

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
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.parkerhfde.com

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
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:

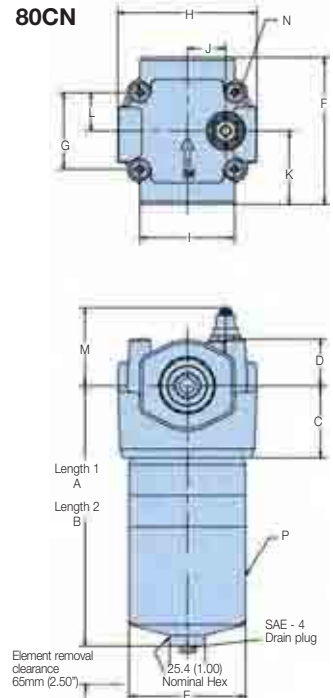
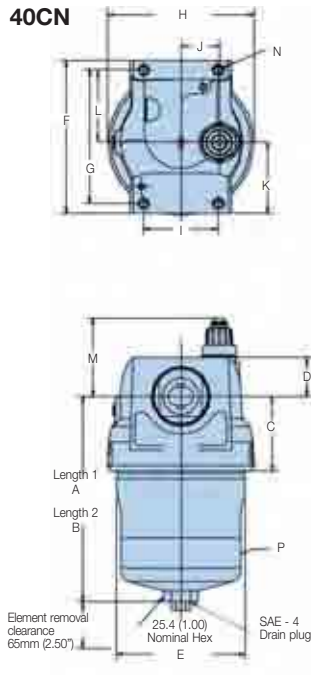
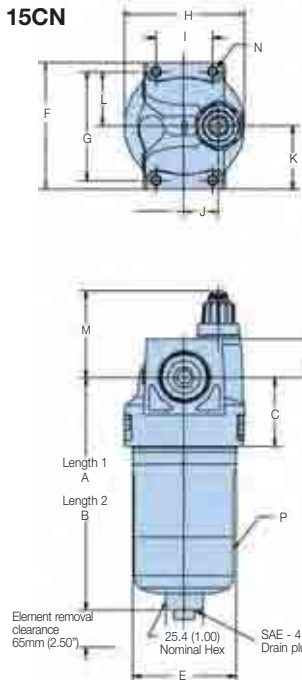
- visual M3.
 - electronic F1 (PNP).
 - electrical T1.
 - electronic F2 (NPN).
- For indicator details see catalogue section 6.

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)	111.0 (4.37)	121.9 (4.80)	62.0 (2.44)	31.8 (1.25)	58.8 (2.32)	60.2 (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

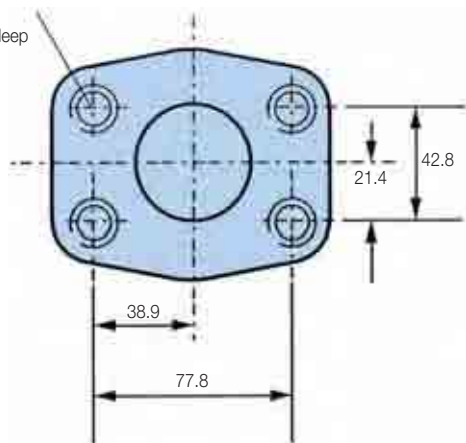


15/40/80CN Series

Medium Pressure Filters

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

Flange face mounting holes
M12-1.75 x 22 deep



Pressure Drop Curves

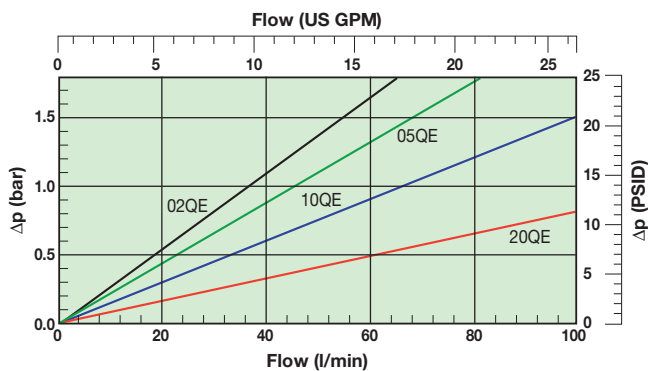
With 1.7 bar bypass the recommended initial pressure drop is max 0.5 bar.

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

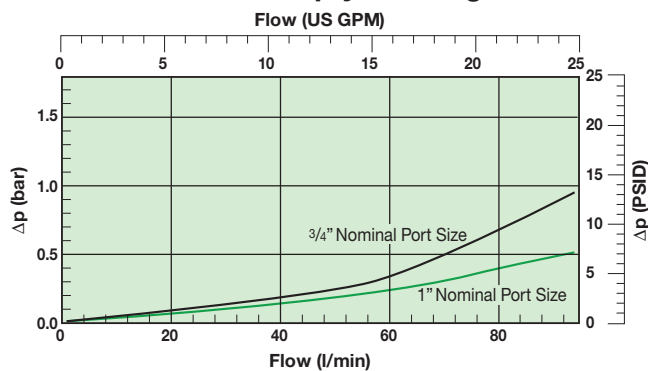
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows:

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

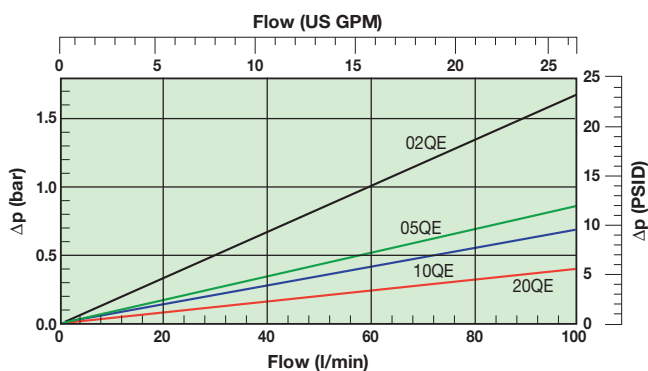
15CN-1 Elements



15CN Empty Housing

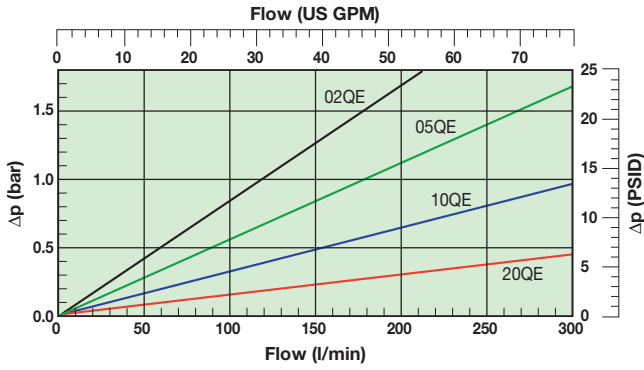


15CN-2 Elements

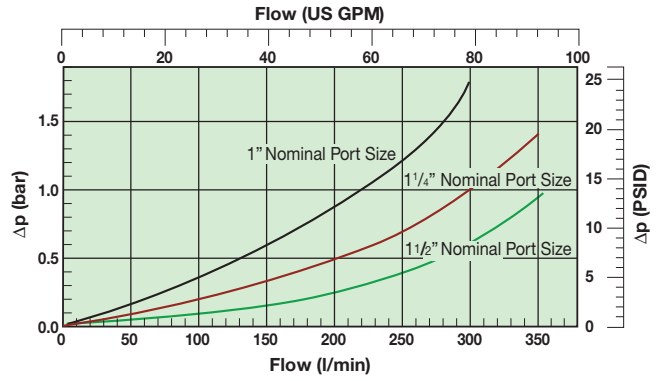


Pressure Drop Curves

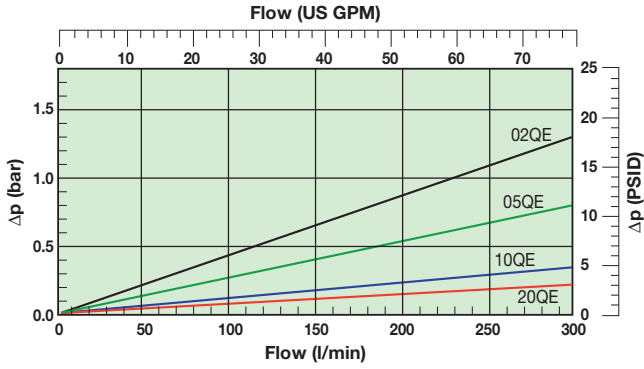
40CN-1 Elements



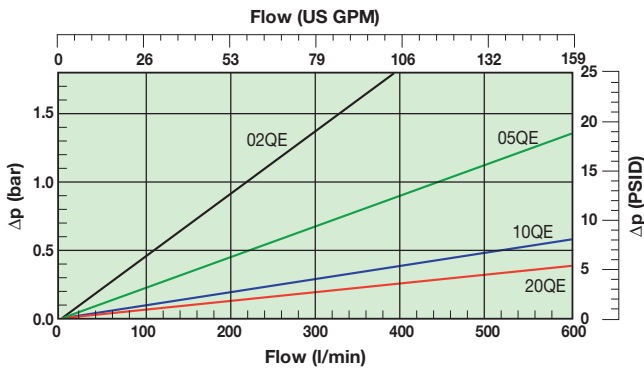
40CN Empty Housing



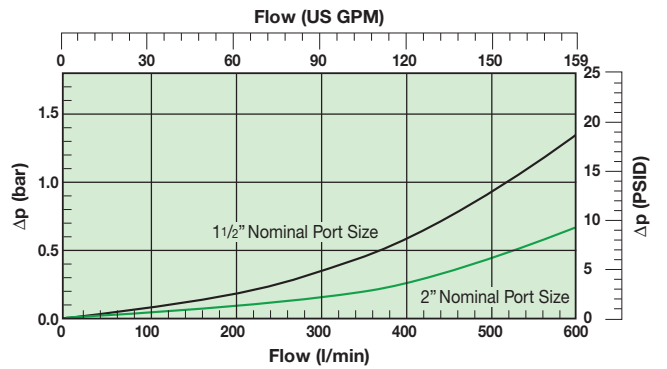
40CN-2 Elements



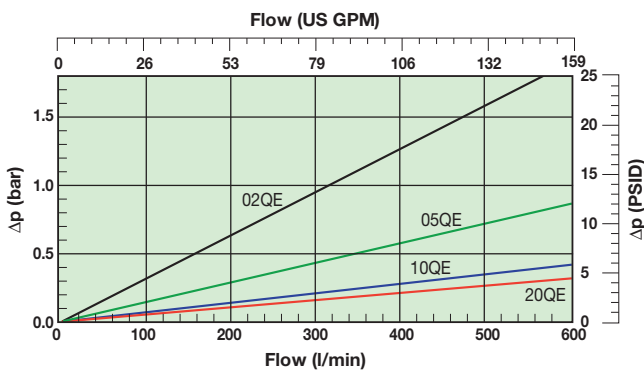
80CN-1 Elements



80CN Empty Housing



80CN-2 Elements



15/40/80CN Series

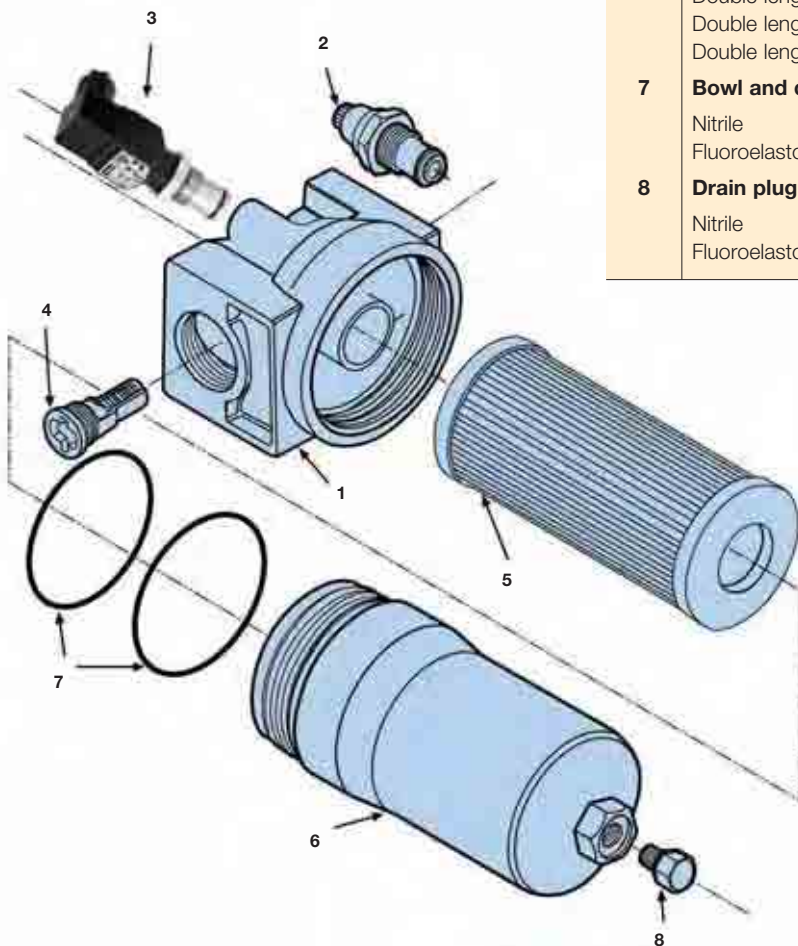
Medium Pressure Filters

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
15CN110QEV3M3KG164	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
15CN120QEV3M3KG164	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
15CN210QEV3M3KG164	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
15CN220QEV3M3KG164	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
40CN105QEV3M3KG244	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
40CN110QEV3M3KG244	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
40CN120QEV3M3KG244	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
40CN205QEV3M3KG244	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
40CN210QEV3M3KG244	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
40CN220QEV3M3KG244	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
80CN110QEV3M3KG324	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
80CN120QEV3M3KG324	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
80CN210QEV3M3KG324	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
80CN220QEV3M3KG324	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

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

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

Note: Standard items are in stock, semi standard items are available within four weeks

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.
Filter assemblies with Microglass III elements are available by request.
WR: Water removal media.

Seal type	
Seal material	Code
Fluoroelastomer	V
Nitrile	B

Indicator	
	Code
No indicator port	N
Visual indicator	M3
Electrical indicator	T1
Plugged with steel plug	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

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.

Filter connection	
Ports	Code
15CN: Thread G ³ / ₄	G12
Thread G1	G16
Thread SAE 12	S12
Thread SAE 16	S16
Thread M27, ISO6149	M27
40CN: Thread G1 ¹ / ₄	G20
Thread G1 ¹ / ₂	G24
Thread SAE 16	S16
Thread SAE 24	S24
Thread M33, ISO6149	M33
80CN: Thread G1 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

Options	
Options	Code
Standard drain port on bowl	4

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

Seal kits		
Model	Nitrile	Fluoroelastomer*
15CN	S04449	S04450
40CN	S04447	S04448
80CN	S04458	S04459

Replacement element part numbers for conventional assemblies

Conversion bowl assembly <small>(to retrofit existing CN filter housings to use coreless elements)</small>	
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]						
$\beta_x(c)=2$	$\beta_x(c)=10$	$\beta_x(c)=75$	$\beta_x(c)=100$	$\beta_x(c)=200$	$\beta_x(c)=1000$	Metal free Ecoglass III
% 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	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 ¹ / ₂	60	120	180	260
40CN-2, G1 ¹ / ₂	80	200	280	320
80CN-1, G2	150	300	370	420
80CN-2, G2	180	420	530	600

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

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.

