

70/70 Eco Series

High Pressure Filters
Max 450 l/min - 420 bar



When flexibility meets reducing environmental impact

A proven filter offering reduced space and piping

The 70/70 Eco Series features a range of head and bowl sizes and connection options. Microglass III glassfibre and Ecoglass III media is available. Maximum pressure 420 bar. Maximum flow 450 l/min. A proven, strong and robust filter for heavy duty applications.



Contact Information:

Parker Hannifin
Hydraulic Filter Division Europe

European Product Information Centre
Freephone: 00800 27 27 5374
(from AT, BE, CH, CZ, DE, EE, ES, FI, FR, IE, IT, PT, SE, SK, UK)
filtrationinfo@parker.com

www.parker.com/hfde

Product Features:

- 70/70 Eco features a range of head and bowl sizes and connection options.
- Microglass III glassfibre and Ecoglass III media is available.
- Maximum pressure 420 bar. Maximum flow 450 l/min.
- A proven filter offering high levels of system protection.

70/70 Eco Series

High Pressure Filters

Features & Benefits

Features	Advantages	Benefits
Fatigue tested to full pressure rating	Strong and robust housing for heavy duty applications	Reliable and continuous operation both in mobile and industrial applications
Several head options and connection sizes	Easy mounting	Reduced space and piping Right filter for each application
Several bowl lengths	Optimised sizing	Efficient filtration
Microglass III replacement elements	Multi-layered design produced high capacity and efficiency	Great performance value
	Wire support reduces pleat bunching, keeps performance consistent	Reliable performance throughout element life Reduces downtime, 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 adaptors available	Retrofit coreless design to housings already installed
Visual, electrical and electronic indicators available	Check element condition at a glance	Optimise element life, prevent bypassing
	Right style for the application	Matches your system electrical connections

Typical Applications

- Forestry equipment
- Industrial power units
- Pulp and paper
- Port handling equipment
- Mining and quarrying equipment

The Parker Filtration 70/70 Eco Series High Pressure Filters.

High quality 420 bar in-line pressure filters designed to offer high levels of protection at flows up to 450 l/min.

Dirt sensitive systems can be protected with confidence using the 70 Series high pressure filters.

The 70 Series also available with environmentally friendly Ecoglass III elements.



Specification

Pressure ratings:

Maximum allowable operating pressure 420 bar (350 bar Length 4).
Filter housing pressure pulse fatigue tested: 10^6 pulses 0 - 414 bar.

Connections:

Threads G1, G1 $\frac{1}{4}$, G1 $\frac{1}{2}$ (ISO 228/1).
or flanges 1 $\frac{1}{4}$ " SAE 3000-M, 1 $\frac{1}{2}$ " SAE 3000-M, 1 $\frac{1}{4}$ " SAE 6000-M, 1 $\frac{1}{2}$ " SAE 6000-M.

Filter housing:

Head material cast iron (GSI).
Bowl material steel. Max torque 40 Nm.

Seal material:

Nitrile or Fluoroelastomer.

Operating temperature range:

Seal material Nitrile: -40 °C to +100 °C.
Seal material Fluoroelastomer: -20 °C to +120 °C.

Bypass valve:

Opening pressure 3.5 bar.

Filter element:

Degree of filtration:

Determined by Multipass-test according to ISO 16889.

Flow fatigue characteristics:

Filter media is supported so that the optimal fatigue life is achieved (ISO 3724).

Microglass III:

Supported with epoxy coated metal wire mesh, end cap material reinforced composite and metal inner core.
Collapse rating 20 bar (ISO 2941).

Ecoglass III:

Supported with plastic net, end cap material reinforced composite.
No metal parts.

Collapse rating 10 bar (ISO 2941).

Filter element can only be used together with reusable FEA Eco-adapter.

Note: Ecoglass III contributes to ISO 14001 quality.

High collapse elements:

(To be used when no bypass function in filter housing).

Microglass III media supported with epoxy coated metal wire mesh on upstream and stainless steel on downstream, end cap material steel. Strong metal inner core. Collapse rating 210 bar (ISO 2941).

Indicator options:

Indicating differential pressure: 2.5 ± 0.3 bar or 7.0 ± 0.5 bar.

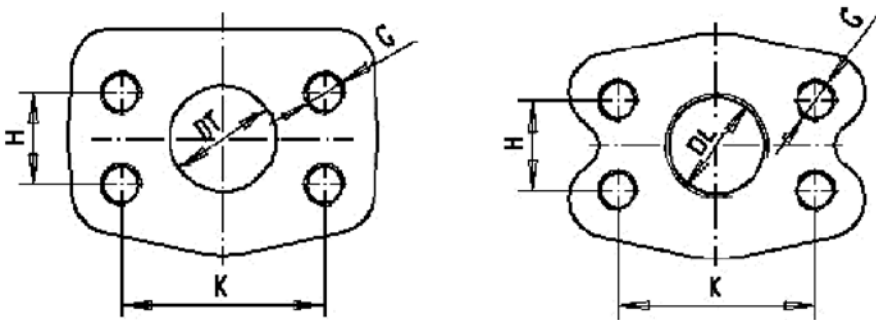
2.5 bar indicators to be used with 3.5 bar bypass valve and 7.0 bar indicators with no bypass function.

- visual M3.
- electrical T1.
- electronic F1 (PNP).
- electronic F2 (NPN).

For indicator details see catalogue section 6.

Fluid compatibility:

Suitable for use with mineral and vegetable oils, and some synthetic oils. For other fluids, please consult Parker Filtration.



SAE Flange Dimensions					
Type	K	H	DL	DT	G
1.1/4 SAE 3000 psi	58,7	30,2	Ø 36	31,8	M10-15
1.1/2 SAE 3000 psi	69,9	35,7	G1.1/4	38,1	M12-18
1.1/4 SAE 6000 psi	66,7	31,7	Ø 30,3	31,8	M14-19
1.1/4 SAE 6000 psi	79,4	36,5	G1.1/4	38,1	M16-21

Spare Eco adaptors that are needed for use with or changing to Eco elements are as follows

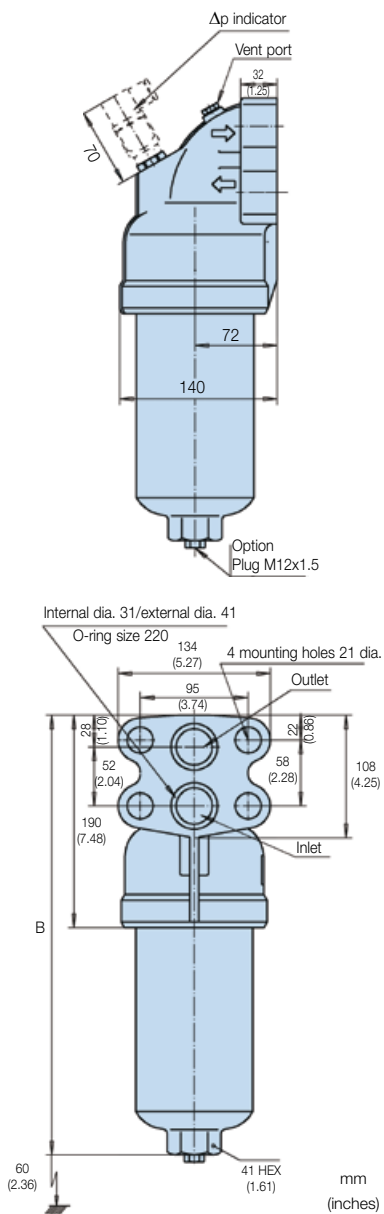
Filter Type	Eco Adaptor	Part Number
70-1	FEA7005.B	911042090
70-2	FEA7006.B	911042087
70-3	FEA7007.B	911042091
70-4	FEA7008.B	911042092

70/70 Eco Series

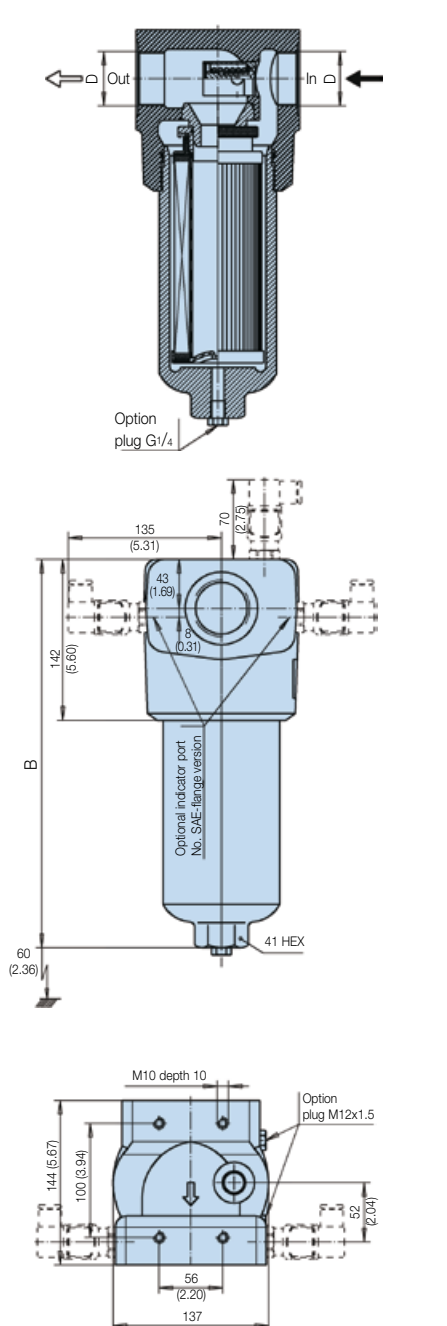
High Pressure Filters

Specification

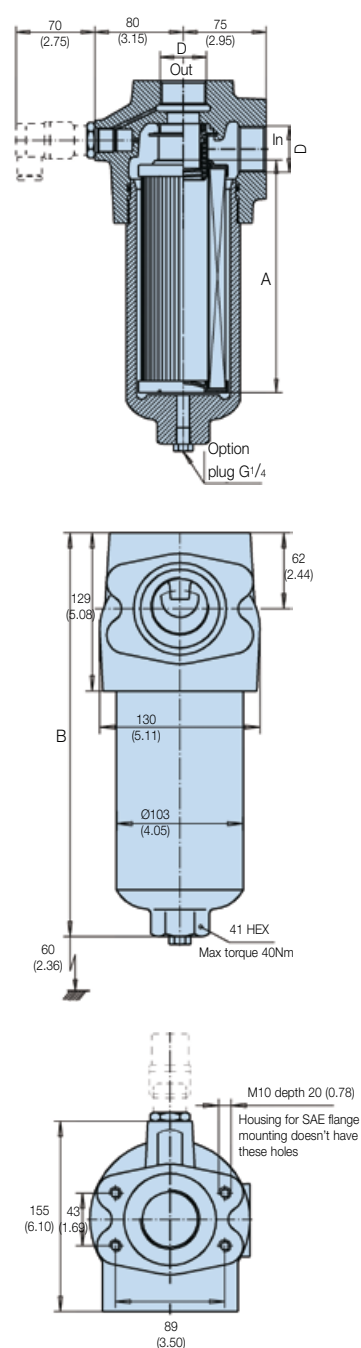
70B



70T



70L



Weights (kg)

Type	70T	70L	70B
Length 1	14	10.5	11.5
Length 2	16.5	13	14
Length 3	19	15.5	16.5
Length 4	22	18.5	19.5

Type	A	B 70T	B 70B	B 70L	Max working pressure	Port D
Length 1	116 (4.57)	249 (9.80)	295 (11.61)	235 (9.25)	420 bar	G1, G1 ¹ / ₄ or G1 ¹ / ₂ Flange 1 ¹ / ₂ SAE 3000-M Flange 1 ¹ / ₄ SAE 3000-M Flange 1 ¹ / ₂ SAE 6000-M Flange 1 ¹ / ₄ SAE 6000-M
Length 2	208 (8.19)	342 (13.46)	390 (15.35)	330 (13.00)		
Length 3	329 (12.95)	462 (18.19)	510 (20.08)	450 (17.72)		
Length 4	428 (16.85)	562 (22.12)	610 (24.01)	550 (21.65)	350 bar	



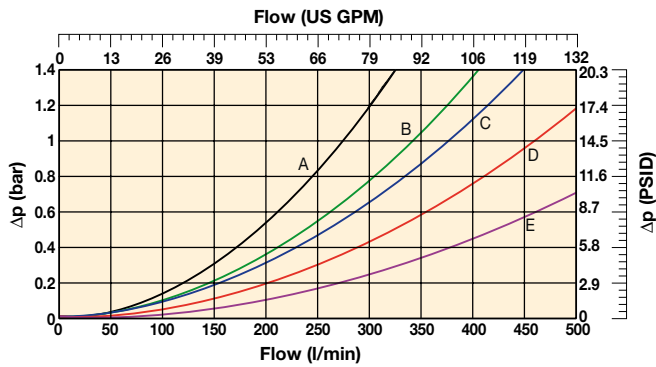
Pressure Drop Curves

With 3.5 bar bypass the recommended initial pressure drop is max 1.2 bar.

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

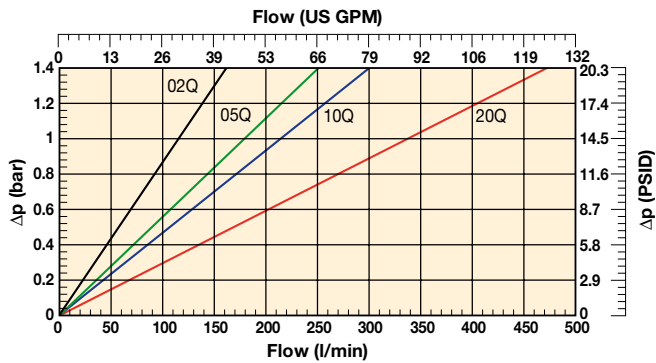
The total Δp = housing Δp_h + (element $\Delta p_e \times \text{working viscosity}/30$).

70 Series Empty Housing

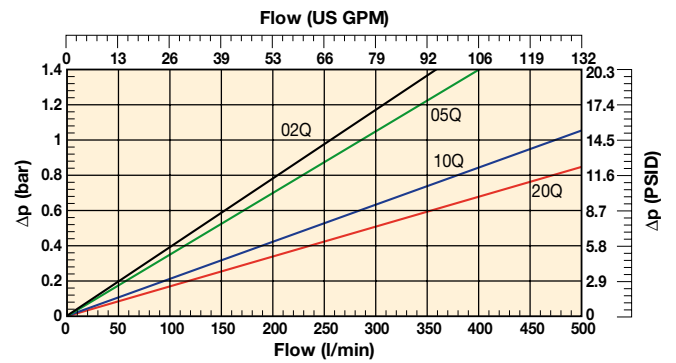


- A: 70T with G16 connections
- B: 70T with G20 connections and 70L with G16 connections
- C: 70L with G20 connections and 70B
- D: 70T with G24 connections
- E: 70L with G24 connections

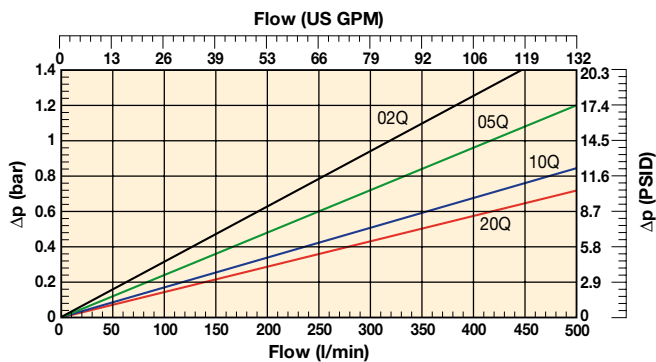
70-1 Elements with Microglass III



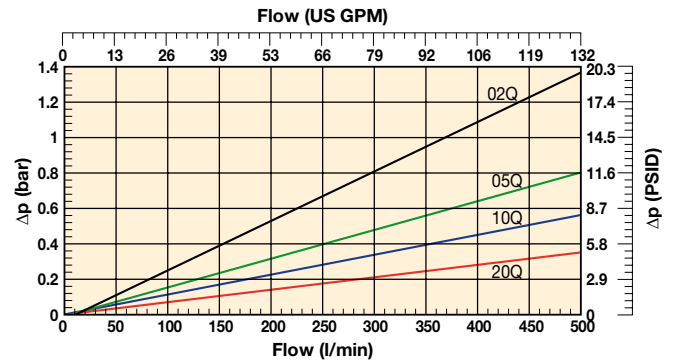
70-2 Elements with Microglass III



70-3 Elements with Microglass III



70-4 Elements with Microglass III

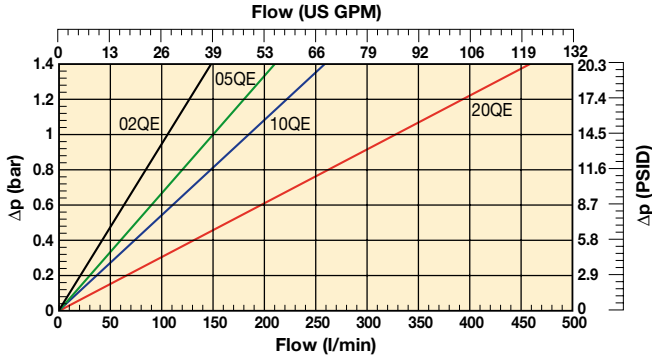


70/70 Eco Series

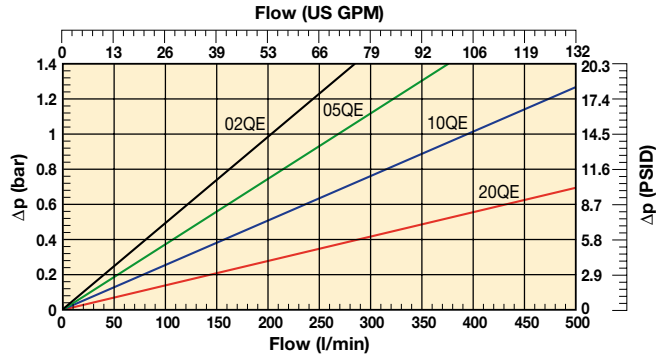
High Pressure Filters

Pressure Drop Curves (cont.)

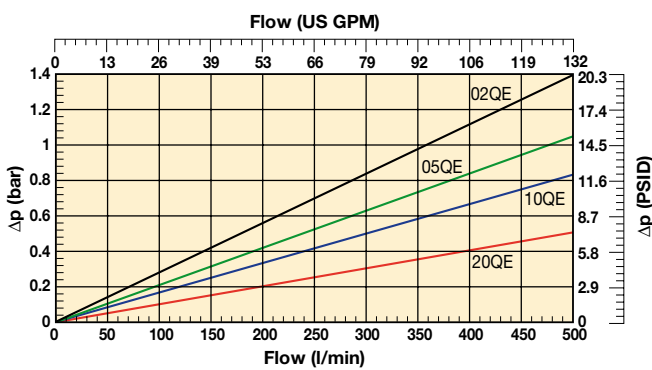
70-1 Elements with Ecoglass III



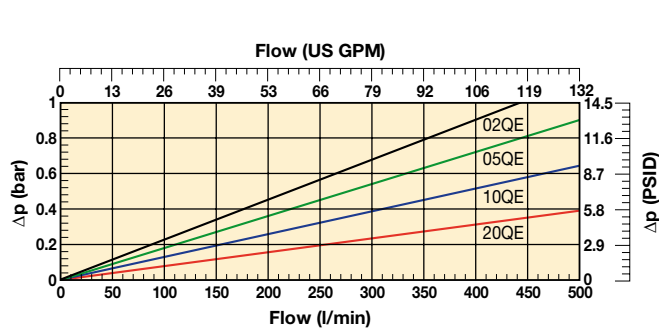
70-2 Elements with Ecoglass III



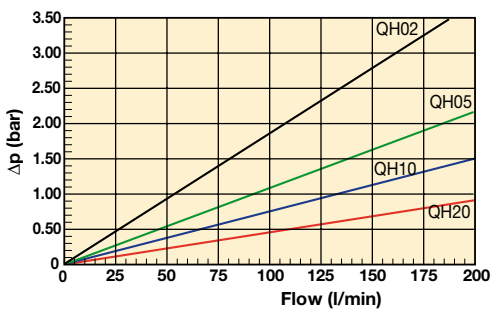
70-3 Elements with Ecoglass III



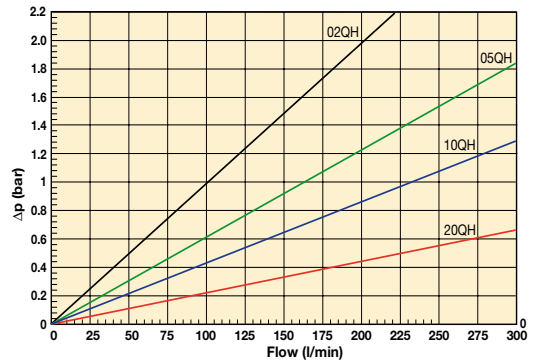
70-4 Elements with Ecoglass III



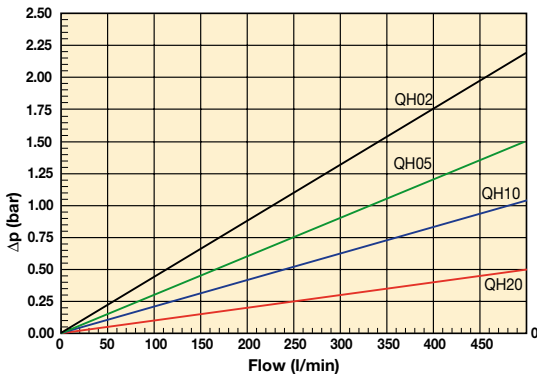
70-1 PRESSURE DROP CURVE
High Collapse FC7005



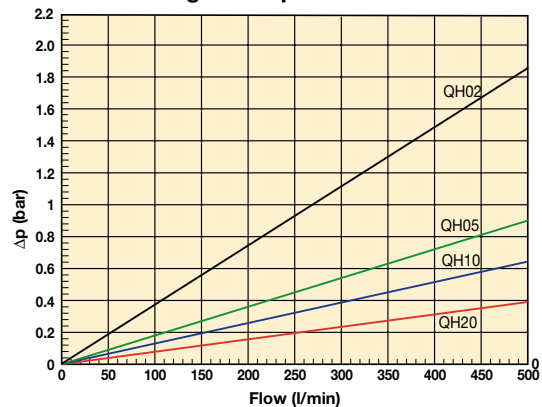
PRESSURE DROP CURVE
70-2 High Collapse FC7006



70-3 PRESSURE DROP CURVE
High Collapse FC7007



70-4 PRESSURE DROP CURVE
High Collapse FC7008



Ordering Information

Standard products table

Part number	Supersedes	Flow (l/min)	Model number	Element length	Media rating (µ)	Seals	Indicator	Bypass settings	Ports	Replacement elements	Supersedes
70L110QBPKG161	FF7005.Q010.BS35.GL16	150	70L	1	10	Nitrile	Plugged	3.5 bar	G1"	938773Q	FC7005.Q010.BK
70L120QBPKG161	FF7005.Q020.BS35.GL16	230	70L	1	20	Nitrile	Plugged	3.5 bar	G1"	938774Q	FC7005.Q020.BK
70L210QBPKG201	FF7006.Q010.BS35.GL20	280	70L	2	10	Nitrile	Plugged	3.5 bar	G1½"	938777Q	FC7006.Q010.BK
70L220QBPKG201	FF7006.Q020.BS35.GL20	300	70L	2	20	Nitrile	Plugged	3.5 bar	G1½"	938778Q	FC7006.Q020.BK
70L310QBPKG241	FF7007.Q010.BS35.GL24	400	70L	3	10	Nitrile	Plugged	3.5 bar	G1½"	938781Q	FC7007.Q010.BK
70L320QBPKG241	FF7007.Q020.BS35.GL24	430	70L	3	20	Nitrile	Plugged	3.5 bar	G1½"	938782Q	FC7007.Q020.BK
70L410QBPKG241	FF7008.Q010.BS35.GL24	430	70L	4	10	Nitrile	Plugged	3.5 bar	G1½"	938785Q	FC7008.Q010.BK
70L420QBPKG241	FF7008.Q020.BS35.GL24	450	70L	4	20	Nitrile	Plugged	3.5 bar	G1½"	938786Q	FC7008.Q020.BK
70L110QEBPKG161	FF7005.QE10.BS35.GL16	150	70L	1	10	Nitrile	Plugged	3.5 bar	G1"	938789Q	FC7005.QE10.BK
70L120QEBPKG161	FF7005.QE20.BS35.GL16	230	70L	1	20	Nitrile	Plugged	3.5 bar	G1"	938790Q	FC7005.QE20.BK
70L210QEBPKG201	FF7006.QE10.BS35.GL20	280	70L	2	10	Nitrile	Plugged	3.5 bar	G1½"	938793Q	FC7006.QE10.BK
70L220QEBPKG201	FF7006.QE20.BS35.GL20	300	70L	2	20	Nitrile	Plugged	3.5 bar	G1½"	938794Q	FC7006.QE20.BK
70L310QEBPKG241	FF7007.QE10.BS35.GL24	400	70L	3	10	Nitrile	Plugged	3.5 bar	G1½"	938797Q	FC7007.QE10.BK
70L320QEBPKG241	FF7007.QE20.BS35.GL24	430	70L	3	20	Nitrile	Plugged	3.5 bar	G1½"	938798Q	FC7007.QE20.BK
70L410QEBPKG241	FF7008.QE10.BS35.GL24	430	70L	4	10	Nitrile	Plugged	3.5 bar	G1½"	938801Q	FC7008.QE10.BK
70L420QEBPKG241	FF7008.QE20.BS35.GL24	450	70L	4	20	Nitrile	Plugged	3.5 bar	G1½"	938802Q	FC7008.QE20.BK
70T110QBPKG161	FF7005.Q010.BS35.GT16	150	70T	1	10	Nitrile	Plugged	3.5 bar	G1"	938773Q	FC7005.Q010.BK
70T120QBPKG161	FF7005.Q020.BS35.GT16	200	70T	1	20	Nitrile	Plugged	3.5 bar	G1"	938774Q	FC7005.Q020.BK
70T210QBPKG201	FF7006.Q010.BS35.GT20	260	70T	2	10	Nitrile	Plugged	3.5 bar	G1½"	938777Q	FC7006.Q010.BK
70T220QBPKG201	FF7006.Q020.BS35.GT20	280	70T	2	20	Nitrile	Plugged	3.5 bar	G1½"	938778Q	FC7006.Q020.BK
70T310QBPKG241	FF7007.Q010.BS35.GT24	360	70T	3	10	Nitrile	Plugged	3.5 bar	G1½"	938781Q	FC7007.Q010.BK
70T320QBPKG241	FF7007.Q020.BS35.GT24	380	70T	3	20	Nitrile	Plugged	3.5 bar	G1½"	938782Q	FC7007.Q020.BK
70T410QBPKG241	FF7008.Q010.BS35.GT24	360	70T	4	10	Nitrile	Plugged	3.5 bar	G1½"	938785Q	FC7008.Q010.BK
70T420QBPKG241	FF7008.Q020.BS35.GT24	380	70T	4	20	Nitrile	Plugged	3.5 bar	G1½"	938786Q	FC7008.Q020.BK
70T110QEBPKG161	FF7005.QE10.BS35.GT16	150	70T	1	10	Nitrile	Plugged	3.5 bar	G1"	938789Q	FC7005.QE10.BK
70T120QEBPKG161	FF7005.QE20.BS35.GT16	200	70T	1	20	Nitrile	Plugged	3.5 bar	G1"	938790Q	FC7005.QE20.BK
70T210QEBPKG201	FF7006.QE10.BS35.GT20	260	70T	2	10	Nitrile	Plugged	3.5 bar	G1½"	938793Q	FC7006.QE10.BK
70T220QEBPKG201	FF7006.QE20.BS35.GT20	280	70T	2	20	Nitrile	Plugged	3.5 bar	G1½"	938794Q	FC7006.QE20.BK
70T310QEBPKG241	FF7007.QE10.BS35.GT24	360	70T	3	10	Nitrile	Plugged	3.5 bar	G1½"	938797Q	FC7007.QE10.BK
70T320QEBPKG241	FF7007.QE20.BS35.GT24	380	70T	3	20	Nitrile	Plugged	3.5 bar	G1½"	938798Q	FC7007.QE20.BK
70T410QEBPKG241	FF7008.QE10.BS35.GT24	360	70T	4	10	Nitrile	Plugged	3.5 bar	G1½"	938801Q	FC7008.QE10.BK
70T420QEBPKG241	FF7008.QE20.BS35.GT24	380	70T	4	20	Nitrile	Plugged	3.5 bar	G1½"	938802Q	FC7008.QE20.BK

Note: Filter assemblies ordered from the product configurator on next page are on extended lead times. Where possible, please make your selection from the table above.

70/70 Eco Series Seal Kits	
Part Number	Description
911045021	NITRILE SEAL KIT 70/70 Eco
911045051	FLUOROELASTOMER SEAL KIT 70/70 Eco

70/70 Eco Series

High Pressure Filters

Ordering Information (cont.)

Product configurator

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
70L	3	10Q	B	M3	K	G24	1

Box 1		Box 2		Box 3				
Code		Filter type		Degree of filtration				
Model	Code	Length	Code	Element media				
High pressure filter with L-port	70L	Length 1	1	Glass fibre				
High pressure filter with T-port	70T	Length 2	2	Media code				
High pressure filter with side manifold mounting	70B	Length 3	3	Microglass III element	02Q	05Q	10Q	20Q
		Length 4	4	Ecoglass III element	02QE	05QE	10QE	20QE
				High collapse element	02QH	05QH	10QH	20QH

Note: When using Ecoglass III elements reusable Eco-adaptor is required. Consult Parker.

Box 4		Box 5		Box 6		
Seal type		Indicator		Bypass and indicator settings		
Seal material	Code		Code	Bypass valve	Indicator	Code
Nitrile	B	Plugged with steel plug	P	3.5 bar	2.5 bar	K
Fluoroelastomer	V	Visual indicator	M3	No bypass	7.0 bar	N
		Electrical indicator	T1	No bypass	No indicator (P)	X
		Electronic 4 LED, PNP, N.O.	F1	+ Box 8: code 2		
		Electronic 4 LED, NPN, N.O.	F2	+ Box 8: code 2		
		Electronic 4 LED, PNP, N.C.	F3			
		Electronic 4 LED, NPN, N.C.	F4			

When filter includes a bypass valve but not an indicator, code denotes bypass setting.

Box 7					
Filter connection					
Connections	Code	Length 1	Length 2	Length 3	Length 4
Thread G 1	G16	S	S	x	x
Thread G 1 1/4	G20	S	S	S	S
Thread G 1 1/2	G24	x	S	S	S
SAE flange 1 1/2" 3000-M	R20	x	x	x	x
SAE flange 1 1/2" 3000-M	R24	x	x	x	x
SAE flange 1 1/2" 6000-M	H20	x	x	x	x
SAE flange 1 1/2" 6000-M	H24	x	x	x	x
Side manifold (70B only)	X32	x	x	x	x

Availability: **S** = standard product
x = non-standard, ask for availability

Box 8	
Options	
Options	Code
Standard	1
No bypass	2
Drain port	4
70T: side indicator ports	6
70T: options 2 + 6	8

Options 6 and 8: in 70T model there is an option for 2 x indicator ports on filter outlet flange (standard indicator port not machined)
P: both side indicator ports plugged with steel plug
M3 or other indicator chosen: right side (in flow direction) port plugged with a plastic plug, left with a steel plug

Nominal flow (l/min) at viscosity 30 cSt						
Filter length	Media	G16 T-port	G16 L-port & G20 T-port	G20 L-port & Side manifold	G24 T-port	G24 L-port
Length 1	02Q/02QE	80	80	80	80	80
	05Q/05QE	120	120	120	120	120
	10Q/10QE	150	150	150	150	150
	20Q/20QE	200	230	230	230	230
Length 2	02Q/02QE	160	160	160	160	160
	05Q/05QE	180	200	200	200	200
	10Q/10QE	220	260	280	300	320
	20Q/20QE	240	280	300	330	350
Length 3	02Q/02QE	200	220	220	220	220
	05Q/05QE	220	250	280	280	280
	10Q/10QE	240	280	300	350	400
	20Q/20QE	250	300	320	380	430
Length 4	02Q/02QE	220	250	270	270	270
	05Q/05QE	230	260	300	330	330
	10Q/10QE	250	280	330	360	430
	20Q/20QE	260	300	350	380	450

Replacement elements with nitrile seals				
Media	Length 1	Length 2	Length 3	Length 4
02Q	938771Q	938775Q	938779Q	938783Q
05Q	938772Q	938776Q	938780Q	938784Q
10Q	938773Q	938777Q	938781Q	938785Q
20Q	938774Q	938778Q	938782Q	938786Q
02QE	938787Q	938791Q	938795Q	938799Q
05QE	938788Q	938792Q	938796Q	938800Q
10QE	938789Q	938793Q	938797Q	938801Q
20QE	938790Q	938794Q	938798Q	938802Q
02QH	938803Q	938807Q	938811Q	938815Q
05QH	938804Q	938808Q	938812Q	938816Q
10QH	938805Q	938809Q	938813Q	938817Q
20QH	938806Q	938810Q	938814Q	938818Q

Highlights Key (Denotes part number availability)

123	Item is standard
123	Item is standard green option
123	Item is semi standard
123	Item is non standard

Degree of filtration						Code		
Average filtration beta ratio β (ISO 16889) / particle size μm [c]						Disposable Microglass III	Metal free Ecoglass III	High collapse element
$\beta_x(c)=2$	$\beta_x(c)=10$	$\beta_x(c)=75$	$\beta_x(c)=100$	$\beta_x(c)=200$	$\beta_x(c)=1000$			
% efficiency, based on the above beta ratio (β_x)								
50.0%	90.0%	98.7%	99.0%	99.5%	99.9%	02Q	02QE	02QH
N/A	N/A	N/A	N/A	N/A	4.5	05Q	05QE	05QH
N/A	N/A	4.5	5	6	7	10Q	10QE	10QH
N/A	6	8.5	9	10	12	20Q	20QE	20QH
6	11	17	18	20	22			

Note 1: Part numbers featured with bold highlighted codes will ensure a 'standard' product selection.
Note 2: Alternate displayed part number selection will require you to contact Parker Filtration for availability.

