ECS40 Series PEEK™ Electrodeless Conductivity Sensors

- Low Maintenance
- Hygienic, Inline, Dip and Tank Mounting Options
- Ideal for Process, Dairy, Brewing and Food Applications
- Conductivity and Solution Concentration Measurements
- Steam Sterilisable to 135°C, Thermal Shock Resistant
- IP67 Connection Simplifies Installation and Maintenance
- Fast Temperature Response $t_{90} < 10$ secs

The Electrodeless method of measuring conductivity has many advantages over conventional methods. In particular the sensors will operate with virtually zero maintenance and provide reliable measurements over extended periods of time.

The ECS40 series can be mounted inline, in a tank wall, large bore pipe or in an open tank using a variety of fittings. The option of several different hygienic flanges caters for the majority of applications.

The sensor is manufactured in PEEK™, a food grade material with excellent chemical resistance and high temperature performance. The construction of the sensor allows it to operate at 100°C continuously and withstand thermal shocks, commonly associated with CIP applications and can be steam sterilised up to 135°C.

The sensors are fitted with Pt1000 temperature sensors and are compatible with all LTH Electrodeless conductivity instruments. The temperature sensor is mounted in direct contact with the medium via a stainless steel jacket, an alternative PEEK jacket is available where stainless steel might be unacceptable. Connection is made via an IP67 plug which simplifies installation and maintenance.
## Cable Options

**Electrodeless Conductivity Sensor Connection Cables**

<table>
<thead>
<tr>
<th>Part No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>138/133</td>
<td>5 Metres of type 54E Electrodeless conductivity sensor cable fitted with C16P connector.</td>
</tr>
<tr>
<td>138/320</td>
<td>10 Metres of type 54E Electrodeless conductivity sensor cable fitted with C16P connector.</td>
</tr>
<tr>
<td>138/321</td>
<td>15 Metres of type 54E Electrodeless conductivity sensor cable fitted with C16P connector.</td>
</tr>
<tr>
<td>138/324</td>
<td>20 Metres of type 54E Electrodeless conductivity sensor cable fitted with C16P connector.</td>
</tr>
<tr>
<td>138/325</td>
<td>30 Metres of type 54E Electrodeless conductivity sensor cable fitted with C16P connector.</td>
</tr>
<tr>
<td>138/134</td>
<td>Additional 54E Electrodeless conductivity sensor cable for part no 138/133.</td>
</tr>
<tr>
<td>138/183</td>
<td>5 Metres of type 54E Electrodeless conductivity sensor cable, fitted with right angled C16P connector.</td>
</tr>
<tr>
<td>138/184</td>
<td>Additional 54E Electrodeless conductivity sensor cable for part no 138/183.</td>
</tr>
</tbody>
</table>
Specifications

**ECS42T** Dip Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket, 316 stainless steel stem
- Order Code: 8515 600mm dip, 8516 1200mm dip

**ECS43T** In Line Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket, 316 stainless steel stem, EPDM seal.
- Maximum pressure: 100 psi (6.5 bar).
- Maximum Temperature: 60 °C (PVC Tee)
- Order Code: 8523

**ECS45T** In Line Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket and tee, PVC EPDM seal.
- Maximum pressure: 100 psi (6.5 bar).
- Order Code: 8525

**ECS47T** Insertion Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket and screw fitting, EPDM seal.
- Maximum pressure: 150 psi (10 bar).
- Order Code: 8526

**ECS48T** Hygienic Insertion Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket, 316 stainless steel flange, EPDM seal.
- Maximum pressure: 100 psi (6.5 bar).
- Order Code: 8528

**ECS49T** Hygienic Insertion Sensor

- Wetted materials: Peek, 316 stainless steel temperature pocket, 316 stainless steel flange, EPDM seal.
- Maximum pressure: 100 psi (6.5 bar).
- Order Code: 8527

**Hygienic Flanges**

- Suffix: T
- Common Specification
- Temperature sensor: Class A Pt1000 RTD
- Maximum continuous, 100°C, subject to material compatibility with solution.
- Short term 30 mins 135°C
- Thermal shock: 10°C per second
- Response T90: Less than 10s - stainless steel temperature pocket, less than 2.5 mins - PEEK temperature pocket

**Cable**

- Type: 54E terminated C16S socket and tag ends
- Length: 5 metres standard, other lengths to special order

**Notes:**

- Flanges for the ECS49 sensors must be ordered separately.
- Minimum pipe size for insertion sensors 2.5", 63.5 mm.
- Optional PEEK temperature pocket available.
- Temperature, pressure and solution composition will influence the life expectancy of the measurement sensor. Varivent® is the registered trademark of Tuchenhagen GmbH.