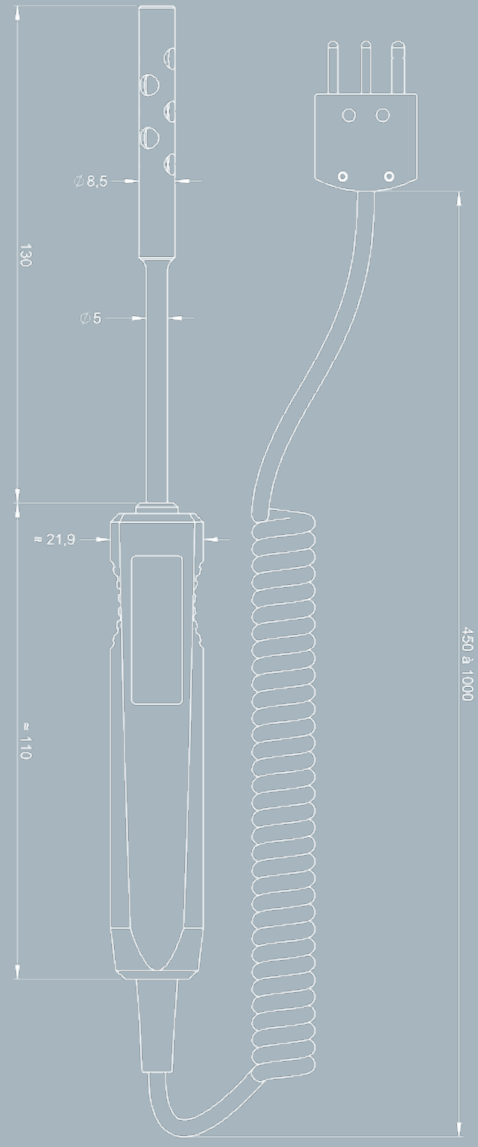
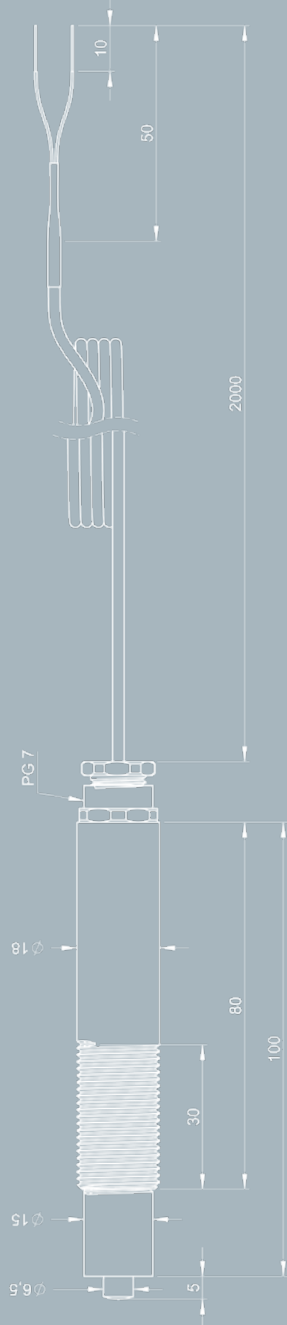
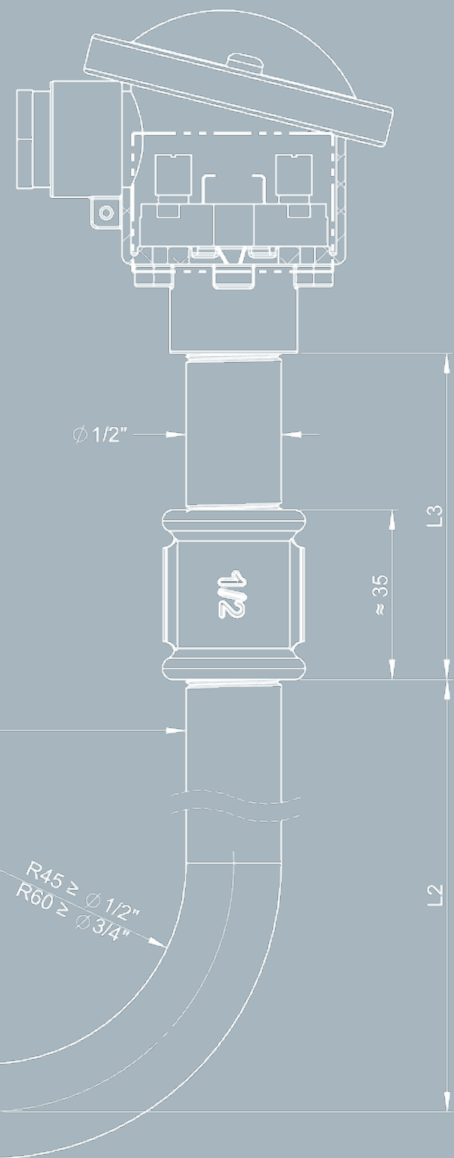
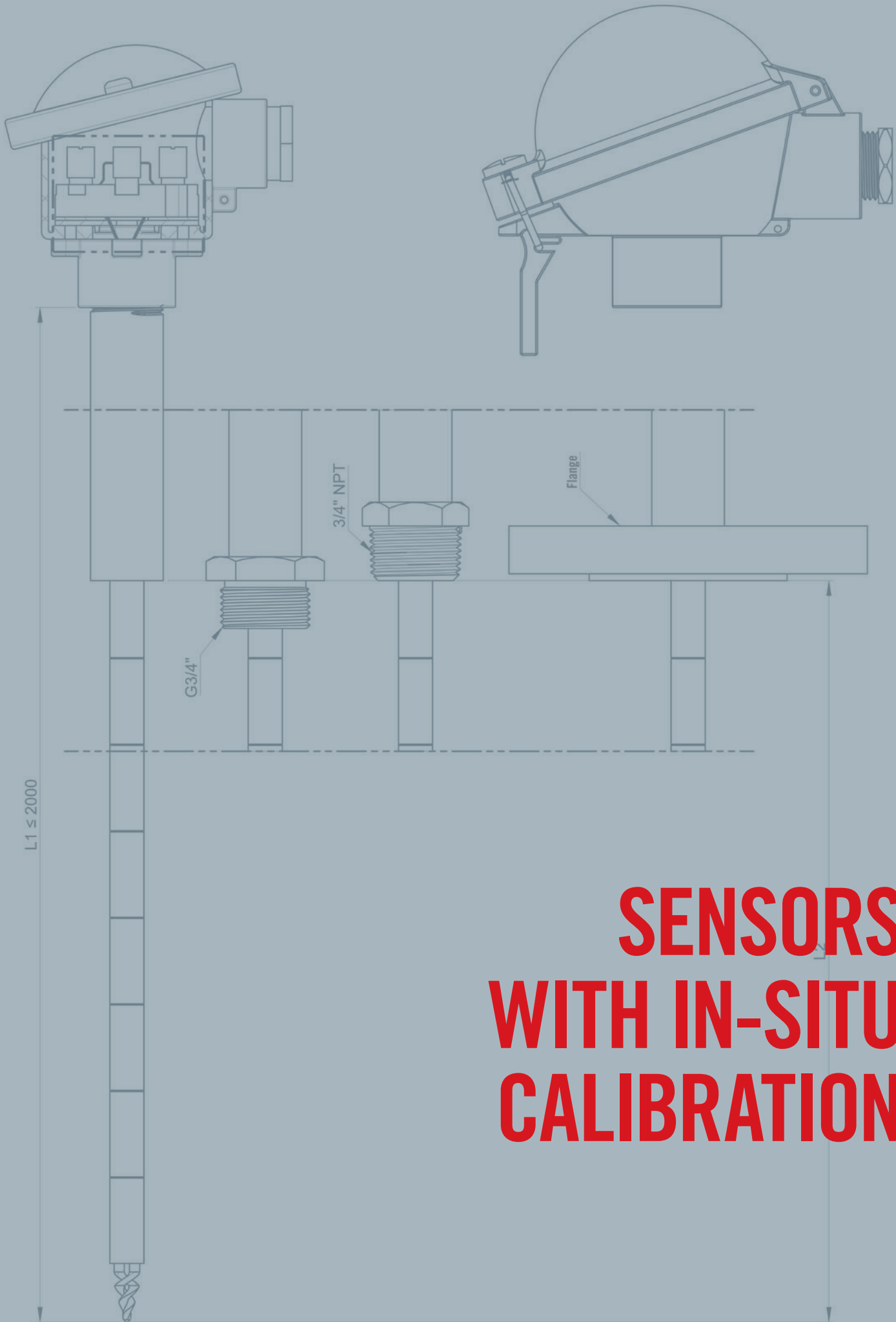


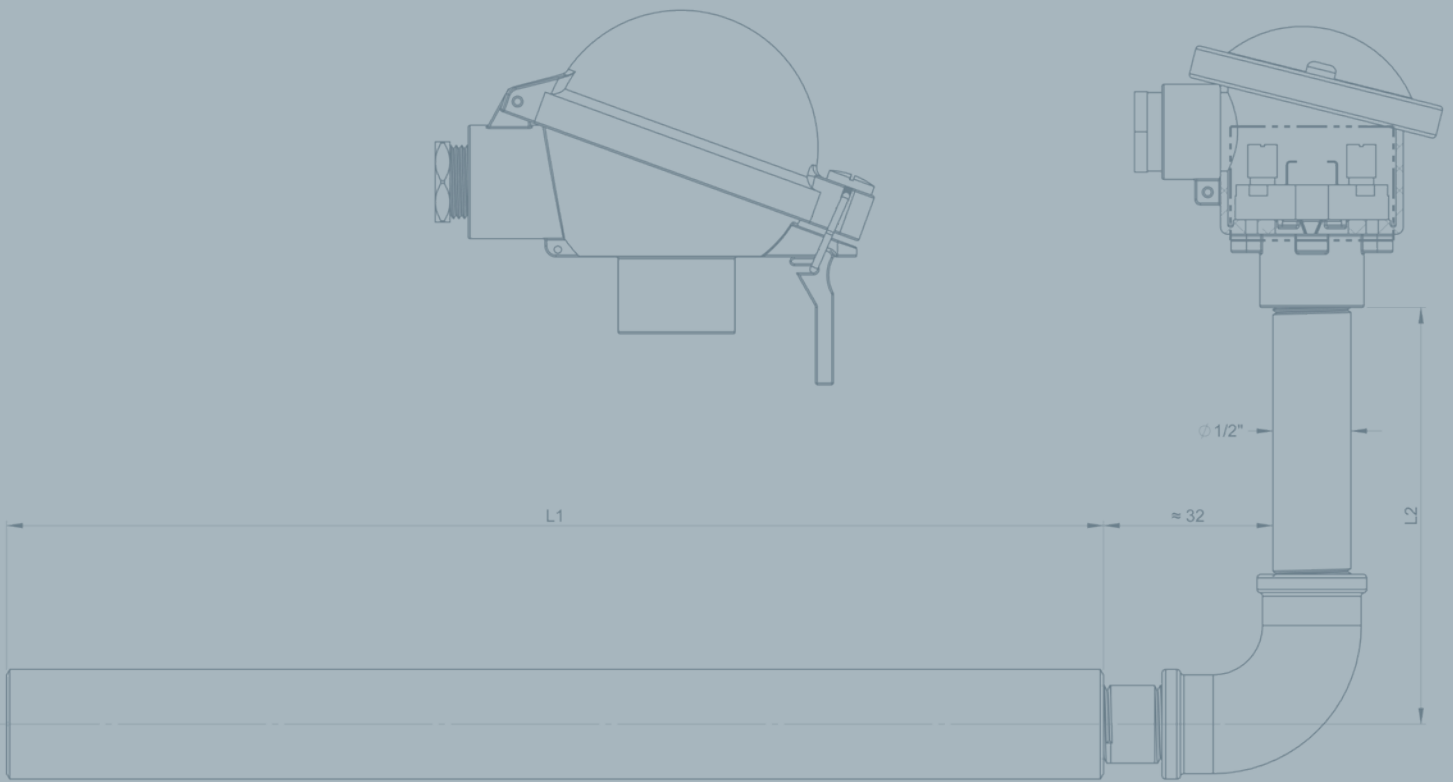
SENSORS CATALOGUE

TEMPERATURE MEASUREMENT IN INDUSTRIAL ENVIRONMENTS





SENSORS WITH IN-SITU CALIBRATION



IN-SITU SENSOR CALIBRATION

278

IN-SITU CALIBRATION METHOD

279

SENSOR DRIFT...

During use, depending on the process constraints, the accuracy of a temperature sensor declines at varying rates and therefore no longer guarantees the correct measurement defined initially (according to the standard: Pt100 Ω sensor or thermocouple).

- **This means it requires regular calibration.**

A TC always drifts downwards, by several degrees a year. To compensate this phenomenon, industrial companies set the temperature of their process higher than nominally necessary with a sufficient margin to offset this drift until the next calibration operation, usually performed once a year. In this way, they define a setpoint higher than the optimum temperature for the heat treatment.

- **This additional heating naturally has consequences:** possible creation of faults and heterogeneity on the parts, premature wear of the refractories and, lastly, excessive energy consumption. This is why it is important to control sensor drift.

...IN-SITU CALIBRATION!

Pyrocontrole's temperature measurement assemblies with **in-situ calibration** enable you to monitor the evolution of your temperature sensors' drift over time, using a method which is easy to implement. This technology offers numerous advantages in terms of energy saving, productivity, quality and traceability:

- The reduced uncertainty of your measurements allows you to lower the heating setpoint, thus saving energy. By avoiding overheating, the life span of your equipment is improved.
- The process remains available because there is no longer any need to halt production; calibration is performed on the equipment while it is operating, without having to dismantle the sensors so there is no risk of breakage. Maintenance time is thus reduced. This technology provides significant flexibility for scheduling your metrological monitoring operations.
- The improved accuracy of your measurements helps to reduce your standard deviations; the quality of the finished product is also improved and quality monitoring is facilitated. Lastly, you benefit from better traceability of your thermal process.



Sx3

SPS

TCG 52

IN-SITU CALIBRATION METHOD WITHOUT DISMANTLING THE SENSOR

This method* of verification by comparison is quick and simple to implement.

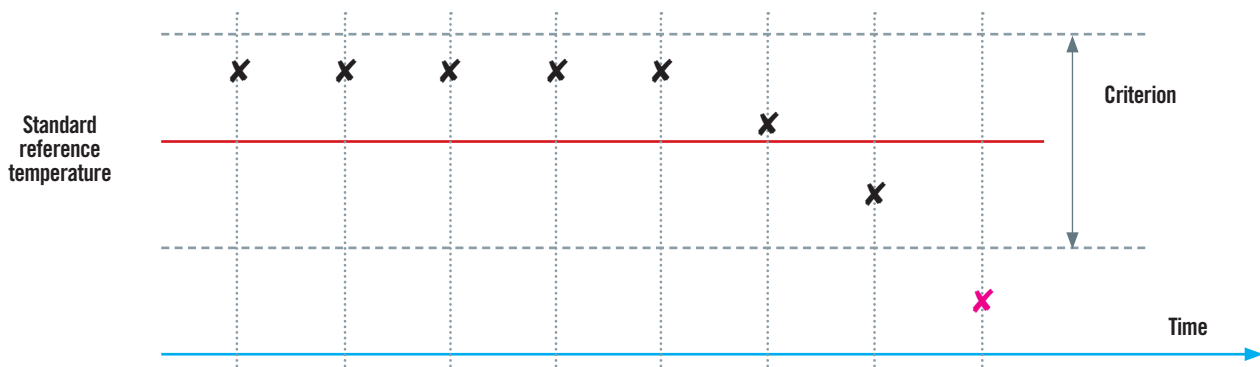


* Patent filed: no. 0213616

- Opening of the connecting head of the sensor to be checked.
- Insertion of the standard reference sensor into the guide tube.
- Connection of the standard reference sensor to the precision thermometer.
- Temperature stabilization.
- Calibration by comparison of the temperature on the reference standard and the temperature on the process sensor.

DECIDE ON THE FREQUENCY OF THE TESTS

At the point of operation, regular comparison of the temperature reading against the temperature given by the standard reference sensor enables you to detect any measurement drift.



Non-contractual document - Please confirm specifications before ordering.

RELATED SERVICES

Pyrocontrole has a temperature metrology calibration laboratory. COFRAC accreditation no. 2-1385 - Calibration by comparison.

- From -40 °C to +450 °C for Pt100 Ω sensors
- From -40 °C to +1,550 °C for thermocouples

We can add the “in-situ calibration” function on all sensors equipped with DIN/DAN heads, starting at a diameter of 6 mm.

Please contact us if you want to benefit from this feature on your next sensors.

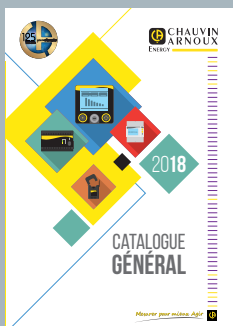




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