No tools required. Takes only 60 seconds for element replacement.
Element replacement in only **60 seconds**

Replacement in less than two minutes is possible including removal of liquid.

- Removing liquid .......... 45 seconds
- Removing the case
  Replacing the element .......... 51 seconds
- Installing the case

Element replacement in only 60 seconds

**Patent Pending**

**Features**

- **S.O.E. (Single Open Element)** can be installed. (for made to order products)
- **Case holding mechanism** Facilitates element replacement.
- **V-band holding mechanism** Facilitates V-band fastening.
- **Upper element holder** Facilitates centering of the element.
- **Intermediate element holder** Connects upper and lower elements securely. (Two L250 elements substitute for one L500 element.)
- **Lower element holder** Prevents the element from tilting.
- **Smooth drainage of liquid**
- **INLET**
  - Air vent
  - Cover (SUS304)
  - V-band (SUS304)
  - Case (SUS304)
  - Drain G1/4
- **OUTLET**
  - V-band holding mechanism
  - Case holding mechanism
  - O-ring
  - Element
  - Min. 40mm Small replacement dimension

**Drain G1/4**

**S.C. QUICK CHANGE FILTER**
Quick Change Filter
Series FQ1

No tools required, easy element replacement

Removing the element

1. Stop liquid flowing into the filter. (If there are valves before and after the filter, close these valves.)
2. Release pressure inside the filter completely by loosening the air vent plug.
3. Discharge fluid inside the filter by removing the drain plug.
4. Remove the stopper from the retainer by loosening the wing bolt on the V-band.

Installing the element

1. Make sure that O-rings are not damaged or deformed. If needed, replace with new ones.
2. Set the lower element holder under the element, and place them in the case.
   [When using two L250 elements] Insert the intermediate holder into the lower part of the second element (upper level), and then place them into the case after inserting one side of the intermediate holder into the upper part of the element that is attached to the lower holder.

1. To extract the element from the case, rotate the case counterclockwise about 20 degrees until it stops, then lower it by about 40mm and remove it from the cover.
   Note) When two L250 elements are used, do not discard the intermediate holder and lower element holder attached under the element, since they are reused.

3. Align the indentations of the case with the projections of the cover, lift the case upward by about 10mm and rotate it clockwise about 20 degrees.
4. Mount it in such a way that the entire flanged perimeter of the cover and case are held by the retainer of the V-band.

5. Set the stopper on the retainer while holding down the V-band outside perimeter, and then tighten the wing bolt to the prescribed position.
6. Tighten the drain plug.
7. When air release is completed, tighten the air vent plug.

Clean the inside of the case, gaskets, seals, holders, plugs, etc., with a pure fluid or solvent.

Fiber element
- Nominal filtration accuracy: 0.5 to 100µm
- Ideal for a relatively high level of impurities
- Ideal for use as a prefilter
- Material: PP (EHM ... x 3)
  Cotton (EH)

Micromesh element
- Nominal filtration accuracy: 5 to 105µm
- High filtration accuracy with stainless steel micromesh
- Pleated type provides three times more filtration area than a cylinder.
- Easy element cleaning and regeneration
- Material: SUS304 (EM100, EM200)
  SUS316 (EM500, EM600)

HEPO II element
- Absolute filtration accuracy: 2 to 13µm
- US FDA compatible
- Nonwoven fabric element with high filtration accuracy of more than 99% removal and without fiber outflow and release of chemical components
- Material: PP (EJ102S ... x 0)

PP depth element
- Nominal filtration accuracy: 1 to 75µm
- Material: PP
  EJ202S ... x 11 (L125)
  EJ302S ... x 11 (L250)
  EJ402S ... x 11 (L500)

Membrane element
- Absolute filtration accuracy: 0.2, 0.4µm
- Material: PP (ED102S ... x 0)
  CA (ED111S ... x 0)

Note) PP: Poly propylene

Features 2
Selecting the Element and Housing

1 Selecting the element
According to the type and the cleaning level of a cleaning solvent, select corresponding element and seal types by referring to the "Standard Element Fluid Compatibility" table on the right.

2 Calculating the number of elements
- Verify the recommended flow rate of the selected element with the "Standard Element Selection Guide".
- Find a value for the formula, Necessary flow rate = \( \frac{\text{chosen pressure difference}}{\text{flow rate}} \) - Recommended flow rate, rounding up to the nearest whole number. The value obtained is the number of necessary elements (equivalent to L250).

3 Selecting the housing
Select a housing type to hold the elements selected in 2.

4 Determining the filter model
Determine the filter model from the element type and the number of elements selected in 1 and 2, and the housing type selected in 3, referring to "How to Order".

---

**Standard Element Fluid Compatibility**

<table>
<thead>
<tr>
<th>Cleaning level and Element</th>
<th>Cleaning level</th>
<th>Nominal filtration accuracy 105µm ↔ 0.5µm</th>
<th>Absolute filtration accuracy 13µm ↔ 2µm</th>
<th>Applicable seal material and cleaning solvent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fiber element</td>
<td>Fiber element</td>
<td>Micro-mesh element</td>
<td>HEPO II element</td>
</tr>
<tr>
<td>Material</td>
<td>PP</td>
<td>Cotton</td>
<td>SUS304</td>
<td>SUS316</td>
</tr>
</tbody>
</table>

- **Potable water**: Suitable, 0.01 to 0.02 MPa
- **Industrial water**: Suitable, 0.01 to 0.02 MPa
- **Distilled water**: Unsuitable
- **Ion exchange water**: Unsuitable
- **Pure water, Ultrapure water**: Unsuitable, Ozone, and low concentration.

*For detailed element specifications, refer to the applicable element symbol in the "Standard Element Selection Guide" below. Furthermore, consult SMC for other fluids.

---

**Made to Order**

**PP depth element EJ**
- General cleaning
- Nominal filtration accuracy: 1 to 75µm
- Water, alkali, or alcohol bases

**Membrane element ED**
- Precision cleaning
- Absolute filtration accuracy: 0.2, 0.4µm
- Water, alkali, or alcohol bases

---

**Standard Element Selection Guide**

<table>
<thead>
<tr>
<th>Cleaning level</th>
<th>Name</th>
<th>Material</th>
<th>Element part no.</th>
<th>Temperature range (°C)</th>
<th>Filtration accuracy (µm)</th>
<th>Recommended flow rate (l/min)</th>
<th>Pressure loss: 0.01 to 0.02 MPa Fluid: Water equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General cleaning</td>
<td>EJ</td>
<td>PP</td>
<td>EHM ... x 3</td>
<td>0 to 100</td>
<td>0.5</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>Cotton</td>
<td>EH</td>
<td>0 to 100</td>
<td>1</td>
<td>15</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SUS304</td>
<td>EM1, 2</td>
<td>0 to 100</td>
<td>5</td>
<td>10</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>SUS316</td>
<td>EM5, 6</td>
<td>0 to 250</td>
<td>10</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>PP</td>
<td>EJ</td>
<td>0 to 80</td>
<td>10</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Note: Can be used at low temperatures and low concentration.
Quick Change Filter

Series FQ1

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>No. of built-in elements (L: Element length in mm)</th>
<th>Operating pressure</th>
<th>Operating temperature</th>
<th>Port size Rc</th>
<th>Material</th>
<th>Element (Note)</th>
<th>Element replacement differential pressure (recommended)</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQ1010</td>
<td>1 (L125)</td>
<td>Maximum 1MPa</td>
<td>Maximum 80°C (Not exceeding boiling point)</td>
<td>1/2, 3/4</td>
<td>SUS304/NBR or FPM</td>
<td>Cotton, PP, SUS304, SUS316, etc.</td>
<td>Maximum 0.1MPa</td>
<td>Approx. 1.5</td>
</tr>
<tr>
<td>FQ1011</td>
<td>1 (L250)</td>
<td></td>
<td></td>
<td>1/2, 3/4, 1</td>
<td></td>
<td></td>
<td></td>
<td>Approx. 1.9</td>
</tr>
<tr>
<td>FQ1012</td>
<td>2 (L250 x 2)</td>
<td></td>
<td></td>
<td>3/4, 1</td>
<td></td>
<td></td>
<td></td>
<td>Approx. 2.7</td>
</tr>
</tbody>
</table>

Note) For FQ1010, only micromesh elements and PP depth elements are used.

Flow Characteristics

Fiber element (PP): FQ1011N-06-Q

Micromesh element: FQ1011N-06

Fiber element (Cotton): FQ1011N-06-H

HEPO II element (PP): FQ1011N-06-R

Note) The recommended flow rate is the rate for an initial pressure drop of 0.01 to 0.02 MPa.
**Series FQ1**

**How to Order Filters**

*Applicable element dimensions: ø65 x 125mm*

<table>
<thead>
<tr>
<th>Model symbol (In-line filters)</th>
<th>Element size</th>
<th>Bore size</th>
<th>Housing O-ring material</th>
<th>Element sealing method</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQ1 0 1 0 0 N 04 M005N B</td>
<td>125mm</td>
<td>04 Rc 1/2</td>
<td>N / NBR</td>
<td>1 Flat gasket (D.O.E)</td>
<td></td>
</tr>
</tbody>
</table>

- **Element type**: Select from tables on the right.
- **Bore size**: 04 Rc 1/2
- **Housing O-ring material**: N / NBR
- **Element sealing method**: 1 Flat gasket (D.O.E)
- **Options**: N/A

**Element and Seal Part Numbers**

### 1. Fiber element (PP)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø65 x 250mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø50</td>
<td>Ox50</td>
<td>0.5</td>
<td>EHM10A0X3</td>
</tr>
<tr>
<td>001</td>
<td>Q001</td>
<td>1</td>
<td>EHM8R10AYX3</td>
</tr>
<tr>
<td>005</td>
<td>Q005</td>
<td>5</td>
<td>EHM2R10AYX3</td>
</tr>
<tr>
<td>010</td>
<td>Q010</td>
<td>10</td>
<td>EHM9R10AYX3</td>
</tr>
<tr>
<td>020</td>
<td>Q020</td>
<td>20</td>
<td>EHM15R10AX3</td>
</tr>
<tr>
<td>050</td>
<td>Q050</td>
<td>50</td>
<td>EHM11R10AX3</td>
</tr>
<tr>
<td>075</td>
<td>Q075</td>
<td>75</td>
<td>EHM10R10AX3</td>
</tr>
<tr>
<td>100</td>
<td>Q100</td>
<td>100</td>
<td>EHM8R10AX3</td>
</tr>
</tbody>
</table>

### 2. Fiber element (Cotton)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø65 x 250mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HX50</td>
<td>HX50</td>
<td>0.5</td>
<td>EHM10O</td>
</tr>
<tr>
<td>001</td>
<td>H001</td>
<td>1</td>
<td>EHM8R10GV</td>
</tr>
<tr>
<td>005</td>
<td>H005</td>
<td>5</td>
<td>EHM2R10GV</td>
</tr>
<tr>
<td>010</td>
<td>H010</td>
<td>10</td>
<td>EHM9R10GV</td>
</tr>
<tr>
<td>020</td>
<td>H020</td>
<td>20</td>
<td>EHM15R10GV</td>
</tr>
<tr>
<td>050</td>
<td>H050</td>
<td>50</td>
<td>EHM11R10GV</td>
</tr>
<tr>
<td>075</td>
<td>H075</td>
<td>75</td>
<td>EHM10R10GV</td>
</tr>
<tr>
<td>100</td>
<td>H100</td>
<td>100</td>
<td>EHM8R10GV</td>
</tr>
</tbody>
</table>

### 3. Micromesh element (SUS304) Bonding material: Epoxy resin

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø65 x 250mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M005</td>
<td>M005</td>
<td>5</td>
<td>EM100-005</td>
</tr>
<tr>
<td>M010</td>
<td>M010</td>
<td>10</td>
<td>EM100-010</td>
</tr>
<tr>
<td>M020</td>
<td>M020</td>
<td>20</td>
<td>EM100-020</td>
</tr>
<tr>
<td>M040</td>
<td>M040</td>
<td>40</td>
<td>EM100-040</td>
</tr>
<tr>
<td>M074</td>
<td>M074</td>
<td>74</td>
<td>EM100-074</td>
</tr>
<tr>
<td>M105</td>
<td>M105</td>
<td>105</td>
<td>EM100-105</td>
</tr>
<tr>
<td>ø65 x 125mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M005</td>
<td>M005</td>
<td>5</td>
<td>EM200-005-x4</td>
</tr>
<tr>
<td>M010</td>
<td>M010</td>
<td>10</td>
<td>EM200-010-x4</td>
</tr>
<tr>
<td>M020</td>
<td>M020</td>
<td>20</td>
<td>EM200-020-x4</td>
</tr>
<tr>
<td>M040</td>
<td>M040</td>
<td>40</td>
<td>EM200-040-x4</td>
</tr>
<tr>
<td>M074</td>
<td>M074</td>
<td>74</td>
<td>EM200-074-x4</td>
</tr>
<tr>
<td>M105</td>
<td>M105</td>
<td>105</td>
<td>EM200-105-x4</td>
</tr>
</tbody>
</table>

Note: Specify seal material in place of "G" (N for NBR or V for FPM).

### 4. Micromesh element (SUS316) Bonding material: Nickel solder

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø65 x 250mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L005</td>
<td>L005</td>
<td>5</td>
<td>EM500-005</td>
</tr>
<tr>
<td>L010</td>
<td>L010</td>
<td>10</td>
<td>EM500-010</td>
</tr>
<tr>
<td>L020</td>
<td>L020</td>
<td>20</td>
<td>EM500-020</td>
</tr>
<tr>
<td>L040</td>
<td>L040</td>
<td>40</td>
<td>EM500-040</td>
</tr>
<tr>
<td>L074</td>
<td>L074</td>
<td>74</td>
<td>EM500-074</td>
</tr>
<tr>
<td>L105</td>
<td>L105</td>
<td>105</td>
<td>EM500-105</td>
</tr>
<tr>
<td>ø65 x 125mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L005</td>
<td>L005</td>
<td>5</td>
<td>EM600-005</td>
</tr>
<tr>
<td>L010</td>
<td>L010</td>
<td>10</td>
<td>EM600-010</td>
</tr>
<tr>
<td>L020</td>
<td>L020</td>
<td>20</td>
<td>EM600-020</td>
</tr>
<tr>
<td>L040</td>
<td>L040</td>
<td>40</td>
<td>EM600-040</td>
</tr>
<tr>
<td>L074</td>
<td>L074</td>
<td>74</td>
<td>EM600-074</td>
</tr>
<tr>
<td>L105</td>
<td>L105</td>
<td>105</td>
<td>EM600-105</td>
</tr>
</tbody>
</table>

Note: Specify seal material in place of "G" (N for NBR or V for FPM).

Elements other than 1 to 4 listed above are also available. Refer to “Made to Order” elements on pages 7 and 8 for details.
Construction

Quick Change Filter  Series FQ1

Replacement parts: Seals

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part number</th>
<th>Dimensions (mm)</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>④</td>
<td>O-ring</td>
<td>JIS B2401-1A-P85</td>
<td>I.D. 84.6 x ø5.7</td>
<td>NBR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JIS B2401-4D-P85</td>
<td></td>
<td>FPM</td>
</tr>
<tr>
<td>⑦</td>
<td>O-ring</td>
<td>JIS B2401-1A-P11</td>
<td>I.D. 10.8 x ø2.4</td>
<td>NBR</td>
</tr>
<tr>
<td>⑬</td>
<td>O-ring</td>
<td>JIS B2401-4D-P11</td>
<td></td>
<td>FPM</td>
</tr>
</tbody>
</table>

Note) Installed only for FQ1012 when two L250 elements are used.
### Dimensions

#### Bracket

<table>
<thead>
<tr>
<th>Part number</th>
<th>A</th>
<th>Applicable bore size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-13S</td>
<td>34.5</td>
<td>Rc 1</td>
</tr>
<tr>
<td>BP-14S</td>
<td>27.5</td>
<td>Rc 3/4</td>
</tr>
<tr>
<td>BP-15S</td>
<td>22</td>
<td>Rc 1/2</td>
</tr>
</tbody>
</table>

#### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>P</th>
<th>No. of elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>FQ1010</td>
<td>204</td>
<td>267</td>
<td>1/2, 3/4</td>
<td>L125 x 1</td>
</tr>
<tr>
<td>FQ1011</td>
<td>332</td>
<td>395</td>
<td>1/2, 3/4, 1</td>
<td>L250 x 1</td>
</tr>
<tr>
<td>FQ1012</td>
<td>593</td>
<td>656</td>
<td>3/4, 1</td>
<td>L250 x 2</td>
</tr>
</tbody>
</table>

**Note:** Installed only for FQ1012 when two L250 elements are used.

**Intermediate holder**

**DRAIN**

**Inlet**

**Outlet**

**V-band support**

**AIR VENT**

**G1/4**

**2-Rc P**

**NOTE:** Pull-out min. 40
Series **FQ1**
**Made to Order**
Consult SMC for detailed dimensions, specifications and lead times.

1. **Without V-band Support**[X19]

   Useful for reverse IN-OUT installation, as the position of the V-band can be changed.

   - FQ101
   - Element type
   - Bore size
   - Housing O-ring material

2. **Conventional Bracket Type**[X61]

   Conventional brackets can be installed.

   - FQ101
   - Element type
   - Bore size
   - Housing O-ring material

3. **Chemical Resistant Type**[X68]

   O-ring materials have been changed to special fluoro rubber and PTFE, improving chemical resistance.

   - FQ101
   - Element type
   - Bore size

**Construction**

- O-ring
- PTFE
- Fluoro rubber

**Dimensions**

- 70
- 108
- 32
- 2-M6 x 1
- 70
- 70
- 82
- 49.5
- (43)
- (60)

**Applicable solvents**

<table>
<thead>
<tr>
<th>Chemical resistance</th>
<th>Applicable solvents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline</td>
<td>Fuel C</td>
</tr>
<tr>
<td>Hydrocarbon</td>
<td>Hexane</td>
</tr>
<tr>
<td>Hydrogen halide</td>
<td>Benzene</td>
</tr>
<tr>
<td>Ketone</td>
<td>Toluene</td>
</tr>
<tr>
<td>Ketone</td>
<td>Methanol</td>
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<td>Ethylene glycol</td>
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<td>DMF</td>
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<td>Methanol</td>
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<tr>
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<td>1, 4-dioxane</td>
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<tr>
<td>Ether</td>
<td>MTBE</td>
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<td>TAME</td>
</tr>
<tr>
<td>Amine</td>
<td>Pyridine</td>
</tr>
<tr>
<td>Amine</td>
<td>Butyl amine</td>
</tr>
<tr>
<td>Gasohol</td>
<td>Fuel C: Methanol = 75/25</td>
</tr>
<tr>
<td>Gasohol</td>
<td>Fuel C: Methanol = 50/50</td>
</tr>
<tr>
<td>Gasohol</td>
<td>Fuel C: Methanol = 25/75</td>
</tr>
</tbody>
</table>

* Consult SMC for fluids other than those listed.
Membrane PP element "ED102S ... Series X0"

- Material: PP
- Optimal for high precision filtration (99% or more) of various cleaning solvents (mainly alkali-base)
- Dimensions: ø70 x L250

**Recommended flow rate**

<table>
<thead>
<tr>
<th>Filtration accuracy (µm)</th>
<th>Recommended flow rate (l/min)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>5</td>
</tr>
<tr>
<td>0.4</td>
<td>5</td>
</tr>
</tbody>
</table>

- Pressure loss: 0.01 to 0.02MPa
- Operating temperature: 0 to 70°C
- Differential pressure resistance: 0.5MPa/25°C

**Element and seal part numbers**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Element part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø70 x 250</td>
<td>UX20</td>
<td>0.2</td>
<td>ED102S-X20×X0</td>
</tr>
<tr>
<td></td>
<td>UX40</td>
<td>0.4</td>
<td>ED102S-X40×X0</td>
</tr>
</tbody>
</table>

Note: Specify seal material in place of "X" (N for NBR or V for FPM). The suffix of the filter model part number is "X0".

Membrane CA element "ED111S ... Series X0"

- Material: CA
- Optimal for high precision filtration (99% or more) of various kinds of water
- Dimensions: ø70 x L250

**Recommended flow rate**

<table>
<thead>
<tr>
<th>Filtration accuracy (µm)</th>
<th>Recommended flow rate (l/min)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>5</td>
</tr>
<tr>
<td>0.4</td>
<td>5</td>
</tr>
</tbody>
</table>

- Pressure loss: 0.01 to 0.02MPa
- Operating temperature: 0 to 80°C
- Differential pressure resistance: 0.5MPa/25°C

**Element and seal part numbers**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Element part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø70 x 250</td>
<td>DX20</td>
<td>0.2</td>
<td>ED111S-X20×X0</td>
</tr>
<tr>
<td></td>
<td>DX40</td>
<td>0.4</td>
<td>ED111S-X40×X0</td>
</tr>
</tbody>
</table>

Note: Specify seal material in place of "X" (N for NBR or V for FPM). The suffix of the filter model part number is "X0".

PP depth element "EJ202S, 302S, 402S ... Series X11"

- Material: Polypropylene and polyethylene
- No fiber separation due to thermal fusion of fibers
- A wide range of applications to various cleaning solvents
- Dimensions:
  - EJ202S: ø65 x L125
  - EJ302S: ø65 x L250
  - EJ402S: ø65 x L500

**Recommended flow rate**

<table>
<thead>
<tr>
<th>Nominal filtration accuracy (µm)</th>
<th>Recommended flow rate (l/min)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 3, 5, 10, 25, 50, 75</td>
<td>30</td>
</tr>
</tbody>
</table>

- Pressure loss: 0.01 to 0.02MPa
- Operating temperature: 0 to 60°C
- Differential pressure resistance: 0.2MPa

**Element and seal part numbers**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Element part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø65 x 125</td>
<td>W001</td>
<td>1</td>
<td>EJ202S-001X11</td>
</tr>
<tr>
<td></td>
<td>W003</td>
<td>3</td>
<td>EJ202S-003X11</td>
</tr>
<tr>
<td></td>
<td>W005</td>
<td>5</td>
<td>EJ202S-005X11</td>
</tr>
<tr>
<td></td>
<td>W010</td>
<td>10</td>
<td>EJ202S-010X11</td>
</tr>
<tr>
<td></td>
<td>W025</td>
<td>25</td>
<td>EJ202S-025X11</td>
</tr>
<tr>
<td></td>
<td>W050</td>
<td>50</td>
<td>EJ202S-050X11</td>
</tr>
<tr>
<td></td>
<td>W075</td>
<td>75</td>
<td>EJ202S-075X11</td>
</tr>
<tr>
<td>ø65 x 250</td>
<td>W001</td>
<td>1</td>
<td>EJ302S-001X11</td>
</tr>
<tr>
<td></td>
<td>W003</td>
<td>3</td>
<td>EJ302S-003X11</td>
</tr>
<tr>
<td></td>
<td>W005</td>
<td>5</td>
<td>EJ302S-005X11</td>
</tr>
<tr>
<td></td>
<td>W010</td>
<td>10</td>
<td>EJ302S-010X11</td>
</tr>
<tr>
<td></td>
<td>W025</td>
<td>25</td>
<td>EJ302S-025X11</td>
</tr>
<tr>
<td></td>
<td>W050</td>
<td>50</td>
<td>EJ302S-050X11</td>
</tr>
<tr>
<td></td>
<td>W075</td>
<td>75</td>
<td>EJ302S-075X11</td>
</tr>
<tr>
<td>ø65 x 500</td>
<td>W001</td>
<td>1</td>
<td>EJ402S-001X11</td>
</tr>
<tr>
<td></td>
<td>W003</td>
<td>3</td>
<td>EJ402S-003X11</td>
</tr>
<tr>
<td></td>
<td>W005</td>
<td>5</td>
<td>EJ402S-005X11</td>
</tr>
<tr>
<td></td>
<td>W010</td>
<td>10</td>
<td>EJ402S-010X11</td>
</tr>
<tr>
<td></td>
<td>W025</td>
<td>25</td>
<td>EJ402S-025X11</td>
</tr>
<tr>
<td></td>
<td>W050</td>
<td>50</td>
<td>EJ402S-050X11</td>
</tr>
<tr>
<td></td>
<td>W075</td>
<td>75</td>
<td>EJ402S-075X11</td>
</tr>
</tbody>
</table>

Note: Seals are not necessary. The suffix of the filter model part number is "X0".
Nonstandard Elements for Precision Cleaning

HEPO II element "Series EJ101S"

- Material: PET
- Optimal for high precision filtration (99% or more) of a wide range of fluids
- Dimensions: ø70 x L250 (EJ101S)

**Recommended flow rate**

<table>
<thead>
<tr>
<th>Absolute filtration accuracy (µm)</th>
<th>Recommended flow rate (/min)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

* Pressure loss: 0.01 to 0.03MPa
* Operating temperature: 0 to 80°C
* Differential pressure resistance: 0.5MPa/25°C

HEPO II element "Series EJ102S ... Series X0"

- All parts of this element are made of polypropylene, which is optimal for various cleaning solvents including alkali and organic solvents.
- Nearly fiber separation or release of chemicals, since fibers themselves are directly fused and no adhesives are used.
- Pressure loss is low and relatively long service life is provided due to a larger filtration area
- Dimensions: ø70 x L250

**Recommended flow rate**

<table>
<thead>
<tr>
<th>Absolute filtration accuracy (µm)</th>
<th>Recommended flow rate (/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

* Operating temperature: 0 to 80°C
* Differential pressure resistance: 0.5MPa

---

**Element and seal part numbers**

**HEPO II element "Series EJ101S"**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Element part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø70 x 250</td>
<td>J002</td>
<td>2</td>
<td>EJ101S-002</td>
</tr>
<tr>
<td></td>
<td>J004</td>
<td>4</td>
<td>EJ101S-004</td>
</tr>
<tr>
<td></td>
<td>J006</td>
<td>6</td>
<td>EJ101S-006</td>
</tr>
<tr>
<td></td>
<td>J013</td>
<td>13</td>
<td>EJ101S-013</td>
</tr>
</tbody>
</table>

Note) Specify seal material in place of "-L52408" (N for NBR or V for FPM).
The suffix of the filter model part number is not necessary.

**Element and seal part numbers**

**HEPO II element "Series EJ102S ... Series X0"**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Element symbol</th>
<th>Filtration accuracy (µm)</th>
<th>Element part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø70 x 250</td>
<td>R002</td>
<td>2</td>
<td>EJ102S-002</td>
</tr>
<tr>
<td></td>
<td>R004</td>
<td>4</td>
<td>EJ102S-004</td>
</tr>
<tr>
<td></td>
<td>R006</td>
<td>6</td>
<td>EJ102S-006</td>
</tr>
<tr>
<td></td>
<td>R013</td>
<td>13</td>
<td>EJ102S-013</td>
</tr>
</tbody>
</table>

Note) Specify seal material in place of "-L52408" (N for NBR or V for FPM).
Series FQ1
Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe these and other safety practices.

⚠️ Caution : Operator error could result in injury or equipment damage.

⚠️ Warning : Operator error could result in serious injury or loss of life.

⚠️ Danger : In extreme conditions, there is a possible result of serious injury or loss of life.

---

⚠️ Warning

1. Determining the compatibility of the products described in this catalog is the responsibility of the person who designs the system or decides its specifications.
   
   Since the products described here are used in various operating conditions, determining the compatibility with the specific system must be based on specifications or after analysis and/or tests to meet your specific requirements. Particularly, give due consideration when determining a fluid.

2. Only trained personnel should operate machinery and equipment.
   
   Fluids can be dangerous if an operator is unfamiliar with them. Assembly, handling or repair of systems should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.
   
   1. Inspection and maintenance of machinery/equipment should only be performed after confirming that safety measures to prevent danger relating to fluids are adequately implemented.
   
   2. When equipment is to be removed, confirm the safety process, the fluid flow and that there is no danger from residual fluid in the system.
   
   3. Before machinery/equipment is restarted, confirm that there is no safety problem and restart it with caution.

4. Contact SMC if the product is to be used in any of the following conditions:
   
   1. Conditions and environments beyond the given specifications.
   
   2. The use of a fluid whose suitability causes concern due to its type and additives, etc.
   
   3. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency shutdown circuits, press applications, brake circuits or safety equipment.
**Series FQ1**  
**Specific Product Precautions**

Be sure to read before handling.  
Refer to page 9 for safety instructions.

---

### Design

**Caution**
1. Do not apply pressure beyond the operating pressure range.
2. Do not use at temperatures beyond the operating temperature range.
3. Fluid  
   Do not use with gases.
4. Fatigue fracture  
   Be sure to implement necessary measures for the following operating conditions:
   1) When surge pressure is applied to the element
   2) When exposed to sliding or vibration due to insecure filter installation
   3) When expansion, contraction, etc., is repeated due to thermal influence on the element.
5. Pressure drop  
   Adjust initial pressure drops to 0.01MPa to 0.02MPa or less.
6. Corrosion  
   Be aware that corrosion can be caused depending on operating conditions or environments.

---

### Piping

**Caution**
1. Install and connect piping ensuring space necessary for maintenance work and inspections.
2. Before piping is connected, air blow (flush) or wash it thoroughly to remove chips, cutting oil and other impurities from inside the piping.
3. Install piping after confirming IN and OUT.
4. Connection  
   Be sure that chips from the pipe threads and sealing material do not get inside the piping.
   Further, when sealant tape is used, leave 1.5 to 2 thread ridges exposed at the end of male threads.
5. Line flushing  
   Flush the piping lines at the time of initial use and when replacing the element.
6. Element replacement  
   1) Replace the element after removing the liquid from the piping and confirming that pressure inside the filter is zero (to assure safety).  
      Further more, conduct replacement using an IN, OUT differential pressure of 0.1MPa as a guide.
   2) Start replacement after confirming that the temperature of the filter body is within a range of 0 to 40°C.
   3) When setting the element, be sure that it does not tilt inside the case.

---

### Selection

**Warning**
1. When selecting a model, a model that does not specification ranges after due consideration of the purpose of use, specification requirements, and operating conditions (fluid, pressure, flow rate, temperature, environment).
2. Do not use at temperatures at or above the boiling point of the fluid.
3. Never use with gases, including air.
4. Do not use in locations where pressure rises to 1MPa or more due to water hammer, surge pressure, etc.

**Caution**
1. Design circuits so that back pressure or back flow will not occur. If back pressure occurs, it may damage the element.

---

### Operating Environment

**Caution**
1. Discoloration or material deterioration may occur, in locations or atmospheres where there is a danger of corrosion. If corrosion progresses, the filter will lose its functions.
2. When used in locations where exposed to vibration or impact, fatigue fracture may occur. 
   Use it by implementing appropriate reinforcement.

---

### Maintenance

**Caution**
1. The pressure drop fluctuates depending on operating conditions. Since the pressure drop is one of the factors indicating filter characteristics, use the filter by setting a controlling standard.
2. Use tightening torque of 7.4 to 8.3N m for the V-band coupling nut.

---

### Fluid

**Warning**
1. Use a quick change filter for filtration of water, alkali and cleaning solvents, etc. 
   There may be circumstances where a seal or an O-ring deteriorates, causing leakage.
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