



FPH

PRESSURE FILTER FOR LINE MOUNTING

SERIES 11

p max **420 bar**
Q max (see table of performances)

OPERATING PRINCIPLE

- FPH filters are designed to be line-mounted with BSP threaded ports for hydraulic connections. Threaded holes are machined on the head for possible filter bracket fixing.
- The replacement of the filter element can be easily carried out by using a normal hexagon spanner to unscrew the bowl of the filter, which has a suitably shaped end.
- FPH filters are designed to be installed on pressure lines up to 420 bar; the filter elements are made of high efficiency filtering materials and are capable of holding high quantities of contamination particles. They are available with three different filtration degrees:
 - H05 = 5 µm: absolute ($\beta_{10} > 100$ - ISO 4406:1999 class 17/15/12) cartridge with a collapsing differential pressure = 210 bar to be used without a by-pass valve.
 - F10 = 10 µm: absolute ($\beta_{10} > 100$ - ISO 4406:1999 class 18/16/13)
 - F25 = 25 µm: absolute ($\beta_{25} > 100$ - ISO 4406:1999 class 19/17/14)
- These filters with a F10 and F25 filtration degree are supplied with a by-pass valve and have a cartridge with a collapsing differential pressure = 20 bar.
- All the FPH filters are designed to incorporate a visual-differential or a visual-electric clogging indicator to be ordered separately (see par. 5).

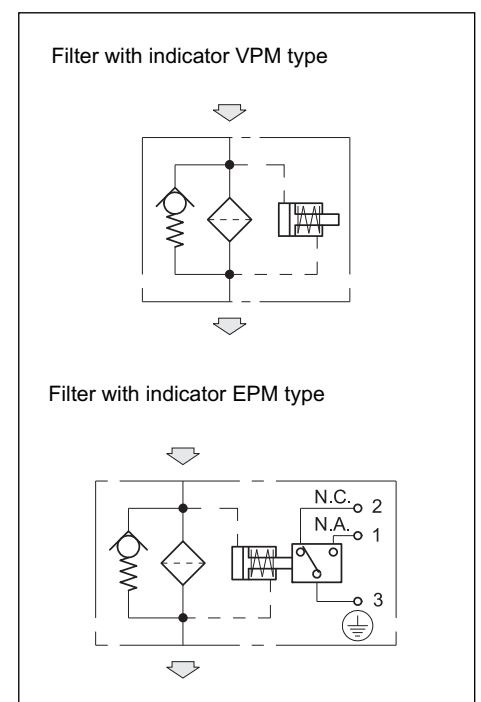
PERFORMANCES

Filter code	BSP port dimensions	Mass [Kg]	Rated flow (indicative) [l/min]		
			H05	F10	F25
FPH-TB012	1/2"	4.4	10	27	33
FPH-TB034	3/4"	5.2	19	42	65
FPH-TB100	1"	8.2	40	95	105
FPH-TB114	1 1/4"	14	88	190	230
FPH-TB112	1 1/2"	17.2	120	260	320

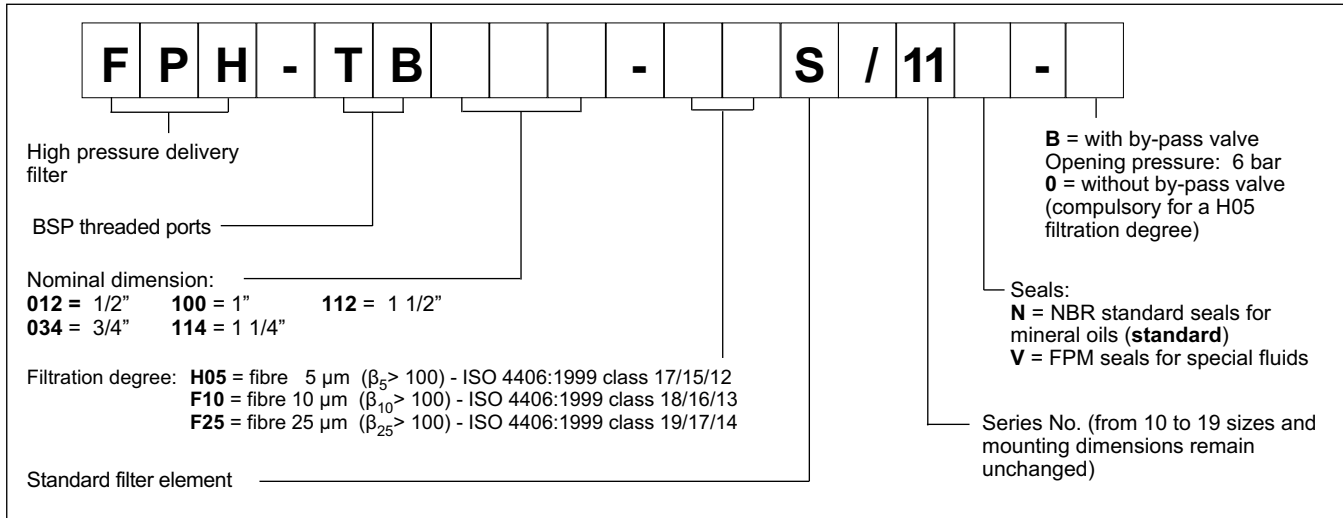
NOTE 1: The flow rates stated in the table correspond to a 0.8 bar pressure drop measured with mineral oil of viscosity 36 cSt at 50°C.
As for a different viscosity range, see NOTE 2 - par. 2.2.

Maximum operating pressure	bar	420
Collapsing differential pressure of the filter element: H05	bar	210
F-10-F25	bar	20
Differential pressure for the opening of the by-pass valve ($\pm 10\%$)	bar	6
Ambient temperature range	°C	-25 / +50
Fluid temperature range	°C	-25 / +110
Fluid viscosity range	cSt	10 ÷ 400

HYDRAULIC SYMBOL

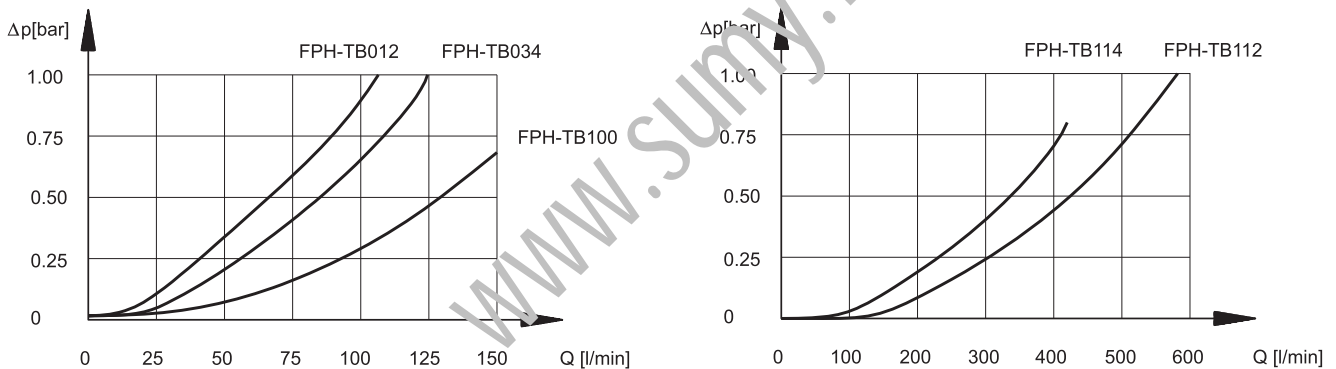


1 - IDENTIFICATION CODE

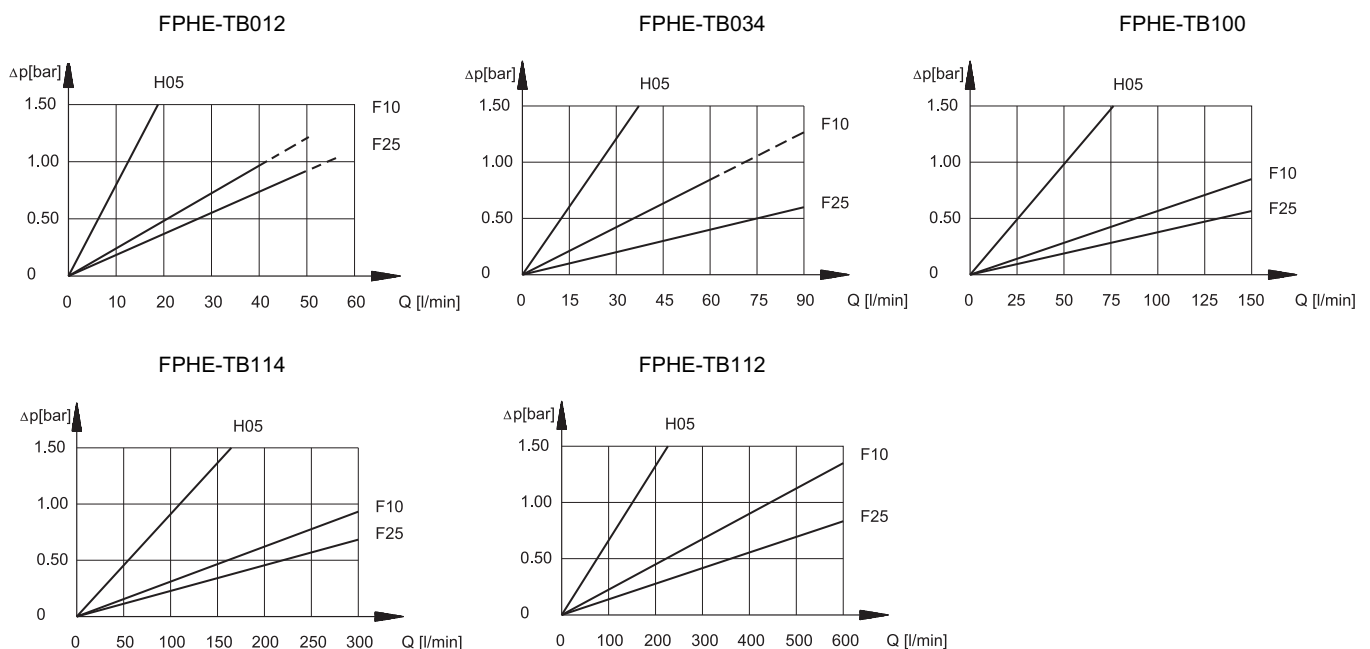


2 - CHARACTERISTIC CURVES (values measured with viscosity of 36 cSt at 50°C)

2.1 - Pressure drops through the filter body



2.2 - Pressure drops through the FPHE filter element



NOTE 2: The filter size has to be selected so that with the nominal flow rate the pressure drop is lower than 0.8 bar.

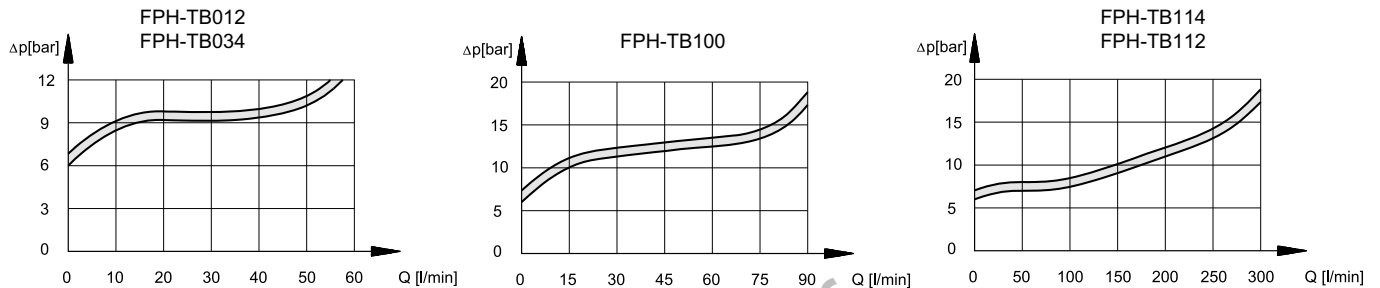
The total pressure drop through the filter is given by adding the body pressure drop values to those of the filter element. As for fluids whose viscosity degree at a specific operating pressure is different from 36 cSt, the filter total pressure drop has to be changed according to the following ratio:

$$\text{total } \Delta p_l \text{ value} = \text{body } \Delta p \text{ value} + (\text{real } \Delta p \text{ value of the filter element} \times \text{real viscosity value (cSt)} / 36)$$

$$\text{real } \Delta p \text{ value of the filter element} = \text{value obtainable through the diagrams in par. 2.2}$$

Such ratio is valid for a viscosity value up to 200 cSt. For a higher viscosity please consult our technical department.

2.3 - Pressure drops through the by-pass valve



3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a fast degradation of the fluid and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics

4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

filter	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	L4	R*
FPH- TB012	1/2"	82	166	79	86	23	63	85	46	M8	12,5	100
FPH- TB034	3/4"	82	296	209	86	23	63	85	46	M8	12,5	100
FPH- TB100	1"	94	317	207	112	35	77	107	65	M8	-	100
FPH- TB114	1 1/4"	128	337	199	137	44	93	143	88	M10	43	100
FPH- TB112	1 1/2"	128	457	319	137	44	93	143	88	M10	43	100

R* = removal space for filter element

FPH - TB012
FPH - TB034

FPH - TB100

FPH - TB114
FPH - TB112

1 Clogging indicator port:
M20 x 1,5

