

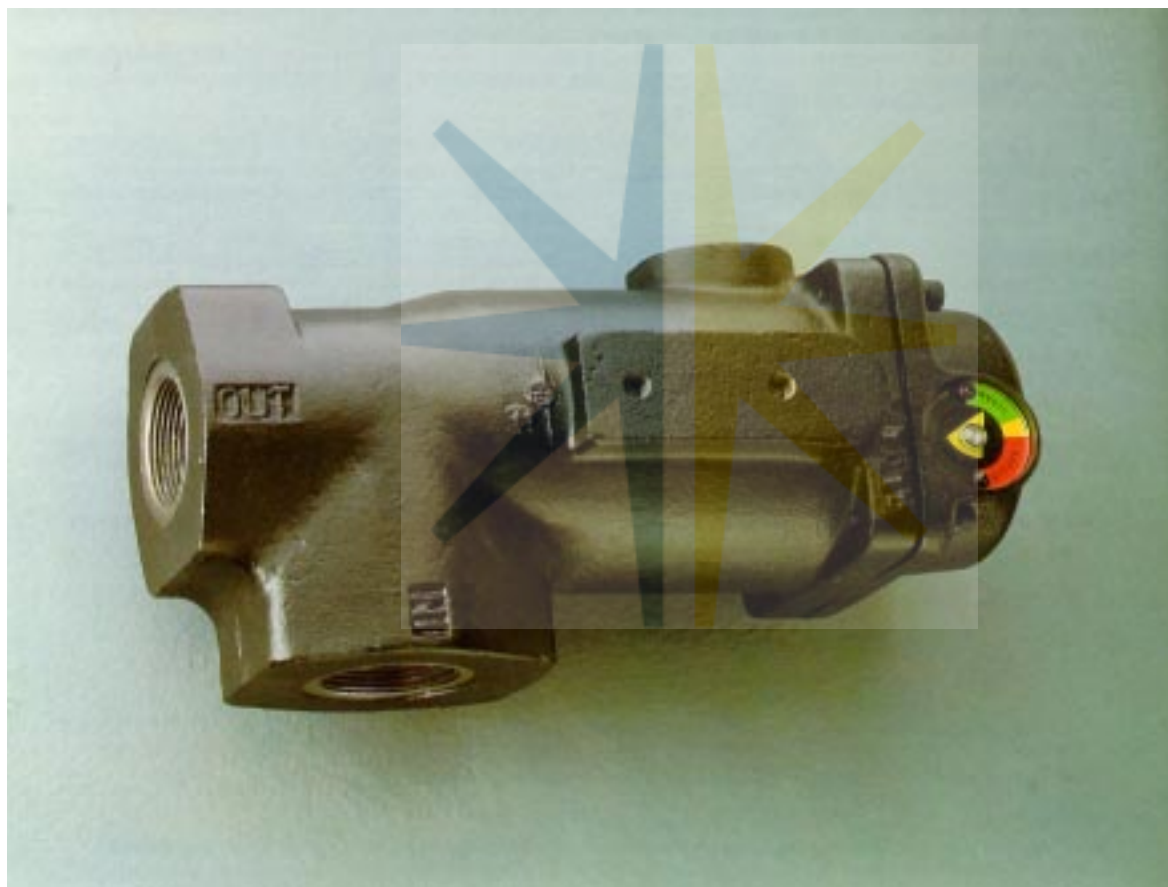


TELL-TALE SUCTION & RETURN FILTERS

Models 10-S, 50-S, 60-S

- Maximum working pressure - 20 bar
- Flow rates to 250 l/min.

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10-S, 50-S and 60-S Filters

Redesigned Filter Range

Parker have improved the performance of their line mounted suction and return-line filters. The 'S' filters are used throughout industry to increase the life and productivity of hydraulic and lubrication systems. The installation parameters remain unchanged with bypass, airbleed, magnet and aluminium free mining specification options offered.

Modular Concept

The three sizes of filter incorporate an identical rear cover, which is complete with indicators.

Bypass Valve

The indicators are mechanically linked to the piston type high flow bypass valve.

Cartridge Assembly Retained

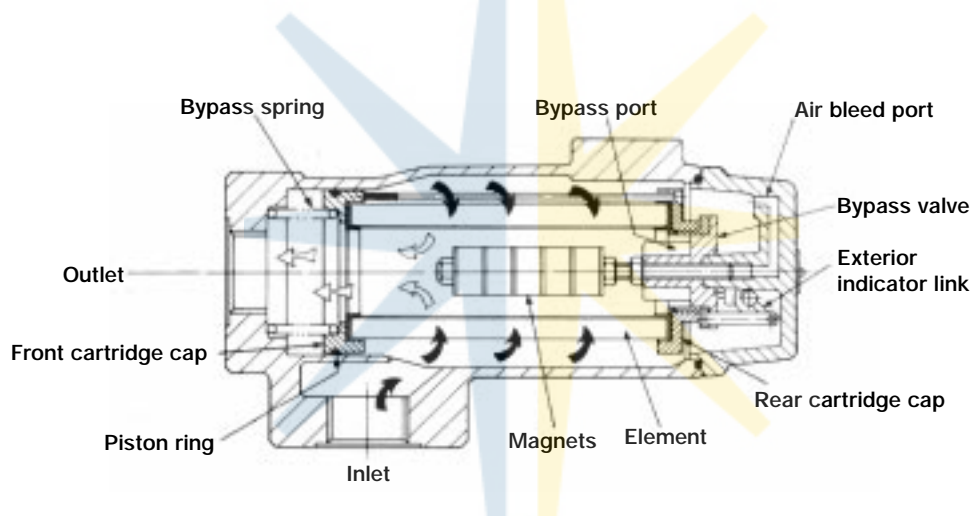
The cost effective reusable cartridge assembly with throw away or cleanable elements has been retained. Cartridge assemblies incorporate standard Parker element media.

Improved Fluorescent Tell-Tale® Indicator

The 'S' filters now utilise the improved fluorescent Tell-Tale indicator. These visual indicators are located neatly on both sides of the filter and are easily read from any angle, even in poor visibility. They are flush mounted, to protect them from damage. The three fluorescent colour bands on the dial ensure accurate indication of element condition and warning of approaching bypass. An electrical indicator assembly can be simply fitted on either side of the filter, in place of the visual indicator.

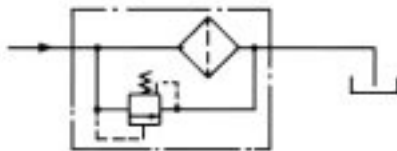
Fluid Compatibility

Suitable for use with mineral oils. For other fluids, please contact Parker Filtration.

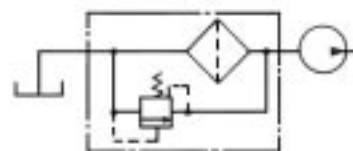


Operation

Fluid enters the inlet port and passes through the element media to the outlet port of the filter. The pressure differential across the element is proportional to the build up of filtered out contaminant held by the element. The cartridge assembly, containing the element, moves against the bypass spring which compresses as the pressure drop increases. The bypass valve registers the movement of the cartridge and at a pre-set bypass spring load the bypass ports are uncovered. Bypass valve movement is continually displayed by the indicators.



The line mounted return-line filter can utilise micron filtration to give system contamination control.



The line mounted suction filter provides mesh or micron filtration to protect pumps.

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Specification

Maximum recommended working pressure: 20 bar.

Minimum static burst pressure: 60 bar.

Operating temperature range: -40°C to 120°C.

Element media: Wire mesh, cellulose or composite glass-fibre.

Minimum element static collapse pressure differential: 3.5 bar.

The indicator shaft is stainless steel, fitted with viton seals and directly linked to the bypass valve.

Visual indication is provided on both sides of the filter but an electrical indicator may be substituted on either side as required.

Housing material: Grey cast iron, to BS 1452.

Approximate weight: 10-S 7.7kg, 50-S 10kg
60-S 18.6kg

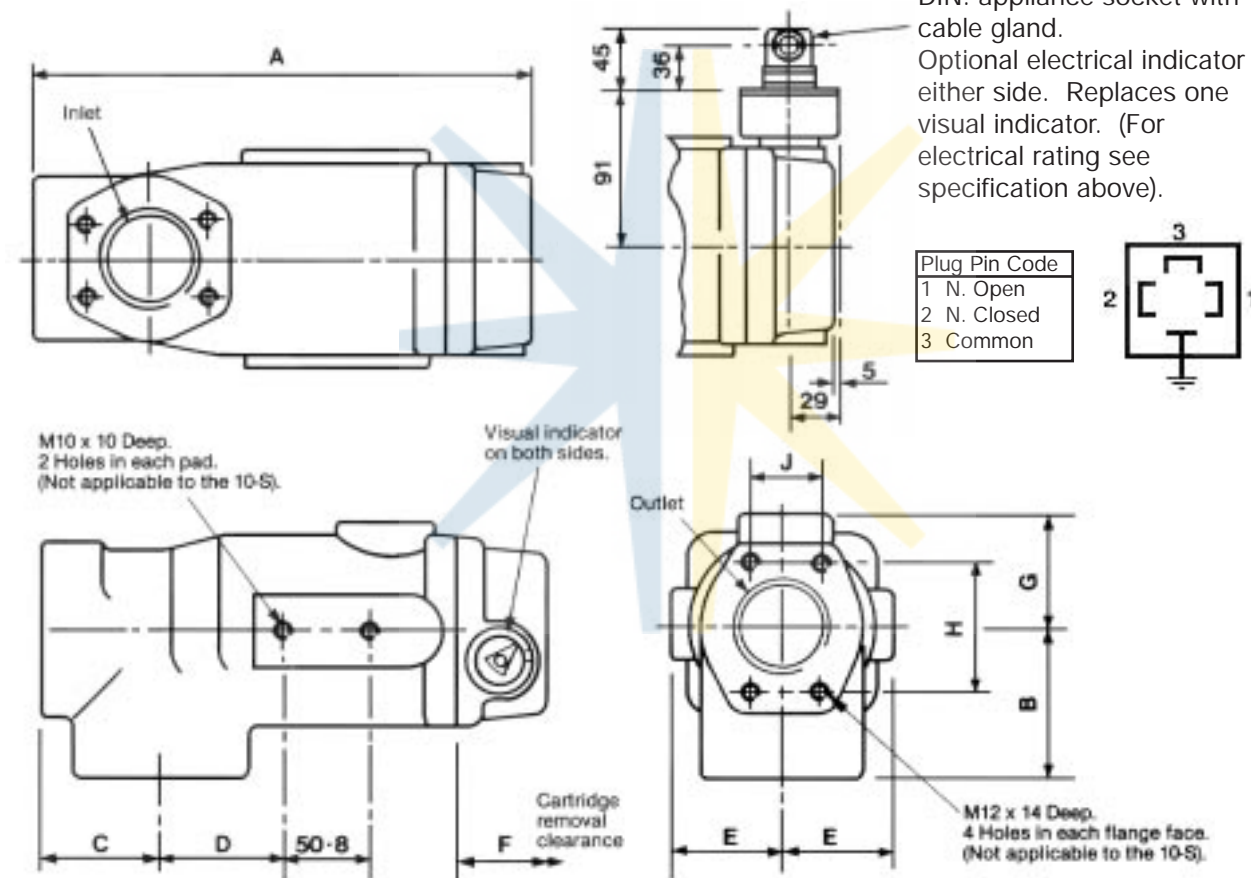
Optional Electrical Indicator

Complete with appliance socket to DIN 43650.

Electrical Ratings				
Voltage	Resistive Load Amp	Tungsten Lamp Load NC - Amp - NO		Inductive Load Amp
AC				
125	10	2	1	10
250	10	1.5	1	10
380	6			6
480	5			5
DC				
Up to 15	15	3	1.5	15
30	10	3	1.5	10
50	3	0.8	0.8	2.5
75	1	0.6	0.6	0.5
125	0.5	0.5	0.5	0.07
250	0.25	0.25	0.25	0.03

Installation Details

dimensions in mm



Installation Details									
Model	A	B	C	D	E	F	G	H	J
10-S	191	86	48	N/A	67	140	64	N/A	N/A
50-S	294	89	73	71	67	240	67	77.8	42.9
60-S	359	111	56	154	67	300	67	88.9	50.8

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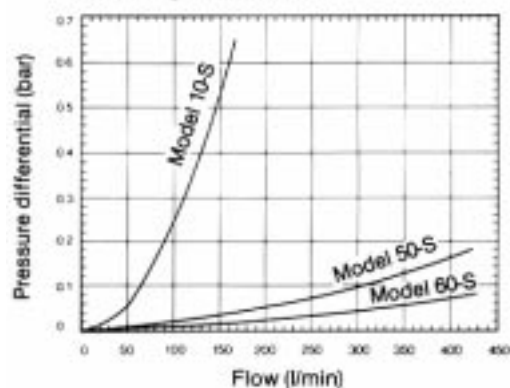
Filter Performance

These curves give the total pressure drop across the filter unit (Δp total filter).

The Δp element, which is directly proportional to viscosity, is calculated by subtracting Δp housing from Δp total filter.

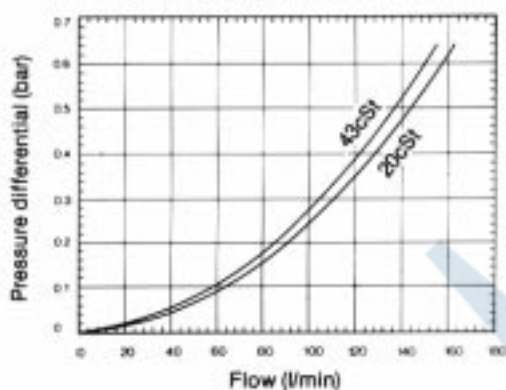
$$\Delta p \text{ element} = \Delta p \text{ filter} - \Delta p \text{ housing}$$

Housing flow curves

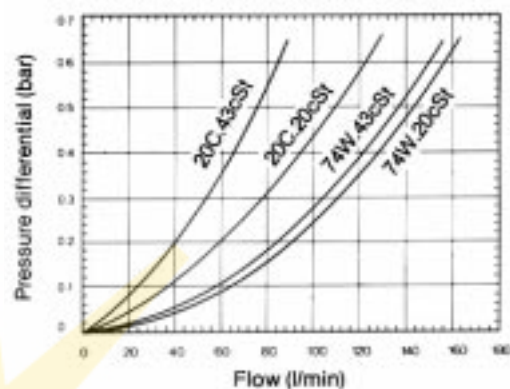


Typical Flow/Pressure Curves for S Type Filters, Complete with Clean Element

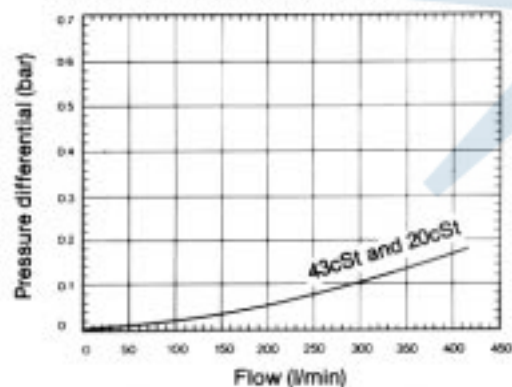
10-S Filter with 149W element



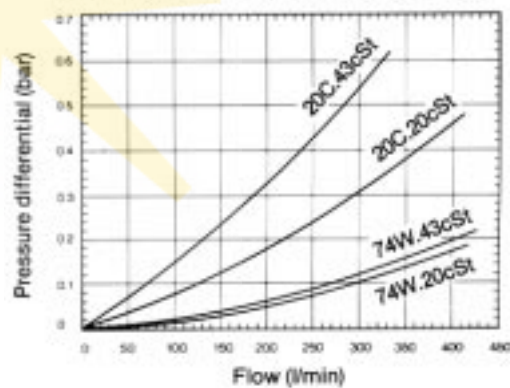
10-S Filter with 74W or 20C element



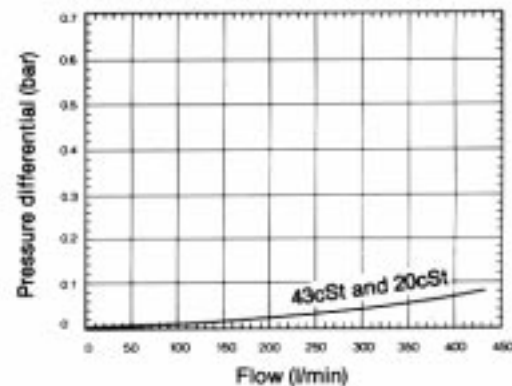
50-S Filter with 149W element



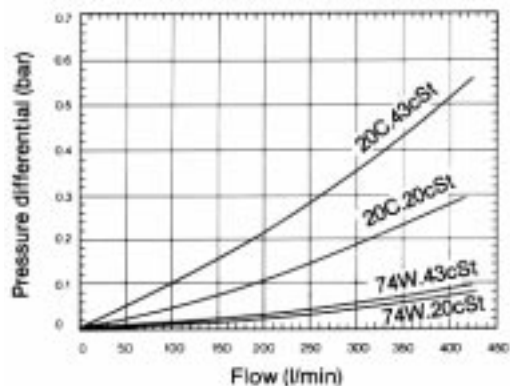
50-S Filter with 74W or 20C element



60-S Filter with 149W element



60-S Filter with 74W or 20C element



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All flow curves presented are in accordance with ISO 3968: "Determination of pressure drop flow characteristics of hydraulic fluid power filters".

Bypass Valve

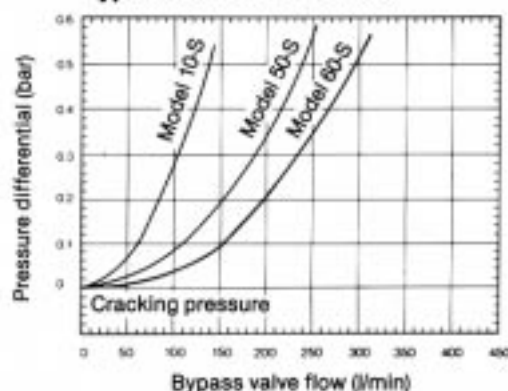
The spool type Bypass valve is closed under normal operating conditions.

The valve starts to open when the pressure drop reaches the specified value.

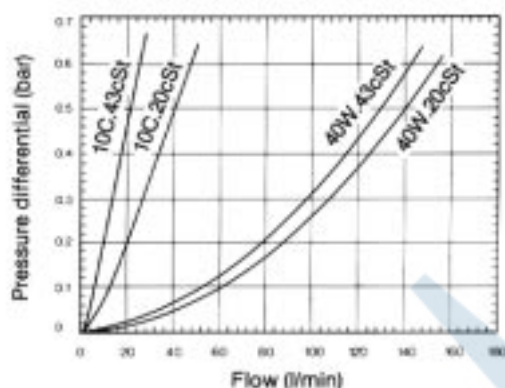
Viscosity effects are negligible.

The Bypass valve flow curve is the total pressure drop across the filter unit with the element blocked.

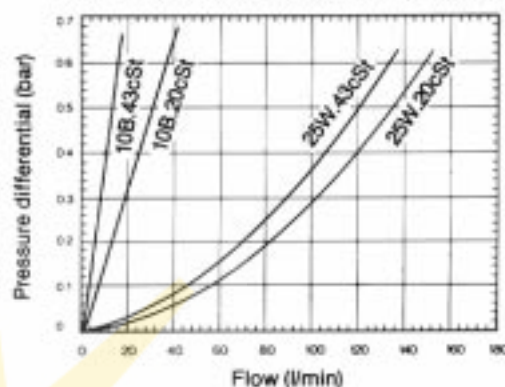
Bypass valve flow curves



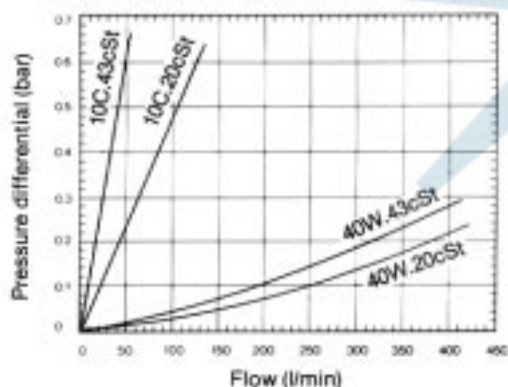
10-S Filter with 40W or 10C element



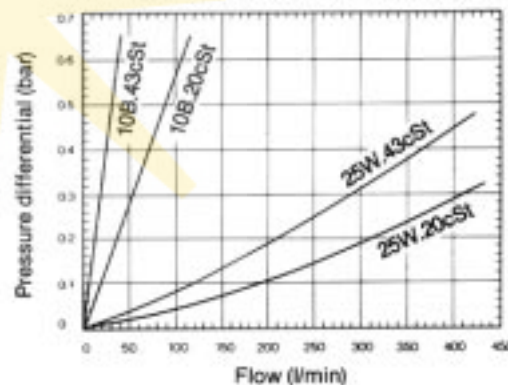
10-S Filter with 25W or 10B element



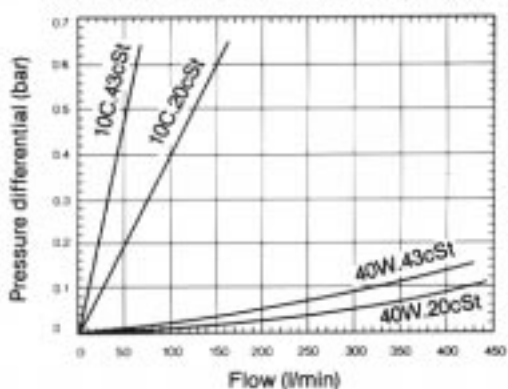
50-S Filter with 40W or 10C element



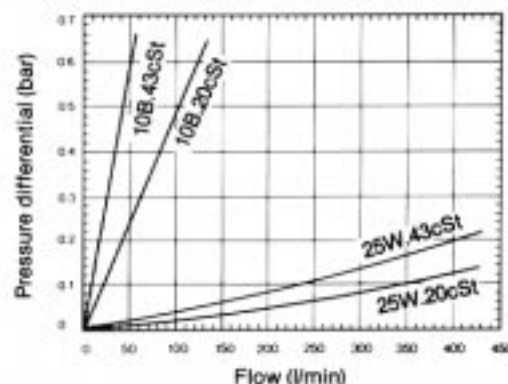
50-S Filter with 25W or 10B element



60-S Filter with 40W or 10C element



60-S Filter with 25W or 10B element



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Parker Element Characteristics

Parker elements conform to the following standards:

ISO 2941 Element collapse/burst resistance.

ISO 2942 Fabrication integrity.

ISO 2943 Material compatibility.

ISO 3724 Flow fatigue characteristics.

ISO 4572 Multipass test.

Multipass Test Method

The filtering capability of the element is expressed in terms of filtration ratio β_x .

$$\beta_x = \frac{\text{Number of upstream particles } > x \mu\text{m}}{\text{Number of downstream particles } > x \mu\text{m}}$$

Standard Parker Element Media

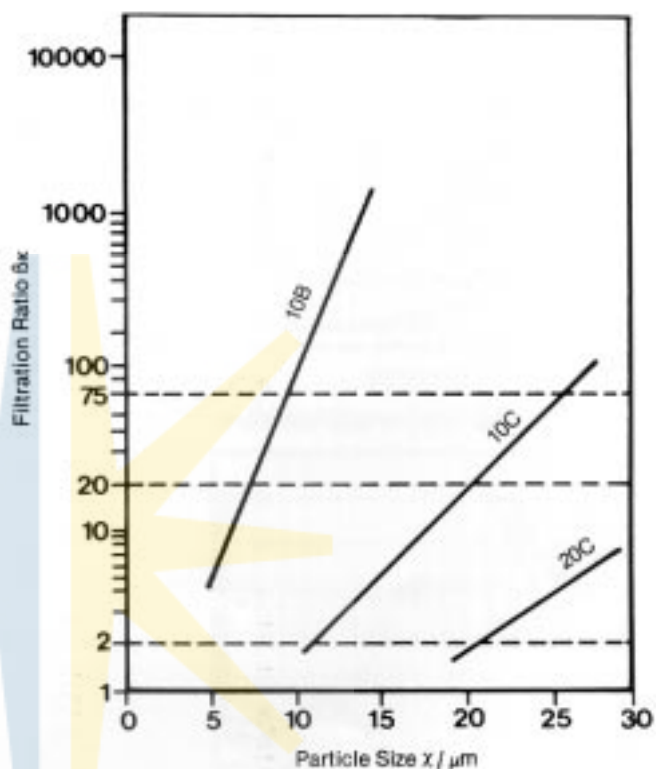
Parker media ref.	Type	Media
149W	surface	wire mesh
74W	surface	wire mesh
40W	surface	wire mesh
25W	surface	wire mesh
20C	depth	cellulose
10C	depth	cellulose
10B	depth	composite

Filtration efficiency is represented in terms of Beta ratio β_x .

Filtration Ratio/Filter Efficiency Chart

Filtration ratio β_x	Efficiency percentage (%)
1.0	0
1.5	33
2.0	50
20	95
56	98
75	98.7
100	99
200	99.5
1000	99.9
10000	99.99

Filtration Ratio β_x Versus Particle Size



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How To Order

Select the features required from the boxes below.

The example shown should be ordered as:

F3-50-S-74W-ME-3-E-1-0-

F3	50-S	74W	ME	3	E	1	0	-
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Seals
0 Buna (standard)
F3 Viton (optional)
Indicator shaft seals are viton as standard.

Model
10-S
50-S
60-S

Standard Parker Element Media

149W Reusable wire mesh	149 micron absolute
74W Reusable wire mesh	74 micron absolute
40W Reusable wire mesh	40 micron absolute
25W Reusable wire mesh	25 micron absolute
20C Disposable cellulose	20 micron nominal
10C Disposable cellulose	10 micron absolute

Optional Indicators
M Visual indicator each side.
ME Visual indicator left hand, Electrical indicator right hand.
MEL Visual indicator right hand, Electrical indicator left hand.
The indicator handing is determined by viewing the outlet port with the inlet port downwards.
Consult Parker for information regarding alternative switches with environment protection to IEC Code IP67, and/or conduit entry.

Bypass Setting

3	3PSI (.21 bar)
5	5PSI (.34 bar)
10	10PSI (.69 bar)
15	15PSI (1.03 bar)
20	20PSI (1.38 bar)
25	25PSI (1.72 bar)

Modifications

1	With bypass
3	With bypass and magnets
4	With bypass and air bleed
6	With bypass, magnets and air bleed
11	No bypass
12	No bypass with magnets
13	No bypass with air bleed
14	No bypass with magnets and air bleed

Minimum Specification

A	Aluminium free version for mining applications
O	Not applicable

Ports

B	3/4 BSPF	10-S
C	1 BSPF	10-S
D	1 1/4 BSPF	50-S
E	1 1/2 BSPF with 2 SAE flange face	50-S
E	1 1/2 BSPF	60-S
F	2 BSPF with 2 1/2 SAE flange face	60-S

Consult Parker for information regarding alternative ports.

Design Number
Stamped on the filter nameplate to assist with identification for spares purposes. State the full filter code, including design number, when ordering spares other than elements.

Replacement Element and Cartridge Assemblies

Parker Media Ref.	Model 10-S		Model 50-S		Model 60-S	
	Standard		Standard		Standard	
	Element Part No.	Cartridge Part No.	Element Part No.	Cartridge Part No.	Element Part No.	Cartridge Part No.
149W	101111-149W	G00574	101114-149W	G00582	101115-149W	G00590
74W	101111-74W	G00575	101114-74W	G00583	101115-74W	G00591
40W	101111-40W	G00576	101114-40W	G00584	101115-40W	G00592
25W	101111-25W	G00577	101114-25W	G00585	101115-25W	G00593
20C	101195-20C	G00578	101196-20C	G00586	G01576	G00594
10C	101195-10C	G00579	101196-10C	G00587	G01577	G00595
10B	101718-10B	G01672	101719-10B	G01673	G01671	G01674

A cartridge assembly comprises: Element, front cap with piston ring, rear cap and retaining screws.

Filter Accessory Part Numbers

Magnet Assembly

G01549	10-S
G01550	50-S & 60-S

Filter Seal Kit

G01546	Buna
G01547	Viton

Electrical Indicator Kit

G01340
