

18/28/38P Series

High Pressure Filters

Max 520 l/min - 414 bar



Global Filtration Technology

High Pressure Filters

18/28/38P Series

TYPICAL APPLICATIONS

- Injection Moulding
- Machine Tools
- Die Casting
- Mobile Equipment
- Servo Controls

Parker Filtration engineered the 18/28/38P series of high pressure filters to satisfy demanding applications in the mobile and industrial markets throughout the world. With metric mounting and optional ISO 6149 ports, this new series is truly a global design.

Installed downstream of the pump, this new series with their wide range of high capacity Microglass III elements, offer excellent protection to system components.

Standard filters come complete with industry proven spool type bypass valve. For more critical applications such as servo or proportional controls, a no bypass high strength element combination ensures maximum protection.

The modular low hysteresis differential pressure indicator fitted to this series is unrivaled in its performance. Tests prove its accuracy and foolproof design to be a major advance in indicator technology.



TYPICAL APPLICATIONS



SPECIFICATION

Maximum Allowable Operating Pressure:

414 bar (6000 psi). Factor safety 3:1

Operating Temperature Range:

-40° to 120°C (-30°F to +250°F)

Materials of Construction:

SG iron head, steel bowl

Ports:

Inlet and outlet ports are threaded internally or flange faced

Port Style

Port Style	Model	18P	28P	38P
BSPF(G)	3/4"	1"	1 1/4", 1 1/2"	
SAE	12	16	20, 24	
ISO 6149	M27	M33	M42, M48	
SAE 6000-config	3/4"	1"	1 1/4"	
Metric 6000-M config*	3/4"	1"	1 1/4"	

*6000-M is SAE style with appropriate metric fixing threads

Bypass Valve & Indicator Settings:

Table below gives bypass valve and corresponding indicator setting

Bypass

3.5 bar
7.0 bar

Indicator

2.5 bar
5.0 bar

Weights (kg):

Model	Length 1	Length 2
18P	4.2	5.7
28P	6.7	9.2
38P	15.8	20.3

Fluid Compatibility:

Suitable for use with mineral oils, most water glycols and other water based fluids. For other fluids, please consult Filter Division Europe

Seals:

Head to bowl, diametral with anti-extrusion ring.

Materials - Nitrile or Fluoroelastomer*

Element Condition Indicators: (Differential Pressure Type)

Cartridge type visual, with auto reset. Cartridge type electrical, with auto reset and socket to DIN43650, protection class IP65

Electrical Ratings:

Power - 5 VA max, Current - 0.25 A max (resistive), Voltage - 28 VDC max, 28 VAC (50-60Hz) max, Contacts - normally open and normally closed, wired to DIN plug pin code

Filter Elements:

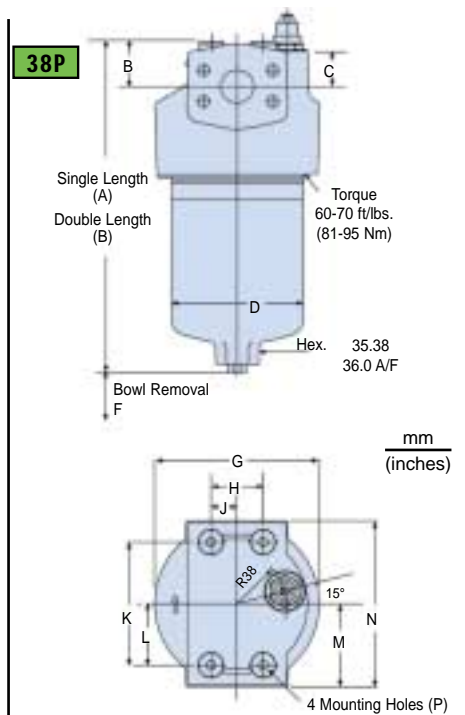
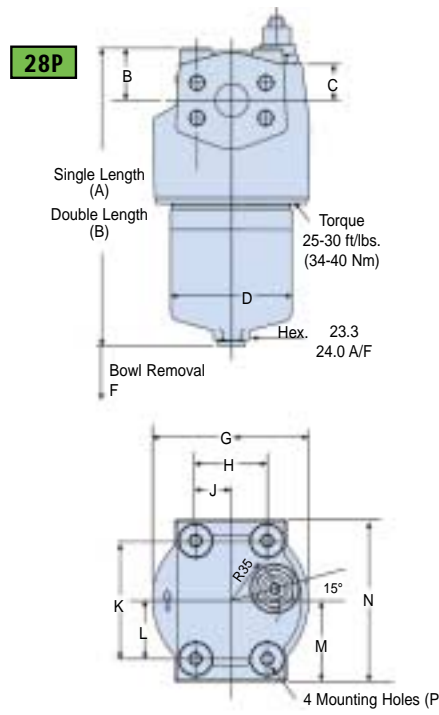
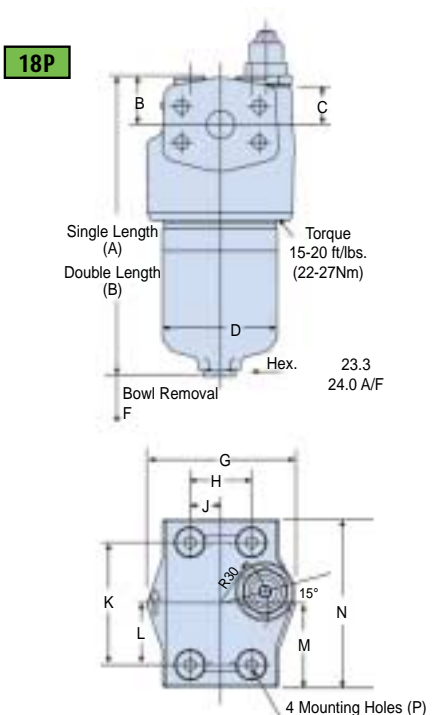
Microglass III supported with epoxy coated steel mesh. (See Table 4).

Element Collapse Rating:

Standard; 20 bar differential minimum. High collapse; 210 bar differential minimum

*Fluoroelastomers are available under various registered trademarks, including Viton (a registered trademark of DuPont) and Fluorel (a registered trademark of 3M)

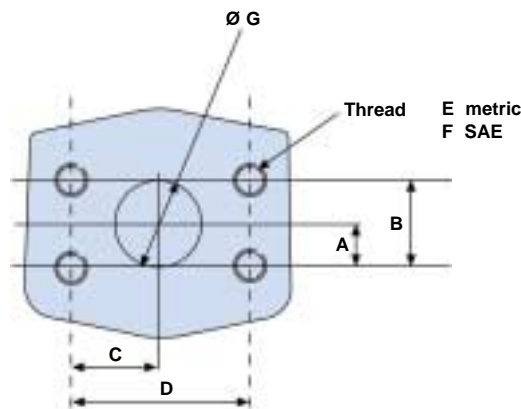
Model	A	B	C	D	E (A/F)	F	G	H	J	K	L	M	N	P
18P-1	198 (7.79)	32 (1.26)	26 (1.02)	75 (2.95)	24 (0.94)	100 (3.94)	98 (3.86)	40 (1.57)	20 (0.79)	80 (3.15)	40 (1.57)	55 (2.16)	110 (4.33)	M8 x 1.25 x12 (0.47) deep
18P-2	293 (11.53)													M10 x 1.5 x11 (0.43) deep
28P-1	228 (8.97)	40 (1.57)	29 (1.14)	93 (3.66)	40 (1.14)		120 (4.72)	55 (2.16)	27.5 (1.07)	90 (3.54)	45 (1.77)	62 (2.44)	124 (4.88)	M10 x 1.5 x11 (0.43) deep
28P-2	337 (13.26)													M10 x 1.5 x12 (0.47) deep
38P-1	329 (12.95)	44 (1.73)	35 (1.38)	128 (5.04)	36 (1.42)		160 (6.30)	50 (1.97)	25 (0.98)	120 (4.72)	60 (2.36)	81 (3.19)	162 (6.38)	M10 x 1.5 x12 (0.47) deep
38P-2	448 (17.64)													M10 x 1.5 x12 (0.47) deep



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FLANGE FACE DETAILS

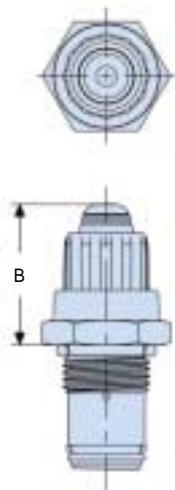


Model mm (inches)	A	B	C	D	E	F	G
18P	11.9 (0.47)	23.8 (0.94)	25.4 (1.00)	50.8 (2.0)	M10 x 1.5-6H x 18 Deep	³ / ₈ -16 UNC-2B x 18 Deep	19.0 (0.75)
28P	14 (0.55)	27.8 (1.09)	28.0 (1.10)	57.1 (2.25)	M12 x 1.75-6H x 20 Deep	⁷ / ₁₆ -14 UNC-2B x 20 Deep	25.4 (1.0)
38P	15.7 (0.62)	31.7 (1.25)	33.0 (1.30)	66.7 (2.62)	M14 x 2-6H x 20 Deep	¹ / ₂ -13 UNC-2B x 20 Deep	31.8 (1.25)

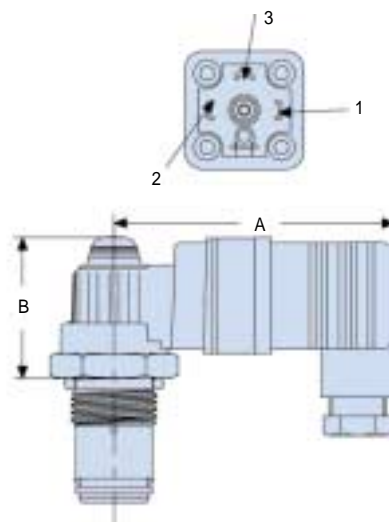
INDICATOR DETAILS

Element Condition Indicators:

**VISUAL AUTO RESET
CODE M2**



**48 VAC ELECTRICAL VISUAL INDICATOR
CODE E2**



Option	Description	Connection/Voltage	Wiring	"A"	"B"
M2	Visual Auto Reset	N/A	N/A	N/A	1.44 (36.6)
E2	Electrical – Visual	Din 43650 3 Pole + Earth 5A@48 VAC, 3A@28VDC	Pin 1 – Common Pin 2 – Normally Closed Pin 3 – Normally Open	2.90 (73.7)	1.44 (36.6)

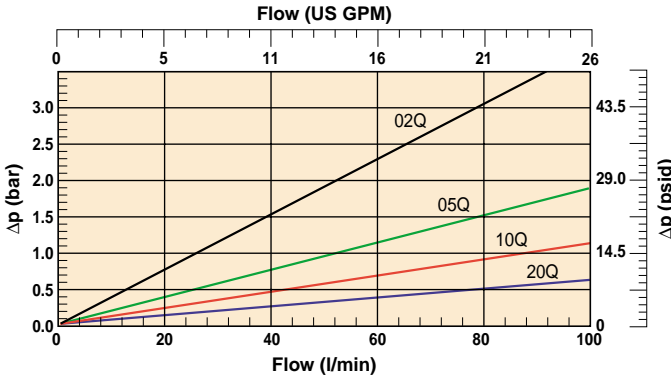
Note: For full indicator specifications see Section 6.

PRESSURE DROP CURVES

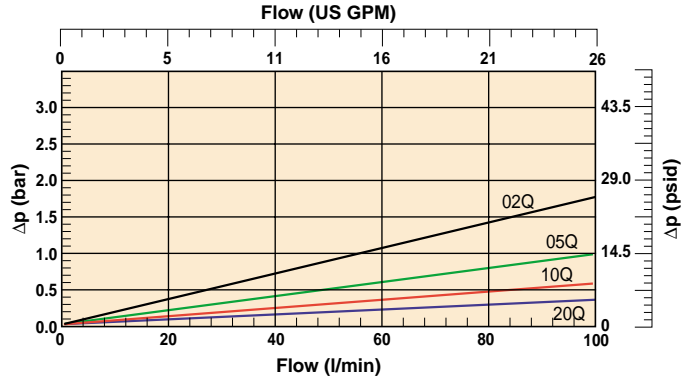
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows :-

$$\Delta p = (\Delta p_{30} \times \text{viscosity of medium used}) / 30 \text{ cSt}$$

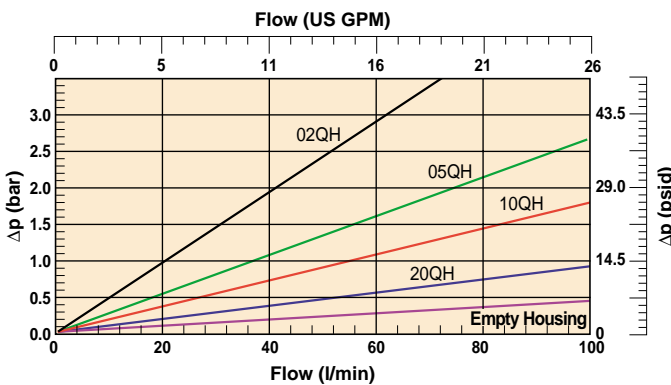
18P-1 Element Only



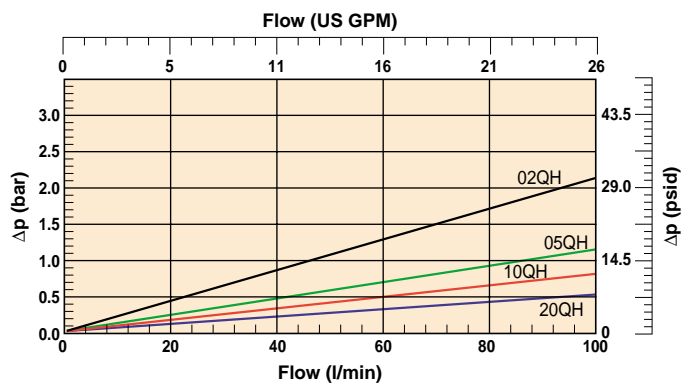
18P-2 Element Only



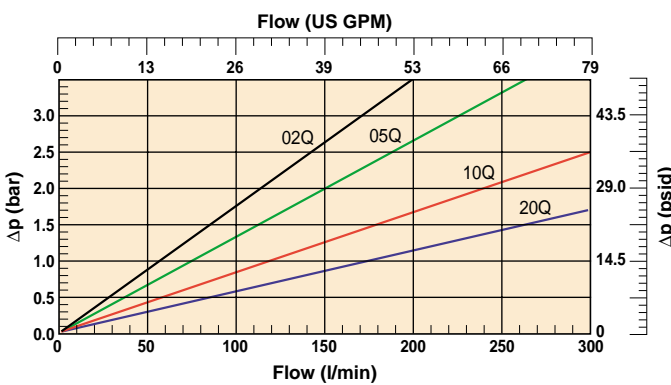
18P-1 Empty Housing and High Collapse



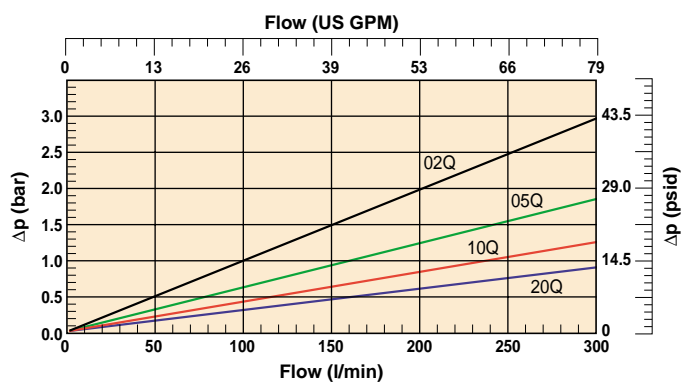
18P-2 High Collapse Elements Only



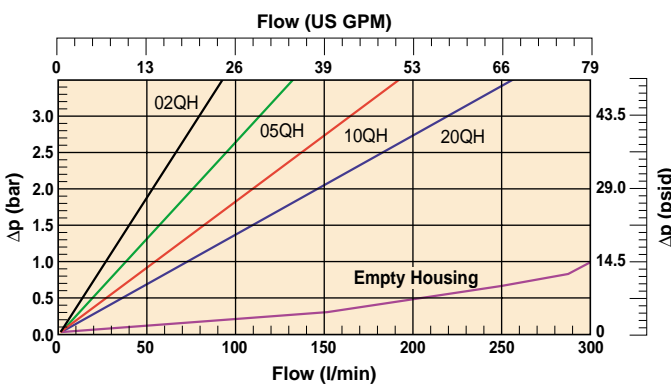
28P-1 Element Only



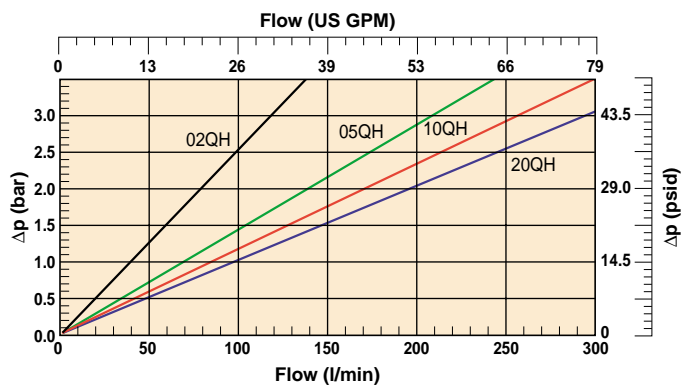
28P-2 Element Only



28P-1 Empty Housing and High Collapse



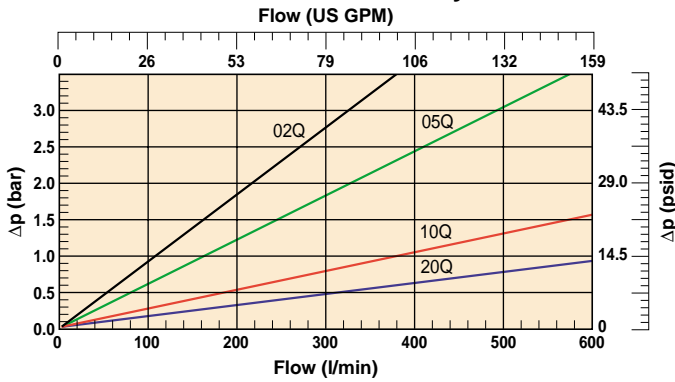
28P-2 High Collapse Elements Only



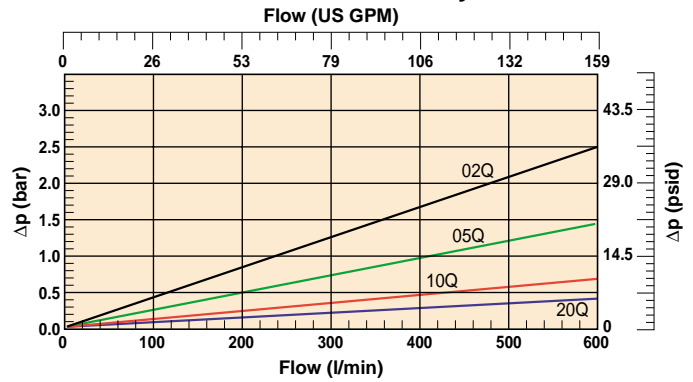
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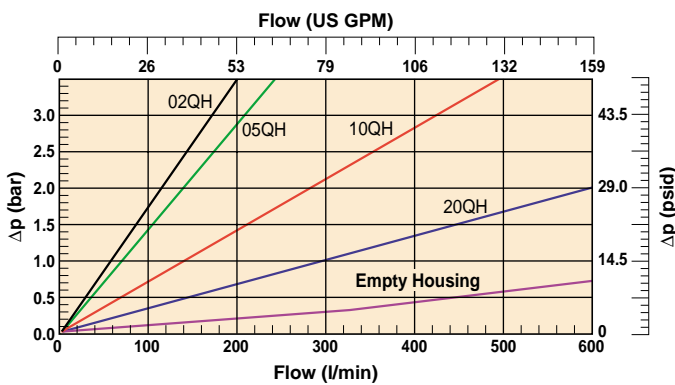
38P-1 Element Only



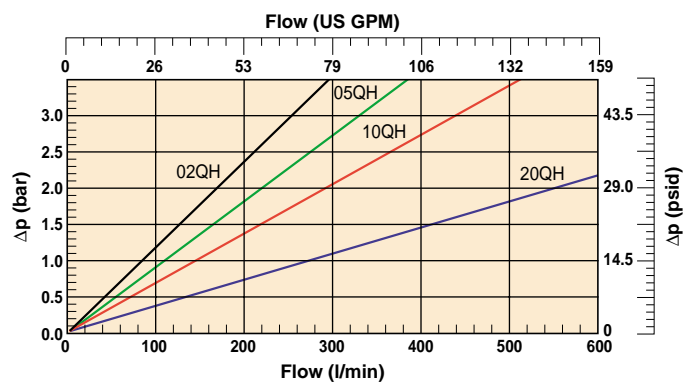
38P-2 Element Only



38P-1 Empty Housing and High Collapse



38P-2 High Collapse Elements Only



CAPACITY IN GRAMS

Media Code	38P-1 (98 psid)	38P-2 (98 psid)	28P-1 (98 psid)	28P-2 (98 psid)	18P-1 (98 psid)	18P-2 (98 psid)
02Q	74	111	28	48	7.4	22.7
05Q	78	105	28	50	9.4	23.5
10Q	67	101	24	48	8.0	17.2
20Q	60	100	24	48	8.6	17.7
02QH	57	87	24	38	6.3	17.8
05QH	61	88	27	38	8.8	19.6
10QH	56	80	23	38	7.2	16.1
20QH	54	78	22	37	7.2	12.6

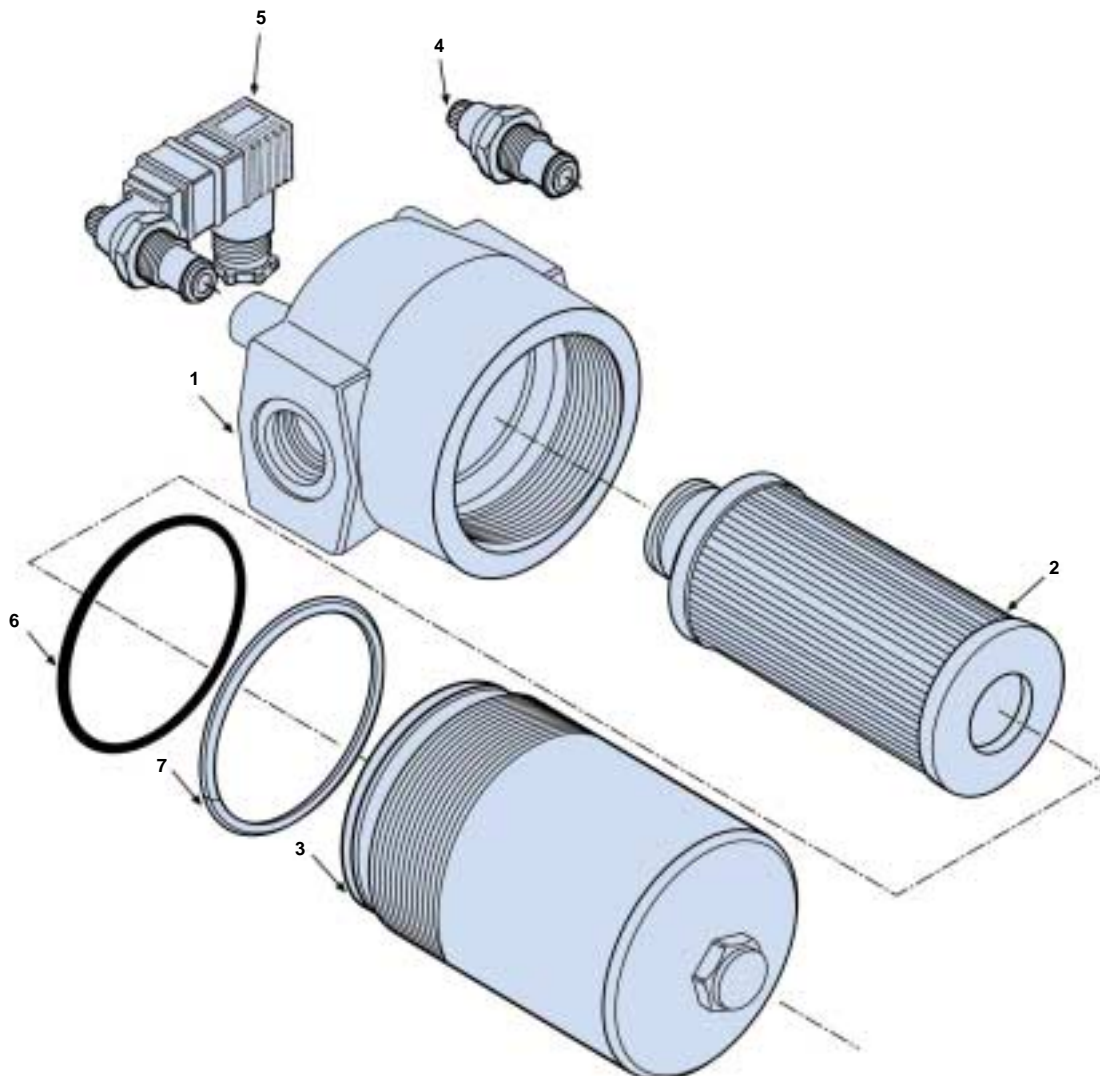
Element Service

- A. Stop the system's power unit.
- B. Relieve any system pressure in the filter line.
- C. Drain the filter bowl if drain port option is provided.
- D. Rotate the bowl clockwise (left) and remove.
- E. Remove element by pulling downward with a slight twisting motion and discard.
- F. Check bowl o-ring and anti-extrusion ring for damage and replace if necessary.
- G. Lubricate element o-ring with system fluid and locate element in filter head.
- H. Install bowl by rotating counter-clockwise (right) and tighten to specified torque.
 - 18P — 15-20ft. lbs (22-27 Nm)
 - 28P — 25-30ft. lbs (34-40 Nm)
 - 38P — 60-70ft. lbs (81-95 Nm)
- I. Confirm there are no leaks after powering the system.

Parts List

Index	Description
1	Head Assembly
2	Element
3	Bowl
	Single length
	Double length
	Indicators
4	M2 – Visual autoreset
5	E2 – Electrical/Visual w/DIN connection
6	Bowl Seal
7	Bowl Anti-extrusion Ring
	* Seal Kit – (Nitrile)
	* Seal Kit – (Fluoroelastomer)

*Includes bowl o-ring, bowl anti-extrusion washer and indicator o-rings



High Pressure Filters

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PREFERRED PRODUCTS TABLE

The following filters are supplied with 7.0 bar bypass and Nitrile seals.					
Part Number	Part Number	Flow (l/min)	Media Rating	Ports	Replacement Elements
18P-1-02Q-M2-98-B2B2-1	18P-1-02Q-E2-98-B2B2-1	35	02Q	G ^{3/4}	G04242
18P-1-05Q-M2-98-B2B2-1	18P-1-05Q-E2-98-B2B2-1	60	05Q	G ^{3/4}	G04243
18P-1-10Q-M2-98-B2B2-1	18P-1-10Q-E2-98-B2B2-1	90	10Q	G ^{3/4}	G04244
18P-1-20Q-M2-98-B2B2-1	18P-1-20Q-E2-98-B2B2-1	100	20Q	G ^{3/4}	G04245
18P-2-02Q-M2-98-B2B2-1	18P-2-02Q-E2-98-B2B2-1	60	02Q	G ^{3/4}	G04250
18P-2-05Q-M2-98-B2B2-1	18P-2-05Q-E2-98-B2B2-1	90	05Q	G ^{3/4}	G04251
18P-2-10Q-M2-98-B2B2-1	18P-2-10Q-E2-98-B2B2-1	110	10Q	G ^{3/4}	G04252
18P-2-20Q-M2-98-B2B2-1	18P-2-20Q-E2-98-B2B2-1	130	20Q	G ^{3/4}	G04253
28P-1-02Q-M2-98-C2C2-1	28P-1-02Q-E2-98-C2C2-1	80	02Q	G1	G04258
28P-1-05Q-M2-98-C2C2-1	28P-1-05Q-E2-98-C2C2-1	100	05Q	G1	G04259
28P-1-10Q-M2-98-C2C2-1	28P-1-10Q-E2-98-C2C2-1	150	10Q	G1	G04260
28P-1-20Q-M2-98-C2C2-1	28P-1-20Q-E2-98-C2C2-1	200	20Q	G1	G04261
28P-2-02Q-M2-98-C2C2-1	28P-2-02Q-E2-98-C2C2-1	120	02Q	G1	G04266
28P-2-05Q-M2-98-C2C2-1	28P-2-05Q-E2-98-C2C2-1	160	05Q	G1	G04267
28P-2-10Q-M2-98-C2C2-1	28P-2-10Q-E2-98-C2C2-1	200	10Q	G1	G04268
28P-2-20Q-M2-98-C2C2-1	28P-2-20Q-E2-98-C2C2-1	240	20Q	G1	G04269
38P-1-02Q-M2-98-D2D2-1	38P-1-02Q-E2-98-D2D2-1	130	02Q	G1 ^{1/4}	G04274
38P-1-05Q-M2-98-D2D2-1	38P-1-05Q-E2-98-D2D2-1	250	05Q	G1 ^{1/4}	G04275
38P-1-10Q-M2-98-D2D2-1	38P-1-10Q-E2-98-D2D2-1	360	10Q	G1 ^{1/4}	G04276
38P-1-20Q-M2-98-D2D2-1	38P-1-20Q-E2-98-D2D2-1	450	20Q	G1 ^{1/4}	G04277
38P-2-10Q-M2-98-D2D2-1	38P-2-10Q-E2-98-D2D2-1	500	10Q	G1 ^{1/4}	G04284

Note: Filter assemblies ordered from the Part Number Matrix below are on extended lead times. Where possible, please make your selection from the table above.

PART NUMBER MATRIX

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9																																																																																																																																																																																												
F3	28P	1	10Q	M2	98	C2C2	1	-																																																																																																																																																																																												
Table 1 <table border="1"> <thead> <tr><th colspan="2">Seals</th></tr> <tr><th>Description</th><th>SYMBOL</th></tr> </thead> <tbody> <tr><td>Nitrile</td><td>O</td></tr> <tr><td>Fluoroelastomer*</td><td>F3</td></tr> </tbody> </table>	Seals		Description	SYMBOL	Nitrile	O	Fluoroelastomer*	F3	Table 2 <table border="1"> <thead> <tr><th colspan="2">Model Number</th></tr> <tr><th>Symbol</th><td></td></tr> </thead> <tbody> <tr><td>18P</td><td></td></tr> <tr><td>28P</td><td></td></tr> <tr><td>38P</td><td></td></tr> </tbody> </table>	Model Number		Symbol		18P		28P		38P		Table 3 <table border="1"> <thead> <tr><th colspan="2">Housing Length</th></tr> <tr><th>Description</th><th>SYMBOL</th></tr> </thead> <tbody> <tr><td>Single Length</td><td>1</td></tr> <tr><td>Double Length</td><td>2</td></tr> </tbody> </table>	Housing Length		Description	SYMBOL	Single Length	1	Double Length	2	Table 4 <table border="1"> <thead> <tr><th colspan="7">Degree of Filtration</th></tr> <tr><th colspan="6">Average filtration ratio β (ISO 16889) / particle size μm(c)</th><th>CODE</th></tr> <tr><th>2</th><th>10</th><th>75</th><th>100</th><th>200</th><th>1000</th><td></td></tr> </thead> <tbody> <tr><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td><td>4.5</td><td>02Q</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>02QH</td></tr> <tr><td>N/A</td><td>N/A</td><td>4.5</td><td>5</td><td>6</td><td>7</td><td>05Q</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>05QH</td></tr> <tr><td>N/A</td><td>6</td><td>8.5</td><td>9</td><td>10</td><td>12</td><td>10Q</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>10QH</td></tr> <tr><td>6</td><td>11</td><td>17</td><td>18</td><td>20</td><td>22</td><td>20Q</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>20QH</td></tr> </tbody> </table>	Degree of Filtration							Average filtration ratio β (ISO 16889) / particle size μm(c)						CODE	2	10	75	100	200	1000		N/A	N/A	N/A	N/A	N/A	4.5	02Q							02QH	N/A	N/A	4.5	5	6	7	05Q							05QH	N/A	6	8.5	9	10	12	10Q							10QH	6	11	17	18	20	22	20Q							20QH	Table 5 <table border="1"> <thead> <tr><th colspan="2">Indicator Options</th></tr> <tr><th>Description</th><th>SYMBOL</th></tr> </thead> <tbody> <tr><td>None</td><td>N</td></tr> <tr><td>Visual (Auto reset)</td><td>M2</td></tr> <tr><td>FPC Visual (Auto reset)</td><td>V6</td></tr> <tr><td>Visual Electrical Din Plug</td><td>E2</td></tr> <tr><td>FPC Electrical Din Plug</td><td>TW6</td></tr> <tr><td>FPC Electronic L.E.D.</td><td>FW6</td></tr> </tbody> </table> <p>Note: Indicator Differential Pressure Settings 2.5 bar with 3.5 bar bypass 5.0 bar with 7.0 bar bypass 5.0 bar with no bypass</p>	Indicator Options		Description	SYMBOL	None	N	Visual (Auto reset)	M2	FPC Visual (Auto reset)	V6	Visual Electrical Din Plug	E2	FPC Electrical Din Plug	TW6	FPC Electronic L.E.D.	FW6	Table 7 <table border="1"> <thead> <tr><th colspan="3">Ports</th></tr> <tr><th>Description</th><th>MODEL</th><th>SYMBOL</th></tr> </thead> <tbody> <tr><td>G^{3/4}" Thread</td><td>18P</td><td>B2B2</td></tr> <tr><td>1/2, SAE Thread</td><td></td><td>M4M4</td></tr> <tr><td>M27, ISO 6149</td><td></td><td>B3B3</td></tr> <tr><td>3/4" 6000-M Flange Face</td><td></td><td>Y3Y3</td></tr> <tr><td>3/4" 6000-M Config. Flange Face</td><td></td><td>Y9Y9</td></tr> <tr><td>G1</td><td>28P</td><td>C2C2</td></tr> <tr><td>1/2 SAE Thread</td><td></td><td>N4N4</td></tr> <tr><td>M33, ISO 6149</td><td></td><td>C3C3</td></tr> <tr><td>1" 6000-M Flange Face</td><td></td><td>Y3Y3</td></tr> <tr><td>1" 6000-M Config. Flange Face</td><td></td><td>Y9Y9</td></tr> <tr><td>G1^{1/2}" Thread</td><td>38P</td><td>D2D2</td></tr> <tr><td>G1^{1/2}" Thread</td><td></td><td>E2E2</td></tr> <tr><td>20 SAE Thread</td><td></td><td>O4O4</td></tr> <tr><td>24 SAE Thread</td><td></td><td>P4P4</td></tr> <tr><td>M42, ISO 6149</td><td></td><td>D3D3</td></tr> <tr><td>M48, ISO 6149</td><td></td><td>E3E3</td></tr> <tr><td>1^{1/4}" 6000-M Flange Face</td><td></td><td>Y3Y3</td></tr> <tr><td>1^{1/4}" 6000-M Config. Flange Face</td><td></td><td>Y9Y9</td></tr> </tbody> </table>	Ports			Description	MODEL	SYMBOL	G ^{3/4} " Thread	18P	B2B2	1/2, SAE Thread		M4M4	M27, ISO 6149		B3B3	3/4" 6000-M Flange Face		Y3Y3	3/4" 6000-M Config. Flange Face		Y9Y9	G1	28P	C2C2	1/2 SAE Thread		N4N4	M33, ISO 6149		C3C3	1" 6000-M Flange Face		Y3Y3	1" 6000-M Config. Flange Face		Y9Y9	G1 ^{1/2} " Thread	38P	D2D2	G1 ^{1/2} " Thread		E2E2	20 SAE Thread		O4O4	24 SAE Thread		P4P4	M42, ISO 6149		D3D3	M48, ISO 6149		E3E3	1 ^{1/4} " 6000-M Flange Face		Y3Y3	1 ^{1/4} " 6000-M Config. Flange Face		Y9Y9	Table 8 <table border="1"> <thead> <tr><th colspan="2">Options</th></tr> <tr><th>Description</th><th>SYMBOL</th></tr> </thead> <tbody> <tr><td>None</td><td>I</td></tr> <tr><td>No Bypass</td><td>II</td></tr> </tbody> </table>	Options		Description	SYMBOL	None	I	No Bypass	II	Table 9 <table border="1"> <thead> <tr><th>Design Number</th></tr> </thead> <tbody> <tr><td>Applied to the filter assembly by Parker Filtration.</td></tr> </tbody> </table>	Design Number	Applied to the filter assembly by Parker Filtration.
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