S20 Sensor Chamber, TP20 Temperature Sensor, CP10 Sensor and PT2 Plug-tail Cast Iron Valves

- Purpose designed sensor chamber for in-line mounting
- Simple removal of sensors for cleaning
- Allows continuous temperature compensated measurement

Description
The Spirax Sarco S20 sensor chamber is fitted with conductivity and temperature sensors used to determine the conductivity of liquids. The use of a temperature sensor enables an accurate measurement to be made when the temperature varies, as in the case of condensate return monitoring systems.

The hexagonal in-line sensor chamber is screwed 1" NPT. Adjacent radial female screwed connections are provided for:-
- CP10 conductivity sensor (3/8" BSP).
- TP20 temperature sensor (1/4" BSP).
An additional 1/4" BSP (1/4" NPT) connection is provided on the other side of the chamber for taking a sample if required.

Spirax Sarco can supply a sample cooler for cooling hot samples, or a blanking plug if the connection is not required.

Limiting Conditions
S20 sensor chamber and TP20 Temperature sensor
- Maximum pressure: 160 psig (11 barg)
- Maximum media temperature: 302°F (150°C)

CP10 conductivity sensor
- Maximum pressure: 464 psig (32 barg)
- Maximum media temperature: 462°F (239°C)
- Torque rating: 44 lb./ft (60 Nm)

PT2 Plug-tail
- Cable temperature range: -67 to 248°F (-55 to 120°C)
- Supplied cable length: 50" (1.25m)
- Maximum voltage: 20Vdc, 14Vac
- Maximum current: 10mA

Installation
Caution: Do not install the sensor outdoors without additional weather protection.

Fit the sensor chamber in a vertical or horizontal pipeline with suitable isolation valves to allow inspection/cleaning of the sensors. Reducers may be fitted if required. Flow can be in either direction.
The sensors themselves must be horizontal.
The TP20 has a taper thread, and may be installed using PTFE sealing tape if required.
The CP10 sensor is provided with an S-type stainless steel gasket for sealing and does not require sealing tape.
Fit the sensors to the chamber and tighten.
Fit PT2 plug tail (or other Spirax Sarco plug tail) to the CP10 sensor and tighten.

The supply to the Sensor and Plug-tail must be provided by a low voltage limited power source. Spirax Sarco Blowdown controllers provide this type of supply.
Flexible metal conduit (M16) can be connected to the PT12 by removing the nut (1).
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**Maintenance**
The equipment requires no specific maintenance other than periodic inspection and cleaning.

**Materials**

<table>
<thead>
<tr>
<th>Description</th>
<th>Material/Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S20 sensor chamber</strong></td>
<td>Stainless steel ASTM 8582303 BS 970 303 S31</td>
</tr>
<tr>
<td><strong>PT2 Plug-tail</strong></td>
<td></td>
</tr>
<tr>
<td>Body</td>
<td>Brass</td>
</tr>
<tr>
<td>Nuts</td>
<td>Brass (2 off)</td>
</tr>
<tr>
<td>Insulator</td>
<td>Polyphenylene Sulphide Resin (glass filled)</td>
</tr>
<tr>
<td><strong>CP10 conductivity sensor</strong></td>
<td>Stainless steel BS 970 303 S31</td>
</tr>
<tr>
<td>Body</td>
<td>Stainless steel BS 970 303 S31</td>
</tr>
<tr>
<td>Insulator</td>
<td>PEEK plastic</td>
</tr>
<tr>
<td>Pin</td>
<td>Stainless steel BS 970 303 S31</td>
</tr>
<tr>
<td><strong>TP20 temperature sensor</strong></td>
<td></td>
</tr>
<tr>
<td>Body and probe</td>
<td>Stainless steel 316 ASTM A269 Gr. 316</td>
</tr>
<tr>
<td>Cable insulation</td>
<td>PFA</td>
</tr>
</tbody>
</table>

**How to Specify**
In line sensor chamber with conductivity and temperature sensors. CP10 Conductivity Sensor and PT2 Plug-tail.

**How to Order**
Spirax Sarco’s S20 sensor chamber complete with CP10 sensor, PT2 plug tail, 1/4" BSP blanking plug, and TP 20 temperature sensor.

**Dimensions (approximately) in inches**

![Diagram of S20 Sensor Chamber, TP20 Temperature Sensor, CP10 Sensor and PT2 Plug-tail](image-url)