IC Series Technical Data Sheet
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<td>5</td>
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IC Series Cartridge

Series Overview

IC Series ion exchange cartridge offered by Dynalene is designed and extensively tested for greater ion removal for our low conductivity heat transfer fluid products. These cartridges can be easily installed to systems operating up to 200°F (93°C). We offer two cartridge models, IC-070 and IC-093, which are designed to operate up to 158°F (70°C) and 200°F (93°C), respectively. Our resin cartridge products, which are currently used in low conductivity cooling applications such as fuel cell and battery cooling, can be custom designed for your systems.

Features

- Wide range operational temperature
- High capacity media
- Performance tested for a long operating cycle
- Inhibitor retaining capacity
- Longer life
- Option of round or hex connectors
- Compatible with glycol based heat transfer fluid
- Resistant to physical and chemical deterioration
- Spin welded construction
- Easy to install
- Easy to custom design

Applications

- Fuel cell cooling
- Battery cooling
- Electronics cooling
- Computer cooling
- Laser cooling
- All applications that require low electrical conductivity of the fluid over the time of operation

Specifications

<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
<th>Exchange capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating temperature</td>
<td>IC-070: 158°F (70°C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IC-093: 200°F (93°C)</td>
<td></td>
</tr>
<tr>
<td>Material of construction</td>
<td>Polypropylene</td>
<td></td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>30 psi</td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>Vertical</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>Ion exchange resin</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Product number</td>
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<tr>
<td></td>
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<td>Capacity (meq)</td>
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<tr>
<td>IC-070-04</td>
<td></td>
<td>147</td>
</tr>
<tr>
<td>IC-093-04</td>
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<td>203</td>
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<td>IC-070-06</td>
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<td>190</td>
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<td>IC-093-06</td>
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<td>262</td>
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<td>IC-093-08</td>
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<td>IC-093-16</td>
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<td>2865</td>
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<tr>
<td>IC-093-24</td>
<td></td>
<td>4377</td>
</tr>
</tbody>
</table>

Customization

Along with the standard products, we can also custom design cartridges that meet your requirements. Contact us today at 610.262.9686 or email at info@dynalene.com and discuss your application with Dynalene’s cartridge experts today.
IC Series Cartridge

Design and Construction

![Diagram of IC Series Cartridge](image)

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**IC Series cartridge dimensions, weight and flow rate compatibility**

<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td>5.5</td>
<td>2.38</td>
<td>0.25</td>
<td>0.46</td>
<td>1*</td>
<td>30</td>
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<td>0.25</td>
<td>0.46</td>
<td>1*</td>
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<td>5.5</td>
<td>2.38</td>
<td>0.25</td>
<td>0.46</td>
<td>1*</td>
<td>30</td>
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<td>IC-093-04H</td>
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<td>5.5</td>
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<td>0.25</td>
<td>0.46</td>
<td>1*</td>
<td>30</td>
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<td>0.65</td>
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<td>1.3*</td>
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<td>2.0**</td>
<td>20</td>
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<tr>
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<td>4.5</td>
<td>0.5</td>
<td>3</td>
<td>2.0**</td>
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<td>0.5</td>
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</tbody>
</table>

*Max flow rate at 5 PSI max operating pressure at 200°F (93°C)*

**Ordering Configuration**

<table>
<thead>
<tr>
<th>Model</th>
<th>Temperature</th>
<th>Size</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC</td>
<td>70</td>
<td>06</td>
<td>H</td>
</tr>
</tbody>
</table>

Sample order configuration for an ‘IC’ cartridge: compatible for a max operating temperature of 70°C (158°F), size 6 and H connector. Blank connector section indicates round connection.

* For dimensions, weight, and flow rate compatibility of different sized cartridges, please refer to the table on the next page*
IC Series Cartridge

Hydraulic Properties: DI Water

Note: Pressure drop was determined with deionized water.
IC Series Cartridge

Hydraulic Properties: DI Water

Note: Pressure drop was determined with deionized water.
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 20% (LC-EG 20%)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H

32°C (90°F)  49°C (120°F)  71°C (160°F)  93°C (200°F)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 20% (LC-EG 20%)

32°C (90°F)  49°C (120°F)  71°C (160°F)  93°C (200°F)

Pressure Drop for IC-093-14

Pressure Drop for IC-093-14H

Pressure Drop for IC-093-16

Pressure Drop for IC-093-16H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 30% (LC-EG 30%)

- 32ºC (90ºF)
- 49ºC (120ºF)
- 71ºC (160ºF)
- 93ºC (200ºF)

[Graphs showing pressure drop for IC-093-04, IC-093-04H, IC-093-06, IC-093-06H, IC-093-08, IC-093-08H]
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 30% (LC-EG 30%)

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Graphs</th>
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</thead>
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<tr>
<td>32°C (90°F)</td>
<td>Pressure Drop for IC-093-14</td>
</tr>
<tr>
<td>49°C (120°F)</td>
<td>Pressure Drop for IC-093-14H</td>
</tr>
<tr>
<td>71°C (160°F)</td>
<td>Pressure Drop for IC-093-16</td>
</tr>
<tr>
<td>93°C (200°F)</td>
<td>Pressure Drop for IC-093-16H</td>
</tr>
</tbody>
</table>
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 40% (LC-EG 40%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 40% (LC-EG 40%)

13ºC (55ºF) 49ºC (120ºF) 71ºC (160ºF) 93ºC (200ºF)

Pressure Drop for IC-093-14

Pressure Drop for IC-093-14H

Pressure Drop for IC-093-16

Pressure Drop for IC-093-16H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 50% (LC-EG 50%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 50% (LC-EG 50%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

Graphs showing pressure drop for IC-093-14, IC-093-14H, IC-093-16, and IC-093-16H at different temperatures.
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 60% (LC-EG 60%)

32°C (90°F)   49°C (120°F)   71°C (160°F)   93°C (200°F)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Ethylene Glycol 60% (LC-EG 60%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

![Graphs showing pressure drop for IC-093-14, IC-093-14H, IC-093-16, IC-093-16H at different temperatures.](image-url)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 20% (LC-PG 20%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

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**Pressure Drop for IC-093-04**

**Pressure Drop for IC-093-04H**

**Pressure Drop for IC-093-06**

**Pressure Drop for IC-093-06H**

**Pressure Drop for IC-093-08**

**Pressure Drop for IC-093-08H**
Hydraulic Properties: Low Conductivity Propylene Glycol 20% (LC-PG 20%)

Pressure Drop for IC-093-14

Pressure Drop for IC-093-16

Pressure Drop for IC-093-14H

Pressure Drop for IC-093-16H

Temperature Ranges:
- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 30% (LC-PG 30%)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H

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www.dynalene.com                info@dynalene.com               610.262.9686 / 1.877.244.5525
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 30% (LC-PG 30%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

Pressure Drop for IC-093-14

Pressure Drop for IC-093-14H

Pressure Drop for IC-093-16

Pressure Drop for IC-093-16H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 40% (LC-PG 40%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H
Hydraulic Properties: Low Conductivity Propylene Glycol 40% (LC-PG 40%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 50% (LC-PG 50%)

- Blue: 32°C (90°F)
- Red: 49°C (120°F)
- Green: 71°C (160°F)
- Purple: 93°C (200°F)

Graphs showing pressure drop for different flow rates at various temperatures.
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 50% (LC-PG 50%)

Pressure Drop for IC-093-14

Pressure Drop for IC-093-16

Pressure Drop for IC-093-14H

Pressure Drop for IC-093-16H

32°C (90°F) 49°C (120°F) 71°C (160°F) 93°C (200°F)
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 60% (LC-PG 60%)

Pressure Drop for IC-093-04

Pressure Drop for IC-093-04H

Pressure Drop for IC-093-06

Pressure Drop for IC-093-06H

Pressure Drop for IC-093-08

Pressure Drop for IC-093-08H
IC Series Cartridge

Hydraulic Properties: Low Conductivity Propylene Glycol 60% (LC-PG 60%)

- 32°C (90°F)
- 49°C (120°F)
- 71°C (160°F)
- 93°C (200°F)

**Pressure Drop for IC-093-14**

**Pressure Drop for IC-093-14H**

**Pressure Drop for IC-093-16**

**Pressure Drop for IC-093-16H**