Filtration

Suction Strainers

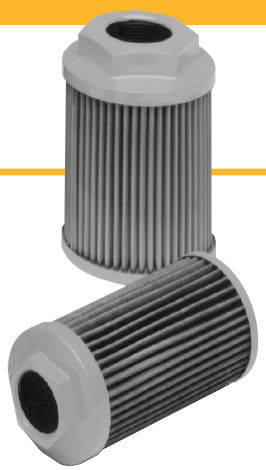
- STR Series
- TMS Series

Spin-On

- MPSG-CSG Series
- MST-CT Series
- MSH-CH Series

MP FILTRI (CANADA) INC.

Suction Strainers - STR Series



Description

- STR filter elements are suitable for use on the suction line, submerged in the reservoir. They are available in 16 sizes for nominal flows up to 158 GPM with 150 SUS (oil), with or without bypass.

Technical Data

- Materials: Connection: Nylon. Bypass valve: Nylon.

- Filter Element Materials: Series M: Square wire mesh (filtration degree is defined in microns By the maximum diameter of a sphere fitting in the mesh of the grid).
  M60 - Stainless Steel.
  M90 - Nickel plated polyester.
  M250 - Zinc plated steel.

  Support Tube, Upper and Base Plates: Galvanized steel

  Dirt Holding Capacity: as per ISO 4572

- 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 or HFDS-HFDU as per ISO 6743/4)
  For water-based emulsions (types HFAE-HFAS as per ISO 6743/4)

- Bypass Valve Calibration: Bypass valve, differential opening pressure:
  Series "B": 4.5 PSID ± 10%,
  Series "S": without

- Operating Temperature: from - 25ºC to + 100ºC
  This product is suited for temperatures below -25ºC where proper start-up procedure is used. Please contact your MP Filtri representative.

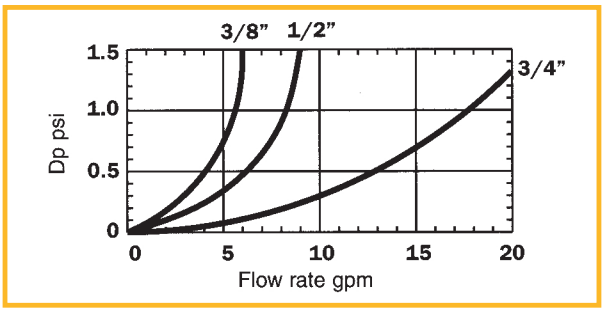
- Filtering Area Elements: (in^2)

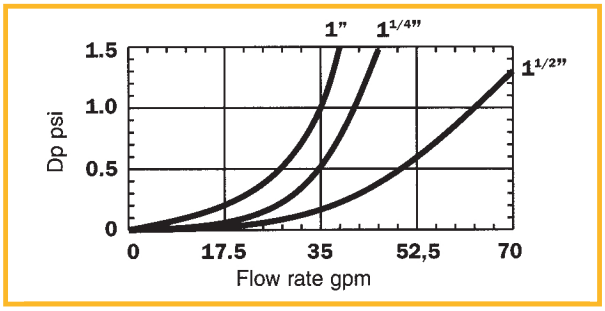
Type STR	050-1-2	070-1-2	070-3-4	100-1-5	100-2-3-4	140-1-2	140-3-4	140-5	140-6
M60	45	73	111	162	287	310	550	561	645
M90	45	73	111	162	287	310	550	561	645
M250	45	73	111	162	287	310	550	561	645

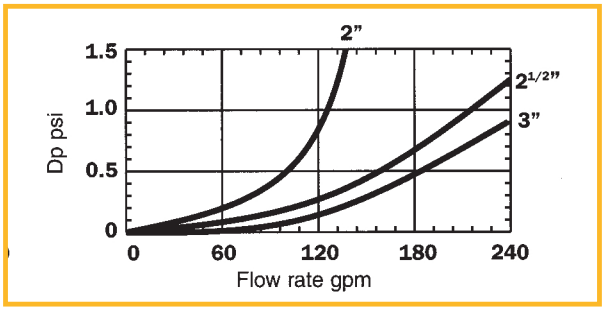
Element Pressure Drop

- The following curves were obtained using a mineral oil with a kinematic viscosity of 150 SUS.

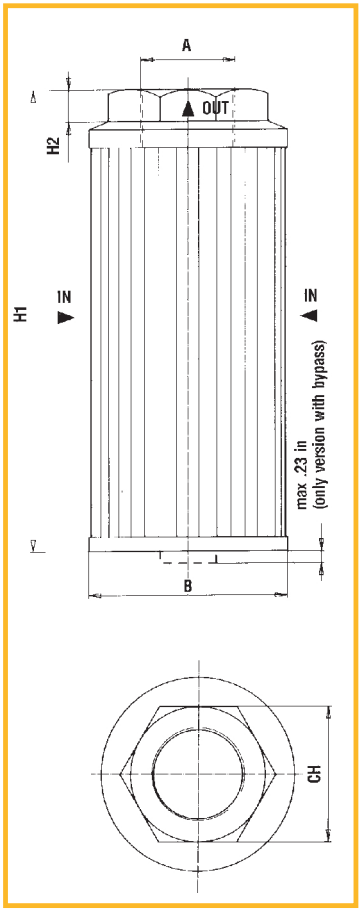
  Pressure drop is localized in the connection and does not depend on filtration level chosen (M60-M90-M250) MP Filtri recommends the pressure drop does not exceed 0.4 psi.





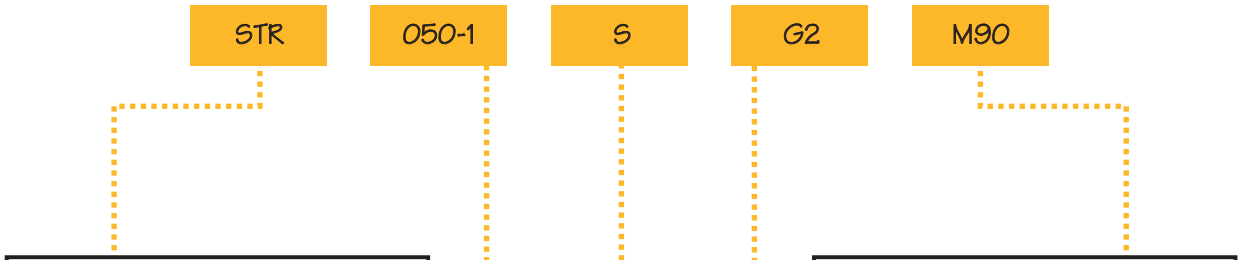


Installation Data STR Series



Type STR	Nominal Flow (GPM)	A	B	H1	H2	CH	Wt. lb
050-1 G2	3	3/8" NPT	2.04	3.07	.39	1.18	.35
050-2 G2	4	1/2" NPT	2.04	3.07	.39	1.18	.35
070-1 G2	4	1/2" NPT	2.75	3.74	.39	1.65	.49
070-2 G2	12	3/4" NPT	2.75	3.74	.39	1.65	.49
070-3 G2	12	3/4" NPT	2.75	5.51	.39	1.65	.66
070-4 G2	22	1" NPT	2.75	5.51	.39	1.65	.66
100-1 G2	35	1-1/4" NPT	3.90	5.31	.59	2.71	1.03
100-2 G2	35	1-1/4" NPT	3.90	8.86	.59	2.71	1.50
100-3 G2	55	1-1/2" NPT	3.90	8.86	.59	2.71	1.50
100-4 G2	80	2" NPT	3.90	8.86	.59	2.71	1.50
100-5 G2	55	1-1/2" NPT	3.90	5.31	.59	2.71	1.85
140-1 G2	55	1-1/2" NPT	5.12	6.30	.59	2.75	1.85
140-2 G2	80	2" NPT	5.12	6.30	.59	2.75	2.75
140-3 G2	80	2" NPT	5.12	10.30	.59	2.75	1.03
140-4 G2	120	2-1/2" NPT	5.12	10.63	.78	3.97	2.75
140-5 G2	155	3" NPT	5.12	10.63	.78	3.97	2.75
140-6 G2	155	3" NPT	5.12	13.00	.78	3.97	2.86

Ordering Information STR Series



SERIES	
STR	Complete Filter

SIZES	
050-1	3/8"
050-2	1/2"
070-1	1/2"
070-2	3/4"
070-3	3/4"
070-4	1"
100-1	1-1/4"
100-2	1-1/4"
100-3	1-1/2"
100-4	2"
100-5	1-1/2"
140-1	1-1/2"
140-2	2"
140-3	2"
140-4	2-1/2"
140-5	3"
140-6	3"

MICRON RATING	
M60	Fine 240 mesh
M90	Standard 164 mesh
M250	Coarse 60 mesh

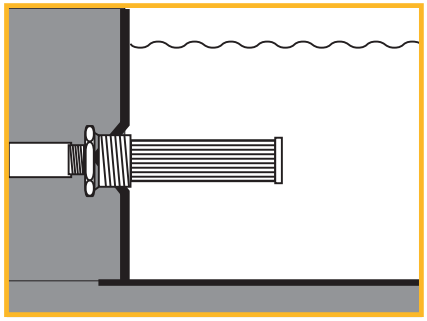
CONNECTIONS	
G1	Optional Metric threads on request
G2	NPT thread (Standard)

BYPASS VALVE	
S	Without
B	With

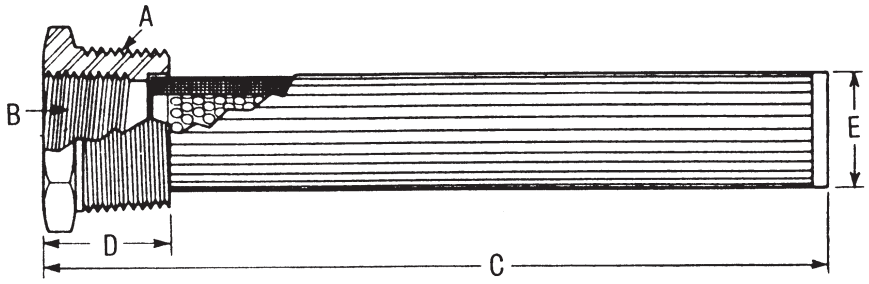
Tank Mounted Strainers - TMS Series

Specifications

- No by-pass
- Perforated steel support tubes
- Temperatures to +250ºF (+120ºC)
- 100 Mesh stainless steel plated elements
- 5 PSI by-pass special order.
- Designed for ease of servicing. Access to tank interior is not necessary.
- Mount through sidewall or through tank top and into a standpipe



Ordering Information



Part #	GPM Rating	A	B	C	D	E	Screen Area (in^2)
TMS-3	3	3/4" NPT	3/8" NPT	4.00	0.97	0.87	28.70
TMS-5	5	1" NPT	1/2" NPT	5.34	1.06	1.03	35.00
TMS-10	10	1 1/4" NPT	3/4" NPT	8.17	1.10	1.36	64.00
TMS-15	15	1 1/2" NPT	1" NPT	8.20	1.30	1.62	86.00
TMS-25	25	2" NPT	1 1/4" NPT	9.04	1.30	2.12	125.00
TMS-50	50	3" NPT	2" NPT	9.70	1.70	3.00	260.00
TMS-100	100	4" NPT	3" NPT	11.30	1.80	4.00	315.00

Spin-On - MPS/MPSG Series

Description

- The MPS/MPSG Filter series is suitable for use on suction and return lines.
- With Spin-On canisters MPS/MPSG filters are easy to maintain.
- Fits both European and North American series elements.
- Water removal is an option with CSGW series elements.

Technical Data

- Maximum Working Pressure: 175 PSI
  75 PSI max. if non-bypass.
- Operating Temperature: -25ºC to +107ºC
- Materials:
  - Head: aluminum
  - Seals: Series "A" nitrile (Buna-N)
    Series "V" viton
  - Bypass valves: nylon glass filled poppet.
  - Indicators: brass, steel
- Filter Element Materials:
  Series "A": Inorganic Microfibre with acrylic support.

  Series "P": Resin-impregnated paper

  Series "M": Square wire mesh (filtration degree is defined in microns by the maximum diameter of a sphere fitting in the mesh grid)

  Support Tube, Upper and Base Plates: Galvanized steel

  Support Frames: Galvanized steel with an epoxy coating.
- Dirt Holding Capacity: As per ISO 4572: multi-pass test
- Water Holding Capacity for CSGW elements:
  CSGW O5O - 240 ml,
  CSGW-100 - 468 ml, CSGW-150 - 600 ml.

Fluid Compatibility

◆ Filter Heads:

- Mineral oils (types HH-HL-HM-HR-HG-as per ISO 6743/4)
- Water-based emulsions (types HFFAE-HFAS as per ISO 6743/4)
- Synthetic fluids (types HS-HFDR-HFDU-HFDS as per ISO 6743/4)
- Water glycol (type HFC as per ISO 6743/4)

ask for anodized version

◆ Seals:

Series "A":

- Nitrile (Buna-N) compatible with all mineral oils (types HH-HL-HM-HR-HV-HG-as per ISO 6743/4).
- Water-based emulsions (type HFAE-HFAS as per ISO 6743/4).
- Water glycol (type HFC as per ISO 6743/4)

Series "V":

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

◆ Filter Elements:

Suitable for mineral oils as per ISO 2943 (types HH-HM-HR-HV-HG as per ISO 6743/4).
Viton seals for use with water glycol are available.
For other fluids please contact customer service.

◆ Element Collapse:

58 PSID

◆ Bypass Calibration:

Differential opening pressure:
Series "R" = 25 PSID
Series "T" = 15 PSID
Series "S" = 4.5 PSID

Filter Element	Dimensions for ß (µm) values			Filtration Ratios			△P (PSI)
	B>2 (50%)	B>20 (95%)	B>75 (98.7%)	$ß_2$	$ß_{10}$	$ß_{20}$	
A03	-	2	3	20	>10.000	>10.000	100
A06	-	3	6	8	>2.000	>10.000	100
A10	3	6	8	1.5	150	>10.000	100
A25	13	19	23	-	1.5	35	100
P10	10	>30	>30	1	2	4.5	100
P25	25	>30	>30	1	1	1.3	100

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

Indicators MPS/MPSG Series

◆ **Types of Indicators for MPS/MPSG series "0" (MPS 050-070-100...)**

◆ Visual Indicator:
Suction filter: (MPS series only): **VS** vacuum switch scale **0-30 in Hg**
Return filter: **VR** colour coded pressure gauge scale **0-87 psi**

◆ Electrical Indicator For Suction (MPS series only):
"EO" vacuum switch with change over contact switching at **3 psi ± 10%**
Max voltage: 250V 50/60 Hz. Max current: 5A resistive, 2A inductive
Protection Degree IP65

◆ Electrical Indicator For Return:
ER pressure switch - N.O. contacts; **EC** pressure switch - N.C. contacts
Switching at **18 psi ± 10%**
Max voltage: 48V 50/60 Hz. Max current: 0,5A resistive, 0,2A inductive

◆ **MPS/MPSG series "1" (MPS 051-071-101...)**
Are fitted with differential style indicators

◆ Visual Indicator:
1V-Z1 Series for filter with bypass set to 25 psi switching at **18 psi ± 10%**
V6-Z6 Series for filter without bypass switching at **30 psi ± 10%**

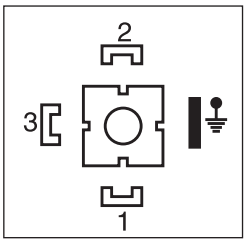
◆ Electrical Indicator:
N1 Series for filter with bypass set to 25 psi switching at **18 psi ± 10%**
N6 Series for filter without bypass switching at **30 psi ± 10%**

◆ Visual-Electrical Indicator:
1E Series for filter with bypass set to 25 psi switching at **18 psi ± 10%**
E6 Series for filter without bypass switching at **30 psi ± 10%**

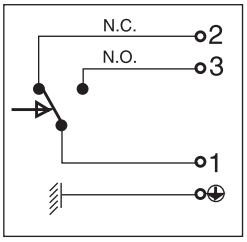
◆ Pressure Differential Indicator Option E-N Series:

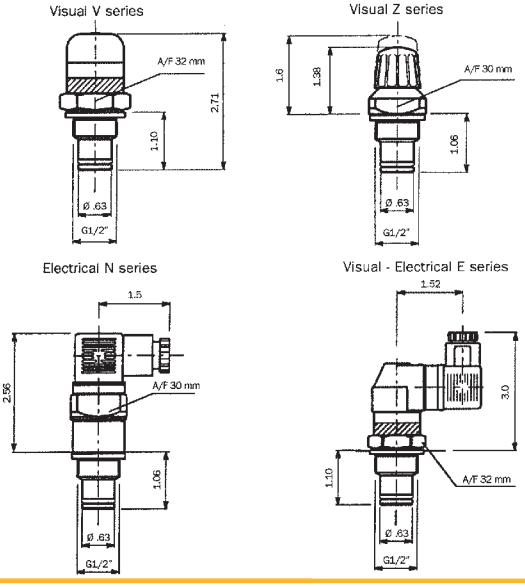
Supply Voltage (V)	Resistive Load (A)	Inductive Load (A)
Vca 125	5	2
Vca 250	5	2
Vcc 30	5	3
Vcc 125	0.5	0.03
Vcc 250	0.25	0.03

CONNECTOR DIN 43650



ELECTRICAL CONNECTOR E-N SERIES





Pressure Drops - MPS/MPSG Filters

◆ General:

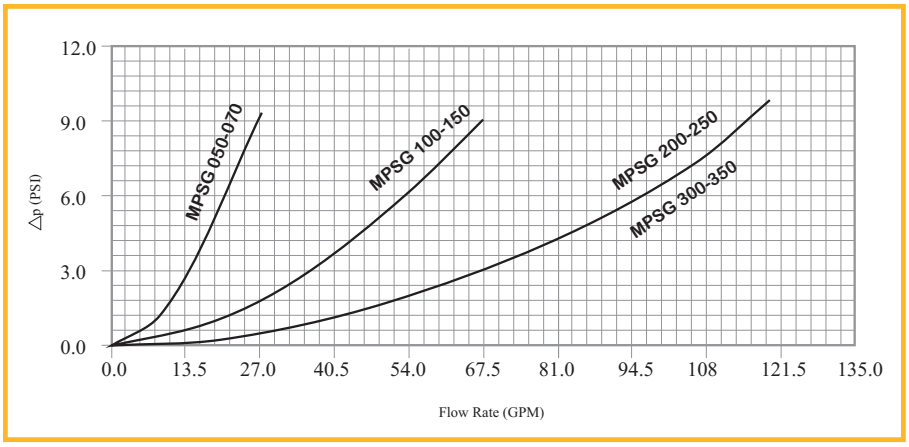
The curves shown were obtained experimentally in accordance with standard ISO 3968, using new filter elements.

All curves were obtained using a mineral oil with a density of 0.86 and a kinematic viscosity of 150 SUS.

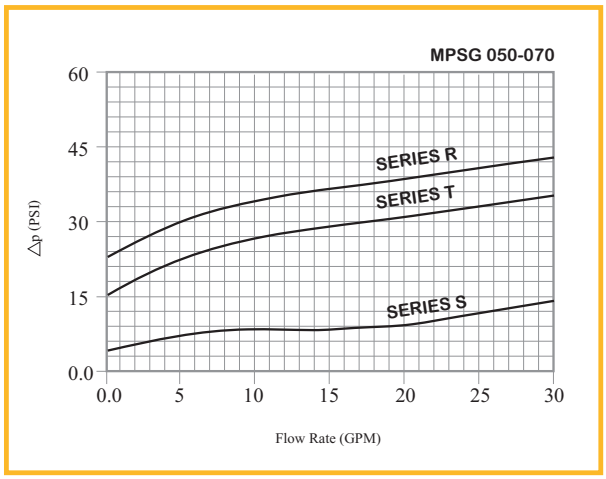
When choosing an MPSG filter, the following guidelines should be used

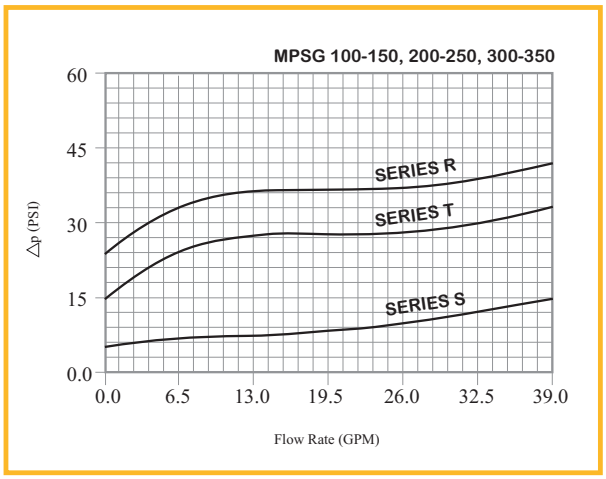
1) The maximum △P of the filter assembly should fall between 6 & 9 PSI when the system is at maximum flow and operating at minimum temperature.
2) At normal operating conditions the △P of the filter assembly should fall between 3 and 6 PSI.

Housing Pressure Drop

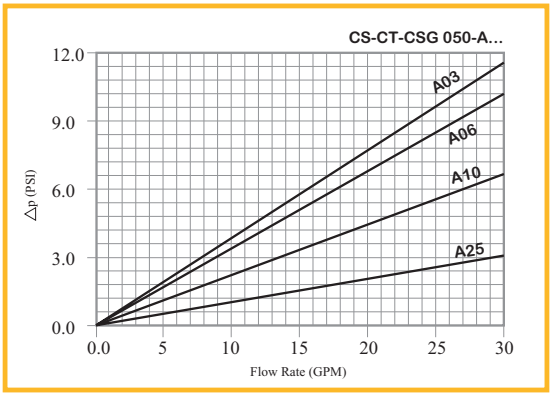


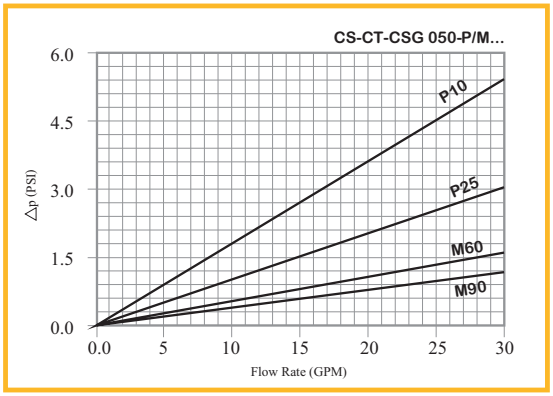
MPS/MPSG Bypass Valve Pressure Drop

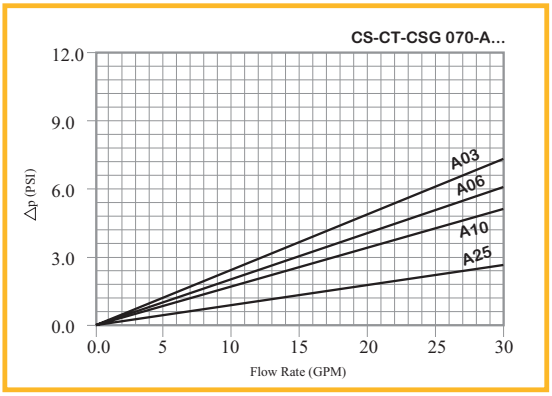


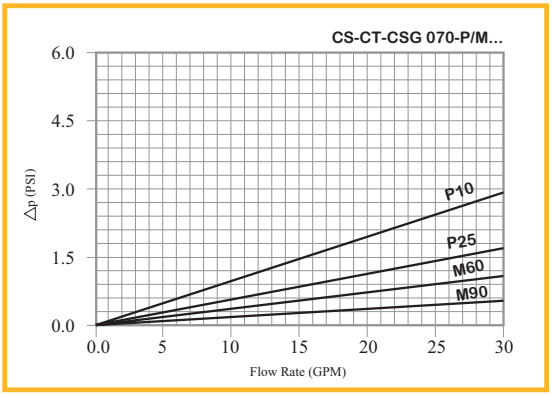


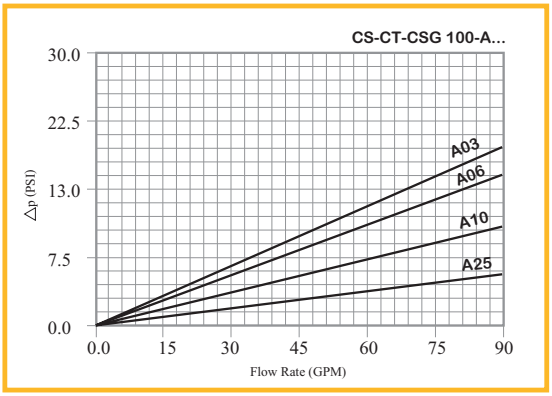
Filter Elements - Pressure Drops MPS/MPSG

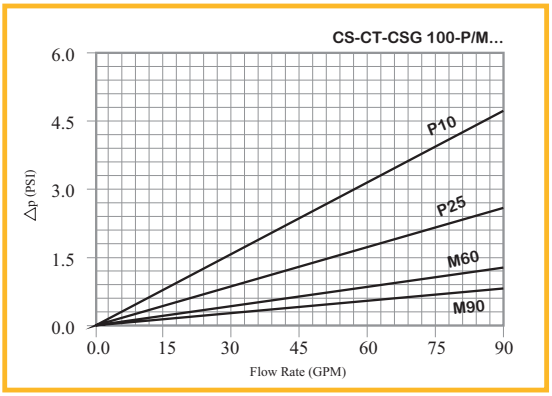


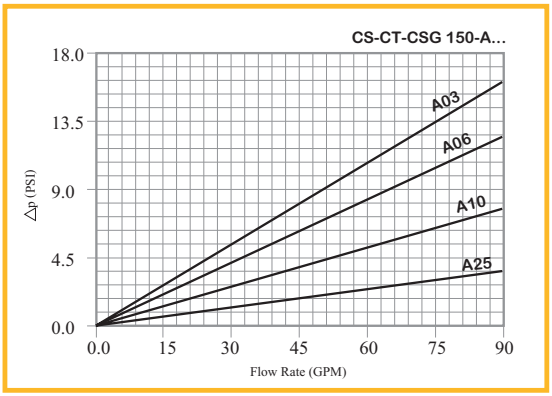


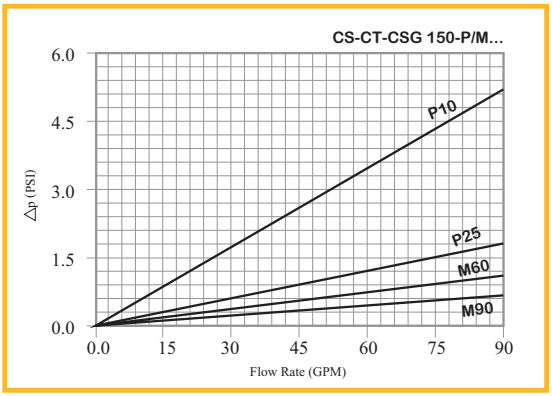








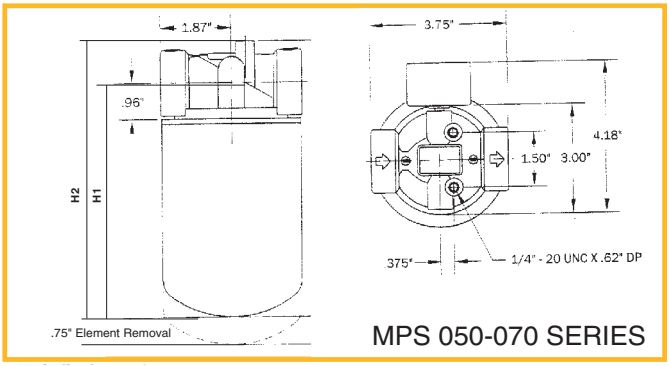


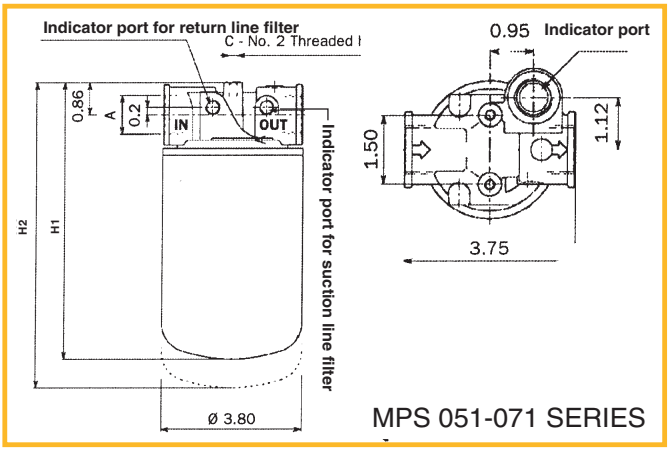


◆ Note: Values expressed in the charts are based on mineral oils with a density of 0.86 and a kinematic viscosity of 150 SUS. △P is directly proportional to change in viscosity for laminar flows and directly proportional to density for turbulent flows. For specific values on your application, please contact your MP Filtri representative.

MPS/MPSG 050-051, 070-071

Technical Data





Filter Assembly MPS 050-MPS 051	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	10.5	2.3	see table below
A06	11.6	2.9	
A10	12.7	3.7	
A25	15.3	4.7	
P10	14.5	4.2	
M60-M90	-	6.3	

Filter Assembly MPS 070-MPS 071	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	12.0	2.9	see table below
A06	13.0	3.4	
A10	14.0	4.0	
A25	16.7	5.3	
P10	15.3	4.7	
M60-M90	-	6.9	

* Flow rates with 150 SUS fluid viscosity

- The above filter sizing recommendations are based using a mineral oil fluid at 150 SUS with a maximum total filter (housing and filter element) pressure drop of 30% of the filter condition indicator (6 psi) for line and return filter and 1.15 psi for suction filter.
- Please refer to individual pressure drop curves to obtain filter assembly pressure drop information
- Filtering Area (in^2):

Type	A03/A25	P10/P25	M60	M90
CS-CSG 050	318	434	159	141
CS-CSG 070	520	706	197	199

- Dimensions (inches):

Type	H1	H2	Weights*Lbs
CS-CSG 050	7.08	7.87	2.2
CS-CSG 070	9.76	10.55	2.9

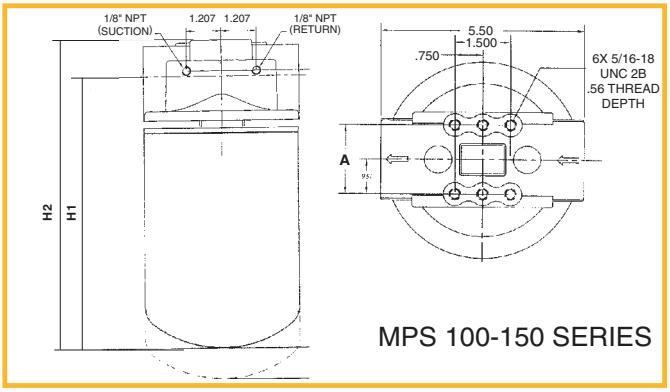
- Thread Connection:

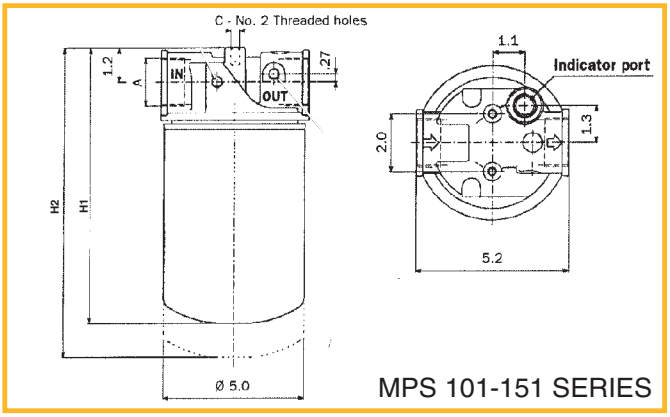
Type	A	B	C
G0	1/2" NPT	1/8" NPT	1/4" UNC
U2	3/4" NPT	1/8" NPT	1/4" UNC
G3	SAE 12-1 1/16"-12 UN	1/8" NPT	1/4" UNC
G4	1" NPT	1/8" NPT	1/4" UNC

*Weight complete with element.

MPS/MPSG 100-101, 150-151

Technical Data





Filter Assembly MPS 100-MPS 101	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	19.8	4.2	1 1/4"
A06	22.5	5.0	
A10	29.0	6.6	
A25	37.0	10.5	
P10	34.0	9.2	
M60-M90	-	17.0	

Filter Assembly MPS 150-MPS 151	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	22.5	4.7	1 1/4"
A06	26.4	5.8	
A10	30.4	7.9	
A25	42.3	11.9	
P10	37	10.5	
M60-M90	-	18.0	

* Flow rates with 150 SUS fluid viscosity

- The above filter sizing recommendations are based using a mineral oil fluid at 150 SUS with a maximum total filter (housing and filter element) pressure drop of 30% of the filter condition indicator (6 psi) for line and return filter and 1.15 psi for suction filter.
- Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

- Filtering Area (in^2):

Type	A03/A25	P10/P25	M60	M90
CS-CSG 100	620	874	309	266
CS-CSG 150	930	1172	410	357

- Dimensions (inches):

Type	H1	H2	Weights*Lbs
CS-CSG 100	9.48	10.47	4.8
CS-CSG 150	11.25	12.24	5.0

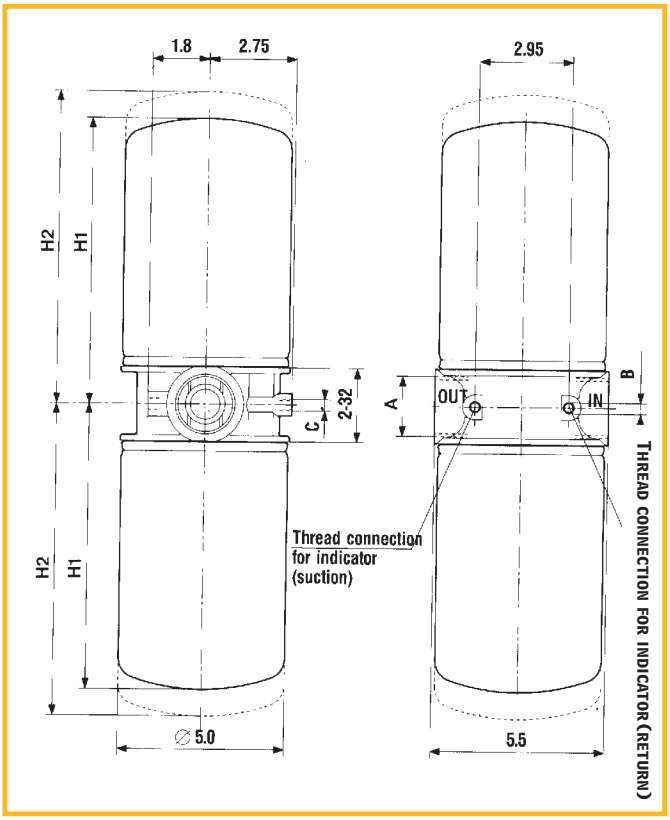
- Thread Connection:

Type	A	B	C
G2	1-1/4" NPT	1/8" NPT	5/16" UNC
G3	SAE20 1-5/8"-12 UN	1/8" NPT	5/16" UNC

* Weight complete with element.

MPS/MPSG 200-250

Technical Data



Filter Assembly MPS 200	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	34.3	7.9	1 1/2"
A06	45.0	11.9	
A10	58.0	17.0	
A25	76.7	29.0	
P10	71.4	26.4	
M90	-	31.7	

Filter Assembly MPS 250	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	47.6	13.2	1 1/2"
A06	55.5	15.8	
A10	66.0	21.0	
A25	82.0	33.0	
P10	74.0	31.2	
M90	-	34.3	

* Flow rates with 150 SUS fluid viscosity

- The above filter sizing recommendations are based using a mineral oil fluid at 150 SUS with a maximum total filter (housing and filter element) pressure drop of 30% of the filter condition indicator (6 psi) for line and return filter and 1.15 psi for suction filter.
- Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

- Filtering Area (in^2)
  Per element:
  Note: 2 elements required per filter

Type	A03/A25	P10/P25	M60	M90
CS-CSG 100	620	874	309	266
CS-CSG 150	930	1172	410	357

- Dimensions (inches):

Type	H1	H2	Weights*Lbs
CS-CSG 100	8.5	9.48	8.8
CS-CSG 150	10.27	11.26	9.2

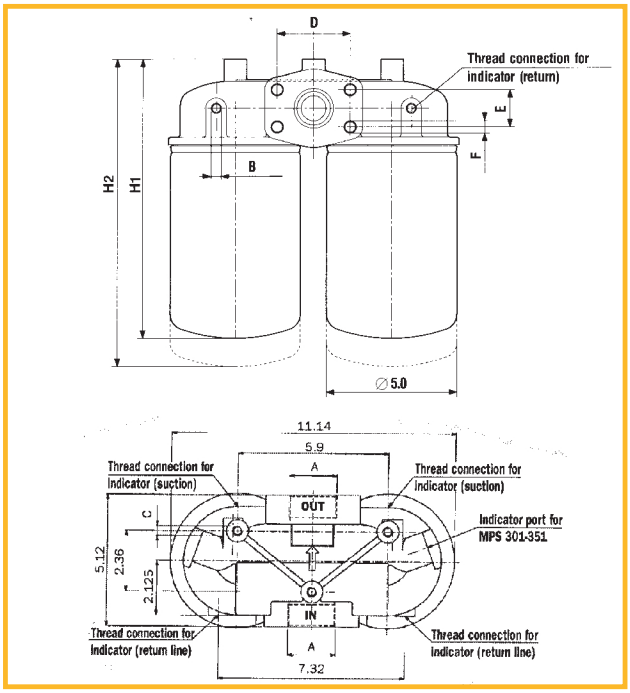
- Thread Connection:

Type	A	B	C
G2	1-1/2" NPT	1/8" NPT	3/8" UNC
G3	SAE20 1-7/8"-12 UN	1/8" NPT	3/8" UNC

* Weight complete with element.

MPS/MPSG 300-301, 350-351

Technical Data



Filter Assembly MPS 300 MPS 301	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	34.3	7.9	1 1/2"
A06	45.0	11.9	
A10	58.2	17.0	
A25	76.7	29.0	
P10	71.4	26.4	
M90	-	31.7	

Filter Assembly MPS 350 MPS 351	Line Flow rate gpm *	Suction Flow rate gpm *	Port size NPT/ SAE
A03	47.6	13.2	1 1/2"
A06	55.5	15.8	
A10	66.0	21.0	
A25	82.0	33.0	
P10	74.0	31.2	
M90	-	34.3	

* Flow rates with 150 SUS fluid viscosity

- The above filter sizing recommendations are based using a mineral oil fluid at 150 SUS with a maximum total filter (housing and filter element) pressure drop of 30% of the filter condition indicator (6 psi) for line and return filter and 1.15 psi for suction filter.
- Please refer to individual pressure drop curves to obtain filter assembly pressure drop information

- Filtering Area (in^2)
  Per element:
  Note: 2 elements required per filter

Type	A03/A25	P10/P25	M60	M90
CS-CSG 100	620	874	309	266
CS-CSG 150	930	1172	410	357

- Dimensions (inches):

Type	H1	H2	Weights*Lbs
CS-CSG 100	10.45	11.42	11.88
CS-CSG 150	12.20	13.20	12.32

- Thread Connection

Type	A	B	C
G2	1-1/2" NPT	1/8" NPT	3/8" UNC
G3	SAE20 1-7/8"-12 UN	1/8" NPT	3/8" UNC

- Flange Connections

Type	A	B	C	D	E	F
F1	1-1/2" SAE 3000 PSI/M	1/8" BSP	M10	2.75	1.406	M12
F2	1-1/2" SAE 3000 PSI/UNC	1/8" NPT	3/8" UNC	2.75	1.406	1/2" UNC

* Weight complete with element.

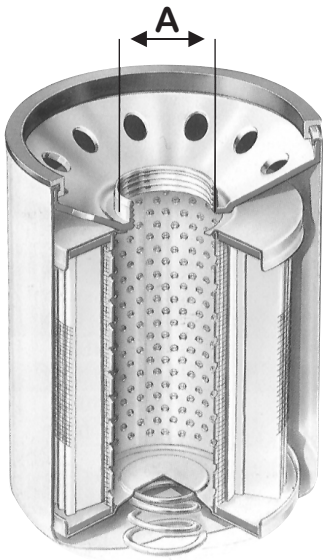
Spin-On Elements

STANDARD - CANADA/USA:

- Thread Connection

CSG

Type	A
CSG 050-070	1"-12 UN
CSG 100-150	1-1/2" - 16 UN

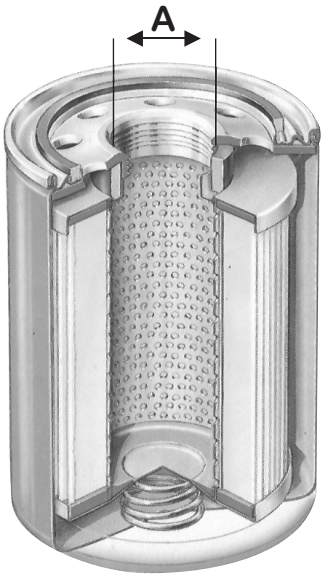


STANDARD - CANADA/USA:

- Thread Connection

CSG-W
Water Removal

Type	A
CSG-W 050-070	1"-12 UN
CSG-W 100-150	1-1/2" - 16 UN



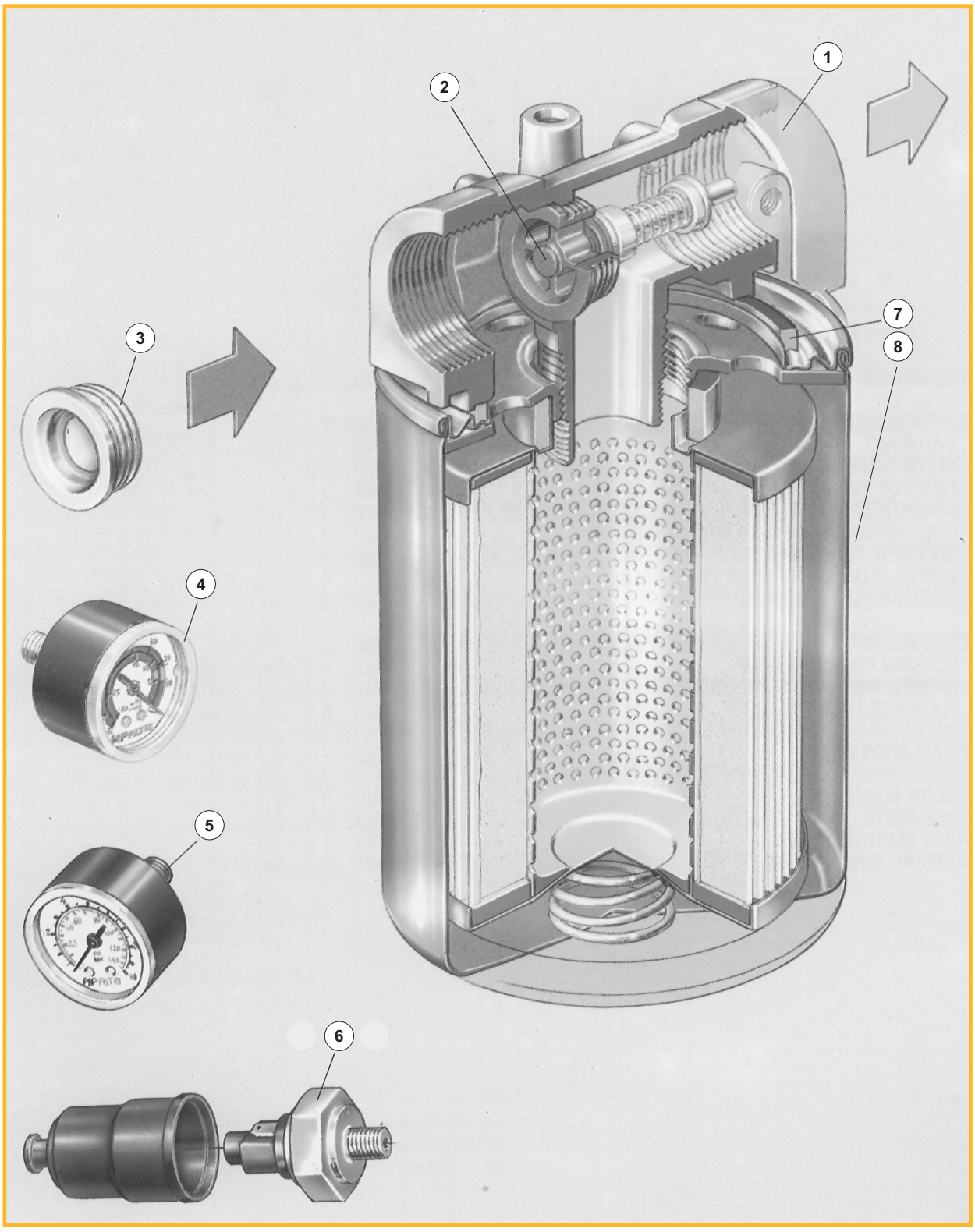
EUROPEAN:

- Thread Connection

CS

Type	A
CS 050-070	3/4" BSP
CS 100-150	1-1/4" BSP

Cross Sectional View



1 HEAD
2 BYPASS VALVE
3 NO BYPASS PLUG
4 VISUAL INDICATOR (VACUUM-VS)
5 VISUAL INDICATOR (PRESSURE-VR)
6 ELECTRICAL INDICATOR
7 ELEMENT SEAL
8 ELEMENT

Ordering Information MPSG Series

MPSG | 050 | R | G2 | A03 | A | T

SERIES

MPSG	North American
MPS	European

NOMINAL SIZES

Standard	Differential
050	051
070	071
100	101
150	151
200	-
250	-
300	301
350	351

INTEGRAL BYPASS VALVE

U	No bypass with 2 indicator ports
R	Bypass 25 PSID
T	Bypass 15 PSID
S	Bypass 4.5 PSID

PORT OPTIONS*

Type	MPSG 050/070	MPSG 100/150	MPSG 200/250	MPSG 300/350
G0	1/2" NPT	1" NPT		
G2*	3/4" NPT		1-1/2" NPT	1-1/2" NPT
G3	SAE 12	SAE 20	SAE 24	SAE 24
G4	1" NPT			
F2				1-1/2" SAE 3000psi/UNC
U2	1-1/4" NPT			

*For Differential Filter "G2" ports only available

ELEMENT CONDITION INDICATOR

Indicators for Standard Filters (0)

T	With plug
VR	Visual (pressure gauge)
VS	Visual (vacuum gauge)
ER	Electrical N.O. contacts
EC	Electrical N.C. contacts
EO	Electrical (vacuum switch dual contacts.)

Indicators for Differential Filters (1)

T2	With plug
1V	Visual 15 psi
V6	Visual 30 psi
Z1	Visual 18 psi
Z6	Visual 30 psi
N1	Electrical 18 psi
N6	Electrical 30 psi
1E	Visual-Electrical 18 psi
E6	Visual-Electrical 30 psi

SEALS

A	Nitrile (Buna-N)
V	Viton

FILTER ELEMENTS

A03	3 micron absolute Inorganic microfibre ßx≥75
A06	6 micron absolute Inorganic microfibre ßx≥75
A10	10 micron absolute Inorganic microfibre ßx≥75
A25	25 micron absolute Inorganic microfibre ßx≥75
P10	10 micron Resin-treated paper ßx>2
P25	25 micron Resin-treated paper ßx>2
M90	Square wire mesh (164 mesh)

Replacement Element

CSG | 050 | A03 | A

SERIES

CS	European Std. filter element
CSG	USA Std. filter element
CSG-W	USA Std. filter element (050:100:150) water removal (paper only)

NOMINAL SIZES

050	1 element for MPSG 050
070	1 element for MPSG 070
100	1 element for MPSG 100
	2 elements for MPSG 200
	2 elements for MPSG 300
150	1 element for MPSG 150
	2 elements for MPSG 250
	2 elements for MPSG 350