



## FH100 SERIES

In line pressure filters

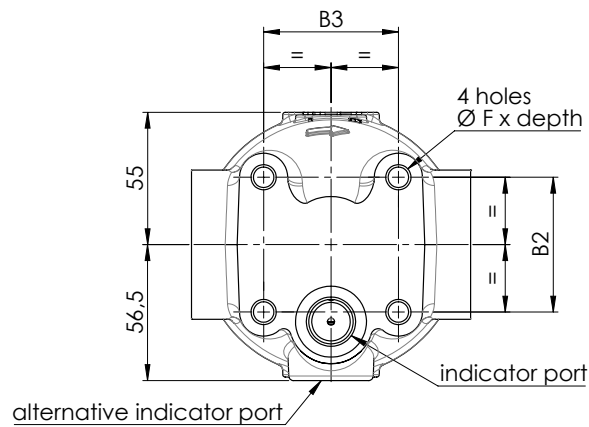
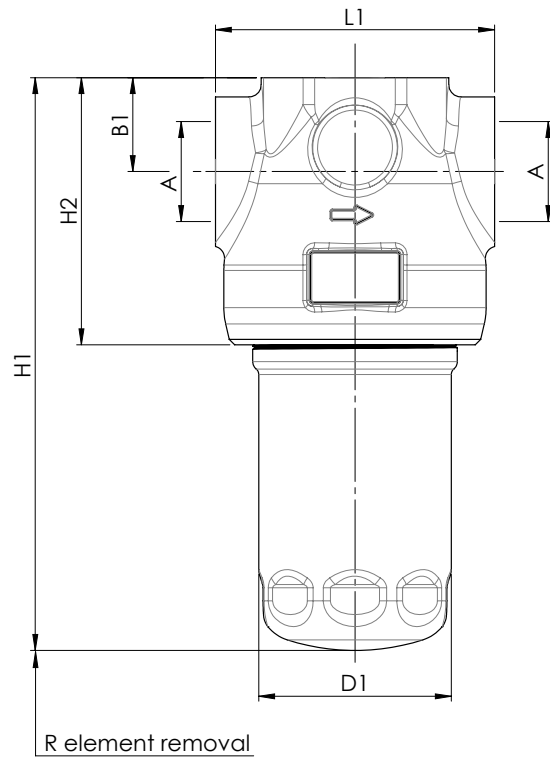
Inline filters for operating pressure up to 100 bar.  
Flow rate up to 300 l/min



<b>HOUSING</b>	tested according to NFPA T3.10.5.1, ISO 10771, ISO 3968
<b>PRESSURE:</b>	Max operating: 100 bar Fatigue pressure test, over 10 <sup>6</sup> cycles from zero to max working pressure. Burst: 300 bar
<b>CONNECTIONS:</b>	G 1" ÷ G 1 1/4"
<b>MATERIALS:</b>	Head: cast iron Bowl: carbon steel Seal: NBR (FKM on request)
<b>BYPASS VALVE:</b>	6 bar 3,5 bar (on request) ABF valve ABF valve+RF valve
<b>ELEMENT</b>	tested according to ISO 11170, 2941, 2942, 2943, 3724, 3968, 16889, 16908, 23181
<b>FILTER MEDIA:</b>	Inorganic microfiber: G01 - G03 - G06 - G10 G15 - G25 Synthetic: M05 - M10 - M15
<b>COLLAPSE PRESSURE:</b>	21 bar 210 bar
<b>TEMPERATURE RANGE:</b>	with NBR seal from -30 °C to +100 °C  with FKM seal (OPTION) from -25 °C to +120 °C
<b>FLUID COMPATIBILITY:</b>	Full with HH-HL-HM-HV HETG-HEES (acc. to ISO 6743/4). For use with other fluid please contact Filtrec Customer Service (info@filtrec.it).

## OVERALL DIMENSIONS

FH100-D1-3x



## NOMINAL SIZE

MODEL	A	B1	B2	B3	D1	F	H1	H2	L1	R	WEIGHT
FH100-D136	G 1"	39	56	56	80	M10X15	298	111	116	120	5,5 Kg
FH100-D137	G 1 1/4"	39	56	56	80	M10X15	368	111	116	120	5,9 Kg

## ORDERING INFORMATION

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
	<b>FH100</b>	<b>D1</b>	<b>36</b>	<b>G10</b>	<b>A</b>	<b>B</b>	<b>B5</b>	<b>D</b>	<b>0</b>	<b>W</b>	<b>E05</b>	<b>S</b>	<b>0</b>
SPARE ELEMENT	<b>D1</b>	<b>36</b>	<b>G10</b>	<b>A</b>									

1. FILTER SERIES 

FH100
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2. FILTER ELEMENT SERIES 

D1
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3. FILTER SIZE 

36-37
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4. FILTER MEDIA

000	no element
G01	glassfiber $\beta_{4\mu m(c)} \geq 1.000$
G03	glassfiber $\beta_{5\mu m(c)} \geq 1.000$
G06	glassfiber $\beta_{7\mu m(c)} \geq 1.000$
G10	glassfiber $\beta_{12\mu m(c)} \geq 1.000$
G15	glassfiber $\beta_{17\mu m(c)} \geq 1.000$
G25	glassfiber $\beta_{22\mu m(c)} \geq 1.000$
M05	synthetic $\beta_{10\mu m(c)} \geq 1.000$
M10	synthetic $\beta_{15\mu m(c)} \geq 1.000$
M15	synthetic $\beta_{20\mu m(c)} \geq 1.000$

For different media options please check availability with Filtrec Customer Service.

5. ELEMENT COLLAPSE

A	21 bar	
Y	21 bar - with ABF / RF valve	
B	210 bar	not available for "M" media
X	210 bar - with ABF / RF valve	

6. SEALS

*B	NBR
V	FKM (option)

\*omitted for spare element

7. CONNECTIONS

B5	G 1"
B6	G 1 1/4"

For different thread options please check availability with Filtrec Customer Service.

8. BYPASS VALVE

0	no by-pass
D	6 bar
L	3,5 bar (on request)

9. ABF VALVE / RF VALVE

0	no valve
C	ABF valve
R	ABF valve+RF valve

ABF=anti back flow valve  
RF= reverse flow valve

Continued on the next page

### 10. INDICATOR PORT OPTION

S	upper differential indicator seat with metallic cap
W	upper differential indicator seat with plastic cap

### 11. INDICATOR

(F) digit for FKM seal option

\*LC24=Led connector (see clogging indicators catalogue)

000	no indicator	
V02 (VF2)	differential visual 2,7 bar	
E02 (EF2)	differential electrical 2,7 bar	
E02L (EF2L)	differential electric 2,7 bar + *LC24	
V05 (VF5)	differential visual 5 bar	
E05 (EF5)	differential electrical 5 bar	
E05L (EF5L)	differential electric 5 bar + *LC24	
V08 (VF8)	differential visual 8 bar	
E08 (EF8)	differential electrical 8 bar	recommended for no by-pass option
E08L (EF8L)	differential electric 8 bar + *LC24	

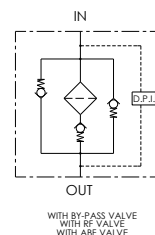
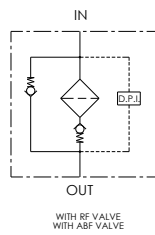
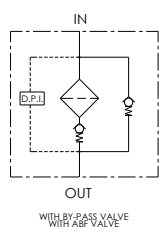
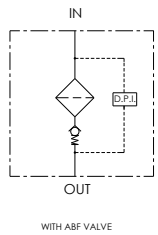
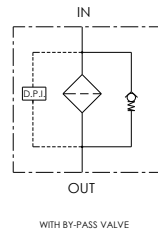
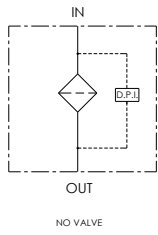
### 12. CORROSION PROTECTION

S	standard
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### 13. OPTION

0	standard
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## VALVES OPTION



## PRESSURE DROP ( $\Delta p$ ) INFORMATION FOR FILTER SIZING

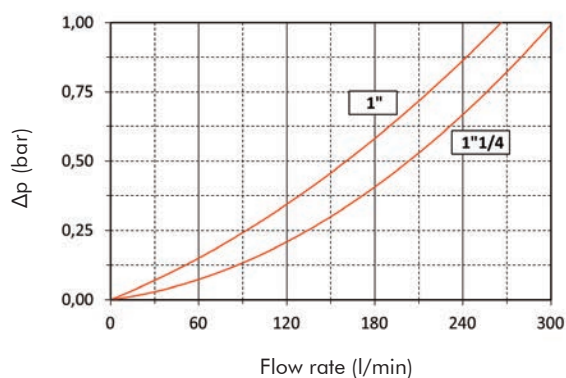
The total Delta P through a filter assembly is given from Housing  $\Delta p$  + Element  $\Delta p$ .

This ideally should not exceed 1,0 bar and should never exceed 1/3 of the set value of the by-pass valve. N.B. All the reported data have been obtained at our laboratory, according to specification ISO3968 with mineral oil having 32 cSt viscosity and density 0,875 Kg/dm<sup>3</sup>.

## HOUSING PRESSURE DROP

The housing  $\Delta p$  is given by the curve of the considered model and port, in correspondence of the flow rate value.

**FH100 D1-3x**



## ELEMENT PRESSURE DROP (filter elements 21 bar collapse)

The element  $\Delta p$  (bar) is given by the flow rate (l/min) multiplied by the factor in the table here below corresponding to the selected media and divided by 1000.

If the oil has a viscosity  $V_x$  different than 32 cSt a corrective factor  $V_x/32$  must be applied.

Example: 90 l/min with D136G10A and oil viscosity 46 cSt:  $(90 \times 3,71)/1000 \times (46/32) = 0,48$  bar

	G01	G03	G06	G10	G15	G25	M05	M10	M15
<b>D136</b>	13,19	9,23	6,06	3,71	2,53	2,39	2,59	1,97	1,32
<b>D137</b>	9,63	6,74	4,43	2,71	1,85	1,75	1,89	1,44	0,96

### EXAMPLE OF TOTAL $\Delta p$ CALCULATION

FH100D136G10ABB5D0WE05S0 with 90 l/min and oil 46 cSt:

Housing  $\Delta p$  0,25 bar + element  $\Delta p$  0,48 bar:  $(90 \times 3,71)/1000 \times (46/32) =$  total assembly  $\Delta p$  0,73 bar

## ELEMENT PRESSURE DROP (filter elements 210 bar collapse)

The element  $\Delta p$  (bar) is given by the flow rate (l/min) multiplied by the factor in the table here below corresponding to the selected media and divided by 1000.

If the oil has a viscosity  $V_x$  different than 32 cSt a corrective factor  $V_x/32$  must be applied.

Example: 90 l/min with D136G10B and oil viscosity 46 cSt:  $(90 \times 4,72)/1000 \times (46/32) = 0,61$  bar

	G01	G03	G06	G10	G15	G25
<b>D136</b>	16,90	11,83	7,92	4,72	3,34	2,84
<b>D137</b>	12,35	8,64	5,79	3,45	2,44	2,07

### EXAMPLE OF TOTAL $\Delta p$ CALCULATION

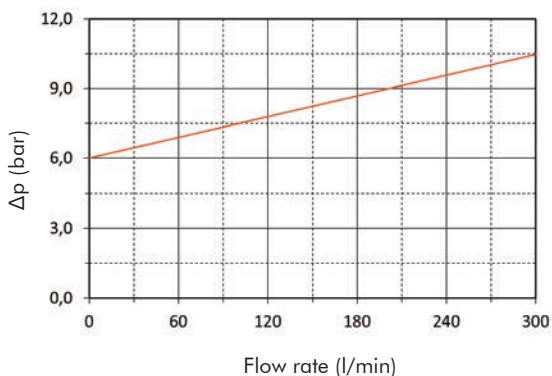
FH100D136G10BBB5D0WE05S0 with 90 l/min and oil 46 cSt :

Housing  $\Delta p$  0,25 bar + element  $\Delta p$  0,61 bar:  $(90 \times 4,72)/1000 \times (46/32) =$  total assembly  $\Delta p$  0,86 bar

## BYPASS VALVE PRESSURE DROP

The bypass valve  $\Delta p$  is given by the curve of the considered model and setting, in correspondence of the flow rate value.

**FH100 D13x**



N.B. All the reported data have been obtained at our laboratory, according to specification ISO3968 with mineral oil having 32 cSt viscosity and density 0,875 Kg/dm<sup>3</sup>.

## USER TIPS



- 1 FILTER HEAD
- 2 INDICATOR PORT
- 3 FIXING HOLES
- 4 FILTER ELEMENT
- 5 SEAL KIT
- 6 FILTER BOWL
- 7 IDENTIFICATION LABEL

### INDICATOR TIGHTENING TORQUE

90 Nm


### SPARE SEAL KIT PART NUMBER

	NBR	FKM
FH100 D1-3x	06.021.00270	06.021.00271


### BOWL TIGHTENING TORQUE

screw up filter bowl till end



## WARNING

-  Make sure that Personal Protective Equipment (PPE) is worn during installation and maintenance operation.


## DISPOSAL OF FILTER ELEMENT

-  The used filter elements and the filter parts dirty of oil are classified as "Dangerous waste material": they must be disposed according to the local laws by authorized Companies.



## INSTALLATION

-  1. the IN and OUT ports must be connected to the hoses in the correct flow direction (an arrow shows on the filter head (1))
- 2. the filter housing should be preferably mounted with the bowl (6) downward
- 3. secure to the frame the filter head (1) using the threaded fixing holes (3)
- 4. verify that no tension is present on the filter after mounting
- 5. enough space must be available for filter element replacement
- 6. the visual clogging indicator must be in a easily viewable position
- 7. when a electrical indicator is used, make sure that it is properly wired
-  8. never run the system with no filter element fitted
- 9. keep in stock a spare FILTREC filter element for timely replacement when required
- 10. filter housing should be earthed

## OPERATION

-  1. the filter must work within the operating conditions of pressure, temperature and compatibility given in the first page of this data sheet
- 2. the filter element must be replaced as soon as the clogging indicator signals at working temperature (in cold start conditions, oil temperature lower than 30°C, a false alarm can be given due to oil viscosity)
- 3. If no clogging indicator is mounted, replace the element according to the system manufacturer's recommendations

## MAINTENANCE

-  1. make sure that the system is switched off and there is no residual pressure in the filter
- 2. unscrew the bowl (6) by turning it anti-clockwise and remove it
- 3. remove the dirty element (4)
- 4. fit a new FILTREC element (4), verifying the part number, particularly concerning the micron rating; open its plastic protection on the open end side and insert it onto the spigot in the filter head, then remove completely the plastic protection
- 5. clean carefully the bowl; check the O-rings (5) conditions and replace if necessary
- 6. lubricate the bowl's thread (6) and screw it by hand in the filter head (1) by turning it clockwise
- 7. screw in the bowl to stop
-  8. the used filter elements cannot be cleaned and re-used

