

Return line filters

TTF



MATERIALS

Head & cover:
Die cast alluminum alloy

Bowl:
Polyamide 66

Seals:
Nitrile (buna n)

Indicator housing:
Brass



PRESSURE

Max working:
300 kPa (3 bar)

Test:
500 kPa (5 bar)

Bursting:
1 MPa (10 bar)

Collapse, differential
for the filter element : 300 kPa (3 bar)

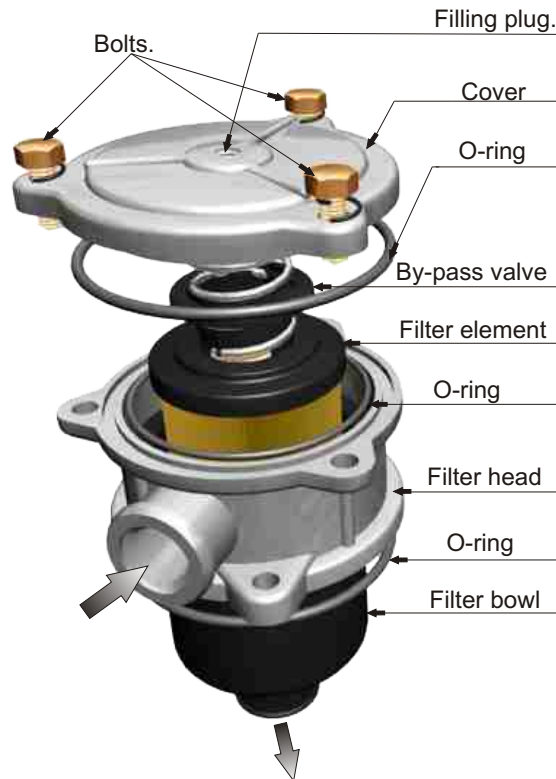
BYPASS VALVE
170 kPa (1.7 bar)+/- 10%

WORKING TEMPERATURE

From -25° to +110° C

COMPATIBILITY

Full with fluids:
HH-HL-HM-HR-HV-HG



VISUAL CLOGGING INDICATOR

A visual clogging indicator allows monitoring of the element condition and provides maximum element life by indicating the exact time for the element replacement.

FILLING PLUG

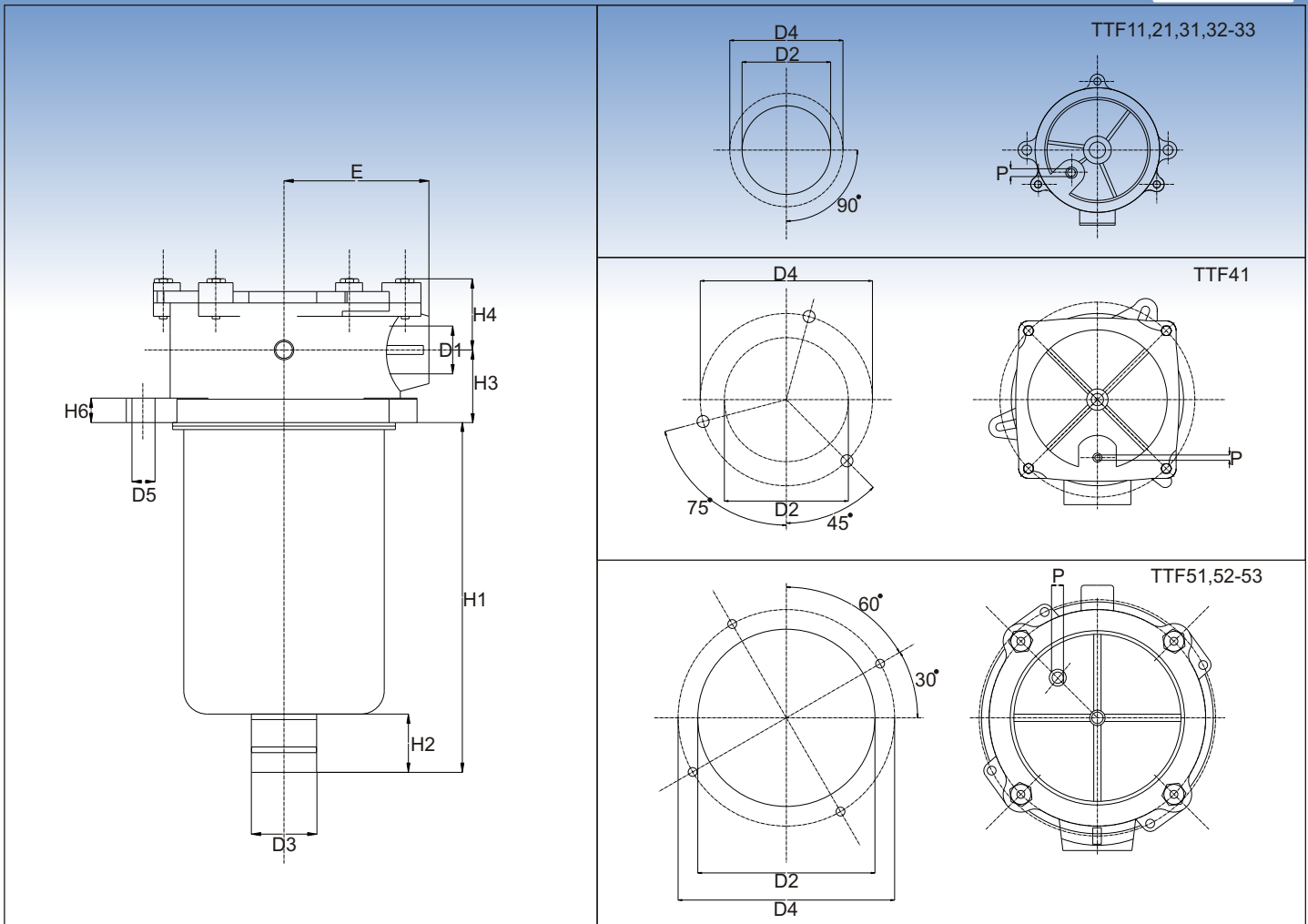
The Filling plug option gives the possibility of easily and efficiently filtering the oil from the tank.

EASY REPLACEMENT

The top end cap includes a handle allowing an easy removal of the element and a complete cleaning of the bowl.

NO LEAKS

The end cap with captive O-ring ensures a perfect seal between filter element and the bowl.

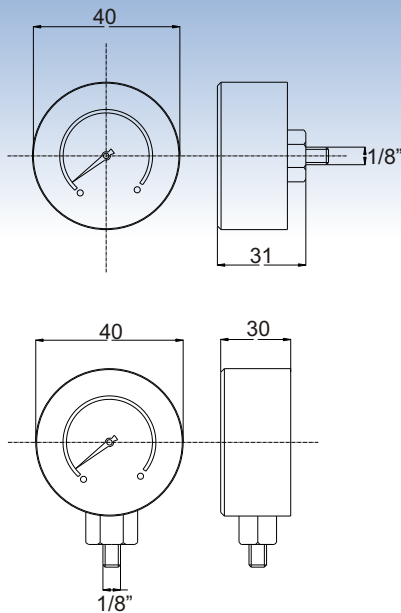


FILTER HOUSING

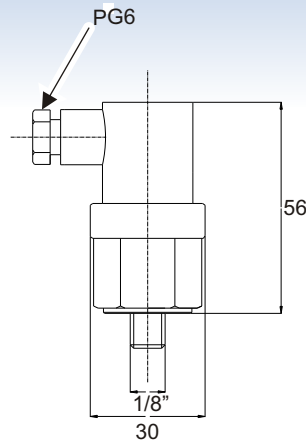
Part No	D1	min D2	max D2	D3	D4	D5	E	H1	H2	H3	H4	H6	P	R	weight in kg
TTF11	3/8"	50	50	12	80	6.5	40	59	16	12	33	9	1/8"	90	0.30
TTF21	1/2"	67	68	24	90	6.5	50	80	20	22	33	9	3/8"	120	0.45
TTF31	1/2" - 3/4"	89	90	28	115	9	67	102	25	28	47	10	3/8"	150	0.80
TTF32	3/4" - 1"	89	90	28	115	9	67	150	25	28	47	10	3/8"	190	0.95
TTF33	3/4" - 1"	89	90	40	115	9	67	234	30	28	47	10	3/8"	270	1.10
TTF41	1" - 1 1/2"	126	131	40	175	10.5	95	248	50	35	56	13	1/2"	289	2.10
TTF51	1 1/4" - 1 1/2"	174	180	50	220	10.5	115	178	50	55	69	13	1/2"	250	3.10
TTF52	1 1/2" - 2" - 2 1/2"	174	180	63.5	220	10.5	115	240	50	55	69	13	1/2"	315	3.60
TTF53	1 1/2" - 2" - 2 1/2"	174	180	63.5	220	10.5	115	285	50	55	69	13	1/2"	355	4.10

FFP PRODUCTS (HYDRAULICS DIVISION)

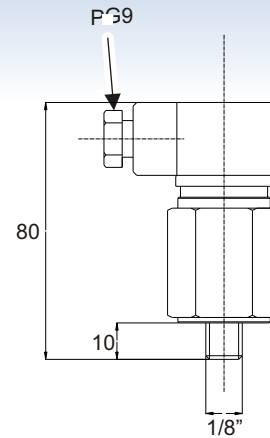
17,SAI NIKETAN, CHANDAVARKAR LANE, BORIVALI WEST,
MUMBAI 400 092, MAHARASHTRA, INDIA
Tel: +91 22 28925607 Fax: +91 22 28904071
e-mail: info@ffpproducts.com - http://www.ffpproducts.com



Series F30 (rear connection) & series F32 (bottom connection):
pressure gauge,
scale 0 - 600 kPa (0 - 6 bar)

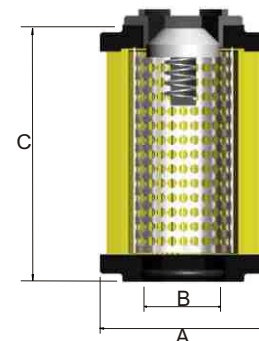


Series F80 (N.O. contacts) & series F81 (N.C. contacts):
pressure switch,
max voltage 220 Vca 50-60 Hz
max current 0,5A resistive, 0,25A inductive
switching power 100 VA,
setting 150 kPa (1,5 bar)
protection IP65.



Series FP1:
SPDT, pressure switch
max voltage 250V - 50Hz
max current 6A resistive, 1A inductive
protection IP65
setting 150 kPa (1,5 bar)

FILTER ELEMENT						
Part No	A	B	C	Kg	Area (cm ²)	
					Media F+	Media C+
ETF11	38	13	50	0.05	270	345
ETF21	52	24	70	0.10	310	380
ETF31	70	28	85	0.20	620	990
ETF32	70	28	130	0.25	1.000	1.600
ETF33	70	40	210	0.40	1.660	2.670
ETF41	99	40	211	0.75	3.800	4.280
ETF51	130	51	140	1.00	4.140	4.360
ETF52	130	63	200	1.35	6.190	6.520
ETF53	130	63	251	1.50	7.930	8.350

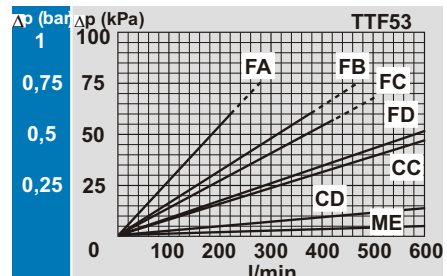
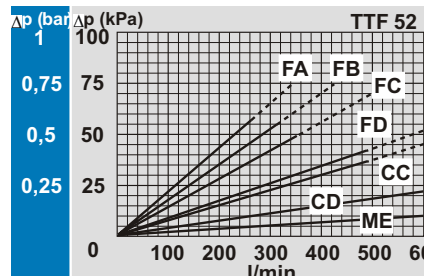
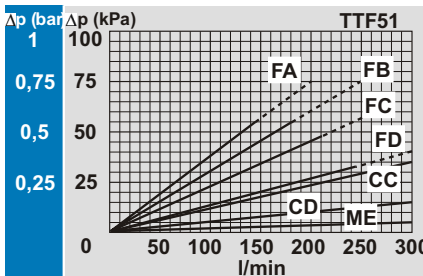
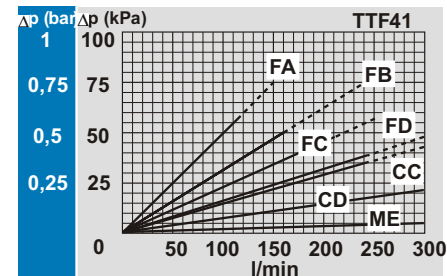
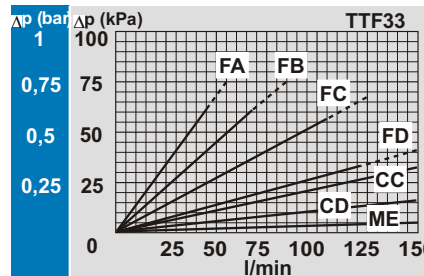
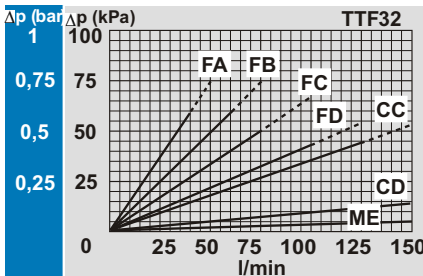
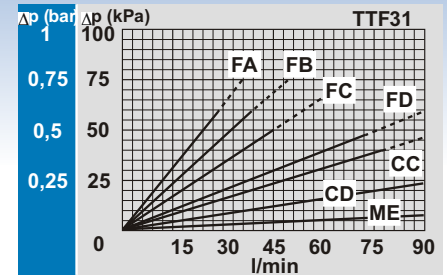
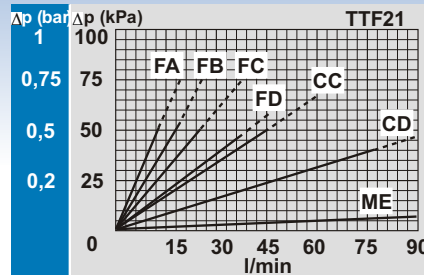
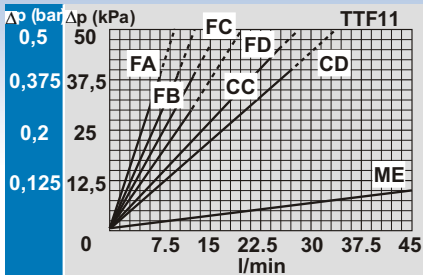


FFP PRODUCTS (HYDRAULICS DIVISION)

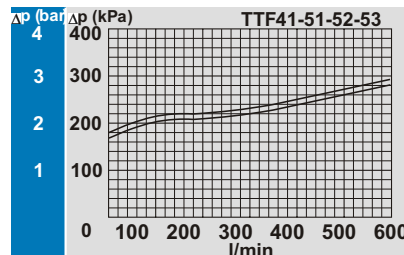
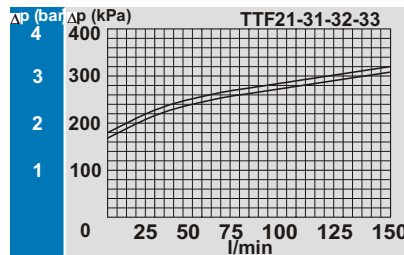
17, SAI NIKETAN, CHANDAVARKAR LANE, BORIVALI WEST,
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e-mail: info@ffpproducts.com - http://www.ffpproducts.com

The assembly Pressure drop(Δp) is obtained by adding the pressure drop values of the filter housing and the clean filter element corresponding to the considered flow rate lower than 50 kPa (0.5 bar).

CLEAN FILTER ELEMENT PRESSURE DROP WITH F+,C+ & ME MEDIA



BYPASS VALVE PRESSURE DROP

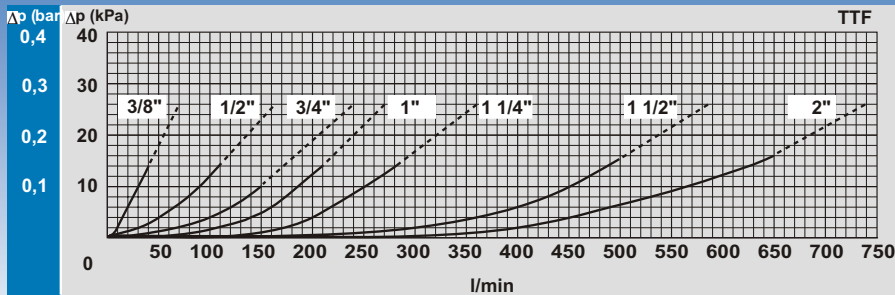


Disclaimer : All the curves obtained are with mineral oil of kinematic viscosity of 30 cSt and specific gravity of 0.9 kg/dm². All curves are obtained at test done at FFP PRODUCTS INDIA (TESTING DIVISION).

FFP PRODUCTS (HYDRAULICS DIVISION)

17,SAI NIKETAN, CHANDAVARKAR LANE, BORIVALI WEST, MUMBAI 400 092, MAHARASHTRA, INDIA
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 e-mail: info@ffpproducts.com - <http://www.ffpproducts.com>

FILTER HOUSING PRESSURE DROP DEPENDENT ON THE PORT SIZE



TYPE										
F = FILTER COMPLETE	T	T	T	T	T	T	T	T	T	T
B = FILTER HOUSING	B	B	B	B	B	B	B	B	B	B
T F FAMILY, NOMINAL SIZE & LENGTH										
	11	21	31	32	33	41	51	52	53	
PORT TYPE										
B = BSP thread	B	B	B	B	B	B	B	B	B	B
N = NPT thread	N	N	N	N	N	N	N	N	N	N
S = SAE thread	S	S	S	S	S	S	S	S	S	S
F = SAE flange 3000 psi	-	-	-	-	-	-	F	F	F	F
PORT SIZE										
03 = 3/8"	03	-	-	-	-	-	-	-	-	-
04 = 1/2"	-	04	04	-	-	-	-	-	-	-
06 = 3/4"	-	-	06	06	-	-	-	-	-	-
08 = 1"	-	-	-	08	08	08	-	-	-	-
10 = 1 1/4"	-	-	-	-	-	10	10	10	-	-
12 = 1 1/2"	-	-	-	-	-	-	12	12	-	-
16 = 2"	-	-	-	-	-	-	-	16	16	16
20 = 2 1/2"	-	-	-	-	-	-	-	20	20	20
BYPASS										
B = 170 kPa (1.7 bar)	X	B	B	B	B	B	B	B	B	B
SEALS										
N = NBR Nitrile	N	N	N	N	N	N	N	N	N	N
F = FKM Fluoroelastomer	F	F	F	F	F	F	F	F	F	F
FILTER MEDIA										
FA = fiber 5μm β>1.000	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA
FB = fiber 7μm β>1.000	FB	FB	FB	FB	FB	FB	FB	FB	FB	FB
FC = fiber 12μm β>1.000	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
FD = fiber 21μm β>1.000	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD
CC = cellulose 10μm β>2	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CD = cellulose 25μm β>2	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD
ME = wire mesh 60μm	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
CLOGGING INDICATOR										
01 = 1/8" port, plugged	01	01	01	01	01	01	01	01	01	01
30 = Pressure gauge, rear connection	30	30	30	30	30	30	30	30	30	30
32 = Pressure gauge, bottom connection	32	32	32	32	32	32	32	32	32	32
80 = press. switch, N.O.Contacts	80	80	80	80	80	80	80	80	80	80
81 = press. switch, N.C.Contacts	81	81	81	81	81	81	81	81	81	81
P1 = SPDT, press switch	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1
ACCESSORIES										
W = without	W	W	W	W	W	W	W	W	W	W
P = with filling plug	P	P	P	P	P	P	P	P	P	P