

CP 32 Twin Tip Conductivity Probe

Description

The Spirax Sarco CP32 conductivity probe is used in conjunction with a controller to measure the conductivity (or TDS) of water, usually in a steam boiler, for the purpose of monitoring and controlling blowdown.

The CP32 has a built-in temperature sensor, and when used with an appropriate controller, is able to detect scaling (UK Patent No. 2297843). It is approved by UL as an accessory for use with a blowdown controller. The sensor also automatically initiates a probe conditioning cycle (UK Patent No. 2276943). This causes any scale on the probe to become porous or fall off, allowing the probe to continue to sense at its original calibration level.

WARNING: This feature is not a substitute for adequate boiler water treatment. If scale is occurring on a probe, it is also occurring inside the boiler, and a competent water treatment specialist must be consulted to avoid a potentially dangerous situation.

The CP32 is supplied in three nominal tip lengths, and has a 1/2" NPT male thread for connection to a Spirax Sarco probe elbow, a screwed flange, or directly into a boiler connection.

Principal features :

- Twin tip conductivity probe for use in TDS control systems.
- Built-in temperature sensor - only one boiler connection needed.
- Suitable for use in steam boilers up to 462°F @ 464 psi g (239 C @ 32 bar g).
- Patented scale detection and compensation.
- Approved by UL as an accessory for use with a blowdown controller.

Available tip lengths inches (mm)

11.8" (300), 19.7" (500) and 39.4" (1000).

Note: 39.4" (1000) probes can only be installed vertically.

Pressure / temperature limits

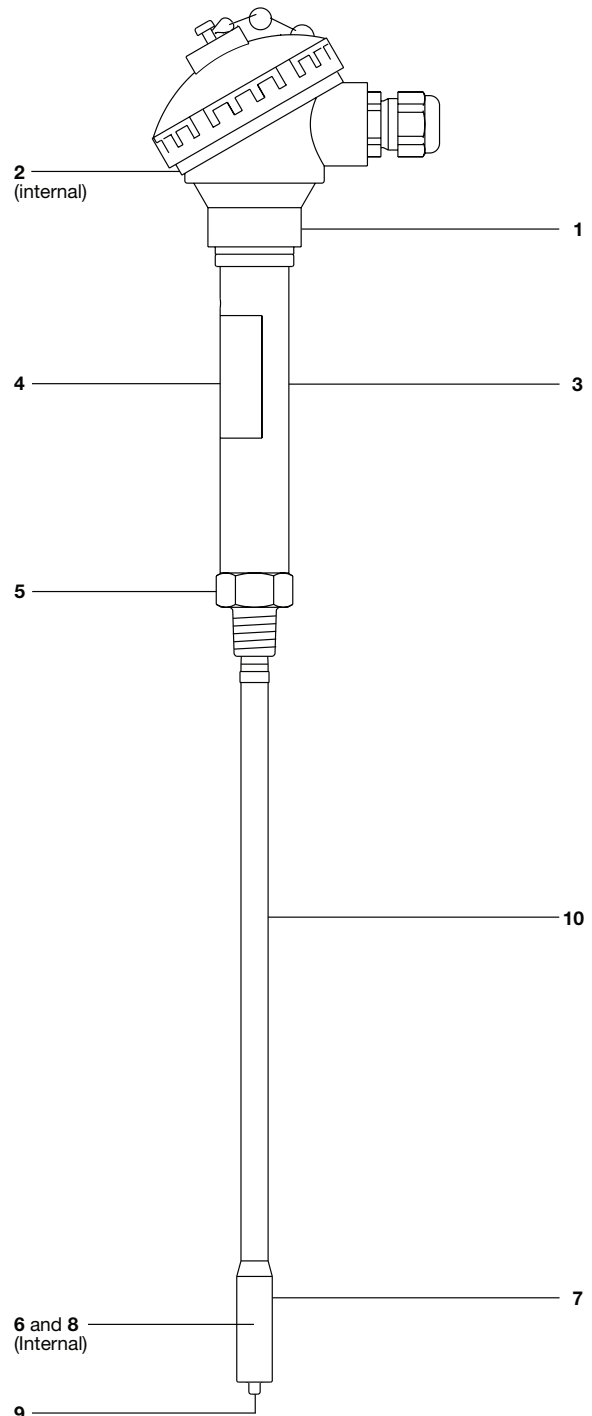
Maximum boiler pressure	464 psi g (32 bar g)
Maximum operating temperature	462°F (239°C)
Maximum ambient temperature	131°F (55°C)

Technical data

Protection rating (terminal head / cable gland only)	IP65
Minimum tip distance from boiler tubes	0.4" (10 mm)
Minimum immersion depth (vertically installed probes)	4.0" (100 mm)
Maximum cable length (probe to controller)	328 ft (100 m)
Minimum conductivity	10 ppm

Materials

No.	Part	Material
1	Terminal head	Aluminium
2	'O' ring	Nitrile rubber
3	Cover tube	Austenitic stainless steel Type 316L
4	Name-plate	Polycarbonate
5	Body	Austenitic stainless steel Type 304L 1.4306
6	Spring	Austenitic stainless steel 302 S26
7	Insulator	PEEK
8	Driver tip	Austenitic stainless steel Type 316
9	Sensor tip	Austenitic stainless steel UGINE 4632
10	Rod	Austenitic stainless steel Type 316 / 316L

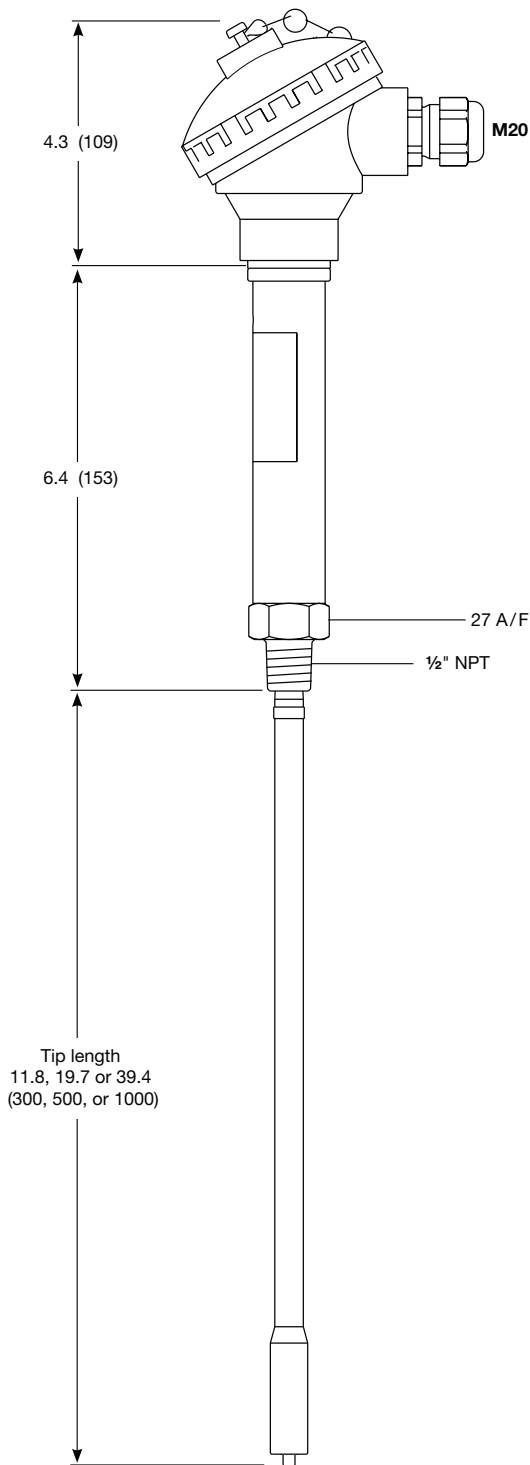


Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

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CP 32 Twin Tip Conductivity Probe

Dimensions (approximate) in inches (mm)



Safety information

For full details see the Installation and Maintenance Instructions supplied with the product, which gives full wiring, commissioning and operating instructions.

Warning:

This product contains materials including PTFE which can give off toxic fumes if exposed to excessive heat.

Installation Note:

Do not install the probe outdoors without additional weather protection. 11.8" (300 mm) and 19.7" (500 mm) probes can be installed vertically or horizontally. **CAUTION: 39.4" (1000 mm) probes must be installed vertically only.** The probe must be installed in a position where it can sense the conductivity of the boiler water, away from the feedwater inlet if possible.

The CP32 contains no user serviceable components, and periodic cleaning is all that is required. Any attempt to dismantle the probe will result in permanent damage.

Spare parts

The spare parts available are detailed below. No other parts are supplied as spares.

Available spares

Enclosure 'O' ring	2
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How to order spares

Always order spares by using the description given in the column headed 'available spares' and state which product they are for.

Example: 1 off enclosure 'O' ring for a Spirax Sarco CP32 twin tip conductivity probe.

How to specify

TDS conductivity probes shall be Spirax Sarco type CP32 with nickel alloy sensor tips and built-in temperature sensor. They must incorporate a patented facility to check the sensor tips for scaling. When used in conjunction with an appropriate Spirax Sarco controller, they must also be able to automatically initiate a patented probe cleaning feature, which, if unable to clean the probe, will activate a warning on the controller's display panel and / or a remote alarm. The system must also be able to automatically compensate for any polarisation effects at the sensors. They must be suitable for boiler pressures up to 464 psig (32 bar g) and a maximum working temperature of 462°F (239°C). They must be available in 11.8" (300 mm), 19.7" (500 mm) and 39.4" (1000 mm) lengths, and have a 1/2" NPT boiler connection.

How to order

Example: 1 of Spirax Sarco CP32, twin tip conductivity probe having a 1/2" NPT connection and 11.8" (300 mm) tip length.

Weights (approximate) in lb (kg)

Tip length	11.8" (300 mm)	19.7" (500 mm)	39.4" (1000 mm)
Weight	2.2 (1.0)	2.6 (1.2)	3.5 (1.6)