FILTREC®

FA1 SERIES

In line spin-on type filters

Inline filters with spin-on cartridge, suitable for use on suction, return or low pressure line.
Available with or without bypass, indicator port is a standard option to fit a visual or electrical indicator.

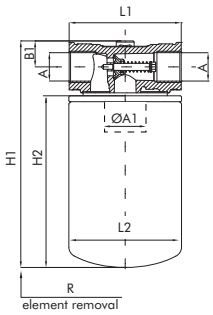
HOUSING	tested according to NFPA T3.10.17, ISO12829, ISO3968
PRESSURE:	Max operating: 12 bar Burst: 20 bar
CONNECTIONS:	G 3/4"÷G 1 1/2"
MATERIALS:	Head: aluminium alloy Bowl: painted steel Seal: NBR
BYPASS VALVE:	No by-pass (max work pressure 5 bar) 0,25 bar setting (SUCTION) 1,7 bar setting (RETURN/IN LINE)

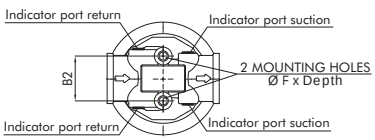
ELEMENT	tested according to ISO 11170, 2941, 2942, 2943, 3724, 3968,16889, 16908, 23181
FILTER MEDIA:	Paper: C10 - C25 - CW25 Inorganic microfiber: G10 - G25 Wire mesh: T60 - T125
COLLAPSE PRESSURE:	5 bar

TEMPERATURE RANGE:	from -30 °C to +100 °C
FLUID COMPATIBILITY:	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).

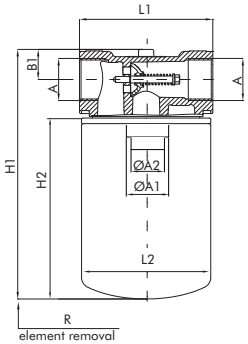
OVERALL DIMENSIONS

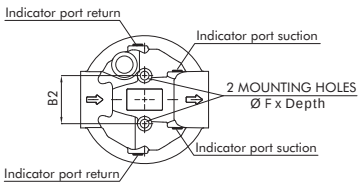
FA1-10/11



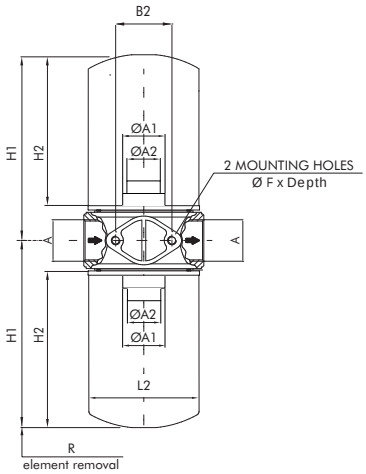


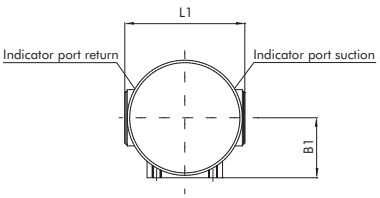
FA1-20/21/22



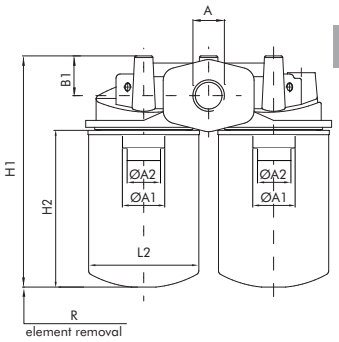


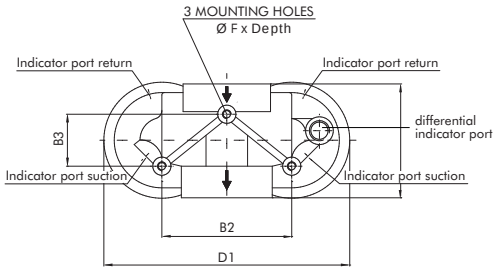
FA1 30/31/32





FA1 40/41/42





NOMINAL SIZE

CODE	A	A1	A2	B1	B2	B3	D1	F	H1	L1	R	WEIGHT	ELEMENT	H2	L2
FA1-10	G 3/4"	G 3/4"	---	22	38				192	95	20	1,3 Kg	A-1-10	148	96
FA1-11									257			1,5 Kg	A-1-11	213	
FA1-20									249			1,9 Kg	A-1-20	182	
FA1-21	G 1 1/4"	G 1 1/4"	1 1/2" 16-UN	30	50	---	---	M8x15	295	133		2,2 Kg	A-1-21	228	
FA1-22									380			2,6 Kg	A-1-22	313	
FA1-30									218			3,5 Kg	2x A-1-20	182	
FA1-31	G 1 1/2"			70	65				264	140	40	3,8 Kg	2x A-1-21	228	128
FA1-32									349			4,2 Kg	2x A-1-22	313	
FA1-40	G 1 1/2"	G 1 1/4"	1 1/2" 16-UN					M10x15	267			5,0 Kg	2x A-1-20	182	
FA1-41	G 1 1/4"+ 1 1/2" SAE J518-3000			46	150	60	284		313	132		5,2 Kg	2x A-1-21	228	
FA1-42									398			5,6 Kg	2x A-1-22	313	

ORDERING INFORMATION

	1.	2.	3.	4.	5.	6.	7.	8.
	F	**A1**	**21**	**G10**	**B**	**B6**	**R**	**000**
SPARE ELEMENT		**A1**	**21**	**G10**				

1. FILTER SERIES	F		
2. FILTER ELEMENT SERIES	A1		
3. FILTER SIZE	10-11		
	20-21-22		
	30-31-32	fit 2 elements A120-A121-A122	
	40-41-42	fit 2 elements A120-A121-A122	
4. FILTER MEDIA	000	no element	
	C10	paper $ß_{10\mu m(c)} > 2$	
	C25	paper $ß_{25\mu m(c)} > 2$	
	CW25	paper $ß_{25\mu m(c)} > 2$ + water absorbent	
	G10	glassfiber $ß_{12\mu m(c)} > 1.000$	
	G25	glassfiber $ß_{22\mu m(c)} > 1.000$	
	T60	wire mesh 60 μm	
	T125	wire mesh 125 μm	
5. SEALS	B	NBR	
6. CONNECTIONS	B4	G 3/4"	for sizes 10-11
	B6	G 1 1/4"	for sizes 20-21-22
	B7	G 1 1/2"	for sizes 30-31-32-40-41-42
	B6F7M	G 1 1/4" +1 1/2" SAE J518-3000 psi - M12	for sizes 40-41-42
7. BYPASS VALVE	0	no by-pass	
	R	1,7 bar (return application)	
	S	0,25 bar (suction application)	
8. COMPULSORY FIELD	000	Filtrec standard	

ACCESSORIES

The accessories must be ordered separately

INDICATOR	MPB	pressure gauge 0÷10 bar	for return application
* **Available also with LC24**=Led connector (see clogging indicators catalogue)	* PDB	pressure switch 1,3 bar SPDT	
	MP0	pressure gauge 0÷16 bar	for inline application
	MPA	pressure/vacuum gauge -1÷5 bar	for return and suction application
	MPS	vacuum gauge 0÷-1 bar	for suction application
	* PDS	vacuum switch -0,2 bar	
	LC24	LED connector pressure/vacuum switch	

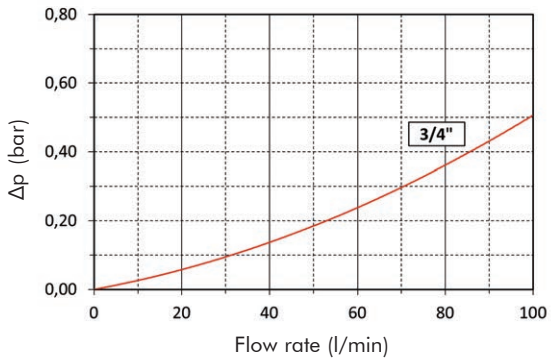
PRESSURE DROP (Δp) INFORMATION FOR FILTER SIZING

The total Delta P through a filter assembly is given from Housing Δp + Element Δp.This ideally should not exceed 0,2 bar for suction application and 0,5 bar for return (it 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^3.

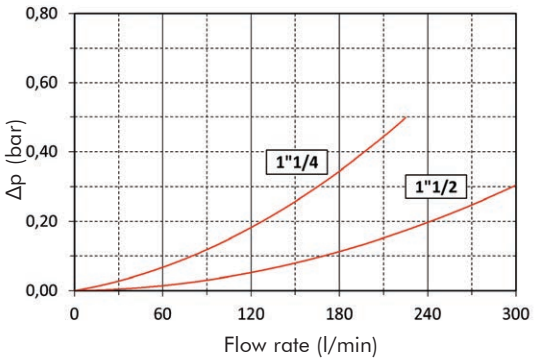
HOUSING PRESSURE DROP

The housing Δp is given by the curve of the considered model and port, in correspondence of the flow rate value.

FA1 1x



FA1 2x - 3x -4x



ELEMENT PRESSURE DROP

The element Δp (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 Vx different than 32 cSt a corrective factor Vx/32 must be applied.
Example: 80 l/min with A120G10 and oil viscosity 46 cSt: (80 x 2,33)/1000 x (46/32)= 0,27 bar
Example: 80 l/min with (*1) 2x A120G10 and oil viscosity 46 cSt: (80 x 1,17)/1000 x (46/32)= 0,13 bar

	C10	C25	CW25	G10	G25	T60	T125
A110	1,90	1,70	6,17	3,60	2,80	0,90	0,60
A111	1,60	0,90	3,67	3,40	1,60	0,50	0,25
A120	0,67	0,57	2,27	2,33	1,23	0,27	0,23
A121	0,60	0,47	1,4	2,00	1,00	0,23	0,20
A122	0,33	0,26	0,94	1,13	0,57	0,13	0,11
(*1) 2 x A120	0,34	0,29	1,13	1,17	0,62	0,14	0,12
(*2) 2 x A121	0,30	0,24	0,70	1,00	0,50	0,12	0,10
(*3) 2 x A122	0,16	0,13	0,47	0,56	0,28	0,06	0,05

(*1) values for FA130 & FA140 - (*2) values for FA131 & FA141 - (*3) values for FA132 & FA142
These sizes are fitting 2 cartridges each

EXAMPLE OF TOTAL Δp CALCULATION

FA120G10BB6R000 with 80 l/min and oil 46 cSt:
Housing Δp 0,1 bar + element Dp 0,27 bar (80 x 2,33)/1000 x (46/32)= total assembly Δp 0,37 bar.

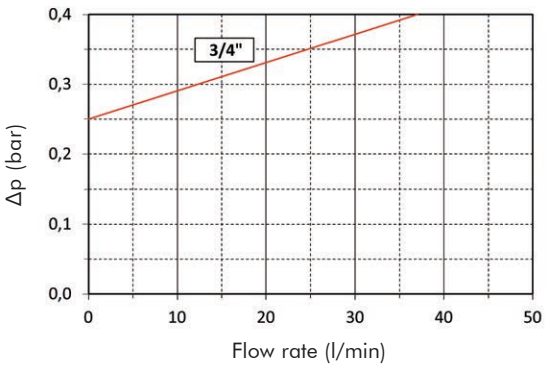
FA140G10BB6R000 with 80 l/min and oil 46 cSt:
Housing Δp 0,03 bar + element Dp 0,13 bar (80 x 1,17)/1000 x (46/32)= total assembly Δp 0,16 bar.

BYPASS VALVE PRESSURE DROP

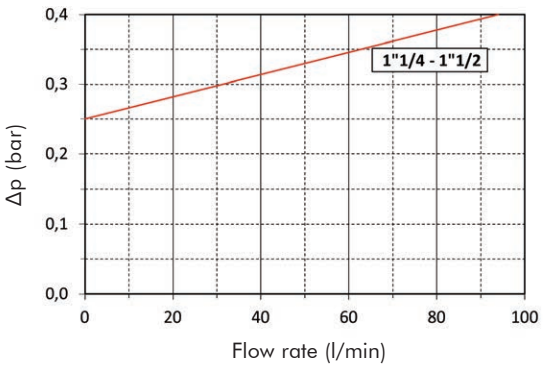
The bypass valve Δp is given by the curve of the considered model and setting, in correspondence of the flow rate value.

SUCTION BYPASS

FA11x

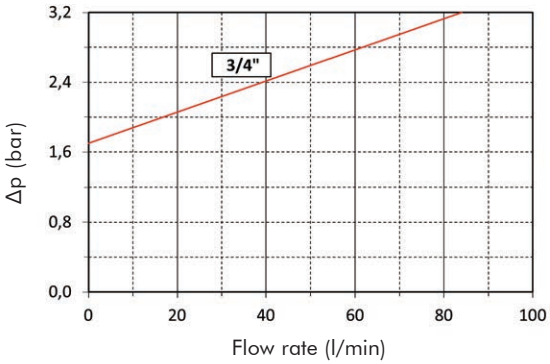


FA12x - 3x -4x

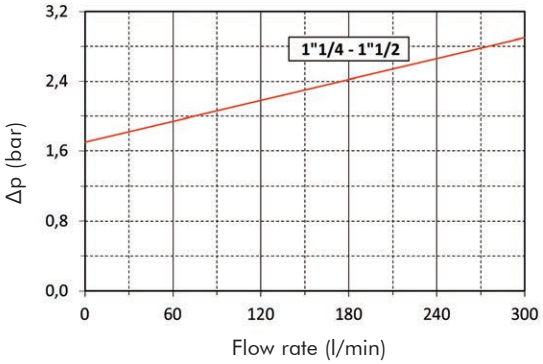


RETURN/INLINE BYPASS

FA11x



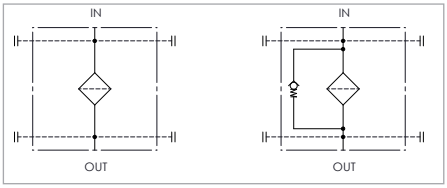
FA12x - 3x -4x



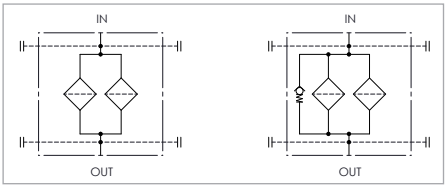
N.B. All the reported data have been obtained at our laboratory, according to specification ISO3968 with mineral oil having 32 cSt viscosity and density 0,875 Kg/dm^3.

HYDRAULIC SIMBOLS

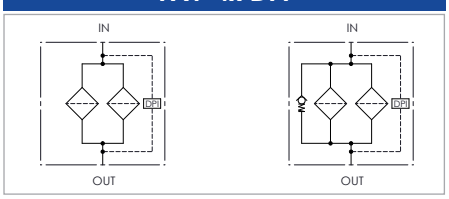
FA1-1x / FA1-2x



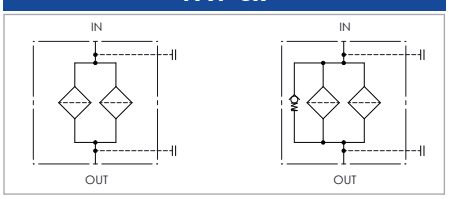
FA1-4x



FA1-4x DPI



FA1-3x



USER TIPS

1. FILTER HEAD
2. INDICATOR PORT
3. FIXING HOLES
4. FILTER CARTRIDGE
5. IDENTIFICATION LABEL

CARTRIDGE TIGHTENING TORQUE

All models	3/4 turn

INDICATOR TIGHTENING TORQUE

Absolute	10 Nm
Differential	50 Nm

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 cartridge (5) 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 cartridge 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.

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 filter cartridge (5) by turning it anti-clockwise and remove it.
3. Fit a new FILTREC cartridge element (5), verifying the part number, particularly concerning the micron rating.
4. Ensure that the head mounting face is clean.

⚠ 5. Lubricate the gasket of the replacement cartridge and the thread prior to assembly.

7. Spin on the new cartridge until it reaches the mounting face and tighten for 3/4 turn.