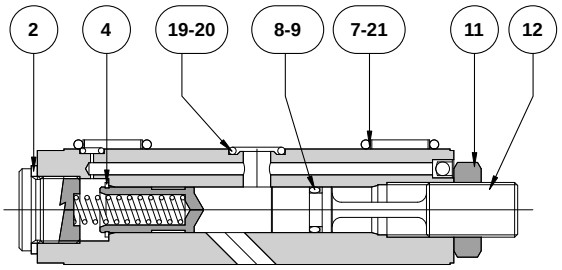


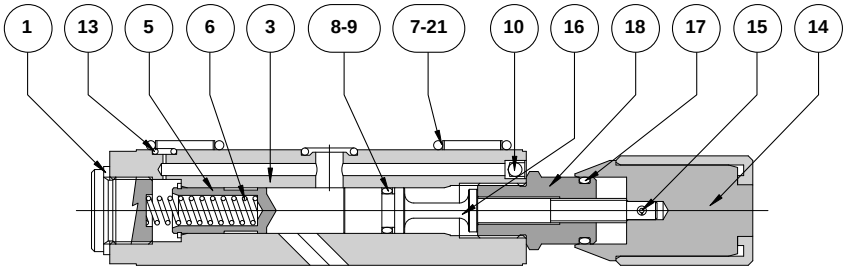
Referencia comercial ROQUET *ROQUET Part number*
M7792003



Ejemplos para pedidos de recambios
Example to order spare parts

Cantidad *Quantity*	**Denominación** *Description*	**Nº de la pieza** *Part number*	**Referencia según la placa** *Reference according serial number plate*
1	**O-ring**	**8**	**M7792003**





Num. *Num.*	**Denominación** *Description*	**Cant.** *Quant.*
1	**Tapón final** / *Plug*	1
2	**Junta metal-buna** / *Metal-bonded gasket*	1
3	**Cuerpo regulador** / *Valve housing*	1
4	**Anillo elástico** / *Circlip*	1
5	**Corredera** / *Spool*	1
6	**Muelle** / *Spring*	1
7	**Anillo centrador** / *Centering ring*	2
8	**Junta tórica** / *O-ring*	1
9	**Junta antiextrusión** / *Anti-extrusion gasket*	1
10	**Tapón obturador** / *Plug*	1
11	**Tuerca** / *Nut* **DIN 936**	1
12	**Tornillo tensor** / *Screw*	1
13	**Junta tórica** / *O-ring*	1
14	**Conjunto puño** / *Assembly knob*	1
15	**Pasador elástico** / *Elastic pin* **DIN 1481**	1
16	**Tornillo tensor** / *Screw*	1
17	**Junta tórica** / *O-ring*	2
18	**Adaptador volante** / *Knob adaptor*	1
19	**Junta tórica /** *O-ring* **(P)**	1
20	**Junta tórica /** *O-ring* **(P_1)**	1
21	**Junta tórica /** *O-ring* **(R)**	2

WWW.SUMY.IR

MENU

WWW.SUMY.IR

Distribuidores seccionales

Sectional control valves

Roquet
making **moves**

406-1406

407

1408

MENU

406 - 1406

Paralelo
Seccional
Caudal nominal: 100 l/min.
Presión máxima de trabajo: 350 bar

Parallel
Sectional
Nominal flow 100 l/min.
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**406**	**1406**
Tomas A y B *Ports A y B*		**1/2" G**	**3/4" G**
Tomas P-P1 *Ports P-P1*		**3/4" G**	
Tomas R-R1 *Ports R-R1*		**3/4" G**	
Tomas RP *Ports RP*		**1/2" G**	
Número máximo de elementos (*) *Maximum spool quantity (*)*		**1-x10**	
Diámetro corredera (mm) *Spool diameter (mm)*		**18**	
Carrera de la corredera (mm) *Spool stroke (mm)*		**7**	
Alimentación tipo *Type*		**Paralelo** *Parallel*	
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**100**	
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**	
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**	
	Durante acc. corredera *During spool positioning*	**20 bar**	
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**18**	
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**	
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**	
Viscosidades *Viscosity range*		**4 — 500 cSt**	
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**	
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**	

Distribuidor
Control valve

Modelo
Type
406-1406

NOMENCLATURA DE REFERENCIAS

406	N	1	P	A	12	D	24 – L12 – CODE
1	2	3	4	5	6	7	8 9 10

CODING SYSTEMS

1 Tipo distribuidor
Control valve type

406	1/2" G
1406	3/4" G

2 Formas de retorno o sistemas de trabajo
Return form

N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3 Accionamiento corredera
Spool positions devices

2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
4	**Dos posiciones extrema y central por muelle, movimiento empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
55	**Accionamiento electro-neumático (todo-nada).** *Pneumatic piloted-solenoid operated (on-off).*
57	**Tres posiciones, con pilotaje neumático sensibilizado.** *Three positions, sensibilzed pneumatic pilot.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*
83	**Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.** *Three positions; ends position by direct solenoid, neutral position by spring.*
84	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.*
85	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.*

4 Tipo palanca mando
Hand lever type

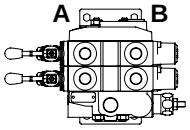
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*

4 Tipo palanca mando
Hand lever type

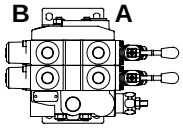
P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
T	**Sin palanca y protector ciego.** *Spool end cap.*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
I	**Cable.** *Cable control.*
ME	**Palanca manual emergencia, y conector DEUSTCH.** *Emergency hand lever, and DEUTSCH connector.*
ML	**Palanca manual emergencia, y conector HIRSCHMANN.** *Emergency hand lever, and HIRSCHMANN connector.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
E	**Distribuidor eléctrico con conectores DEUTSCH.** *DEUTSCH connector by electrical control valve.*
L	**Distribuidor eléctrico con conectores HIRSCHMANN.** *HIRSCHMANN connector by electrical control valve.*

5 Posición válvula de seguridad o entrada presión
Relief valve position / Pressure inlet

A



C



6 Válvula seguridad principal
Main relief valve

Taraje *Setting (bar)*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 Sistemas de distribución
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

8 Gama de tensiones para C.C.
(sólo para accionamiento 55-81-82-83-84-85)
D.C. voltage (only for control types 55-81-82-83-84-85)

12	12V	**24**	24V

9 Válvula puesta en vacío eléctrica
Unloading valve

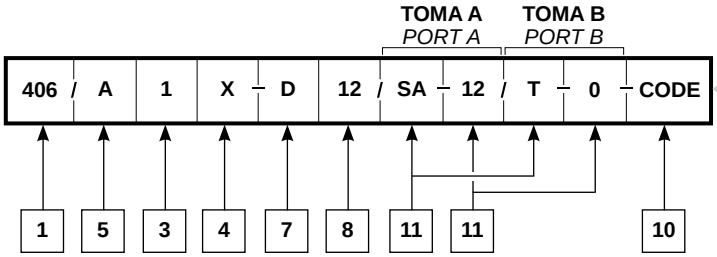
L12 **L24**	**Eléctrica 12V /** *Electrical 12V (30W).* **Eléctrica 24V /** *Electrical 24V (30W).*
H	**Pilotaje hidráulico /** *Hydraulic piloted.*

10 Datos adicionales (código)
Additional data (code)

Secciones del distribuidor
Control valve sections

Modelo *Type*
406-1406

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

SECCIONES DE FUNCIONAMIENTO
OPERATING SECTIONS

1	**Tipo distribuidor** *Control valve type*
406	1/2" G
1406	3/4" G

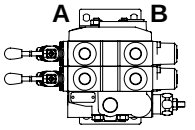
3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
4	**Dos posiciones extrema y central por muelle, movimiento empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required). NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
16	**Tres posiciones, recuperación a posición neutral por muelle. Doble salida de corredera.** *Three positions, return to neutral position by spring. Double end actioned spool.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
36	**Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
57	**Tres posiciones, con pilotaje neumático sensibilizado.** *Three positions, sensibilzed pneumatic pilot.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*
83	**Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.** *Three positions; ends position by direct solenoid, neutral position by spring.*
84	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.*
85	**Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.** *Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.*

4	**Tipo palanca mando** *Hand lever type*
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
P	**Palanca con protector y varilla.** *Lever box with lever and rubber.*
Z	**Palanca con protector y sin varilla.** *Lever box without lever and with rubber.*
P2	**Palanca con protector y varilla.** *Lever box with lever and rubber boot.*
Z2	**Palanca con protector y sin varilla.** *Lever box with rubber boot and without lever.*

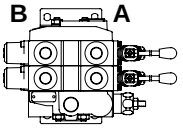
4	**Tipo palanca mando** *Hand lever type*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
T	**Sin palanca y protector ciego.** *Spoolen cap.*
I	**Cable.** *Cable control.*
ME	**Palanca manual emergencia, y conector DEUSTCH.** *Emergency hand lever, and DEUTSCH connector.*
ML	**Palanca manual emergencia, y conector HIRSCHMANN.** *Emergency hand lever, and HIRSCHMANN connector.*
X	**Palancas no iguales o múltiples (necesita código).** *Mechanical joystick or special options (code is requiered).*
E	**Distribuidor eléctrico con conectores DEUTSCH.** *DEUTSCH connector by electrical control valve.*
L	**Distribuidor eléctrico con conectores HIRSCHMANN.** *HIRSCHMANN connector by electrical control valve.*

5 **Posición válvula de seguridad o entrada presión**
Relief valve position / Pressure inlet

A



C



7 **Sistemas de distribución**
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

8 **Gama de tensiones para C.C. (sólo para accionamiento 83-84-85)**
D.C. voltage (only for control types 83-84-85)

12	12V	**24**	24V

11	**Válvulas auxiliares** *Auxiliary valves*
SA	**Válvula de sobrepresión y aspiración** / *Relief and anticavitation valve*
SD	**Válvula de sobrepresión /** *Relief valve*
A	**Válvula de aspiración /** *Anticavitation valve*
T	**Tapón** / *Plug*
0	**Sección sin tomas para válvulas /** *Sectional without port valves*

11 **Rango de presiones de las válvulas auxiliares**
Auxiliary valve pressure range (pressure set al 22l/min.)

Tipo de regulación / *Adjustment*		**Rango de presión (bar)** *Pressure range (bar)*
Regulable *Adjustable*	**Precintada** *Pre set*	
11	41	5-80 (80)
12	42	85-175 (160)
13	43	180-250 (200)
14	44	255-350 (315)
00		**Sin válvulas auxiliares o con tapón** *Without auxiliary valves or with plug*

10 **Datos adicionales (código)**
Additional data (code)

NOMENCLATURA DE REFERENCIAS

406 / CV – 11 – L24 – S – CODE

CODING SYSTEMS

1 13 6 9 16 10

ENTRADA
INLET

1	Tipo distribuidor *Control valve type*
406	1/2" G
1406	3/4" G

13	Tipo de tapa frontal *Front cover type*
CV	**Con válvula de seguridad** / *With relief valve.*
SV	**Sin válvula de seguridad** / *Without relief valve.*

6	Válvula seguridad principal *Main relief valve*		
Taraje *Setting*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment* **Regulable por tornillo** *Screw adjustment*	 **Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For valves without reliefs the pressure range number is omitted.

9	Con válvula puesta en vacío eléctrica *With electrical unloading valve*
L12 L24	**Eléctrica 12V /** *Electrical 12V (30W).* **Eléctrica 24V /** *Electrical 24V (30W).*
H	**Pilotaje hidráulico /** *Hydraulic piloted.*

16	Toma de presión operativa *Operative pressure port*
S	**Toma frontal** / *Side port*
T	**Toma superiór** / *Top port*

NOMENCLATURA DE REFERENCIAS

406 / CF – N – S

CODING SYSTEMS

1 14 2 17

SALIDA
OUTLET

1	Tipo distribuidor *Control valve type*
406	1/2" G
1406	3/4" G

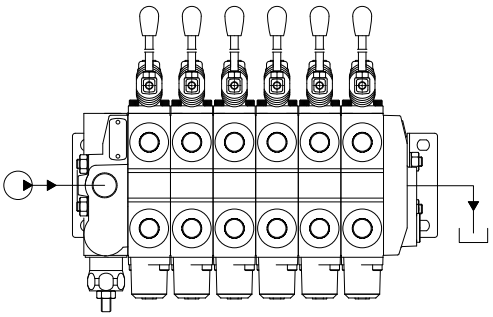
14	Tapa de salida *Outlet*
CF	**Tapa de salida** / *Outlet*

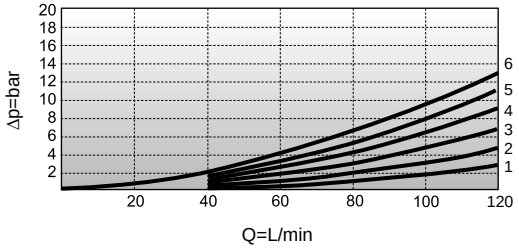
2	Formas de retorno o sistemas de trabajo *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

17	Toma operativa a retorno *Operative tank port*
S	**Toma frontal** / *Side port*
A	**Toma superiór** / *Around port*

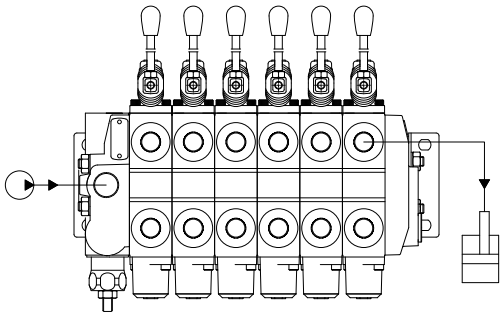
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

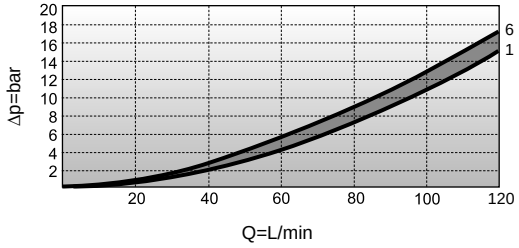
Tomas con retorno (P → R)
Ports to return (P → R)





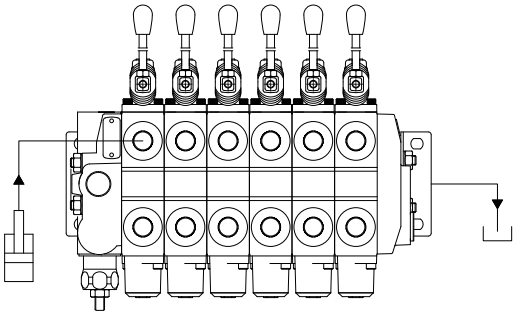
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)

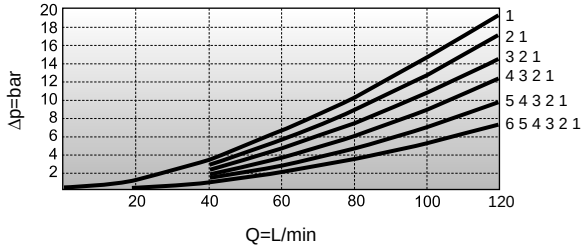




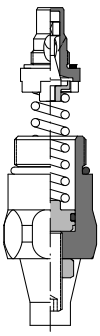
De 1 a 6 elementos
From 1 to 6 elements

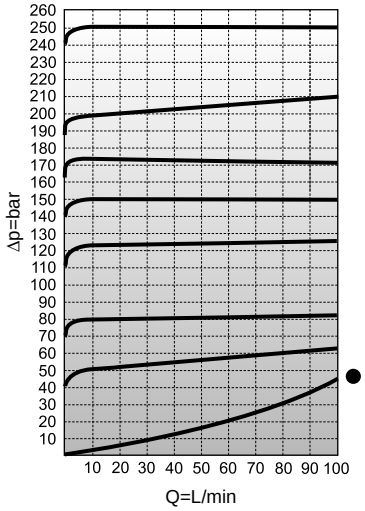
Tomas con retorno (A ó B - R)
Ports to return (A o B - R)





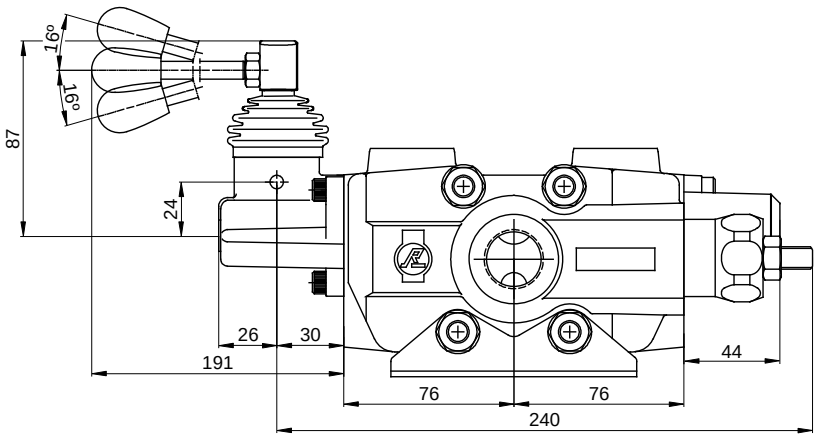
Válvula de seguridad principal
Main relief valve

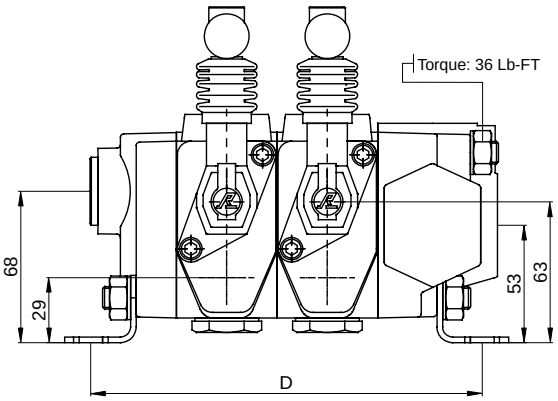


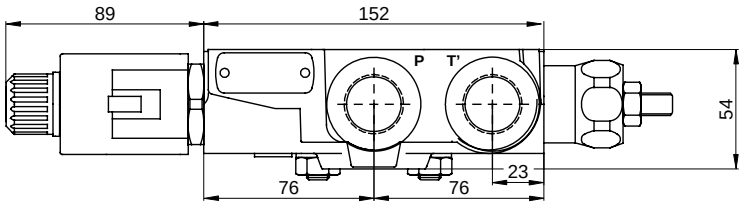


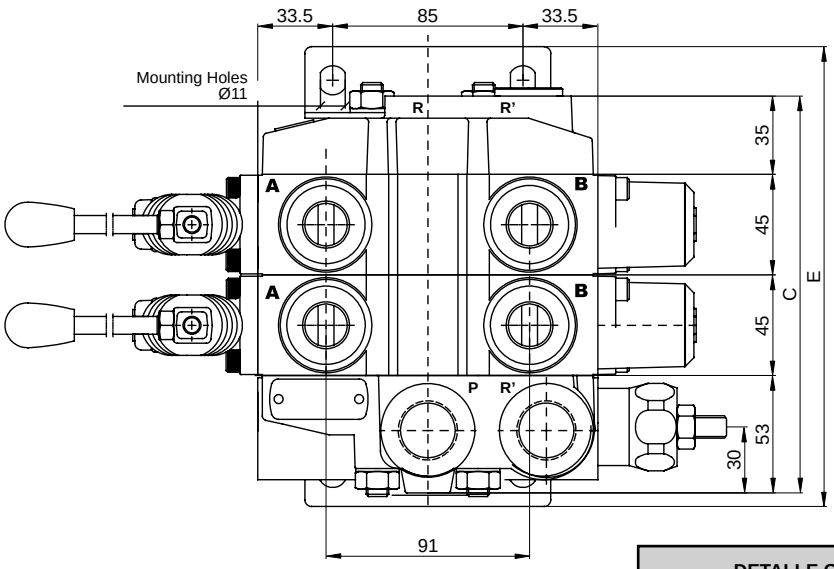
● Curva presión mínima
Minimal pressure curve

N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	128	173	218	263	308	353
D	129	174	219	264	309	354
E	159	204	249	294	339	384
Peso en kg. / *Weight in kg.*	8	12,5	17	21,5	26	30,5

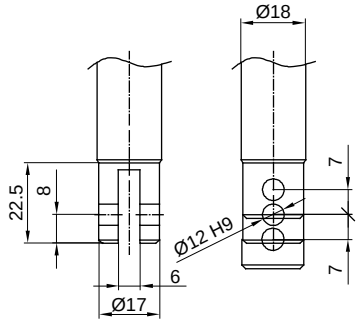




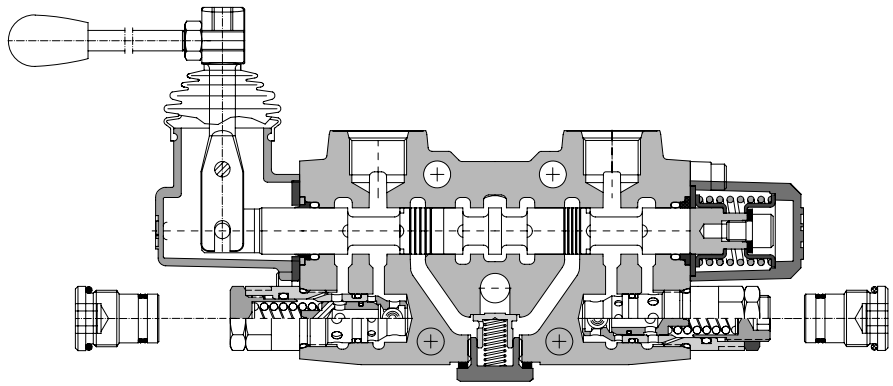


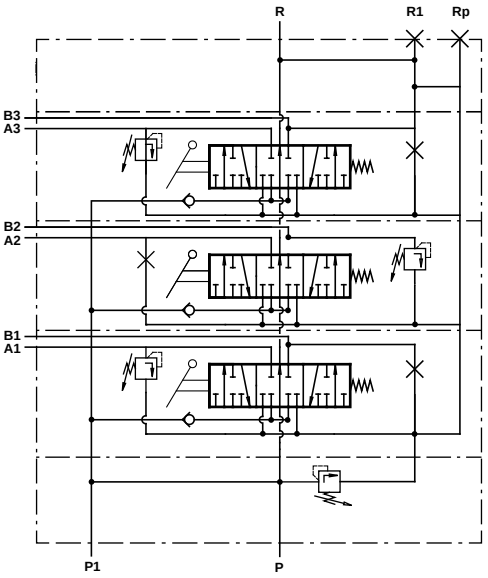


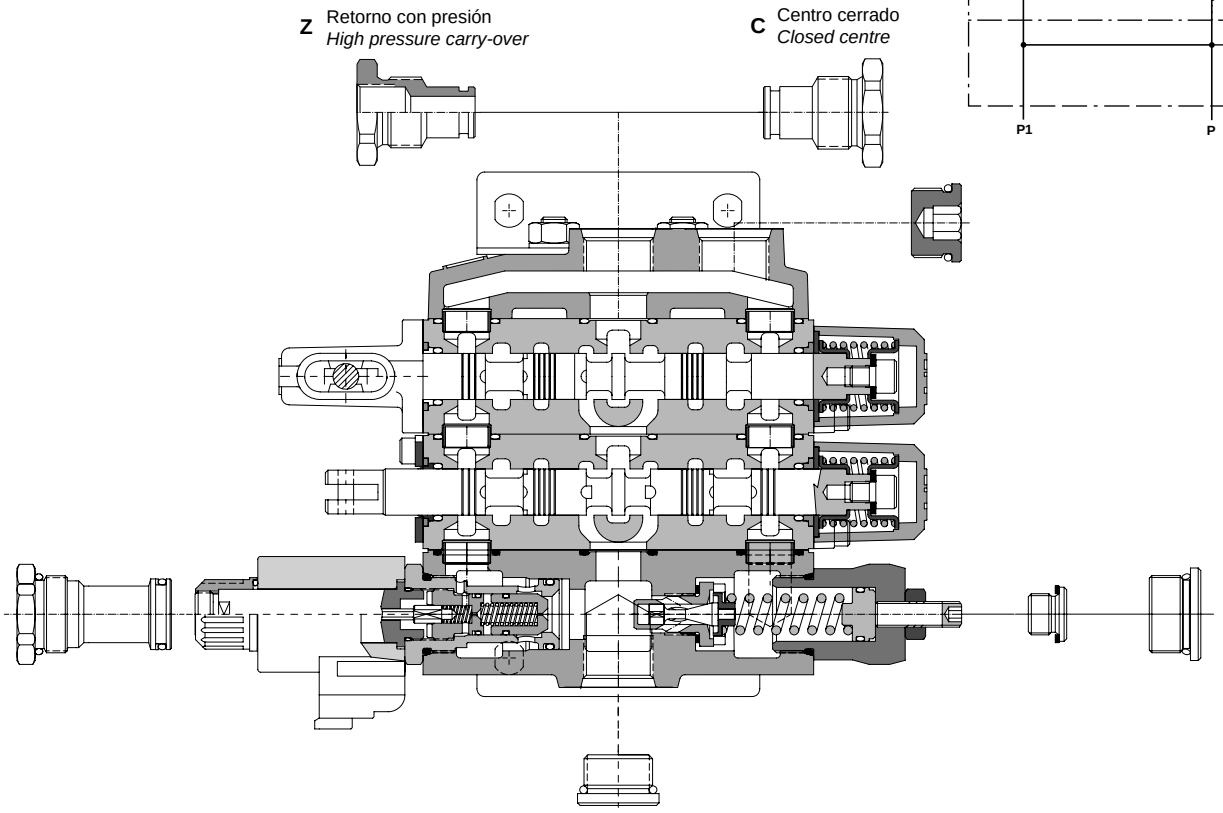
DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*

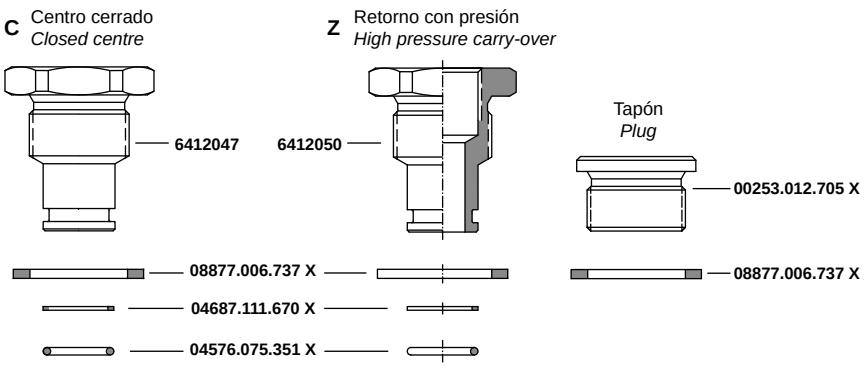






2 Formas de retorno o sistemas de trabajo
Return form

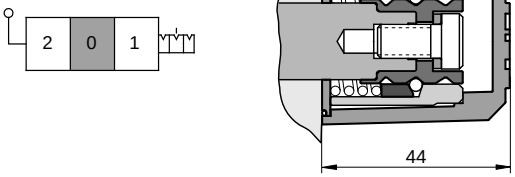
Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	**3/4" G**
Z	**Retorno con presión** *High pressure carry-over*	**3/4" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*



3 Accionamiento corredera
Spool positions devices

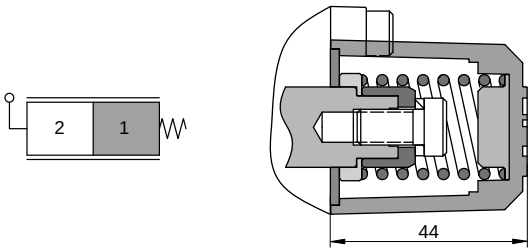
Accionamiento 2
Type 2

Tres posiciones, con anclajes.
Three positions with detents.



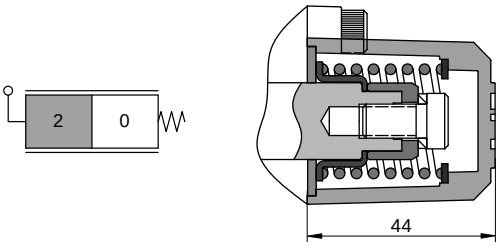
Accionamiento 3
Type 3

Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.



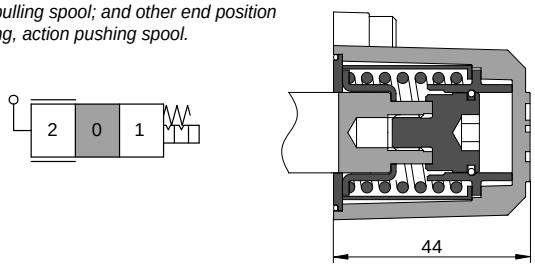
Accionamiento 4
Type 4

Dos posiciones extrema y central por muelle, movimiento empujando corredera.
Two positions, end and neutral position by spring, action pushing spool.



Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.



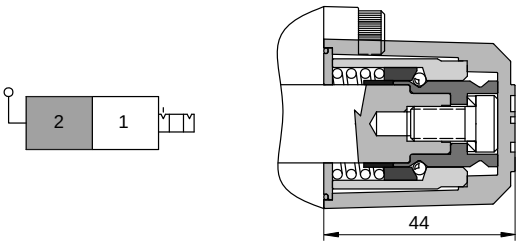
Accionamiento 8
Type 8

Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

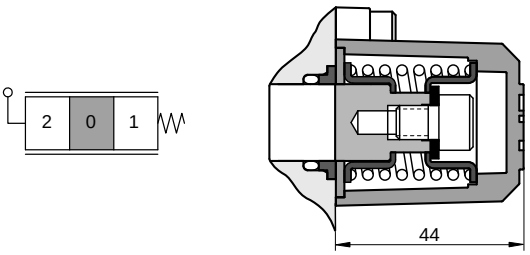
Accionamiento 9
Type 9

Dos posiciones extremas, con anclajes.
Two end positions with detents.



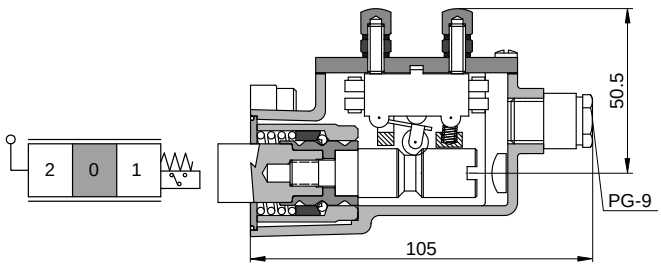
Accionamientos 11
Types 11

Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.



Accionamientos 15
Types 15

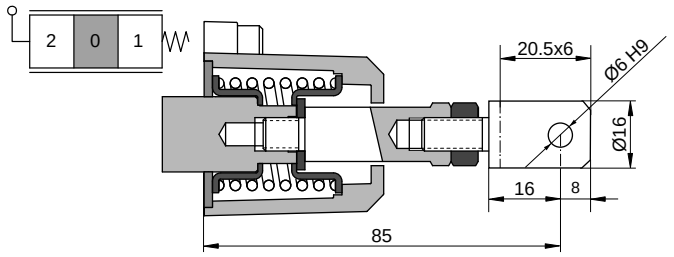
Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.



WWW.SUMY.IR

Accionamiento 16
Type 16

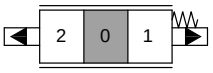
Tres posiciones, recuperación a posición neutral por muelle.
Doble salida de corredera.
Three positions, return to neutral position by spring. Double end actioned spool.



Accionamiento 17-71
Type 17-71

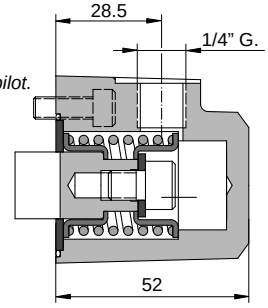
17 **Tres posiciones, pilotaje hidráulico.**
Three positions, hydraulic pilot.

71 **Tres posiciones, pilotaje hidráulico sensibilizado.**
Three positions, sensibilized hydraulic pilot.



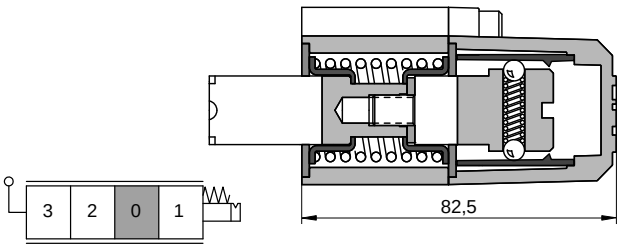
Presión mín.: ≥ 15 bar
Min. pressure:
Presión máx.: ≥ 30 bar
Max. presure:

Presión de pilotaje con muelle 5 – 175 bar.
Pilot pressure required with spring 5 – 175 bar.



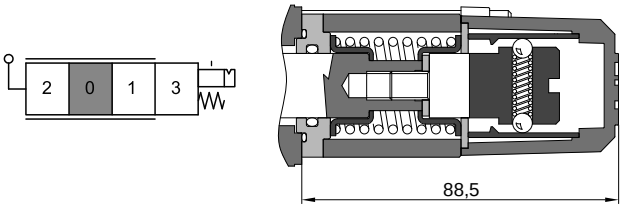
Accionamiento 19
Type 19

Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.
Fourth positions. Fourth position with detent, action pushing spool.



Accionamiento 20
Type 20

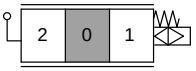
Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



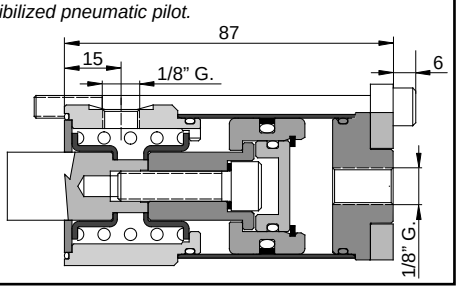
Accionamientos 22-47
Type 22-47

22 **Tres posiciones, pilotaje neumático.**
Three positions, pneumatic pilot.

47 **Tres posiciones, pilotaje neumático sensibilizado.**
Three positions, sensibilized pneumatic pilot.

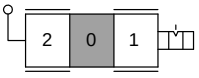


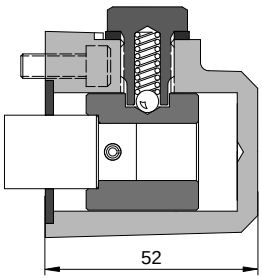
Presión mín.: ≥ 2 bar
Min. pressure:
Presión máx.: ≥ 8 bar
Max. presure:



Accionamiento 35
Type 35

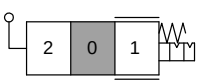
Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.

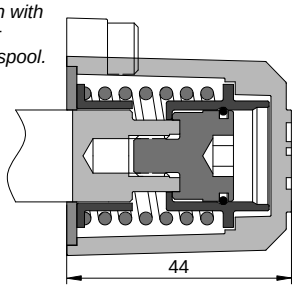




Accionamiento 36
Type 36

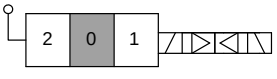
Una posición extrema y la posición neutral con anclaje, empujando corredera; y la otra extrema por muelle, tirando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pulling spool.

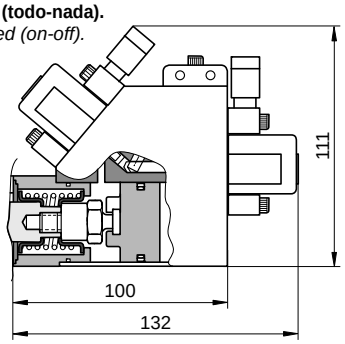




Accionamiento 55
Type 55

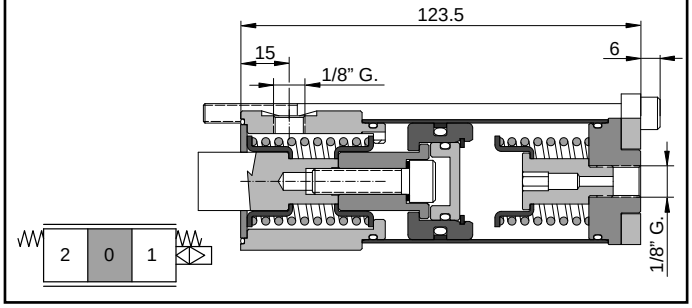
Accionamiento electro-neumático (todo-nada).
Pneumatic piloted-solenoid operated (on-off).





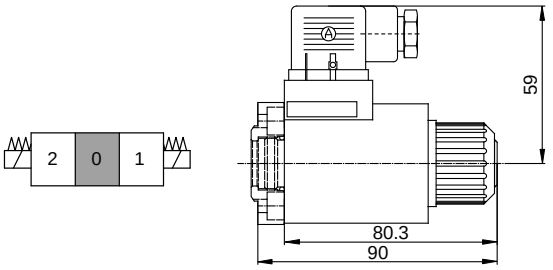
Accionamiento 57
Type 57

Tres posiciones, con pilotaje neumático sensibilizado.
Three positions, sensibilzed pneumatic pilot.



Accionamiento 83
Type 83

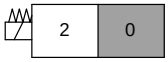
Tres posiciones; posiciones extremas por electroiman directo, posición neutral por muelle.
Three positions; ends position by direct solenoid, neutral position by spring.



Accionamiento 84
Type 84

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma A.

Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side A port.



Accionamiento 85
Type 85

Dos posiciones, central y extrema. Posición neutral por muelle, posición extrema electroiman en lado toma B.

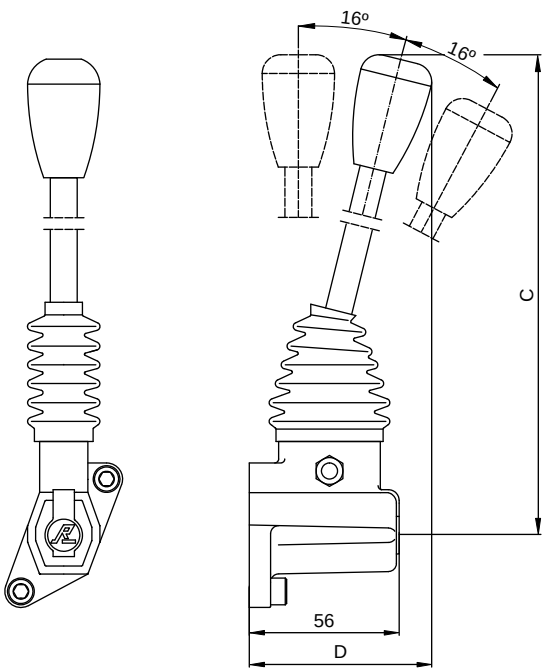
Two positions, neutral position and end position. Position 0 by spring, end position by solenoid in side B port.



4 Tipo palanca mando
Hand lever type

Palanca
Hand lever

C - H - P - Z

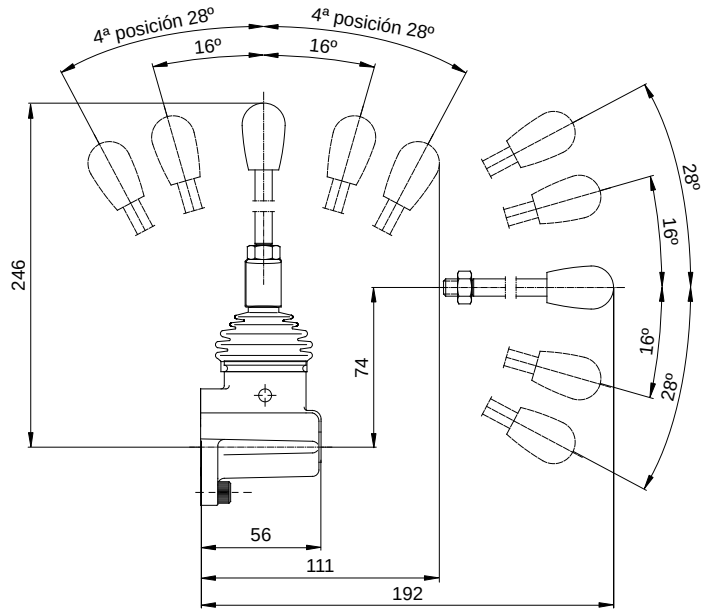


NOTA: Las dimensiones C y D según tipo de palanca.
NOTE: Dimensions C and D depend the kind of hand lever.

Tipo palanca *Type*	**Descripción** *Description*
C	Palanca sin protector y con varilla. *Lever box without rubber and with lever.*
H	Palanca sin protector ni varilla. *Lever box without rubber and lever.*
P	Palanca con protector y varilla. *Lever box with lever and rubber.*
Z	Palanca con protector y sin varilla. *Lever box without lever and with rubber.*

Palanca con protector y sin varilla
Lever box with rubber boot and without lever

P2-Z2



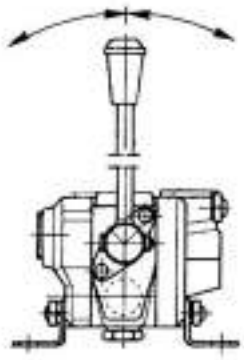
Tipo palanca *Type*	**Descripción** *Description*
P2	Palanca con protector y varilla *Lever box with lever and rubber boot.*
Z2	Palanca con protector y sin varilla *Lever box with rubber boot and without lever*

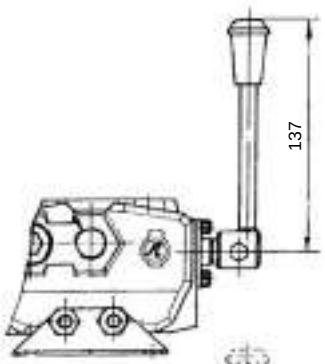
Palanca rotativa
Rotative hand lever

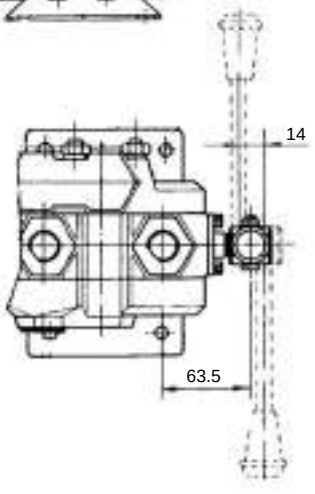
Solo para accionamiento 35
Only for 35 spool position device
Corredera de acero inoxidable
Stainless steel spool

R

Giro de 90º en ambos lados y mantiene posición.
Lever turns and holds position.

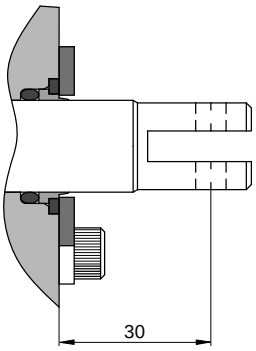






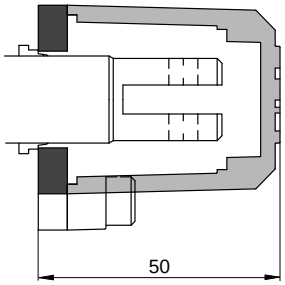
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S



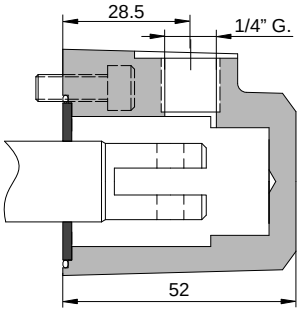
Sin palanca y protector ciego
Spool end cap

T



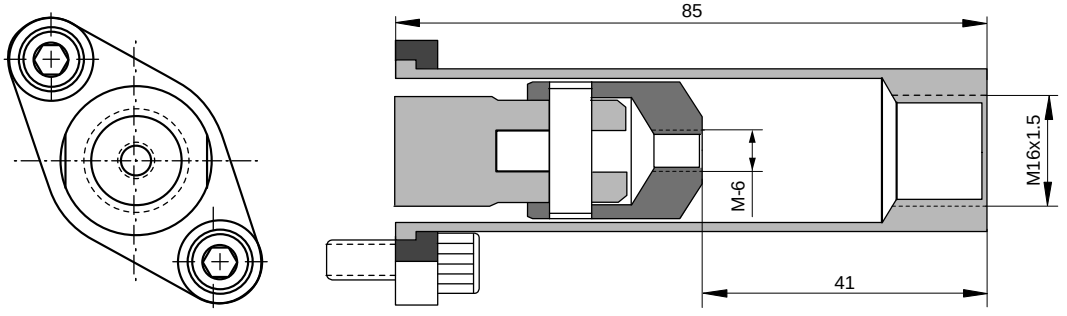
Para accionamiento 17 (pilotaje hidráulic)
Hydraulic pilot (Hydraulic pilot)

Y



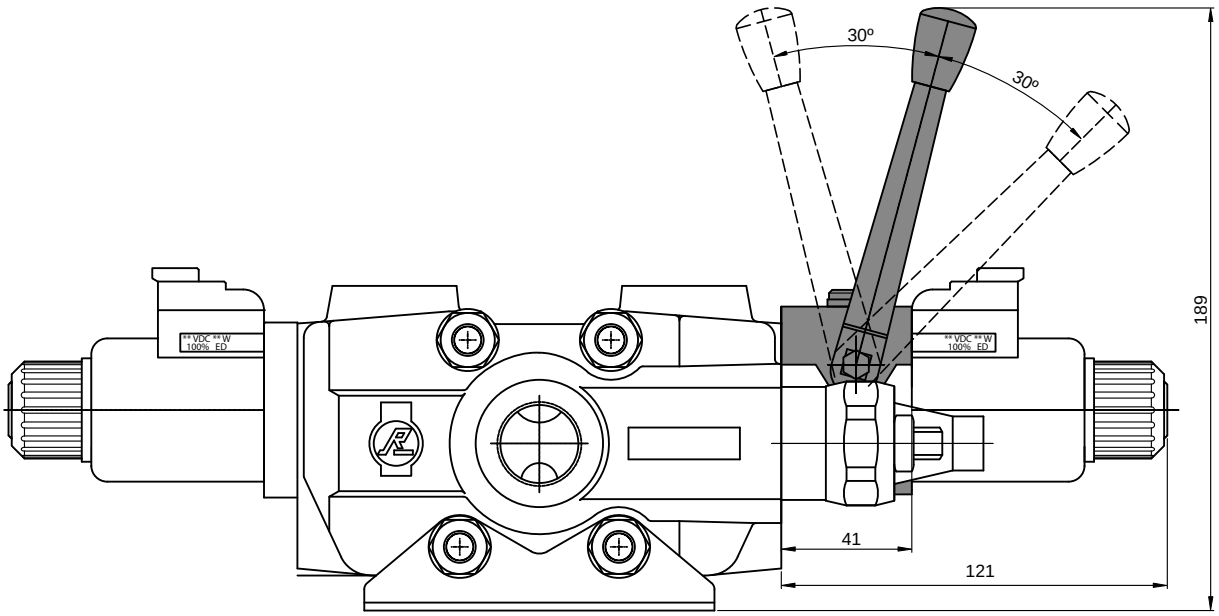
Cable
Cable control

I



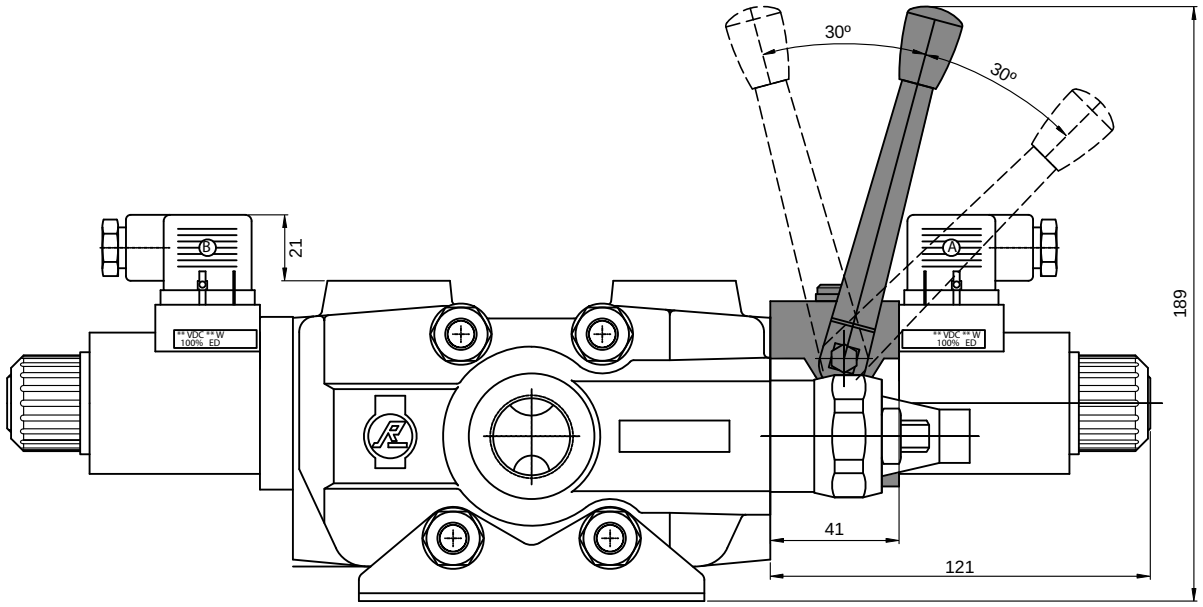
Palanca manual emergencia, y conector DEUSTCH.
Emergency hand lever, and DEUTSCH connector.

ME



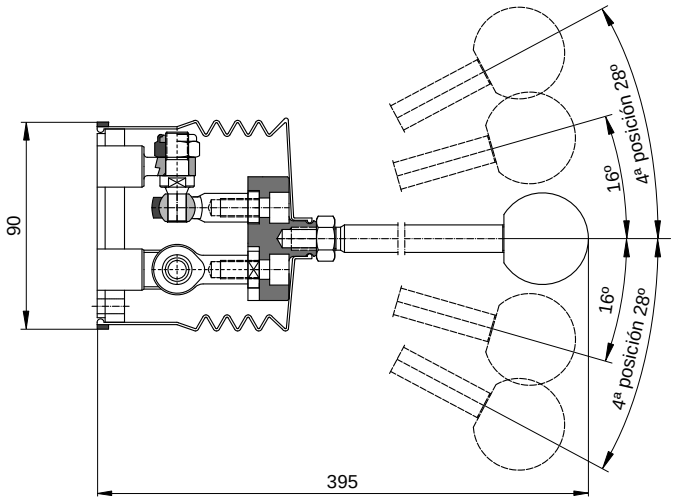
Palanca manual emergencia, y conector HIRSCHMANN.
Emergency hand lever, and HIRSCHMANN connector.

ML

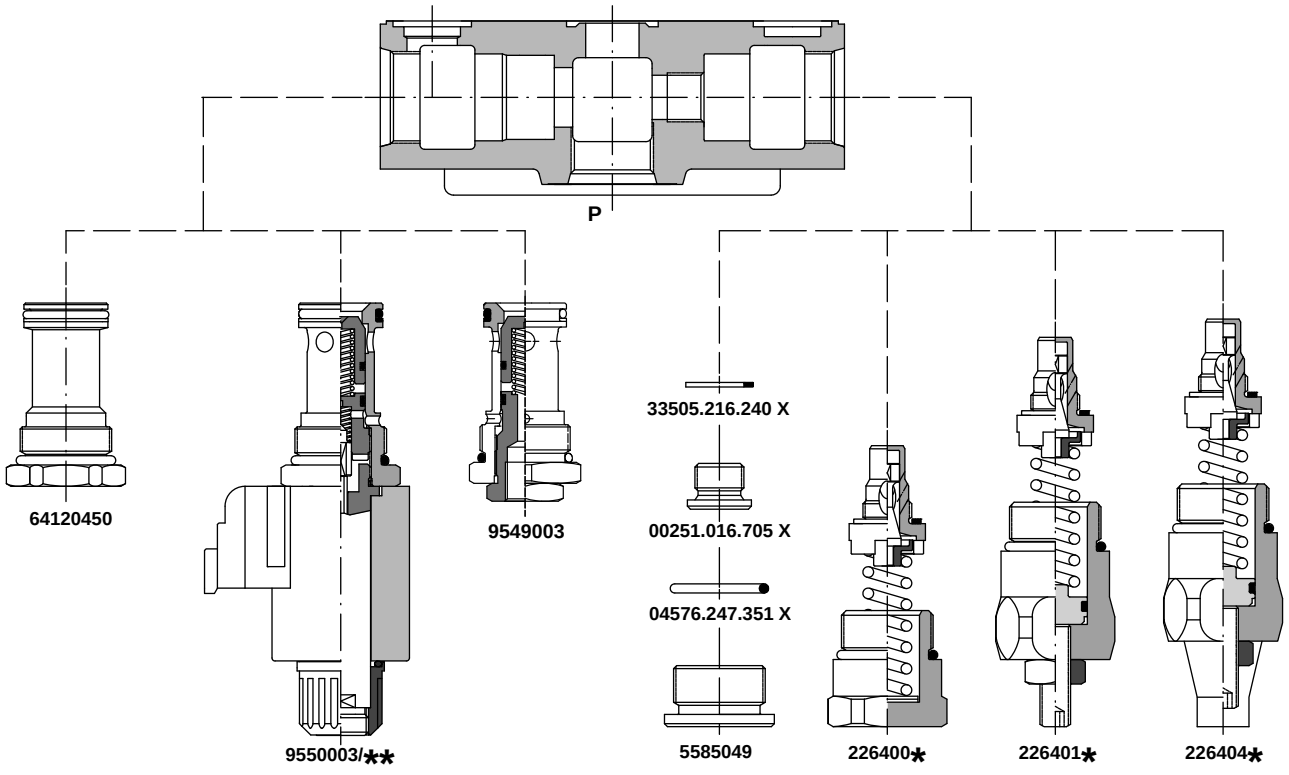


Palanca no iguales o múltiples (necesita código)
Mechanical joystick or special options (code is requiered)

X



6 **Válvula seguridad principal**
Main relief valve



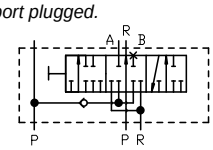
Taraje *Setting*	**Fija** *Fixed*	**Regulable por tornillo** *Screw adjustment*	**Regulable precintada** *Lock wired*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 bar (80)	1	11	41	--
85-175 bar (160)	2	12	42	--
180-250 bar (200)	3	13	43	--
255-350 bar (315)	4	14	44	--

7 Sistema de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

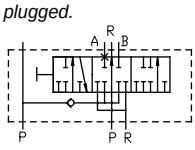
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

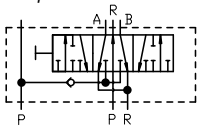
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

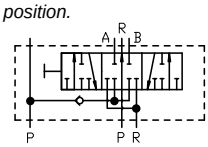
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

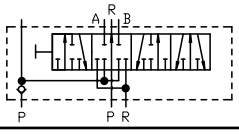
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

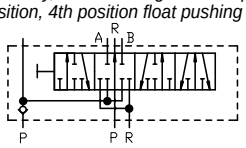
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



Tipo M - *Type M*

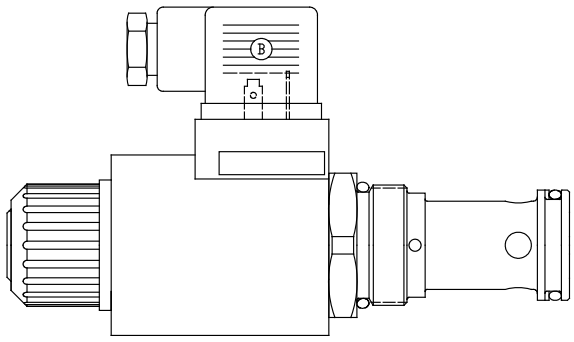
4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante empujando corredera.

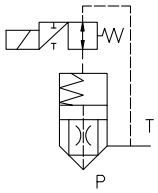
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pushing the spool.

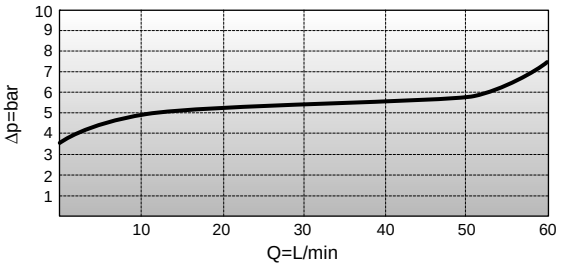


9 Válvula puesta en vacío eléctrica
Unloading valve

ELÉCTRICA / ***ELECTRICAL***







Referencia comercial
Part number

95500✱3/✱-✱

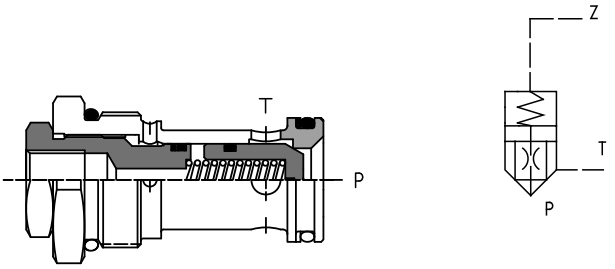
Tipo de conector *Connector type*	
0	HIRSCHMANN ISO 4400
1	DEUTSCH con DIODO *DEUTSCH with DIODE*
2	DEUTSCH sin DIODO *DEUTSCH without DIODE*

Potencia (W) *Power (W)*	
30	30 W.
38	38 W.

Voltaje (DC) *Voltage (DC)*	
D12	12 V.
D24	24 V.

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	80 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	- bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC
Gama de tensiones / *Control voltage*	DC 12V - 24V
Factor de marcha / *Duty cicle*	100%
Protección DIN 40050 / *Protection DIN 40050*	IP-65

HIDRÁULICA / *HYDRAULIC*



Referencia comercial *Part number*
9549003

Datos técnicos *Technical data*	
Presión de apertura / *Opening pressure*	4-5 bar
Caudal nominal / *Nominal flow*	80 L./min.
Presión máx. de trabajo / *Max. work pressure*	350 bar
Presión máx. en retorno / *Max. return pressure*	80 bar
Presión mín. de P a T / *Min. pressure form P to T*	6 bar
Gama de viscosidades / *Viscosity range*	ISO 3448 cat. VG32-VG46
Gama de temperaturas fluido hidráulico *Hydraulic fluid temperature range*	-20ºC... +80ºC

10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:

- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

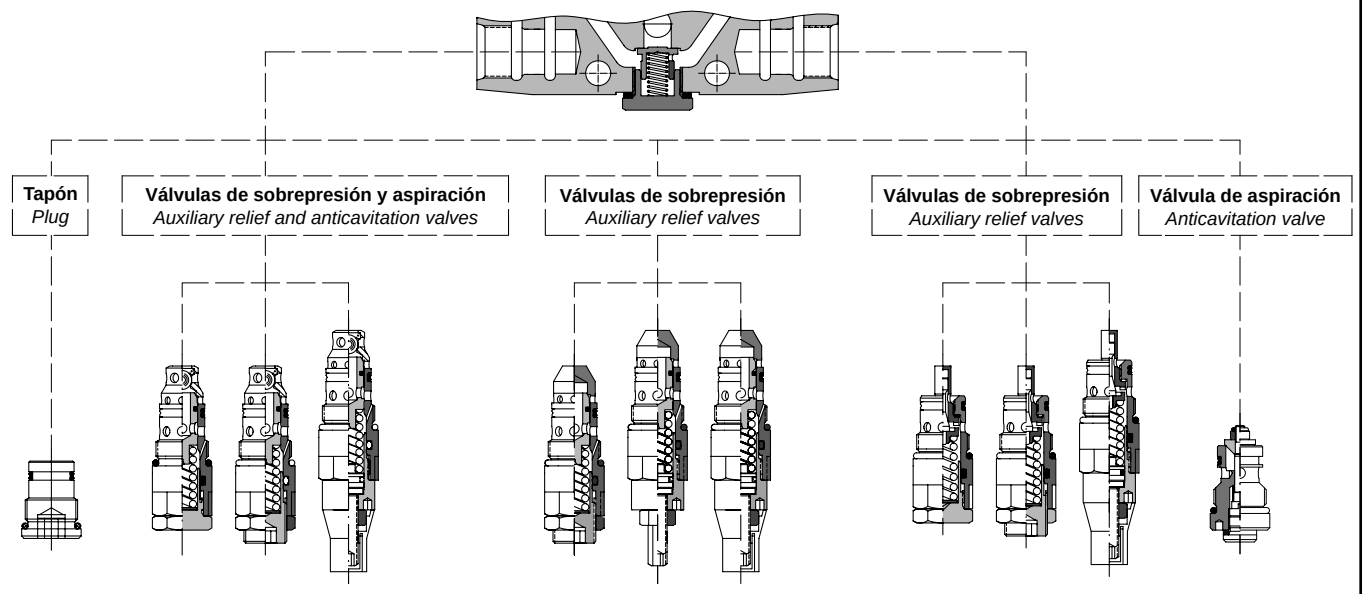
CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:

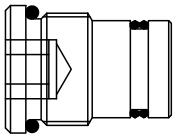
- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

11 Válvulas auxiliares
Auxiliary valves



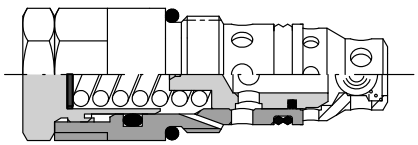
Tapón
Plug

64120113

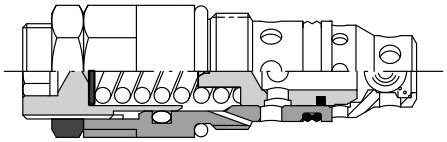


Válvulas sobrepresión y aspiración VSD*/VA
Auxiliary relief and anticavitation valves VSD/VA*

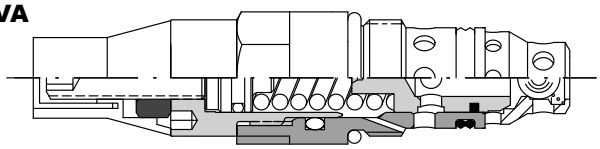
VSD*/VA

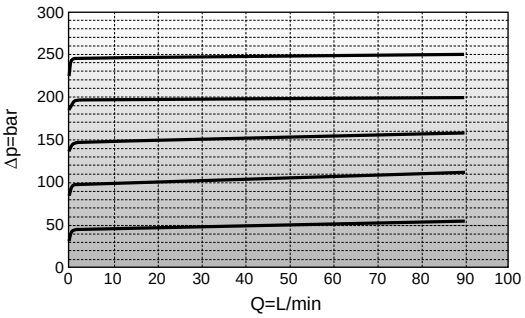


VSD1*/VA



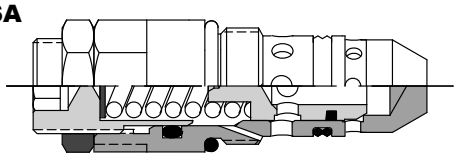
VSD5*/VA



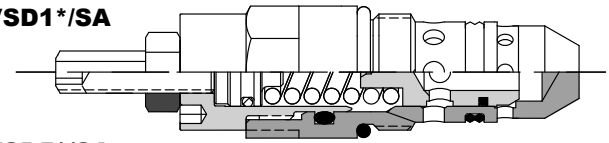


Válvulas sobrepresión VSD*/SA
Auxiliary relief valves VSD/SA*

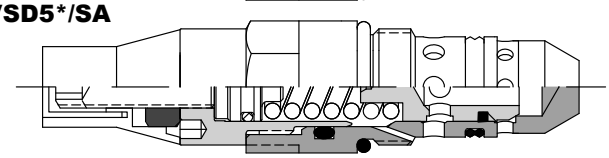
VSD*/SA

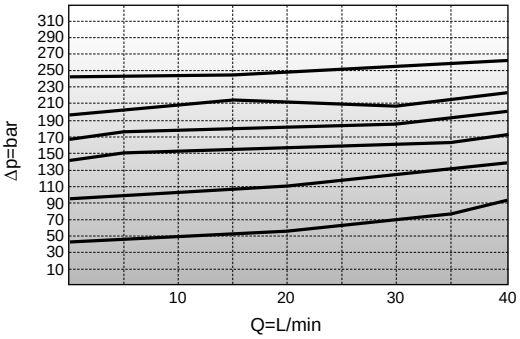


VSD1*/SA



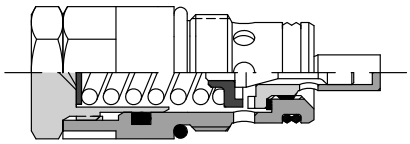
VSD5*/SA



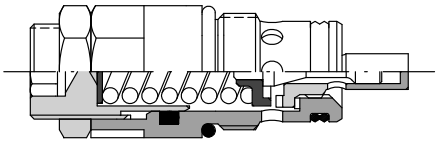


Válvulas de sobrepresión 1VSD*/SA
Auxiliary relief valves 1VSD/SA*

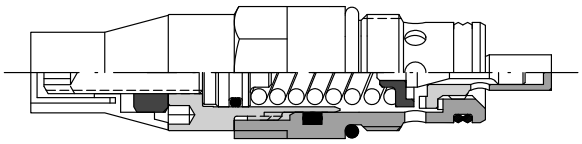
1VSD*/SA

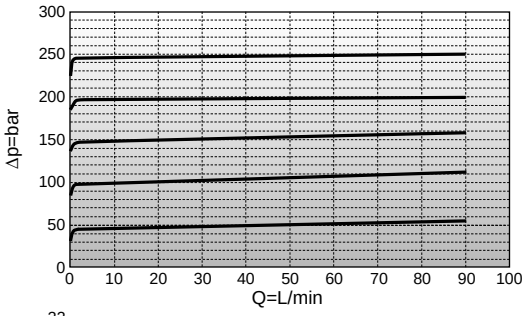


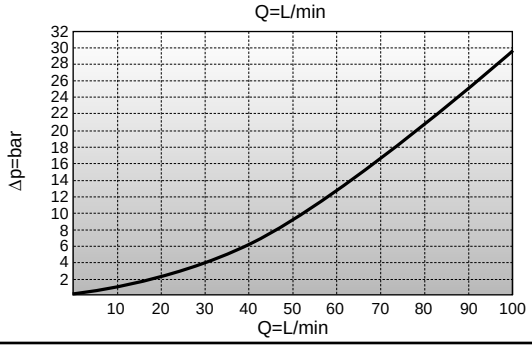
1VSD1*/SA



1VSD5*/SA

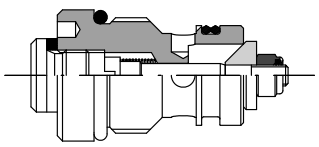


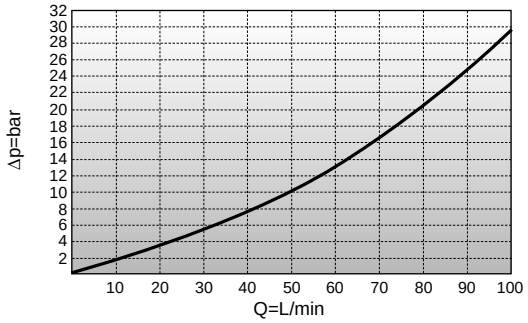


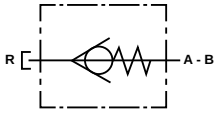


Válvula de aspiración VA
Anticavitation valve VA

VA





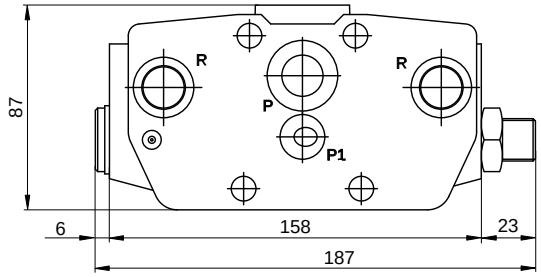


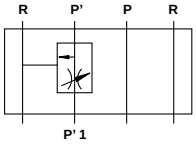
12 Regulador caudal 3 vías para distribuidores
3 way flow control for directional control valves

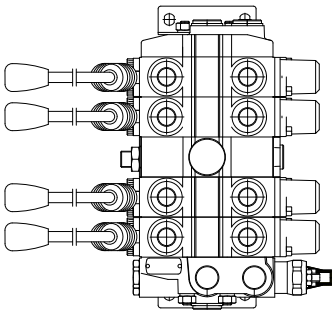
Éste regulador de caudal de 3 vías puede intercalarse en medio de cualquier elemento del distribuidor, independientemente del número de elementos.
El sentido de regulación será en la alimentación por paralelo, quedando los elementos que siguen a continuación regulados al caudal prefijado. El flujo sobrante irá a depósito a la misma presión de trabajo.

This flow control section can be fitted at any position in valve assembly, according to which sections are required with a reduced flow rate.
All sections downstream of this valve can only operated at this reduced flow rate.

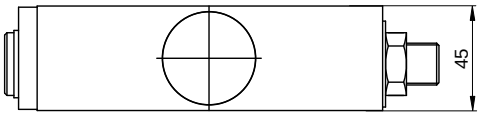
Datos técnicos *Technical data*	
Caudal nominal / *Nominal flow rate*	80 l/min
Caudal mínimo / *Min. flow rate*	5 l/min
Presión máxima de trabajo / *Max. work pressure*	350 bar



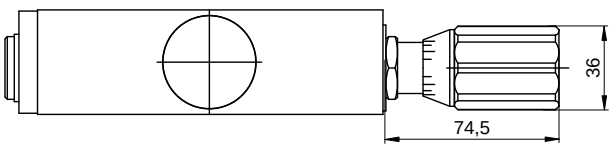




Referencia comercial ROQUET *ROQET Part number*
M6796002

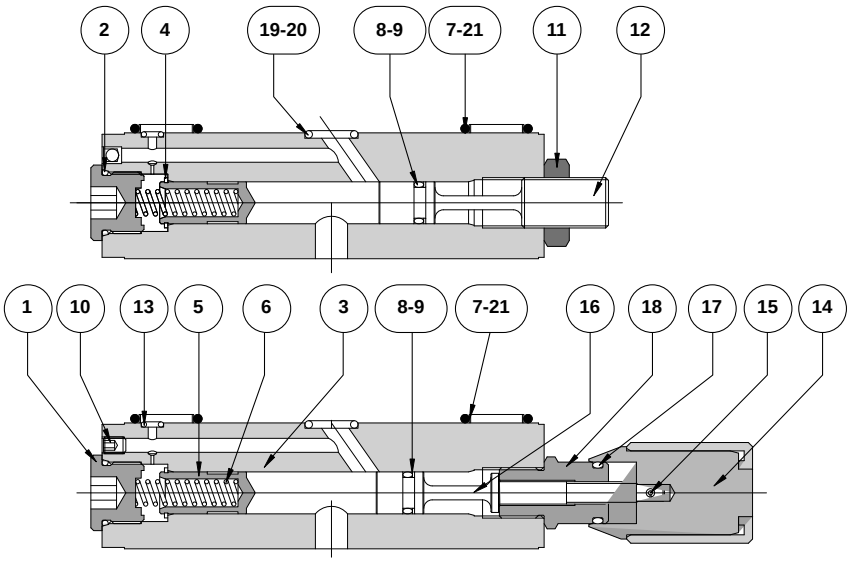


Referéncia comercial ROQUET *ROQUET Part number*
M6796003



Ejemplos para pedidos de recambios
Example to order spare parts

Cantidad *Quantity*	**Denominación** *Description*	**Nº de la pieza** *Part number*	**Referencia según la placa** *Reference according serial number plate*
1	**O-ring**	**8**	**M7792003**



Num. *Num.*	**Denominación** *Description*	**Cant.** *Quant.*
1	**Tapón final** / *Plug*	1
2	**Junta tórica** / *O-ring*	1
3	**Cuerpo regulador** / *Valve housing*	1
4	**Anillo elástico** / *Circlip*	1
5	**Corredera** / *Spool*	1
6	**Muelle** / *Spring*	1
7	**Anillo centrador** / *Centering ring*	2
8	**Junta tórica** / *O-ring*	1
9	**Junta antiextrusión** / *Anti-extrusion gasket*	1
10	**Tapón obturador** / *Plug*	1
11	**Tuerca** / *Nut* **DIN 936**	1
12	**Tornillo tensor** / *Screw*	1
13	**Junta tórica** / *O-ring*	1
14	**Conjunto puño** / *Assembly knob*	1
15	**Pasador elástico** / *Elastic pin* **DIN 1481**	1
16	**Tornillo tensor** / *Screw*	1
17	**Junta tórica** / *O-ring*	2
18	**Adaptador volante** / *Knob adaptor*	1
19	**Junta tórica /** *O-ring* **(P)**	1
20	**Junta tórica /** *O-ring* **(P_1)**	1
21	**Junta tórica /** *O-ring* **(R)**	2

WWW.SUMY.IR

Distribuidores seccionales

Sectional control valves

Roquet
making **moves**

407

1408

MENU

407

Paralelo
Seccional
Caudal nominal: 150 l/min.
Presión máxima de trabajo: 350 bar

Parallel
Sectional
Nominal flow 150 l/min.
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**407**
Tomas A y B *Ports A y B*		**3/4" G**
Tomas P-P1 *Ports P-P1*		**1" G**
Tomas R-R1 *Ports R-R1*		**1" G**
Tomas RP *Ports RP*		**3/4" G**
Número máximo de elementos (*) *Maximum spool quantity (*)*		**6**
Diámetro corredera (mm) *Spool diameter (mm)*		**22**
Carrera de la corredera (mm) *Spool stroke (mm)*		**9**
Alimentación tipo *Type*		**Paralelo** *Parallel*
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**150**
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**
	Durante acc. corredera *During spool positioning*	**20 bar**
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**27**
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**
Viscosidades *Viscosity range*		**4 — 500 cSt**
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**

NOMENCLATURA DE REFERENCIAS

407	N	1	P	A	12	D	– CODE
1	2	3	4	5	6	7	10

CODING SYSTEMS

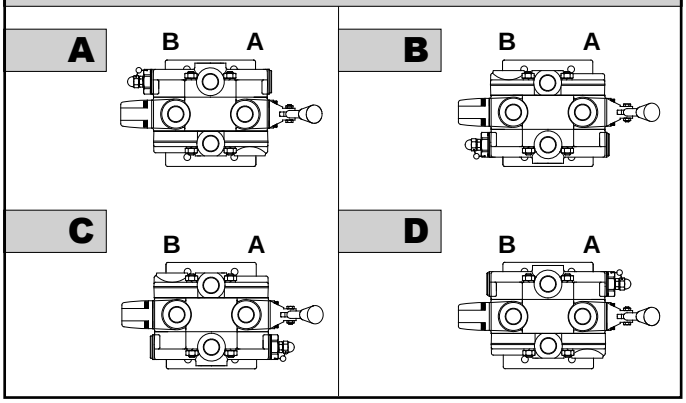
1	**Tipo distribuidor** *Control valve type*
407	3/4" G

2	**Formas de retorno o sistemas de trabajo** *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
18	**Cuatro posiciones con anclajes. La cuarta posición empujando corredera.** *Fourth positions with detents. Pushing spool to fourth position.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
48	**Dos posiciones central y extrema por muelle, empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*

4	**Tipo palanca mando** *Hand lever type*
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
X	**Palancas no iguales (necesita código).** *Special options (code is requiered).*

5 **Posición válvula de seguridad o entrada presión**
Relief valve position / Pressure inlet



6 **Válvula seguridad principal**
Main relief valve

Taraje *Setting (bar)*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 **Sistemas de distribución**
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.

The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

10 **Datos adicionales (código)**
Additional data (code)

Secciones del distribuidor
Control valve sections

Modelo *Type* **407**

NOMENCLATURA DE REFERENCIAS

							TOMA A *PORT A*		TOMA B *PORT B*				
407	/	A	1	X	–	D	12	/	SA	– 12	/ T	– 0	– CODE
		1	5	3	4	7	8		11	11		10	

CODING SYSTEMS

SECCIONES DE FUNCIONAMIENTO
OPERATING SECTIONS

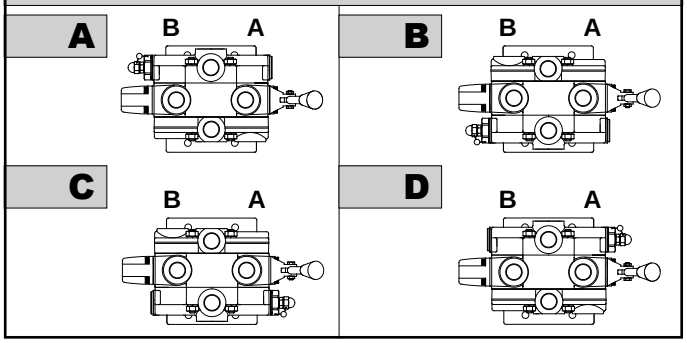
1	Tipo distribuidor *Control valve type*
407	3/4" G

3	Accionamiento corredera *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
7	**Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.** *One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
15	**Microrruptor tres posiciones, recuperación a posición neutral por muelle.** *Microswitch three positions, return to neutral position by spring.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
18	**Cuatro posiciones con anclajes. La cuarta posición empujando corredera.** *Fourth positions with detents. Pushing spool to fourth position.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
22	**Tres posiciones, pilotaje neumático.** *Three positions, pneumatic pilot.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
47	**Tres posiciones, pilotaje neumático sensibilizado.** *Three positions, sensibilized pneumatic pilot.*
48	**Dos posiciones central y extrema por muelle, empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*
71	**Tres posiciones, pilotaje hidráulico sensibilizado.** *Three positions, sensibilized hydraulic pilot.*

4	Tipo palanca mando *Hand lever type*
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*

4	Tipo palanca mando *Hand lever type*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *Hydraulic pilot (hydraulic pilot).*
X	**Palancas no iguales (necesita código).** *Special options (code is requiered).*

5 Posición válvula de seguridad o entrada presión
Relief valve position / Pressure inlet



7	Sistemas de distribución *Spool types*
	El número de letras indica la cantidad de las correderas. **Ver símbolos en páginas correspondientes.** **NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.** *The number of letters indicates the quantity of spools.* *See symbols in relevant pages.* *NOTE: The spool order will be listed from the pressure to the exhaust port.*

8	Gama de tensiones para C.C. *D.C. voltage*		
12	12V	24	24V

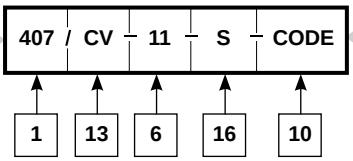
11	Válvulas auxiliares *Auxiliary valves*
SA	**Válvula de sobrepresión y aspiración** / *Relief and anticavitation valve*
SD	**Válvula de sobrepresión /** *Relief valve*
A	**Válvula de aspiración /** *Anticavitation valve*
T	**Tapón** / *Plug*
0	**Sección sin tomas para válvulas /** *Sectional without port valves*

11 Rango de presiones de las válvulas auxiliares
Auxiliary valve pressure range (pressure set al 22l/min.)

Tipo de regulación / *Adjustment*		Rango de presión (bar) *Pressure range (bar)*
Regulable *Adjustable*	**Precintada** *Pre set*	
11	41	5-80 (80)
12	42	85-175 (160)
13	43	180-250 (200)
14	44	255-350 (315)
00		**Sin válvulas auxiliares o con tapón** *Without auxiliary valves or with plug*

10	Datos adicionales (código) *Additional data (code)*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

ENTRADA
INLET

1	Tipo distribuidor *Control valve type*
407	3/4" G

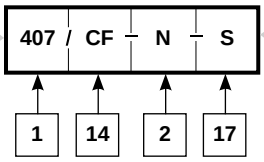
13	Tipo de tapa frontal *Front cover type*
CV	**Con válvula de seguridad** / *With relief valve.*
SV	**Sin válvula de seguridad** / *Without relief valve.*

6	Válvula seguridad principal *Main relief valve*			
Taraje *Setting*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*		
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*	
5-80 (80)	1	11	41	
85-175 (160)	2	12	42	
180-250 (200)	3	13	43	
255-350 (315)	4	14	44	

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For valves without reliefs the pressure range number is omitted.

16	Toma de presión operativa *Operative pressure port*
S	**Toma frontal** / *Side port*
T	**Toma superiór** / *Top port*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

SALIDA
OUTLET

1	Tipo distribuidor *Control valve type*
407	3/4" G

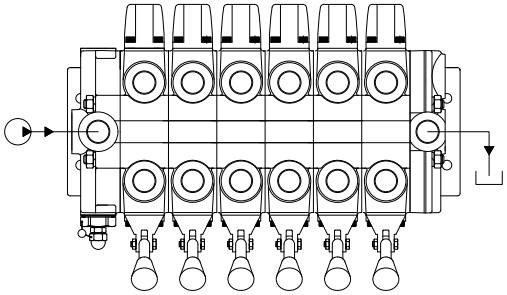
14	Tapa de salida *Outlet*
CF	**Tapa de salida** / *Outlet*

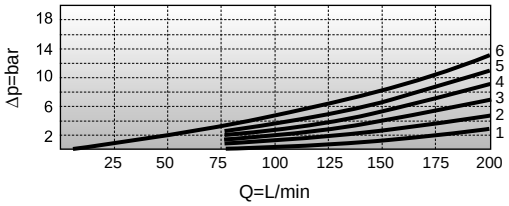
2	Formas de retorno o sistemas de trabajo *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

17	Toma operativa a retorno *Operative tank port*
S	**Toma frontal** / *Side port*
A	**Toma superiór** / *Around port*

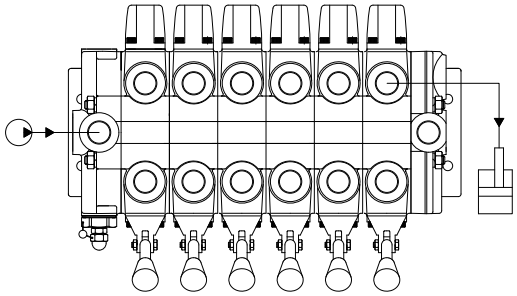
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

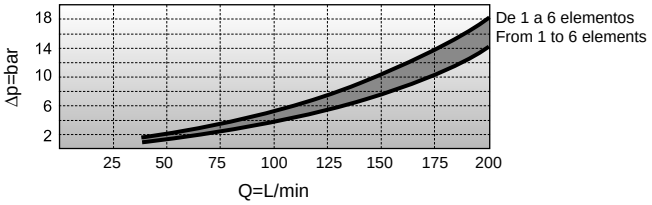
Tomas con retorno (P → R)
Ports to return (P → R)



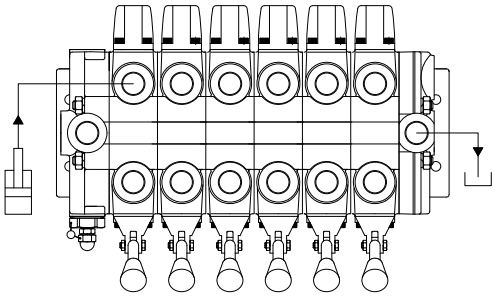


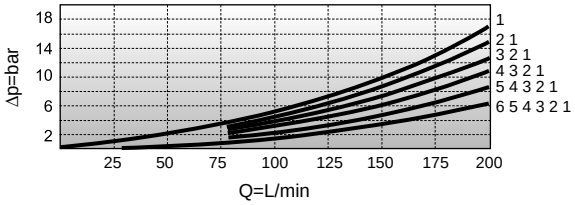
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



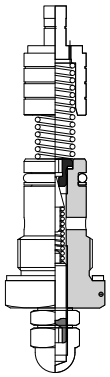


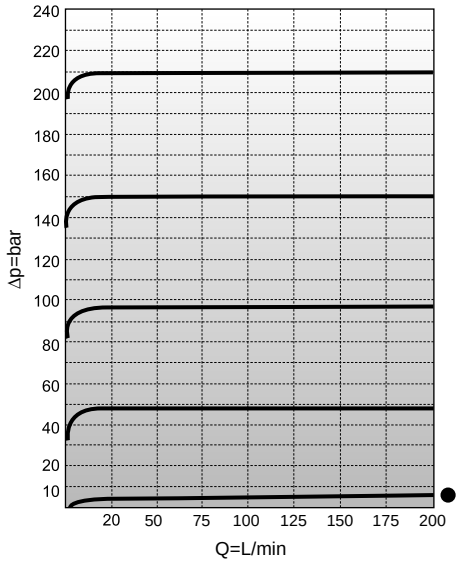
Tomas con retorno (A ó B - R)
Ports to return (A o B - R)





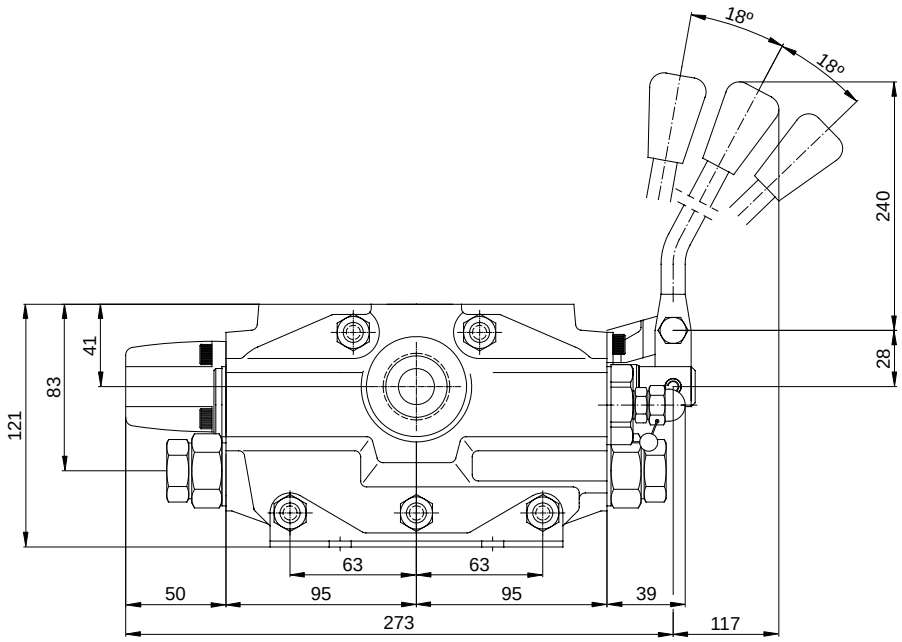
Válvula de seguridad principal
Main relief valve

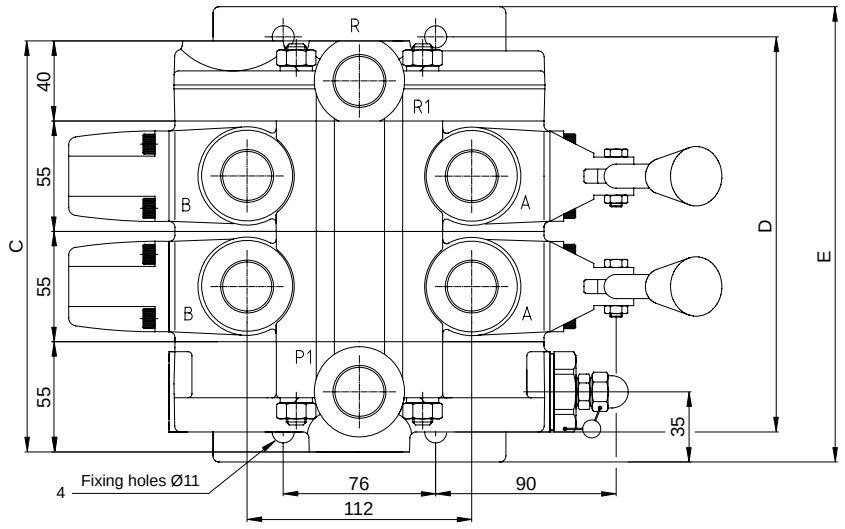




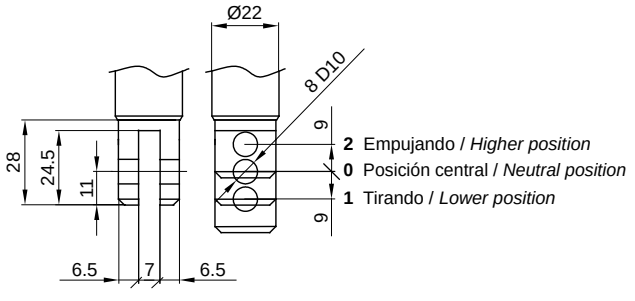
● Curva presión mínima
Minimal pressure curve

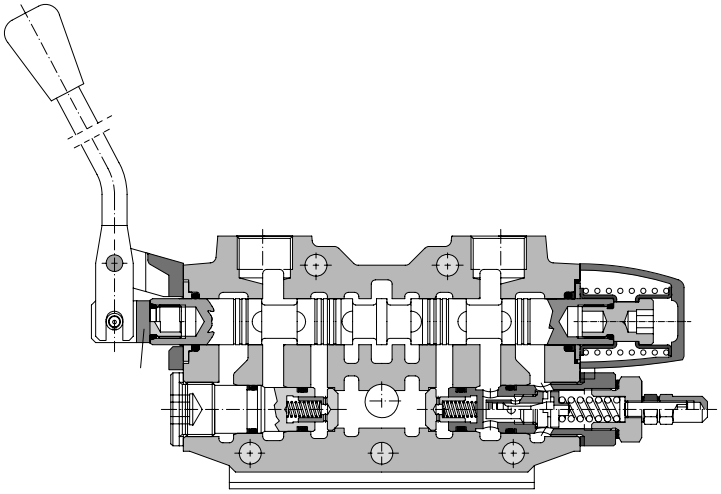
N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	150	205	260	315	370	425
D	142	197	252	307	362	417
E	172	227	282	337	392	447
Peso en kg. / *Weight in kg.*	14	21	28	35	42	49

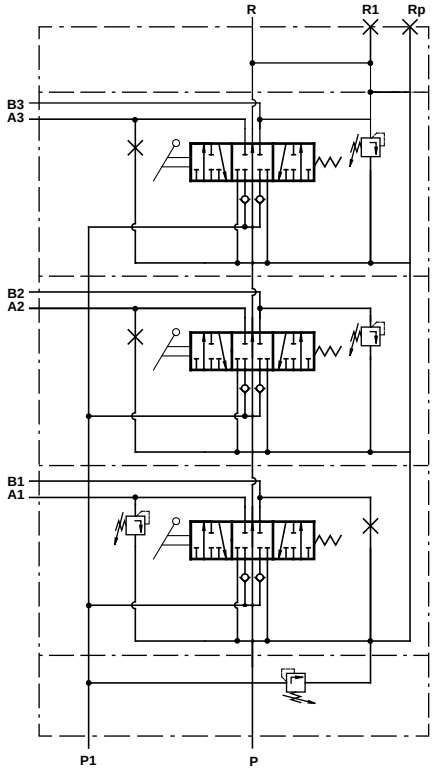


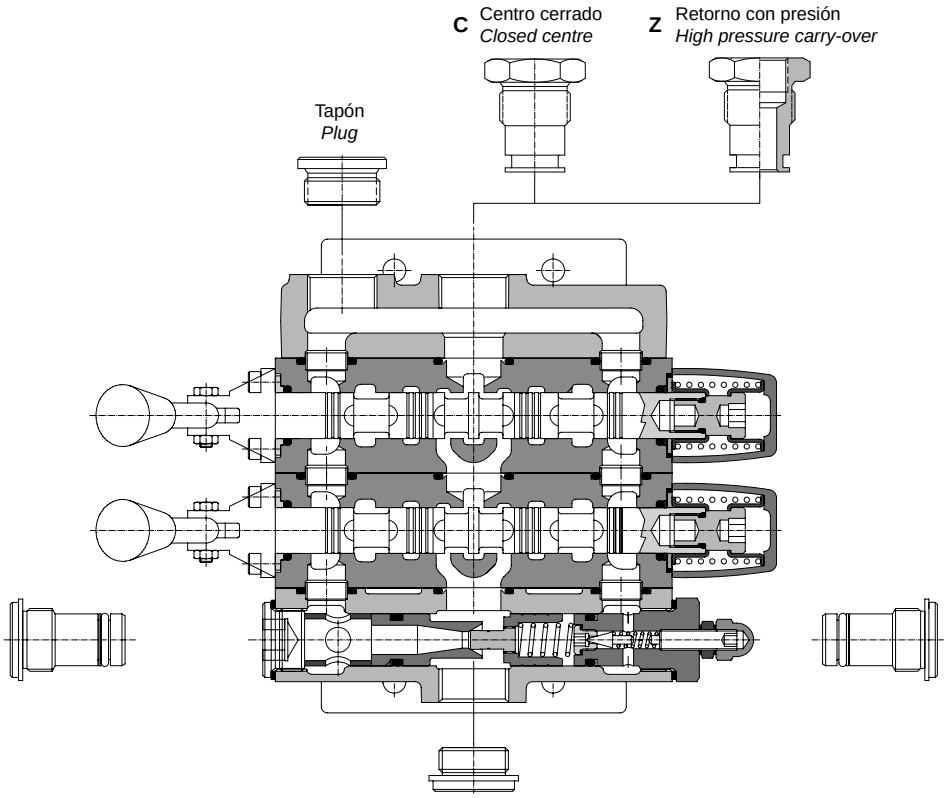


DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



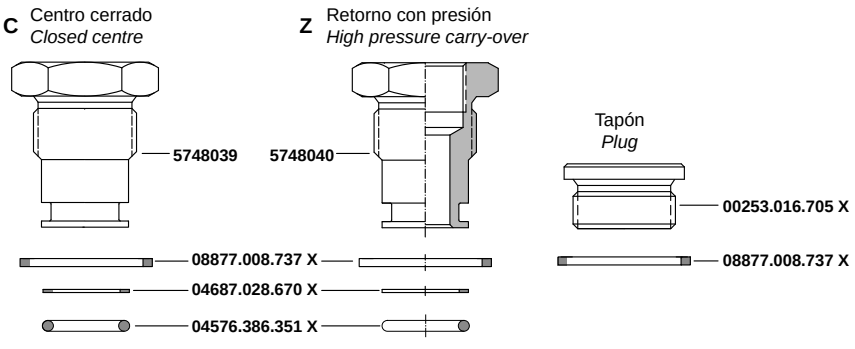






2 Formas de retorno o sistemas de trabajo
Return form

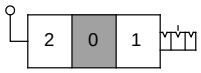
Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	**1/2" G**
Z	**Retorno con presión** *High pressure carry-over*	**3/4" G**
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

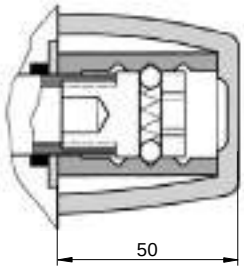


3 Accionamiento corredera
Spool positions devices

Accionamiento 2
Type 2

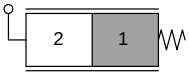
Tres posiciones, con anclajes.
Three positions with detents.

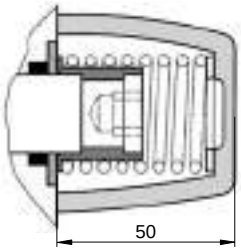




Accionamiento 3
Type 3

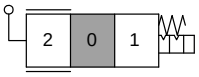
Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.

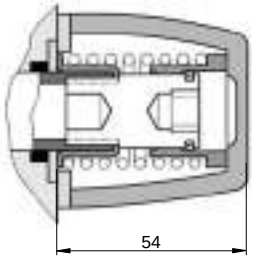




Accionamiento 7
Type 7

Una posición extrema y la posición neutral con anclaje, tirando corredera; y la otra extrema por muelle, empujando corredera.
One end position and neutral position with detent, action pulling spool; and other end position by spring, action pushing sp.





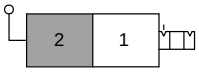
Accionamiento 8
Type 8

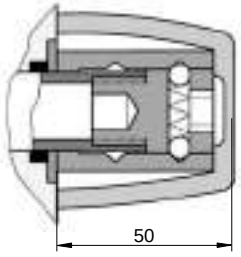
Los sistemas de accionamiento no son iguales (se necesita código). NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

Accionamiento 9
Type 9

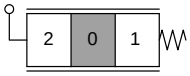
Dos posiciones extremas, con anclajes.
Two end positions with detents.

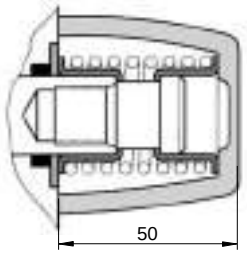




Accionamientos 11
Types 11

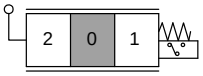
Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.

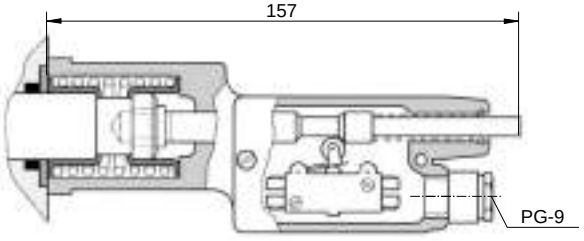




Accionamientos 15
Types 15

Microrruptor tres posiciones, recuperación a posición neutral por muelle.
Microswitch three positions, return to neutral position by spring.

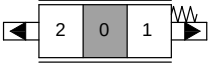




Accionamiento 17-71
Type 17-71

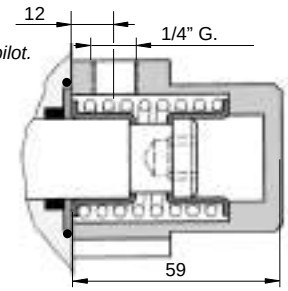
17 **Tres posiciones, pilotaje hidráulico.**
Three positions, hydraulic pilot.

71 **Tres posiciones, pilotaje hidráulico sensibilizado.**
Three positions, sensibilized hydraulic pilot.



Presión mín.: ≥ 18 bar
Min. pressure:
Presión máx.: ≥ 30 bar
Max. presure:

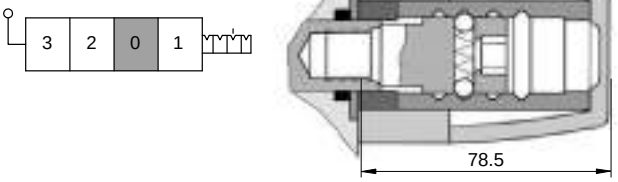
Presión de pilotaje con muelle 5 – 175 bar.
Pilot pressure required with spring 5 – 175 bar.



WWW.SUMY.IR

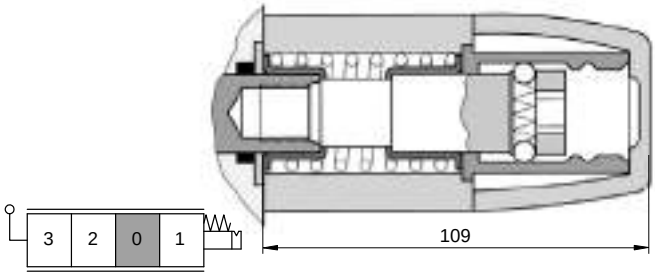
Accionamiento 18
Type 18

Cuatro posiciones con anclajes. La cuarta posición empujando corredera.
Fourth positions with detents. Pushing spool to fourth position.



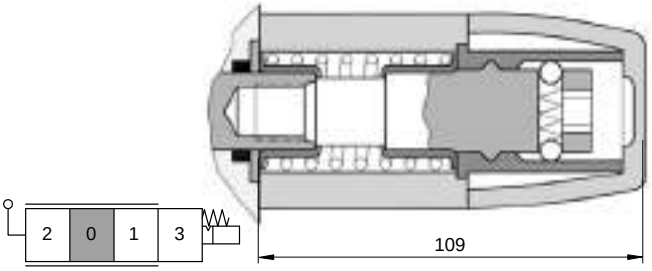
Accionamiento 19
Type 19

Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.
Fourth positions. Fourth position with detent, action pushing spool.



Accionamiento 20
Type 20

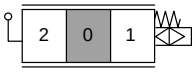
Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



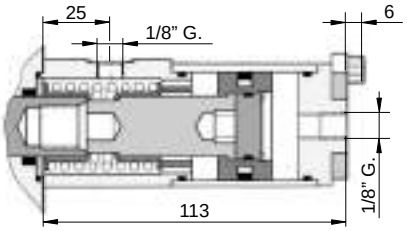
Accionamiento 22-47
Type 22-47

22 **Tres posiciones, pilotaje neumático.**
Three positions, pneumatic pilot.

47 **Tres posiciones, pilotaje neumático sensibilizado.**
Three positions, sensibilized pneumatic pilot.

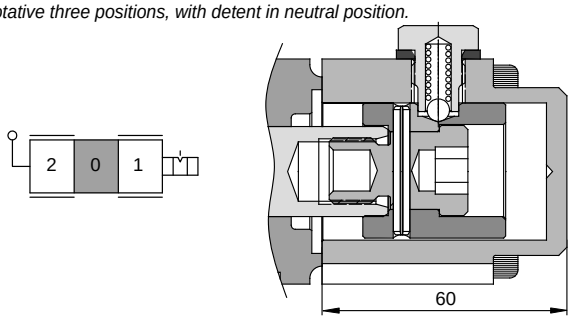


Presión mín.: ≥ 2 bar
Min. pressure:
Presión máx.: ≥ 8 bar
Max. presure:



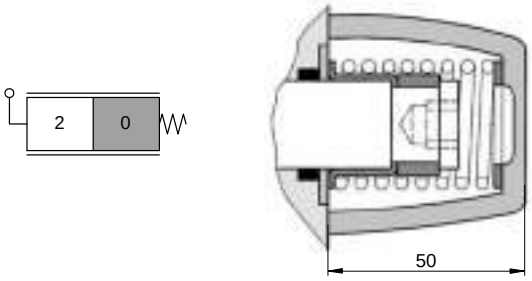
Accionamiento 35
Type 35

Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.



Accionamiento 48
Type 48

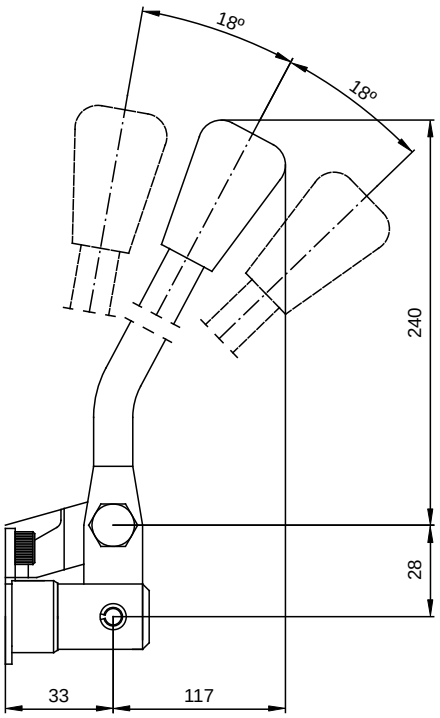
Dos posiciones central y extrema por muelle, empujando corredera.
Two positions, end and neutral position by spring, action pushing spool.



4 Tipo palanca mando
Hand lever type

Palanca sin protector y con varilla
Lever box without rubber and with lever

C-H



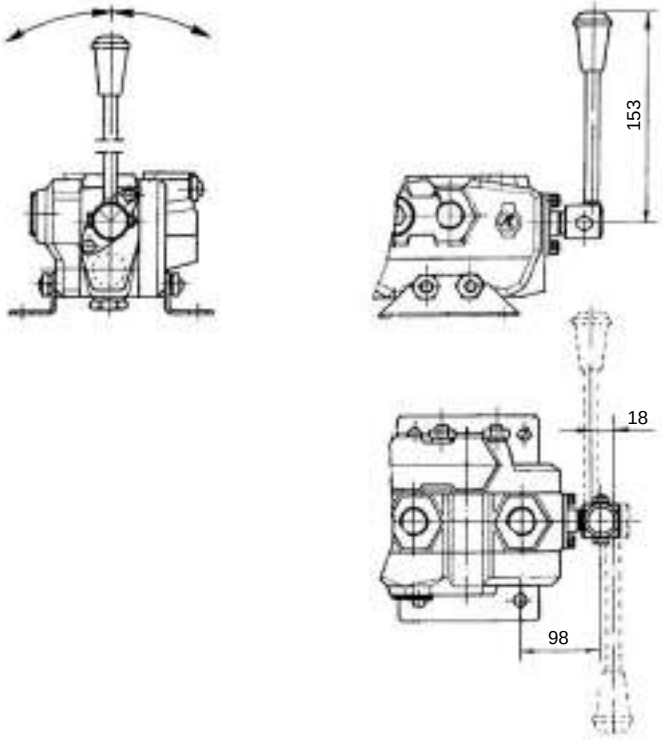
Tipo palanca *Type*	**Descripción** *Description*
C	Palanca sin protector y con varilla. *Lever box without rubber and with lever.*
H	Palanca sin protector ni varilla. *Lever box without rubber and lever.*

Palanca rotativa
Rotative hand lever

Solo para accionamiento 35
Only for 35 spool position device
Corredera de acero inoxidable
Stainless steel spool

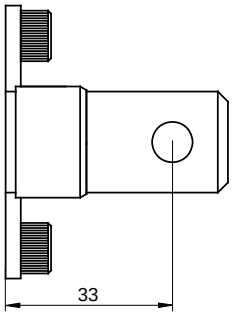
R

Giro de 90º en ambos lados y mantiene posición.
Lever turns and holds position.



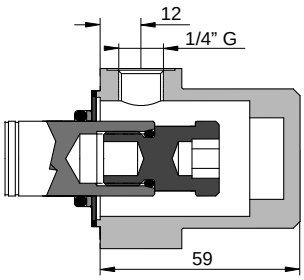
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S

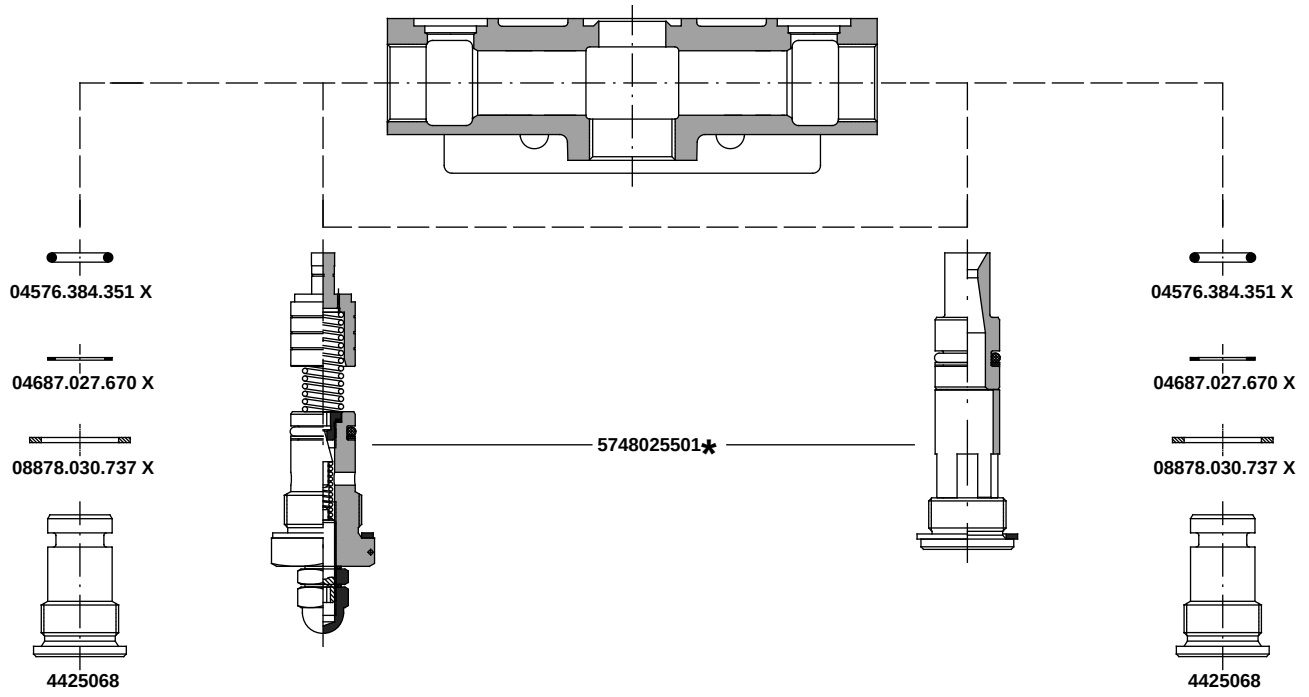


Para accionamiento 17 (pilotaje hidráulico)
For actionament 17 (hydraulic pilot)

Y



6 **Válvula seguridad principal**
Main relief valve



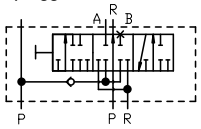
Taraje *Setting*	**Regulable por tornillo** *Screw adjustment*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 (80) bar	11	--
85-175 (160) bar	12	--
180-250 (200) bar	13	--
255-350 (315) bar	14	--

7 Sistema de distribución
Spool types

Tipo S - *Type S*

3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

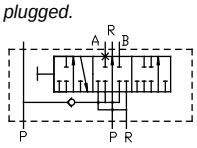
3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



Tipo V - *Type V*

3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

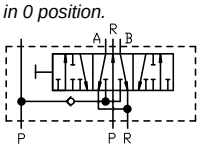
3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



Tipo I - *Type I*

3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

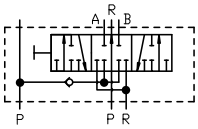
3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



Tipo D - *Type D*

3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

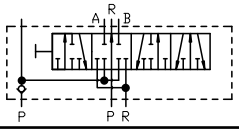
3 positions, 4 way, double acting. A and B ports blocked in 0 position.



Tipo L - *Type L*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

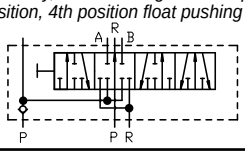
4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



Tipo M - *Type M*

4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante empujando corredera.

4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pushing the spool.



Las correderas de cuatro posiciones sólo se podrán montar en el último elemento.
4-position Spools may only be assembled on last bank.

10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:

- Montaje de válvulas auxiliares.
- Pintura.
- Montaje de diferentes palancas.
- Montaje de diferentes accionamientos.
- Cualquier otra información adicional.

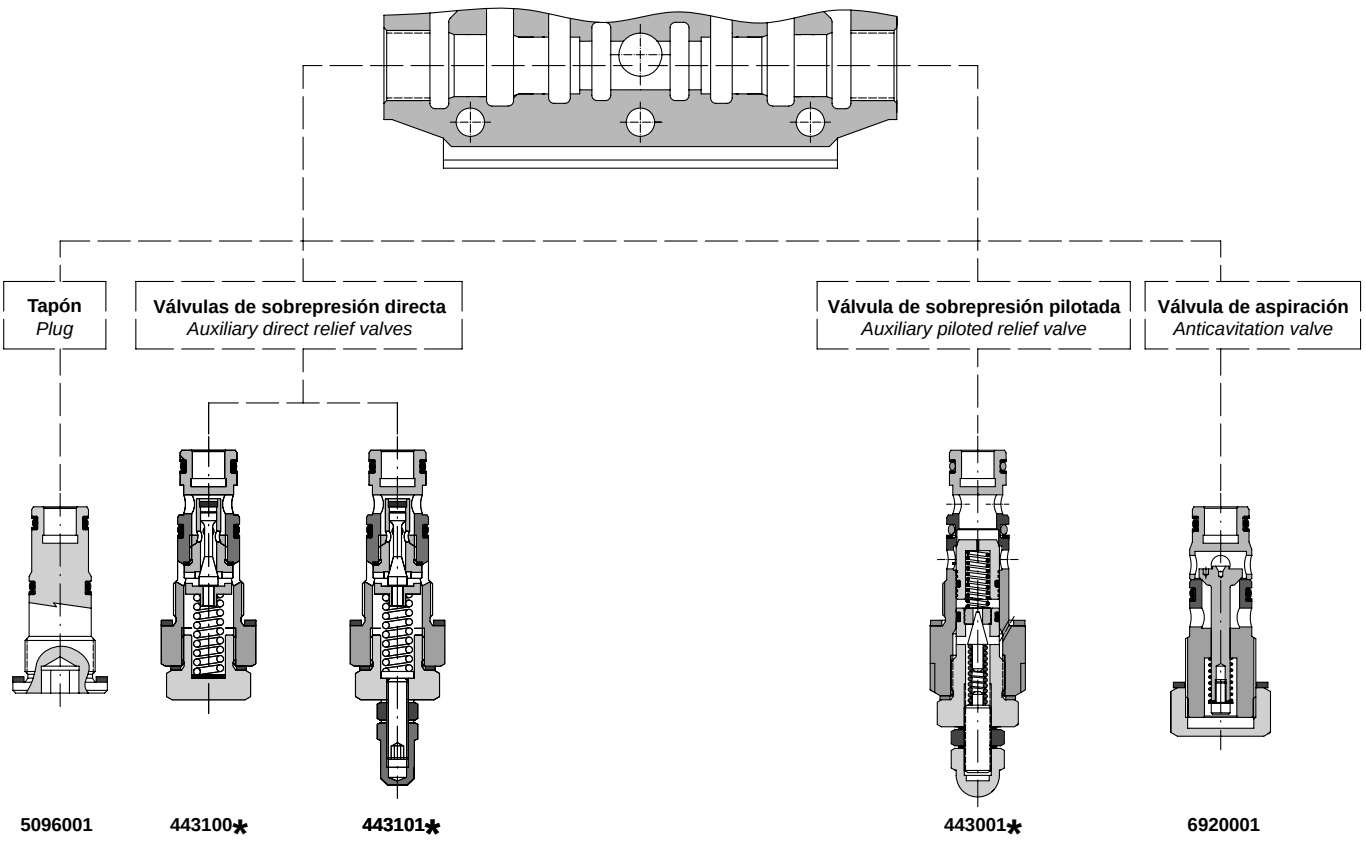
CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:

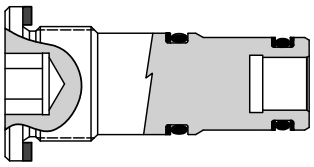
- *Assembling auxiliary valves.*
- *Paint.*
- *Assembling different hand lever.*
- *Assembling different spool position device.*
- *Any additional data.*

11 Válvulas auxiliares
Auxiliary valves



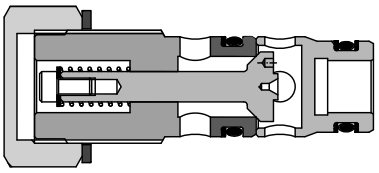
Tapón
Plug

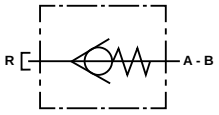
5096001



Válvula de aspiración
Anticavitation valve

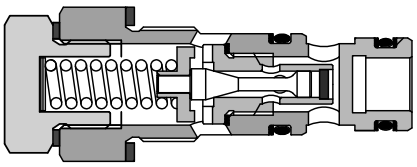
6920001



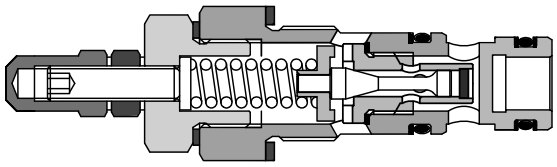


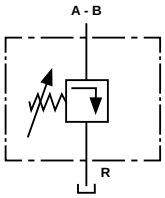
Válvulas sobrepresión directa
Auxiliari direct relief valves

443100*



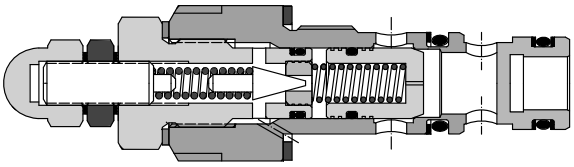
443101*

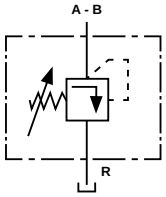




Válvula sobrepresión pilotada
Auxiliary piloted relief valve

443001*



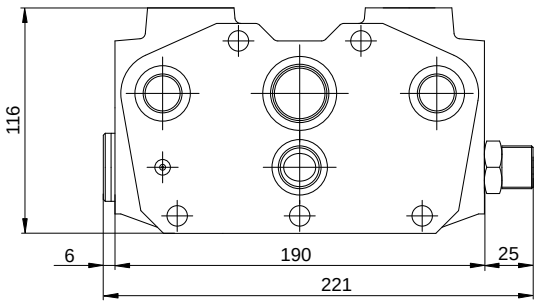


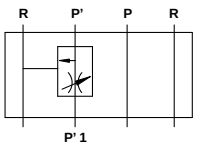
12 **Regulador caudal 3 vías para distribuidores**
3 way flow control for directional control valves

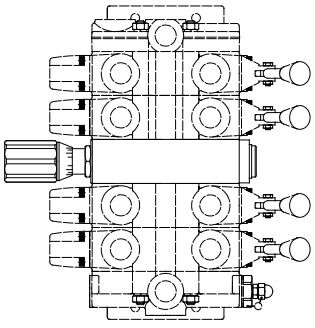
Éste regulador de caudal de 3 vías puede intercalarse en medio de cualquier elemento del distribuidor, independientemente del número de elementos.
El sentido de regulación será en la alimentación por paralelo, quedando los elementos que siguen a continuación regulados al caudal prefijado. El flujo sobrante irá a depósito a la misma presión de trabajo.

This flow control section can be fitted at any position in valve assembly, according to which sections are required with a reduced flow rate.
All sections downstream of this valve can only operated at this reduced flow rate.

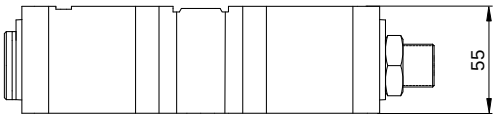
Datos técnicos *Technical data*	
Caudal nominal / *Nominal flow rate*	100 l/min
Caudal mínimo / *Min. flow rate*	5 l/min
Presión máxima de trabajo / *Max. work pressure*	350 bar



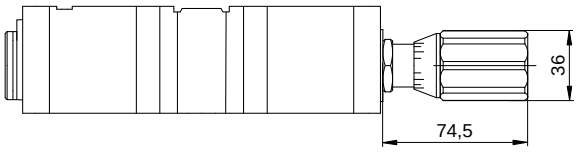




Referencia comercial ROQUET *ROQUET Part number*
M8928002

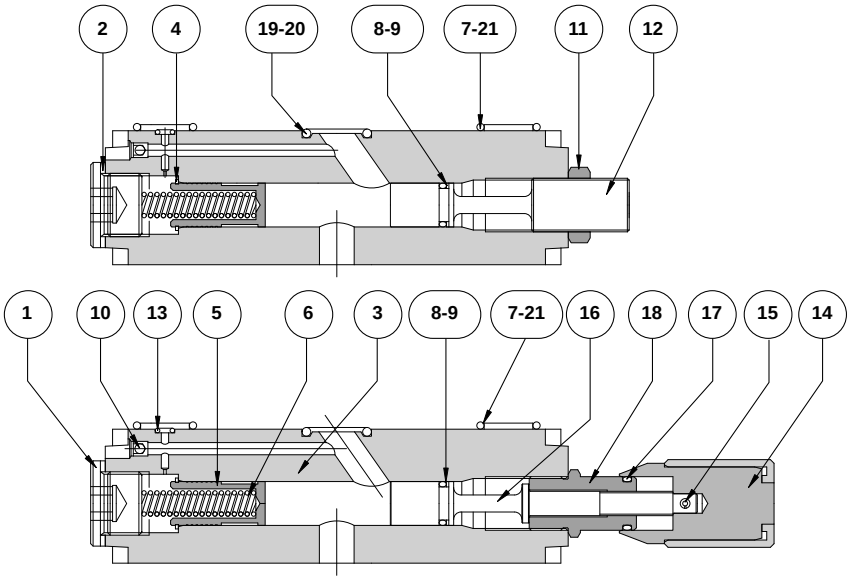


Referencia comercial ROQUET *ROQUET Part number*
M8928003



Ejemplos para pedidos de recambios
Example to order spare parts

Cantidad *Quantity*	**Denominación** *Description*	**Nº de la pieza** *Part number*	**Referencia según la placa** *Reference according serial number plate*
1	**O-ring**	**8**	**M7792003**



Num. *Num.*	**Denominación** *Description*	**Cant.** *Quant.*
1	**Tapón final** / *Plug*	1
2	**Junta metal-buna** / *Metal-bonded gasket*	1
3	**Cuerpo regulador** / *Valve housing*	1
4	**Anillo elástico** / *Circlip*	1
5	**Corredera** / *Spool*	1
6	**Muelle** / *Spring*	1
7	**Anillo centrador** / *Centering ring*	2
8	**Junta tórica** / *O-ring*	1
9	**Junta antiextrusión** / *Anti-extrusion gasket*	1
10	**Tapón obturador** / *Plug*	1
11	**Tuerca** / *Nut* **DIN 936**	1
12	**Tornillo tensor** / *Screw*	1
13	**Junta tórica** / *O-ring*	1
14	**Conjunto puño** / *Assembly knob*	1
15	**Pasador elástico** / *Elastic pin* **DIN 1481**	1
16	**Tornillo tensor** / *Screw*	1
17	**Junta tórica** / *O-ring*	2
18	**Adaptador volante** / *Knob adaptor*	1
19	**Junta tórica /** *O-ring* **(P)**	1
20	**Junta tórica /** *O-ring* **(P_1)**	1
21	**Junta tórica /** *O-ring* **(R)**	2

WWW.SUMY.IR

Distribuidores seccionales

Sectional control valves

Roquet
making **moves**

1408

MENU

1408

Paralelo
Seccional
Caudal nominal: 300 l/min.
Presión máxima de trabajo: 350 bar

Parallel
Sectional
Nominal flow 300 l/min.
Working max. pressure: 350 bar



Datos técnicos
Technical data

TIPO DISTRIBUIDOR *CONTROL VALVES TYPE*		**1408**
Tomas A y B *Ports A y B*		**1" G**
Tomas P-P1 *Ports P-P1*		**1" G**
Tomas R-R1 *Ports R-R1*		**1 1/4" G**
Tomas RP *Ports RP*		**1" G**
Número máximo de elementos (*) *Maximum spool quantity (*)*		**6**
Diámetro corredera (mm) *Spool diameter (mm)*		**28**
Carrera de la corredera (mm) *Spool stroke (mm)*		**11**
Alimentación tipo *Type*		**Paralelo** *Parallel*
Caudal nominal (l/min.) *Nominal flow (l/min.)*		**300**
Presión máxima de trabajo (bar) *Working max. pressure (bar)*		**350 bar**
Presión máx. retorno (bar) *Return max. pressure (bar)*	**Corredera estática** *Static spool*	**80 bar**
	Durante acc. corredera *During spool positioning*	**20 bar**
Fuerza acc. directamente en corredera (kg.) *Spool force (kg.)*		**35**
Fluido recomendado *Fluid to be used*		**ISO 6743 Tipo HM, HV, HG**
Gama de temperaturas (NBR) *Temperature range (NBR)*		**-20°C ... +80°C**
Viscosidades *Viscosity range*		**4 — 500 cSt**
Grado de limpieza del aceite *Recommended fluid cleanliness*		**16/13 s./ISO 4406 o NAS 10**
Gama de viscosidades *Viscosity range*		**ISO 3448 CAT. VG22-VG68**

NOMENCLATURA DE REFERENCIAS

1408	N	1	C	A	12	D	– CODE
1	2	3	4	5	6	7	10

CODING SYSTEMS

1 Tipo distribuidor
Control valve type

1408	1" G

2 Formas de retorno o sistemas de trabajo
Return form

N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

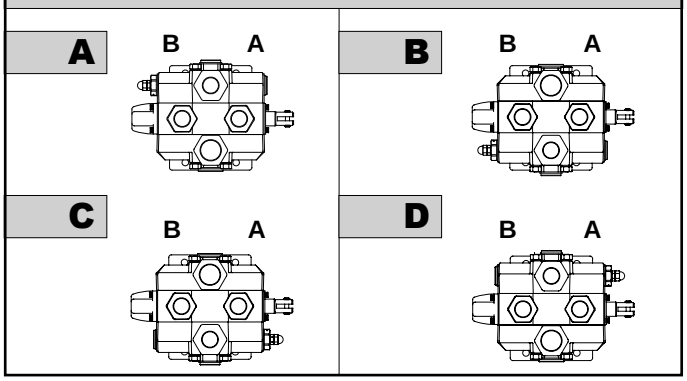
3 Accionamiento corredera
Spool positions devices

2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
18	**Cuatro posiciones con anclajes. La cuarta posición empujando corredera.** *Fourth positions with detents. Pushing spool to fourth position.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
48	**Dos posiciones central y extrema por muelle, empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*

4 Tipo palanca mando
Hand lever type

C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *For accionament 17 (Hydraulic pilot).*
X	**Palancas no iguales (necesita código).** *Special options (code is requiered).*

5 Posición válvula de seguridad o entrada presión
Relief valve position / Pressure inlet



6 Válvula seguridad principal
Main relief valve

Taraje *Setting (bar)*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For control valves without relief valves, the pressure range is omitted.

7 Sistemas de distribución
Spool types

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.

The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

10 Datos adicionales (código)
Additional data (code)

Secciones del distribuidor
Control valve sections

Modelo
Type
1408

NOMENCLATURA DE REFERENCIAS

							TOMA A *PORT A*		TOMA B *PORT B*				
1408	/	A	1	X	–	D	12	/	SA	– 12	/ T	– 0	– CODE
		1	5	3	4	7	8		11	11		10	

CODING SYSTEMS

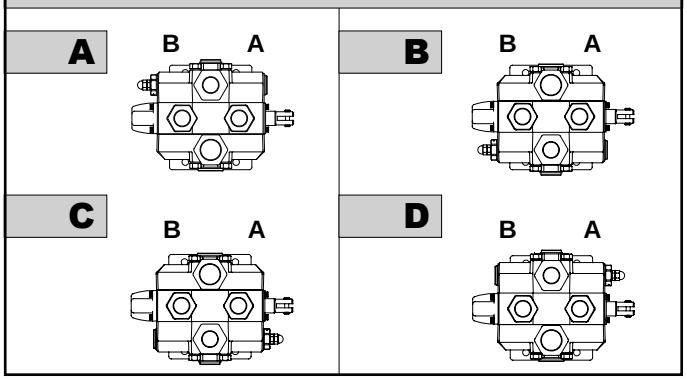
SECCIONES DE FUNCIONAMIENTO
OPERATING SECTIONS

1	**Tipo distribuidor** *Control valve type*
1408	1" G

3	**Accionamiento corredera** *Spool positions devices*
2	**Tres posiciones, con anclajes.** *Three positions with detents.*
3	**Dos posiciones extremas por muelle, movimiento empujando corredera.** *Two end positions by sping, action pushing spool.*
8	**Los sistemas de accionamiento no son iguales (se necesita código).** **NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.** *Several operating forms (a code is required).* *NOTE: This type is used when there are different spool position device.*
9	**Dos posiciones extremas, con anclajes.** *Two end positions with detents.*
11	**Tres posiciones, recuperación a posición neutral por muelle.** *Three positions, return to neutral position by spring.*
17	**Tres posiciones, pilotaje hidráulico.** *Three positions, hydraulic pilot.*
18	**Cuatro posiciones con anclajes. La cuarta posición empujando corredera.** *Fourth positions with detents. Pushing spool to fourth position.*
19	**Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.** *Fourth positions. Fourth position with detent, action pushing spool.*
20	**Cuatro posiciones. La cuarta posición con anclaje tirando corredera.** *Fourth positions. Fourth position with detent, action pulling spool.*
35	**Rotativo tres posiciones, con anclaje en posición neutral.** *Rotative three positions, with detent in neutral position.*
48	**Dos posiciones central y extrema por muelle, empujando corredera.** *Two positions, end and neutral position by spring, action pushing spool.*

4	**Tipo palanca mando** *Hand lever type*
C	**Palanca sin protector y con varilla.** *Lever box without rubber and with lever.*
H	**Palanca sin protector ni varilla.** *Lever box without rubber and lever.*
R	**Palanca rotativa.** *Rotative hand lever.*
S	**Tapa sin palanca y corredera vista.** *Open spool end (no lever box).*
Y	**Para accionamiento 17 (pilotaje hidráulico).** *For accionament 17 (Hydraulic pilot).*
X	**Palancas no iguales (necesita código).** *Special options (code is requiered).*

5	**Posición válvula de seguridad o entrada presión** *Relief valve position / Pressure inlet*



7	**Sistemas de distribución** *Spool types*

El número de letras indica la cantidad de las correderas.
Ver símbolos en páginas correspondientes.
NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad.
The number of letters indicates the quantity of spools.
See symbols in relevant pages.
NOTE: The spool order will be listed from the pressure to the exhaust port.

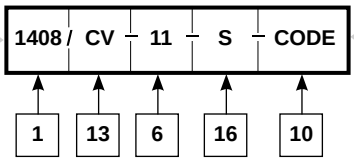
8	**Gama de tensiones para C.C. (sólo para accionamiento 55-81-82-83-84-85)** *D.C. voltage (only for control types 55-81-82-83-84-85)*		
12	12V	**24**	24V

11	**Válvulas auxiliares** *Auxiliary valves*
SD	**Válvula de sobrepresión directa /** *Direct relief valve*
SP	**Válvula de sobrepresión pilotada /** *Piloted relief valve*
A	**Válvula de aspiración /** *Anticavitation valve*
T	**Tapón** / *Plug*

11	**Rango de presiones de las válvulas auxiliares** *Auxiliary valve pressure range (pressure set al 22l/min.)*		
Tipo de regulación / *Adjustment*		**Rango de presión (bar)** *Pressure range (bar)*
Regulable *Adjustable*	**Precintada** *Pre set*	
11	41	5-80 (80)
12	42	85-175 (160)
13	43	180-250 (200)
14	44	255-350 (315)

10	**Datos adicionales (código)** *Additional data (code)*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

INLET

1	**Tipo distribuidor** *Control valve type*
1408	1" G

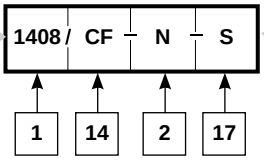
13	**Tipo de tapa frontal** *Front cover type*
CV	**Con válvula de seguridad** / *With relief valve.*
SV	**Sin válvula de seguridad** / *Without relief valve.*

6	**Válvula seguridad principal** *Main relief valve*		
Taraje *Setting*	**Fija** *Fixed*	**Tipo regulación /** *Adjustment*	
		Regulable por tornillo *Screw adjustment*	**Regulable precintada** *Lock wired*
5-80 (80)	1	11	41
85-175 (160)	2	12	42
180-250 (200)	3	13	43
255-350 (315)	4	14	44

Para distribuidores sin válvula de seguridad se omitirá el número de taraje.
For valves without reliefs the pressure range number is omitted.

16	**Toma de presión operativa** *Operative pressure port*
S	**Toma frontal** / *Side port*
T	**Toma superiór** / *Top port*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

SALIDA
OUTLET

1	**Tipo distribuidor** *Control valve type*
1408	1" G

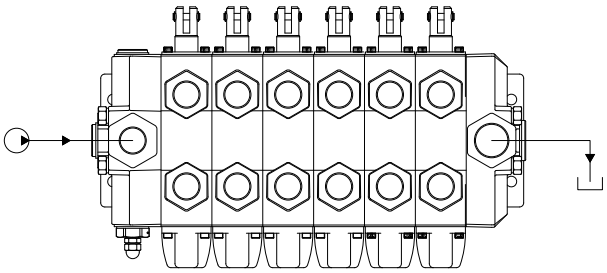
14	**Tapa de salida** *Outlet*
CF	**Tapa de salida** / *Outlet*

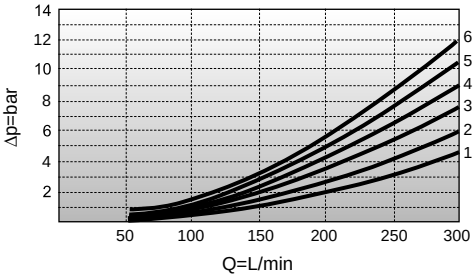
2	**Formas de retorno o sistemas de trabajo** *Return form*
N	**Paso libre.** *Free flow.*
Z	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

17	**Toma operativa a retorno** *Operative tank port*
S	**Toma frontal** / *Side port*
A	**Toma superiór** / *Around port*

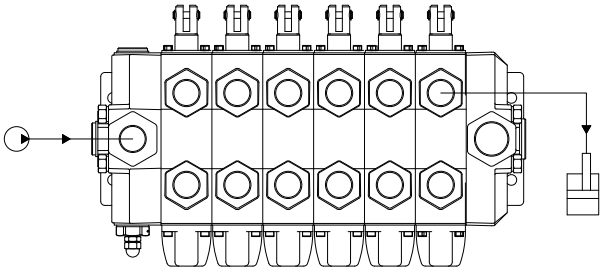
Diagramas **Δp — Q a 27 cSt**
Diagrams *Δp — Q a 27 cSt*

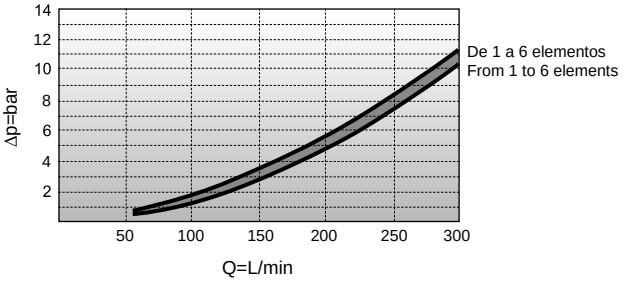
Tomas con retorno (P → R)
Ports to return (P → R)



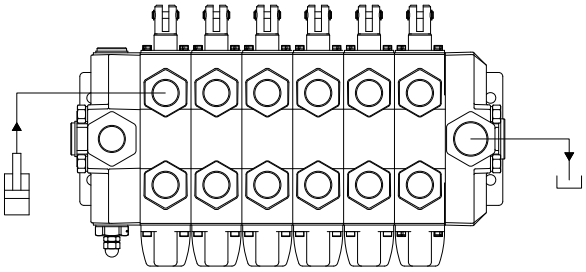


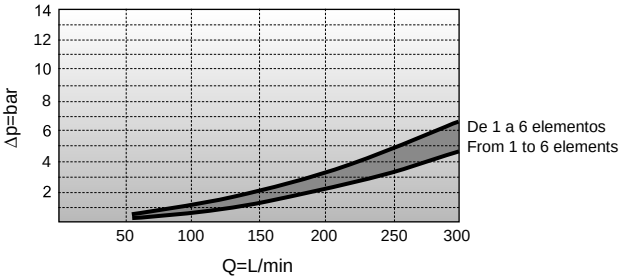
Presión con tomas (P → A ó B)
Pressure to ports (P → A o B)



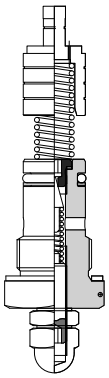


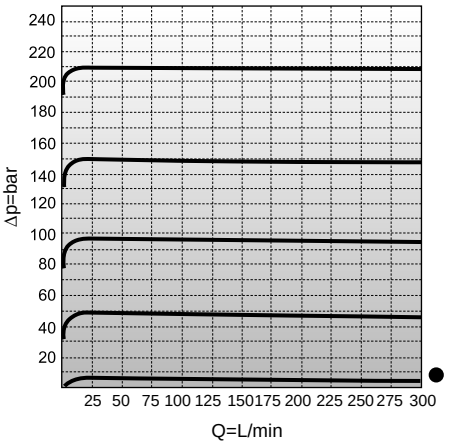
Tomas con retorno (A ó B - R)
Ports to return (A o B - R)





Válvula de seguridad principal
Main relief valve



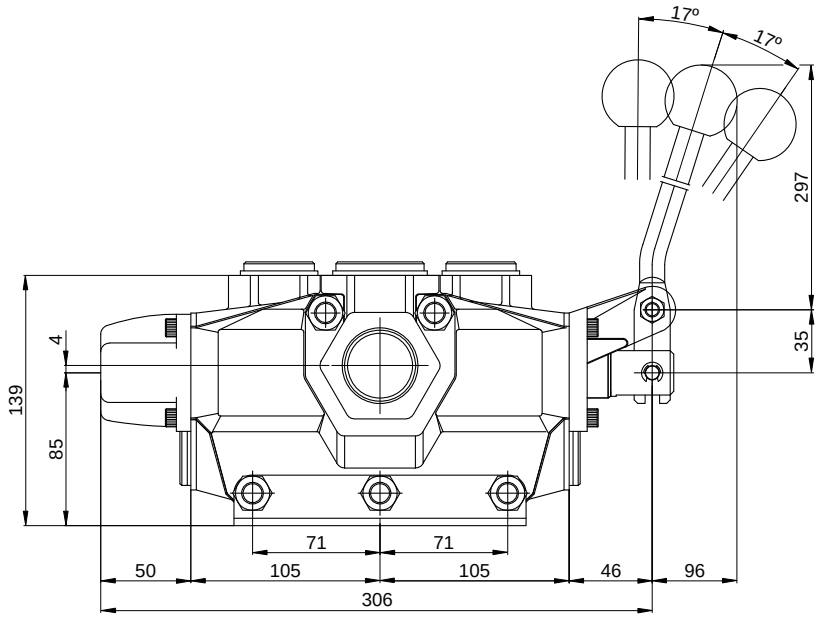


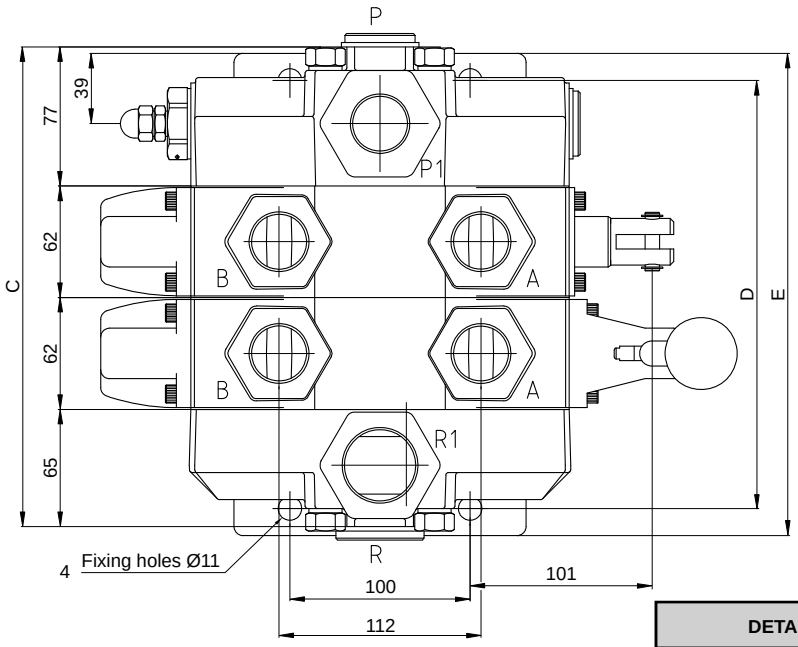
● Curva presión mínima
Minimal pressure curve

Distribuidor
Control valve

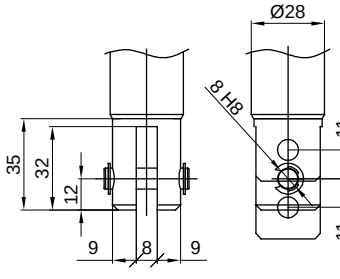
Modelo
Type
1408

N° de elementos *Spool quantity*	**1**	**2**	**3**	**4**	**5**	**6**
C	204	266	328	390	452	514
D	175,5	237,5	299,5	361,5	423,5	485,5
E	206	268	330	392	454	516
Peso en kg. / *Weight in kg.*	18	27	36	45	54	63

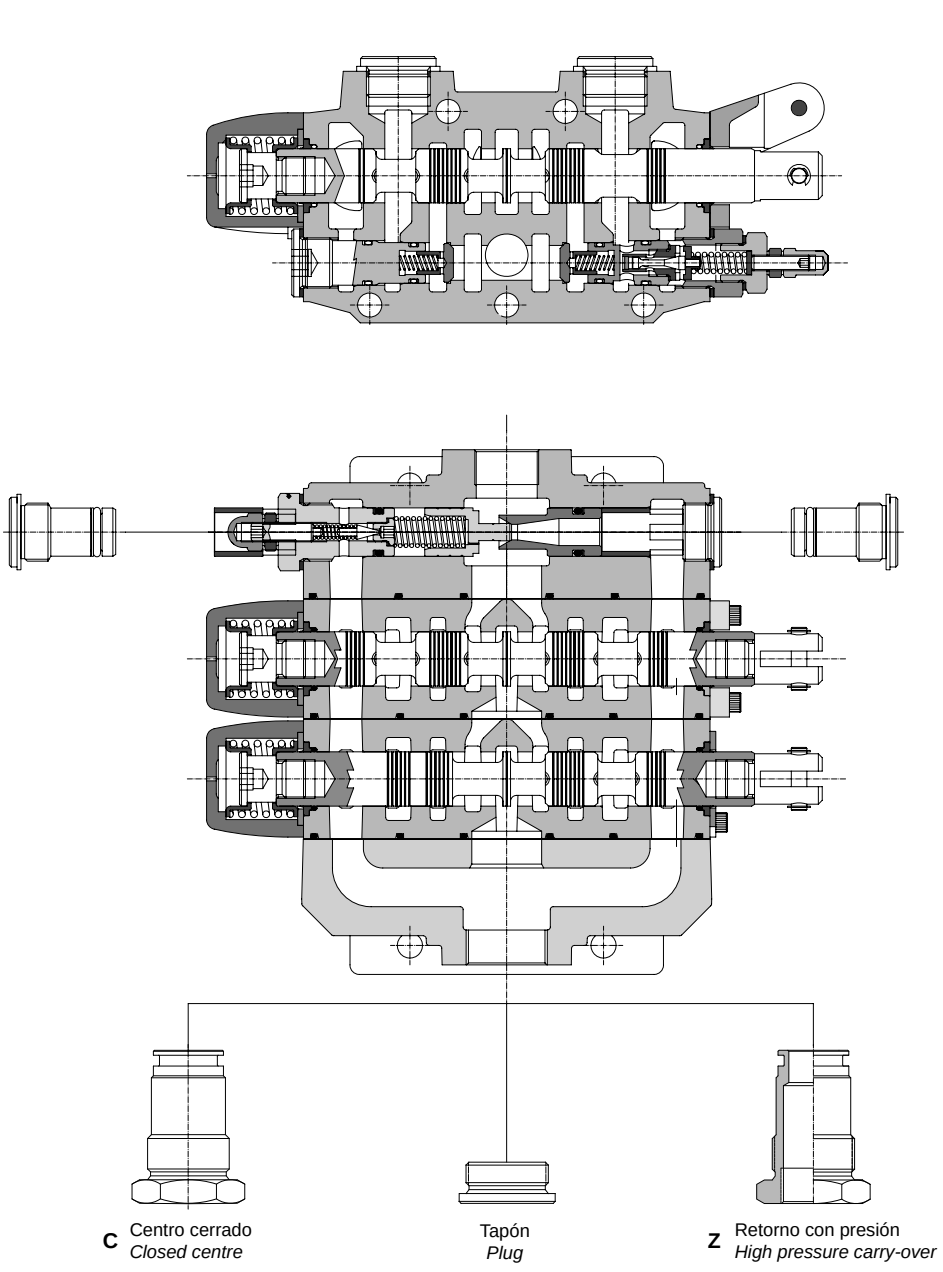


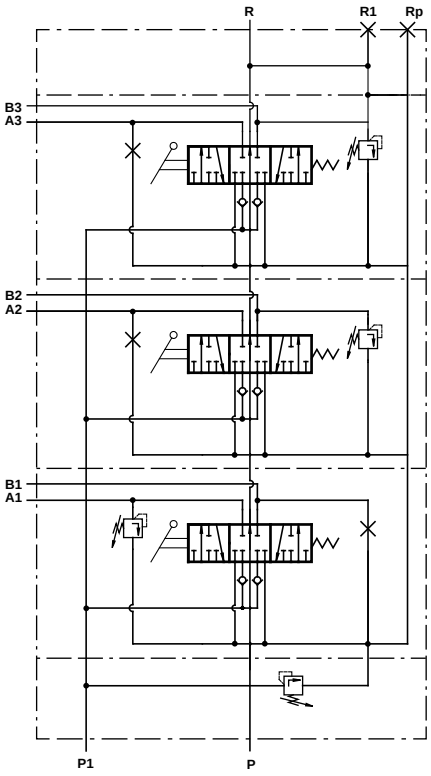


DETALLE CABEZA CORREDERA / *SPOOL DETAIL END*



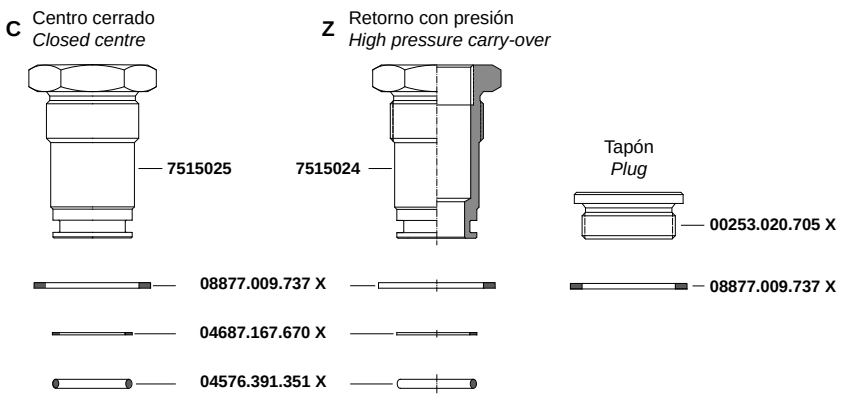
2 Empujando / *Higher position*
0 Posición central / *Neutral position*
1 Tirando / *Lower position*





2 Formas de retorno o sistemas de trabajo
Return form

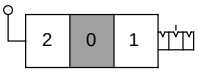
Forma retorno *Return type*		Tomas / *Ports*
		T
N	**Paso libre** *Open centre*	1 1/4" G
Z	**Retorno con presión** *High pressure carry-over*	1" G
C	**Centro cerrado** *Closed centre*	**Tapado** *Plugged*

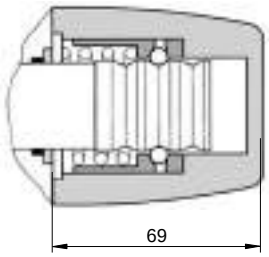


3 Accionamiento corredera
Spool positions devices

Accionamiento 2
Type 2

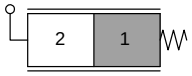
Tres posiciones, con anclajes.
Three positions with detents.

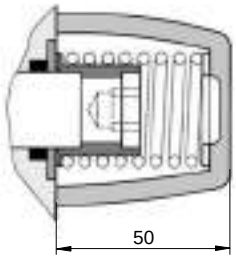




Accionamiento 3
Type 3

Dos posiciones extremas por muelle, movimiento empujando corredera.
Two end positions by sping, action pushing spool.





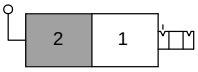
Accionamiento 8
Type 8

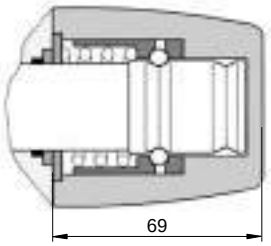
Los sistemas de accionamiento no son iguales (se necesita código).
NOTA: Esta denominación se emplea cuando se montan diferentes accionamientos.

Several operating forms (a code is required).
NOTE: This type is used when there are different spool position device.

Accionamiento 9
Type 9

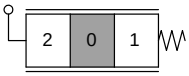
Dos posiciones extremas, con anclajes.
Two end positions with detents.

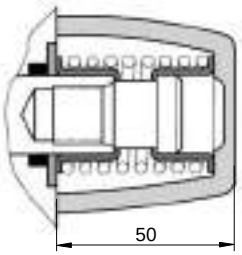




Accionamiento 11
Type 11

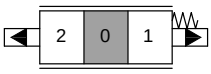
Tres posiciones, recuperación a posición neutral por muelle.
Three positions, return to neutral position by spring.





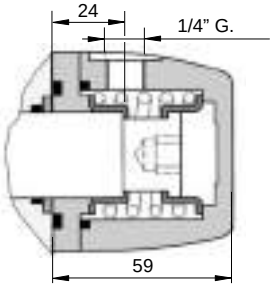
Accionamiento 17
Type 17

Tres posiciones, pilotaje hidráulico.
Three positions, hydraulic pilot.



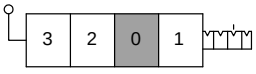
Presión mín.: ≥ 18 bar
Min. pressure:
Presión máx.: ≥ 30 bar
Max. presure:

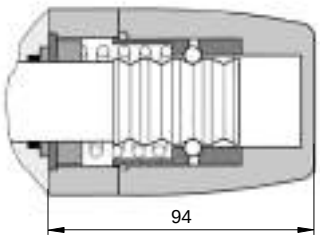
Presión de pilotaje con muelle 5 – 175 bar.
Pilot pressure required with spring 5 – 175 bar.



Accionamiento 18
Type 18

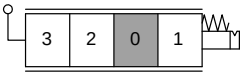
Cuatro posiciones con anclajes. La cuarta posición empujando corredera.
Fourth positions with detents. Pushing spool to fourth position.

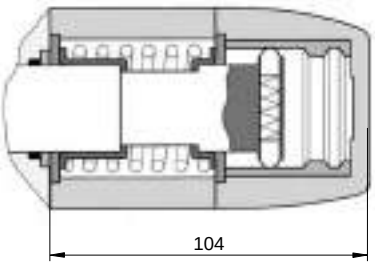




Accionamiento 19
Type 19

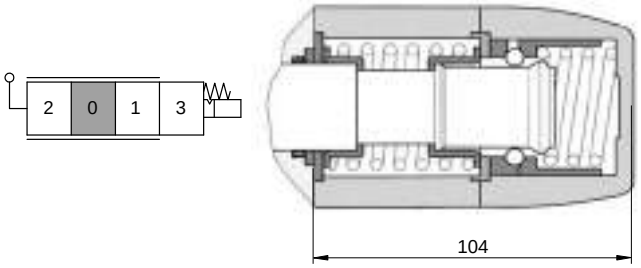
Cuatro posiciones. La cuarta posición con anclaje, empujando corredera.
Fourth positions. Fourth position with detent, action pushing spool.





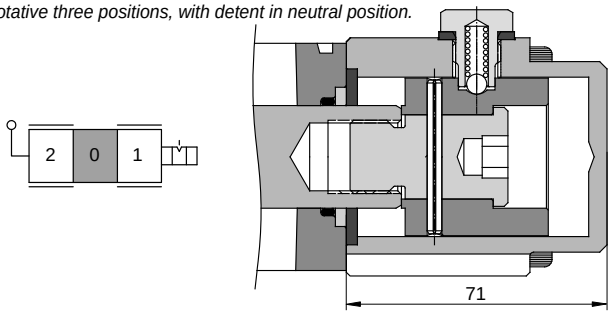
Accionamiento 20
Type 20

Cuatro posiciones. La cuarta posición con anclaje tirando corredera.
Fourth positions. Fourth position with detent, action pulling spool.



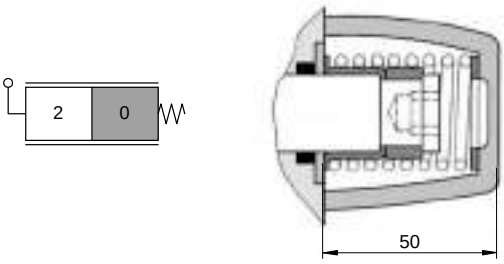
Accionamiento 35
Type 35

Rotativo tres posiciones, con anclaje en posición neutral.
Rotative three positions, with detent in neutral position.



Accionamiento 48
Type 48

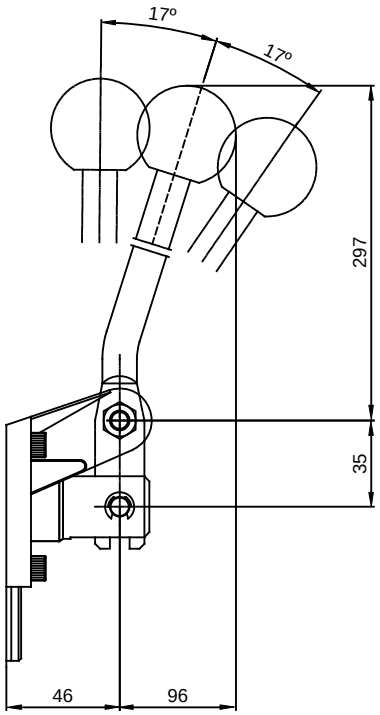
Dos posiciones central y extrema por muelle, empujando corredera.
Two positions, end and neutral position by spring, action pushing spool.



4 Tipo palanca mando
Hand lever type

Palanca con protector y varilla
Lever box with lever and rubber

C-H



NOTA: Las dimensiones C y D según tipo de palanca.
NOTE: Dimensions C and D depend the kind of hand lever.

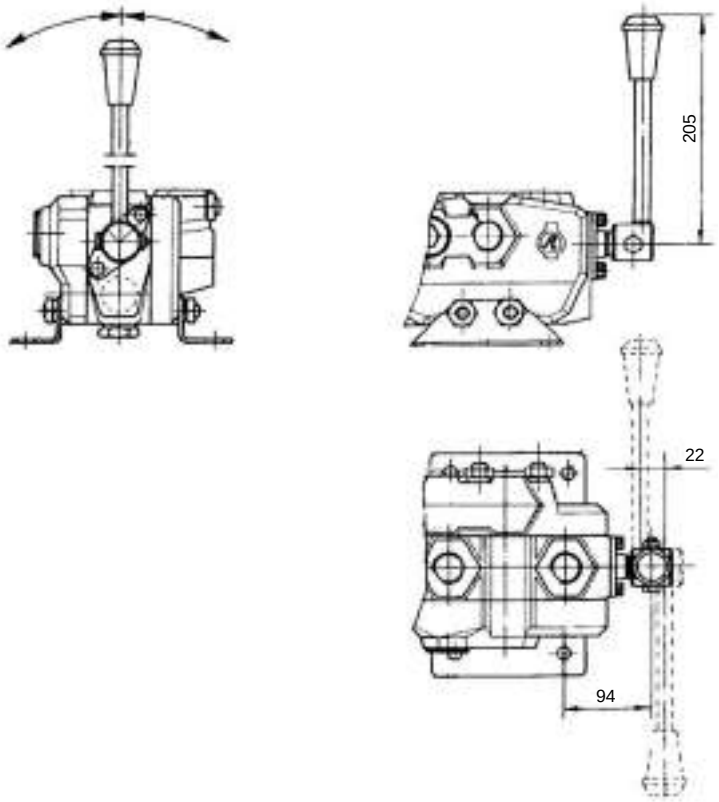
Tipo palanca *Type*	**Descripción** *Description*
C	Palanca sin protector y con varilla. *Lever box without rubber and with lever.*
H	Palanca sin protector ni varilla. *Lever box without rubber and lever.*

Palanca rotativa
Rotative hand lever

Solo para accionamiento 35
Only for 35 spool position device
Corredera de acero inoxidable
Stainless steel spool

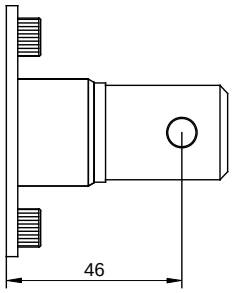
R

Giro de 90º en ambos lados y mantiene posición.
Lever turns and holds position.



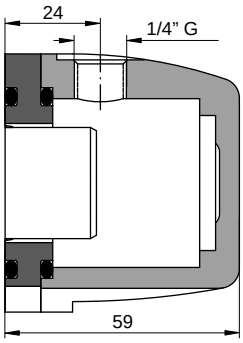
Tapa sin palanca y corredera vista
Open spool end (no lever box)

S

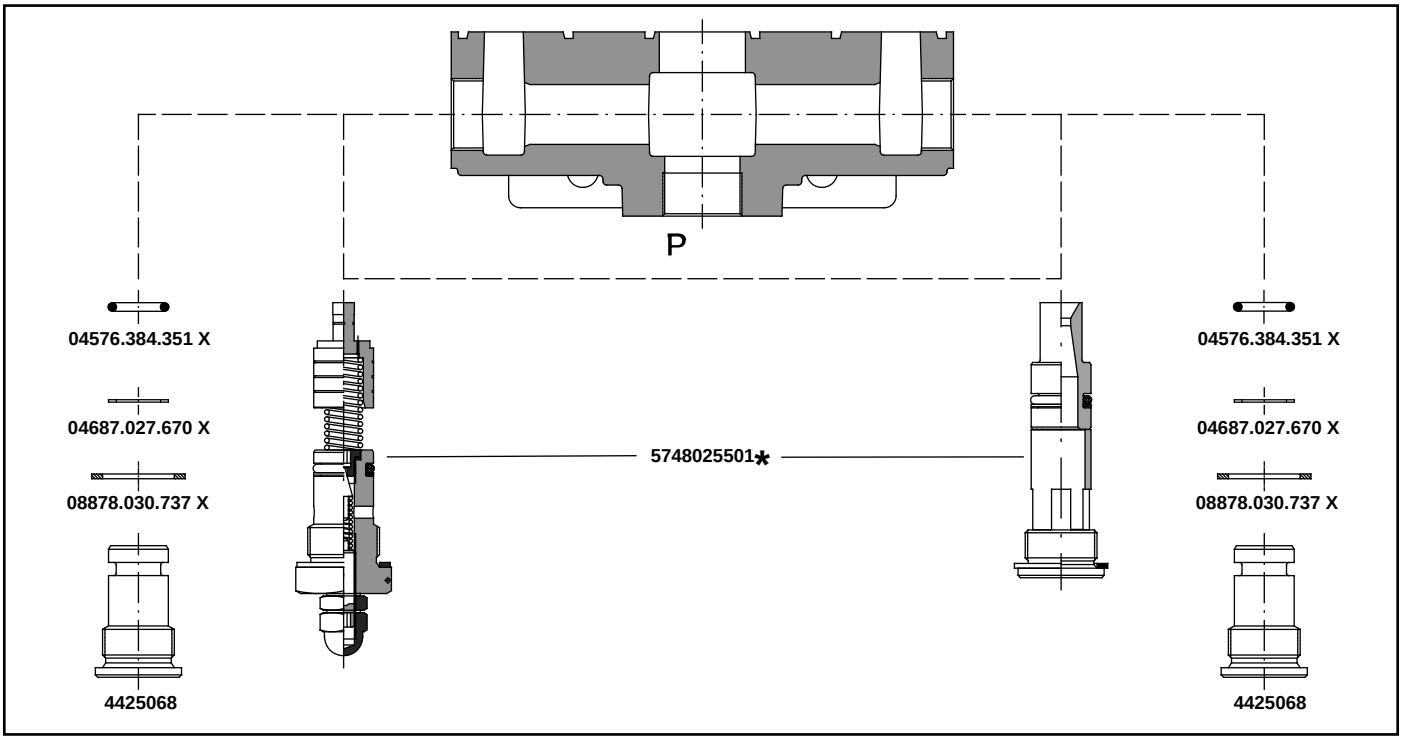


Para accionamiento 17 (pilotaje hidráulico)
For actionament 17 (hydraulic pilot)

Y



6 Válvula seguridad principal
Main relief valve

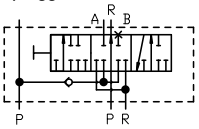


Taraje *Setting*	**Regulable por tornillo** *Screw adjustment*	**Sin válvula (con tapón)** *Without valve (with plug)*
5-80 (80) bar	11	--
85-175 (160) bar	12	--
180-250 (200) bar	13	--
255-350 (315) bar	14	--

7 Sistema de distribución
Spool types

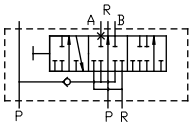
Type S
3 Posiciones, 3 vías, simple efecto. Toma A bloqueada en posición 0 y toma B taponada.

3 positions, 3 way, single acting. A port blocked in 0 position; B port plugged.



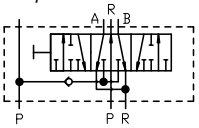
Type V
3 Posiciones, 3 vías, simple efecto. Toma B bloqueada en posición 0 y toma A taponada.

3 positions, 3 way, single acting. B port blocked in 0 position; A port plugged.



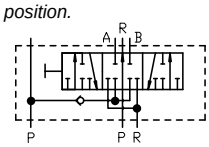
Type I
3 Posiciones, 4 vías, doble efecto. Tomas A y B abiertas a depósito en posición 0.

3 positions, 4 way, double acting. A and B ports open to tank in 0 position.



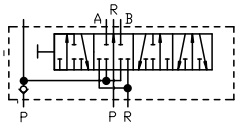
Type D
3 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0.

3 positions, 4 way, double acting. A and B ports blocked in 0 position.



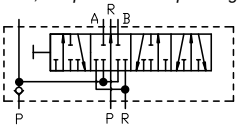
Type L
4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante tirando corredera.

4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pulling the spool.



Type M
4 Posiciones, 4 vías, doble efecto. Tomas A y B bloqueadas en posición 0; 4ª posición flotante empujando corredera.

4 positions, 4 way, double acting. A and B ports blocked in 0 position, 4th position float pushing the spool.



Las correderas de cuatro posiciones sólo se podrán montar en el último elemento.
Fourth position spools may only assembled on last section.

10 Datos adicionales (código)
Additional date (code)

CÓDIGO

Para obtener un código hay que contactar con **PEDRO ROQUET S.A.** o un distribuidor autorizado.
Si las vávlulas auxiliares o las opciones de montaje no están especificadas, los distribuidores se entregarán sin opción de válvulas auxiliares.

Un código especial puede definir:

- Montaje de válvulas auxiliares
- Pintura
- Montaje de diferentes palancas
- Montaje de diferentes accionamientos
- Cualquier otra información adicional

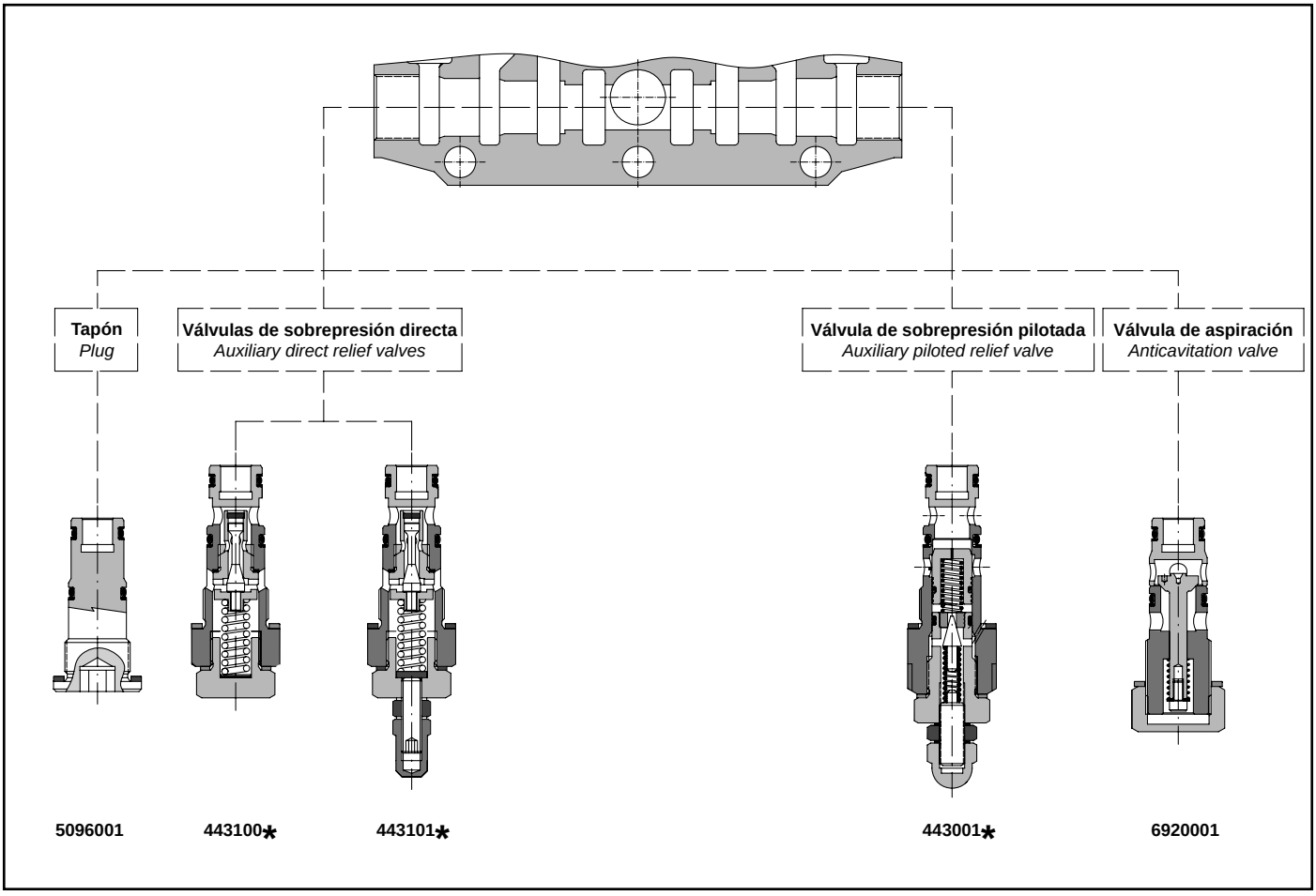
CODE

*In order to obtain it is necessary to contact to **PEDRO ROQUET S.A.** or an authorized agent.*
If the auxiliary valves or assembling options are not specified, the control valve will be delivered without assembing valve options.

It is defined by a special code the possibility of:

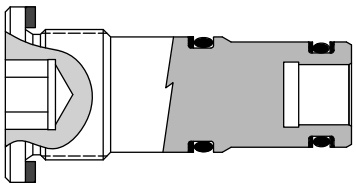
- *Assembling auxiliary valves*
- *Paint*
- *Assembling different hand lever*
- *Assembling different spool position device*
- *Any additional data*

11 Válvulas auxiliares
Auxiliary valves



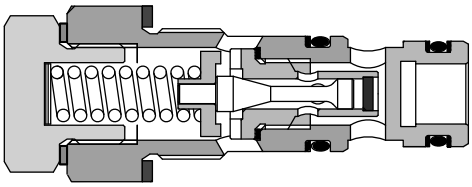
Tapón
Plug

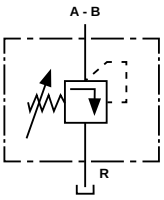
5096001



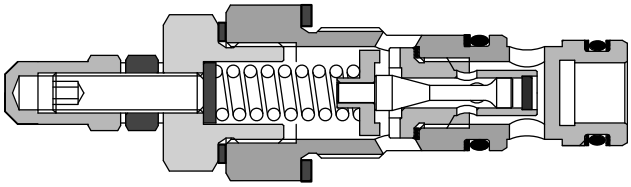
Válvulas de sobrepresión directa
Auxiliary direct relief valves

443100*



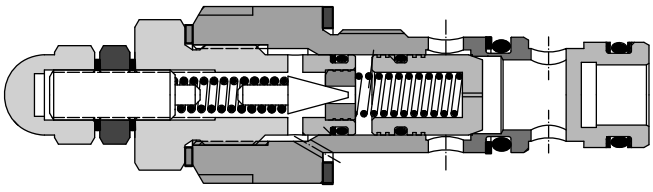


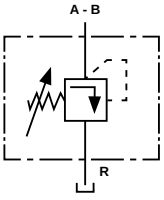
443101*



Válvula de sobrepresión pilotada
Auxiliary piloted relief valve

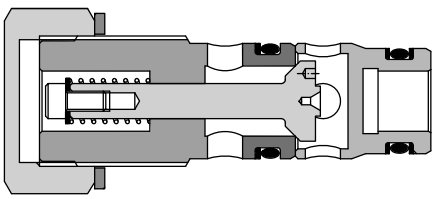
443001*

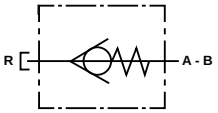




Válvula de aspiración
Anticavitation valve

6920001





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Como elegir un distribuidor Roquet

How choose a Roquet control vale

Roquet
making **moves**



MENU

QUE TIPO DE DISTRIBUIDOR ELEGIR
WHAT TYPE OF CONTROL VALVE CHOOSE

DISTRIBUIDORES MONOBLOQUE *MONOBLOCK CONTROL VALVES*			
Tomas *Ports*	**Caudal /** *Flow (Q)* **nominal**		
	50 l./min.	**60 l./min.**	**80 l./min.**
3/8" G.	**102**	**202 - 302**	**504**
1/2" G.		**1102 - 1202 - 1302**	**1504**

DISTRIBUIDORES SECCIONALES *SECTIONAL CONTROL VALVES*				
Tomas *Ports*	**Caudal /** *Flow (Q)* **nominal**			
	50 l./min.	**100 l./min.**	**150 l./min.**	**300 l./min.**
3/8" G.	**402**			
1/2" G.	**1402**	**406**		
3/4" G.		**1406**	**407**	
1" G.				**1408**

Para todos los distribuidores, la presión máxima de trabajo es de 350 bar.
For all types of control valves, the maximum work pressure is 350 bar.

Distribuidor
Control valve

HOJA DE DEFINICIÓN ESPECIFICACIONES DE DISTRIBUIDOR ESPECIAL CON CÓDIGO
SPECIFICATION SHEET FOR SPECIAL CONTROL VALVE WITH CODE

		Formas de retorno: *Return type:*		**Tapa final** *End cover*	**Código (datos adicionales, pintura, etc.):** *Code (additional data, paint, etc.):*	
		C **Centro cerrado /** *Closed centre* ☐ N **Paso libre /** *Free flow* ☐ Z **Retorno con presión /** *H.P.C.O.* ☐		**Toma operativa /** *Operative port*: ☐ **Toma superior /** *Top port* ☐ **Toma frontal /** *Front port* ☐		
Elementos / *Elements*	**9**	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	8	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	7	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	6	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	5	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	4	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	3	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	2	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*
	1	**Accionamiento:** *Spool position device:*	**Válvula auxiliar:** *Auxiliary valve:*	**Cuerpo /** *Section*: **Sin válvula /** *Without valve* ☐ **Cuerpo /** *Section*: **Con válvula /** *With valve* ☐ **Corredera:** *Spool:*	**Válvula auxiliar:** *Auxiliary valve:*	**Palanca:** *Hand lever:*

Modelo: *Type:*	**102** ☐	**1504** ☐	**Válvula puesta en vacio elèctrica:** *Electrical unloading valve:*	**Tapa entrada** *Front cover*	**Válvula seguiridad principal:** *Main relief valve:*
	1102 ☐	**402** ☐			
	202 ☐	**1402** ☐			
	1202 ☐	**406** ☐			
	302 ☐	**1406** ☐			
	1302 ☐	**407** ☐			
	504 ☐	**1408** ☐			

Toma operativa / *Operative port*:
Toma superior / *Top port* ☐
Toma frontal / *Front port* ☐

Referencia comercial ROQUET:
ROQUET Part number

	Modelo *Type*	**Retorno** *Return*	**Accionamiento** *S. p. device*	**Palanca** *Hand lever*	**Válvula seguridad principal** *Main relief valve* **Posición** *Position*	**Taraje** *Setting*	**Correderas** *Spools*	**Voltage** *Voltage*	**Válvula puesta en vacio** *Unloading valve*	**Código** *Code*

El número máximo de caracteres de una referencia es 25.
Nota: Las referencias comerciales deben ser validadas por PEDRO ROQUET S.A, reservandose el derecho de modificación de estas. El código es facilitado unica y exclusivamente por PEDRO ROQUET S.A.

Maximum number of characters as 25 by part number.
Note: Part number must be checked by PEDRO ROQUET S.A., It is reserved the right to change it. The code is provided only by PEDRO ROQUET S.A.

MENU



Mando neumático
Pneumatic controller

Mando hidráulico
Hydraulic controller

Roquet
making **moves**



MENU

MANDO NEUMÁTICO
PNEUMATIC CONTROL

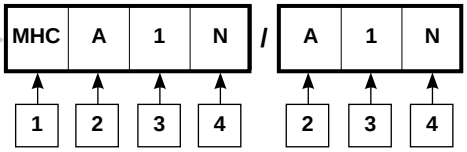
Datos técnicos *Technical data*		
Presión máx. de alimentación *Max. working pressure*		**50 bar**
Par accionamiento palanca lineal *Single axis lever torque*		**2,3 Nm**
Par accionamiento palanca múltiple *Dual axis lever torque*		**2,9 Nm**
Histéresis *Hysteresis*		**1 bar**
Contrapresión máxima en retorno *Maximum return line pressure*		**3 bar**
Caudal máximo de pilotaje *Maximum pilot flow*		**22 L/min**
Presión y retorno *Pressure and return*	**P-R**	**1/4" G.**
Salidas *Outlets*	**A-B**	**1/4" G.**
Fluido recomendado *Fliud to be used*		**ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32-VG46**
Gama de temperaturas *Temperature range*		**-20°C ... 80°C**
Viscosidades *Viscosity range*		**4 - 500 cSt.**
Grado de limpieza de aceite *Recommended fluid cleanliness*		**19/16 s/. ISO 4406 RP 70 H**

MANDO HIDRÁULICO
HYDRAULIC CONTROL

Datos técnicos *Technical data*		
Presión máx. de alimentación *Max. working pressure*		**10 bar**
Par accionamiento palanca lineal *Single axis lever torque*		**2,3 Nm**
Par accionamiento palanca múltiple *Dual axis lever torque*		**2,9 Nm**
Histéresis *Hysteresis*		**1 bar**
Presión y retorno *Pressure and return*	**P-R**	**Cartucho** *Insert* **Legris LE3000 Ø 8**
Salidas *Outlets*	**A-B**	**Cartucho** *Insert* **Legris LE3000 Ø 6**
Fluido recomendado *Fliud to be used*		**ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32-VG46**
Gama de temperaturas *Temperature range*		**-20°C ... 80°C**
Viscosidades *Viscosity range*		**4 - 500 cSt.**
Grado de limpieza de aceite *Recommended fluid cleanliness*		**19/16 s/. ISO 4406 RP 70 H**

Mando neumático / *Pneumatic control*
Mando hidráulico / *Hydraulic control*

NOMENCLATURA DE REFERENCIAS



CODING SYSTEMS

1	**Función - Mando neumático** *Function - Pneumatic controller*
MNC	**Paso libre.** *Free flow.*
MNI	**Retorno con presión.** *H.P.C.O.*
MNF	**Centro cerrado.** *Closed centre.*
MNM	**Retorno con presión.** *H.P.C.O.*
	Función - Mando hidráulico *Function - Hydraulic controller*
MHC	**Paso libre.** *Free flow.*
MHI	**Retorno con presión.** *H.P.C.O.*
MHF	**Centro cerrado.** *Closed centre.*
MHM	**Retorno con presión.** *H.P.C.O.*

2	**Presión de pilotaje - Mando neumático** *Pilot pressure - Pneumatic controller*
A	**Paso libre.** *Free flow.*
B	**Retorno con presión.** *H.P.C.O.*
	Presión de pilotaje - Mando hidráulico *Pilot pressure - Hydraulic controller*
A	**Paso libre.** *Free flow.*
B	**Retorno con presión.** *H.P.C.O.*
C	**Centro cerrado.** *Closed centre.*

3	**Accionamiento** *Lever action*
1	**Normal con muelle.** *Spring return.*

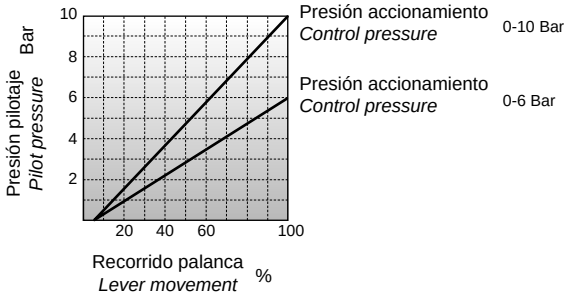
4	**Función - Mando neumático** *Function - Pneumatic controller*
N	**Normal.** *Normal.*
P	**Con pulsador.** *With push-button.*
I	**Con interruptor.** *With switch.*

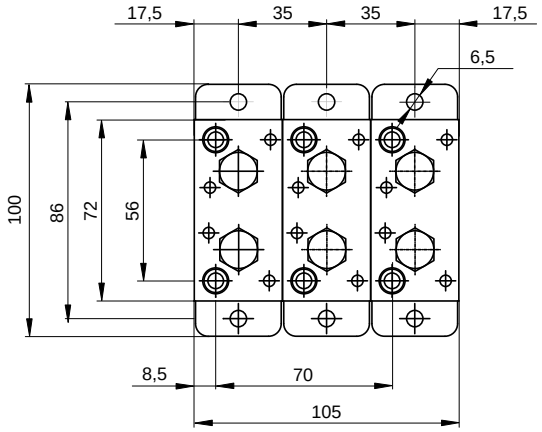
WWW.SUMY.IR

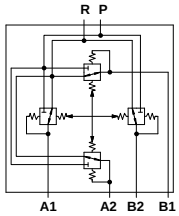
Mando neumático
Pneumatic control

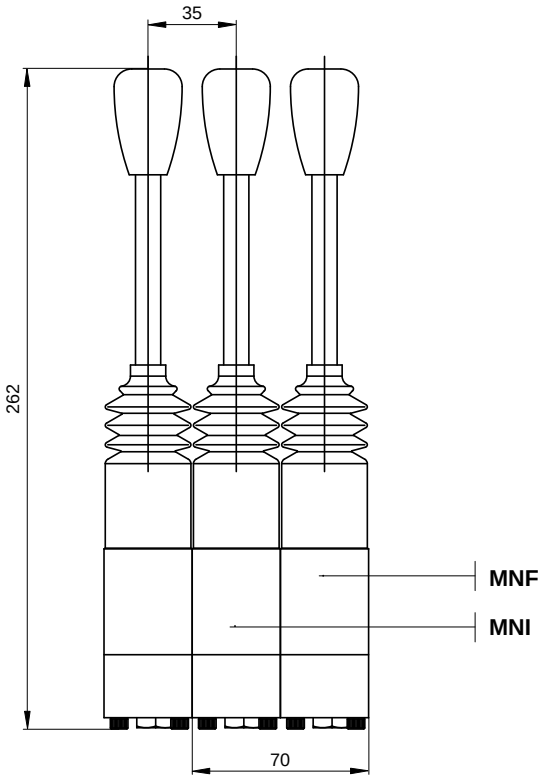
En los distribuidores donde se precise de un mando neumático, la corredera deberá ser sensibilizada y el accionamiento tipo 47.

Control valves requiring pneumatic control should be progressive spools and device type 47.

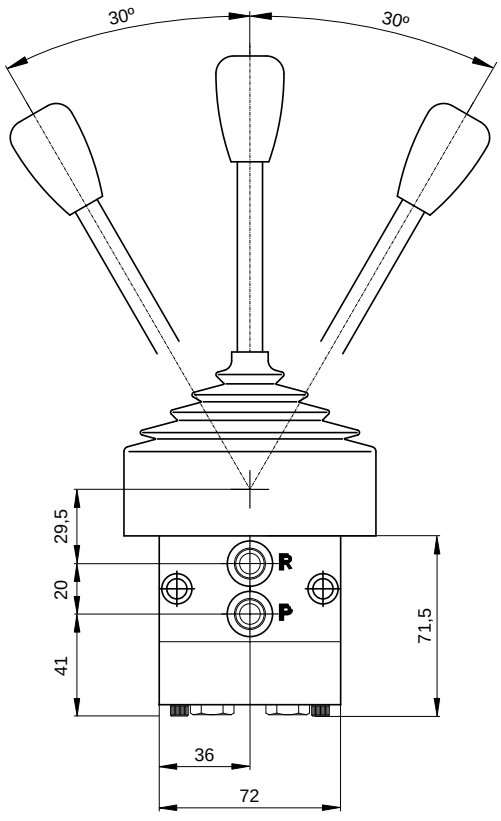


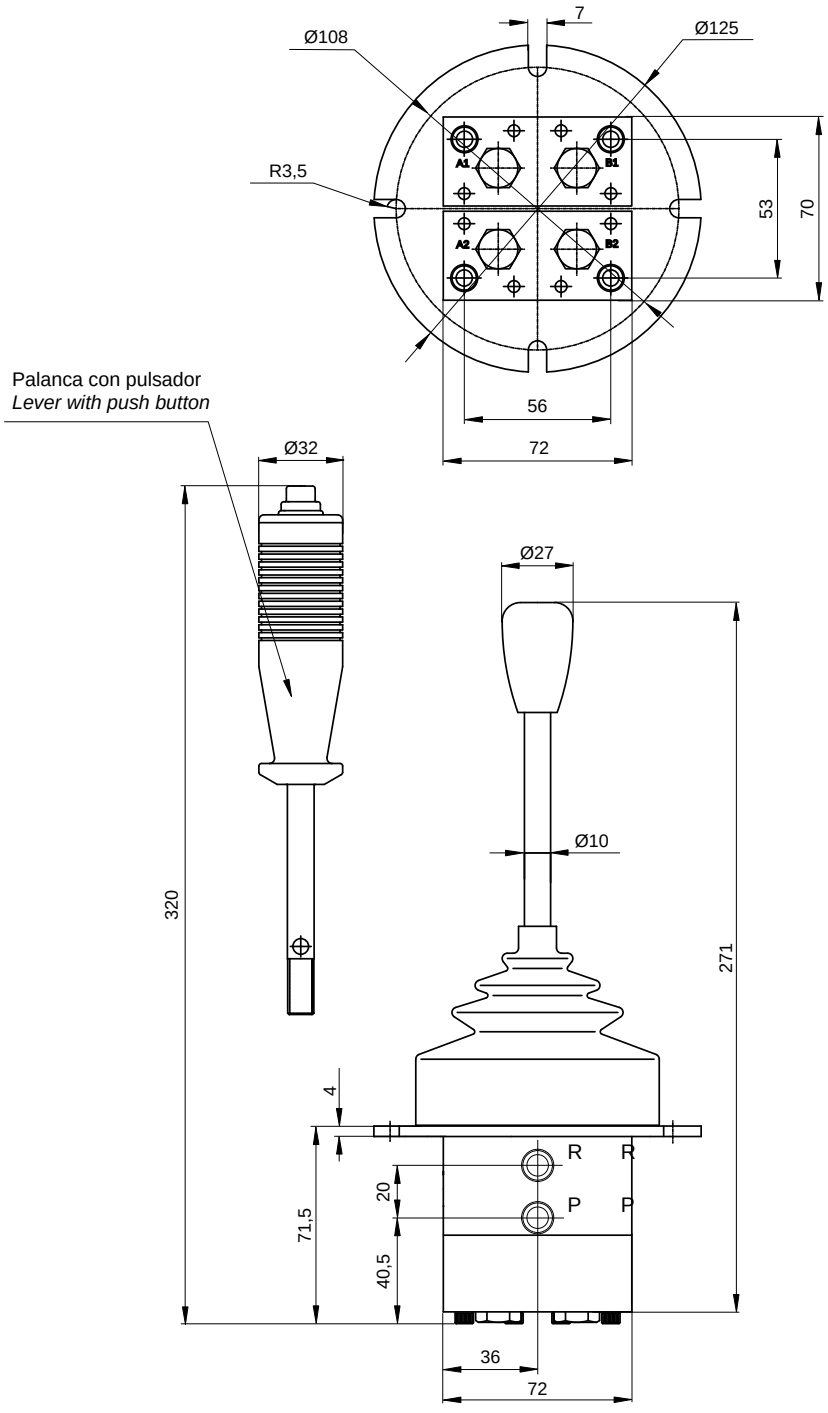






Tipo *Type* **MNC**





Tipo *Type* **MNM**

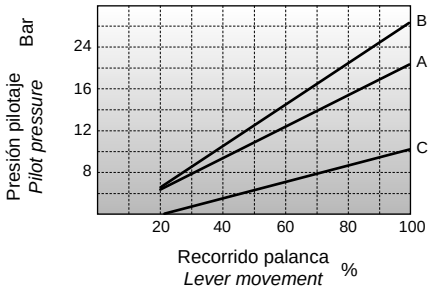
WWW.SUMY.IR

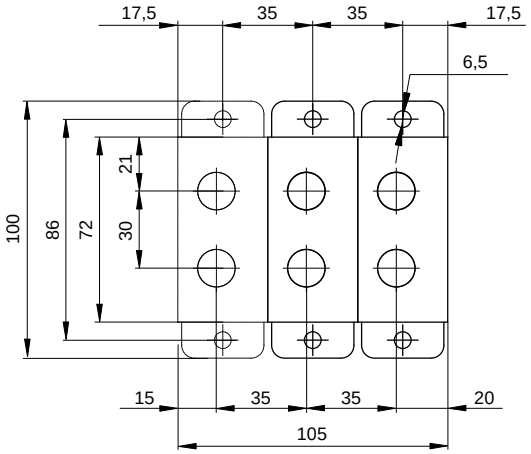
Mando hidráulico
Hydraulic control

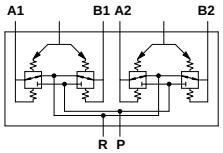
En los distribuidores donde se precise de un mando hidráulico, la corredera deberá ser sensibilizada y el accionamiento tipo 71.

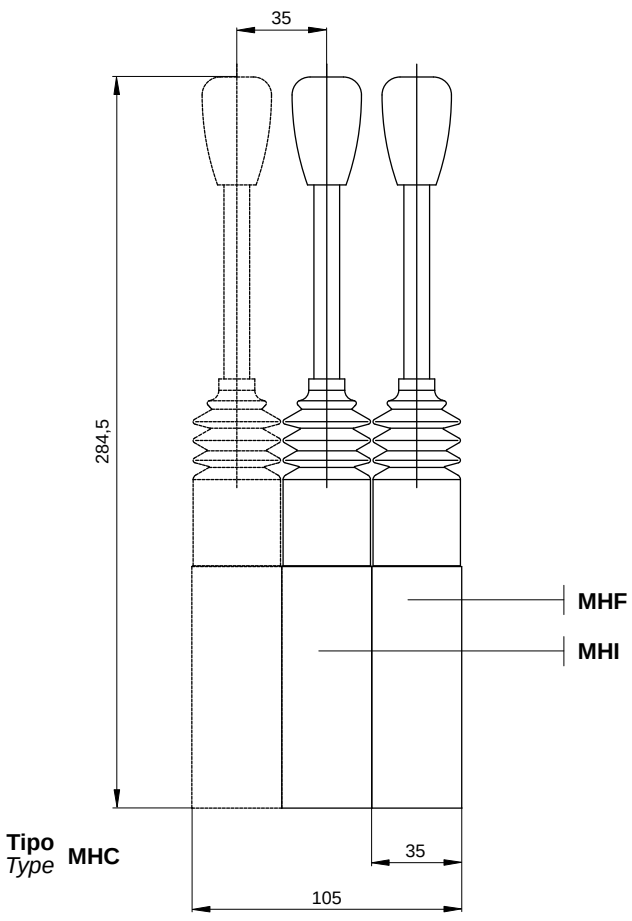
Control valves requiring hydraulic control should be progressive spools and device type 71.

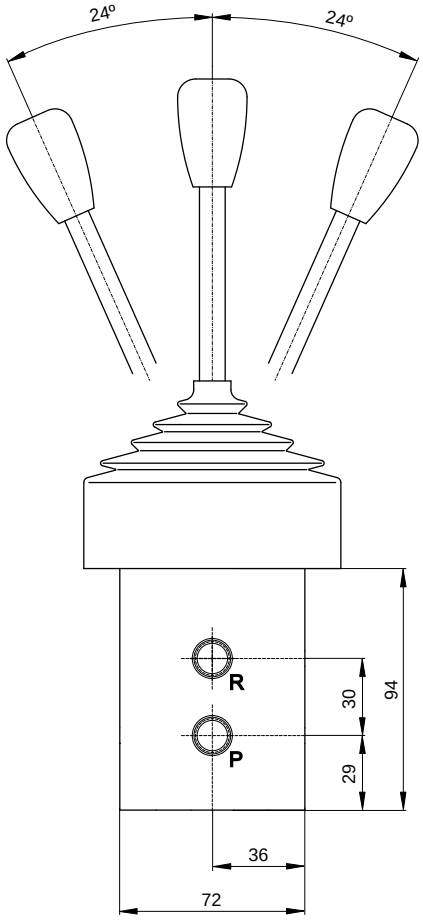
Curva presión accionamiento normal
Pressure curve normal device



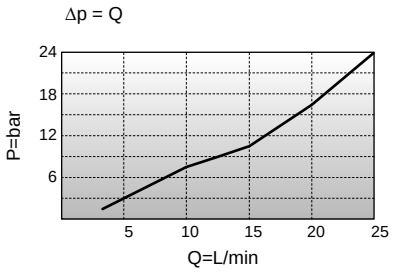


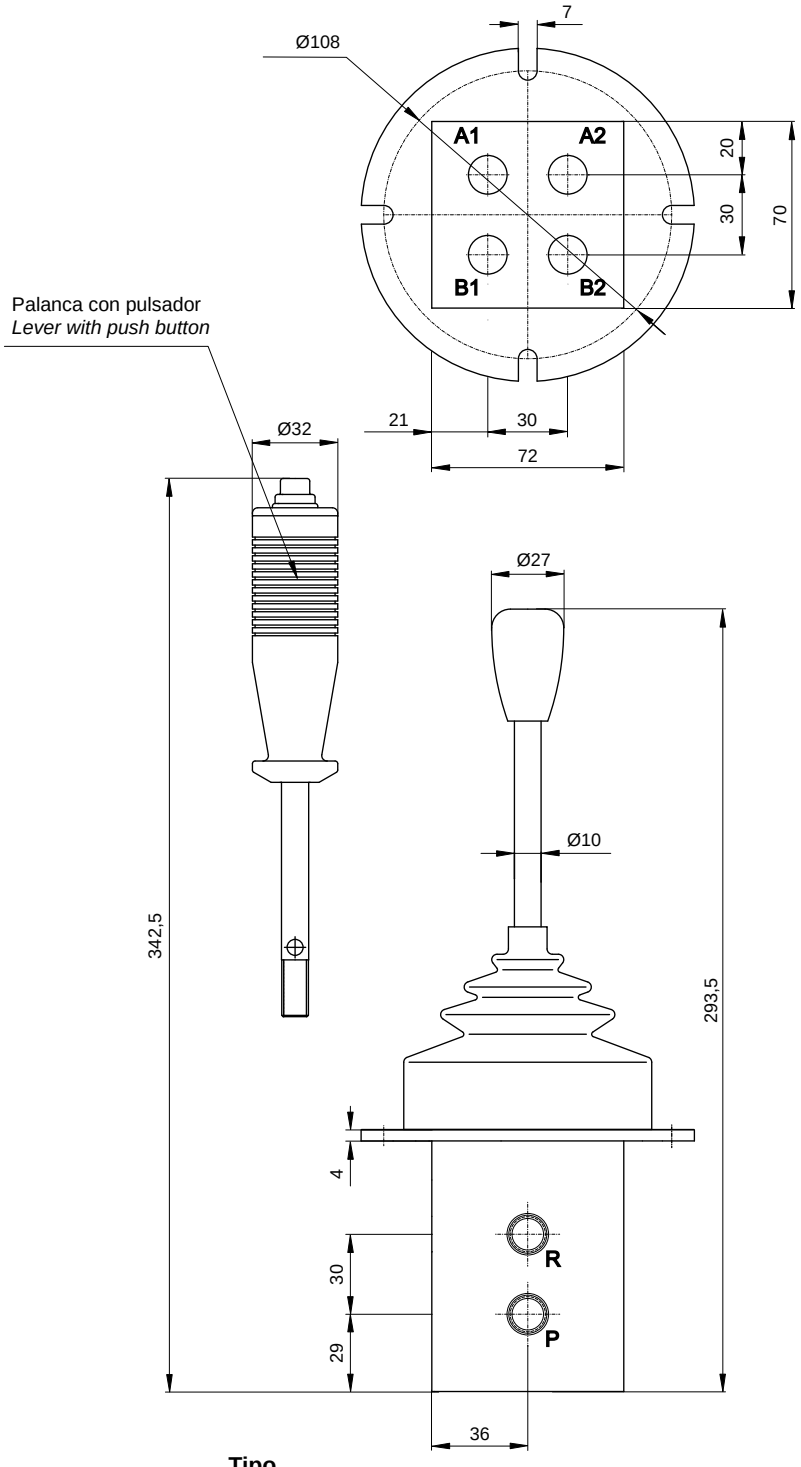


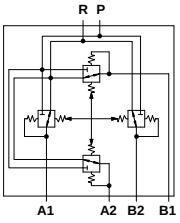




Mando hidráulico
Hydraulic control







Tipo **MHC**
Type

MENU

Roquet

making **moves**

www.pedro-roquet.com

Distribuidor / Agent:

www.ciandisseny.com

MENU



406 - 1406
CONTROL VALVES

Roquet
making **moves**

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HISTORY Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.

TECHNOLOGY Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.

RELIABILITY A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.

CAPABILITY 400 well trained empoyees. Four factories with a total floor area of 30.000m² Current production 180.000 pumps, 300.000 control valve bodies, 500.000 cylinders and 30.000 power packs per year. Distribution network in over 35 countries.





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This range of directional control valves is primarily intended for applications such as construction, material handling and agricultural machinery etc.

The valves are actuated by hand-levers, pneumatic operated, cable operated, etc.

Auxiliary valves can be fitted in each port.

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Operating section details

Position microswitch **30**

Request a ROQUET control valve **31**

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to PEDRO ROQUET S.A. The specifications and data in this catalogue are not open to any interpretation, please contact with PEDRO ROQUET S.A. in case of doubt.
PEDRO ROQUET S.A. reserves the right to modify, update or revise this catalogue without prior notice.
PEDRO ROQUET S.A. IS NOT RESPONSABLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

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406

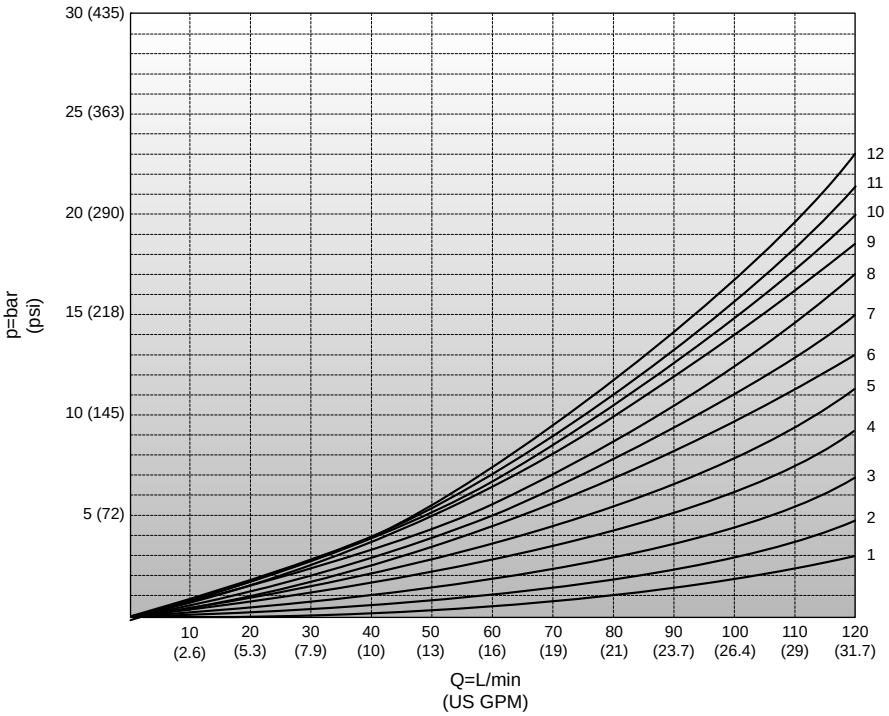


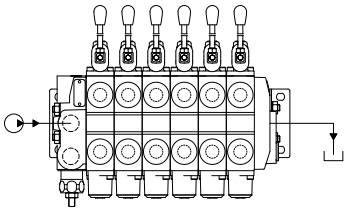
Technical data

CONTROL VALVES TYPE		406	1406
Ports A and B		1/2" G.	3/4" G.
Ports P and T		3/4" G.	
Maximum spool quantity		12	
Spool diameter (mm)		18	
Spool stroke (mm)		7	
Type		Parallel	
Nominal flow		100 (l/min.) / 26 (US GPM)	
Working max. pressure		350 bar / 5075 psi	
Return max. pressure T port	Static spool	80 bar / 1160 psi	
	During spool positioning	20 bar / 290 psi	
Spool force		18 Kg / 40 Lb	
Fluid to be used		ISO 6742 mineral-oil-based hydraulic fluid	
Temperature range (NBR)		-20ºC...+80ºC (-4º F...+176º F)	
Viscosity range		ISO 3448 CAT. VG22-VG68	
Recommended fluid cleanliness		16/13 s./ ISO 4406 ó NAS 10	

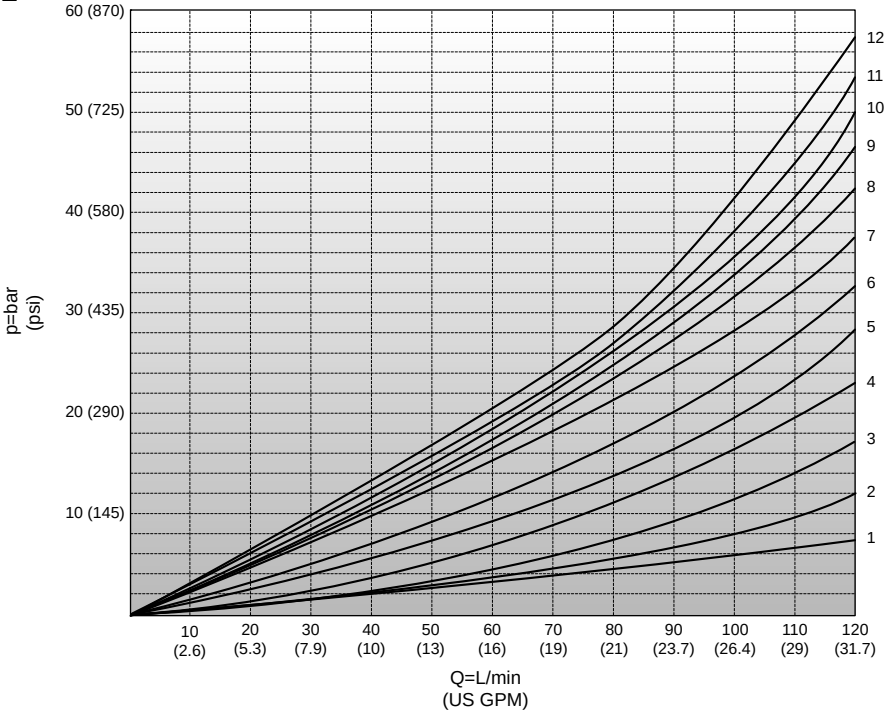
Diagrams

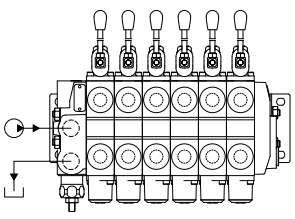
P→T



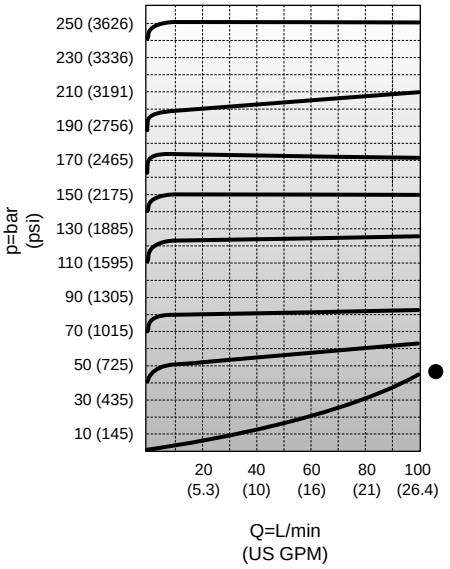


P→T2



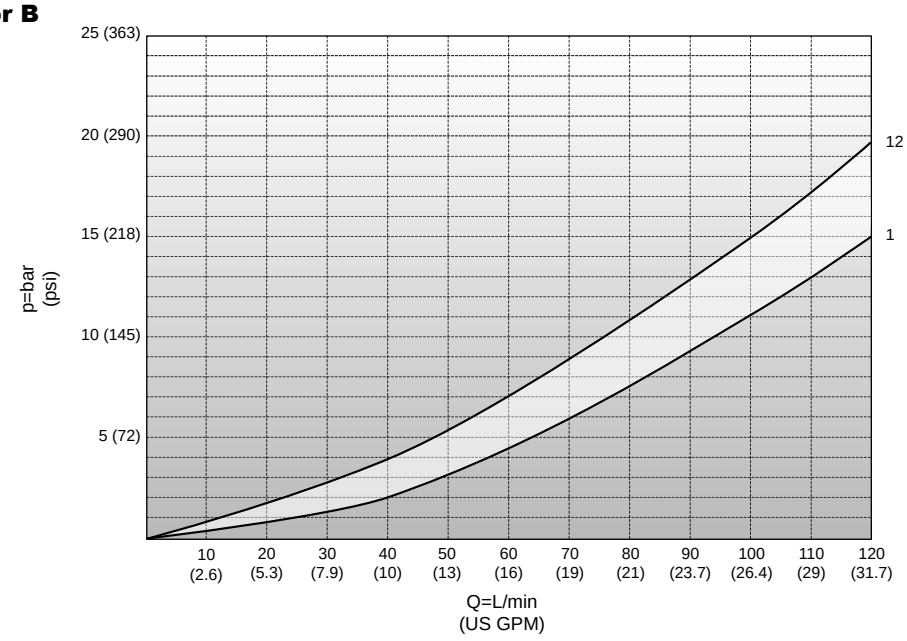


Relief valve

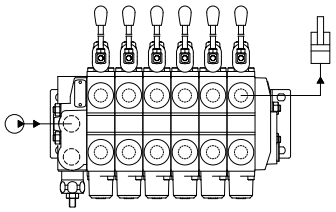


● **Minimal pressure curve**

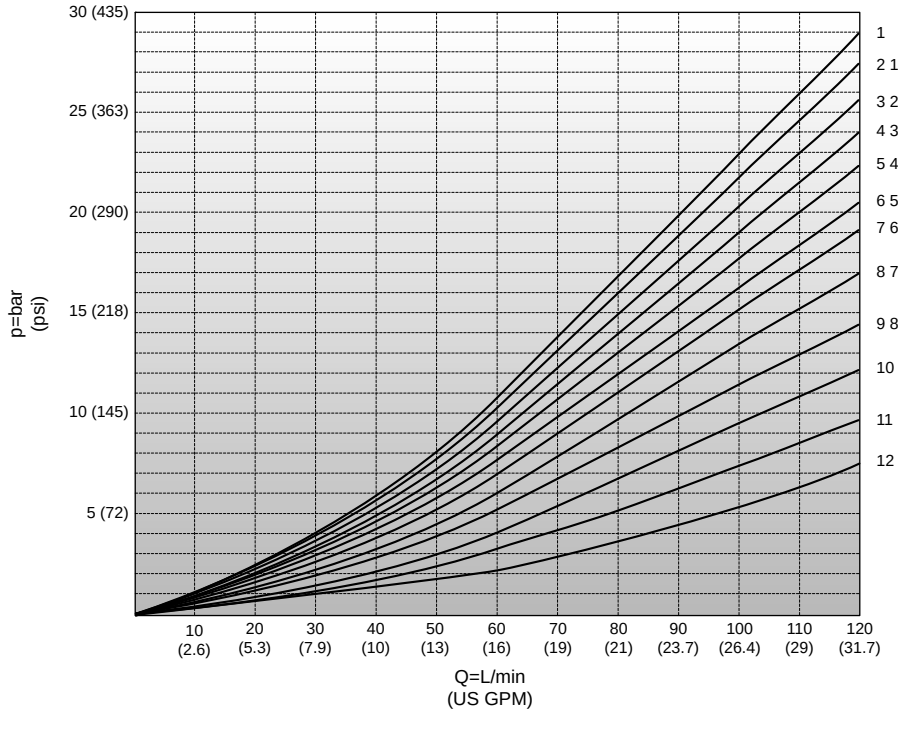
P→A or B



From 1 to 12 elements

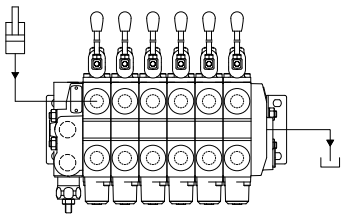


A or B→T



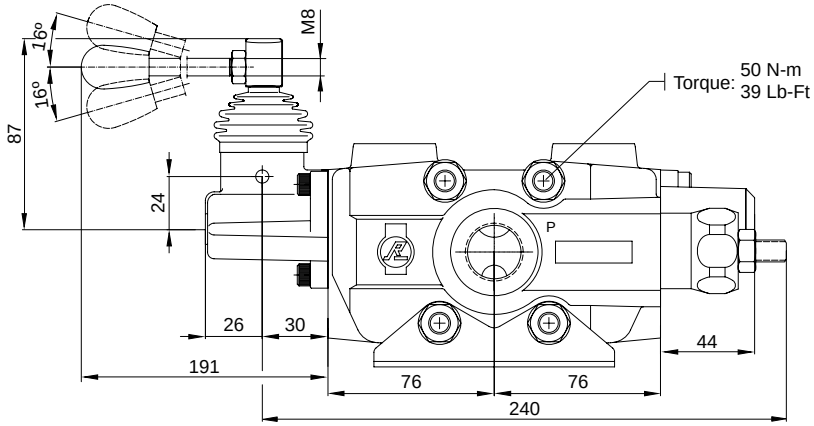
Final section

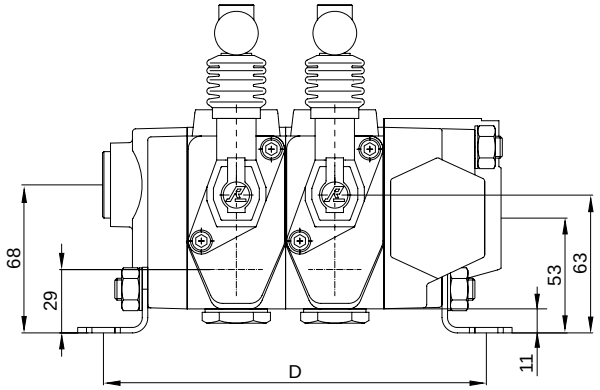
First section

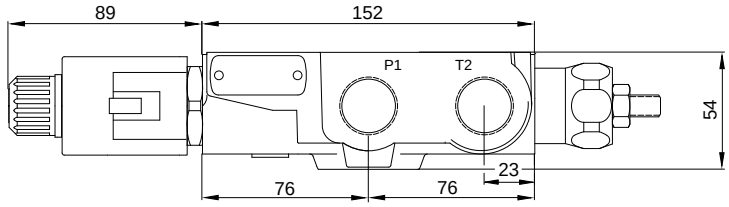


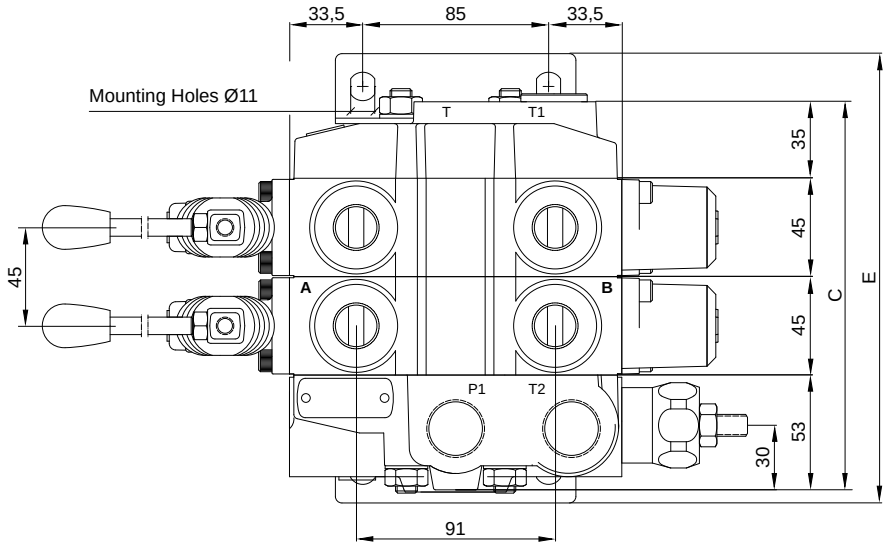
Directional control valve dimensions

Type **406**

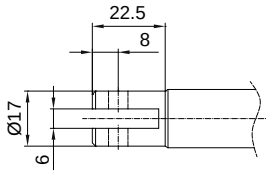




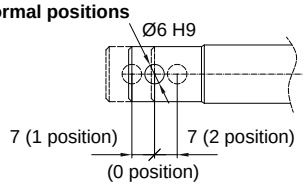




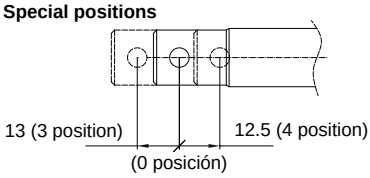
SPOOL DETAIL END



Normal positions



Special positions



P-P1	Pressure ports
A-B	Work ports

FREE FLOW

T-T1-T2	All are tank ports

POWER BEYOND

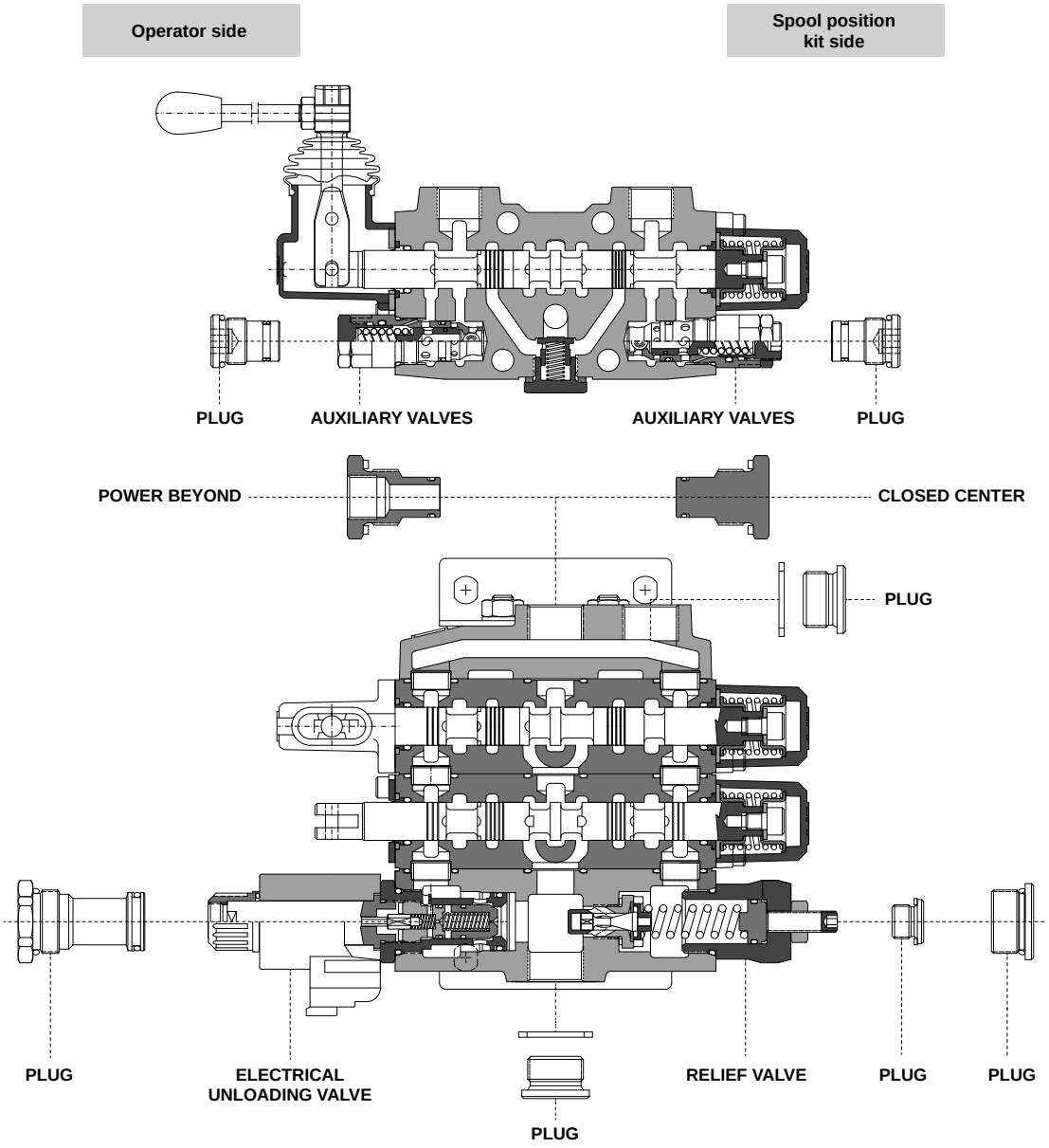
T	Power
T1-T2	Tank port

CLOSED CENTER

T	Closed
T1-T2	Tank port

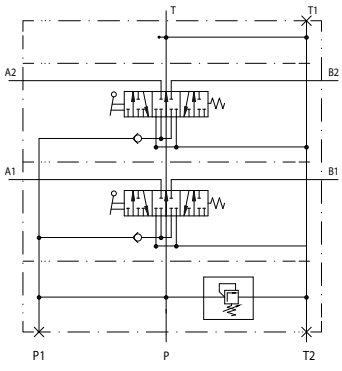
NOTE:
Port A is always next to operator side even if the section is assembled with levers on the other side.

Spool count	1	2	3	4	5	6	7	8	9	10	11	12
C (mm)	128	173	218	263	308	353	398	443	488	533	578	623
D (mm)	129	174	219	264	309	354	399	444	489	534	579	624
E (mm)	159	204	249	294	339	384	429	474	519	564	609	654
Weight in kg	8	12,5	17	21,5	26	30,5	35	39,5	44	48,5	53	57,5
Weight in Lb	17,7	27,6	37,5	47,4	57,3	67,2	77,1	87	96,9	106,8	116,7	126,6

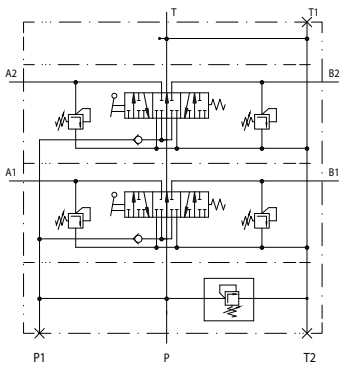


Hydraulic circuit

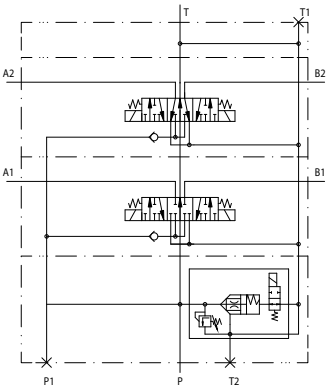
Hydraulic scheme with main relief valve.

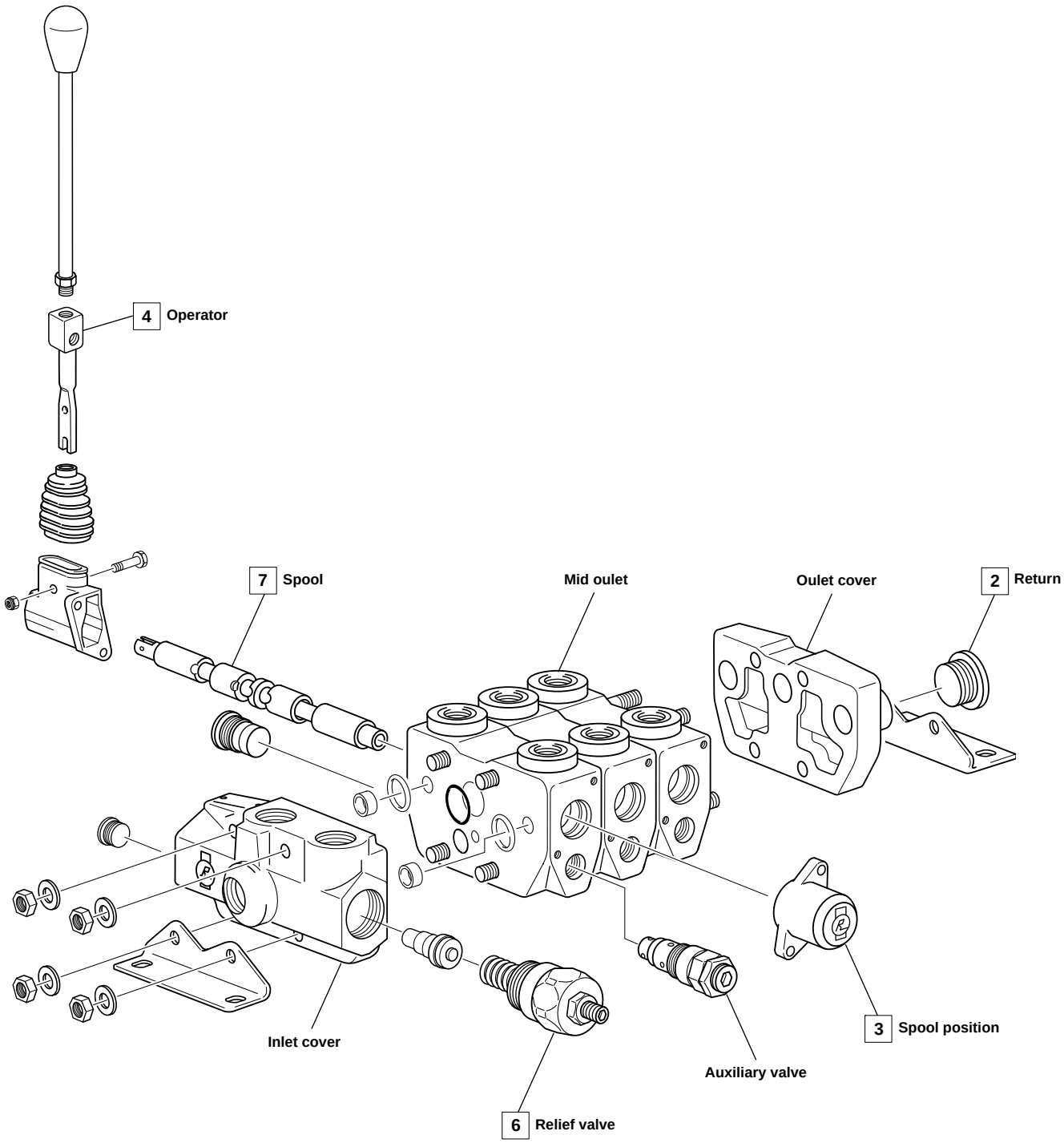


Hydraulic scheme with main relief valve and auxiliary valves.



Hydraulic scheme with main relief valve and unloading valve.




4 Operator
7 Spool
Mid oulet
Oulet cover
2 Return
Inlet cover
3 Spool position
Auxiliary valve
6 Relief valve

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OPERATING SECTIONS

406	N	11	P	A	12	D	24 – L12 –	CODE
1	2	3	4	5	6	7	8	9	10

1	Control valve type
406	Port A - B 1/2" G.
1406	Port A - B 3/4" G.

2	Return configuration
N	Open center both valves.
Z	Power beyond both valves.
C	Closed center both valves.

3	Spool position kits
2	Three positions with detent.
7	Two positions with detent, third position return by spring.
9	Two ends positions with detent.
11	Three positions return to neutral by spring.
14	Two positions, neutral and end position by detent, action pushing spool.
20	Four positions three return by spring the fourth detented, pulling spool.
22	Three positions pneumatic pilot (see more inf. page 25).
24	Two positions, neutral and end position by detent, action pulling spool.
29	Three positions. Central by spring and two end positions with detent.
35	Three positions. Rotative device with detent in neutral position.
36	One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.
71	Three positions hydraulic piloted (see more inf. page 24).
74	One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.
75	One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.
83	Direct solenoid operated, three positions spring centered (see more inf. page 21, 22).
84	Direct solenoid operated, two positions (center + one end). Solenoid side port A. (see more inf. page 21, 22).

4	Operators
X	Mechanical joystick or special options.
Y	Hydraulic pilot (see more inf. page 24).
P2	Lever box with lever and rubber boot.
D2	Lever box with rubber boot, inverted 180º.
Z2	Lever box with rubber boot and without lever.
PI	Extension lever box with rubber boot inverted 180º.
T	Spool end cap.
S	Open spool end (no lever box).
I	Cable control.
E	Electrical control with DEUTSCH connector without diode, only for 83, 84 spool position kit.
ME	Emergency operator with DEUTSCH connector without diode, only for 83, 84 spool position kit.
L	Electrical control with HIRSCHMANN connector without diode, only for 83,84 spool position kit.
ML	Emergency operator with HIRSCHMANN connector without diode, only for 83,84 spool position kit.
R	Rotative operator.

5 Main relief valve position



Standard

6 Auxiliary valve pressure range (pressure set al 22l/min.)

Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
00		Without cavity for valve.	

7	Spool types
D	3 position, 4-way, double acting, A and B ports blocked in 0 position.
I	3 position, 4-way, double acting, A and B ports open to tank in 0 position.
U	3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.
S	3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.
V	3 position, 3 -way, single acting, B port blocked in position 0, A port plugged.
L	4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

8	D.C. VOLTAGE (Only for spool position kits 83, 84)
12	12 V
24	24 V

9	With electrical unloading valve
E12	DEUTSCH connector 12 V.
E24	DEUTSCH connector 24 V.
L12	HIRSCHMANN connector 12 V.
L24	HIRSCHMANN connector 24 V.
L0	Plug.
HP	Hydraulic piloted.

10 CODE

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INLET SECTION

406 / CV – 11 – 24 – S – CODE

Control valve type
406

Front cover type	
CV	Front cover with relief valve.
SV	Front cover without relief valve.

Main relief valve pressure range standard (pressure set at 22l/min)			
Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
00		Without main relief valve (for SV front cover type)	

Code

Operative pressure port	
S	Side port (P1 plugged).
T	Top port (P plugged).

With electrical unloading valve	
E12	DEUTSCH connector 12 V.
E24	DEUTSCH connector 24 V.
L12	HIRSCHMANN connector 12 V.
L24	HIRSCHMANN connector 24 V.
L0	Plug.
HP	Hydraulic piloted.
00	Without cavity for unloading valve.

OUTLET SECTION

406 / CF – N – S – CODE

Control valve type
406

Outlet	
CF	Outlet cover.

Code

Operative tank port	
S	Side port (T1 plugged).
A	Turn around port (T plugged).

Return configuration	
N	Open center.
Z	Power beyond.
C	Closed center.

MID-OUTLET SECTION

406 / CIA – N – S – CODE

Control valve type
406

Control valve type	
CIA	Side port in A side.
CIB	Side port in B side.

Code

Operative tank port	
S	Side port (T plugged).
A	Turn around port (T and T1 plugged).
T	Top port (T1 plugged).
00	For closed center or power beyond.

Return configuration	
N	Open center both valves.
Z	Power beyond both valves.
C	Closed center both valves.
K	Closed center-Open canter.

NOTE 1:
CIA and CIB its the same components, just rotated 180º when is assembled a complete control valve.

NOTE 2:
406 and 1406 control valves; inlet, outlet and mid-outlet sections are the same

OPERATING SECTIONS

						PORT A			PORT B					
406	/	A	2	Z2	–	D	12	/	SA	–	12	/	T	–	0	–	CODE

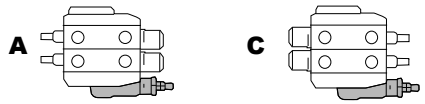
Code

Microswitch (page: 28)

Control valve type

406 - 1406

Main relief valve position



Standard

Auxiliary valve pressure range (pressure set al 22l/min.)

Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
0		Without valve.	

Auxiliary valves

VA	Port relief and anticavitation valve.
SA	Port relief valve.
A	Anticavitation.
T	Plug.
0	Section without cavity for valves.

D.C. VOLTAGE (Only for spool position kits 83, 84)

12	12 V
24	24 V
00	When spool position kit is different to 83 or 84.

Spool position kits

02	Three positions with detent.
07	Two positions with detent, third position return by spring.
09	Two ends positions with detent.
11	Three positions return to neutral by spring.
14	Two positions, neutral and end position by detent, action pushing spool.
20	Four positions three return by spring the fourth detented, pulling spool.
22	Three positions pneumatic pilot (see more inf. page 25).
24	Two positions, neutral and end position by detent, action pulling spool.
29	Three positions. Central by spring and two end positions with detent.
35	Three positions. Rotative device with detent in neutral position.
36	One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.
71	Three positions hydraulic piloted (see more inf. page 24).
74	One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.
75	One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.
83	Direct solenoid operated, three positions spring centered (see more inf. page 21, 22).
84	Direct solenoid operated, two positions (center + one end). Solenoid side port A. (see more inf. page 21, 22).

Spool types

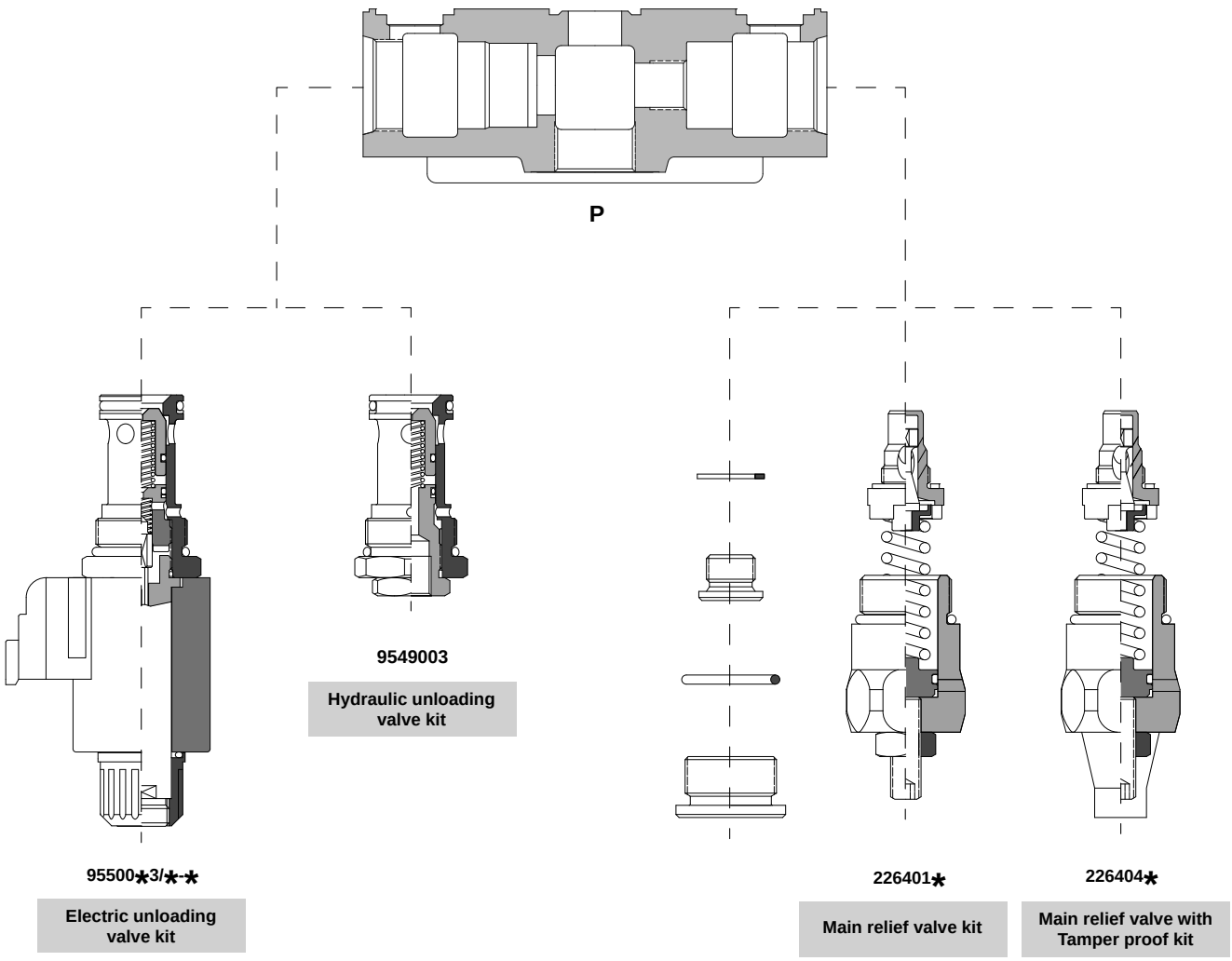
D	3 position, 4-way, double acting, A and B ports blocked in 0 position.
I	3 position, 4-way, double acting, A and B ports open to tank in 0 position.
U	3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.
S	3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.
V	3 position, 3 -way, single acting, B port blocked in position 0, A port plugged.
L	4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

Operators

X	Mechanical joystick or special options.
Y	Hydraulic pilot (see more inf. page 24).
P2	Lever box with lever and rubber boot.
D2	Lever box with rubber boot, inverted 180º.
Z2	Lever box with rubber boot and without lever.
PI	Extension lever box with rubber boot inverted 180º.
T	Spool end cap.
S	Open spool end (no lever box).
I	Cable control.
E	Electrical control with DEUTSCH connector without diode, only for 83, 84 spool position kit.
ME	Emergency operator with DEUTSCH connector without diode, only for 83, 84 spool position kit.
L	Electrical control with HIRSCHMANN connector without diode, only for 83,84 spool position kit.
ML	Emergency operator with HIRSCHMANN connector without diode, only for 83,84 spool position kit.
R	Rotative operator.

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Main relief valve and unloading valve

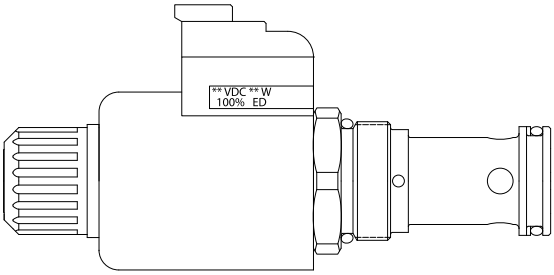


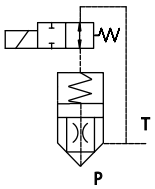
Main relief valve (pressure set at 22l/min)						
Pressure range		Adjustable	Tamper-proof	Tamper-proof P.N.	Hat P.N.	Spring P.N.
5-80 (80) bar	70-1100 (1100) psi	11	41	2788/27	2264/3	5050/1A
85-175 (160) bar	1200-2500 (2200) psi	12	42			5050/2A
180-250 (200) bar	2600-3600 (2900) psi	13	43			5050/3A
255-350 (315) bar	3700-5000 (4600) psi	14	44			

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Unloading valve

ELECTRIC





Part number

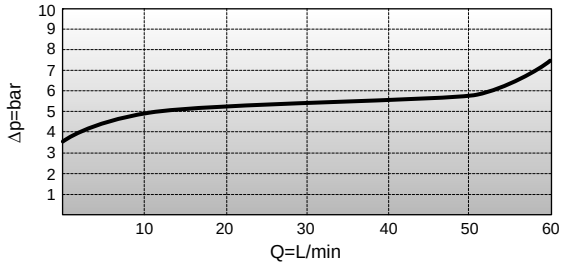
9550∗3/∗-∗

Connector type	
0	HIRSHMANN
2	DEUTSCH

Power (W)	
30	30 W

Voltage (DC)	
D12	12 V
D24	24 V

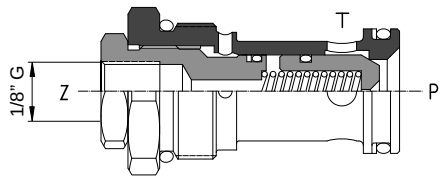
Unloading electric valve

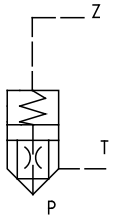


Technical data	
Opening pressure	4-5 bar / 58-72 psi
Nominal flow	80 L./mín. / 21 (US GPM)
Max. work pressure	350 bar / 5075 psi
Max. return pressure	- bar
Min. pressure form P to T	6 bar / 87 psi
Viscosity range	ISO 3448 cat. VG32-VG46
Hydraulic fluid temperature range	-20ºC a +80ºC / -4ºF a +176ºF)
Control voltage	DC 12V - 24V
Duty cicle	100%
Protection DIN 40050	DEUTSCH IP-67 HIRSCHMANN IP-65

HYDRAULIC

Part number 9549003





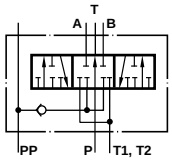
Technical data	
Opening pressure	4-5 bar / 58-72 psi
Nominal flow	80 L./min. / 21 (US GPM)
Max. work pressure	350 bar / 5075 psi
Max. return pressure	80 bar / 1160 psi
Min. pressure form P to T	6 bar / 87 psi
Viscosity range	ISO 3448 cat. VG22-VG68
Hydraulic fluid temperature range	-20ºC...+80ºC / -4ºF...+176ºF)

WWW.SUMY.IR

Spool position kits

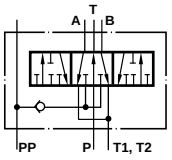
D

3 position, 4-way, double acting, A and B ports blocked in 0 position.



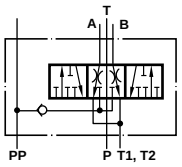
I

3 position, 4-way, double acting, A and B ports open to tank in 0 position.



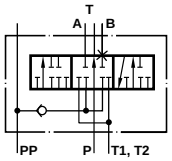
U

3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.



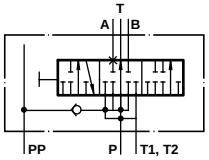
S

3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.



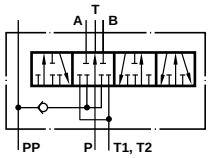
V

3 position, 3-way, single acting, B port blocked in position 0, A port plugged.



L

4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

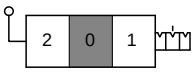


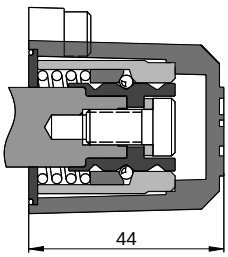
WWW.SUMY.IR

Spool position kits

2 — P.N. M6412/800/271

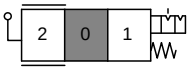
Three positions with detent.

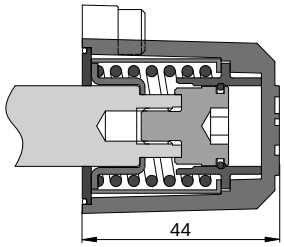




7 — P.N. M6412/800/273

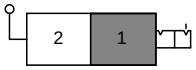
Two positions with detent, third position return by spring.

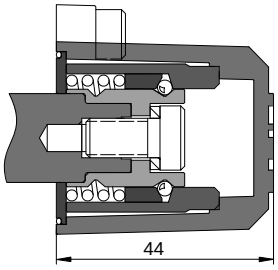




9 — P.N. M6412/800/400

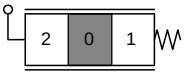
Two ends positions with detent.

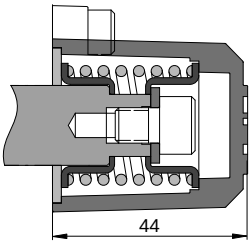




11 — M6412/800/842

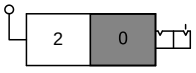
Three positons return to neutral by spring.

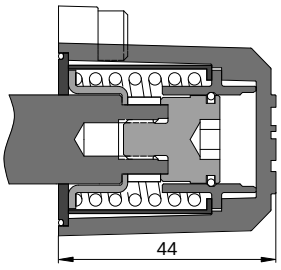




14 — P.N. M6412/884

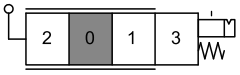
Two positions, neutral and end position by detent, action pushing spool.

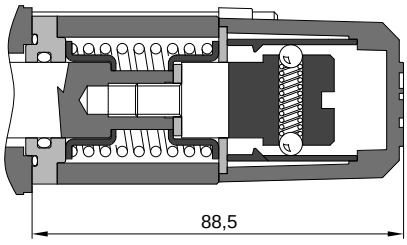




20 — P.N. M6412/476

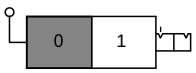
Four positions three return by spring the fourth detented pulling spool.

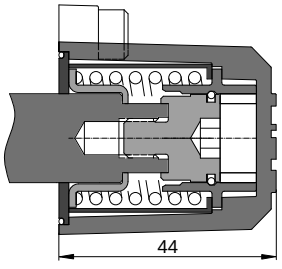




24 — M6412/885

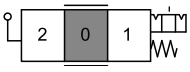
Two positions, neutral and end position by detent, action pulling spool.

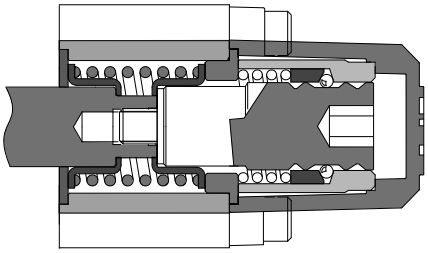




29 — P.N. M6412/800/806

Three positions. Central by spring and two end positions with detent.



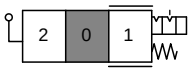


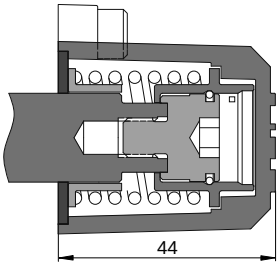
WWW.SUMY.IR

Spool position kits

36 **P.N. M6412/800/550**

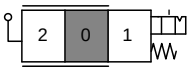
One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.

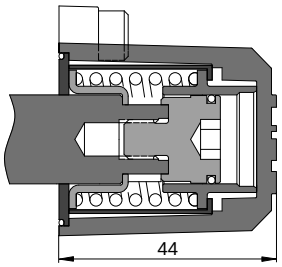




74 **P.N. M6412/882**

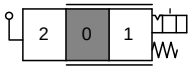
One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.

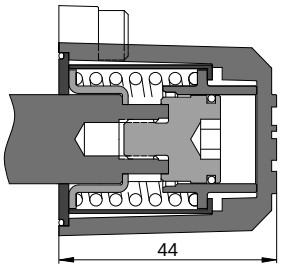




75 **P.N. M6412/883**

One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.

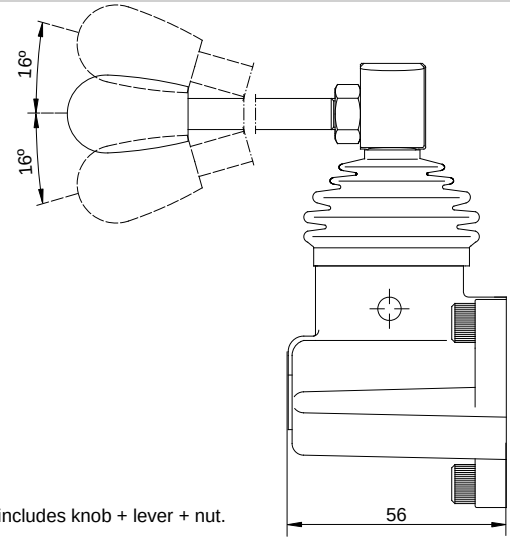




Operators

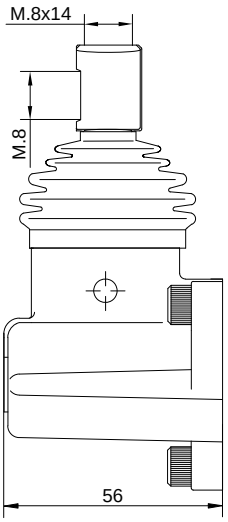
Lever box with lever **P.N. 8412267** **P2**

D2 Is the same operator rotated 180º but de not allow port vales options



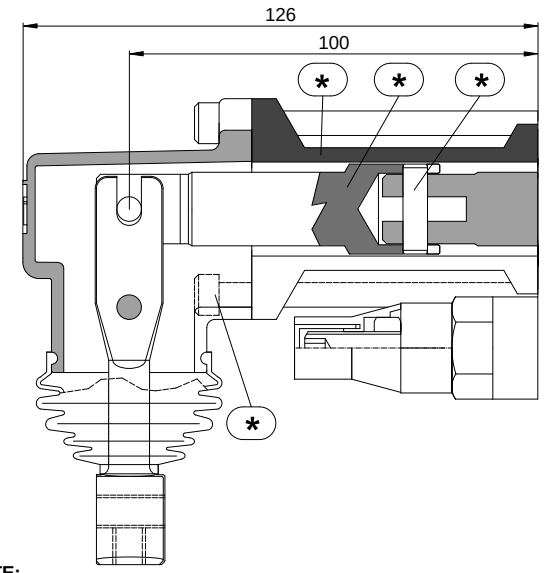
NOTE: Only includes knob + lever + nut.

Lever box without lever (Standard) **Z2**



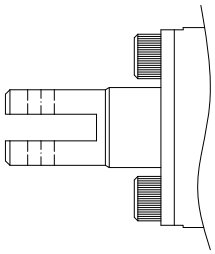
Operators

Extension lever box with rubber boot rotated 180º — P.N. M6412/800/839 — PI

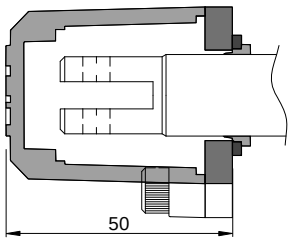


NOTE:
Only includes pieces with mark *

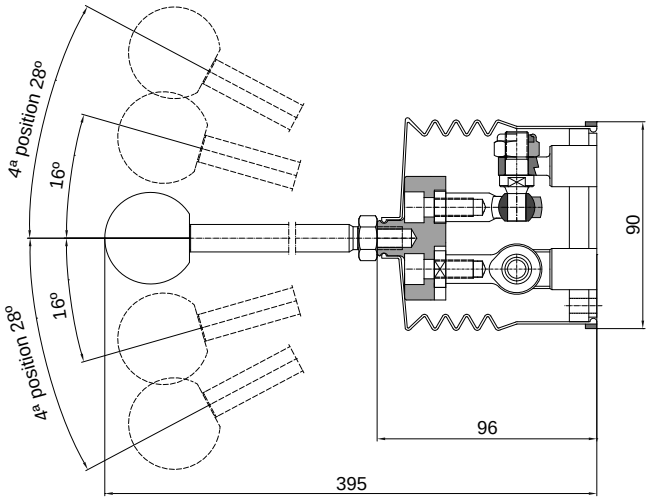
Open spool end (no lever box) P.N. M6412/800/408 — S



Spool end cap — P.N. M6412/800/409 — T

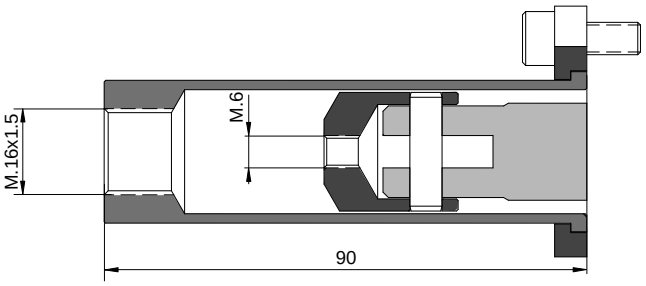


Mechanical joystick (Assembled in complete section) — X



NOTE: 16º degree at all directions.

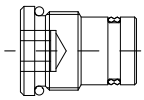
Cable control — P.N. M6412/800/407 — I



Auxiliary valves

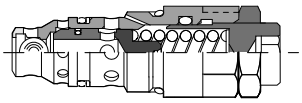
Plug

M6412/113/1



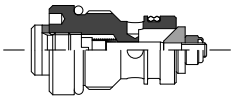
Auxilary relief valve

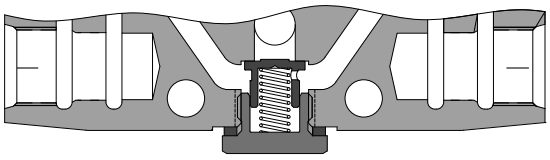
2VSD✱/SA



Anticavitation valve

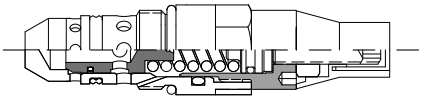
VA





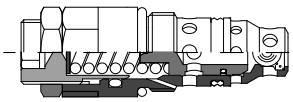
Auxilary relief valve

2VSD▲/SA



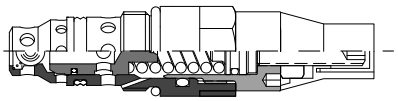
Auxiliary relief with anticavitation valve

2VSD✱/VA



Auxiliary relief with anticavitation valve

2VSD▲/VA



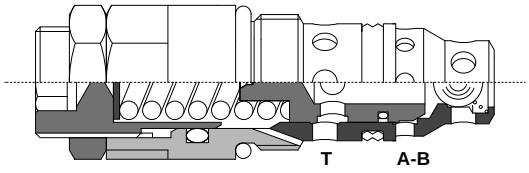
Port relief pressure setting (pressure set at 12l. min)			
Adjustable ✱	**Tamper-proof ▲**	**Pressure ranges**	
11	41	5-80 (80) bar	70-1100 (1100) psi
12	42	85-175 (160) bar	1200-2500 (2200) psi
13	43	190-250 (200) bar	2600-3600 (2900) psi
14	44	255-350 (315) bar	3700-5000 (4600) psi

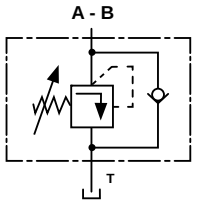
Replaced ✱and ▲ for the setting pressure (see table).

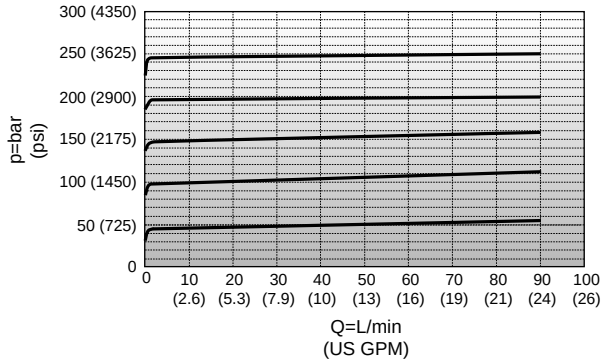
Auxiliary valves

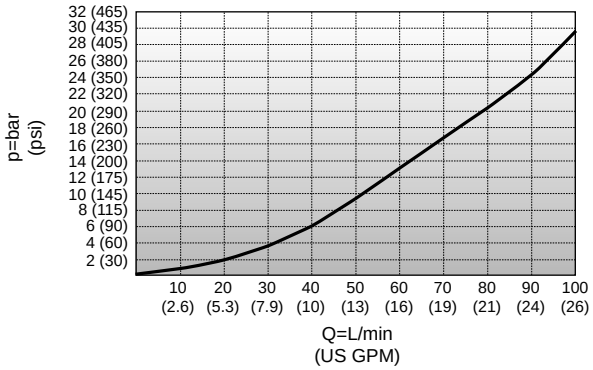
Port relief and anticavitation valve

Adjustable P.N. 2VSD✱/VA
Tamper-proof P.N. 2VSD▲/VA



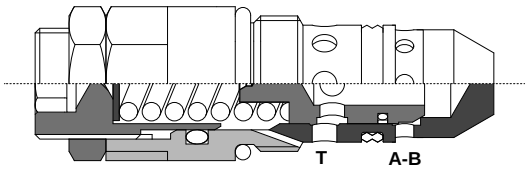


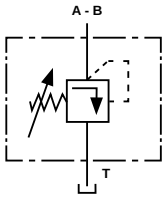


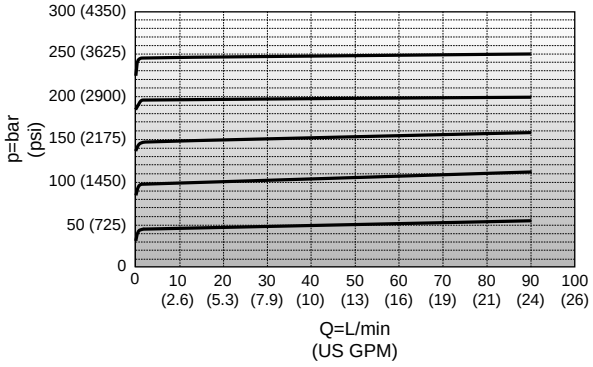


Port relief valve

Adjustable P.N. 2VSD✱/SA
Tamper-proof P.N. 2VSD▲/SA

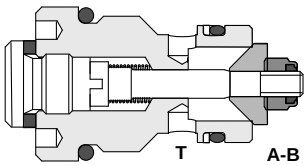


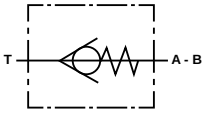


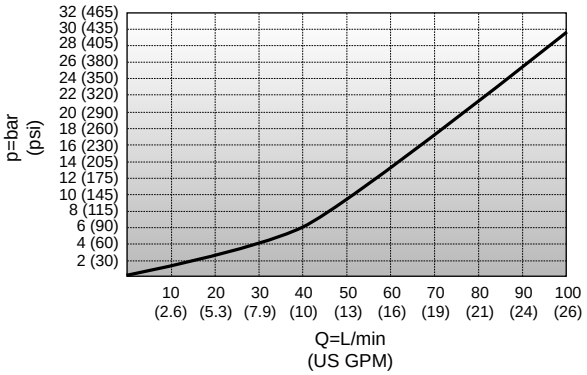


Anticavitation

P.N. VA



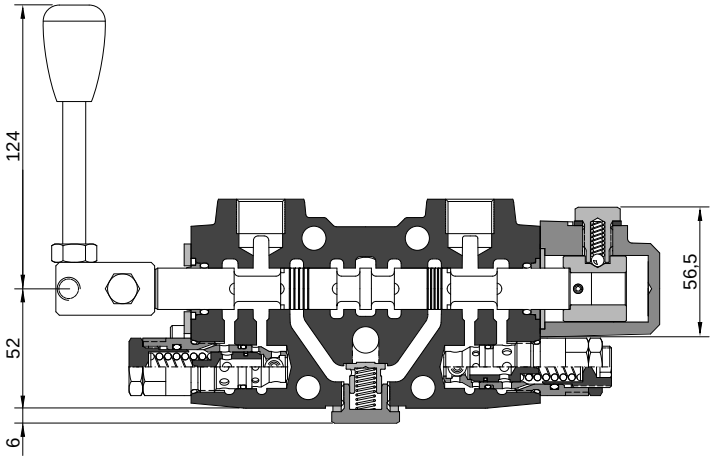


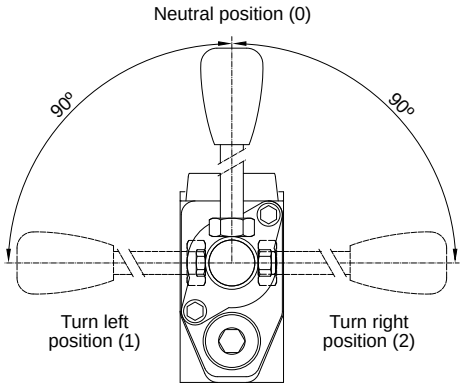


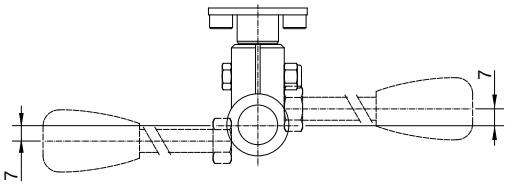
Rotative operator

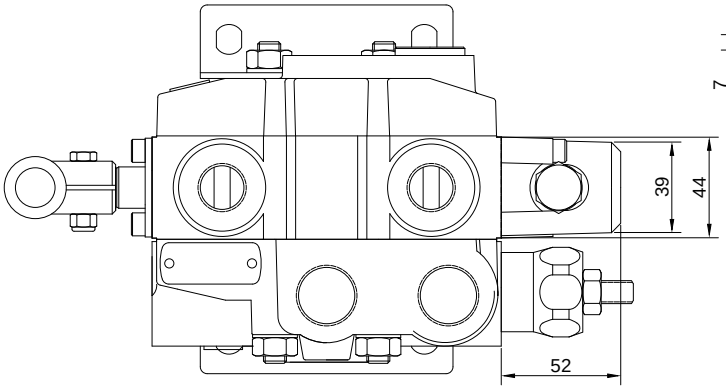
Operator (R)

Spool position kit (35)



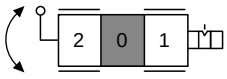






NOTE: Rotative pilot normally use a stainless steel spool.

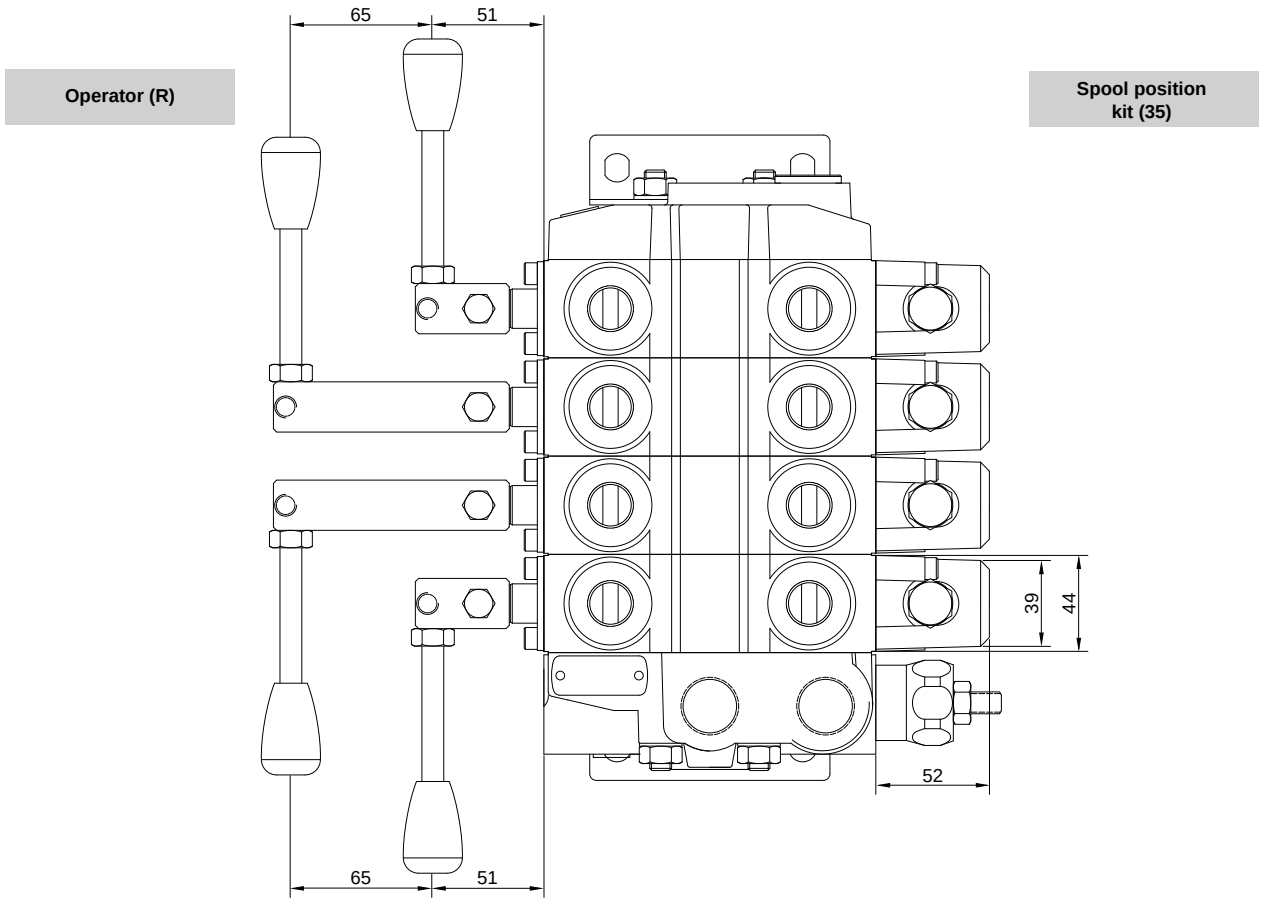
Spool position type 35 and operator type R standard	**P.N. 6412942001**

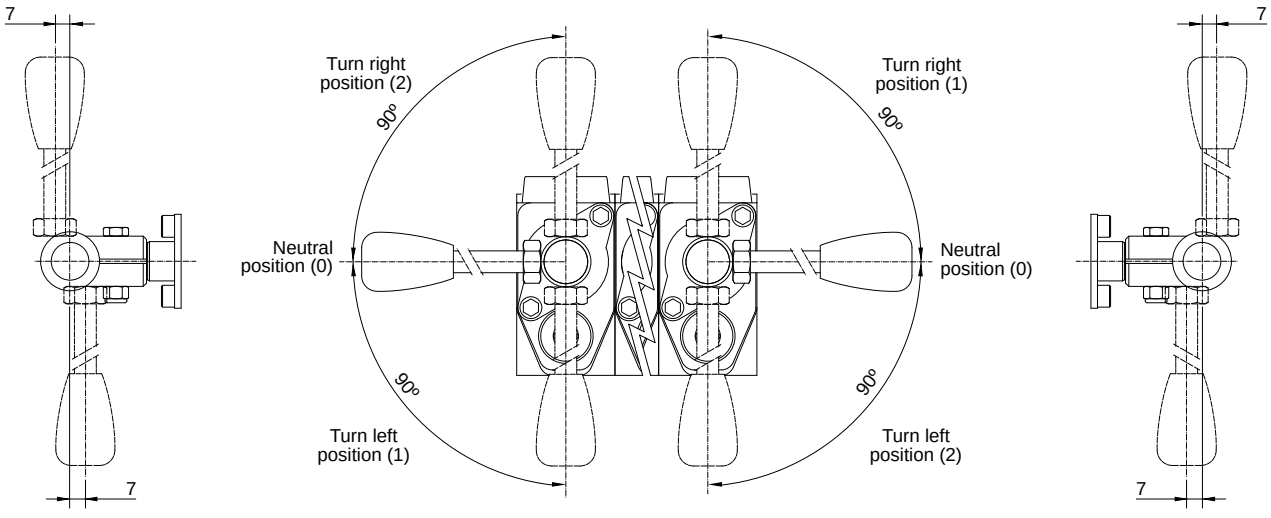
Operator	Spool position Kit	Function	Description
R	35		Rotary device with detent in neutral position.

Multiple rotative operator

Operator (R)

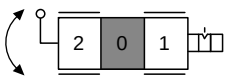
Spool position kit (35)





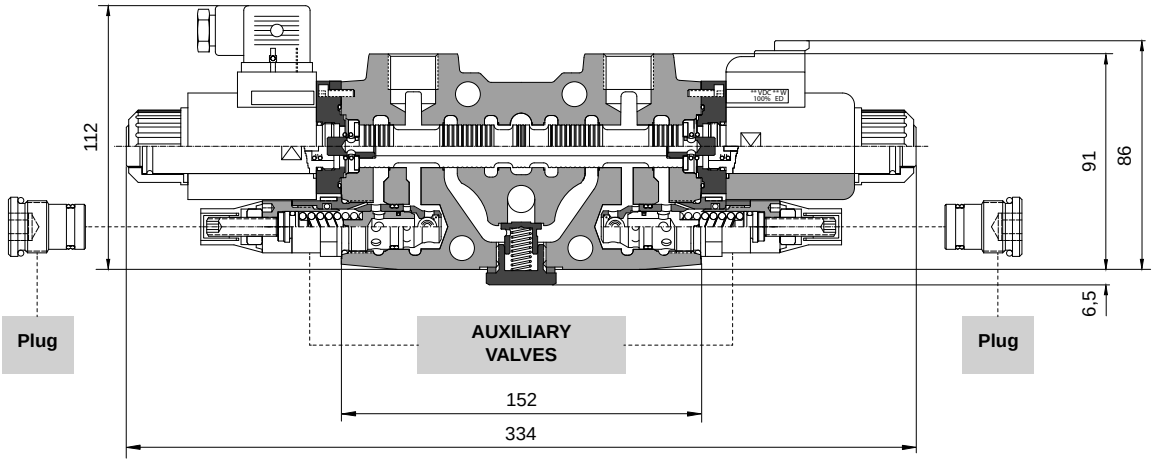
Spool position type 35 and operator type R standard	**P.N. 6412942001**
Spool position type 35 and operator type R extended	**P.N. 6412942002**

NOTE:
Rotative pilot normally use a stainless steel spool.

Operator	Spool position Kit	Function	Description
R	35		Rotary device with detent in neutral position.

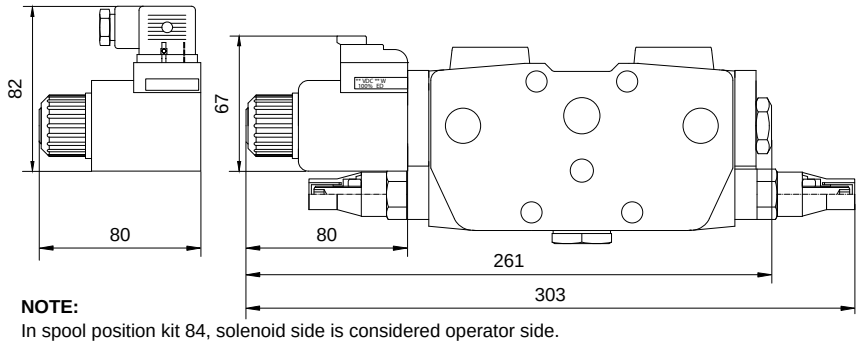
Direct solenoid operated section

Spool position kit 83

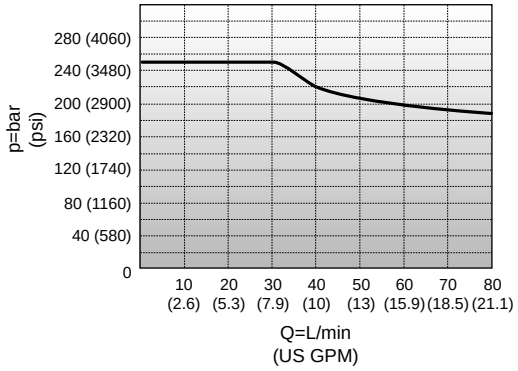


NOTE:
When ordering spool position kit 83 “A” main relief valve postion must be used.

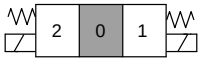
Spool position kit 84, according main relief valve in A (Standard) position



NOTE:
In spool position kit 84, solenoid side is considered operator side.



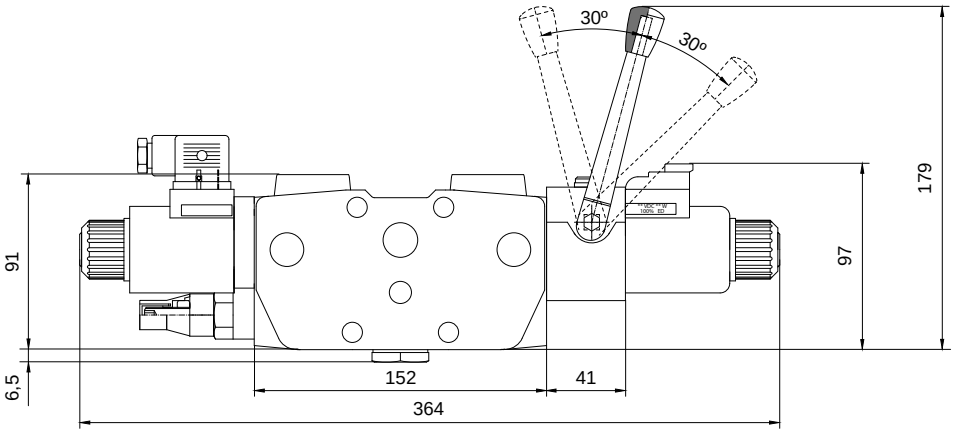
Operator	Hand lever	Coil connector (Female)	Required connector (Male)	IP-Protector
E	without	DEUTSCH DT04-2P	DEUTSCH DT06-2S	67
L	without	HIRSCHMANN	ISO 4400	65 (needs joint)

Main relief Valve position	Spool position Kit	Function	Description
A	83		Three positions; end positions by direct solenoid, neutral position by spring.
A-C	84		Two positions; neutral position and end position. Position 0 by spring and end position by solenoid in side A port.

Coil voltage	Coil wattage	Coil resistance	Duty	Ambient operating Temperature (Coil)	Coil insulation
12 V DC	38 W	3,79 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H
24 V DC	38 W	15,16 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H

Direct solenoid operated section with emergency operator

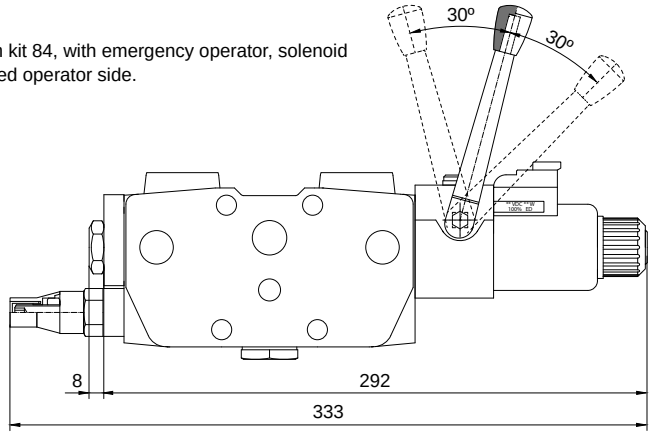
Spool position kit 83

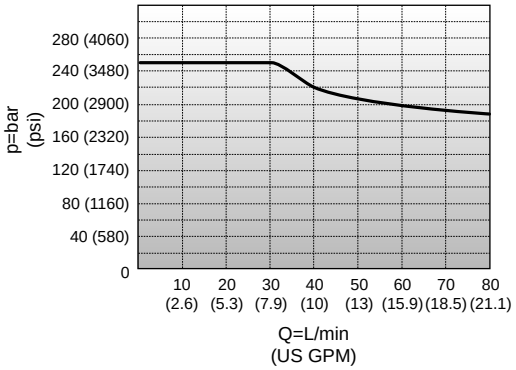


NOTE:
When ordering spool position kit 83 with emergency operator "A" main relief position valve must be used.

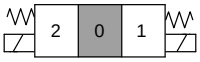
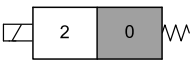
Spool position kit 84, according main relief valve in C position

NOTE:
In spool position kit 84, with emergency operator, solenoid side is considered operator side.





Operator	Hand lever	Coil connector (Female)	Required connector (Male)	IP-Protector
ME	with	DEUTSCH DT04-2P	DEUTSCH DT06-2S	67
ML	with	HIRSCHMANN	ISO 4400	65 (needs joint)

Main relief Valve position	Spool position Kit	Function	Descripción
A	83		Three positions; end positions by direct solenoid, neutral position by spring.
A-C	84		Two positions; neutral position and end position. Position 0 by spring and end position by solenoid in side A port.

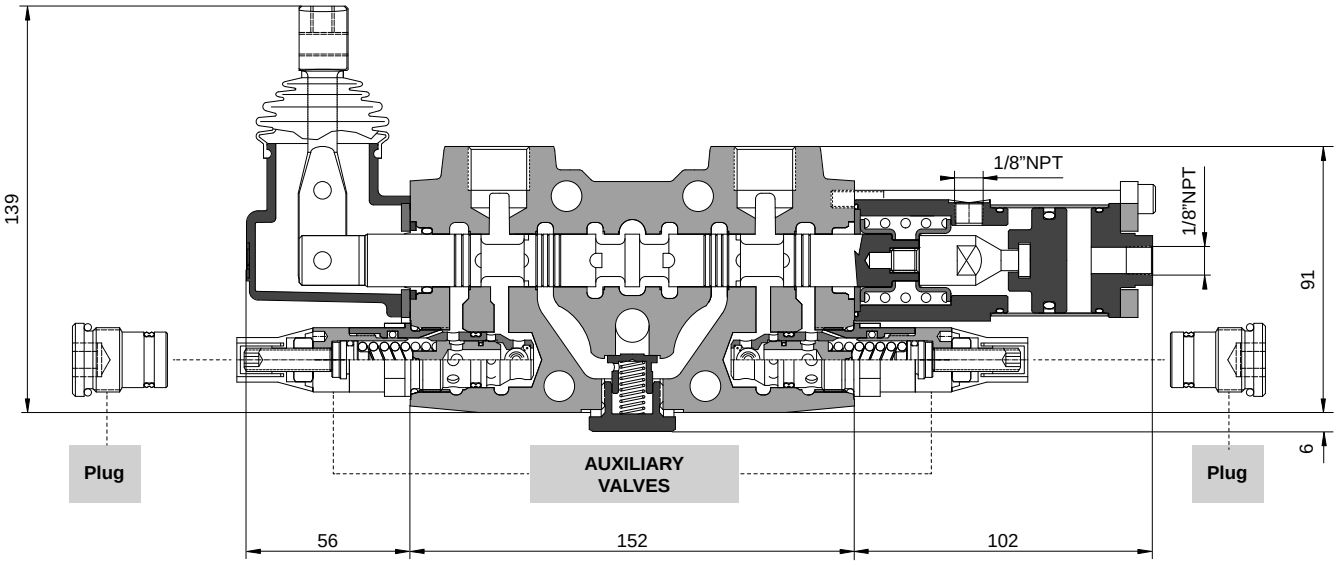
Coil voltage	Coil wattage	Coil resistance	Duty	Ambient operating Temperature (Coil)	Coil insulation
12 V DC	38 W	3,79 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H
24 V DC	38 W	15,16 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H

Pneumatic pilot

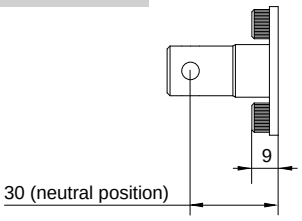
NOTE:
Pneumatic pilot normally use an operator type Z2 (standard), S or T. If you want use another type of operator for this pneumatic pilot, please contact.

Operator side (Z2)

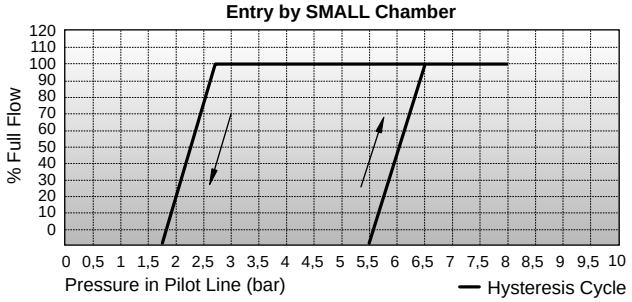
Spool position kit (22)



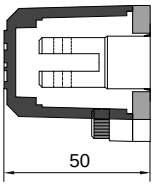
Operator side (S)



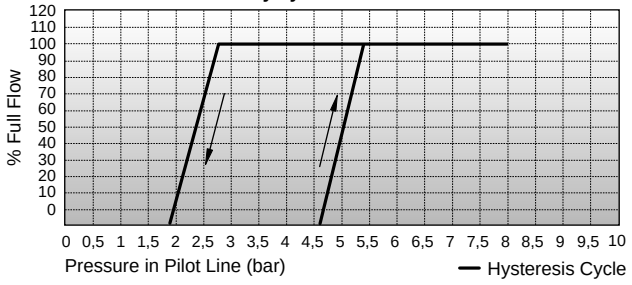
Pneumatic Pilot
Entry by SMALL Chamber

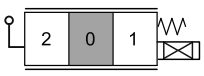


Operator side (T)



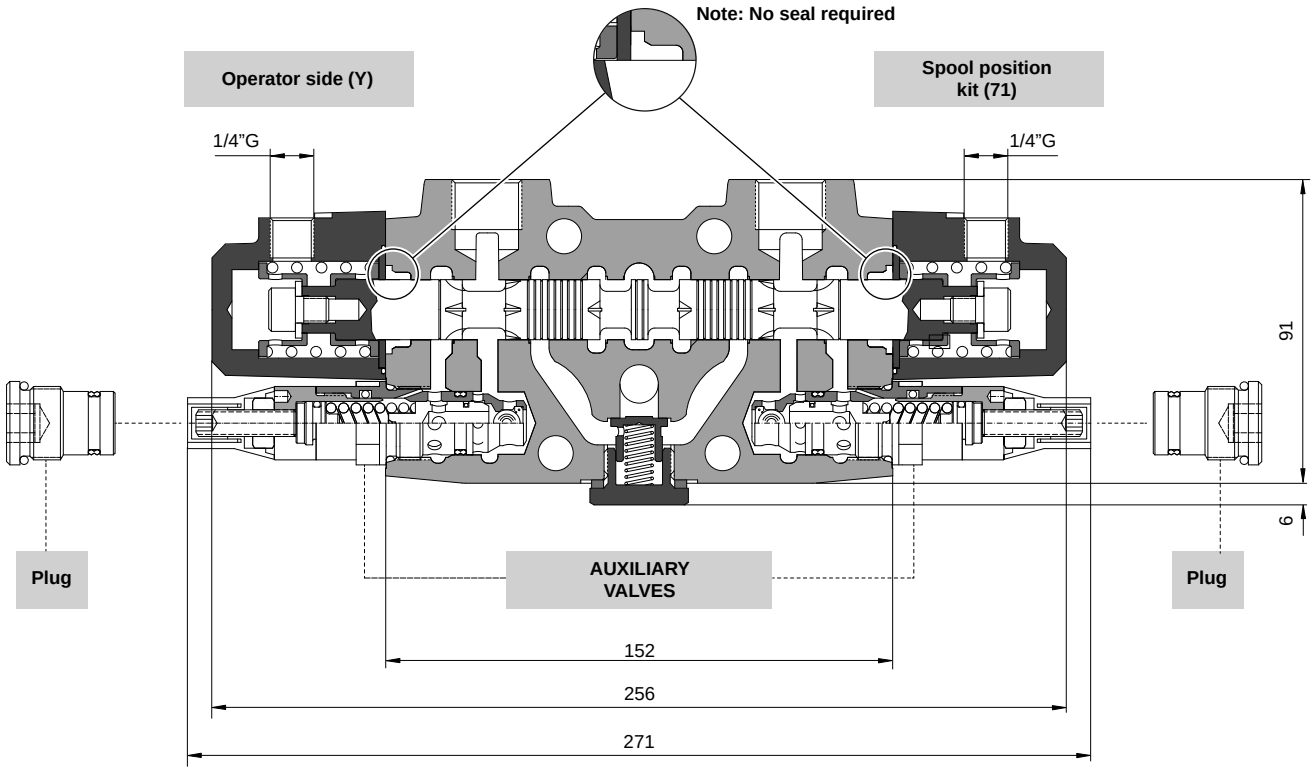
Pneumatic Pilot
Entry by LARGE Chamber

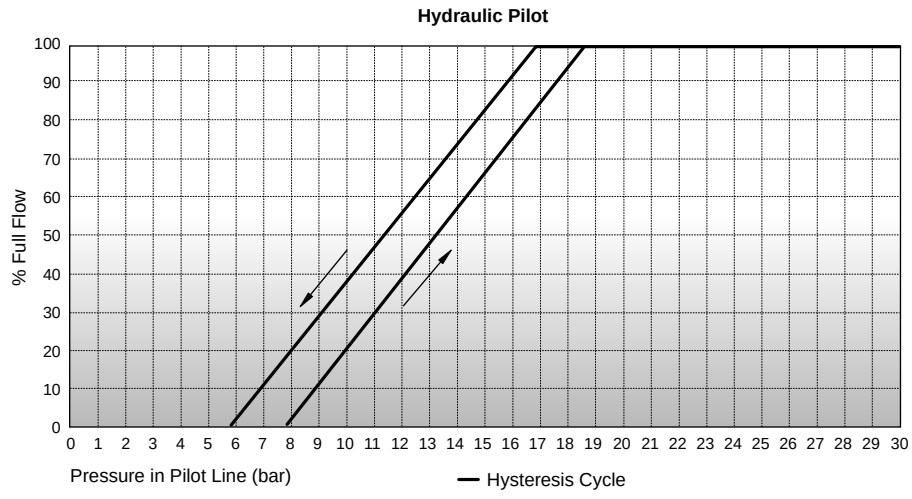


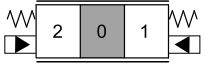
Operator	Spool position Kit	Function	Description
S Z2 T	22		Three positions pneumatic piloted.

Hydraulic pilot

NOTE:
Hydraulic pilot only use spool position kit 71 and operator Y.





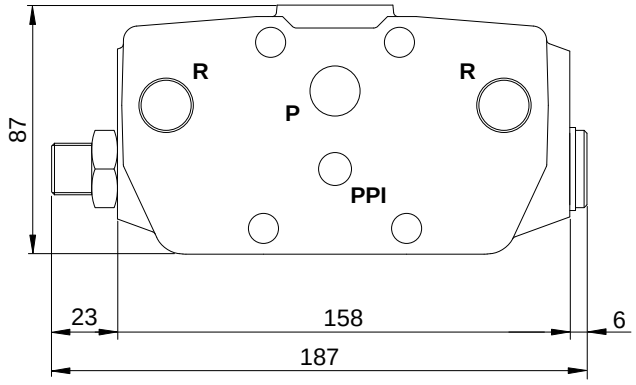
Operator	Spool position Kit	Function	Description
Y	71		Three positions hydraulic piloted.

WWW.SUMY.IR

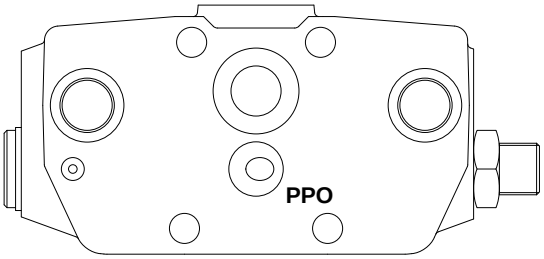
3 way flow control for directional control valves

This flow control section can be fitted at any position in valve assembly except final section, according to which sections are required with a reduced flow rate.
All sections downstream of this valve can only operated at this reduced flow rate.

INLET COVER SIDE



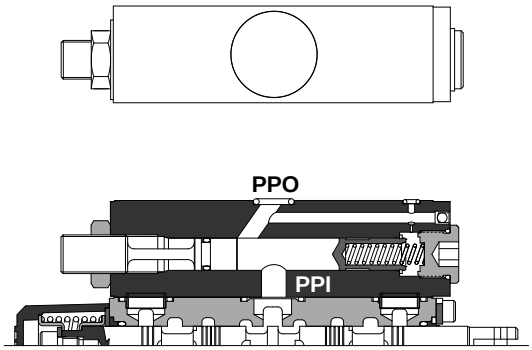
OULET COVER SIDE



NOTE:
Not possible reduce flow on final section.

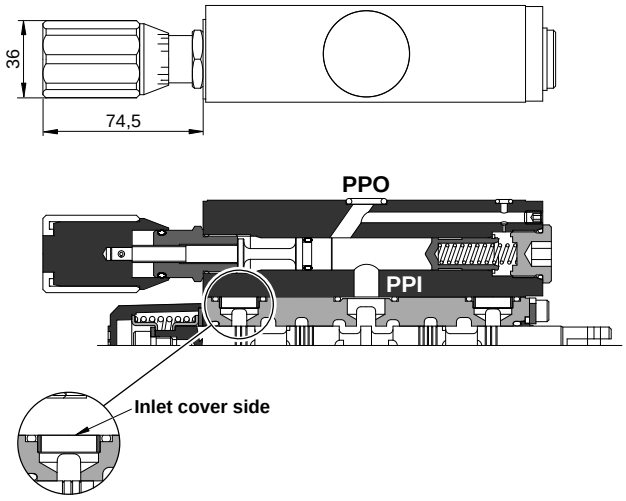
3 way flow control ajustable

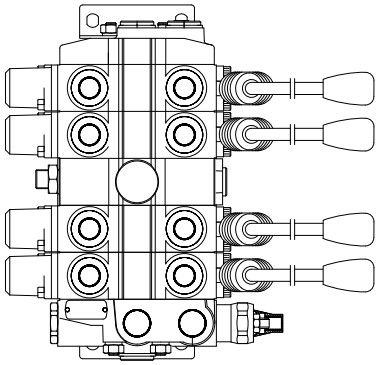
P.N. M6796002

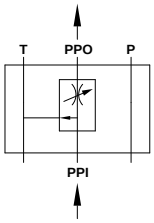


3 way flow control with knob

P.N. M6796003



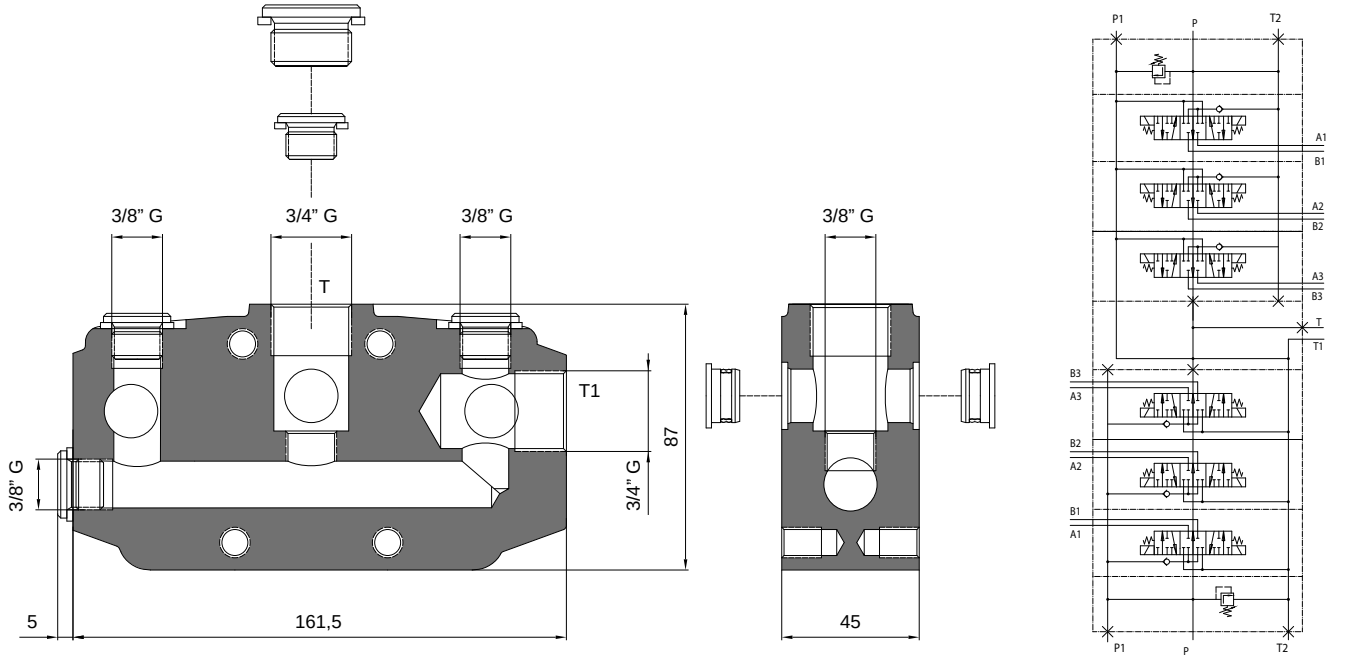




Technical data	
Nominal flow rate	80 l/min / 21 (US GPM)
Min. flow rate	5 l/min / 1 (US GPM)
Max. work pressure	350 bar / 5075 psi

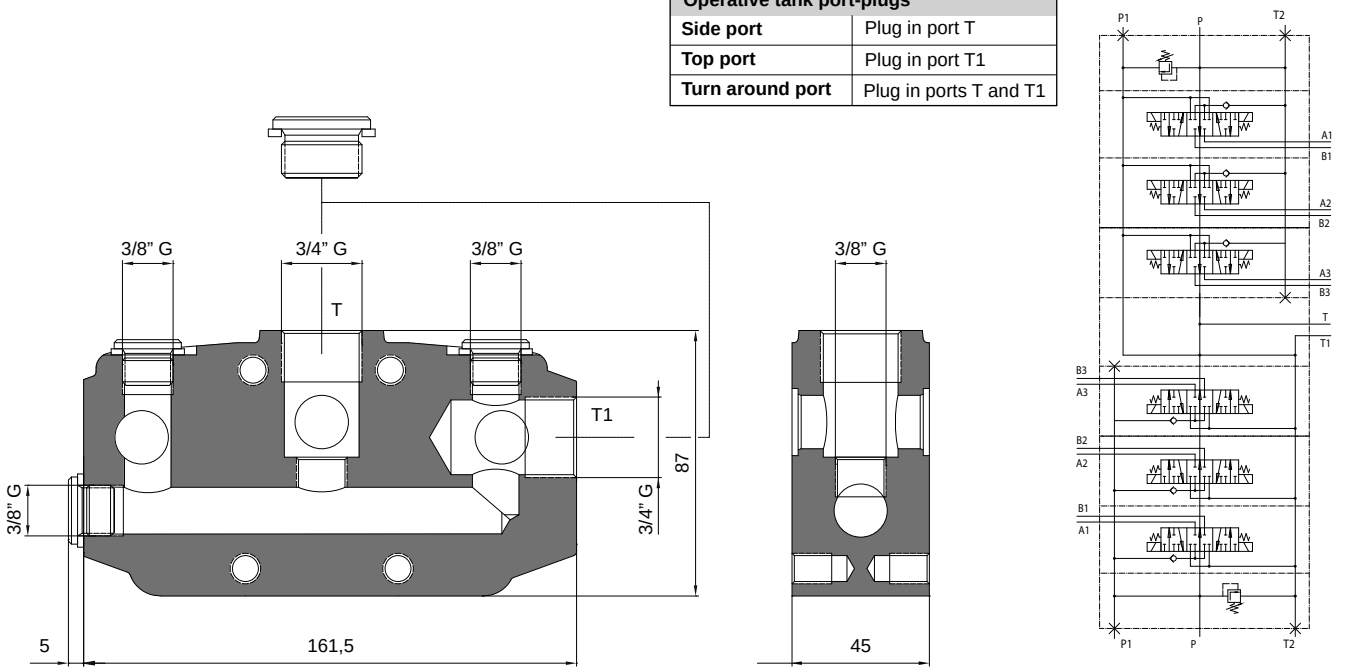
Mid-outlet scheme

Closed center (return C)



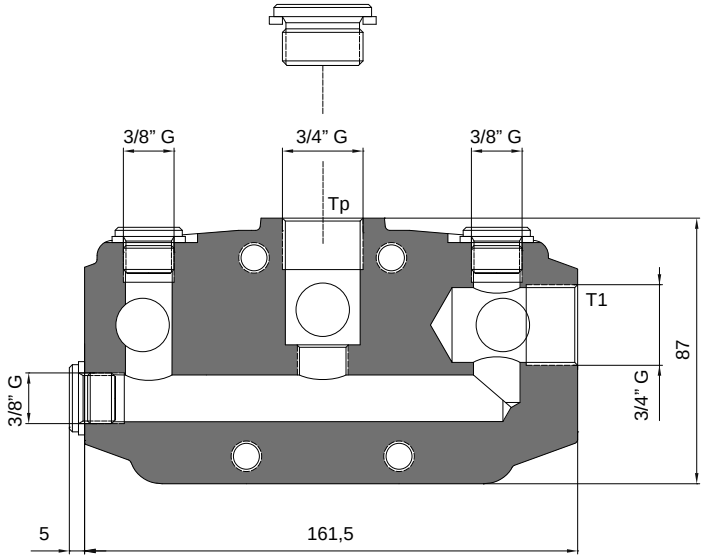
Free flow (return N)

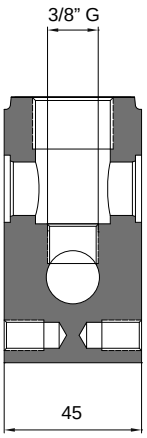
Operative tank port-plugs	
Side port	Plug in port T
Top port	Plug in port T1
Turn around port	Plug in ports T and T1

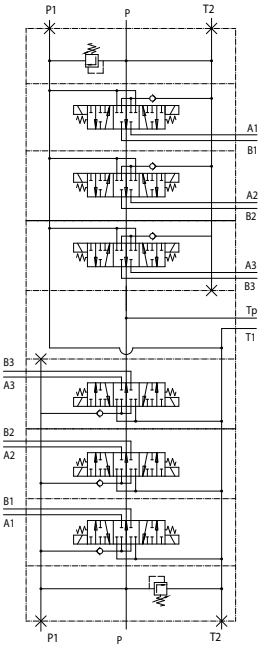


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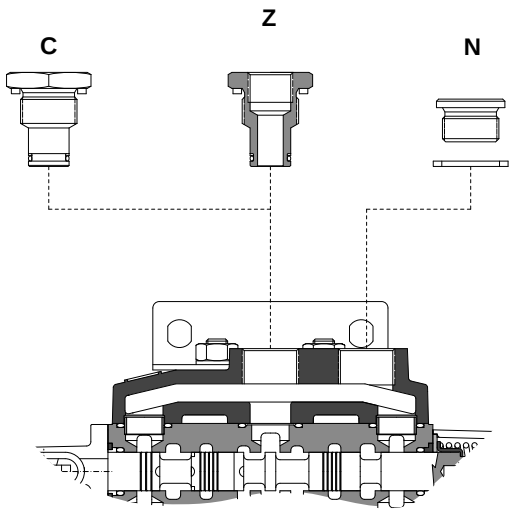
Power beyond (return Z)







Return configuration



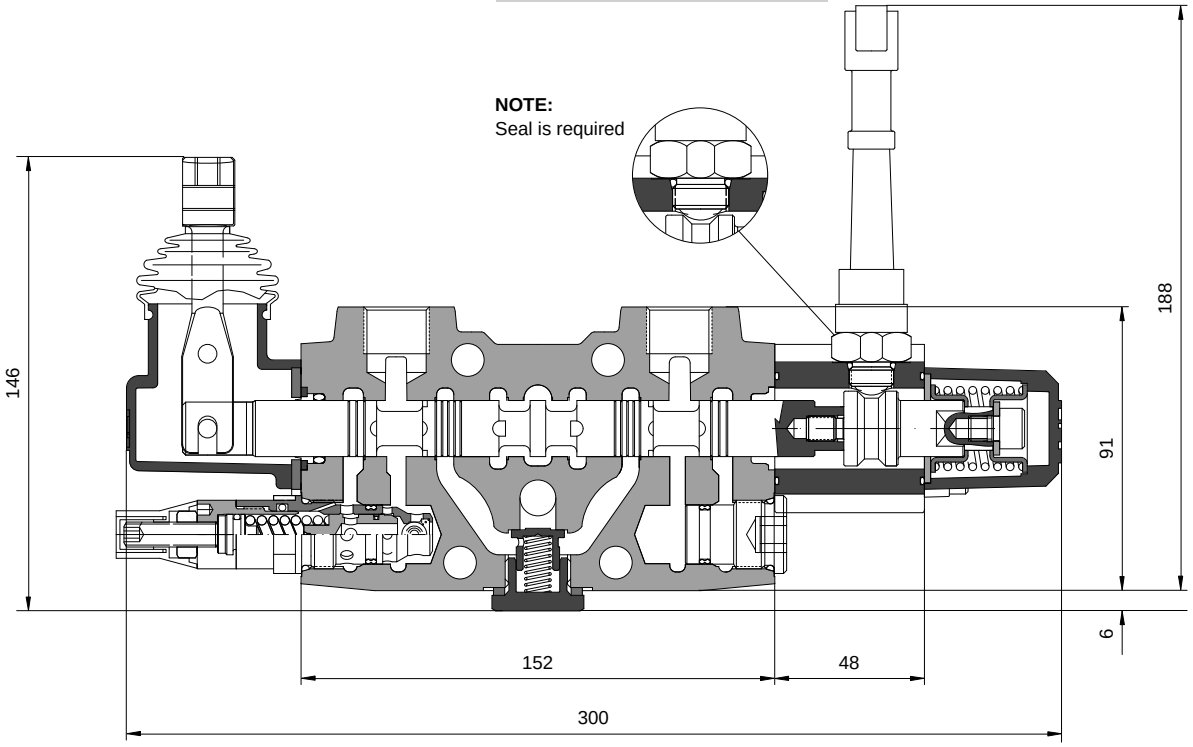
Return type		Ports	Part number
		T	
N	Open center	3/4" G.	Standard
Z	Power beyond	1/2" G.	N6412/270
C	Closed center	Plug	N6412/269

WWW.SUMY.IR

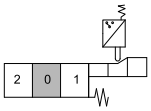
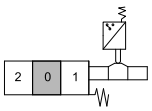
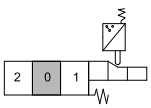
Position microswitch *

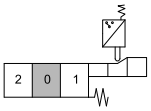
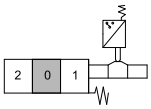
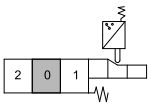
PRECISION BALL SWITCHES TECHNICAL DATA				
Current range	**Voltage range**	**Connector**	**Temperature range**	**Type**
0,01-5,0 Amp	5-24 V	Packard weather pack	-40 ºC to 120 ºC	Normally open
				Normally close

PACKARD WEATHER PACK
Female connector with male end.



* Subject to minimum order quantities

POSITION MICROSWITCH NORMALLY **OPEN**		
CODE FOR CONTROL VALVE SECTIONS PART NUMBER	**PART NUMBER KIT**	**FUNCTION**
NO1	M6412/888/1	
NO3	M6412/888/3	
NO2	M6412/888/2	

POSITION MICROSWITCH NORMALLY **CLOSE**		
CODE FOR CONTROL VALVE SECTIONS PART NUMBER	**PART NUMBER KIT**	**FUNCTION**
NC1	M6412/905/1	
NC3	M6412/905/3	
NC2	M6412/905/2	

CODING SYSTEM EXAMPLE: 406/A11Z2-D00/VA-13/T-0-**NO3**

CODING SYSTEM EXAMPLE: 406/A11Z2-D00/VA-13/T-0-**NC3**

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Request a ROQUET control valve

Type **406**

Specification sheet for special control valve with code

		Return type	End cover	Code (additional data, paint, etc.):
		C Closed center ☐ N Free flow ☐ Z H.P.C.O. ☐	Operativa port: Top port ☐ Front port ☐	
Elements	9	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	8	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	7	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	6	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	5	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	4	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	3	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	2	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	1	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
Type: 406 ☐ 1406 ☐		Unloading valve:	Inlet cover: Operative port: Top port ☐ Front port ☐	Main relief valve:

ROQUET part number

Main relief valve

Type	Return	S. p. device	Hand lever	Position	Setting	Spools	Voltage	Unloading valve	Code

Maximum number of characters as 25 by part number.
Note: Part number must be checked by PEDRO ROQUET S.A., It is reserved the right to change it. The code is provided only by PEDRO ROQUET S.A.

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MENU

Roquet

making **moves**

www.pedro-roquet.com

EN.08.03.02/05.18

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MENU

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412 - 1412
CONTROL VALVES



Roquet
making **moves**

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HISTORY Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.

TECHNOLOGY Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.

RELIABILITY A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.

CAPABILITY 400 well trained empoyees. Four factories with a total floor area of 30.000m² Current production 180.000 pumps, 300.000 control valve bodies, 500.000 cylinders and 30.000 power packs per year. Distribution network in over 35 countries.





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This range of directional control valves is primarily intended for applications such as construction, material handling and agricultural machinery etc.

The valves are actuated by hand-levers, pneumatic operated, cable operated, etc.

Auxiliary valves can be fitted in each port.

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This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to PEDRO ROQUET S.A. The specifications and data in this catalogue are not open to any interpretation, please contact with PEDRO ROQUET S.A. in case of doubt.
PEDRO ROQUET S.A. reserves the right to modify, update or revise this catalogue without prior notice.
PEDRO ROQUET S.A. IS NOT RESPONSABLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

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412

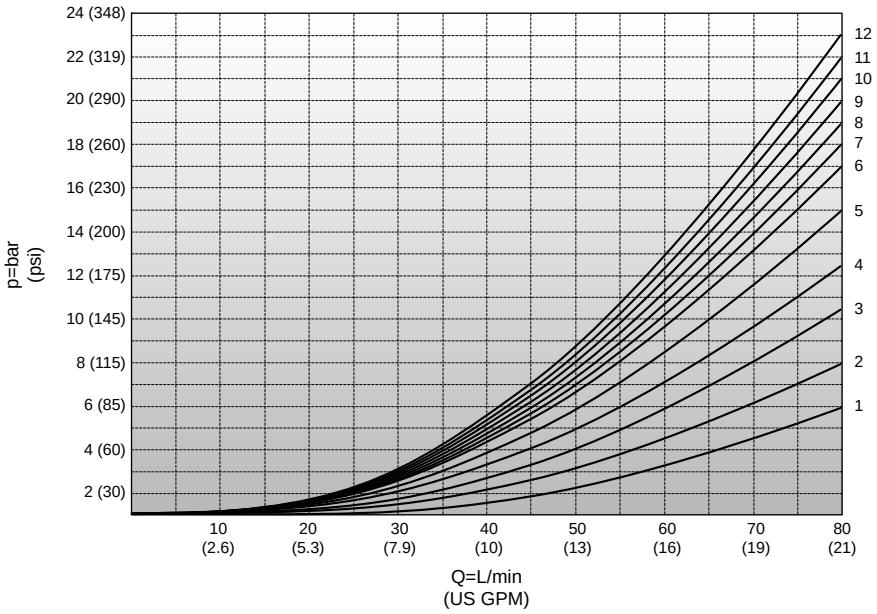


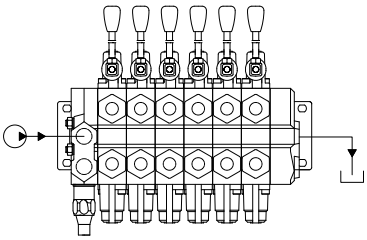
Technical data

CONTROL VALVES TYPE		412	1412
Ports A and B		3/8” G.	1/2” G.
Ports P and T		1/2” G.	1/2” G.
Maximum spool quantity		12	
Spool diameter (mm)		15	
Spool stroke (mm)		5	
Type		Parallel	
Nominal flow		50 (l/min.) / 13 (US GPM)	
Working max. pressure		350 bar / 5075 psi	
Return max. pressure T port	Static spool	80 bar / 1160 psi	
	During spool positioning	20 bar / 290 psi	
Spool force		18 Kg / 40 Lb	
Fluid to be used		ISO 6742 mineral-oil-based hydraulic fluid	
Temperature range (NBR)		-20ºC...+80ºC (-4º F...+176º F)	
Viscosity range		ISO 3448 CAT. VG22-VG68	
Recommended fluid cleanliness		16/13 s./ ISO 4406 - NAS 10	

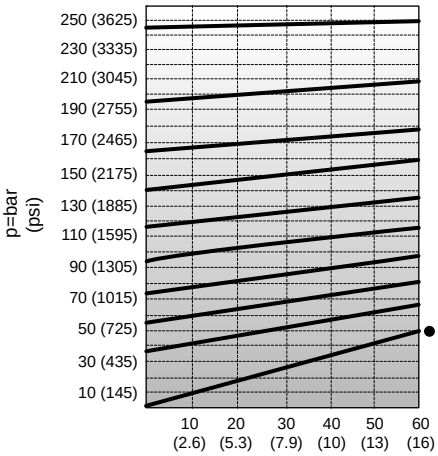
Diagrams

P→T



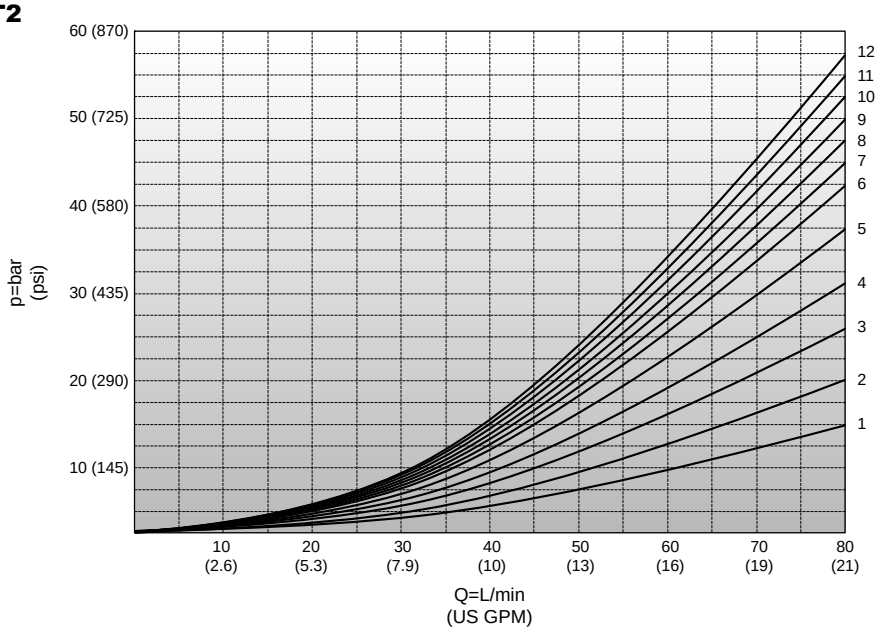


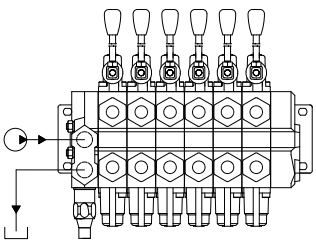
Relief valve



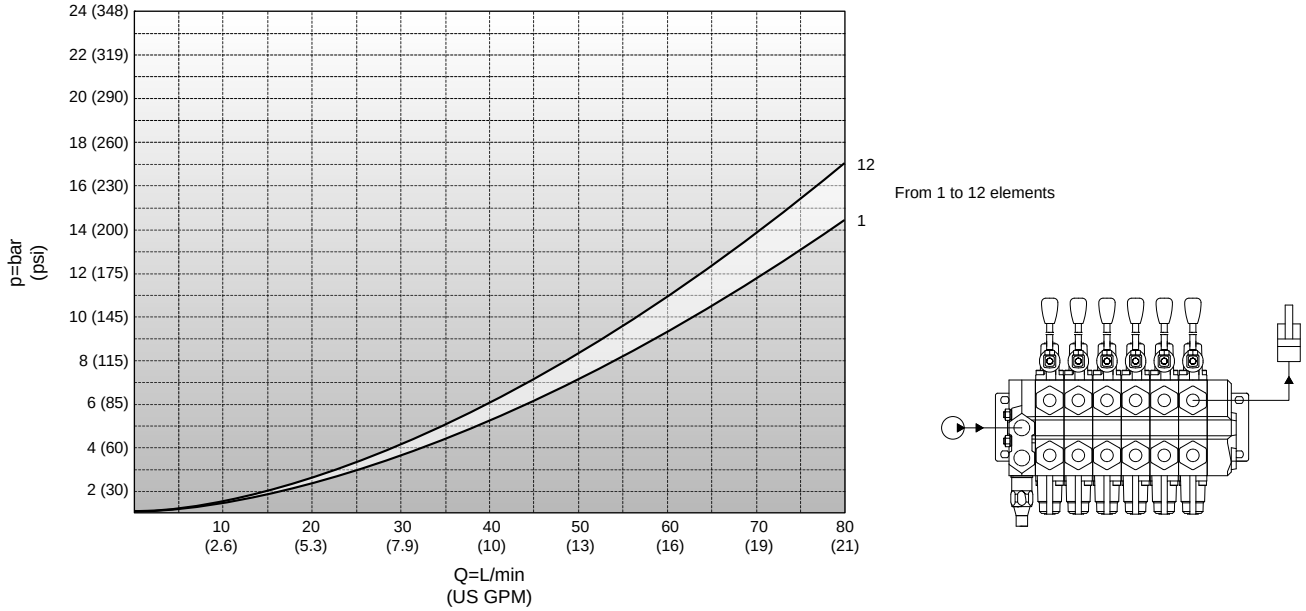
● **Minimal pressure curve**

P→T2

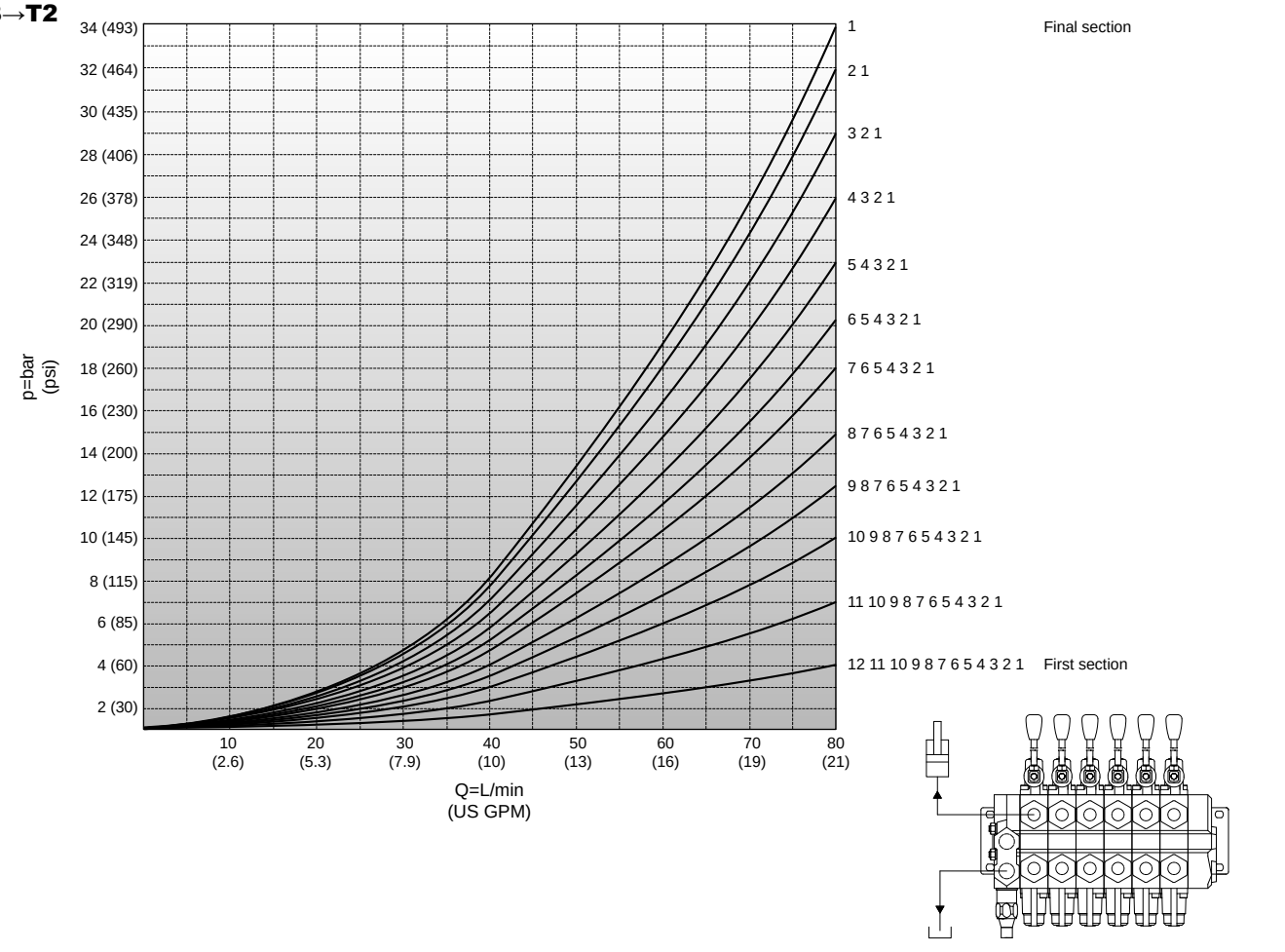




P→A or B



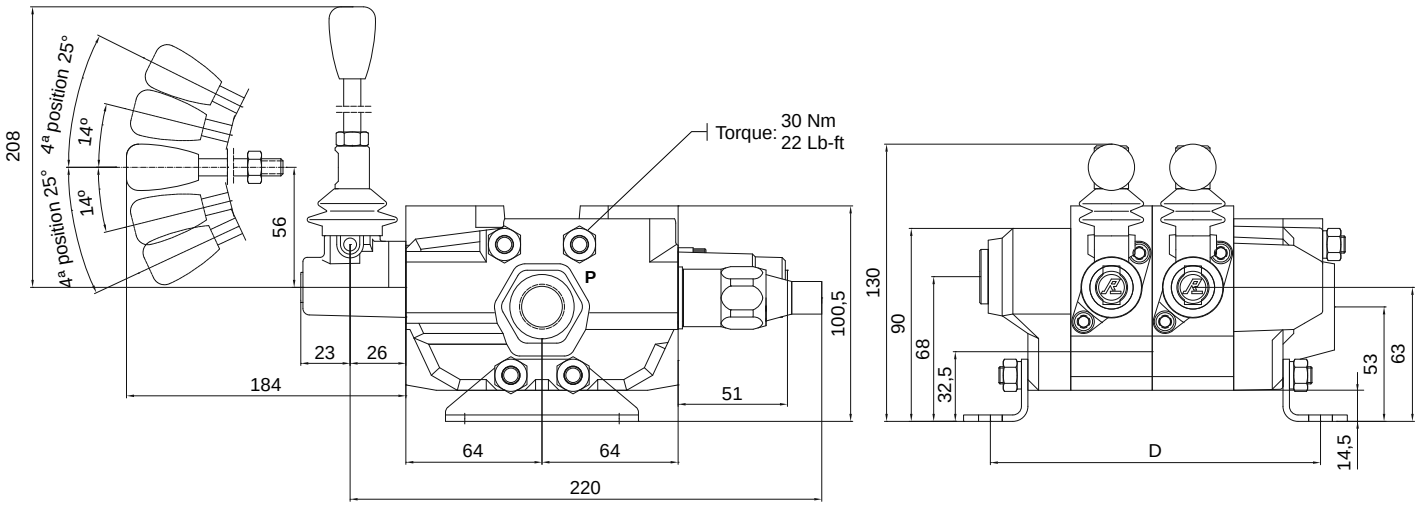
A or B→T2

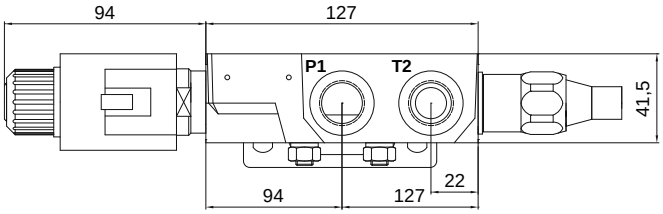


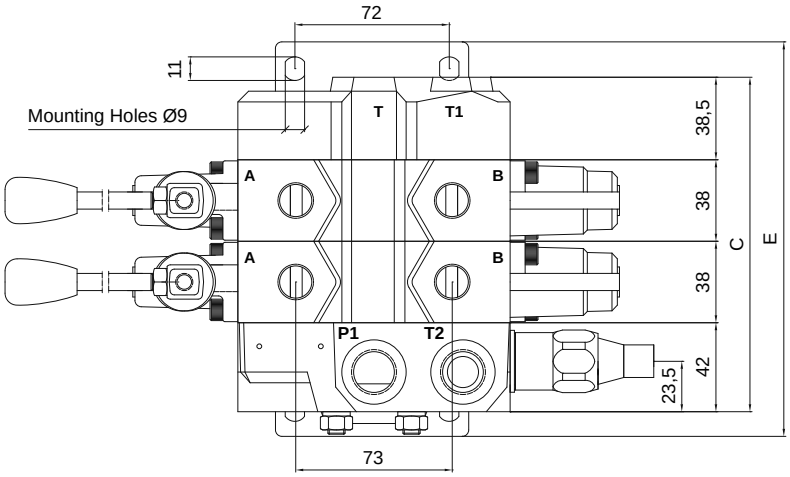
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Directional control valve dimensions

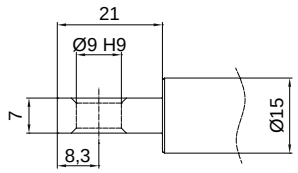
Type **412**



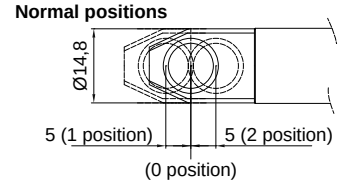




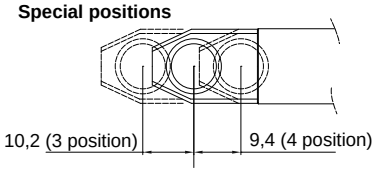
SPOOL DETAIL END



Normal positions



Special positions



P-P1	Pressure ports
A-B	Work ports

FREE FLOW

T-T1-T2	All are tank ports

POWER BEYOND

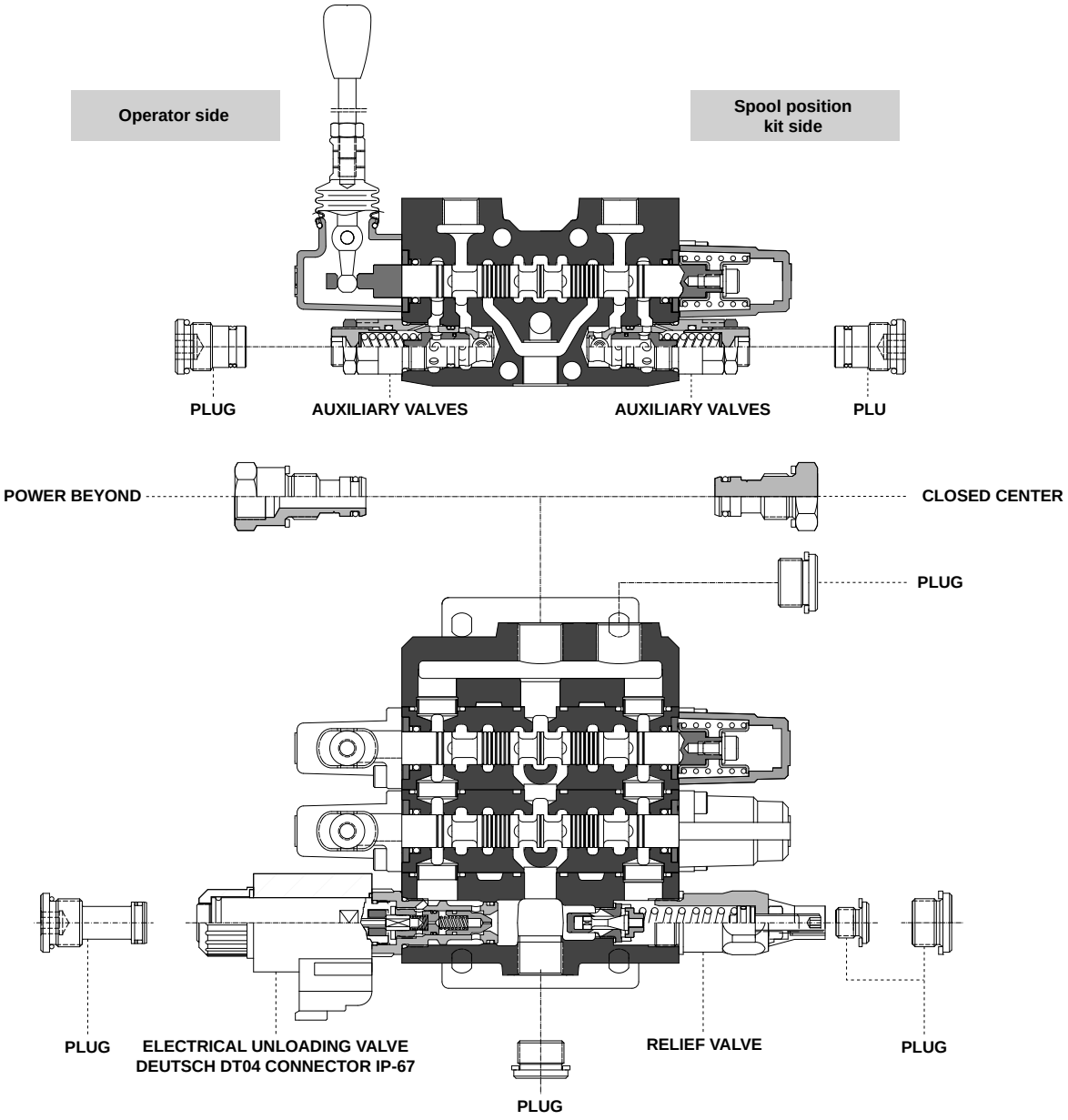
T	Power
T1-T2	Tank port

CLOSED CENTER

T	Closed
T1-T2	Tank port

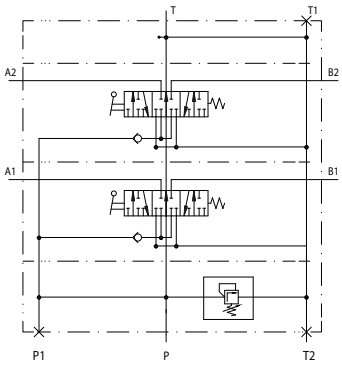
NOTE:
Port A is always next to operator side even if the section is assembled with levers on the other side.

Spool count	1	2	3	4	5	6	7	8	9	10	11	12
C (mm)	118	156	194	232	270	308	346	384	422	460	498	536
D (mm)	116	154	192	230	268	306	345	382	420	458	496	534
E (mm)	146	184	222	260	298	336	374	412	450	488	526	564
Weight in kg	5	8	11	14	17	20	23	26	29	32	35	38
Weight in Lb	11	17,5	24,3	31	37,5	44,3	51	57,5	64,3	71	77,5	84,3

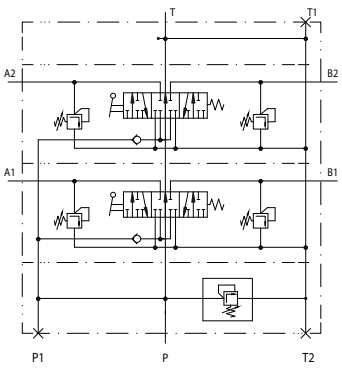


Hydraulic circuit

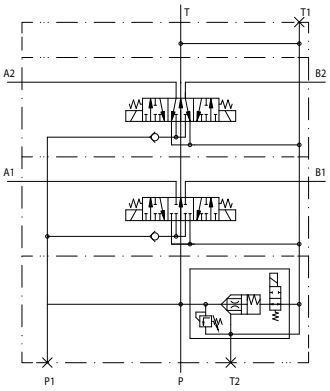
Hydraulic scheme with main relief valve.

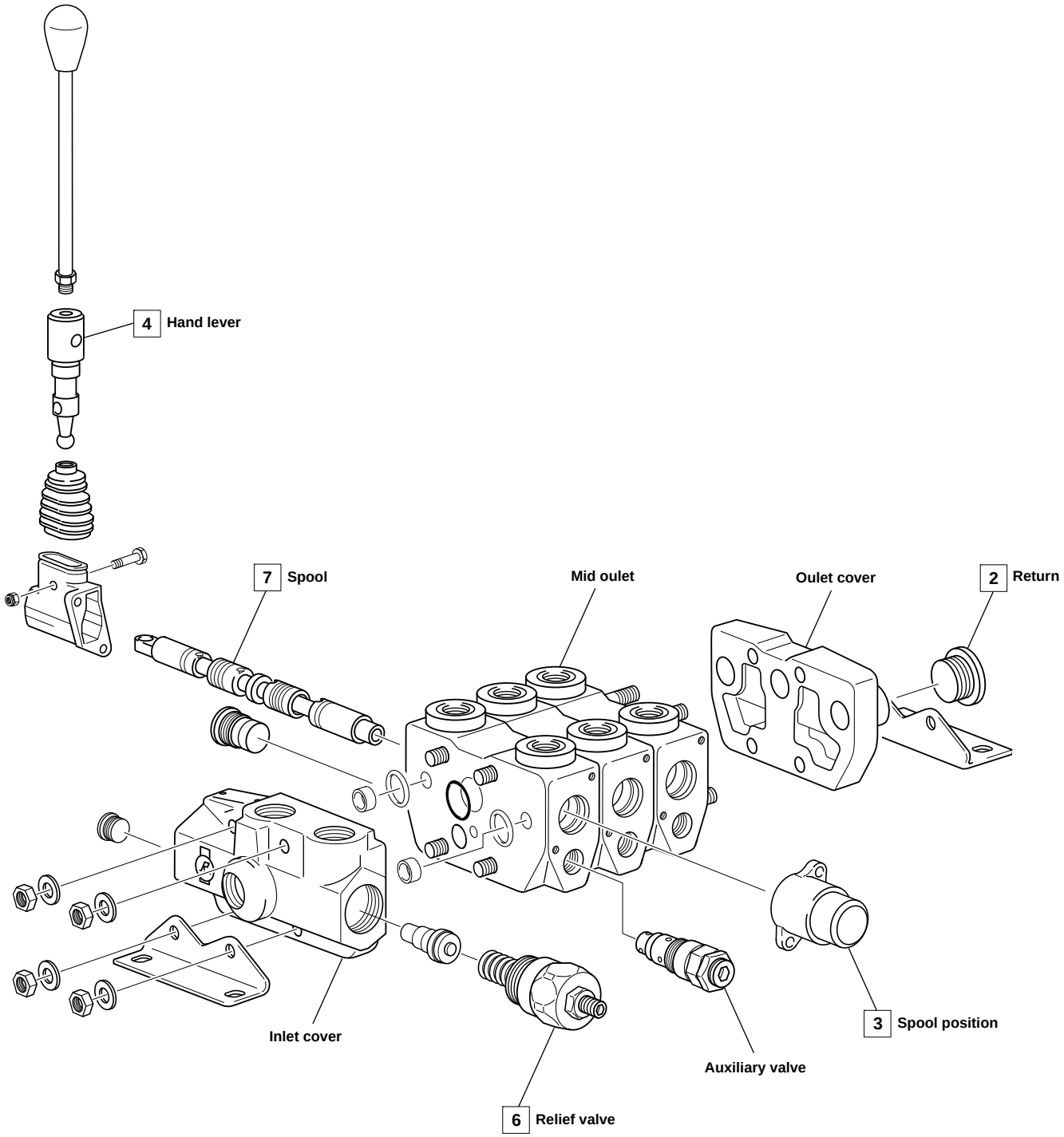


Hydraulic scheme with main relief valve and auxiliary valves.



Hydraulic scheme with main relief valve and unloading valve.




4 Hand lever
7 Spool
Mid oulet
Oulet cover
2 Return
Inlet cover
3 Spool position
Auxiliary valve
6 Relief valve

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OPERATING SECTIONS

412	N	11	P	A	12	D	24 – L12 –	CODE
1	2	3	4	5	6	7	8	9	10

1	Control valve type
412	Port A - B 3/8" G.
1412	Port A - B 1/2" G.

2	Return configuration
N	Open center both valves.
Z	Power beyond both valves.
C	Closed center both valves.

3	Spool position kits
2	Three positions with detent.
7	Two positions with detent, third position return by spring.
9	Two ends positions with detent.
11	Three positions return to neutral by spring.
14	Two positions, neutral and end position by detent, action pushing spool.
20	Four positions three return by spring the fourth detented, pulling spool.
22	Three positions pneumatic pilot (see more inf. page 25).
24	Two positions, neutral and end position by detent, action pulling spool.
29	Three positions. Central by spring and two end positions with detent.
35	Three positions. Rotative device with detent in neutral position.
36	One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.
71	Three positions hydraulic piloted (see more inf. page 24).
74	One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.
75	One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.
83	Direct solenoid operated, three positions spring centered (see more inf. page 21, 22).
84	Direct solenoid operated, two positions (center + one end). Solenoid side port A. (see more inf. page 21, 22).

4	Operators
X	Mechanical joystick or special options.
Y	Hydraulic pilot (see more inf. page 24).
P2	Lever box with lever and rubber boot.
D2	Lever box with rubber boot, inverted 180º.
Z2	Lever box with rubber boot and without lever.
PI	Extension lever box with rubber boot inverted 180º.
T	Spool end cap.
S	Open spool end (no lever box).
I	Cable control.
E	Electrical control with DEUTSCH connector without diode, only for 83, 84 spool position kit.
ME	Emergency operator with DEUTSCH connector without diode, only for 83, 84 spool position kit.
R	Rotative operator.

5	Main relief valve position



Standard

6	Auxiliary valve pressure range (pressure set al 22l/min.)			
Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
00		Without cavity for valve.	

7	Spool types
D	3 position, 4-way, double acting, A and B ports blocked in 0 position.
I	3 position, 4-way, double acting, A and B ports open to tank in 0 position.
U	3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.
S	3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.
V	3 position, 3 -way, single acting, B port blocked in position 0, A port plugged.
L	4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

8	D.C. VOLTAGE (Only for spool position kits 83, 84)
12	12 V
24	24 V

9	With electrical unloading valve
E12	DEUTSCH connector 12 V.
E24	DEUTSCH connector 24 V.
L12	HIRSCHMANN connector 12 V.
L24	HIRSCHMANN connector 24 V.
L0	Plug.
HP	Hydraulic piloted.

10	CODE

INLET SECTION

412 / CV – 11 – 24 – S – CODE

Control valve type
412

Front cover type	
CV	Front cover with relief valve.
SV	Front cover without relief valve.

Main relief valve pressure range standard (pressure set at 22l/min)			
Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
00		Without main relief valve (for SV front cover type)	

Code

Operative pressure port	
S	Side port (P1 plugged).
T	Top port (P plugged).

With electrical unloading valve	
E12	DEUTSCH connector 12 V.
E24	DEUTSCH connector 24 V.
L12	HIRSCHMANN connector 12 V.
L24	HIRSCHMANN connector 24 V.
L0	Plug.
HP	Hydraulic piloted.
00	Without cavity for unloading valve.

OUTLET SECTION

412 / CF – N – S – CODE

Control valve type
412

Outlet	
CF	Outlet cover.

Code

Operative tank port	
S	Side port (T1 plugged).
A	Turn around port (T plugged).

Return configuration	
N	Open center.
Z	Power beyond.
C	Closed center.

MID-OUTLET SECTION

412 / CIA – N – S – CODE

Control valve type
412

Control valve type	
CIA	Side port in A side.
CIB	Side port in B side.

Code

Operative tank port	
S	Side port (T plugged).
A	Turn around port (T and T1 plugged).
T	Top port (T1 plugged).
00	For closed center or power beyond.

Return configuration	
N	Open center both valves.
Z	Power beyond both valves.
C	Closed center both valves.
K	Closed center-Open canter.

NOTE 1:
CIA and CIB its the same components, just rotated 180º when is assembled a complete control valve.

NOTE 2:
406 and 1406 control valves; inlet, outlet and mid-outlet sections are the same

OPERATING SECTIONS

PORT A PORT B

412	/	A	2	Z2	–	D	12	/	SA	–	12	/	T	–	0	–	CODE

Code

Microswitch (page: 29)

Control valve type	
412	Port A - B 3/8" G.
1412	Port A - B 1/2" G.
422	Pilot operated check valve A - B 3/8" G.

Main relief valve position



Standard

Auxiliary valve pressure range (pressure set al 22l/min.)

Adjustment		Pressure range bar	Pressure range psi
Adjustable	Tamper-proof		
11	41	5-80 (80)	70-1100 (1100)
12	42	85-175 (160)	1200-2500 (2200)
13	43	180-250 (200)	2600-3600 (2900)
14	44	255-350 (315)	3700-5000 (4600)
0		Without valve.	

Auxiliary valves	
VA	Port relief and anticavitation valve.
SA	Port relief valve.
A	Anticavitation.
T	Plug.
0	Section without cavity for valves.

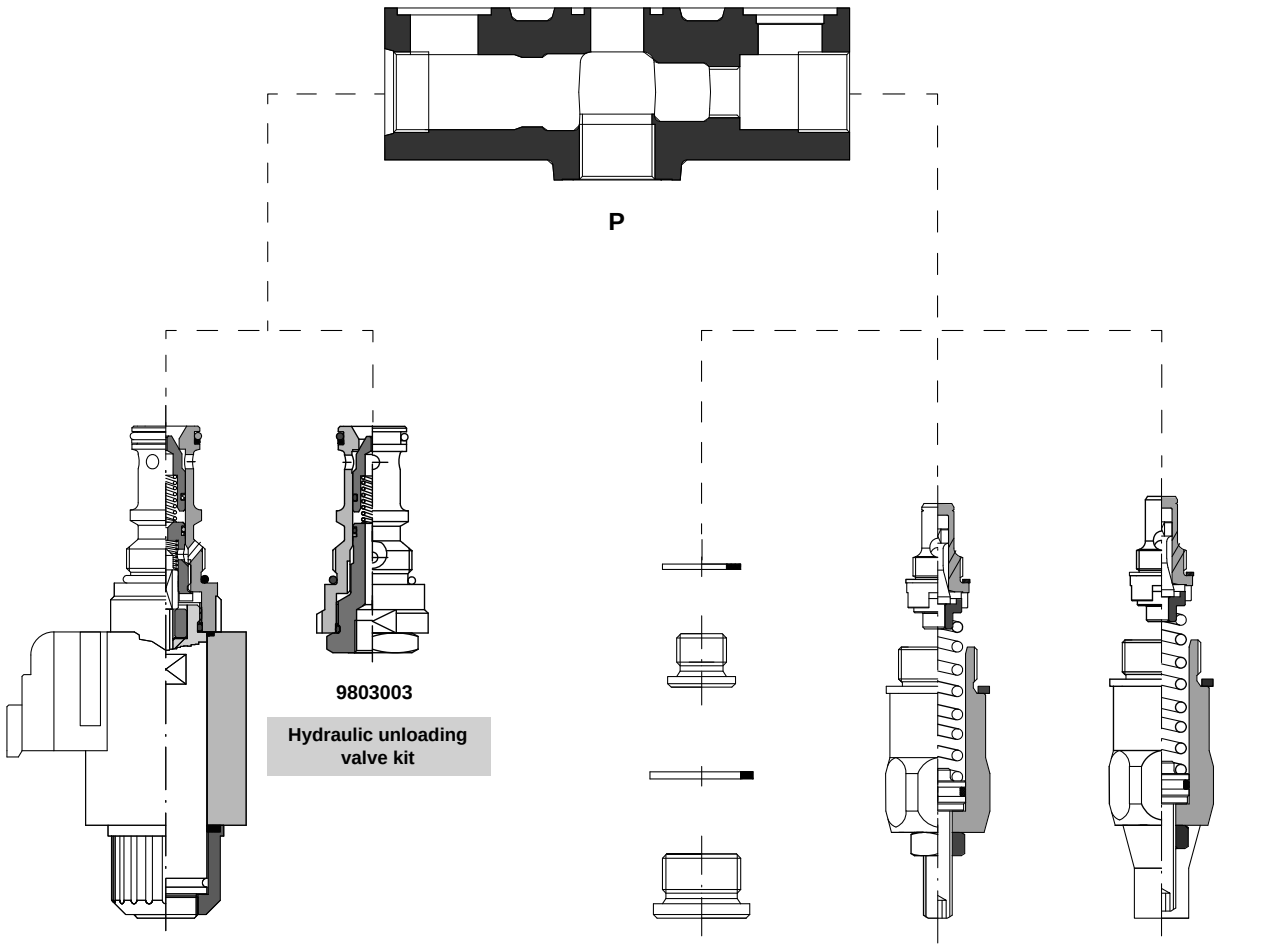
D.C. VOLTAGE (Only for spool position kits 83, 84)	
12	12 V
24	24 V
00	When spool position kit is different to 83 or 84.

Spool position kits	
02	Three positions with detent.
07	Two positions with detent, third position return by spring.
09	Two ends positions with detent.
11	Three positions return to neutral by spring.
14	Two positions, neutral and end position by detent, action pushing spool.
20	Four positions three return by spring the fourth detented, pulling spool.
22	Three positions pneumatic pilot (see more inf. page 25).
24	Two positions, neutral and end position by detent, action pulling spool.
29	Three positions. Central by spring and two end positions with detent.
35	Three positions. Rotative device with detent in neutral position.
36	One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.
71	Three positions hydraulic piloted (see more inf. page 24).
74	One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.
75	One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.
83	Direct solenoid operated, three positions spring centered (see more inf. page 21, 22).
84	Direct solenoid operated, two positions (center + one end). Solenoid side port A. (see more inf. page 21, 22).

Spool types	
D	3 position, 4-way, double acting, A and B ports blocked in 0 position.
I	3 position, 4-way, double acting, A and B ports open to tank in 0 position.
U	3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.
S	3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.
V	3 position, 3 -way, single acting, B port blocked in position 0, A port plugged.
L	4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

Operators	
X	Mechanical joystick or special options.
Y	Hydraulic pilot (see more inf. page 24).
P2	Lever box with lever and rubber boot.
D2	Lever box with rubber boot, inverted 180º.
Z2	Lever box with rubber boot and without lever.
PI	Extension lever box with rubber boot inverted 180º.
T	Spool end cap.
S	Open spool end (no lever box).
I	Cable control.
E	Electrical control with DEUTSCH connector without diode, only for 83, 84 spool position kit.
ME	Emergency operator with DEUTSCH connector without diode, only for 83, 84 spool position kit.
R	Rotative operator.

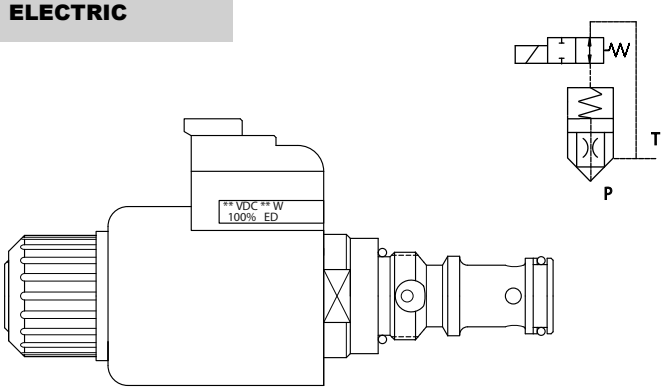
Main relief valve and unloading valve



Main relief valve (pressure set at 22l/min)						
Pressure range		Adjustable	Tamper-proof	Tamper-proof P.N.	Hat P.N.	Spring P.N.
5-80 (80) bar	70-1100 (1100) psi	11	41	6420/28	Estándar	714/8/1
85-175 (160) bar	1200-2500 (2200) psi	12	42			1671/23
180-250 (200) bar	2600-3600 (2900) psi	13	43			Estándar
255-350 (315) bar	3700-5000 (4600) psi	14	44		2249/29	1670/234

Unloading valve

ELECTRIC



Part number

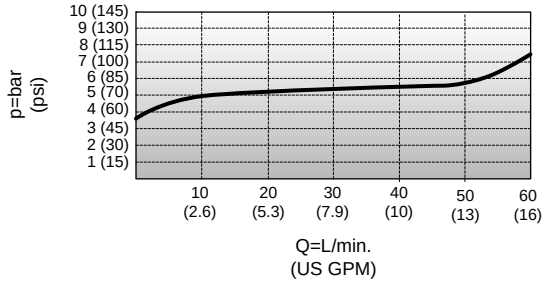
97180∗3/∗-∗

Connector type	
0	HIRSCHMANN
2	DEUTSCH

Power (W)	
30	30 W

Voltage (DC)	
D12	12 V
D24	24 V

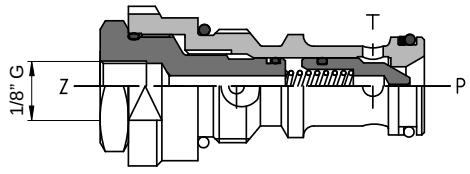
Unloading electric valve

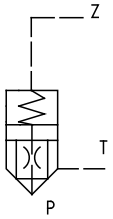


Technical data	
Opening pressure	4-5 bar / 58-72 psi
Nominal flow	50 L./mín. / 13 (US GPM)
Max. work pressure	350 bar / 5075 psi
Max. return pressure	80 bar / 1160 psi
Min. pressure form P to T	6 bar / 87 psi
Viscosity range	ISO 3448 cat. VG22-VG68
Hydraulic fluid temperature range	-20ºC a +80ºC / -4ºF a +176ºF)
Control voltage	DC 12V - 24V
Duty cicle	100%
Protection DIN 40050	DEUTSCH IP-67 HIRSCHMANN IP-65

HYDRAULIC

Part number 9803003





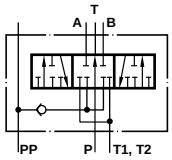
Technical data	
Opening pressure	4-5 bar / 58-72 psi
Nominal flow	50 L./min. / 13 (US GPM)
Max. work pressure	350 bar / 5075 psi
Max. return pressure	80 bar / 1160 psi
Min. pressure form P to T	6 bar / 87 psi
Viscosity range	ISO 3448 cat. VG22-VG68
Hydraulic fluid temperature range	-20ºC...+80ºC / -4ºF...+176ºF)

WWW.SUMY.IR

Spool types

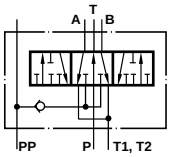
D

3 position, 4-way, double acting, A and B ports blocked in 0 position.



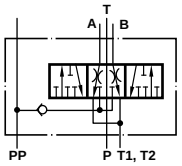
I

3 position, 4-way, double acting, A and B ports open to tank in 0 position.



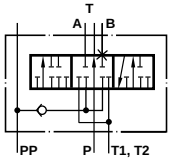
U

3 position, 4 -way, double acting, A and B ports restricted to tank in 0 position.



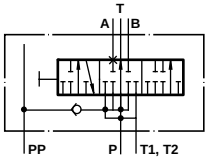
S

3 position, 3 -way, single acting, A port blocked in position 0, B port plugged.



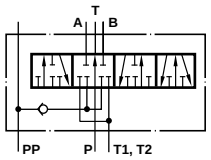
V

3 position, 3-way, single acting, B port blocked in position 0, A port plugged.



L

4 position, 4-way, double acting, A and B port blocked in position 0, 4th position float.

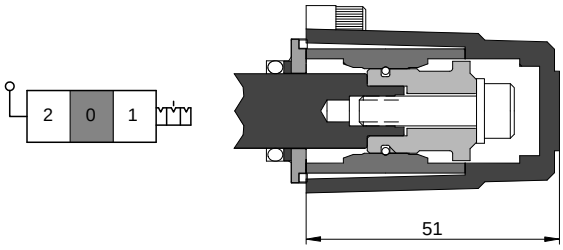


WWW.SUMY.IR

Spool position kits

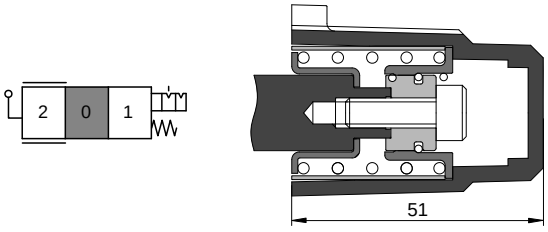
2 — P.N. M7799/5/2

Three positions with detent.



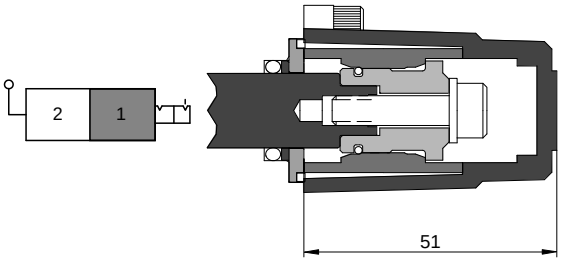
7 — P.N. M7799/5/7

Two positions with detent, third position return by spring.



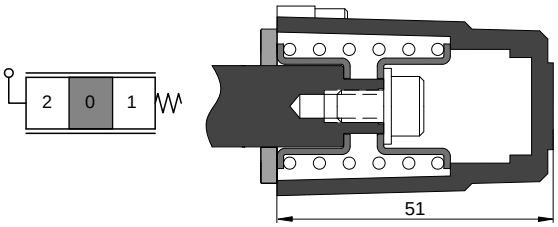
9 — P.N. M7799/5/9

Two ends positions with detent.



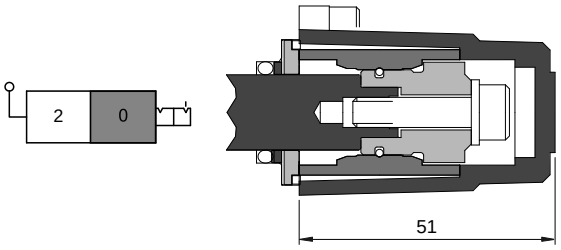
11 — M7799/5/11

Three positons return to neutral by spring.



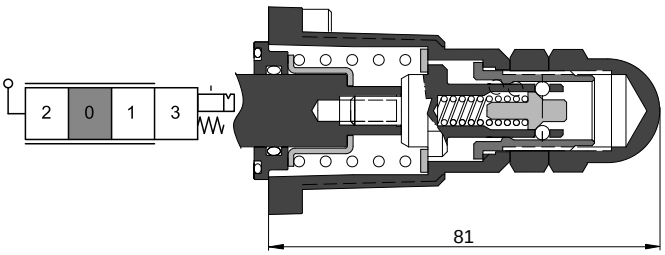
14 — P.N. M8412/221

Two positions, neutral and end position by detent, action pushing spool.



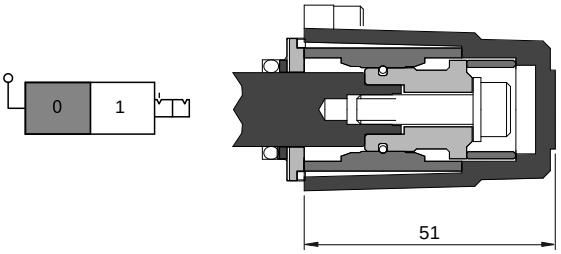
20 — P.N. M8412/176

Four positions three return by spring the fourth detented pulling spool.



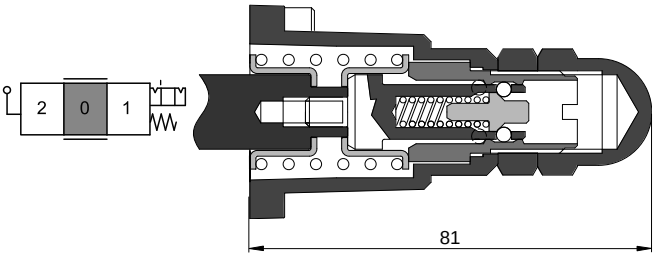
24 — P.N. M7799/183

Two positions, neutral and end position by detent, action pulling spool.



29 — P.N. M7799/5/29

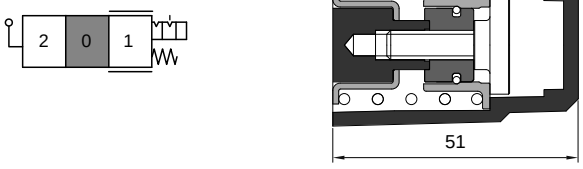
Three positions. Central by spring and two end positions with detent.



Spool position kits

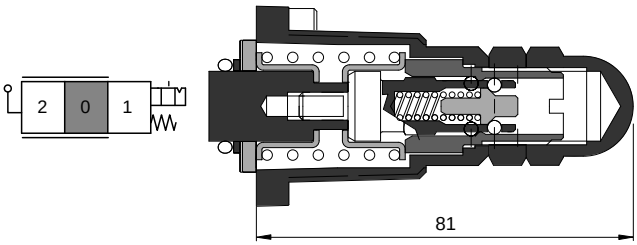
36 **P.N. M7799/5/36**

One end position and neutral position with detents, action pushing spool; and other end position by spring, action pulling spool.



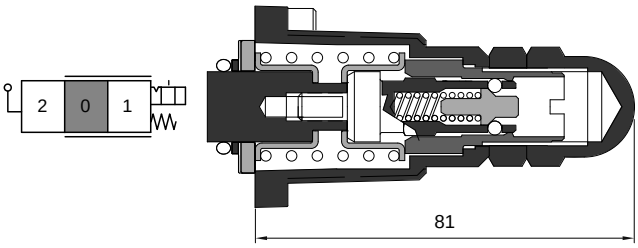
74 **P.N. M8412/226**

One end position with detent, action pulling spool; Neutral and other end position by spring, action pushing spool.



75 **P.N. M8412/227**

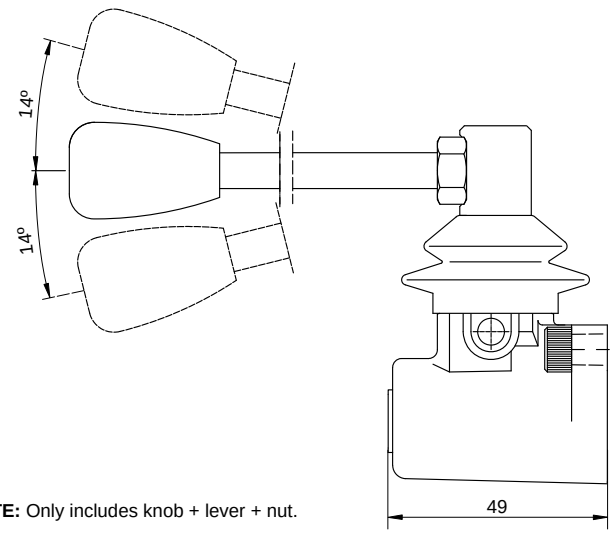
One end position with detent, action pushing spool; Neutral and other end position by spring, action pulling spool.



Operators

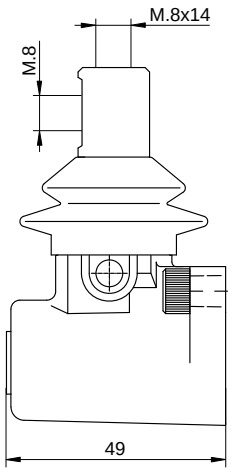
Lever box with lever **P.N. 8412267** **P2**

D2 Is the same operator rotated 180º but de not allow port vales options



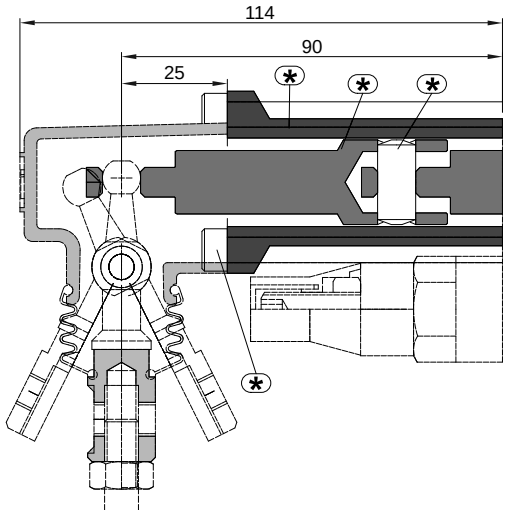
NOTE: Only includes knob + lever + nut.

Lever box without lever (Standard) **Z2**



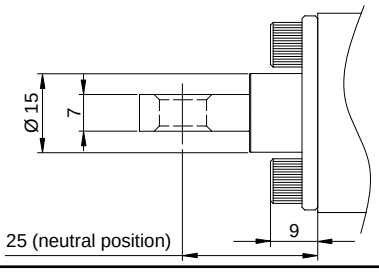
Operators

Extension lever box with rubber boot rotated 180º — P.N. 7799/166 — PI

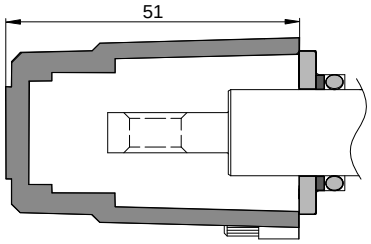


NOTE:
Only includes pieces with mark *

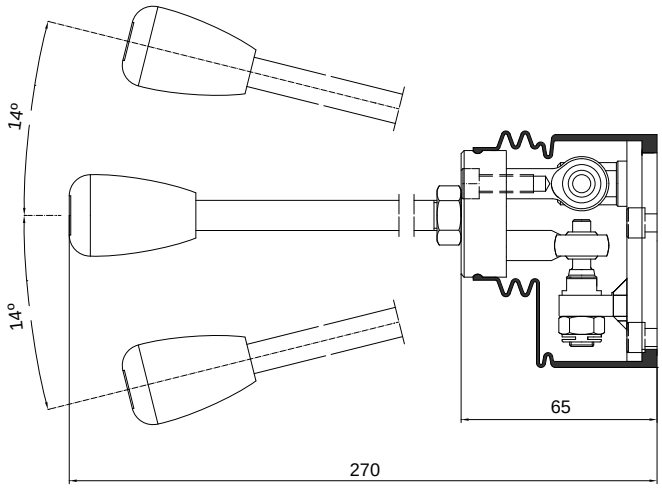
Open spool end (no lever box) — P.N. M7799/6/4 — S



Spool end cap — P.N. M7799/6/5 — T

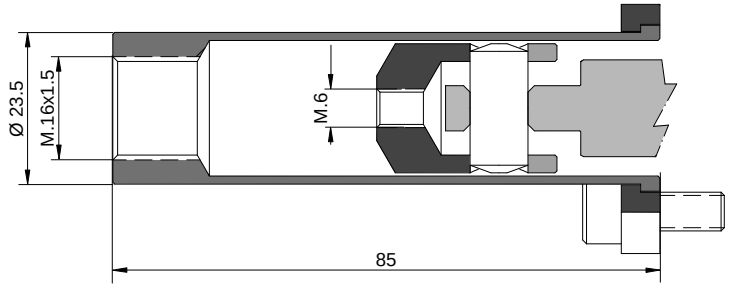


Mechanical joystick — P.N. M7799/123 — X

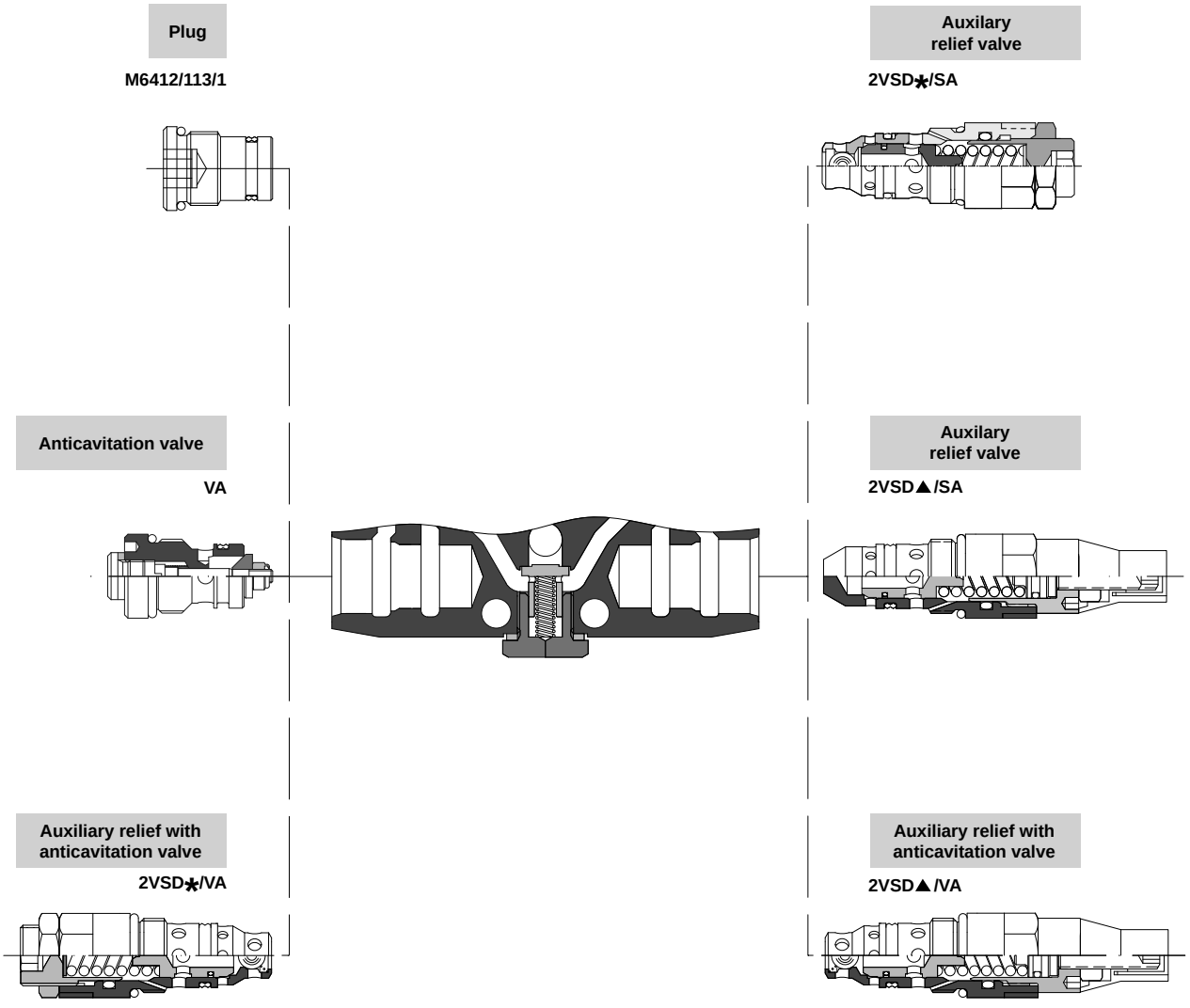


NOTE:
14º degree at all directions.

Cable control — P.N. M7799/6/1 — I



Auxiliary valves



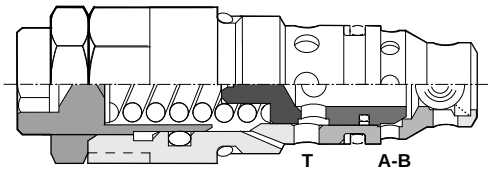
Port relief pressure setting (pressure set at 12l. min)			
Adjustable ✱	Tamper-proof ▲	Pressure ranges	
11	41	5-80 (80) bar	70-1100 (1100) psi
12	42	85-175 (160) bar	1200-2500 (2200) psi
13	43	190-250 (200) bar	2600-3600 (2900) psi
14	44	255-350 (315) bar	3700-5000 (4600) psi

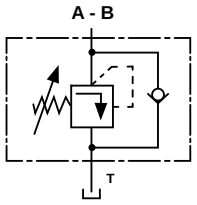
Replaced ✱ and ▲ for the setting pressure (see table).

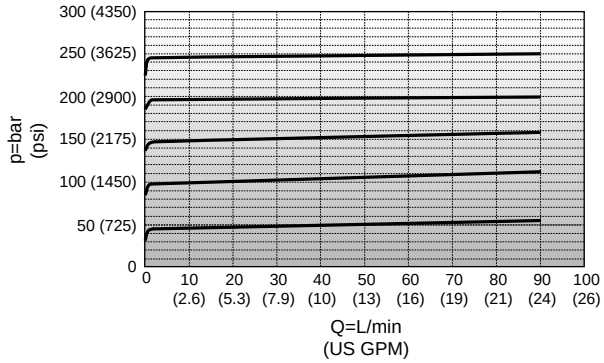
Auxiliary valves

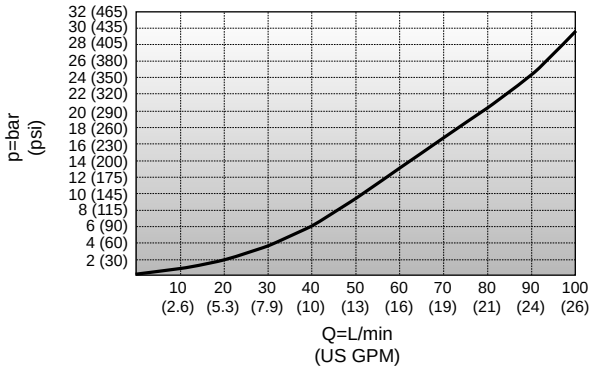
Port relief and anticavitation valve

Adjustable P.N. 2VSD✱/VA
Tamper-proof P.N. 2VSD▲/VA



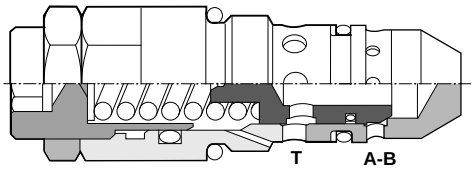


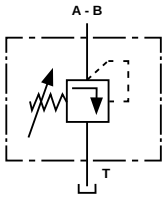


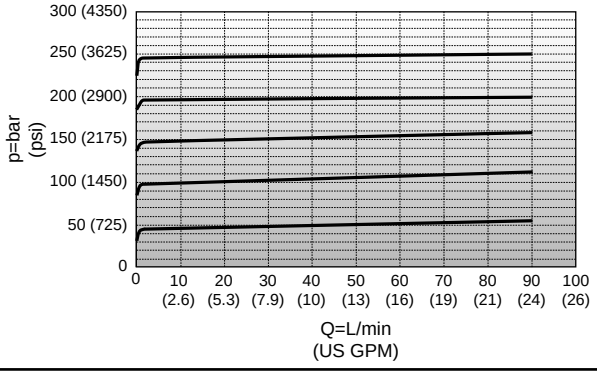


Port relief valve

Adjustable P.N. 2VSD✱/SA
Tamper-proof P.N. 2VSD▲/SA

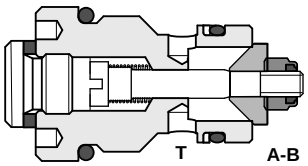


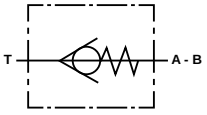


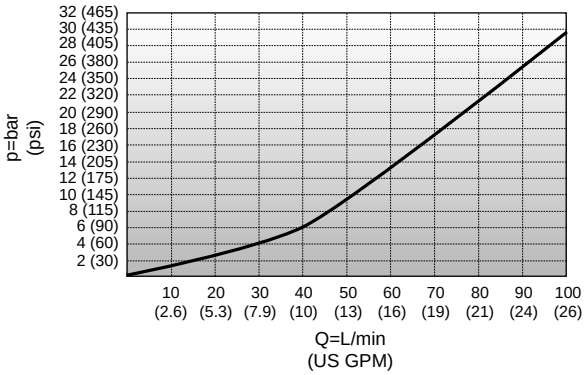


Anticavitation

P.N. VA



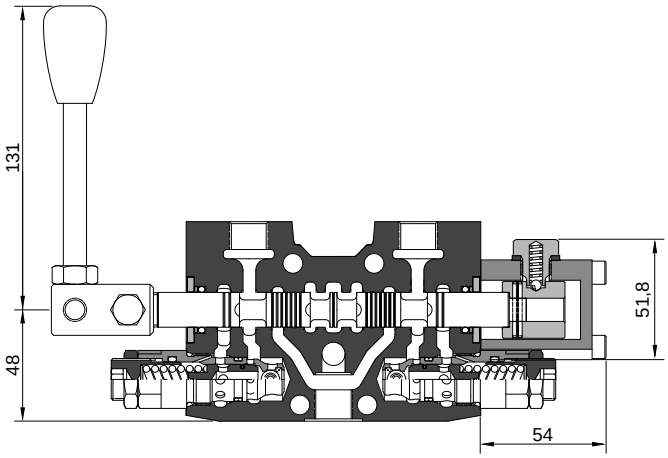


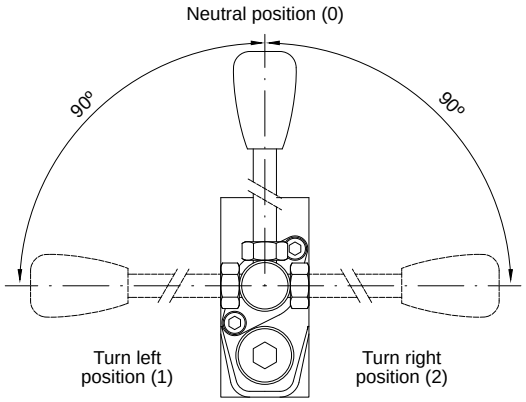


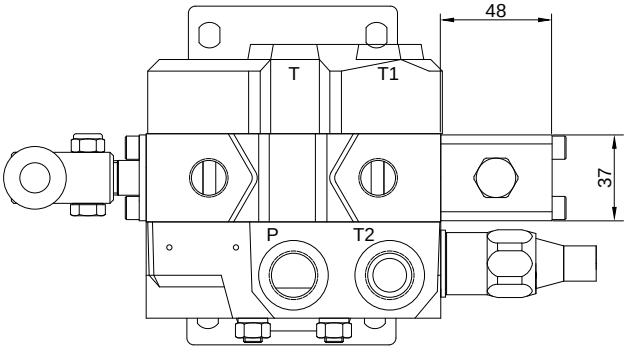
Rotative operator

Operator (R)

Spool position kit (35)

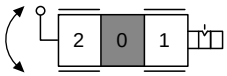






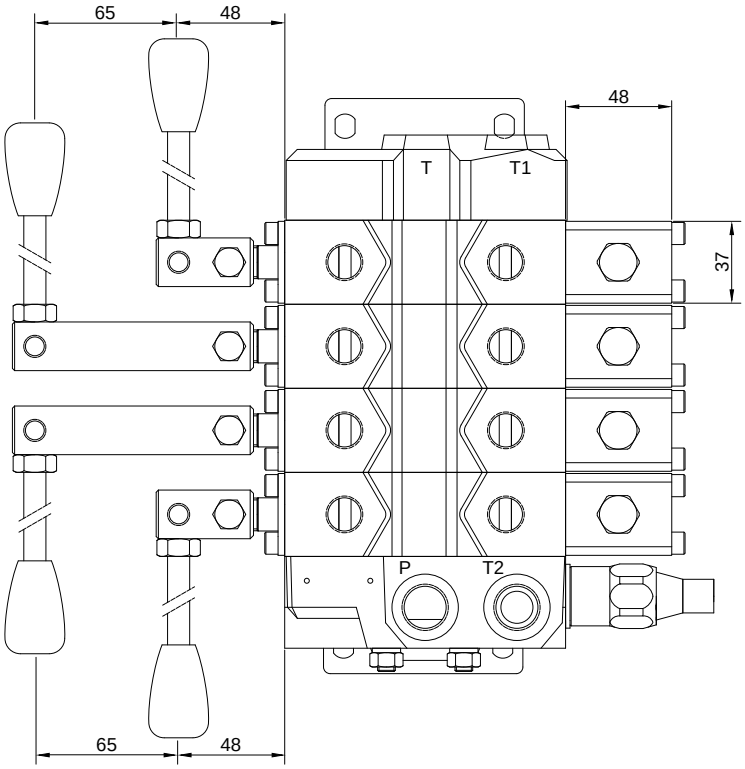
NOTE: Rotative pilot normally use a stainless steel spool.

Spool position type 35 and operator type R standard	**P.N. 8412283001**

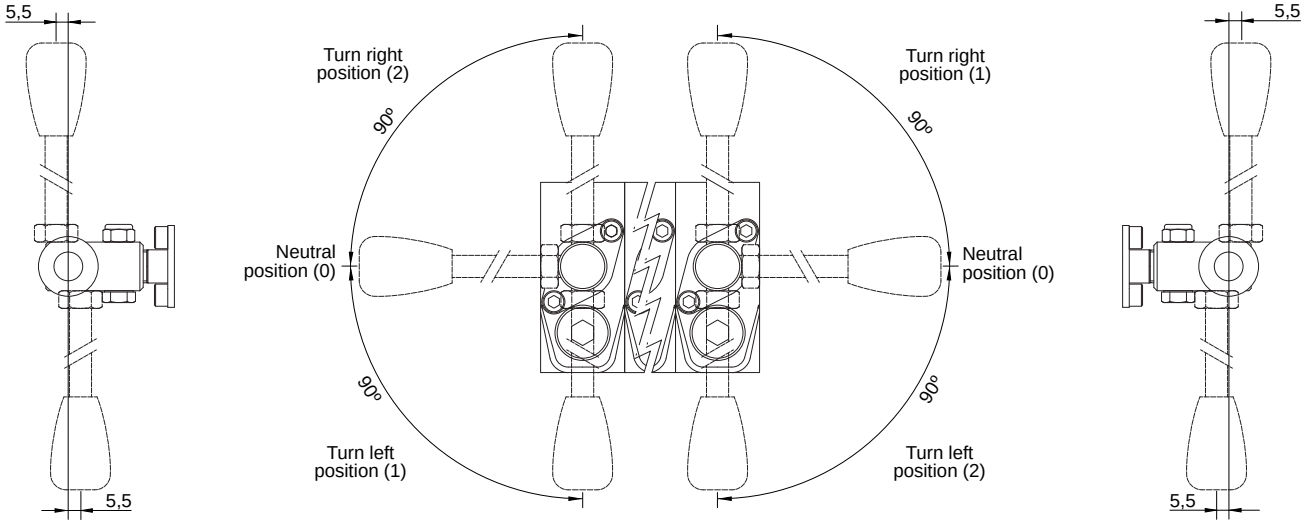
Operator	Spool position Kit	Function	Description
R	35		Rotary device with detent in neutral position.

Multiple rotative operator

Operator (R)

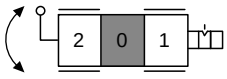


Spool position kit (35)



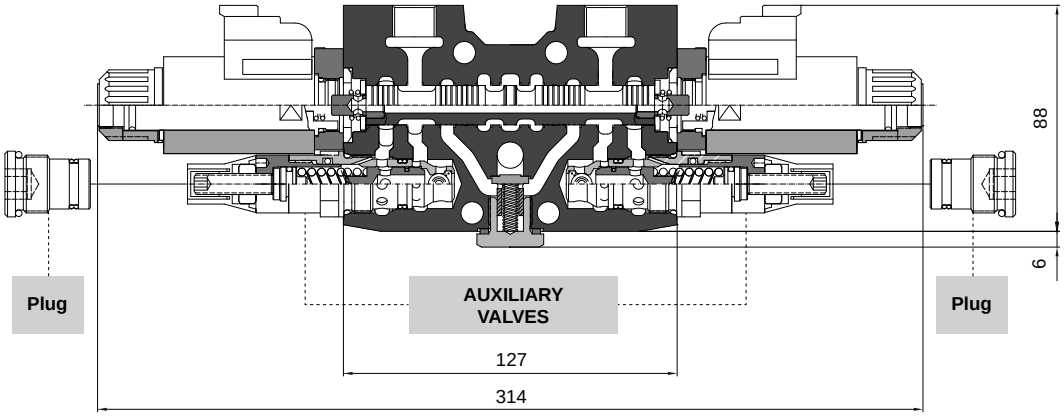
Spool position type 35 and operator type R standard	**P.N. 8412283001**
Spool position type 35 and operator type R extended	**P.N. 8412283002**

NOTE: Rotative pilot normally use a stainless steel spool.

Operator	Spool position Kit	Function	Description
R	35		Rotary device with detent in neutral position.

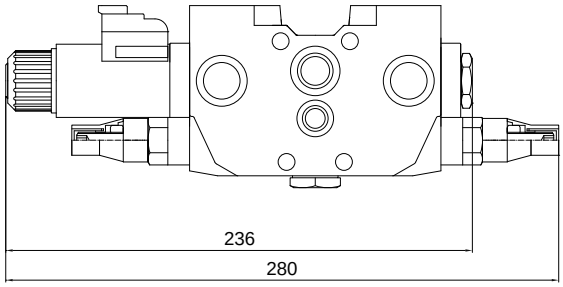
Direct solenoid operated section

Spool position kit 83



NOTE:
When ordering spool position kit 83 “A” main relief valve postion must be used.

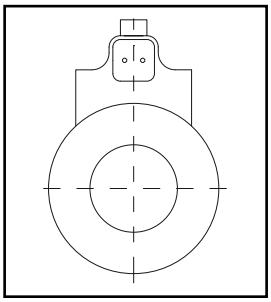
Spool position kit 84, according main relief valve in A (Standard) position

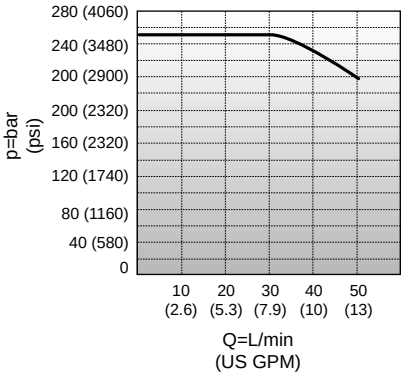


NOTE:
In spool position kit 84, solenoid side is considered operator side.

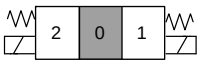
Kit converter to spool kit type 84. P.N.: M7799/5/84/85

Connection





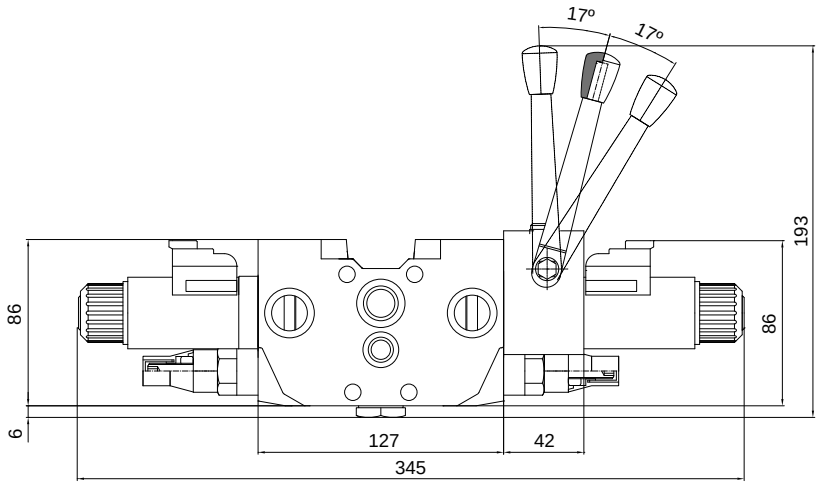
Operator	Hand lever	Coil connector (Female)	Required connector (Male)	IP-Protector
E	without	DEUTSCH DT04-2P	DEUTSCH DT06-2S	67

Main relief Valve position	Spool position Kit	Function	Description
A	83		Three positions; end positions by direct solenoid, neutral position by spring.
A-C	84		Two positions; neutral position and end position. Position 0 by spring and end position by solenoid in side A port.

Coil voltage	Coil wattage	Coil resistance	Duty	Ambient operating Temperature (Coil)	Coil insulation
12 V DC	42 W	3,25 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H
24 V DC	42 W	13,7 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H

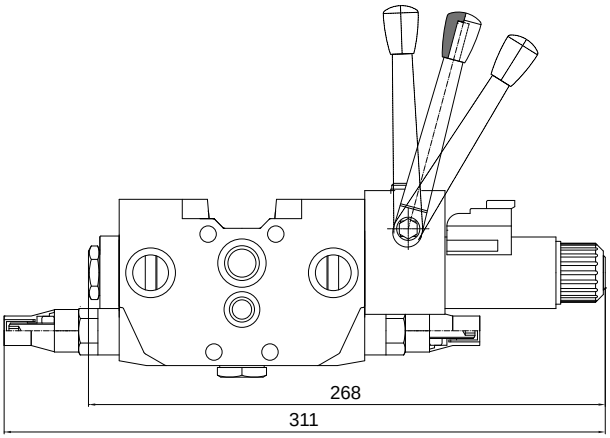
Direct solenoid operated section with emergency operator

Spool position kit 83



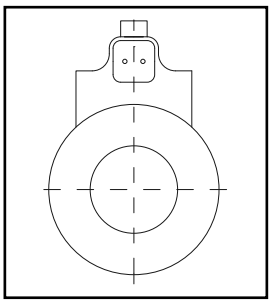
NOTE:
When ordering spool position kit 83 with emergency operator "A" main relief position valve must be used.

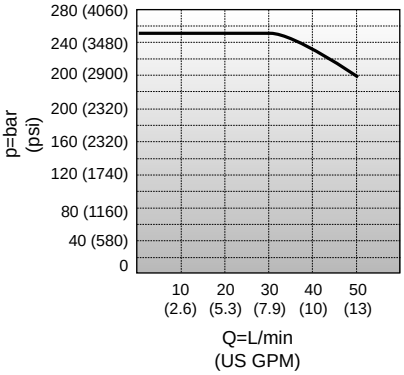
Spool position kit 84, according main relief valve in C position



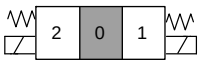
NOTE:
In spool position kit 84, with emergency operator, solenoid side is considered operator side.

Connection





Operator	Hand lever	Coil connector (Female)	Required connector (Male)	IP-Protector
ME	with	DEUTSCH DT04-2P	DEUTSCH DT06-2S	67

Main relief Valve position	Spool position Kit	Function	Description
A	83		Three positions; end positions by direct solenoid, neutral position by spring.
A-C	84		Two positions; neutral position and end position. Position 0 by spring and end position by solenoid in side A port.

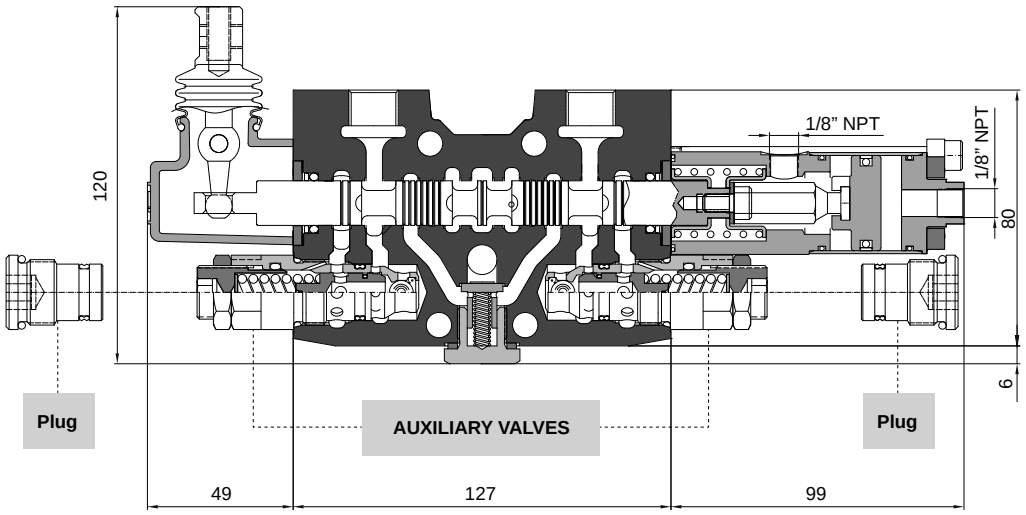
Coil voltage	Coil wattage	Coil resistance	Duty	Ambient operating Temperature (Coil)	Coil insulation
12 V DC	42 W	3,25 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H
24 V DC	42 W	13,7 Ohm	continuous (100%)	-54ºC (-65ºF) / +60ºC (+140ºF)	CLASS H

Pneumatic pilot

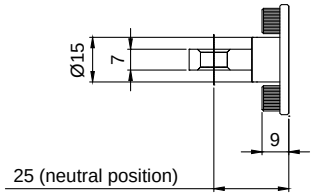
NOTE:
Pneumatic pilot normally use an operator type Z2 (standard), S or T. If you want use another type of operator for this pneumatic pilot, please contact.

Operator side (Z2)

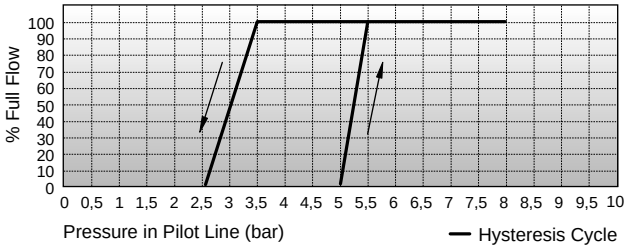
Spool position kit (22)



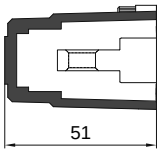
Operator side (S)



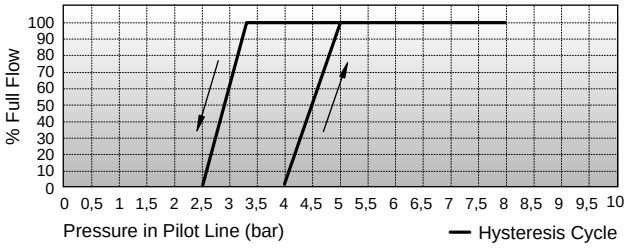
Pneumatic Pilot
Entry by SMALL Chamber

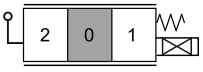


Operator side (T)



Pneumatic Pilot
Entry by LARGE Chamber

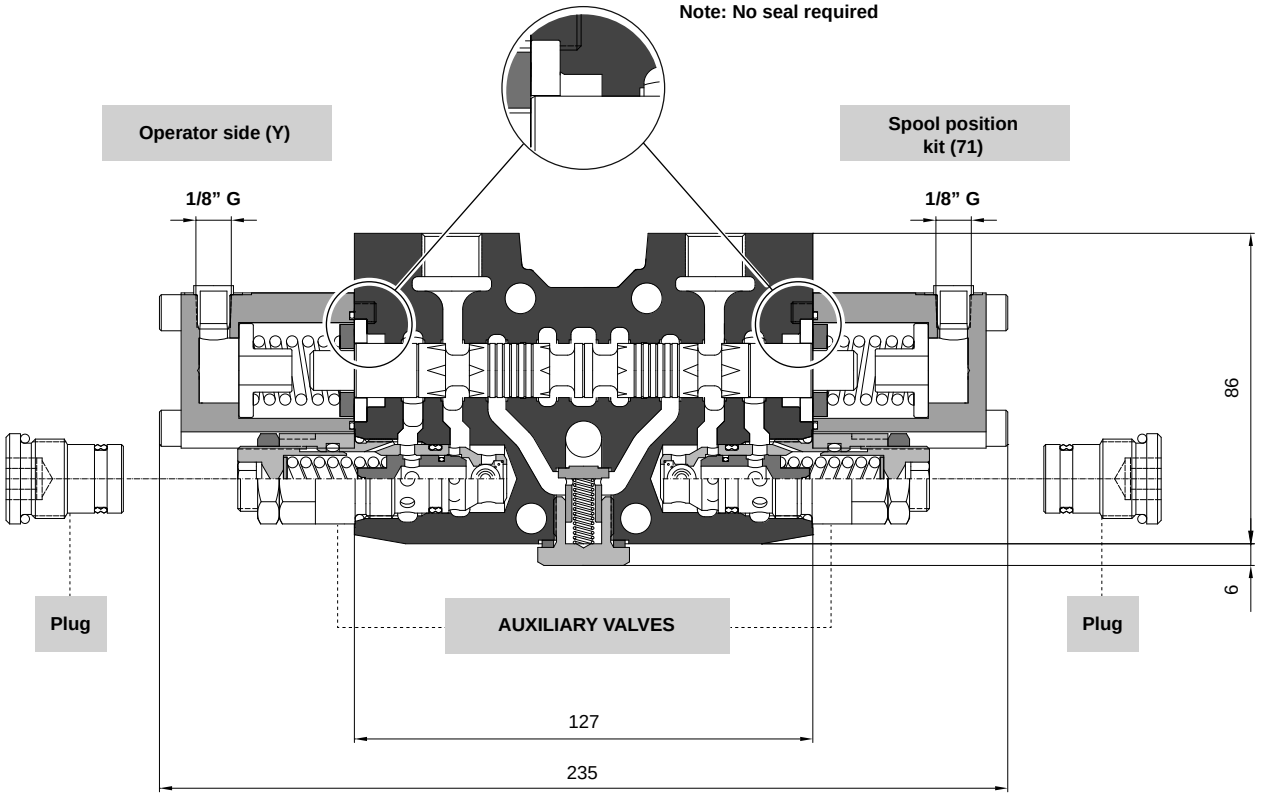


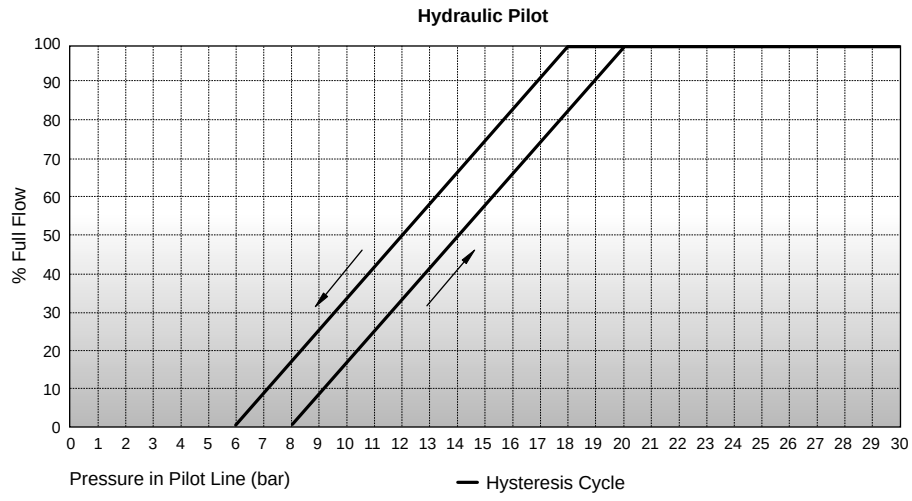
Operator	Spool position Kit	Function	Description
S Z2 T	22		Three positions pneumatic piloted.

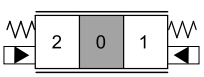
WWW.SUMY.IR

Hydraulic pilot

NOTE:
Hydraulic pilot only use spool position kit 71 and operator Y.



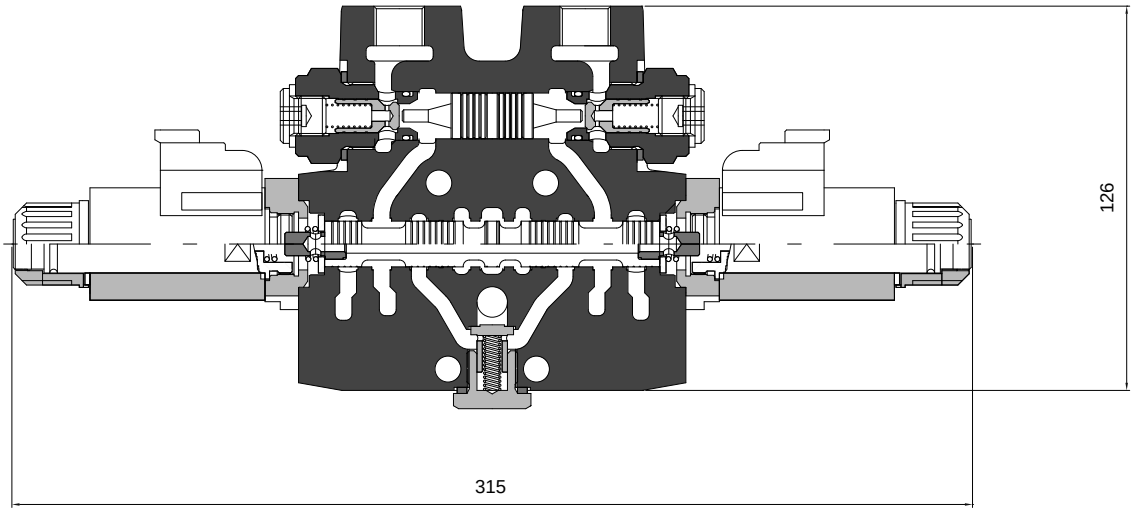


Operator	Spool position Kit	Function	Description
Y	71		Three positions pneumatic piloted.

Pilot operated check valve

Operator side (E)

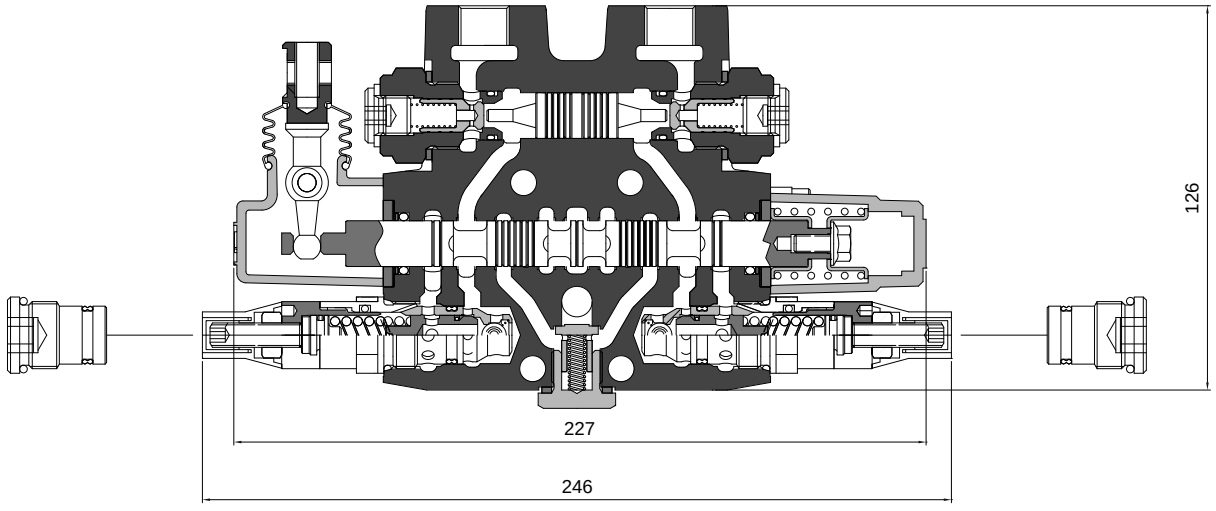
Spool position kit (83)



CODING SYSTEM EXAMPLE: 422/A83E-I24/0-0/0-0

Operator side (Z2)

Spool position kit (11)

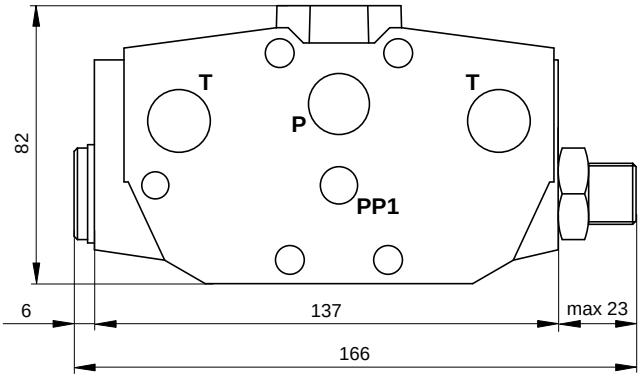


CODING SYSTEM EXAMPLE: 422/A11Z2-I00/VA-13/VA-13

WWW.SUMY.IR

3 way flow control for directional control valves

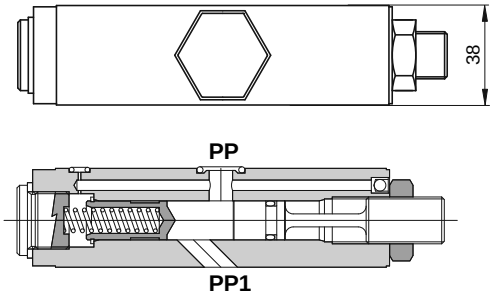
This flow control section can be fitted at any position in valve assembly except final section, according to which sections are required with a reduced flow rate.
All sections downstream of this valve can only operated at this reduced flow rate.



NOTE:
Not possible reduce flow on final section.

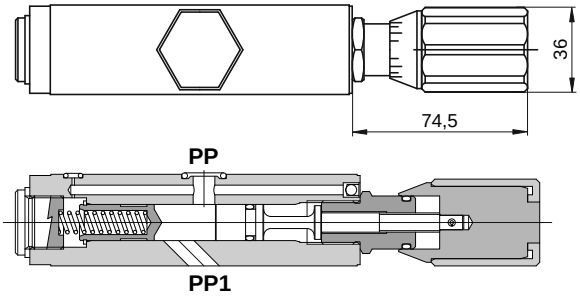
3 way flow control ajustable

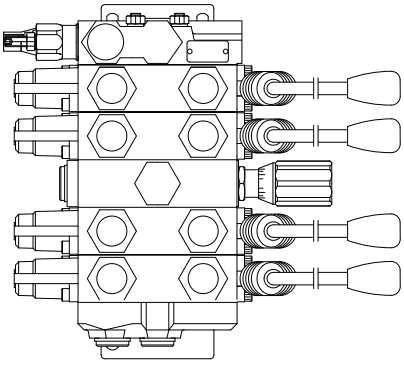
P.N. M7792002

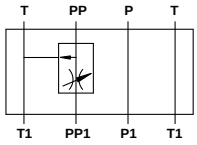


3 way flow control with knob

P.N. M7792003



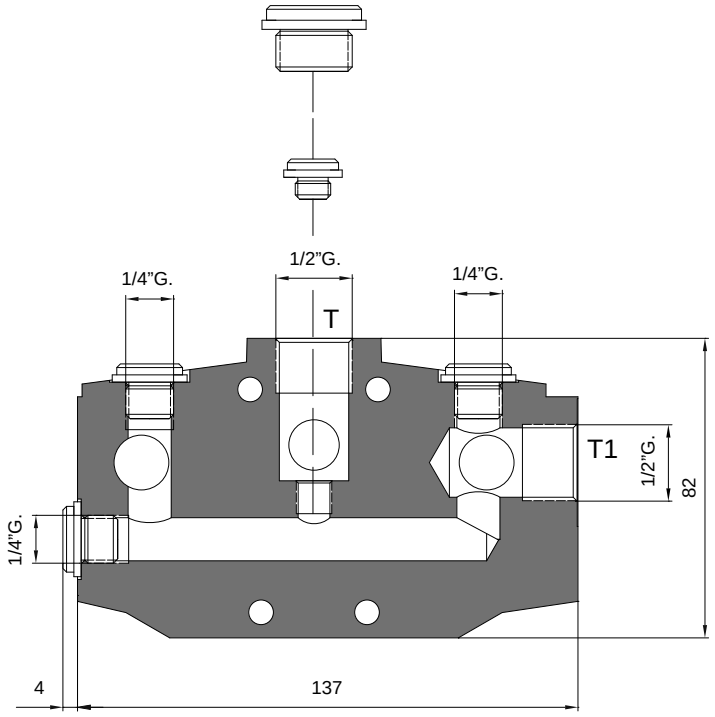


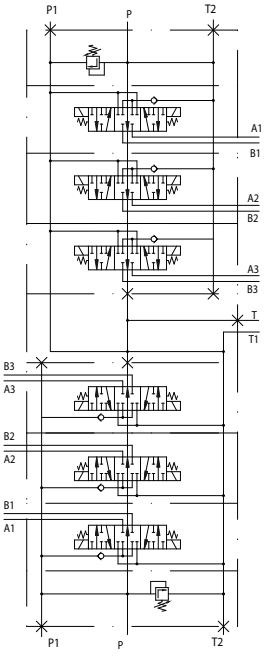


Technical data	
Nominal flow rate	50 l/min / 13 (US GPM)
Min. flow rate	5 l/min / 1 (US GPM)
Max. work pressure	350 bar / 5075 psi

Mid-outlet scheme

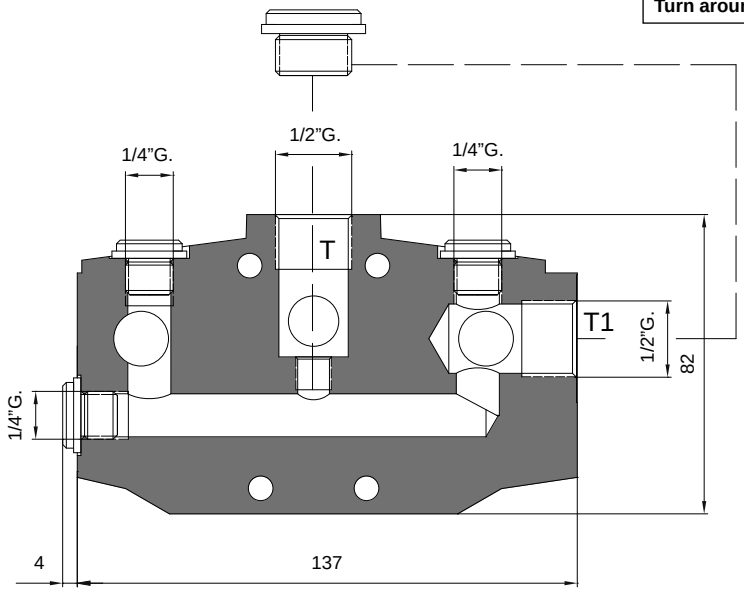
Closed center (return C)

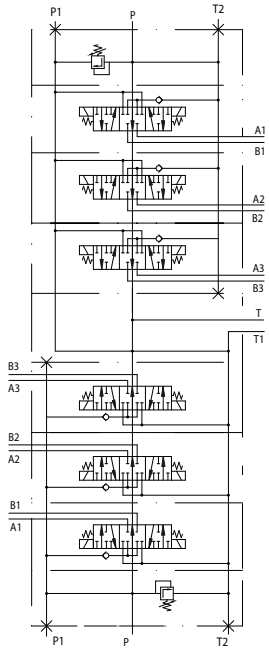




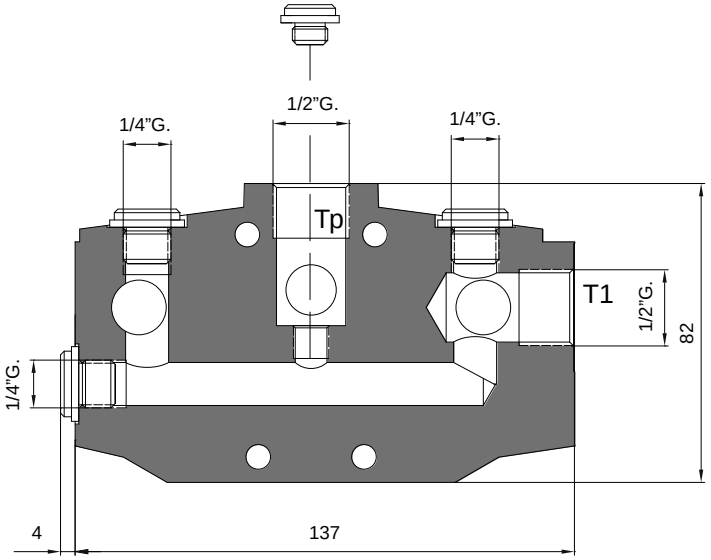
Free flow (return N)

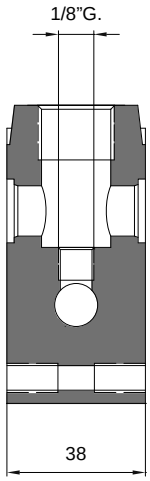
Operative tank port-plugs	
Side port	Plug in port T
Top port	Plug in port T1
Turn around port	Plug in ports T and T1

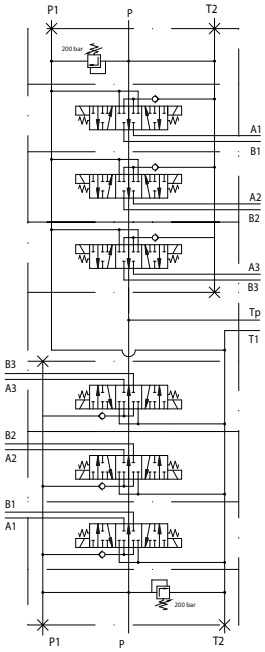




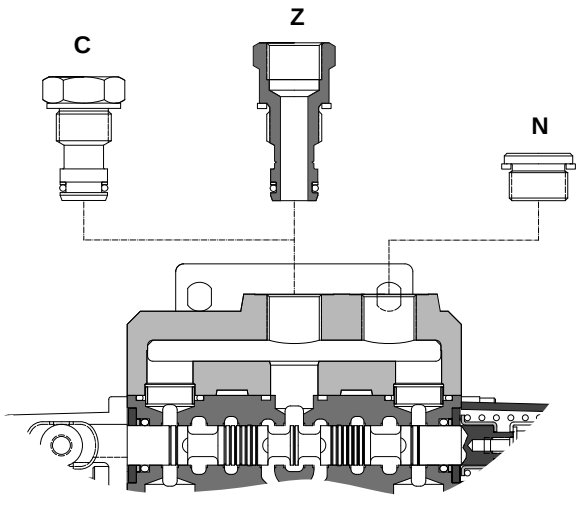
Power beyond (return Z)







Return configuration

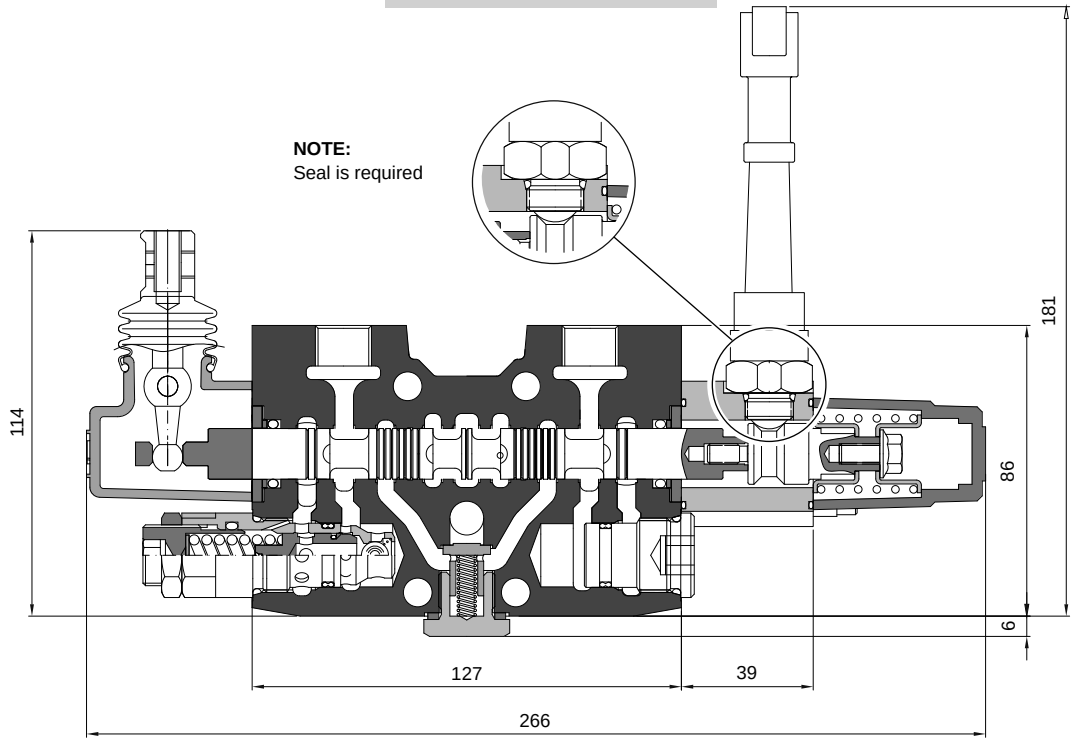


Return type		Ports	Part number
		T	
N	Open center	1/2" G.	Standard
Z	Power beyond	1/2" G.	N8412/177
C	Closed center	Plug	N8412/178

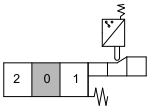
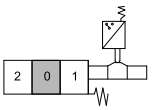
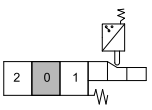
Position microswitch *

PRECISION BALL SWITCHES TECHNICAL DATA				
Current range	**Voltage range**	**Connector**	**Temperature range**	**Type**
0,01-5,0 Amp	5-24 V	Packard weather pack	-40 ºC to 120 ºC	Normally open
				Normally close

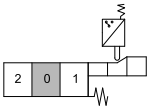
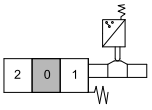
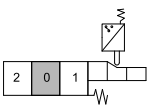
PACKARD WEATHER PACK
Female connector with male end.



* Subject to minimum order quantities

POSITION MICROSWITCH NORMALLY **OPEN**		
CODE FOR CONTROL VALVE SECTIONS PART NUMBER	**PART NUMBER KIT**	**FUNCTION**
NO1	M8412/217/1	
NO3	M8412/217/3	
NO2	M8412/217/2	

CODING SYSTEM EXAMPLE: 412/A11Z2-D00/VA-13/T-0-**NO3**

POSITION MICROSWITCH NORMALLY **CLOSE**		
CODE FOR CONTROL VALVE SECTIONS PART NUMBER	**PART NUMBER KIT**	**FUNCTION**
NC1	M8412/218/1	
NC3	M8412/218/3	
NC2	M8412/218/2	

CODING SYSTEM EXAMPLE: 412/A11Z2-D00/VA-13/T-0-**NC3**

WWW.SUMY.IR

Request a ROQUET control valve

Type **412**

Specification sheet for special control valve with code

		Return type	End cover	Code (additional data, paint, etc.):
		C Closed center ☐ N Free flow ☐ Z H.P.C.O. ☐	Operativa port: Top port ☐ Front port ☐	
Elements	9	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	8	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	7	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	6	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	5	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	4	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	3	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	2	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
	1	Spool position: Auxiliary valve:	Section: Without valve ☐ Section: With valve ☐ Corredera:	Auxiliary valve: Hand lever:
Type: 406 ☐ 1406 ☐		Unloading valve:	Inlet cover: Operative port: Top port ☐ Front port ☐	Main relief valve:

ROQUET part number

Main relief valve

Type	Return	S. p. device	Hand lever	Position	Setting	Spools	Voltage	Unloading valve	Code

Maximum number of characters as 25 by part number.
Note: Part number must be checked by PEDRO ROQUET S.A., It is reserved the right to change it. The code is provided only by PEDRO ROQUET S.A.

MENU

Roquet

making **moves**

www.pedro-roquet.com

EN.08.02.01/05.18

www.ciandisseny.com

MENU

VÁLVULAS SELECTORAS
CHANGEOVER VALVE



Roquet
making moves

Empresa 3

Información general 4

Válvulas Selectoras de 6 vías

 6VA 6

 6VG 9

 6VM 12

 6VR 15

 6VS 18

 6VH 36

Válvulas Selectoras de 8 vías

 8VR 21

Válvulas Selectoras con limitadora

 6VD 24

 6VI 27

 6VL 30

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Company *3*

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6-way Changeover valves

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8-way Changeover valves

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Changeover valves with relief valve

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 *6VI* *27*

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Solenoid Kits *39*

HISTORIA Más de medio siglo de trayectoria especializada en óleo-dinámica. Roquet es proveedor internacional en los sectores agrícola, naval, manutención, máquina-herramienta, automoción pesada, maquinaria de obras públicas, minería, eólica, alimentación, etc. Marca líder en España y una referencia importante en el ámbito internacional.

TECNOLOGÍA Roquet dispone de un importante departamento de diseño y desarrollo, con bancos de prueba de fatiga, nivel sonoro, resistencia a la corrosión, etc, apoyados por un avanzado laboratorio metalográfico. Se realizan grandes inversiones en centros de mecanizado de última generación para mantener una óptima calidad-productividad. La mayoría de piezas críticas (correderas, piezas de fundición, ejes de bomba, etc) se fabrican íntegramente en la propia empresa.

FIABILIDAD Una extensa gama de productos robustos y resistentes. Diseñados para rendir, construidos para durar. Todas las gamas de productos se someten a pruebas de vida en condiciones de trabajo realistas durante el diseño y desarrollo del producto. De esta forma se asegura su perfecta adaptación a las diversas aplicaciones finales tales como tractores, carretillas elevadoras, palas cargadoras, excavadoras, grúas, volquetes, muelles de carga... Se prueba el 100% de las unidades producidas, según procedimientos internos de prueba, antes de la expedición.

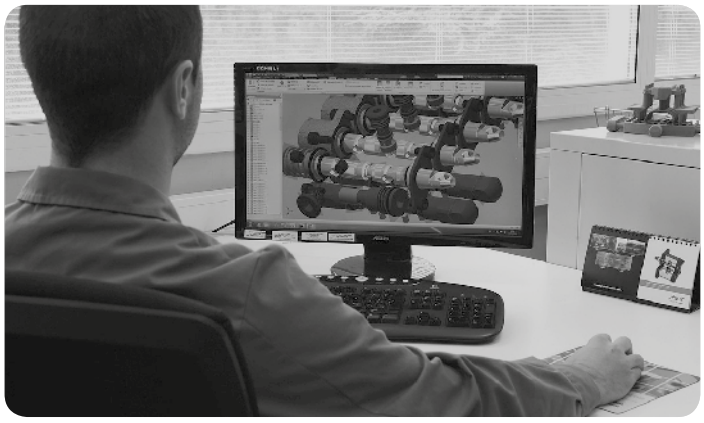
CAPACIDAD 400 profesionales en plantilla. Cinco plantas de producción con una superficie cubierta de 40.000 m². Producción actual: 180.000 bombas, 300.000 cuerpos de distribuidor y 500.000 cilindros. Una red comercial de distribución extendida por más de 35 países de los 5 continentes.

HISTORY *Over fifty years experience in fluid power. Supplier to international manufactures of agricultural, construction, mining, mechanical handling, machine-tool and food machinery. Main supplier to the Spanish market with rapidly increasing presence in European and world markets.*

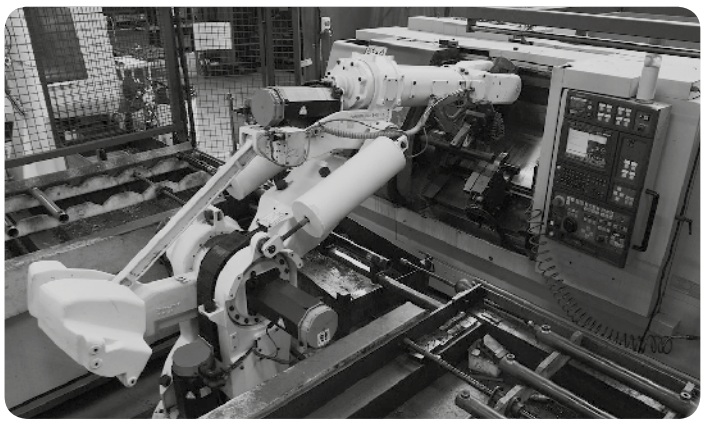
TECHNOLOGY *Roquet has a large design and development department with substantial fatigue, noise, corrosion-resistance, cleanliness and testing facilites, backed by a well-equipped metallurgical laboratory.*

RELIABILITY *A broad range of robust products: designed to perform, built to last. All products ranges life-tested under realistic conditions during development to ensure their suitability for use in applications such as tractors, fork-lift trucks, loaders, excavators, cranes, dumpers, dock-levellers... Each and every product tested to a stringent test specification prior to shipment.*

CAPABILITY *400 well trained empoyees. Five factories with a total floor area of 40.000m² Current production 180.000 pumps, 300.000 control valve bodies and 500.000 cylinders. Distribution network in over 35 countries.*









Las válvulas llamadas selectoras se utilizan extensamente en palas frontales y telescópicas, carretillas elevadoras etc. para equipar la máquina con funciones adicionales. Por ejemplo, una válvula situada en el extremo del brazo telescópico de una pala cargadora puede seleccionar entre las funciones de “inclinación” y “pinzas”, usando el mismo distribuidor (y un solo par de flexibles a lo largo del brazo) mediante un pulsador eléctrico en el distribuidor que actúa sobre el electroimán de la válvula.

Existen dos razones principales que hacen atractivo este montaje: a) una válvula selectora cuesta menos que un elemento más en el distribuidor y b) solamente se precisan un par de flexibles para actuar sobre dos servicios distintos que se hallen juntos pero colocados en un extremo lejano de la máquina.

La gama de válvulas selectoras Roquet está provista de cuerpos de fundición de alta resistencia producidos en nuestra propia fundición y correderas carbonitruradas de alto ajuste para conseguir una larga vida y bajas fugas. Se dedica un especial cuidado al diseño de las correderas y de los pasos internos del cuerpo para conseguir una óptima relación de presión/caudal.

Además de las válvulas mostradas en este catálogo, también diseñamos y fabricamos versiones especiales orientadas a necesidades de primeros equipos.

Changeover valves are used in front and telescopic loaders, forklift trucks, etc. to provide additional functions on the machinery. An example may be a valve fitted to the end of telescopic loader boom can switch between to tilt and to grab, making use of the same control valve, and a changeover valve.

There are two main reasons whom to this approach can be inviting: a) A changeover valve cost less than an additional control valve section and b) only needs a pair of hoses to be run to two different services that are close together in a distant location on a machine.

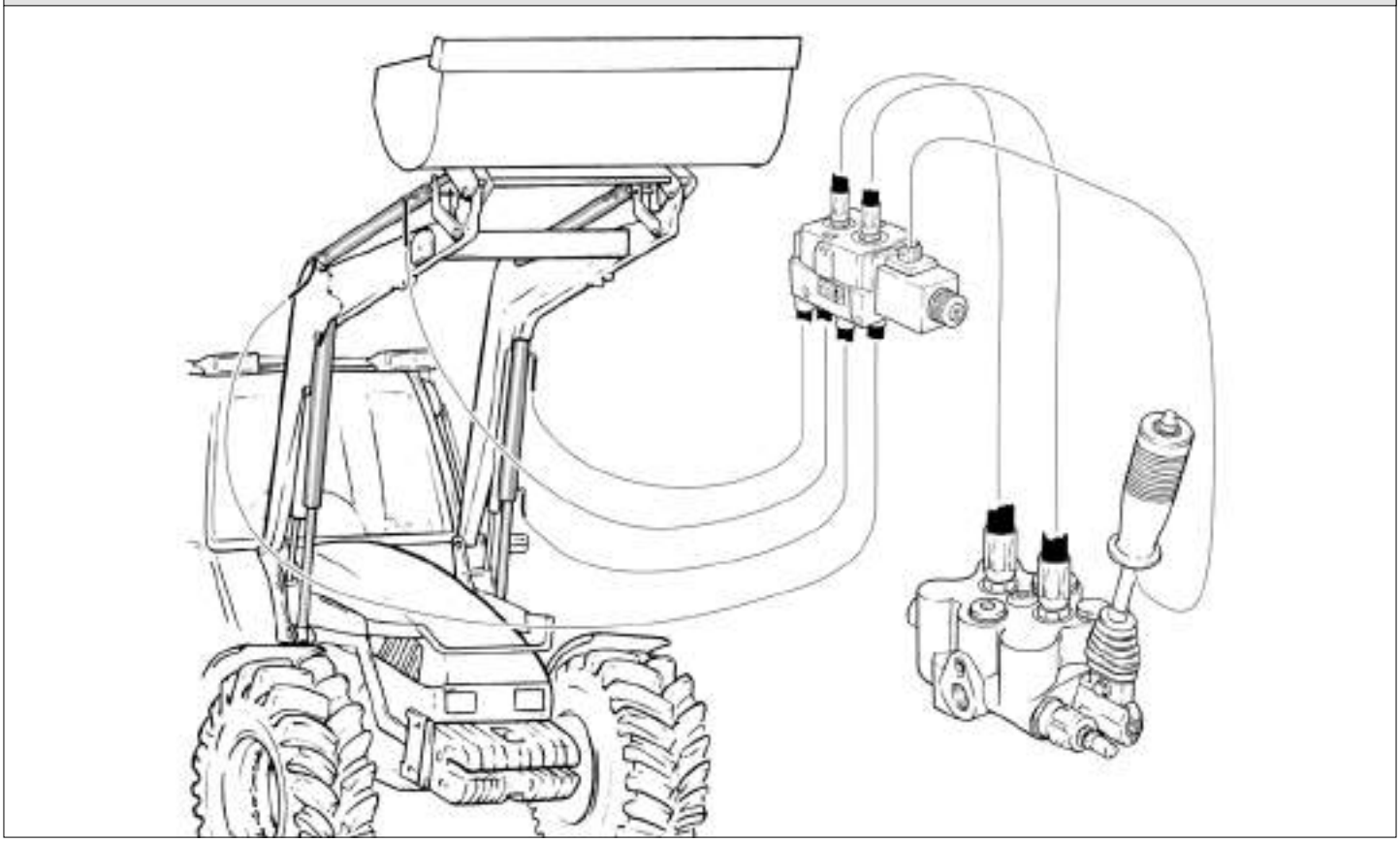
ROQUET range of changeover valves feature high-strength cast-iron bodies in our own foundry and casehardened close tolerance spools for long life and low leakage. Special care has been taken in the design of the spool and the cored flow-passages in the body to give good combined flow/pressure performance.

In addition to the valves shown in this catalog, we also design and manufacture special versions oriented to OEM's needs.

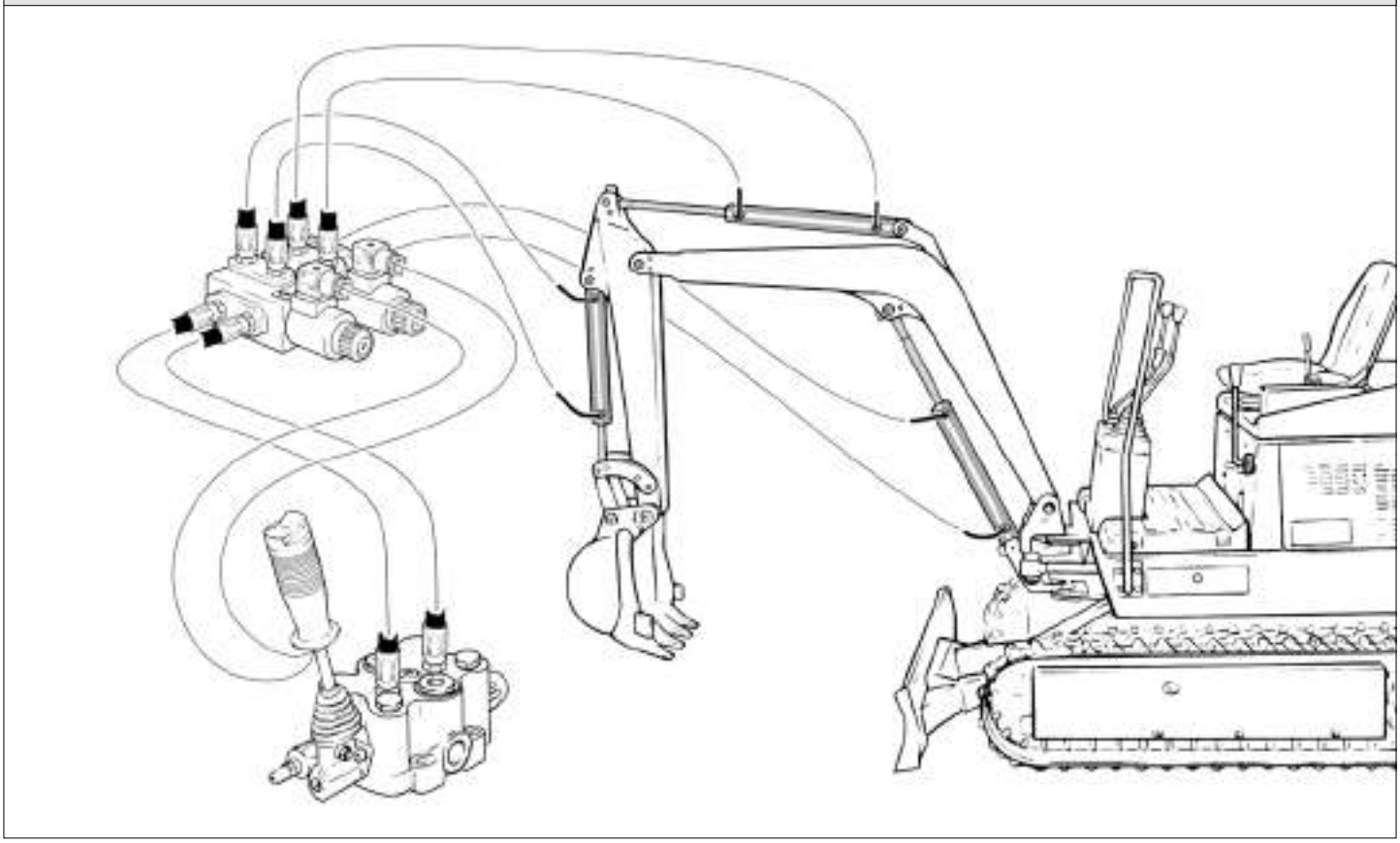
Este catálogo muestra los productos en su configuración más estándar. Para diseños personalizados o especiales, deberá ponerse en contacto con ROQUET HYDRAULICS, S.L.
Las especificaciones y los datos de este catálogo no son susceptibles de interpretación. En caso de dudas, póngase en contacto con ROQUET HYDRAULICS, S.L.
ROQUET HYDRAULICS, S.L. se reserva el derecho de realizar modificaciones, actualizaciones o revisiones de este catálogo sin previo aviso.
ROQUET HYDRAULICS, S.L. no es responsable de ningún daño provocado por un uso incorrecto del producto.

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS, S.L.
The specifications and data in this catalogue are not open to any interpretation, please contact with ROQUET HYDRAULICS, S.L. in case of doubt.
ROQUET HYDRAULICS, S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUET HYDRAULICS, S.L. is not responsable for any damage caused by an incorrect use of the product.

Distribuidor con válvula selectora 6 vías / *Control valve and 6-way changeover valve*



Distribuidor con válvula selectora 8 vías / *Control valve and 8-way changeover valve*







Sistema de codificación	6VA	B	1	D24	M	PB	SD	000	- ***	*Coding system*

Tipo / *Type*	
6VA	6 vías apilable *6-way stackable*

Tomas / *Ports*	
B	G 3/8" según ISO 1179-1 *G 3/8" according ISO 1179-1*
C	G 1/2" según ISO 1179-1 *G 1/2" according ISO 1179-1*
D	M18x1,5 según ISO 9974-1 *M18x1,5 according ISO 9974-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

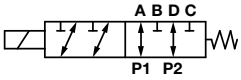
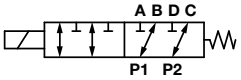
Voltaje / *Voltage*	
D12	12 V
D24	24 V

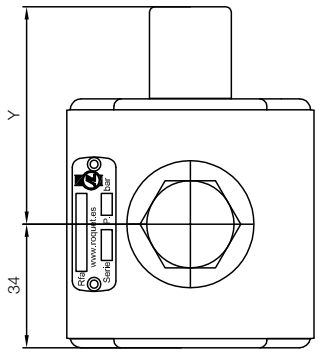
Caudal nominal / *Nominal flow*	
M	40 l/min
L	80 l/min

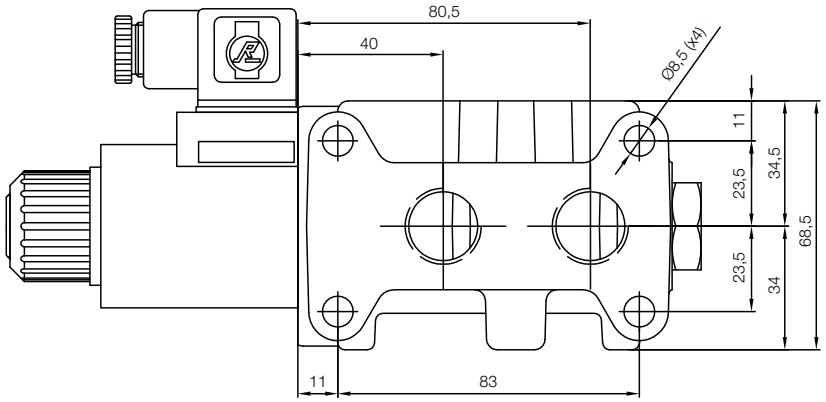
Código / *Code*

Protección / *Protection*	
005	Fosfatado / *Phosphated*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*	
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

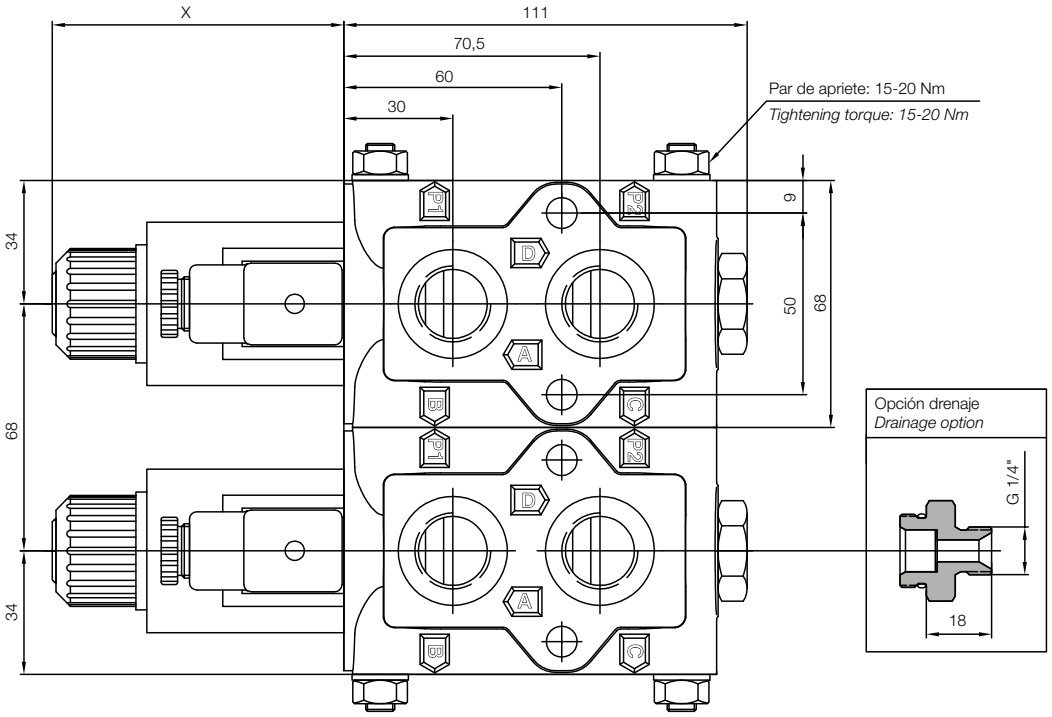
Corredera / *Spool*	
PA	
PB	



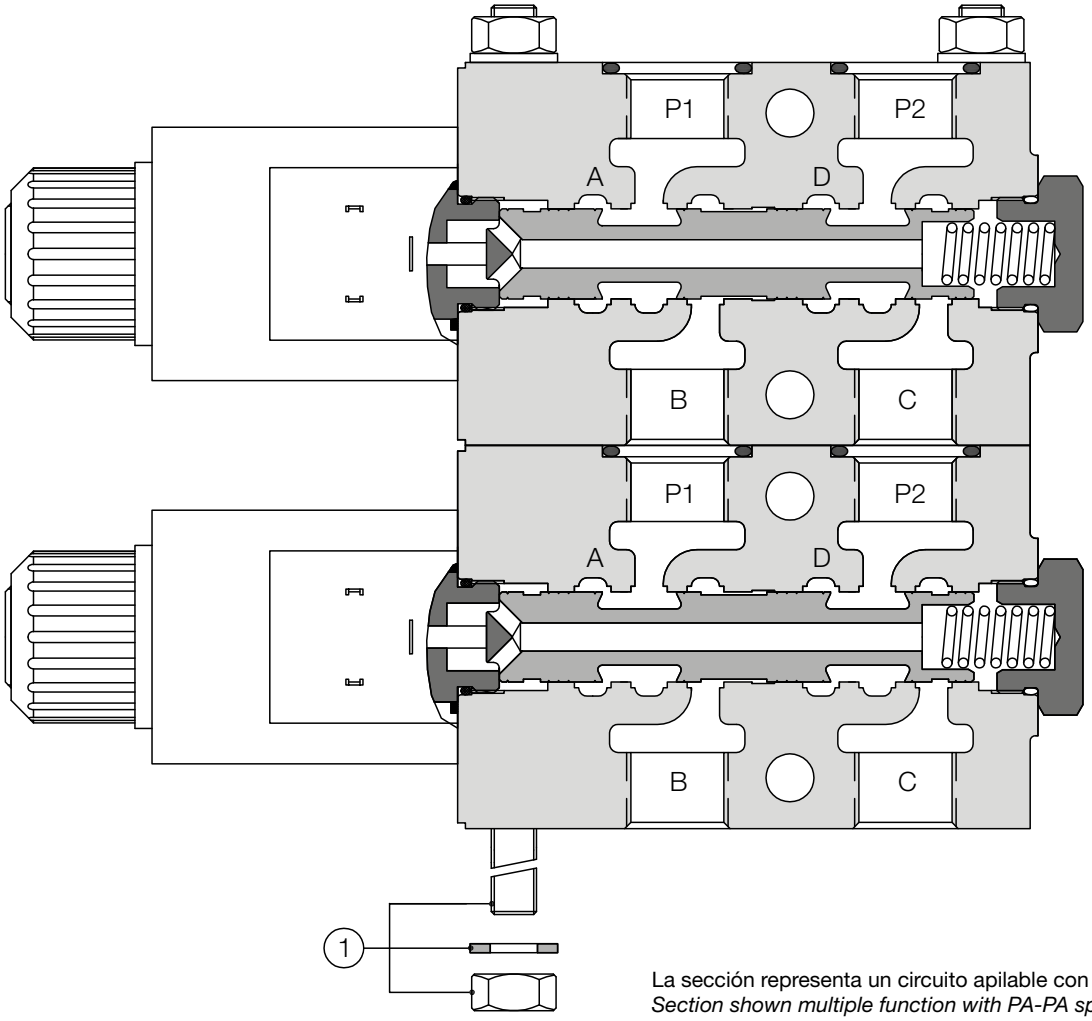


Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)



Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	G 3/8" - G1/2" - M18x1,5
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

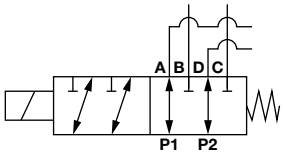


La sección representa un circuito apilable con correderas PA-PA.
Section shown multiple function with PA-PA spools.

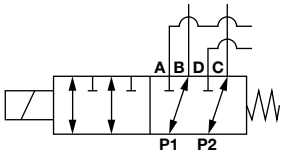
Marca *Item*	Referencia *Part number*	Nº válvulas *Valves number*	Descripción y componentes *Description and parts*
1	KV0606VA02	2	4 espárragos, 8 tuercas, 8 arandelas y 1 par de juntas tóricas *4 screws, 8 nuts, 8 washers and 1 pair of O-rings*
	KV0606VA03	3	4 espárragos, 8 tuercas, 8 arandelas y 2 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 2 pair of O-rings*
	KV0606VA04	4	4 espárragos, 8 tuercas, 8 arandelas y 3 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 3 pair of O-rings*
	KV0606VA05	5	4 espárragos, 8 tuercas, 8 arandelas y 4 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 4 pair of O-rings*
	KV0606VA06	6	4 espárragos, 8 tuercas, 8 arandelas y 5 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 5 pair of O-rings*

Nota: Se entregarán válvulas sueltas y kits de unión de válvulas para que el cliente pueda montar las válvulas según necesidades.
Note: *Roquet deliveries union kits and individual valves. Customer will be able to set multiple valves, according their requirements.*

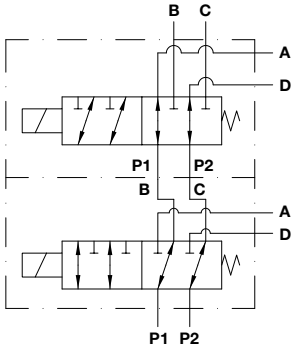
Circuito PA/ *PA function*



Circuito PB/ *PB function*



Circuito apilable / *Multiple function*







Sistema de codificación	6VG	G	2	D24	M	PB	SD	000	- ***	*Coding system*

Tipo / *Type*	
6VG	6 vías *6-way*

Tomas / *Ports*	
G	3/4"-16 UNF-2B según ISO 11926-1 *3/4"-16 UNF-2B according ISO 11926-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

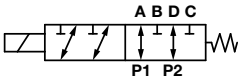
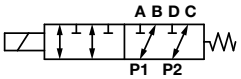
Voltaje / *Voltage*	
D12	12 V
D24	24 V

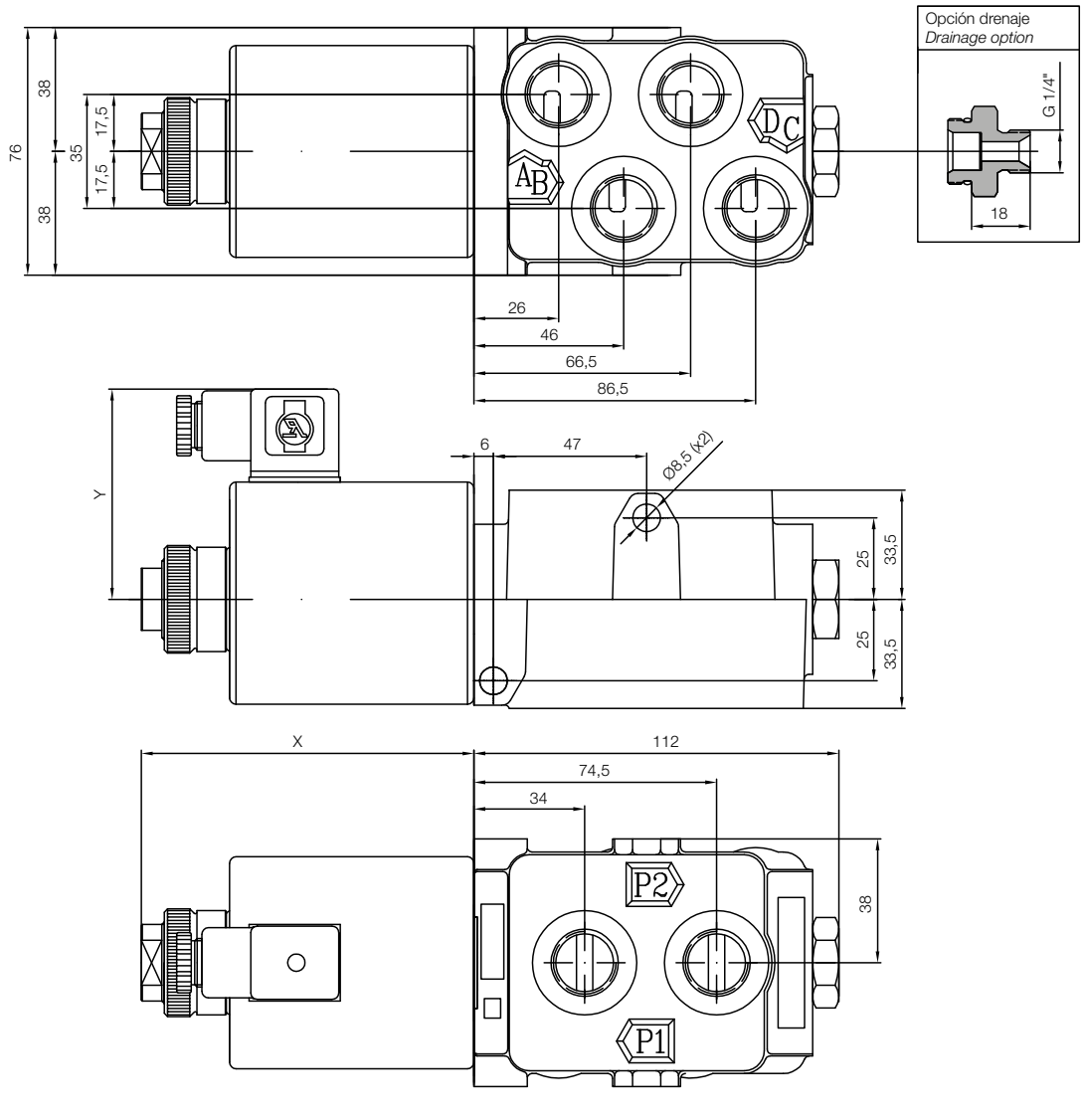
Caudal nominal / *Nominal flow*	
M	40 l/min
L	80 l/min

Código / *Code*

Protección / *Protection*	
000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*	
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

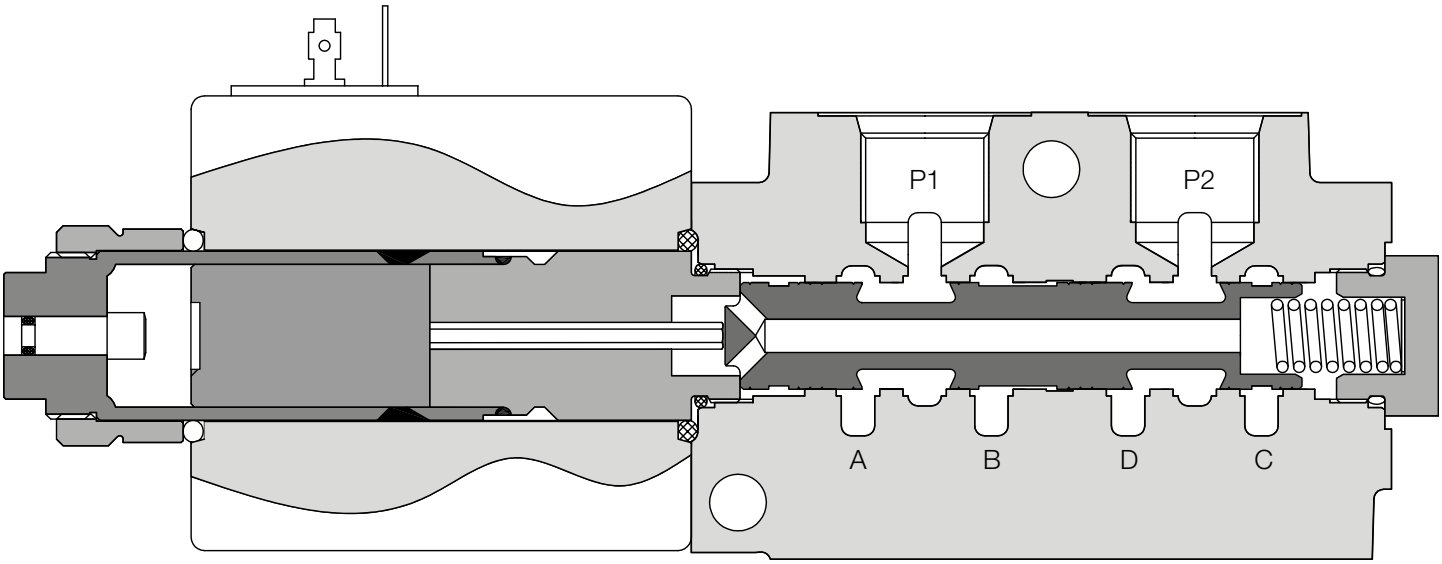
Corredera / *Spool*	
PA	
PB	



Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

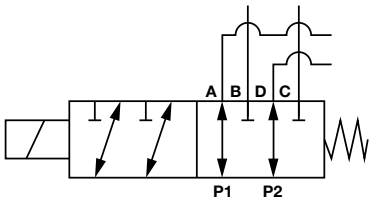
Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	3/4”-16 UNF-2B
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

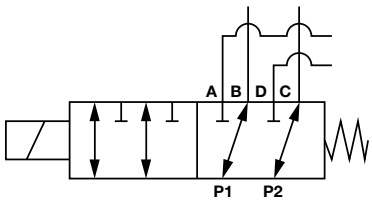


La sección representa un circuito con corredera PA.
Section shown PA function.

Circuito PA / *PA function*



Circuito PB / *PB function*







Sistema de codificación	6VM	B	1	D24	M	PA	SD	000	- ***	*Coding system*

Tipo / *Type*	
6VG	6 vías *6-way*

Tomas / *Ports*	
B	G 3/8" según ISO 1179-1 *G 3/8" according ISO 1179-1*
D	M18x1,5 según ISO 9974-1 *M18x1,5 according ISO 9974-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

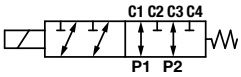
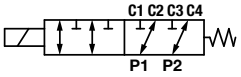
Voltaje / *Voltage*	
D12	12 V
D24	24 V

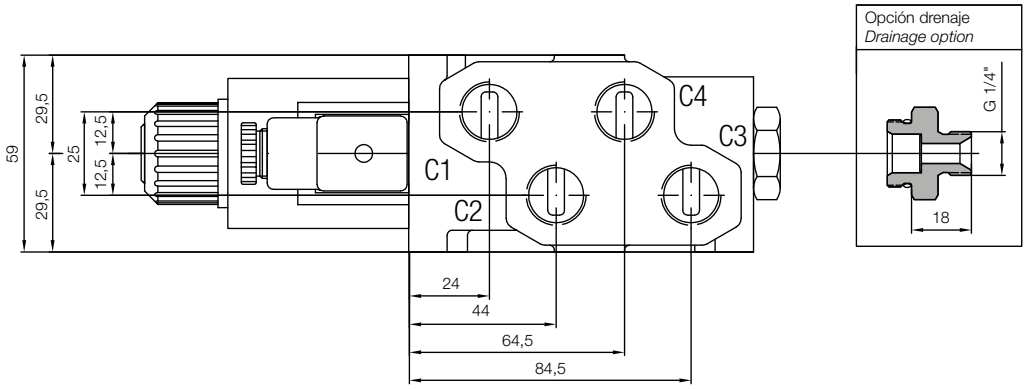
Caudal nominal / *Nominal flow*	
M	40 l/min
L	80 l/min

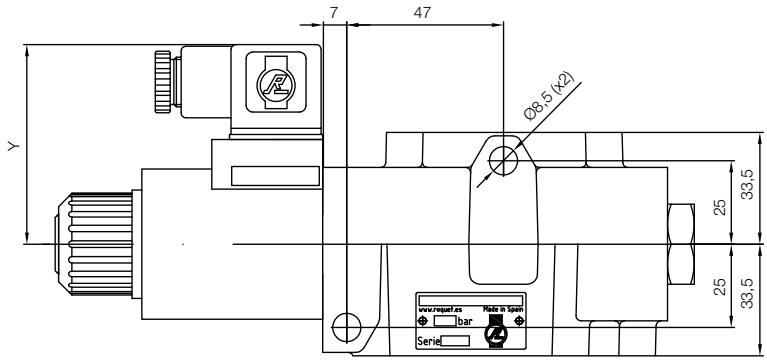
Código / *Code*

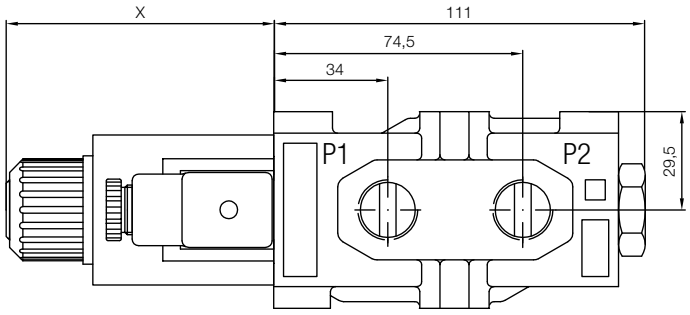
Protección / *Protection*	
000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*	
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

Corredera / *Spool*	
PA	
PB	



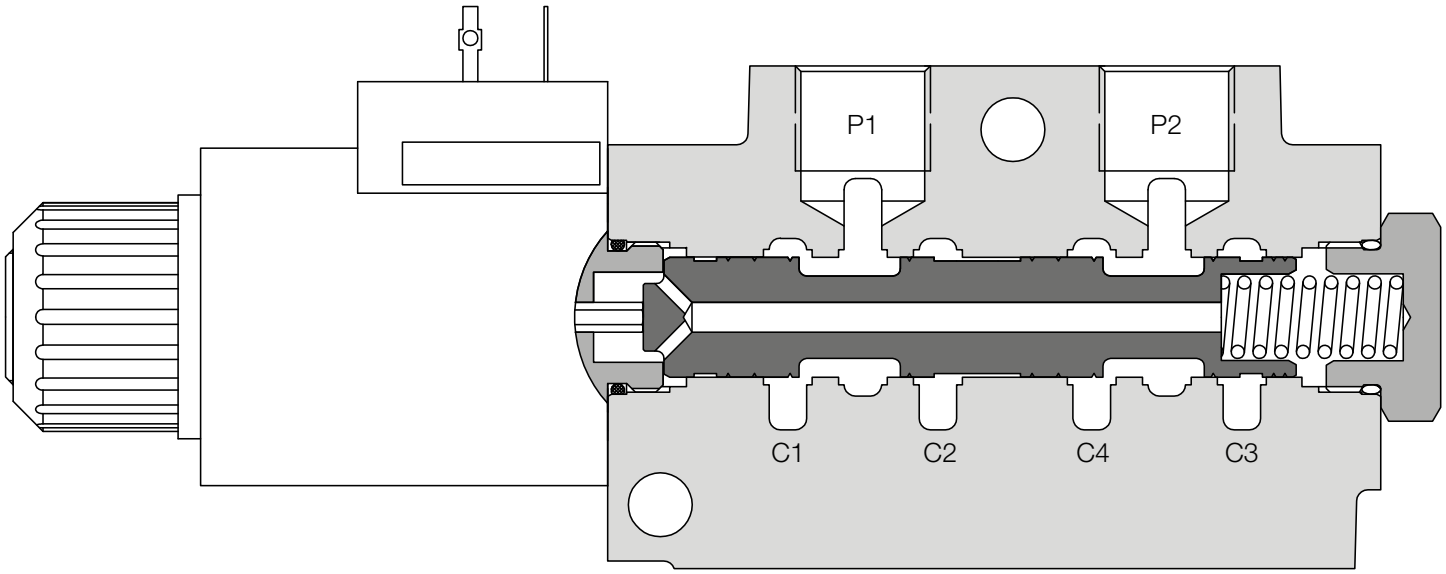




Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

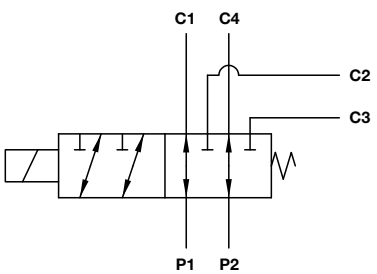
Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas C1, C2, C3, C4, P1, P2 / *Ports C1, C2, C3, C4, P1, P2*	G 3/8" - M18x1,5
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

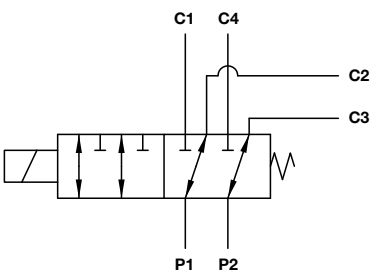


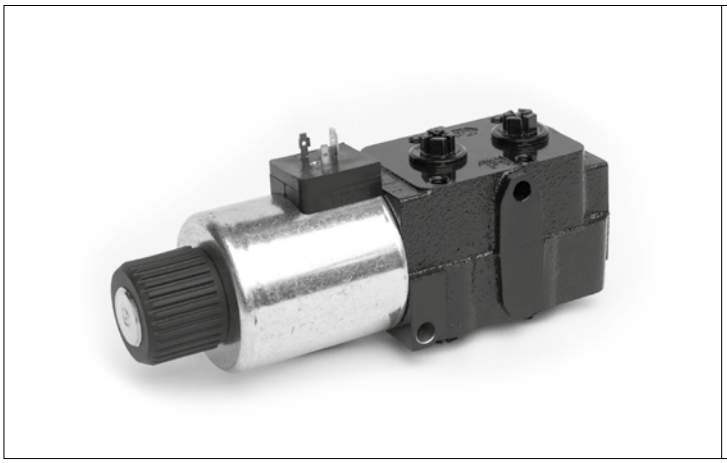
La sección representa un circuito con corredera PA.
Section shown PA function.

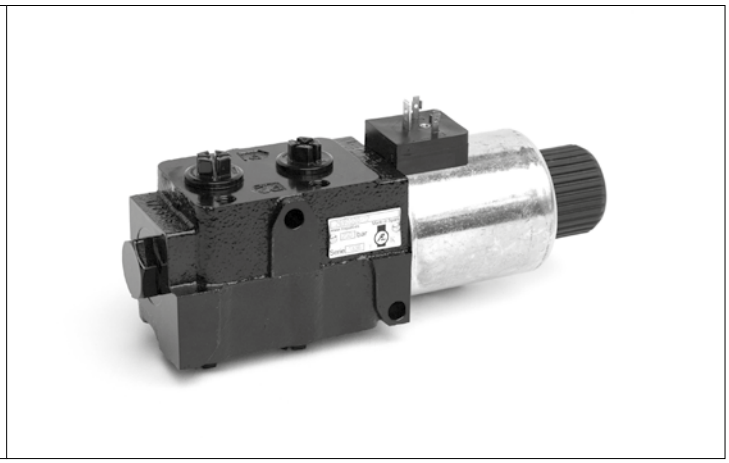
Circuito PA / *PA function*



Circuito PB / *PB function*







Sistema de codificación	6VR	D	1	D24	M	PB	SD	000	- ***	*Coding system*

Tipo / *Type*	
6VR	6 vías *6-way*

Tomas / *Ports*	
C	G 1/2" según ISO 1179-1 *G 1/2" according ISO 1179-1*
D	M18x1,5 según ISO 9974-1 *M18x1,5 according ISO 9974-1*
G	3/4"-16 UNF-2B según ISO 11926-1 *3/4"-16 UNF-2B according ISO 11926-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

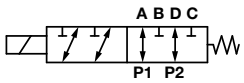
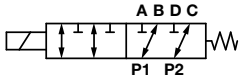
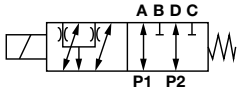
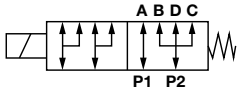
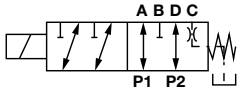
Voltaje / *Voltage*	
D12	12 V
D24	24 V

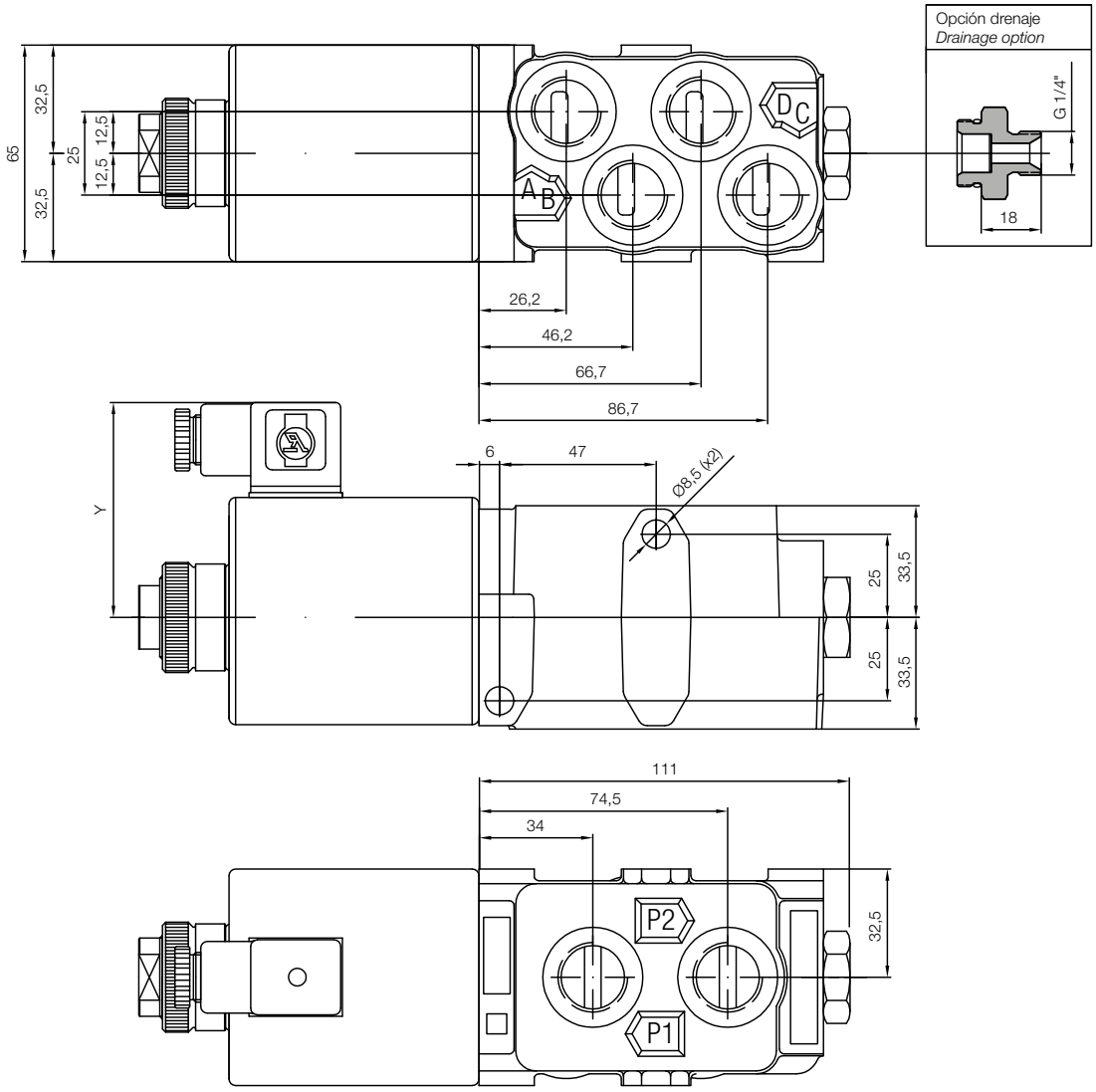
Caudal nominal / *Nominal flow*	
M	40 l/min
L	80 l/min

Código / *Code*

Protección / *Protection*	
000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*	
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

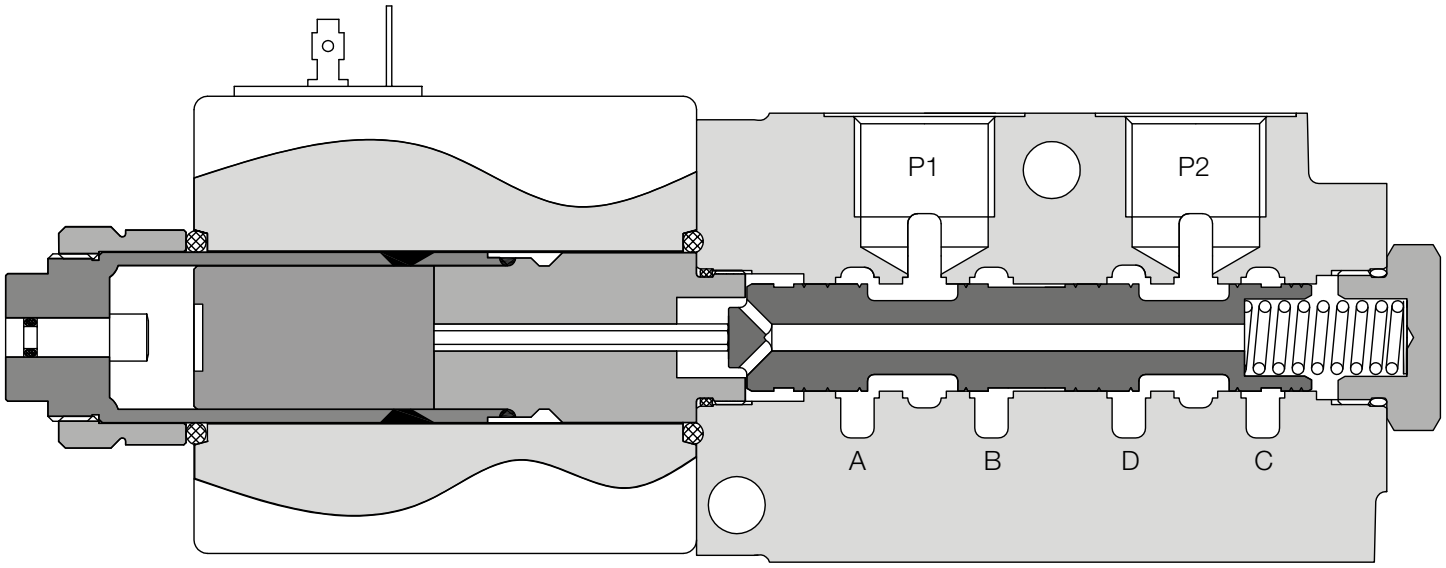
Corredera / *Spool*	
PA	
PB	
X1	
X2	
X3	



Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

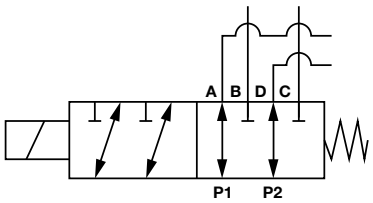
Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	3/4”-16 UNF-2B - M18x1,5 - G1/2"
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

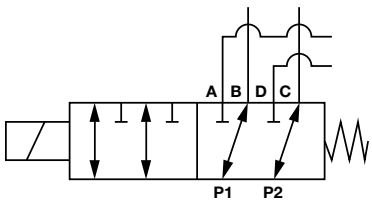


La sección representa un circuito con corredera PA.
Section shown PA function.

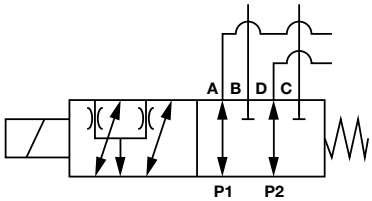
Circuito PA / *PA function*



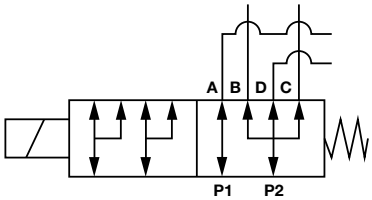
Circuito PB / *PB function*



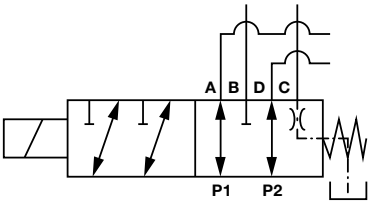
Circuito X1/ *X1 function*



Circuito X2/ *X2 function*



Circuito X3/ *X3 function*







Sistema de codificación	6VS	A	1	D24	S	PB	SD	000	- ***	*Coding system*

Tipo / *Type*	
6VS	6 vías apilable *6-way stackable*

Tomas / *Ports*	
A	G 1/4" según ISO 1179-1 *G 1/4" according ISO 1179-1*
G	9/16-18 UNF según ISO 11926-1 *9/16-18 UNF according ISO 11926-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

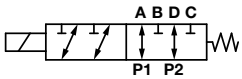
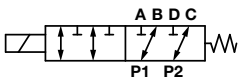
Voltaje / *Voltage*	
D12	12 V
D24	24 V

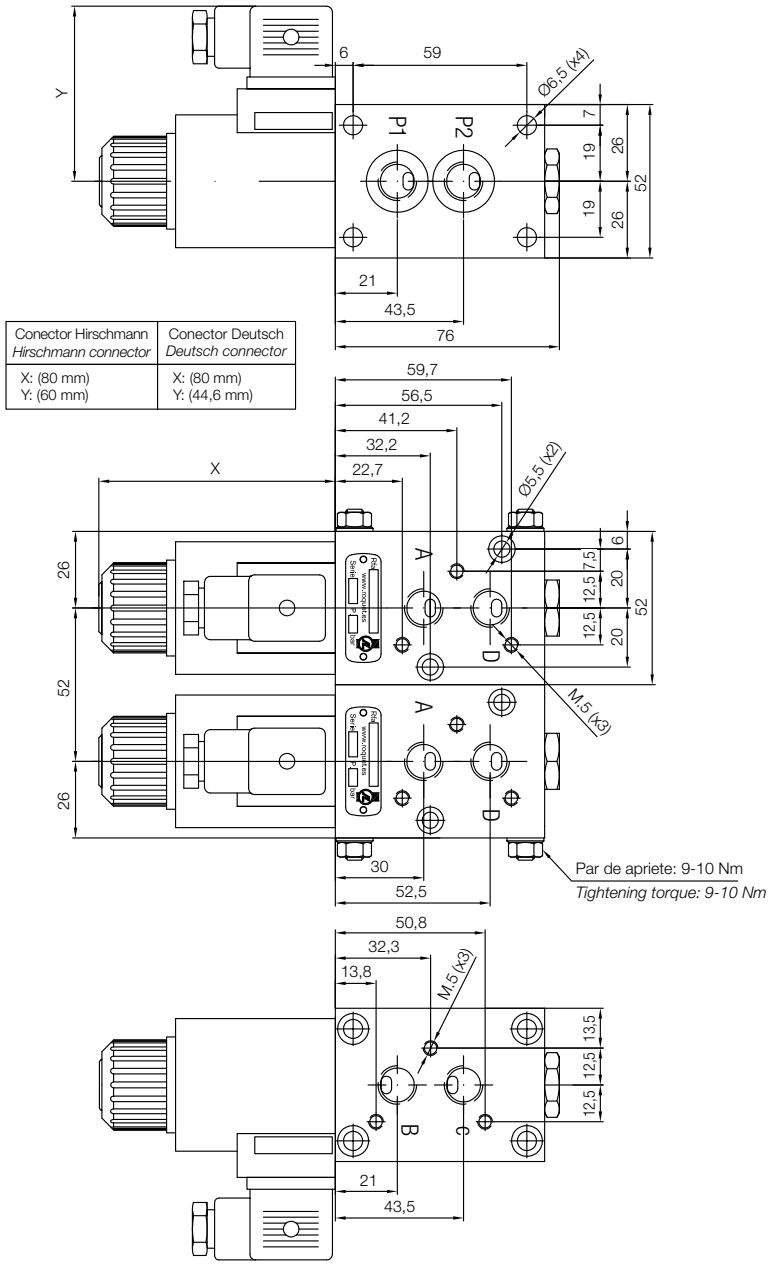
Caudal nominal / *Nominal flow*	
S	To 20 l/min

Código / *Code*

Protección / *Protection*	
005	Fosfatado / *Phosphated*
***	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

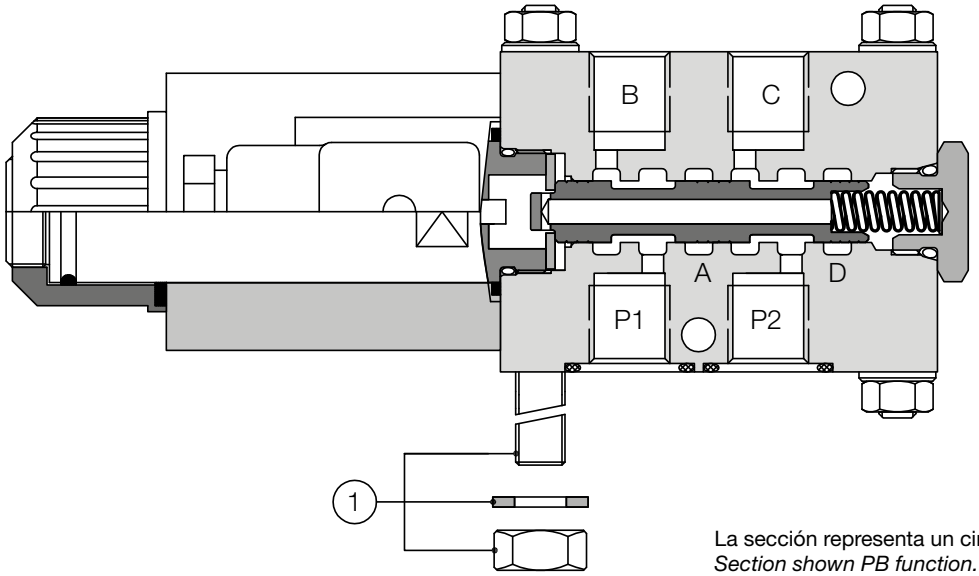
Drenaje / *Drainage*	
SD	Sin drenaje / *Without drainage*

Corredera / *Spool*	
PA	
PB	



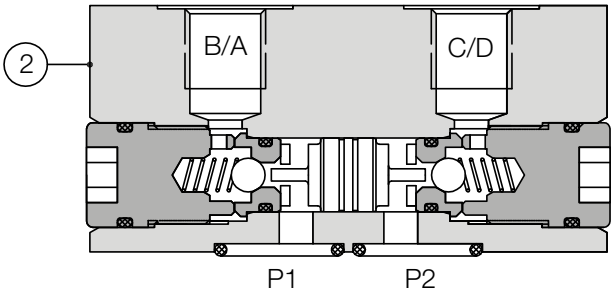
Conector Hirschmann *Hirschmann connector*	Conector Deutsch *Deutsch connector*
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	20 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	G 1/4"
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 20 l/min / *Power for 20 l/min*	38 W



La sección representa un circuito con corredera PB.
Section shown PB function.

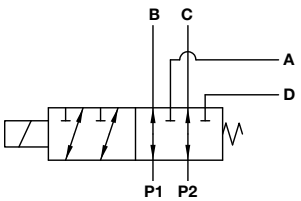
Válvula retención / *Check valve*



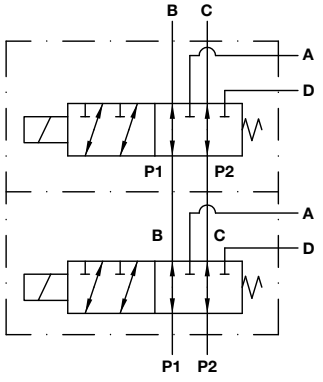
Marca *Item*	Referencia *Part number*	Nº válvulas *Valves number*	Descripción y componentes *Description and parts*
1	KV0606VS02	2	4 espárragos, 8 tuercas, 8 arandelas y 1 par de juntas tóricas *4 screws, 8 nuts, 8 washers and 1 pair of O-rings*
	KV0606VS03	3	4 espárragos, 8 tuercas, 8 arandelas y 2 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 2 pair of O-rings*
	KV0606VS04	4	4 espárragos, 8 tuercas, 8 arandelas y 3 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 3 pair of O-rings*
2	6855020	-	Kit válvula de retención *Check valve kit*

Nota: Se entregarán válvulas sueltas y kits de unión de válvulas para que el cliente pueda montar las válvulas según necesidades.
Note: *Roquet deliveries union kits and individual valves. Customer will be able to set multiple valves, according their requirements.*

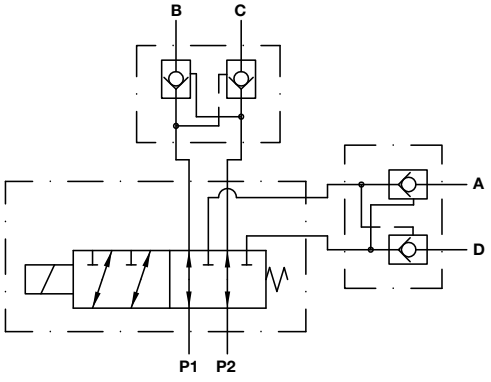
Circuito PB/ *PB function*



Circuito apilable / *Multiple function*



Circuito con válvula de retención / *Check valve function*







Sistema de codificación	8VR	B	1	D24	M	PA	- PB	SD	000	- ***	*Coding system*

Tipo / *Type*	
8VR	8 vías *8-way*

Tomas / *Ports*	
B	G 3/8" según ISO 1179-1 *G 3/8" according ISO 1179-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

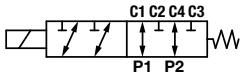
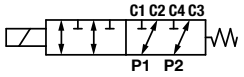
Voltaje / *Voltage*	
D12	12 V
D24	24 V

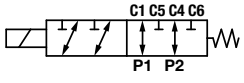
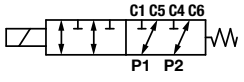
Caudal nominal / *Nominal flow*	
M	40 l/min
L	80 l/min

Código / *Code*

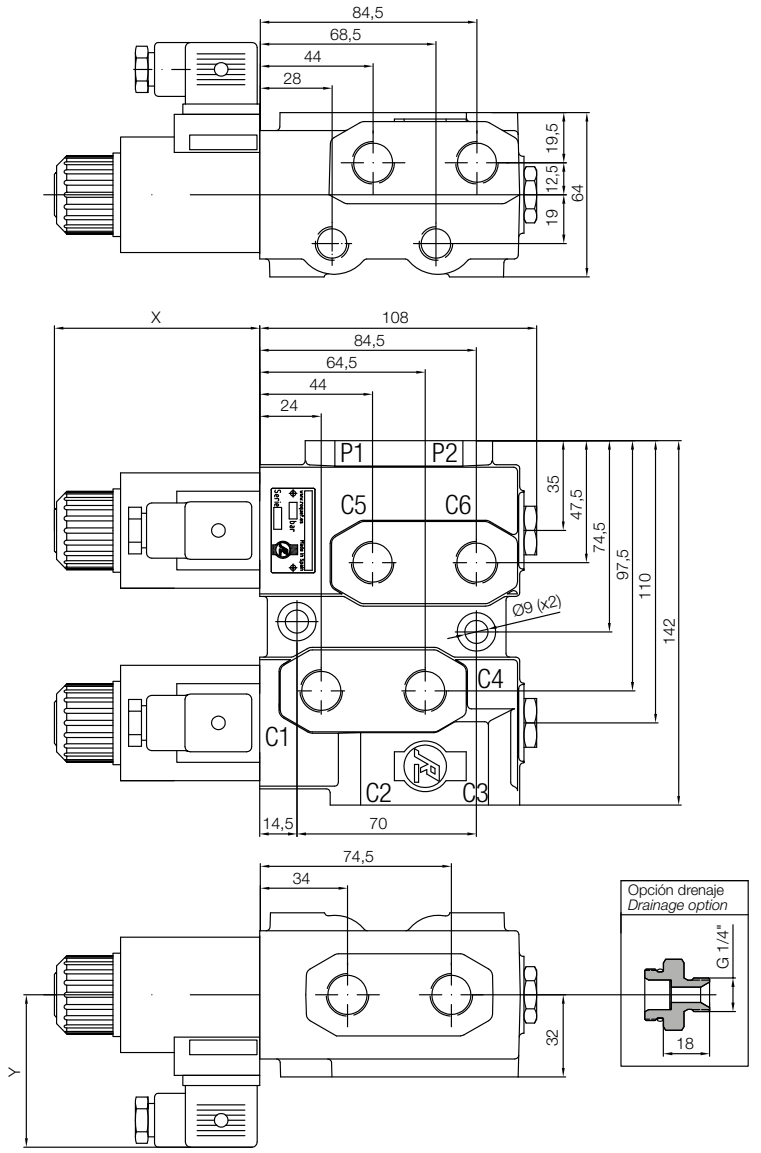
Protección / *Protection*	
000	Sin pintura / *No paint*
***	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*	
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

2ª corredera / *2nd Spool*	
PA	
PB	

1ª corredera / *1st Spool*	
PA	
PB	

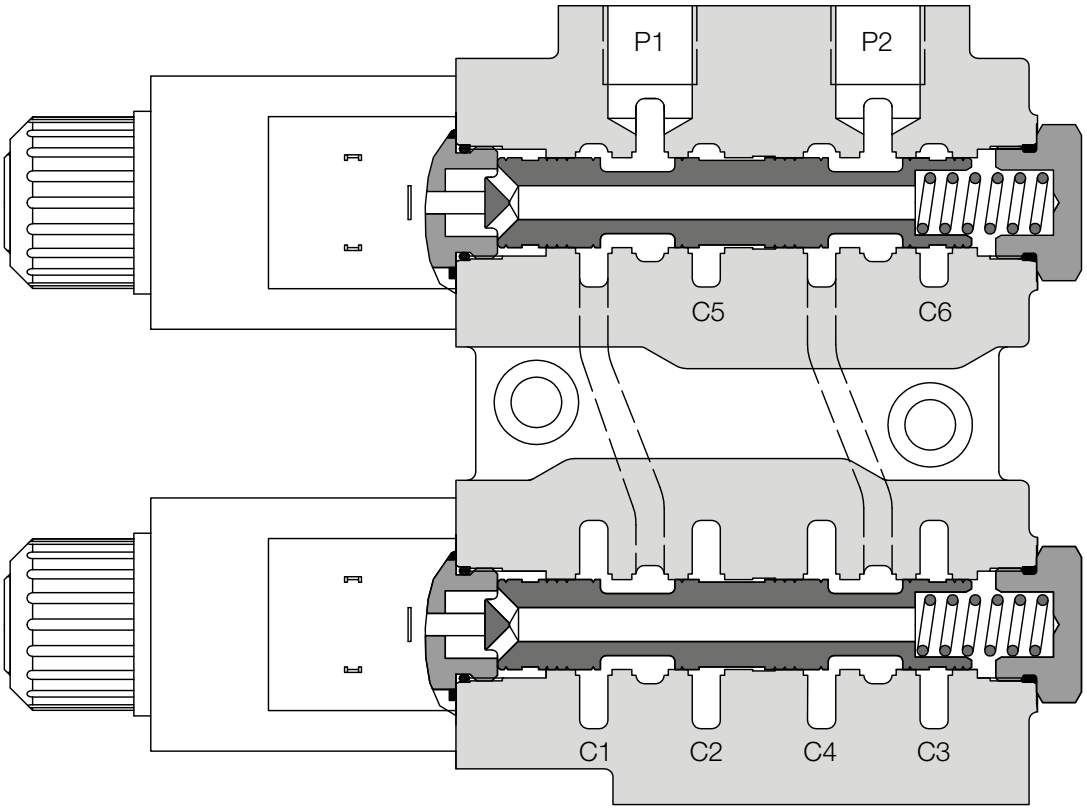
Nota: La primera corredera, es la más próxima a la toma P.
Note: *First spool is nearest P port.*



Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

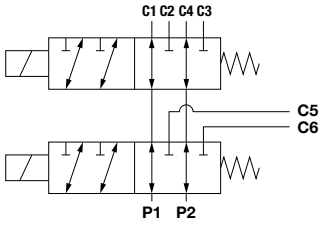
Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas C1, C2, C3, C4, P1, P2 / *Ports C1, C2, C3, C4, P1, P2*	G 3/8"
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

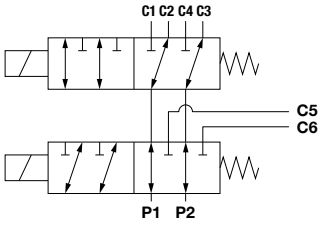


La sección representa un circuito apilable con correderas PA-PA.
Section shown multiple function with PA-PA spools.

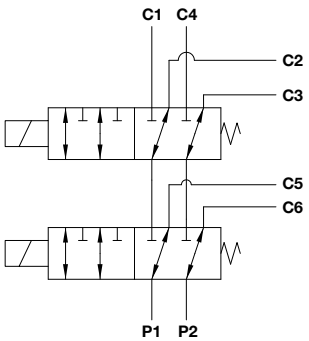
Circuito PA-PA / *PA-PA function*



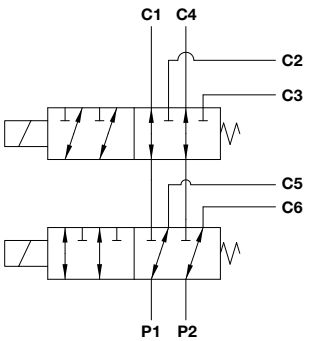
Circuito PA-PB / *PA-PB function*



Circuito PB-PB / *PB-PB function*



Circuito PB-PA / *PB-PA function*







Sistema de codificación	6VD	H	1	D12	L	PC	SD	482	- LA	3	- 3	- ***	*Coding system*

Tipo / *Type*

6VD	6 vías *6-way*

Tomas / *Ports*

H	G 1/2" según ISO 1179-1 *G 1/2" according ISO 1179-1* G 3/8" según ISO 1179-1 *G 3/8" according ISO 1179-1*

Tipo conector / *Connector type*

1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

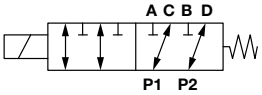
Voltaje / *Voltage*

D12	12 V
D24	24 V

Caudal nominal / *Nominal flow*

M	40 l/min
L	80 l/min

Corredera / *Spool*

PC	

Código / *Code*

Taraje válvula limitadora (D)
Releif valve setting (D)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(210 bar)
4	255-350 bar	(325 bar)

Taraje válvula limitadora (A)
Releif valve setting (A)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(210 bar)
4	255-350 bar	(325 bar)

Posición electroimán / *Solenoid position*

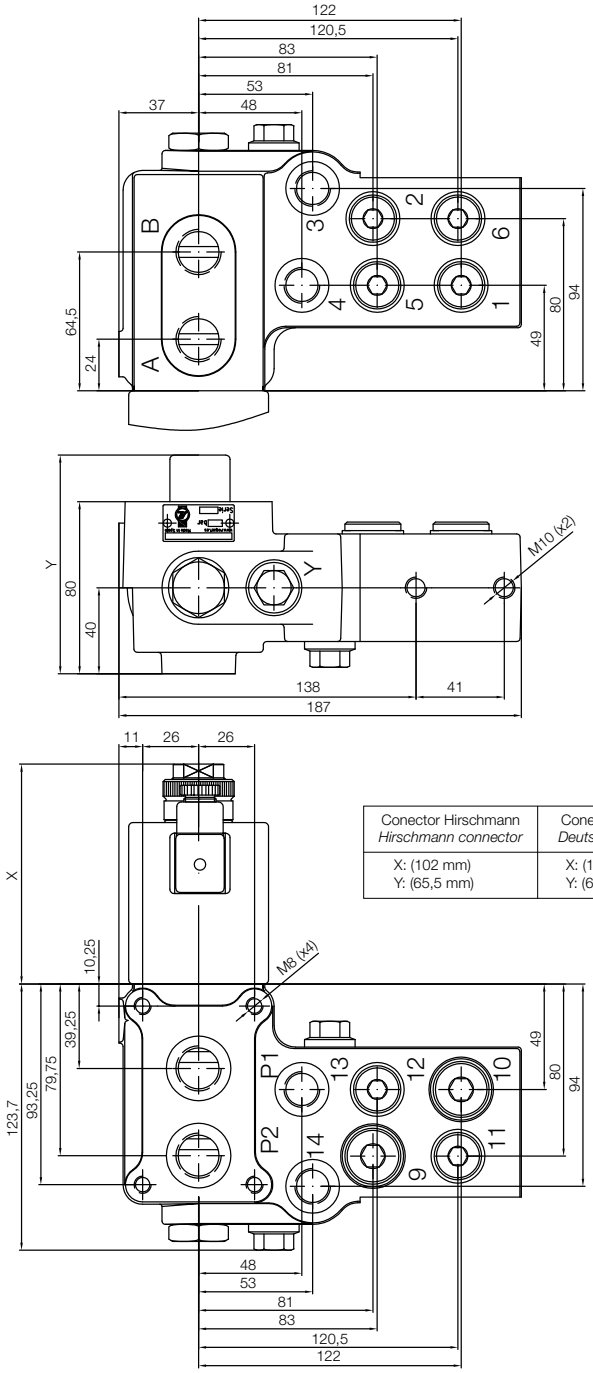
LA	Electroimán lado toma A *Solenoid in side A port*

Protección / *Protection*

005	Fosfatado / *Phosphated*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

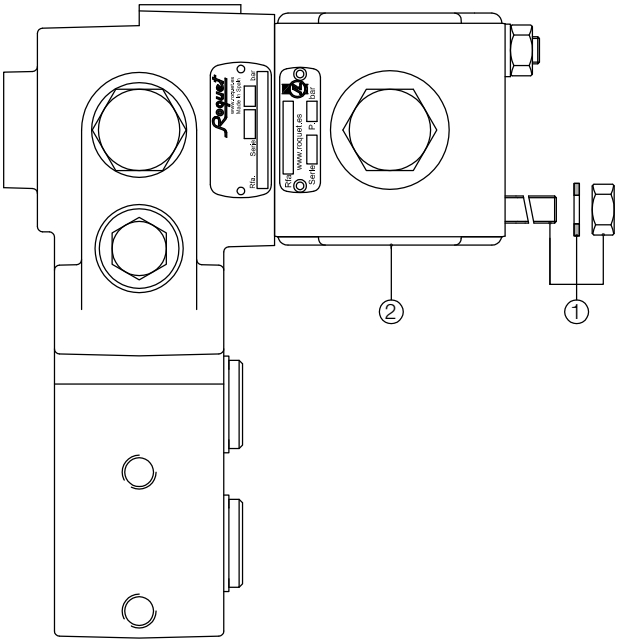
Drenaje / *Drainage*

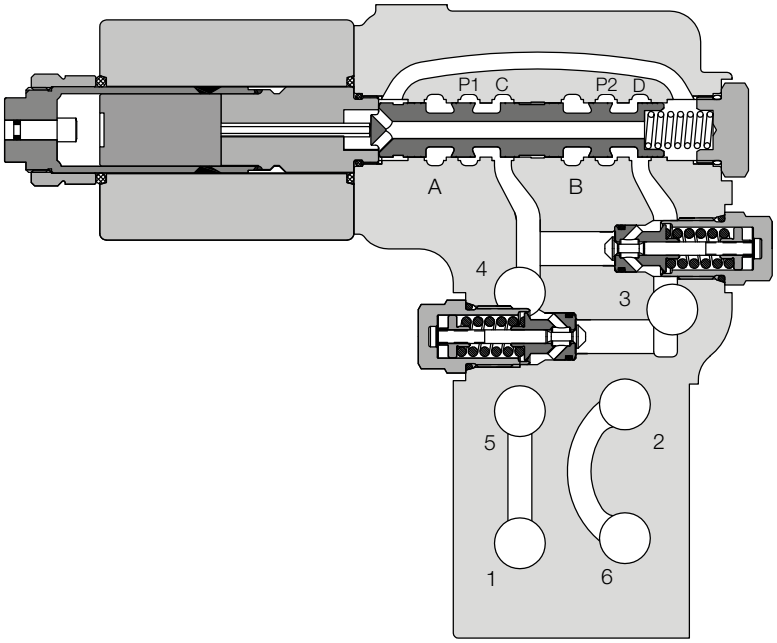
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*



Conector Hirschmann *Hirschmann connector*	Conector Deutsch *Deutsch connector*
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, P1, P2 / *Ports A, B, P1, P2*	G 1/2"
Tomas 3, 4, 13, 14 / *Ports 3, 4, 13, 14*	G 3/8"
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

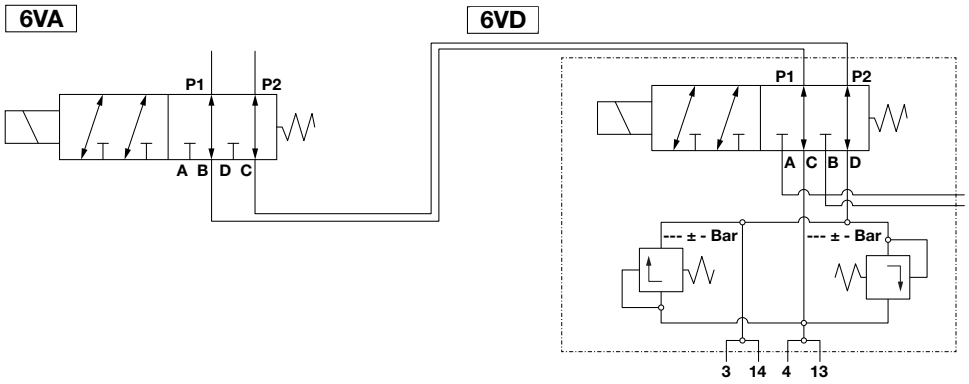




Marca *Item*	Referencia *Part number*	Nº válvulas *Valves number*	Descripción y componentes *Description and parts*
1	KV0606VD02	2	4 espárragos, 8 tuercas, 8 arandelas y 1 par de juntas tóricas *4 screws, 8 nuts, 8 washers and 1 pair of O-rings*
	KV0606VD03	3	4 espárragos, 8 tuercas, 8 arandelas y 2 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 2 pair of O-rings*
	KV0606VD04	4	4 espárragos, 8 tuercas, 8 arandelas y 3 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 3 pair of O-rings*
	KV0606VD05	5	4 espárragos, 8 tuercas, 8 arandelas y 4 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 4 pair of O-rings*
	KV0606VD06	6	4 espárragos, 8 tuercas, 8 arandelas y 5 pares de juntas tóricas *4 screws, 8 nuts, 8 washers and 5 pair of O-rings*
2	6VA	-	Válvula selectora 6 vías (ver página 6) *6-way changeover valve (see page 6)*

Nota: Se entregarán válvulas sueltas y kits de unión de válvulas para que el cliente pueda montar las válvulas según necesidades.
Note: *Roquet deliveries union kits and individual valves. Customer will be able to set multiple valves, according their requirements.*

Circuito apilable / *Multiple function*







Sistema de codificación	6VI	D	1	D12	L	PA	SD	000	- LA	3	- 3	- ***	*Coding system*

Tipo / *Type*

6VI	6 vías *6-way*

Tomas / *Ports*

D	M18x1,5 según ISO 9974-1 *M18x1,5 according ISO 9974-1*

Tipo conector / *Connector type*

1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

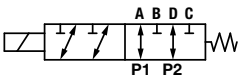
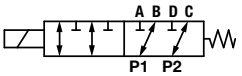
Voltaje / *Voltage*

D12	12 V
D24	24 V

Caudal nominal / *Nominal flow*

M	40 l/min
L	80 l/min

Corredera / *Spool*

PA	
PB	

Código / *Code*

Taraje válvula limitadora (D)
Releif valve setting (D)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(200 bar)
4	255-350 bar	(315 bar)

Taraje válvula limitadora (A)
Releif valve setting (A)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(200 bar)
4	255-350 bar	(315 bar)

Posición electroimán / *Solenoid position*

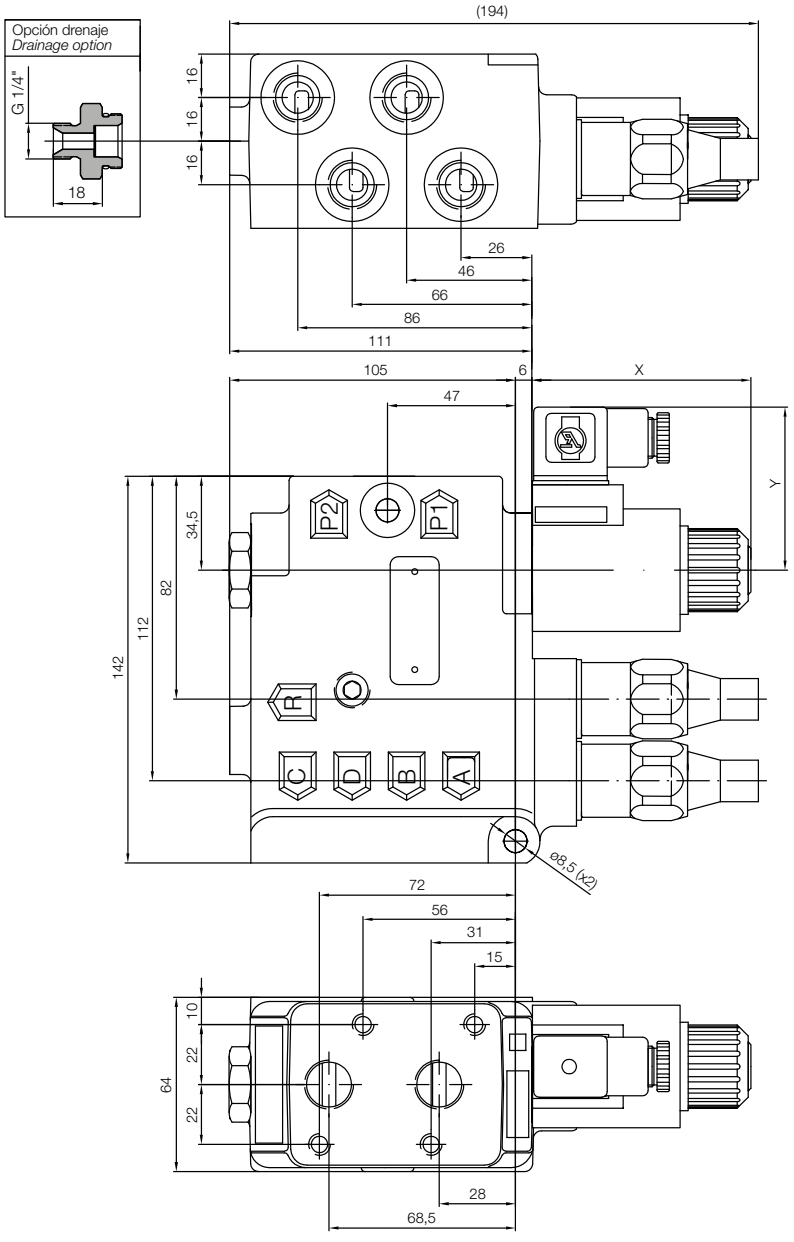
LA	Electroimán lado toma A *Solenoid in side A port*

Protección / *Protection*

000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

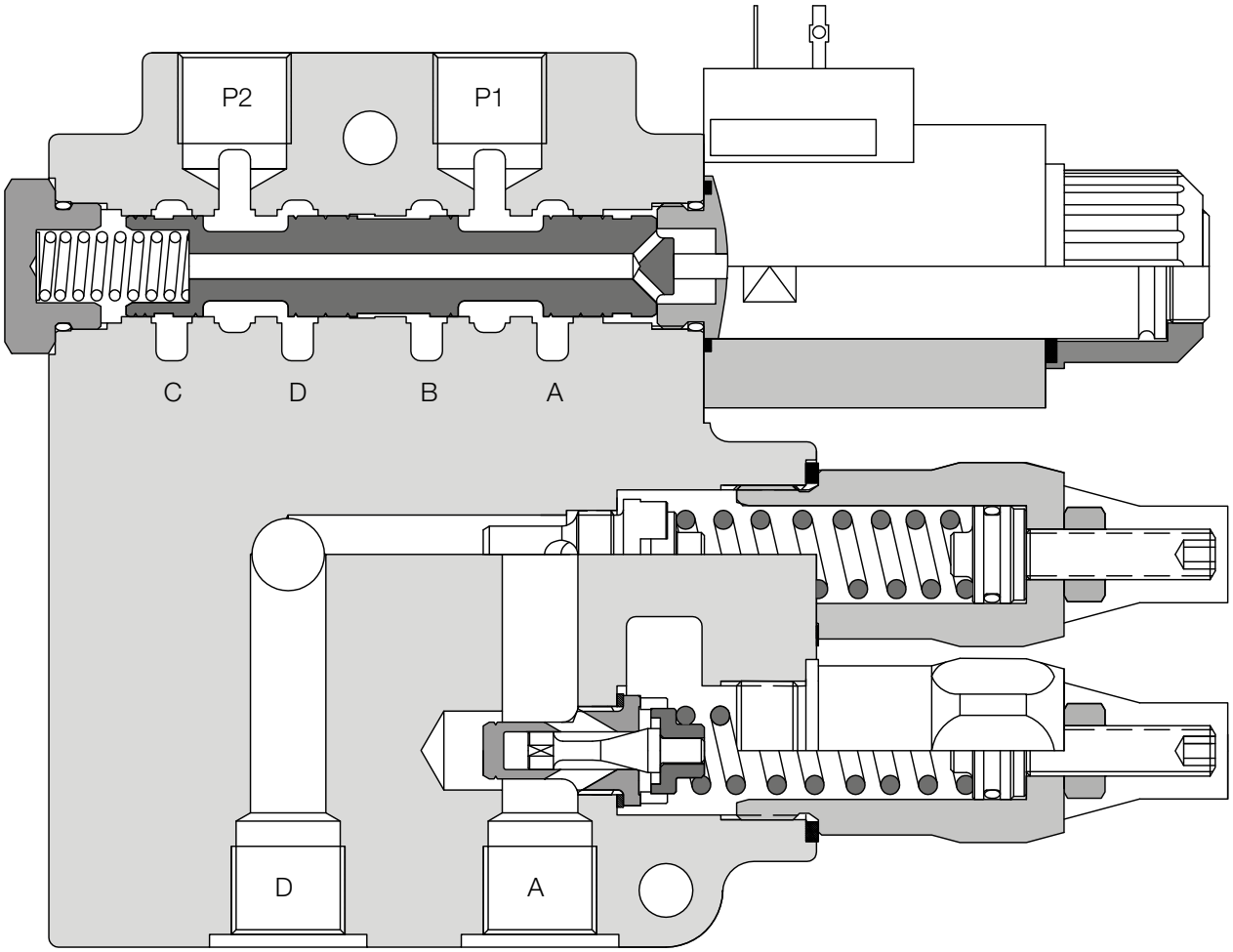
Drenaje / *Drainage*

CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*



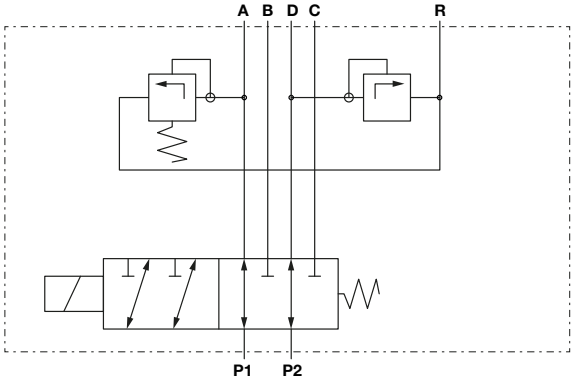
Conector Hirschmann *Hirschmann connector* 40 l/min	Conector Deutsch *Deutsch connector* 40 l/min	Conector Hirschmann *Hirschmann connector* 80 l/min	Conector Deutsch *Deutsch connector* 80 l/min
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)	X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min - 80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	M18x1,5
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W
Potencia para 80 l/min / *Power for 80 l/min*	44 W

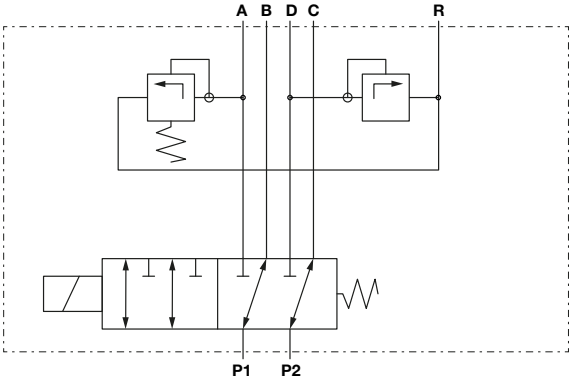


La sección representa un circuito con corredera PA.
Section shown PA function.

Circuito PA / *PA function*



Circuito PB / *PB function*







Sistema de codificación	6VL	H	1	D24	M	PA	SD	482	- LA	3	- 3	- ***	*Coding system*

Tipo / *Type*

6VL	6 vías *6-way*

Tomas / *Ports*

H	G 1/2" según ISO 1179-1 *G 1/2" according ISO 1179-1* G 3/8" según ISO 1179-1 *G 3/8" according ISO 1179-1*

Tipo conector / *Connector type*

1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*

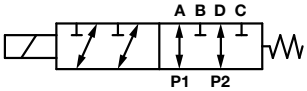
Voltaje / *Voltage*

D12	12 V
D24	24 V

Caudal nominal / *Nominal flow*

M	40 l/min

Corredera / *Spool*

PC	

Código / *Code*

Taraje válvula limitadora (B)
Releif valve setting (B)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(200 bar)
4	255-350 bar	(315 bar)

Taraje válvula limitadora (A)
Releif valve setting (A)

1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(200 bar)
4	255-350 bar	(315 bar)

Posición electroimán / *Solenoid position*

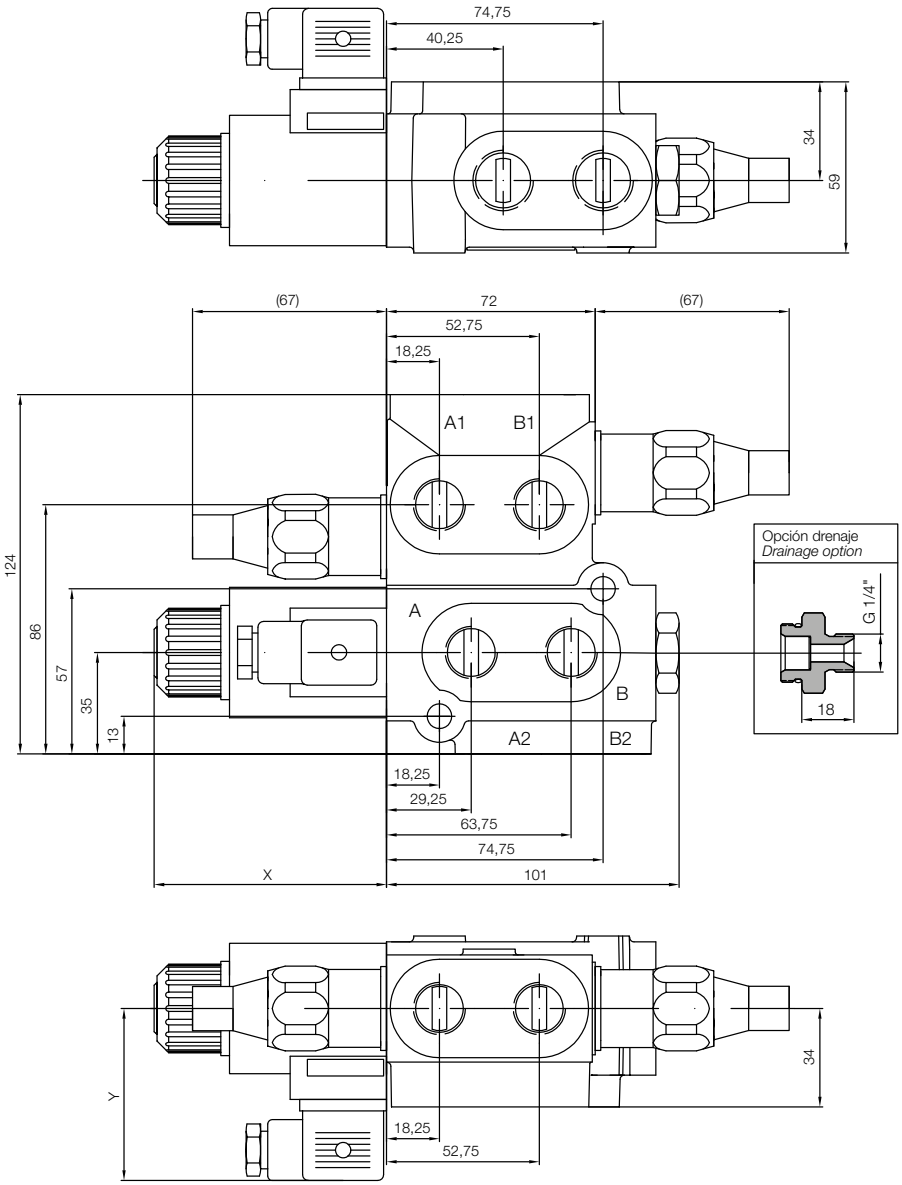
LA	Electroimán lado toma A *Solenoid in side A port*
LB	Electroimán lado toma B *Solenoid in side B port*

Protección / *Protection*

000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

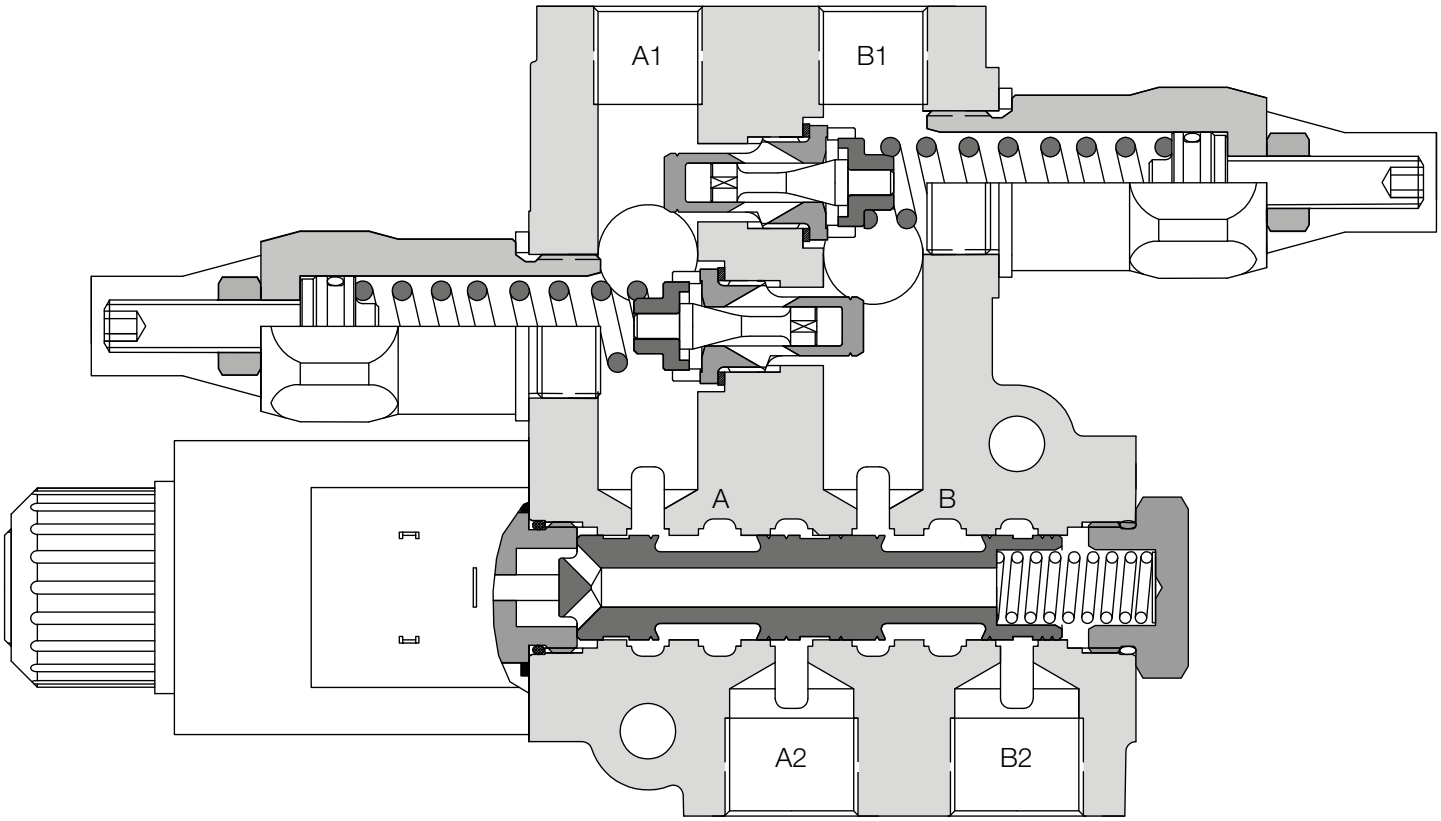
Drenaje / *Drainage*

CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

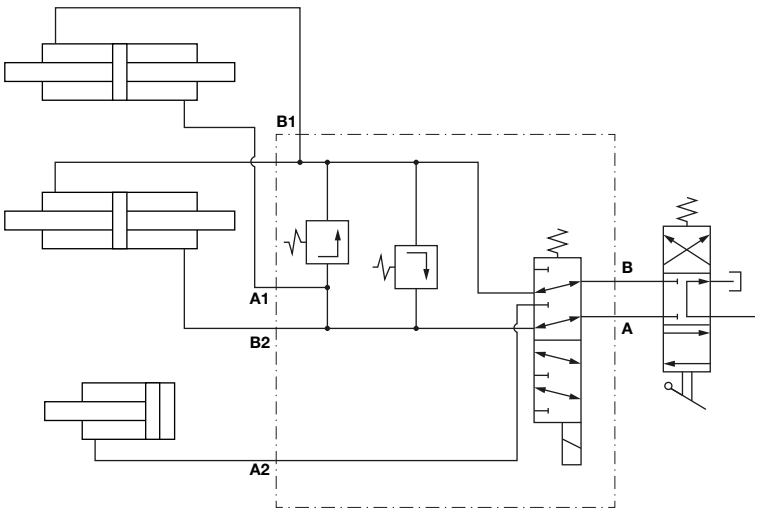


Conector Hirschmann *Hirschmann connector*	Conector Deutsch *Deutsch connector*
X: (80 mm) Y: (60 mm)	X: (80 mm) Y: (44,6 mm)

Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	40 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A2, B2 / *Ports A2, B2*	G 1/2"
Tomas A, B, A1, B1 / *Ports A, B, A1, B1*	G 3/8"
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 40 l/min / *Power for 40 l/min*	38 W



Circuito PA / *PA function*







Sistema de codificación	6VT	D	1	D24	L	PA	SD	461	- LA	3	- 3	- ***	*Coding system*

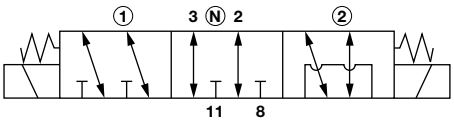
Tipo / *Type*	
6VT	6 vías *6-way*

Tomas / *Ports*	
D	M18x1,5 según ISO 9974-1 *M18x1,5 according ISO 9974-1*

Tipo conector / *Connector type*	
1	Hirschmann
3	Deutsch con diodo bidireccional *Deutsch with diode bidirectional*
4	Hirschmann 38W (aplicación especial) *Hirschmann 38W (special application)*

Voltaje / *Voltage*	
D12	12 V
D24	24 V

Caudal nominal / *Nominal flow*	
L	80 l/min

Corredera / *Spool*	
PA	

Código / *Code*

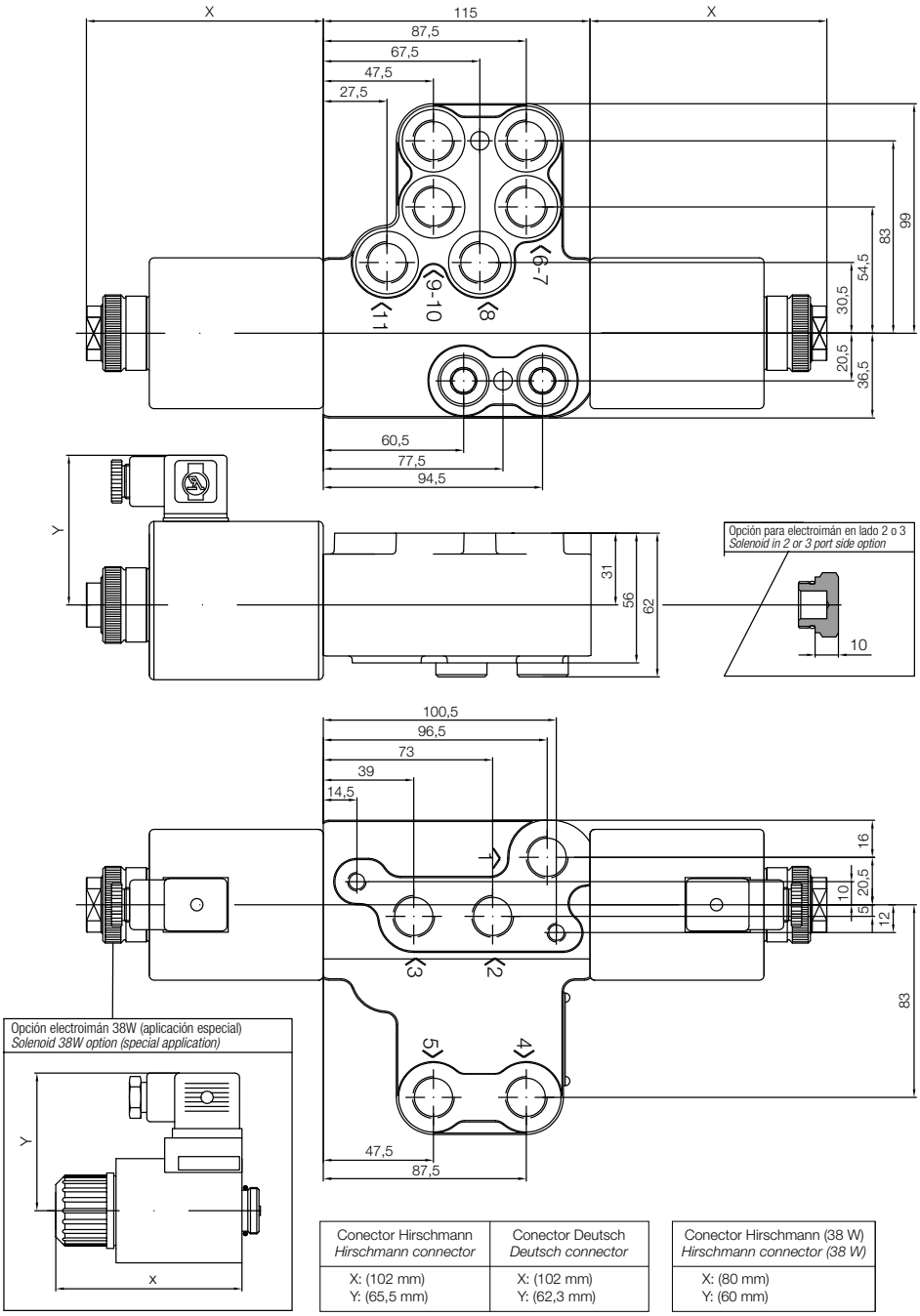
Taraje válvula limitadora (B) *Releif valve setting (B)*		
1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(210 bar)
4	255-350 bar	(325 bar)

Taraje válvula limitadora (A) *Releif valve setting (A)*		
1	5-80 bar	(80 bar)
2	85-175 bar	(160 bar)
3	180-250 bar	(210 bar)
4	255-350 bar	(325 bar)

Posición electroimán / *Solenoid position*	
LA	Electroimán en lado 2 *Solenoid in 2 port side*
LB	Electroimán en lado 3 *Solenoid in 3 port side*
LC	Electroimán en ambos lados *Solenoid in both sides*
LS	Sin electroimanes *Without solenoid*

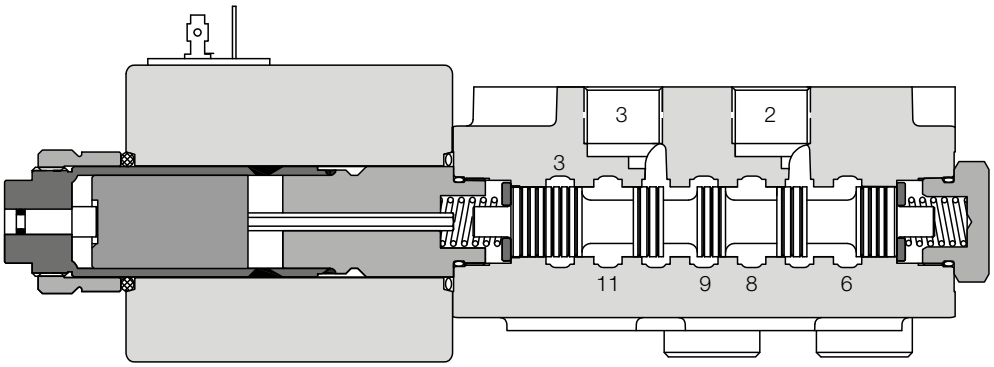
Protección / *Protection*	
000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

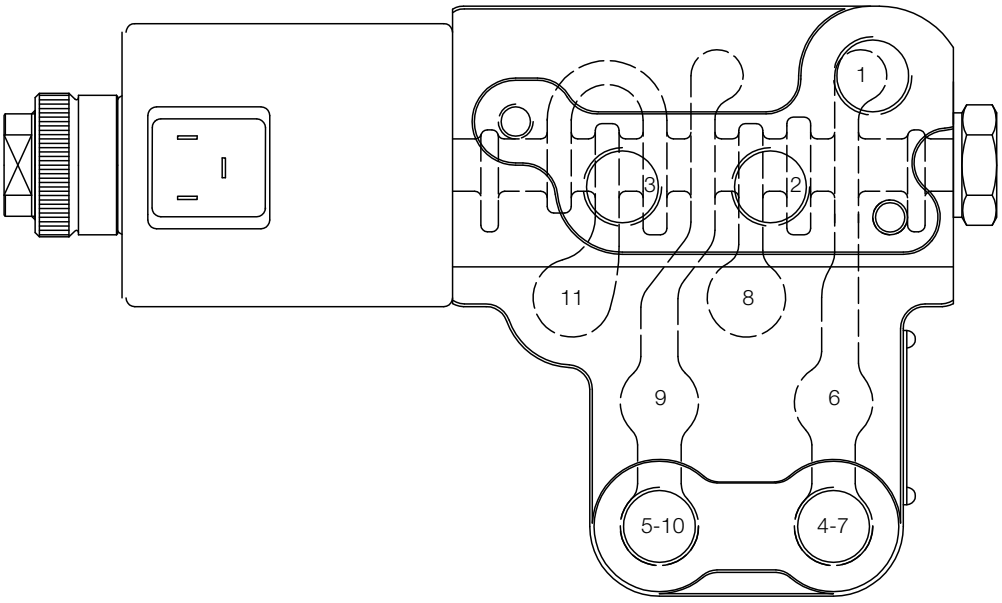
Drenaje / *Drainage*	
SD	Sin drenaje / *Without drainage*



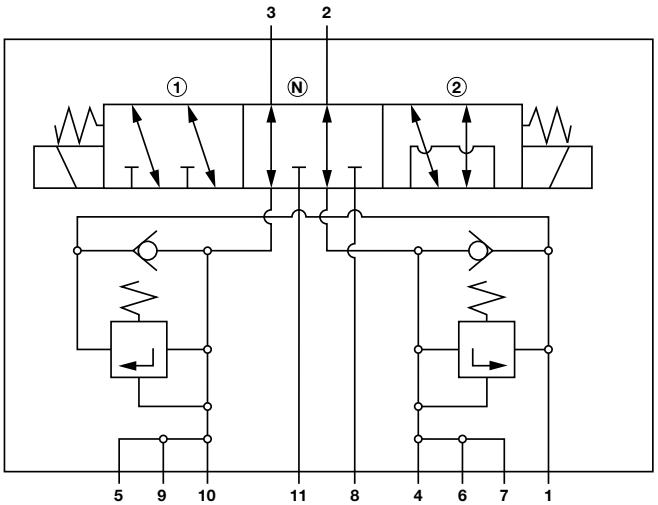
Conector Hirschmann *Hirschmann connector*	Conector Deutsch *Deutsch connector*	Conector Hirschmann (38 W) *Hirschmann connector (38 W)*
X: (102 mm) Y: (65,5 mm)	X: (102 mm) Y: (62,3 mm)	X: (80 mm) Y: (60 mm)

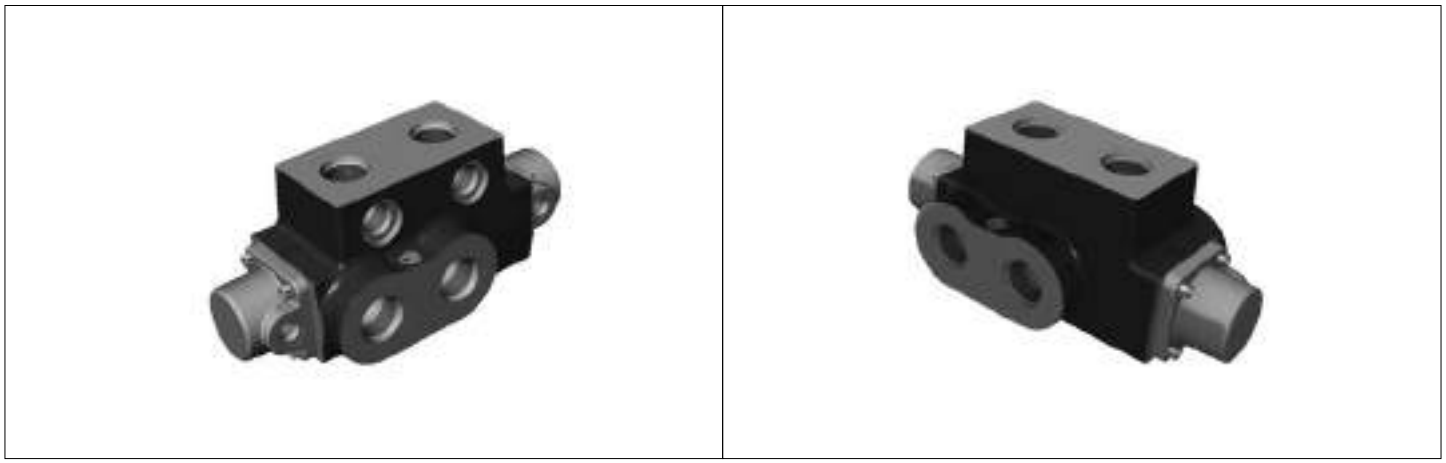
Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 250 bar
Caudal nominal / *Nominal flow*	80 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 / *Ports 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11*	M18x1,5
Tipo Conector / *Connector type*	Deutsch - Hirschmann
Voltaje / *Voltage*	12 V - 24 V ±10%
Potencia para 80 l/min / *Power for 80 l/min*	44 W / 38 W (aplicación especial / *special application*)





Circuito PA / *PA function*





Sistema de codificación	6VH	B	1	S	L	PA	CD	000	- ***	*Coding system*

Tipo / *Type*

6VH	6 vías *6-way*

Tomas / *Ports*

B	1-5/16"-12 UN según ISO 11926-1 *1-5/16"-12 UN according ISO 11926-1*

Tipo conector / *Connector type*

1	Hidráulico / *Hydraulic*

Tomas de conexión / *Ports connector*

S	9/16"-18UNF

Caudal nominal / *Nominal flow*

M	<150 l/min
L	150 l/min

Código / *Code*

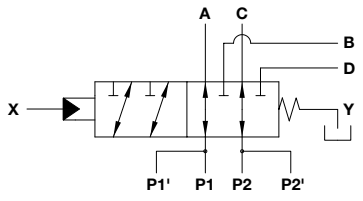
Protección / *Protection*

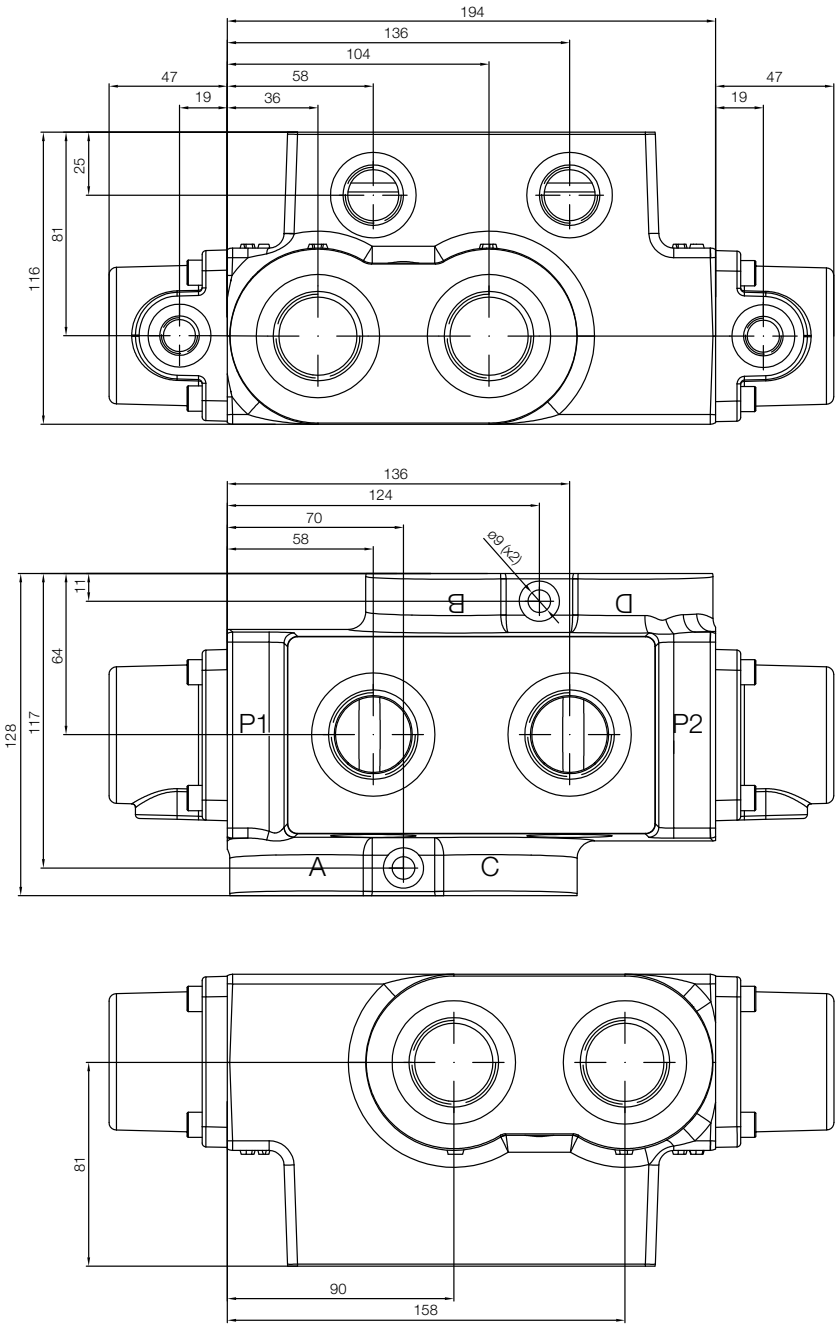
000	Sin pintura / *No paint*
*******	Código pintura ROQUET. Consultar. *ROQUET paint code. Check.*

Drenaje / *Drainage*

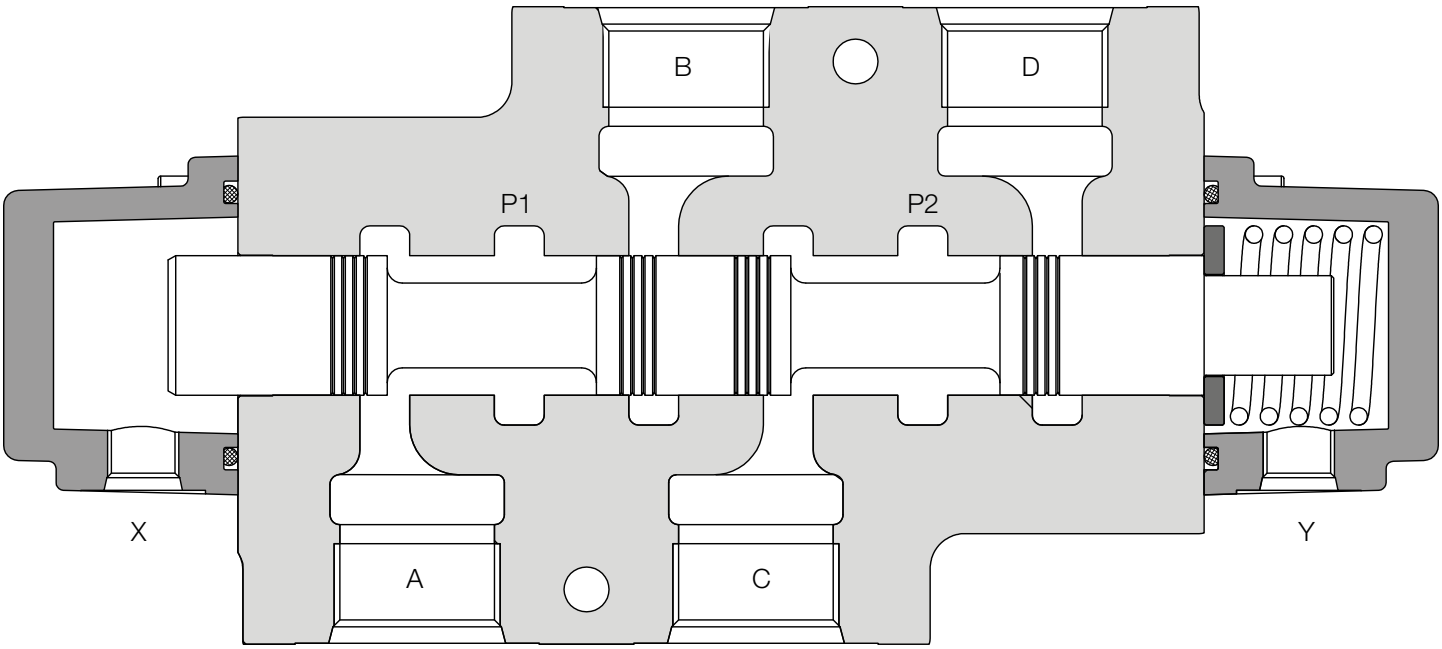
CD	Con drenaje / *With drainage*
SD	Sin drenaje / *Without drainage*

Corredera / *Spool*

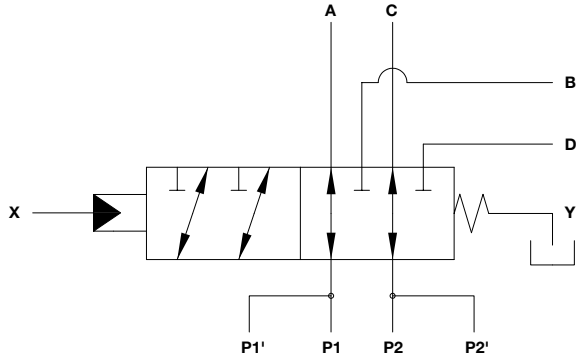
PA	



Datos técnicos / *Technical data*	
Rango de presiones de trabajo / *Work pressure range*	0 - 400 bar
Caudal máximo / *Max. flow*	150 l/min
Fluido recomendado / *Fluid recommended*	ISO 6743 Tipo HM, HV o HG
Gama de temperaturas del fluido / *Flow temperature range*	-20°C... +80°C
Gama de viscosidades / *Viscosity range*	ISO 3448 CAT VG32-VG46
Grado de limpieza del aceite / *Fluid cleanliness range*	16/13 s/ ISO 4406 o RP70H
Tomas A, B, C, D, P1, P2 / *Ports A, B, C, D, P1, P2*	1-5/16"-12 UN
Tomas auxiliares P1, P2 / *Aux. Ports P1,P2*	1-1/16"-12 UN
Tomas de conexión / *Ports connector*	9/16"-18 UNF
Presión mínima de pilotaje / *Min. pilot pressure*	17 bar
Presión máxima de pilotaje / *Max. pilot pressure*	40 bar



Circuito PA / *PA function*





Sistema de codificación	K	V	19	40LM	12	H	*Coding system*

Kit

Producto / *Product*	
V	Válvulas selectoras / *Changeover valve*

Tipo conector / *Connector type*	
19	Electroimán / *Solenoid*

Caudal / *Flow*	
40LM	Max. 40 l/min
80LM	Max. 80 l/min

Tipo Conector / *Connector type*	
H	Hirschman (DIN 43650)
D	Deutsch DT04-2P

Voltaje / *Voltage*	
12	12 V
24	24 V

MENU

Roquet
making moves

MENU

CETOP RP121H

SOLENOID OPERATED VALVES
MODULAR COMPONENTS



Roquet
making moves

This Catalogue shows the product in the most standard configuration; customized or special designs are also avaible, please contact to ROQUET HYDRAULICS S.L.
The specifications y data in this catalogue are not open to any interpretation, please contact with ROQUET HYDRAULICS S.L. in case of doubt.

ROQUET HYDRAULICS S.L. reserves the right to modify, update or revise this catalogue without prior notice.
ROQUET HYDRAULICS S.L. is not responsable for any damage caused by an incorrect use of the product.

Solenoid operated valves and modular components
ISO - 4401 / DIN - 24340 / CETOP RP121H

This catalogue covers the Roquet range of industrial directional valves and associated stacking valves and sub-plates.

The mounting dimensions of this range of valves conform to the following standards: CETOP RP121H, DIN-24340 and ISO-4401.

The following sizes are produced: NG6 (CETOP 3), NG10 (CETOP 5), NG16 (CETOP 7), NG25 (CETOP 8) giving nominal flow rates of 80 to 350 L./min. at pressures up to 350 bar.

A wide range of stacking valves (pressure control, flow control, check valves, etc.) are available for the NG6 y NG10 valves (CETOP 3 and 5), as well as subplates with built-in relief valves. Appropriate use of these stacking valves can dramatically reduce the amount of pipe-work in a system.

Hydraulic damping of spool movement (to reduce system shocks with solenoid operated valves) can be provided for all sizes except NG6 (CETOP 3).

Hydraulic symbols used in this catalogue conform to ISO-1219.

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Sub-plate with relief valve 20
Special manifold blocks NG-6 22
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Pilot check valve..... 25
Double throttle valve with check valve 27
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2 way flow control valves..... 33
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Sub-plates NG - 25..... 75

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Hydraulic technical data	
Max. working pressure	315 bar
Nominal pressure in return	Dynamic 80 bar
Max. nominal flow rate	80 L/min
Fluid to be used	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Fluid temperature range	-20ºC... +80ºC
Viscosity range	4 - 500 cSt
Recommended fluid cleanliness	19/16 s/. ISO 4406 - RP70H or better
Weight with 2 solenoids	1,8 Kg
Weight with one solenoid	1,4 Kg

Electrical technical data			
Consumption per solenoid			
D.C.		38W	
A.C.	Open circuit	180VA	
	Closed circuit	65VA	
D.C. Voltage range		12V - 24V	
A.C. Voltage range		24V-48V-110V-220V (50Hz) 115V-230V (60Hz)	
Operating factor		ED 100%	
Protection to DIN-40050		IP - 65	
Voltage tolerance		Unom ± 10 %	
Switching frequency		D.C. = Max. 15000/h A.C. = 7200/h	
Response time		D.C.	A.C.
Switch ON Switch OFF		20 - 60 ms 50 - 70 ms	10 - 25 ms 25 - 50 ms

PART NUMBER

5 EV	P	3	D	1	C	02	R	220-50	*
		1		2	3		4	5	6

1	Positions and solenoids
1	Two positions one solenoid (only for spool type 7-8 and 17-18)
2	Two positions two solenoids
3	Three positions two solenoids
12	Two positions neutral and one end (A)
13	Two positions neutral and one end (B)
14	Two positions end and neutral (A)
29	Two positions with detent

2	Spool type
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 13 - 17 - 18	

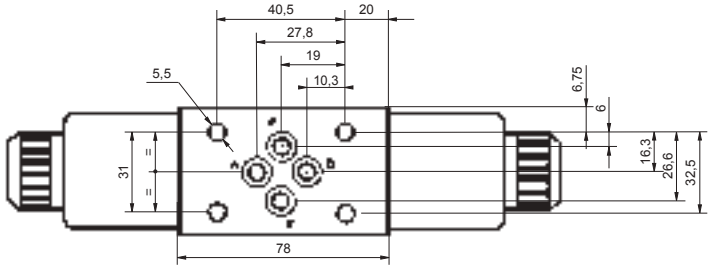
3	Ways
C	4
B	3

4	Current type
C	DC voltage
R	AC voltage

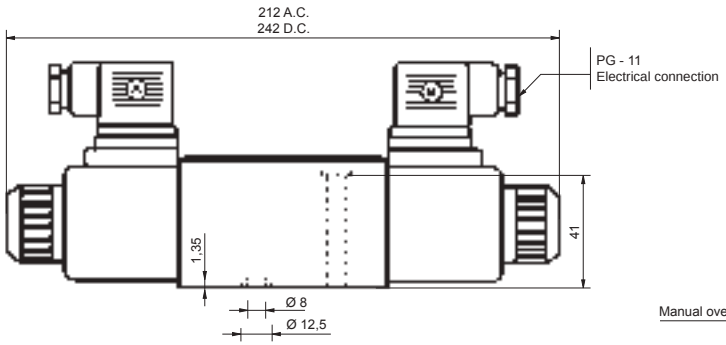
5	Voltage and frequency
A.C.	24V - 50Hz / 48V - 50Hz / 110V - 50Hz / 220V - 50Hz 115V - 60Hz / 230V - 60Hz
D.C.	12 V - 24 V

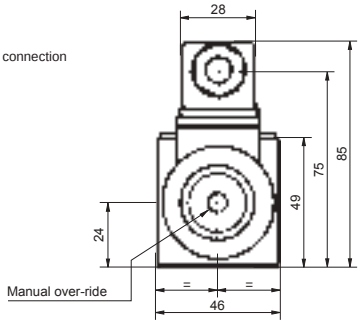
6	Additional data
L	Connector with led
V	Connector with varisto
LD	Connector with led and diode
REC	Connector with rectifier

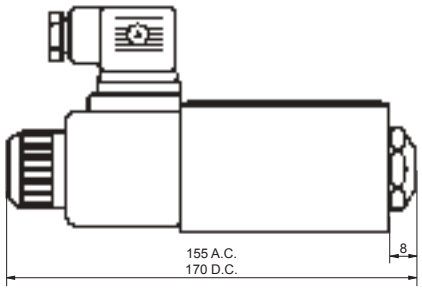
Solenoid operated valves NG-6











Version with one solenoid (spools 17 and 18)
For spools 7, 8 and assembly type 13 the solenoid will be placed at side of outlet «B»

P	Pressure inlet
A & B	Outlet to cylinders or motors
R	Return

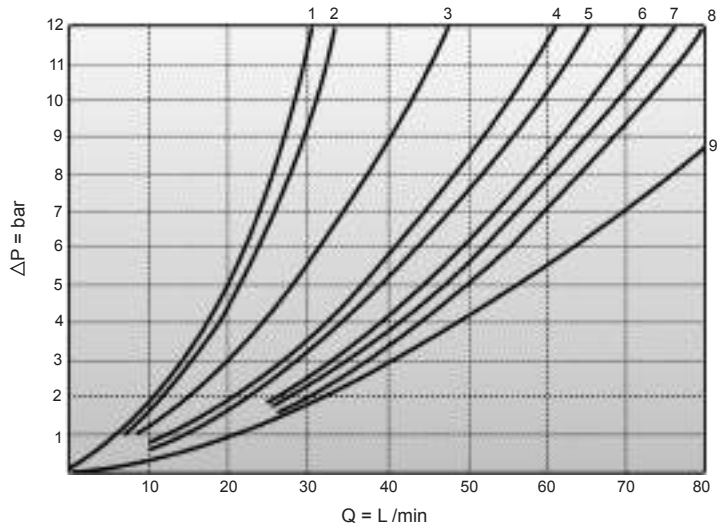
Reference	Spool type	Symbol	Connections		
			Solenoid "A" switched on	Central position	Solenoid "B" switched on
5EVP3D1C02*	1	A B	P (1) A B (1) R	A & B (2) P (1) R	P (1) B A (1) R
5EVP3D2C02*	2		P (1) B A (1) R	A, B, P & R (2)	
5EVP3D3C02*	3			A & B (1) R P (2)	
5EVP3D4C02*	4			A, B, P (1) R	
5EVP3D5C02*	5			A (1) R B & P (2)	
5EVP3D6C02*	6		P (1) A B (2) R	A (2) B & P (1) R	
5EVP3D13C02*	13		P (1) B A (1) R	A & B (1) P R (2)	
5EVP2D2C02*	2				
5EVP29D2C02*	2				
5EVP12D4C02*	4			A, B, P (1) R	

Reference	Spool type	Symbol	Solenoid switched ON		Solenoid switched OFF	
5EVP1D7B02*	7		P(1) A	B & R (2)	P (1) B	A (1) R
5EVP1D8C02*	8		P (1) A	B (1) R	P (1) B	A (1) R
5EVP1D17B02*	17		P (1) B	A & R (2)	P (1) A	B & R (2)
5EVP1D18C02*	18		P (1) B	A (1) R	P (1) A	B (1) R

(1) Connected. (2) Closed.

*Solenoid current type:
D for D.C. current, indicating after it voltage required.
R for A.C. current, indicating after it voltage and frequency required.

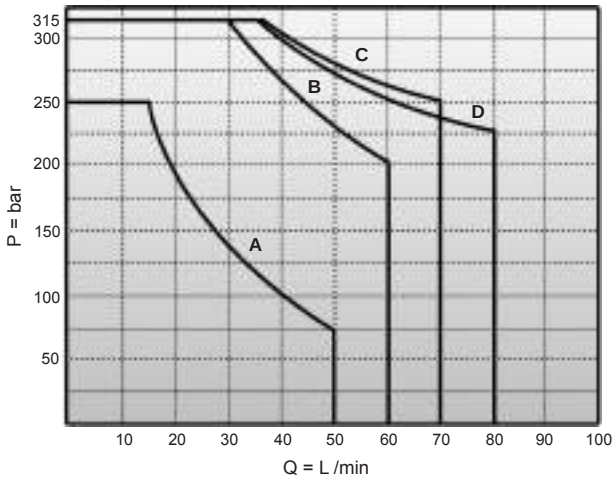
Diagram: △ p-Q to 23 cSt



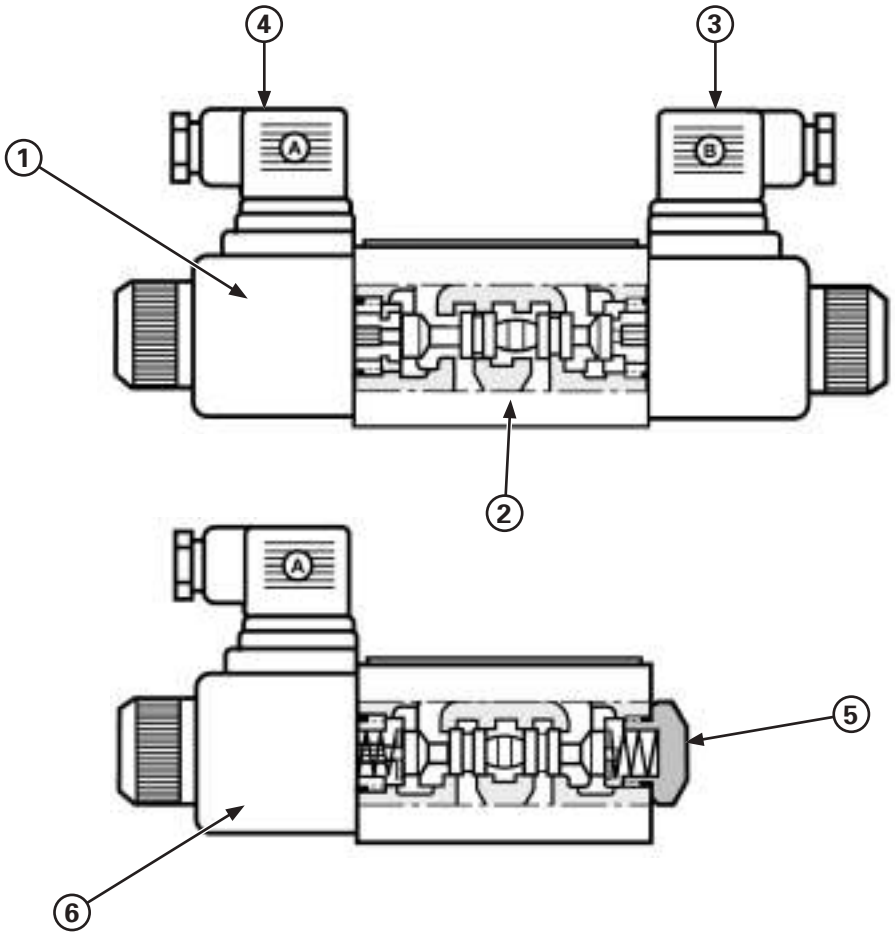
Spool form	P → A	P → B	A → R	B → R	P → R
1	1	1	2	2	3
2	5	5	6	6	-
3	5	5	9	9	-
4	6	6	8	8	7
5	5	5	9	9	-
6	1	1	2	2	3
7	7	7	-	-	-
8	4	4	7	7	-
13	6	6	8	8	-
17	7	7	-	-	-
18	4	4	7	7	-

Note:
Curves are for the solenoid valves only and do not include sub-plate pressure drops.

Operating limits



Spool type	Curve
7 - 17	A
1	B
8 - 18	C
2 - 3 - 4 - 5 - 6 - 13	D



Mark	Part number	Description and parts
1A	8967500010	Spare kit of coil AC 110V-32W. Hirschmann.
1B	8967500020	Spare kit of coil AC 220V-32W. Hirschmann.
1C	8967500030	Spare kit of coil AC 24V-28W. Hirschmann.
1D	8967500040	Spare kit of coil AC 48V-28W. Hirschmann.
1E	8967500050	Spare kit of coil AC 115V-27W. Hirschmann.
1F	8967500060	Spare kit of coil AC 230V-27W. Hirschmann.
1G	8967500070	Spare kit of coil AC 24V-27W. Hirschmann.
1H	8967500080	Spare kit of coil AC 42V-27W. Hirschmann.
1I	8967500090	Spare kit of coil AC 240V-27W. Hirschmann.
1J	8967501012	Spare kit of coil DC 12V-38W. Hirschmann.
1K	8967501024	Spare kit of coil DC 24V-38W. Hirschmann.
2A	N8967/76	Spare kit of seals
3A	8967/7	Connector B side. Hirschmann.
4A	8967/8	Connector A side. Hirschmann.

Mark	Part number	Description and parts
5A	8967503	Spare kit of DC plug.
5B	8967504	Spare kit of AC plug.
6A	8967/48/1	Coil AC 110V-32W 50Hz. Hirschmann.
6B	8967/48/2	Coil AC 220V-32W 50Hz. Hirschmann.
6C	8967/48/3	Coil AC 24V-28W 50Hz. Hirschmann.
6D	8967/48/4	Coil AC 48V-28W 50Hz. Hirschmann.
6E	8967/48/5	Coil AC 110/115V-32/27W 50/60Hz. Hirschmann.
6F	8967/48/6	Coil AC 220/230V-32/27W 50/60Hz. Hirschmann.
6G	8967/48/7	Coil AC 24V-27W 60Hz. Hirschmann.
6H	8967/48/8	Coil AC 42V-27W 60Hz. Hirschmann.
6I	8967/48/9	Coil AC 240V-32W 50Hz. Hirschmann.
6J	2163/10/1	Coil DC 12V-38W. Hirschmann.
6K	2163/20/1	Coil DC 24V-38W. Hirschmann.

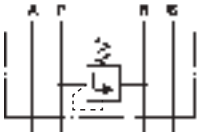
Accessories	That need separate orders			
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Fixing bolts	4	Bolts	DIN - 912 M5x50	Torque 7-9 Nm

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,1 kg.

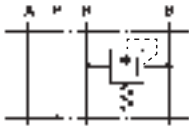


Type 4RL

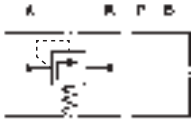
RFE. 4RL02P▲ ✳/P

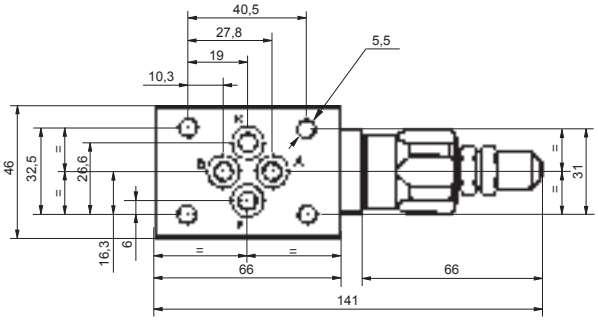


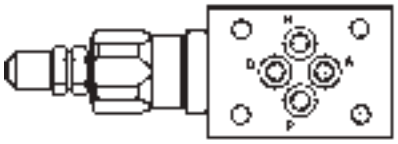
RFE. 4RL02P▲ ✳/B

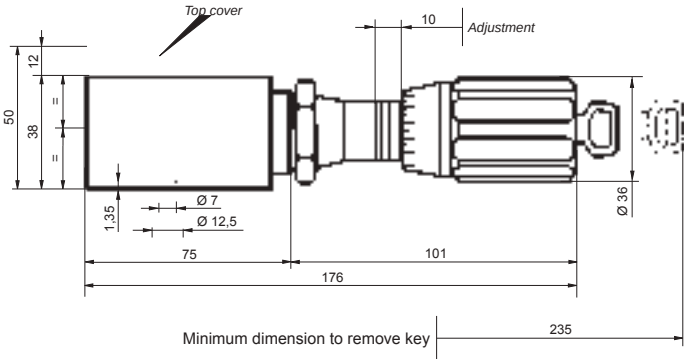


RFE. 4RL02P▲ ✳/A









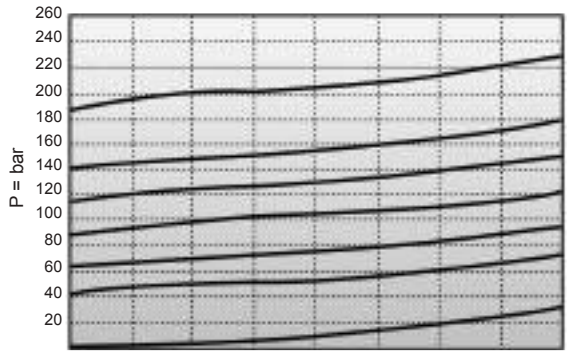
P	Pressure inlet port
A y B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-250 bar
G	255-315 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

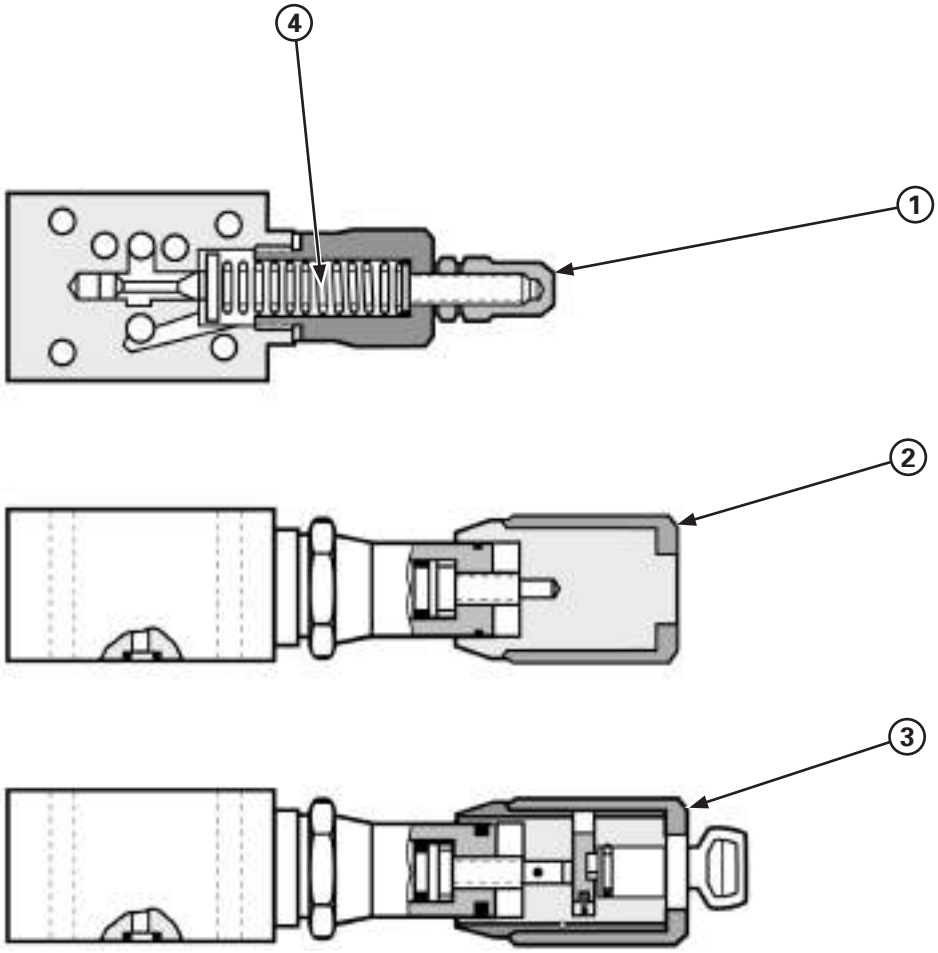
▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock

Diagram: Pressure - Flow rate



Q = L /min

Relief valve



Mark	Part number	Description and parts
1A	7109500/B	Spare kit of valve type 2 (5-80 bar)
1B	7109500/D	Spare kit of valve type 2 (85-175 bar)
1C	7109500/F	Spare kit of valve type 2 (180-250 bar)
1D	7109500/G	Spare kit of valve type 2 (255-350 bar)
2A	7109501/B	Spare kit of valve type 3 (5-80 bar)
2B	7109501/D	Spare kit of valve type 3 (85-175 bar)
2C	7109501/F	Spare kit of valve type 3 (180-250 bar)
2D	7109501/G	Spare kit of valve type 3 (255-315 bar)

Mark	Part number	Description and parts
3A	7109502/B	Spare kit of valve type 4 (5-80 bar)
3B	7109502/D	Spare kit of valve type 4 (85-175 bar)
3C	7109502/F	Spare kit of valve type 4 (180-250 bar)
3D	7109502/G	Spare kit of valve type 4 (255-350 bar)
4A	714/8/1	Spring (5-80 bar)
4B	1670/23	Spring (85-175 bar)
4C	1670/24B	Spring (180-250 bar)
4D	1670/234	Spring (255-315 bar)

Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5 x 55 DIN.912	Torque 7-8 Nm.

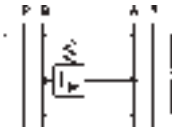
Simple relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,150 kg.

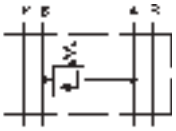


Type 4RLS

RFE. 4RLS02P2✳/B



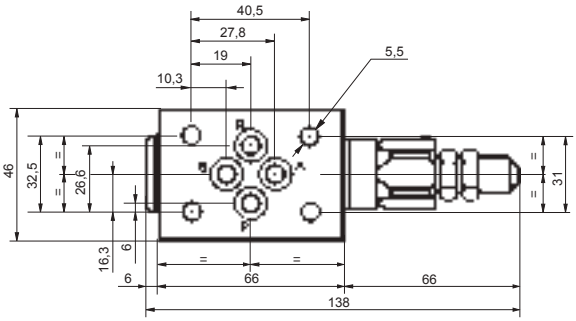
RFE. 4RLS02P2✳/A



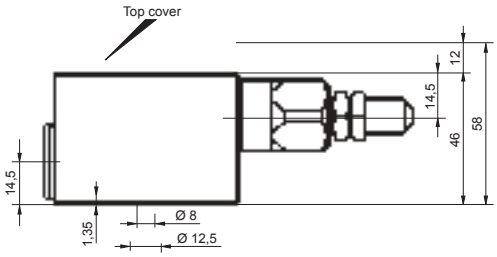
P	Pressure inlet port
A y B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-250 bar
G	255-315 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.



Outlet adjustment B



Outlet adjustment A

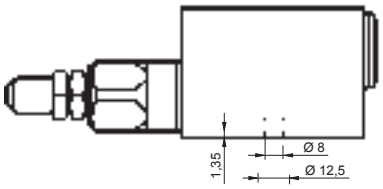
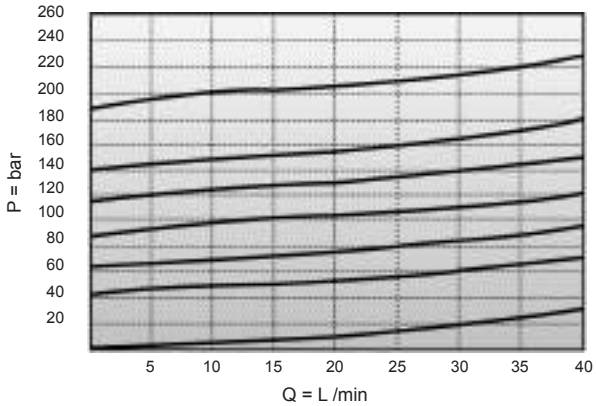
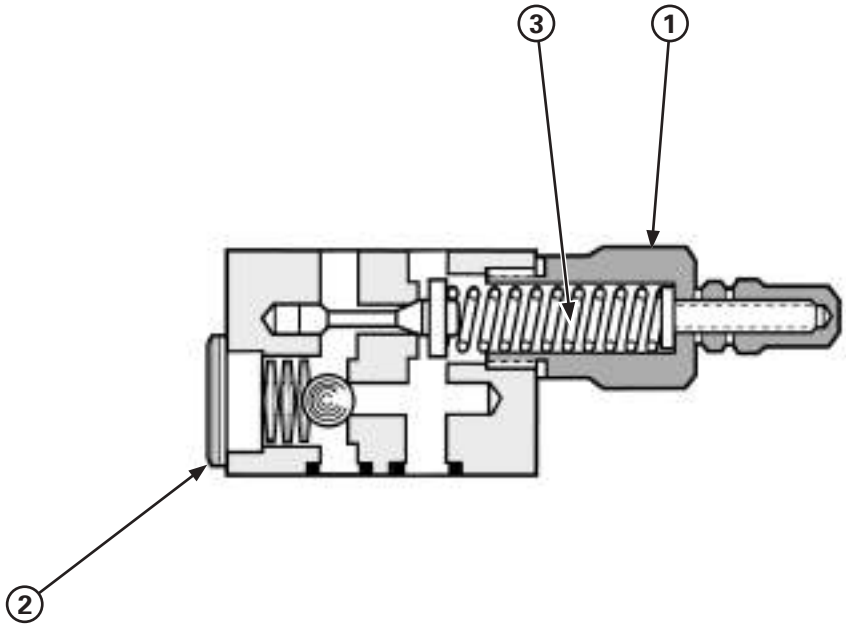


Diagram: Pressure - Flow rate



Simple relief valve



Mark	Part number	Description and parts
1A	7103500/B	Spare kit relief valve (5-80 bar)
1B	7103500/D	Spare kit relief valve (85-175 bar)
1C	7103500/F	Spare kit relief valve (180-250 bar)
1D	7103500/G	Spare kit relief valve (255-315 bar)
2A	7103501	Spare kit of check valve

Mark	Part number	Description and parts
2A	714/8/1	Spring (5-80 bar)
2B	1670/23	Spring (85-175 bar)
2C	1670/24B	Spring (180-250 bar)
2D	1670/234	Spring (255-315 bar)

Accessories	That need separate orders			
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25x1,77	
Screws for fixing	4	Screws	M5 x 55	Torque 7-8 Nm.

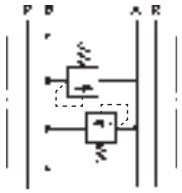
Double relief valve

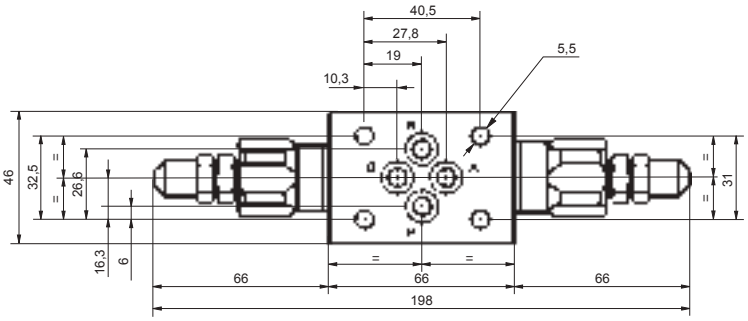
Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,250 kg.

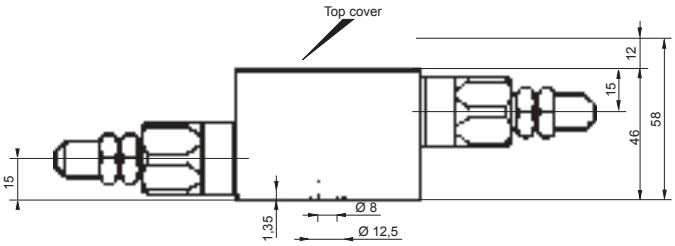


Type 4RLD

RFE. 4RLD02P2✳ /✳





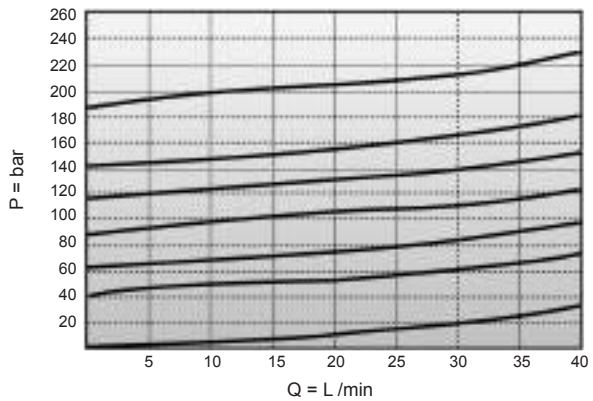


P	Pressure inlet port
A y B	Outlet ports to cylinders or motors
R	Return to tank

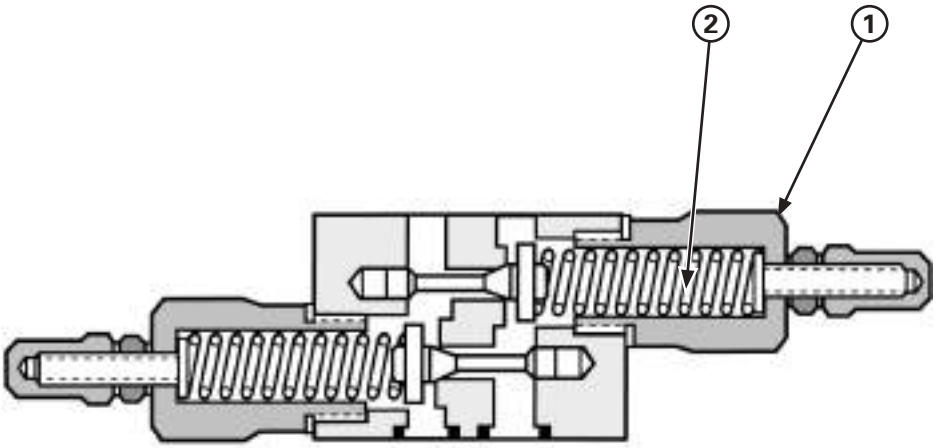
B	5-80 bar
D	85-175 bar
F	180-250 bar
G	255-315 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

Diagram: Pressure - Flow rate



Double relief valve



Mark	Part number	Description and parts
1A	7103500/B	Spare kit relief valve (5-80 bar)
1B	7103500/D	Spare kit relief valve (80-175 bar)
1C	7103500/F	Spare kit relief valve (175-250 bar)
1D	7103500/G	Spare kit relief valve (255-315 bar)

Mark	Part number	Description and parts
2A	714/8/1	Spring (5-80 bar)
2B	1670/23	Spring (85-175 bar)
2C	1670/24B	Spring (180-250 bar)
2D	1670/234	Spring (255-315 bar)

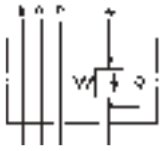
Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5 x 60 DIN.912	Torque 7-8 Nm.

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,150 kg.

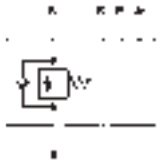


Type 4RS

RFE. 4RS02P▲ ✳/A



RFE. 4RS02P▲ ✳/B



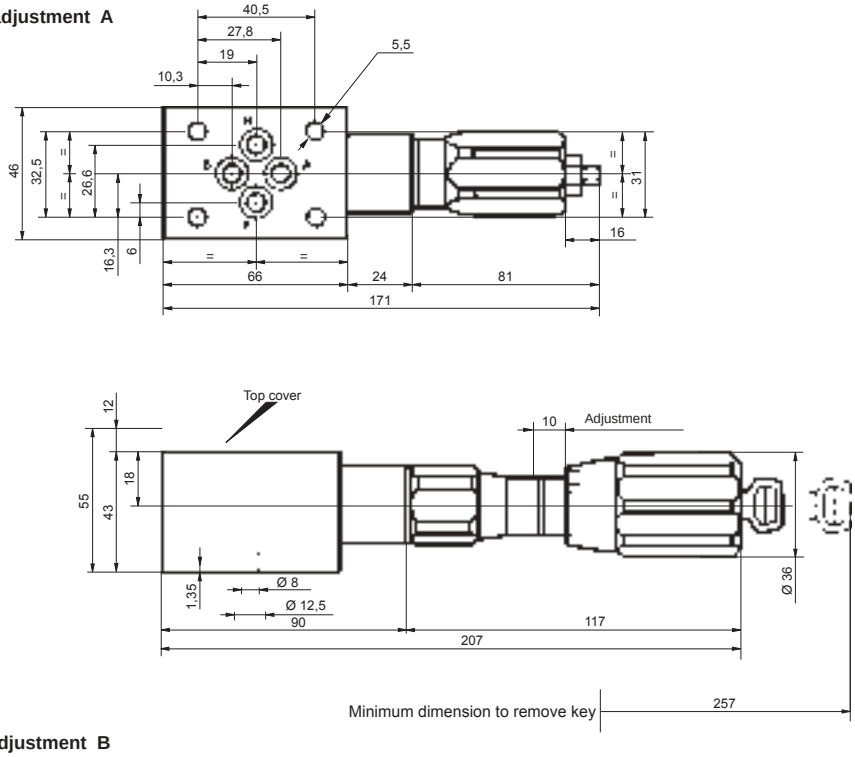
P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-250 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock

Outlet adjustment A



Outlet adjustment B

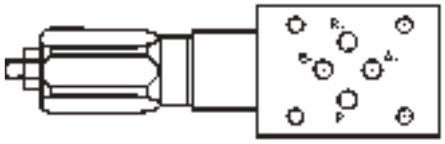
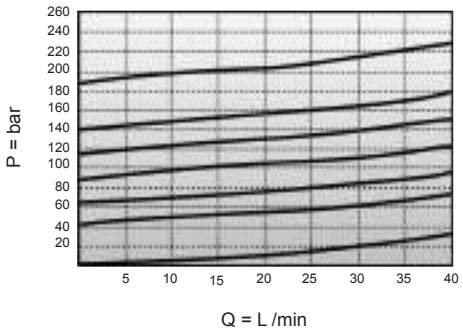
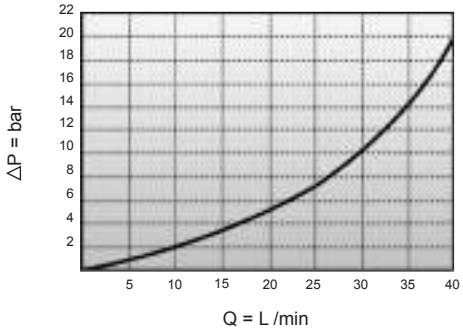
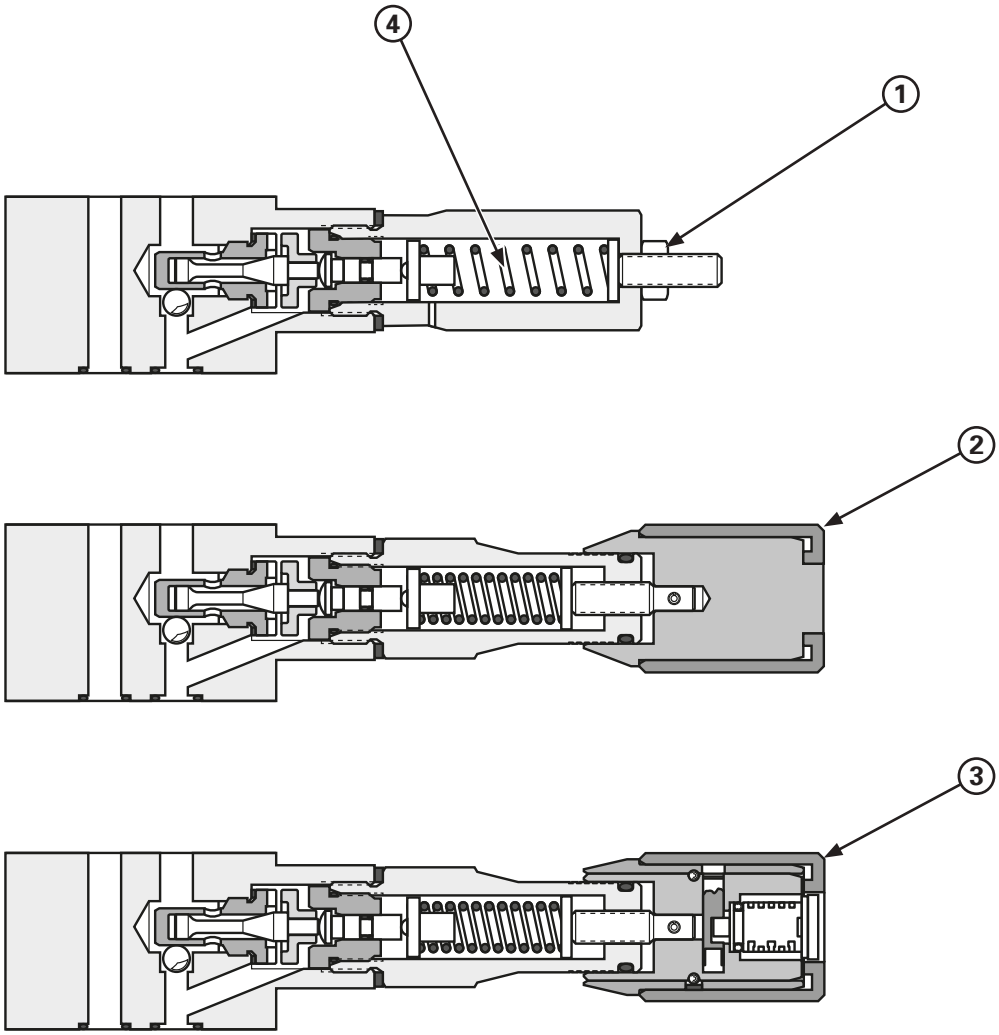


Diagram: Pressure - Flow rate



△ p-Q to 23 cSt. Through check line





Mark	Part number	Description and parts
1A	7630500/B	Spare kit of valve type 2 (5-80 bar)
1B	7630500/D	Spare kit of valve type 2 (85-175 bar)
1C	7630500/F	Spare kit of valve type 2 (180-250 bar)
2A	7630501/B	Spare kit of valve type 3 (5-80 bar)
2B	7630501/D	Spare kit of valve type 3 (85-175 bar)
2C	7630501/F	Spare kit of valve type 3 (180-250 bar)

Mark	Part number	Description and parts
3A	7630502/B	Spare kit of valve type 4 (5-80 bar)
3B	7630502/D	Spare kit of valve type 4 (85-175 bar)
3C	7630502/F	Spare kit of valve type 4 (180-250 bar)
4A	714/8/1	Spring (5-80 bar)
4B	1670/23	Spring (85-175 bar)
4C	1670/24B	Spring (180-250 bar)

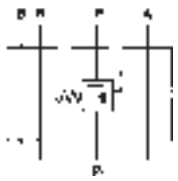
Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5x60 DIN.912	Torque 7-8 Nm.

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,150 kg.



Type 4RS

RFE. 4RS02P▲ ✳/P

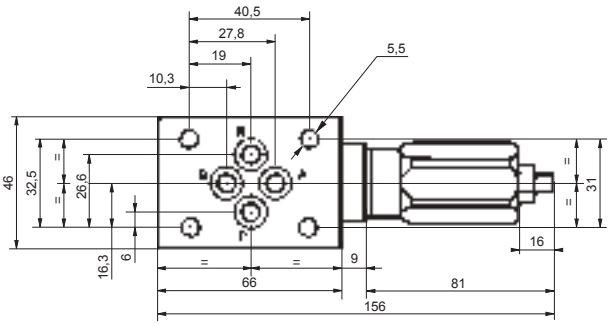


P	Pressure inlet port
A y B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-250 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock



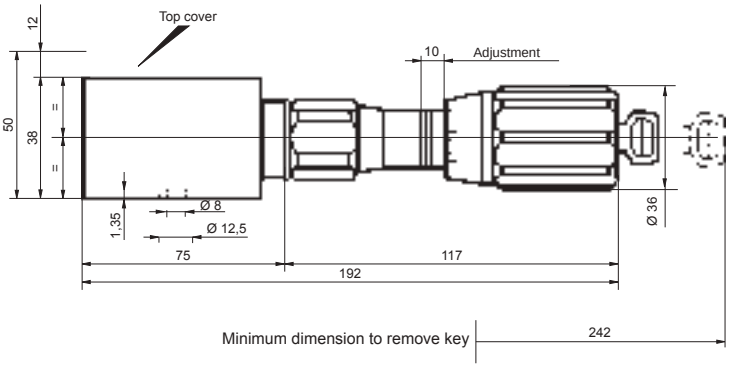
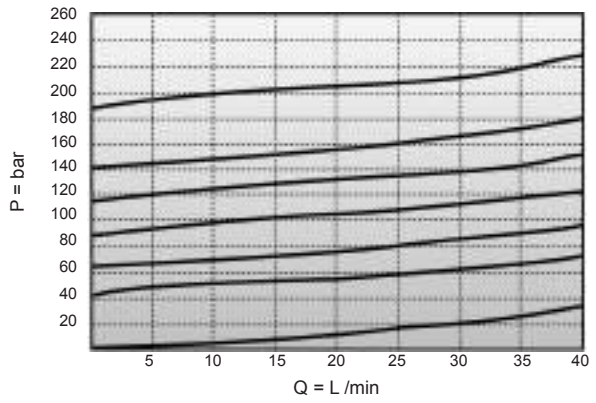
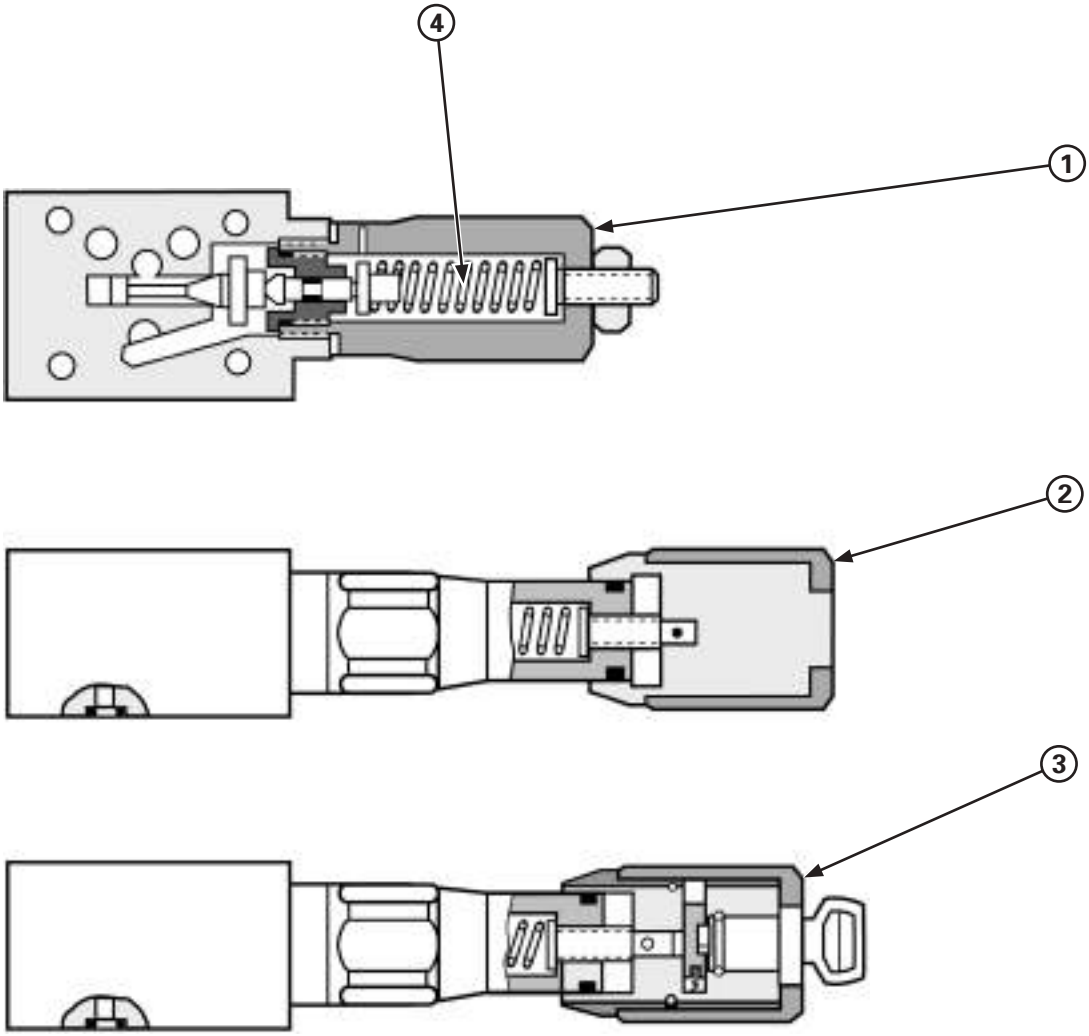


Diagram: Pressure - Flow rate





Mark	Part number	Description and parts
1A	7629500/B	Spare kit of valve type 2 (5-80 bar)
1B	7629500/D	Spare kit of valve type 2 (85-175 bar)
1C	7629500/F	Spare kit of valve type 2 (180-250 bar)
2A	7629501/B	Spare kit of valve type 3 (5-80 bar)
2B	7629501/D	Spare kit of valve type 3 (85-175 bar)
2C	7629501/F	Spare kit of valve type 3 (180-250 bar)

Mark	Part number	Description and parts
3A	7629502/B	Spare kit of valve type 4 (5-80 bar)
3B	7629502/D	Spare kit of valve type 4 (85-175 bar)
3C	7629502/F	Spare kit of valve type 4 (180-250 bar)
4A	714/8/1	Spring (5-80 bar)
4B	1670/23	Spring (85-175 bar)
4C	1670/24B	Spring (180-250 bar)

Accessories	That need separate orders			
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5 x 60 DIN.912	Torque 7-8 Nm.

Pressure reducing valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	30 L./min.
Min. setting pressure with flow rate of 20L/min.	7 bar
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,4 kg.



Type 4RR

RFE. 4RR02P▲ ✳/A	RFE. 4RR02P▲ ✳/B
	

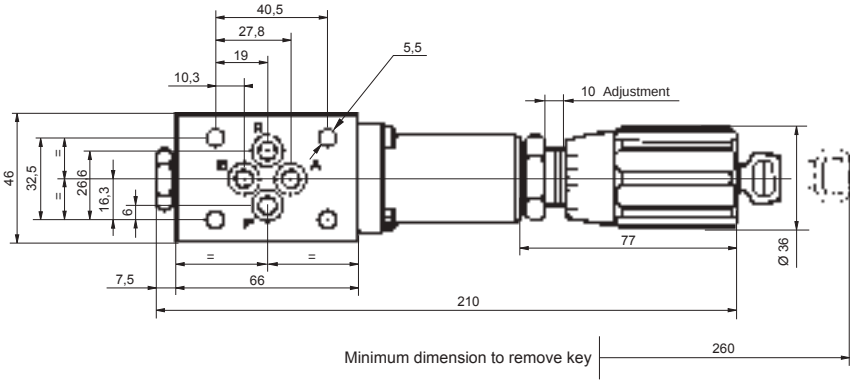
RFE. 4RR02P▲ ✳/P

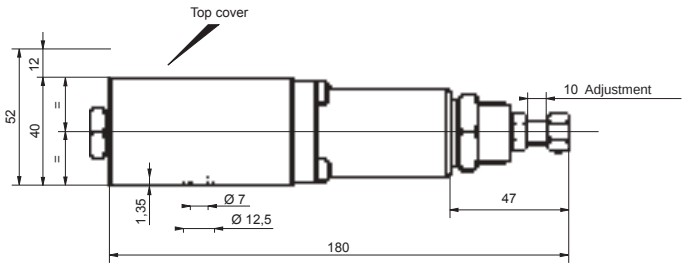

P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-250 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

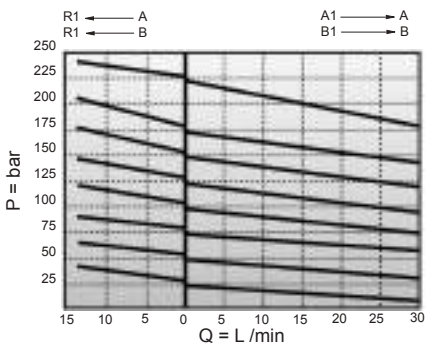
▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock



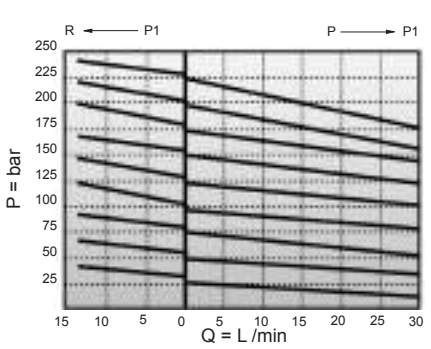


Top cover RFA. 321013 for individual assembly, can only be used on valve RFA. 4RP02P▲✳/P. In this case, «P» is pressure line «B» is reduced pressure, and «A» or «R» drain.
Valves RFE: 4RR02P▲✳/A and 4RR02P▲✳/B cannot be used for individual assembly.

Diagram: Pressure - Flow rate

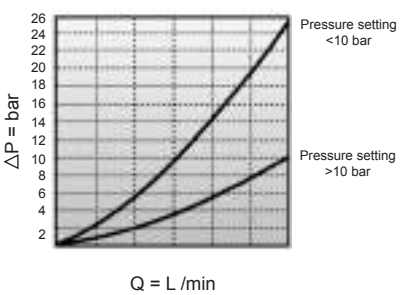


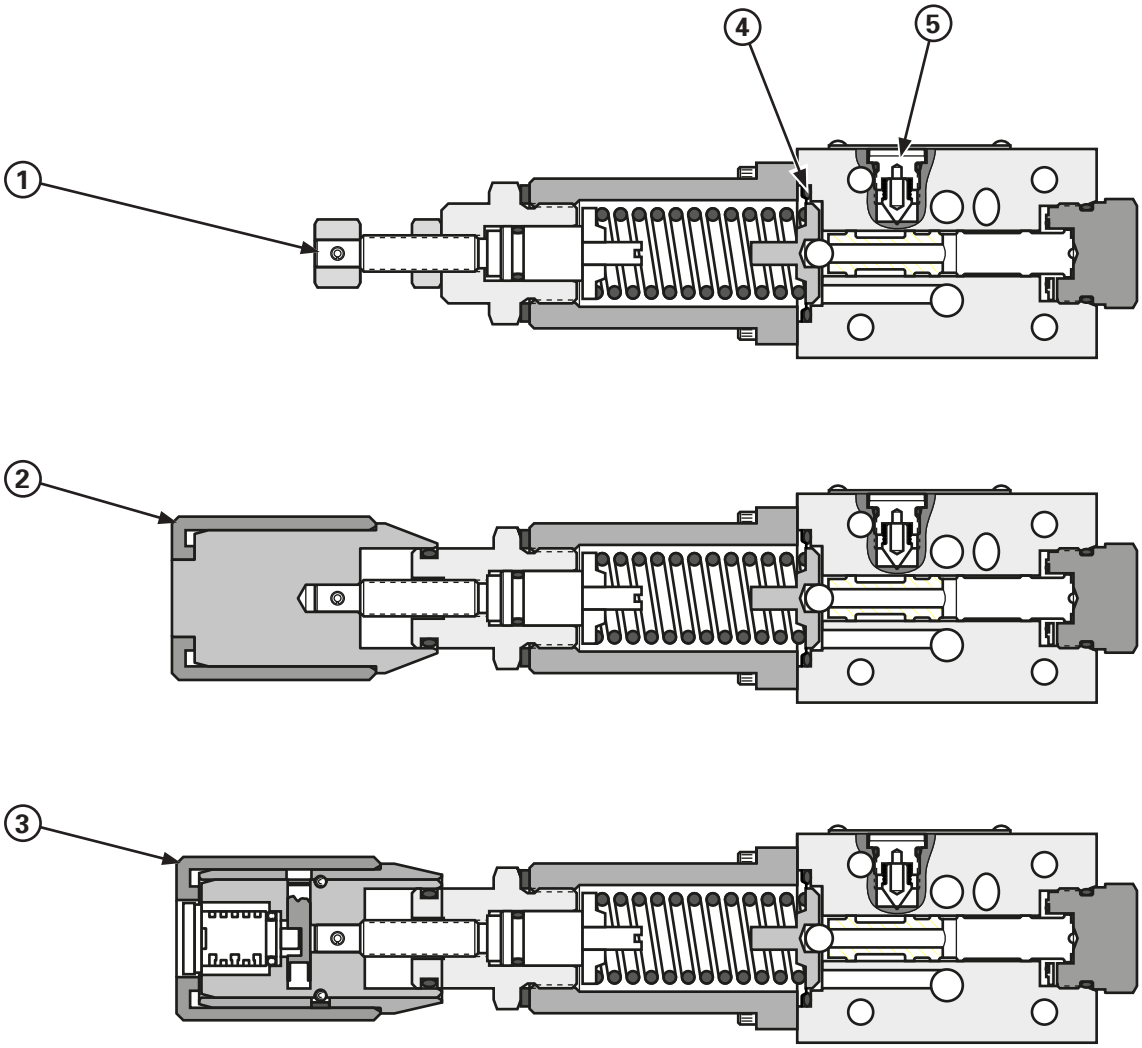
Flow shock absorber — Flow at reduced pressure



Flow shock absorber — Flow at reduced pressure

△ p-Q to 23 cSt. Through check line





NOTE: For pressure setting «B» range spring No.7 will be assembled
For pressure setting «D» range springs Nos. 7-8 will be assembled
For pressure setting «F» range springs Nos. 7-9 will be assembled

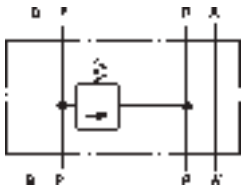
Mark	Part number	Description and parts
1A	7127500/A	Spare kit of valve type 2 (5-30 bar)
1B	7127500/B	Spare kit of valve type 2 (30-80 bar)
1C	7127500/D	Spare kit of valve type 2 (85-175 bar)
1D	7127500/F	Spare kit of valve type 2 (180-250 bar)
2A	7127501/A	Spare kit of valve type 3 (5-30 bar)
2B	7127501/B	Spare kit of valve type 3 (30-80 bar)
2C	7127501/D	Spare kit of valve type 3 (85-175 bar)

Mark	Part number	Description and parts
2D	7127501/F	Spare kit of valve type 3 (180-250 bar)
3A	7127502/A	Spare kit of valve type 4 (5-30 bar)
3B	7127502/B	Spare kit of valve type 4 (30-80 bar)
3C	7127502/D	Spare kit of valve type 4 (85-175 bar)
3D	7127502/F	Spare kit of valve type 4 (180-250 bar)
4A	N7127/35	Spare kit of seals
5A	7127503	Spare kit of anticavitation valve

Accessories **That need separate orders**				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5 x 60 DIN.912	Torque 7-8 Nm.

Sub-plate with relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	2 kg.



PART NUMBER

5 RL	M	02	P	2	F	/	3
	1			2	3		4

1 Forms position

M	A - B	Rear
L	A - B	Side
Q	A - B	Rear + Side

2 Adjustment type

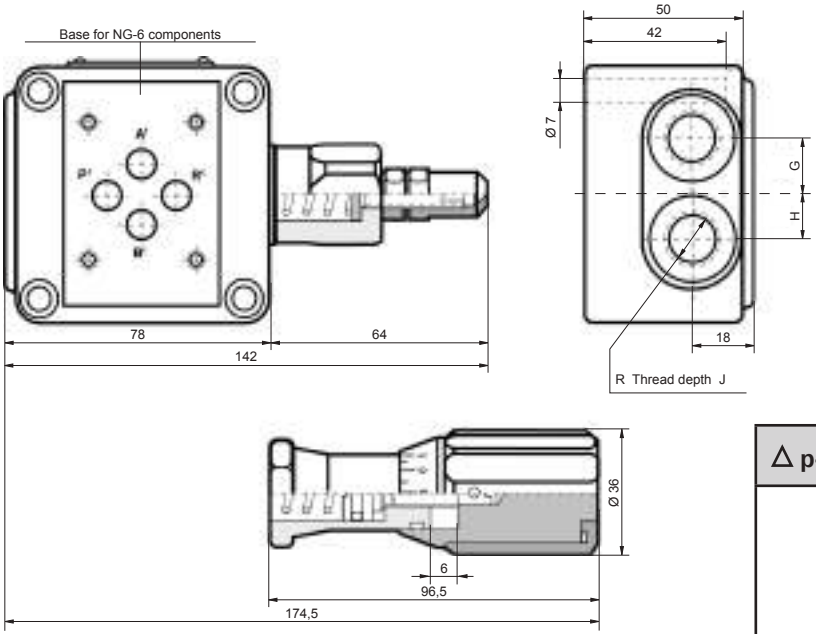
2	Setting by nut
3	Setting by knob

3 Size

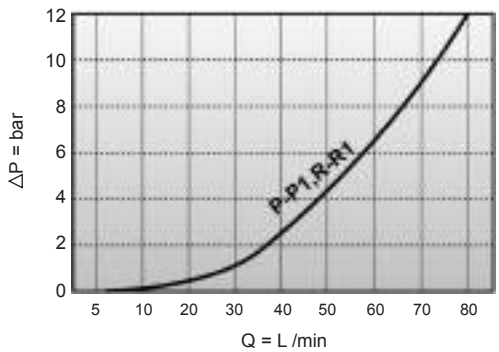
02	1/4”
03	1/8”

4 Pressure setting

B	5 - 80 bar
D	85 - 175 bar
F	180 - 250 bar
G	255 - 315 bar

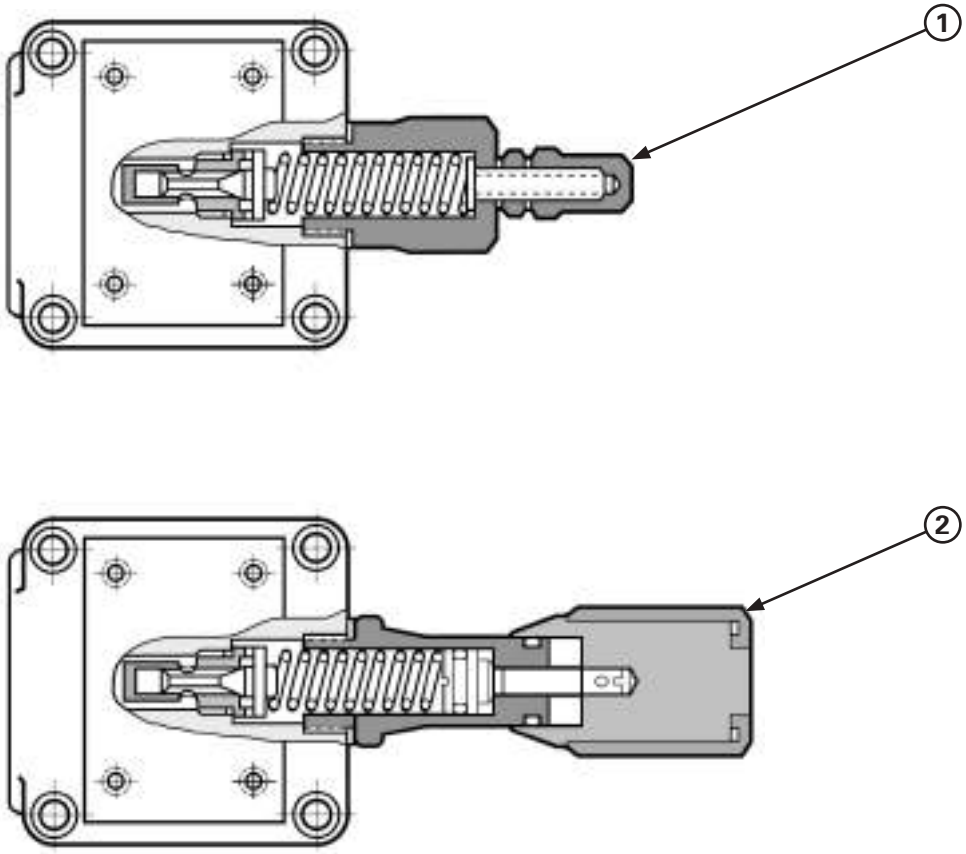


△ p-Q to 23 cSt. Through check line



PART Nº	R (G.)	C	D	E	F	G	H	J
5RL✱02P✱▲ /02	1/4”	52	8	11	49	14	12	13
5RL✱02P✱▲ /03	3/8”	52,75	7,25	12	48	15,5	13	13

Sub-plate with relief valve

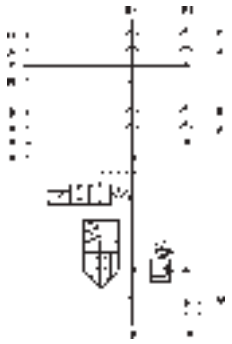


Mark	Part number	Description and parts
1A	2249011	Spare kit of releif valve type 1 (5-80 bar)
1B	2249012	Spare kit of releif valve type 1 (85-175 bar)
1C	2249013	Spare kit of releif valve type 1 (180-250 bar)
1D	2249014	Spare kit of releif valve type 1 (255-315 bar)

Mark	Part number	Description and parts
2A	2249021	Spare kit of releif valve type 3 (5-80 bar)
2B	2249022	Spare kit of releif valve type 3 (85-175 bar)
2C	2249023	Spare kit of releif valve type 3 (180-250 bar)
2D	2249024	Spare kit of releif valve type 3 (255-315 bar)

Special manifold blocks NG-6

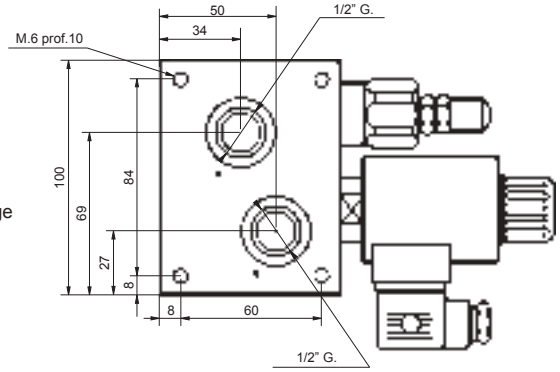
Hydraulic technical data	
Max. working pressure	315 bar
Max. return line pressure	8 bar
Nominal flow	50 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better

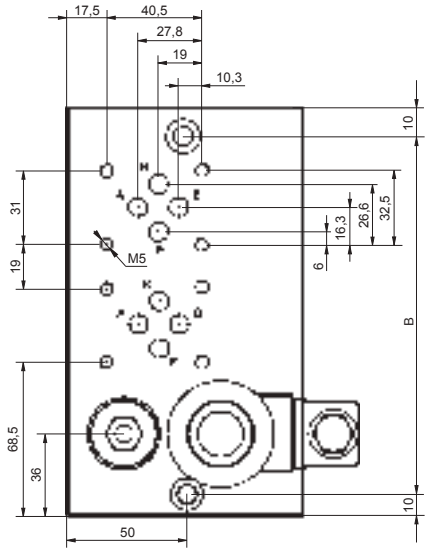


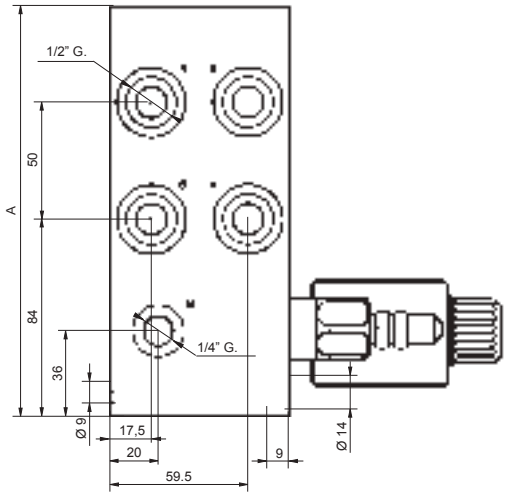
Part number	Num. Elements	A	B
1B1LV02 - ●/■	1	125	105
1B2LV02 - ●/■	2	175	155
1B3LV02 - ●/■	3	225	205
1B4LV02 - ●/■	4	275	255
1B5LV02 - ●/■	5	325	305
1B6LV02 - ●/■	6	375	355

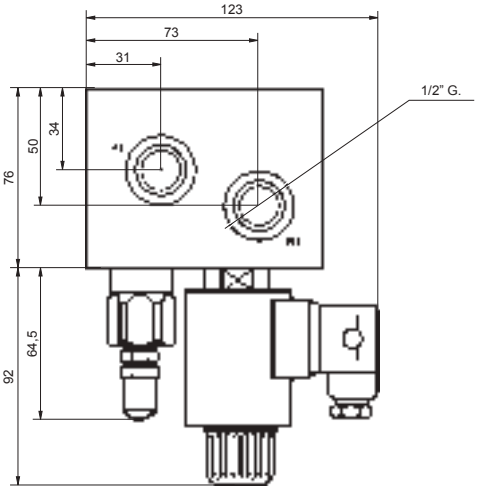
● Replace with pressure
00 = without valve
11 = 5 - 80 bar
12 = 80 - 175 bar
13 = 175 - 250 bar
14 = 180-315 bar

■ Replace with solenoid's voltage
12 = 12V D.C.
24 = 24V D.C.

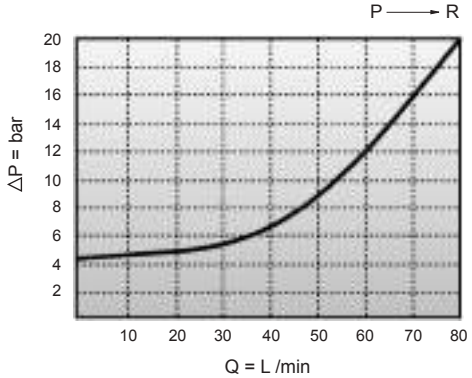




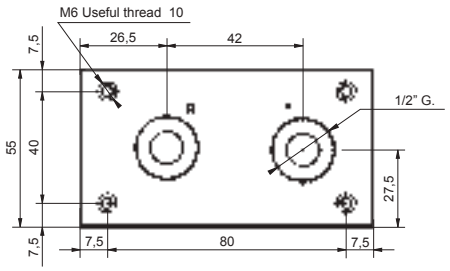




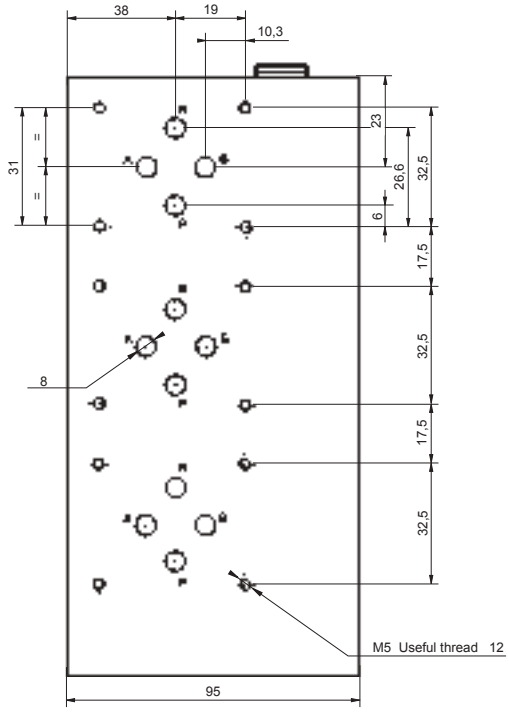
Curves for by-pass valve

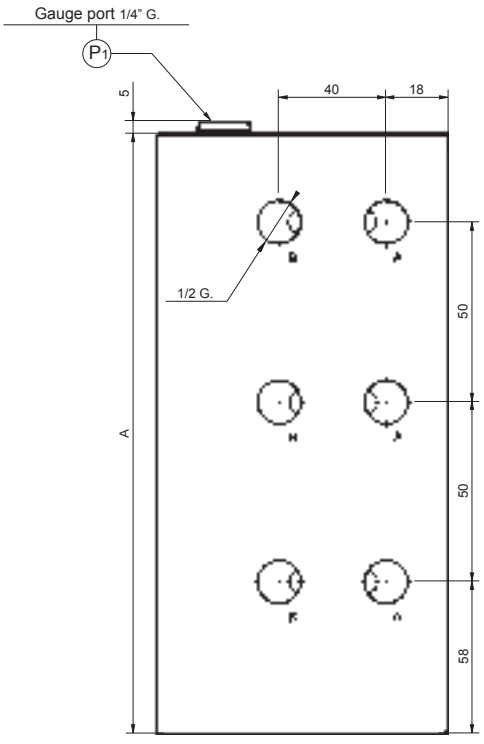


Special manifold blocks NG-6



Part number	Num. Elements	A
9869012	2	130
9869013	3	180
9869014	4	230
9869015	5	280
9869016	6	330





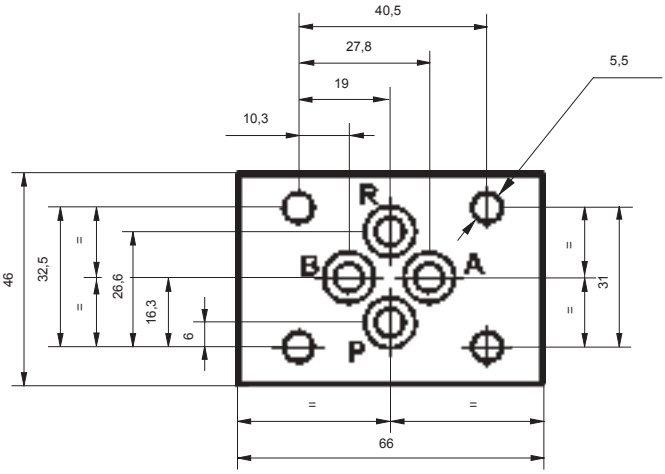
Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	0,75 kg.



Type 4VRS

RFE. 4VRS02P ✳





NOTE:
The reference asterisk will be replaced
by number «1» for opening pressure 0,5-1 bar and by number «2» for 2-3 bar.

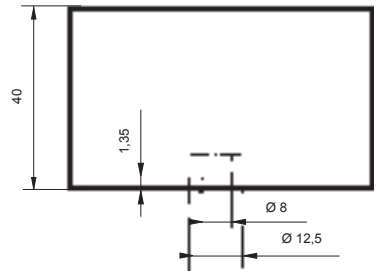
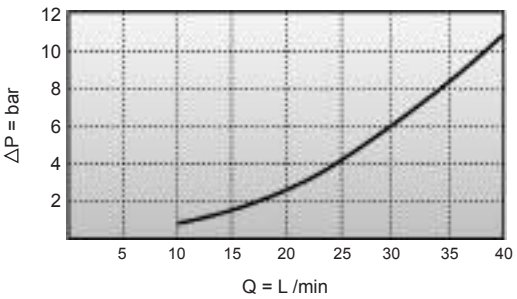
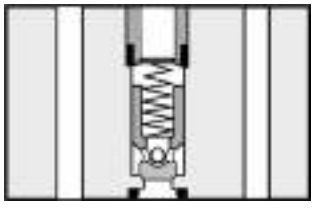


Diagram: Pressure - Flow rate





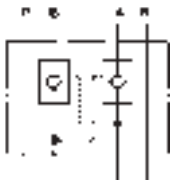
Pilot check valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	40 L./min.
Decompression range	1:2,9
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	0,85 kg.

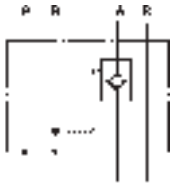


Type 4VRH

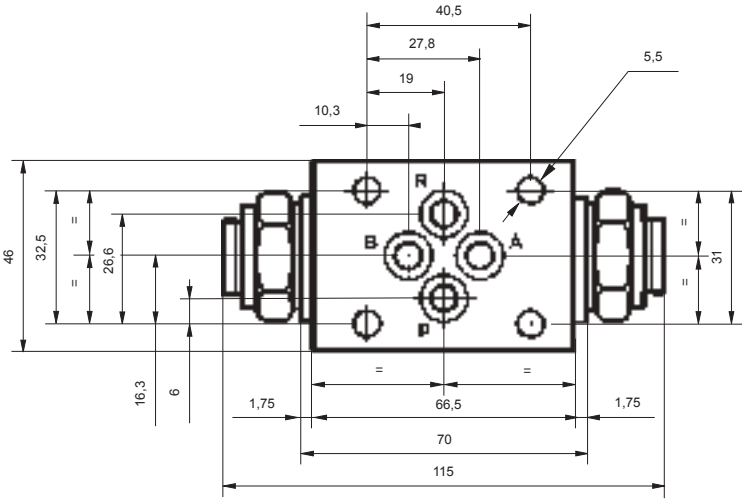
4VRHD02P1



RFE. 4VRHS02P1



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank



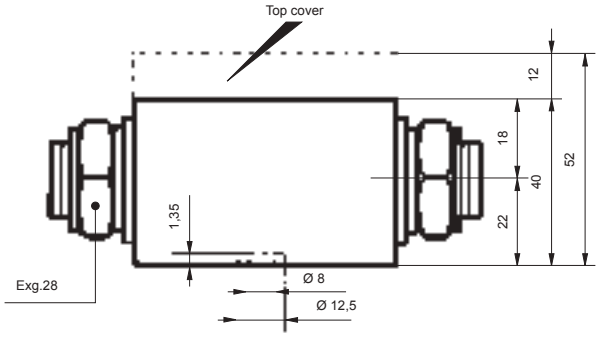
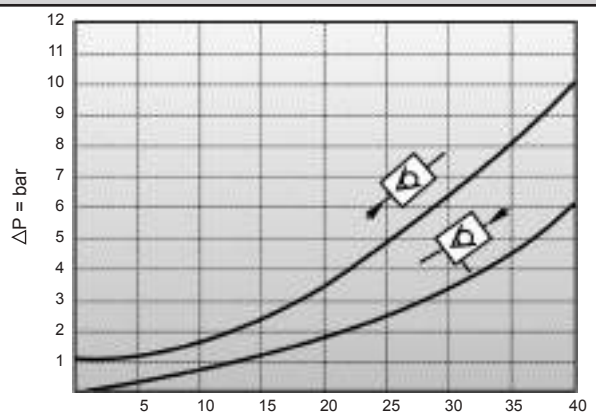
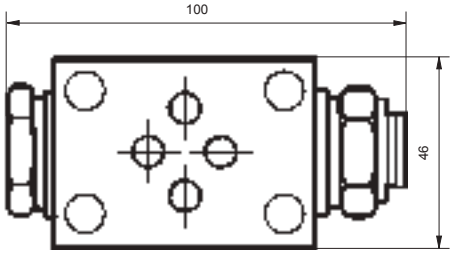
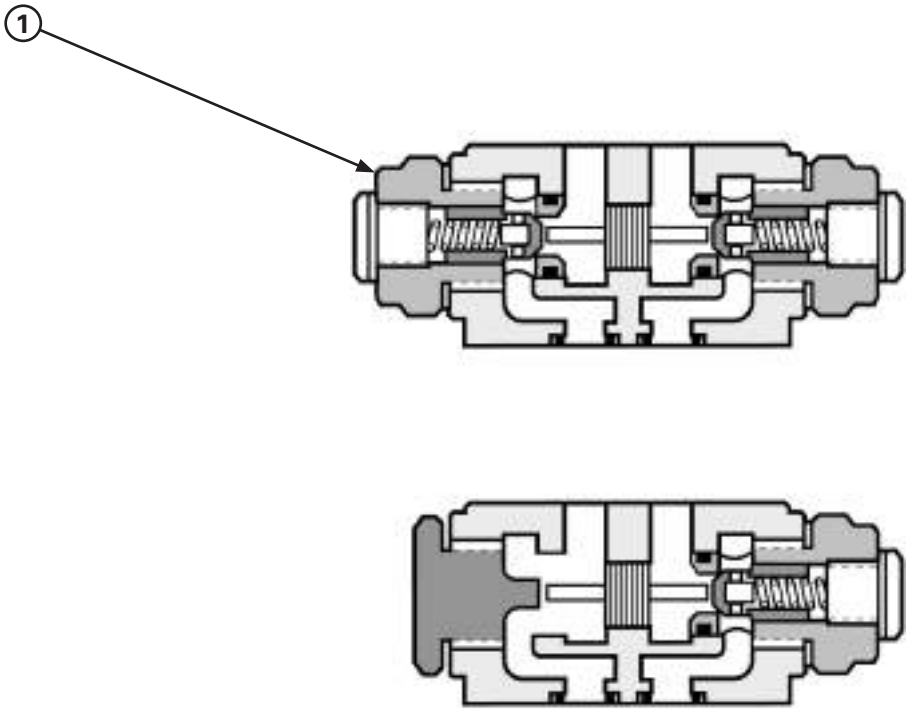


Diagram: △ p-Q to 23 cSt.





Pilot check valve



Mark	Part number	Description and parts
1A	7084500	Spare kit of valve

Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 9,25 x 1,77	
Screws for fixing	4	Screws	M5 x 55 DIN.912	Torque 7-8 Nm.

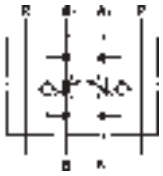
Double throttle valve with check valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	20 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	0,85 kg.



Type 2EGD

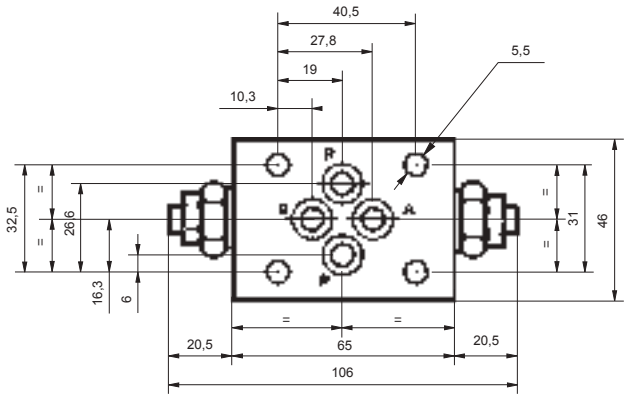
RFE: 2EGD02P2 / 2EGD02P1



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

▲ In part number will be replaced by 1 - 2 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock

RFE: 2EGD02P2



RFE: 2EGD02P1

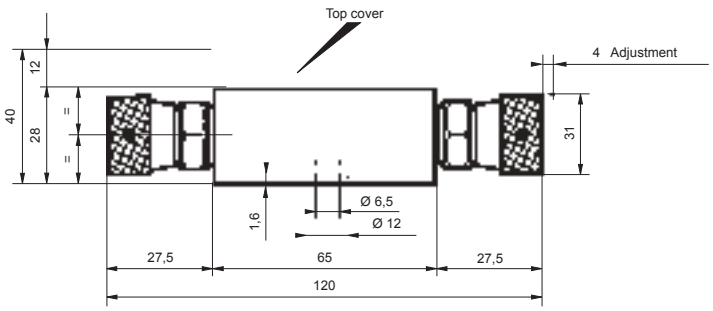


Diagram: △ p-Q to 23 cSt.

Sense A1 - A, B1 - B with closed throttle valve.

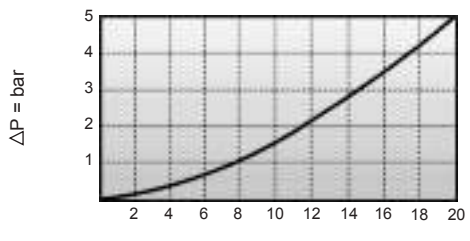
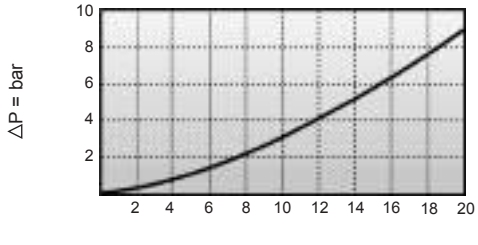
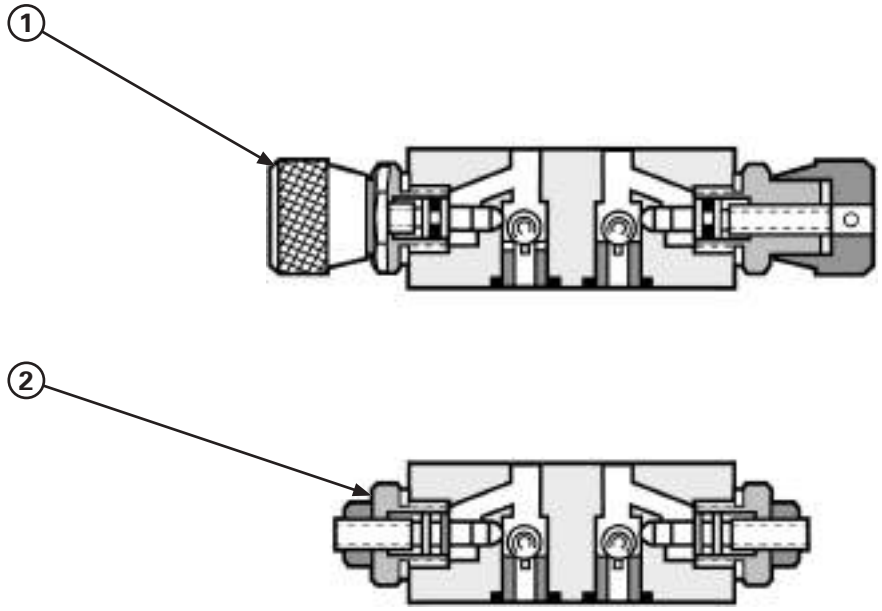


Diagram: △ p-Q to 23 cSt.

Sense A - A1, B - B1 with throttle valve max.opened.



Double throttle valve with check valve



Mark	Part number	Description and parts
1A	4319500	Spare kit of restrictor. Adjustable type 1.
2A	4320500	Spare kit of restrictor. Adjustable type 2.

Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	4	O'rings	Ø 17 x 2	
Screws for fixing	4	Screws	M5 x 45 DIN.912	Torque 7-8 Nm.

Double throttle valve with check valve

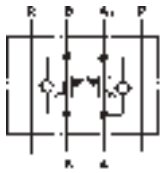
Hydraulic technical data

Max. working pressure	315 bar
Nominal flow	60 L./min.
Min, controlled flow	≅ 600 cm³/min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,350 kg.

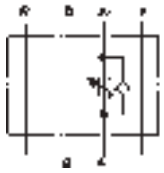


Type 4EG

RFE. 4EGD02P▲

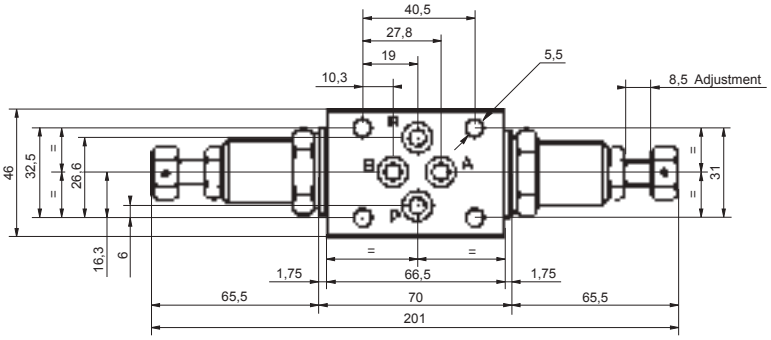


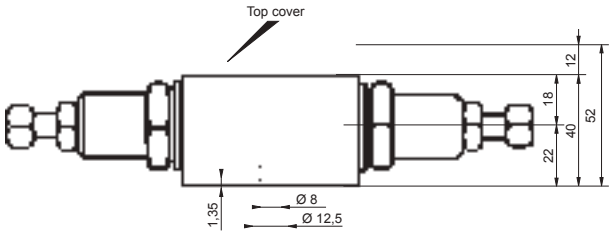
RFE. 4GS02P▲



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock





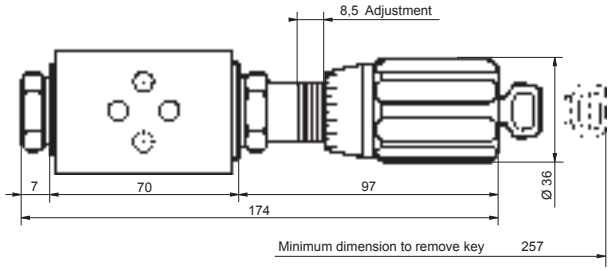


Diagram: △ p-Q to 23 cSt.

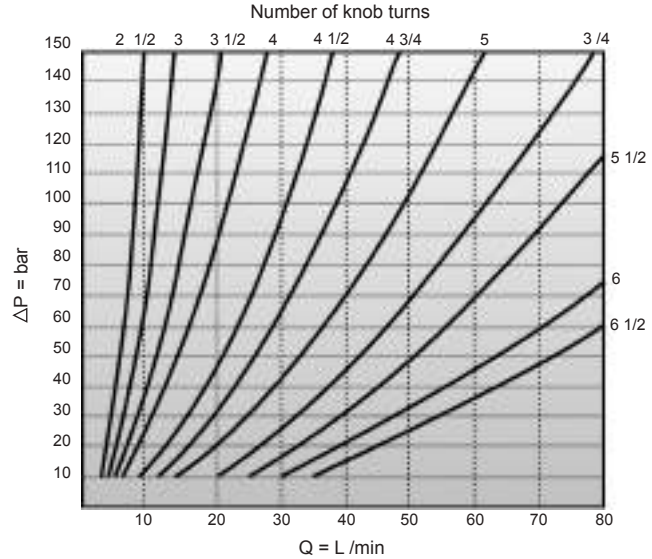
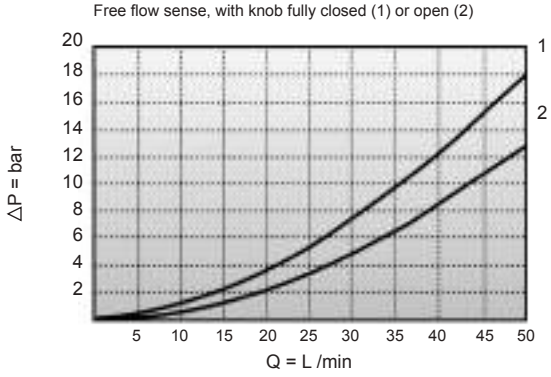
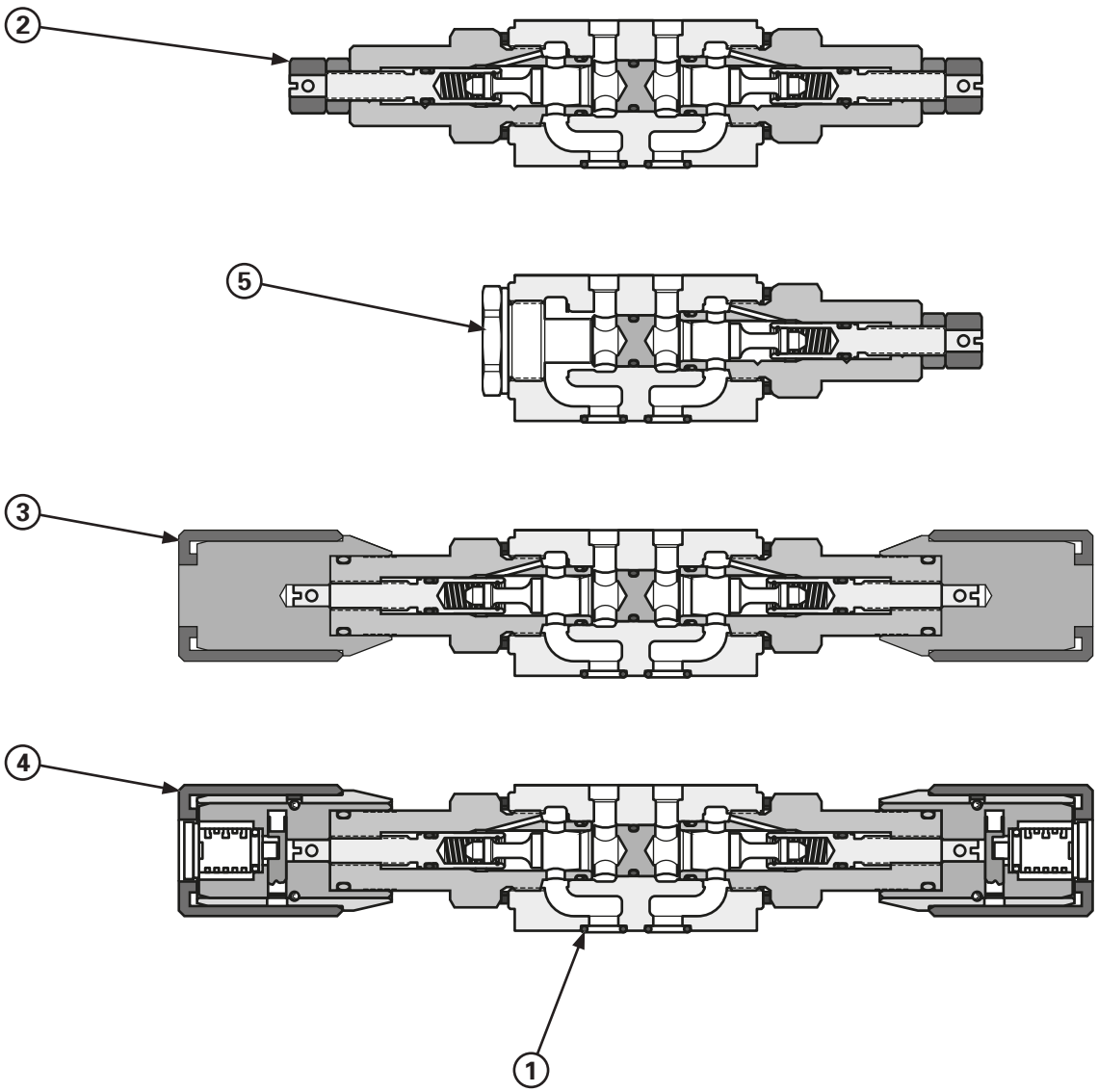


Diagram: △ p-Q to 23 cSt.



Double throttle valve with check valve



Mark	Part number	Description and parts
1A	N7118/24	Spare kit of seals
2A	7118500	Spare kit of adjustment type 2
3A	7118501	Spare kit of adjustment type 3
4A	7118502	Spare kit of adjustment type 4
5A	7118503	Spare kit of plug

Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	2	O'rings	Ø 17 x 2	
Screws for fixing	4	Screws	M5 x 55 DIN.912	Torque 7-8 Nm.

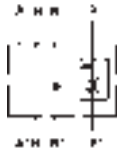
2 and 3 way flow control valves

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Min. adjustment differential pressure	6 - 8 bar
Pressure drop P → R with closed adjustment and 20 lts. inlet flow	8 bar
Min, adjustable flow rate.	0,1 L/min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,1 kg.

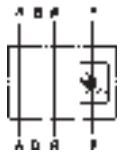


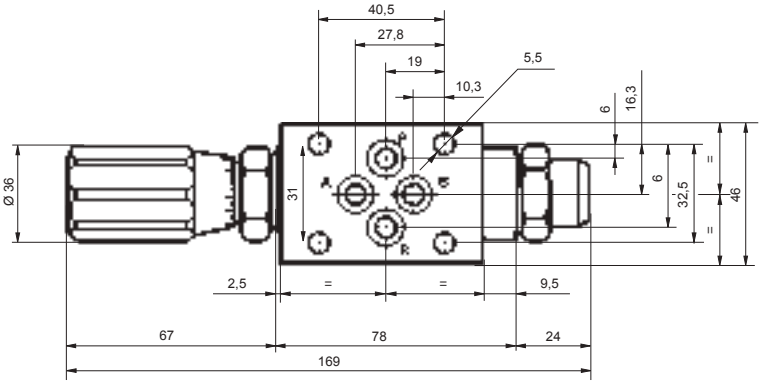
Type 4VCR

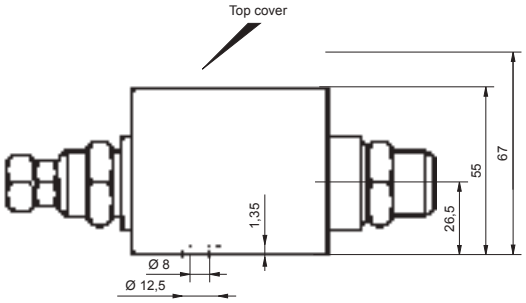
RFE. 4VCR02P▲/P



RFE. 4VC02P▲/B



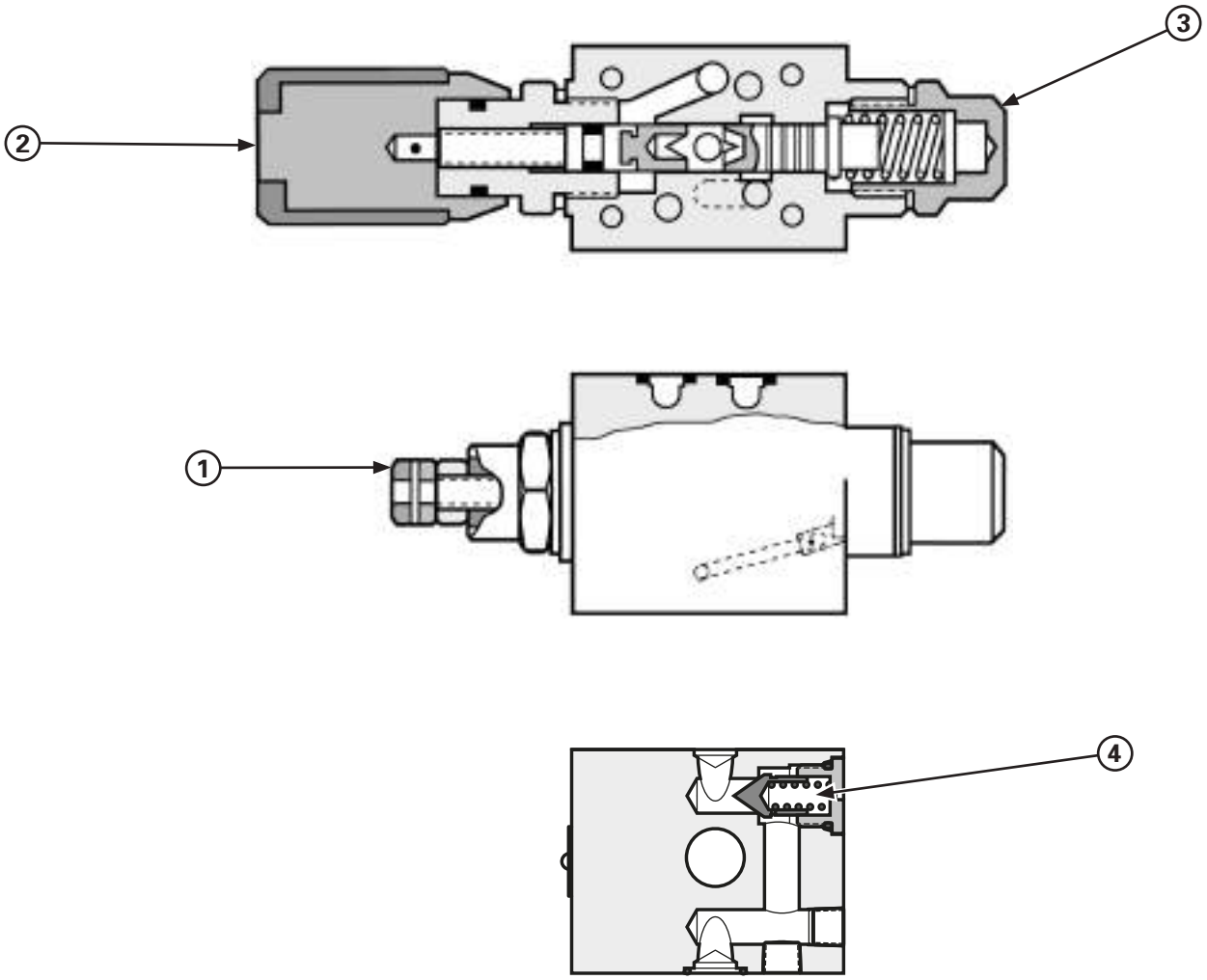




▲ In part number will be replaced by 2 - 3 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob

Note:
Valve port will be connected as shown on its corresponding drawing.

With top cover RF.321013 for individual assembly, «P» is pressure line and «B» is regulated flow, being «A» or «R» secondary flow to tank.



Mark	Part number	Description and parts
1A	7195500	Spare kit of adjustment type 2
2A	7195501	Spare kit of adjustment type 3
3A	7195502	Spare kit of plug
4A	714300	Spare kit of anticavitation valve

Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	2	O'rings	Ø 17 x 2	
Screws for fixing	4	Screws	M5 x 70 DIN.912	Torque 7-8 Nm.

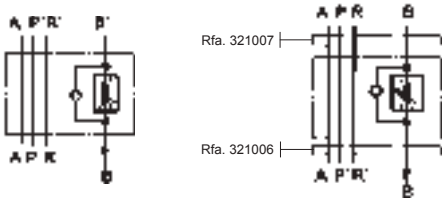
2 way flow control valves

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	35 L./min.
Min. adjustment differential pressure	8 - 10 bar
Min, adjustable flow rate.	0,1 L/min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	0,95 kg.

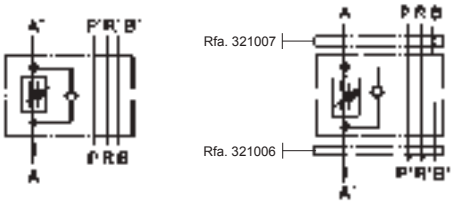


Type 4VCR

RFE. 4VCR02P▲ /B



RFE. 4VCR02P▲ /A

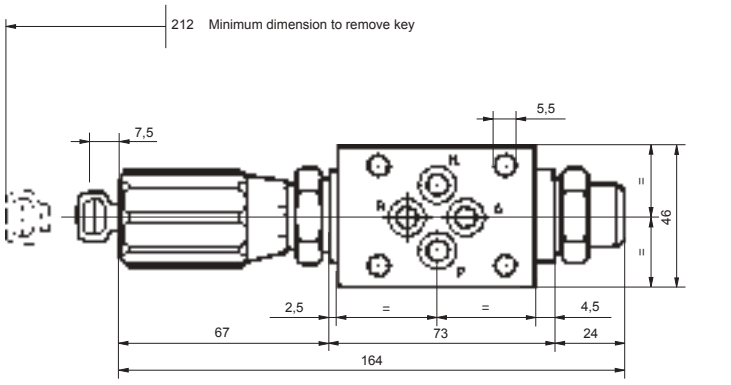


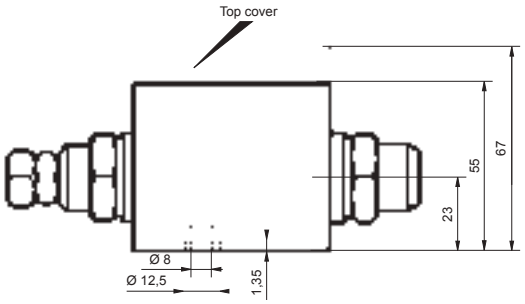
▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock

Note:
Valve ports will be connected as shown on corresponding drawing.

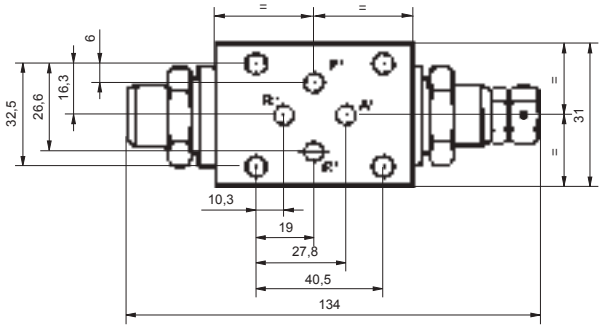
Adjustment sense is inverted by mounting sub-plates 321006 and 321007

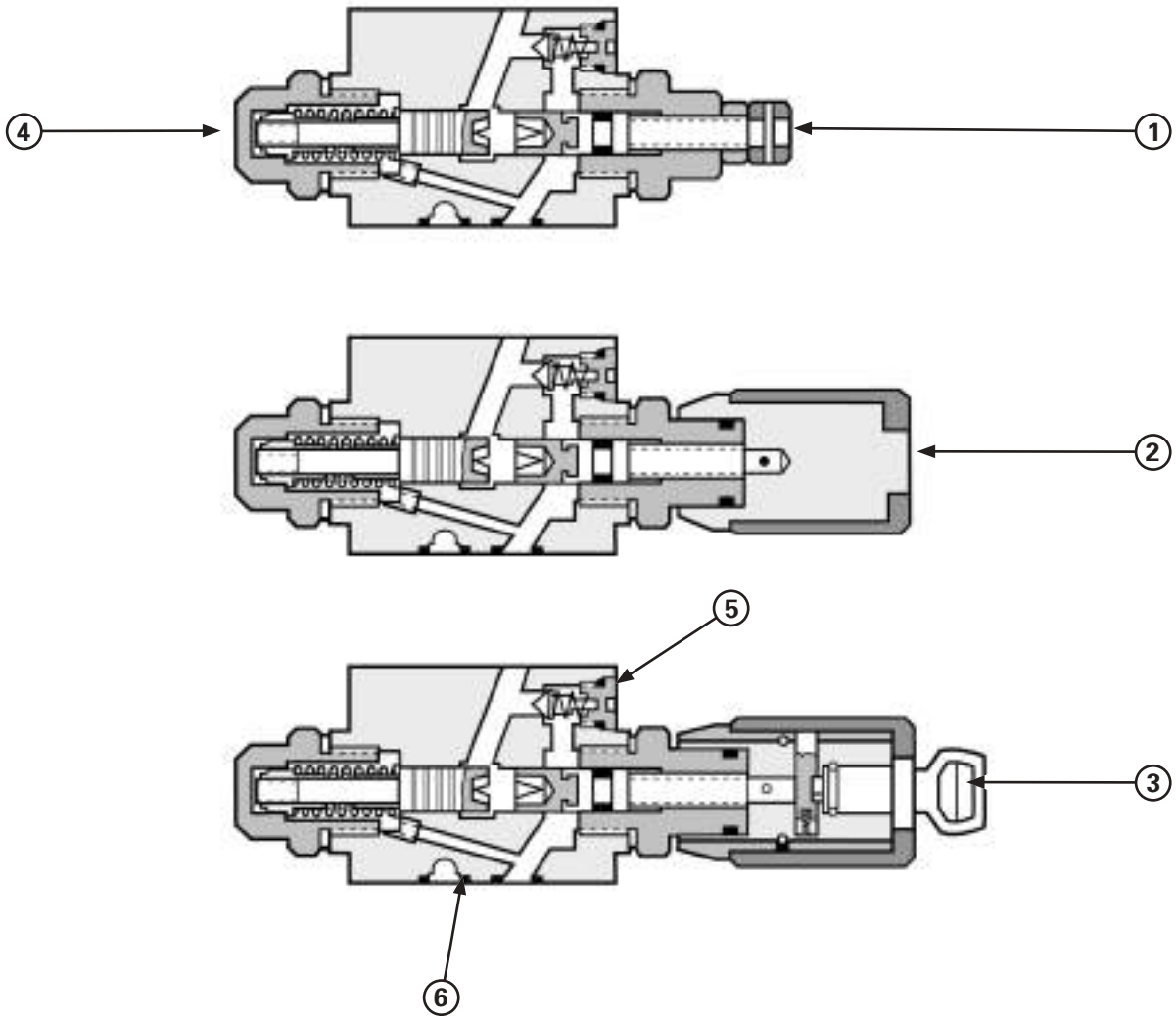
Outlet adjustment B





Outlet adjustment A



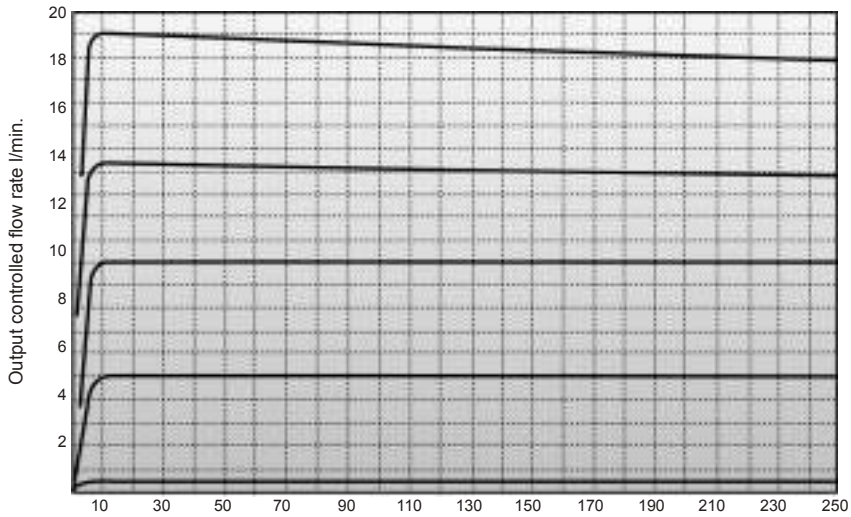


Mark	Part number	Description and parts
1A	7100500	Spare kit of adjustment type 2
2A	7100501	Spare kit of adjustment type 3
3A	7100502	Spare kit of adjustment type 4
4A	7100503	Spare kit of plug
5A	7100504	Spare kit of anticavitation valve
6A	N7100/29	Spare kit of seals

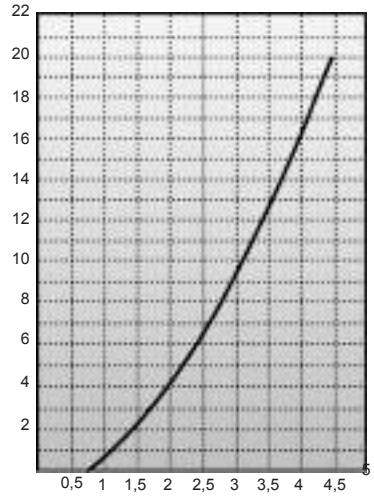
Accessories That need separate orders				
Sub-plate	RFE. 321001-321002-321031-321032			As per requirements
Top cover	RFE. 321012			
O'rings for individual mounting	2	O'rings	Ø 17 x 2	
Screws for fixing	4	Screws	M5 x 70 DIN.912	Torque 7-8 Nm.

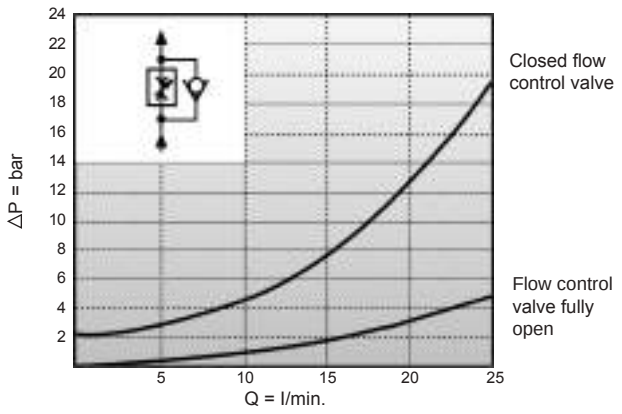
2 way flow control valves

Diagram: Pressure - Flow rate



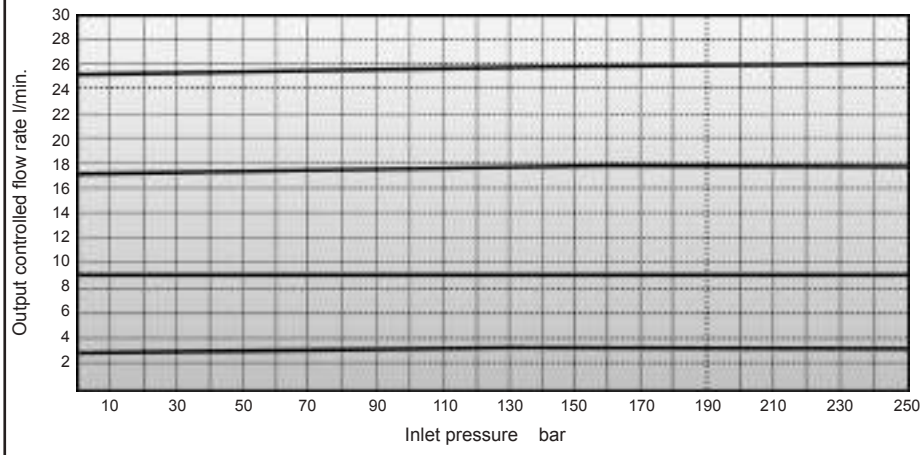
Metering curve



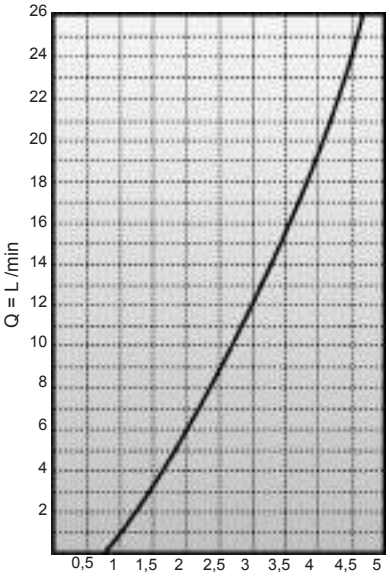


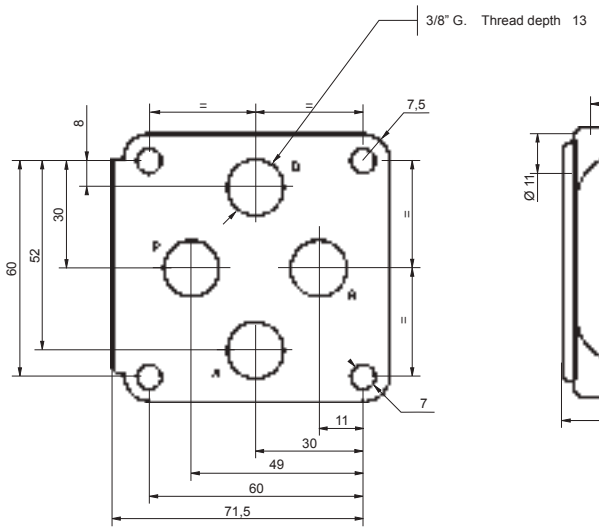
3 way flow control valves

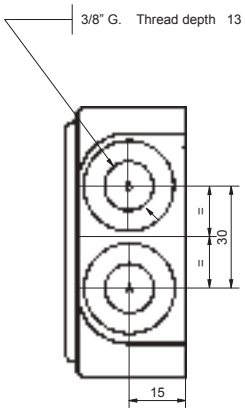
Diagram: Pressure - Flow rate



Metering curve



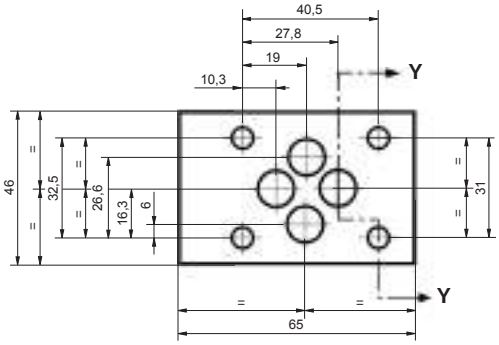




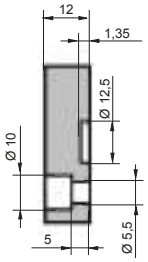
RFE: 321002

Approx. weight 0,9 kg.

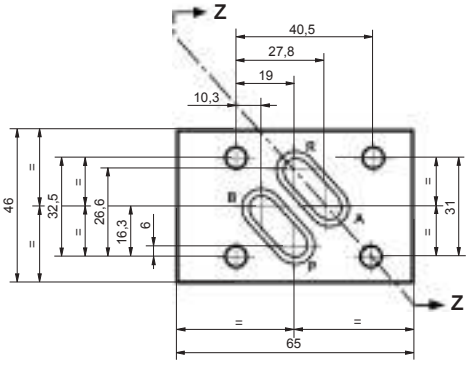
Top cover



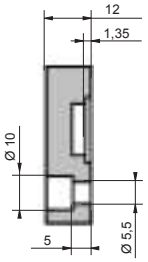
View **Y - Y**



RFE: 321012



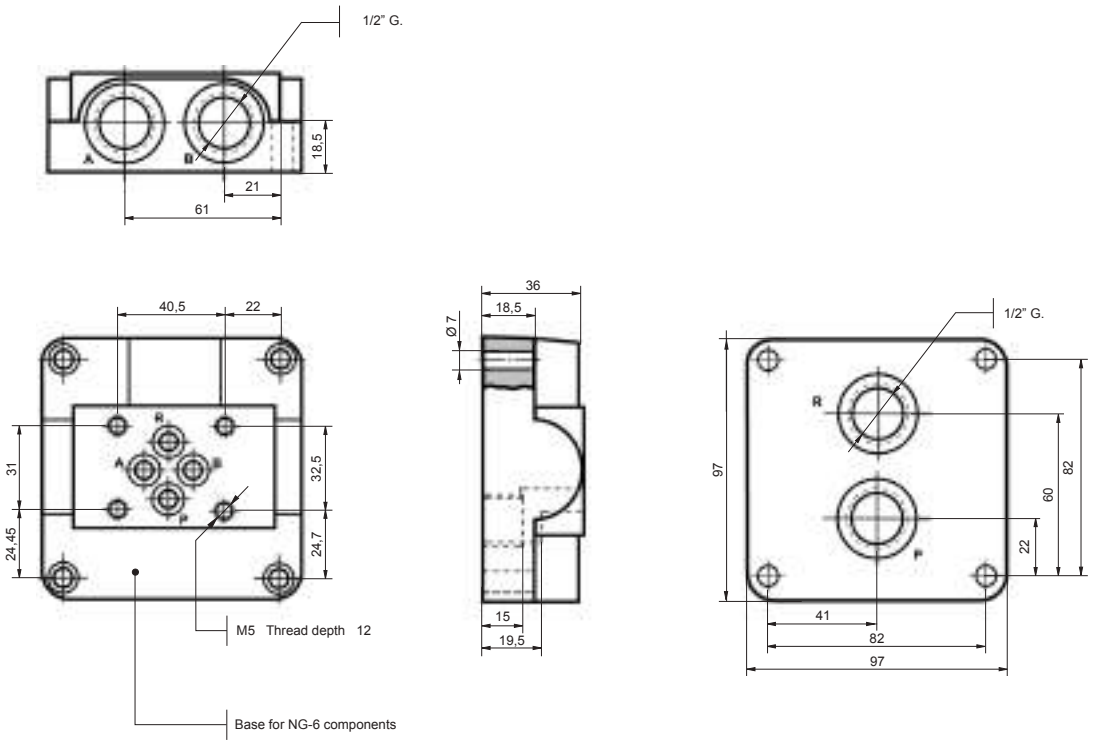
View **Z - Z**



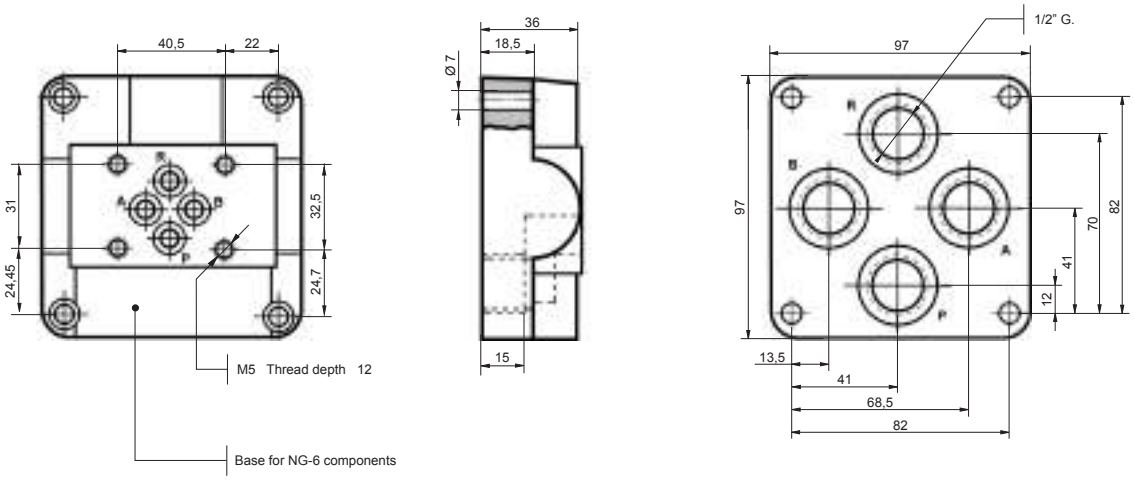
RFE: 321013

Approx. weight 0,25 kg.

RFE: 321032



RFE: 321031



Hydraulic technical data	
Max. working pressure	315 bar
Nominal pressure in return	Dynamic 80 bar
Max. nominal flow rate	80 L/min
Fluid to be used	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Fluid temperature range	-20ºC... +80ºC
Viscosity range	4 - 500 cSt
Recommended fluid cleanliness	19/16 s/. ISO 4406 - RP70H or better
Weight with 2 solenoids	1,8 Kg
Weight with one solenoid	1,4 Kg

Electrical technical data			
Consumption per solenoid			
DC voltageurrent D.C.		48W	
Alternate current A.C.	Open circuit	325VA	
	Closed circuit	125VA	
D.C. Voltage range		12V - 24V - 48V	
A.C. Voltage range		24V-48V-110V-220V (50Hz) 115V-230V (60Hz)	
Operating factor		ED 100%	
Protection to DIN-40050		IP - 65	
Voltage tolerance		Unom ± 10 %	
Switching frequency		D.C. = Max. 15000/h A.C. = 7200/h	
Response time		D.C.	A.C.
Switch ON Switch OFF		45 - 65 ms 50 - 70 ms	10 - 25 ms 25 - 50 ms

PART NUMBER

2 EV	P	3	D	1	C	03	R	230-50	✳
		2		3	4		5	6	7

1	Positions and solenoids	
2EV	Electrical control	

2	Positions and solenoids	
1	Two positions one solenoid (Only for spools type 7-8 and 17-18)	
2	Two positions two solenoids	
✳3	Three positions two solenoids	
✳12	Two positions neutral and one end (A)	
✳13	Two positions neutral and one end (B)	
14	Two positions end and neutral (A)	
✳29	Two positions with detent	

3	Spool type
1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 13 - 17 - 18	

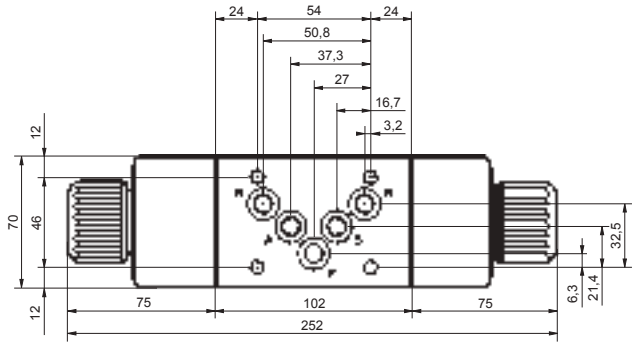
4	Ways	
C	4	
B	3	

5	Current type	
C	DC voltage	
R	AC voltage	

6	Current type	
A.C.	24V - 50Hz / 48V - 50Hz / 110V - 50Hz / 220V - 50Hz 115V - 60Hz / 230V - 60Hz	
D.C.	12V - 24V	

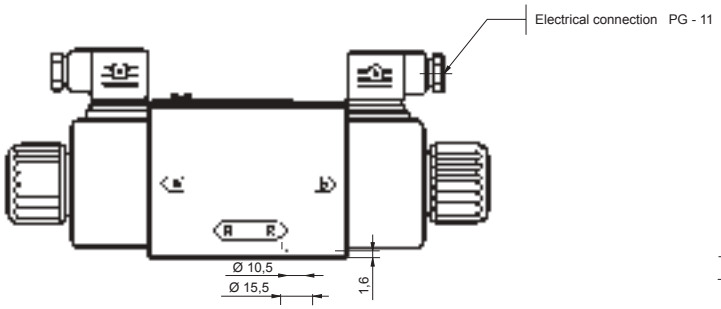
7	Additional data	
L	Connector with led	
V	Connector with varisto	
LD	Connector with led and diode	
REC	Connector with rectifier	

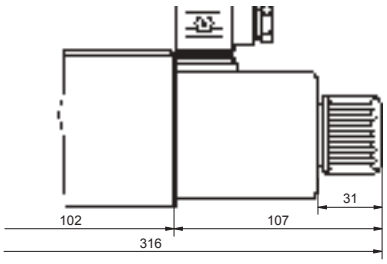
Solenoid operated valves NG-10

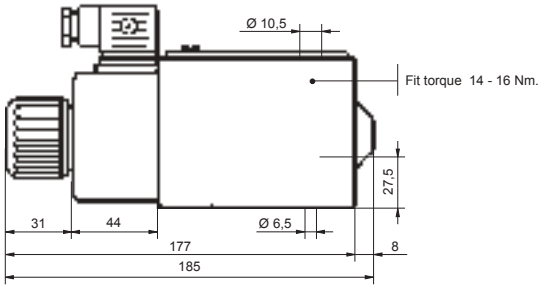


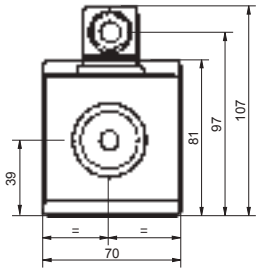


D.C. Alternative only









P	Pressure inlet
A & B	Outlet to cylinders or motors
R	Return

For spools type 17 and 18, solenoid will be placed at side of outlet A.

For spools type 7 and 8, solenoid will be placedat side of outlet B.

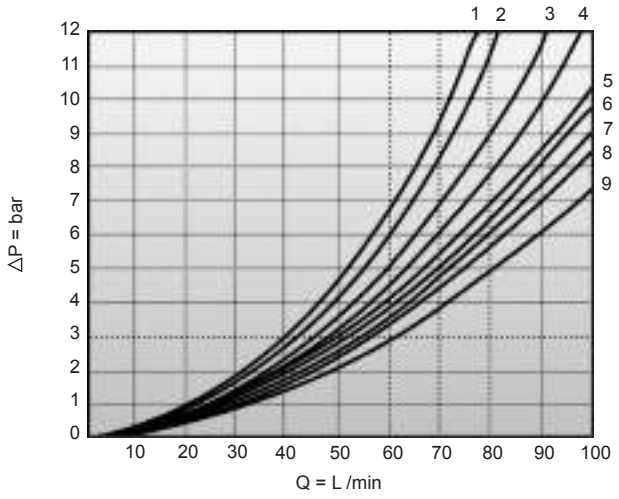
Reference	Spool type	Symbol	Connections					
			Solenoid "A" switched on		Central position		Solenoid "B" switched on	
2EVP3D1C03*	1	A B	P (1) A	B (1) R	A & B (2)	P (1) R	P (1) B	A (1) R
2EVP3D2C03*	2		P (1) B	A (1) R	A, B, P & R (2)			
2EVP3D3C03*	3				A & B (1) R	P (2)		
2EVP3D4C03*	4				A, B, P (1) R			
2EVP3D5C03*	5				A (1) R	B & P (2)		
2EVP3D6C03*	6		P (1) A	B (2) R	A (2)	B & P (1) R		
2EVP3D13C03*	13		P (1) B	A (1) R	A & B (1) P	R (2)		
2EVP2D2C03*	2							
2EVP29D2C03*	2							
2EVP12D4C03*	4				A, B, P (1) R			
			Solenoid switched ON			Solenoid switched OFF		
2EVP1D7B03*	7		P(1) A	B & R (2)		P (1) B	A (1) R	
2EVP1D8C03*	8		P (1) A	B (1) R		P (1) B	A (1) R	
2EVP1D17B03*	17		P (1) B	A & R (2)		P (1) A	B & R (2)	
2EVP1D18C03*	18		P (1) B	A (1) R		P (1) A	B (1) R	

(1) Connected. (2) Closed.

*Solenoid current type:
C for D.C. current, indicating after it voltage required.
R for A.C. current, indicating after it voltage and frequency required.

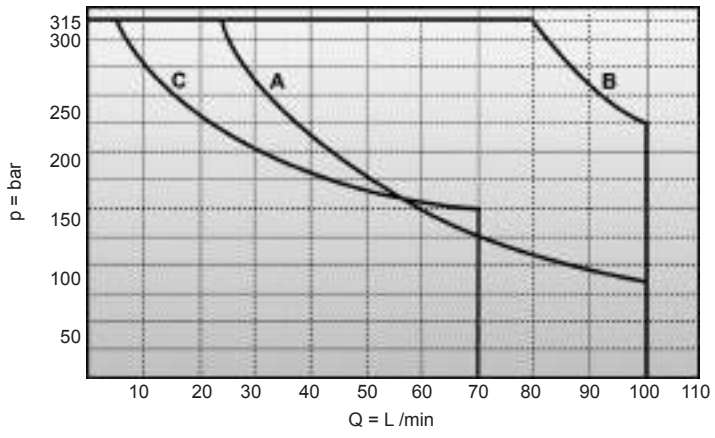
Pneumatic control details

Diagram: △ p-Q to 23 cSt.

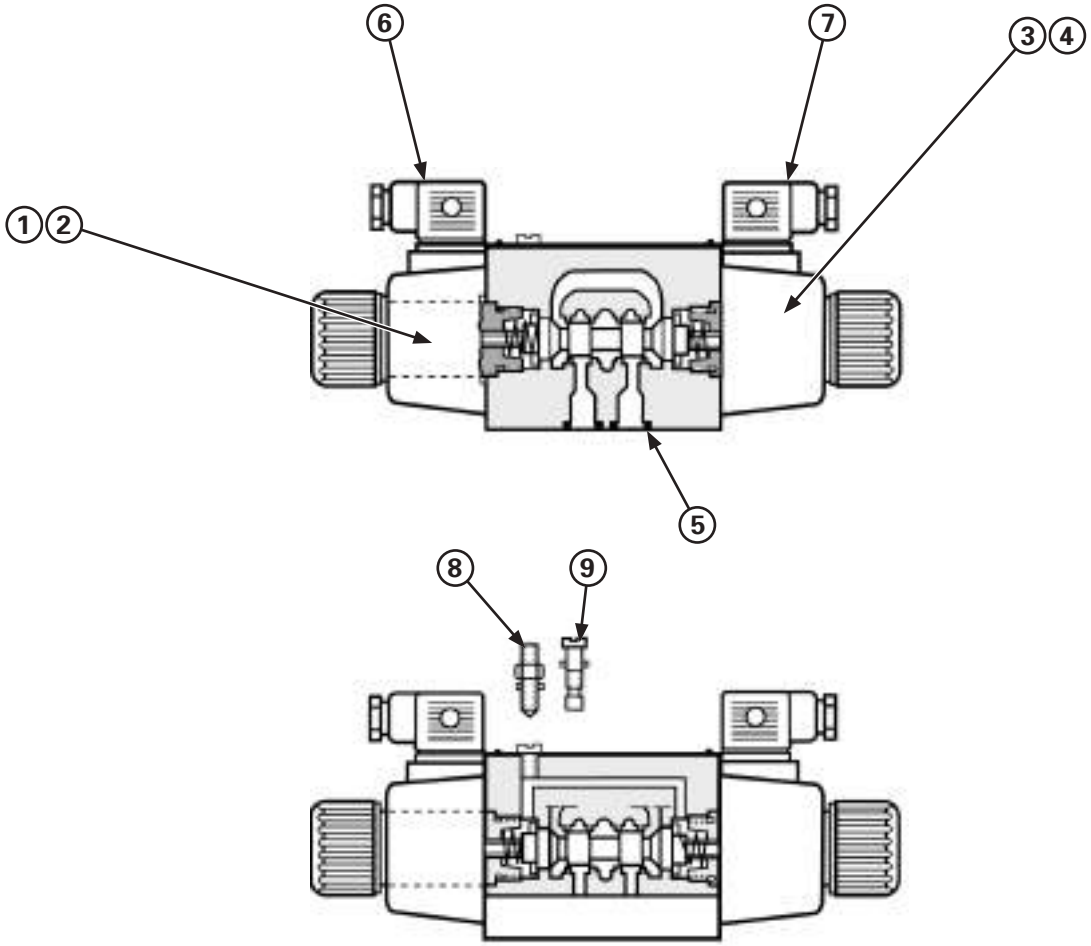


Spool type	P → A	P → B	A → R	B → R	P → R
1	6	6	2	1	3
2	8	8	5	7	-
3	8	8	5	7	-
4	9	9	5	7	4
5	8	8	5	7	-
6	6	6	2	1	3
13	9	9	5	7	-
7	8	8	-	-	-
8	5	4	3	4	-
17	5	4	-	-	-
18	5	4	3	4	-

Operation limits



Spool type	Curve
1 - 6	A
2 - 3 - 4 - 5 - 8 - 13 - 18	B
7 - 17	C



Only for use with D.C. solenoid

Note:
The speed of the spool movement can be adjusted, by replacing screw plug by a thorttle screw no. 8 and 9.
Take care that the complete volume of oil is maintained in the duct connector, since this is essential for operation of the damping adjustment.

Mark	Part number	Description and parts
1A	8353500024	Spare kit of coil AC 24V-43W. Hirschmann.
1B	8353500042	Spare kit of coil AC 42V-43W. Hirschmann.
1C	8353500110	Spare kit of coil AC 110V-42W. Hirschmann.
1D	8353500115	Spare kit of coil AC 115V-44W. Hirschmann.
1E	8353500220	Spare kit of coil AC 220V-42W. Hirschmann.
1F	8353500230	Spare kit of coil AC 230V-44W. Hirschmann.
2A	8353/51/1	Coil AC 24V-43W. Hirschmann.
2B	8353/51/2	Coil AC 42V-43W. Hirschmann.
2C	8353/51/3	Coil AC 110/115V-50/60W. Hirschmann.
2D	8353/51/4	Coil AC 220/230V-50/60W. Hirschmann.
3A	8353501012	Spare kit of coil DC 12V-48W
3B	8353501024	Spare kit of coil DC 24V-48W

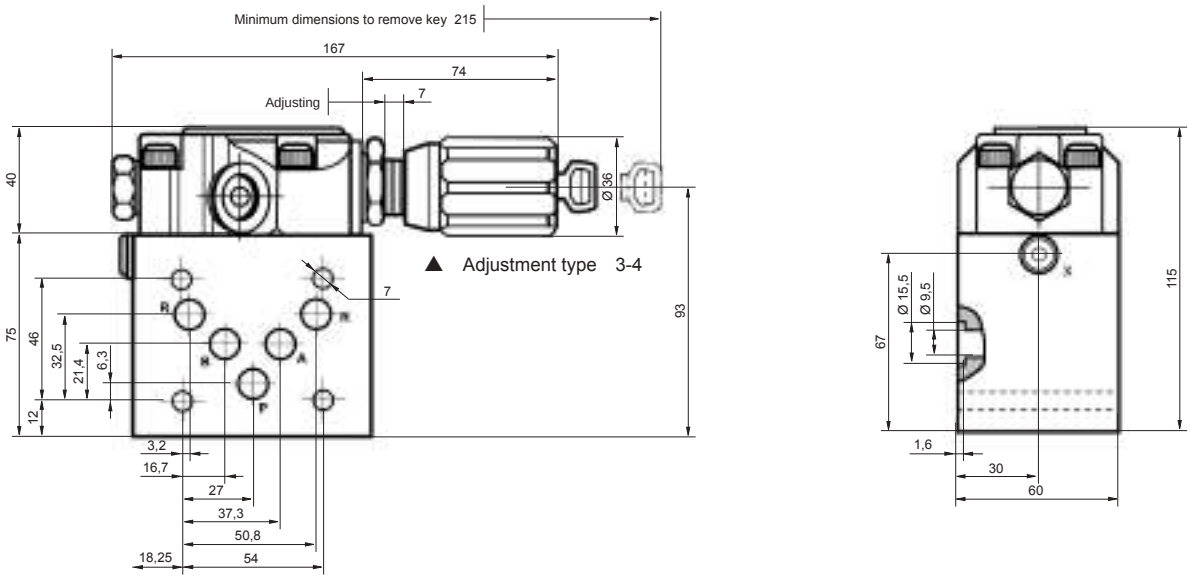
Mark	Part number	Description and parts
3C	8353501048	Spare kit of coil DC 48V-48W
3D	8353501098	Spare kit of coil DC 96V-48W
4A	4422/88/1	Coil DC 12V-48W
4B	4422/88/2	Coil DC 24V-48W
4C	4422/88/3	Coil DC 48V-48W
4D	4422/88/4	Coil DC 96V-48W
5A	N8353/55	Spare kit of seals
6A	8967/7	Connector B side
7A	8967/8	Conector A side
8A	8353504	Kit of control
9A	8353505	Kit of timer

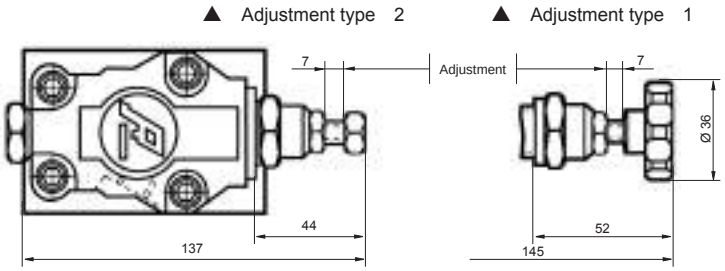
Accessories That need separate orders			
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004		
Screws for fixing	DIN.912	M6 x 40	Torque 14-16 Nm.

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	3,9 kg.

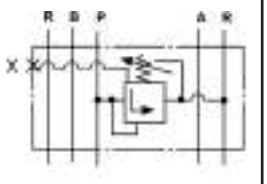


Type 4RL

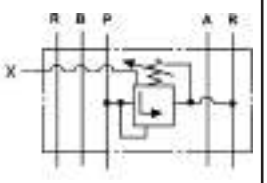




RFE. 4RLM03P▲✳



RFE. 4RD03P▲✳



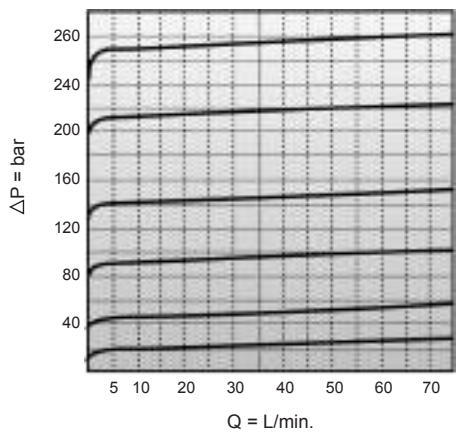
P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank
X	Remote control port

B	5-95 bar
D	100-195 bar
F	200-315 bar

✳ The asterisk in the part number will be replaced by B - D or F according to setting pressure required.

▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock

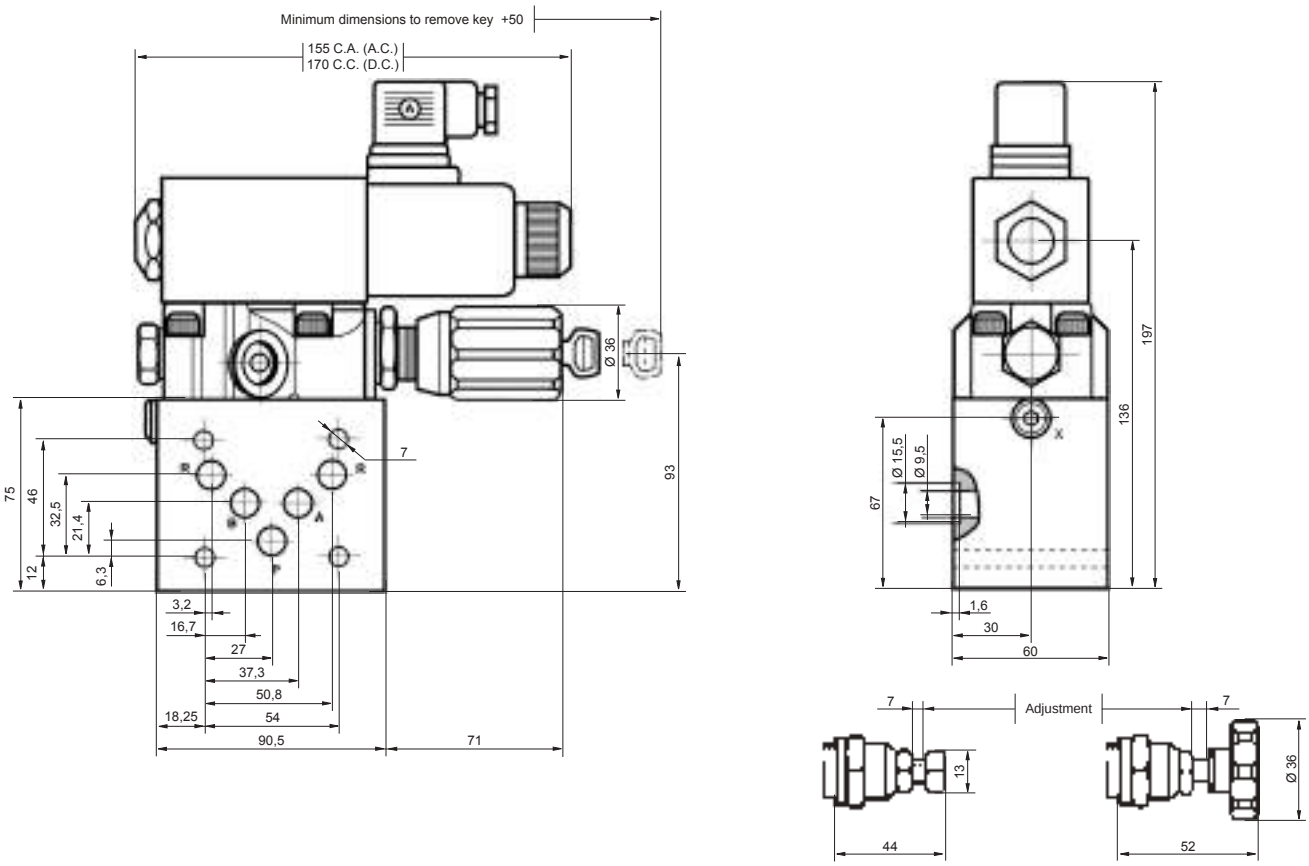
Diagram: Pressure - Flow rate



Relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,2 kg.

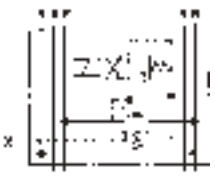
Electrical technical data		
Consumption per solenoid		
DC voltageurrent D.C.		30 W
Alternate current A.C.	Open circuit	180 VA
	Closed circuit	65 VA
D.C. Voltage range		12V - 24V
A.C. Voltage range		24V - 50Hz / 48V - 50Hz 110V - 50Hz / 220V - 50Hz 115V - 60Hz / 230V - 60Hz
Operating factor		ED 100%
Protection to DIN-40050		IP - 65



RFE. 4RLM03P▲✳/■



RFE. 4RD03P▲✳/■



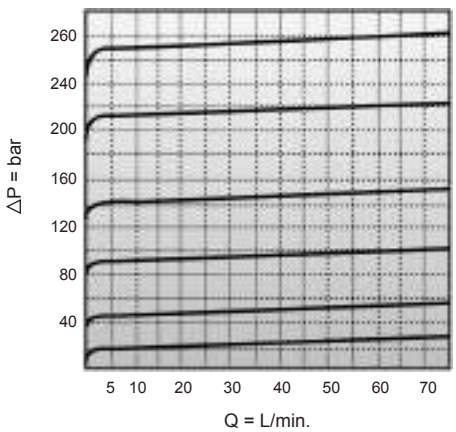
P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank
X	Remote control port

B	5-95 bar
D	100-195 bar
F	200-315 bar

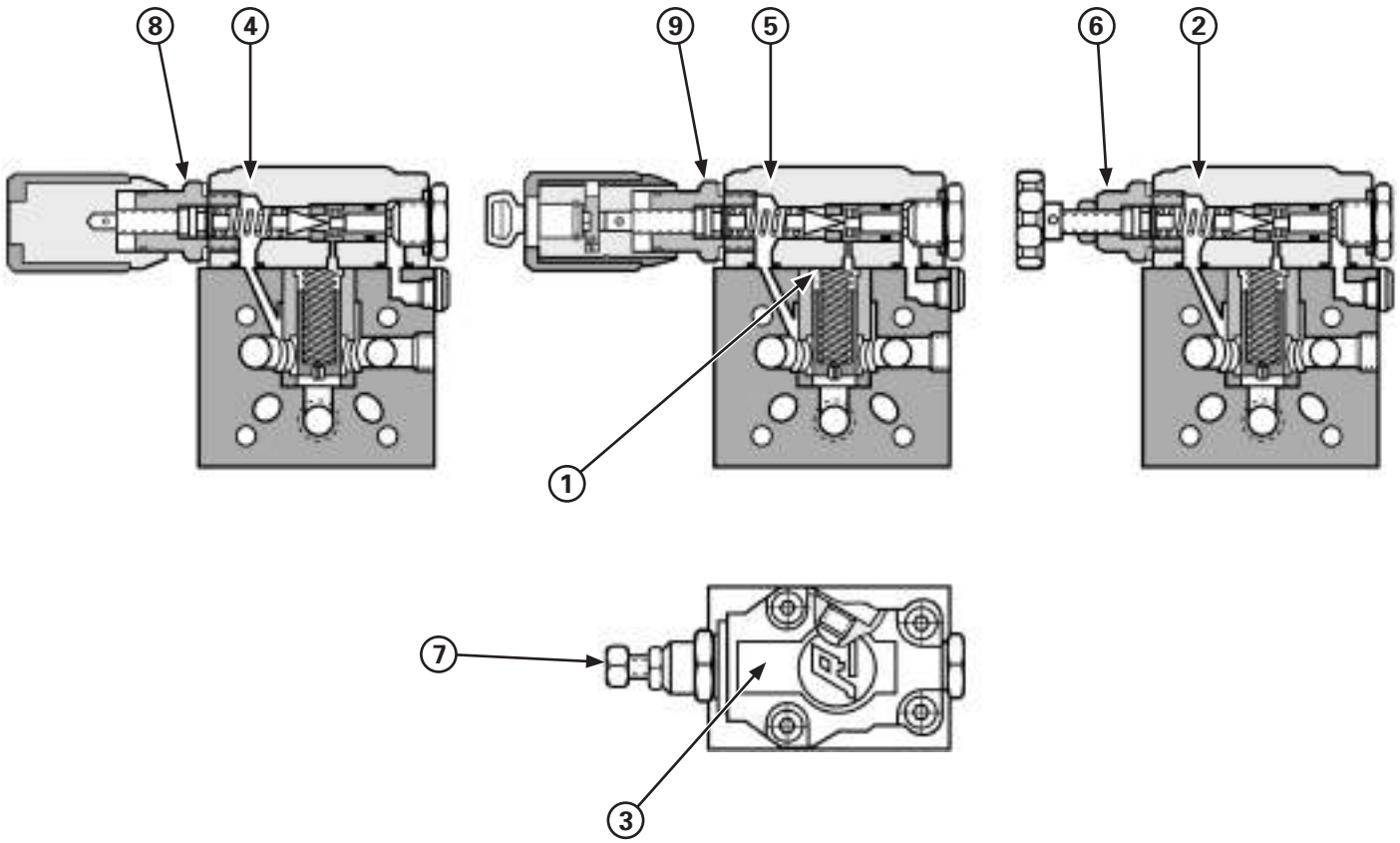
✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

■ Solenoid current voltage
24V - 50Hz / 48V - 50Hz
110V - 50Hz / 220V - 50Hz
115V - 60Hz / 230V - 60Hz

Diagram: Pressure - Flow rate



Relief valve



Mark	Part number	Description and parts
1A	N8783/10	Spare kit of drainage plug
2A	3RLT00P1B	Piloted relief valve. Adjustment type 1 (5-95 bar).
2B	3RLT00P1D	Piloted relief valve. Adjustment type 1 (100-195 bar).
2C	3RLT00P1F	Piloted relief valve. Adjustment type 1 (200-350 bar).
3A	3RLT00P2B	Piloted relief valve. Adjustment type 2 (5-95 bar).
3B	3RLT00P2D	Piloted relief valve. Adjustment type 2 (100-195 bar).
3C	3RLT00P2F	Piloted relief valve. Adjustment type 2 (200-350 bar).
4A	3RLT00P3B	Piloted relief valve. Adjustment type 3 (5-95 bar).
4B	3RLT00P3D	Piloted relief valve. Adjustment type 3 (100-195 bar).
4C	3RLT00P3F	Piloted relief valve. Adjustment type 3 (200-350 bar).
5A	3RLT00P4B	Piloted relief valve. Adjustment type 4 (5-95 bar).
5B	3RLT00P4D	Piloted relief valve. Adjustment type 4 (100-195 bar).
5C	3RLT00P4F	Piloted relief valve. Adjustment type 4 (200-350 bar).

Mark	Part number	Description and parts
6A	6901500/B	Spare kit adjustment type 1 (5-95 bar).
6B	6901500/D	Spare kit adjustment type 1 (100-195 bar).
6C	6901500/F	Spare kit adjustment type 1 (200-350 bar).
7A	6901501/B	Spare kit adjustment type 2 (5-95 bar).
7B	6901501/D	Spare kit adjustment type 2 (100-195 bar).
7C	6901501/F	Spare kit adjustment type 2 (200-350 bar).
8A	6901502/B	Spare kit adjustment type 3 (5-95 bar).
8B	6901502/D	Spare kit adjustment type 3 (100-195 bar).
8C	6901502/F	Spare kit adjustment type 3 (200-350 bar).
9A	6901503/B	Spare kit adjustment type 4 (5-95 bar).
9B	6901503/D	Spare kit adjustment type 4 (100-195 bar).
9C	6901503/F	Spare kit adjustment type 4 (200-350 bar).

Accessories That need separate orders			
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004		
Top cover	RFE. 5928502		
O'rings for individual mounting	Ø 24 x 2 (2)	Ø 12,4 x 1,78 (1)	
Screws for fixing	DIN.912	M6 x 80 (4)	Torque 14-16 Nm.

Roquet making moves
WWW.SUMY.IR

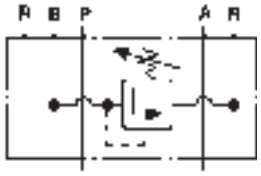
Simple relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	2,250 kg.

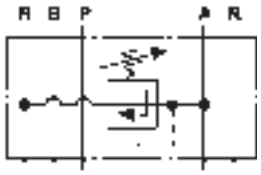


Type 1RLS

RFA: 1RLS03P2✳/B



RFA: 1RLS03P2✳/A

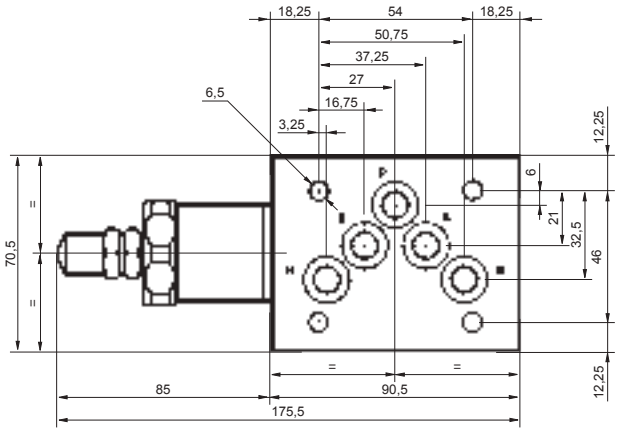


Invert position of plate 5928017

P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-315 bar

✳ The asterisk in the part number will be replaced by B - D or F according to setting pressure required.



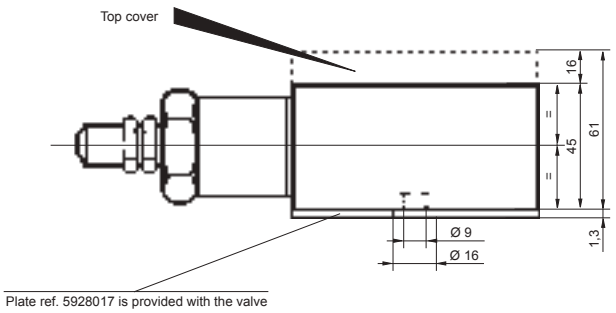


Plate ref. 5928017 is provided with the valve

Diagram: Pressure - Flow rate

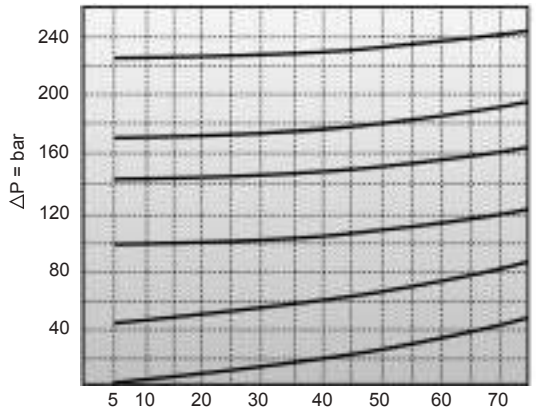
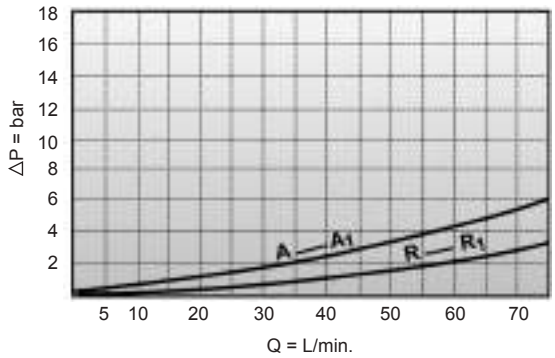
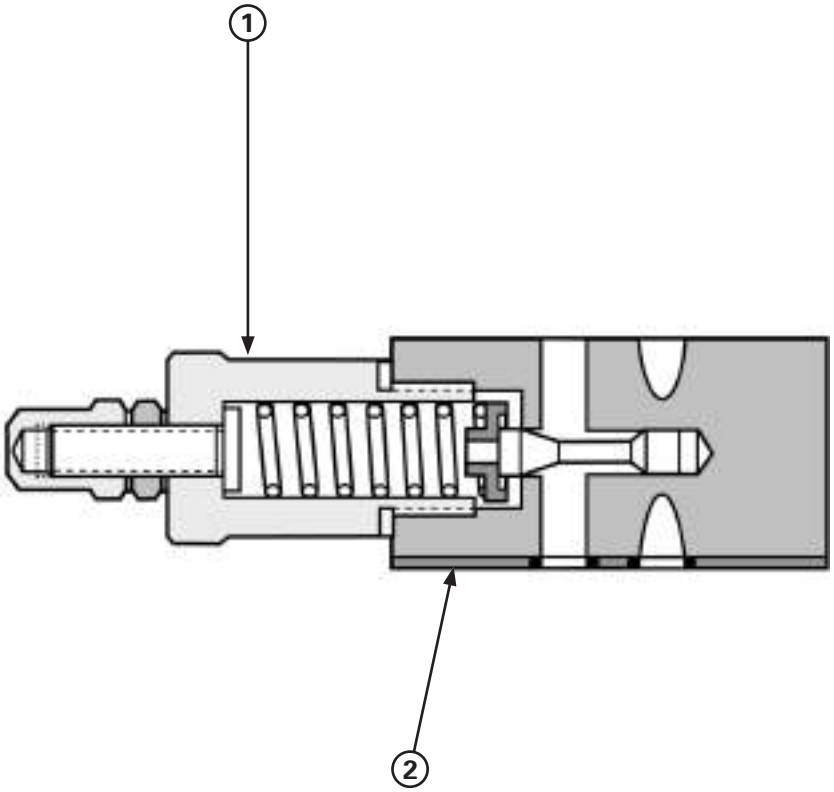


Diagram: △ p-Q to 23 cSt.



Simple relief valve



Mark	Part number	Description and parts
1A	6035500/B	Spare kit of valve (5-80 bar).
1B	6035500/D	Spare kit of valve (85-175 bar).
1C	6035500/F	Spare kit of valve (180-315 bar).
2A	5928503	Spare kit of subplate

Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			As per requirements
Top cover kit	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 1,78	
Screws for fixing	4	Screws	M6 x 70 DIN.912	Torque 14-16 Nm.

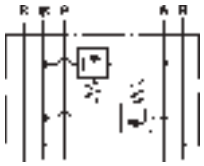
Double relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	2,350 kg.



Type 1RLD

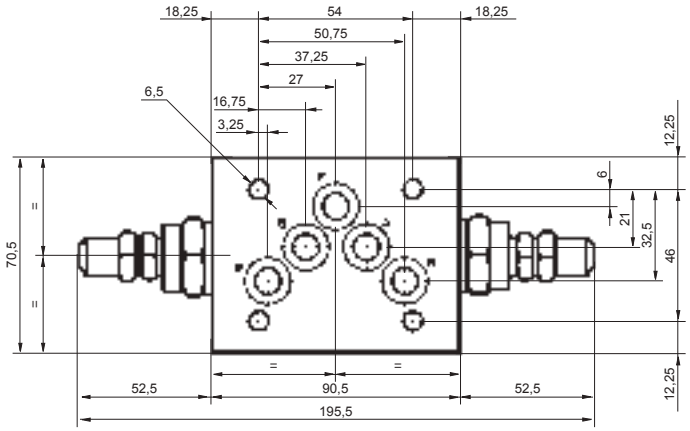
RFE: 1RLD03P2∗/∗



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-315 bar

∗ The asterisk in the part number will be replaced by B - D or F according to setting pressure required.



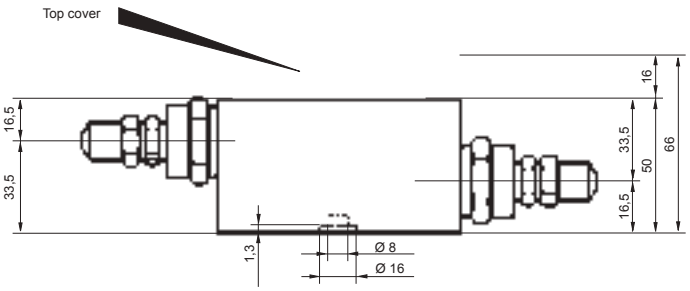


Diagram: Pressure - Flow rate

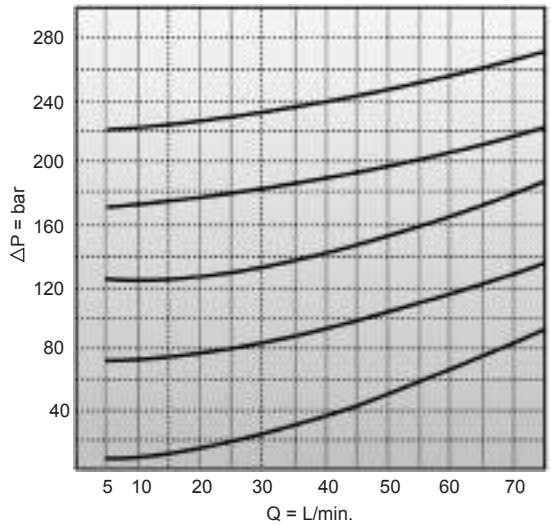
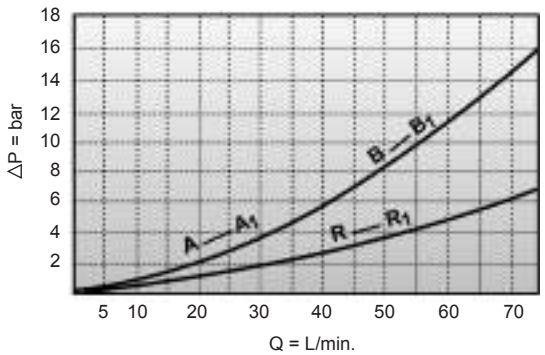
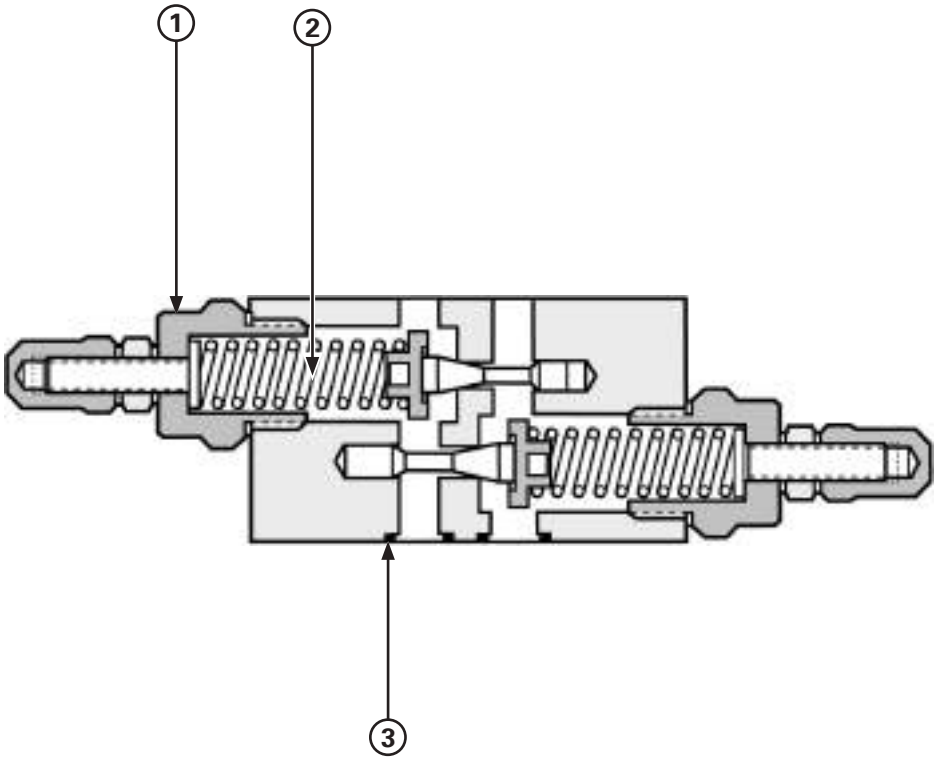


Diagram: Δ p-Q to 23 cSt.



Double relief valve



Mark	Part number	Description and parts
1A	6034500/B	Spare kit of valve (5-80 bar)
1B	6034500/D	Spare kit of valve (85-175 bar)
1C	6034500/F	Spare kit of valve (180-315 bar)
2A	714/8/1	Spring (5-80 bar)

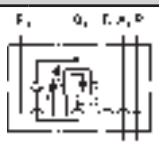
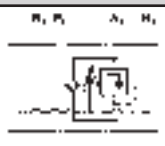
Mark	Part number	Description and parts
2B	1670/23	Spring (85-175 bar)
2C	1670/24B	Spring (180-315 bar)
3A	N6035/22	Spare kit of seals

Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	4	O'rings	Ø 24 x 2	
O'rings for individual mounting	4	O'rings	Ø 12,4 x 78	
Screws for fixing	4	Screws	M6 x 75 DIN.912	Torque 14-16 Nm.

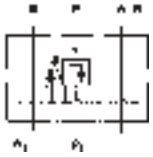
Pressure reducing valve

Hydraulic technical data

Max. working pressure	315 bar
Nominal flow	60 L./min.
Min. setting pressure with flow rate of 60 L/min.	10 bar
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	3 kg.

RFE. 1RR03P▲✳/B	RFE. 1RR03P▲✳/A
	

RFE. 1RR03P▲✳/P



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors

B	5-80 bar
D	85-175 bar
F	180-315 bar

✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

- Top cover RF: 5928502 for individual assembly can only be used on valve RFE: 1RR03P▲✳/B - 1RR03P▲✳/P in both cases, «P», is pressure line 2nd «B» is reduced pressure, and «A» or «R» drainage lines.
- Valve RFE:1RR03P▲✳/A cannot be used for individual assembly.

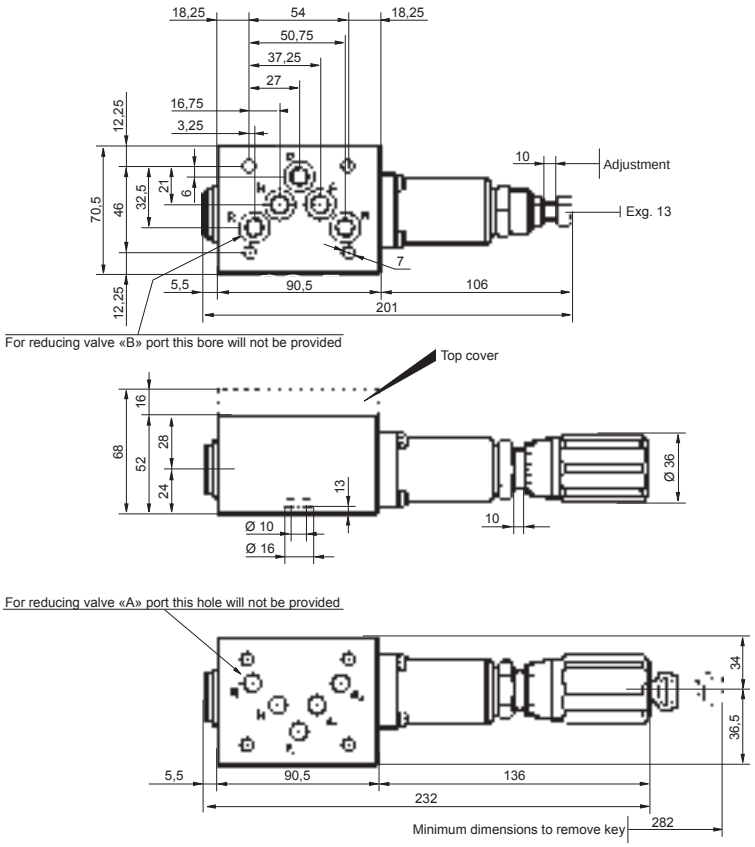


Diagram: Pressure - Flow rate

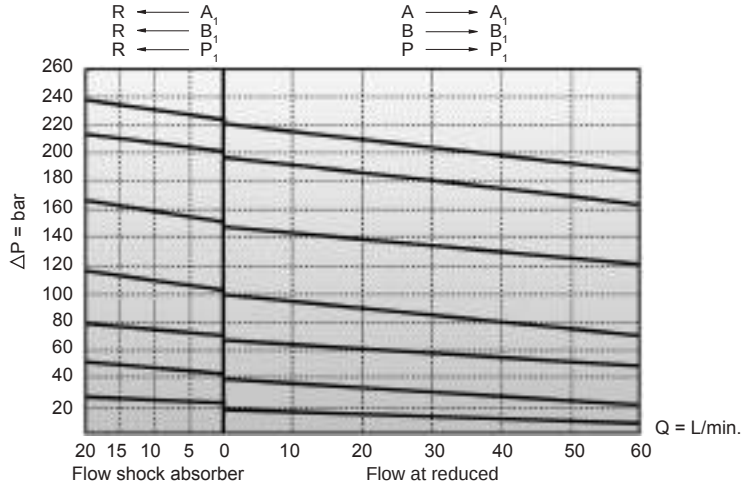
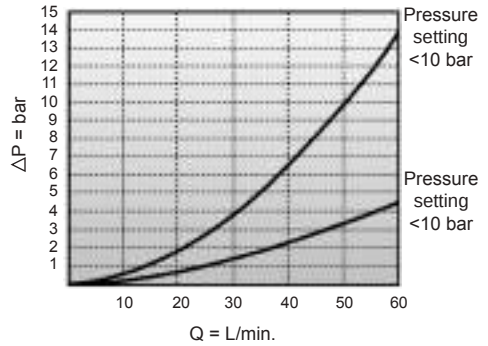
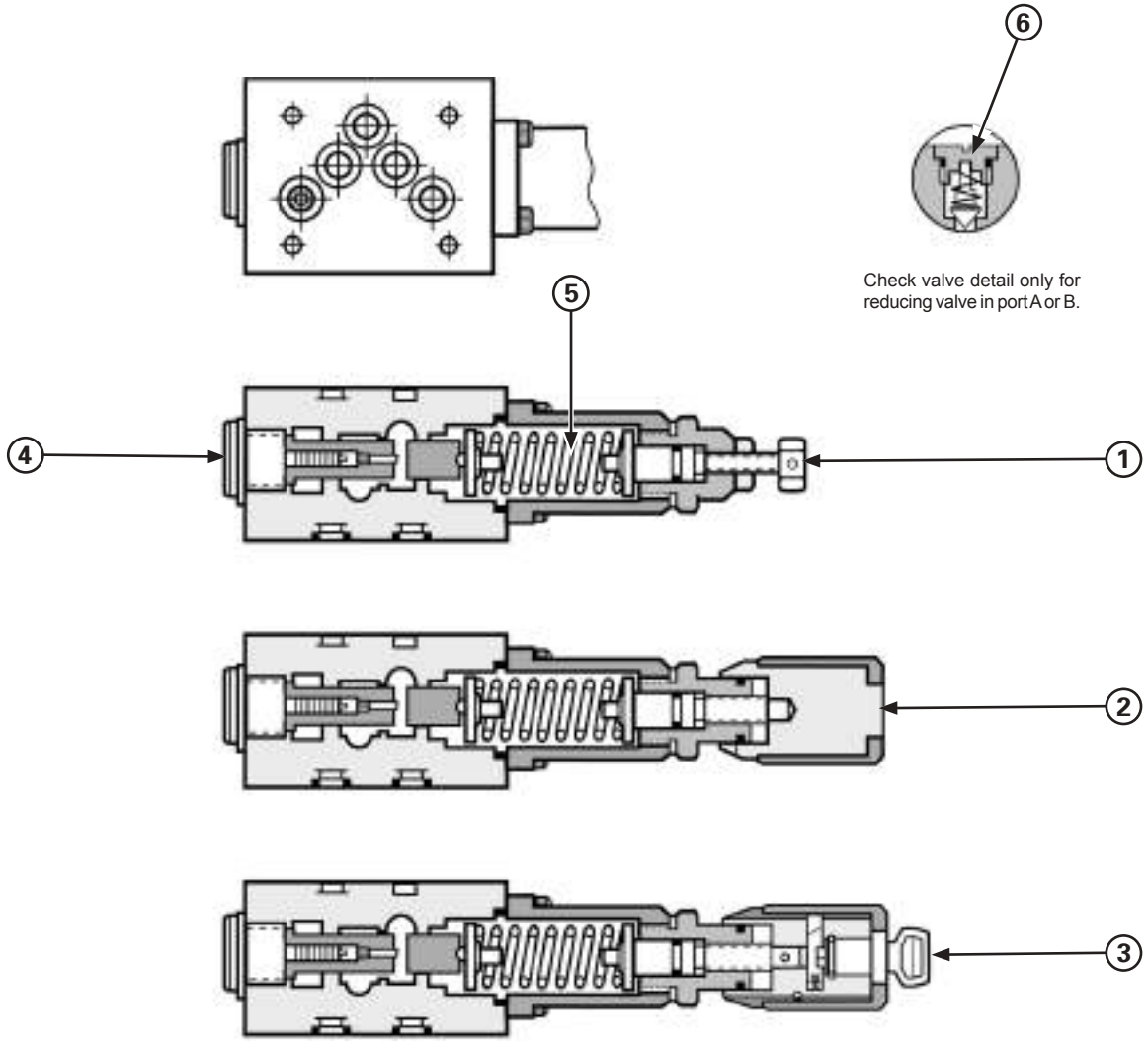


Diagram: △ p-Q to 23 cSt.





Mark	Part number	Description and parts
1A	7150500/B	Spare kit of valve type 2 (5-80 bar)
1B	7150500/D	Spare kit of valve type 2 (85-175 bar)
1C	7150500/F	Spare kit of valve type 2 (180-315 bar)
2A	7150501/B	Spare kit of valve type 3 (5-80 bar)
2C	7150501/D	Spare kit of valve type 3 (85-175 bar)
2C	7150501/F	Spare kit of valve type 3 (180-315 bar)
3A	7150502/B	Spare kit of valve type 4 (5-80 bar)

Mark	Part number	Description and parts
3B	7150502/D	Spare kit of valve type 4 (85-175 bar)
3C	7150502/F	Spare kit of valve type 4 (180-315 bar)
4A	7150503	Spare kit of plug
5A	714/8/1	Spring (5-80 bar)
5B	1670/23	Spring (85-175 bar)
5C	1670/24B	Spring (180-250 bar)
6A	714300	Spare kit of anticavitation valve

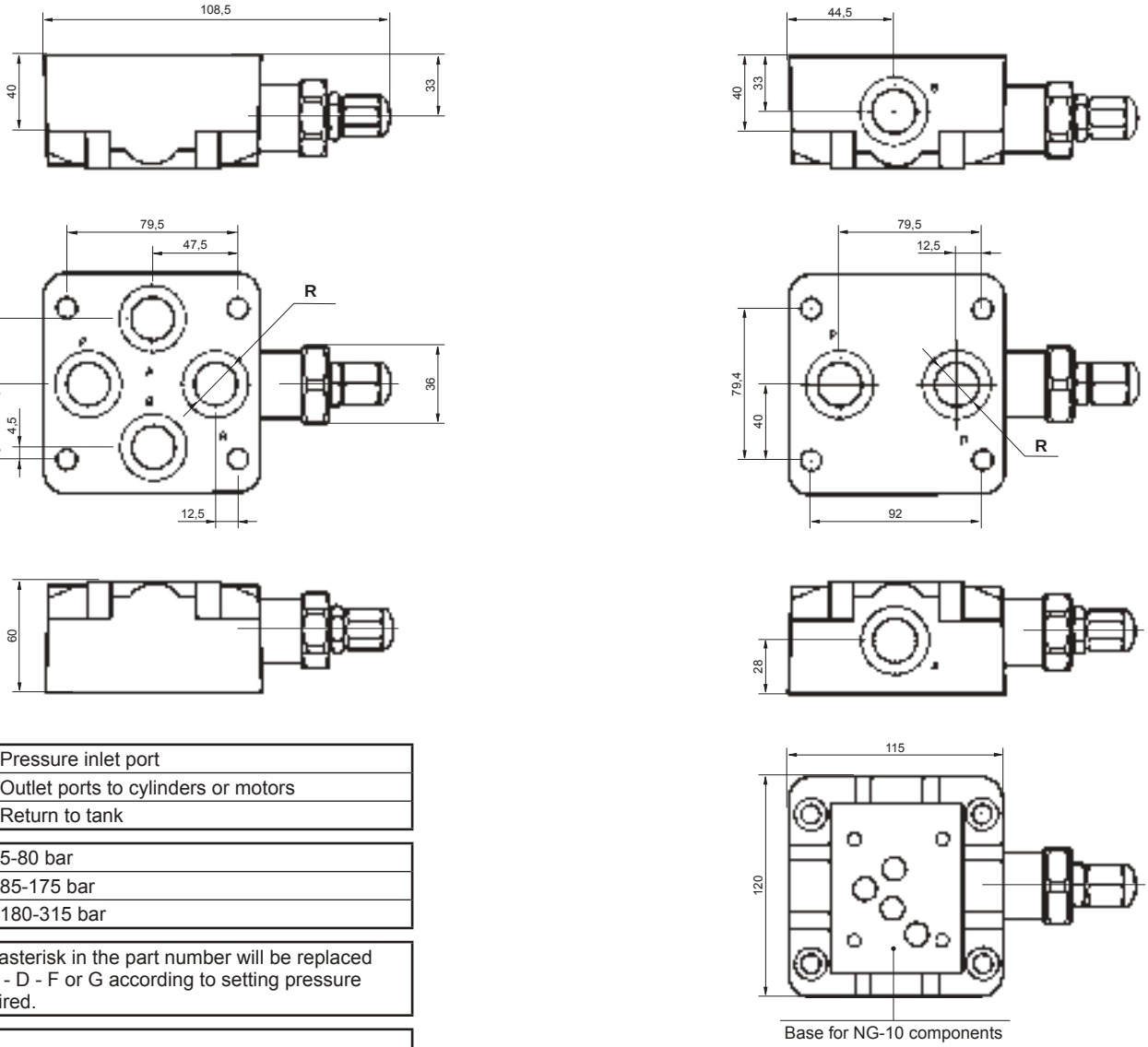
Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 78	
Screws for fixing	4	Screws	M6 x 70 DIN.912	Torque 14-16 Nm.

Sub-plate with relief valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	80 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	4,84 kg.

Reference	R (G.)	Thread depth
4RLM03P2 ✳/04	1/2”	15
4RLM03P2 ✳/06	3/4”	17

Reference	R (G.)	Thread depth
4RLL03P2 ✳/04	1/2”	15
4RLL03P2 ✳/06	3/4”	17



Base for NG-10 components

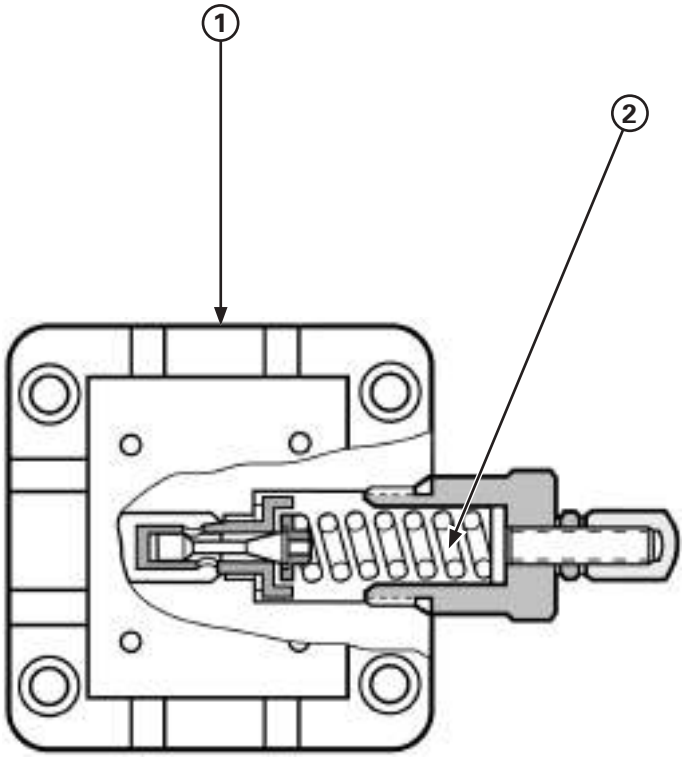
P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

B	5-80 bar
D	85-175 bar
F	180-315 bar

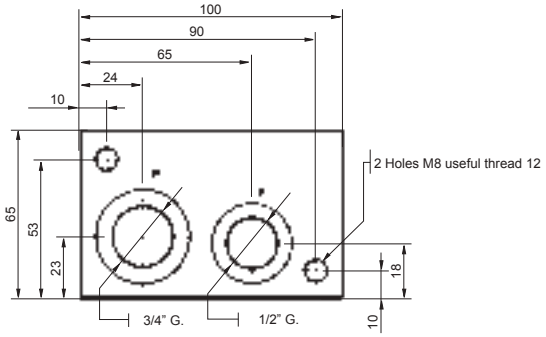
✳ The asterisk in the part number will be replaced by B - D - F or G according to setting pressure required.

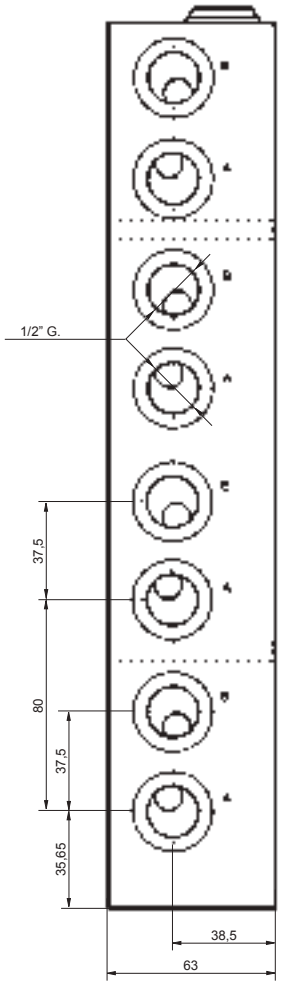
Note:
For diagram pressure-flow, see curves page 45

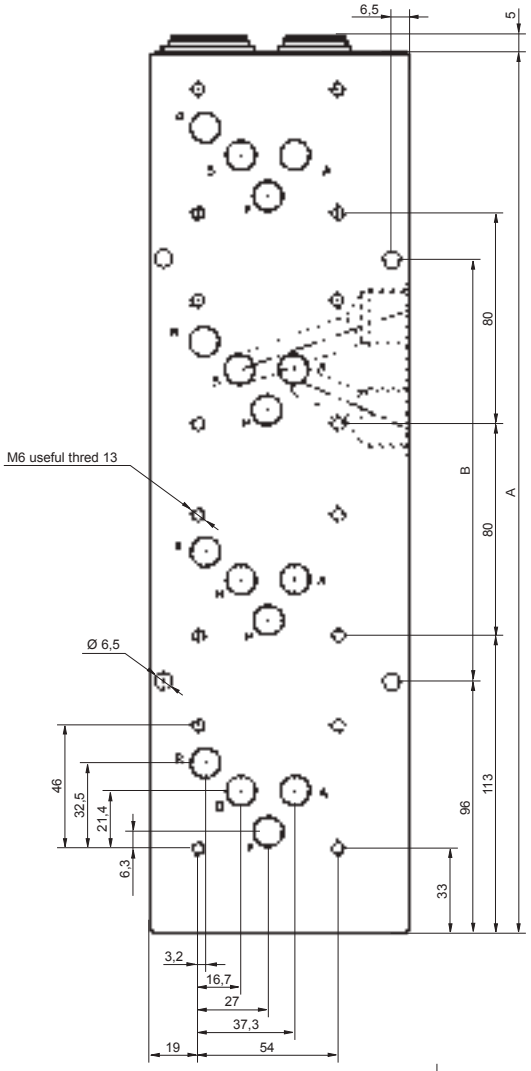
Sub-plate with relief valve

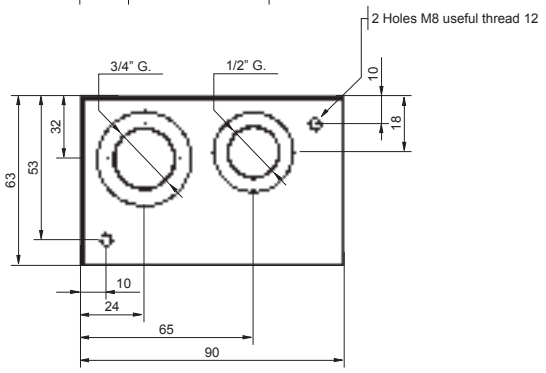


Mark	Part number	Description and parts
1A	2264011	Valve type 11 alve type 11
1B	2264012	Valve type 11 alve type 12
1C	2264013	Valve type 11 alve type 13
2A	5050/1A	Spring (5-80 bar)
2B	5050/2A	Spring (85-175 bar)
2C	5050/3A	Spring (180-315 bar)



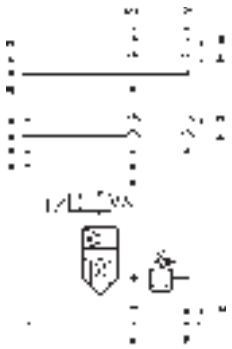






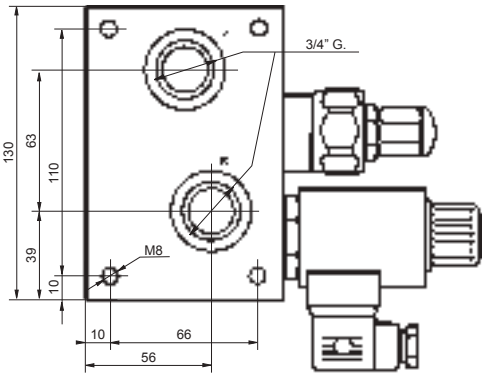
RFA. ROQUET	No. Elements	A	B
M859802	2	174	-
M859803	3	254	80
M859804	4	334	160
M859805	5	414	240
M859806	6	494	160+160

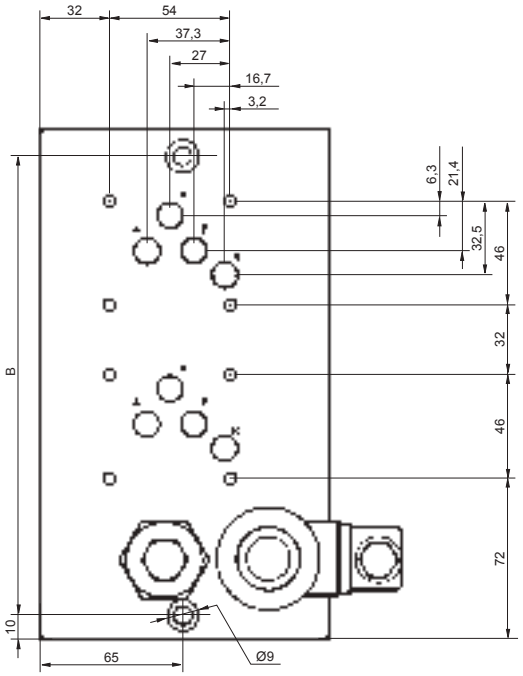
Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better

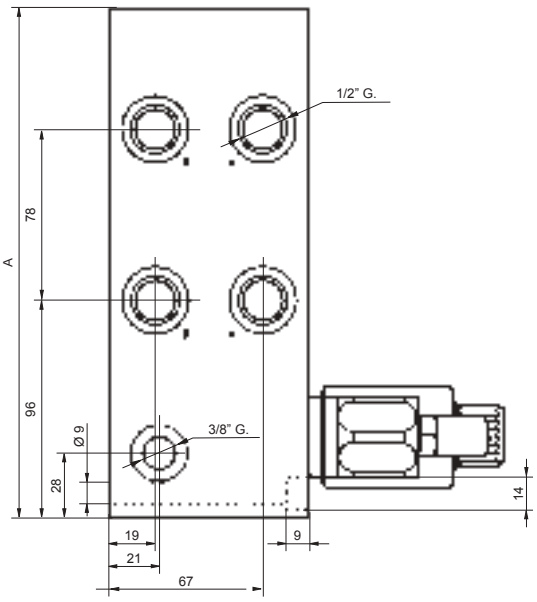


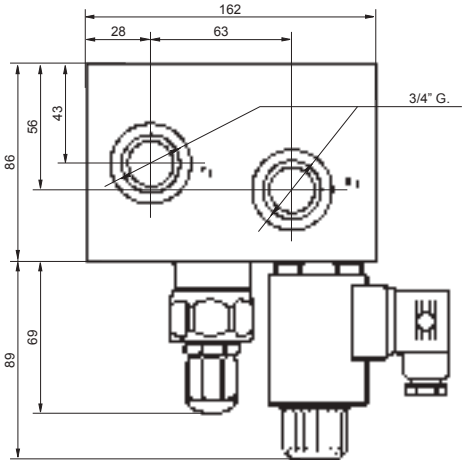
RFA. ROQUET	No. Elements	A	B
1B1LV03 - ●/■	1	145	125
1B2LV03 - ●/■	2	225	205
1B3LV03 - ●/■	3	305	285
1B4LV03 - ●/■	4	380	360
1B5LV03 - ●/■	5	460	440
1B6LV03 - ●/■	6	540	520

- ● Replace with pressure
  - 00 = without valve
  - 11 = 5 - 80 bar
  - 12 = 80 - 175 bar
  - 13 = 175 - 250 bar
  - 14 = 255 - 315 bar
- ■ Replace with solenoid's voltage
  - 12 = 12V D.C.
  - 24 = 24V D.C.

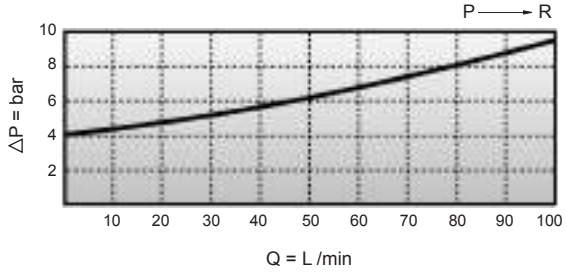








Curves for by-pass valve



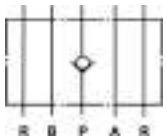
Check valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	1,1 kg.

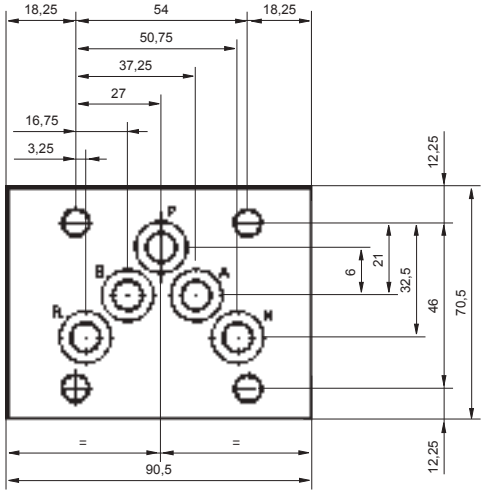


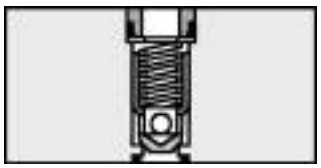
Type 1VRS

RFE. 1VRS03P✳



✳ The asterisk in the part number will be replaced by number «1» when wanted opening pressure is 0,5-1 bar and by number «2» if 2-3 bar is wanted.





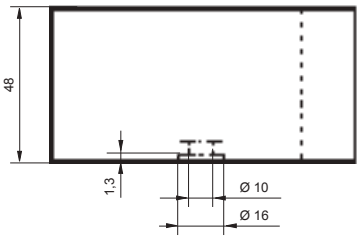
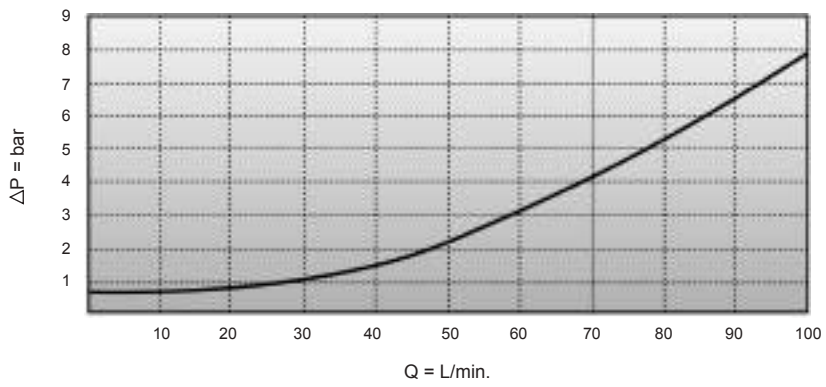


Diagram: △ p-Q to 23 cSt.

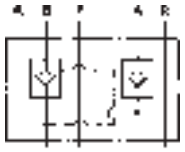


Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Decompression ratio	15:1
Opening ratio	2,4:1
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	2,350 kg.

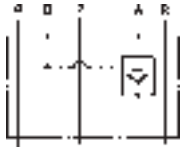


Type 1VRH

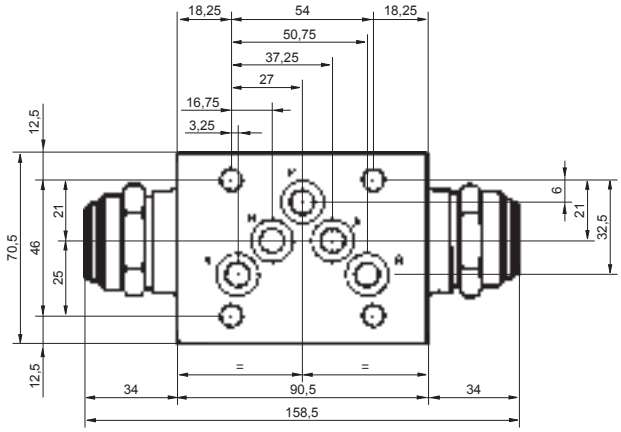
RFE. 1VRHD03P1



RFE. 1VRHS03P1



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank



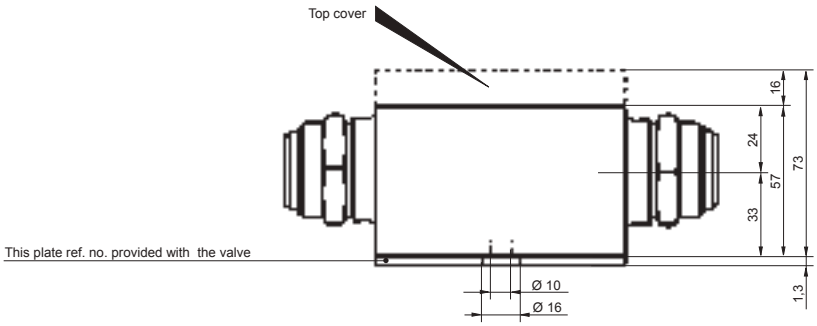
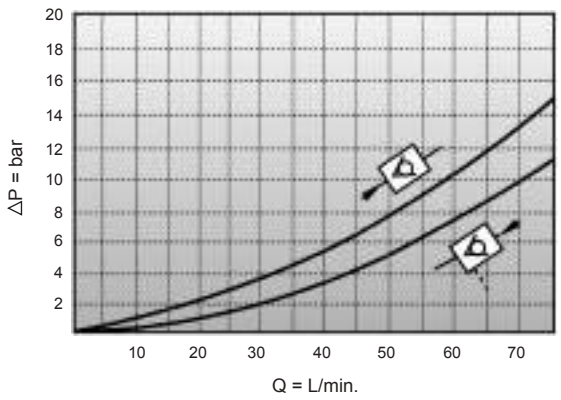
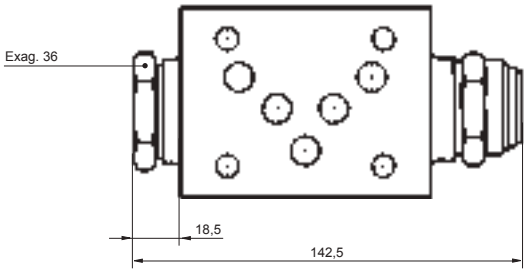
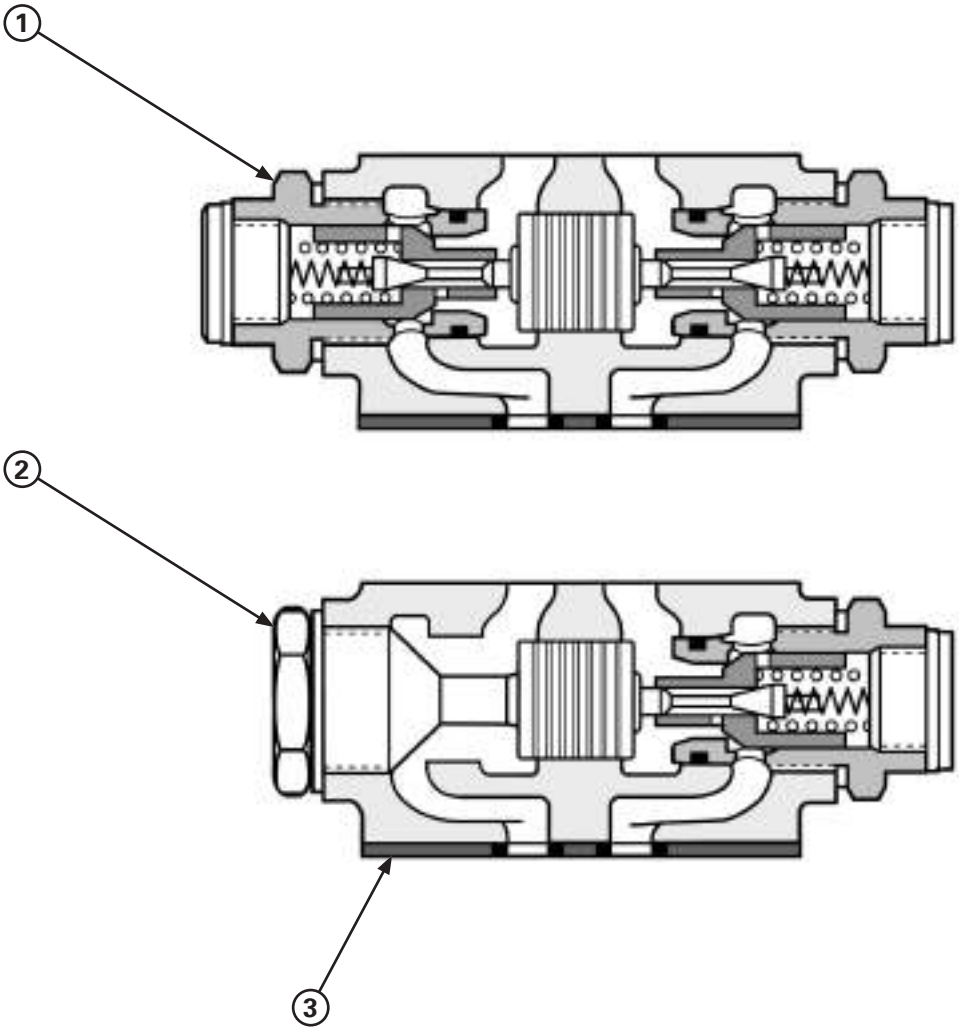


Diagram: △ p-Q a 23 cSt.







Mark	Part number	Description and parts
1A	5928500	Spare kit of valve
2A	5928501	Spare kit of plug
3A	5928503	Spare kit of subplate

Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 1,78	
Screws for fixing	4	Screws	M6 x 75 DIN.912	Torque 14-16 Nm.

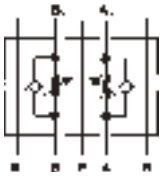
Double throttle valve with check valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Min. controlled flow	2 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	4 kg.



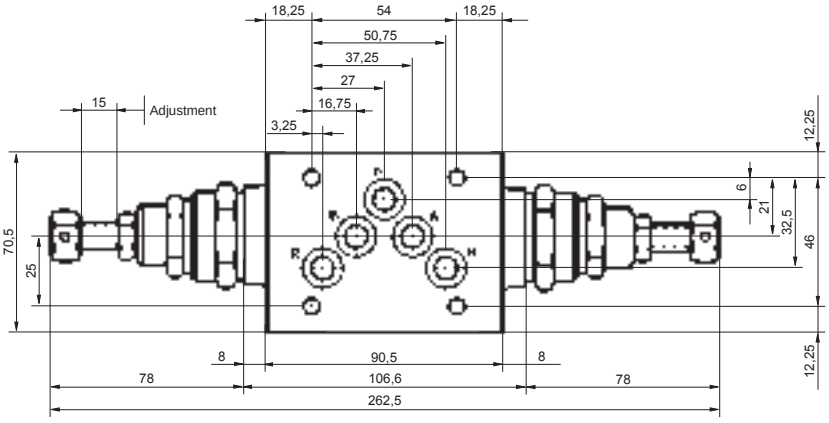
Type 2EGD

RFE. 2EGD03P▲



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank

▲ In part number will be replaced by 2 - 3 - 4 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob
4	Adjustment by knob and lock



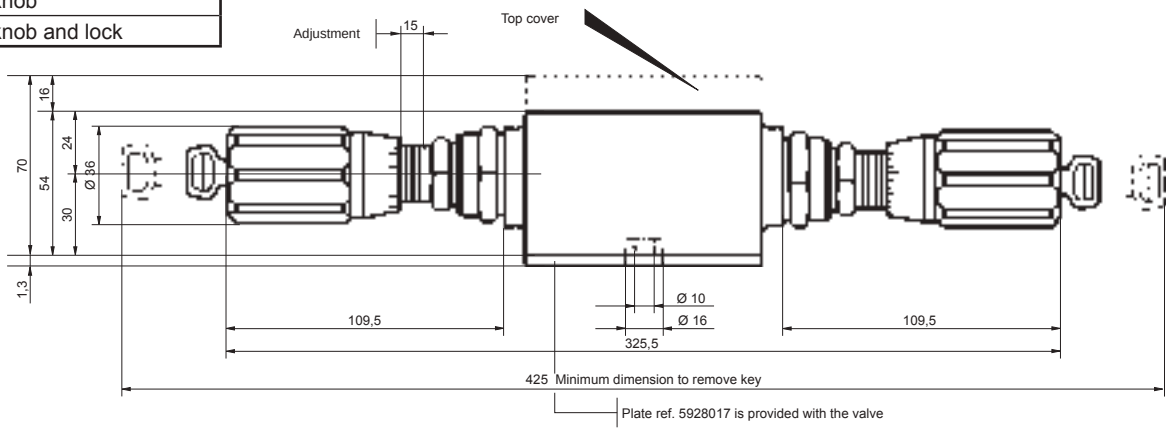
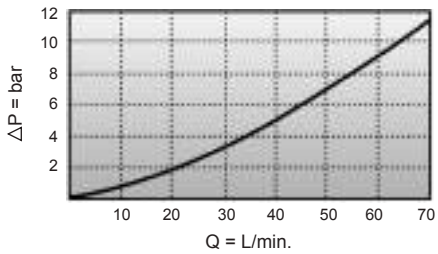
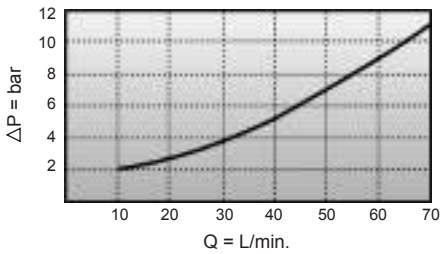


Diagram: △ p-Q to 23 cSt.

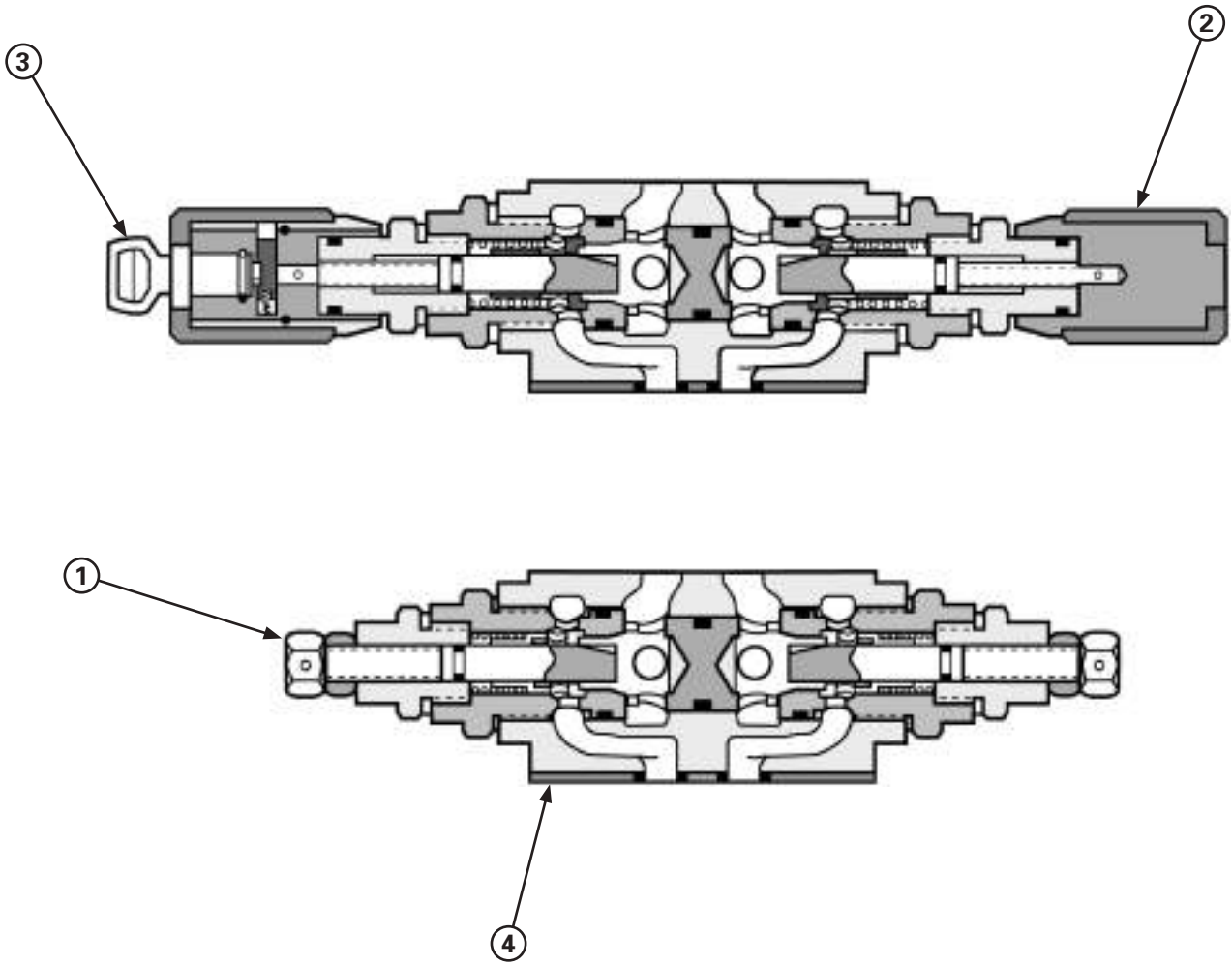
Free flow sense, with knob fully open



Free flow sense, with knob fully closed



Double throttle valve with check valve



Mark	Part number	Description and parts
1A	7341500	Spare kit of adjustment type 2
2A	7341501	Spare kit of adjustment type 3
3A	7341504	Spare kit of adjustment type 4
4A	5928503	Spare kit of subplate

Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 1,78	
Screws for fixing	4	Screws	M6 x 70 DIN.912	Torque 14-16 Nm.

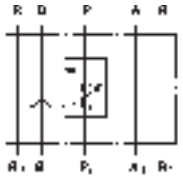
2 and 3 ways flow control valve

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Min. adjustment differential pressure	6 - 8 bar
Pressure drop P-R with closed adjustment and 60 its. inlet flow	7 - 8 bar
Min. controlled flow	1 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	3 kg.

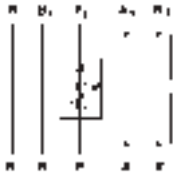


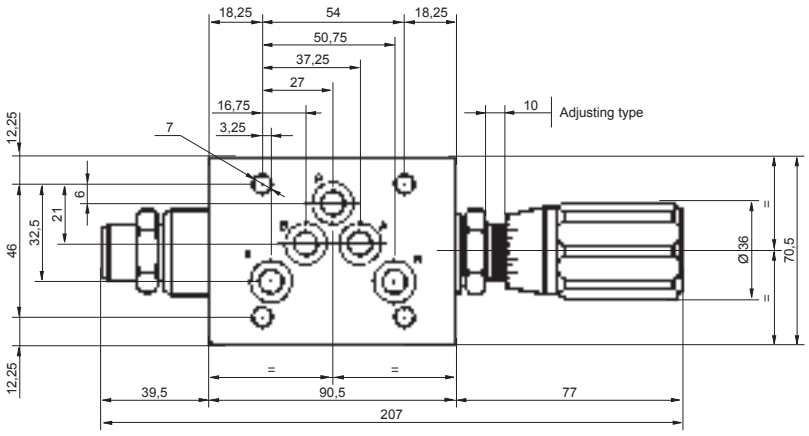
Type 1VCR

RFE. 1VCR03P▲/P



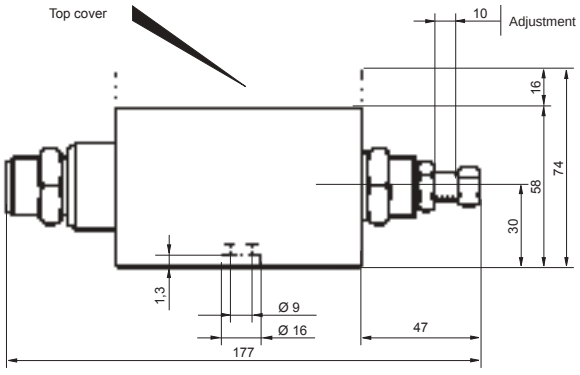
RFE. 1VC03P▲/P



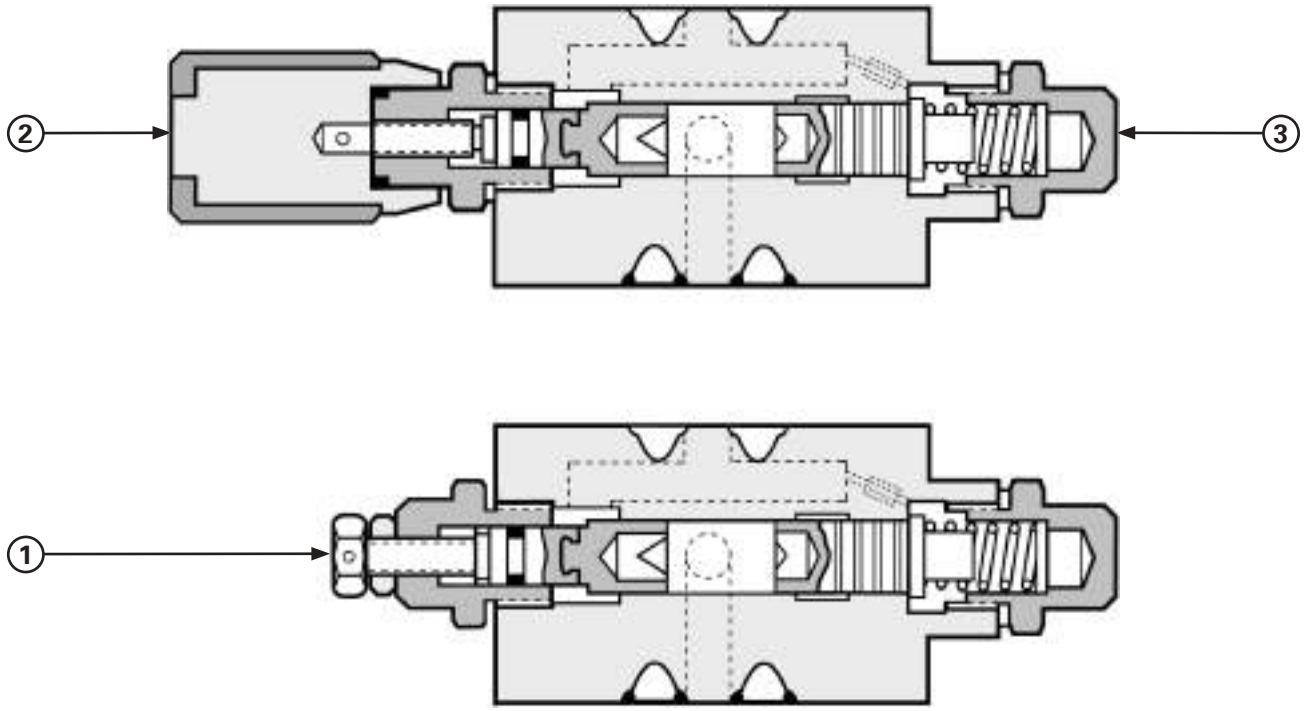


▲ In part number will be replaced by 2 - 3 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob

With top cover RF. 5928502 for individual assembly, «P» is pressure line and «B» is regulated flow, being «A» or «R» secondary flow to tank.



2 and 3 ways flow control valve



Mark	Part number	Description and parts
1A	7195500	Spare kit of adjustment type 2
2A	7195501	Spare kit of adjustment type 3
3A	7197502	Spare kit of plug

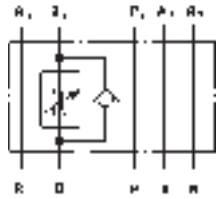
Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 1,78	
Screws for fixing	4	Screws	M6 x 75 DIN.912	Torque 14-16 Nm.

Hydraulic technical data	
Max. working pressure	315 bar
Nominal flow	60 L./min.
Min. adjustment differential pressure	6 - 8 bar
Min. controlled flow	1 L./min.
Fluid recommended	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46
Flow temperature range	-20°C...+80°C
Viscosity range	4 - 500 cST
Fluid cleanliness range	19/16 s/. ISO 4406 - RP70H or better
Weight	3 kg.

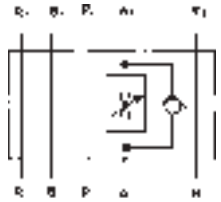


Type 1VCR

RFE. VCR03P▲/B

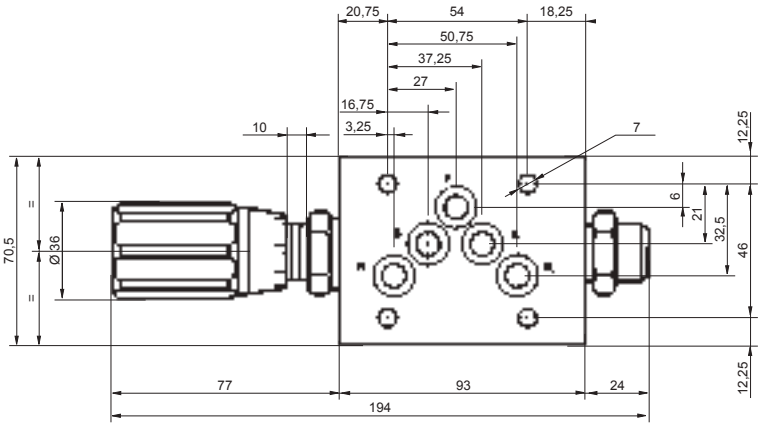


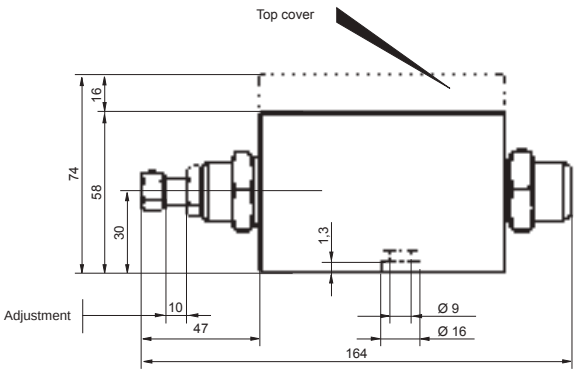
RFE. 1VCR03P▲/A



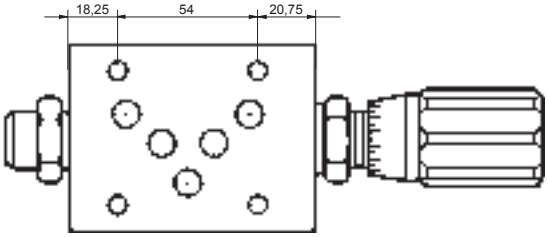
▲ In part number will be replaced by 2 - 3 according adjustment type	
2	Adjustment by nut
3	Adjustment by knob

Port adjustment Ⓑ

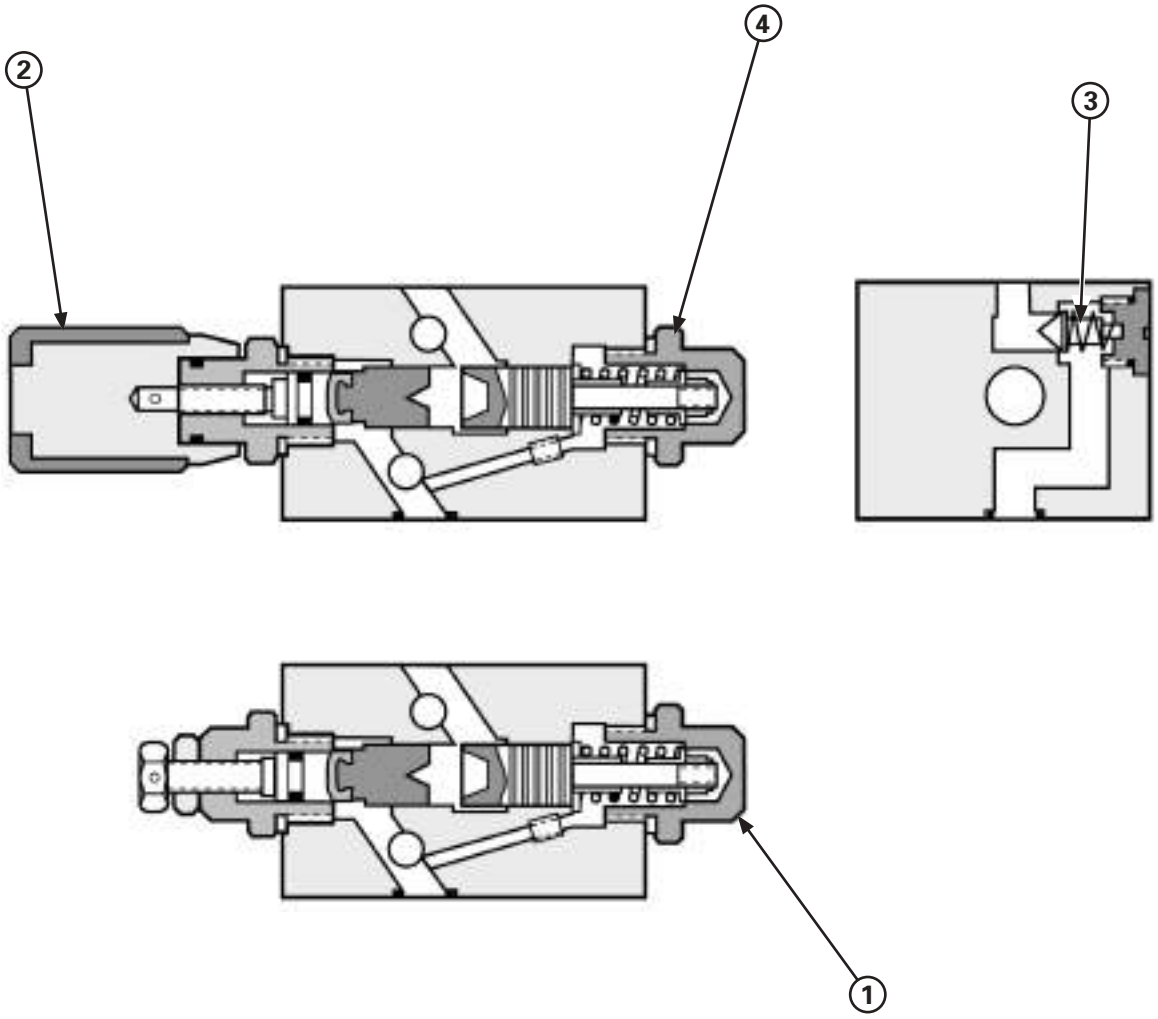




Port adjustment Ⓐ



2 ways flow control valve

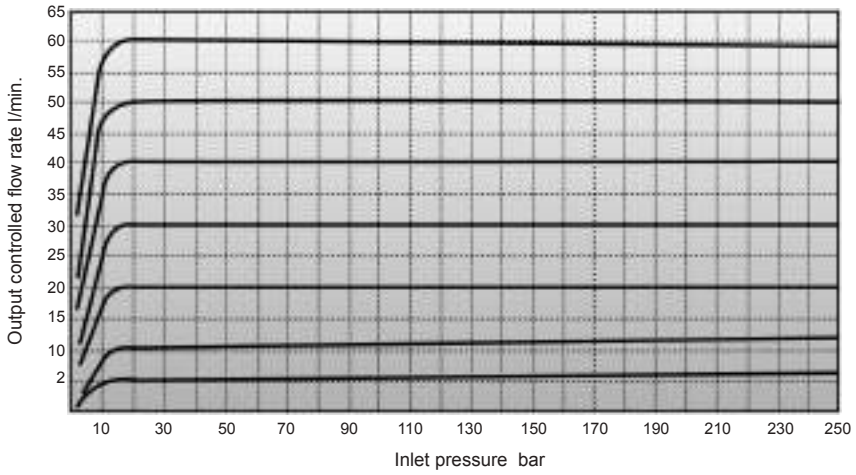


Mark	Part number	Description and parts
1A	7195500	Spare kit of adjustment type 2
2A	7195501	Spare kit of adjustment type 3
3A	714300	Spare kit of anticavitation valve
4A	7197502	Spare kit of plug

Accessories That need separate orders				
Sub-plate	RFE. 140001 - 140002 - 332003 - 332004			
Top cover	RFE. 5928502			
O'rings for individual mounting	2	O'rings	Ø 24 x 2	
O'rings for individual mounting	1	O'rings	Ø 12,4 x 1,78	
Screws for fixing	4	Screws	M6 x 75 DIN.912	Torque 14-16 Nm.

2 ways flow control valve

Diagram: Pressure - Flow rate



Metering curve

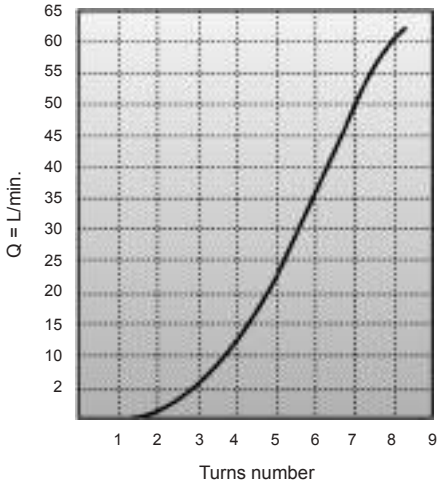
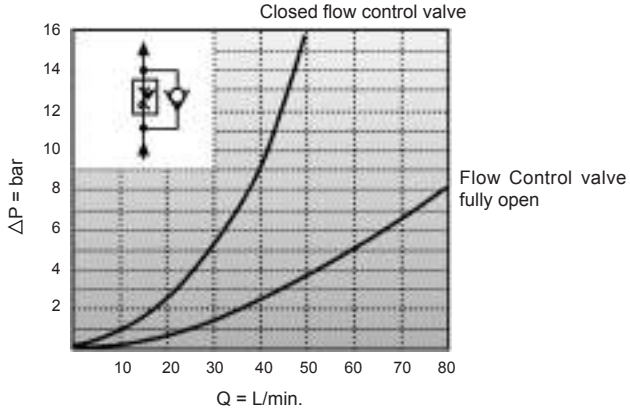
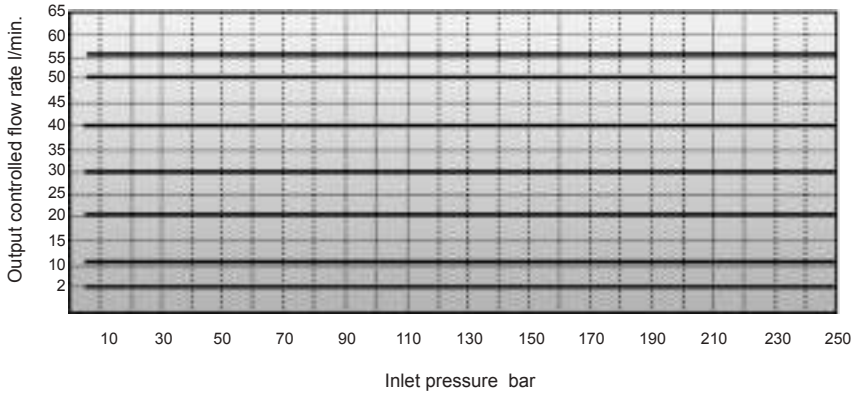


Diagram: △ p-Q to 23 cSt.

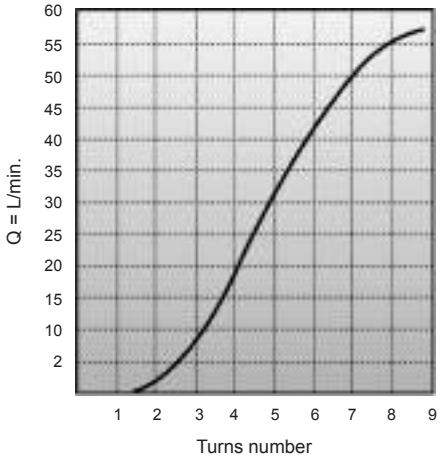


3 ways flow control valve

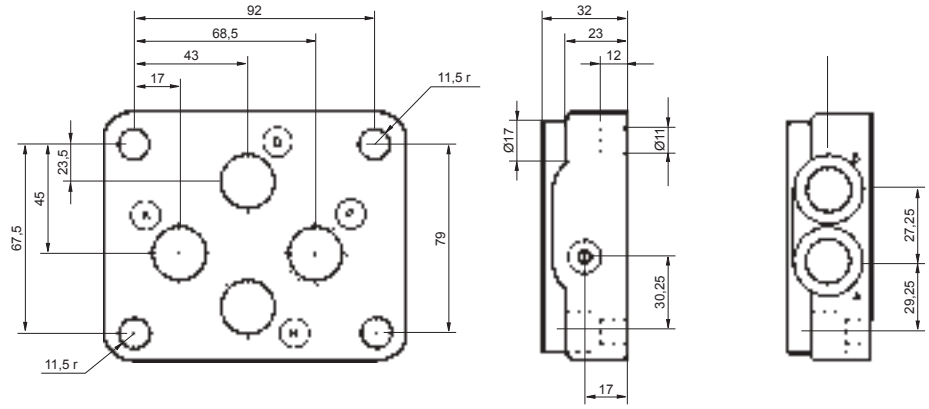
Diagram: Pressure - Flow rate



Metering curve

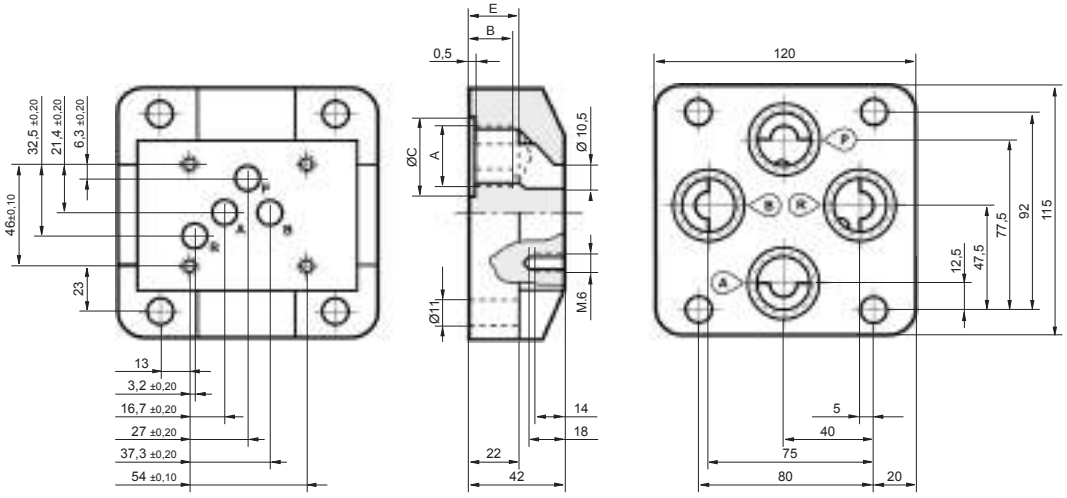


Sub-plates NG-10



REF. 140001 REF. 140002

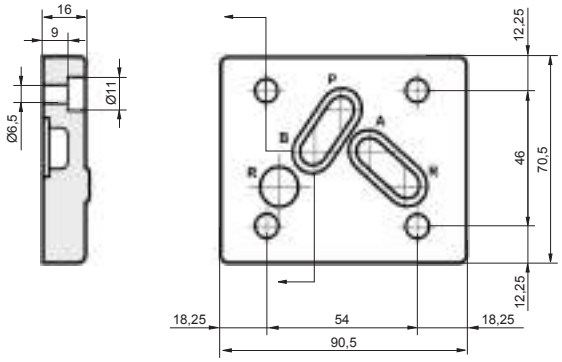
RFA. ROQUET	A-B-P-R	Weight
140001	3/8" G.	1,9 Kg.
140002		



RFA. ROQUET	A	B	C	D	E	Weight
140001	1/2" G.	15	Ø 30	0,5	20	3 Kg.
140002	3/4" G.	17	Ø 36		21,5	

Top cover

REF. 5928502



Approx. weight 0,800 Kg.

PART NUMBER										
5 EV	P	3	P	1	C	05	R	220-50	F	*
1	2	3	4	5	6	7	8	9	10	11

1	Function
5EV	Solenoid controlled valve NG-16 / NG-25 with NG-6
1HV	Directional control valve with hydraulic pilot

2	Mounting
P	Sub-plate

3	Positions and solenoids
1	Two positions one solenoid
2	Two positions two solenoids
3	Three positions two solenoids
4	Two positions without solenoid
5	Three positions without solenoid
6	Two positions without solenoid spring return
7	Three positions with detent without solenoid
8	Two fixed positions third position with spring without solenoid

4	Solenoid controlled valve type
P	Piloted
D	Direct

5	Spool type
1 - 2 - 3 - 4 - 5 - 6	

6	Ways
C	4
B	3

7	Size
05	NG - 16
06	NG - 25

8	Current type
D	DC voltage
R	AC voltage

9	Voltage and frequency
A.C.	24V - 50Hz / 48V - 50Hz / 110V - 50Hz / 220V - 50Hz 115V - 60Hz / 230V - 60Hz
D.C.	12V - 24V

10	Pilot and drain
I	Internal-External
E	External-External
F	Internal-Internal
G	External-Internal

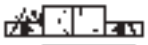
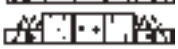
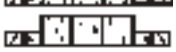
11	Additional data
L	Connector with led
V	Connector with varisto
LD	Connector with led and diode
REC	Connector with rectifier

Note:
The asterisk on the reference will be replaced by letter «E» when solenoid valve with throttle valve reference 2EGD02P▲ is required, or by letter «R» when in-built check valve reference 6887068 (NG-16) - 4955040 (NG-25)

Hydraulic technical data		
Size	**NG - 16**	**NG -25**
Max. working pressure	350 bar	
Nominal flow rate (see diagrams page 73)	200 L./min.	350 L./min.
Nominal pressure in return	350 bar	
Fluid to be used	ISO 6743 TYPE HM, HV or HG ISO 3448 Cat. VG32, VG46	
Fluid temperature range	-20°C...+80°C	
Viscosity range	4 - 500 cST	
Recommended fluid cleanliness	19/16 s/. ISO 4406 - RP70H or better	

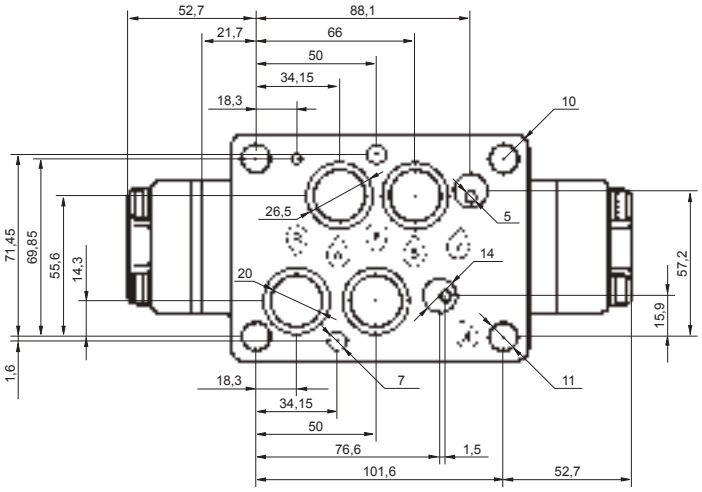
Electrical technical data			
Consumption per solenoid			
DC voltageurrent D.C.		38 W	
Alternate current A.C.	Open circuit	180 VA	
	Closed circuit	65 VA	
D.C. Voltage range		12V - 24V	
A.C. Voltage range		24V-48V-110V-220V (50Hz) 115V-230V (60Hz)	
Operating factor		ED 100%	
Protection to DIN-40050		IP - 65	
Voltage tolerance		Unom ± 10%	
Switching frequency		D.C. = Max. 15000/h A.C. = 7200/h	
Response time		D.C.	A.C.
Switch ON Switch OFF		20 - 60 ms. 50 - 70 ms.	10 - 25 ms. 25 - 50 ms.

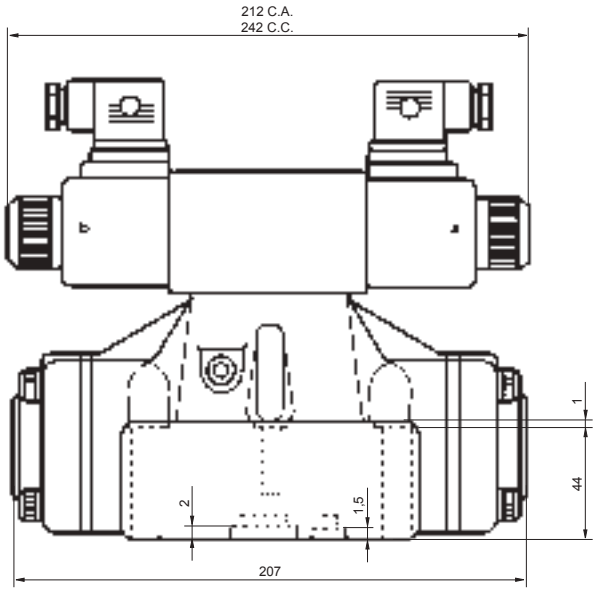
Standard distribution systems

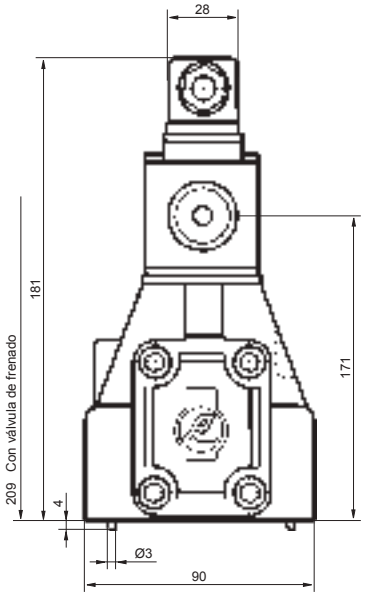
Reference	Spool type	Symbol	Connections					
			Solenoid "A" switched on		Central position		Solenoid "B" switched on	
5EVP3P1C...	1	A  B	P (1) A	B (2) R	P (1) R	A & B (2)	P (1) B	A (2) R
5EVP2P2C...	2		P (1) B	A (2) R	———		P (1) A	B (1) R
5EVP3P2C...	2				A, B, P (1) R			
5EVP3P3C...	3				P (2)	A & B (1) R		
5EVP3P4C...	4				A, B & P (1) R			
5EVP3P5C...	5				A (1) R	B & P (2)		
5EVP3P6C...	6				A (2)	B & P (1) R		
			Solenoid switched ON				Solenoid switched OFF	
5EVP1P2C...	2		P(1) B		A (1) R		P (1) A	B (1) R

(1) Connected. (2) Closed.

Note:
To complete the reference see general coding system page 66.

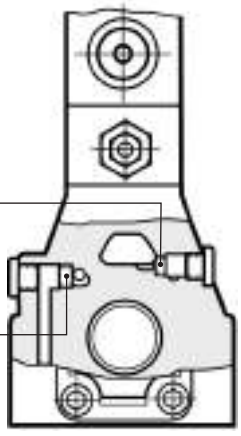






Ref.: 6887069
With plug, external return
Without plug, internal return

Ref.: 6887069
With plug, external pilot
Without plug, internal pilot

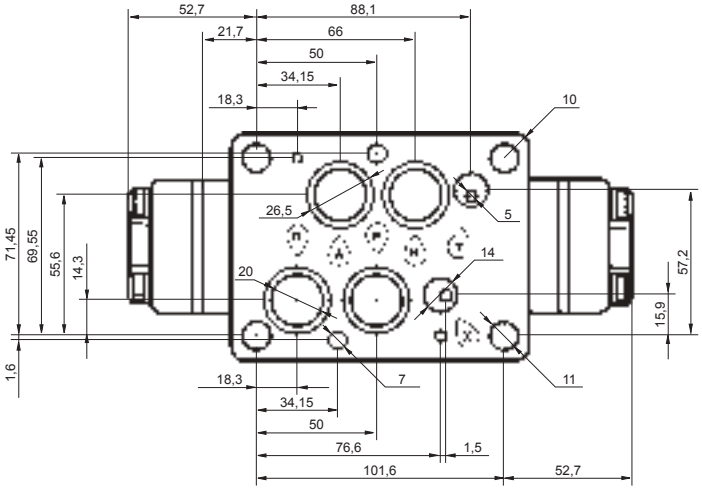


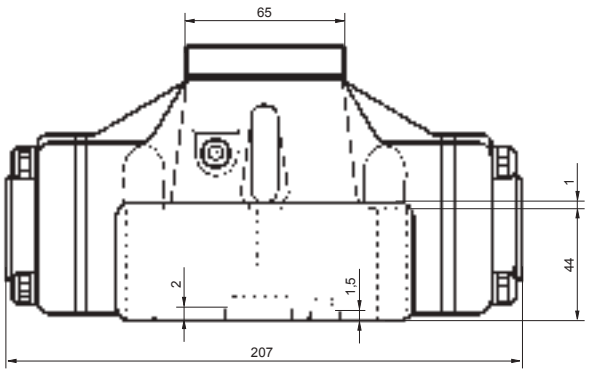
P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank
X	External pilot oil inlet
Y	Pilot external return

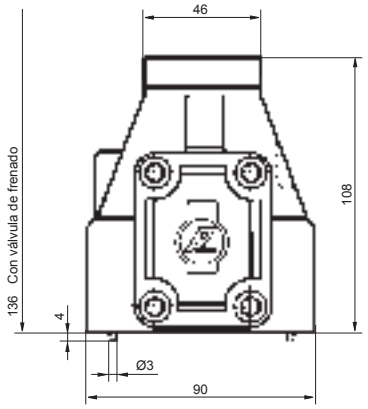
Weight	8 kg.

Note:
Pilot pressure must be 4 bar minimum

Directional control valve hydraulic pilot NG-16







P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank
X - Y	Pilot inlet

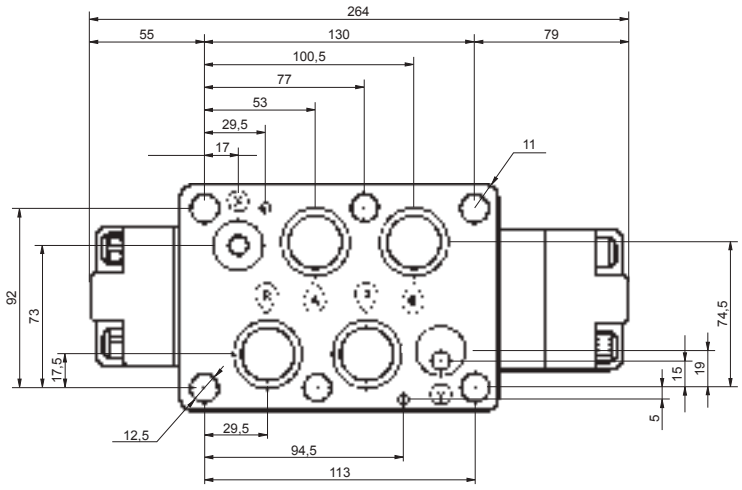
Weight	6'5 kg.

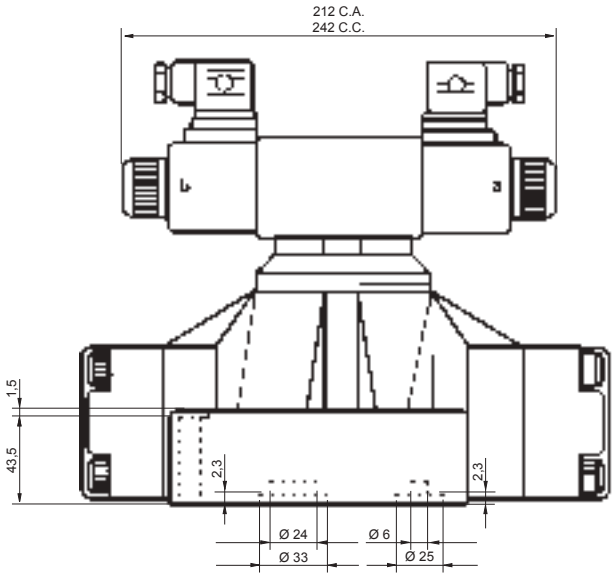
Note:
Pilot pressure must be 4 bar minimum

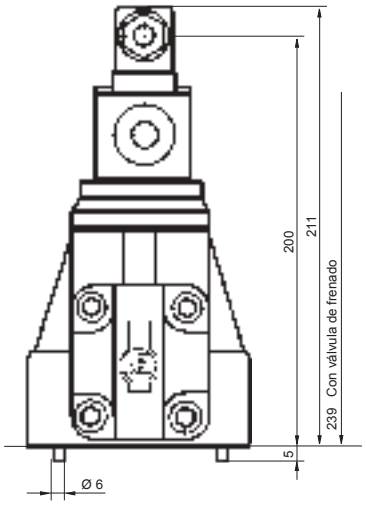
Standard distribution systems

Reference	Symbol	Spool form	Connections 1HV		
			Pilot (X)	Central position	Pilot (Y)
1HV • VP5 ■ 1C▲	(X) (Y)	1	P (1) A B (1) R	P (1) R A & B (2)	P (1) B A (1) R
1HV • VP5 ■ 2C▲		2		A, B, P & R (2)	
1HV • VP4 ■ 2C▲		2			
1HV • VP5 ■ 3C▲		3		P (2) A & B (1) R	
1HV • VP5 ■ 4C▲		4	P (1) B A (1) R	A, B, P (1) R	P (1) A B (1) R
1HV • VP5 ■ 5C▲		5		A (1) R B & P (2)	
1HV • VP5 ■ 6C▲		6		A (2) B & P (1) R	
1HV • VP6 ■ 2C▲		2			

(1) Connected. (2) Closed.

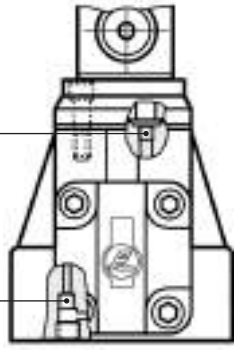






Ref.: 4955047
With plug, external return
Without plug, internal return

Ref.: 4955047
With plug, external pilot
Without plug, internal pilot



P	Pressure inlet port
A & B	Outlet ports to cylinders or motors
R	Return to tank
X	External pilot oil inlet
Y	Pilot external return

Weight	13 kg.

Note:
Pilot pressure must be 4 bar minimum

Solenoid operated valves NG-16, 25

Type
CETOP 7-8-10

PART NUMBER							
5 EV	P	3	P	1	C	05	*
1	2	3	4	5	6	7	8

1	Function
5EV	Solenoid controlled valve NG-16 / NG-25 with NG-6
1HV	Directional control valve with hydraulic pilot

2	Mounting
P	Sub-plate

3	Positions and solenoids
1	Two positions one solenoid
2	Two positions two solenoids
3	Three positions two solenoids
4	Two positions without solenoid
5	Three positions without solenoid
6	Two positions without solenoid spring return
7	Three positions with detent without solenoid
8	Two fixed positions third position with spring without solenoid

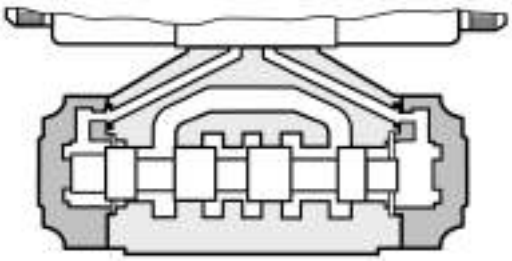
4	Solenoid controlled valve type
P	Piloted
D	Direct

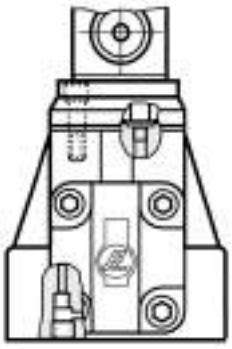
5	Spool type
1 - 2 - 3 - 4 - 5 - 6	

6	Ways
C	4
B	3

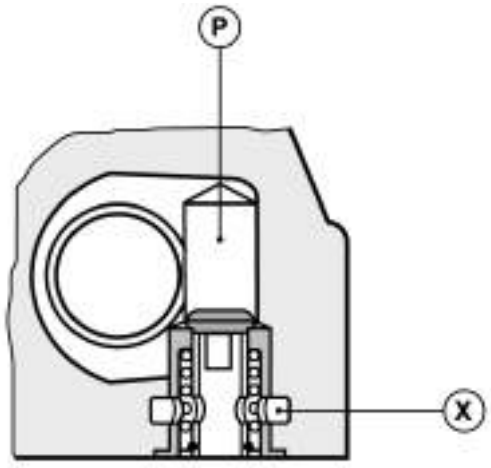
7	Size
05	NG - 16
06	NG - 25

8	Additional data



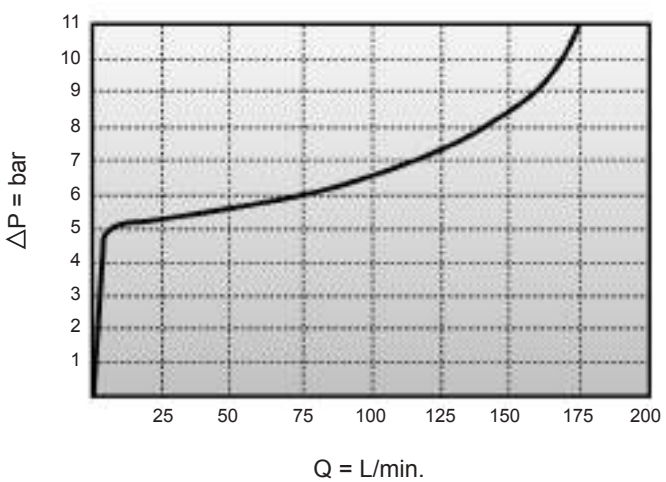


Accessories	That need separate orders					
NG	Sub-plate	Screws for fixing valve to sub-plate				
16	316001 - 316002	4	Screws	DIN. 912	M10 x 60	Torque 42-47 Nm.
		2	Screws	DIN. 912	M6 x 60	Torque 14-16 Nm.
25	141001 - 141002 - 141003	6	Screws	DIN. 912	M12 x 65	Torque 110-120 Nm.



Ref. 6887068 (NG - 16)
Ref. 4955040 (NG - 25)

NG - 16



NG - 25

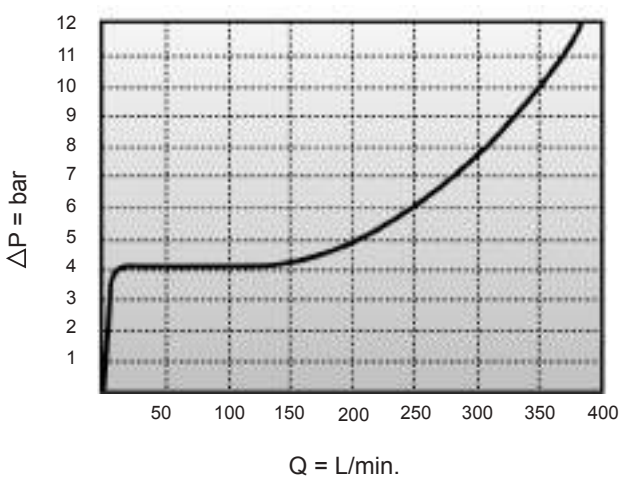
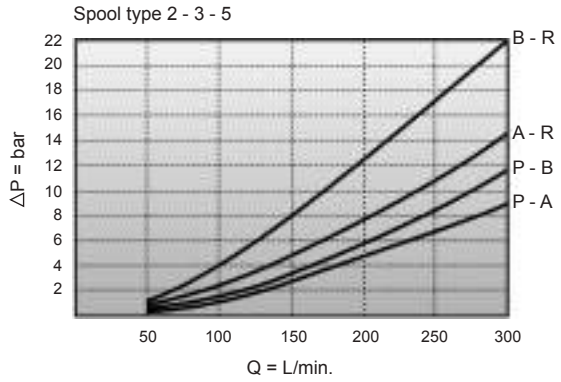
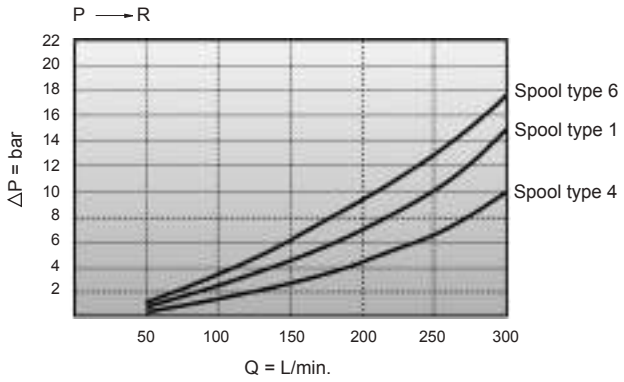
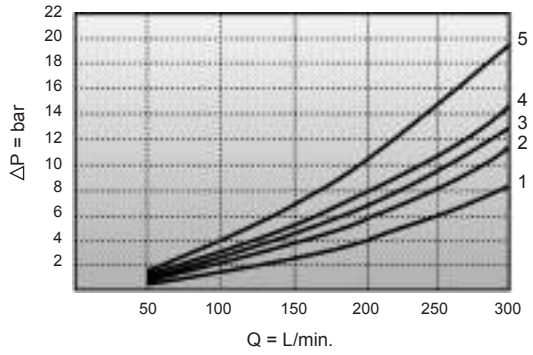


Diagram: △ p-Q to 23 cSt.

NG - 16

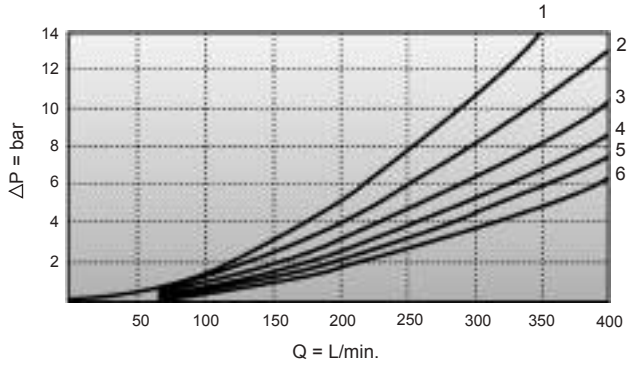






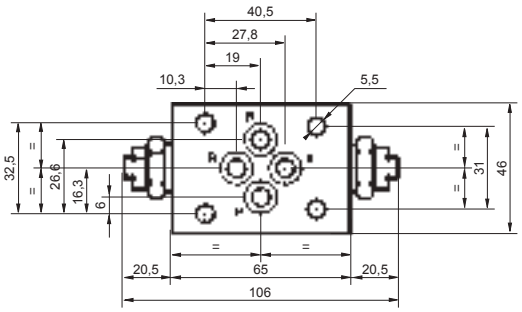
1:	P → A ó B	Spool type	1 - 4
	P → B	Spool type	6
2:	P → A	Spool type	6
3:	A → R	Spool type	1 - 4
4:	A → R	Spool type	6
5:	B → R	Spool type	1 - 4 - 6

NG - 25



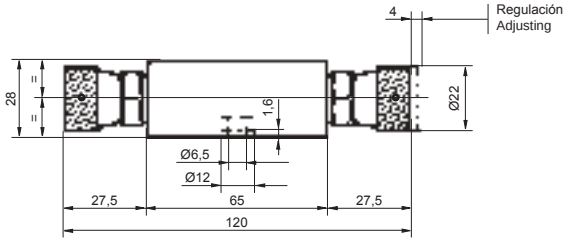
1:	P → R	Spool type	1
2:	P → R	Spool type	6
3:	A → R	Spool type	4
4:	A ó B → R	Spool type	1-2-3-4-5-6
5:	P → A ó B	Spool type	1
6:	B → A ó B	Spool type	2-3-4-5-6

REF. 2EGD02P2

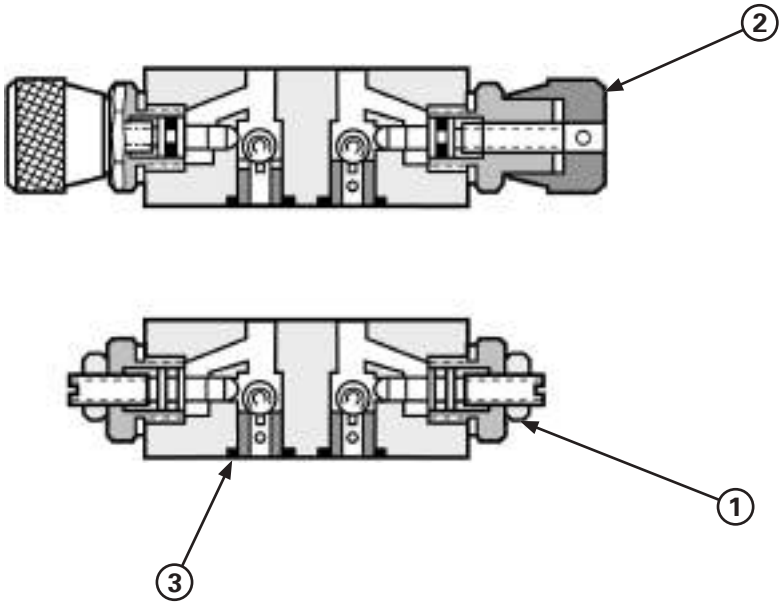




REF. 2EGD02P1

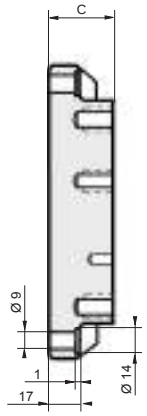


Brake valve for solenoid controlled valves (spare parts)

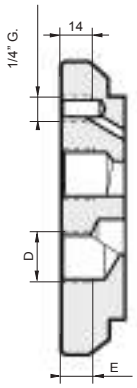


Mark	Part number	Description and parts
1A	4319500	Spare kit of restrictor. Adjustable by screw.
2A	4320500	Spare kit of restrictor. Adjustable by wheel.
3A	N4319/15	Spare kit of seals.

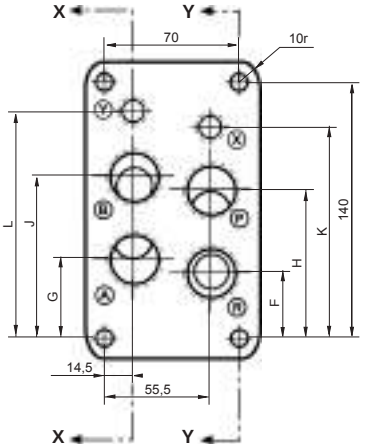
Sub-plates NG - 16



Section **Y - Y**

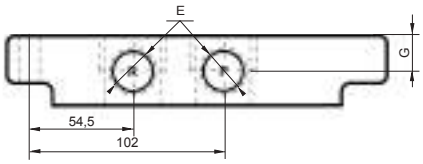


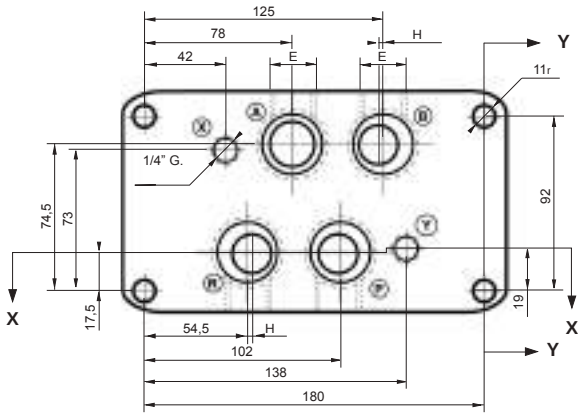
Section **X - X**

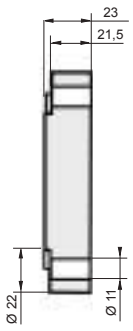


Part number	C	D (G.)	E	F	G	H	J	K	L	Weight kg.
316001	31	1/2”	16	29	43	69,2	83	100	113	3,150
316002	33	3/4”	18	32	44	77	89	112	124	3,300

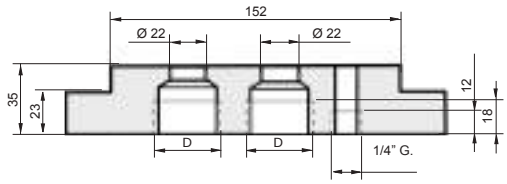
Sub-plates NG - 25







Section **Y - Y**



Section **X - X**

Part number	D	E	G	H	Weight kg.
141001	3/4” G.	-	-	-	4,7
141002	1” G.	-	-	2,5	
141003	3/4” G.	1/2” G.	17,5	-	

Notes

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EN.09.01.01/06.15

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Mini Excavators



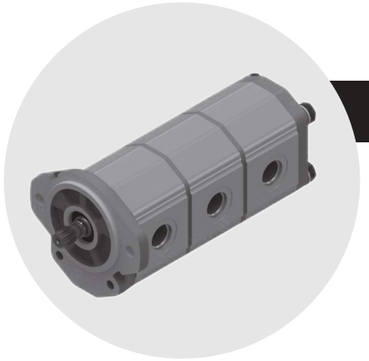
Roquet Hydraulics, S.L.
Antoni Figueras, 91, bloc B
08551 Tona | Barcelona | Spain
Phone: +34 938 124 664
info@roquetgroup.com
www.roquetgroup.com

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making **moves**



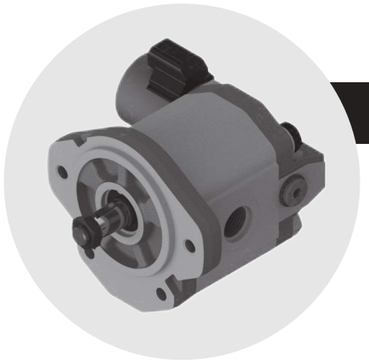
EN.100.05.00-02.23

Mini excavators



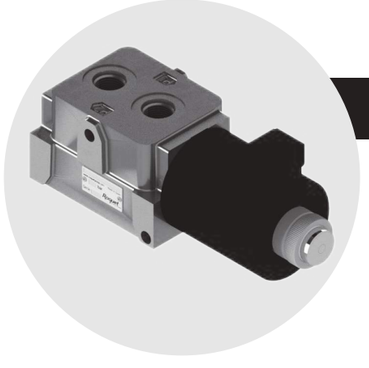
Main Pump

- Multiple group 2 gear pump.
- Body material: Aluminium (Cast Iron available).
- Displacement: from 4 to 26,7 cm3/rev.
- Continuous max. pressure: up to 275 bar*.



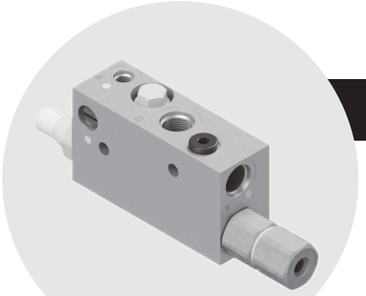
Fan Motor

- Group 3 Aluminium motor with pressure proportional relief valve.
- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range: 12V DC / 24V DC.
- Connectors Deutsch DT04-2P and DIN 43650 / ISO 4400.



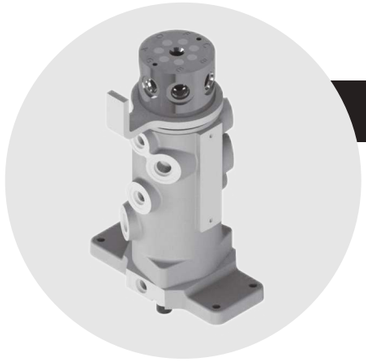
Diverter Valves

- High-strength cast-iron bodies.
- Casehardened close tolerance spools for long life and low leakage.
- Good combined flow/pressure performance.



Load Hold Valve

- Maximum flow: 100 l/min.
- Maximum pressure: 350 bar.
- Pilot pressure: from 0 to 30 bar.
- With secondary relief valve.
- Possibility to develop special metering.
- High spool sensibility.
- Leakage less than 1cm3/min.
- Low pressure drop.
- Manual emergency override.



Swivel Joints

- Standard max. pressure: 300 bar.
- Peak pressure: up to 550 bar.
- Adaptability in terms of working pressure and flow required.
- Possibility to develop special casting, grey and nodular iron (own foundry).
- We are focused on low pressure drop designs.
- Low friction & high performance seals.



Cylinders

- Tube internal diameter finished after welding.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class highly automated manufacturing, automated assembly and test and painting processes.
- Main weldings 100% robotized. Rod friction welding available.
- Forging components, wide range of bearing types.
- Cushioned options both ends.
- Bucked & Arms robust designs.
- Integrated valve blocks.

Mini excavators

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Skid Steer Loader
Compact Track Loader



Roquet Hydraulics, S.L.
Antoni Figueras, 91, bloc B
08551 Tona | Barcelona | Spain
Phone: +34 938 124 664
info@roquetgroup.com
www.roquetgroup.com

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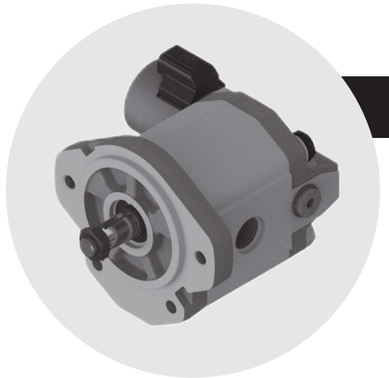
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SSL & CTL



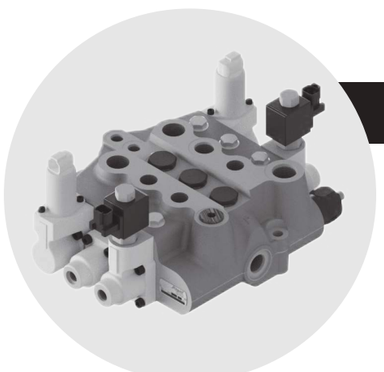
Main pump

- Group 3 Cast Iron Pump.
- Compact and resistant.
- Hydrostatically balanced.
- Multiple displacements, port connections, fixing flanges and driving shafts available.



Fan Motor

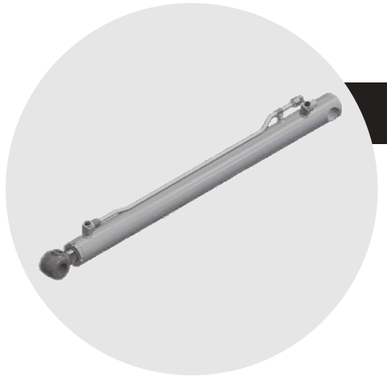
- Group 2 Aluminium motor with pressure proportional relief valve.
- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC.
- Connectors Deutsch DT04-2P and DIN 43650 / ISO 4400.



Main Control Valve

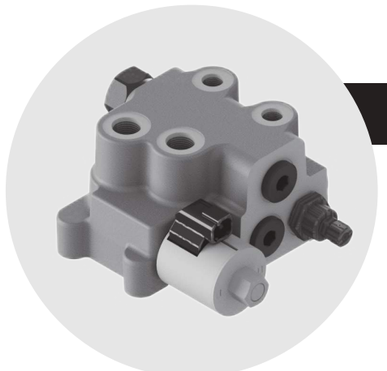
- Flow rate: 100l/min (26,4gpm).
- Max. Pressure: 350bar (5080psi).
- Mechanical, hydraulic and electrohydraulic proportional operators.
- Electrical spool blocking system for manual actuator.
- Customized spool metering.
- Self-leveling valve on top of the control valve available.

Roquet
making moves



SSL & CTL Cylinders

- Product optimized to meet your needs.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class highly automated manufacturing and Painting Process & Nano-Ceramic preparation process.
- Main welding 100% robotized.
- Tube Internal Diameter Finished (Honning & SRB) after welding.
- Rod diameter: from 20 to 60mm.
- Tub internal diameter: from 40 to 110mm.
- Rod friction welding. Wide range of rod materials: C45, 38MnVS6,...
- Forging components, wide range of bearing types.
- Cushioned options both ends.



Self-leveling valve

- Flow rate: 100l/min (26,4gpm).
- Pressure: 350bar (5080psi).
- 2 valves with single and double levelling function
- Easy adjustment.
- Single and double configuration available.
- Electrical ON/OFF leveling control.
- Self-leveling valve on top of the control valve available.

SSL & CTL

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Telehandler



Roquet Hydraulics, S.L.
Antoni Figueras, 91, bloc B
08551 Tona | Barcelona | Spain
Phone: +34 938 124 664
info@roquetgroup.com
www.roquetgroup.com

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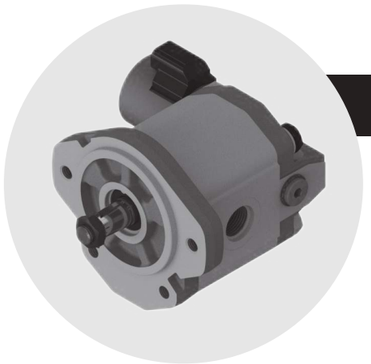
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Roquet
making moves



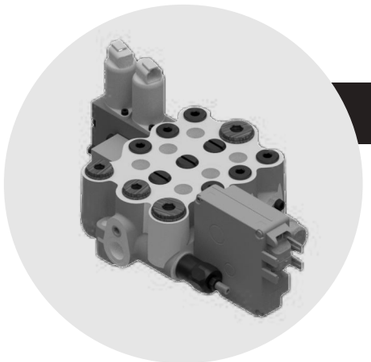
Main Pump

- Cast Iron Pump.
- Compact and resistant.
- Hydrostatically balanced.
- Multiple displacements, port connections, fixing flanges and driving shafts available.



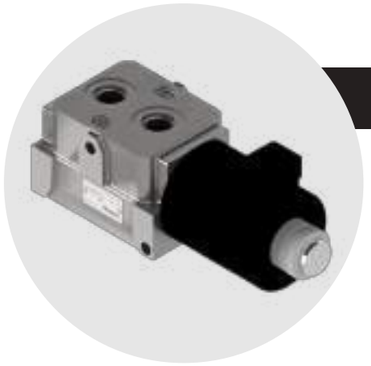
Fan Motor

- Group 3 Aluminium motor with pressure proportional relief valve.
- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC.
- Connectors Deutsch DT04-2P and DIN 43650 / ISO 4400.



Main Control Valve

- Open center with low pressure drop, rated 80l. / min.
- Specific spool metering.
- Max. Pressure: 350bar.
- Mechanical, pneumatic, hydraulic, electrohydraulic proportional and electromecanic actuator.



Diverter valves

- High-strength cast-iron bodies.
- Casehardened close tolerance spools for long life and low leakage.
- Good combined flow/pressure performance.



Cylinders

- Product optimized to meet your needs.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class Painting Process & Nano-Ceramic preparation process.
- Main welding 100% robotized.
- Tube Internal Diameter Finished (Honning & SRB) after welding.
- Best-in-class highly automated manufacturing.
- Main welding 100% robotized. Rod friction welding available.



Coupler Cylinders

- Product optimized to meet your needs.
- Special body design on demand.
- Nodular and laminar casting.
- Low friction Premium sealing system.
- Rod diameter: from 16 to 45mm.
- Tub internal diameter: from 35 to 80mm.
- Tube internal diameter finished after welding.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class highly automated manufacturing, automated assembly and test and painting processes.

MENU

MENU

Compact Wheel Loaders



Roquet Hydraulics, S.L.
Antoni Figueras, 91, bloc B
08551 Tona | Barcelona | Spain
Phone: +34 938 124 664
info@roquetgroup.com
www.roquetgroup.com

Roquet
making ***moves***

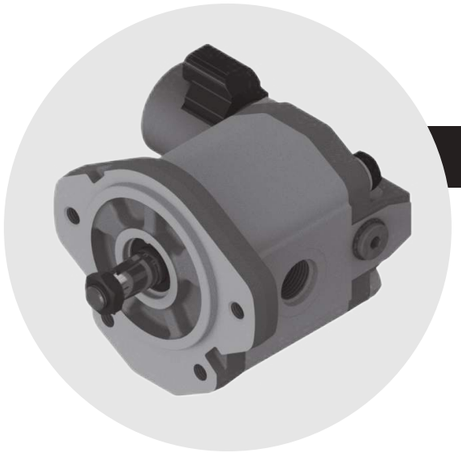


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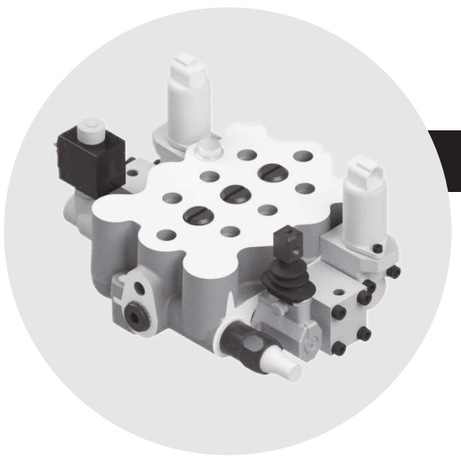
Main Pump

- Cast Iron Pump (single or multiple).
- Compact and resistant.
- Hydrostatically balanced.
- Multiple displacements, port connections, fixing flanges and driving shafts available.



Fan Motor

- Group 3 Aluminium motor with pressure proportional relief valve.
- Displacements, front flanges, drive shafts and ports most common available.
- Voltage range – 12V DC / 24V DC.
- Connectors Deutsch DT04-2P and DIN 43650 / ISO 4400.



Main Control Valve

- Open center with low pressure drop, rated 80l. / min.
- Specific spool metering.
- Max. Pressure: 350bar.
- Mechanical, pneumatic, hydraulic, electrohydraulic proportional and electromecanic actuator.

Roquet
making moves



CWL Cylinders

- Product optimized to meet your needs.
- Rod friction welding. Wide range of rod maerials: C45, 38MnVS6,...
- Forging components, wide range of bearing types.
- Rod diameter: from 20 to 100mm.
- Tub internal diameter: from 40 to 150mm.
- Tube internal diameter finished after welding.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class highly automated manufacturing, au tomated assembly and test and painting processes.



Coupler Cylinders

- Product optimized to meet your needs.
- Special body design on demand.
- Nodular and laminar casting.
- Low friction Premium sealing system.
- Rod diameter: from 16 to 45mm.
- Tub internal diameter: from 35 to 80mm.
- Tube internal diameter finished after welding.
- High rod corrosion resistance: NSS or CASS rating.
- Best-in-class highly automated manufacturing, automated assembly and test and painting processes.
- Main welding 100% robotized. Rod friction welding available.

Compact Wheel Loaders