FILTREC®

FRT-XR400-630 / R6-7x SERIES

Tank top return filters

Return filter for the tank lid mounting.
Flow rates up to 1000 l/min.
Range of accessories available.
Elements XR according to DIN 24550.

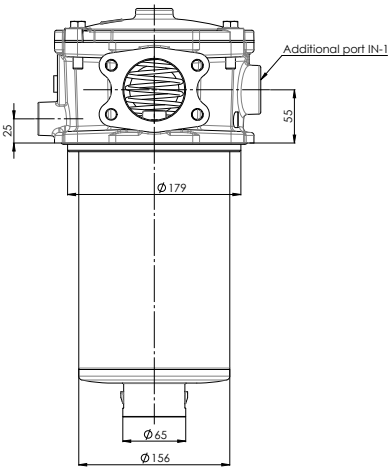
HOUSING	tested according to NFPA T3.10.5.1*, ISO 10771*, ISO 3968
PRESSURE:	Max operating: 10 bar Burst: 20 bar
CONNECTIONS:	2 1/2" SAE 3000 FLANGE
ADDITIONAL PORT:	G 1" (standard)
MATERIALS:	Cover and head: aluminum alloy Bowl: painted carbon steel Seal: NBR (FKM on request)
BYPASS VALVE:	As separate part into the filter housing 3 bar

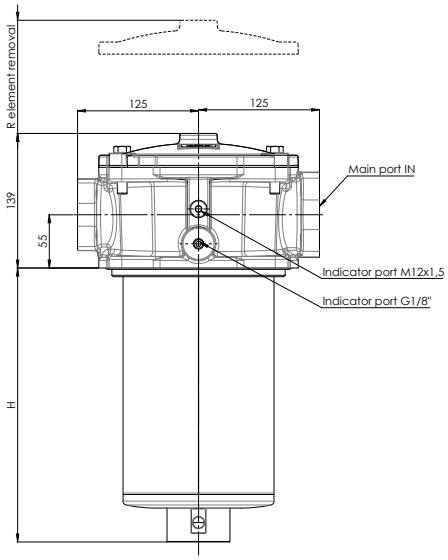
ELEMENT	tested according to ISO 11170, 2941, 2942, 2943, 3724, 3968,16889, 16908, 23181
FILTER MEDIA:	Inorganic microfiber G03 - G06 - G10 - G15 - G25 - G40 Synthetic: M05 - M10 - M15
COLLAPSE PRESSURE:	10 bar

TEMPERATURE RANGE:	-30°C +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).

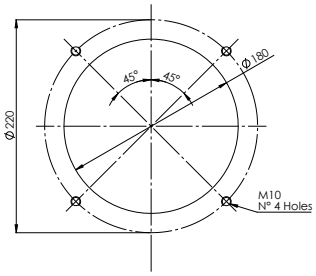
* as reference method only for verifying the pressure fatigue resistance and establishing the burst pressure ratings.

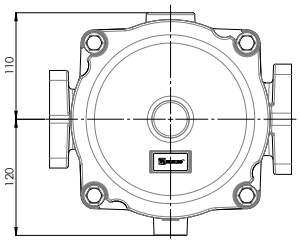
OVERALL DIMENSIONS





TANK HOLE





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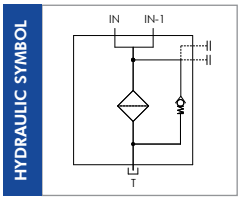


NOMINAL SIZE

MODEL	IN	IN-1	H	R	WEIGHT Kg
FRT-R6-70	2 1/2" SAE 3000 FLANGE M	G 1"	283	375	8,7
FRT-XR-400					
FRT-R6-71			434	525	9,8
FRT-XR-630					
FRT-R6-72			639	730	12,5

ORDERING INFORMATION

FRT-XR400/630

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	FRT	**XR**	**400**	**G10**	**B**	**0**	**F9M**	**B5**	**C**	**000**	**S**	**0**
SPARE ELEMENT		**XR**	**400**	**G10**	**B**	**0**						

1. FILTER SERIES	FRT	
2. FILTER ELEMENT SERIES	XR	
3. FILTER SIZE	400	
	630	
4. FILTER MEDIA	000	no element
	G03	glassfiber $ß_{5\mu m(c)} \geq 1.000$
	G06	glassfiber $ß_{7\mu m(c)} \geq 1.000$
	G10	glassfiber $ß_{12\mu m(c)} \geq 1.000$
	G15	glassfiber $ß_{17\mu m(c)} \geq 1.000$
	G25	glassfiber $ß_{22\mu m(c)} \geq 1.000$
	G40	glassfiber $ß_{35\mu m(c)} \geq 1.000$
	M05	synthetic $ß_{10\mu m(c)} \geq 1.000$
	M10	synthetic $ß_{15\mu m(c)} \geq 1.000$
	M15	synthetic $ß_{20\mu m(c)} \geq 1.000$
5. SEALS	*B	NBR
* omitted for spare elements		
6. BYPASS VALVE	0	no by-pass
inbuilt into the filter element		
7. MAIN PORT (IN)	F9M	2 1/2" SAE 3000 FLANGE
8. ADDITIONAL PORT (IN-1)	B5	G 1"
9. BYPASS VALVE	C	3 bar
As separate part into the filter housing		
10. COMPULSORY FIELD	000	Filtrec standard
11. CORROSION PROTECTION	S	standard
12. OPTION	0	no options

ORDERING INFORMATION

FRT-R6-7x

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
	FRT	**R6**	**72**	**G10**	**B**	**F9M**	**B5**	**C**	**000**	**S**	**0**
SPARE ELEMENT		**R6**	**72**	**G10**							

1. FILTER SERIES	FRT	
2. FILTER ELEMENT SERIES	R6	
3. FILTER SIZE	70-71-72	
4. FILTER MEDIA	000	no element
	G06	glassfiber $ß_{7\mu m(c)} \geq 1.000$
	G10	glassfiber $ß_{12\mu m(c)} \geq 1.000$
	G15	glassfiber $ß_{17\mu m(c)} \geq 1.000$
5. SEALS	*B	NBR
* omitted for spare elements		
6. MAIN PORT (IN)	F9M	2 1/2" SAE 3000 FLANGE
7. ADDITIONAL PORT (IN-1)	B5	G 1"
8. BYPASS VALVE	C	3 bar
As separate part into the filter housing		
9. COMPULSORY FIELD	000	Filtrec standard
10. CORROSION PROTECTION	S	standard
11. OPTION	0	no options

ACCESSORIES

The accessories must be ordered separately

INDICATOR	MPC	press. gauge rear connection	for "C" bypass
For other indicators, see the "Clogging Indicator" catalogue in the download section	MRC	press. gauge radial connection	
	PDC	pressure switch	
PLUG	P03B5	threaded plug G 1" - NBR	
EXTENSION TUBE	ET4200	extension tube 200 mm long	
	ET4500	extension tube 500 mm long	
CONNECTION TUBE	CT4200	connection tube 200 mm long	
DIFFUSER	DF065	diffuser Ø 65 mm	

PRESSURE DROP (Δp) INFORMATION FOR FILTER SIZING

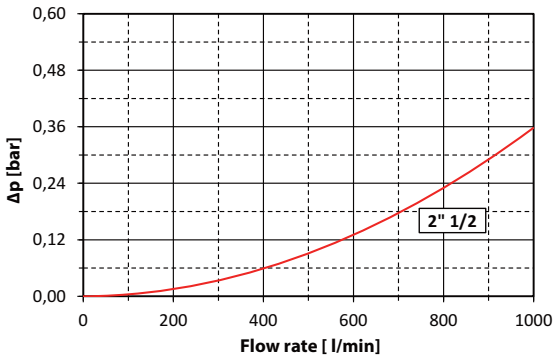
The total Delta P through a filter assembly is given from Housing Δp + Element Δp.
The max recommended total Δp for return filters is 0,4 – 0,6 bar with clean element.

N.B. All the reported data have been obtained at our laboratory, according to specification ISO3968 with mineral oil having 32 cSt viscosity at 40°C 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.

FRT-XR/R6



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 V_1different than 32 cSt a corrective factor $V_1/32$ must be applied.
Example: 400 l/min with XR400G10B0 and oil viscosity 46 cSt = 400 x (0,47/1000) x (46/32) = 0,27 bar

	G03	G06	G10	G15	G25	G40	M05	M10	M15
XR400	1,00	0,80	0,47	0,39	0,33	0,21	0,40	0,36	0,29
XR630	0,68	0,55	0,30	0,28	0,19	0,10	0,25	0,22	0,18

	G06	G10	G15
R670	1,63	0,91	0,72
R671	1,03	0,66	0,48
R672	0,75	0,53	0,42

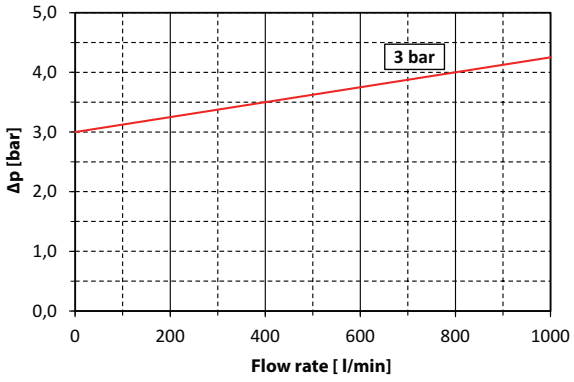
EXAMPLE OF TOTAL Δp CALCULATION

FRTXR400G10B0F9MB5C000S0 with 400 l/min and oil 46 cSt:
Housing Δp 0,09 bar + element Δp 0,27 bar (400 x 0,47 /1000 x 46/32) = total assembly Δp 0,36 bar

BYPASS VALVE PRESSURE DROP

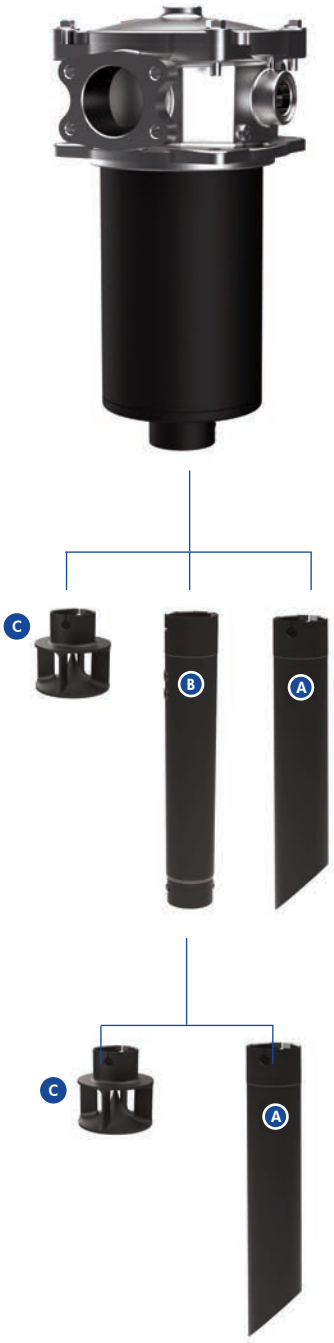
The bypass valve Δp is given by the curve of the considered model and setting, in correspondence of the flow rate value.

FRT -XR/R6



ACCESSORIES

These accessories must be ordered separately.



A EXTENSION TUBE

The flow from the filter must come out below the oil level to avoid possible generation of free air or foam.
When necessary an extension tube can be fitted onto the knobs of the bowl end.

06.016.00480	ET4200	extension tube 200 mm long
06.016.00481	ET4500	extension tube 500 mm long

B CONNECTION TUBE

Connection tube is the necessary device between filter bowl and extension tubes (ET4200 / ET4500) and/or dif- fuser (DF065). Its plug and play option makes it easy to install and versatile.

06.016.00488	CT4200	connection tube 200 mm long

C DIFFUSER

Diffuser is an effective way to reduce foaming and turbulence normally caused by return lines. Plug and play option to be directly installed on the filter bowl or to connection tube (CT4200). Installation of a diffuser in the hydraulic tank is an easy way to ensure the reliability of the overall system.
A diffuser must always be installed below the minimum oil level.

06.016.00493	DF065	diffuser Ø 65 mm

USER TIPS

1. FILTER HEAD
2. FILTER BOWL
3. FILTER ELEMENT
4. SPRING
5. BY-PASS
6. SEAL KIT
7. SCREWS
8. COVER
9. G 1" PORT

SPARE SEALS KIT (6)

	NBR
FRT-XR400-630/R6-7x	06.021.00498

COVER SCREW TIGHTENING TORQUE

30 Nm

INDICATOR TIGHTENING TORQUE

10 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 filter head (1) must be properly positioned and well secured on the tank lid through the fixing holes.
2. The hose must be properly connected to the IN port.
3. ⚠ The OUT port must be clear (an extension tube could be fitted, if needed for having the outlet below the oil level), at least it's suggested the diffuser.
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. Keep in stock a spare FILTREC filter element for timely replacement when required.
9. 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.
3. If no clogging indicator is mounted, replace the element according to the system manufacturer's recommendations.

MAINTENANCE

1. ⚠ Before removing the top cover from the head, ensure that the system is switched off and there is no residual pressure in the filter.
2. Unscrew the fixing bolts of the top cover and remove it.
3. Remove the spring (4) first, then the bowl (2) with the dirty element (3) and reusable bypass (5).
4. Clean the bowl (2) and fit a new FILTREC element (3) verifying the part number particularly concerning the micron rating, then install the reusable bypass (5) on the top open end.
5. Check the top cover O-ring conditions and replace them if necessary.
6. Put the spring (4) in its position on the reusable bypass (5).
7. Mount the top cover onto the head and fix it screwing the fixing bolts.
8. ⚠ The used filter elements cannot be cleaned and re-used.

FILTREC®

Technical information may change without notice.

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