

12CS Series

Coreless Spin-on Filter

Max. 75 l/min - 35 bar



Environmentally friendly alternative for spin-on filtration

Lightweight, non-metallic element that can be incinerated

The 12CS Series features a Parker, replaceable coreless Ecoglass III element in a re-usable bowl for easy used element removal and disposal. Maximum pressure 35 bar and the Ecoglass element offers a low environmental impact in landfills.



Contact Information:

Parker Hannifin
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www.parker.com/hfde

Product Features:

- 12CS features a Parker quality, replaceable coreless Ecoglass III element.
- Re-usable bowl design for easy element removal.
- Maximum pressure 35 bar.
- An eco filter solution for hydraulic systems.

Coreless Spin-on Filters

12CS Series

WASTE.



500,000,000+

spin-on cans disposed
of each year in North
American landfills.

30,000,000

gallons of discarded
residual waste oil.

250,000

tons of scrap metal.
Expensive disposal costs.

NOT.



The Smart Alternative to Spin-on Cans!

Features:

Parker engineers have developed an innovative alternative to the age old spin-on style can. This new design provides all of the benefits of high efficiency, long life Ecoglass III filtration, without the environmental impact.

The new environmentally-friendly 12CS hydraulic filters feature a reuseable bowl and a quality filter element constructed primarily of nylon and fiberglass. The element core is permanently attached as part of the filter bowl. When replaced, the element reduces costs, eliminates hot drain requirements, can be easily incinerated, and is better-suited for most landfills.

The 35 bar filter is rated up to 220 l/min, with premium Ecoglass III elements as standard offerings. The element design also prevents filter operation if the proper element is not in place.

Applications:

- Mobile Ag
- Mobile Construction
- Material Handlers
- Aerial Lifts
- Pilot lines
- Charge pump hydrostatic drives
- Industrial power units
- Machine tools

Feature	Advantage	Benefit
<ul style="list-style-type: none"> • 35 bar operating pressure 	<ul style="list-style-type: none"> • Withstands pressure surges, allows application versatility. 	<ul style="list-style-type: none"> • Broader applications compared to lower rated spin-on cans.
<ul style="list-style-type: none"> • Parker quality element 	<ul style="list-style-type: none"> • Provides head-to-bowl seal. • Must be installed for operation. • Ensures original element must be used. 	<ul style="list-style-type: none"> • Provides optimum leak-free performance. • Meets system cleanliness requirements.
<ul style="list-style-type: none"> • Coreless Ecoglass elements 	<ul style="list-style-type: none"> • Lightweight, non-metallic. • Ease of service and disposal. 	<ul style="list-style-type: none"> • Reduces disposal costs. • Can be incinerated. • Low environmental impact in landfills.
<ul style="list-style-type: none"> • Spin-on filter assembly w/re-usable bowl 	<ul style="list-style-type: none"> • Improved, cost-effective design. 	<ul style="list-style-type: none"> • Easy to maintain.

Specifications

Pressure Ratings:

Maximum Allowable
Operating Pressure (MAOP):
35 bar (500 psi)
Fatigue: 27.6 bar (400 psi)
1,000,000 cycles: 27.6 bar
Design Safety Factor: 2.5:1

Operating Temperatures:

Buna: -40°C to 107°C

Element Collapse Rating:

10.3 bar (150 psid)

Element Condition Indicators:

For predictive maintenance, 3 types of indicator are available: An electrical analogue or switch type indicator or a battery operated visual LED indicator.

Materials:

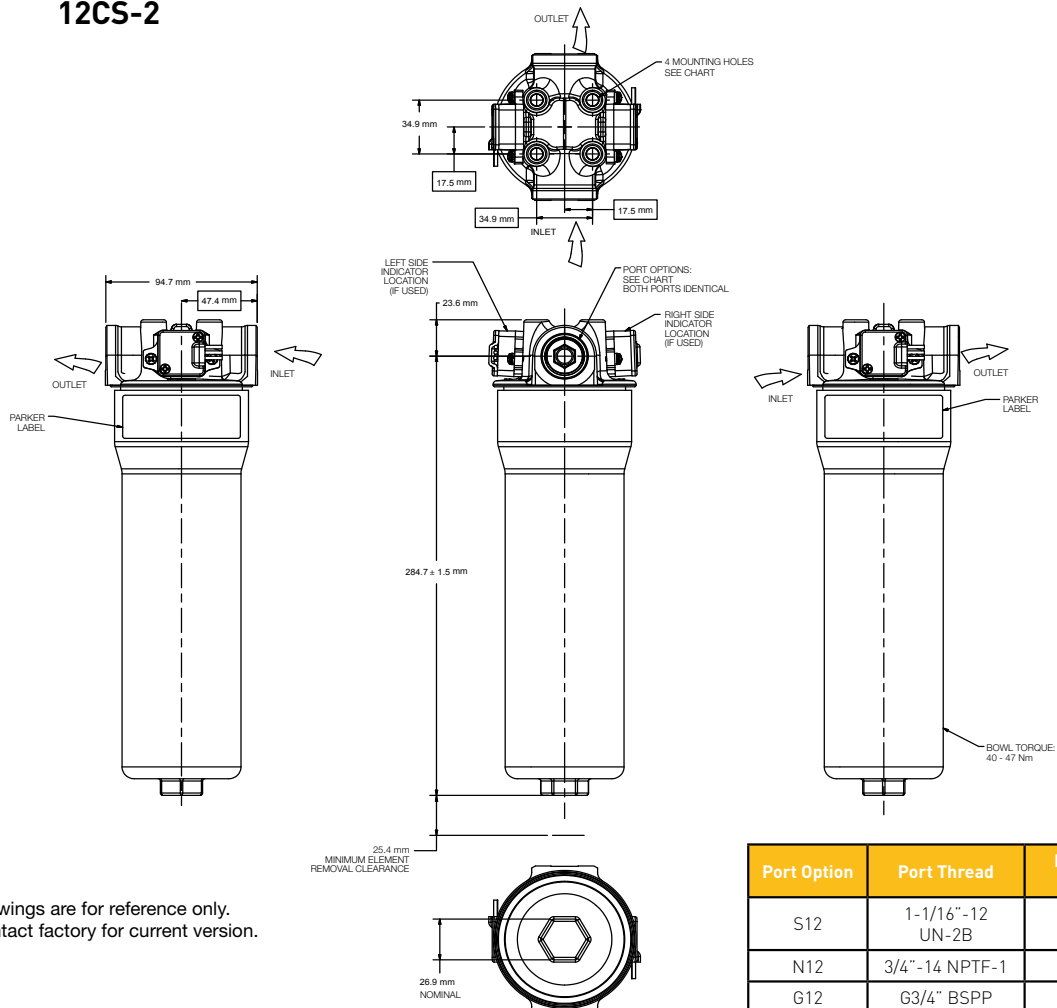
Head: die cast aluminium
Bypass valve: nylon with steel spring
Filter element: fibreglass and polyester
with nylon endcaps

Bowl: steel
Permanent core: steel

Weights (approximate):

12CS-2..... 1.4 kg (3lbs.)

12CS-2

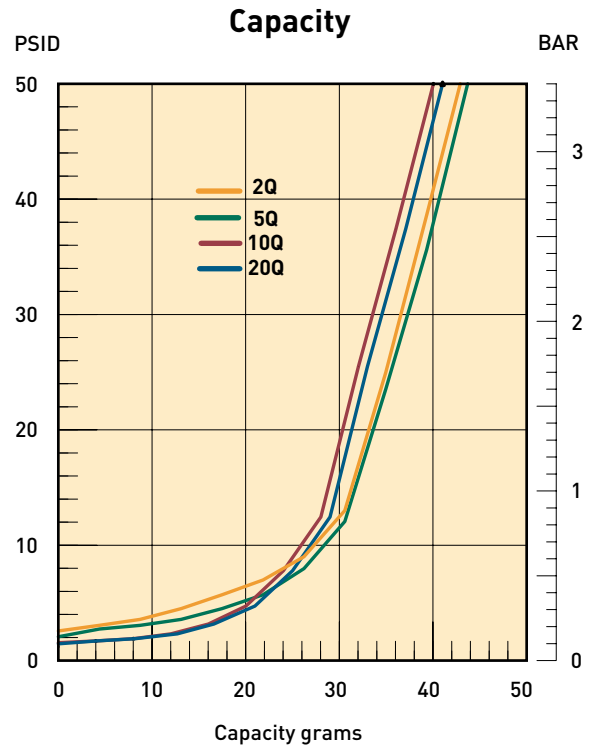
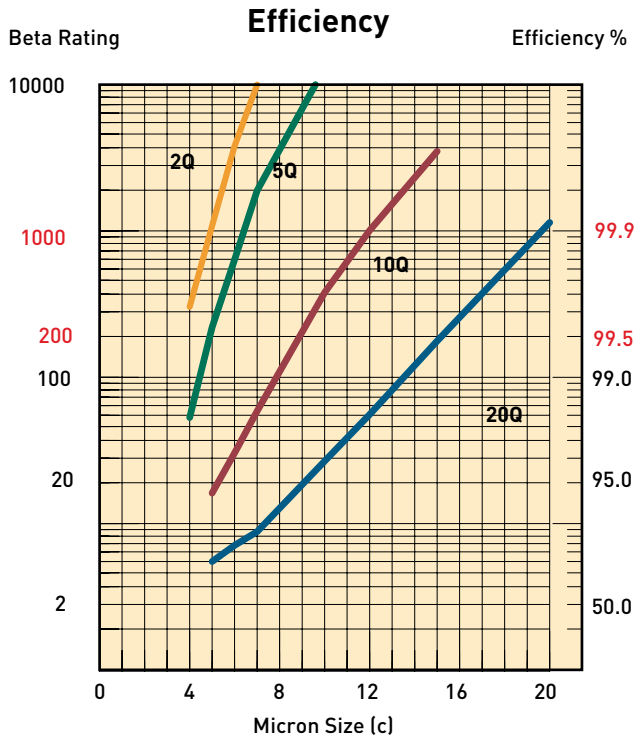


Drawings are for reference only.
Contact factory for current version.

Coreless Spin-on Filters

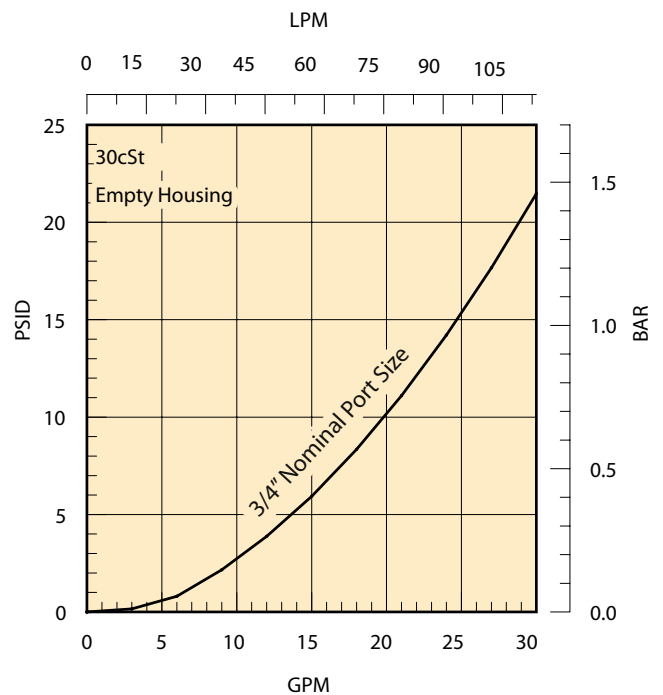
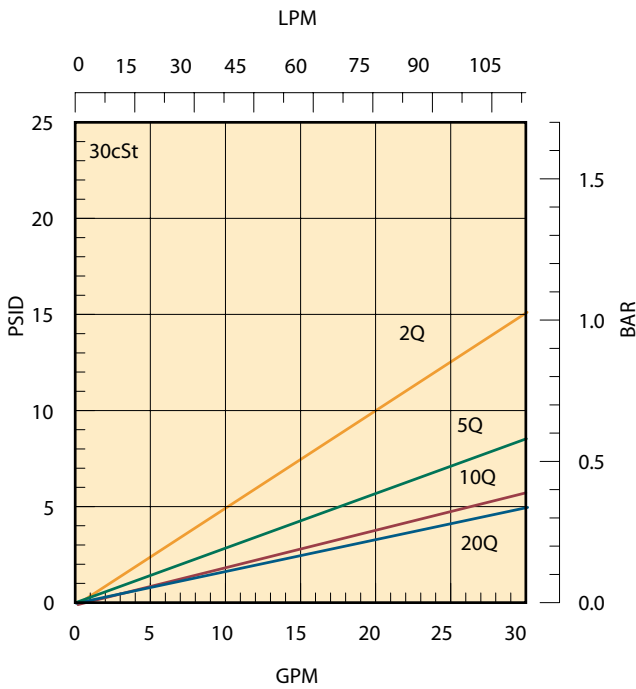
12CS Series

12CS-2 Performance



Results typical from Multi-pass tests run per test standard ISO 16889 @ 15 gpm to 50 psid terminal - 10 mg/L BUGL
Refer to Appendix for relationship to test standard ISO 4572.

Flow vs Pressure Loss



Coreless Spin-on Filters

12CS Series

Service Instructions 12CS

Filter Service

Filter element should be replaced as indicated by filter indicator gauge, or at specified service intervals recommended by the OEM.

Replacement element procedure

- A. Shut down system and release pressure in the filter line.
- B. Loosen bowl and remove rotating counter clockwise.
- C. Remove dirty element from filter head and discard.
- D. Lubricate element seals on clean element and install on filter head element locator.
- E. Install reusable bowl onto element and filter head.

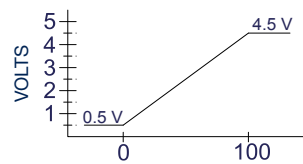


Parts List

Index		12CS
1	Head	
	SAE-12	942249
	3/4" NPT	942250
	G3/4" BSPP	942251
2	Bypass	
	3.5 bar assembly	928981
3	Element	
	02QE	940765Q
	05QE	940764Q
	10QE	940763Q
	20QE	940762Q
4	Bowl	
	Double	937599
	Indicators	
5	Analogue Electrical	941802
6	Reed switch (on-off)	941814
7	Visual Red-LED	941945

Element Condition Indicators

5. Analog Electrical
 - Supply voltage: 4.5 to 5.5 VDC
 - Main output current: 1 mA
 - Output voltage: Ratiometric (see graph)
 - Approvals: CE, IP68
 - Connector: 12" wire leads, 18 Gauge
 - Yellow (analog out)
 - Black (0V)
 - Red (supply +5 V)



ELEMENT LOAD CONDITION (% LOADED)

6. Electrical Switch (Reed switch - On/Off)
 - Connector: 12" wire leads, 18 Gauge
 - Yellow (NC), black (NO), Red (C)
 - Maximum switching voltage: 30V (DC/AC)
 - Maximum switching current 0.2A
 - Maximum carry current: 0.5A
 - Approvals: CE, IP68
7. Visual Indicator (Red - LED)
 - Push to test
 - Battery operated
 - Visual LED (red = change element)



Electrical Switch or Analog Sensor



Visual Indicator

Coreless Spin-on Filters

12CS Series

How To Order

Select the desired symbol (in the correct position) to construct a model code.

Example:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
12CS	2	10QE	B	P	G	S12	1

BOX 1: Basic Assembly	
Symbol	Description
12CS	Coreless Spin-On, 75 l/min nominal

BOX 6: Bypass	
Symbol	Description
K	3.5 bar (50 PSID)

BOX 2: Length	
Symbol	Description
2	Double

BOX 7: Ports	
Symbol	Description
S12	SAE-12 integral threads*
N12	3/4" NPT integral threads
G12	G3/4" BSPP (ISO 220) integral threads

*Porting recommended for best delivery.

BOX 3: Element Media	
Symbol	Description
02QE	Ecoglass III, 2µm
05QE	Ecoglass III, 5µm
10QE	Ecoglass III, 10µm
20QE	Ecoglass III, 20µm

BOX 8: Option	
Symbol	Description
1	No options

BOX 4: Seals	
Symbol	Description
B	Nitrile (NBR)
Consult Parker for additional seal options	

BOX 5: Indicator	
Symbol	Description
N	None

Replacement Elements (Ecoglass)

Media	Filter Model - Nitrile seats
	12CS-2
02QE	940765Q
05QE	940764Q
10QE	940763Q
20QE	940762Q

15/40/80CN Series

Medium Pressure Filters
Max. 600 l/min - 70 bar



Premium performance for medium pressure applications

An economical 'multi-purpose' filter solution

The CN Series utilizes a cast aluminium head and spin-on bowl and can be specified with Microglass III or Ecoglass III filter media. Maximum pressure 70 bar. Maximum flow 600 l/min. Excellent performance value from a globally proven, reliable medium pressure filter.



Contact Information:

Parker Hannifin
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(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:

- CN utilizes a cast aluminium head and bowl.
- Excellent fatigue pressure ratings.
- Maximum pressure 70 bar. Maximum flow 600 l/min.
- An economic 'multi-purpose' filter solution.

15/40/80CN Series

Medium Pressure Filters

Features & Benefits

Features	Advantages	Benefits
56 bar fatigue rating (eight times that of a spin-on)	Ability to provide reliable service under tough cyclic operating conditions	Reduced downtime due to premature filter failures
	Can be utilised in applications where high pressure filters may have been only option	Reduced costs, better "fit" for the application
Diametral (side) seal between head and bowl	Proven reliability in cyclic applications	No downtime, no leaks
	Reduced importance of bowl torque	Performs with "real world" service
Dust seal	Prevents contamination from building up on bowl/head threads	Easier service, eliminates thread galling
40CN-2 meets automotive HF3 standard	Automotive industry acceptance	Satisfies specifications without need for further testing and/or approval
15CN meets automotive HF2 standard		
Cast aluminium head	Low profile, lightweight and durable	Less weight, smaller envelop and cleaner appearance
Reinforced 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
Complete performance data disclosure	All pertinent information is provided in an easy-to-compare format	No hidden deficiencies
		Easy selection of proper filtration
Visual, electrical or electronic indicators available	Check element condition at a glance	Optimise element life, prevent bypassing
	Right style for the application	Matches your system electrical connections
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 cost
	Conversion kits available: new bowl with permanent core	Retrofit coreless design to housings already installed

Typical Applications

- Compressor lube oil
- Off-line filter loops
- Machine tools (Automotive standard)
- Hydrostatic drive charge pumps
- Mobile equipment
- Pilot lines for servo controls
- Oil patch drilling equipment
- Injection moulding

The Parker Filtration 15/40/80CN Series Medium Pressure Filters.

This partial list of applications for Parker "CN" Series Filters has a common factor, the need for an economical, medium pressure range filter with excellent fatigue pressure ratings. Prior to the availability of the "CN" filter, applications such as those listed were restricted by limitations of a spin-on can, or forced into the higher-cost range of high pressure filters.

The "CN" Series fills this gap and is now available with environmentally friendly Ecoglass III elements.



Specification

Pressure ratings:

Maximum allowable operating pressure: 70 bar
 Rated fatigue pressure: 56 bar

Connections:

Several threaded port options available, flange faced ports available on 80CN.

Connection style	Model	40CN	80CN
BSPF(G)	15CN	1 1/4", 1 1/2"	1 1/2", 2"
SAE	12, 16	16, 24	24, 32
ISO 6149	M27	M33	M42, M48
Metric 3000-M			2"

Filter housing:

Head material aluminium.
 Bowl material hard anodized aluminium.

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 & indicator settings:

Table following gives bypass valve and corresponding indicator setting.

Bypass	Indicator
1.7 bar	1.2 bar
3.5 bar	2.5 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 (available by request)

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 bowl including Eco-adaptor.
 Note: Ecoglass III contributes to ISO 14001 quality.

Par-Gel:

Water removal media absorbent copolymer laminate media with ability to remove free water from mineral based and synthetic fluids available for 40CN and 80CN.

Indicator options:

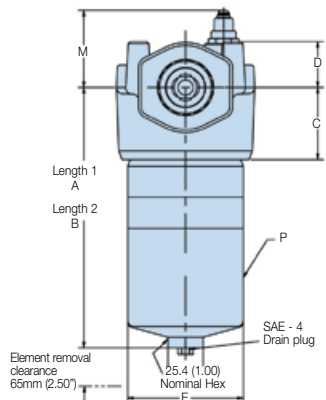
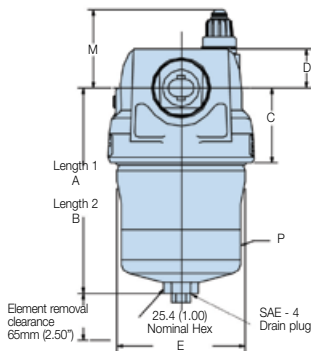
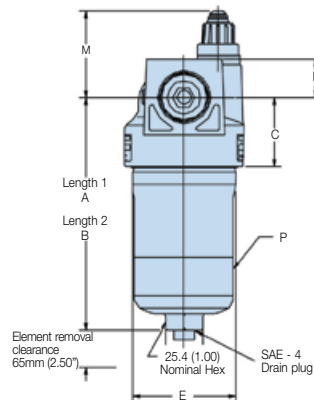
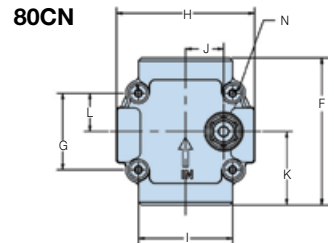
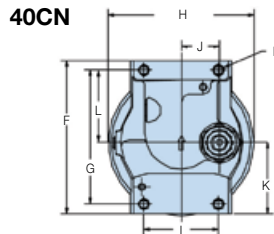
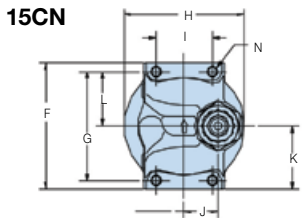
- visual M3.
 - electronic F1 (PNP).
 - electrical T1.
 - electronic F2 (NPN).
- For indicator details see catalogue section 6.

Weights (kg):

Model	Length 1	Length 2
15CN	1.1	1.6
40CN	2.0	2.5
80CN	5.6	6.9

Fluid compatibility:

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



Dimensions in mm (inch)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M*	N	P
15CN	156.6 (6.17)	250.7 (9.87)	46.5 (1.83)	25.4 (1.09)	71.1 (2.80)	85.9 (3.38)	73.2 (2.88)	82.6 (3.25)	38.1 (1.50)	22.9 (0.90)	42.9 (1.69)	36.6 (1.44)	53	4xM6-1.0x7.9 deep	20-27 Nm
40CN	170.8 (6.73)	262.4 (10.33)	62.0 (2.44)	32.6 (1.28)	107.2 (4.22)	127.0 (5.00)	127.0 (4.37)	111.0 (4.80)	121.9 (2.44)	62.0 (1.25)	31.8 (2.32)	58.8 (2.37)	53	4xM8-1.25x13 deep	57-68 Nm
80CN	280.9 (11.06)	401.6 (15.81)	77.7 (3.06)	49.5 (1.95)	124.8 (4.91)	158.7 (6.25)	82.6 (3.25)	151.4 (5.96)	101.6 (4.00)	41.1 (1.62)	79.4 (3.12)	41.3 (1.63)	69	4xM8-1.25x16 deep	80-95 Nm

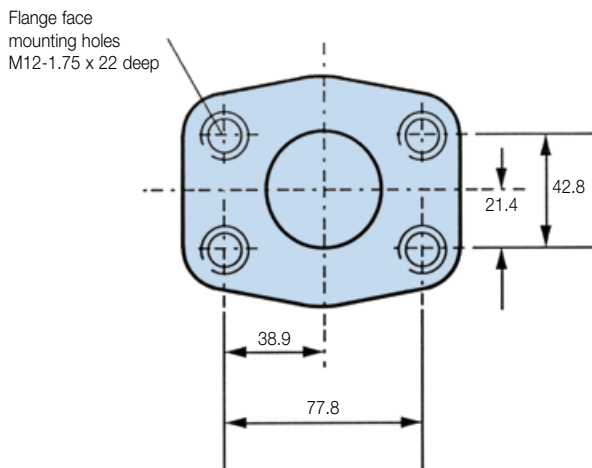
Note: add 45mm for T and F indicators



15/40/80CN Series

Medium Pressure Filters

80CN Flange Face Details (SAE 2" 3000-M)



Pressure Drop Curves

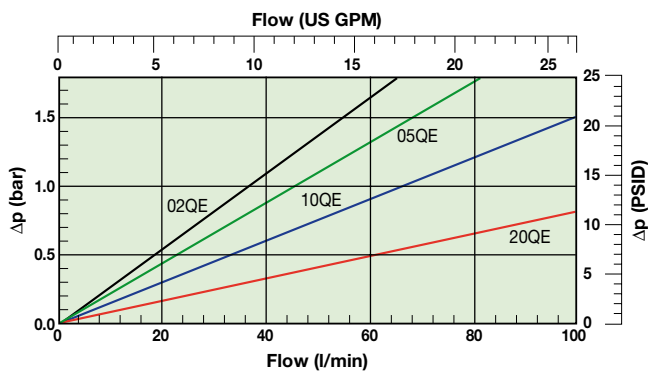
With 1.7 bar bypass the recommended initial pressure drop is max 0.5 bar.

With 3.5 bar bypass the recommended initial pressure drop is max 1.0 bar.

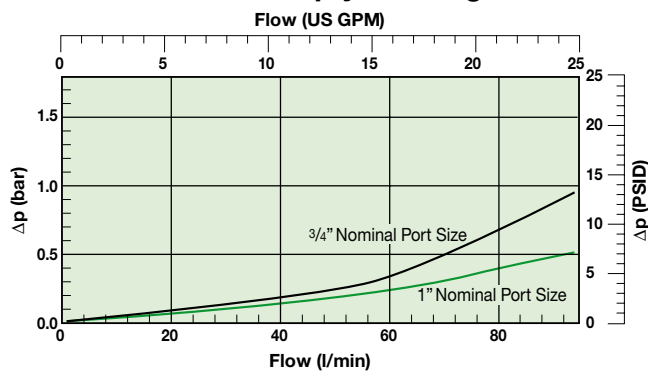
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows:

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

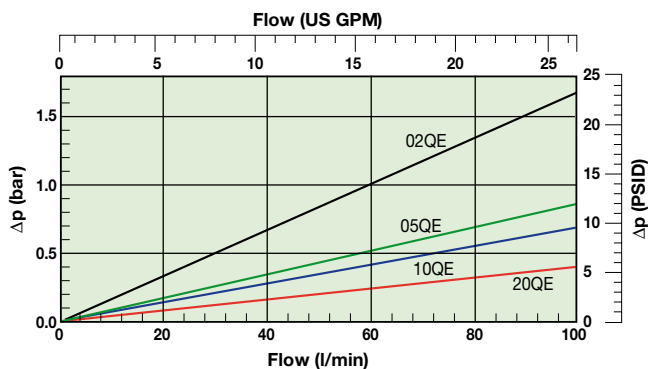
15CN-1 Elements



15CN Empty Housing

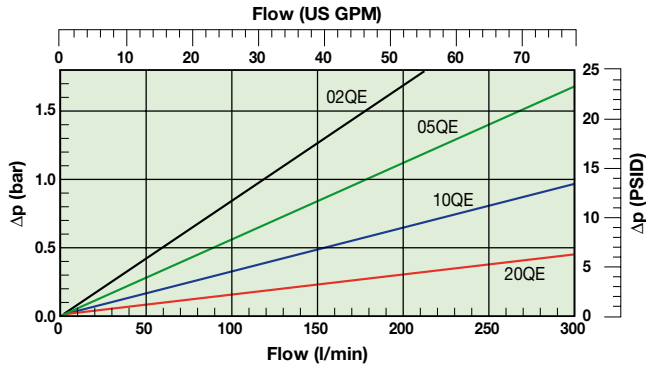


15CN-2 Elements

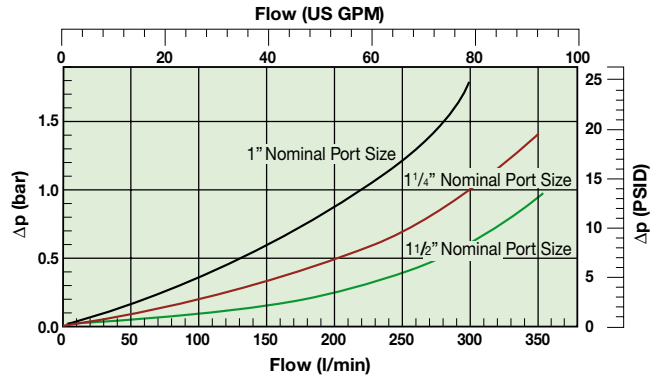


Pressure Drop Curves

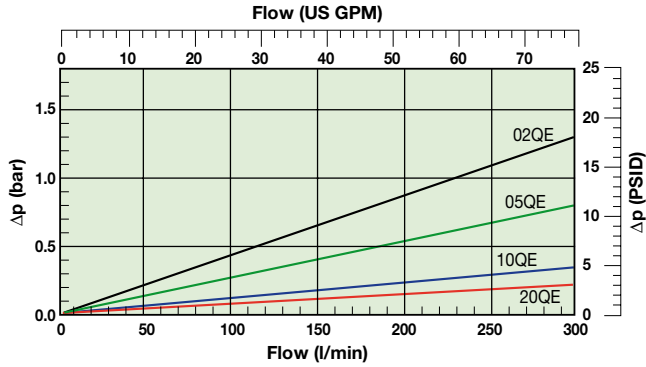
40CN-1 Elements



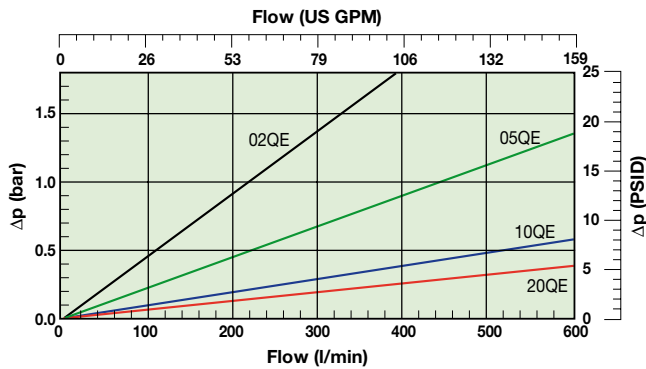
40CN Empty Housing



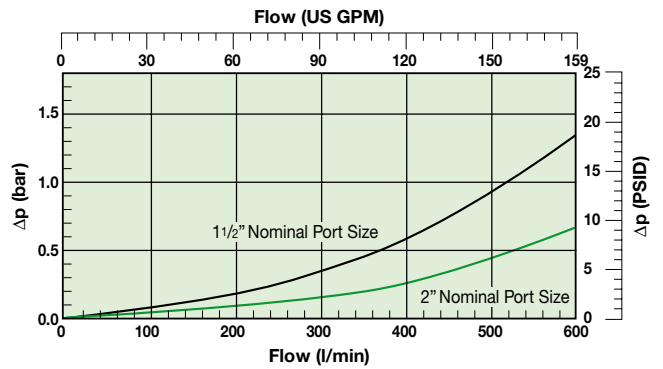
40CN-2 Elements



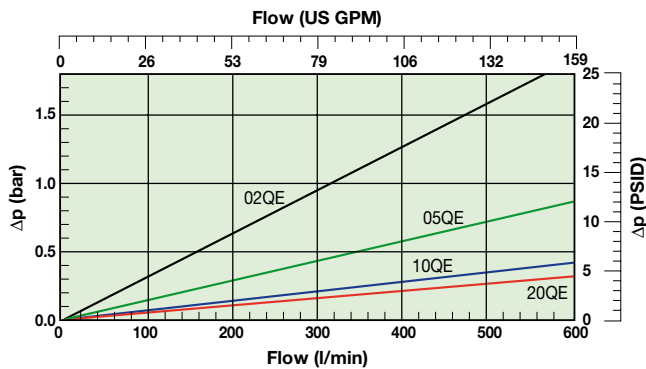
80CN-1 Elements



80CN Empty Housing



80CN-2 Elements



15/40/80CN Series

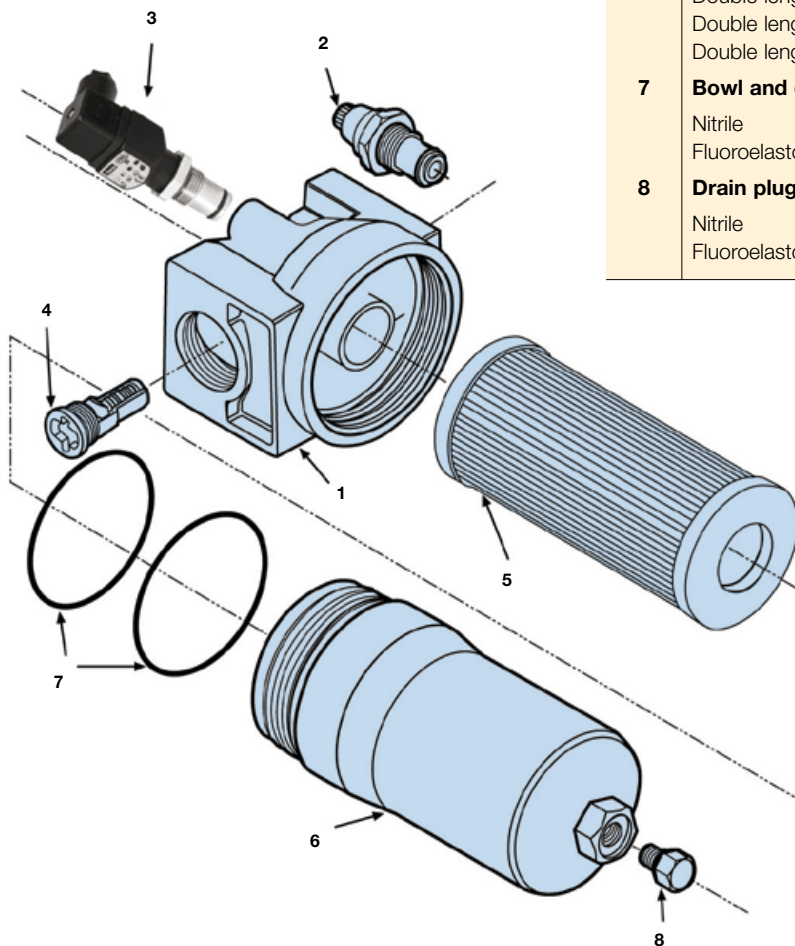
Medium Pressure Filters

Element Service

- A. Stop the system's power unit.
- B. Relieve any system pressure in the filter line.
- C. Drain the filter bowl if drain port option is provided.
- D. Loosen and remove bowl.
- E. Remove element by pulling downward with a slight twisting motion and discard.
- F. Check bowl o-ring and anti-extrusion ring for damage and replace if necessary.
- G. Lubricate element o-ring with system fluid and place on post in filter head.
- H. Install bowl by rotating counter clockwise and tighten to specified torque.
 - 15CN – 20-27 Nm (15-20ft. lbs)
 - 40CN – 57-68 Nm (42-50ft. lbs)
 - 80CN – 80-95 Nm (60-70ft. lbs)
- I. Confirm there are no leaks after powering the system.

CN Filters Parts List

Index	Description
1	Head
2	Indicators M3-visual auto reset: 1.2 bar M3-visual auto reset: 2.5 bar
3	T1-electrical: 1.2 bar c/w DIN 43650 connector T1-electrical: 2.5 bar c/w DIN 43650 connector F1-electronic PNP with 4 LEDs: 1.2 bar F1-electronic PNP with 4 LEDs: 2.5 bar F2-electronic NPN with 4 LEDs: 1.2 bar F2-electronic NPN with 4 LEDs: 2.5 bar
4	Bypass valve 1.7 bar assembly 3.5 bar assembly
5	Element (see replacement element part numbers)
6	Bowl Single length with drain Single length with reusable core and drain Single length without drain Double length with drain Double length with reusable core and drain Double length without drain
7	Bowl and dust seal Nitrile Fluoroelastomer
8	Drain plug: SAE-4 Nitrile Fluoroelastomer



Ordering Information

Standard products table

Part numbers	Supersedes	Flow (l/min)	Model number	Element length	Media rating (μ)	Seals	Indicator	Bypass settings	Ports	Replacement elements
15CN110QEVT1KG164	F315CN1R10QETW350C2C219	50	15CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G1"	936700Q
15CN110QEVVM3KG164	F315CN1R10QEM250C2C219	50	15CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G1"	936700Q
15CN120QEVT1KG164	F315CN1R20QETW350C2C219	80	15CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G1"	936701Q
15CN120QEVVM3KG164	F315CN1R20QEM250C2C219	80	15CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G1"	936701Q
15CN210QEVT1KG164	F315CN2R10QETW350C2C219	80	15CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G1"	936704Q
15CN210QEVVM3KG164	F315CN2R10QEM250C2C219	80	15CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G1"	936704Q
15CN220QEVT1KG164	F315CN2R20QETW350C2C219	100	15CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G1"	936705Q
15CN220QEVVM3KG164	F315CN2R20QEM250C2C219	100	15CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G1"	936705Q
40CN105QEVT1KG244	F340CN1R05QETW350E2E219	120	40CN	Length 1	5	Fluoroelastomer	Electrical	3.5 bar	G1½"	936707Q
40CN105QEVVM3KG244	F340CN1R05QEM250E2E219	120	40CN	Length 1	5	Fluoroelastomer	Visual	3.5 bar	G1½"	936707Q
40CN110QEVT1KG244	F340CN1R10QETW350E2E219	180	40CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G1½"	936708Q
40CN110QEVVM3KG244	F340CN1R10QEM250E2E219	180	40CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G1½"	936708Q
40CN120QEVT1KG244	F340CN1R20QETW350E2E219	260	40CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G1½"	936709Q
40CN120QEVVM3KG244	F340CN1R20QEM250E2E219	260	40CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G1½"	936709Q
40CN205QEVT1KG244	F340CN2R05QETW350E2E219	200	40CN	Length 2	5	Fluoroelastomer	Electrical	3.5 bar	G1½"	936711Q
40CN205QEVVM3KG244	F340CN2R05QEM250E2E219	200	40CN	Length 2	5	Fluoroelastomer	Visual	3.5 bar	G1½"	936711Q
40CN210QEVT1KG244	F340CN2R10QETW350E2E219	280	40CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G1½"	936601Q
40CN210QEVVM3KG244	F340CN2R10QEM250E2E219	280	40CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G1½"	936601Q
40CN220QEVT1KG244	F340CN2R20QETW350E2E219	320	40CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G1½"	936712Q
40CN220QEVVM3KG244	F340CN2R20QEM250E2E219	320	40CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G1½"	936712Q
80CN110QEVT1KG324	F380CN1R10QETW350F2F219	370	80CN	Length 1	10	Fluoroelastomer	Electrical	3.5 bar	G2"	936602Q
80CN110QEVVM3KG324	F380CN1R10QEM250F2F219	370	80CN	Length 1	10	Fluoroelastomer	Visual	3.5 bar	G2"	936602Q
80CN120QEVT1KG324	F380CN1R20QETW350F2F219	420	80CN	Length 1	20	Fluoroelastomer	Electrical	3.5 bar	G2"	936715Q
80CN120QEVVM3KG324	F380CN1R20QEM250F2F219	420	80CN	Length 1	20	Fluoroelastomer	Visual	3.5 bar	G2"	936715Q
80CN210QEVT1KG324	F380CN2R10QETW350F2F219	530	80CN	Length 2	10	Fluoroelastomer	Electrical	3.5 bar	G2"	936718Q
80CN210QEVVM3KG324	F380CN2R10QEM250F2F219	530	80CN	Length 2	10	Fluoroelastomer	Visual	3.5 bar	G2"	936718Q
80CN220QEVT1KG324	F380CN2R20QETW350F2F219	600	80CN	Length 2	20	Fluoroelastomer	Electrical	3.5 bar	G2"	936719Q
80CN220QEVVM3KG324	F380CN2R20QEM250F2F219	600	80CN	Length 2	20	Fluoroelastomer	Visual	3.5 bar	G2"	936719Q

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.

CN Series Seal Kits	
Part Number	Description
S04449	NITRILE SEAL KIT 15CN
S04450	FLUOROELASTOMER SEAL KIT 15CN
S04447	NITRILE SEAL KIT 40CN
S04448	FLUOROELASTOMER SEAL KIT 40CN
S04458	NITRILE SEAL KIT 80CN
S04459	FLUOROELASTOMER SEAL KIT 80CN

15/40/80CN Series

Medium Pressure Filters

Ordering Information (cont.)

Product Configurator

Box 1	Box 2	Box 3	Box 4	Box 5	Box 6	Box 7	Box 8
40CN	2	10QE	V	M3	K	G24	4

Box 1

Code	
Model	Code
Small size MP filter, T-port	15CN
Medium size MP filter, T-port	40CN
Large size MP filter, T-port	80CN

Box 2

Filter type	
Length	Code
Length 1	1
Length 2	2

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

Box 3

Degree of filtration				
Element media	Glass fibre			Water Removal
	Media code			
Ecoglass III element	02QE	05QE	10QE	20QE
			WR	

Note: When using Ecoglass III elements a bowl with reusable Eco-adaptor is required. Consult Parker.
Filter assemblies with Microglass III elements are available by request.

WR: Water removal media.

Box 5

Indicator	
Code	
No indicator port	N
Visual indicator	M3
Electrical indicator	T1
Plugged	P
Electronic 4 LED, PNP, N.O.	F1
Electronic 4 LED, NPN, N.O.	F2
Electronic 4 LED, PNP, N.C.	F3
Electronic 4 LED, NPN, N.C.	F4

Box 6

Bypass valve		
Bypass valve	Indicator	Code
1.7 bar	1.2 bar	G
3.5 bar	2.5 bar	K

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

Box 4

Seal type	
Seal material	Code
Fluoroelastomer	V
Nitrile	B

Box 7

Filter connection	
Ports	Code
15CN: Thread G $\frac{3}{4}$	G12
Thread G1	G16
Thread SAE 12	S12
Thread SAE 16	S16
Thread M27, ISO6149	M27
40CN: Thread G1 $\frac{1}{4}$	G20
Thread G1 $\frac{1}{2}$	G24
Thread SAE 16	S16
Thread SAE 24	S24
Thread M33, ISO6149	M33
80CN: Thread G1 $\frac{1}{2}$	G24
Thread G2	G32
Thread SAE 24	S24
Thread SAE 32	S32
Thread M42, ISO6149	M42
Thread M48, ISO6149	M48
SAE flange 2" 3000-M	R32

Box 8

Options	
Options	Code
Standard drain port on bowl	4
ATEX certified* (Category 2, non-electrical equipment)	EX

Note 1*: For ATEX classified filters add EX after the code.

ATEX certified filters with electrical indicator are available on request.

Visual indicators are classified as Category 2, non electrical equipment.

Filter assemblies with EX code will be supplied with a dedicated name plate.

Pls consult Parker Filtration for any questions related to the classification of our products.

Ecoglass III elements (Fluoroelastomer seals)				
Model	02QE	05QE	10QE	20QE
15CN-1	936698Q	936699Q	936700Q	936701Q
15CN-2	936702Q	936703Q	936704Q	936705Q
40CN-1	936706Q	936707Q	936708Q	936709Q
40CN-2	936710Q	936711Q	936601Q	936712Q
80CN-1	936713Q	936714Q	936602Q	936715Q
80CN-2	936716Q	936717Q	936718Q	936719Q

Replacement element part numbers for conventional assemblies

Conversion bowl assembly (to retrofit existing CN filter housings to use coreless elements)	
936758	15CN-1 coreless element bowl assembly
936759	15CN-2 coreless element bowl assembly
936760	40CN-1 coreless element bowl assembly
936761	40CN-2 coreless element bowl assembly
936763	80CN-1 coreless element bowl assembly
936764	80CN-2 coreless element bowl assembly

Elements with nitrile seals				
Model	02Q	05Q	10Q	20Q
15CN-1	928935Q	G04041Q	928934Q	930367Q
15CN-2	928953Q	G04169Q	928952Q	930368Q
40CN-1	926696Q	G04048Q	926835Q	930099Q
40CN-2	926697Q	G04167Q	926837Q	930118Q
80CN-1	932656Q	932657Q	932658Q	929899Q
80CN-2	932662Q	932663Q	932664Q	929923Q

Elements with Fluoroelastomer seals					
Model	02Q	05Q	10Q	20Q	WR
15CN-1	932610Q	G04189Q	932612Q	930369Q	-
15CN-2	932616Q	G04190Q	932618Q	930370Q	-
40CN-1	926716Q	G04191Q	926836Q	930100Q	931412
40CN-2	926717Q	G04192Q	926838Q	930119Q	931414
80CN-1	932659Q	932660Q	832661Q	929903Q	931416
80CN-2	932665Q	932666Q	932667Q	929927Q	931418

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

Nominal flow (l/min) for filter assembly at viscosity 30cSt					
Housing, port size	02QE	05QE	10QE	20QE	
15CN-1, G1	10	30	50	80	
15CN-2, G1	30	70	80	100	
40CN-1, G1 $\frac{1}{2}$	60	120	180	260	
40CN-2, G1 $\frac{1}{2}$	80	200	280	320	
80CN-1, G2	150	300	370	420	
80CN-2, G2	180	420	530	600	

Please note the bolded options reflect standard options with a reduced lead-time of (4) weeks or less. Consult Parker Filtration on all other lead-time options.

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



45M/45 Eco Series

Medium Pressure Filters

Max 260 l/min - 40 bar



Ideal for harsh and demanding environments

Approved for engine rooms and mines

The 45M Series utilizes a cast iron head and steel bowl design and can be specified with Microglass III or Ecoglass III filter media. Maximum pressure 40 bar. Maximum flow 260 l/min. Lower element replacement costs and lower disposal costs



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:

- 45M utilizes a cast iron head and steel bowl.
- Solves the problem of protecting system components at lower pressures.
- Maximum pressure 40 bar. Maximum flow 260 l/min.
- An ideal filter series for harsh environments.

45M/45 Eco Series

Medium Pressure Filters

Features & Benefits

Features	Advantages	Benefits
Cast iron head, steel bowl	Can be used in applications where aluminium is not allowed	Approved for engine rooms and mines
	Rugged construction	Reliable filtration in all conditions
Reinforced 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
Visual, electrical or electronic indicators available	Check element condition at glance	Reduces downtime, maximises element life
	Right style for the application	Optimise element life, prevent bypassing
Test points in the filter head	Pressure measurement and Δp possible	Matches your system electrical connections
Coreless Ecoglass III replacement elements	No metal content in element	Quick testing and maintenance
	Reduced overall weight of 50%	Environmentally friendly disposal by incineration
	Easy compaction of used elements	Lower element replacement costs
	Eco adaptors available	Lower disposal costs
		Retrofit coreless design to housings already installed

Typical Applications

- Industrial power units
- Mobile construction equipment
- Forestry equipment

The Parker Filtration 45M/45 Eco Series Medium Pressure Filters.

The 45M/45 Eco Series of medium pressure filters offer an ideal solution to the problem of protecting system components at lower pressures.

The robust filter housing of the 45M allows the product to be applied in harsh environments. Filter bowl is designed for rapid element replacement. ECO Series elements reduces the waste over 50% due to the reusable element core.



Specification

Pressure ratings:

Maximum allowable operating pressure 40 bar.
Filter housing pressure pulse fatigue tested: 10⁶ pulses 0-40 bar.

Connections:

Threads G1, G1¹/₄ (ISO 228/1) or flange SAE 1¹/₂" 3000-M.

Filter housing:

Head material cast iron (GSI).
Bowl material steel.

Seal material:

Nitrile or Fluoroelastomer.

Operating temperature range:

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

Indicator options:

Indicating differential pressure: 2.5 ± 0.3 bar.

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

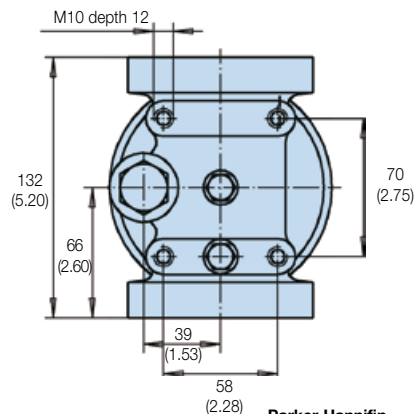
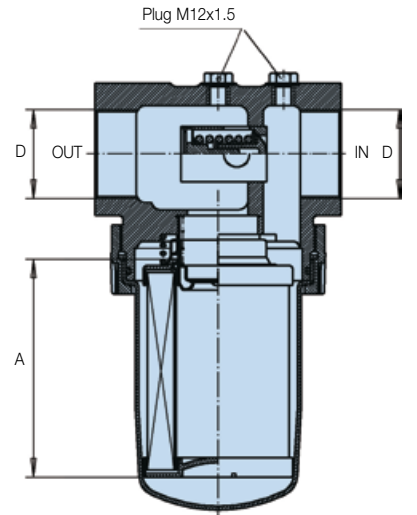
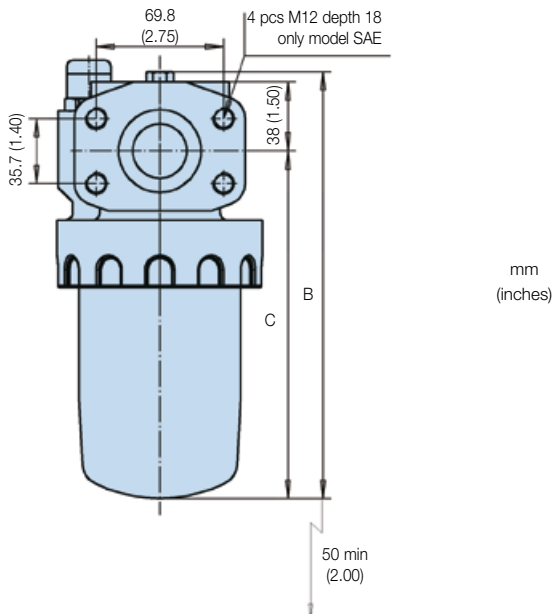
For indicator details see catalogue section 6.

Fluid compatibility:

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

Installation Details

Type	A	B	C	Weight (kg)	D
Length 1	116 (4.57)	237 (9.33)	192 (7.56)	5.9	G1, G1 ¹ / ₄ , G1 ¹ / ₂ , Flange SAE 1 ¹ / ₂ " 3000-M
Length 2	208 (8.20)	330 (13.00)	285 (11.22)	6.2	
Length 3	329 (13.00)	450 (17.72)	405 (15.94)	6.6	
Length 4	428 (16.85)	550 (21.65)	505 (19.90)	7.0	



45M/45 Eco Series

Medium Pressure Filters

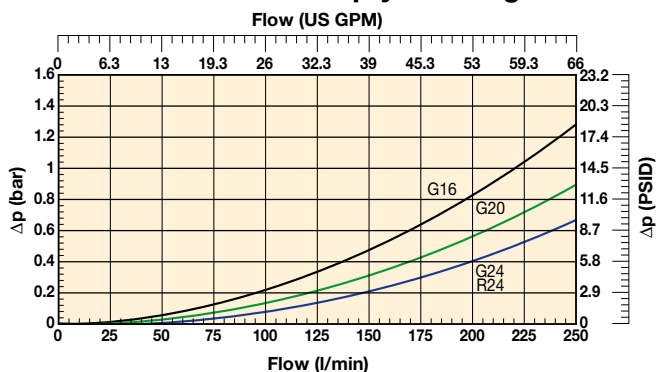
Pressure Drop Curves

The recommended level of the initial pressure drop is max 1.0 bar.

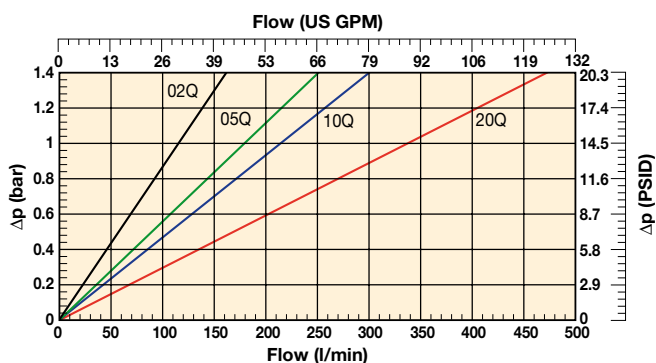
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows:

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

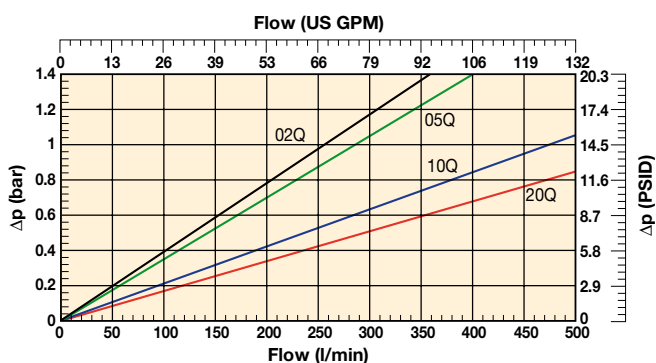
45M Series Empty Housing



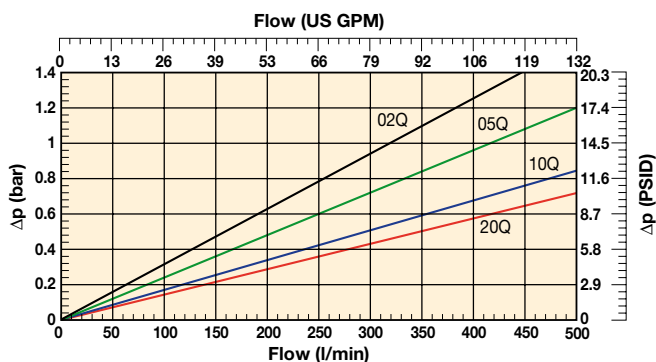
45M-1 Element with Microglass III



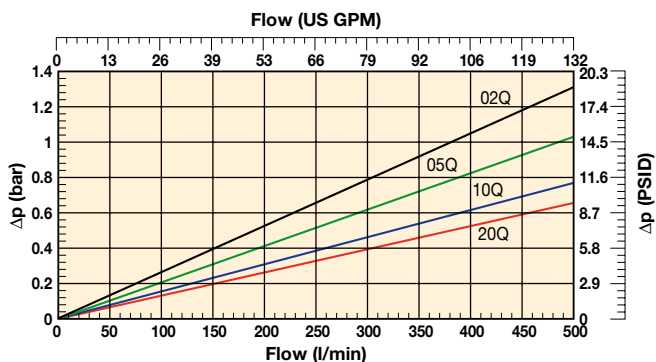
45M-2 Element with Microglass III



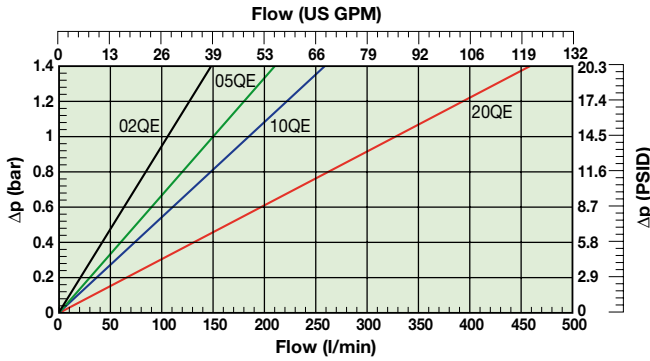
45M-3 Element with Microglass III



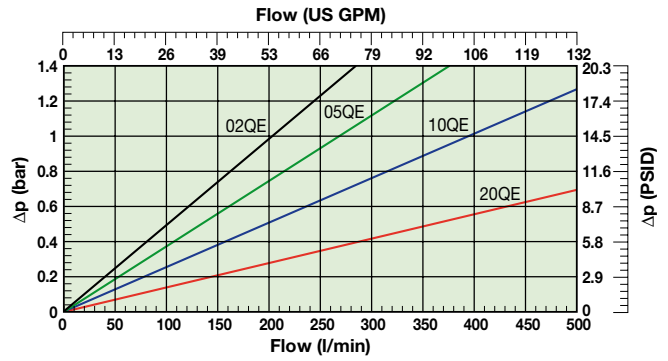
45M-4 Element with Microglass III



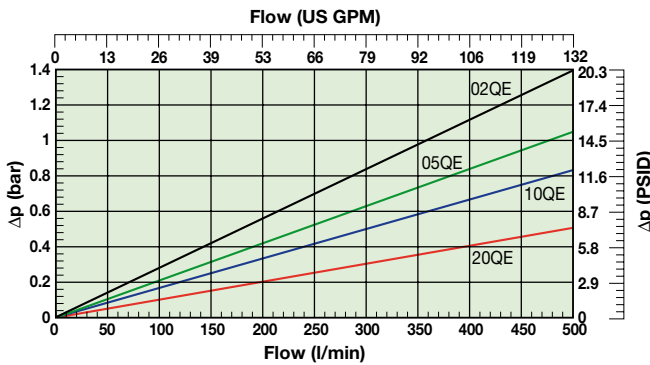
45M-1 Element with Ecoglass III



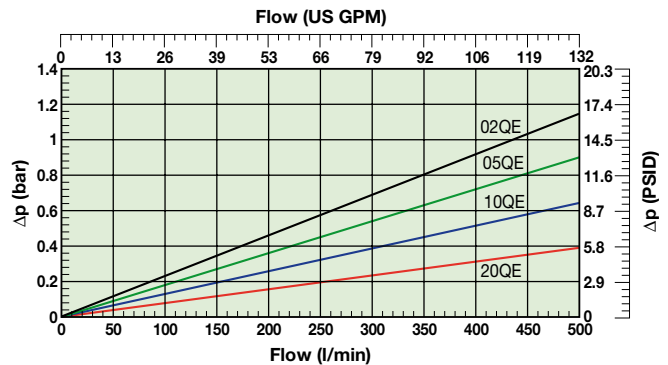
45M-2 Element with Ecoglass III



45M-3 Element with Ecoglass III



45M-4 Elements with Ecoglass III



Ordering Information

Standard products table

Product numbers	Supersedes	Flow (l/min)	Model number	Element length	Media rating (μ)	Seals	Indicator	Bypass settings	Ports	Replacement elements	Supersedes
45M110QBPKG161	FF1145.Q010.BS35.GT16	140	45M	Length 1	10	Nitrile	Plugged	3.5 bar	G1"	938962Q	FC7005.Q010.BK
45M120QBPKG161	FF1145.Q020.BS35.GT16	160	45M	Length 1	20	Nitrile	Plugged	3.5 bar	G1"	938963Q	FC7005.Q020.BK
45M110QEBPKG161	FF1145.QE10.BS35.GT16	140	45M	Length 1	10	Nitrile	Plugged	3.5 bar	G1"	938978Q	FC7005.QE10.BK
45M120QEBPKG161	FF1145.QE20.BS35.GT16	160	45M	Length 1	20	Nitrile	Plugged	3.5 bar	G1"	938979Q	FC7005.QE20.BK
45M210QBPKG201	FF1146.Q010.BS35.GT20	200	45M	Length 2	10	Nitrile	Plugged	3.5 bar	G1½"	938966Q	FC7006.Q010.BK
45M220QBPKG201	FF1146.Q020.BS35.GT20	220	45M	Length 2	20	Nitrile	Plugged	3.5 bar	G1½"	938967Q	FC7006.Q020.BK
45M210QEBPKG201	FF1146.QE10.BS35.GT20	200	45M	Length 2	10	Nitrile	Plugged	3.5 bar	G1½"	938982Q	FC7006.QE10.BK
45M220QEBPKG201	FF1146.QE20.BS35.GT20	220	45M	Length 2	20	Nitrile	Plugged	3.5 bar	G1½"	938983Q	FC7006.QE20.BK
45M310QBPKG241	FF1147.Q010.BS35.GT24	230	45M	Length 3	10	Nitrile	Plugged	3.5 bar	G1½"	938970Q	FC7007.Q010.BK
45M320QBPKG241	FF1147.Q020.BS35.GT24	250	45M	Length 3	20	Nitrile	Plugged	3.5 bar	G1½"	938971Q	FC7007.Q020.BK
45M310QEBPKG241	FF1147.QE10.BS35.GT24	230	45M	Length 3	10	Nitrile	Plugged	3.5 bar	G1½"	938986Q	FC7007.QE10.BK
45M320QEBPKG241	FF1147.QE20.BS35.GT24	250	45M	Length 3	20	Nitrile	Plugged	3.5 bar	G1½"	938987Q	FC7007.QE20.BK

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

Note 1: Part numbers featured with bold highlighted codes will ensure a "standard" product selection.

45M Series Seal Kits

Part Number	Description
918045049	NITRILE SEAL KIT 45M
918045050	NITRILE SEAL KIT 45M Eco
918045054	FLUOROELASTOMER SEAL KIT 45M
918045055	FLUOROELASTOMER SEAL KIT 45M Eco



45M/45 Eco Series

Medium Pressure Filters

Ordering Information (cont.)

Product configurator

Box 1 45M	Box 2 2	Box 3 10Q	Box 4 B	Box 5 M3	Box 6 K	Box 7 G20	Box 8 1
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Box 1

Code	
Model	Code
Medium pressure filter, T-port	45M

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

Box 2

Filter type	
Length	Code
Length 1	1
Length 2	2
Length 3	3
Length 4	4

Box 3

Degree of filtration				
Element media	Glass fibre			
	Media code			
Microglass III element	02Q	05Q	10Q	20Q
Ecoglass III element	02QE	05QE	10QE	20QE

Note: When using Ecoglass III elements a bowl with reusable Eco-adaptor is required.

Box 4

Seal type	
Seal material	Code
Nitrile	B
Fluoroelastomer	V

Box 5

Indicator	
	Code
Plugged with steel plug	P
Visual indicator	M3
Electrical indicator	T1
Electronic 4 LED, PNP, N.O.	F1
Electronic 4 LED, NPN, N.O.	F2
Electronic 4 LED, PNP, N.C.	F3
Electronic 4 LED, NPN, N.C.	F4

Box 6

Bypass valve		
Bypass valve	Indicator	Code
3.5 bar	2.5 bar	K
No bypass	7.0 bar	N
No bypass	No indicator (P)	X

+ Box 8: code 2

+ Box 8: code 2

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	S	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	R24	x	x	x	x

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

Box 8

Options	
Options	Code
Standard	1
No bypass	2
ATEX certified* (Category 2, non-electrical equipment)	EX

Note 1*: For ATEX classified filters add EX after the code.
ATEX certified filters with electrical indicator are available on request.
Visual indicators are classified as Category 2, non electrical equipment.
Filter assemblies with EX code will be supplied with a dedicated name plate.
Pls consult Parker Filtration for any questions related to the classification of our products.

Replacement elements with nitrile seals				
Media	Length 1	Length 2	Length 3	Length 4
02Q	938960Q	938964Q	938968Q	938972Q
05Q	938961Q	938965Q	938969Q	938973Q
10Q	938962Q	938966Q	938970Q	938974Q
20Q	938963Q	938967Q	938971Q	938975Q
02QE	938976Q	938980Q	938984Q	938988Q
05QE	938977Q	938981Q	938985Q	938989Q
10QE	938978Q	938982Q	938986Q	938990Q
20QE	938979Q	938983Q	938987Q	938991Q

Nominal flow (l/min) at viscosity 30 cSt - connection size				
Filter length	Media	G16	G20	G24 & R24
Length 1	02Q/02QE	80	80	80
	05Q/05QE	120	120	120
	10Q/10QE	140	150	150
	20Q/20QE	160	180	200
Length 2	02Q/02QE	130	150	170
	05Q/05QE	150	170	190
	10Q/10QE	170	200	230
	20Q/20QE	190	220	250
Length 3	02Q/02QE	150	170	190
	05Q/05QE	170	190	210
	10Q/10QE	190	210	230
	20Q/20QE	200	230	250
Length 4	02Q/02QE	170	190	210
	05Q/05QE	180	210	230
	10Q/10QE	190	220	240
	20Q/20QE	200	230	260

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

