

FRI



Maximum pressure 20 bar
Flow rates to 1200 l/min

FRI

Filter housing (Materials)

- Filter body: Aluminium + Treatment
 - Anodizing (color: black)
 - Steel + Treatment (only for FRI 850)
 - Phosphating (color: black)
- Cover: Aluminium + Treatment
 - Anodizing (color: black)
 - Nylon (only for FRI 255 - color: orange)
- Bypass valve: plastic material

Pressure

- Working pressure: 20 bar (2 MPa)

Temperature

- From -25 °C to +110 °C

Bypass valve

- Opening pressure 2,4 bar ±10%

Δp Elements type

- Series N and H elements: 10 bar
- Oil flow from exterior to interior

Seals

- Standard NBR series A
- Optional FPM series V

Weights (kg)

Length	1
• FRI 025	1,0
• FRI 040	2,0
• FRI 100	3,8
• FRI 250	6,3
• FRI 255	4,2
• FRI 630	13,8
• FRI 850	48,0

Volumes (dm³)

Length	1
• FRI 025	0,28
• FRI 040	0,70
• FRI 100	1,09
• FRI 250	2,60
• FRI 255	3,2
• FRI 630	7,05
• FRI 850	21,5

Filter element material

Series A

- Inorganic microfibre with acrylic support

Series P

- Resin treated paper

Series M

- Square wire mesh
- Endcap: Nylon galvanized
- Internal tube: steel

Compatibility

- Housings compatible with:
 - Mineral oils to ISO 2943 - aqueous emulsions
 - synthetic fluids, water and glycol.
- The filter elements are compatible with:
 - Mineral oils to ISO 2943, Synthetic fluids
 - Aqueous emulsions, water and glycol.
 - (Glycol = series W required)
- NBR seals series A, compatible with:
 - Mineral oils to ISO 2943 - aqueous emulsions
 - synthetic fluids, water and glycol.
- FPM seals series V, compatible with:
 - Synthetic fluids type HS-HFDR-HFDS-HFDU
 - To ISO 2943

Dirt molding capacity

- In according ISO 16889: Multi-pass test
- Filter elements, conform to the following ISO standard:
- ISO 2941 - Verification of collapse/burst resistance
 - ISO 2942 - Integrity of the first bubble point
 - ISO 2943 - Compatibility with fluids
 - ISO 3723 - Method for end load test
 - ISO 3724 - Verification of flow fatigue characteristics
 - ISO 3968 - Flow rate
 - ISO16889 - Multi-pass method for evaluating filtration performance

Filter Element Area

Filter element in stainless steel mesh

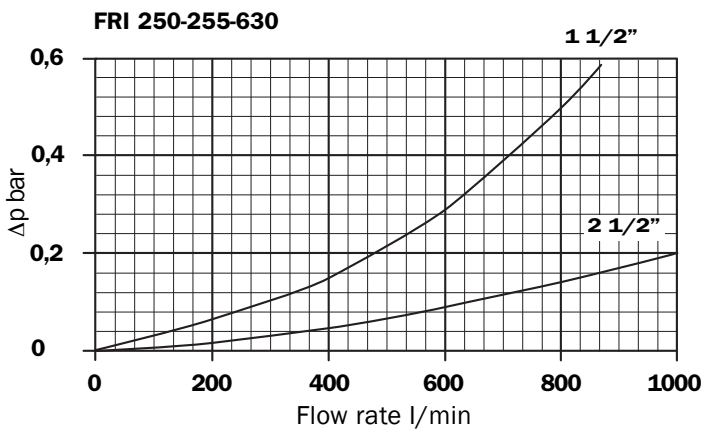
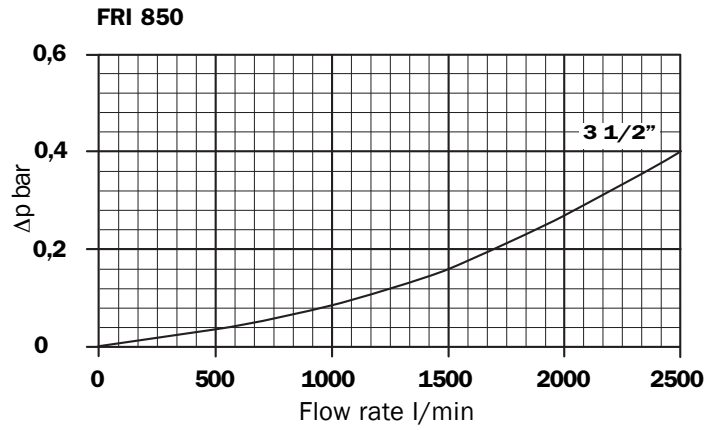
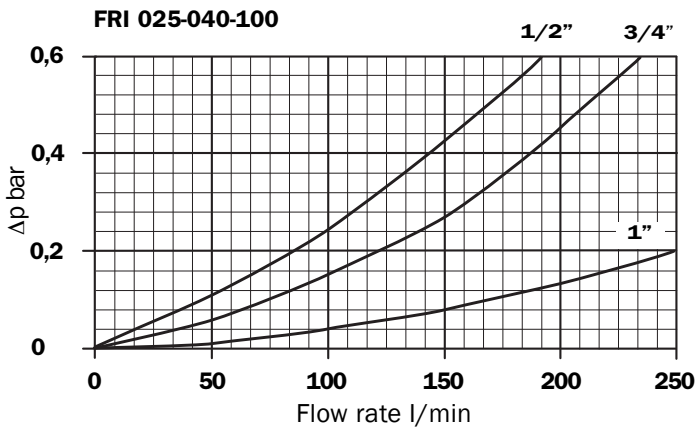
Type	Length
	1
CU 025	336
CU 040	493
CU 100	781
CU 250	2496
CU 630	4713
CU 850	11227

Values expressed in **cm²**

Filter housings Δp pressure drop

The curves are plotted utilising mineral oil with density of 0.86 kg/dm³ to ISO 3968.

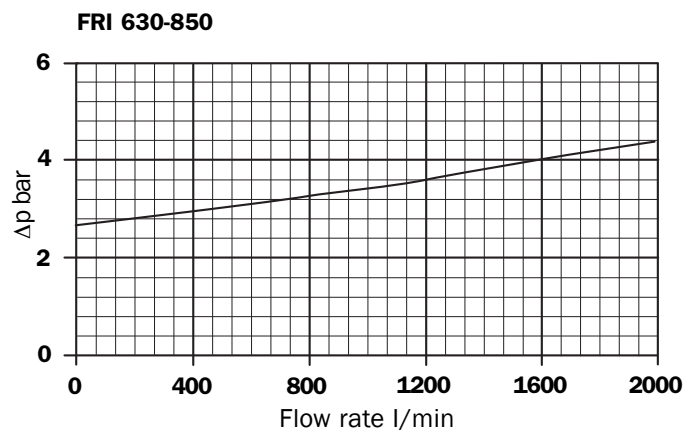
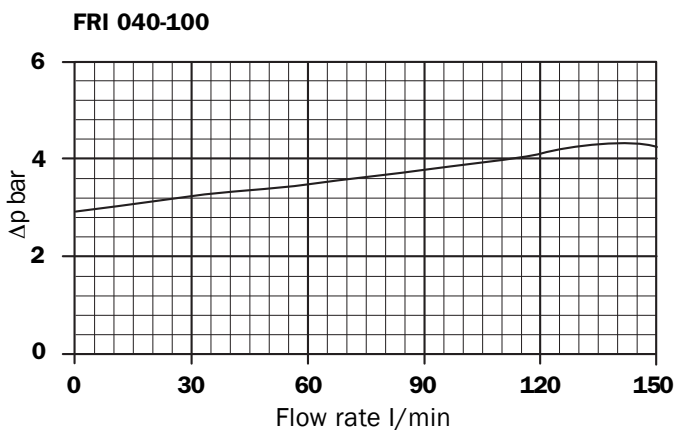
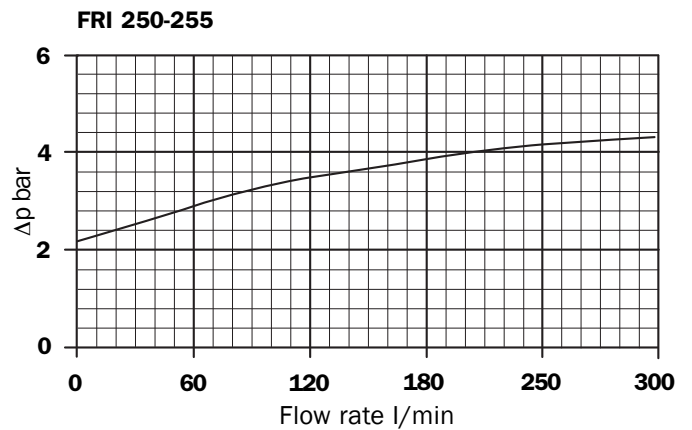
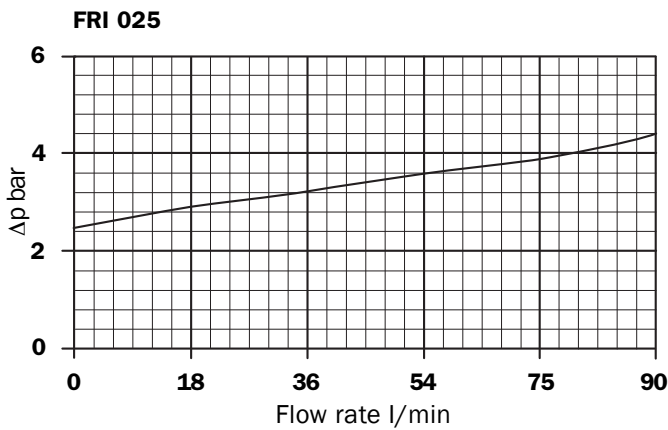
Δp varies proportionally with density.



Valves

Bypass valve pressure drop

For individual filter:



Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 0,5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0,86 kg/dm³.

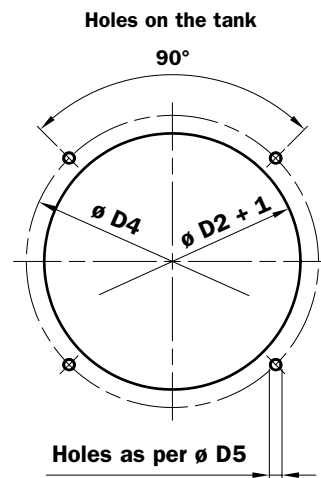
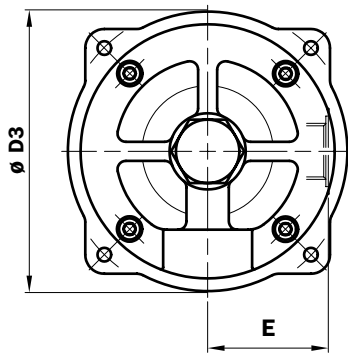
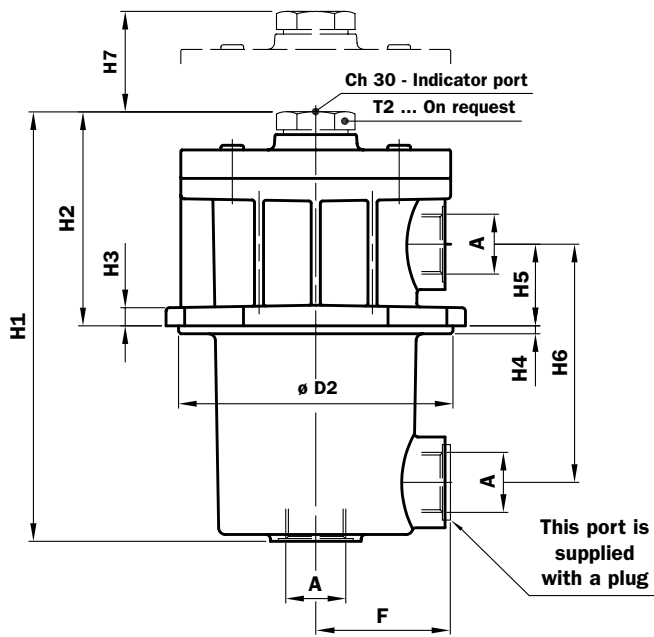
Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
FRI025	1	6	10	16	19	40	46	48	50
FRI040	1	18	23	43	45	90	90	100	100
FRI100	1	31	33	90	92	175	160	180	250
FRI250-255	1	140	165	270	300	400	410	450	500
FRI630	1	240	280	500	550	700	700	750	800
FRI850	1	440	550	950	1000	1400	1300	1400	1600

Flow rate l/min

Dimension

FRI 025 - 040



Thread connections FRI 025 - 040

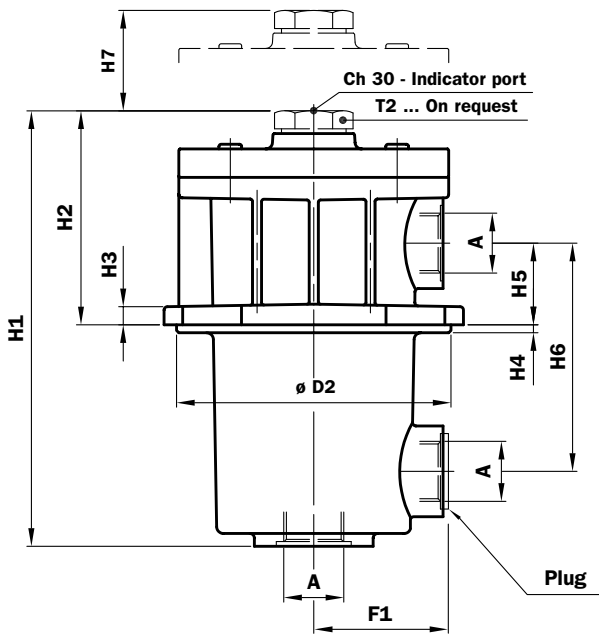
St.	A	
	025	040
G1	G 1/2"	G 3/4"
G2	1/2" NPT	3/4" NPT
G3	SAE 8	SAE 12

FRI 025 - 040

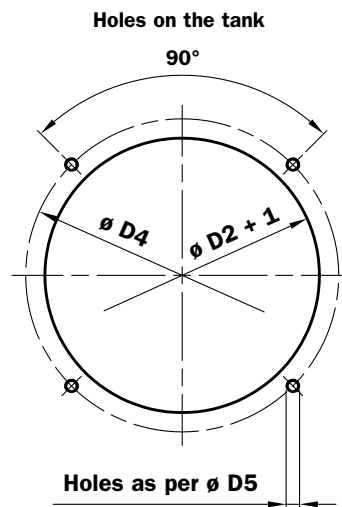
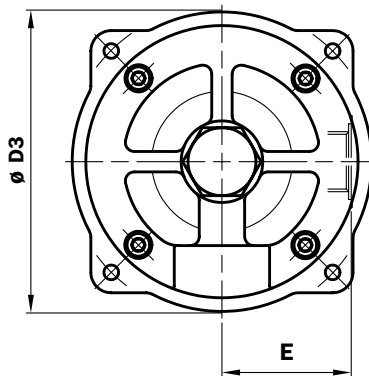
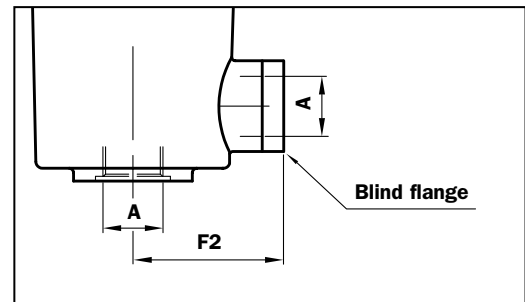
Filter Length	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	H6 mm	H7 mm	D2 mm	D3 mm	D4 mm	D5 mm	E mm	F mm
025	150	85	5	3	19	62,5	105	83,5	89	95	M5	44	46
040	190	98	8	3,5	36	105	110	121	132	138	M6	57	60

FRI 100 - 250 - 630

Thread connections



Flange connections



Thread connections FRI 100 - 250 - 630

St.	A		
	100	250	630
G1	G 1"	G 1 1/2"	G 2 1/2"
G2	1" NPT	1 1/2" NPT	2 1/2" NPT
G3	SAE 16	SAE 24	SAE 32

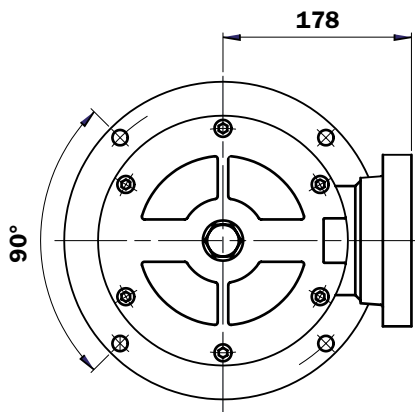
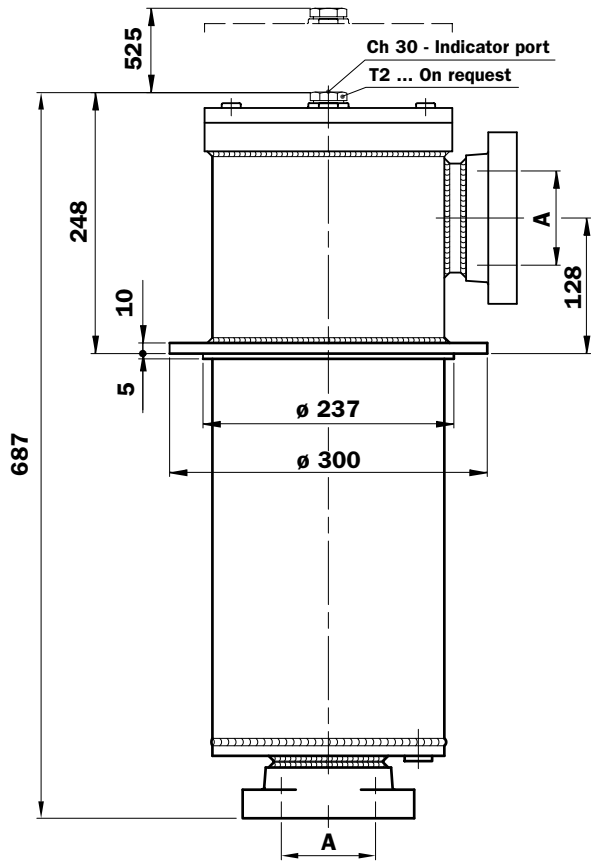
Flange connections FRI 100 - 250 - 630

St.	A		
	100	250	630
F1	1" SAE 3000 PSI/M	1 1/2" SAE 3000 PSI/M	2 1/2" SAE 3000 PSI/M
F2	1" SAE 3000 PSI/UNC	1 1/2" SAE 3000 PSI/UNC	2 1/2" SAE 3000 PSI/UNC

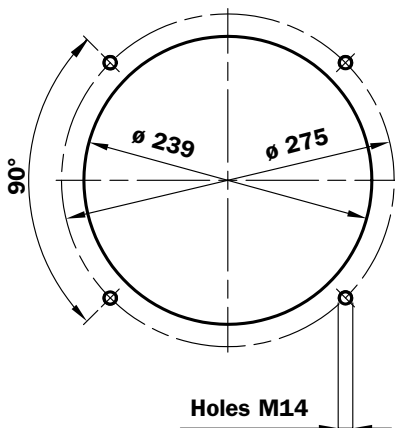
FRI 100 - 250 - 630

Filter Length	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	H6 mm	H7 mm	D2 mm	D3 mm	D4 mm	D5 mm	E mm	F1 mm	F2 mm
100	256	117	10	5	49	140	155	135	146	154	M6	67	73	86
250	345	140	10	5	57	177	240	162	174	180	M8	82	86	100
630	401	177	13	10	79	218	275	237	253	275	M10	117,5	124	136

FRI 850



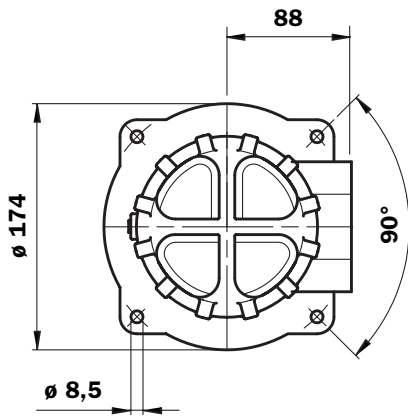
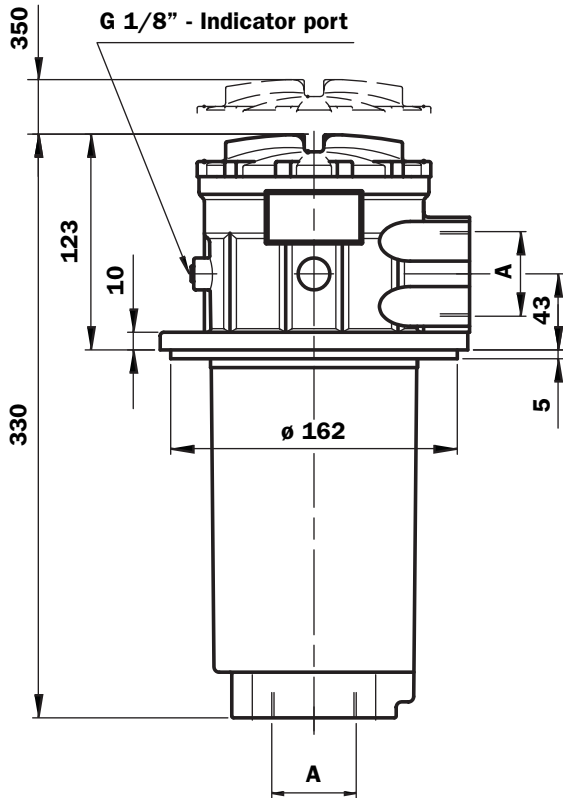
Holes on the tank



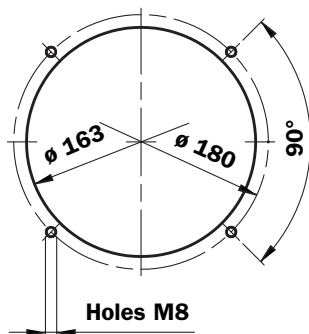
Flange connections FRI 850

St.	A
F1	3 1/2" SAE 3000 PSI/M
F2	3 1/2" SAE 3000 PSI/UNC

FRI 255



Holes on the tank



Thread connections

FRI 255

St.	A	B
G1	G 1 1/2"	G 1/8"
G2	1 1/2" NPT	G 1/8"
G3	SAE 24	G 1/8"
G4	G 1 1/4"	G 1/8"
G5	1 1/4" NPT	G 1/8"
G6	SAE 20	G 1/8"

Flange connections

FRI 255

St.	A	B
F1	1 1/2" SAE 3000 PSI/M	G 1/8"
F2	1 1/2" SAE 3000 PSI/UNC	G 1/8"

Ordering information FRI

Filter assembly

FRI

Example: FRI

1	2	3	4	5	6	8
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
040	B	A	G1	A10	N	P01

Filter element

CU

Example: CU

1	5	7	8
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
040	A10	N	P01

1 - Style

Filter	Filter element
025	025
040	040
100	100
250	250
255	250
630	630
850	850

2 - Bypass valve

B	With bypass
S	Without bypass

3 - Seals

A	NBR
V	FPM

4 - Connections

Type	FRI 025	FRI 040	FRI 100	FRI 250	FRI 255	FRI 630	FRI 850
G1	G 1/2"	G 3/4"	G 1"	G 1 1/2"	G 1 1/2"	G 2 1/2"	-
G2	1/2" NPT	3/4" NPT	1" NPT	1 1/2" NPT	1 1/2" NPT	2 1/2" NPT	-
G3	SAE 8	SAE 12	SAE 16	SAE 24	SAE 24	SAE 32	-
G4	-	-	-	-	G 1 1/4"	-	-
G5	-	-	-	-	1 1/4" NPT	-	-
G6	-	-	-	-	SAE 20	-	-
F1	-	-	1" SAE 3000 PSI/M	1 1/2" SAE 3000 PSI/M	1 1/2" SAE 3000 PSI/M	2 1/2" SAE 3000 PSI/M	3 1/2" SAE 3000 PSI/M
F2	-	-	1" SAE 3000 PSI/UNC	1 1/2" SAE 3000 PSI/UNC	1 1/2" SAE 3000 PSI/UNC	2 1/2" SAE 3000 PSI/UNC	3 1/2" SAE 3000 PSI/UNC

5 - Filter element

A03	Inorganic microfibre 3 μ	Absolute filtration Inorganic Microfibre $\beta x (c) \geq 1000$
A06	Inorganic microfibre 6 μ	
A10	Inorganic microfibre 10 μ	
A16	Inorganic microfibre 16 μ	
A25	Inorganic microfibre 25 μ	
M25	Wire mesh 25 μ	Nominal Filtration Metal mesh
P10	Impregnated paper	Nominal Filtration Cellulose
P25	Impregnated paper	

6 - Collapse Δp

N	10 bar
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7 - Filter element seals

N	NBR
V	FPM

8 - Option

P01	MP Filtri standard
Pxx	Customer request

Differential clogging indicator FRI (see page 82 and 83)

Clogging indicator only for FRI 255 (see page 80 and 81)

MP Filtri - The filter functions as described in this bulletin are valid exclusively for original MP Filtri filter elements and replacement parts. All rights reserved

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