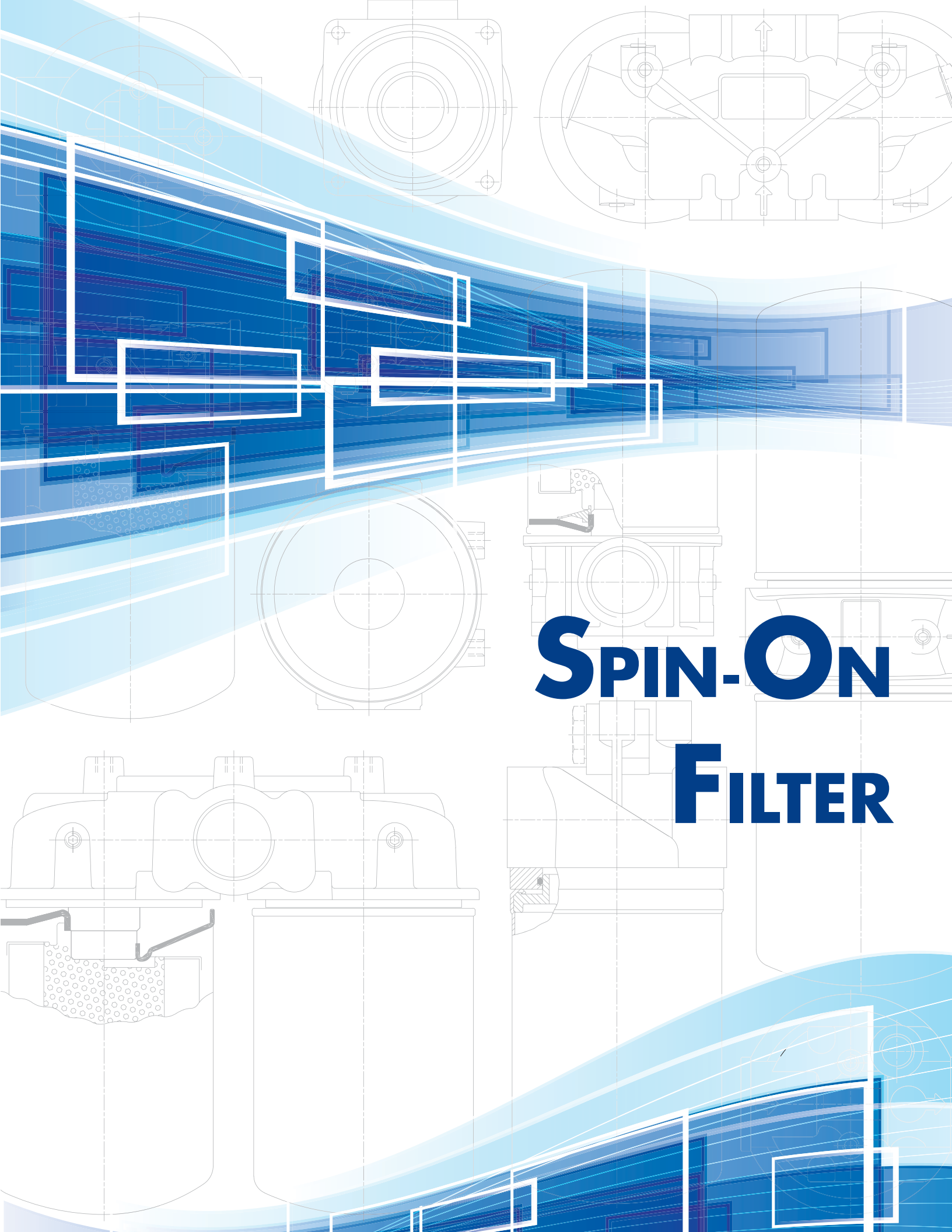


Spin-On Filter

Filter element

Element description

M - Wire Mesh	Δp 145 psi (10 bar)
P - Paper	Δp 145 psi (10 bar)
A - Microfibre	Δp 145 psi (10 bar)

Characteristics of filter elements with nominal filtration, M series

For wire mesh filter elements, filtration degree is defined as the maximum diameter of a sphere corresponding to the mesh size, in microns.

Characteristics of filter elements with nominal filtration, P series

For cellulose filter elements, filtration efficiency expressed in micron is to be construed as nominal $\beta_{x©} > 2$.

Characteristics of filter elements with absolute filtration, A series

For microfibre filter elements, filtration degree is defined by the test bench MULTIPASS ISO 16889.

Reference standards

All filter elements comply with the following **ISO** standards.

ISO	**2941**	- Collapse and burst resistance.
ISO	**2942**	- Bubble point test resistance.
ISO	**2943**	- Compatibility with fluids.
ISO	**3723**	- Resistance to axial deformation.
ISO	**23181**	- Fatigue test with flow.
ISO	**3968**	- Pressure drop.
ISO	**16889**	- Filtration efficiency by means of Multipass.

N.B. P series cellulose cartridges are compatible only with mineral oils in according to ISO 2943 - 4.

Multipass test in compliance new ISO 16889
Contaminant ISO MTD

Filtration	$\beta_{x©} \geq 1000$
Filter element	
A01*	<4
A03	5
A06	7
A10	10
A16	15
A25	20

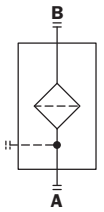
* On request

International standards for fluid contamination control

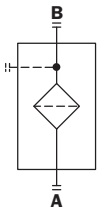
Components	**Recommended filtrations**								
Servo valves			●	●	●				
Proportional Valves				●	●	●			
Variable displacement pumps.					●	●	●		
Cartridge valves						●	●	●	
Piston pumps						●	●	●	
Vane pumps							●	●	●
Pressure - flow rate control valves							●	●	●
Solenoid valves							●	●	●
ISO code	12/10/7	13/11/8	14/12/9	15/13/10	16/14/11	17/15/12	18/16/13	19/17/14	20/18/15
NAS code	1	2	3	4	5	6	7	8	9
Absolute filtration recommended	$\beta_{<4©} \geq 1000$	$\beta_{5©} \geq 1000$			$\beta_{7©} \geq 1000$		$\beta_{10©} \geq 1000$	$\beta_{15©} \geq 1000$	$\beta_{20©} \geq 1000$

Hydraulic symbols & Compatibility

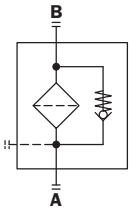
Style **S**
In-Line/Return



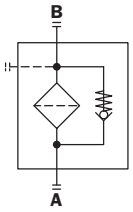
Style **S**
In-Line/Suction



Style **B**
In-Line/Return

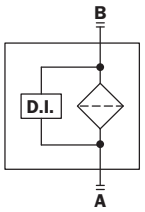


Style **B**
In-Line/Suction



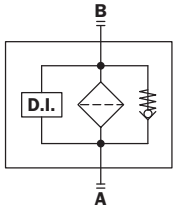
Style **S**
In-Line

MPS 051-071-101-151



Style **B**
In-Line

MPS 051-071-101-151

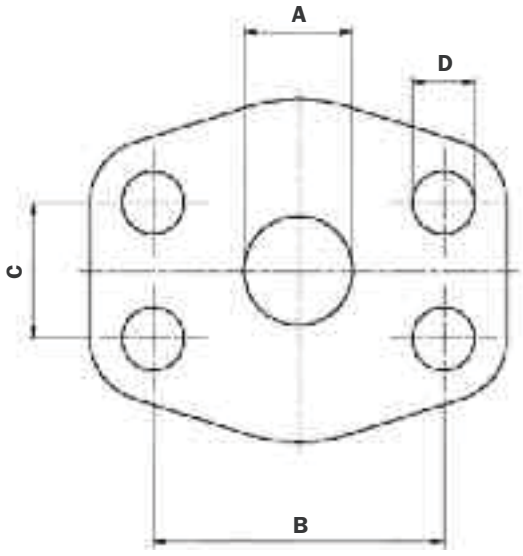


Compatibility (to ISO 2943)

- Housings compatible with:
  Mineral oils, synthetic fluids
  aqueous emulsions, water and glycol (on request).
- The filter elements are compatible with:
  Mineral oils, synthetic fluids.
  Aqueous emulsions, water and glycol.
- NBR seals series A, compatible with:
  Mineral oils, synthetic fluids, aqueous emulsions
  and water and glycol.

Sizes - Connections SAE

FLANGE SAE 3000 PSI



Connection to 3000 psi SAE flange

Dimension	1 1/2" SAE 3000 PSI **M**	1 1/2" SAE 3000 PSI **UNC**
A	38	1.5"
B	70	2.76"
C	35,7	1.41"
D	M12	1/2" UNC

In-Line

MPS 300-350
MPS 301-351

MPS

Maximum pressure 174 psi (12 bar)
Flow rates to 96 gpm (365 l/min)

Technical data

Filter housing (Materials)
- Head: Aluminium
- Bypass valve: Nylon - Steel
- Element: Zinc-Plated Steel, Painted Steel

Pressure
- Working pressure: 174 psi (12 bar - 1,2 MPa)

Temperature
- From -4°F to +230°F / -20°C to +110°C

Bypass valve
- Return filter opening pressure: 25 psi ±10% (1,75 bar ±10%)
- Suction filter opening pressure: 4.35 psi ±10% (30 kPa ±10%)

Δp Elements type
- Δp: 73 psi (5 bar)
- Fluid flow through the filter element from OUT to IN.

Seals
- Standard NBR series A

MPS FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

Weights lbs (kg)

- MPS050 2.20 (1,00)
- MPS051 2.31 (1,05)
- MPS070 2.65 (1,20)
- MPS071 2.76 (1,25)
- MPS100 4.63 (2,10)
- MPS101 4.85 (2,20)
- MPS150 5.29 (2,40)
- MPS151 5.51 (2,50)
- MPS200 8.60 (3,90)
- MPS250 10.14 (4,60)
- MPS300-301 11.68 (5,30)
- MPS350-351 13.23 (6,00)

Volumes in³ (dm³)

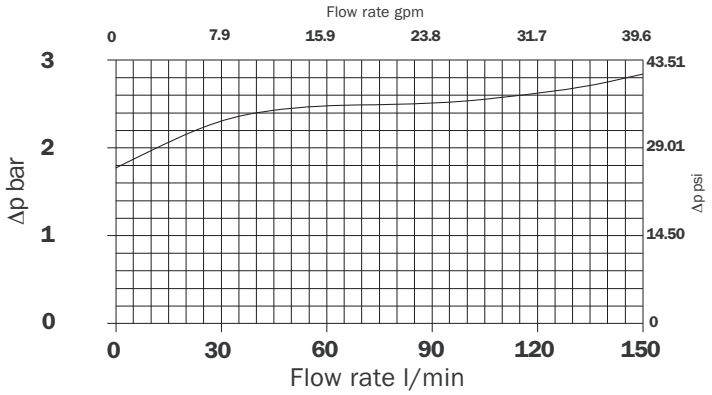
- MPS050-051 42.72 (0,70)
- MPS070-071 57.97 (0,95)
- MPS100-101 100.69 (1,65)
- MPS150-151 122.05 (2,00)
- MPS200 183.07 (3,00)
- MPS250 225.79 (3,70)
- MPS300-301 207.48 (3,40)
- MPS350-351 250.20 (4,10)

Filter housings Δp pressure drop
The curves are plotted utilising mineral oil
with density of 53,69 lbs/ft³ (0,86 kg/dm³) to ISO 3968.

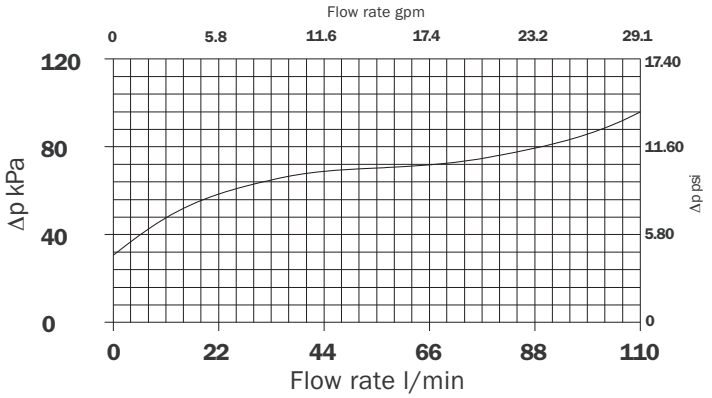
Δp varies proportionally with density.

Valves: Bypass valve pressure drop

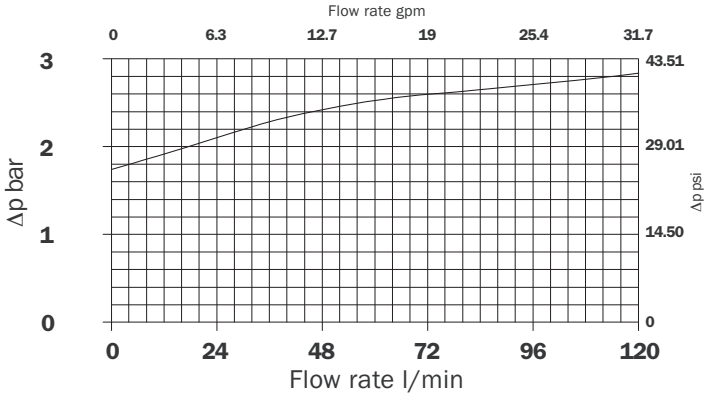
MPS 100-150-200-250-300-350
In-Line/Return - Setting 25 psi (1,75 bar)



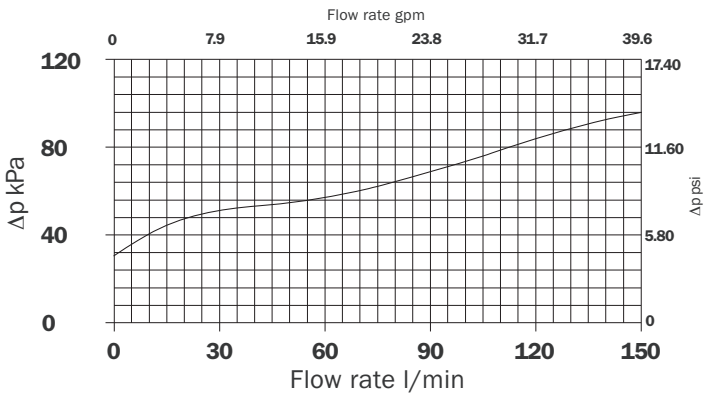
MPS 050/070
In-Line/Suction - Setting 4,35 psi (30 kPa)



MPS 050/070
In-Line/Return - Setting 25 psi (1,75 bar)



MPS 100-150-200-250-300-350
In-Line/Suction - Setting 4,35 psi (30 kPa)



Filter sizing - Imperial unit of measure

In-Line/Suction Filter

The following filter sizing recommendations are based using a mineral oil fluid at 150/212/311 SUS with a maximum total filter assembly (housing and filter element) of **1.45 psi**.

MPS 050

	SUS		
	32	**46**	**68**
P10	5.3	4.5	3.2
P25	6.6	5.5	4.5
M25	7.9	7.4	6.9

Flow rate gpm

MPS 070

	SUS		
	151	**212**	**311**
P10	6.1	5.5	4.5
P25	7.4	6.9	5.8
M25	8.2	7.6	7.1

Flow rate gpm

MPS 100

	SUS		
	151	**212**	**311**
P10	13.2	10.8	8.7
P25	15.8	14.8	11.9
M25	19.8	17.7	15.1

Flow rate gpm

MPS 150

	SUS		
	151	**212**	**311**
P10	-	13.2	9.5
P25	17.9	15.8	14.0
M25	20.3	19.5	17.9

Flow rate gpm

MPS 200

	SUS		
	151	**212**	**311**
P10	26.4	22.4	17.2
P25	33.0	29.1	23.8
M25	39.6	35.6	33.0

Flow rate gpm

MPS 250

	SUS		
	151	**212**	**311**
P10	27.7	23.2	20.3
P25	34.3	31.7	26.9
M25	40.9	36.9	34.3

Flow rate gpm

MPS 300

	SUS		
	151	**212**	**311**
P10	26.4	22.4	17.2
P25	33.0	29.0	23.8
M25	39.6	35.6	33.0

Flow rate gpm

MPS 350

	SUS		
	151	**212**	**311**
P10	27.7	23.2	20.3
P25	34.3	31.7	26.9
M25	40.9	36.9	34.3

Flow rate gpm

In-Line/Return Filter

The following filter sizing recommendations are based using a mineral oil fluid at 150/212/311 SUS with a maximum total filter assembly (housing and filter element) of **7.25 psi**.

MPS 050 - 051

	SUS		
	151	**212**	**311**
A03	13.2	10.6	8.2
A06	13.5	11.1	8.4
A10	16.4	14.3	11.9
A25	18.5	17.2	15.3
P10	16.9	15.3	12.9
P25	19.0	17.9	15.8
M25	21.1	20.6	19.8

Flow rate gpm

MPS 070 - 071

	SUS		
	151	**212**	**311**
A03	14.0	11.6	9.0
A06	16.1	14.0	11.3
A10	16.9	15.0	12.7
A25	19.8	19.0	17.4
P10	18.7	17.4	15.6
P25	20.3	19.5	18.2
M25	21.1	20.6	20.3

Flow rate gpm

MPS 100 - 101

	SUS		
	151	**212**	**311**
A03	21.9	16.6	11.9
A06	27.7	22.4	16.9
A10	33.8	28.3	22.2
A25	44.4	40.7	29.0
P10	42.3	37.5	31.4
P25	46.2	43.6	38.3
M25	50.2	47.5	44.9

Flow rate gpm

MPS 150 - 151

	SUS		
	151	**212**	**311**
A03	31.7	26.4	19.8
A06	33.8	29.1	22.2
A10	38.0	33.3	26.4
A25	46.0	43.3	38.3
P10	43.3	39.3	33.0
P25	48.1	45.4	42.3
M25	51.5	50.2	47.5

Flow rate gpm

MPS 200

	SUS		
	151	**212**	**311**
A03	43.6	33.0	23.8
A06	55.5	44.9	33.0
A10	66.0	55.5	43.6
A25	84.5	77.9	68.7
P10	79.2	71.3	60.7
P25	87.2	81.9	74.0
M25	95.1	91.1	85.8

Flow rate gpm

MPS 250

	SUS		
	151	**212**	**311**
A03	62.1	51.5	39.6
A06	66.0	55.5	43.6
A10	74.0	64.7	52.8
A25	88.5	81.9	74.0
P10	83.2	75.3	66.0
P25	92.4	87.2	79.2
M25	96.4	95.1	91.1

Flow rate gpm

MPS 300 - 301

	SUS		
	151	**212**	**311**
A03	43.6	33.0	23.8
A06	55.5	44.9	33.0
A10	66.0	55.5	43.6
A25	84.5	77.9	68.7
P10	79.2	71.3	60.7
P25	87.2	81.9	74.0
M25	95.1	91.1	85.9

Flow rate gpm

MPS 350 - 351

	SUS		
	151	**212**	**311**
A03	62.1	51.5	39.6
A06	66.0	55.5	43.6
A10	74.0	64.7	52.8
A25	88.5	81.9	74.0
P10	83.2	75.3	66.0
P25	92.4	87.2	79.2
M25	96.4	95.1	91.1

Flow rate gpm

Filter sizing - Metric unit of measure

In-Line/Suction Filter

The following filter sizing recommendations are based using a mineral oil fluid at 30/46/68 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) of **10 kPa (0,1 bar)**.

MPS 050

	mm²/s (cSt)		
	32	**46**	**68**
P10	20	17	12
P25	25	21	17
M25	30	28	26

Flow rate l/min

MPS 070

	mm²/s (cSt)		
	32	**46**	**68**
P10	23	21	17
P25	28	26	22
M25	31	29	27

Flow rate l/min

MPS 100

	mm²/s (cSt)		
	32	**46**	**68**
P10	50	41	33
P25	60	56	45
M25	75	67	57

Flow rate l/min

MPS 150

	mm²/s (cSt)		
	32	**46**	**68**
P10	-	50	36
P25	68	60	53
M25	77	74	68

Flow rate l/min

MPS 200

	mm²/s (cSt)		
	32	**46**	**68**
P10	100	85	65
P25	125	110	90
M25	150	135	125

Flow rate l/min

MPS 250

	mm²/s (cSt)		
	32	**46**	**68**
P10	105	88	77
P25	130	120	102
M25	155	140	130

Flow rate l/min

MPS 300

	mm²/s (cSt)		
	32	**46**	**68**
P10	100	85	65
P25	125	110	90
M25	150	135	125

Flow rate l/min

MPS 350

	mm²/s (cSt)		
	32	**46**	**68**
P10	105	88	77
P25	130	120	102
M25	155	140	130

Flow rate l/min

In-Line/Return Filter

The following filter sizing recommendations are based using a mineral oil fluid at 30/46/68 mm²/s (cSt) with a maximum total filter assembly (housing and filter element) of **50 kPa (0,5 bar)**.

MPS 050 - 051

	mm²/s (cSt)		
	32	**46**	**68**
A03	50	40	31
A06	51	42	32
A10	62	54	45
A25	70	65	58
P10	64	58	49
P25	72	68	60
M25	80	78	75

Flow rate l/min

MPS 070 - 071

	mm²/s (cSt)		
	32	**46**	**68**
A03	53	44	34
A06	61	53	43
A10	64	57	48
A25	75	72	66
P10	71	66	59
P25	77	74	69
M25	80	78	77

Flow rate l/min

MPS 100 - 101

	mm²/s (cSt)		
	32	**46**	**68**
A03	83	63	45
A06	105	85	64
A10	128	107	84
A25	168	154	132
P10	160	142	119
P25	175	165	145
M25	190	180	170

Flow rate l/min

MPS 150 - 151

	mm²/s (cSt)		
	32	**46**	**68**
A03	120	100	75
A06	128	110	84
A10	144	126	100
A25	174	164	145
P10	164	149	125
P25	182	172	160
M25	195	190	180

Flow rate l/min

MPS 200

	mm²/s (cSt)		
	32	**46**	**68**
A03	165	125	90
A06	210	170	125
A10	250	210	165
A25	320	295	260
P10	300	270	230
P25	330	310	280
M25	360	345	325

Flow rate l/min

MPS 250

	mm²/s (cSt)		
	32	**46**	**68**
A03	235	195	150
A06	250	210	165
A10	280	245	200
A25	335	310	280
P10	315	285	250
P25	350	330	300
M25	365	360	345

Flow rate l/min

MPS 300 - 301

	mm²/s (cSt)		
	32	**46**	**68**
A03	165	125	90
A06	210	170	125
A10	250	210	165
A25	320	295	260
P10	300	270	230
P25	330	310	280
M25	360	345	325

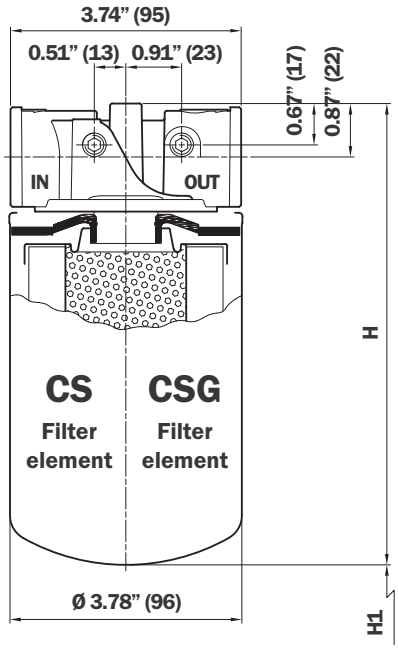
Flow rate l/min

MPS 350 - 351

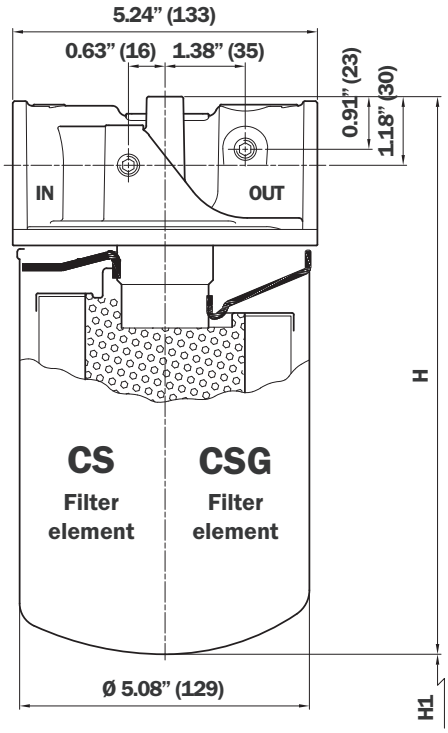
	mm²/s (cSt)		
	32	**46**	**68**
A03	235	195	150
A06	250	210	165
A10	280	245	200
A25	335	310	280
P10	315	285	250
P25	350	330	300
M25	365	360	345

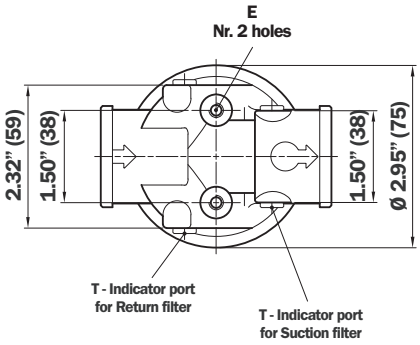
Flow rate l/min

MPS 050 / 070

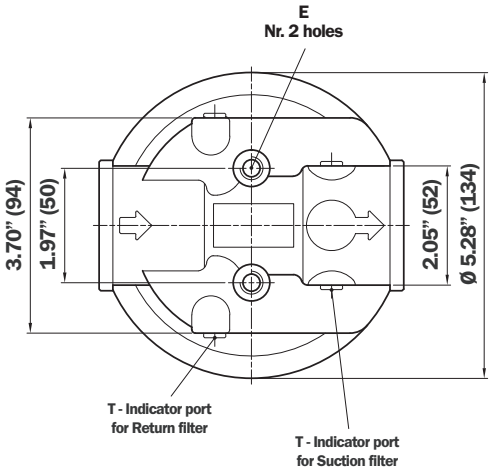


MPS 100 / 150





MPS 100 - 150



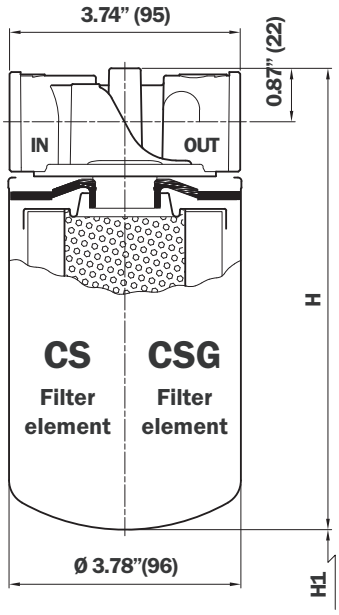
MPS
050 - 070 - 100 - 150

Length Filter	H inch (mm)	H1 inch (mm)
050	7.56" (192)	1.18" (30)
070	10" (254)	1.18" (30)
100	9.65" (245)	1.97" (50)
150	11.46" (291)	1.97" (50)

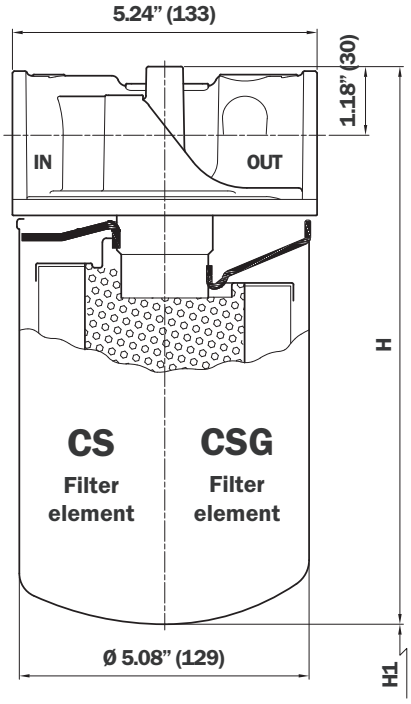
Thread connections

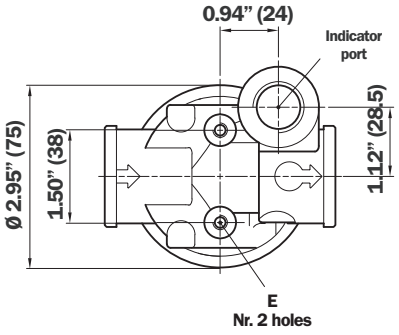
Type	Size MPS 050 - 070	Size MPS 100 - 150	T	E Depth 0.47 inch (12 mm) MPS 050 - 070	E Depth 0.59 inch (12 mm) MPS 100 - 150
G1	G 3/4"	G 1 1/4"	G 1/8"	M6	M8
U2/G2	3/4" NPT	1 1/4" NPT	1/8" NPT	1/4" UNC	5/16" UNC
U3/G3	SAE 12 - 1 1/16" - 12 UN	SAE 20 - 1 5/8" - 12 UN	1/8" NPT	1/4" UNC	5/16" UNC
U4/G4	SAE 8 - 3/4" - 16 UNF	SAE 16 - 1 5/16" - 12 UN	1/8" NPT	1/4" UNC	5/16" UNC
U5	G 1"	-	G 1/8"	M6	-
U6	1" NPT	-	1/8" NPT	1/4" UNC	-

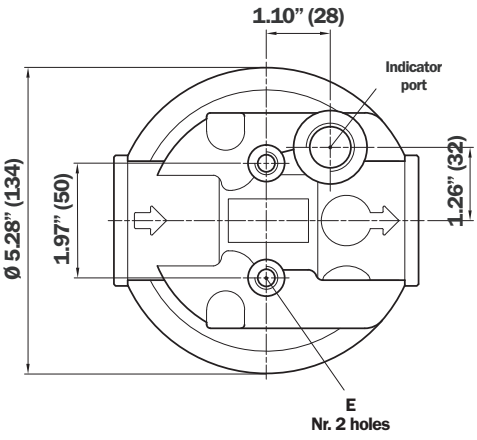
MPS 051 / 071



MPS 101 / 151







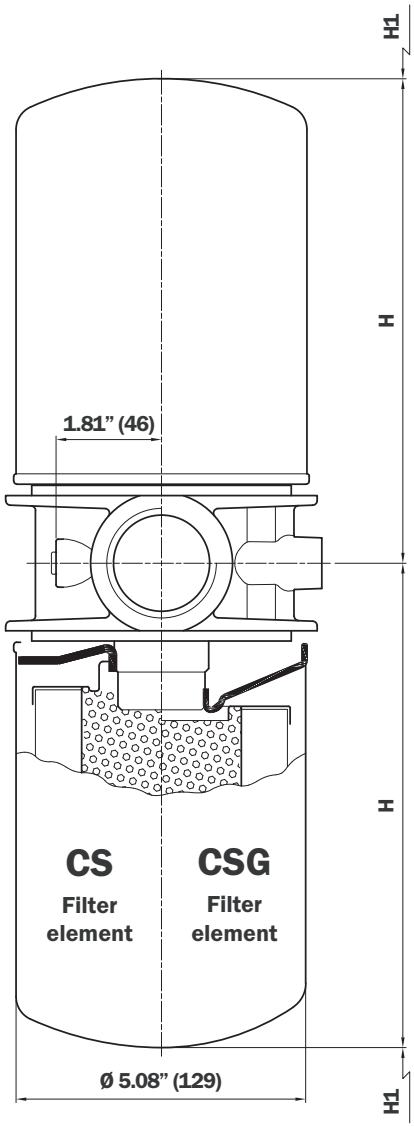
MPS
051 - 071 - 101 - 151

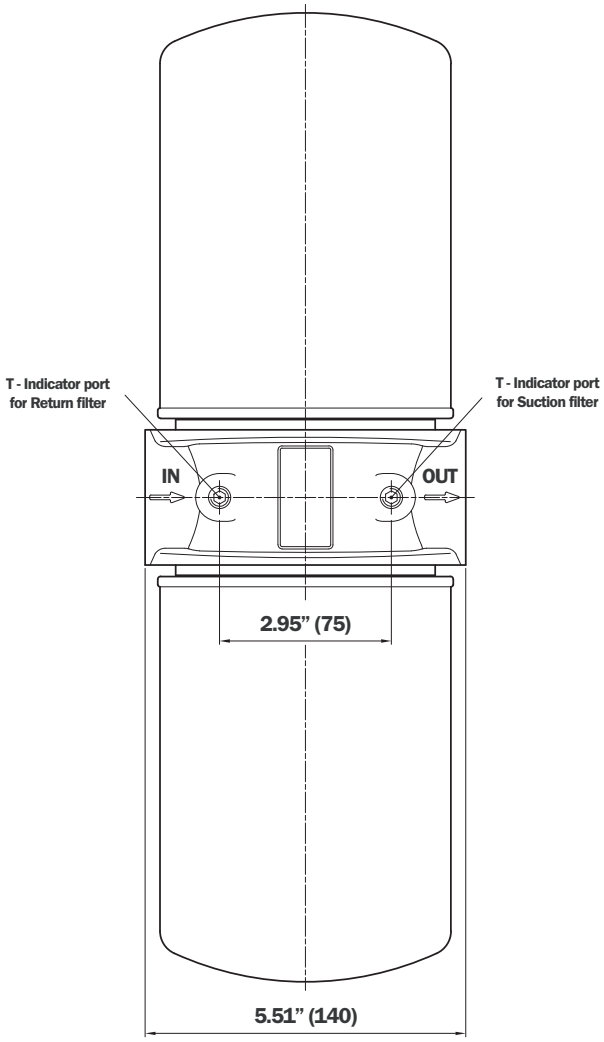
Length Filter	H inch (mm)	H1 inch (mm)
051	7.56" (192)	1.18" (30)
071	10" (254)	1.18" (30)
101	9.65" (245)	1.97" (50)
151	11.46" (291)	1.97" (50)

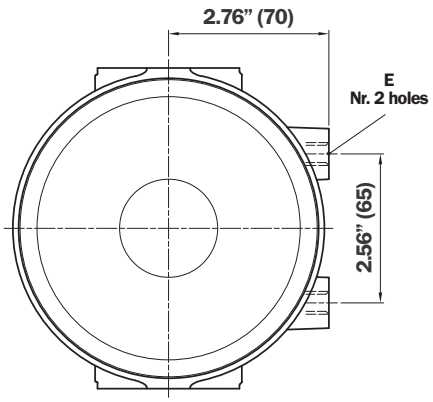
Thread connections

Type	Size MPS 051 - 071	Size MPS 101 - 151	E Depth 0.47 inch (12 mm) MPS 051 - 071	E Depth 0.59 inch (15 mm) MPS 101 - 151
G1	G 3/4"	G 1 1/4"	M6	M8
U2/G2	3/4" NPT	1 1/4" NPT	1/4" UNC	5/16" UNC
U3/G3	SAE 12 - 1 1/16" - 12 UN	SAE 20 - 1 5/8" - 12 UN	1/4" UNC	5/16" UNC
U4/G4	SAE 8 - 3/4" - 16 UNF	SAE 16 - 1 5/16" - 12 UN	1/4" UNC	5/16" UNC
U5	G 1"	-	M6	-
U6	1" NPT	-	1/4" UNC	-

MPS 200 - 250







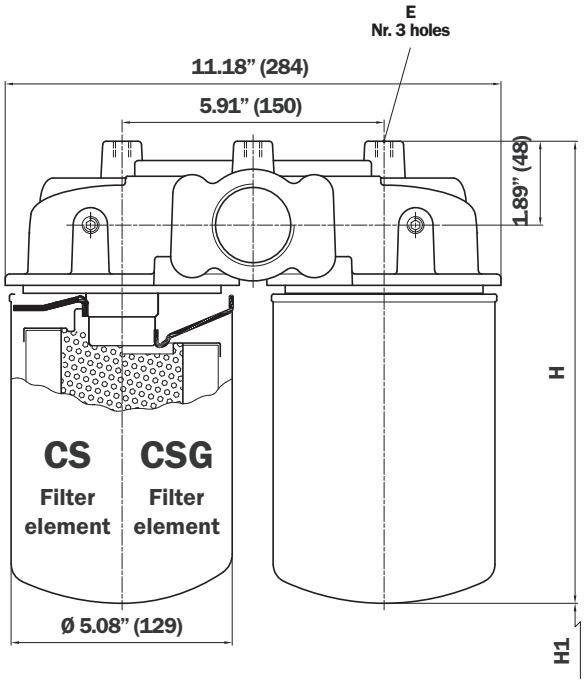
MPS 200 - 250

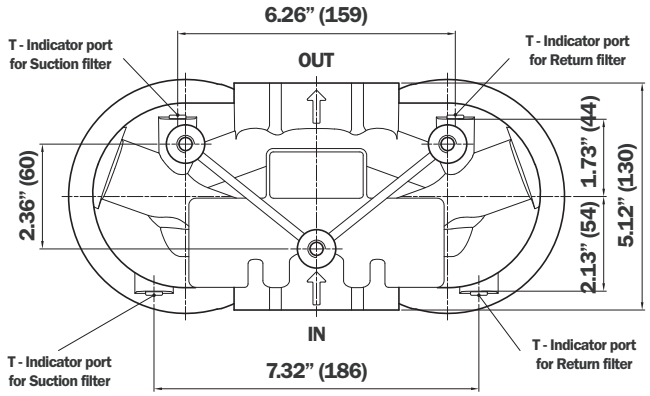
Length Filter	H inch (mm)	H1 inch (mm)
200	8.39" (213)	1.97" (50)
250	10.20" (259)	1.97" (50)

Thread connections

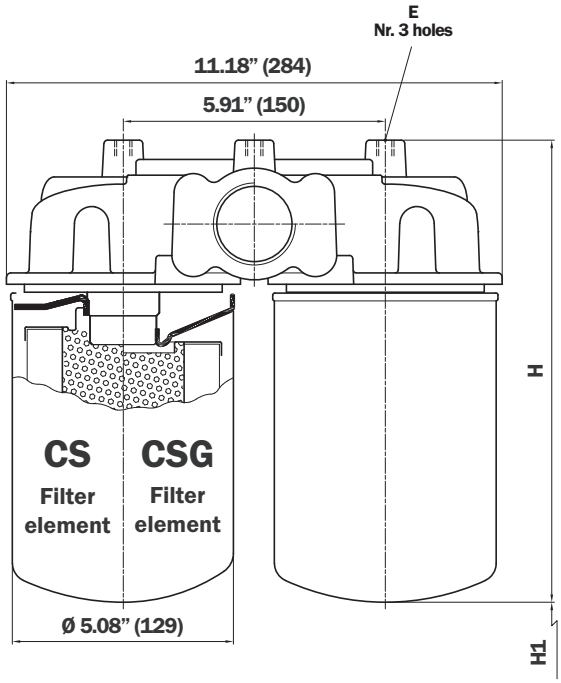
Type	Size	T	E Depth 0.79 inch (20 mm)
G1	G 1 1/2"	G 1/8"	M10
G2	1 1/2" NPT	1/8" NPT	7/16" UNC
G3	SAE 24 - 1 7/8" - 12 UN	1/8" NPT	7/16" UNC

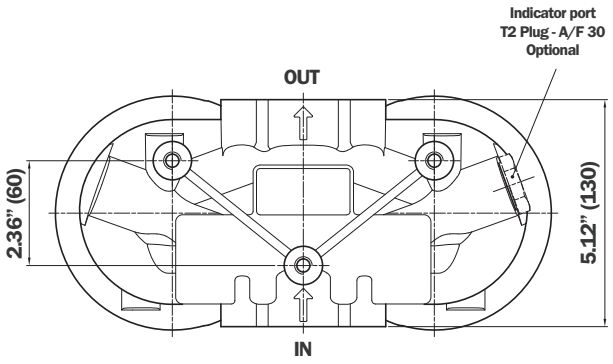
MPS 300 - 350





MPS 301 - 351





MPS 300 - 350

Length Filter	H inch (mm)	H1 inch (mm)
300	10.47" (266)	1.97" (50)
350	12.28" (312)	1.97" (50)

MPS 300 - 350 Thread connections

Type	Size	T	E Depth 0.59 inch (15 mm)
G1	G 1 1/2"	G 1/8"	M10
G2	1 1/2" NPT	1/8" NPT	7/16" UNC
G3	SAE 24 - 1 7/8" - 12 UN	1/8" NPT	7/16" UNC

MPS 301 - 351

Length Filter	H inch (mm)	H1 inch (mm)
301	10.47" (266)	1.97" (50)
351	12.28" (312)	1.97" (50)

MPS 301 - 351 Flange connections

Type	Size	T	E Depth 0.59 inch (15 mm)
F1	1 1/2" SAE 3000 psi/M	G 1/8"	M10
F2	1 1/2" SAE 3000 psi/UNC	1/8" NPT	7/16" UNC

Filter element
CS - CSG - CSGW

CS - Thread connections

Type	Size
050 - 070	G 3/4"
100 - 150	G 1 1/4"

CSG/CSGW - Thread connections

Type	Size
050 - 070	1" - 12 UNF

CSG/CSGW - Thread connections

Type	Size
100 - 150	1 1/2" - 16 UN

CSGW:
This 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.

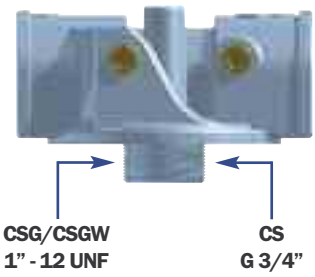
Water holding capacities:

CSGW 50 = 5.24 oz (155 ml) - Ordering code: **CSGW50P10A, CSGW50P25A**

CSGW 100 = 12.17 oz (360 ml) - Ordering code: **CSGW100P10A**

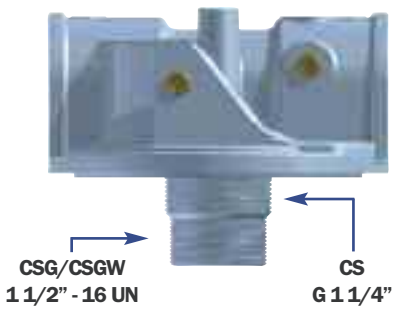
CSGW 150 = 25.36 oz (750 ml) - Ordering code: **CSGW150A03A, CSGW150P10A, CSGW150P25A**

Head MPS 050 - 070



		Water holding capacities CSGW
Viscosity	141/212 SUS (30/46 mm²/s (cSt))	good
	> 212 SUS (> 46 mm²/s (cSt))	poor
H_2O p.p.m.	600/800 p.p.m.	good
	> 800 p.p.m.	poor
Flow rate	CSGW50 1.85/3.96 gpm (7/15 l/min)	good
	CSGW50 5.28 gpm (> 20 l/min)	poor
	CSGW150 5.28/10.57 gpm (20/40 l/min)	good
	CSGW150 13.21 gpm (> 50 l/min)	poor
Temperature	104/140 °F (40/60 °C)	good
	< 86 °F (< 30 °C)	poor

Head MPS 100 - 200 - 300



Ordering information MPS - Series "0"

Filter assembly

MPS

	1	2	3	4	5	6
	☐	☐	☐	☐	☐	☐
Example 1: MPS	**100**	**E**	**G2**	**M90**	**A**	**T**
Example 2: MPS	**050**	**R**	**U3**	**A10**	**A**	**T**

Filter element

CSG

	1	4	5
	☐	☐	☐
Example 1: CSG	**100**	**M90**	**A**
Example 2: CSG	**050**	**A10**	**A**

CSG: USA standard filter element
CSGW*: USA standard filter element with water removal
CS: European standard filter element
* Subject to availability

Note: Consult factory for private labeling options for CSG and CSGW cans.

1 - Style

Filter		Filter element	
050	Use MPS050 style head	**050**	Use 1 element
070		**070**	Use 1 element
100	Use MPS100 style head	**100**	Use 1 element
150		**150**	Use 1 element
200	Use MPS200 style head	**100**	Use 2 elements
250		**150**	Use 2 elements
300	Use MPS300 style head	**100**	Use 2 elements
350		**150**	Use 2 elements

2 - Valves

B	Without bypass, without indicators ports
U	Without bypass, with 4 indicators ports
V	With 4,5 psi bypass, without indicators ports
S	With 4,5 psi bypass, with 4 indicators ports
Q	With 25 psi bypass, without indicators ports
R	With 25 psi bypass, with 4 indicators ports
E	With 50 psi bypass, without indicators ports
D	With 50 psi bypass, with 4 indicators ports
T	With 15 psi bypass, with 4 indicators ports
K	With 35 psi bypass, with 4 indicators ports
M	With 45 psi bypass, without indicators ports
L	With 45 psi bypass, with 4 indicators ports

3 - Connections

Threaded

Type	Size MPS 050 - 070
U1/G1	G 3/4"
U2/G2	3/4" NPT
U3/G3	SAE 12 - 1 1/16" - 12 UN
U4/G4	SAE 8 - 3/4" - 16 UNF
U5	G 1"
U6	1" NPT

MPS050..G. head - use CS can only
MPS050..U. head - use CSG can only

3 - Connections (continued)

Type	Size MPS 100 - 150	Size MPS 200 - 250	Size MPS 300 - 350
G1	G 1 1/4"	G 1 1/2"	G 1 1/2"
G2	1 1/4" NPT	1 1/2" NPT	1 1/2" NPT
G3	SAE 20 - 1 5/8" - 12 UN	SAE 24 - 1 7/8" - 12 UN	SAE 24 - 1 7/8" - 12 UN
G4	SAE 16 - 1 5/16" - 12 UN	-	-
F1	-	-	1 1/2" SAE 3000 psi/M
F2	-	-	1 1/2" SAE 3000 psi/UNC

MPS 100, MPS 200, and MPS 300 heads - all with dual-threaded post.

4 - Filter element

A01	Inorganic microfibre 1 μm**	Absolute filtration Inorganic microfibre
A03	Inorganic microfibre 3 μm	ßx (c) ≥ 200 (size 050/070)
A06	Inorganic microfibre 6 μm	
A10	Inorganic microfibre 10 μm	ßx (c) ≥ 1000 (size 100/150)
A25	Inorganic microfibre 25 μm	
M25	Wire mesh 25 μm	Nominal Filtration
M60	Wire mesh 60 μm	
M90	Wire mesh 90 μm	
P10	Resin - Impregnated paper	Nominal Filtration
P25	Resin - Impregnated paper	

** Inorganic microfibre 1 μm only available for CSG150

5 - Filter seals

A	NBR
V	FPM

6 - Option

T	With plugged indicators ports (when applicable)

Ordering information MPS - Series "1"

Filter assembly

MPS

	1	2	3	4	5	6
Example 1: MPS	**151**	**U**	**G3**	**A03**	**A**	**T2**
Example 2: MPS	**051**	**S**	**U5**	**P10**	**A**	**T2**

Filter element

CSG

	1	4	5
Example 1: CSG	**150**	**A03**	**A**
Example 2: CSG	**050**	**P10**	**A**

CSG: USA standard filter element
CSGW*: USA standard filter element with water removal
CS: European standard filter element
* Subject to availability

Note: Consult factory for private labeling options for CSG and CSGW cans.

1 - Style

Filter		Filter element	
051	Use MPS051 style head	**050**	Use 1 element
071		**070**	Use 1 element
101	Use MPS101 style head	**100**	Use 1 element
151		**150**	Use 1 element
301	Use MPS301 style head	**100**	Use 2 elements
351		**150**	Use 2 elements

2 - Valves

U	Without bypass
S	With 4,5 psi bypass
R	With 25 psi bypass
D	With 50 psi bypass
T	With 15 psi bypass
K	With 35 psi bypass

3 - Connections

Threaded

Type	Size MPS 051 - 071	Size MPS 101 - 151
U1/G1	G 3/4"	G 1 1/4"
U2/G2	3/4" NPT	1 1/4" NPT
U3/G3	SAE 12 - 1 1/16" - 12 UN	SAE 20 - 1 5/8" - 12 UN
U4/G4	SAE 8 - 3/4" - 16 UNF	-
U5	G 1"	-
U6	1" NPT	-

MPS050..G. head - use CS can only
MPS050..U. head - use CSG can only

3 - Connections (continued)

Type	Size MPS 101 - 151	Size MPS 301 - 351
G1	G 1 1/4"	G 1 1/2"
G2	1 1/4" NPT	1 1/2" NPT
G3	SAE 20 - 1 5/8" - 12 UN	SAE 24 - 1 7/8" - 12 UN
G4	SAE 16 - 1 5/16" - 12 UN	-
F1	-	1 1/2" SAE 3000 psi/M
F2	-	1 1/2" SAE 3000 psi/UNC

MPS 100 and MPS 300 heads - all with dual-threaded post.

4 - Filter element

A01	Inorganic microfibre 1 µm**	Absolute filtration Inorganic microfibre
A03	Inorganic microfibre 3 µm	ßx (c) ≥ 200 (size 050/070)
A06	Inorganic microfibre 6 µm	
A10	Inorganic microfibre 10 µm	ßx (c) ≥ 1000 (size 100/150)
A25	Inorganic microfibre 25 µm	
M25	Wire mesh 25 µm	Nominal Filtration
M60	Wire mesh 60 µm	
M90	Wire mesh 90 µm	
P10	Resin - Impregnated paper	Nominal Filtration
P25	Resin - Impregnated paper	

* Inorganic microfibre 1 µm only available for CSG150

5 - Filter seals

A	NBR
V	FPM

6 - Option

T2	With plugged indicator port

SPIN-ON FILTER

CLOGGING INDICATORS

Introduction

Filter elements are efficient only if their dirt holding capacity is fully exploited.
This is achieved by using filter housings equipped with clogging indicators.

These devices trip when the clogging of the filter element causes an increase in pressure drop across the filter element.

The indicator is set to alarm before the element becomes fully clogged.

MP Filtri can supply indicators of the following designs:

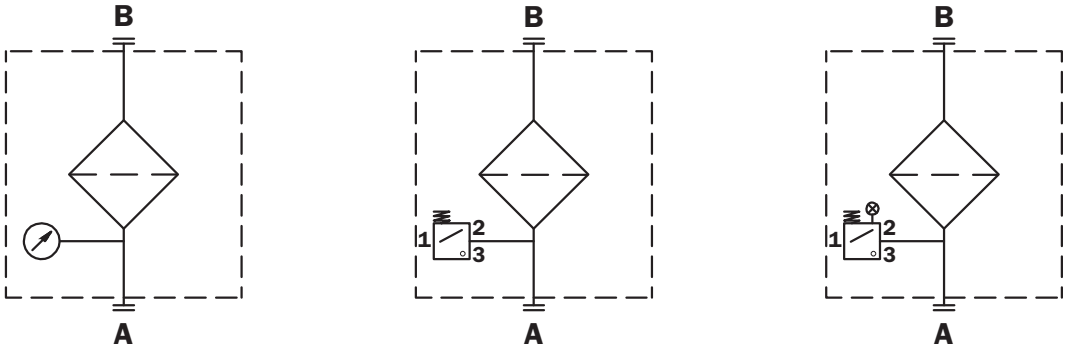
- **Vacuum switches and gauges**
- **Pressure switches and gauges**
- **Differential pressure indicators**

These type of devices can be provided with a visual, electrical or both signals.

The electronic model is available with warning signals and alarm (only available for differential type indicators).

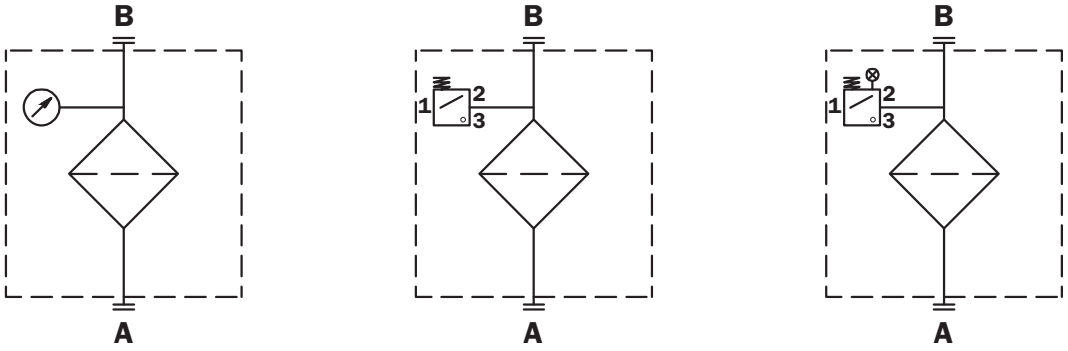
BAROMETRIC INDICATORS

Pressure indicators are used on the return line to check the efficency of the filter element.
They measure the pressure upstream of the filter element.
Standard items are produced with R 1/8” EN 10226 connection.



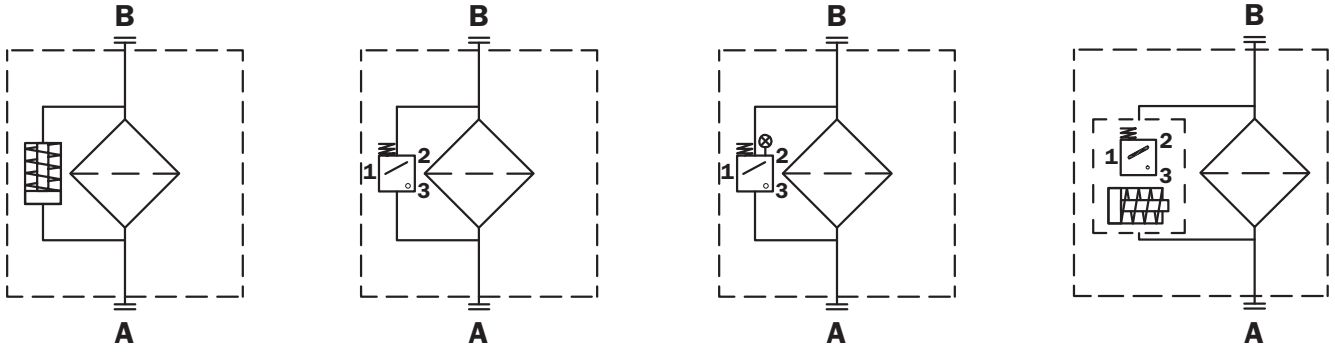
VACUUM INDICATORS

Vacuum indicators are used on the suction line to check the efficency of the filter element.
They measure the pressure downstream of the filter element.
Standard items are produced with R 1/4” EN 10226 connection.
Available products with R 1/8” EN 10226 to be fitted on MPS series.



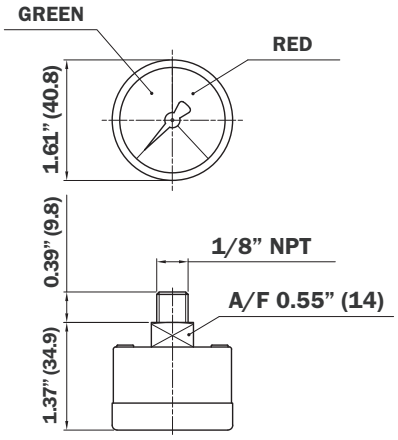
DIFFERENTIAL INDICATORS (SERIES “1” ONLY)

Differential indicators are used on the pressure line to check the efficency of the filter element.
They measure the pressure upstream and downstream of the filter element (differential pressure).
Also available in Stainless Steel models.



BAROMETRIC INDICATORS

VR VA COLOR



Available setting:
From 0 to 40 psi (VR VA COLOR)

Axial Pressure Gauge

Materials:

• Case:	Painted steel
• Window:	Clear plastic
• Dial:	Painted steel
• Pointer:	Painted aluminum
• Pressure connection:	Brass
• Pressure element:	Bourdon tube cu-alloy soft soldered

Technical data:

• Indicator type:	Axial pressure gauge
• Max working pressure:	40 psi
• Working temperature:	From -40°F to 140°F
• Compatibility with fluids:	Mineral oils

Available ABS version (body only)

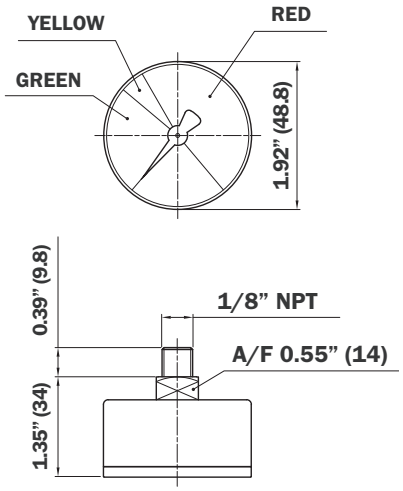
HYDRAULIC SYMBOL

GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to 20 psi)
Clean filter element

RED BACKGROUND
(from 20 to 40 psi)
Bypass

CI-20



Available setting:
From 0 to 60 psi (CI-20)

Axial Pressure Gauge

Materials:

• Case:	Painted steel
• Window:	Clear plastic
• Dial:	Painted steel
• Pointer:	Painted aluminum
• Pressure connection:	Brass
• Pressure element:	Bourdon tube cu-alloy soft soldered

Technical data:

• Indicator type:	Axial pressure gauge
• Max working pressure:	60 psi
• Working temperature:	From -40°F to 140°F
• Compatibility with fluids:	Mineral oils

HYDRAULIC SYMBOL

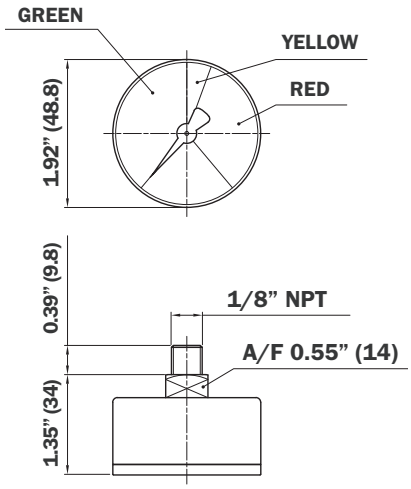
GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to 20 psi)
Clean filter element

YELLOW BACKGROUND
(from 20 to 25 psi)
Warning

RED BACKGROUND
(from 25 to 60 psi)
Bypass

CI-30



Available setting:
From 0 to 60 psi (CI-30)

Axial Pressure Gauge

Materials:

• Case:	Painted steel
• Window:	Clear plastic
• Dial:	Painted steel
• Pointer:	Painted aluminum
• Pressure connection:	Brass
• Pressure element:	Bourdon tube cu-alloy soft soldered

Technical data:

• Indicator type:	Axial pressure gauge
• Max working pressure:	60 psi
• Working temperature:	From -40°F to 140°F
• Compatibility with fluids:	Mineral oils

HYDRAULIC SYMBOL

GRADUATED DISPLAY

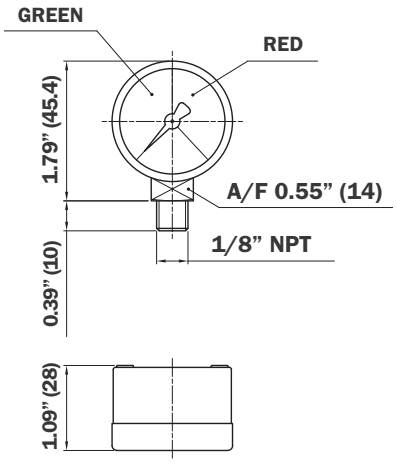
GREEN BACKGROUND
(from 0 to 30 psi)
Clean filter element

YELLOW BACKGROUND
(from 30 to 35 psi)
Warning

RED BACKGROUND
(from 35 to 60 psi)
Bypass

BAROMETRIC INDICATORS

V1 COLOR



Available setting:
From 0 to 40 psi (V1 COLOR)

Axial Pressure Gauge

Materials:
- Case: Painted steel
- Window: Clear plastic
- Dial: Painted steel
- Pointer: Painted aluminum
- Pressure connection: Brass
- Pressure element: Bourdon tube cu-alloy soft soldered

Technical data:
- Indicator type: Axial pressure gauge
- Max working pressure: 40 psi
- Working temperature: From -40°F to 140°F
- Compatibility with fluids: Mineral oils

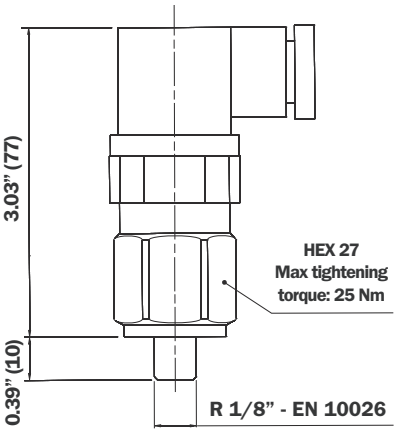
HYDRAULIC SYMBOL

GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to 20 psi)
Clean filter element

RED BACKGROUND
(from 20 to 40 psi)
Bypass

BEA



Available settings:
22 psi (1.5 bar) ±10% (BEA15HA50P01)
30 psi (2 bar) ±10% (BEA20HA50P01)

Electrical Pressure Indicator

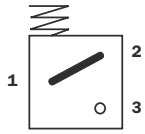
Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

Technical data:
- Indicator type: Electrical pressure indicator
- Max working pressure: 580 psi (40 bar)
- Proof pressure: 870 psi (60 bar)
- Working temperature: From -20°F to +180°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

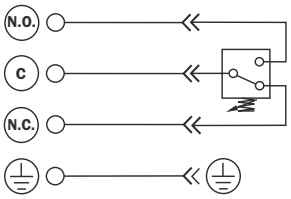
Electrical data:
- Resistive load: 5 A / 14 VDC
  4 A / 30 VDC
  5 A / 125 VAC
  5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529

Available Atex version

HYDRAULIC SYMBOL

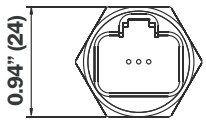


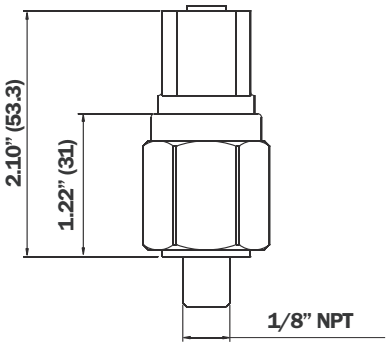
ELECTRICAL SYMBOL



BAROMETRIC INDICATORS

MPDF





Electrical Pressure Indicator

Materials:

• Body:	Zinc plated steel
• Internal parts:	Silver Nickel alloy contact (Optional: Gold contact)
• Seals:	NBR (Optional: FPM, EPDM, HNBR)

Technical data:

• Indicator type:	Electrical pressure indicator
• Max overpressure:	9000 psi
• Working temperature:	From -20°F to +180°F Nitrile
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:

• Resistive load:	100 VA / 42 VDC
• Switch type:	Blade contact
• Protection:	IP 67
• Mating connector:	DT06-2S (Integrated Deutsch Receptacle)

WIRING CODE

CONTACT	DEUTSCH RECEPTACLE
Common	Pin A
Normally Closed	Pin B
Normally Open	Pin B

PRESSURE RANGE

Set Point: 1.5 psi to 2175 psi

Ordering information MPDF

Series
MPDF

1	2	3	4	5
☐	☐	☐	☐	☐

Example: MPDF - 30F - 2M - B - DR - 1

1 - Pressure selection

Field adjustable - Select model code

Model	Adjustment Range (psi)
1	1.5 to 14.5
2	14.5 to 145
3	50 to 350
4	250 to 1000
5	500 to 2175

OR

Insert set point value XXXX followed by: R, F, BR, BR

Set Point	Direction	Description
XXXX	R	PSI rising pressure
	F	PSI falling pressure
	BR	BAR rising pressure
	BF	BAR falling pressure

2 - Thread option

2M 1/8 NPT male

3 - Circuit

A SPST (Normally Open)
B SPST (Normally Closed)

4 - Electrical termination

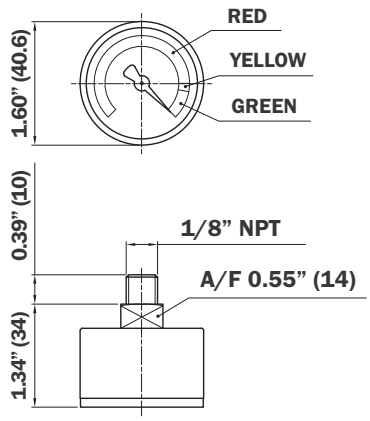
DR Integrated Deutsch Receptacle - Mates with DT06-2S

5 - Options

1 Viton diaphragm
2 EPDM diaphragm
4 HNBR diaphragm
7 Gold contact, 0.4 VA, 30 VDC
20 Seal Adjustment Screw
OC Oxygen cleaned switches
SR Snubber

VACUUM INDICATORS

VS V VO COLOR



Available setting:
From -30 to 0 inHg (-76 to 0 cmHg)

Axial Vacuum Gauge

Materials:

• Case:	Black plastic
• Window:	Clear plastic
• Dial:	Painted steel
• Pointer:	Painted aluminum
• Pressure connection:	Brass
• Pressure element:	Bourdon tube cu-alloy soft soldered

Technical data:

• Indicator type:	Axial vacuum gauge
• Working temperature:	From -40°F to 140°F
• Compatibility with fluids:	Mineral oils

Available ABS version (body only)

HYDRAULIC SYMBOL

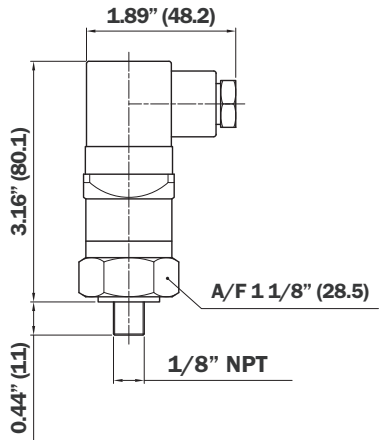
GRADUATED DISPLAY

GREEN BACKGROUND
From 0 to -5 inHg (0 to -13 cmHg)
Clean filter element

YELLOW BACKGROUND
From -5 to -8 inHg (-13 to -20 cmHg)
Warning

RED BACKGROUND
From -8 to -30 inHg (-20 to -76 cmHg)
Bypass

E1 E2 E3 E4 E0



Available setting:
From 5 to 30 inHg (13 to 76 cmHg)

Electrical Vacuum Indicator

Materials:

• Body:	Brass
• Seals:	NBR

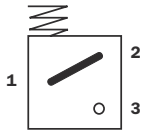
Technical data:

• Indicator type:	Electrical vacuum indicator
• Repeatability:	+/- 2% at 70°F ambient temperature
• Max overpressure:	350 psi
• Working temperature:	From -40°F to +180°F
• Compatibility with fluids:	Mineral oils

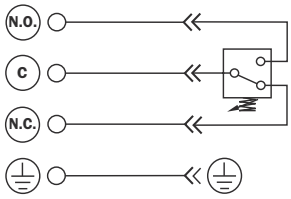
Electrical data:

• Resistive load:	7 A / 12/24VDC
	7 A / 125/250VAC
	3 A / 250VAC
• Protection degree:	DIN43650 IP65

HYDRAULIC SYMBOL

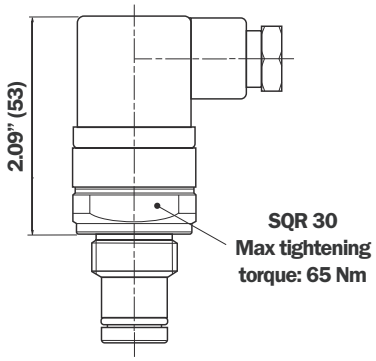


ELECTRICAL SYMBOL



DIFFERENTIAL INDICATORS

DEA



Available settings:
18 psi (1.2 bar) ±10% (DEA12xA50P01)
30 psi (2 bar) ±10% (DEA20xA50P01)

Electrical Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

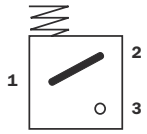
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -13°F to +230°F
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

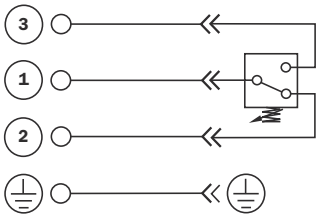
Electrical data:

• Resistive load:	0.2 A / 115 Vdc
• Electrical connections:	50 - EN 175301-803
• Protection degree:	IP 66 in according to EN 60529 IP69K in according to ISO 20653

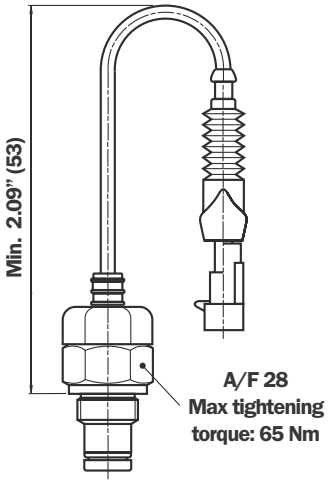
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available settings:
18 psi (1.2 bar) ±10% (DEM12xx10P01)
30 psi (2 bar) ±10% (DEM20xx10P01)

Electrical Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

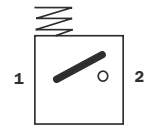
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -13°F to +230°F
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

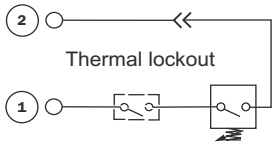
Electrical data:

• Resistive load:	0.2 A / 115 Vdc
• Electrical connections:	10 - AMP Superseal series 1.5
• Switching type:	Normally open contacts (N.C. on request)
• Thermal lockout:	Normally open up to 30°C (F option)
• Protection degree:	IP 66 in according to EN 60529

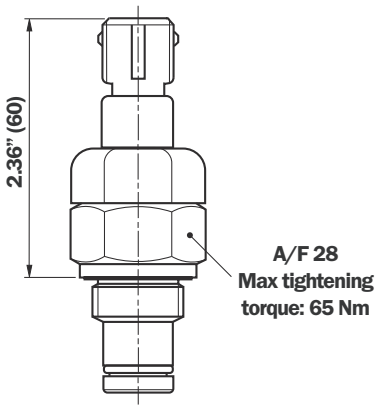
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available settings:
18 psi (1.2 bar) ±10% (DEM12xx20P01)
30 psi (2 bar) ±10% (DEM20xx20P01)

Electrical Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

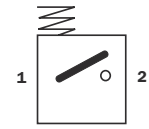
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -13°F to +230°F
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

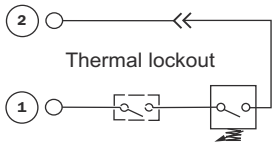
Electrical data:

• Resistive load:	0.2 A / 115 Vdc
• Electrical connections:	20 - AMP Time junior
• Switching type:	Normally open contacts (N.C. on request)
• Thermal lockout:	Normally open up to 30°C (F option)
• Protection degree:	IP 66 in according to EN 60529

HYDRAULIC SYMBOL

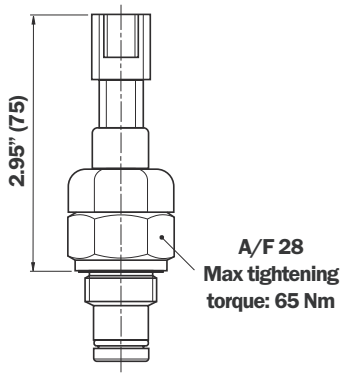


ELECTRICAL SYMBOL



DIFFERENTIAL INDICATORS

DEM



Available settings:
18 psi (1.2 bar) ±10% (DEM12xx30P01)
30 psi (2 bar) ±10% (DEM20xx30P01)

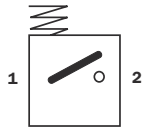
Electrical Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

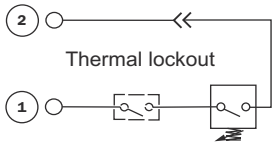
Technical data:
- Indicator type: Electrical differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -13°F to +230°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0.2 A / 115 VDC
- Electrical connections: 30 - Deutsch DT-04-2-P
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

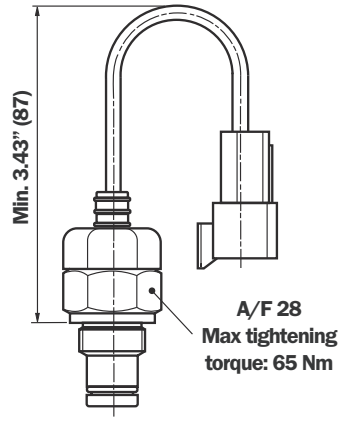
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available settings:
18 psi (1.2 bar) ±10% (DEM12xx35P01)
30 psi (2 bar) ±10% (DEM20xx35P01)

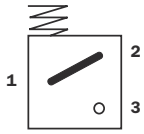
Electrical Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

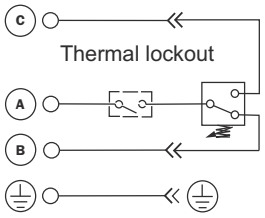
Technical data:
- Indicator type: Electrical differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -13°F to +230°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0.2 A / 115 VDC
- Electrical connections: 25 - Deutsch DT-04-3-P
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

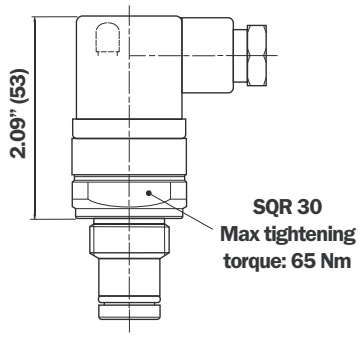
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLA



Available settings:
18 psi (1.2 bar) ±10% (DLA12xAxxP01)
30 psi (2 bar) ±10% (DLA20xAxxP01)

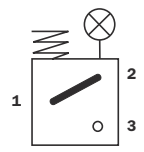
Electrical/Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

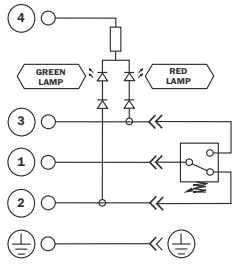
Technical data:
- Indicator type: Electrical/Visual differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -13°F to +230°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 51: 0.8 A / 24 VDC
  52: 0.2 A / 115 VDC
- Electrical connections: 51 - EN 175301-803 (24 VDC lamps)
  52 - EN 175301-803 (110 VDC lamps)
- Protection degree: IP 66 in according to EN 60529
  IP 69K in according to ISA 20653

HYDRAULIC SYMBOL

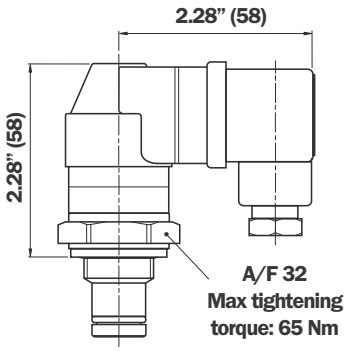


ELECTRICAL SYMBOL



DIFFERENTIAL INDICATORS

DLE



Available settings:
18 psi (1.2 bar) ±10% (DLE12xA50P01)
30 psi (2 bar) ±10% (DLE20xA50P01)

Electrical/Visual Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

Technical data:

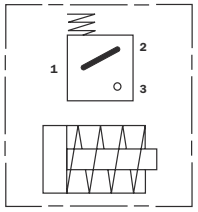
• Indicator type:	Electrical/Visual differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -13°F to +230°F
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:

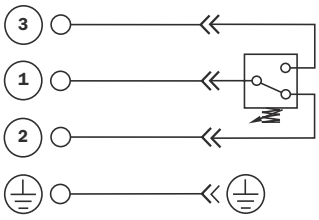
• Resistive load:	5 A / 250 Vdc
• Electrical connections:	50 - EN 175301-803
• Protection degree:	IP 65 in according to EN 60529

Available DIN connector with lamps

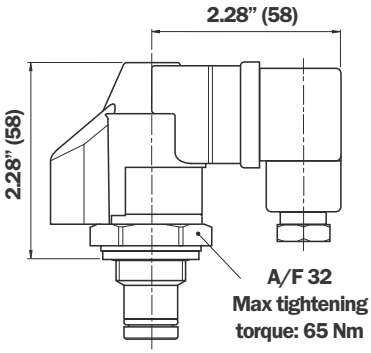
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLE



Available settings:
18 psi (1.2 bar) ±10% (DLE12xF50P01)
30 psi (2 bar) ±10% (DLE20xF50P01)

Electrical/Visual Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

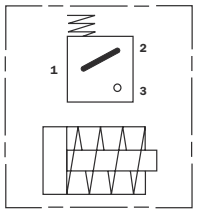
Technical data:

• Indicator type:	Electrical/Visual differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -13°F to +230°F
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

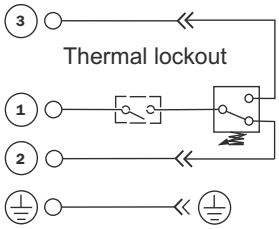
Electrical data:

• Resistive load:	5 A / 250 Vdc
• Thermal lockout setting:	+30°C
• Electrical connections:	50 - EN 175301-803
• Protection degree:	IP 65 in according to EN 60529

HYDRAULIC SYMBOL

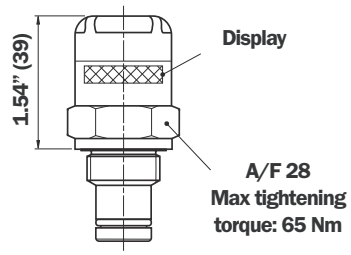


ELECTRICAL SYMBOL



DIFFERENTIAL INDICATORS

DVA

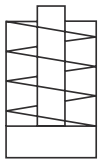


Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

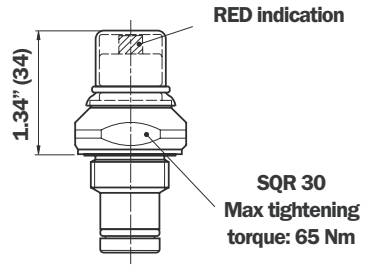
Technical data:
- Indicator type: Visual differential indicator
- Reset: Automatic reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -13°F to +230°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



Available settings:
18 psi (1.2 bar) ±10% (DVA12xP01)
30 psi (2 bar) ±10% (DVA20xP01)

DVM

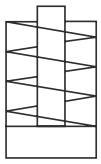


Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

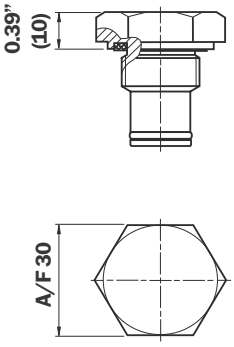
Technical data:
- Indicator type: Visual differential indicator
- Reset: Manual reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -13°F to +230°F
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



Available settings:
18 psi (1.2 bar) ±10% (DVM12xP01)
30 psi (2 bar) ±10% (DVM20xP01)

T2



Indicator Plug

Materials:
- Body: Phospthated Steel
- Seals: T2H (green): HNBR
  T2V (black): FPM
  T2E (purple): EPDM
  T2F (blue): MFQ

Ordering Information DE - DL - DV

Series	1	2	3	4	5	6	7
DE							
Example:	**DE**	**A**	**20**	**H**	**A**	**50**	**P01**
Series	**1**	**2**	**3**	**4**	**5**	**6**	**7**
DL							
Example:	**DL**	**A**	**20**	**H**	**A**	**52**	**P01**
Series	**1**	**2**	**3**	**4**	**7**		
DV							
Example:	**DV**	**A**	**20**	**H**	**P01**		
Series	**1**	**4**					
T2							
Example:	**T2**	**H**					

1 - Series

DE	Electrical indicator
DL	Electrical/Visual indicator
DV	Visual indicator
T2	Indicator plug

2 - Type

DE series

A	Standard type
M	With wired connector

DL series

E	Standard type for high power supply

DV series

A	Automatic reset
M	Manual reset

3 - Setting pressure

12	18 psi (1.5 bar)
20	30 psi (2 bar)

4 - Seals

H	HNBR
V	FPM
	On request

5 - Thermostat (excluded for DV)

A	Without thermostat
F	With thermostat (Normally open up to 30°C) Option available only for DEM series

6 - Electrical connection

DEA - DLE series

50	EN 175301-803 connector

DEM series

10	AMP Superseal series 1.5 (Normally open contacts)
20	AMP Timer Junior (Normally open contacts)
30	Deutsch DT-04-2-P (Normally open contacts)
35	Deutsch DT-04-3-P (Normally open contacts)
	On request

DLA series

51	EN175301-803 clear connector with 24 V lamps
52	EN175301-803 clear connector with 110 V lamps

7 - Option

P01	MP Filtri standard
Pxx	Customer request

Notes

OPERATING
&
MAINTENANCE MANUAL

Long working life of the hydraulic components and correct use of the hydraulic systems can be assured only when maintenance is performed correctly and at regular intervals. Filtration products will only be guaranteed if original MP Filtri replacements elements and spares are used. In order to prevent the filter elements from collapsing due to excessive hydraulic pressure it is essential to use clogging & differential indicators that serve to inform the user of the need to change the cartridge. Effective contamination control can be assured only by the correct use of clogging indicators.

INSTALLATION

A: Check that the pressure value of the selected filter is higher than the system's maximum operating pressure (the maximum pressure value is shown on the dataplate).

B: Check that the filter body contains the filter cartridge.

C: Check that the operating fluid is compatible with the material of the body, cartridge and seals.

D: Secure the filter using the relevant threaded holes, to rigid brackets.
Rigid installation makes it possible to unscrew the housing without introducing flexing of the hydraulic fittings, limiting any points of stress transfer.

E: Install the filter in an accessible position for correct and trouble-free maintemance and visibility.

F: Start the machine and check for absence of oil leack from the filter and relative fittings.

G: Repeat the visual inspection when the system arrives at the operating temperature of the oil.

MAINTENANCE

A: All maintenance operations must be performed only by suitably trained personnel.

B: The hydraulic system must be depressurised before performing maintenance operations (except for duplex filter).

C: Maintenance must be carried out using suitable tools and containers to collect the fluid contained in the filter body.
Spent fluids must be disposed of in compliance with statutory legislation.

D: Do not use naked flames during maintenance operations.

E: Use the utmost caution in relation to the temperature of the fluid. High temperature can lead to residual pressure with resulting undesirable movements of mechanical parts.

CHANGING THE FILTER ELEMENT

A: The data on which the filter elements are changed must be entered in the machine datasheet.

B: Spare parts installed must be in compliance with the specifications given in the machine operating and maintenance manual.

C: Filter bodies and tools must be thoroughly cleaned prior to each maintenance operation.

D: After having opened the filter to change the filter element, check th condition of the seals and renew them if necessary.
Clean thoroughly before reassembling.

CHANGING THE FILTER ELEMENT MPS FILTERS

1
Depressurise the system and clean the filter.

2
Unscrew the filter element (Fig. 1).

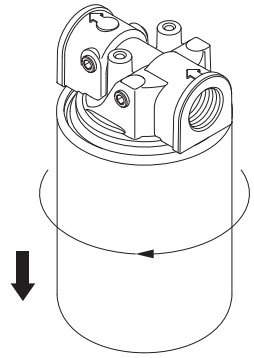


Fig. 1

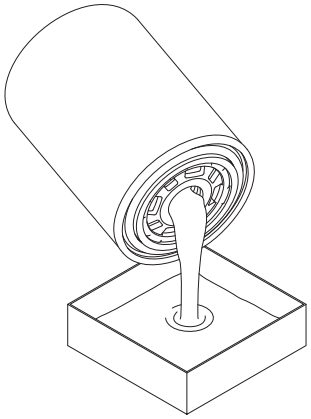


Fig. 2

!!! WARNING !!!

3
Collect the spent oil and cartridge in a suitable container and dispose of them in compliance with statutory legislation (Fig. 2).

4
Lubricate the filter element seal with the operating fluid (Fig. 3).

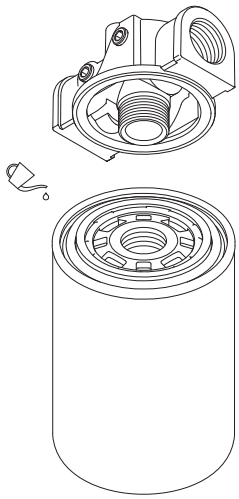


Fig. 3

5
Screw the cover into the head when the seal comes in contact with the head, rotate half a turn (Fig. 4).

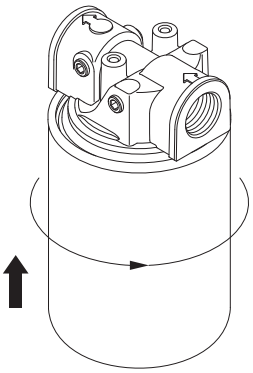


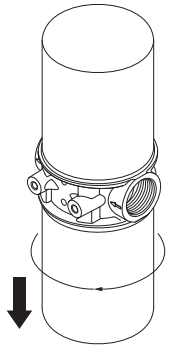
Fig. 4

6
Start the machine and check for the absence of leaks.
Repeat the check when the machine has reached its operating temperature.

CHANGING THE FILTER ELEMENT FILTERS MPS 200

1
Depressurise the system and clean the filter.

2
Unscrew first the bottom filter element (Fig. 5).



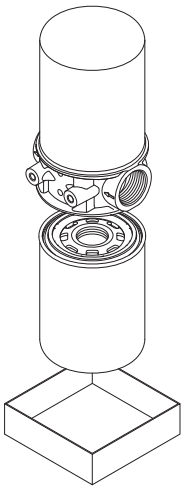
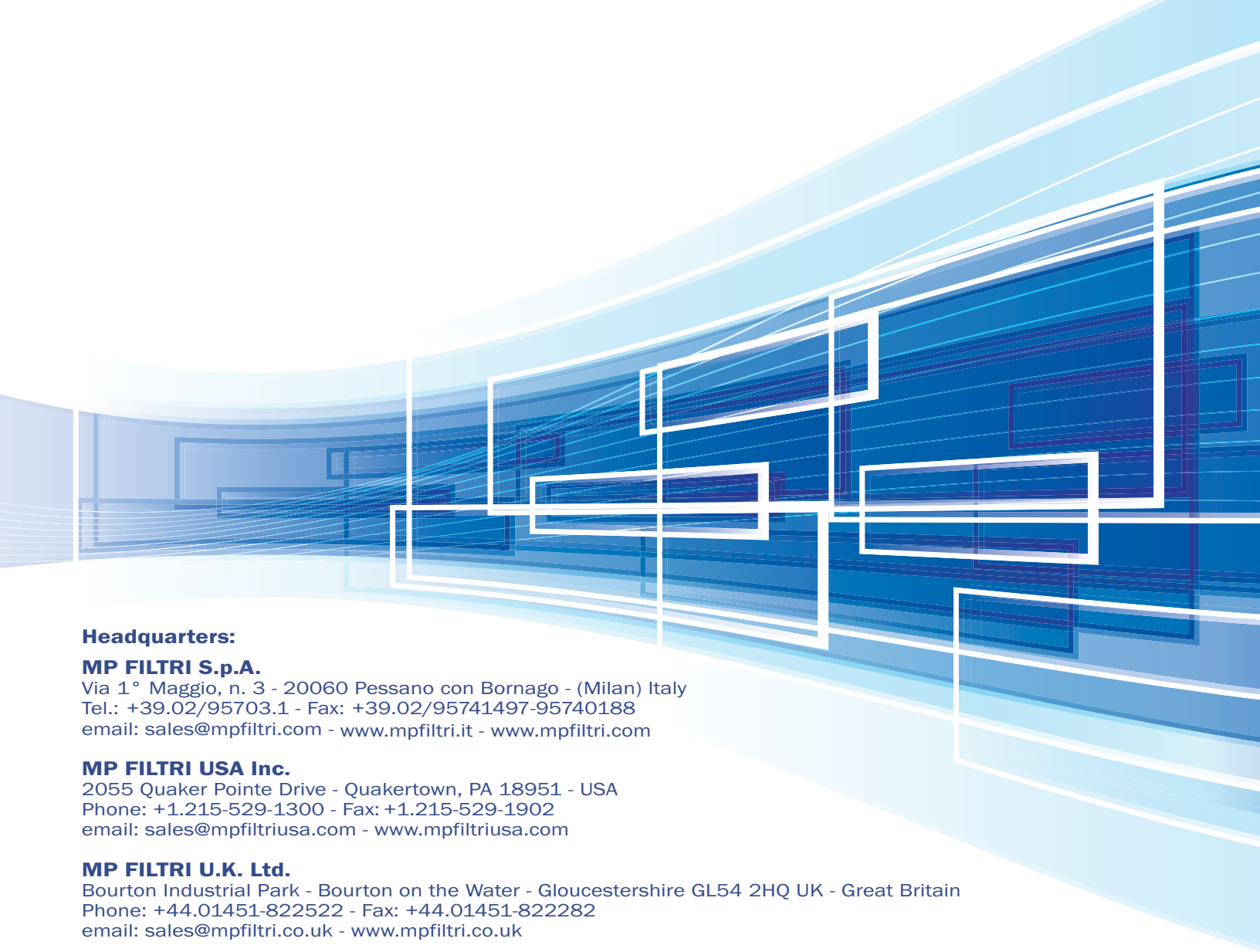


Fig. 5



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