**HTCS K=1**
High Temperature Conductivity Sensor

**Description**
Forbes Marshall High Temperature Conductivity Sensor (HTCS) is designed for Total Dissolved Solids (TDS) measurement in Forbes Marshall TDS control systems. The sensor is specifically developed for high temperature applications (>212°F) and can be directly exposed to high temperature/pressure saturated boiler water without need to cool the sample.

This sensor is used with Forbes Marshall BBCS 485 controller.

**Features**
- Chemically Resistant SS316L Body & Sensor
- Glass Filled PEEK Insulator for high temperature
- Built-in Temperature Sensor (PT100)
- Integral Junction Box (IP65) allows easy access to field wiring

**Application**
Boiler Blowdown Water

**Limiting Conditions**
- Max Operating Pressure: 449.6 psig @ 460.4°F
- Cold Hydraulic Test Pressure: 681.7 psig
- Minimum Operating Temperature: 32°F

**Specifications**
- Cell constant value: K = 1 (±1%)  
- Sensor connection: ¾” BSP

**Sensor Cable**
- 4-Core PTFE Isolated/SPC Shielded/PTFE Jacketed Cable
- Length: 16.4042 feet (default)  
  - 33.8084 feet (optional extra)  
  - 98.4252 feet (optional extra for Effimax)  
  (Pls specify cable length in order)

**Sensor Chamber**
- Forbes Marshall Stainless Steel Sensor Chamber
- Process Connection: ½” BSPT(M)

**Materials**

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>ASTM A479 Type 316L</td>
</tr>
<tr>
<td>Electrode</td>
<td>ASTM A479 Type 316L</td>
</tr>
<tr>
<td>Insulator</td>
<td>Glass Filled PEEK</td>
</tr>
<tr>
<td>Junction Box</td>
<td>Cast Aluminum (IP 65)</td>
</tr>
</tbody>
</table>

**How to Order**
Installation
Fit the sensor in a horizontal pipeline with suitable isolation valves to facilitate inspection/cleaning of the sensor. Process flow must be in the direction of arrow marked on sensor chamber. The sensor must be fitted in vertical direction with sensor head upwards. The sensor is supplied with a gasket for sealing between sensor & sensor chamber.

Caution
- Do not install the sensor outdoors without additional weather protection
- Do not install the sensor in inverted/horizontal position
- Fit the sensor to the sensor chamber by gripping it across flat provided on sensor for spanner only. Do not apply torque to sensor aluminium head extension piece with cooling fins to fit sensor to sensor chamber
- Ensure that sensor cable is not exposed to a temperature greater than 248°F

Safety Information
Pressure: Before attempting any maintenance, ensure the pressure is isolated & safely vented to atmosphere. Do not assume that the system is depressurized even when a pressure gauge indicates zero.

Maintenance
We recommend that the sensor is removed for cleaning & inspection at least once in three months, though the frequency of maintenance will depend on the quality of boiler water.

Available Spares

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1</td>
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<tr>
<td>Sensor Chamber</td>
<td>1</td>
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<tr>
<td>Sensor Cable, Length: 16.4042 ft</td>
<td>1</td>
</tr>
<tr>
<td>Sensor Cable, Length: 32.8084 ft</td>
<td>1</td>
</tr>
<tr>
<td>Sensor Gasket</td>
<td>1</td>
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