



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Heavy Duty Filtration Products

Filtration solutions you can rely on



ENGINEERING YOUR SUCCESS.



- Consistent quality
- Technical innovation
- Premier customer service

Parker's technical resources provide the correct filtration technologies that conform to your requirements. That's why thousands of manufacturers and equipment users around the world rely on Parker Filtration products and people.

Worldwide Sales and Service

Parker Filtration's global reputation as a reliable supplier of superior filtration products is the result of a focused and integrated development and manufacturing system.

Parker Filtration consolidates quality filtration products, manufactured by process filtration, air and gas filtration and separation, fuel conditioning and filtration, hydraulic and lubrication filtration, fluid power products and fluid condition monitoring equipment into one broad-based range that covers many markets and most applications, as detailed here.

Hydraulic, Lubrication & Coolant Filtration

High-performance filtration systems for production machinery in industrial, mobile and military/marine applications.



Compressed Air & Gas Filtration

Complete line of compressed air/gas filtration products; coalescing, particulate and adsorption filters in many applications in many industries.



Photo courtesy of GLASBAU HAHN

Process & Chemical Fluid Filtration

Liquid filtration systems for beverage, chemical and food processing; cosmetic, paint, water treatment; photo-processing; and micro-chip fabrication.



Racor Fuel Conditioning & Filtration

Parker air, fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world.



System Contamination Monitoring

On-line dynamic particle analysis, off-line bottle sampling and fluid analysis and measurement of water content polluting the oil in a system. All important and achievable, cost-effective solutions available to equipment manufacturers and end users alike.



Heavy Duty Filtration Products

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Providing heavy duty filtration solutions

Parker can provide correct filtration solutions for a multitude of fuel, gas, hydraulic oil and lubrication systems. A wide selection of low and medium pressure multi-purpose filters that offer several different filter elements – environmentally sound choices too – allowing highly customized solutions. Duplex filters and the ability to bank multiple filters together enables continuous filtration during element changes. Parker’s heavy duty solutions for clean fluids and peace of mind.



Typical application examples.
At the top of each product section, a ‘typical application’ photo example has been included.

Parker glassfibre filtration media Microglass III and environmentally friendly Ecoglass III are designed to provide maximum protection for your equipment.

The following table shows average efficiencies of the filter elements and the corresponding filtration rating codes. Because of historical reasons the codes representing filtration ratings may vary slightly.

DEGREE OF FILTRATION						
Average filtration beta ratio β (ISO 16889) particle size μm (c)						Element type code
$\beta_x=2$	$\beta_x=10$	$\beta_x=75$	$\beta_x=100$	$\beta_x=200$	$\beta_x=1000$	
% Efficiency, based on the above beta ratio (β_x)						
50.0 %	90.0 %	98.7 %	99.0 %	99.5 %	99.9 %	
N/A	N/A	N/A	N/A	N/A	4.5	02Q/02QE/02QL
N/A	N/A	4.5	5	6	7	05Q/05QE/05QL
N/A	6	8.5	9	10	12	10Q/10QE/10QL
6	11	17	18	20	22	20Q/20QE/20QL

The filters are available with stainless steel metal mesh elements, which are also cleanable. In most cases the standard filtration ratings are 35 μm (abs) and 60 μm (abs). Other ratings are available by request.

GS Series

Medium Pressure Filters



In-line peace of mind

Three different housing sizes and several media options allow a wide range of applications. Cast iron housings are operable up to 40 bars. Pre-filtration with magnets is available as well as several connection options.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Industrial gear boxes
- Heavy fuel oil filter for diesel engines
- Suction filter for fuel systems
- Medium pressure hydraulic filter



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Specification

Assembly:

In-line filter

Maximum operating pressure:

40 bar. For DN80 flanges 16 bar.

Nominal flow rate (30cSt):

350 l/min (21 m³/h)

Connections:

Threads G1 for GS2 and G1½ for GS6 and GS7. GS7 is available also with flanges DN80/PN16.

Seal material:

Fluoroelastomer or optionally nitrile

Operating temperature:

-20°C...+100°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron

Weight:

See dimensions table

Magnet pack:

Available as option

Bypass valve:

Standard opening pressure 1.6 bar, optionally with blocked bypass

Indicator options:

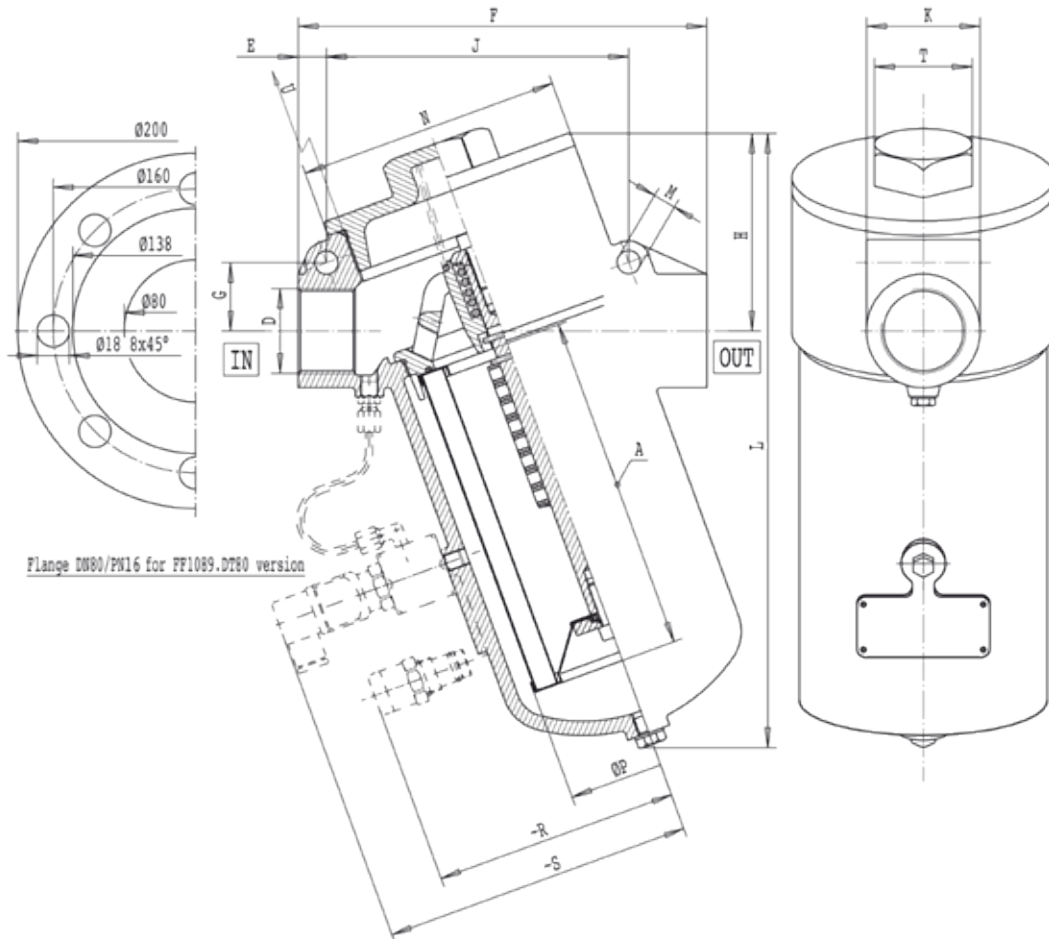
Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table on product description page.

Filtration materials:

- Glassfibre Microglass III
- Cleanable metal mesh

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. For other fluids consult Parker Filtration.



Type	Weight	A	D	F	G	H	J	K	L	M	N	P	R	S	T	U
GS2	5.5 kg	150	G1	170	27	83	125	45	275	11	108	71	118	159	32	200
GS6	12 kg	190	G1½	230	38	112	170	64	350	13	148	106	139	180	55	210
GS7	15 kg	260	G1½	230	38	112	170	64	420	13	148	106	139	180	55	210
GS7-D80	24 kg	260	80	310	-	112	-	200	420	-	148	106	139	180	55	210

GS Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

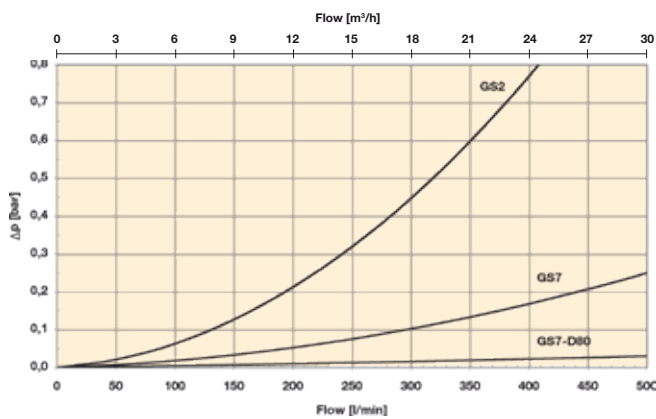
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

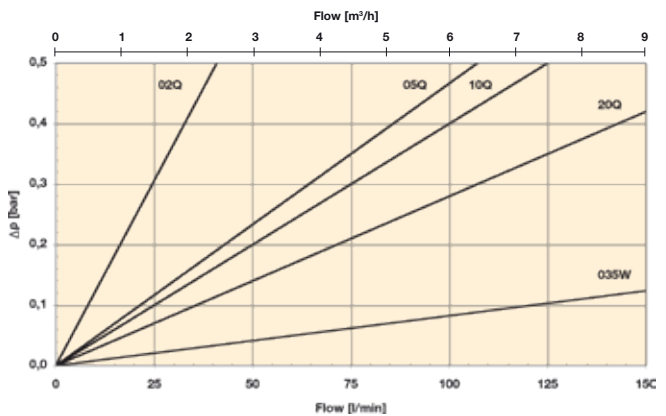
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

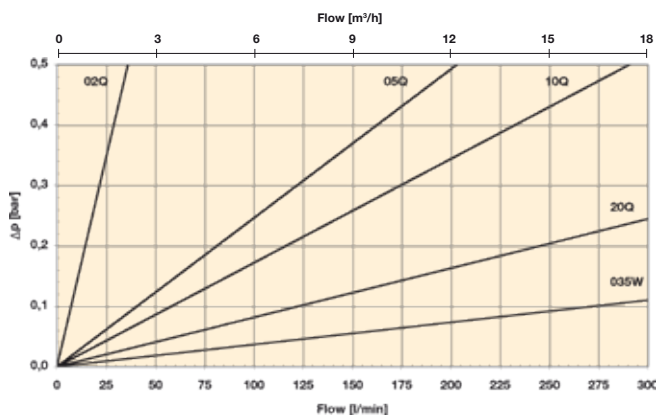
GS Series housings



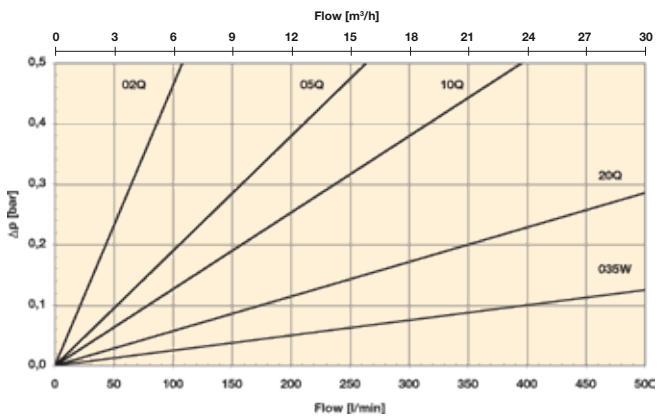
Elements for GS2



Elements for GS6



Elements for GS7



REPLACEMENT ELEMENTS (with Fluoroelastomer or Nitrile seal)

Media code	Order code for GS2	Order code for GS6		Order code for GS7	
Glassfibre	Standard (no seal)	Fluoroelastomer	Nitrile	Fluoroelastomer	Nitrile
02Q	937973Q	938208Q	937747Q	938209Q	937746Q
05Q	937974Q	938361Q	937758Q	938364Q	937759Q
10Q	937952Q	938362Q	937783Q	938075Q	937782Q
20Q	937953Q	938363Q	937794Q	938005Q	937795Q
Cleanable metal mesh					
035W	939180	939182	NA	939184	NA
060W	939181	939183	NA	939185	NA

Product Description for GS Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Medium pressure filter, cast iron	GS

Table 2

FILTER SIZE	
Housing size - element length	CODE
1-60 (former 1087)	2
2-170 (former 1088)	6
2-230 (former 1089)	7

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 2 µm	02Q
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Nitrile	B
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Indicator details, see page 66-69.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
1.6 bar/1.0 bar	F
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
G1 (length 2)	G16
G1½ (length 6 and 7)	G24
Flange DN80 (length 7)	D80

Table 8

OPTIONS	
Options	CODE
With bypass and magnets	1
No bypass, with magnets	2
With bypass, no magnets	5
No bypass, no magnets	6
Safety cover, no bypass, no magnets	7

SPARE PARTS		
Seal kit	CODE	
Seal material	GS2	GS6-7
Fluoroelastomer	918045044	918045038
Nitrile	918045034	918045023

Please note the bolded options reflect standard options with reduced lead-time.

WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalogue and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

GA Series

Medium Pressure Filters



Contamination-proof and customizable filter solution

Designed for various applications. In-out filter principle means there is no possibility for contaminated leak back into the system. Supplied with magnetic pre-filtration. Customizable for filter coolants thus ideal for metal cutting equipment. Visual or electronic differential pressure indicators and environmentally friendly filtration elements available.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Gearboxes
- Bypass filtration
- Stone crushers
- Lube oil systems
- Metal cutting equipment



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Specification

Assembly:

In-line filter

Maximum operating pressure:

30 bar

Nominal flow rate (30 cSt):

230 l/min (13.8 m³/h)

Connections:

Threaded BSP ports. SAE ports available by request.

Seal material:

Nitrile, optionally Fluoroelastomer or Neoprene

Operating temperature:

-20°C...+100°C, for other temperatures consult Parker Filtration.

Housing material:

Aluminium

Weight:

See dimensions table

Bypass setting:

Opening pressure standard 1.5 bar, optionally 0.8 bar, 2.0 bar or blocked bypass

Filtration materials:

- Ecoglass for *LEIF*[®] element with reusable metal element sleeve. *LEIF*[®] contributes to ISO14001.
- Glassfibre Microglass III
- Resin impregnated cellulose paper 10 µm nominal
- Cleanable metal mesh

Magnetic pack:

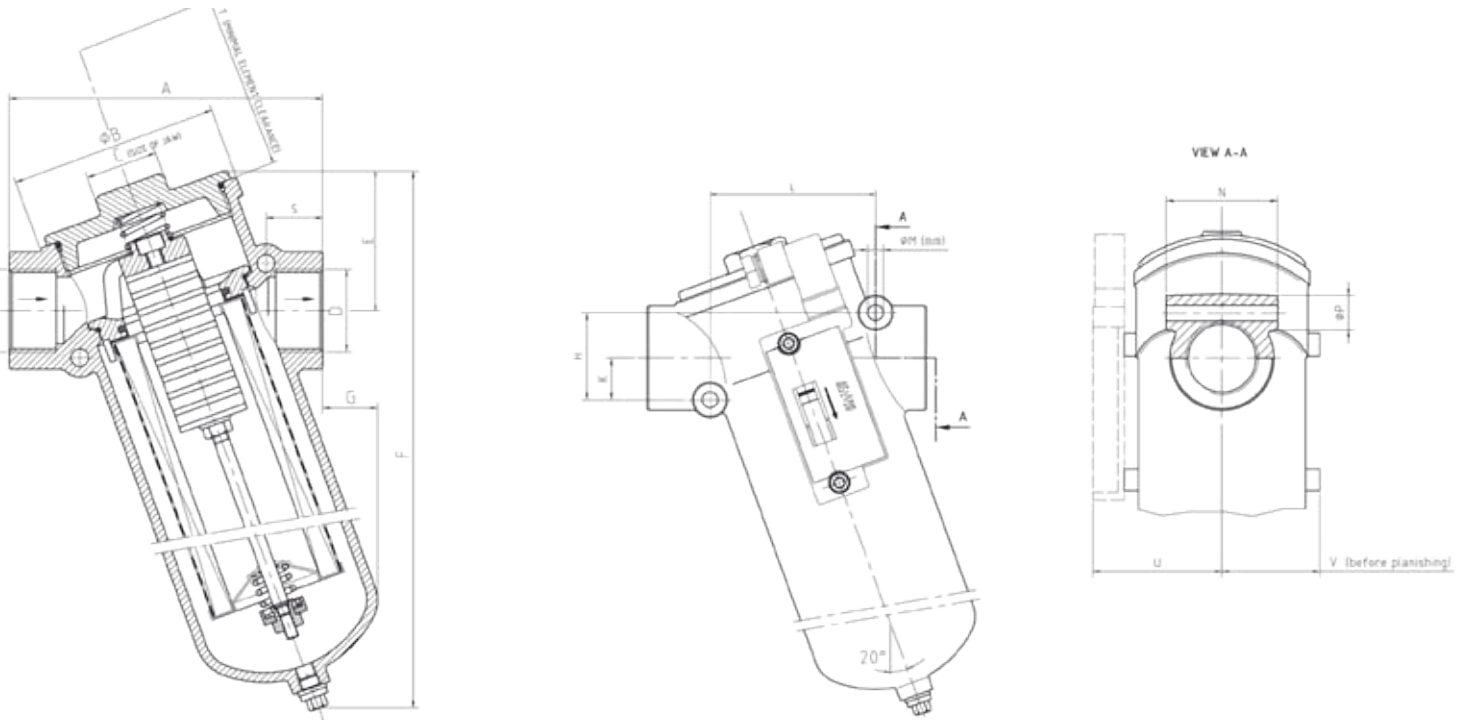
Standard

Differential pressure indicators:

Visual or Visual-electrical indicator
Setting 1.2 bar (for 2.0 bar and 1.5 bar bypass) or 0.7 bar (for 0.8 bar bypass)

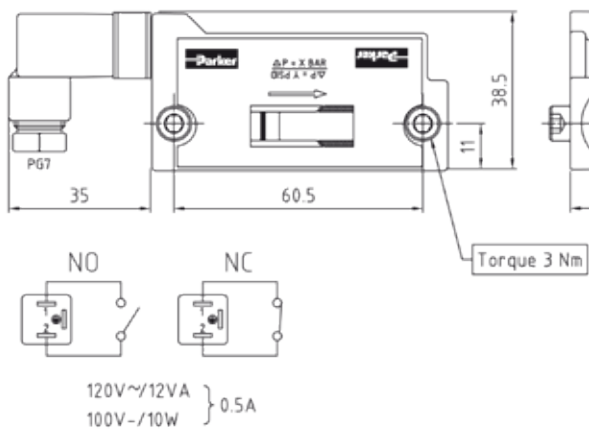
Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.

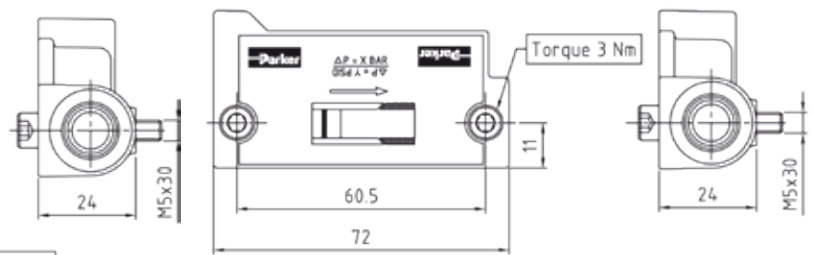


Type	A	B	C	D		E	F	G	H	K	L	M	N	P	S	T	U	V	Kg
				BSP ISO228	SAE														
GA1-30	150	106	32	G¾	12	70	180	3	50	24	95	9	44	20	28	143	86	63	2.1
GA1-60	160	106	32	G1	16	70	235	18	50	24	95	9	54	20	29	194	86	63	2.6
GA1-90	160	106	32	G1	16	70	275	29	50	24	95	9	54	20	29	238	86	63	3.2
GA1-120	160	106	32	G1¼	20	70	325	46	50	24	95	9	64	20	29	288	86	63	4.0
GA2-170	230	150	55	G1½	24	105	390	35	75	37	140	12	72	25	43	338	110	88	7.9
GA2-230	230	150	55	G1½	24	105	460	58	75	37	140	12	72	25	43	408	110	88	9.0

VISUAL/ELECTRICAL INDICATOR



VISUAL INDICATOR



Visual Indicator - Manifold connected to filter housing

Code (0.7 bar setting)	FMUD5BBAXXXL
Code (1.2 bar setting)	FMUD5EBAXXXL
Electrical Indicator - Manifold connected to filter housing	
Code (0.7 bar setting and NO type switch)	FMUE5BBAXXXL
Code (1.2 bar setting and NO type switch)	FMUE5EBAXXXL
Electric rating	120Vac/12VA or 100Vdc/10W
Electrical connection	AMP terminal 6.3. x 0.8 with plugged cable gland
Protection	IP65
Switch type	NO (NC request)

GA Series

Pressure Drop Curves for Housing

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

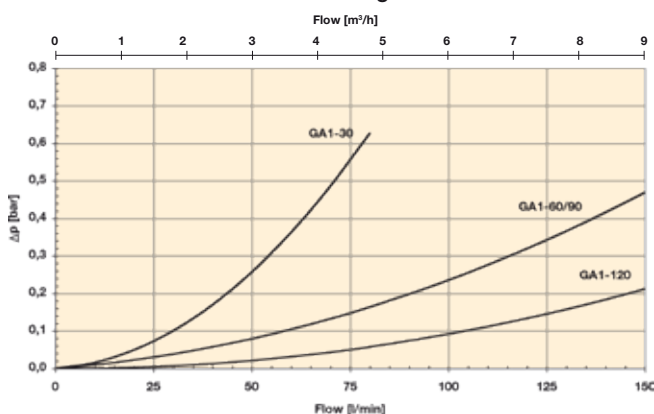
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

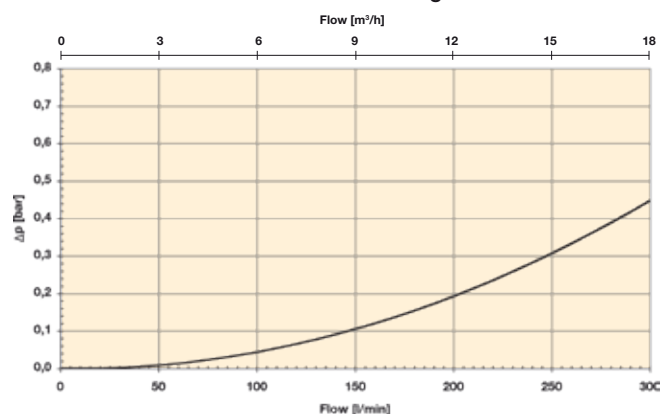
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

GA1 housings



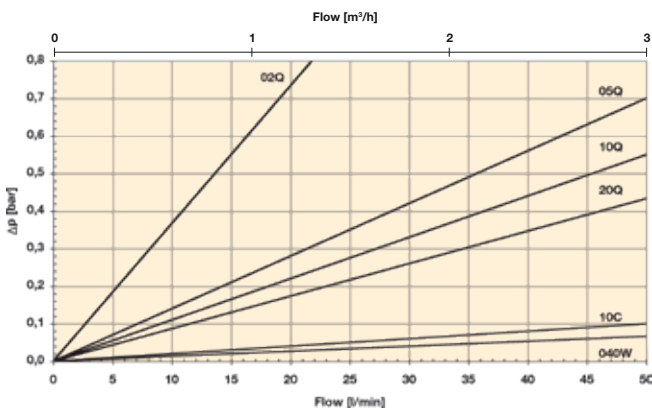
GA2-170/230 housings



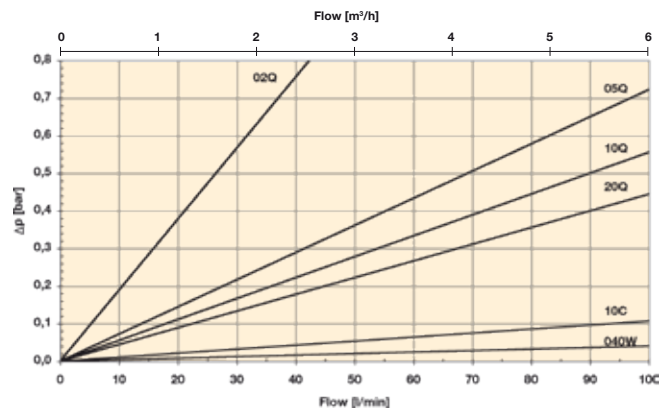
GA Series

Pressure Drop Curves for Elements

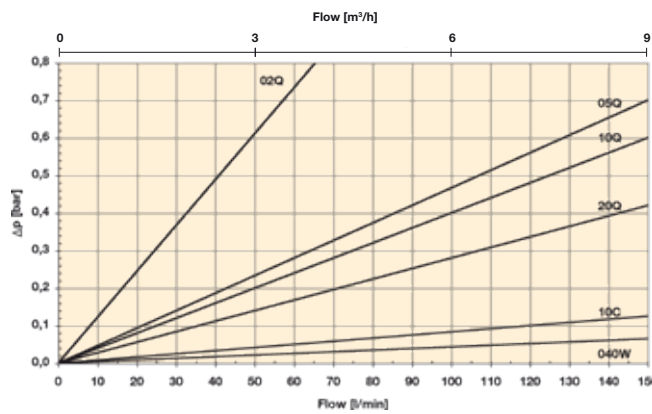
GA1-30 elements (Length 0)



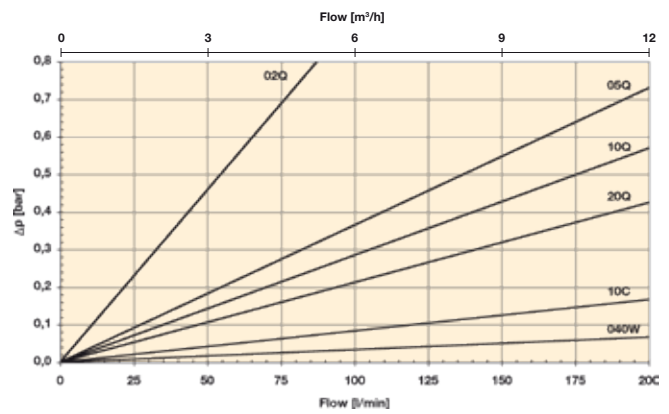
GA1-60 elements (Length 2)



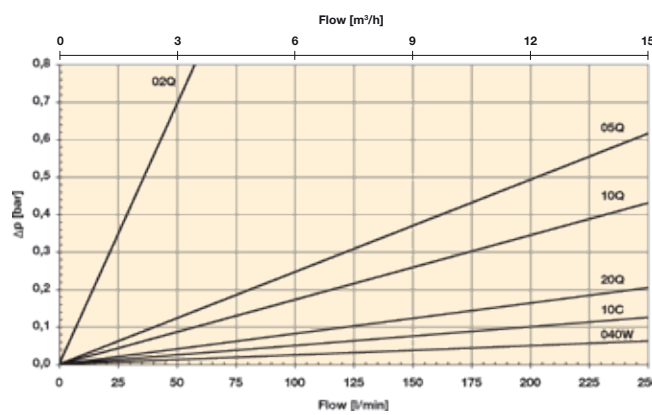
GA1-90 elements (Length 3)



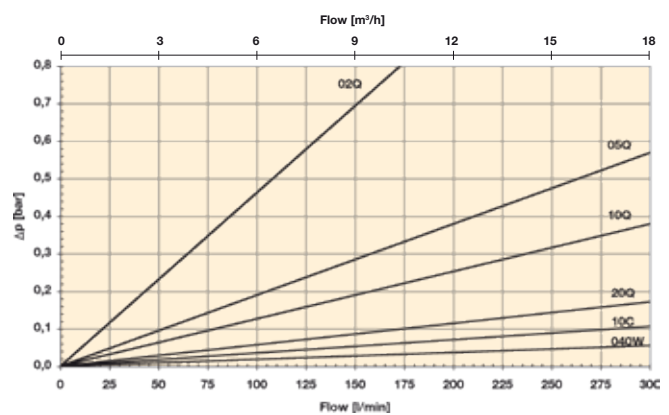
GA1-120 elements (Length 4)



GA2-170 elements (Length 6)



GA2-230 elements (Length 7)



GA Series

Medium Pressure Filters

Product Description for GA

Complete Filter:

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
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Table 1

FILTER TYPE	
Model	CODE
Medium pressure filter, aluminium	GA

Table 2

FILTER SIZE	
Housing size - element length	CODE
1-30	0
1-60	2
1-90	3
1-120	4
2-170	6
2-230	7

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 2 µm	02Q
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
LEIF® elements	
Glassfibre 2 µm	02QL
Glassfibre 5 µm	05QL
Glassfibre 10 µm	10QL
Glassfibre 20 µm	20QL
Other medias	
Cellulose 10 µm (nom)	10C
Cleanable metal mesh 40 µm	040W

Table 4

SEAL TYPE	
Seal material	CODE
Nitrile	B
Fluoroelastomer	V
Neoprene	N

Table 5

INDICATORS	
Options	CODE
Visual indicator on right*	D3
Visual indicator on left*	D4
Visual-electrical indicator on right*	E3
Visual-electrical indicator on left*	E4
Both indicator ports plugged	P2

* Indicator ports on other side machined and plugged.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
0.8 bar/0.7 bar	B
1.5 bar/1.2 bar	E
2.0 bar/1.2 bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
G¾ (length 0)	G12
G1 (length 2 and 3)	G16
G1¼ (length 4)	G20
G1½ (length 6 and 7)	G24

Table 8

OPTIONS	
Options	CODE
With bypass and magnets	1
No bypass, with magnets	2
With bypass, no magnets	5
No bypass, no magnets	6

CONVENTIONAL TYPE REPLACEMENT ELEMENTS WITH NITRILE SEALS							
Element length	Housing size	Microglass III				Cellulose 10 µm (nom)	Cleanable metal mesh 40 µm
		02Q	05Q	10Q	20Q		
0	1 - 30	937752Q	937753Q	937788Q	937789Q	937720	937821
2	1 - 60	937751Q	937754Q	937787Q	937790Q	937721	937820
3	1 - 90	937750Q	937755Q	937786Q	937791Q	937722	937819
4	1 - 120	937749Q	937756Q	937785Q	937792Q	937723	937818
6	2 - 170	937747Q	937758Q	937783Q	937794Q	937725	937816
7	2 - 230	937746Q	937759Q	937782Q	937795Q	937726	937815

LEIF® REPLACEMENT ELEMENTS					
Element length	Housing size	Ecoglass III			
		02QL	05QL	10QL	20QL
0	1 - 30	937822Q	937885Q	937884Q	937883Q
2	1 - 60	937823Q	937880Q	937881Q	937882Q
3	1 - 90	937824Q	937879Q	937878Q	937877Q
4	1 - 120	937825Q	937850Q	937851Q	937876Q
6	2 - 170	937827Q	937848Q	937853Q	937874Q
7	2 - 230	937828Q	937847Q	937854Q	937873Q

SPARE PARTS		
Seal kit	CODE	
Seal material	GA0-4	GA6-7
Nitrile	2049010009	2049010010
Fluoroelastomer	2049010031	2049010032
Neoprene	2049010038	2049010039

Please note the bolded options reflect standard options with reduced lead-time.

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BGAH Series

Medium Pressure Filters



In-line solution for a straight pipeline

Pre-filtration by magnet column and a full-flow bypass with low hysteresis. Contamination-proof in-out filter principle. In- and outlet configuration allows integration in a straight pipeline. Nominal flow rate up to 500 l/min. Highly customizable for different applications.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Industrial gearboxes
- Wind turbines
- Stone crushers
- Bypass and off-line filtration



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Specification

Assembly:

In-line filter

Maximum operating pressure:

25 bar

Nominal flow rate (30 cSt):

500 l/min (30 m³/h)

Connections:

Flanges SAE 3" 3000-M

Seal material:

Nitrile, optionally Fluoroelastomer or Neoprene

Operating temperature:

-20°C...+100°C, for other temperatures consult Parker Filtration.

Housing material:

Aluminium

Weight:

BGAH 3-400: 21 kg

BGAH 3-500: 28 kg

Bypass setting:

Opening pressure standard 1.5 bar, optionally 0.8 bar, 2.0 bar or blocked bypass

Filtration materials:

- Ecoglass for LEIF® element with reusable metal element sleeve. LEIF® contributes to ISO14001.
- Glassfibre Microglass III
- Resin impregnated cellulose paper 10µm nominal
- Cleanable metal mesh

Magnetic pack:

Standard

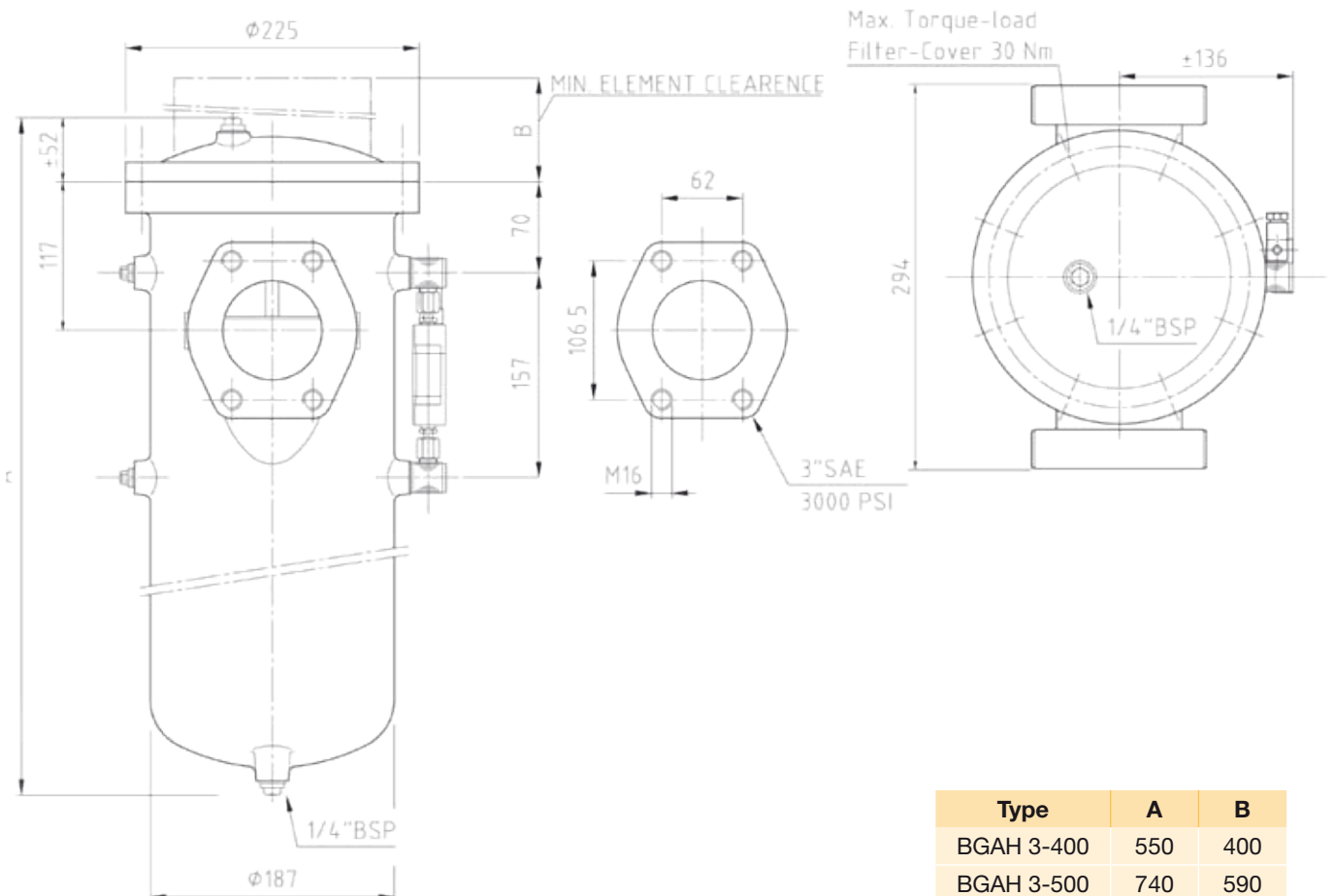
Differential pressure indicators:

Visual or Visual-electrical indicator

Setting 1.2 bar (for 2.0 bar and 1.5 bar bypass) or 0.7 bar (for 0.8 bar bypass)

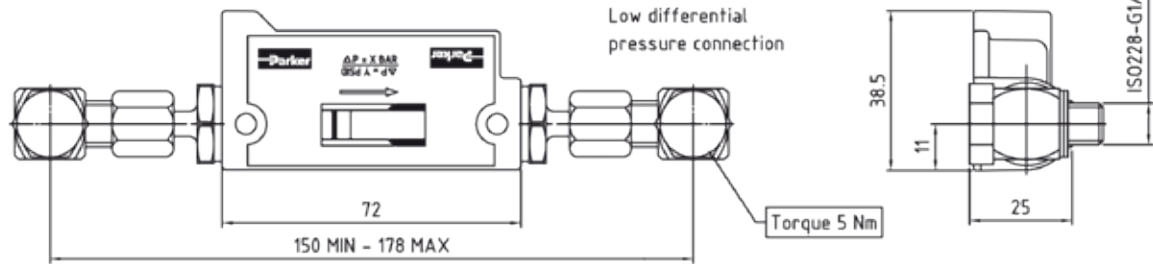
Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.



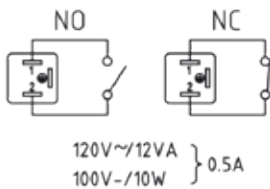
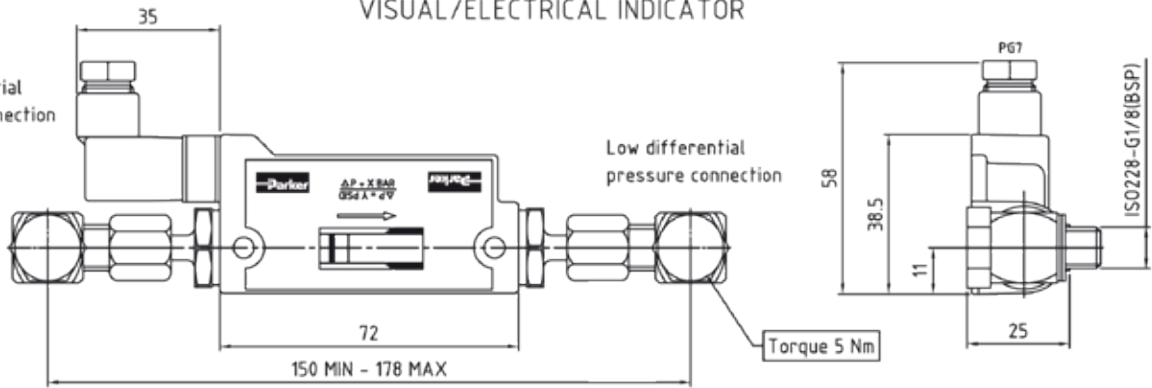
High differential
pressure connection

VISUAL INDICATOR



High differential
pressure connection

VISUAL/ELECTRICAL INDICATOR



Visual Indicator - Mounted with couplings to filter housing

Code (0.7 bar setting)	FMUDABBAXXL
Code (1.2 bar setting)	FMUDAEBAXXL

Electrical Indicator - Mounted with couplings to filter housing

Code (0.7 bar setting and NO type switch)	FMUEBBBAXXL
Code (1.2 bar setting and NO type switch)	FMUEBEBAXXL
Electric rating	120Vac/12VA or 100Vdc/10W
Electrical connection	AMP terminal 6.3. x 0.8 with plugged cable gland
Protection	IP65
Switch type	NO (NC on request)

BGAH Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

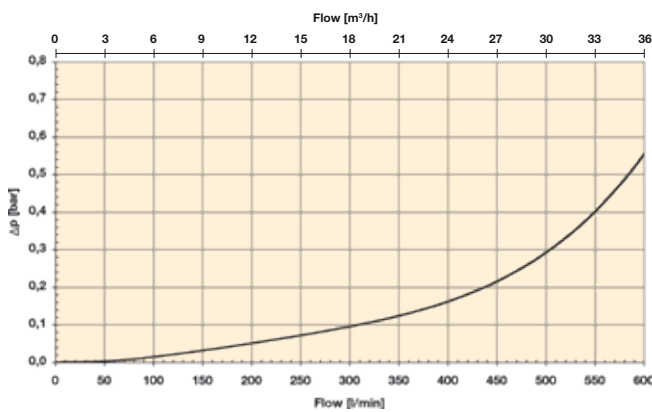
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

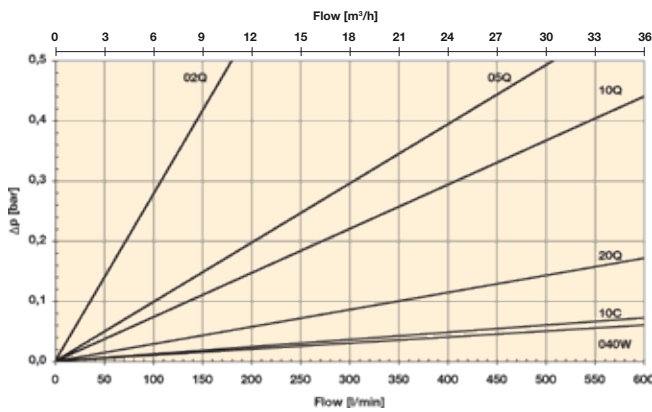
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

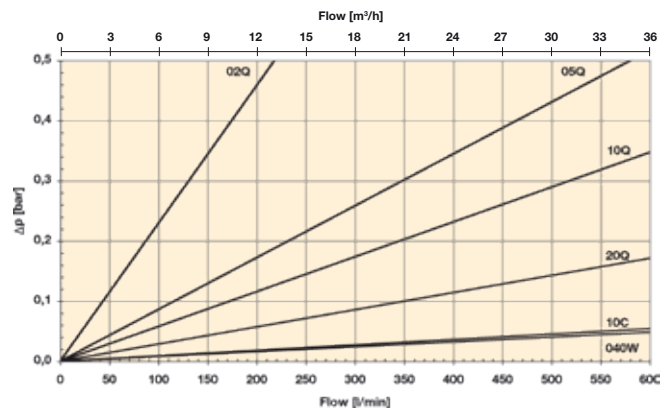
BGAH housing



BGAH 3-400 elements (Length 11)



BGAH 3-500 elements (Length 12)



BGAH Series

Medium Pressure Filters

Product Description for BGAH

Complete Filter:

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
---------	---------	---------	---------	---------	---------	---------	---------

Table 1

FILTER TYPE	
Model	CODE
Medium pressure filter, aluminium	BGAH

Table 2

FILTER SIZE	
Housing size - element length	CODE
3-400	11
3-500	12

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 2 µm	02Q
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
LEIF® elements	
Glassfibre 2 µm	02QL
Glassfibre 5 µm	05QL
Glassfibre 10 µm	10QL
Glassfibre 20 µm	20QL
Other medias	
Cellulose 10 µm (nom)	10C
Cleanable metal mesh 40 µm	040W

Table 4

SEAL TYPE	
Seal material	CODE
Nitrile	B
Fluoroelastomer	V
Neoprene	N

Table 5

INDICATORS	
Options	CODE
Visual indicator on right*	D8
Visual indicator on left*	D9
Visual-electrical indicator on right*	E9
Visual-electrical indicator on left*	EA
Both indicator ports plugged	P2

* Indicator ports on other side machined and plugged.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
0.8 bar/0.7 bar	B
1.5 bar/1.2 bar	E
2.0 bar/1.2 bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
SAE flange 3"-3000M	R48

Table 8

OPTIONS	
Options	CODE
With bypass and magnets	1
No bypass, with magnets	2
With bypass, no magnets	5
No bypass, no magnets	6

CONVENTIONAL TYPE REPLACEMENT ELEMENTS WITH NITRILE SEALS							
Element length	Housing size	Microglass III				Cellulose 10 µm (nom)	Cleanable metal mesh 40 µm
		02Q	05Q	10Q	20Q		
11	3-400	937742Q	937763Q	937778Q	937799Q	937728	937813
12	3-500	937741Q	937764Q	937777Q	937800Q	937729	937812

LEIF® REPLACEMENT ELEMENTS					
Element length	Housing size	Ecoglass III			
		02QL	05QL	10QL	20QL
11	3-400	937832Q	937843Q	937858Q	937869Q
12	3-500	937833Q	937842Q	937859Q	937868Q

SPARE PARTS	
Seal kit	CODE
Seal material	
Nitrile	2049010000
Fluoroelastomer	2049010055
Neoprene	2049010034

Please note the bolded options reflect standard options with reduced lead-time.

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BGLS Series

Low Pressure Filters



Heavy duty in-line filter solution

Upper housing aluminium and lower housing steel allows low weight combined to high capacity. Magnetic pre-filtration and nominal flow up to 2000 l/min.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Lubrication systems
- Wind turbines
- Hydraulic presses
- Large industrial gearboxes



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Specification

Assembly:

In-line filter

Maximum operating pressure:

10 bar

Nominal flow rate (30 cSt):

2000 l/min (120 m³/h)

Connections:

Flanges SAE 3" 3000-M

Seal material:

Nitrile, optionally Fluoroelastomer

Operating temperature:

-20°C...+100°C, for other temperatures consult Parker Filtration.

Housing material:

Upper housing aluminium, lower housing steel

Weight:

BGLS 4-1000: 56 kg

BGLS 4-1500: 65 kg

BGLS 4-2000: 75 kg

Bypass setting:

Opening pressure standard 1.5 bar, optionally 0.8 bar, 2.0 bar or blocked bypass

Filtration materials:

- Ecoglass for LEIF® element with reusable metal element sleeve. LEIF® contributes to ISO14001.
- Glassfibre Microglass III
- Resin impregnated cellulose paper 10µm nominal
- Cleanable metal mesh

Magnetic pack:

Standard

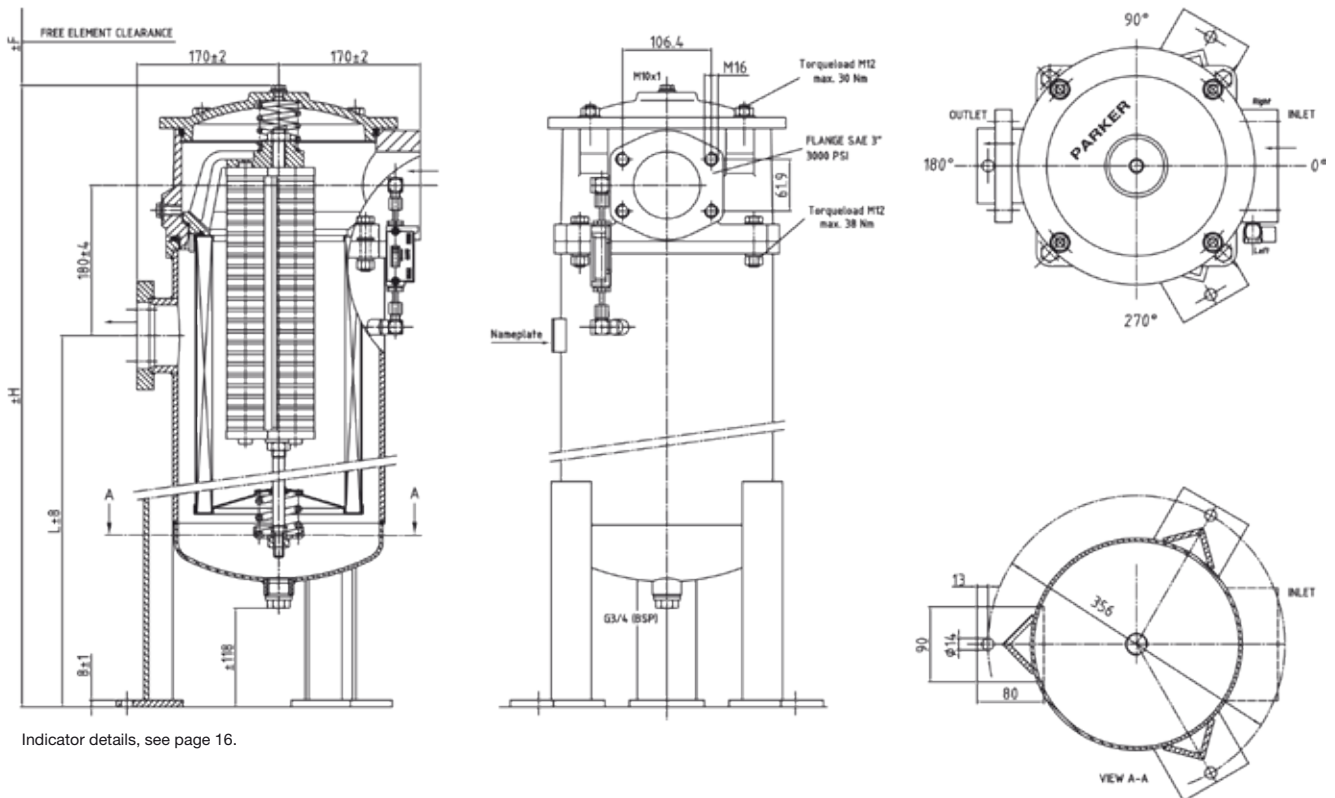
Differential pressure indicators:

Visual or Visual-electrical indicator, see page 16.

Setting 1.2 bar (for 2.0 bar and 1.5 bar bypass) or 0.7 bar (for 0.8 bar bypass).

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.



Indicator details, see page 16.

Type	H	L	F
1000	975	635	735
1500	1255	915	1015
2000	1520	1180	1280

BGLS Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

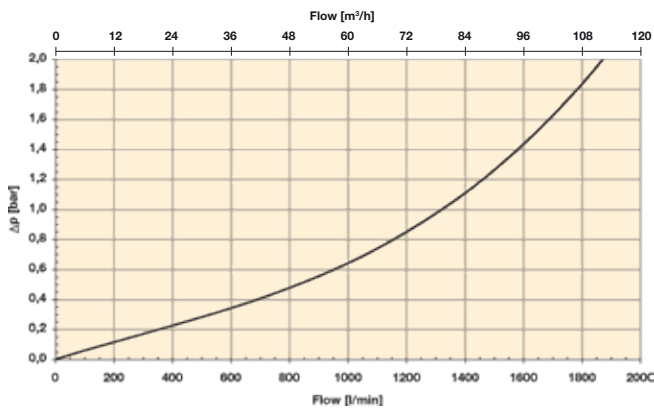
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

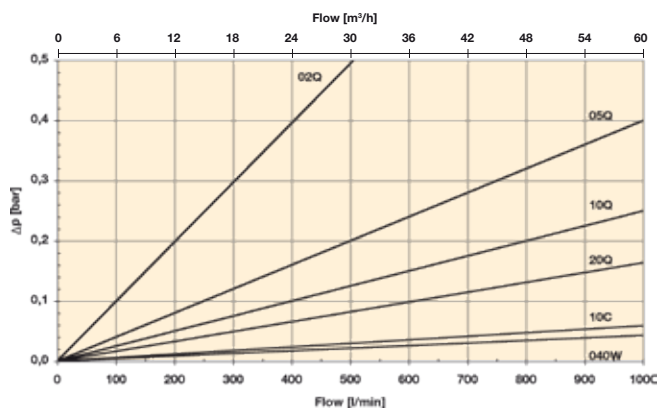
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

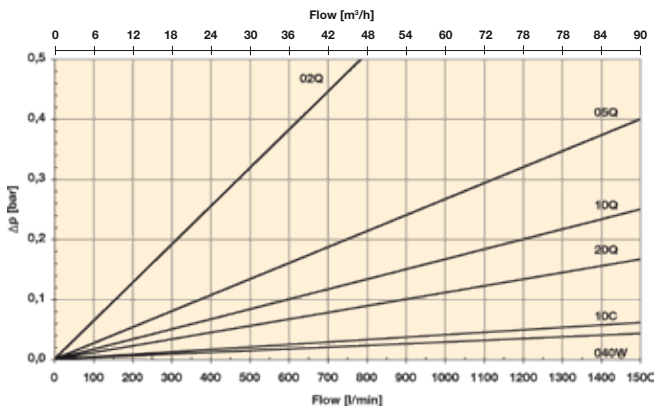
BGLS housing



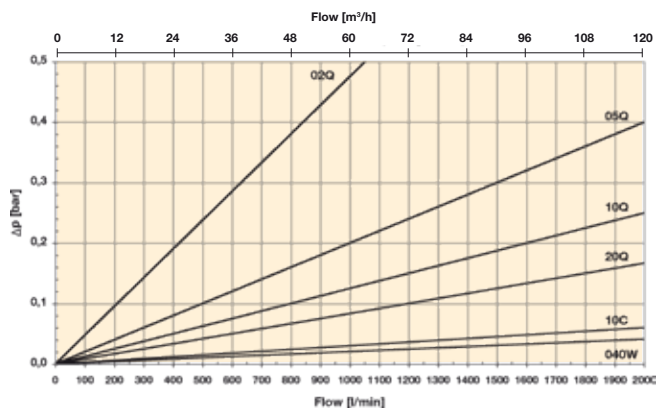
BGLS 4-1000 elements (Length 15)



BGLS 4-1500 elements (Length 16)



BGLS 4-2000 elements (Length 17)



CONVENTIONAL TYPE REPLACEMENT ELEMENTS WITH NITRILE SEALS

Element length	Housing size	Microglass III				Cellulose 10 μm (nom)	Cleanable metal mesh 40 μm
		02Q	05Q	10Q	20Q		
15	4-1000	937738Q	937767Q	937774Q	937803Q	937732	937809
16	4-1500	937737Q	937768Q	937773Q	937804Q	937733	937808
17	4-2000	937736Q	937769Q	937772Q	937805Q	937734	937807

Product Description for BGLS

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Medium pressure filter, upper housing aluminium, lower housing steel	BGLS

Table 2

FILTER SIZE	
Housing size - element length	CODE
4-1000	15
4-1500	16
4-2000	17

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 2 µm	02Q
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
LEIF® elements (not available for length 17)	
Glassfibre 2 µm	02QL
Glassfibre 5 µm	05QL
Glassfibre 10 µm	10QL
Glassfibre 20 µm	20QL
Other medias	
Cellulose 10 µm (nom)	10C
Cleanable metal mesh 40 µm	040W

Table 4

SEAL TYPE	
Seal material	CODE
Nitrile	B
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
Visual indicator on right	D6
Visual indicator on left	D7
Visual-electrical indicator on right	E7
Visual-electrical indicator on left	E8
Plugged indicator ports on right	P

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
0.8 bar/0.7 bar	B
1.5 bar/1.2 bar	E
2.0 bar/1.2 bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size/outlet direction	CODE
SAE flange 3"-3000M/front (0°)	R48F
SAE flange 3"-3000M/right (90°)	R48R
SAE flange 3"-3000M/back (180°)	R48B
SAE flange 3"-3000M/left (270°)	R48L

Table 8

OPTIONS	
Options	CODE
With bypass and magnets	1
No bypass, with magnets	2
With bypass, no magnets	5
No bypass, no magnets	6

LEIF® REPLACEMENT ELEMENTS					
Element length	Housing size	Ecoglass III			
		02QL	05QL	10QL	20QL
15	4-1000	937836Q	937839Q	937862Q	937865Q
16	4-1500	937837Q	937838Q	937863Q	937864Q
17	4-2000	NA	NA	NA	NA

SPARE PARTS	
Seal kit	CODE
Seal material	
Nitrile	2049010023

Please note the bolded options reflect standard options with reduced lead-time.

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SF1040 Series

Low Pressure Filters



Multi-purpose filter for gas and high flow fluid systems

Strong welded steel construction housing features DN80 or DN100 connections. Several media options including PED 3 classified versions for gas applications. As options available safety filter to secure filtration even in by pass situations, and differential pressure indicator for accurate operation control.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Lubricating oil filter for industrial systems
- Gas fine filter for combustion engines
- Fuel oil filter for high flow systems
- Large on line low-pressure filter for hydraulic systems



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Specification

Assembly:

In-line filter, vertical installation or optionally horizontal installation. Includes 2 elements.

Maximum operating pressure:

10 bar

Nominal flow rate (30 cSt):

1400 l/min (84 m³/h)

Connections:

Flanges DN80/PN16 or DN100/PN16

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, or other temperatures consult Parker Filtration.

Housing material:

Steel or stainless steel

Weight:

100 kg

Bypass valve:

Standard without bypass. Optionally opening pressure 2.0 bar.

Filtration materials:

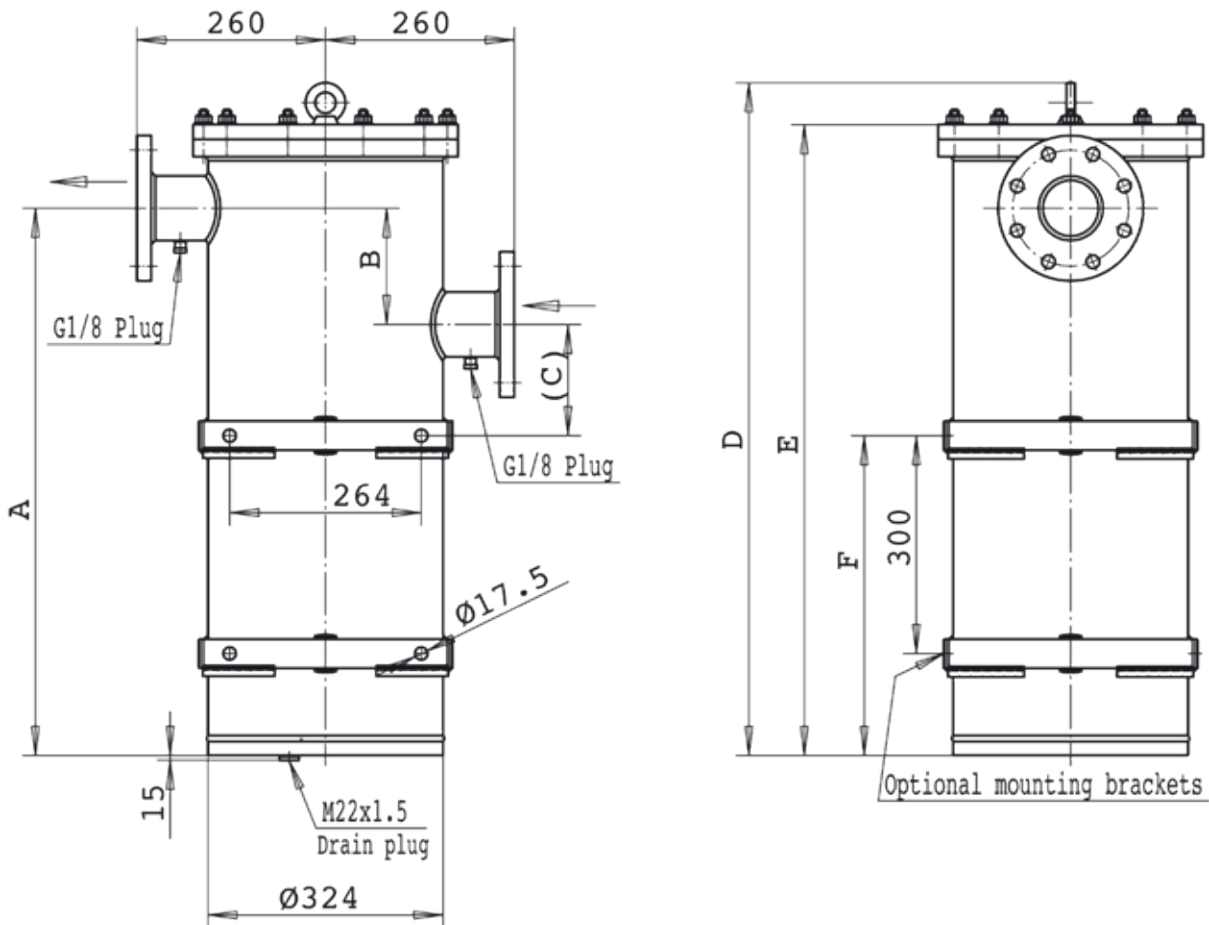
- Glassfibre Microglass III
- Resin impregnated cellulose paper 15 µm nominal
- Cleanable metal mesh

Indicator options:

Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. For heavy fuel oil applications, please specify option P2 (see table 5 in product description) which ensures that filters are delivered with documentation according PED 97/23/EC category II. Respectively for combustible gas applications, specify option P3 for PED category III. For other fluids consult Parker Filtration.



Type	A	B	C	D	E	F
DN80/PN16	753	160	153	932	868	440
DN100/PN16	786	186	140	978	914	460

SF1040 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

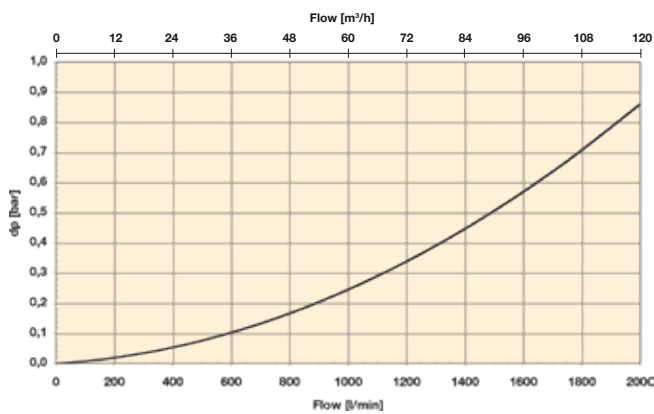
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

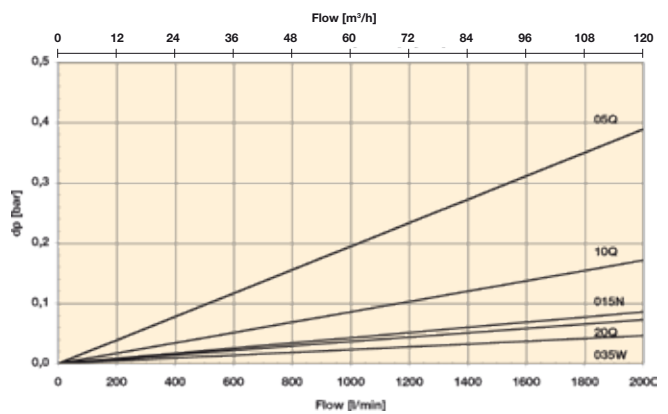
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

SF1040 DN80/PN16 housing



SF1040 element pack (2 pcs)



Product Description for SF1040

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Single filter	SF1040
Stainless steel housing	SFR1040
Horizontal installation	SFH1040

Table 2

FILTER SIZE	
Length/elements	CODE
2 elements housing	2

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cellulose 15 µm (nom)	015N
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

REPLACEMENT ELEMENTS

Media code	Order code
Glassfibre	Microglass III
05Q	939381Q
10Q	939382Q
20Q	939383Q
Cellulose 15 µm (nom)	
015N	939384
Cleanable metal mesh	
035W	939385
060W	939386

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2
ATEX indicator PNP/N.O.	X1

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5 bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
DN80 T-port	D80T
DN80 C-port (both ports to same direction)	D80C
DN100 T-port	D100T

Table 8

OPTIONS	
Options	CODE
With bypass	1
No bypass	2
PED category 2	P2
PED category 3	P3
No mounting brackets	NB
Secondary element 60 µm	F

If several options are selected, please add the codes in order listed above.

SPARE PARTS

Seal kit	CODE
Seal material	
Fluoroelastomer	916045044
Nitrile	2049010023
Secondary element	CODE
Wire mesh 60 µm	1161300002

Please note the bolded options reflect standard options with reduced lead-time.

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Eco130 Series

Medium Pressure Filters



Modular system for industrial applications

High flow return filters for industrial use on hydraulic or lubrication systems. High flow and pressure up to 30 bar in single units. Ability to bank multiple filters together enables continuous filtration during element changes. Coreless Ecoglass III elements.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Paper production plants
- Steel mills
- Aluminium mills
- Industrial power packs
- Lubrication systems
- Power generation



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Specification

Assembly:

In-line filter as a single filter, a dual unit, a parallel unit or a filter system with L-bore selecting valve assembly (only one side in use). Vertical installation.

Maximum operating pressure:

Single filter: 30 bar

Dual and parallel units and filter systems: 16 bar

Nominal flow rate (30 cSt):

Single filter: 1000 l/min (60 m³/h)

Dual and parallel units and filter systems: 1400 l/min (84 m³/h)

Connections:

Single filter: Flanges SAE 2" 3000-M, SAE 2½" 3000-M or with adaptor threads G1½ or G2.

Dual units: Flanges SAE 3" 3000-M or with adaptor threads G2.

Parallel units and filter systems: DN80/PN16 or DN100/PN16.

Seal material:

Nitrile or optionally fluoroelastomer

Operating temperature:

-20°C...+100°C, for other temperatures consult Parker Filtration.

Housing material:

Aluminium

Weight:

See a table in dimension drawing

Bypass valve:

Opening pressure 3.5 bar

Filtration materials:

- Glassfibre Microglass III
- Environmentally friendly Ecoglass III. No metal parts.
- Cleanable metal mesh

Differential pressure indicators:

Visual indicator always included to each column, setting 2.5 bar. Optional electrical or electronic indicators to be mounted on lower indicator port.

Fluid compatibility:

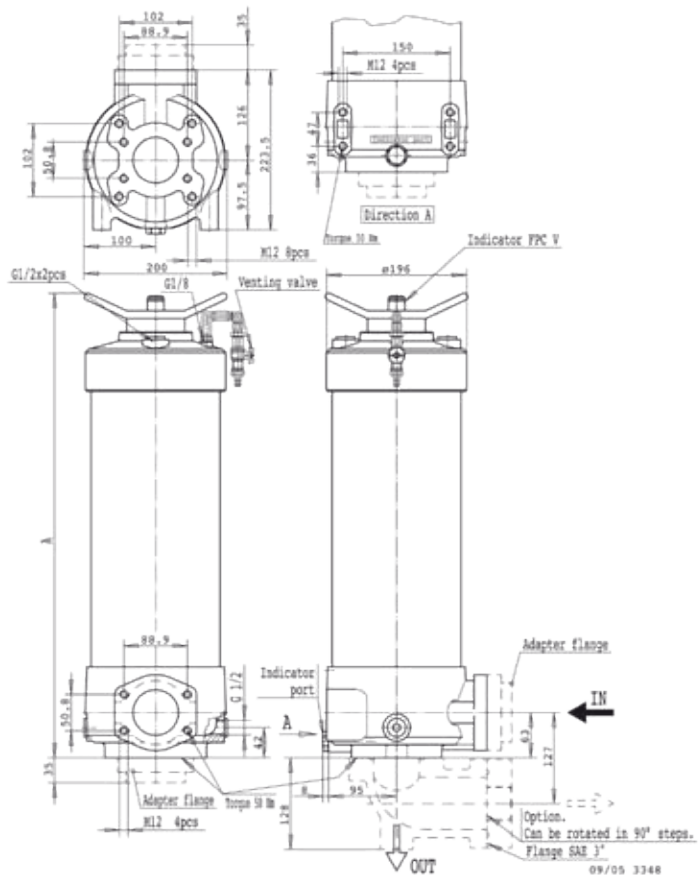
Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.

Single Assemblies 130M

Connection options	
Body flange	SAE 2" 3000-M
	SAE 2½" 3000-M
Adaptor flange	G1½
	G2
	SAE 3" 3000-M (90° elbow)

Weights (kg)	Length 2	Length 3
Single	25	33
Dual D2	70	86
Parallel P2	75	90
System S2	110	130
System S4	205	235
System S6	260	310
System S8	340	705

Type	A
Length 2	650
Length 3	1210



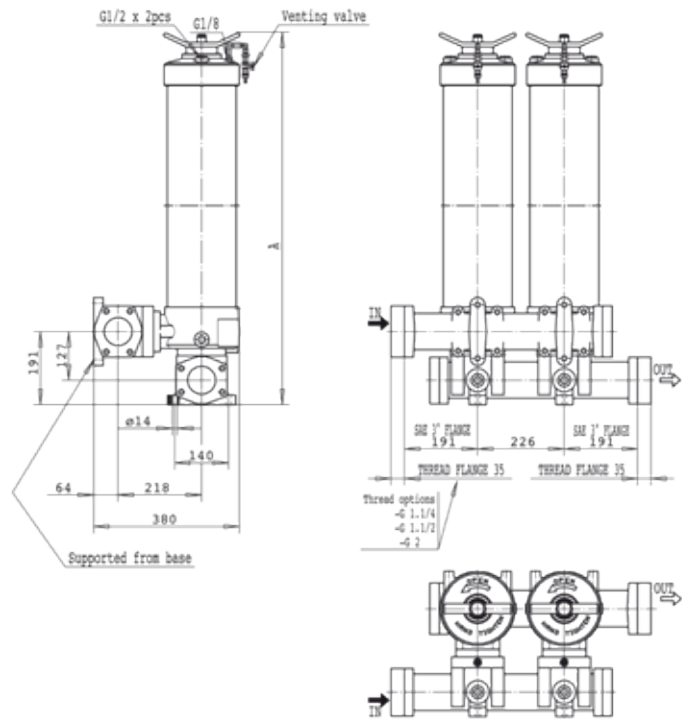
Eco130 Series

Medium Pressure Filters

Dual System 130D

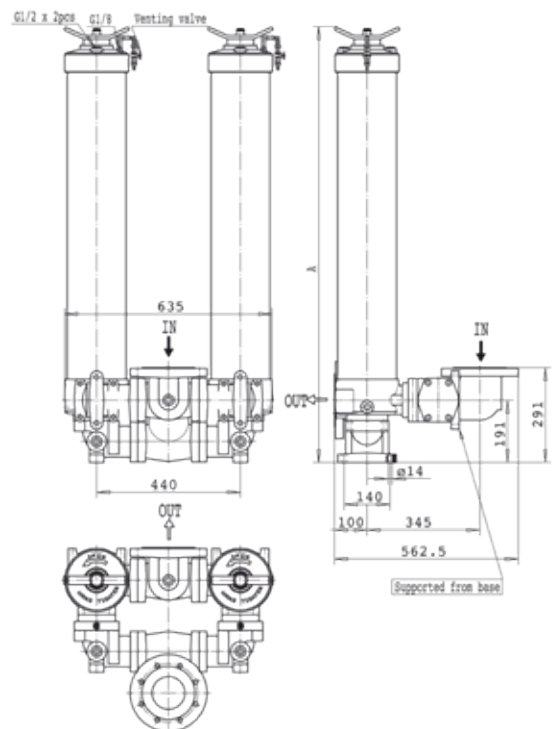
Connection options	
Body flange	SAE 3" 3000-M
Adaptor flange thread	G2

Type	A
Length 2	780
Length 3	1340



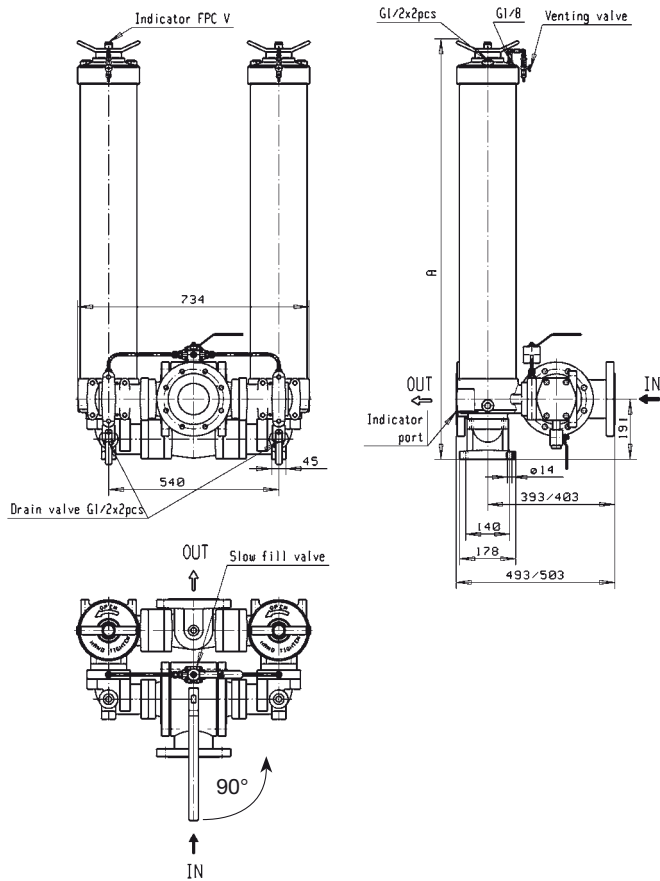
Parallel System 130N

Type	A
Length 2	780
Length 3	1340



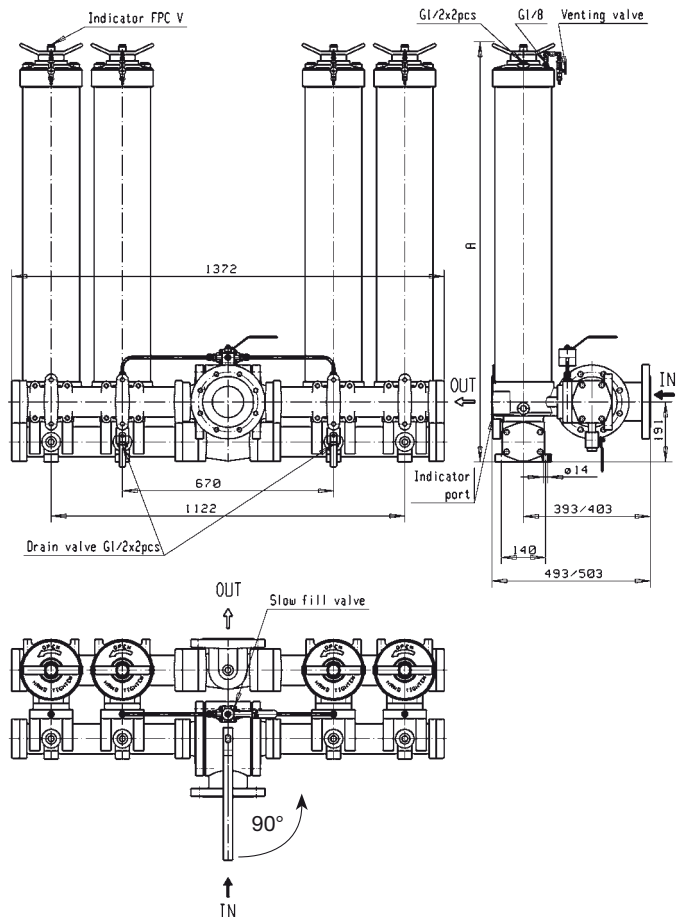
**130S System 1 + 1 units
T-model**

Type	A
Length 2	780
Length 3	1340



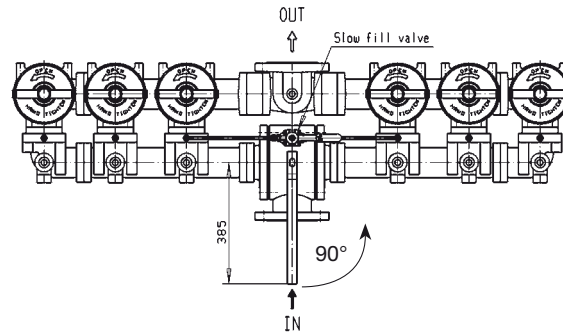
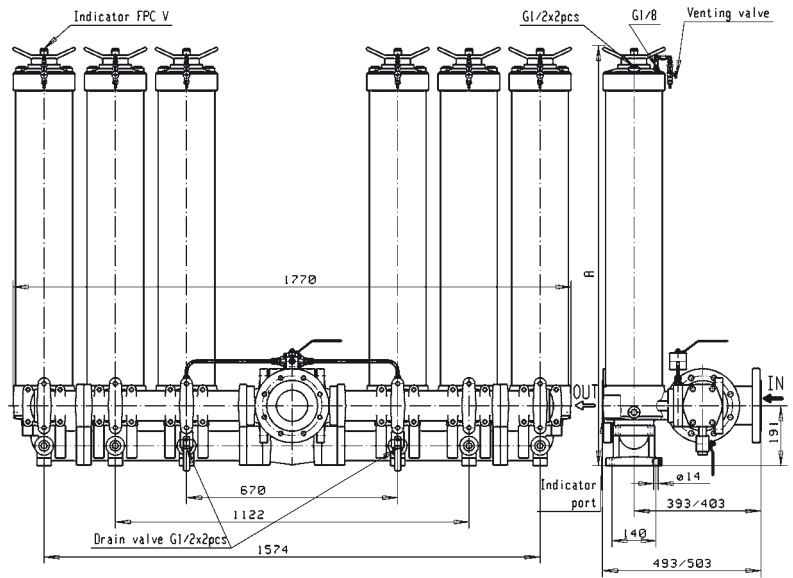
**130S System 2 + 2 units
T-model**

Type	A
Length 2	780
Length 3	1340



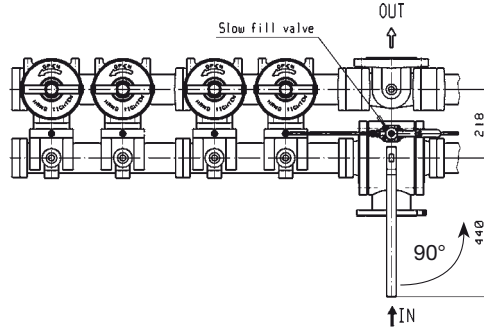
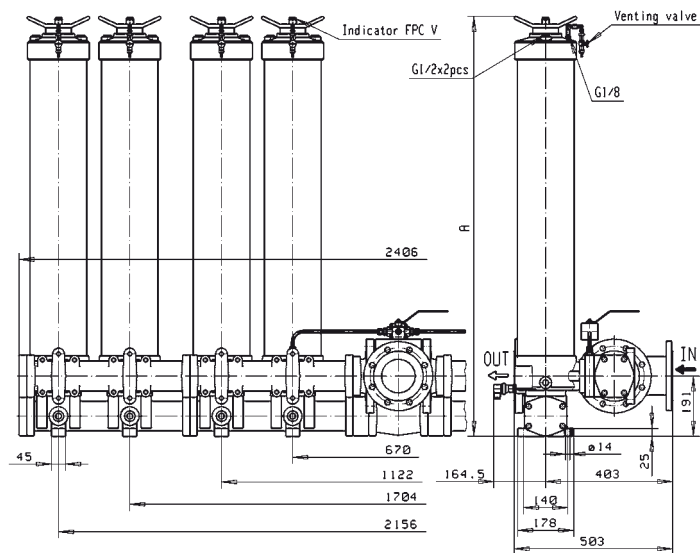
**130S System 3 + 3 units
T-model**

Type	A
Length 2	780
Length 3	1340



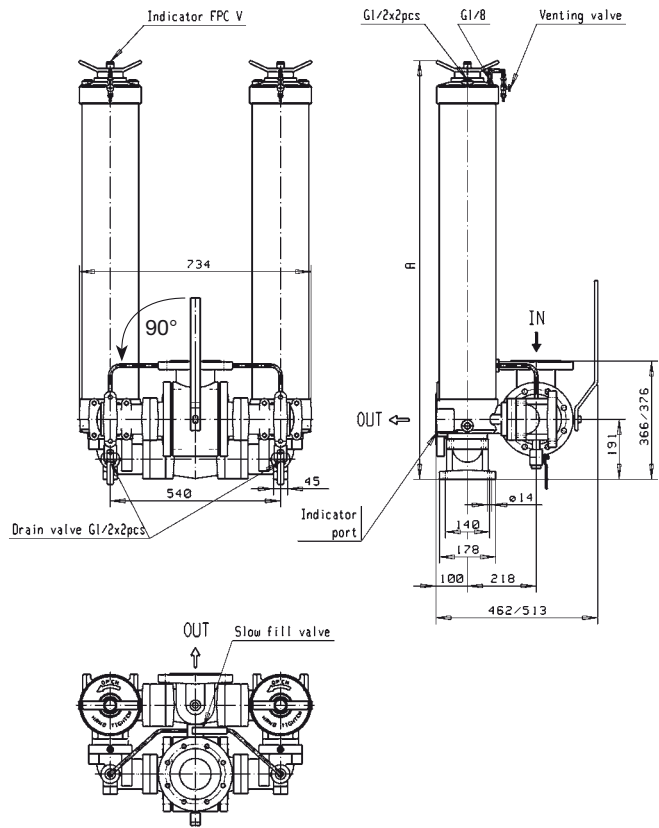
**130S System 4 + 4 units
T-model**

Type	A
Length 2	780
Length 3	1340



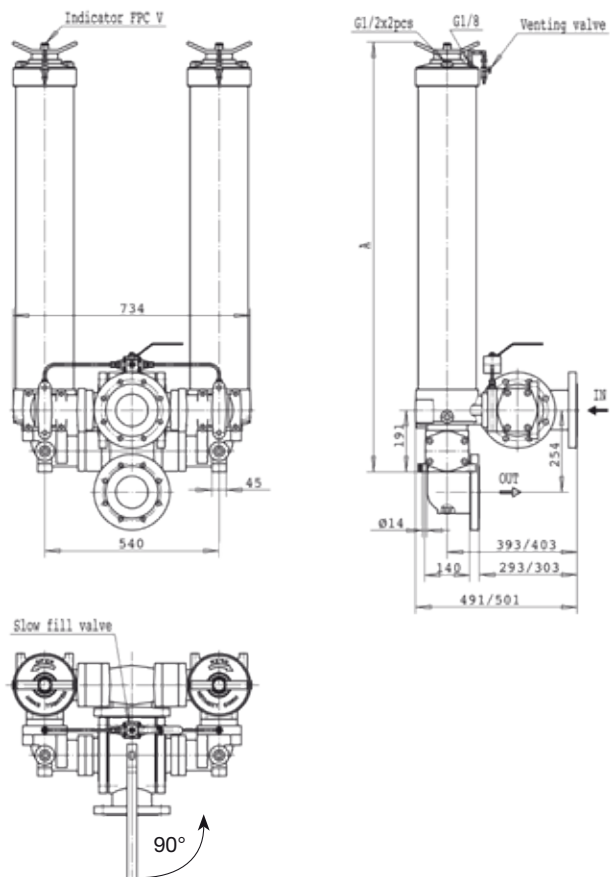
130S System L-model

Type	A
Length 2	780
Length 3	1340



130S System C-model

Type	A
Length 2	780
Length 3	1340



Eco130 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

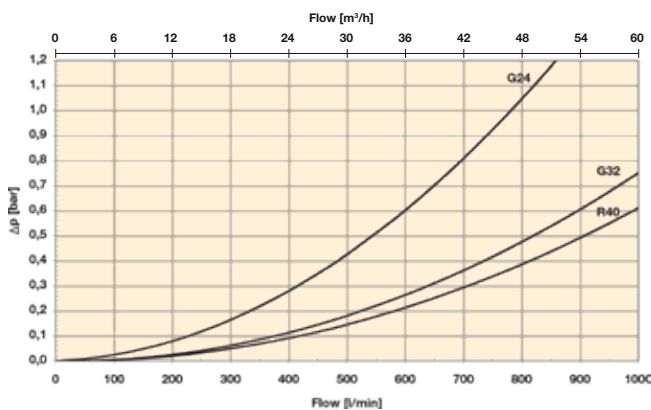
The recommended level of the initial pressure drop for this filter is maximum 0.8 bar.

Δp -curves are measured at 30 cSt.

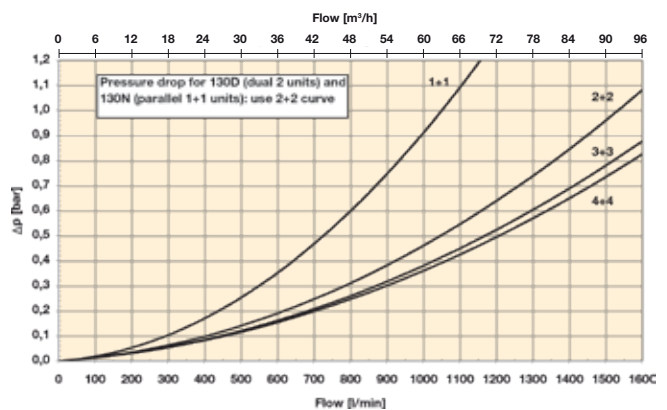
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

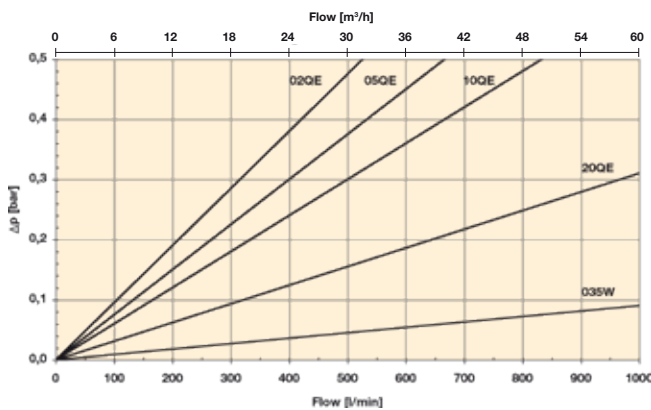
130M single unit housings



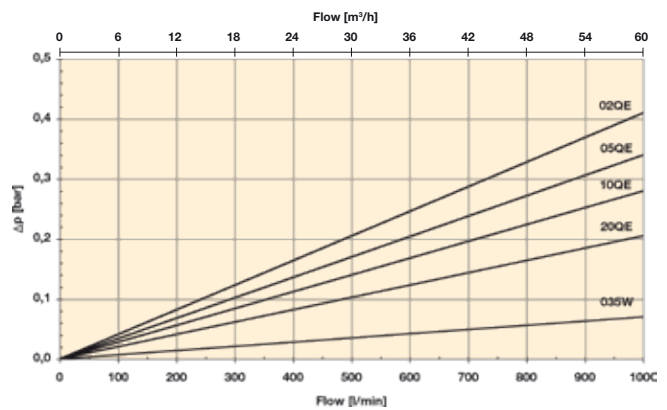
130S3 system housings with DN100



Length 2 elements



Length 3 elements



REPLACEMENT ECO-ELEMENTS WITH NITRILE SEALS

Media	Length 2	Length 3
02QE	938721Q	938725Q
05QE	938722Q	938726Q
10QE	938723Q	938727Q
20QE	938724Q	938728Q

REPLACEMENT ELEMENTS WITH NITRILE SEALS

Microglass III	Length 2	Length 3
02Q	938733Q	938737Q
05Q	938734Q	938738Q
10Q	938735Q	938739Q
20Q	938736Q	938740Q
Wire mesh		
035W	938760	938765
060W	938761	938766

Elements with fluoroelastomer seals: ask order codes from Parker Filtration.

Product Description for Eco130

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Single unit	130 M
Dual unit	130 D
Parallel unit	130 N
System	130 S

Table 5

INDICATORS	
Options	CODE
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Table 2

FILTER TYPE	
Element length	CODE
Length 2	2
Length 3	3

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
3.5 bar/2.5 bar	K

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Ecoglass III	
Glassfibre 2 µm	02QE
Glassfibre 5 µm	05QE
Glassfibre 10 µm	10QE
Glassfibre 20 µm	20QE

Table 7

FILTER CONNECTIONS		
Port size	Filter type	CODE
G1½	130M	G24
G2	130M, 130D	G32
SAE flange 2"-3000M	130M	R32
SAE flange 2½"-3000M	130M	R40
SAE flange 3"-3000M	130D	R48
DN80/PN16	130N, 130S	D80
DN100/PN16	130N, 130S	D100

Filters with Microglass III and wire mesh elements available by request.

Table 4

SEAL TYPE	
Seal material	CODE
Nitrile	B
Fluoroelastomer	V

Table 8

OPTIONS	
Options	CODE
Standard single	1
Dual 2 units	21
Dual 3 units	31
Parallel 1+1 units	21
Parallel 2+2 units	41
T-system 1+1 units	21
T-system 2+2 units	41
T-system 3+3 units	61
T-system 4+4 units	81
L-system 1+1 units	27
L-system 2+2 units	47
L-system 3+3 units	67
L-system 4+4 units	87

SPARE PARTS	
Seal kit	CODE
Seal material	
Nitrile	918045059
Fluoroelastomer	918045076
ECO adapter	
130M2	918042078
130M3	918042077

Please note the bolded options reflect standard options with reduced lead-time.

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DF2145

Duplex Filters



Duplex safety for fuel, lube and hydraulic systems

Duplex operation for security and continuous flow. Several filtration media options include environmentally friendly Ecoglass III elements and allows wide selection of applications. Integrated differential pressure switch connection with shut off valve. Sturdy cast iron housing with pressure rating up to 30 bar. Block mounting available.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Diesel engine fuel systems
- Industrial lube oil systems
- Industrial medium pressure hydraulic systems



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Specification

Duplex filter:

Change-over valve with open center position. Handle locking device for both end positions. Vent valves with secured outlets on both sides. Integrated indicator port with test connections.

Maximum operating pressure:

30 bar

Connections:

Two sets of threads G $\frac{3}{4}$ or M26 x 1.5. Connections on flange are plugged with steel plug.

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron (GJS)

Weight:

15 kg

Nominal flow rate (30 cSt):

80 l/min (4,8 m³/h)

Bypass valve:

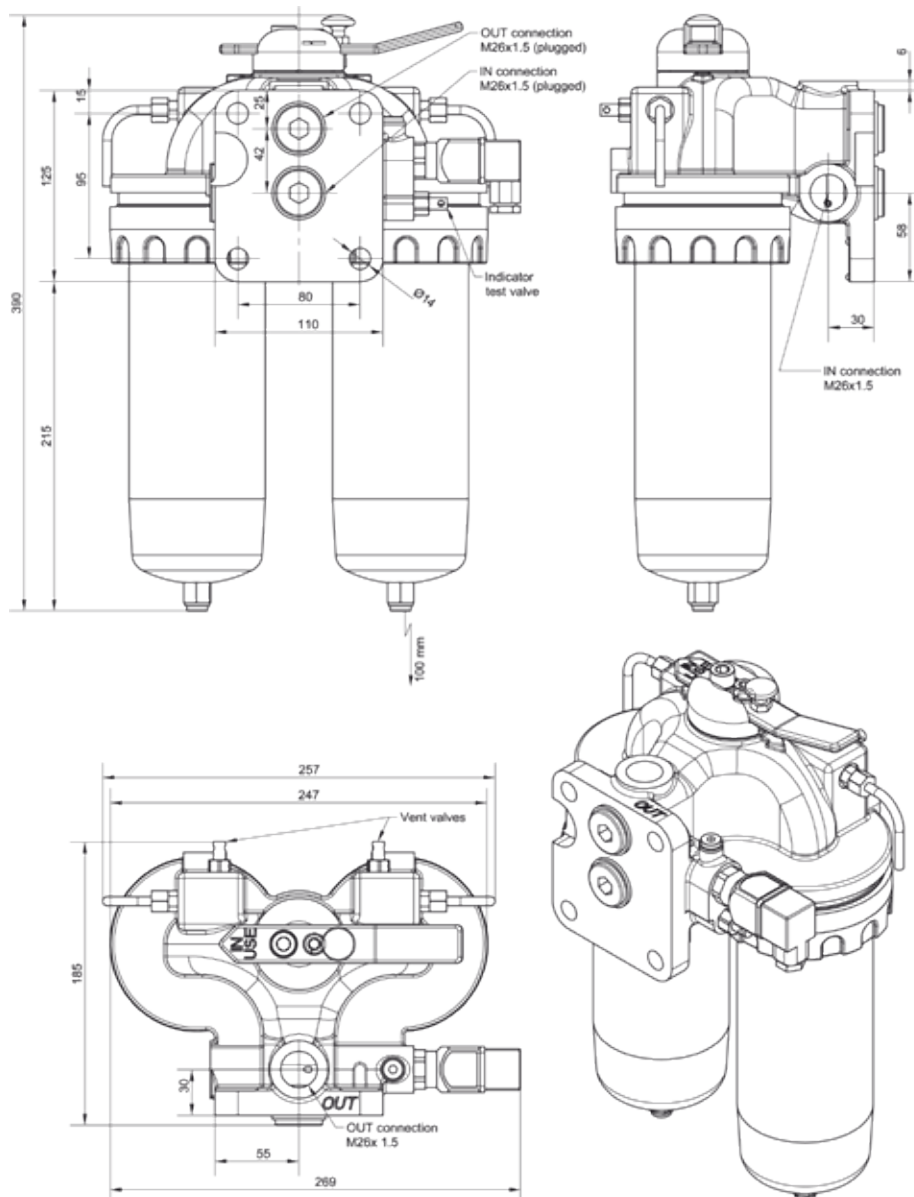
Standard without bypass, optional opening pressure 3.5 bar

Filtration materials:

- Glassfibre Microglass III
- Environmentally friendly Ecoglass III. No metal parts. Ecoglass III contributes to ISO14001.
- Cleanable metall mesh
- Resin impregnated fine cellulose paper 10 μ m nominal

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils & light fuel oils (diesel). For heavy fuel oil applications, please specify option P2 (see table 8 in product description) which ensures that filters are delivered with documentation according PED 97/23/EC category II. For other fluids consult Parker Filtration.



DF2145

Pressure Drop Curves

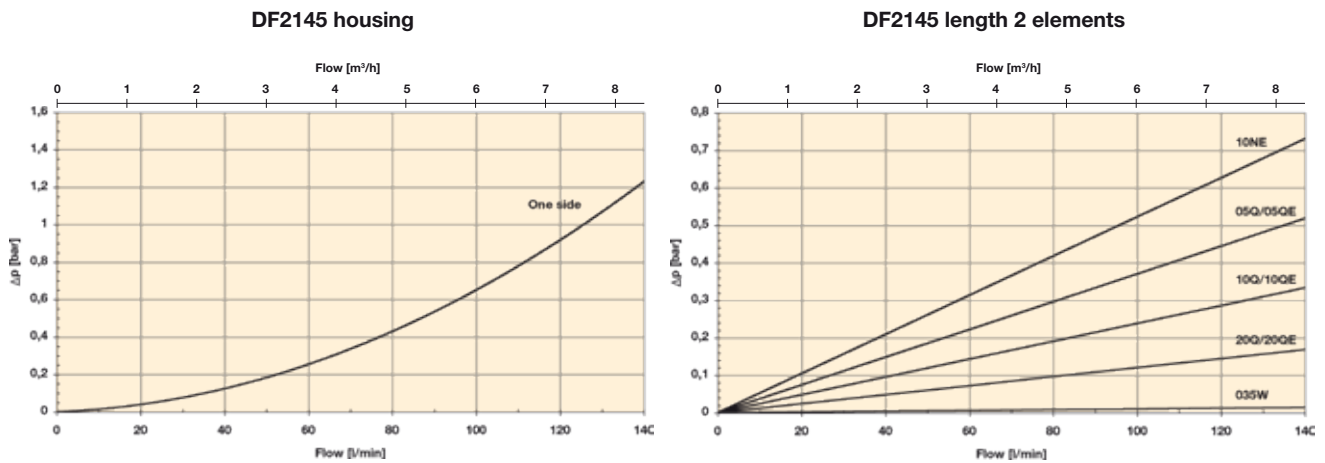
$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

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

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$



REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS		
Media code	Order code	
Glassfibre	Microglass III	Ecoglass III
05Q/05QE	939011Q	939014Q
10Q/10QE	939012Q	939015Q
20Q/20QE	939013Q	939016Q
Cellulose (Eco)		
NE10	939017	
Cleanable metal mesh		
035W	939018	
060W	939019	

Product Description for DF2145

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2145

Table 2

FILTER SIZE	
Element length	CODE
Length 2	2

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Ecoglass III	
Glassfibre 5 µm	05QE
Glassfibre 10 µm	10QE
Glassfibre 20 µm	20QE
Other medias	
Cellulose 10 µm (nom) ECO	10NE
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

SPARE PARTS	
Seal kits (fluoroelastomer)	CODE
Complete seal kit (includes also valve spool seals)	916045088
Service seal kit (includes seals for bowl, drain and Eco-adapter)	916045093
ECO adapter	
For Ecoglass III and 10NE elements	911042096

Table 5

INDICATORS	
Options	CODE
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
3.5 bar/2.5 bar	K
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
G ³ / ₄	G12
M26x1.5	M26

Table 8

OPTIONS	
Options	CODE
With bypass	1
No bypass	2
PED category 2	P2

If several options are selected, please add the codes in order listed above.

Please note the bolded options reflect standard options with reduced lead-time.

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DF40

Duplex Filters



Cast iron duplex filter for Marine applications:

The new DF40 duplex filter gives you extra flexibility in installation because it can be serviced from the top or the bottom. The durable cast iron housing and strong steel bowls make it especially good fit for engine room applications.

The DF40 with flow up to 200 l/min and pressure up to 40 bar contains Eco elements which help to save the environment and reduce the customer's disposal costs as no metal parts are included. This filter also disposes of a double indicator port and test connections which can be isolated with shut-off valves for possible assembly and maintenance.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com

Applications:

- Fuel filter for diesel engines up to 10 MW
- Lubrication filter for gearboxes and propulsion systems
- Medium pressure duplex filter in hydraulic systems
- In-line return duplex filter in hydraulic systems



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Specification

Duplex filter:

Change-over valve with open center position. Locking device for both end positions. Element change is possible by opening either the top cover or the bowl in the bottom. Safety guards ensure that pressure is released prior opening the filter.

Maximum operating pressure:

40 bar

Connections:

Flanges SAE 1½" 3000-M as standard. Optional thread connections G1½ and G1¼ available with flange adapters.

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron (GJS)

Weight:

52 kg

Nominal flow rate (30 cSt):

200 l/min (12 m³/h)

Bypass valve:

Standard without bypass, optional opening pressure 3.5 bar

Indicators:

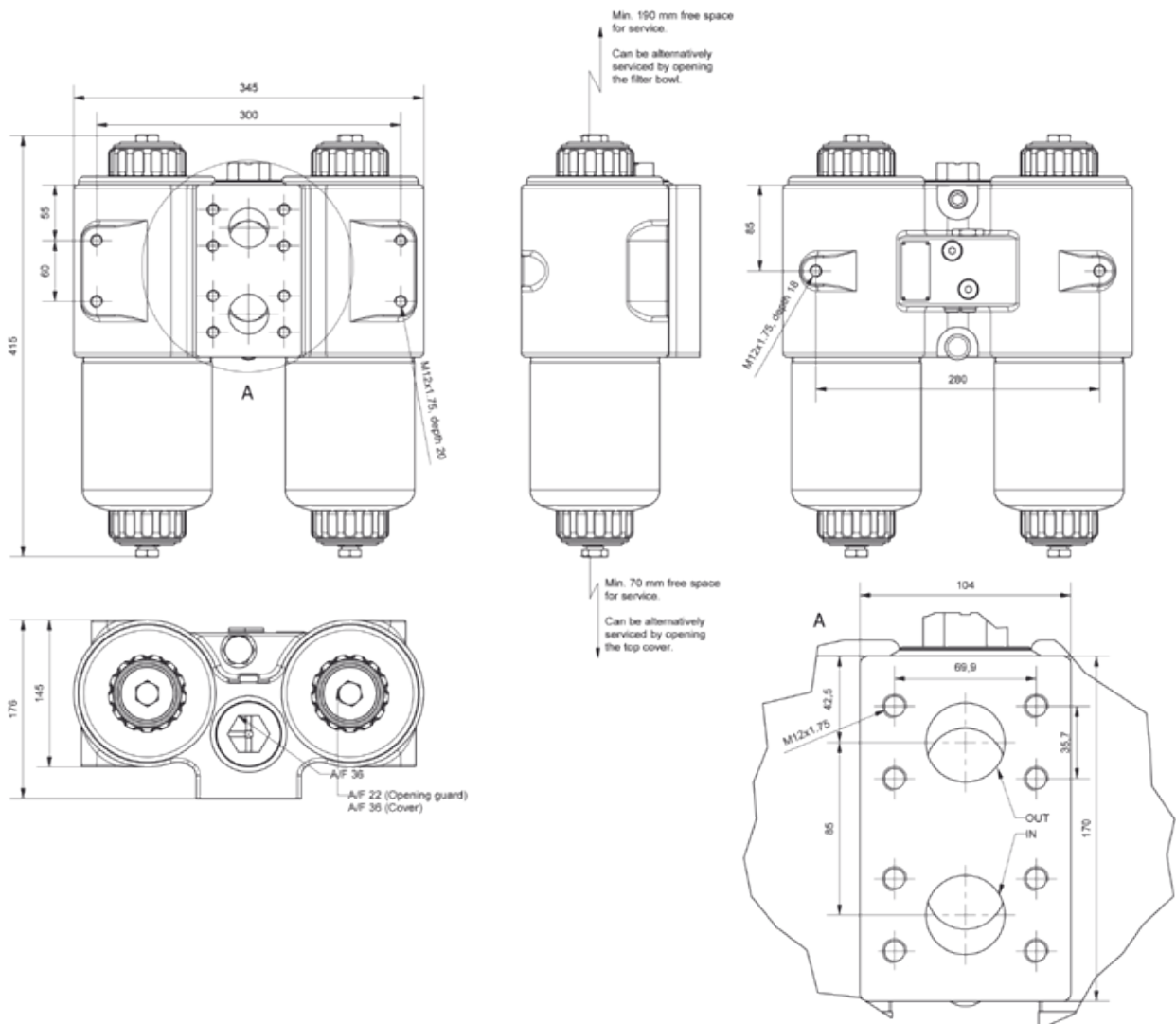
Integrated indicator port. Filter can be equipped with visual, electrical or electronic differential pressure indicator. Setting 2.5 bar, other settings available. Additional indicator port and isolation valves which also enable indicator testing are available by request. For details contact Parker Filtration.

Filter elements:

- Environmentally friendly Ecoglass III elements, micron ratings(abs): 2 µm, 5 µm, 10 µm and 20 µm. Ecoglass III elements contribute to ISO14001 because they do not include metal parts.
- Glassfibre Microglass III elements, micron ratings(abs): 2 µm, 5 µm, 10 µm and 20 µm.
- Cleanable metal mesh elements, micron ratings(abs): 35 µm and 60 µm

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils & light fuel oils. For heavy fuel oils and other fluids consult Parker Filtration.



DF40

Pressure Drop Curves

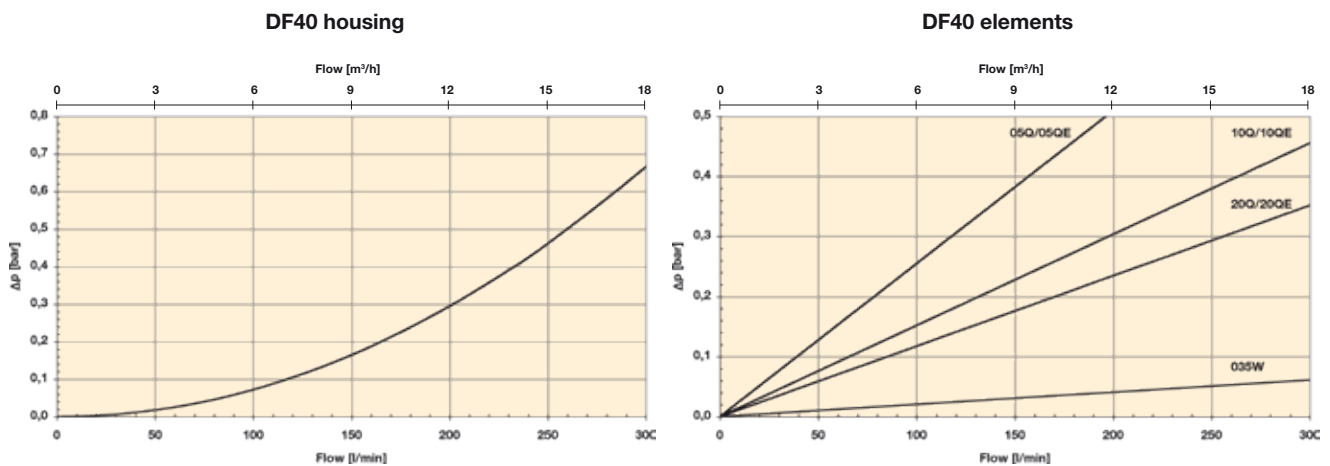
$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

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

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$



REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS		
Media code	Order code	
Glassfibre	Microglass III	Ecoglass III
02Q/02QE	939200Q	939204Q
05Q/05QE	939201Q	939205Q
10Q/10QE	939202Q	939206Q
20Q/20QE	939203Q	939207Q
Cleanable metal mesh		
035W	939208	
060W	939209	

SPARE PARTS	
Seal kit (fluoroelastomer)	CODE
For spool valve	939215

Seals needed in element service are included in Parker original replacement element package.

Product Description for DF40

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF40

Table 2

FILTER SIZE	
Element length	CODE
Length 1	1

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 2 µm	02Q
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Ecoglass III	
Glassfibre 2 µm	02QE
Glassfibre 5 µm	05QE
Glassfibre 10 µm	10QE
Glassfibre 20 µm	20QE
Other medias	
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
3.5 bar/2.5. bar	K
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
SAE flange 1½" 3000-M	R24
G 1¼ with adaptor	G20
G 1½ with adaptor	G24

Table 8

OPTIONS	
Options	CODE
With bypass	1
No bypass	2
No safety covers, with bypass	N1
No safety covers, no bypass	N2
HFO use, no bypass, max. pressure 30 bar	H2

Please note the bolded options reflect standard options with reduced lead-time.

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DF2089

Duplex Filters



Heavy duty duplex operation

Cast iron housing with pressure rating up to 40 bar features in-to out flow to keep the particles away even during the filter change. Differential pressure switch mounted on the filter for easy access. Several media options allow lube, fuel and hydraulic use – pre-filtration with magnets as option.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Propulsion system lube oil filter
- Heavy fuel oil safety filter
- Medium pressure hydraulic systems



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Specification

Duplex filter:

One reservoir can be closed for service, vertical installation.

Connections:

Square flanges with port size 60 mm. Standard delivery includes blind counter flanges. Optionally available with SAE 2"-3000M flange adapters.

Maximum operating pressure:

40 bar

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron (GJS)

Weight:

65 kg

Nominal flow rate (30 cSt):

350 l/min (21 m³/h)

Bypass valve:

Standard bypass opening pressure 2.0 bar, optional opening pressure 1.6 bar or blocked bypass

Indicator options:

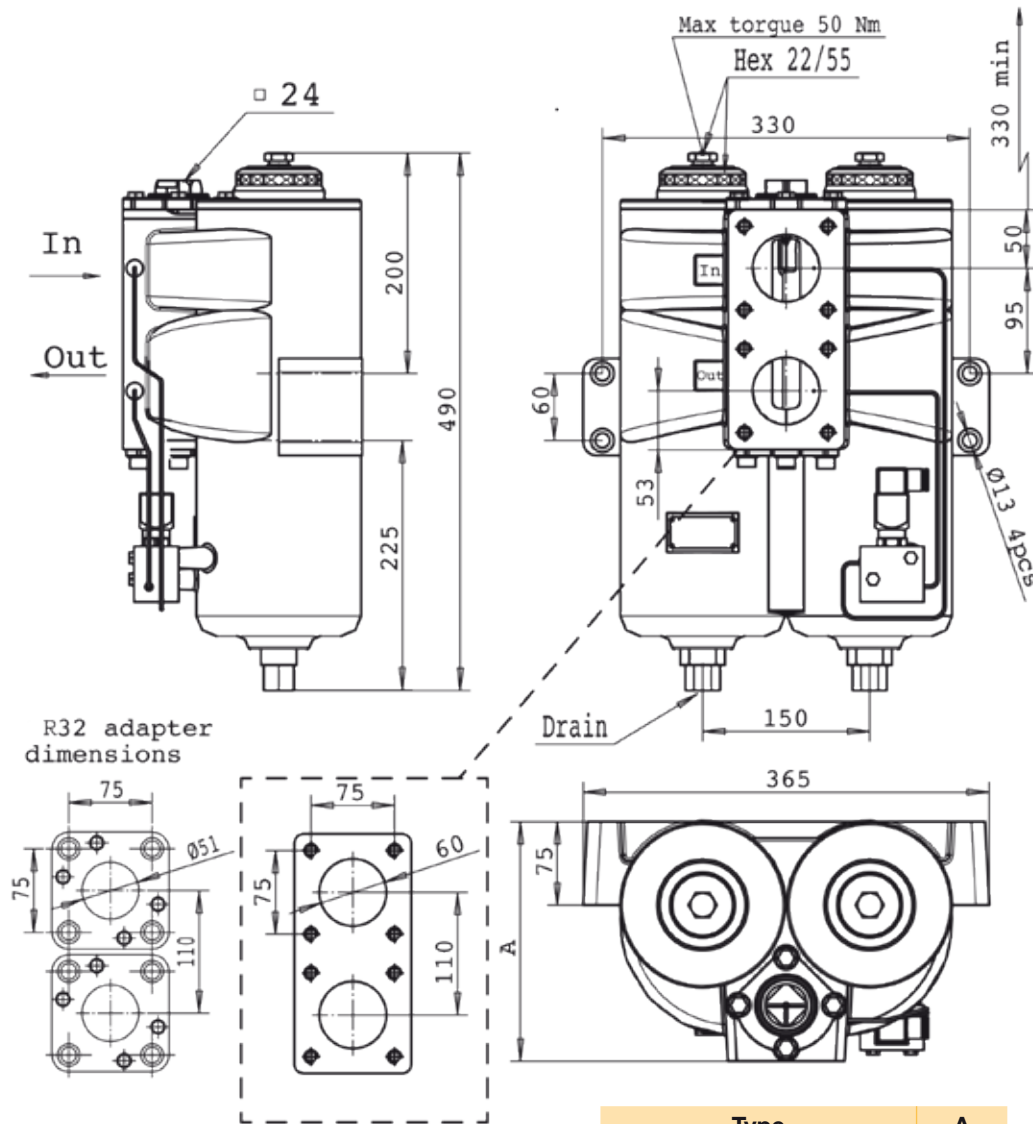
Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Filtration materials:

- Glassfibre Microglass III
- Cleanable metal mesh

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. Filters are delivered with documentation according PED 97/23/EC category II (required for heavy fuel oils). For other fluids consult Parker Filtration.



Type	A
W/O flange/adaptor	215
With X60 flange	232
With R32 adapter	245

DF2089

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

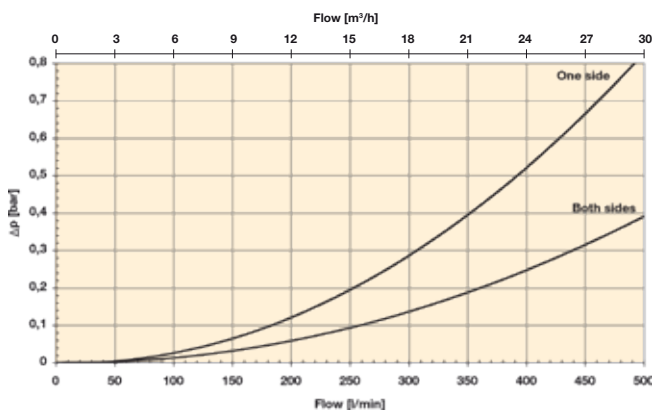
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

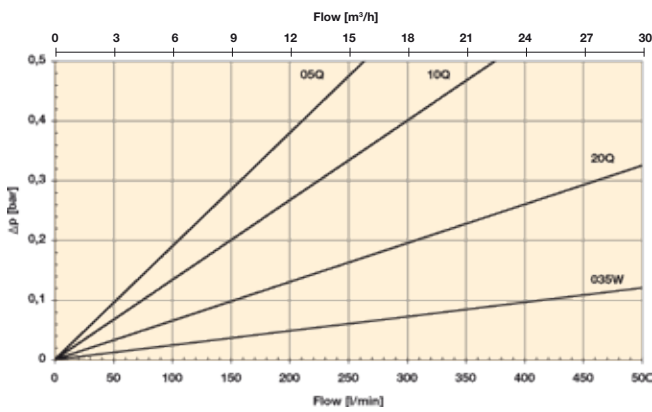
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

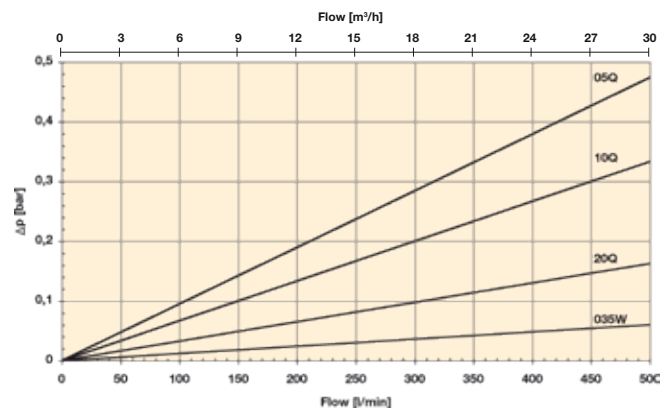
DF2089 housing



DF2089 elements/one side



DF2089 elements/both sides



Product Description for DF2089

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2089

Table 2

FILTER SIZE	
Element length	CODE
Length 1	1

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
1.6 bar/1.0 bar	F
2.0 bar/1.5. bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
Square flange 60 mm	X60
Flange adapter SAE 2"-3000M	R32

Table 8

OPTIONS	
Options	CODE
With bypass, no magnets	1
No bypass, no magnets	2
With bypass and magnets	3
No bypass, with magnets	4

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS	
Media code	Order code
Glassfibre	Microglass III
05Q	938364Q
10Q	938075Q
20Q	938005Q
Cleanable metal mesh	
035W	939184
060W	939185

SPARE PARTS	
Seal kit	CODE
Seal material	
Fluoroelastomer	916045077

Please note the bolded options reflect standard options with reduced lead-time.

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DF2110 Series

Duplex Filters



Heavy duty performance

High dirt holding capacity yet low pressure drop. Heavy duty cast iron housing and several media options means a multitude of suitable applications. Maximum flow rate up to 1200 l/min and extended housing available for high viscosity oils and longer service intervals. DN80 PN 25 connection.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Marine gear lubricating systems
- Propulsion systems
- Diesel engine lubricating systems
- Heavy fuel oil safety filter



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Specification

Duplex filter:

One reservoir can be closed for service, vertical installation.

Connections:

Standard flange size DN80/PN25. Delivered without counter flanges.

Maximum operating pressure:

20 bar

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron (GJS)

Weight:

Length 1: 200 kg

Length 2: 240 kg

Nominal flow rate (30 cSt):

Length 1: 1000 l/min (60 m³/h)

Length 2: 1200 l/min (72 m³/h)

Bypass valve:

Standard bypass opening pressure 2.0 bar, optional opening pressure 3.0 bar or blocked bypass

Indicator options:

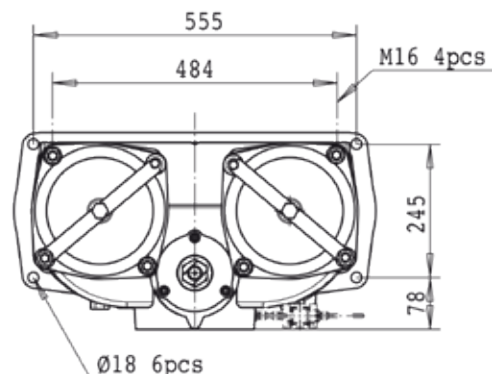
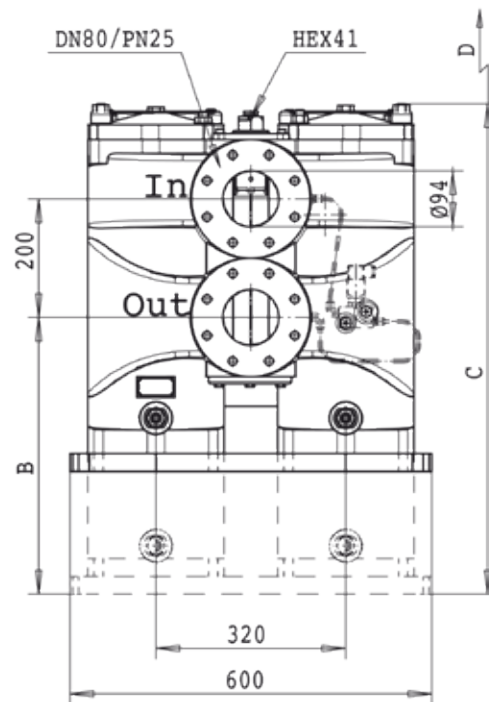
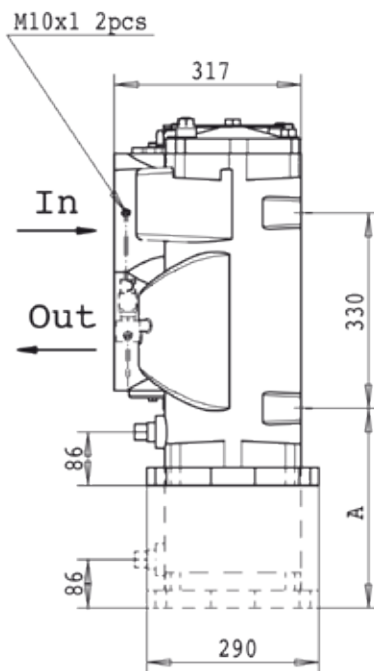
Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Filtration materials:

- Glassfibre Microglass III
- Cleanable metal mesh

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. For heavy fuel oil applications, please specify option P2 (see table 8 in product description) which ensures that filters are delivered with documentation according PED 97/23/EC category II. For other fluids consult Parker Filtration.



Type	A	B	C	D
Length 1	126	256	620	500
Length 2	386	516	880	700

DF2110 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

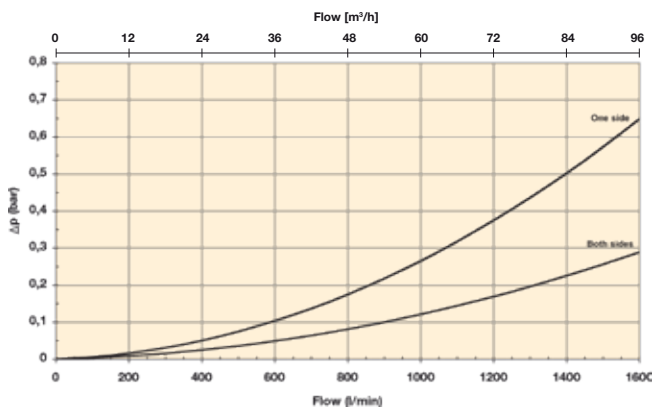
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

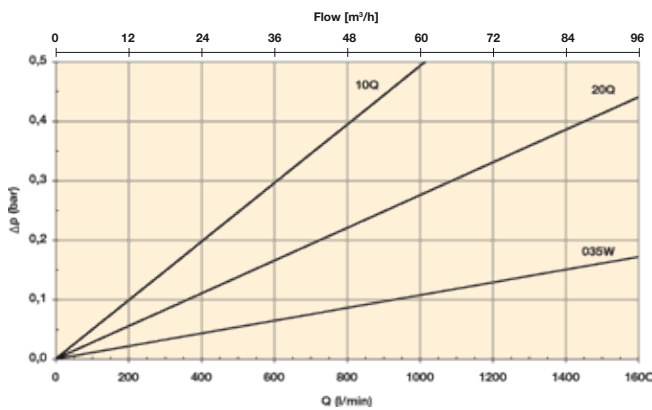
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

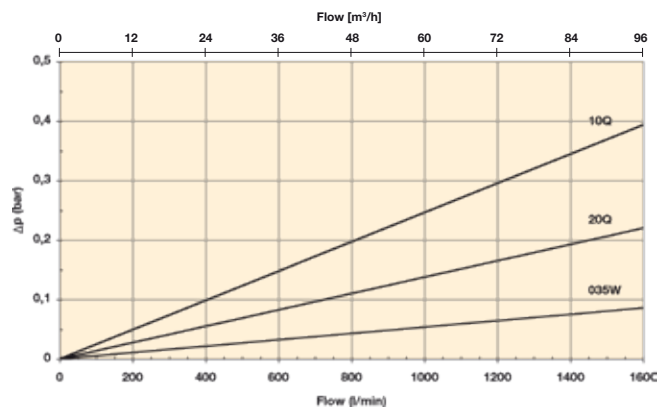
DF2110 housing



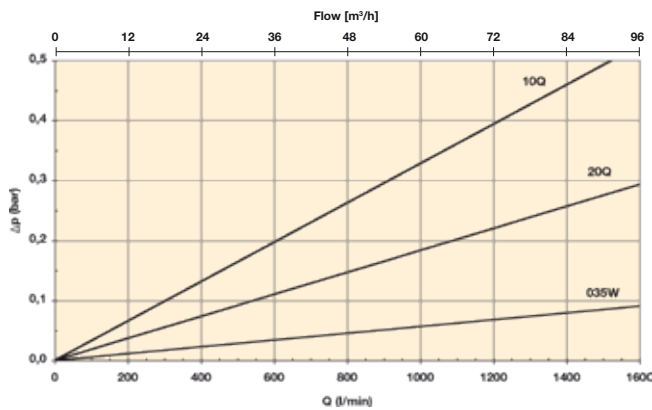
Length 1 elements/one side



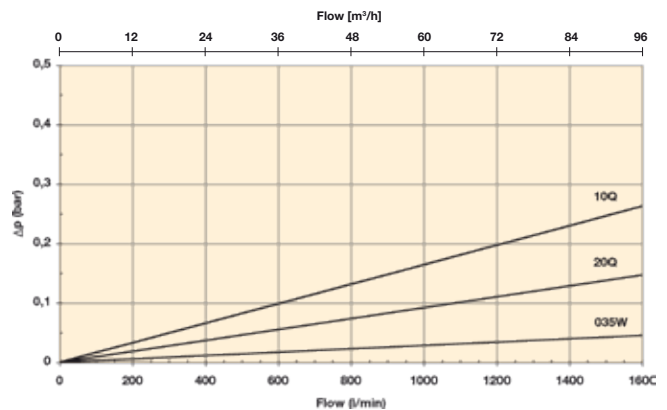
Length 1 elements/both sides



Length 2 elements/one side



Length 2 elements/both sides



Product Description for DF2110

Complete Filter:

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2110

Table 2

FILTER SIZE	
Element length	CODE
Length 1	1
Length 2	2

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5. bar	H
3.0 bar/2.5. bar	J
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
Flange DN80	D80

Table 8

OPTIONS	
Options	CODE
With bypass	1
No bypass	2
PED category 2	P2

If several options are selected, please add the codes in order listed above.

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS		
Media code	Order code for Length1	Order code for Length2
Glassfibre	Microglass III	Microglass III
05Q	938365Q	938367Q
10Q	938373Q	938093Q
20Q	938366Q	938368Q
Cleanable metal mesh		
035W	939186	939188
060W	939187	939189

SPARE PARTS	
Seal kit	CODE
Seal material	
Fluoroelastomer	916045078

Please note the bolded options reflect standard options with reduced lead-time.

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DF2050 Series

Duplex Filters



Heavy duty performance

High dirt holding capacity yet low pressure drop. Heavy duty cast iron housing and same elements as in DF2035 means safety and continuity in your applications. Maximum flow rate up to 1000 l/min. DN80 PN 25 connection.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Marine gear lubricating systems
- Propulsion systems
- Diesel engine lubricating systems
- Heavy fuel oil safety filter



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Specification

Duplex filter:

One reservoir can be closed for service, vertical installation. Length 2 includes 2 elements/side and length 3 includes 3 elements/side.

Connections:

Standard flange size DN80/PN25. Delivered without counter flanges.

Maximum operating pressure:

20 bar

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Cast iron (GJS)

Weight:

Length 2: 200 kg

Length 3: 240 kg

Nominal flow rate (30 cSt):

Length 2: 900 l/min (54 m³/h)

Length 3: 1000 l/min (60 m³/h)

Bypass valve:

Standard with blocked bypass. Optional opening pressure 2.0 bar

Indicator options:

Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Filtration materials:

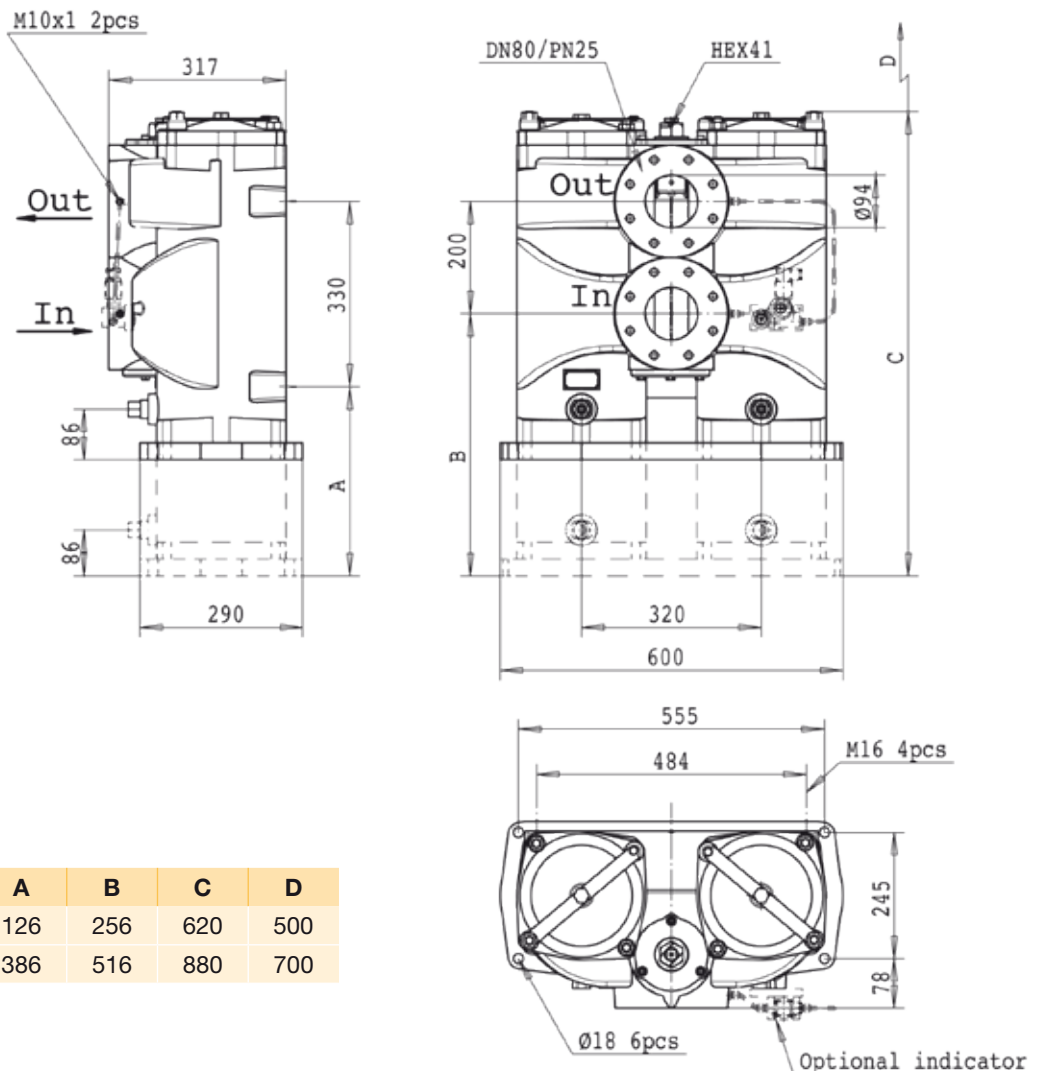
- Resin impregnated heavy duty cellulose paper 15 µm nominal
- Glassfibre Microglass III
- Cleanable metal mesh

Secondary filter:

- Filtration material cleanable wire mesh
- Filtration degree 60 µm

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. For heavy fuel oil applications, please specify option P2 (see table 8 in product description) which ensures that filters are delivered with documentation according PED 97/23/EC category II. For other fluids consult Parker Filtration.



Type	A	B	C	D
Length 2	126	256	620	500
Length 3	386	516	880	700

DF2050 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

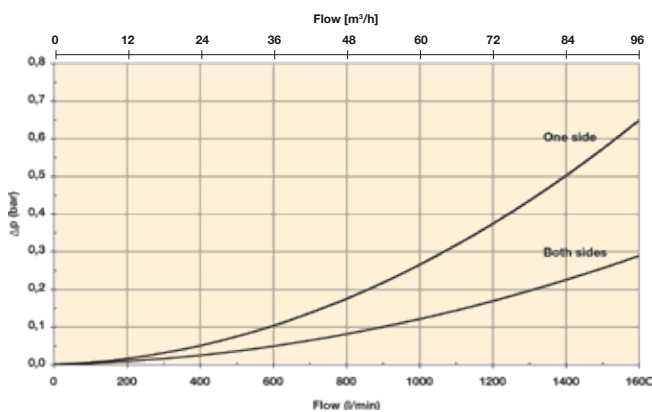
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

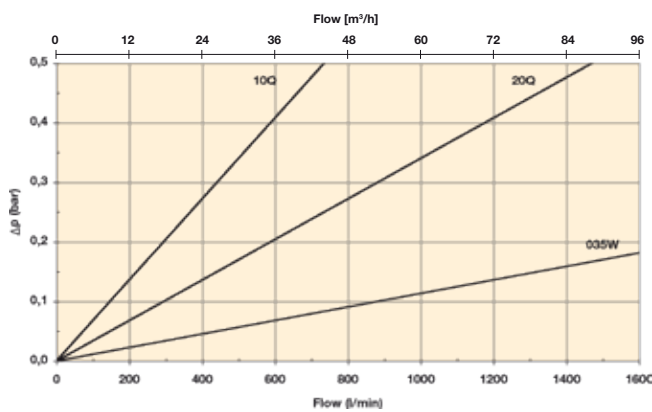
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

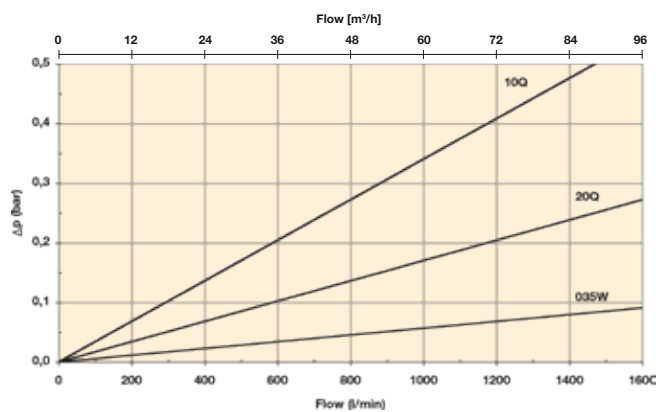
DF2050 housing



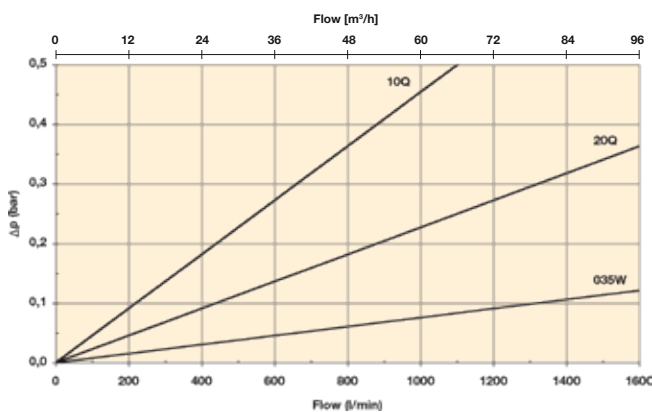
Length 2 element pack/one side



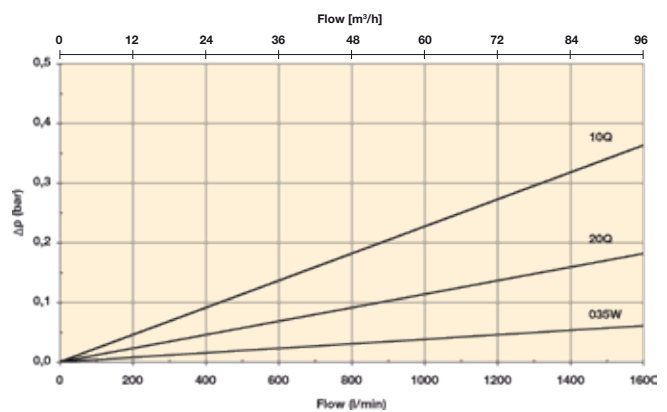
Length 2 element pack/both sides



Length 3 element pack/one side



Length 3 element pack/both sides



Product Description for DF2050

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2050

Table 2

FILTER SIZE	
Length/elements	CODE
2 elements/side	2
3 elements/side	3

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cellulose 15 µm (nom)	015N
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Indicator details, see page 66-69.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5. bar	H
No/No	X

Table 7

FILTER CONNECTIONS	
Port size	CODE
Flange DN80	D80

Table 8

OPTIONS	
Options	CODE
With bypass	1
No bypass	2
PED category 2	P2

If several options are selected, please add the codes in order listed above.

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS	
Media code	Order code
Glassfibre	Microglass III
05Q	939401Q
10Q	939402Q
20Q	939403Q
Cellulose 15 µm (nom)	
015N	939404
Cleanable metal mesh	
035W	939405
060W	939406

SPARE PARTS	
Secondary filter element (60 µm)	CODE
Length 2	939416
Length 3	939417
Seal kit	CODE
Seal material	
Fluoroelastomer	916045078

Please note the bolded options reflect standard options with reduced lead-time.

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DF2035 Series

Duplex Filters



Light weight, high capacity

Several media options and high dirt holding capacity – up to three filter elements per reservoir. Aluminium housing offers light weight combined to considerably high capacity. Two different housing options.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Industrial gear systems
- Diesel engine lubricating systems



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Specification

Duplex filter:

One reservoir can be closed for service, vertical installation. Length 2 includes 2 elements/side and length 3 includes 3 elements/side.

Connections:

Square flanges with DN65/PN16 dimensioning. Standard delivery includes blind counter flanges according to DIN 2527.

Maximum operating pressure:

8 bar

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Aluminium

Weight:

Length 2: 49.0 kg

Length 3: 62.5 kg

Maximum flow rate:

600 l/min (36 m³/h)

Indicator options:

Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Primary filter:

- Length 2: two filter elements per reservoir
- Length 3: three filter elements per reservoir
- Filtration materials
 - Resin impregnated heavy duty cellulose paper 15µm nominal
 - Glassfibre Microglass III
 - Cleanable metal mesh

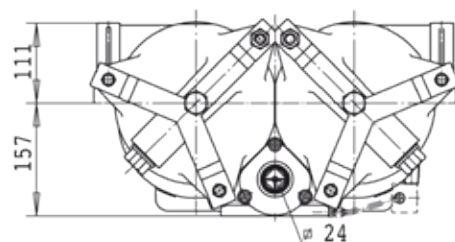
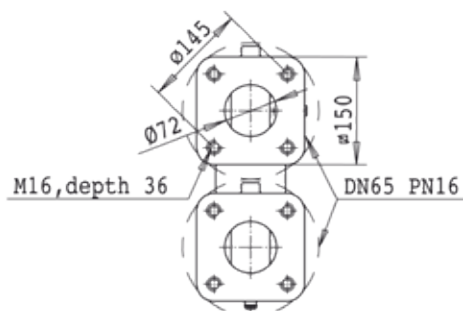
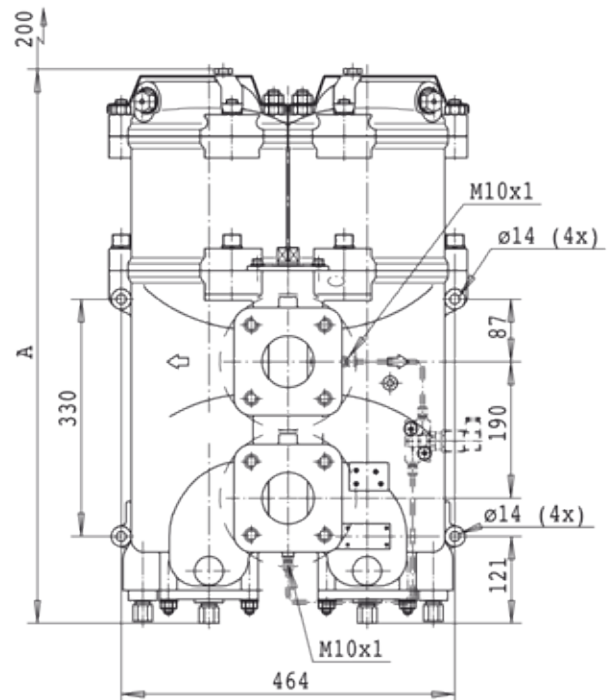
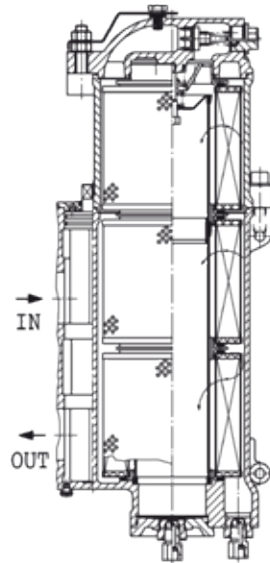
Secondary filter:

- Filtration material cleanable metal mesh
- Filtration degree 60µm

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.

Type	A
Length 2	590
Length 3	775



DF2035 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

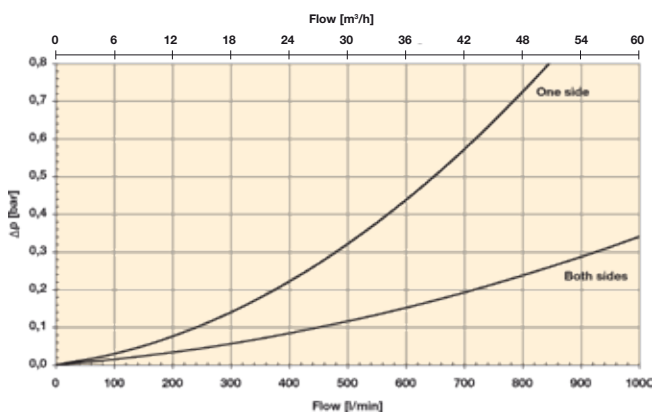
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

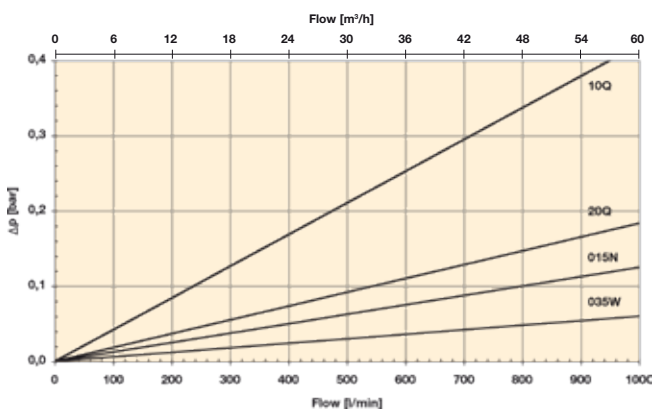
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

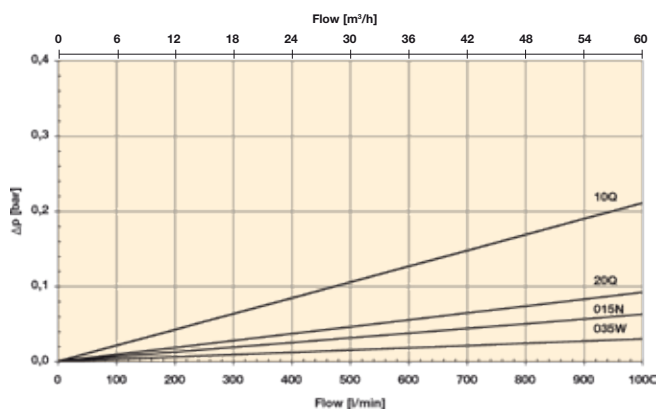
DF2035 housing



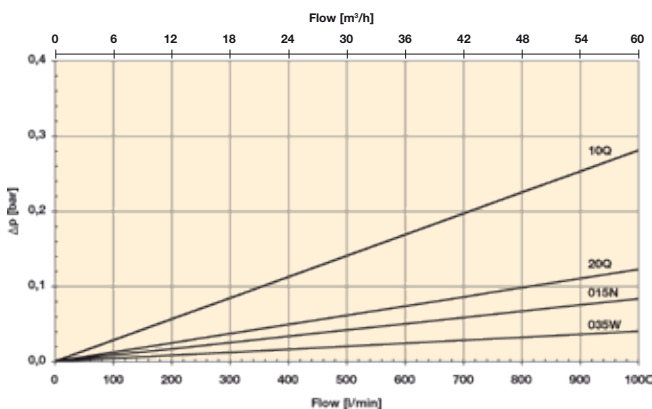
Length 2 element pack (2 pcs)/one side in use



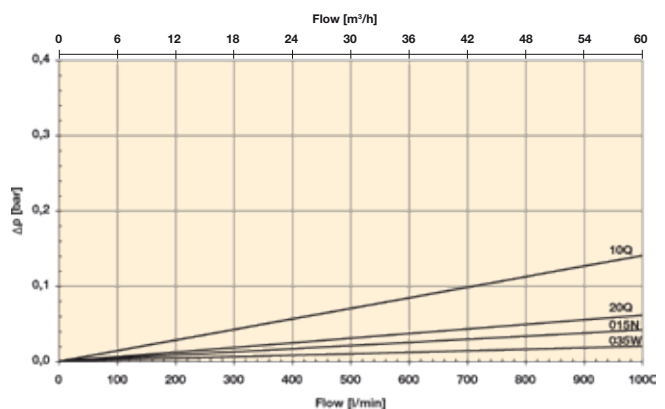
Length 2 element pack (2 + 2 pcs)/both sides in use



Length 3 element pack (3 pcs)/one side in use



Length 3 element pack (3 + 3 pcs)/both sides in use



Product Description for DF2035

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2035

Table 2

FILTER SIZE	
Length/elements	CODE
2 elements/side	2
3 elements/side	3

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cellulose 15 µm (nom)	015N
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Indicator details, see page 66-69.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5. bar	H

Table 7

FILTER CONNECTIONS	
Port size	CODE
Square flange ref. DN65	D65

Table 8

OPTIONS	
Options	CODE
With bypass	1

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS	
Media code	Order code
Glassfibre	Microglass III
05Q	939401Q
10Q	939402Q
20Q	939403Q
Cellulose 15 µm (nom)	
015N	939404
Cleanable metal mesh	
035W	939405
060W	939406

SPARE PARTS	
Secondary filter element (60 µm)	CODE
Length 2	939414
Length 3 extension element*	939415
Seal kit	CODE
Seal material	
Fluoroelastomer	916045027

* Fully length 3 requires both 939414 + 939415.

Please note the bolded options reflect standard options with reduced lead-time.

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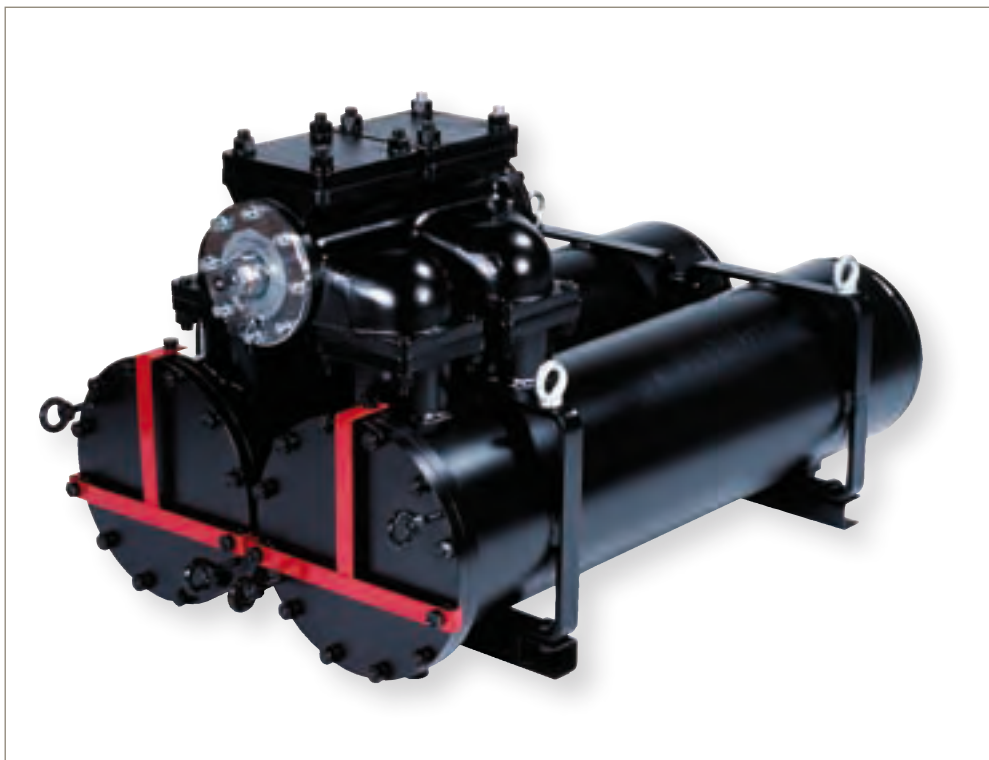
DFH2060 Series

Duplex Filters



Maximum performance – minimum height

Slim welded housing construction with cast iron change over valve section. Horizontal mounting makes assembly easier in cranked positions. High dirt holding capacity and low pressure drop. Several media options. One reservoir can be closed for service.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Heavy duty diesel engine lubricating systems
- High flow industrial lubricating systems



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Specification

Duplex filter:

One reservoir can be closed for service, horizontal installation. 1300 mm (1.3 m) free space must be reserved in front of the filter for filter element removal. Filter includes 3 elements/side.

Connections:

Square flanges with port size $\text{Ø}160$ mm. Standard delivery includes blind counter flanges.

Maximum operating pressure:

10 bar

Seal material:

Fluoroelastomer

Operating temperature:

$-20^{\circ}\text{C} \dots +120^{\circ}\text{C}$, for other temperatures consult Parker Filtration.

Housing material:

Steel/cast iron (GJS)

Weight:

390 kg

Nominal flow rate (30 cSt):

2200 l/min (132 m³/h)

Bypass valve:

For the primary filter only, opening pressure 2.0 bar

Indicator options:

Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Primary filter:

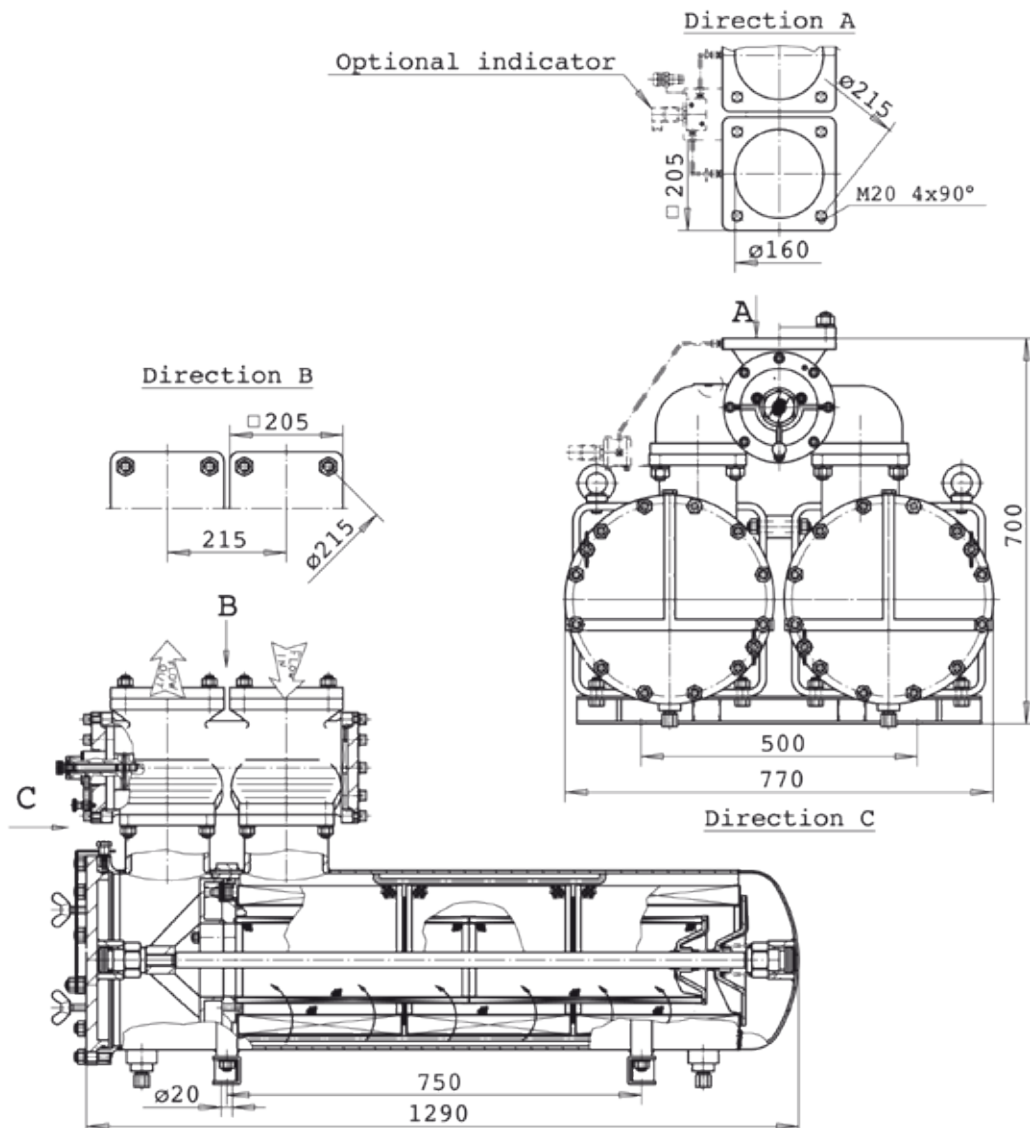
- Three filter elements per reservoir
- Filtration materials
 - Resin impregnated heavy duty cellulose paper 15 μm nominal
 - Glassfibre Microglass III
 - Cleanable metal mesh

Secondary filter:

- One filter element per reservoir
- Filtration material cleanable wire mesh
- Filtration degree 60 μm

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils. For other fluids consult Parker Filtration.



DFH2060 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

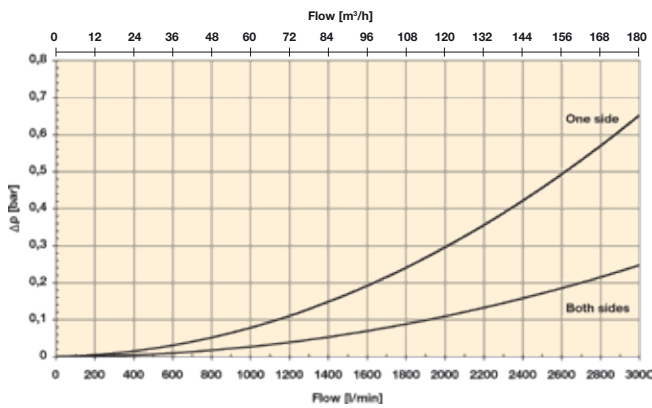
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

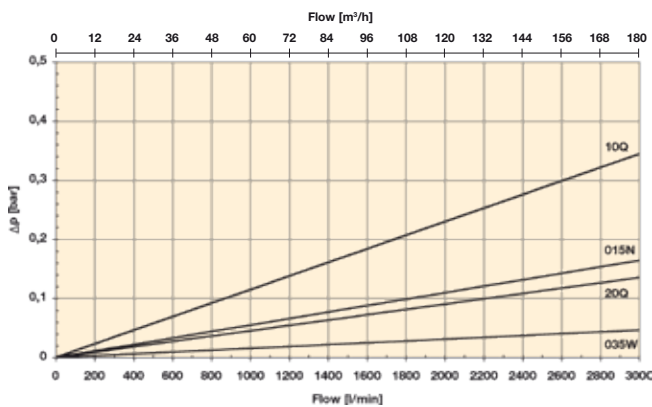
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

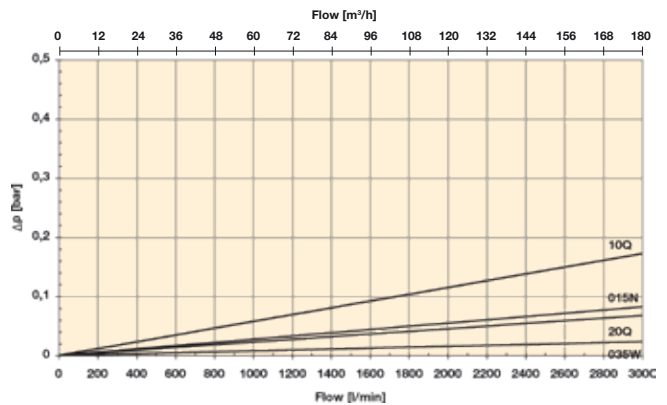
DFH2060 housing



DFH2060 element pack (3 pcs)/one side in use



DFH2060 element pack (3 + 3 pcs)/both sides in use



Product Description for DFH2060

Complete Filter:

Table 1

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Table 2

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Table 3

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Table 4

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Table 5

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Table 6

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Table 7

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Table 8

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Table 1

FILTER TYPE	
Model	CODE
Duplex filter, horizontal installation	DFH2060

Table 2

FILTER SIZE	
Length/elements	CODE
3 elements/side	3

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cellulose 15 µm (nom)	015N
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Indicator details, see page 66-69.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5. bar	H

Table 7

FILTER CONNECTIONS	
Port size	CODE
Square flange 160 mm	X160

Table 8

OPTIONS	
Options	CODE
With bypass	1

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS	
Media code	Order code
Glassfibre	Microglass III
05Q	939381Q
10Q	939382Q
20Q	939383Q
Cellulose 15 µm (nom)	
015N	939384
Cleanable metal mesh	
035W	939385
060W	939386

SPARE PARTS	
Secondary filter element	CODE
Wire mesh 60 µm	939394
Seal kits	CODE
For valve assembly	916045064
For vessel (two kits required for complete filter)	916045066

Please note the bolded options reflect standard options with reduced lead-time.

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DF2070 Series

Duplex Filters



Big and tall for high flow

Welded housing construction with cast iron change over valve section. Compact, low-depth duplex construction for vertical mounting. High flow and good dirt holding capacity combined to low pressure drop. Several media options for heavy fuel oil and lube systems.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Diesel engine lubricating systems
- High flow industrial lubricating systems
- High flow heavy fuel oil systems as safety filter



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Specification

Duplex filter:

One reservoir can be closed for service, vertical installation. Length 2 includes 2 elements/side and length 3 includes 3 elements/side.

Connections:

Square flanges with port size Ø160 mm. Standard delivery includes blind counter flanges.

Maximum operating pressure:

10 bar

Seal material:

Fluoroelastomer

Operating temperature:

-20°C...+120°C, for other temperatures consult Parker Filtration.

Housing material:

Steel/cast iron (GJS)

Weight:

Length 2: 310 kg

Length 3: 400 kg

Nominal flow rate (30 cSt):

Length 2: 1500 l/min (90 m³/h)

Length 3: 1800 l/min (132 m³/h)

Bypass valve:

For the primary filter only, opening pressure 2.0 bar

Indicator options:

Visual, electrical or electronic indicator requires an indicator block. For details see indicator options table in product description page.

Primary filter:

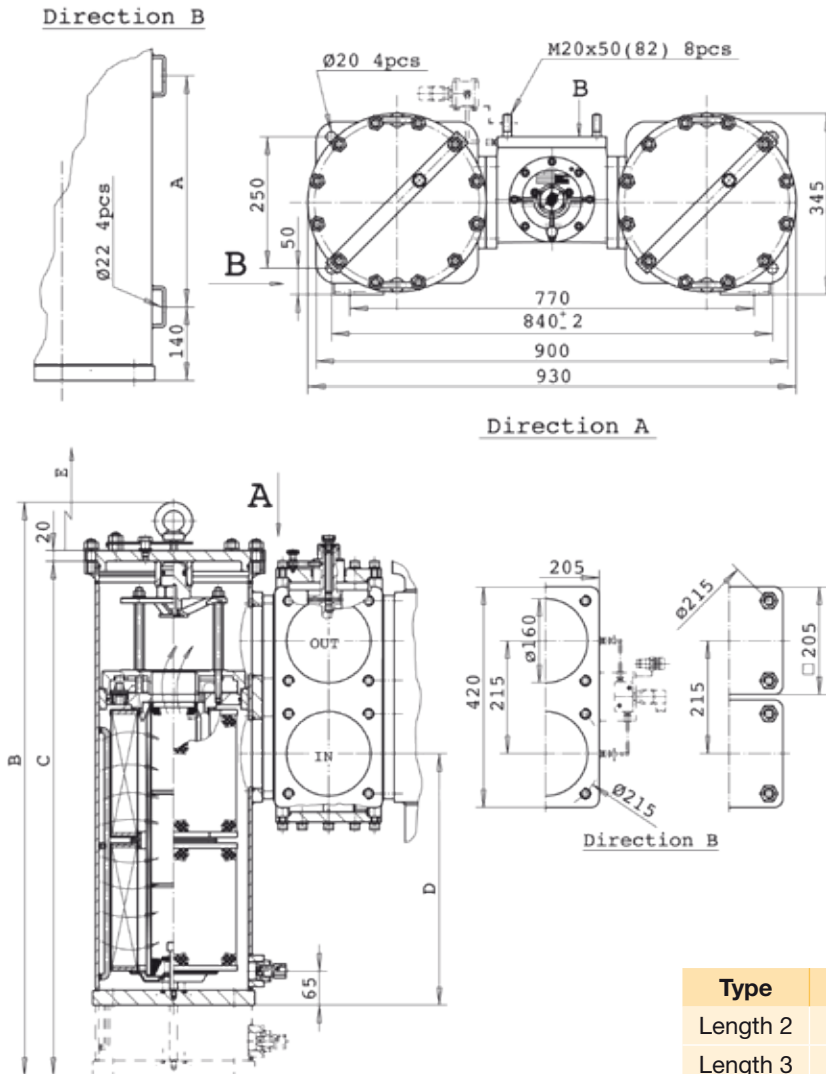
- Two filter elements per reservoir
- Filtration materials
 - Resin impregnated heavy duty cellulose paper 15 µm nominal
 - Glassfibre Microglass III
 - Cleanable metal mesh

Secondary filter:

- One filter element per reservoir
- Filtration material cleanable wire mesh
- Filtration degree 60 µm

Fluid compatibility:

Suitable for use with regular hydraulic and lubrication oils and fuel oils. For heavy fuel oil applications, please specify option P2 (see table 8 in product description) which ensures that filters are delivered with documentation according PED 97/23/EC category II. For other fluids consult Parker Filtration.



Type	A	B	C	D	E
Length 2	440	960	845	478	500
Length 3	706	1227	1112	745	560

DF2070 Series

Pressure Drop Curves

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

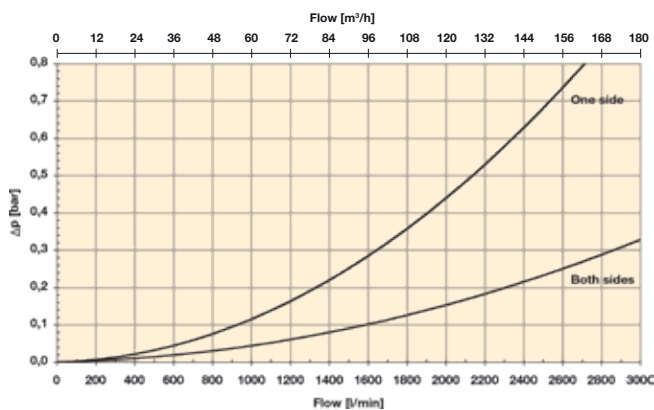
The recommended level of the initial pressure drop for this filter is maximum 0.5 bar.

Δp -curves are measured at 30 cSt.

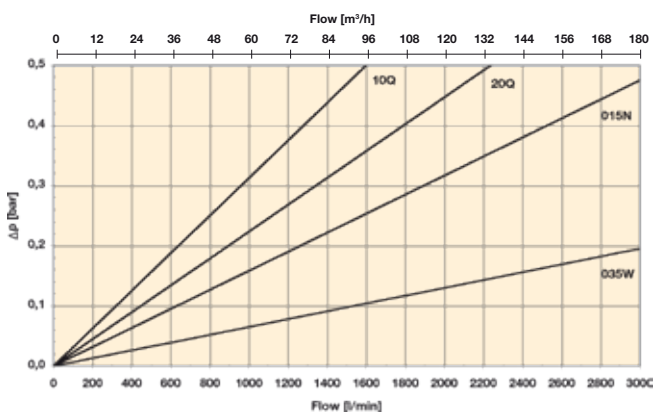
If the medium used has a viscosity different from 30 cSt, pressure drop over the element can be estimated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}} \times \frac{\text{working viscosity}}{30 \text{ cSt}}$$

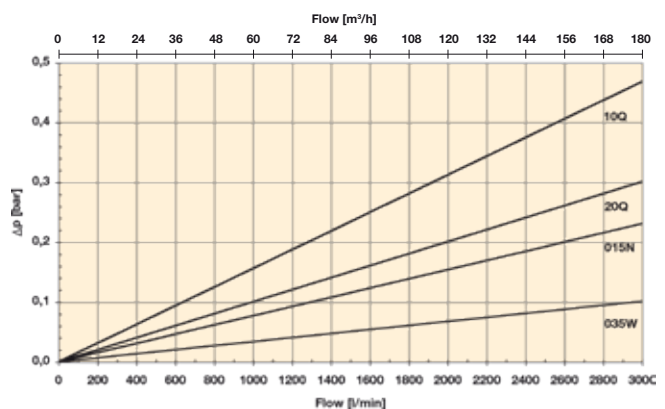
DF2070 housing



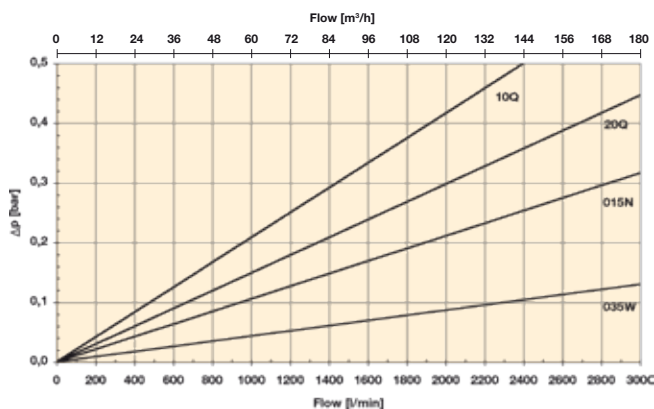
Length 2 element pack (2 pcs)/one side in use



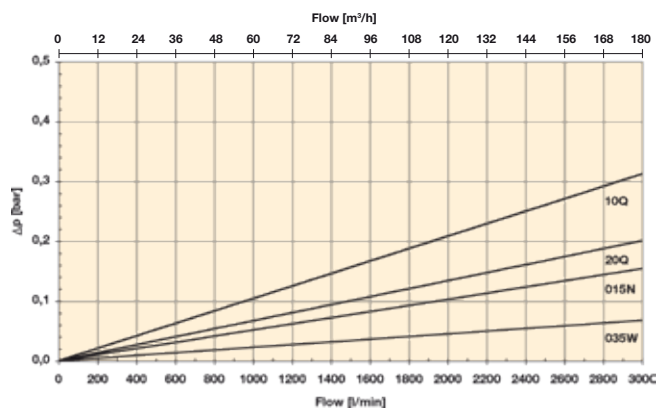
Length 2 element pack (2 + 2 pcs)/both sides in use



Length 3 element pack (3 pcs) one side in use



Length 3 element pack (3 + 3 pcs) both sides in use



Product Description for DF2070

Complete Filter:

Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8
---------	---------	---------	---------	---------	---------	---------	---------

Table 1

FILTER TYPE	
Model	CODE
Duplex filter	DF2070

Table 2

FILTER SIZE	
Length/elements	CODE
2 elements/side	2
3 elements/side	3

Table 3

DEGREE OF FILTRATION	
Element type	CODE
Microglass III	
Glassfibre 5 µm	05Q
Glassfibre 10 µm	10Q
Glassfibre 20 µm	20Q
Other medias	
Cellulose 15 µm (nom)	015N
Cleanable metal mesh 35 µm	035W
Cleanable metal mesh 60 µm	060W

Table 4

SEAL TYPE	
Seal material	CODE
Fluoroelastomer	V

Table 5

INDICATORS	
Options	CODE
No indicator block	N
Indicator port plugged	P
Visual indicator	M3
Electrical indicator	T1
Electronic indicator (PNP/N.O.)	F1
Electronic indicator (NPN/N.O.)	F2

Indicator details, see page 66-69.

Table 6

BYPASS VALVE	
Bypass/indicator setting	CODE
2.0 bar/1.5. bar	H

Table 7

FILTER CONNECTIONS	
Port size	CODE
Square flange 160 mm	X160

Table 8

OPTIONS	
Options	CODE
With bypass	1
PED class 2	P2

If several options are selected, please add the codes in order listed above.

REPLACEMENT ELEMENTS WITH FLUOROELASTOMER SEALS	
Media code	Order code
Glassfibre	Microglass III
05Q	939361Q
10Q	939362Q
20Q	939363Q
Cellulose 15 µm (nom)	
015N	939364
Cleanable metal mesh	
035W	939365
060W	939366

SPARE PARTS	
Secondary filter element (60 µm)	CODE
Length 2	939374
Length 3	939375
Seal kits	CODE
For valve assembly	916045064
For vessel (two kits required for complete filter)	916045067

Please note the bolded options reflect standard options with reduced lead-time.

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FMU Indicators

Differential Pressure Indicators



Accurate feedback

The FMU range of filter condition indicators are designed for use on almost any Parker heavy duty filter and suitable for competitive interchange too. These pressure indicators give electronic, electrical or visual feedback of filter element condition. Accurate feedback ensures effective maintenance and scheduled element change.



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Applications:

- Industrial equipment
- Mobile equipment
- Marine and offshore applications



ENGINEERING YOUR SUCCESS.

Specification

Maximum operating pressure:

420 bar

Maximum differential pressure:

210 bar

Working temperature range:

-20°C to +85°C, note FMUF thermal lock at +20°C

Material of housing:

Brass or stainless steel

Seals:

Fluoroelastomer as standard (code V). For other seal material options, please contact Parker Filtration.

The differential pressure values of standard indicator models:

1.0 bar ± 0.1

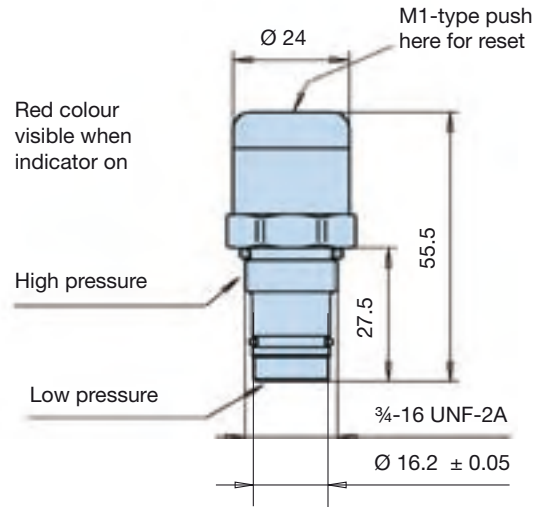
1.5 bar ± 0.2

2.5 bar ± 0.2

(Indicators for other differential pressure values are optional).

FMUM3 Visual Auto Reset/FMUM1 Visual Manual Reset

Operation

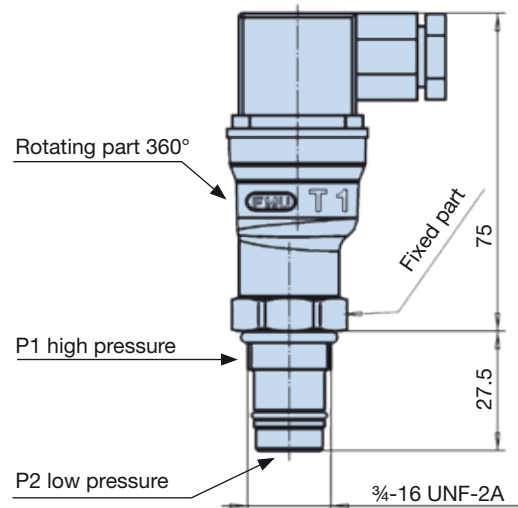
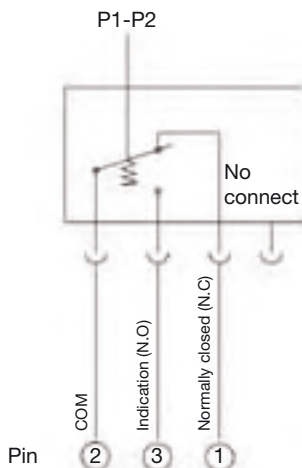


FMUT1 Electrical

Rated voltage	Non-inductive load (A)				Inductive load (A)				Inrush current (A)	
	Resistive load		Lamp load		Inductive load		Motor load			
	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.
125VAC	5		1.5	0.7	3		2.5	1.3	20 max.	10 max.
250VAC	3		1.0	0.5	2		1.5	0.8		
8VDC	5		2		5	4	3			
14VDC	5		2		4	4	3			
30VDC	4		2		3	3	3			
125VDC	0.4		0.05		0.4	0.4	0.05			
250VDC	0.2		0.03		0.2	0.2	0.03			

Enclosure class	IP65
Electrical connector	DIN 43650
Overvoltage category	II (EN61010-1)

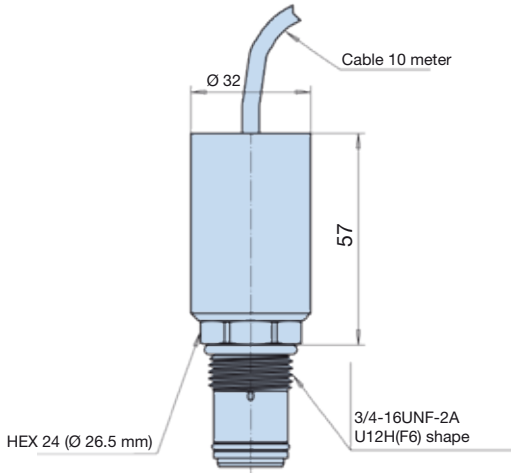
Contact configuration



Indicator Series

FMU Δp-Indicators

FMUX ATEX Approved Electronic



Specification:

- Equipment category 2 (for zone 1):
Ex II 2 GD Eex m II T6
- Max temperature 85°C
- Supply Voltage: 10 – 36 Vdc
- Current 300 mA (max)
- I_{kmax} : 1A
- Halogenfree cable

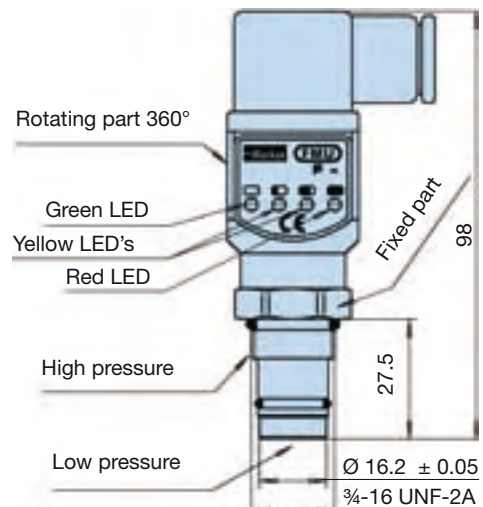
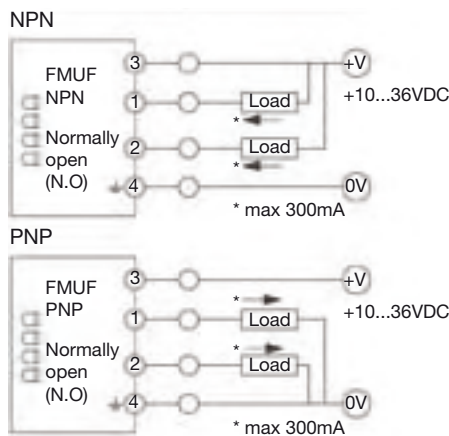
FMUF Electronic

Ind. press. setting	LED status				Output
	G	Y1	Y2	R	
< 50 %	⊗				-
50 %	⊗	⊗			-
75 %	⊗	⊗	⊗		2 active
100 %	⊗	⊗	⊗	⊗	1 active

Enclosure class	IP65
Electrical connector	DIN 43650, cable connection PG9
Input supply voltage	+10 to 36 VDC
*Indication output	maximum 300 mA/36 VDC
Output type	N.O., NPN or PNP

Note: Do not connect output terminals 1 or 2 directly (without load) to power supply terminals, because this will damage the equipment.

Contact configuration



Thermal lock-out setting +20°C

- Indicator operates only when temperature is above setting.

Product Description

FMU V U12H

Table 1

INDICATOR TYPE	
Indicator options	CODE
Visual Δp indicator (auto reset)	M3
Visual Δp indicator (manual reset)	M1
Electrical Δp indicator	T1
Electronic, 4 LED, PNP, N.O.	F1
Electronic, 4 LED, NPN, N.O.	F2
ATEX approved electronic, PNP, N.O.	X1
ATEX approved electronic, NPN, N.O.	X2

Table 2

INDICATING PRESSURE	
Indicating pressure options	CODE
1.0 bar	F
1.5 bar	H
2.5 bar	K

Other indicating pressures available.

Table 3

BODY MATERIAL	
Standard body material	CODE
Brass	M
Optional body material	
Stainless steel	R

Table 4

OPTIONS	
Setting for F1, F2, X1, X2 types	CODE
Thermal lock-out standard +20°	omit
Other options by request	factory supplied

SPARE PARTS	
Seal kit	CODE
Seal material	
Fluoroelastomer	911045078

Please note the bolded options reflect standard options with reduced lead-time.

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Parker Racor

Marine Filtration Solutions

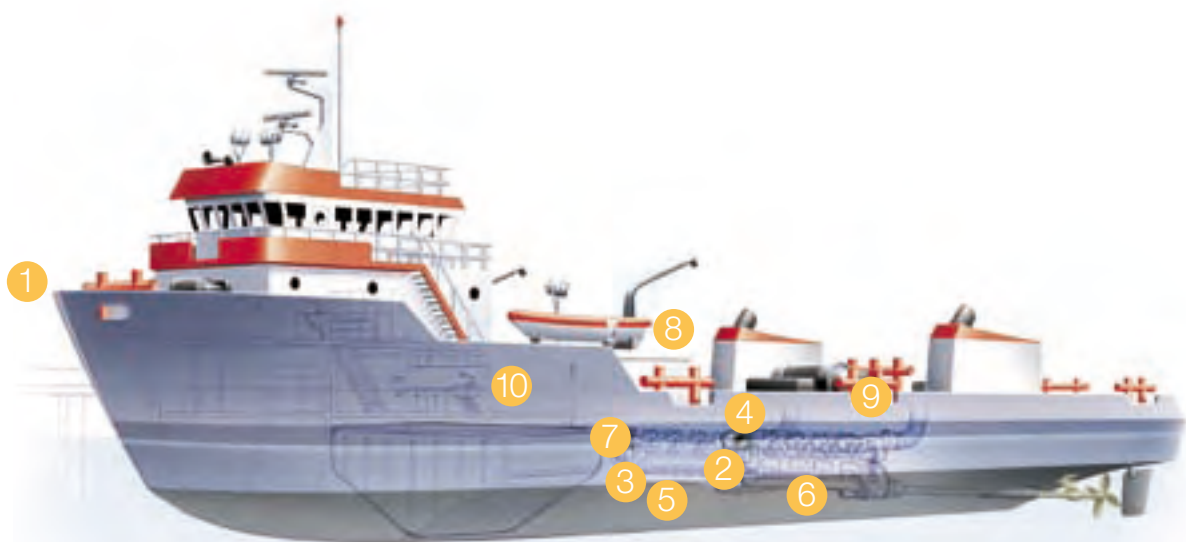
The name to trust in marine filtration

Parker Filtration has worked closely with marine system designers and developers over many years, supplying filtration solutions for many applications in the marine sector.

Parker Racor's global solutions in fuel filtration and separation, together with the innovations of our partners have resulted in product excellence. Cooperation with major engine and propulsion system manufacturers, steering and winch manufacturers, refrigeration system designers through to passenger lift manufacturers and hydraulic system engineers has generated solutions that are unbeatable in the harshest conditions.

Related industries, such as offshore, with applications that include well-head lubrication, hydraulic systems and winch control provide ample opportunity for Parker Filtration to demonstrate quality in filtration manufacturing. Qualities that add up to reliable performance, long-term durability and efficient operation from bow to stern making Parker Filtration a reliable choice for marine filtration applications.

Parker Racor's design excellence and product innovation has created some value added advantages in the marine market.



1

Fuel Delivery

The RV Series vessels are designed to be used in bulk fuel storage, fuel dispensing, or in fuel transfer and large engine applications. RV Series set up as a filter/water separator (RVFS) will remove mulsified free water and solids from diesel fuel, gasoline, and other hydrocarbon streams. When equipped with filter water separator elements, water can be drained and removed from the RVFS sump. RV Series set up as a particulate filter (RVMF) is designed to remove solid contaminants such as dirt, rust, scale, and other solid materials from a hydrocarbon fuel stream down to two micron.



2

Top-Load Oil Filters

Racor's top-load oil filters are permanent assemblies with cartridge elements. An uncompromising, high level of fluid cleanliness is needed to achieve operating efficiency and reach service life. The environmentally-friendly cartridge oil filters are crushable, incinerable and cost-effective to replace. Filter service is from the top of the module and skin contact is minimal due to the unique screw top cap and oil element attachment. The permanent assembly is customized with a patented automatic drain that allows oil to drain back into the sump when the engine is turned off and the screw top cap is removed for service.



www.parker.com/hfde

3

Marine Hose & Fittings

Parker Marine Hose is a USCG-rated hose for gasoline, diesel, lube oil and hydraulic systems for commercial and recreational applications. It is fire-resistant and meets SAE J1527 Type A class 1 and SAE J1942 standards. As you'd expect, it delivers test-proven performance in a wide operating temperature range and constant working pressure. It is of a long-lasting reinforced construction, kink and cut resistant, and compatible with a variety of standard 100R5 fittings.



5

Diesel Fuel Filter/ Water Separators & Pumps

When engines demand heavy-duty, high-capacity water separation and fuel filtration, the Turbine Series is the most complete, efficient and reliable engine protection you can install. Symbolizing Racor's continuing commitment to the science of filtration, the Turbine Series has established its position as the filter/separator often imitated, but never equaled. Models that include an aluminum bowl or stainless steel shield meet ASTM FS1201 certification, are UListed, American Bureau of Shipping, Veritas, Det Norske Veritas, ISO 10088 and U.S.C.G. accepted. For severe service, all-metal bowls should be specified.



7

Air Filter/Silencer

The Racor marine air filter/silencer removes contaminants introduced into the air from both outside and inside the vessel. Sand, salt, carpet fibers and other contaminants are trapped in the oil-impregnated filter media. Turbo noise is reduced by the unique design of the air filter/silencer housing. An integral hose connection on the housing routes the clean blow-by from the CCV back into the engine.



9

Hydraulic Filters

Racor water-absorbing hydraulic filters feature a specially designed media that traps not only solid contaminants like dirt and rust, but damaging water as well. Water absorbing spin-on hydraulic filters are available for virtually any application and are available in a 10 micron nominal rating. Racor resin-impregnated hydraulic filters include media that traps solid contaminants like dirt and rust as it repels water. Resin-impregnated hydraulic filters are available for virtually any application and are available in a 10 micron nominal rating.



4

Crankcase Filtration

In a robust, compact package, the patented Racor CCV closed crankcase ventilation filter systems provide superior oil coalescence and crankcase pressure control under the most severe conditions. The only routine maintenance required for the Racor Crankcase Ventilation Filter System is filter replacement. Typical service life of the high-performance filter in diesel applications is 750 hours. Some variations in service life occur depending on load profile, engine wear condition, flow and aerosol mass concentration of crankcase emissions, and soot concentration.



6

Bypass Oil Filters

The Racor Bypass Oil Series removes dirt, varnish, ash, tar, soot and other contaminants that full-flow filters cannot remove from your engine's oil and hydraulic systems. The system also removes condensed water, which forms component-damaging acids if left in the oil. The Racor Bypass Oil Series removes damaging contaminants to minimize wear and extends engine component life. The Racor bypass element has a 1 micron nominal rating.



8

In-Line Gasoline Filters

Racor's In-line Gasoline Filter Series keeps your fuel clean and dry, because having grime and water in your fuel spells disaster. More than ever, today's high performance gasoline engines require clean, dry fuel. Standard fuel filters simply succumb from normal usage, and don't offer the improved features, durability and peace-of-mind that comes with Racor fuel filters. Experienced sailors rust their engines, their livelihood, and even their lives to Racor's high quality marine products. Shouldn't you?



10

Water purifier

The Racor Village Marine Reverse Osmosis Desalination Systems are designed specifically for the rigorous marine and offshore environment and have proven to be amongst the most reliable units on the market. These systems are designed to provide the best performance, reliability and longevity under the most rugged conditions. The modular system allows the user freedom to install components where space permits, and the modules are small enough to fit through hatchways for installation.



Marine PAR \diamond FIT™

Interchangeable Element Range



The replacement solution

With over 20,000 standard, off the shelf variations, there's a PAR \diamond FIT™ element to fit most sizes and makes of filters on mobile, construction, agricultural and industrial plant. Every PAR \diamond FIT™ element is manufactured in Europe to the highest standards and is backed by our unrivalled technical support.

You can reduce stockholdings, cut costs and be sure of the ultimate performance. PAR \diamond FIT™ filters are available from ParkerStores and authorised distributors throughout Europe.

www.parker.com/parfit



Contact Information:

Parker Hannifin Corporation
Hydraulic Filter Division Europe
filtrationinfo@parker.com

www.parker.com/hfde

Typical Applications:

- Industrial power units
- Central lubrication systems
- Diesel engine lubrication
- Marine fuel systems
- Power plants
- Gearboxes
- Wind turbines



ENGINEERING YOUR SUCCESS.

FEATURES	ADVANTAGES	BENEFITS
Microglass III replacement elements	Multi-layered design producing high dirt holding capacity and high efficiency	Great performance value
	Wire support reduces pleat bunching and keeps performance consistent	Reliable performance throughout element life
		Reduces downtime and maximises element life
Coreless Ecoglass III replacement elements	No metal content in element	Environmentally friendly disposal by incineration
	Reduced overall weight of 50 %	Lower element replacement costs
	Easy compaction of used elements	Lower disposal costs
	Eco adapters available	Retrofit coreless design to housings already installed
Complete performance data disclosure	All pertinent information is provided in an easy to compare format	No hidden deficiencies Easy selection of correct interchange part number
Elements manufactured to exacting standards of original elements	Performance guarantee as good if not better than original fit	Durable, rugged and reliable construction with high quality standards



COMPETITOR	COMPETITOR PART NUMBER	PARKER PART NUMBER
Boll and Kirch	1143103	939319Q
Boll and Kirch	1174632 (11843 GEW.300/250 h=230, 37um)	939317Q
Boll and Kirch	1174804 (11843 GEW.300/40)	939312Q
Boll and Kirch	1179995 (11844 GEW.300/40)	939311Q
Boll and Kirch	1340006 (660-63 filter candle pleated 10 um)	939307Q
Boll and Kirch	1340009 (250-40 filter candle 25 um)	939305Q
Boll and Kirch	1340079 (294-31 filter candle 34 um)	939306Q
Boll and Kirch	1940971 (11443 GEW.324/34)	939310Q
Boll and Kirch	1940990 (11513 GEW.275/34)	939309Q
Boll and Kirch	1942562 (11445 GEW.155/100)	939318Q
Boll and Kirch	1943048 (11531 GEW.205/34)	939308Q
Boll and Kirch	1945279 (11531 GEW.205/40)	939314Q
Boll and Kirch	1946344 (11445 GEW.155/40)	939313Q
Boll and Kirch	1947342 (Ø=85, h=244, 40um)	939316Q
Boll and Kirch	1949798 (Ø=85, h=195, 40um)	939315Q
Boll and Kirch	7605706 (Flushing oil element 6.61.07 GR10-15, h=508+36)	939329Q
Boll and Kirch	7608089 (Flushing oil element 6.61.07 GR20, h=760+36)	939330Q

Marine PAR*◊*FIT™

COMPETITOR	COMPETITOR PART NUMBER	PARKER PART NUMBER
Mann and Hummel	BF-1018/1	939332Q
Mann and Hummel	H-1081	939321Q
Mann and Hummel	H-12178	939323Q
Mann and Hummel	H-12225	939324Q
Mann and Hummel	H-15111/2	939338Q
Mann and Hummel	H-15190	939331Q
Mann and Hummel	H-15222/2	939333Q
Mann and Hummel	H-18300	939327Q
Mann and Hummel	H-20211	939335Q
Mann and Hummel	H-25444	939334Q
Mann and Hummel	H-25595	939326Q
Mann and Hummel	H-25669	939325Q
Mann and Hummel	H-28545	939336Q
Mann and Hummel	H-601/4	939320Q
Mann and Hummel	H-930	939328Q
Mann and Hummel	P-19185	939337Q
Pall	HC8300FKN16H	PR2798Q
Pall	HC8300FKN26H	939340Q
Pall	HC8300FKN39H	932873Q
Pall	HC8300FKP16H	PR3455Q
Pall	HC8300FKP26H	939339Q
Pall	HC8300FKP39H	932872Q
Pall	HC8300FKS16H	PR3456Q
Pall	HC8300FKS26H	937156Q
Pall	HC8300FKS39H	932874Q
Pall	HC8300FKT16H	933047Q
Pall	HC8300FKT26H	937158Q
Pall	HC8300FKT39H	932875Q
Pall	HC8304FKN16H	937165Q
Pall	HC8304FKN39H	937166Q
Pall	HC8304FKP16H	937167Q
Pall	HC8304FKP39H	937168Q
Pall	HC8304FKS16H	937169Q
Pall	HC8304FKS39H	937170Q
Pall	HC8304FKT16H	937171Q
Pall	HC8304FKT39H	937172Q
Vokes	B-62982	939303Q
Vokes	B-6358174	939301Q
Vokes	C-6352910	939322Q
Vokes	C-6360352	939304Q
Vokes	C-F7	939302Q

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Together, we can change the course of hydraulic and lube maintenance history aboard ship and in dock.



DF40 Duplex Filters



WPF "iprotect" high pressure filter



iCountPD

Parker is the first name for filtration aboard ship, offshore and on the dock with a unique blend of marine fuel and lube filtration products and innovative customer solutions. Everything from on-deck winches and cranes, power generators to the engine room and steering hydraulics require Parker quality filtration. For predictive maintenance needs there's the Parker Fluid Contamination Monitoring programme with particle analysers, detectors and bottle sampling models for maximum portability.

For details please visit our website.

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



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www.parker.com
EPIC@parker.com

Important Information

Parker Hannifin Filter Division Europe, herewith declares that Parker Hydraulic Filtration products are intended to be incorporated into machinery covered by Directive 97/23/EC, as amended and that the following harmonised standards have been applied;
EN982
EN292-1
EN292-2

We furthermore declare that, machinery incorporating Parker Hydraulic Filtration products is not allowed to be put into service until the machinery has been found and declared to be in conformity with, the provisions of Directive 97/23/EC and with national implementing legislation.

In line with our policy of continuous product improvement, Parker Hannifin reserve the right to alter product data and specification without notice. This does not affect your statutory rights.

Within this catalogue, each product has been allocated an operating temperature range and fluid compatibility. The range listed for each filter is dictated by the materials of construction and the capability of the seals specified. Consideration should also be given to the characteristics of the system fluid when specifying filters for extreme temperature applications.

The use of non Parker replacement elements and spares may invalidate your warranty.

WARNING!

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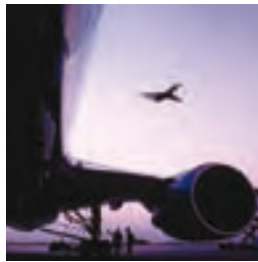
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Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection for the products and system and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion or control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further information call 00800 27 27 5374



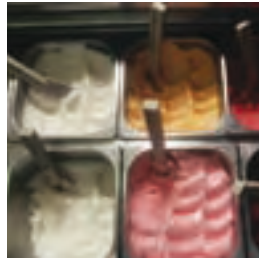
AEROSPACE

Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



CLIMATE CONTROL

Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products

- CO₂ controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



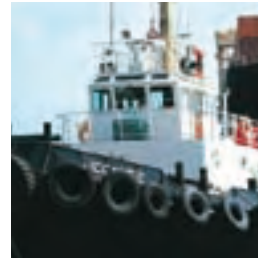
ELECTROMECHANICAL

Key Markets

- Aerospace
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products

- AC/DC drives & systems
- Electric actuators, gantry robots & slides
- Electrohydraulic actuation systems
- Electromechanical actuation systems
- Human machine interface
- Linear motors
- Stepper motors, servo motors, drives & controls
- Structural extrusions



FILTRATION

Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



FLUID & GAS HANDLING

Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



HYDRAULICS

Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



PNEUMATICS

Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products

- Air preparation
- Brass fittings & valves
- Manifolds
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves & controls
- Quick disconnects
- Rotary actuators
- Rubber & thermoplastic hose & couplings
- Structural extrusions
- Thermoplastic tubing & fittings
- Vacuum generators, cups & sensors



PROCESS CONTROL

Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



SEALING & SHIELDING

Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management



Parker Worldwide

AE – UAE, Dubai
Tel: +971 4 8127100
parker.me@parker.com

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BR – Brazil, Cachoeirinha RS
Tel: +55 51 3470 9144

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

CH – Switzerland, Etoy
Tel: +41 (0) 21 821 02 30
parker.switzerland@parker.com

CL – Chile, Santiago
Tel: +56 2 623 1216

CN – China, Shanghai
Tel: +86 21 5031 2525

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 33 00 01
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HK – Hong Kong
Tel: +852 2428 8008

HU – Hungary, Budapest
Tel: +36 1 220 4155
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IN – India, Mumbai
Tel: +91 22 6513 7081-85

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

JP – Japan, Tokyo
Tel: +(81) 3 6408 3901

KR – South Korea, Seoul
Tel: +82 2 559 0400

KZ – Kazakhstan, Almaty
Tel: +7 7272 505 800
parker.easteurope@parker.com

LV – Latvia, Riga
Tel: +371 6 745 2601
parker.latvia@parker.com

MX – Mexico, Apodaca
Tel: +52 81 8156 6000

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Ski
Tel: +47 64 91 10 00
parker.norway@parker.com

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SG – Singapore
Tel: +65 6887 6300

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TH – Thailand, Bangkok
Tel: +662 717 8140

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

US – USA, Cleveland
Tel: +1 216 896 3000

VE – Venezuela, Caracas
Tel: +58 212 238 5422

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

