Hydraulic Filtration

FHM High Pressure Filters

FHM is the medium pressure filter up to 220 bar. The range is composed of two different sizes with nominal flow rates up to 170 l/min, with threaded or flanged connections.

Material (Housing):
Head: aluminium
Bowl: steel

Seals:
N: Nitrile (Buna-N).
V: Fluoroelastomer (Viton).
By-pass valve: brass.
Reverse flow valve: steel.
Indicator: brass.

Working Conditions:
Collapse pressure: X series: 2.000.000 Pa (20 bar).
(filter element) Y series: 21.000.000 (210 bar).

Bypass Valve:
6 bar ±10% (from opening).

Compatibly with:
Compatible with mineral oils such as HH, HM, HR, HV, HG Hydraulic fluids according to ISO 6743/4), ISO 2943

Working Temperature: -20°C to +95°C

Maximum Working Pressure: 220 bar
Test Pressure: 440 bar
Burst Pressure: 660 bar

Series 28, 1/2" BSP Threaded			
Part Code	**Manufacturer's Code**	**Micron Rating**	**Flow Rate Litres per min**
1011-1060	FHM281F03XNR	3	17
1011-1061	FHM281F06XNR	6	20
1011-1062	FHM281F10XNR	10	35
1011-1063	FHM281F25XNR	25	50
1011-1064	FHM282F03XNR	3	26
1011-1065	FHM282F06XNR	6	40
1011-1066	FHM282F10XNR	10	55
1011-1067	FHM282F25XNR	25	80
1011-1068	FHM283F03XNR	3	38
1011-1069	FHM283F06XNR	6	50
1011-1070	FHM283F10XNR	10	70
1011-1071	FHM283F25XNR	25	95

Series 28, 3/4" BSP Threaded			
Part Code	**Manufacturer's Code**	**Micron Rating**	**Flow Rate Litres per min**
1011-1072	FHM281F03XNR1	3	17
1011-1073	FHM281F06XNR1	6	20
1011-1074	FHM281F10XNR1	10	35
1011-1075	FHM281F25XNR1	25	50
1011-1076	FHM282F03XNR1	3	26
1011-1077	FHM282F06XNR1	6	40
1011-1078	FHM282F10XNR1	10	55
1011-1079	FHM282F25XNR1	25	80
1011-1080	FHM283F03XNR1	3	38
1011-1081	FHM283F06XNR1	6	50
1011-1082	FHM283F10XNR1	10	70
1011-1083	FHM283F25XNR1	25	95

Series 42, 1" BSP Threaded			
Part Code	**Manufacturer's Code**	**Micron Rating**	**Flow Rate Litres per min**
1011-1092	FHM421F03XNR1	3	38
1011-1093	FHM421F06XNR1	6	55
1011-1094	FHM421F10XNR1	10	60
1011-1095	FHM421F25XNR1	25	75
1011-1096	FHM422F03XNR1	3	80
1011-1097	FHM422F06XNR1	6	90
1011-1098	FHM422F10XNR1	10	115
1011-1099	FHM422F25XNR1	25	145

Series 42, 3/4" BSP Threaded			
Part Code	**Manufacturer's Code**	**Micron Rating**	**Flow Rate Litres per min**
1011-1084	FHM421F03XNR	3	38
1011-1085	FHM421F06XNR	6	55
1011-1086	FHM421F10XNR	10	60
1011-1087	FHM421F25XNR	25	75
1011-1088	FHM422F03XNR	3	80
1011-1089	FHM422F06XNR	6	90
1011-1090	FHM422F10XNR	10	115
1011-1091	FHM422F25XNR	25	145

Series 42, 1" 3000lb Flange			
Part Code	**Manufacturer's Code**	**Micron Rating**	**Flow Rate Litres per min**
1011-1100	FHM421F03XNR7	3	38
1011-1101	FHM421F06XNR7	6	55
1011-1102	FHM421F10XNR7	10	60
1011-1103	FHM421F25XNR7	25	75
1011-1104	FHM422F03XNR7	3	80
1011-1105	FHM422F06XNR7	6	90
1011-1106	FHM422F10XNR7	10	115
1011-1107	FHM422F25XNR7	25	145

High Pressure Filters
Technical Data

FHM is the medium pressure filter up to 22.000.000 Pa (220 bar- 3200 Psi); the range is composed of two different sizes with nominal flow rates up to 170 l/min. with threaded or flanged connections.

MATERIALS (housing)

Head	Aluminium
Bowl	Steel
Seals	N: Nitrilic (Buna-N) V: Fluoroelastomer (Viton)
By-pass valve	Brass
Reverse flow valve	Steel
Indicator	Brass

WORKING CONDITIONS

Filter pressure	Max working pressure: 22.000.000 Pa (220 bar) Testing pressure: 44.000.000 Pa (440 bar) Burst pressure: 66.000.000 Pa (660 bar)
Operating pressure	-20 a +95° c
Collapse pressure (Filter Element)	X series : 2.000.000 Pa (20 bar) Y series : 21.000.000 (210 bar)
By-pass valve setting pressure	600.000 Pa ±10% (6 bar) (from opening)
Compatibily with hydraulic fluids ISO 2943	Compatible with mineral oils such as HH,HM,HR,HV,HG according to ISO 6743/4)

High Pressure Filters
FHM series 28

Flows have been calculated just in order to obtain a pressure drop $\Delta p \leq 120.000$ Pa (1.2 bar) with mineral oil kinematic viscosity 30 cSt and 860 kg/m^3 density.

THREADED CONNECTIONS

Tipo / Type	A	E (depth 15mm)
	1/2" BSP	M 8
1	3/4" BSP	M 8
2	1/2" NPT	5/16" UNC
3	3/4" NPT	5/16" UNC
4	SAE8 - 3/4"-16UNF	5/16" UNC
5	SAE12 - 1 1/16"- 12UN	5/16" UNC

LENGTHS

Tipo / Type	H (mm)	Length
1	189	FHM281
2	219	FHM282
3	319	FHM283

RECOMMENDED FLOWS

(Glass fibre elements)

FHM	Replace element	Flow (L/min) X series	Flow (L/min) Y series	Weight (Kg)
281	F03	17	15	2,65
281	F06	20	18	2,65
281	F10	35	33	2,65
281	F25	50	47	2,65
282	F03	26	22	3,2
282	F06	40	29	3,2
282	F10	55	50	3,2
282	F25	80	70	3,2
283	F03	38	32	4,7
283	F06	50	40	4,7
283	F10	70	60	4,7
283	F25	95	85	4,7

High Pressure Filters
FHM series 42

Flows have been calculated just in order to obtain a pressure drop $\Delta p \leq 120.000$ Pa (1.2 bar) with mineral oil kinematic viscosity 30 cSt and 860 kg/m^3 density.

THREADED CONNECTIONS

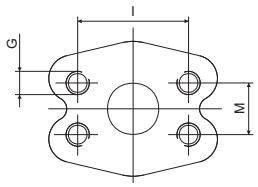
Type	A	E (depth 15mm)
	3/4" BSP	M 10
1	1" BSP	M 10
2	3/4" NPT	3/8" UNC
3	1" NPT	3/8" UNC
4	SAE12 - 1 1/16"-12UN	3/8" UNC
5	SAE16 - 1 5/16"-12UN	3/8" UNC

FLANGED CONNECTIONS

Type	Connection	I	M	G	E (depth 15mm)
6	3/4"SAE - 3000 PSI/M	47.6	22.5	M 10	M 10
7	1"SAE - 3000 PSI/M	52.4	26.2	M 10	M 10
8	3/4"SAE - 3000 PSI/UNC	47.6	22.5	3/8" UNC	3/8" UNC
9	1"SAE - 3000 PSI/UNC	52.4	26.2	3/8" UNC	3/8" UNC

LENGTH

Type	H (mm)	Length
1	277	FHM421
2	390	FHM422



RECOMMENDED FLOWS

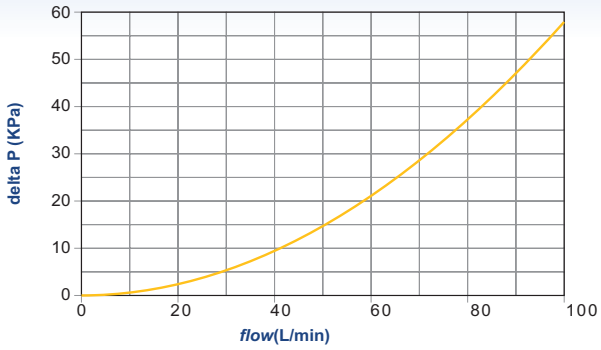
Glass fibre elements

FHM	Replace element	Flow (L/min) X series	Flow (L/min) Y series	Weight (Kg)
421	F03	55	38	3,9
421	F06	65	55	3,9
421	F10	80	60	3,9
421	F25	104	75	3,9
422	F03	100	80	5,6
422	F06	113	90	5,6
422	F10	135	115	5,6
422	F25	170	145	5,6

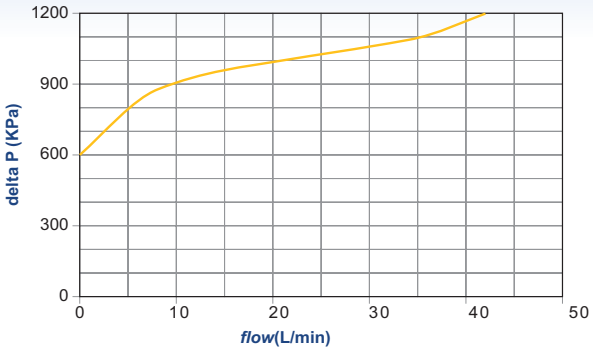
Pressure Drops
(according to ISO 3968)

FHM series 28

ΔP HOUSINGS

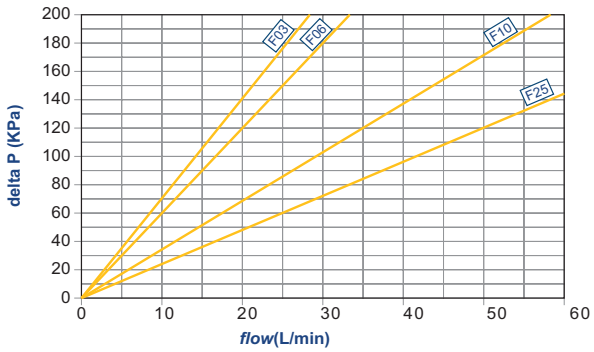


BY-PASS

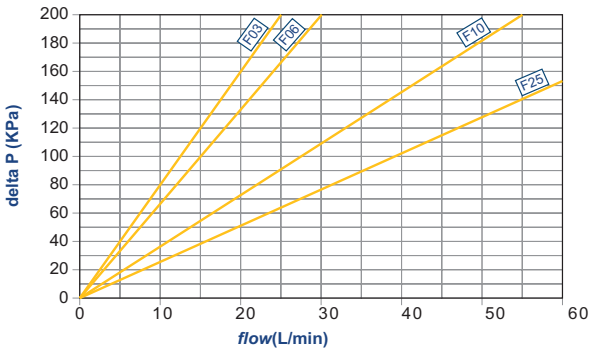


FHM 281 series

ΔP X ELEMENTS

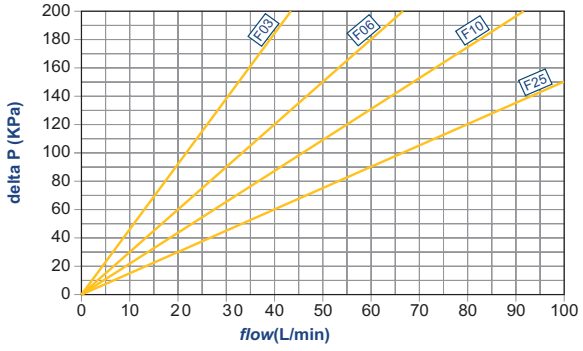


ΔP Y ELEMENT

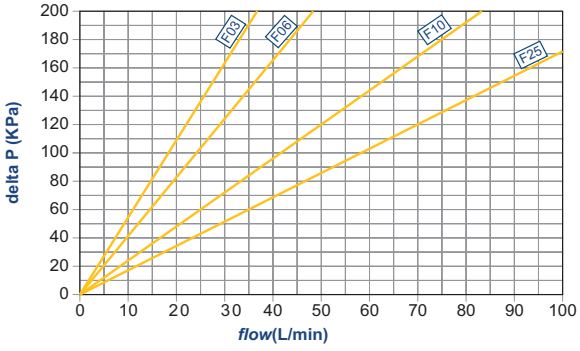


FHM 282 series

ΔP X ELEMENTS



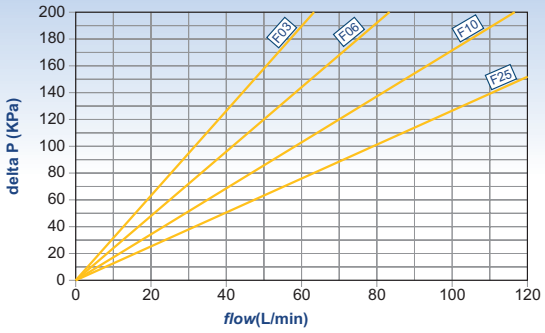
ΔP Y ELEMENTS



Pressure Drops
(according to ISO 3968)

FHM 283 series

ΔP X ELEMENTS



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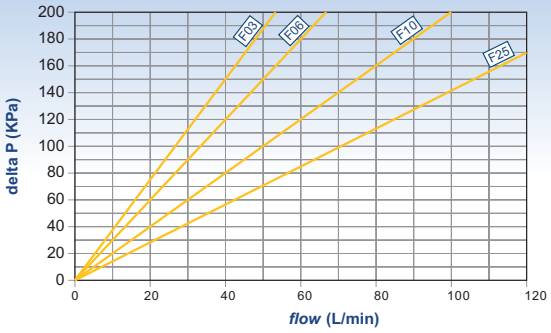
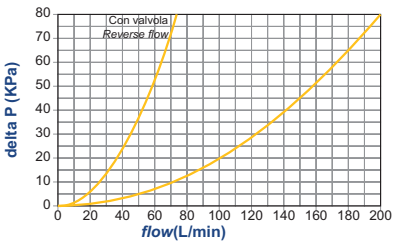
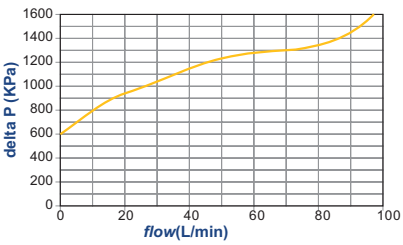


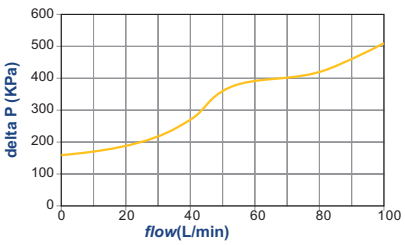
ΔP HOUSINGS



BY-PASS



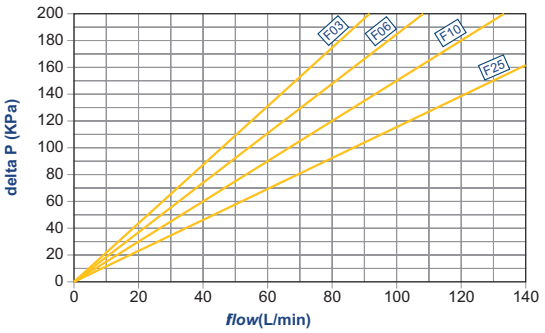
REV. FLOW VALVE



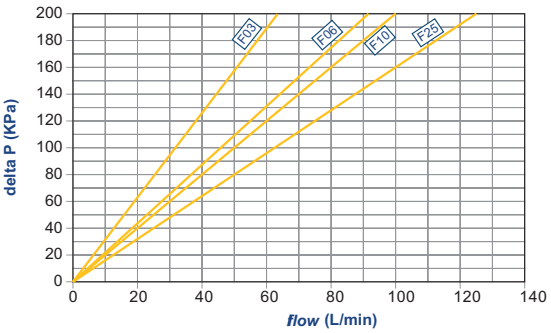
FHM series 42

FHM 421 series

ΔP X ELEMENTS

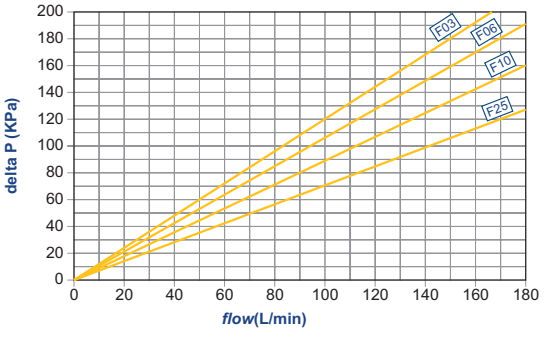


ΔP Y ELEMENTS

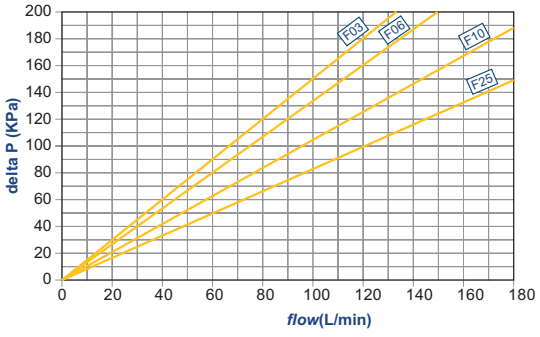


FHM 422 series

ΔP X ELEMENTS



ΔP Y ELEMENTS



High Pressure Filters
Ordering Info

F H M 281 T25 Y N S 3

Nominal Size

281
282
283
421
422

Filtration Element

-		Without filtration elements
C10	10 µm	Resin treated cellulose ßx>2
C25	25 µm	Resin treated cellulose ßx>2
F03	3 µm	Inorganic fibre ßx > 200
F06	6 µm	Inorganic fibre ßx > 200
F10	10 µm	Inorganic fibre ßx > 200
F25	25 µm	Inorganic fibre ßx > 200
T10	10 µm	Steel Aisi 304 Wire mesh
T25	25 µm	Steel Aisi 304 Wire mesh

ΔP. Cartridge

X	2.000.000 (20 Bar)	for filters with By-pass
Y	21.000.000 (210 Bar)	for filters without By-pass

Seals

N	Buna-N
V	Viton

By-pass valve

S	Without By-pass
R	By-pass Δp 6 bar
P	With reverse flow valve
Q	With reverse flow valve + By-Pass

EHP 421 F03 Y N

(Replacement element)

CONNECTIONS

A	FHM28	FHM42
-	1/2" BSP	3/4" BSP
1	3/4" BSP	1" BSP
2	1/2" NPT	3/4" NPT
3	3/4" NPT	1" NPT
4	SAE8 3/4" - 16UNF	SAE12 1 1/16" - 12UN
5	SAE12 1 1/16" - 12UN	SAE16 1 5/16" - 12UN
6		3/4" SAE-3000PSI/M
7		1" SAE-3000PSI/M
8		3/4" SAE-3000PSI/UNC
9		1" SAE-3000PSI/UNC