

Filtration



Allison Hydraulics



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Filtration

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Description

STR

These strainers are suitable for use in the suction line, submerged in the reservoir.

They are available for nominal flows up to 900 l/min (with oil at 30 mm²/s).

These filters are particularly suitable for applications where it is necessary to protect pumps from coarse particles of contamination.

STR series are available with or without a bypass valve.

MPA-MPM series are equipped with safety tie rod.

MPM series are supplied with an internal magnet column.

MPA - MPM



Filter element:

Materials

STR series

MPA-MPM series

Connection and End cap: Support tube:

Nylon

Galvanized Steel

Bypass valve:

Nylon

Connection:

Aluminium

End cap:

Galvanized Steel

Support tube:

Galvanized Steel

Nut and tie rod:

Galvanized Steel

Element material Nominal filtration

M Series

Square wire mesh (filtration degree is defined in microns by the maximum diameter of a sphere corresponding to the mesh size).

Filtering area Filter elements

STR series

Type STR	050-1-2	070-1-2	070-3-4	100-1-5	100-2-3-4	140-1-2	140-3-4	140-5	140-6
M 60	290	470	720	1046	1850	2000	3550	3620	4160
M 90	290	470	720	1046	1850	2000	3550	3620	4160
M250	290	470	720	1046	1850	2000	3550	3620	4160

Values in cm²

MPA-MPM series

Type MPA MPM	012-015	025-030	045-50	075-095	120-150	180-220	280-300	380-430
M 60	280	480	770	1000	1820	1920	3450	4250
M 90	280	480	770	1000	1820	1920	3450	4250
M250	280	480	770	1000	1820	1920	3450	4250

Values in cm²

Working

Temperature

STR series

From -25°C to + 110°C

MPA-MPM series

From -40°C to + 120°C

For temperature outside this range, please consult our Sales Network Organization

Bypass valve

Setting pressure

Bypass valve, differential opening pressure:
(STR series only)

B: 30 kPa ± 10%

Compatibility

with fluids

As per ISO 2943; suitable for mineral oils (types HH-HL-HM-HR-HV-HG as per ISO 6743/4) synthetic fluids (types HS-HFDR-HFDS-HFDU as per ISO 6743/4)

For water-based emulsions (type HFAE-HFAS as per ISO 6743/4) and fluids other than those mentioned, please consult our Sales Network Organization.

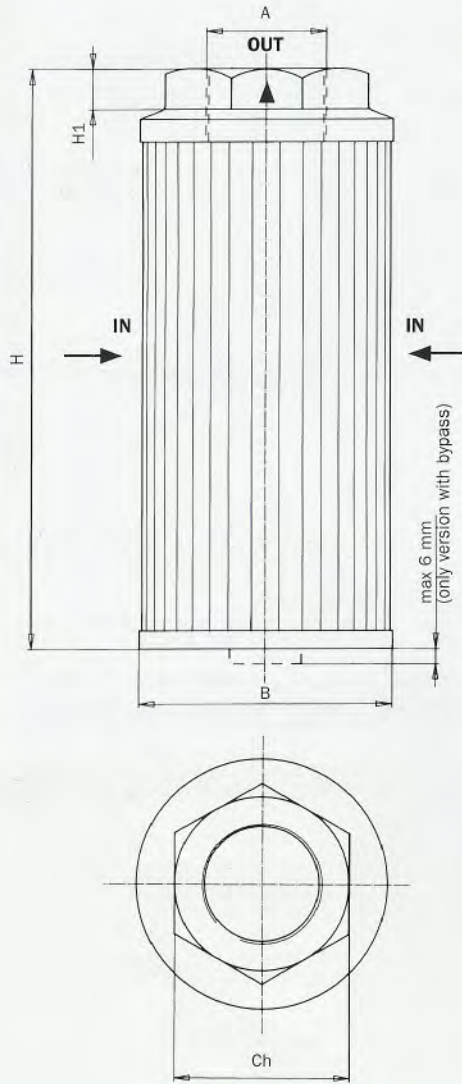
Filter element types

M series

Metal mesh media, available in 60,90 or 250 µm
Example - **M60, M90 or M250**

1 bar = 100 kPa

The following filter setting recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter pressure drop of **8 kPa (0,08 bar)**.

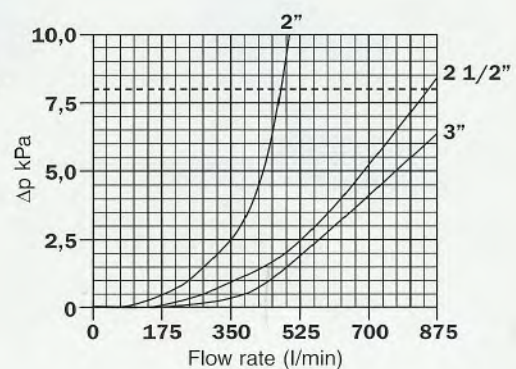
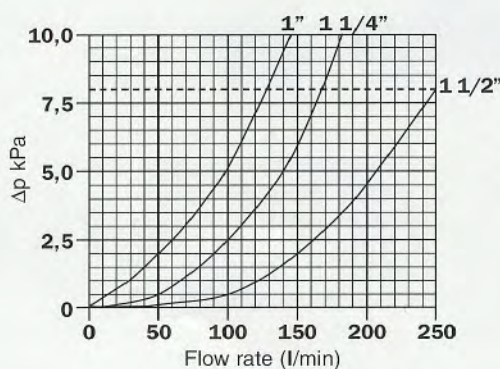
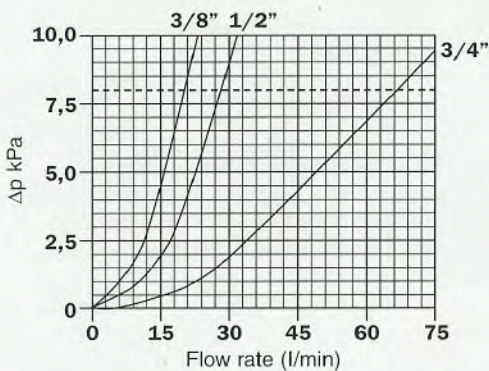


STR

STR SERIES

Type	A	B	H	H1	Ch	Weight Max (kg)
050-1 G1	3/8" BSP	52	78	10	30	0,16
050-1 G2	3/8" NPT					
050-2 G1	1/2" BSP	70	95	10	42	0,22
050-2 G2	1/2" NPT					
070-1 G1	1/2" BSP	140	140			0,30
070-1 G2	1/2" NPT					
070-2 G1	3/4" BSP	99	225	15	69	0,68
070-2 G2	3/4" NPT					
070-3 G1	3/4" BSP	130	262			0,84
070-3 G2	3/4" NPT					
070-4 G1	1" BSP	270	270	20	101	1,25
070-4 G2	1" NPT					
100-1 G1	1 1/4" BSP	330	330			1,30
100-1 G2	1 1/4" NPT					
100-2 G1	1 1/4" BSP					
100-2 G2	1 1/4" NPT					
100-3 G1	1 1/2" BSP					
100-3 G2	1 1/2" NPT					
100-4 G1	2" BSP					
100-4 G2	2" NPT					
100-5 G1	1 1/2" BSP					
100-5 G2	1 1/2" NPT					
140-1 G1	1 1/2" BSP					
140-1 G2	1 1/2" NPT					
140-2 G1	2" BSP					
140-2 G2	2" NPT					
140-3 G1	2" BSP					
140-3 G2	2" NPT					
140-4 G1	2 1/2" BSP					
140-4 G2	2 1/2" NPT					
140-5 G1	3" BSP					
140-5 G2	3" NPT					
140-6 G1	3" BSP					
140-6 G2	3" NPT					

Filter element pressure drop



Ordering code example

STR

050-1 **B** **G1** **M60**

Example order

Series	
STR	Strainer

Micron rating	
M 60	
M 90	Wire mesh
M 250	

Nominal sizes	
050-1	3/8" - H78
050-2	1/2" - H78
070-1	1/2" - H95
070-2	3/4" - H95
070-3	3/4" - H140
070-4	1" - H140
100-1	1 1/4" - H135
100-2	1 1/4" - H225
100-3	1 1/2" - H225
100-4	2" - H225
100-5	1 1/2" - H135
140-1	1 1/2" - H160
140-2	2" - H160
140-3	2" - H262
140-4	2 1/2" - H270
140-5	3" - H270
140-6	3" - H330

Connections	
G1	BSP Thread
G2	NPT Thread

Bypass valve	
S	Without bypass
B	With bypass

Selection & installation information

Filter element types

M series

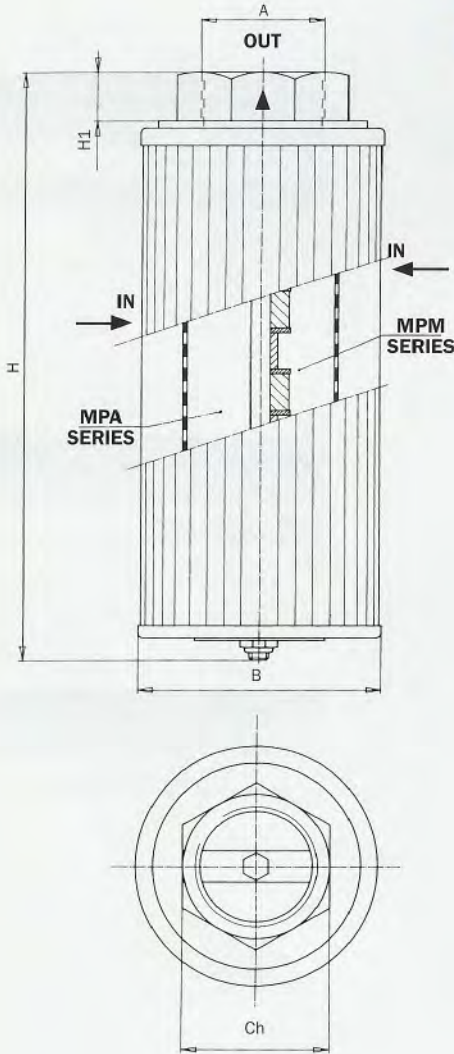
Metal mesh media, available in 60,90 or 250 μm
 Example - **M60, M90 or M250**

1 bar = 100 kPa

The following filter setting recommendations are based using a mineral oil fluid at 30 mm^2/s (cSt) with a maximum total filter pressure drop of **8 kPa (0,08 bar)**.

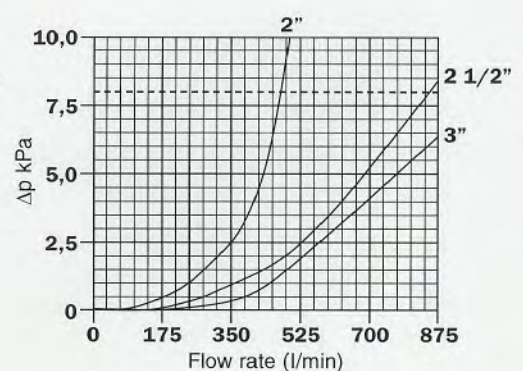
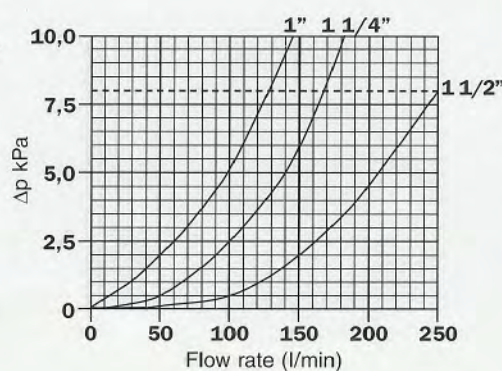
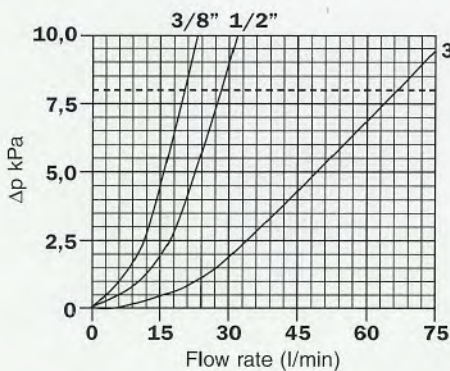
MPA MPM

MPA - MPM SERIES



Type	A	B	H	H1	Ch	Weight Max (kg)
012 G1	3/8" BSP	50	95	15	28	0,17
012 G2	3/8" NPT					
015 G1	1/2" BSP	50	95	15	28	0,17
015 G2	1/2" NPT					
025 G1	1/2" BSP	70	110	15	28	0,27
025 G2	1/2" NPT					
030 G1	3/4" BSP	70	111,5	17	42	0,36
030 G2	3/4" NPT					
045 G1	3/4" BSP	70	156,5	17	42	0,39
045 G2	3/4" NPT					
050 G1	1" BSP	70	156,5	17	42	0,35
050 G2	1" NPT					
075 G1	1" BSP	99	146,5	17	42	0,54
075 G2	1" NPT					
095 G1	1 1/4" BSP	99	147	21	60	0,63
095 G2	1 1/4" NPT					
120 G1	1 1/4" BSP	99	237	21	60	0,95
120 G2	1 1/4" NPT					
150 G1	1 1/2" BSP	99	237	21	60	0,91
150 G2	1 1/2" NPT					
180 G1	1 1/2" BSP	136	172	21	60	0,98
180 G2	1 1/2" NPT					
220 G1	2" BSP	136	160	13	80	1,00
220 G2	2" NPT					
280 G1	2" BSP	136	270	13	80	1,60
280 G2	2" NPT					
300 G1	2 1/2" BSP	136	279	21	90	1,67
300 G2	2 1/2" NPT					
380 G1	2" BSP	136	320	13	80	1,60
380 G2	2" NPT					
430 G1	3" BSP	136	333	22	106	1,93
430 G2	3" NPT					

Filter element pressure drop



Ordering code example

MPA

050

G1

M60

Example order

Series

MPA	Complete strainer without int. magnet
MPM	Complete strainer with int. magnet

Micron rating

M 60	
M 90	Wire mesh
M 250	

Nominal sizes

012	3/8"
015	1/2"
025	1/2"
030	3/4"
045	3/4"
050	1"
075	1"
095	1 1/4"
120	1 1/4"
150	1 1/2"
180	1 1/2"
220	2"
280	2"
300	2 1/2"
380	2"
430	3"

Connections

G1	BSP Thread
G2	NPT Thread

MP Filtri - Filtration products will only be guaranteed if original MP Filtri replacement elements and spares are used

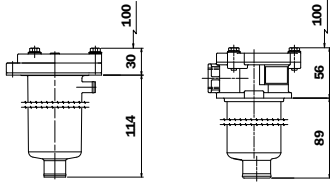
Data held in this publication is given only for indicative purposes. MP Filtri reserves to introduce modifications to described items for technical or commercial reasons. Copyright reserved.

MPF



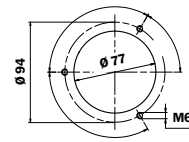
Maximum pressure 8 bar
Flow rates to 750 l/min

MPF 020/030

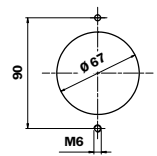


Holes on the tank

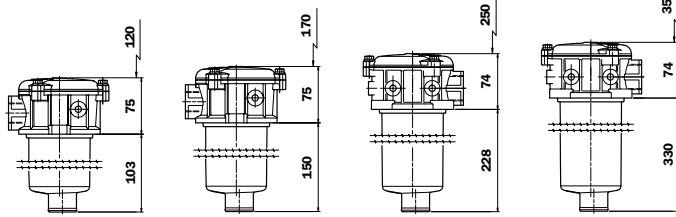
MPF 020



MPF 030

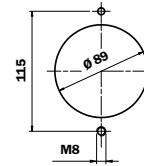


MPF 100/104

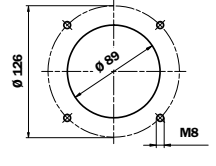


Holes on the tank

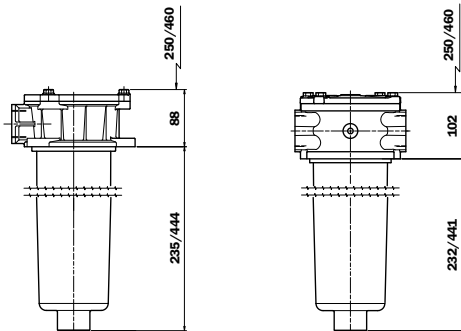
MPF 100



MPF 104

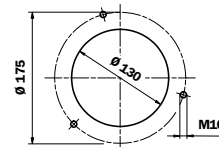


MPF 180/184

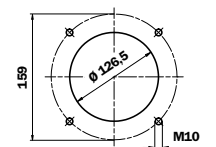


Holes on the tank

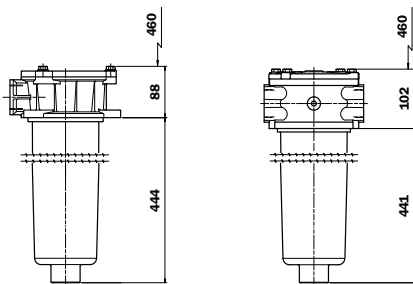
MPF 180



MPF 184

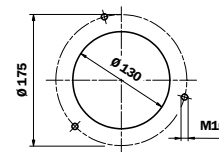


MPF 190/194

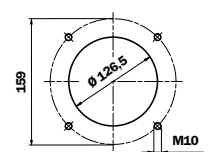


Holes on the tank

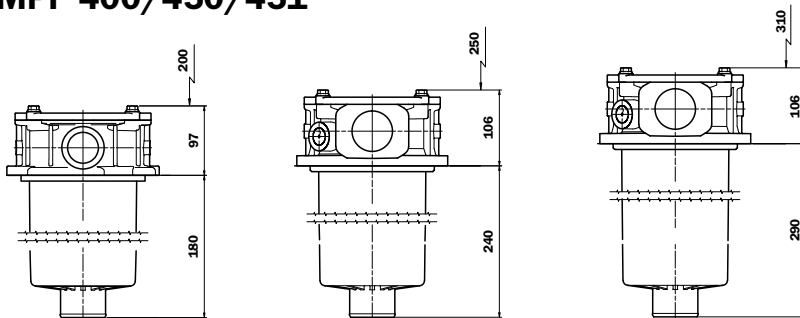
MPF 190



MPF 194

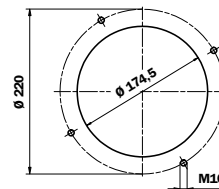


MPF 400/450/451

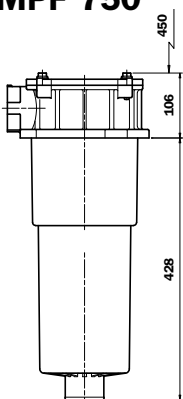


Holes on the tank

MPF 400/450/451

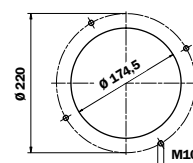


MPF 750



Holes on the tank

MPF 750



Technical data

MPF

Filter housing (Materials)

- Head: Aluminium (Nylon only MPF 020)
- Cover: Zytel (MPF 020/030/100/104)
Aluminium (MPF 180/184/190/194/400/450/750)
- Bowl: Nylon

Pressure

- Working pressure: 8 bar (0,8 MPa)

Temperature

- From -25 °C to +110 °C

Bypass valve

- Opening pressure 1,75 bar \pm 10%
- Opening pressure 3 bar \pm 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	2	3	4
• MPF 020	0,30	-	-	-
• MPF 030	0,40	-	-	-
• MPF 100	0,76	0,85	0,98	1,10
• MPF 104	0,82	0,96	1,02	1,25
• MPF 180	2,16	2,97	-	-
• MPF 184	2,55	3,45	-	-
• MPF 190	-	2,97	-	-
• MPF 194	-	3,45	-	-
• MPF 400	3,35	3,65	3,90	-
• MPF 450/451	3,95	4,25	4,50	-
• MPF 750	6,30	-	-	-

Volumes (dm³)

Length	1	2	3	4
• MPF 020	0,26	-	-	-
• MPF 030	0,29	-	-	-
• MPF 100	0,64	0,85	1,20	1,65
• MPF 104	0,64	0,85	1,20	1,65
• MPF 180	2,50	4,00	-	-
• MPF 184	2,65	4,45	-	-
• MPF 190	-	4,25	-	-
• MPF 194	-	4,45	-	-
• MPF 400	3,70	4,60	5,40	-
• MPF 450/451	3,70	4,60	5,40	-
• MPF 750	8,45	-	-	-

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
(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

Filter Element Area

Filter element in stainless steel mesh
Length

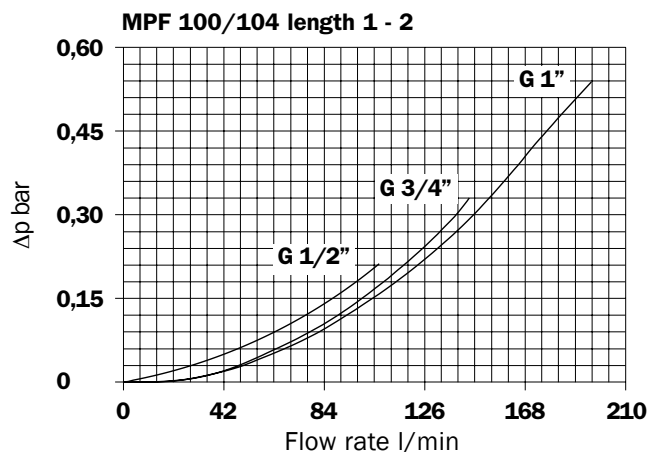
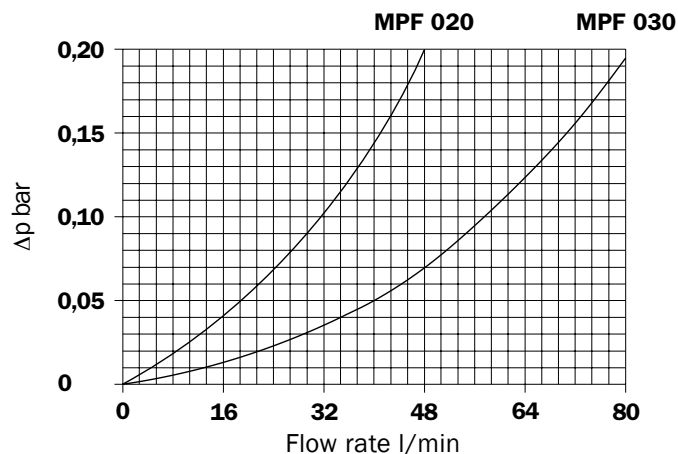
Type	1	2	3	4
MF 030	336	-	-	-
MF 100	493	781	1286	1933
MF 180	2496	5342	-	-
MF 190	-	5342	-	-
MF 400/450	2701	3885	4713	-
MF 750	8059	-	-	-

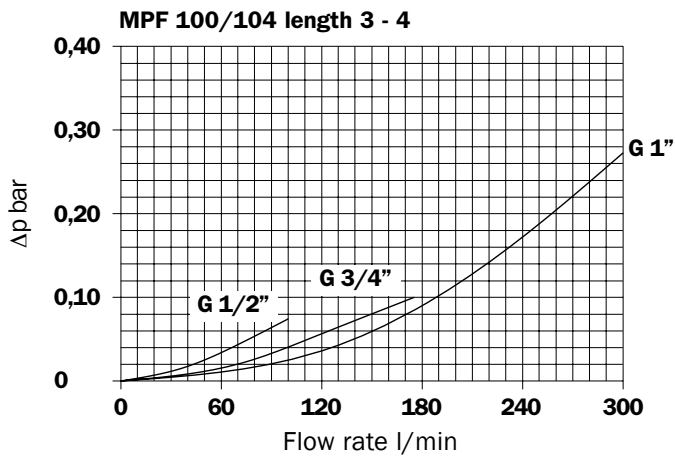
Values expressed in cm²

Filter housings Δp pressure drop

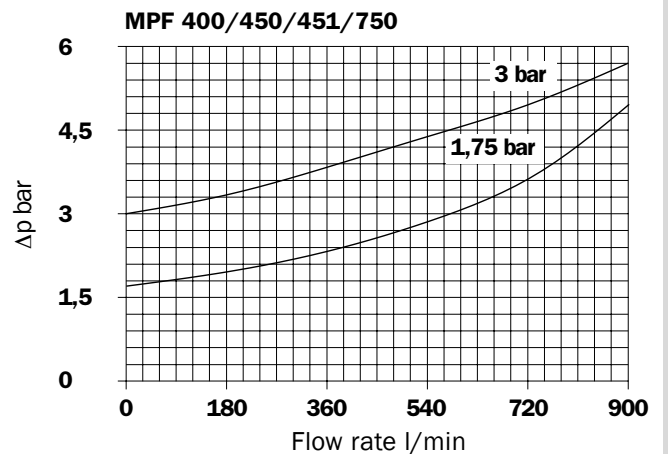
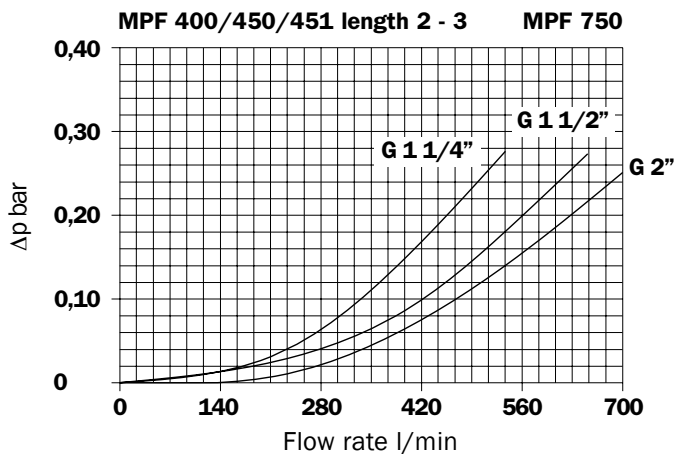
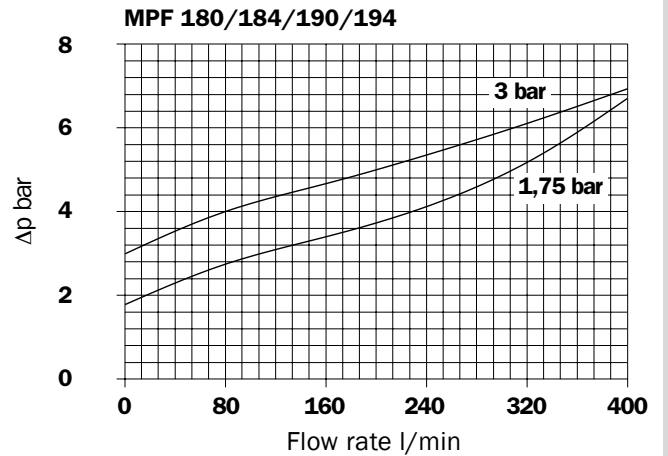
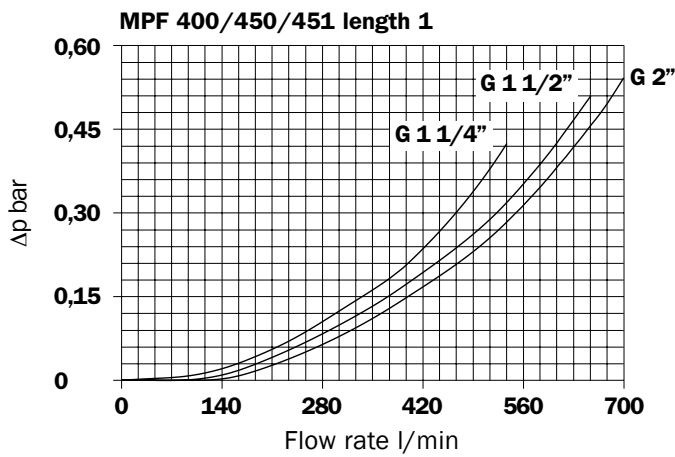
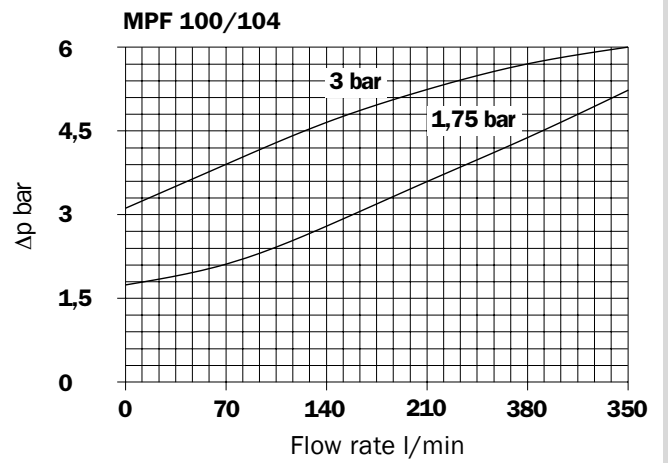
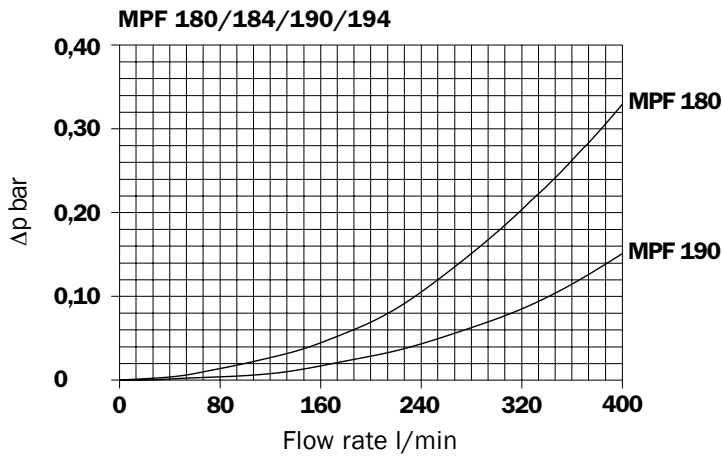
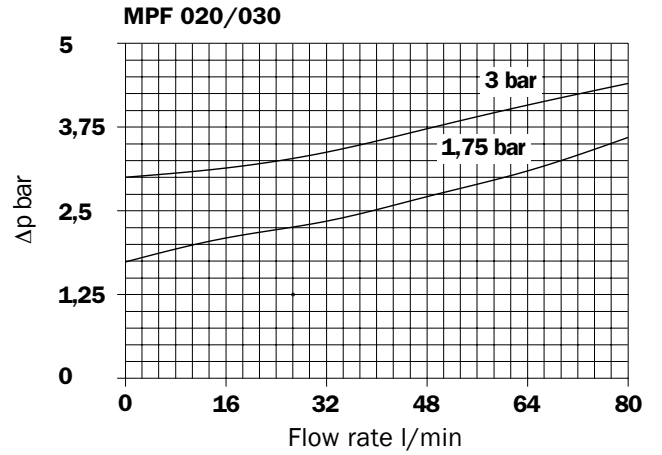
The curves are plotted utilising mineral oil with density of 0.86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.



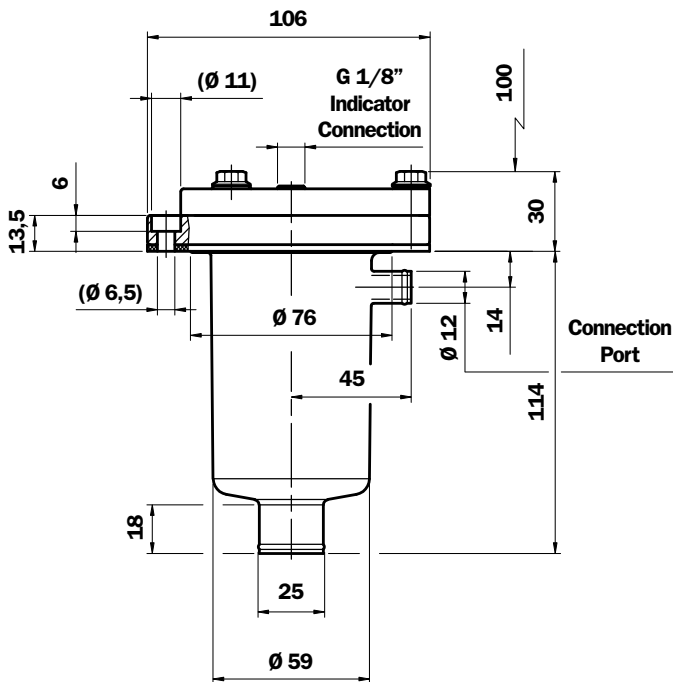


Valves
Bypass valve pressure drop
For individual filter:

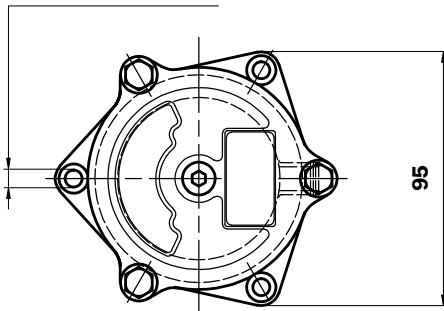


Dimensions

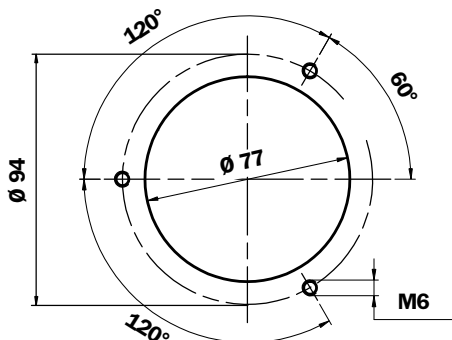
MPF 020



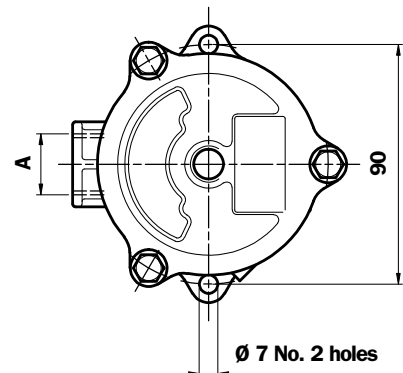
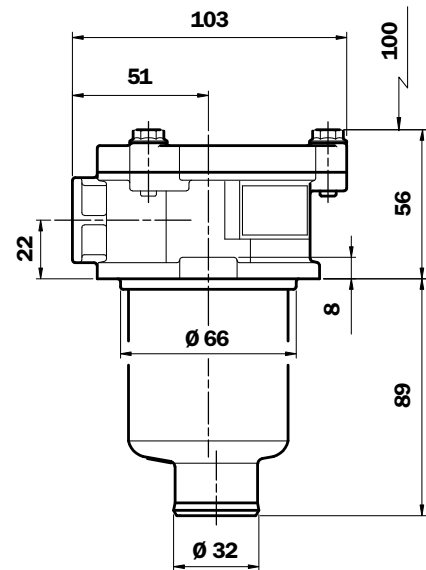
$\varnothing 11$ No. 3 spotfaced
 $\varnothing 6,5$ No. 3 holes



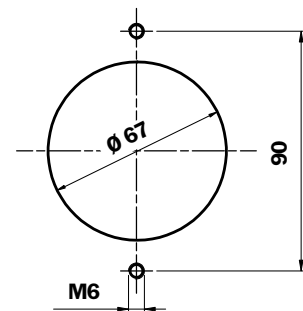
Holes on the tank



MPF 030



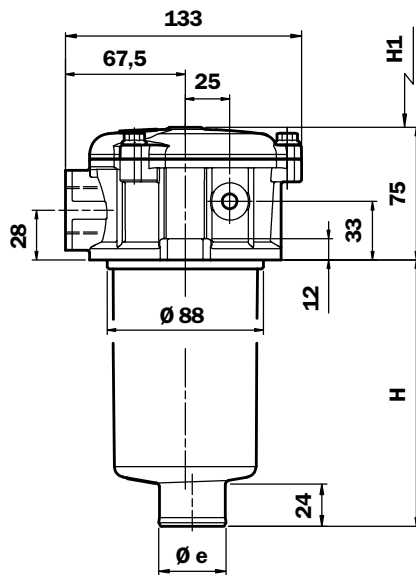
Holes on the tank



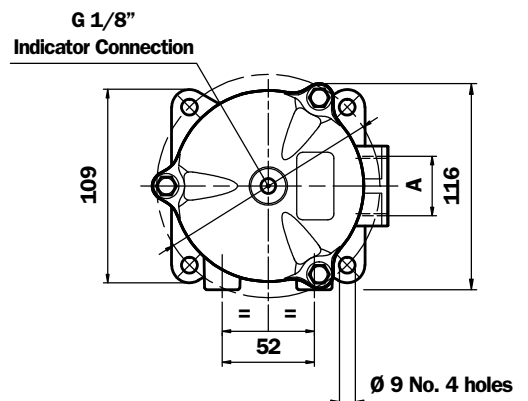
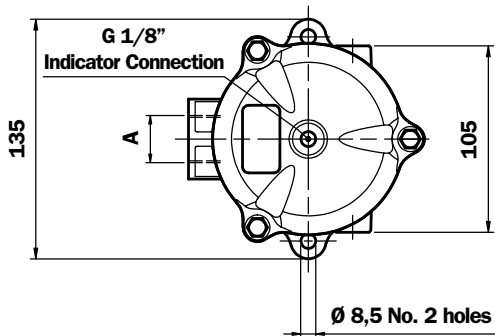
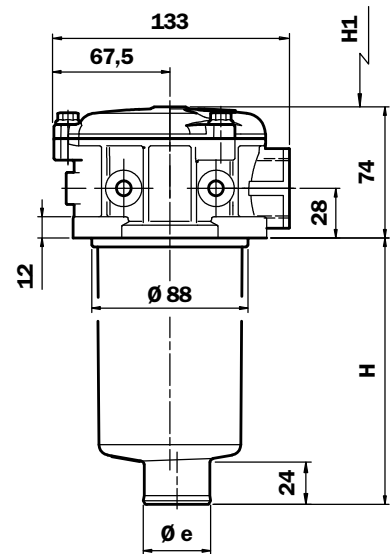
Thread connections

St.	A
G1	G 1/2"
G4	1/2" NPT
G7	SAE 8 3/4" 16 UNF

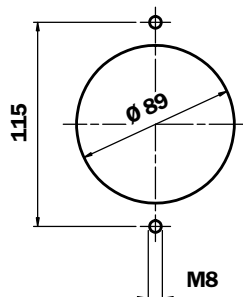
MPF 100



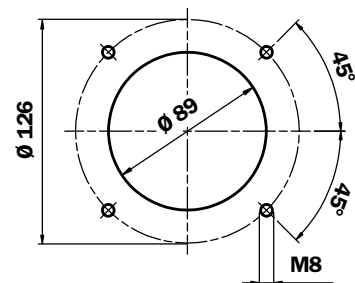
MPF 104



Holes on the tank



Holes on the tank



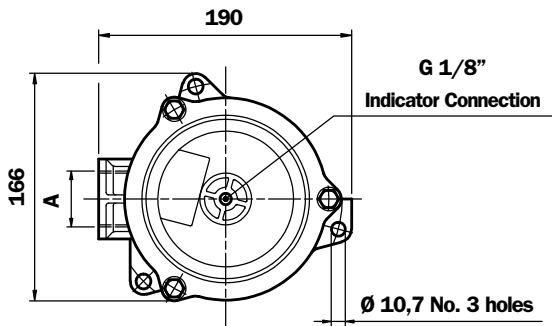
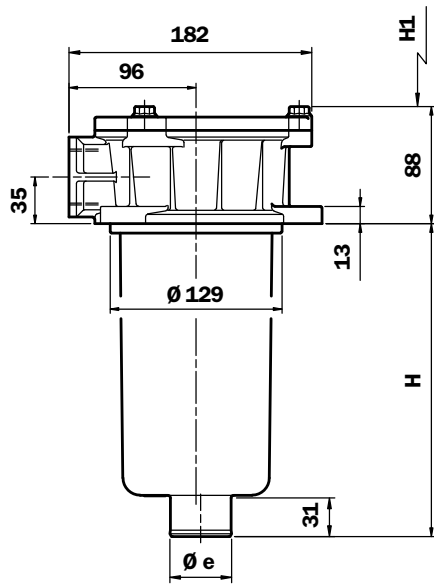
Thread connections

St.	A
G1	G 1/2"
G2	G 3/4"
G3	G 1"
G4	1/2" NPT
G5	3/4" NPT
G6	1" NPT
G7	SAE 8 3/4" 16 UNF
G8	SAE 12 1 1/16" 12 UN
G9	SAE 16 1 5/16" 12 UN

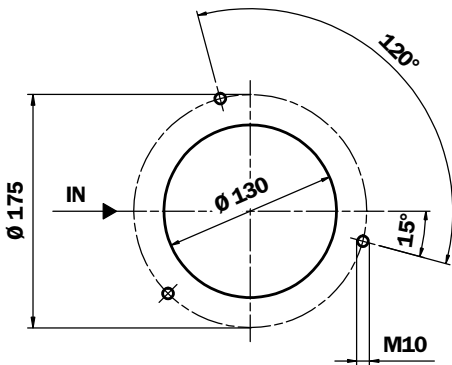
MPF 100/104

Length Filter	H mm	H1 mm	Ø e mm
1	103	120	38
2	150	170	38
3	228	250	46,5
4	330	350	46,5

MPF 180/190



Holes on the tank



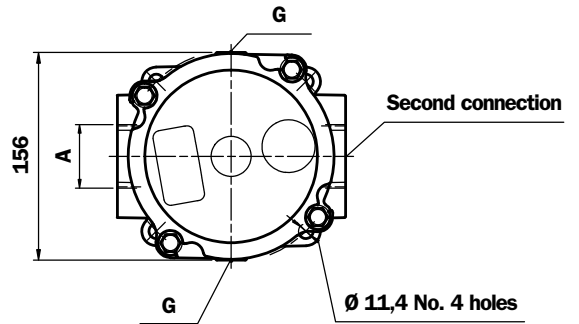
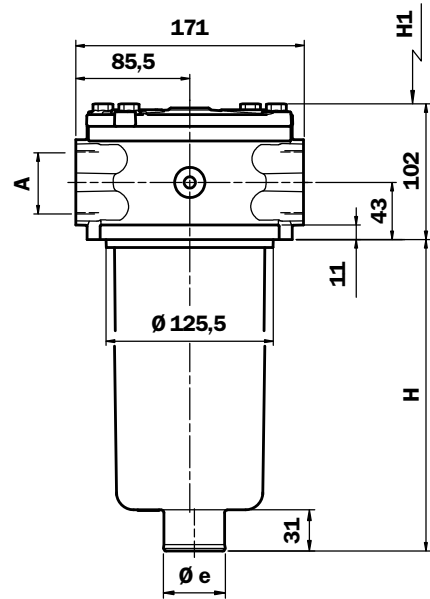
Thread connections MPF 180/190

St.	A
G1	G 1 1/4"
G4	1 1/4" NPT
G7	SAE 20 1 5/8" 12 UN

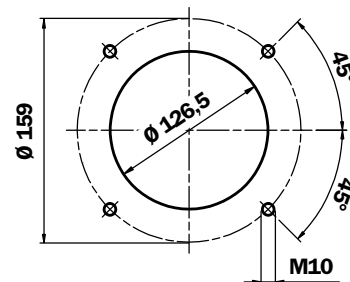
MPF	Length Filter	H mm	H1 mm	Ø e mm
180	1	235	250	47
	2	444	460	47
190	2	444	460	50

MPF	Length Filter	H mm	H1 mm	Ø e mm
184	1	232	250	47
	2	441	460	47
194	2	441	460	50

MPF 184/194



Holes on the tank



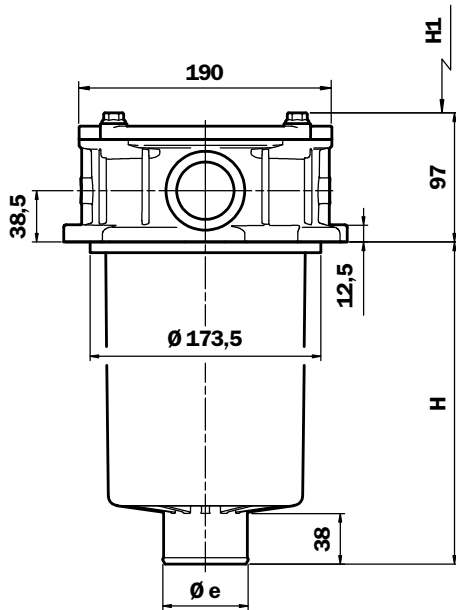
Thread connections MPF 184/194

St.	St.	
	A	G
G1	G 1 1/4"	G 1/8"
G2	2 Connections G 1 1/4"	G 1/8"
G4	1 1/4" NPT	1/8" NPT
G5	2 Connections 1 1/4" NPT	1/8" NPT
G7	SAE 20 1 5/8" 12 UN	1/8" NPT
G8	2 Connections SAE 20 1 5/8" 12 UN	1/8" NPT

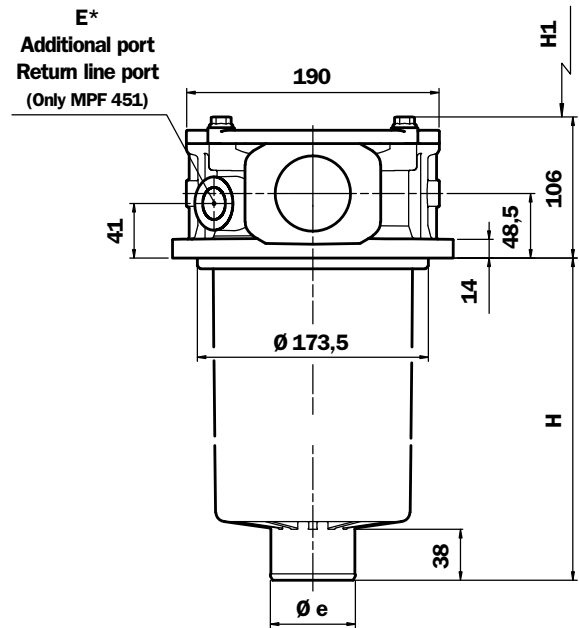
Flange connections MPF 184/194

St.	St.	
	A	G
F1	1 1/2" SAE 3000 psi/M	G 1/8"
F2	1 1/2" SAE 3000 psi/UNC	1/8" NPT
F3	2 Connections 1 1/2" SAE 3000 psi/M	G 1/8"
F4	2 Connections 1 1/2" SAE 3000 psi/UNC	1/8" NPT

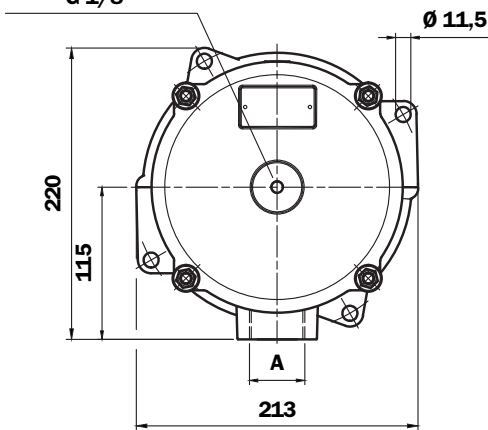
MPF 400



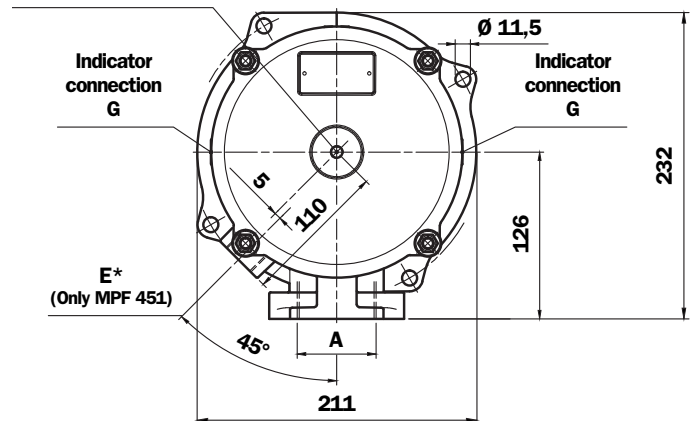
MPF 450/451



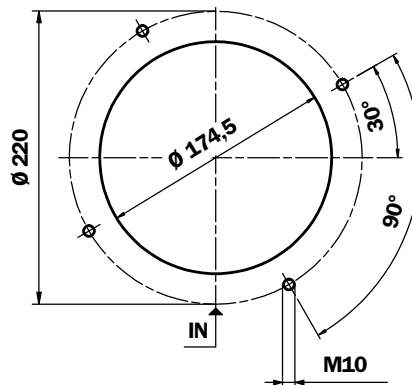
Indicator connection
G 1/8"



Indicator connection
G 1/8"



Holes on the tank



Thread connections
MPF 400

St.	A
G1	G 1 1/4"
G2	G 1 1/2"
G3	G 2"
G4	1 1/4" NPT
G5	1 1/2" NPT
G6	2" NPT
G7	SAE 20 1 5/8" 12 UN
G8	SAE 24 1 7/8" 12 UN
G9	SAE 32 2 1/2" 12 UN

MPF 400/450/451

Length Filter	H mm	H1 mm	Ø e mm
1	180	200	51
2	240	250	64
3	290	310	64

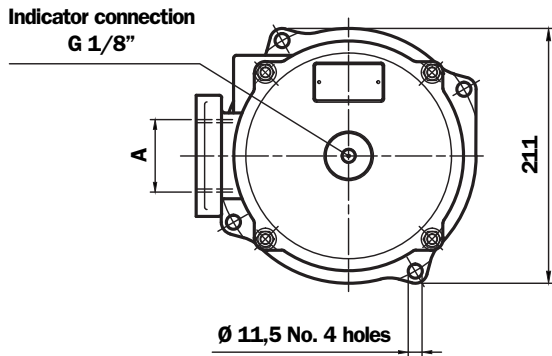
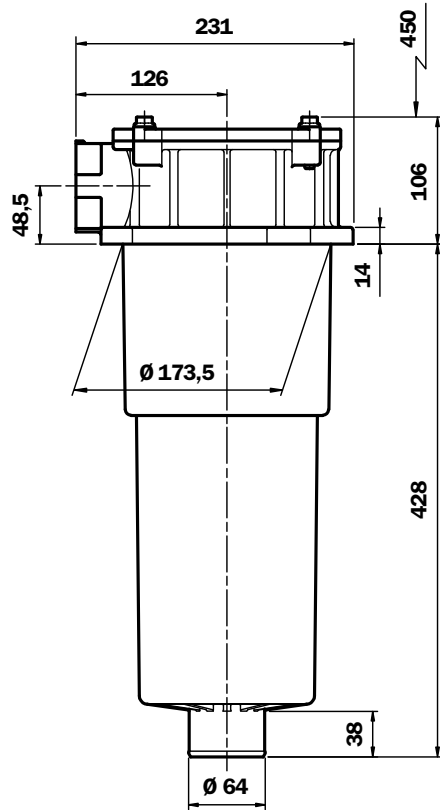
Thread connections MPF 450/451

St.	A	E*	G
G1	G 2"	G 3/4"	G 1/8"
G4	2" NPT	3/4" NPT	1/8" NPT
G7	SAE 32 2 1/2" 12 UN	SAE 12	1/8" NPT

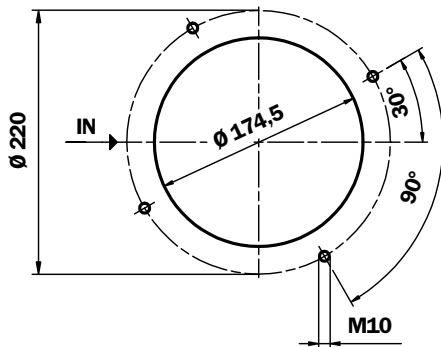
Flange connections MPF 450/451

St.	A	E*	G
F1	2" SAE 3000 psi/M	G 3/4"	G 1/8"
F2	2" SAE 3000 psi/UNC	3/4" NPT	1/8" NPT

MPF 750



Holes on the tank



Thread connections MPF 750

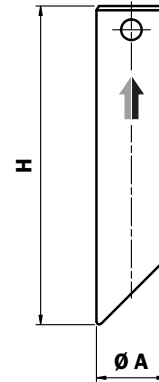
St.	A
G1	G 2"
G4	2" NPT
G7	SAE 32 2 1/2" 12 UN

Flange connections MPF 750

St.	A
F1	2" SAE - 3000 psi/M
F2	2" SAE - 3000 psi/UNC

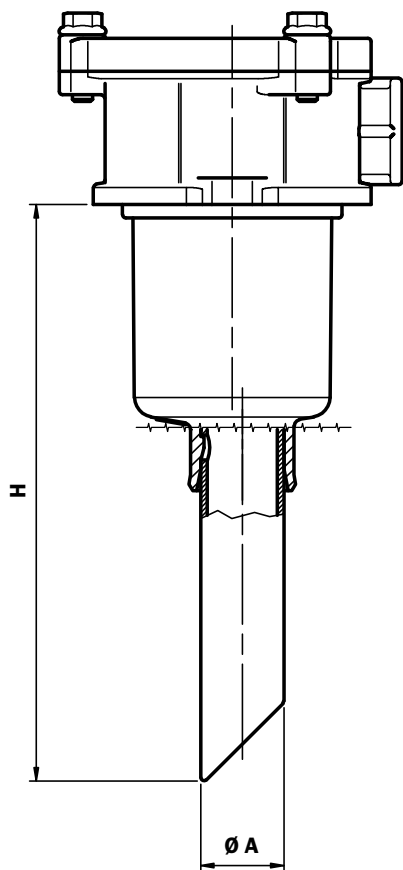
Accessories

Standard Nylon extension tube
Supplied not fitted



Code	H	Ø A	Size MPF (Option P01)	Filter Length
TE25A200	200	25	030	1
TE25A250	250			
TE25A300	300			
TE25A350	350			
TE25A400	400			
TE25A450	450			
TE25A500	500			
TE32A200	200	32	100 - 104	1 - 2
TE32A250	250			
TE32A300	300			
TE32A350	350			
TE32A400	400			
TE32A450	450			
TE32A500	500	40	100 - 104	3 - 4
TE40A200	200			
TE40A250	250			
TE40A300	300			
TE40A350	350		180 - 184	1 - 2
TE40A400	400			
TE40A450	450			
TE40A500	500			

**“H” Dimensions
Filter assembled with
Standard Nylon extension tube**



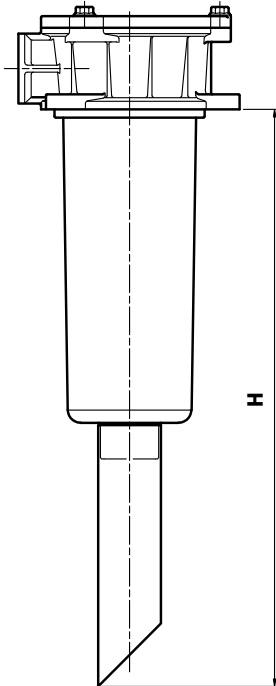
Tube extension Code	MPF...P01	Filter Length	H	Ø A
TE25A200	030	1	265	25
TE25A250			315	
TE25A300			365	
TE25A350			415	
TE25A400			465	
TE25A450			515	
TE25A500			565	
TE32A200	100 o 104	1	276	32
TE32A250		2	323	
		1	326	
TE32A300		2	373	
		1	376	
TE32A350		2	423	
		1	426	
TE32A400		2	473	
		1	476	
TE32A450		2	523	
		1	526	
TE32A500		2	573	
		1	576	
TE40A200		3	400	
	4	500		
	1	406		
	2	617		
	1	403		
	2	614		
TE40A250	3	450	40	
	4	550		
	1	456		
	2	667		
	1	453		
	2	664		
TE40A300	3	500	40	
	4	600		
	1	506		
	2	717		
	1	503		
	2	714		
TE40A350	3	550	40	
	4	650		
	1	556		
	2	767		
	1	553		
	2	764		
TE40A400	3	600	40	
	4	700		
	1	606		
	2	817		
	1	603		
	2	814		
TE40A450	3	650	40	
	4	750		
	1	656		
	2	867		
	1	653		
	2	864		
TE40A500	3	700	40	
	4	800		
	1	706		
	2	917		
	1	703		
	2	914		

Accessories

See ordering information: Option 9

Filter MPF.....Sxx

Filter assembly with Steel extension tube mounted (for filter size 190 to 750 only)



Series MPF	Filter Length
190/194	2
400/450/451	1 - 2 - 3
750	1

Code Options 9	H*
S25	250 mm
S30	300 mm
S35	350 mm
S40	400 mm
S.... mm

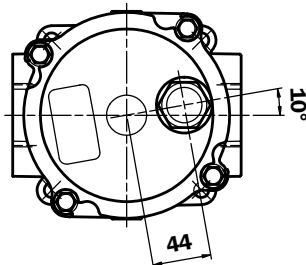
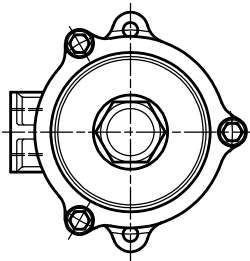
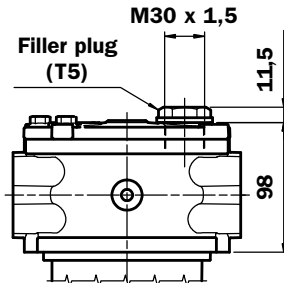
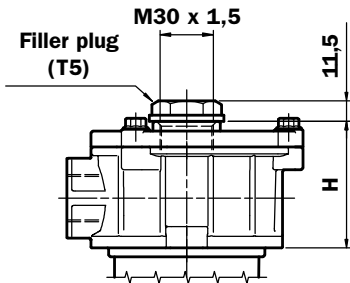
* Lengths are in multiple of 50 mm

Filter code example:

H length= 250 mm

MPF 400 1 x xx xxx x x S25

Filler Plug



Only size 184/194

Series MPF	H
030	66
100	72
104	72
180	80
190	80
400	86
450	106
451	106
750	95

Ordering example:

Filter with Filler Plug (page codes 18)

MPF 100 2 x H3 xxx x..

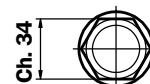
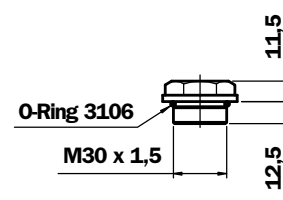
For filter sizes:

If plug is required, an indicator can not be fitted to the following sizes:

MPF 030 - 180 - 190 - 750

Filler plug

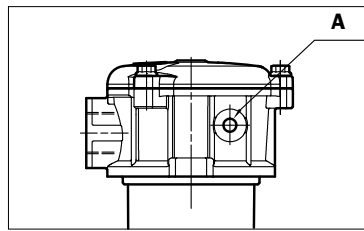
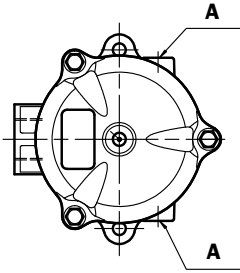
Code: **T5**



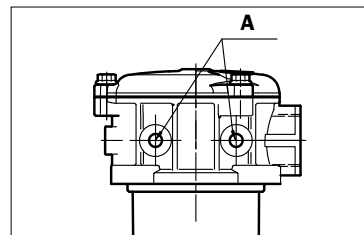
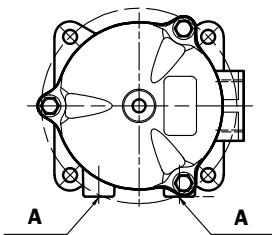
Connection options

Drain port 1/4"

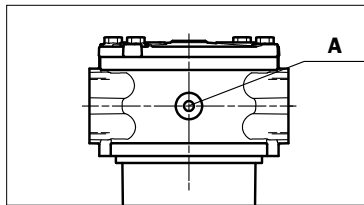
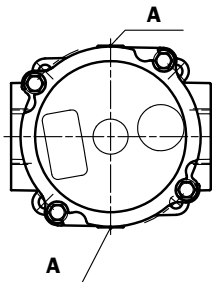
MPF 100



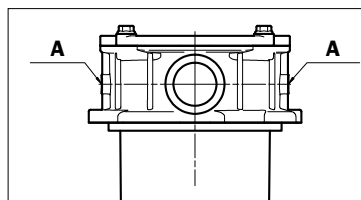
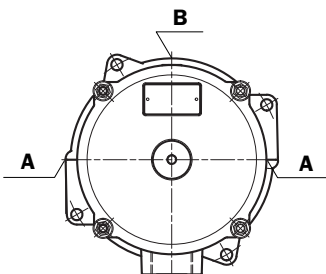
MPF 104



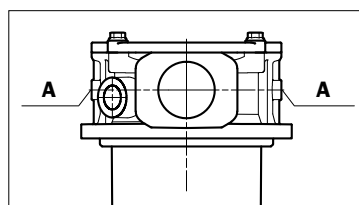
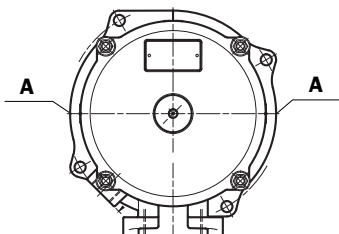
MPF 184/194



MPF 400



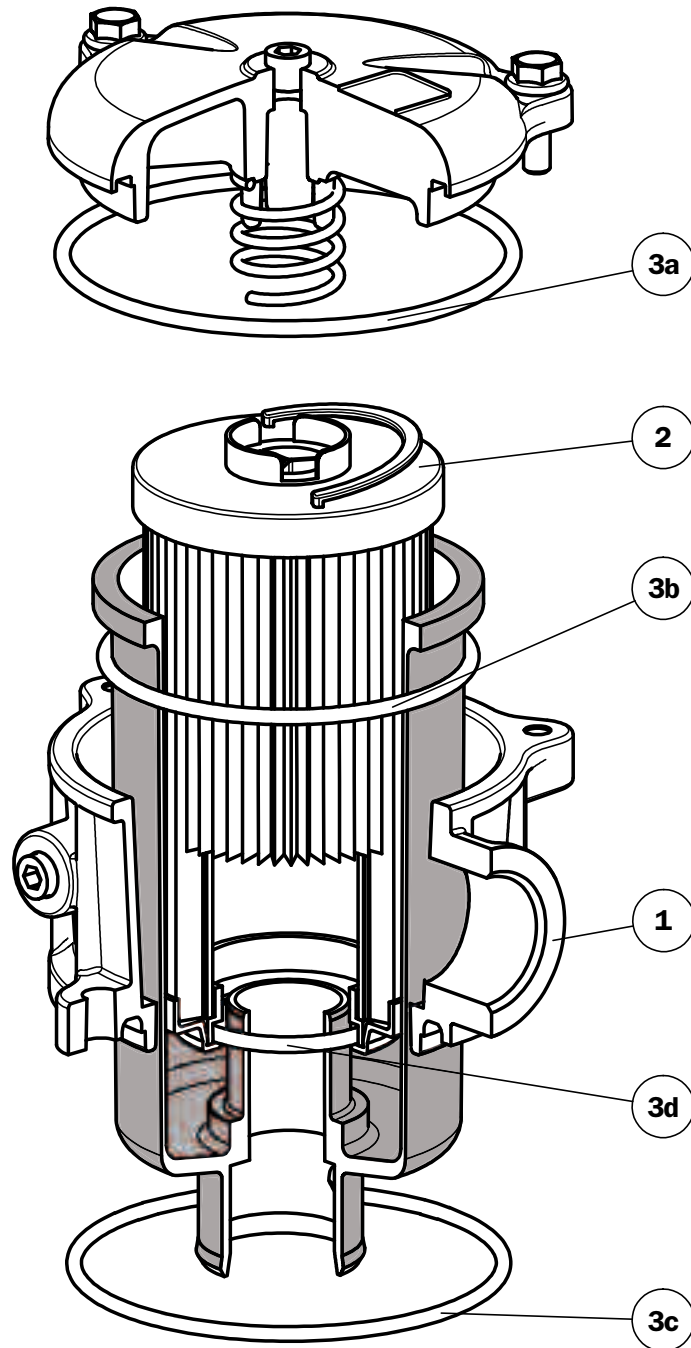
MPF 450/451



	Connections IN	A	B
MPF 100	G	G 1/4"	-
MPF 100	NPT - SAE	1/4" NPT	-
MPF 104	G	G 1/4"	-
MPF 104	NPT - SAE	1/4" NPT	-
MPF 184/194	G	G 1/4"	-
MPF 184/194	NPT - SAE	1/4" NPT	-
MPF 184/194	SAE 3000/M	G 1/4"	-
MPF 184/194	SAE 3000/UNC	1/4" NPT	-
MPF 400	G	G 1/4"	G 1/4"
MPF 400	NPT - SAE	1/4" NPT	1/4" NPT
MPF 450/451	G	G 1/4"	-
MPF 450/451	NPT - SAE	1/4" NPT	-
MPF 450/451	SAE 3000/M	G 1/4"	-
MPF 450/451	SAE 3000/UNC	1/4" NPT	-

Contact MP FILTRI for special ordering code

Spare parts



Spare parts

Pos.	Description	Qty	FILTER Series MPF							
			020		030		100		104	
1	Filter assembly	1	See order table							
2	Filter element	1	See order table							
3	Seal Kit	1	NBR 02050438	FPM 02050439	NBR 02050055	FPM 02050056	NBR 02050057	FPM 02050058	NBR 02050350	FPM 02050408
3a	Seal cover	1	O-R 174 Ø 71,44 x 3,53		O-R 174 Ø 71,44 x 3,53		O-R 4387 Ø 98,02 x 3,53		O-R 4387 Ø 98,02 x 3,53	
3b	Seal bowl	1	-		O-R 3225 Ø 56,82 x 2,62		O-R 4312 Ø 78,97 x 3,53		O-R 4312 Ø 78,97 x 3,53	
3c	Seal head	1	01026335	01026336	O-R 3275 Ø 69,52 x 2,62		O-R 6362 Ø 91,44 x 5,34		01026256	01026286
3d	Seal filter element	1	O-R 3093 Ø 23,47 x 2,62		O-R 3093 Ø 23,47 x 2,62		Length 1-2 O-R 4112 Ø 28,17 x 3,53		Length 1-2 O-R 4112 Ø 28,17 x 3,53	
							Length 3-4 O-R 4162 Ø 40,86 x 3,53		Length 3-4 O-R 4162 Ø 40,86 x 3,53	









Pos.	Description	Qty	FILTER Series MPF							
			180		184		190		194	
1	Filter assembly	1	See order table							
2	Filter element	1	See order table							
3	Seal Kit	1	NBR 02050059	FPM 02050060	NBR 02050455	FPM 02050456	NBR 02050457	FPM 02050458	NBR 02050459	FPM 02050460
3a	Seal cover	1	O-R 4537 Ø 136,10 x 3,53		O-R 4512 Ø 129,80 x 3,53		O-R 4537 Ø 136,10 x 3,53		O-R 4512 Ø 129,80 x 3,53	
3b	Seal bowl	1	O-R 4425 Ø 107,50 x 3,53		O-R 4425 Ø 107,50 x 3,53		O-R 6425 Ø 107,20 x 5,34		O-R 6425 Ø 107,20 x 5,34	
3c	Seal head	1	O-R 6535 Ø 135,89 x 5,34		O-R 210 Ø 133,40 x 5,34		O-R 6535 Ø 135,89 x 5,34		O-R 210 Ø 133,40 x 5,34	
3d	Seal filter element	1	O-R 4162 Ø 40,86 x 3,53		O-R 4162 Ø 40,86 x 3,53		O-R Metric Ø 50 x 4		O-R Metric Ø 50 x 4	

Pos.	Description	Qty	FILTER Series MPF					
			400		450 / 451		750	
1	Filter assembly	1	See order table					
2	Filter element	1	See order table					
3	Seal Kit	1	NBR 02050061	FPM 02050062	NBR 02050461	FPM 02050462	NBR 02050106	FPM 02050107
3a	Seal cover	1	O-R 4675 Ø 171 x 3,53		O-R 4675 Ø 171 x 3,53		O-R 4675 Ø 171 x 3,53	
3b	Seal bowl	1	O-R 221 Ø 149,20 x 5,34		O-R 221 Ø 149,20 x 5,34		O-R 221 Ø 149,20 x 5,34	
3c	Seal head	1	O-R 233 Ø 181 x 6,99		O-R 6720 Ø 183,51 x 5,34		O-R 6720 Ø 183,51 x 5,34	
3d	Seal filter element	1	Length 1 O-R 155 Ø 50,80 x 3,53		Length 1 O-R 155 Ø 50,80 x 3,53		O-R 168 Ø 65,09 x 3,53	
			Length 2-3 O-R 168 Ø 65,09 x 3,53		Length 2-3 O-R 168 Ø 65,09 x 3,53			

Ordering information MPF








Filter assembly

MPF

	1	2	3	4	5	6	8	9a
								
Example 1: MPF	100	2	A	G3	A06	H	B	P01
Example 2: MPF	190	2	V	G1	M25	N	E	S60

Filter element

MF

	1	2	5	6	7	8	9b
							
Example 1: MF	100	2	A06	H	B		P01
Example 2: MF	190	2	M25	N	V	E	P01

1 - Style

Filter	Filter element
020	030
030	030
100	100
104	104
180	180
184	184
190	190
194	194
400	400
450	450
451	451
750	750

2 - Filter length

020	1
030	1
100	1
104	2
180	1
184	2
190	2
194	2
400	1
450	2
451	3
750	1

3 - Filter seals & Treatment

A	NBR
V	FPM
W*	NBR, head anodized
Z*	FPM, head anodized

4 - Connections

Type		MPF						
		030	100/104	180/190	184/194	400	450/451	750
G1	H1	G 1/2"	G 1/2"	G 1 1/4"	G 1 1/4"	G 1 1/4"	G 2"	G 2"
G2	H2	-	G 3/4"	-	G 1 1/4" 2 Connections	G 1 1/2"	-	-
G3	H3	-	G 1"	-	-	G 2"	-	-
G4	H4	1/2" NPT	1/2" NPT	1 1/4" NPT	1 1/4" NPT	1 1/4" NPT	2" NPT	2" NPT
G5	H5	-	3/4" NPT	-	1 1/4" NPT 2 Connections	1 1/2" NPT	-	-
G6	H6	-	1" NPT	-	-	2" NPT	-	-
G7	H7	SAE 8	SAE 8	SAE 20	SAE 20	SAE 20	SAE 32	SAE 32
G8	H8	-	SAE 12	-	SAE 20 2 Connections	SAE 24	-	-
G9	H9	-	SAE 16	-	SAE 16	SAE 32	-	-
F1	K1	-	-	-	1 1/2" SAE 3000 PSI/M	-	2" SAE 3000 PSI/M	2" SAE 3000 PSI/M
F2	K2	-	-	-	1 1/2" SAE 3000 PSI/UNC	-	2" SAE 3000 PSI/UNC	2" SAE 3000 PSI/UNC
F3	K3	-	-	-	2 x 1 1/2" SAE 3000 PSI/M	-	-	-
F4	K4	-	-	-	2 x 1 1/2" SAE 3000 PSI/UNC	-	-	-

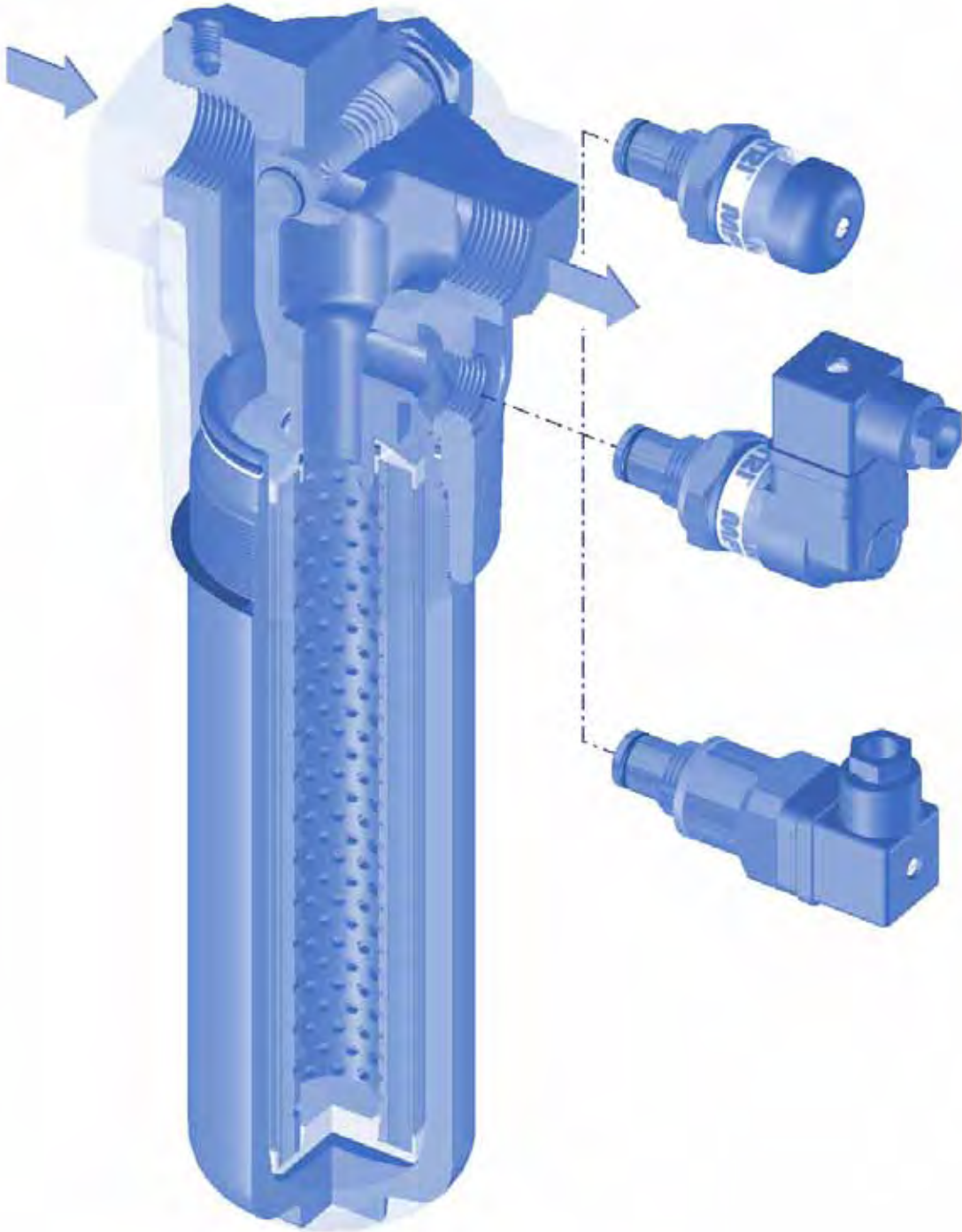
➔ Filter with filler plug (T5)

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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SERIES FHP

Working pressure
420 bar



Style S

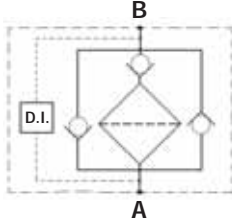
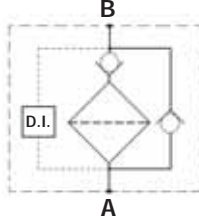
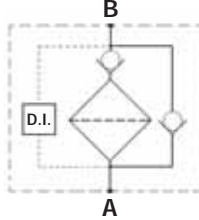
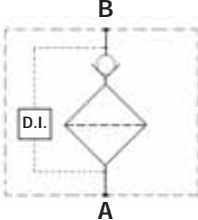
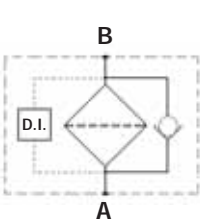
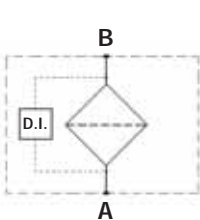
Style B

Style T

Style D

Style V

Style Z



Technical data

Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Brass
- Reverse Flow: Steel (only for series 320)

Pressure

- Maximum operating pressure: 420 bar (42 MPa)
- Test pressure: 630 bar (63 MPa)
- Burst pressure: 1250 bar (125 MPa)
- Pulsed pressure fatigue test 1,000,000 of cycles with pressure from 0 to 420 bar (42 MPa)

Temperature

- From -25°C to +110°C

Bypass valve

- Opening pressure 6 bar \pm 10%
- Other opening pressures on request.

Elements type Δp

- Elements in microfibre series N-R: 20 bar
- Elements in microfibre series H-S: 210 bar
- Elements in stainless steel mesh series N: 20 bar
- Oil flow from exterior to interior.

Seals

- Standard Nitrile (NBR) series A
- Optional FPM series V

Weights without filter elements (kg.)

Length	1	2	3	4
• FHP 065	3.9	4.2	5.7	—
• FHP 135	7.5	9.4	12	—
• FHP 320/321	14.5	16.5	22.5	25.5

Filter internal volumes (dm³)

Length	1	2	3	4
• FHP 065	0.35	0.40	0.60	—
• FHP 135	0.55	0.85	1.20	—
• FHP 320/321	1.25	1.95	2.80	3.50

Connections

In-line Inlet/Outlet
Style FHP 321 inlet/outlet 90°

Compatibility

- Bodies compatible with:
Mineral oils to ISO 2943 - aqueous emulsions
Synthetic fluids, water/glycol.
- Filter elements compatible with:
Mineral oils to ISO 2943 - aqueous emulsions
Synthetic fluids, water/glycol.
- Nitrile (NBR) seals series A, compatible with:
Mineral oils to ISO 2943 - aqueous emulsions
Synthetic fluids, water/glycol.
- V series FPM seals, compatible with:
Synthetic fluids type HS-HFDR-HFDS-HFDU.
To ISO 2943

Filter Element Area

Filter element in stainless steel mesh
Length

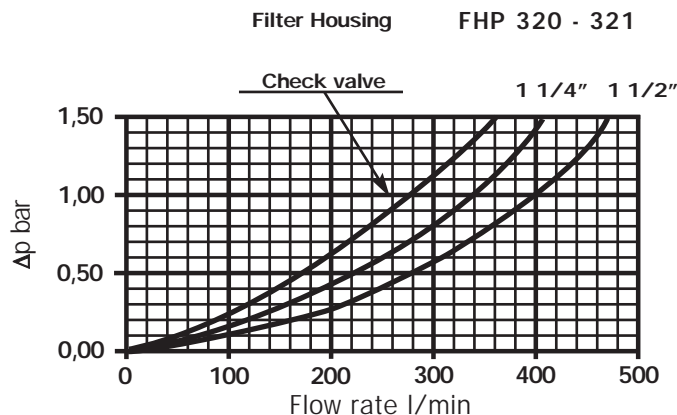
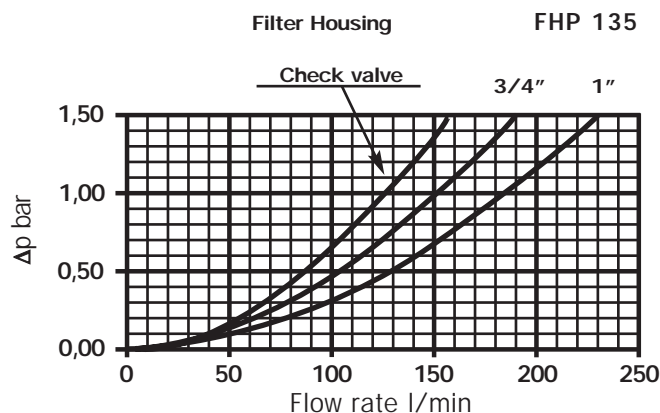
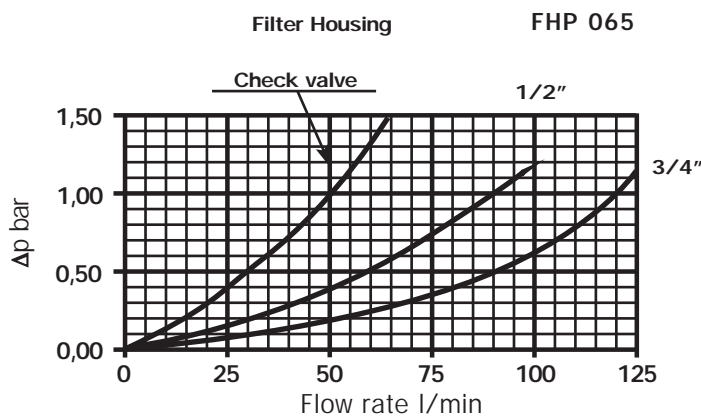
Type	1	2	3	4
HP065	374	530	1064	-
HP135	950	2020	2700	-
HP320	1650	3645	5970	8280

Values expressed in cm²

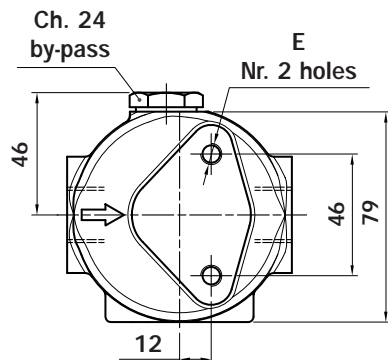
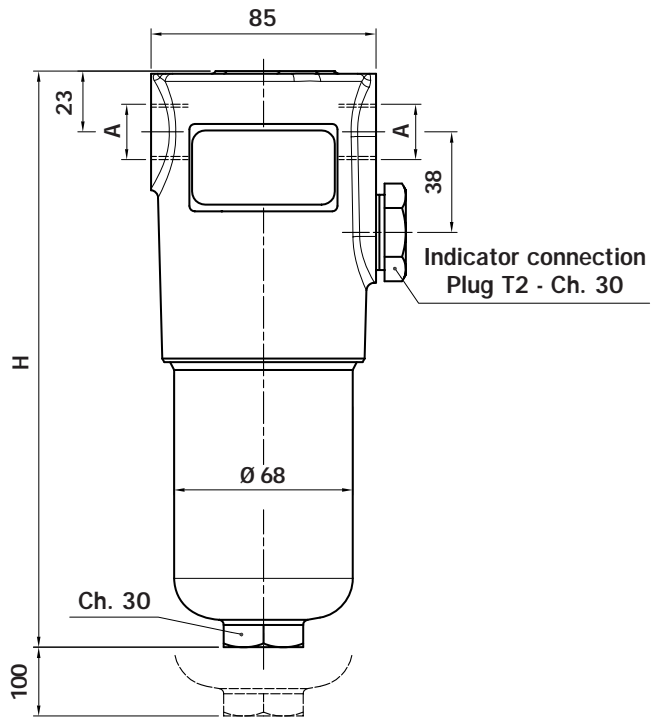
Pressure drops Δp Housing

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

Δp varies proportional with density.



FHP065



Recommended maximum flow rate

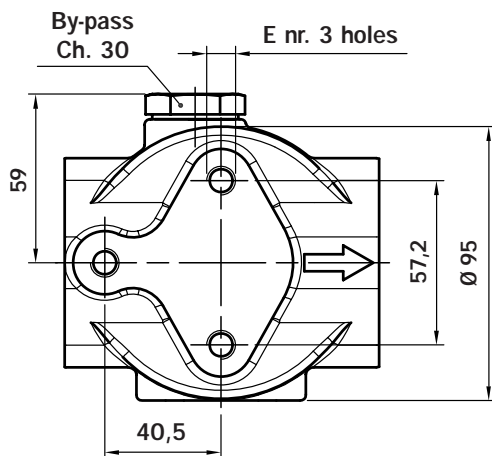
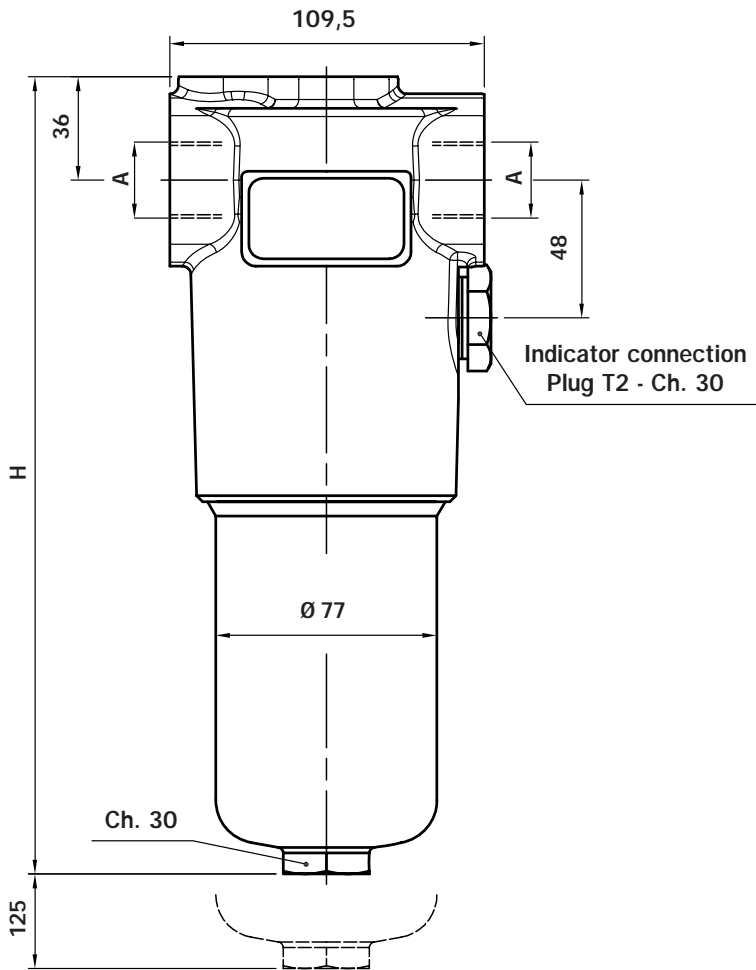
- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 3/4".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	23	22	1
A06	30	23	
A10	48	43	
A16	53	50	
A25	72	68	
M25	105	-	2
A03	31	30	
A06	45	35	
A10	60	57	
A16	64	63	
A25	82	77	3
M25	106	-	
A03	53	52	
A06	61	58	
A10	79	78	
A16	84	83	3
A25	94	93	
M25	108	-	

A Threaded Connections	E Depth 15 mm
G 1/2"	M8
G 3/4"	M8
1/2" NPT	5/16" UNC
3/4" NPT	5/16" UNC
SAE 8 (3/4" - 16 UNF)	5/16" UNC
SAE 12 (1 1/16" - 12 UN)	5/16" UNC

Filter Length	H mm
1	200
2	230
3	330

FHP135



Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	69	50	1
A06	74	57	
A10	120	98	
A16	129	101	
A25	171	156	
M25	200	-	2
A03	110	91	
A06	117	110	
A10	148	136	
A16	151	139	
A25	208	175	3
M25	230	-	
A03	150	126	
A06	153	140	
A10	192	170	
A16	195	179	3
A25	213	196	
M25	232	-	

A Threaded Connections E Depth 15 mm

G 3/4"	M10
G 1"	M10
3/4" NPT	3/8" UNC
1 NPT	3/8" UNC
SAE 12 (1 1/16"- 12 UN)	3/8" UNC
SAE 16 (1 5/16"- 12 UN)	3/8" UNC

A Flanged Connections E Depth 15 mm

3/4" SAE 3000 psi/M	M10
1" SAE 3000 psi/M	M10
3/4" SAE 3000 psi/UNC	3/8" UNC
1" SAE 3000 psi/UNC	3/8" UNC
3/4" SAE 6000 psi/M	M10
3/4" SAE 6000 psi/UNC	3/8" UNC

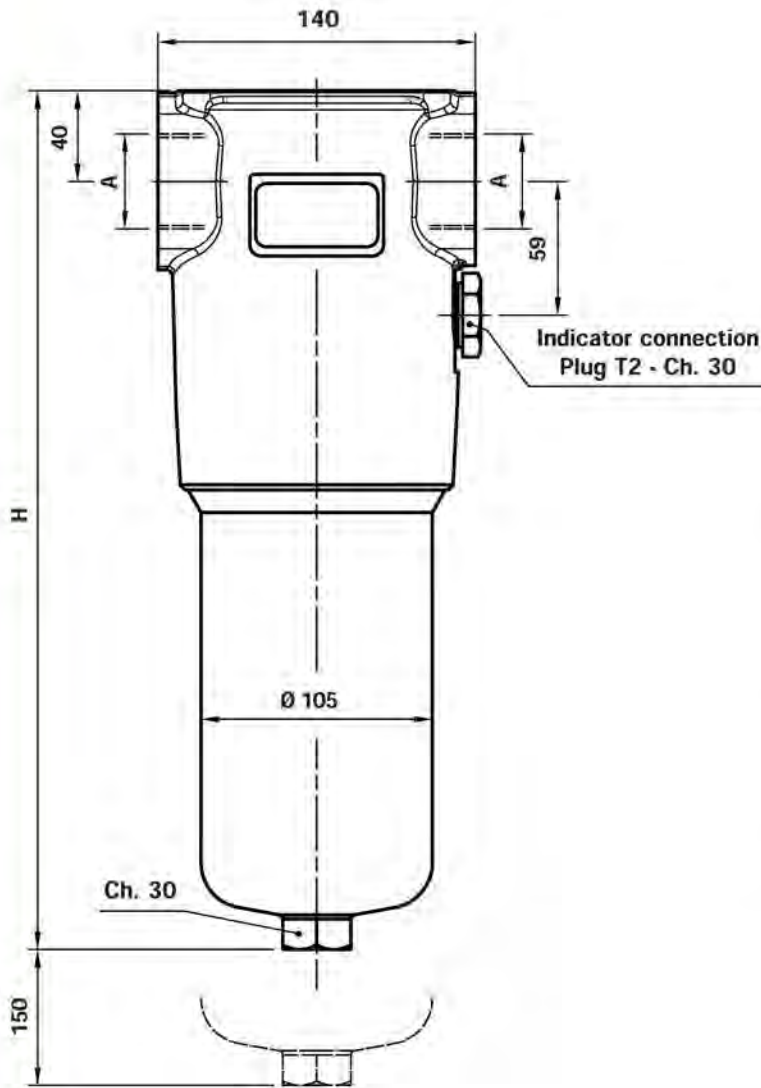
Filter Length H mm

1	260
2	373
3	448

FHP320/321

Recommended maximum flow rate

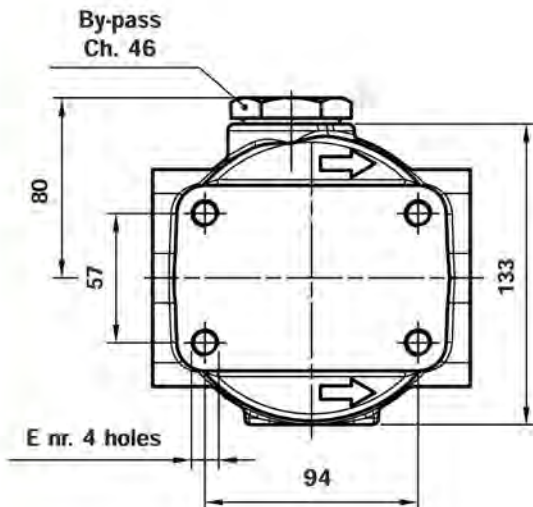
- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1 1/2"



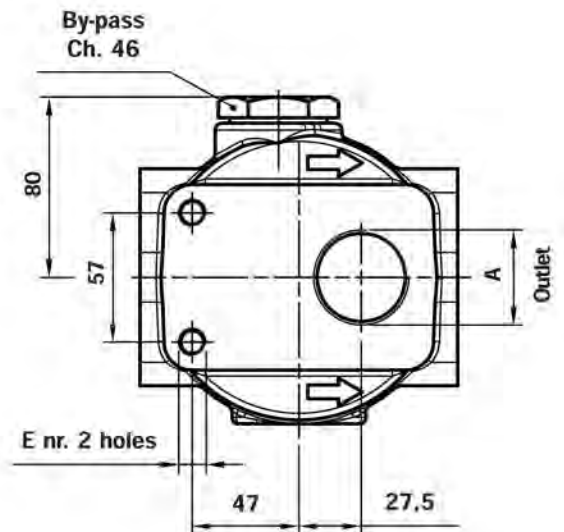
Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	126	107	1
A06	137	112	
A10	230	185	
A16	274	193	
A25	330	292	
M25	425	-	2
A03	248	192	
A06	270	220	
A10	376	300	
A16	395	312	
A25	440	378	3
M25	445	-	
A03	319	255	
A06	353	300	
A10	427	367	
A16	440	375	4
A25	450	417	
M25	465	-	
A03	354	298	
A06	375	320	
A10	430	375	4
A16	447	382	
A25	467	422	
M25	475	-	

Filter Length	H mm
1	298
2	422
3	554
4	709

FHP 320



FHP 321 Top Outlet



Ordering information FHP

Filter assembly FHP

Example: FHP

1	2	3	4	5	6	7	8a
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
135	1	S	A	G1	A03	H	P01

Filter element HP

Example: HP

1	2	4	6	7	8b
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
135	1	A	A03	H	P01

1 - Size

065
135
320
321

2 - Filter length

1
2
3
4

(only for FHP 320-321)

3 - Valves

S
B
D
V
Z
T

Without bypass

With bypass

With bypass + chek valve*

With Reverse Flow*
(only for FHP 320)

With Reverse Flow + bypass
(only for FHP 320)

With bypass + chek valve*
(only for FHP 320)

*Reduced cross-section oilways

4 - Seals

A
V

NBR

FPM

6 - Filter elements

A03
A06
A10
A16
A25
M25

Inorganic microfibre 3 µ

Inorganic microfibre 6 µ

Inorganic microfibre 10 µ

Inorganic microfibre 16 µ

Inorganic microfibre 25 µ

Stainless steel mesh 25 µ (style N only)

βx (c) ≥ 1000
See page 10

7 - Filter elements differential pressure

N
H

20 bar

210 bar

R
S

(Filter with Reverse Flow + bypass)

(Filter with Reverse Flow)

8 - Options

a) Filter

P01
P02
Pxx

MP Standard filters

Maintenance from base of housing (FHP 320 - 4 only)

Customer request

b) Filter element

P01
Pxx

MP Filtri standard

Customer request

5 - Connections

Type	065	135	320	321
G1	G 1/2"	G 3/4"	G 1 1/4"	G 1 1/4"
G2	G 3/4"	G 1"	G 1 1/2"	G 1 1/2"
G3	1/2" NPT	3/4" NPT	1 1/4" NPT	1 1/4" NPT
G4	3/4" NPT	1" NPT	1 1/2" NPT	1 1/2" NPT
G5	SAE 8	SAE 12	SAE 20	SAE 20
G6	SAE 12	SAE 16	SAE 24	SAE 24
F1	-	3/4" SAE 3000 PSI/M	1 1/4" SAE 3000 PSI/M	-
F2	-	1" SAE 3000 PSI/M	1 1/2" SAE 3000 PSI/M	-
F3	-	3/4" SAE 3000 PSI/UNC	1 1/4" SAE 3000 PSI/UNC	-
F4	-	1" SAE 3000 PSI/UNC	1 1/2" SAE 3000 PSI/UNC	-
F5	-	3/4" SAE 6000 PSI/M	1 1/4" SAE 6000 PSI/M	-
F6	-	3/4" SAE 6000 PSI/UNC	1 1/4" SAE 6000 PSI/UNC	-

DIFFERENTIAL INDICATORS
(see page 15)

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SERIES FMP

Working pressure
280 bar



Style S

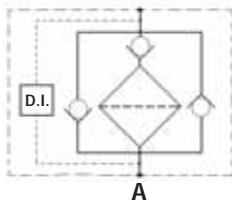
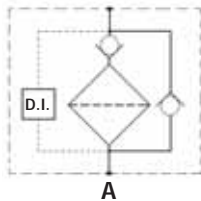
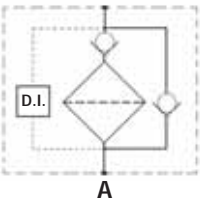
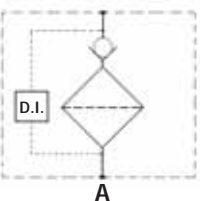
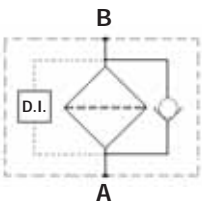
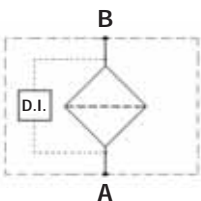
Style B

Style T

Style D

Style V

Style Z



Technical data

Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Cast iron (chemical heat treatment)
- Bypass valve: Brass
- Reverse Flow: Steel (series 135 - 320 only)
- Check valve: Steel

Pressure

- Maximum operating pressure: 280 bar (28 MPa)
- Test pressure: 420 bar (42 MPa)
- Burst pressure: 840 bar (84 MPa)
- Pulsed pressure fatigue test 1,000,000 cycles with pressure from 0 to 280 bar (28 MPa)

Temperature

- From -25°C to +110°C

Bypass valve

- Opening pressure 6 bar ±10%
- Other opening pressures on request.

Elements type Δp

- Microfibre elements series N-R: 20 bar
- Elements in stainless steel mesh series N: 20 bar
- Elements in microfibre series H-S: 210 bar
- Oil flow from exterior to interior.

Seals

- Standard Nitrile (NBR) series A
- Optional FPM series V

Weights without filter elements (kg)

Length	1	2	3	4
• FMP 065	3.0	3.4	5.2	—
• FMP 135	6.0	8.2	12.0	—
• FMP 320	12.7	14.7	20.7	23.7

Filter internal volumes (dm³)

Length	1	2	3	4
• FMP 065	0.38	0.45	0.67	—
• FMP 135	0.40	1.02	1.24	—
• FMP 320	1.61	2.61	3.27	4.20

Connections

In-line Inlet/Outlet

Compatibility

- Bodies compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.
- Filter elements compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.
- Nitrile (NBR) seals series A, compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.
- V series FPM seals, compatible with: Synthetic fluids type HS-HFDR-HFDS-HFDU. To ISO 2943

Filter Element Area

Filter element in stainless steel mesh

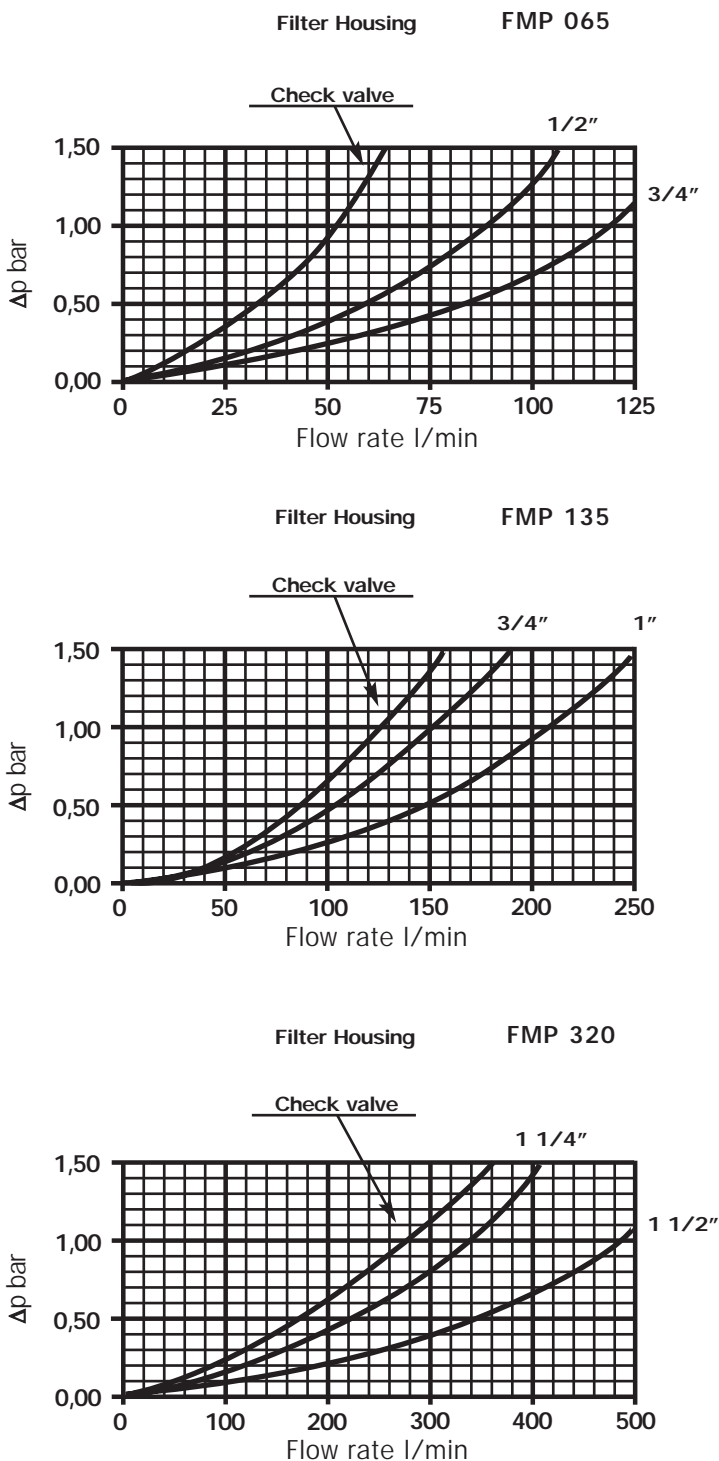
Type	Length			
	1	2	3	4
HP065	374	530	1064	-
HP135	950	2020	2700	-
HP320	1650	3645	5970	8280

Values expressed in cm²

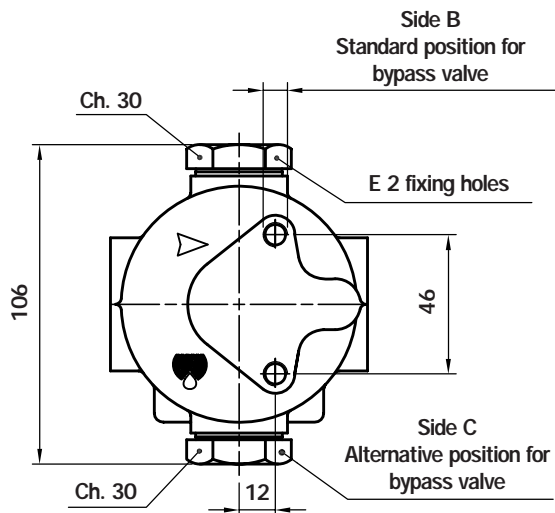
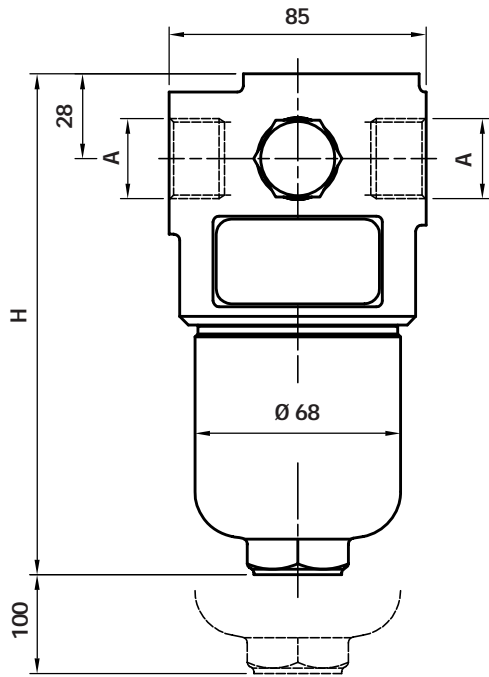
Pressure drops Δp Housing

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

Δp varies proportional with density.



FMP 065



Indicator and bypass valve positions can be inverted.

Recommended maximum flow rate

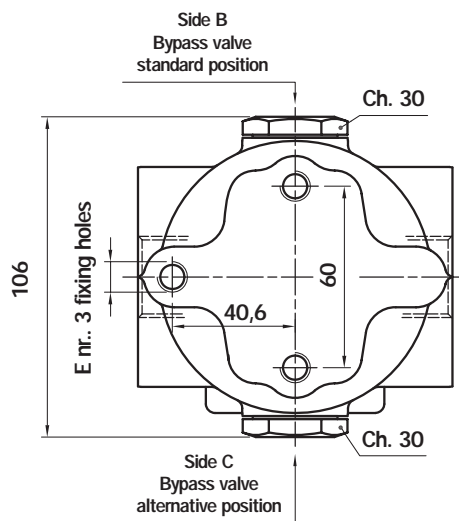
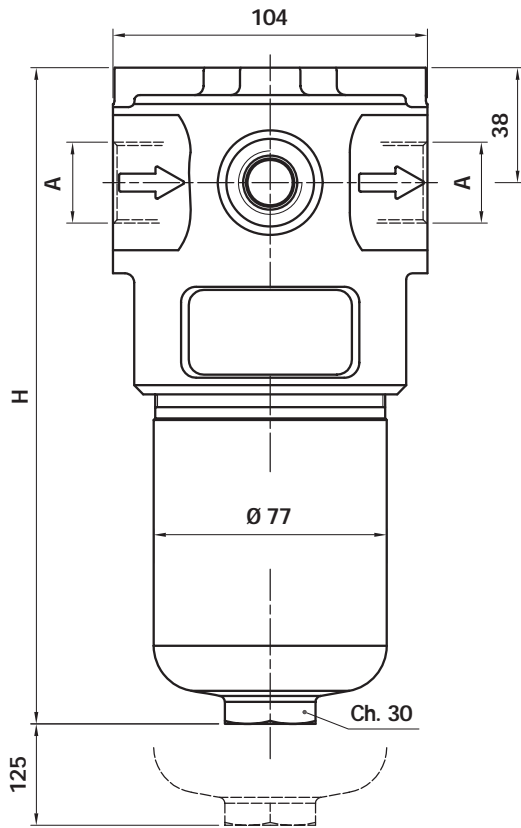
- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 3/4".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	23	22	1
A06	30	23	
A10	48	43	
A16	53	50	
A25	72	68	
M25	105	-	
A03	31	30	2
A06	45	35	
A10	60	57	
A16	64	63	
A25	82	77	
M25	106	-	
A03	53	52	3
A06	61	58	
A10	79	78	
A16	84	83	
A25	94	93	
M25	108	-	

A Threaded Connections	E Depth 15 mm
G 1/2"	M8
1/2" NPT	5/16" UNC
G 3/4"	M8
3/4" NPT	5/16" UNC
SAE 8 (3/4"- 16 UNF)	5/16" UNC
SAE 12 (1 1/16"- 12 UN)	5/16" UNC

Filter Length	H mm
1	169
2	200
3	302

FMP 135



Indicator and bypass valve positions can be inverted.

Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	69	50	1
A06	74	57	
A10	120	98	
A16	129	101	
A25	171	156	
M25	200	-	2
A03	110	91	
A06	117	110	
A10	148	136	
A16	151	139	
A25	208	175	3
M25	230	-	
A03	150	126	
A06	153	140	
A10	192	170	
A16	195	179	3
A25	213	196	
M25	232	-	

A Threaded Connections E Depth 15 mm

G 3/4"	M10
3/4" NPT	3/8" UNC
G 1"	M10
1" NPT	3/8" UNC
SAE 12 (1 1/16" - 12 UN)	3/8" UNC
SAE 16 (1 5/16" - 12 UN)	3/8" UNC

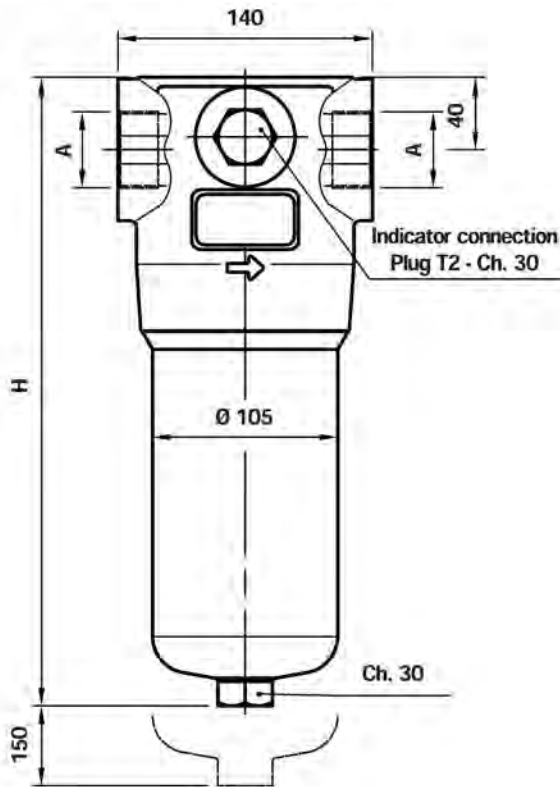
A Flanged Connections B Depth 15 mm

3/4" SAE 3000 psi/M	M10
3/4" SAE 3000 psi/UNC	3/8" UNC
1" SAE 3000 psi/M	M10
1" SAE 3000 psi/UNC	3/8" UNC

Filter Length H mm

1	220
2	333
3	408

FMP 320



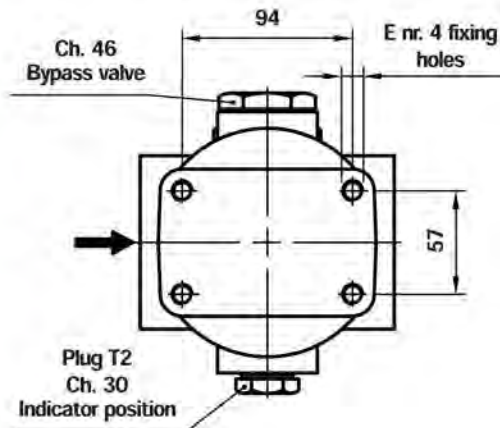
Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1 1/2".

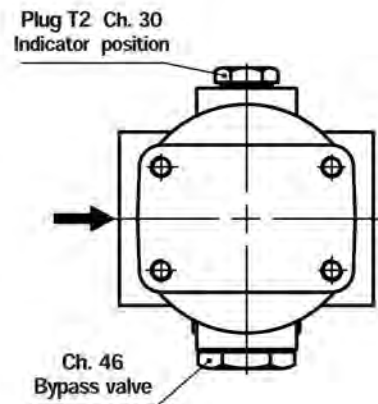
Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	126	107	
A06	137	112	
A10	230	185	1
A16	274	193	
A25	330	292	
M25	425	-	
A03	248	192	
A06	270	220	
A10	376	300	2
A16	395	312	
A25	440	378	
M25	445	-	
A03	319	255	
A06	353	300	
A10	427	367	3
A16	440	375	
A25	450	417	
M25	465	-	
A03	354	298	
A06	375	320	
A10	430	375	4
A16	447	382	
A25	467	422	
M25	475	-	

Filter Length	H mm
1	263
2	386
3	518
4	673

Side B
Bypass valve standard position



Side C
Bypass valve alternative position



Ordering information FMP

Filter assembly FMP

Example: FMP

1	2	3	4	5	6	7	8a
065	2	B	A	G1	A03	N	P01

Filter element HP

Example: HP

1	2	6	4	7	8b
065	2	A03	A	N	P01

1 - Size

065
135
320

2 - Filter length

1
2
3
4

(only for FMP 320)

3 - Valves

S
B
C
D
V
Z
T
E

Without bypass side B - Optional

With bypass side B - Standard

With bypass side C - Optional

With bypass side B + check valve*

With Reverse Flow*
(Only for size 320)

With Reverse Flow + bypass*
(Only for size 320)

Without bypass +
check valve*

Without bypass side C - Optional

*Reduced cross-section oilways

4 - Seals

A
V

NBR

FPM

5 - Connections

Type	065	135	320
G1	G 1/2"	G 3/4"	G 1 1/4"
G2	G 3/4"	G 1"	G 1 1/2"
G3	1/2" NPT	3/4" NPT	1 1/4" NPT
G4	3/4" NPT	1" NPT	1 1/2" NPT
G5	SAE 8 (3/4" 16 UNF)	SAE 12 (1 · 1/16" 12 UN)	SAE 20 (1 5/8" 12 UN)
G6	SAE 12 (1 · 1/16" 12 UN)	SAE 16 (1 · 5/16" 12 UN)	SAE 24 (1 7/8" 12 UN)
F1	-	3/4" SAE 3000 PSI/M	1 - 1/4" SAE 3000 PSI/M
F2	-	1" SAE 3000 PSI/M	1 - 1/2" SAE 3000 PSI/M
F3	-	3/4" SAE 3000 PSI/UNC	1 - 1/4" SAE 3000 PSI/UNC
F4	-	1" SAE 3000 PSI/UNC	1 - 1/2" SAE 3000 PSI/UNC

DIFFERENTIAL INDICATORS
(see page 15)

6 - Filter elements

A03
A06
A10
A16
A25
M25

Inorganic microfibre 3 µ

Inorganic microfibre 6 µ

Inorganic microfibre 10 µ

Inorganic microfibre 16 µ

Inorganic microfibre 25 µ

Stainless steel mesh 25 µ (style N only)

βx (c) ≥ 1000

See page 10

7 - Filter elements collapse pressure

N
H
R
S

20 bar

210 bar

20 bar (Filter with reverse flow + bypass)

210 bar (Filter with reverse flow)

8 - Options

a) Filter

P01
P02
Pxx

MP Standard filters

Maintenance from housing base (only for FMP 320 - 4)

Customer request

b) Filter element

P01
Pxx

MP Filtri standard

Customer request

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FMM

SERIES 050

Working pressure
280 bar

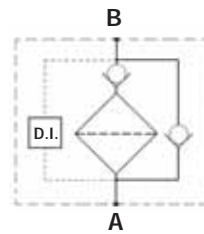
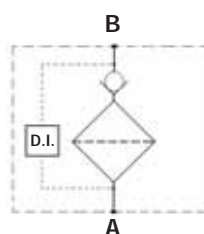
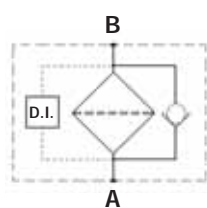
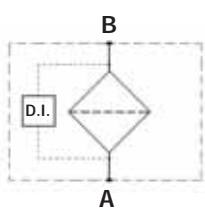


Style S

Style B

Style T

Style D



Technical data

Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel

Pressure

- Working pressure: 280 bar (28 MPa)
- Test pressure: 420 bar (42 MPa)
- Burst pressure: 840 bar (84 MPa)
- Pulsed pressure fatigue test 1,000,000 of cycles with variable pressure from 0 to 280 bar (28 MPa)

Temperature

- From -25°C to +110°C

Bypass valve

- Opening pressure 6 bar \pm 10%
- Other opening pressures on request.

Elements type Δp

- Microfibre filter elements series N: 20 bar
- Microfibre filter elements series H: 210 bar
- Stainless steel mesh elements series N: 20 bar
- Oil flow from exterior to interior.

Seals

- Standard Nitrile (NBR) series A
- Optional FPM series V

Weights without filter elements (kg)

Length

- FMM050-1 2.6
- FMM050-2 3.6
- FMM050-3 3.9
- FMM050-4 4.5
- FMM050-5 6.1

Filter internal volumes (dm³)

Length

- FMM050-1 0.38
- FMM050-2 0.48
- FMM050-3 0.58
- FMM050-4 0.69
- FMM050-5 0.86

Connections

In-line Inlet/Outlet

Compatibility

- Bodies compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.
- Filter elements compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.

- Nitrile (NBR) seals series A, compatible with: Mineral oils to ISO 2943 - aqueous emulsions Synthetic fluids, water/glycol.
- V series FPM seals, compatible with: Synthetic fluids type HS-HFDR-HFDS-HFDU. To ISO 2943

Filter Element Area

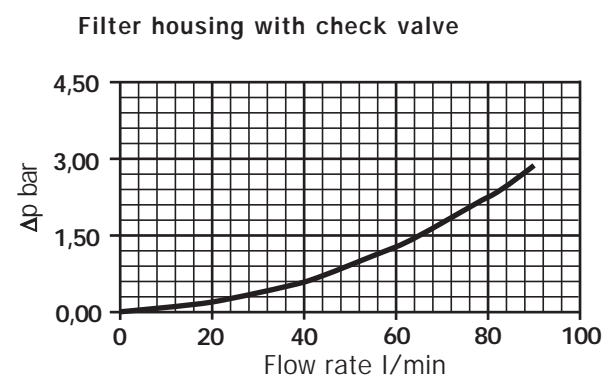
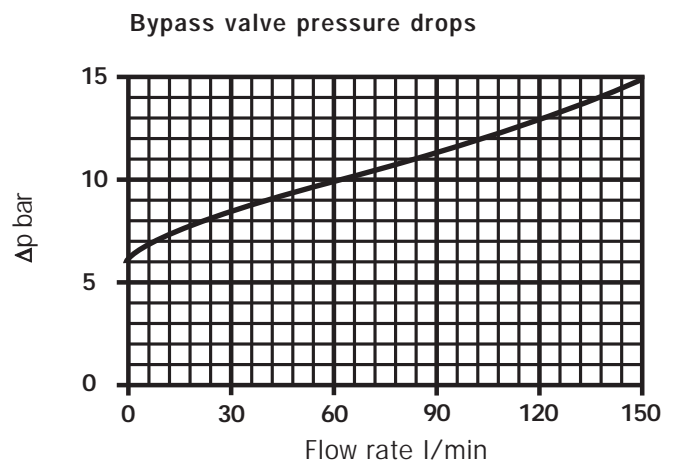
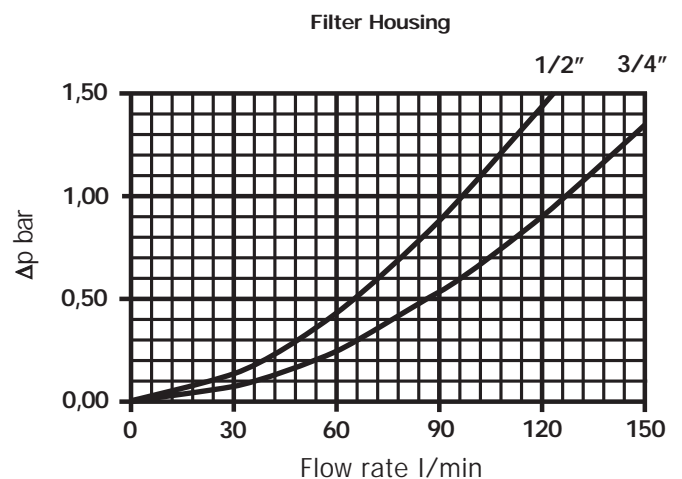
Filter element in stainless steel mesh

Type	Length				
	1	2	3	4	5
HP050	450	700	1000	1300	2100
Values expressed in cm ²					

Pressure drops Δp Housing

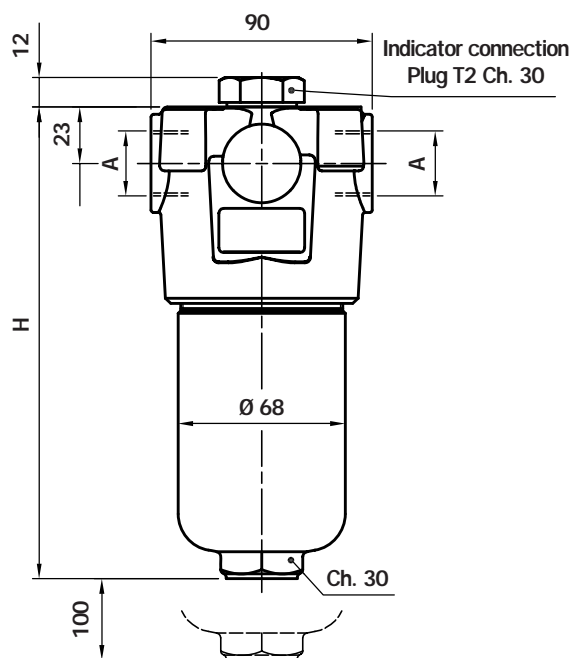
The curves are plotted using mineral oil with density of 0.86 kg/dm³ to ISO 3968.

Δp varies proportional with density.

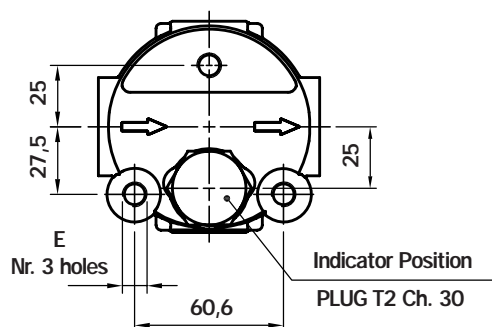


FMM 050

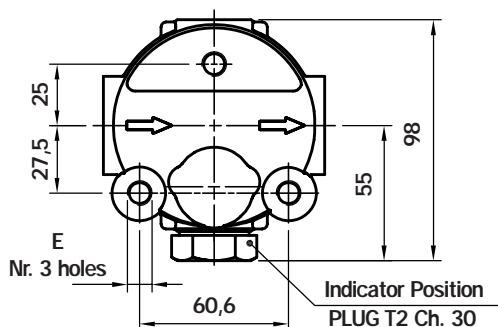
Dimensions



With standard indicator



Option P03 with indicator at 90°



Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 3/4".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	44	30	1
A06	44	40	
A10	80	58	
A16	82	60	
A25	110	75	
M25	140	-	2
A03	53	45	
A06	58	50	
A10	87	78	
A16	100	90	
A25	125	119	
M25	140	-	3
A03	68	59	
A06	71	62	
A10	100	92	
A16	110	100	
A25	135	130	
M25	140	-	4
A03	85	75	
A06	92	82	
A10	118	106	
A16	120	112	
A25	135	135	
M25	145	-	5
A03	110	94	
A06	112	98	
A10	130	112	
A16	135	120	
A25	140	140	
M25	152	-	

A	E
Threaded Connections	Depth 15 mm
18x1,5 ISO 6149	M10
22x1,5 ISO 6149	M10
G 1/2"	M10
G 3/4"	M10
1/2" NPT	3/8" UNC
3/4" NPT	3/8" UNC
SAE 8 (3/4" - 16 UNF)	3/8" UNC
SAE 12 (1 1/16" - 12 UN)	3/8" UNC

Filter Length	H mm
1	158
2	195
3	237
4	285
5	407

Note. Differential indicator versions are supplied with plug T2.

Ordering information FMM050

Filter assembly FMM 050

Example: HP050

1	2	3	4	5	6	7 _a
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	B	A	C	A10	N	P01

Filter element HP 050

Example: HP050

1	5	3	6	7 _b
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	A10	A	N	P01

1 - Filter lengths

1
2
3
4
5

2 - Bypass valve

S	Without bypass
B	With bypass
T	Without bypass + check valve*
D	With bypass + check valve*

*Reduced cross-section oilways

3 - Seals

A	NBR
V	FPM

4 - Threaded connections

A	M18x1.5 ISO 6149
B	M22x1.5 ISO 6149
C	G 1/2"
D	G 3/4"
E	1/2" NPT
F	3/4" NPT
G	SAE 8 (3/4" - 16 UNF)
H	SAE 12 (1 1/16" - 12 UN)

5 - Filter elements

A03	Inorganic microfibre 3 µ	} βx (c) ≥ 1000 see page 10
A06	Inorganic microfibre 6 µ	
A10	Inorganic microfibre 10 µ	
A16	Inorganic microfibre 16 µ	
A25	Inorganic microfibre 25 µ	
M25	Stainless steel mesh 25 µ (N style only)	

6 - Filter elements differential pressure

N	20 bar
S	210 bar

7 - Options

a) Filter

P01	Standard threaded connection for indicator
P02	Without threaded connection for indicator
P03	Threaded connection for indicator at 90°
Pxx	Customer request

b) Filter element

P01	MP Filtri standard
Pxx	Customer request

DIFFERENTIAL INDICATORS (see page 15)

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Description

MPS / MIST

The **MPS** spin-on filter series is a complete product range suitable, for both suction and return applications. Utilising spin-on canisters, the MPS series are quick and easy to service and provide a 'clean' solution when changing elements.

The filter elements are either resin-impregnated paper ($\beta_x > 2$), glass fibre ($\beta_x \geq 200$) or square wire mesh.

The unique filter head is designed for both European CS and American CG standard canister series. One head design series accommodates both styles of elements.

Also available is a new design utilizing a pressure differential visual and electrical indicators - ideal for lubrication applications.

MPS filters are specifically designed for contamination control in hydraulic and lubrication circuits for mobile applications, agricultural and machine tool systems.

The **CW** series of canister removes water from oil while filtering the oil at the same time.

Water absorbent polymers up to 800 times their own weight, provide this major feature.

Water holding capacities: - CW 050 - 240 ml.
CW 150 - 788 ml.

DIFFERENTIAL INDICATORS For Use with series "1" filter heads.



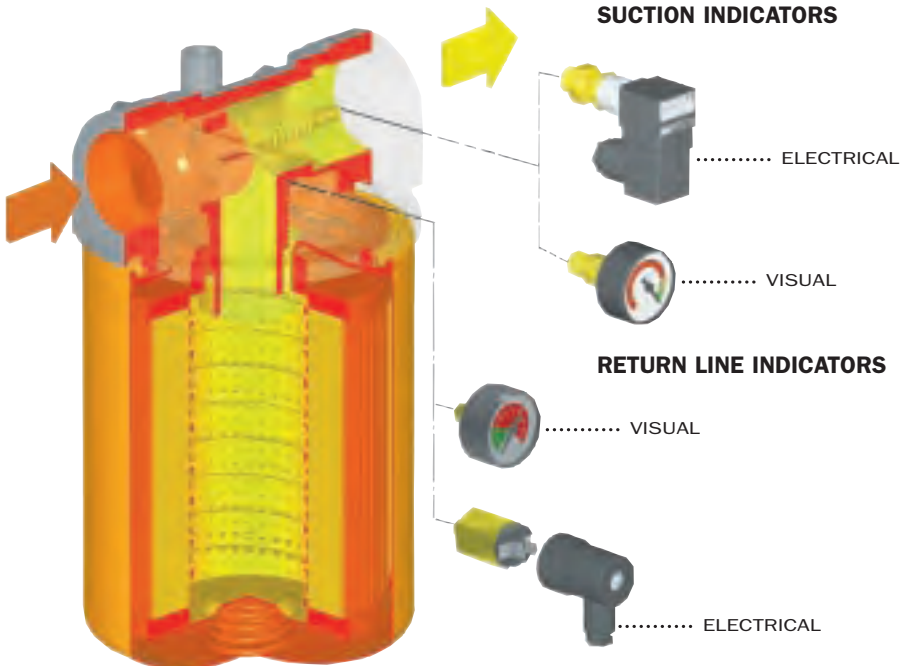
New

absolute filter elements
independently tested
in the following Institutes:

Institute of Filtration
(France)



For Use with series "0" filter head.



Filter element:

Materials

End caps:

Galvanized steel

Support tube:

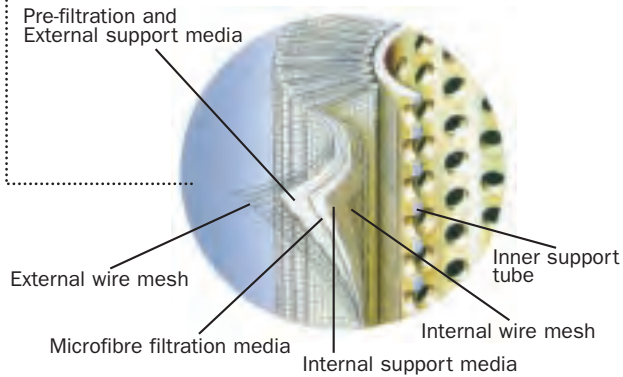
Galvanized steel

Support frames:

Galvanized steel with an epoxy coating

A Series

Inorganic microfibre



MP Filter elements - Conform to the following ISO standards

- ISO 2941 - Verification of collapse/burst resistance.
- ISO 2942 - Verification of fabrication integrity and determination of the first bubble point.
- ISO 2943 - Verification of material compatibility with fluids.
- ISO 3723 - Method for end load test.
- ISO 3724 - Verification of flow fatigue characteristics.
- ISO 3968 - Evaluation of pressure drop versus flow characteristics.
- ISO 16889 - Multi-pass method for evaluating filtration performance.

Element material Absolute filtration

A Series

Inorganic microfibre with acrylic support

Contamination retention

as per ISO 16889: Multi-pass test.

New improved $\beta \geq 200$ filter elements with greater efficiency and increased dirt holding capacity

Filter elements	Dimensions for β (μm) values				Filtration ratios			ΔP (bar)
	$\beta \geq 2$ (50%)	$\beta \geq 20$ (95%)	$\beta \geq 75$ (98,7%)	$\beta \geq 200$ (99,5%)	β_2	β_{10}	β_{20}	
A03	-	2	2,4	3	20	> 10.000	> 10.000	7
A06	-	3	4,6	6	8	> 2.000	> 10.000	7
A10	3	6	7,8	10	1,5	≥ 200	> 10.000	7
A25	13	19	22	25	-	> 1,5	> 35	7

N.B. Other materials giving different degrees of filtration are available on request.

Type	050	070	100	150
CS-CG-CT				
A03/A06	1900	3160	3950	5390
A10/A25	1900	3160	3950	5390

Values in cm^2

Filtering area Filter elements

Element material Nominal filtration

P Series

Resin - impregnated paper

M Series

Square wire mesh (filtration degree is defined in microns by the maximum diameter of a sphere corresponding to the mesh size)

Filtering area Filter elements

Type	050	070	100	150
CS-CG-CT				
P10/P25	2440	4140	4300	5760
M25	1000	1270	1990	2400
M60	1000	1270	1990	2400
M90	1000	1270	1990	2400

Values in cm^2

CW Series

Resin - impregnated paper

Type CW	050	150
P10/P25	2000	3050

Materials

Head

Aluminium

Bypass valve

Nylon

Seals

A Series: Nitrile (Buna-N)

V Series: Viton

Indicator

Brass

Working

temperature

From -25 to +110°C

For temperatures outside this range, please consult our Sales Network Organization

Pressure filter

body

Maximum working pressure up to

12 bar

Collapse pressure

filter elements

4 bar

Bypass valve

Calibration pressure

Bypass valve, differential opening pressure:

S series: 0,3 bar ± 10% (MPS series only)

R series: 1,75 bar ± 10%

Types of indicators for MPS series "0" (MPS 050-070-100...) and MST series

Description:

MPS series filters are fitted with indicators switching:

Suction filters at a pressure of:

Line filters at a pressure of:

Return filter at a pressure of:

1 Kpa = 0.01 bar

20 kPa ± 10%

1,3 bar ± 10% (MPS series only)

1,3 bar ± 10% (MPS-MST series only)

Visual indicator

Suction filter: (MPS series only)

VS vacuum switch

scale 0 - 76 cm Hg

Return and line filter

VA Pressure gauge

VR colour coded pressure gauge

scale 0 - 12 bar

scale 0 - 6 bar

Electrical indicator

Suction filter (MPS series only)

E0 Vacuum switch with change over contact

Return filter

ER Pressure switch with N.O. contacts

EC Pressure switch with N.C. contacts

Operational information:

Switching at 20kPa ± 10%

Max voltage: 250V 50÷60 Hz

Max current: 5 A resistive, 2 A inductive

Protection degree IP65

Switching at 1,3 bar ± 10%

Max voltage: 48V 50÷60 Hz

Max current: 0,5A resistive

0,2A inductive

Types of indicators for MPS series "1" (MPS 051-071-101-151-301-351)

MPS filter series 1 (051-071-101... and so on) are fitted with, differential style indicators.

Visual indicator

1V - Z1 Series for Filter with bypass set to 1,75 bar

switching at 1,2 bar ± 10%

V6 - Z6 Series for Filter without bypass

switching at 2 bar ± 10%

Electrical indicator

N1 Series for Filter with bypass set to 1,75 bar

switching at 1,2 bar ± 10%

N6 Series for Filter without bypass

switching at 2 bar ± 10%

Visual-electrical

indicator

1E - K1* Series for Filter with bypass set to 1,75 bar

switching at 1,2 bar ± 10%

E6 - K6* Series for Filter without bypass

switching at 2 bar ± 10%

*For K visual-electrical indicator, specify the voltage (il. K61 = LED: 24 volt)

* { 1 - 24 Volt
2 - 115 Volt
3 - 230 Volt

Fluid

Compatibility

Filter head and bowls

compatible for use with:

- mineral oils
(types HH-HL-HM-HR-HV-HG as per ISO 6743/4)
- water-based emulsions
(types HFAE-HFAS as per ISO 6743/4)
- synthetic fluids
(types HS-HFDR-HFDS-HFDU as per ISO 6743/4)
- water-glycol (types HFC as per ISO 6743/4)

Seals

A Series

Nitrile (Buna-N) compatible with mineral oils
(types HH-HL-HM-HR-HV-HG as per ISO 6743/4)

water-based emulsions
(types HFAE-HFAS as per ISO 6743/4)
water - glycol (types HFC as per ISO 6743/4)

V Series

Viton compatible with synthetic fluids
(types HS-HFDR-HFDS-HFDU as per ISO 6743/4)

Filter elements

As per ISO 2943; suitable for mineral oils
(types HH-HL-HM-HR-HV-HG as per ISO 6743/4)
and synthetic fluids (A and M series only)
(types HS-HFDR-HFDS-HFDU as per ISO 6743/4)
For water-based emulsions (types HFAE-HFAS
as per ISO 6743/4) and fluids other than
those mentioned, please consult our Sales
Network Organization.

International standards for contamination fluid control

A general (no direct) comparison between ISO 4406 and NAS 1638 is given in table below.

Contamination codes ISO 4406			Correspondent codes NAS 1638	Recommended filtration degree	Typical applications
<i>4µm(c)</i>	<i>6µm(c)</i>	<i>14µm(c)</i>		<i>B x ≥ 200</i>	
14	12	9	3	3	High precision and laboratory servo-systems
17	15	12	6	3-6	Robotic and servo-systems
18	16	13	7	10-12	Very sensitive - high reliability systems
20	18	15	9	12-15	Sensitive - reliable systems
21	19	16	10	15-25	General equipment of limited reliability
23	21	18	12	25-40	Low - pressure equipment not in continuous service

Selection & installation information

Filter elements types

A Series

Absolute inorganic microfibre filtration media, available in 3, 6, 10 and 25 micron
Example - **A03, A06, A10** or **A25**

P Series

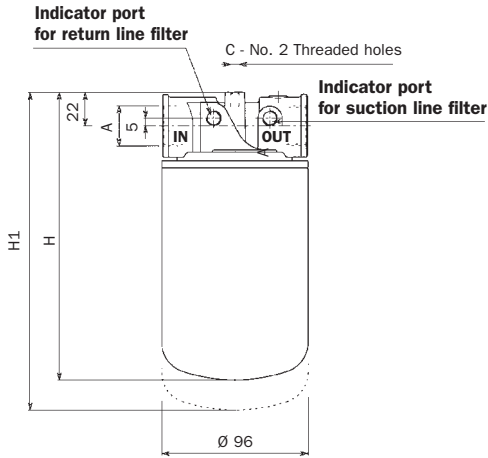
Nominal cellulose impregnated paper media, available in 10 and 25 micron.
Example - **P10** or **P25**

M Series

Metal mesh media, available in 25, 60, and 90 micron.
Example - **M25, M60** or **M90**.

Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter and 8 kPa for suction filter.



Lengths

Type	H	H1
050-051	180	200
070-071	248	268

MPS 050-071

MPS SERIES 050-051 SIZES

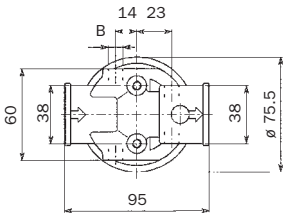
Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	40	9	SEE TABLE BELOW	1,0
A06	44	11		
A10	48	14		
A25	58	18		
P10	55	16		
M60-M90	-	24		

MPS SERIES 070-071 SIZES

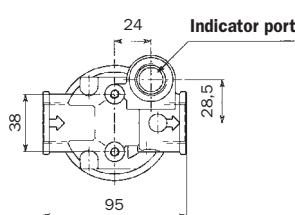
Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	45	11	SEE TABLE BELOW	1,3
A06	49	13		
A10	53	15		
A25	63	20		
P10	58	18		
M60-M90	-	26		

* Flow rates with 30 mm²/s fluid viscosity
** Weight including filter element

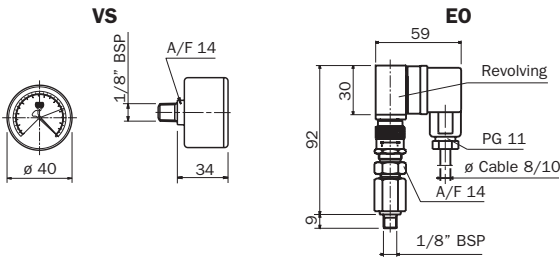
MPS 050-070 Series



MPS 051-071 Series



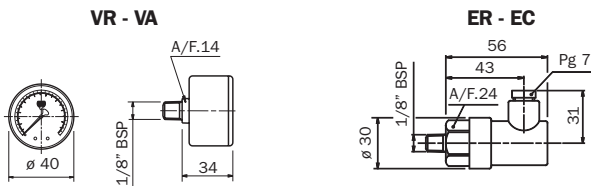
Indicator for suction filter MPS 050-070 (only for option G1-G5)



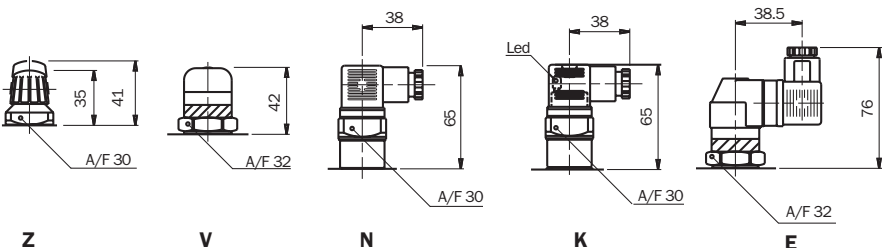
Thread connections

Type	A	B	C
G1	3/4" BSP	1/8" BSP	M6
G2	3/4" NPT	1/8" NPT	1/4" UNC
G3	SAE 12 - 1 1/16" - 12 UN	1/8" NPT	1/4" UNC
G4	SAE 8 - 3/4" - 16 UNF	1/8" NPT	1/4" UNC
G5	1" BSP	1/8" BSP	M6
G6	1" NPT	1/8" NPT	1/4" UNC

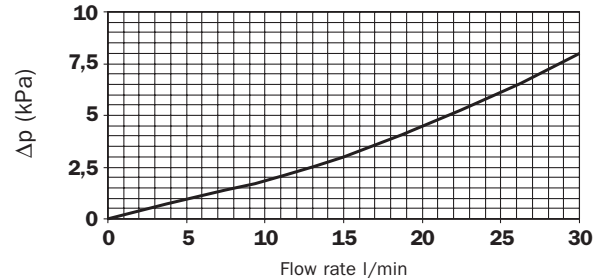
Indicator for return filter MPS 050-070 (only for option G1-G5)



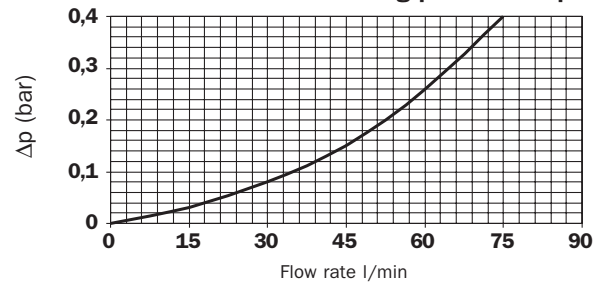
Indicator for line filter MPS 051-071



Suction filter - Housing pressure drop



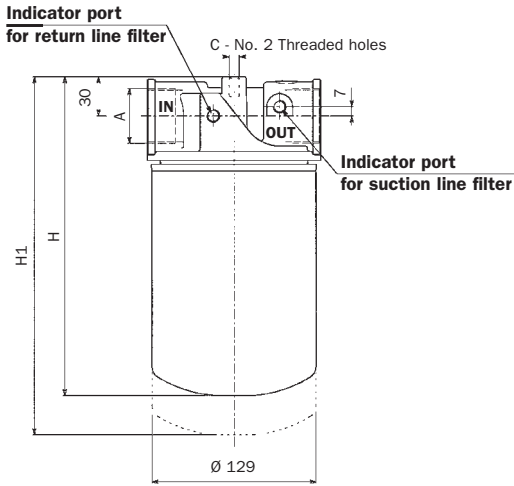
Return line filter - Housing pressure drop



Selection & installation information

Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter and 8 kPa for suction filter.

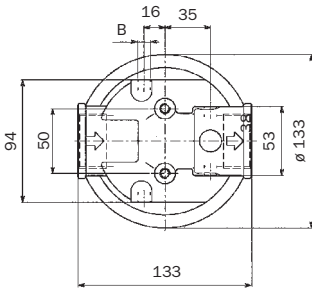


MPS 100-151

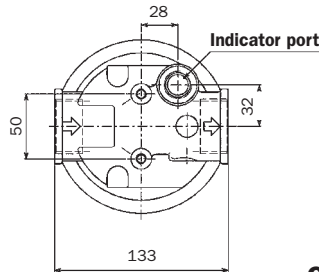
Lengths

Type	H	H1
100-101	241	266
150-151	286	311

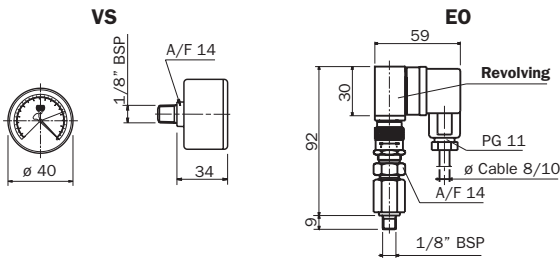
MPS 100-150 Series



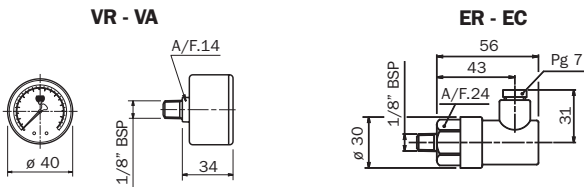
MPS 101-151 Series



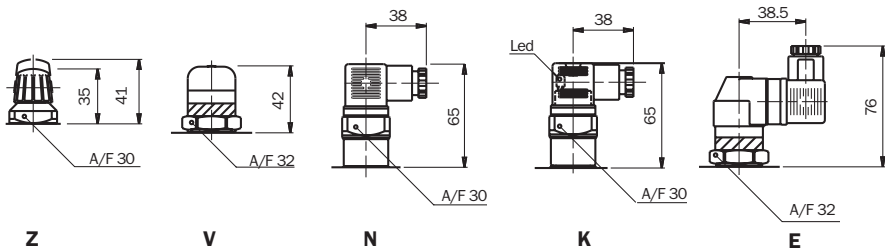
Indicator for suction filter MPS 100-150 (only for option G1)



Indicator for return filter MPS 100-150 (only for option G1)



Indicator for line filter MPS 101-151



MPS SERIES 100-101 SIZES

Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	75	16	1 1/4"	2,2
A06	85	19		
A10	110	25		
A25	140	40		
P10	130	35		
M60-M90	-	65		

MPS SERIES 150-151 SIZES

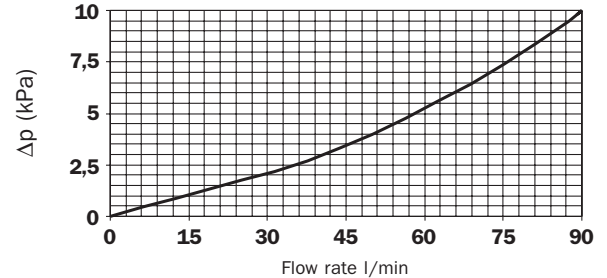
Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	85	18	1 1/4"	2,3
A06	100	22		
A10	115	30		
A25	160	45		
P10	150	40		
M60-M90	-	68		

* Flow rates with 30 mm²/s fluid viscosity
** Weight including filter element

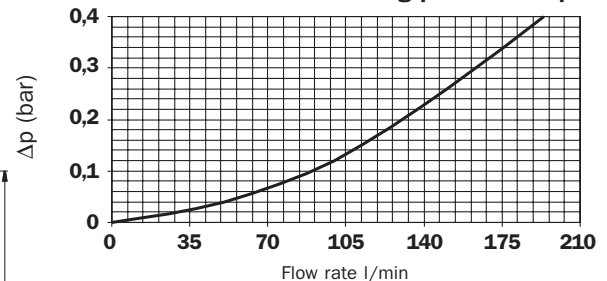
Thread connections

Type	A	B	C
G1	1 1/4" BSP	1/8" BSP	M8
G2	1 1/4" NPT	1/8" NPT	5/16" UNC
G3	SAE 20 - 1 5/8" - 12 UN	1/8" NPT	5/16" UNC

Suction filter - Housing pressure drop



Return line filter - Housing pressure drop

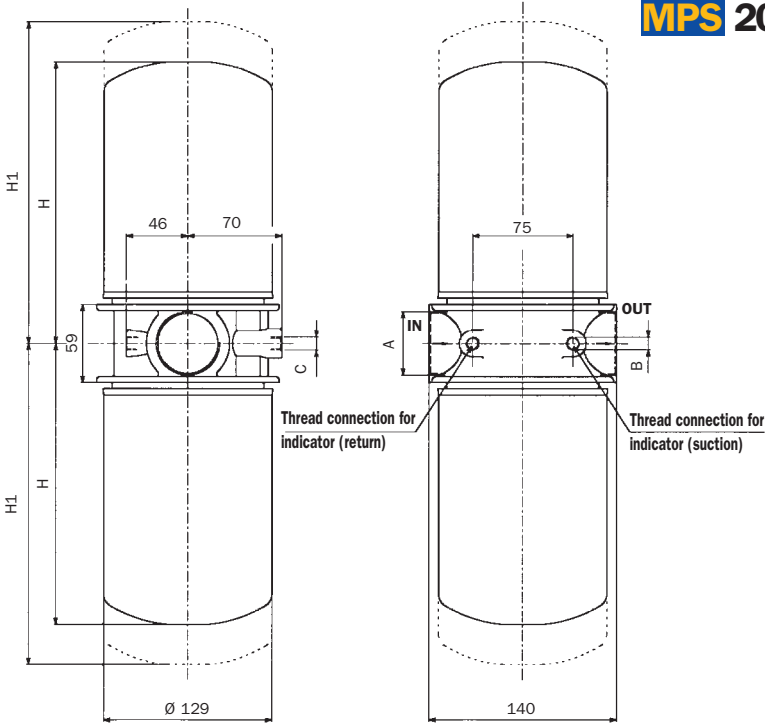


Selection & installation information

Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter and 8 kPa for suction filter.

MPS 200-250



Lengths

Type	H	H1
200	216	241
250	261	286

MPS SERIES 200 SIZES

Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	130	30	1 1/2"	4,0
A06	170	45		
A10	220	65		
A25	290	110		
P10	270	100		
M60-M90	-	120		

MPS SERIES 250 SIZES

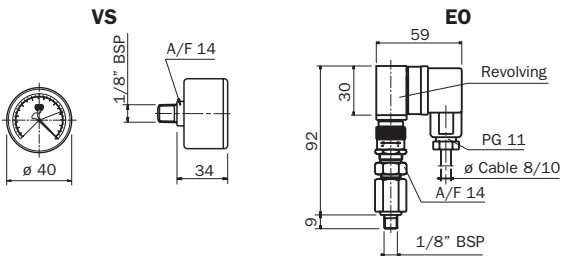
Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	180	50	1 1/2"	4,2
A06	210	60		
A10	250	80		
A25	310	125		
P10	280	118		
M60-M90	-	130		

* Flow rates with 30 mm²/s fluid viscosity
** Weight including filter element

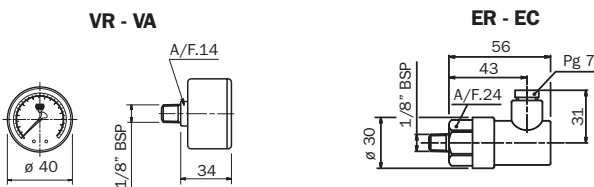
Thread connections

Type	A	B	C
G1	1 1/2" BSP	1/8" BSP	M10
G2	1 1/2" NPT	1/8" NPT	3/8" UNC
G3	SAE 24 - 1 7/8" - 12 UN	1/8" NPT	3/8" UNC

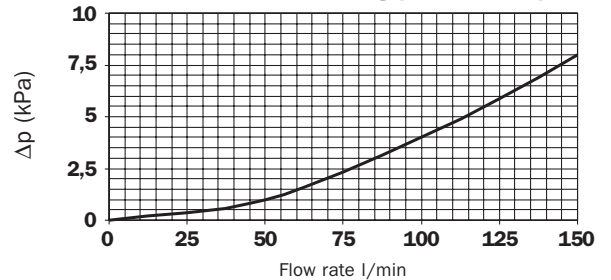
Indicator for suction filter (only for option G1)



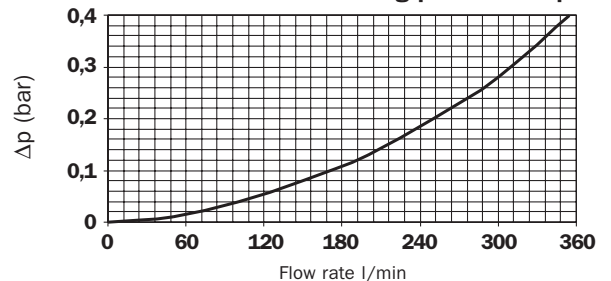
Indicator for return filter (only for option G1)



Suction filter - Housing pressure drop



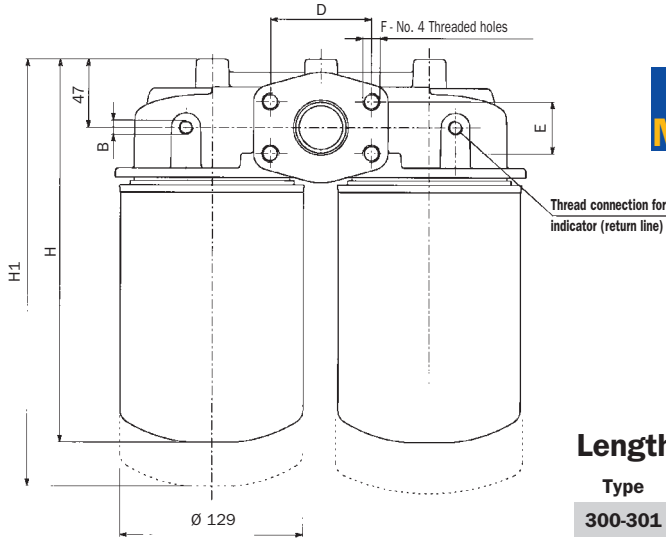
Return line filter - Housing pressure drop



Selection & installation information

Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

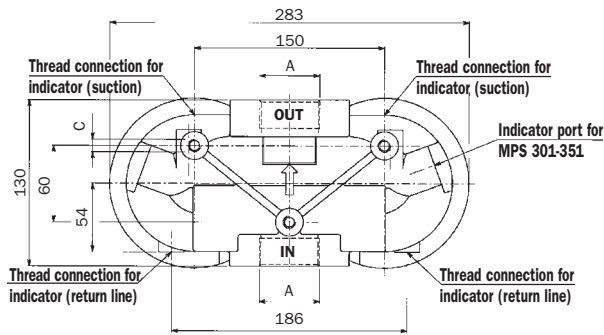
The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter and 8 kPa for suction filter.



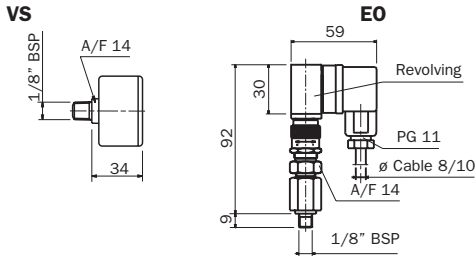
MPS 300-351

Lengths

Type	H	H1
300-301	265	290
350-351	310	335



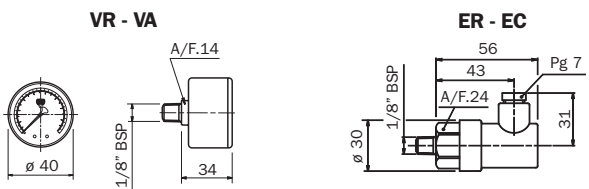
Indicator for suction filter MPS 300-350 (only for option G1-G5-F1)



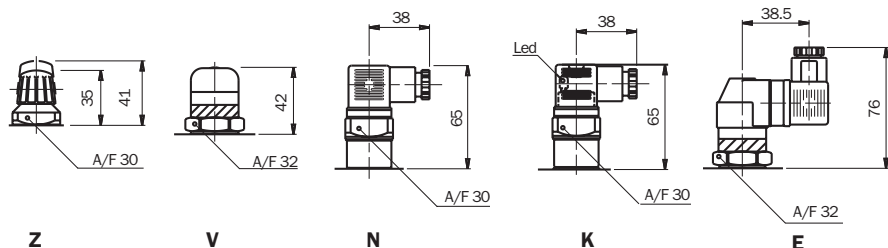
Flange connections

Type	A	B	C	D	E	F
F1	1 1/2" SAE 3000 PSI/M	1/8" BSP	M12	69,85	35,71	M12
F2	1 1/2" SAE 3000 PSI/UNC	1/8" NPT	1/2" UNC	69,85	35,71	1/2" UNC

Indicator for return filter MPS 300-350 (only for option G1-G5-F1)



Indicator for line filter MPS 301-351



MPS SERIES 300-301 SIZES

Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	130	30	1 1/2"	5,4
A06	170	45		
A10	220	65		
A25	290	110		
P10	270	100		
M60-M90	-	120		

MPS SERIES 350-351 SIZES

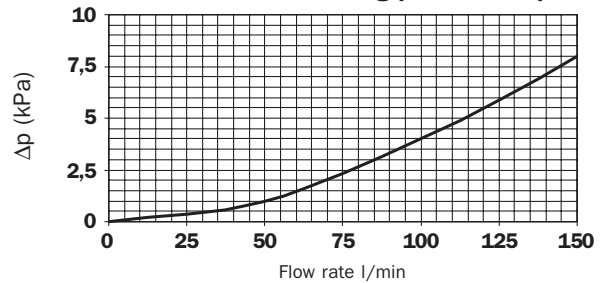
Filter assembly	Line Flow rate l/min *	Suction Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	180	50	1 1/2"	5,6
A06	210	60		
A10	250	80		
A25	310	125		
P10	280	118		
M60-M90	-	130		

* Flow rates with 30 mm²/s fluid viscosity
 ** Weight including filter element

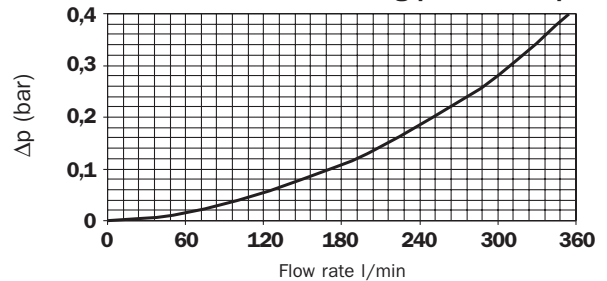
Thread connections

Type	A	B	C
G1	1 1/2" BSP	1/8" BSP	M10
G2	1 1/2" NPT	1/8" NPT	3/8" UNC
G3	SAE 24 - 1 7/8" - 12 UN	1/8" NPT	3/8" UNC

Suction filter - Housing pressure drop



Return line filter - Housing pressure drop



Selection & installation information

Filter elements types

A Series

Absolute inorganic microfibre filtration media, available in 3, 6, 10 and 25 micron
Example - **A03, A06, A10** or **A25**

P Series

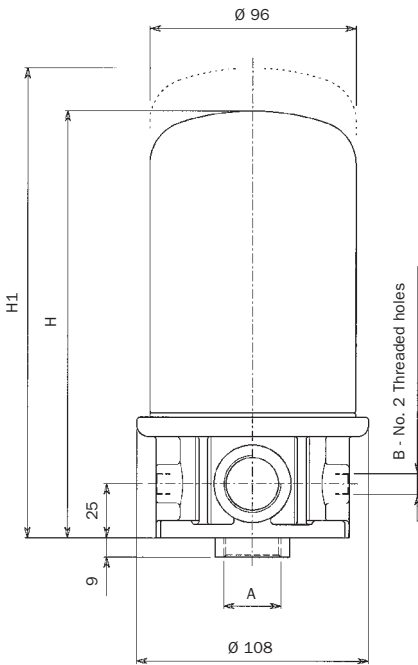
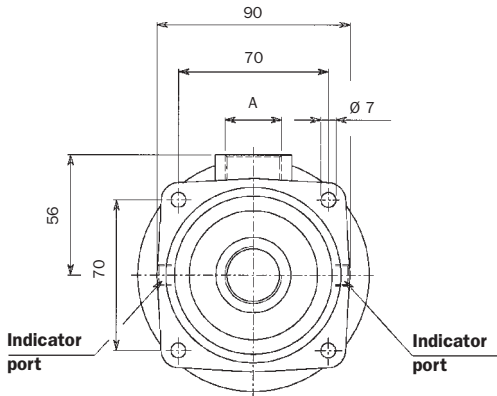
Nominal cellulose impregnated paper media, available in 10 and 25 micron.
Example - **P10** or **P25**

M Series

Metal mesh media, available in 25, 60, and 90 micron.
Example - **M25, M60** or **M90**.

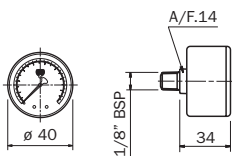
Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter.

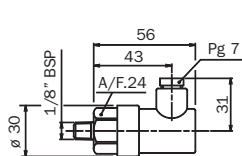


Indicator (only for option G1)

VR - VA



ER - EC



MST SERIES 050 SIZES

MST 050-070

Filter assembly	Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	42	3/4"	1,2
A06	50		
A10	65		
A25	75		
P10	68		

MST SERIES 070 SIZES

Filter assembly	Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	55	3/4"	1,5
A06	60		
A10	68		
A25	80		
P10	76		

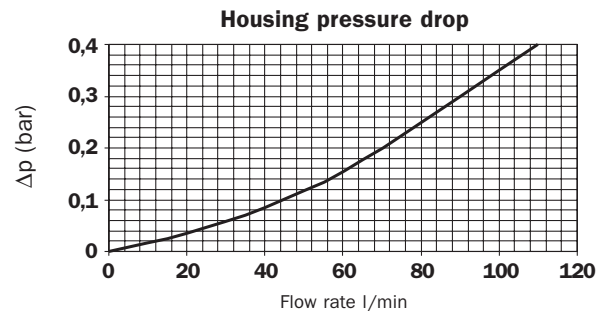
* Flow rates with 30 mm²/s fluid viscosity
** Weight including filter element

Thread connections

Type	A	B
G1	3/4" BSP	1/8" BSP
G2	3/4" NPT	1/8" NPT
G3	SAE 8 - 3/4" - 16 UN	1/8" NPT

Lengths

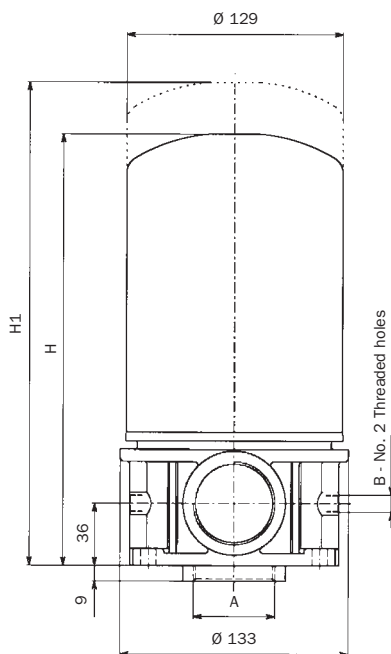
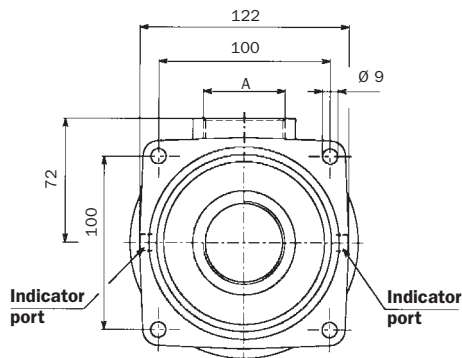
Type	H	H1
050	190	208
070	265	283



Selection & installation information

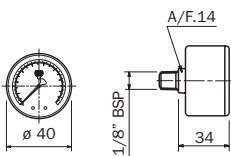
Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

The following filter sizing recommendations are based using a mineral oil fluid at 30 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) pressure drop of 30% of the filter condition indicator (0.4 bar) for line and return filter.

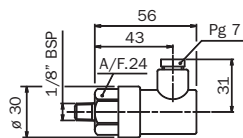


Indicator (only for option G1)

VR - VA



ER - EC



MST 100-150

MST SERIES 100 SIZES

Filter assembly	Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	80	1 1/2"	2,3
A06	90		
A10	125		
A25	185		
P10	175		

MST SERIES 150 SIZES

Filter assembly	Flow rate l/min *	Port size BSP/NPT/SAE	Weight kg **
A03	90	1 1/2"	2,4
A06	110		
A10	140		
A25	210		
P10	190		

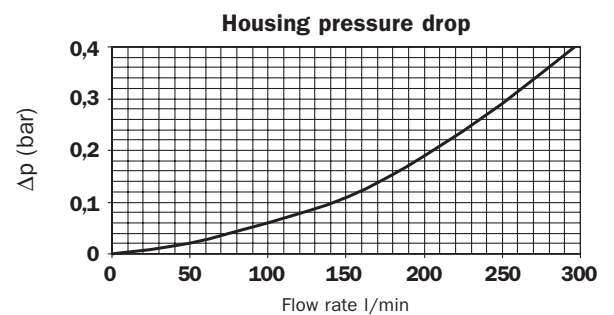
* Flow rates with 30 mm²/s fluid viscosity
** Weight including filter element

Thread connections

Type	A	B
G1	1 1/2" BSP	1/8" BSP
G2	1 1/2" NPT	1/8" NPT
G3	SAE 20 - 1 5/8" - 12 UN	1/8" NPT

Lengths

Type	H	H1
100	250	275
150	280	305



Pressure drop information

General

Pressure drop versus flow rate curve information for both housing and filter elements is in accordance with ISO 3968

Filter assembly pressure drop - $\Delta p_{\text{Total}} = \Delta p_{\text{Housing}} + \Delta p_{\text{Filter element}}$

Housing pressure drop - The housing pressure drop is proportional to the fluid density

Filter element pressure drop - Filter element pressure drop is proportional to kinematic viscosity therefore always check the fluid operating temperature and fluid type to obtain the working viscosity according to the following formula:

$$\Delta p_1 \text{ Filter element} = (\text{working viscosity} / \text{brochure viscosity}) \times \Delta p \text{ filter element}$$

Brochure viscosity 30 mm²/s (cSt)

$$1\text{kPa} = 0,01 \text{ bar}$$

Filter assembly sizing example

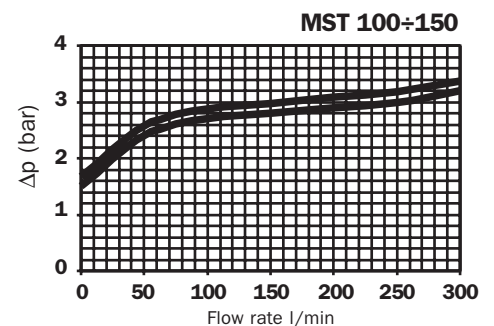
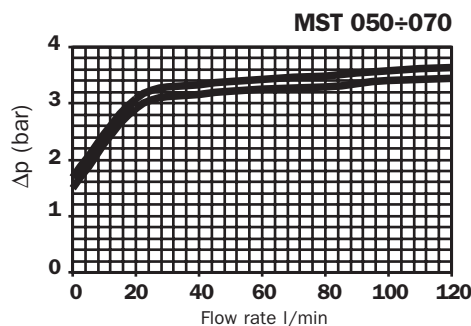
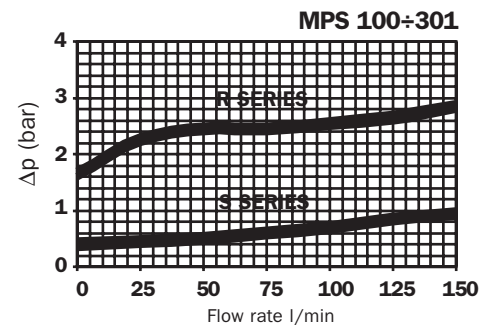
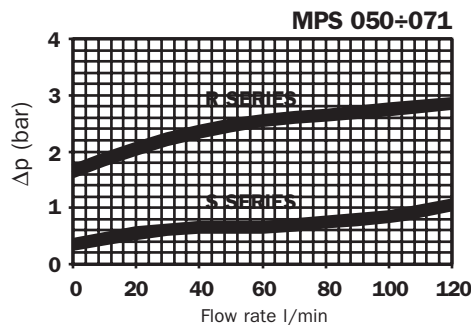
- Customer requires a 100 l/min filter assembly
- Mineral oil fluid: ISO VG46 (46 mm²/s (cSt) at 40°C)
- 25 micron absolute filtration
- return line application

Selection :

- **Housing pressure drop** - MPS 100/101 with 100 l/min $\Delta p = 0,13 \text{ bar}$ (see curve on page 8)
- **Filter element pressure drop** brochure viscosity - CS 100A25 with 100 l/min $\Delta p = 0,09 \text{ bar}$ (see curve on page 17)
- **Filter element pressure drop** working viscosity - With 46 mm²/s (cSt) $\Delta p_1 = 0,09 \times (46/30) = 0,138 \text{ bar}$
- **Filter assembly pressure drop** $\Delta p_{\text{Total}} = \Delta p_{\text{Housing}} + \Delta p_1 \text{ Filter element} = 0,13 + 0,138 = \mathbf{0,268 \text{ bar}^*}$ { Acceptable pressure drop value, as per our recommendations

Bypass valves pressure drop

The curves were obtained using a mineral oil with a density of 0,86 kg/dm³.
The Δp varies proportionally to the density.



R series: Return filter
S series: Suction filter

Ordering information

MST

Nominal sizes

050
070
100
150

Seals

A Nitrile (Buna - N)
V Viton

Port options

Type	MST 050-070	MST 100-150
G1	3/4" BSP	1 1/2" BSP
G2	3/4" NPT	1 1/2" NPT
G3	SAE 8	SAE 20

Filter elements indicator

S With threaded hole only
T With plug
VR Colour coded pressure gauge
ER Pressure switch with N.O. contacts
EC Pressure switch with N.C. contacts

Bypass valve

B Calibration: 1,75 bar

Seals

A Nitrile (Buna - N)
V Viton

Filter elements M/P series

P10
P25 Resin-impregnated paper $\beta_x \geq 2$
M25
M60 Square wire mesh
M90

Filter elements A series

A03
A06
A10
A25 Inorganic microfibre $\beta_x \geq 200$

CT

Replacement element

MP Filtri - Filtration products will only be guaranteed if original MP Filtri replacement elements and spares are used

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