



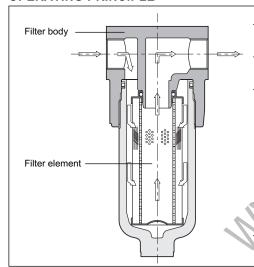
# **FPH**

## 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 nachined on the head for possible filter bracket fixing.
- The replacement of the filter e. me. it can be easily carried out by using a normal hexagon spanner to unscrew the bowl of tr. inter, which has a suitably shaped end.

H05 = 5  $\mu$ m· a. solu  $\frac{1}{2}$  ( $\frac{1}{9}$ 5 > 100 - ISO 4406:1999 class 17/15/12) cartridge with a collapsing with a pressure = 210 bar to be used without a by-pass valve.

F10 = 17  $\mu$ m: cbsolute ( $\beta_{10}$ > 100 - ISO 4406:1999 class 18/16/13)

F25 = 25 cm: absolute ( $\beta_{25}$ > 100 - ISO 4406:1999 class 19/17/14)

Thuse tilters 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**

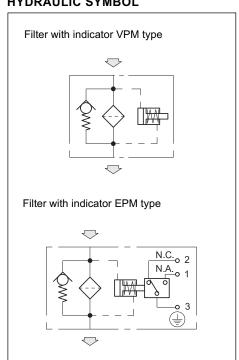
Filter code	BSP port dimensions	Mass [Kg]	Rated flow (indicative) [l/min]		
			H05	F10	F25
FPH-TB012	1/2"	4.4	10	27	33
FPH-TB034	3/4"	5.2	19	42	65
FPH-TB100	1"	8.2	40	95	105
FPH-TB114	1 1⁄4"	14	88	190	230
FPH-TB112	1 ½"	17.2	120	260	320

**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		210
F-10-F25	bar	20
Differential pressure for the opening of the by-pass valve (±10 %)		6
Ambient temperature range		-25 / +50
Fluid temperature range		-25 / +110
Fluid viscosity range		10 ÷ 400

#### **HYDRAULIC SYMBOL**

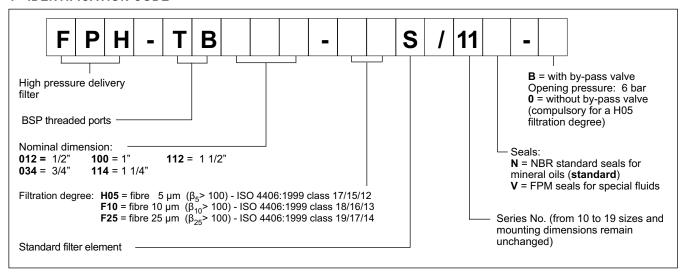


64 200/112 ED 1/4



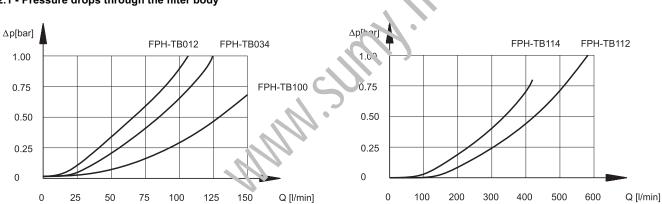


#### 1 - IDENTIFICATION CODE

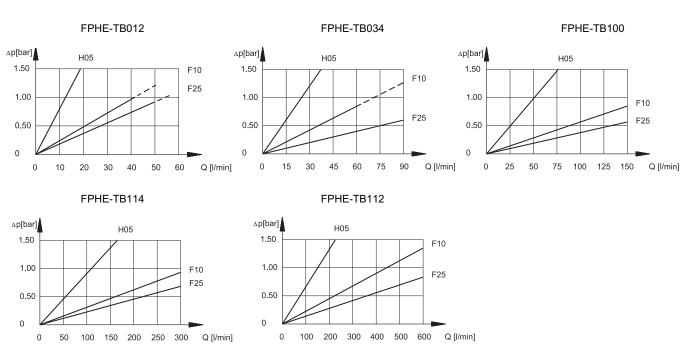


#### 2 - CHARACTERISTIC CURVES (values measured with viscosity of 36 cSt at 50°C)

#### 2.1 - Pressure drops through the filter body



## 2.2 - Pressure drops through the FPHE filter element



64 200/112 ED **2/4** 





#### 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.

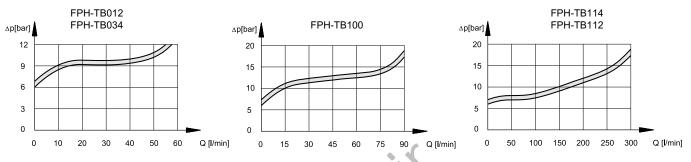
The total pressure drop through the filter is given by adding the body pressure drop values to those of the filter element. As for fluids whose viscosity degree at a specific operating pressure is different from 36 cSt, the filter total pressure drop has to be changed according to the following ratio:

total  $\Delta$ pl value = body  $\Delta$ p value + (real  $\Delta$ p value of the filter element x real viscosity value (cSt) / 36)

real  $\Delta p$  value of the filter element = 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

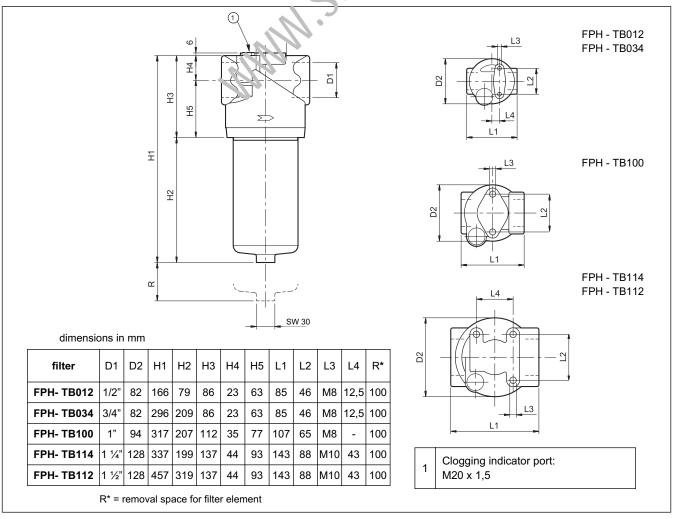


#### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 674. -4. Fo. these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds or "und such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a fast of degrada on of the fluid and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics

#### 4 - OVERALL AND MOUNTING DIMENSIONS



64 200/112 ED 3/4

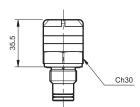




#### 5 - CLOGGING INDICATORS

The filters are all designed to incorporate clogging indicators, which have to be ordered separately.

#### 5.1 - Visual indicator for delivery filters Identification code: VPM/10



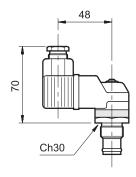
This indicator measures the differential pressure between the filter input and output.

The indicator is supplied with coloured bands, which informs you about the clogging condition of the filter element:

WHITE: efficient filter element ∆p <5 bar (± 10%)

RED: the filter element has to be replaced  $\Delta p > 5$  bar (± 10%)

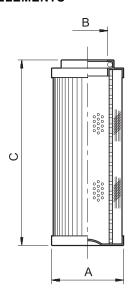
#### 5.2 - Electric-visual indicator for delivery filters Identification code: EPM/10



This indicator, apart from giving a visual indication, for example the VPM model, operates by switching an electric contact when the filter element has reached the clogging limit.

The contact can be wired in an open or closed condition (see the hydraulic symbol).

#### 6 - FILTER ELEMENTS

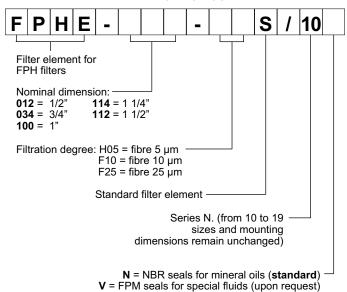


filter elemen. code	ØA	ØB	С	Average filtering surface [cm²]	
				H05	F12/F25
FF '4E - \12	45	25	85	340	355
F.7HL - 0: 4	45	25	211	915	935
TPHE - 100	52	23,5	210	1785	1830
FPHE - 114	78	42,5	210	2695	3695
FPHE - 112	78	42,5	330	4325	5025

## TECHNICAL SPECIFICATIONS

Differential operating pressure	bar	5			
AC power supply					
Max. operating voltage	VAC	250 50/60 Hz			
Max. load on the contacts (inductive or resistive)	Α	1			
DC power supply					
Max. operating voltage	VDC	125			
Max. load on the contacts (with V at 30-50-75-125 VDC) resistive inductive	А	2 - 0,5 - 0,25 - 0,2 2 - 0,5 - 0,25 - 0,03			
Electric connector	DIN 43650				
Class of protection according to CEI EN 60529 (atmospheric agents)	IP65				

#### FILTER ELEMENT IDENTIFICATION CODE





### DUPLOMATIC OLEODINAMICA S.p.A.

20015 PARABIAGO (MI) • Via M. Re Depaolini 24

Tel. +39 0331.895.111

Fax +39 0331.895.339

 $www.duplomatic.com \bullet e\text{-mail: } sales.exp@duplomatic.com$