

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
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:

- 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.

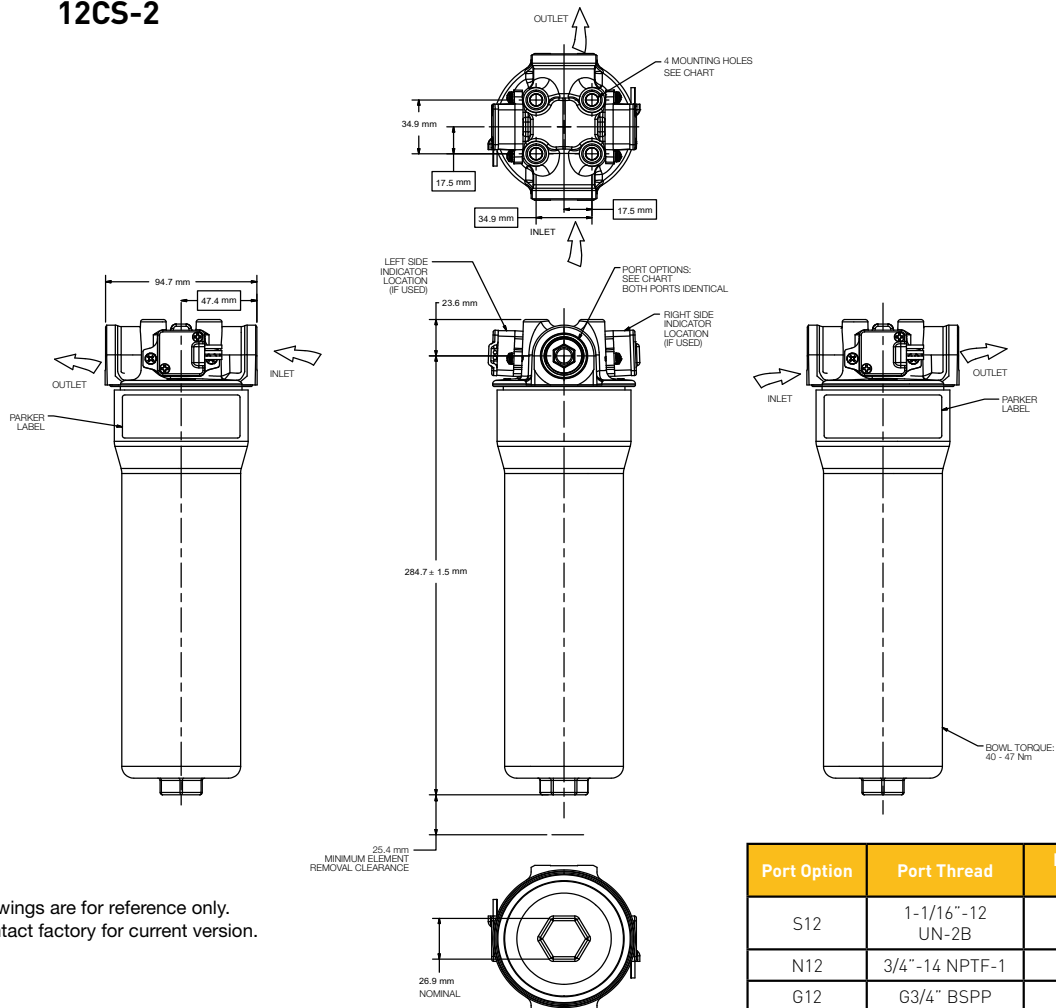
Materials:

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



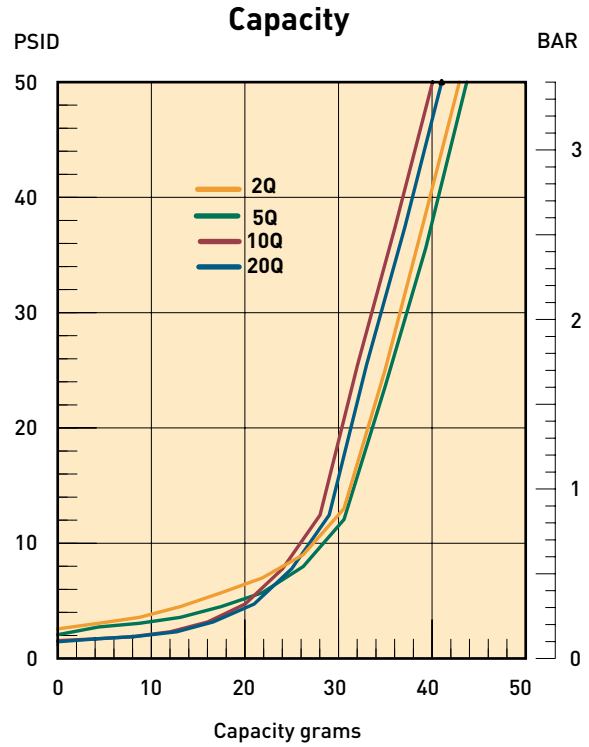
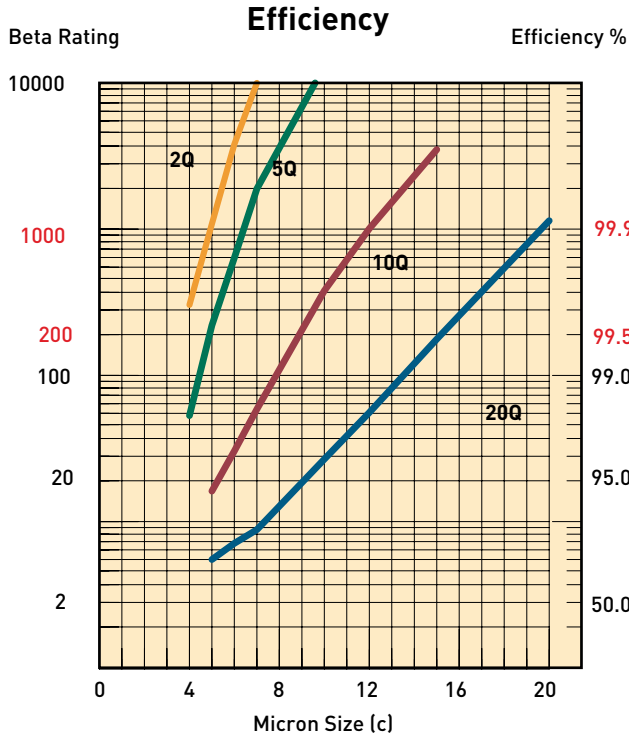
Drawings are for reference only.
Contact factory for current version.

| Port Option | Port Thread | Mounting Thread Configuration |
|-------------|------------------|-------------------------------|
| S12 | 1-1/16"-12 UN-2B | 3/8" x 16 x 5/8" |
| N12 | 3/4"-14 NPTF-1 | 3/8" x 16 x 5/8" |
| G12 | G3/4" BSPP | 3/8" x 16 x 5/8" |

Coreless Spin-on Filters

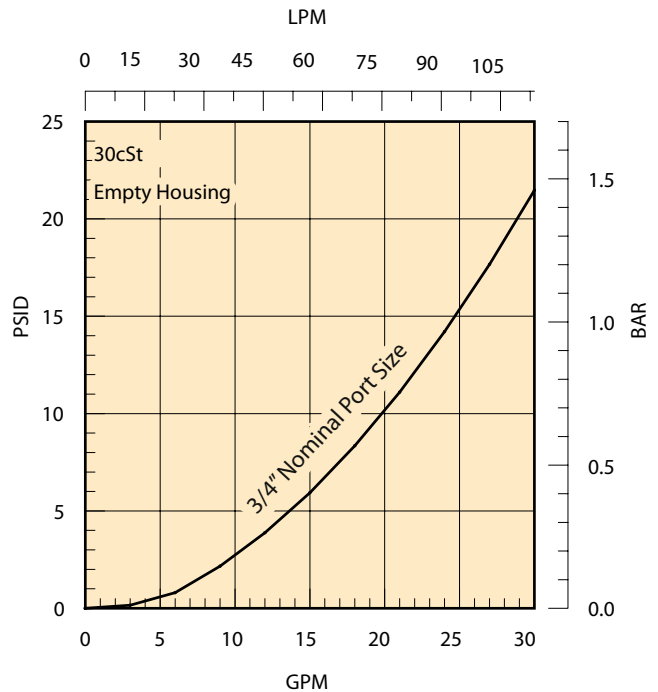
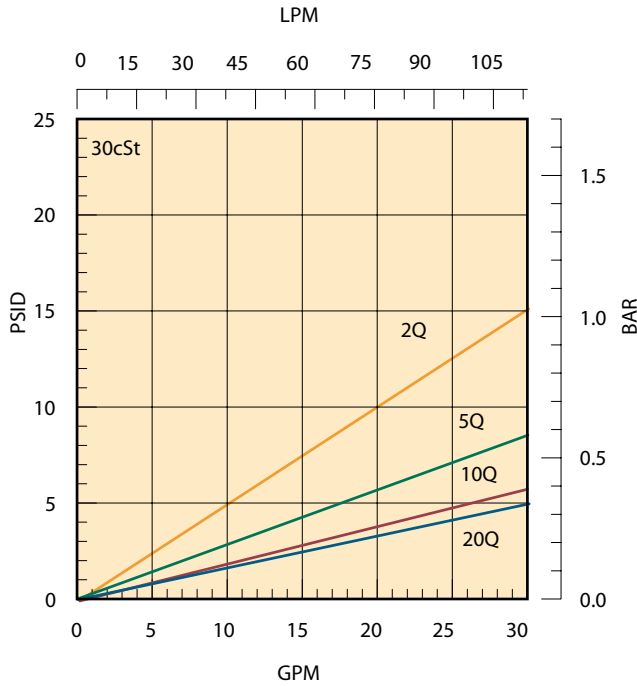
12CS Series

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

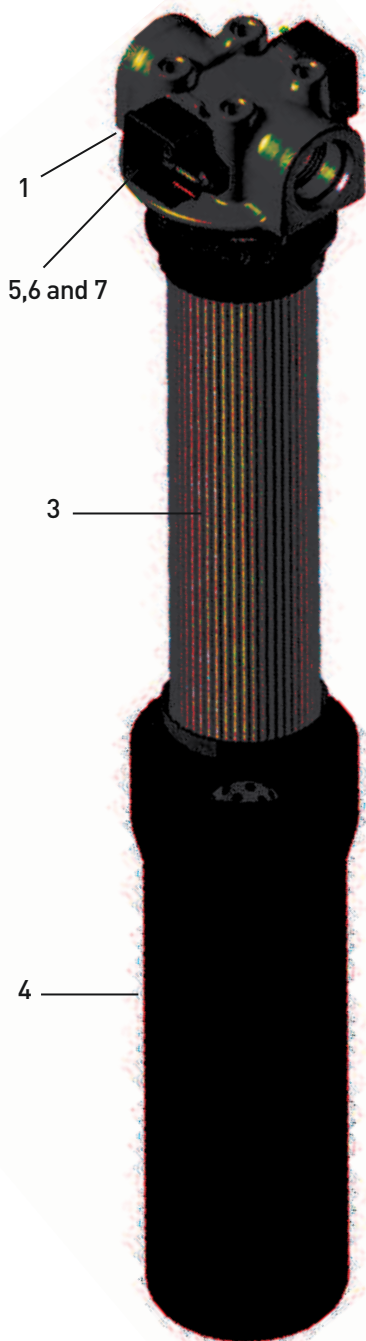
Service Instructions 12CS

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.

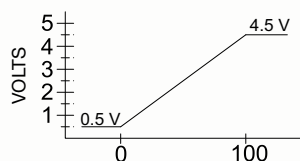


Parts List

| 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
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:

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

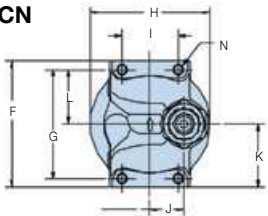
Weights (kg):

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

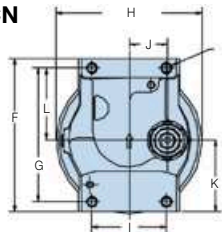
Fluid compatibility:

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

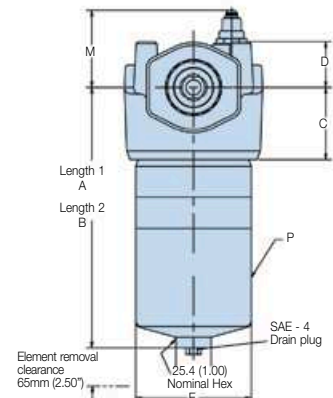
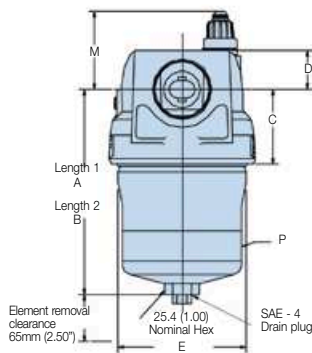
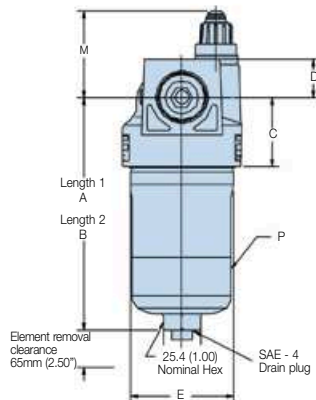
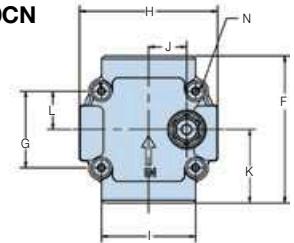
15CN



40CN



80CN



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 |

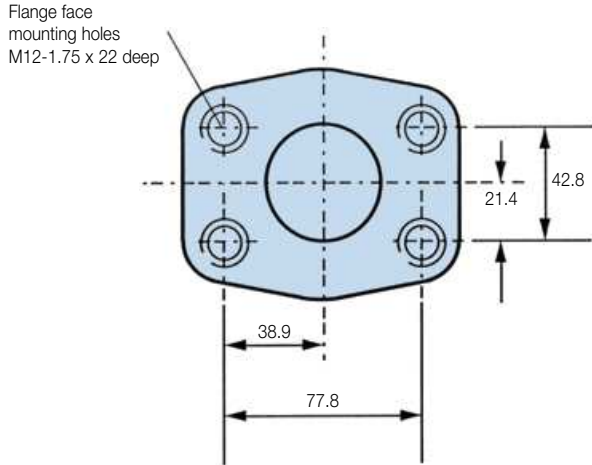
Note: add 45mm for T and F indicators



15/40/80CN Series

Medium Pressure Filters

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



Pressure Drop Curves

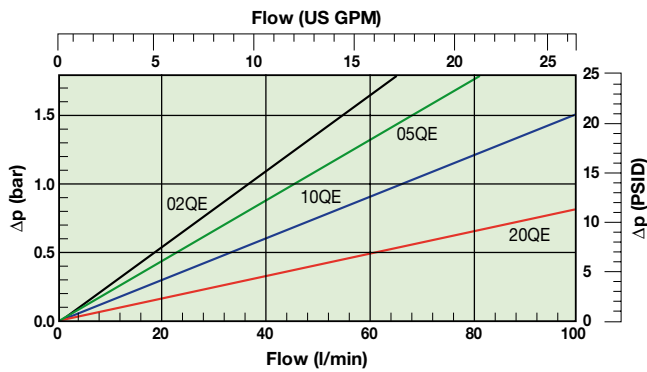
With 1.7 bar bypass the recommended initial pressure drop is max 0.5 bar.

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

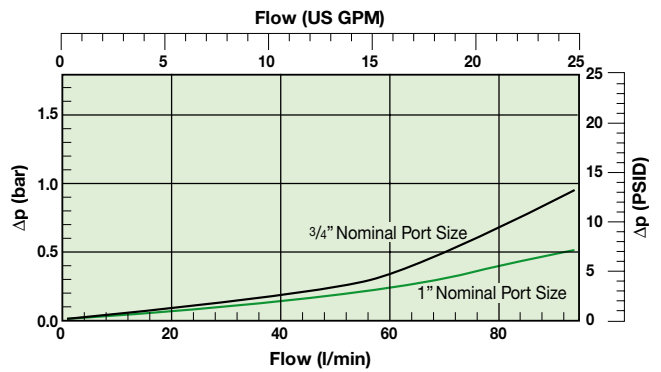
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows:

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

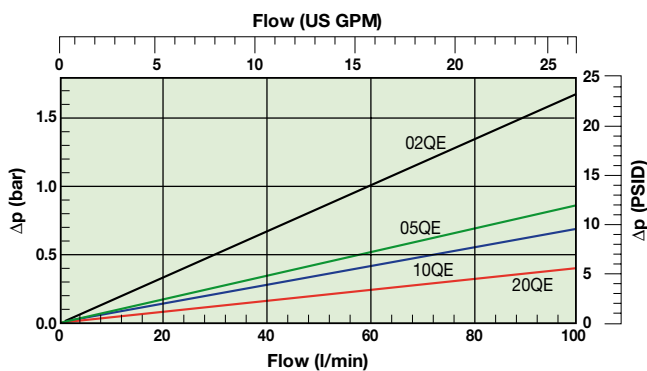
15CN-1 Elements



15CN Empty Housing

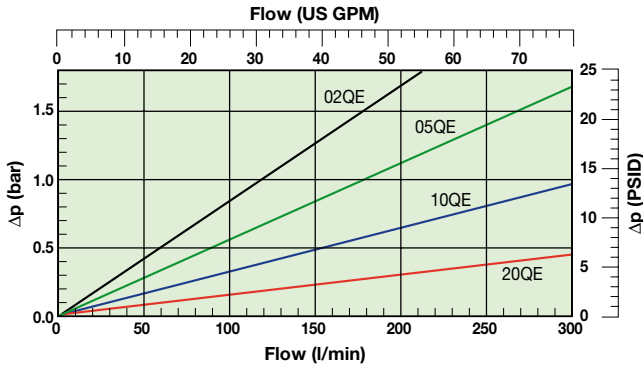


15CN-2 Elements

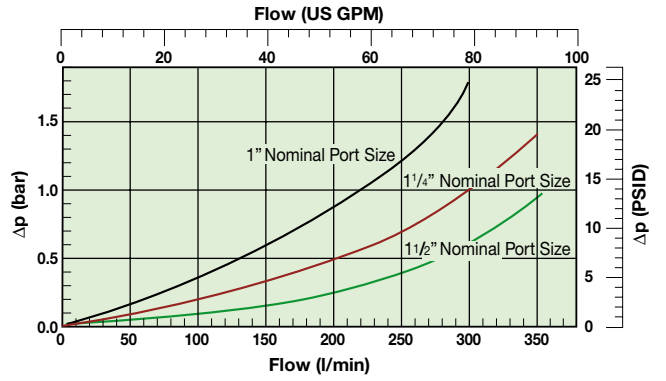


Pressure Drop Curves

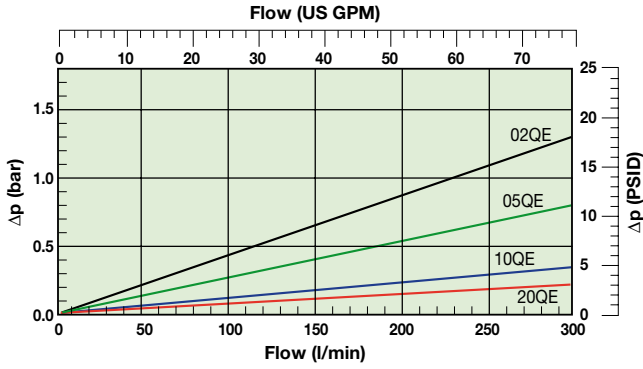
40CN-1 Elements



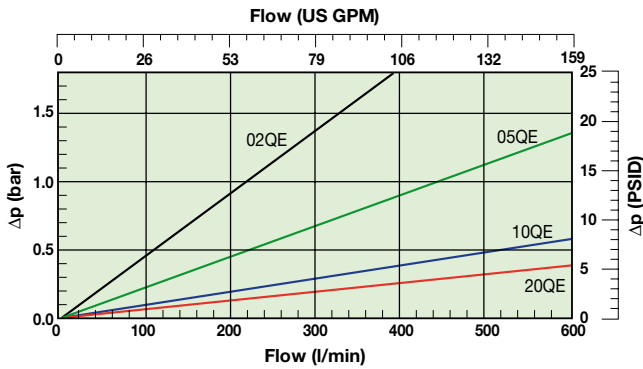
40CN Empty Housing



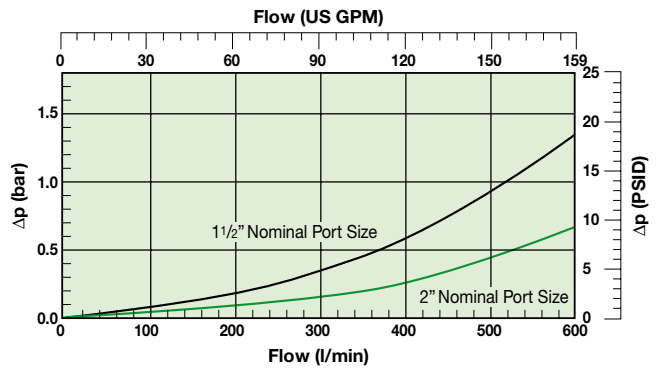
40CN-2 Elements



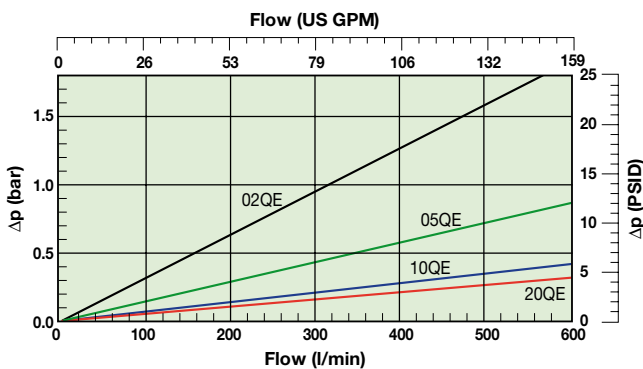
80CN-1 Elements



80CN Empty Housing



80CN-2 Elements



15/40/80CN Series

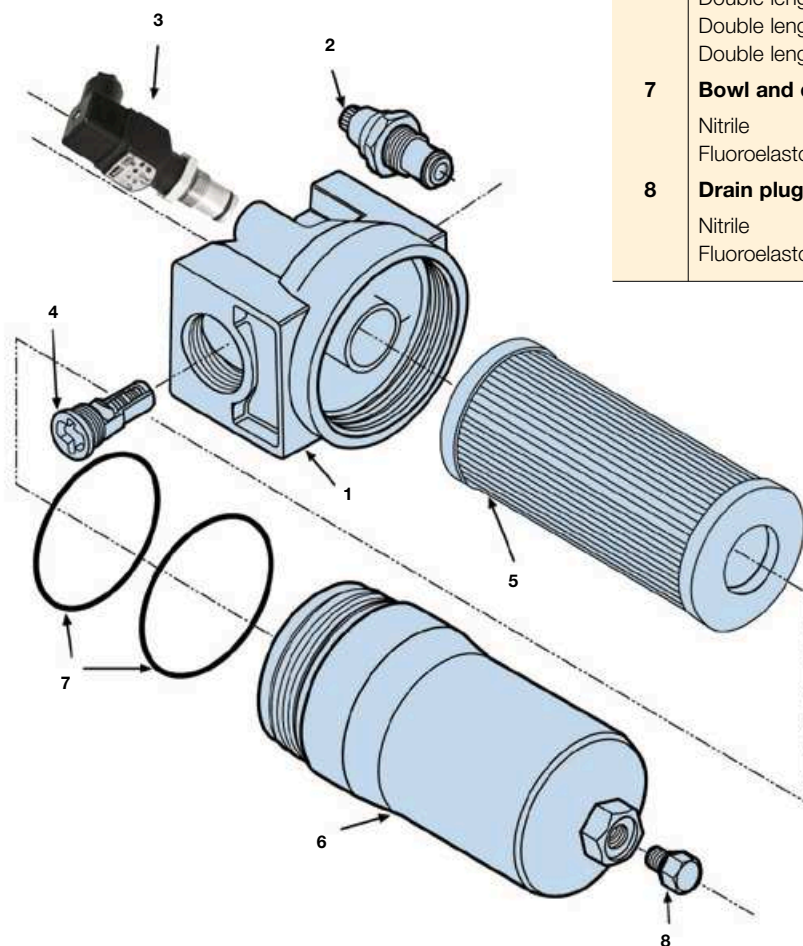
Medium Pressure Filters

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 |

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 ³ / ₄ | G12 |
| Thread G1 | G16 |
| Thread SAE 12 | S12 |
| Thread SAE 16 | S16 |
| Thread M27, ISO6149 | M27 |
| 40CN: Thread G1 ¹ / ₂ | 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 |

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] | | | | | | |
| $\beta(x)=2$ | $\beta(x)=10$ | $\beta(x)=75$ | $\beta(x)=100$ | $\beta(x)=200$ | $\beta(x)=1000$ | Metal free Ecoglass III |
| % efficiency, based on the above beta ratio (βx) | | | | | | |
| 50.0% | 90.0% | 98.7% | 99.0% | 99.5% | 99.9% | |
| N/A | N/A | N/A | N/A | N/A | 4.5 | |
| 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)



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).

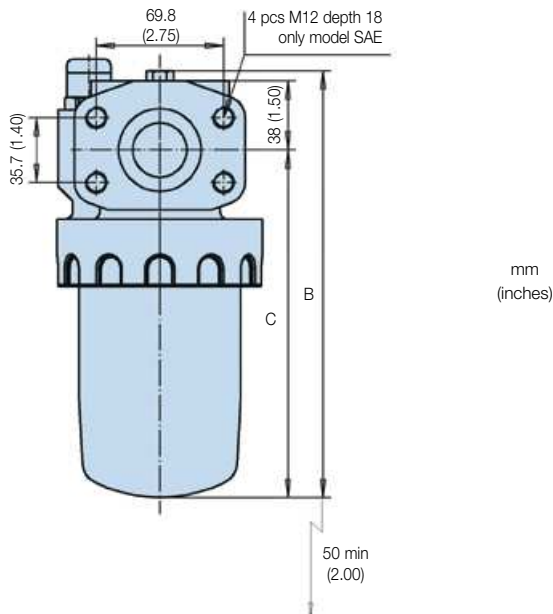
For indicator details see catalogue section 6.

Fluid compatibility:

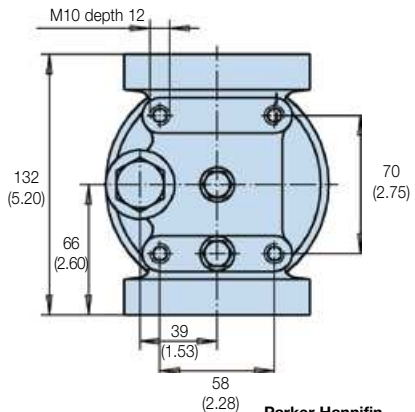
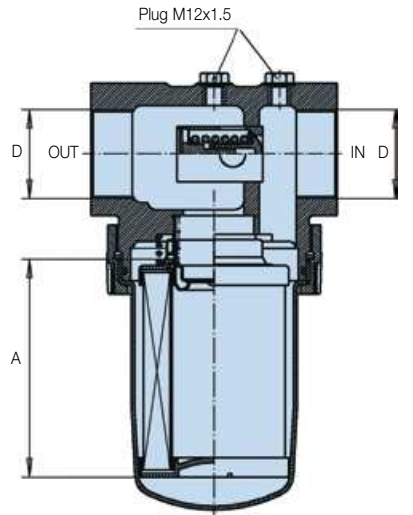
Suitable for use with mineral and vegetable oils, and some synthetic oils. For other fluids, please consult Parker Filtration.

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 | |



mm
(inches)



Parker Hannifin
Hydraulic Filter Division Europe
FDHB500UK/45M/45 Eco



45M/45 Eco Series

Medium Pressure Filters

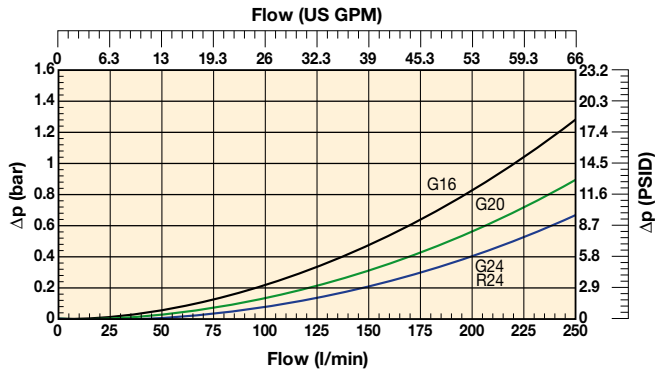
Pressure Drop Curves

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

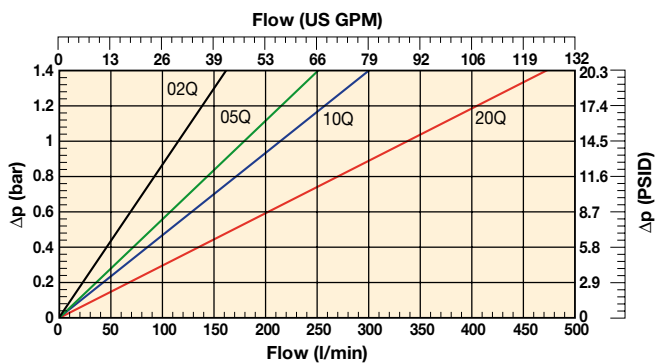
If the medium used has a viscosity different from 30 cSt, pressure drop over the filter can be estimated as follows:

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

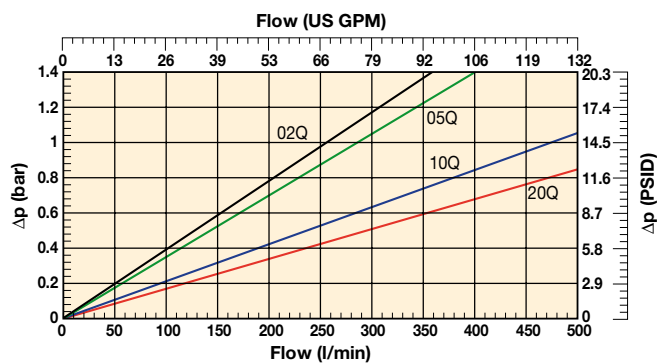
45M Series Empty Housing



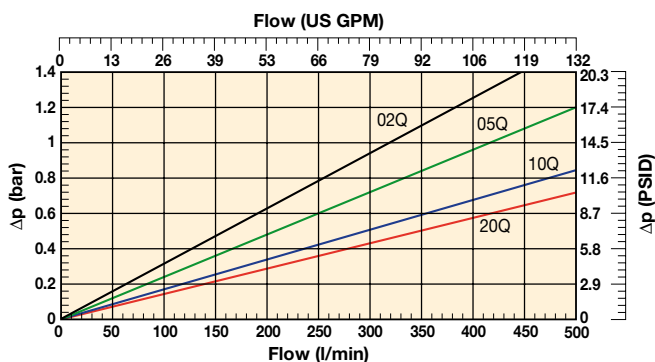
45M-1 Element with Microglass III



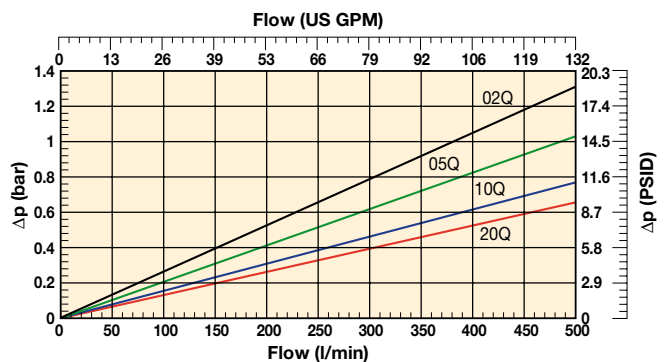
45M-2 Element with Microglass III



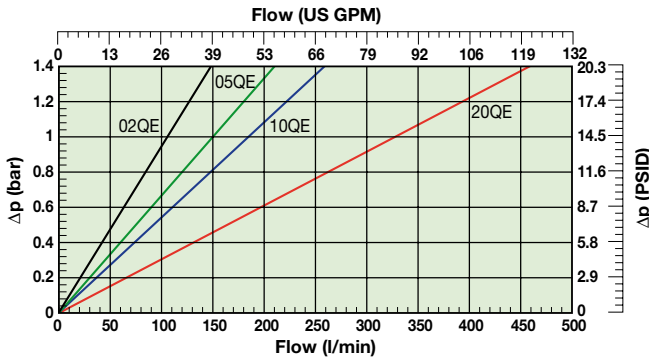
45M-3 Element with Microglass III



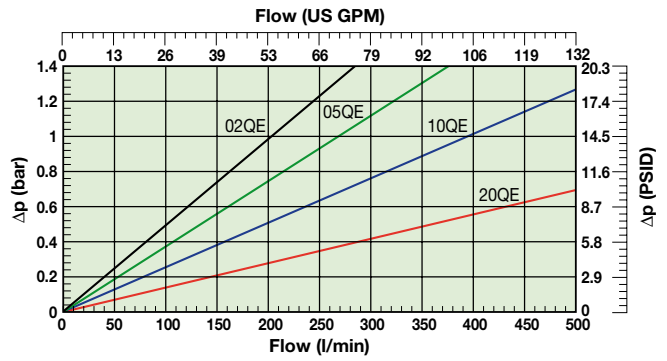
45M-4 Element with Microglass III



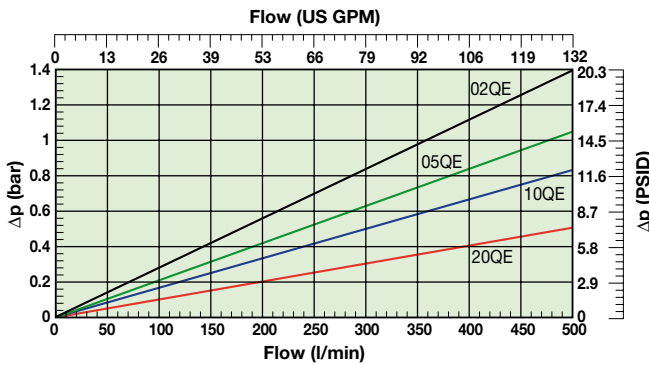
45M-1 Element with Ecoglass III



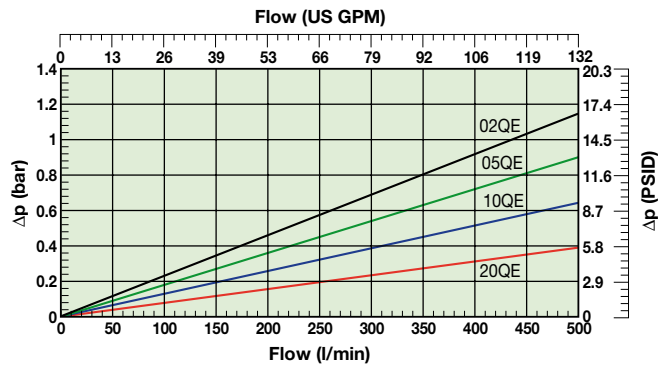
45M-2 Element with Ecoglass III



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

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) | | | | | | | |
| 50.0% | 90.0% | 98.7% | 99.0% | 99.5% | 99.9% | Disposable Microglass III | Metal free 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 |

