centec

THERMAL CONDUCTIVITY HYDROGEN SENSOR

HYDROTEC TC

Precise · robust · easy to maintain

A thermal-conductivity sensor for high-precision H_2 measurement in both dissolved and gaseous phases. Built in stainless steel, it is ideal for harsh plant conditions and high pressures, covering the range from trace to saturation level.



316L STAINLESS

0-2 ppm	0-20 bar	15 s	IP65
MEASUREMENT RANGE	PRESSURE RANGE	CYCLE TIME	ENCLOSURE

Features & Benefits

Low detection limits

- Very low detection limits in dissolved and gaseous applications.
- Low drift.

Precise

- H_2 concentration is measured continuously.
- Unaffected by other gases present in the environment.

Low maintenance costs

- One single annual maintenance is necessary.
- Resistant to high temperature and cleaning in place (CIP).

Easy calibration

- Simple air calibration process.

Fast response time

- Fast response time of ± 30 sec.

Hygienic & robust

- Hygienic membrane cap.
- Stainless steel construction - harsh chemistry and high pressures.

Applications

POWER & STEAM INDUSTRY

In-line analysis · Dissolved & gaseous applications · Power-steam industry · Very fast response time · Easy air calibration · Low maintenance costs

Dimensions

LENGTH	DIAMETER	PROCESS THREAD	SENSOR ADAPTER	WEIGHT
159 mm	Ø 59 mm	M42×1.5	Ø 28 mm	0.6 kg

Technical Specifications

Range DH_2 (@25°C)	**0-2 ppm**	Temp. compensation	**0 to +45 °C**
Range PH_2	**0-1.5 bar**	Temp. range	**CIP/SIP 120 °C**
Cycle time	**15 s**	Pressure range	**0-20 bar**
Purge gas	**N_2 or air**	Weight	**0.6 kg**
Response time	**± 30 s**	Enclosure	**IP65**
Accuracy	**± 1% of reading***	Wetted materials	**316L SS, PFA**
		Sensor cable	**3 m - 100 m**
		Membrane cap	**Hygienic**

* 1% of the measured value or lowest value, whichever is greater (DH_2 = dissolved H_2 · PH_2 = H_2 partial pressure).

In Practice

The HYDROTEC TC measures hydrogen continuously in both dissolved and gaseous phases, from trace levels to saturation across a 0-2 ppm range for dissolved H_2 and partial pressures up to 1.5 bar. It is designed for the realities of the power-steam industry, in-line and real-time hydrogen monitoring where trace concentrations and a fast response of ± 30 seconds matter, at process pressures up to 20 bar. The 316L stainless steel construction and hygienic membrane cap withstand harsh chemistry, high pressures, and SIP/CIP up to 120 °C.

Maintenance is a single annual service, with a simple air calibration the operator can perform on site, leading to high-precision H_2 measurement without the running costs usually attached to it.

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