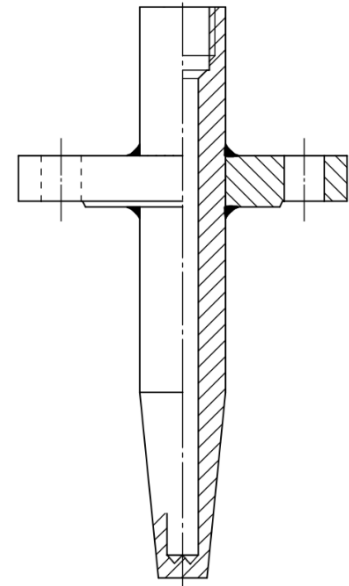


Thermowells

Application

Thermowells are used for the safe installation of temperature sensors in industrial processes. They prevent direct contact between the sensor and the process medium and are therefore used in aggressive media and high dynamic loads. Thermowells offer the possibility to remove the temperature sensor during the ongoing process without draining the pipe or vessel for ease of maintenance and replacement.

In the case of differential pressure flow measurement with an attached inlet and outlet pipe section, thermowells are often installed in the outlet pipe to allow additionally for temperature measurement.



Design

The standard design options to fasten to the pipeline are

- Threaded
- Welded
- Flanged

Additionally there are two design options to attach the temperature sensor to the thermowell. The temperature sensors can either be screwed in or welded into the thermowell.

Process Connection

Typical process connections are:

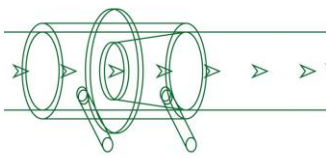
- Threaded G1/2", G3/4", 1/2" NPT, 3/4" NPT, M20x1,5, M27x2
- Flange DN 25 - DN 40, PN 10 - PN 400 (DIN EN 1092-1) or 1" - 2", Class 300# - 2500# (ASME B16.5)
- Welded connection

Temperatur Sensor Connection

- Threaded G1/2", G3/4", M18x1,5, M20x1,5, M27x2
- Welded connection

Overall Length

The standard overall lengths are 110 mm, 170 mm, 200 mm, 260 mm and 410 mm, depending on the design type. The immersion length is between 65 mm and 340 mm depending on the pipe or vessel diameter. Other lengths are available upon request.



Inner diameter

The internal diameter is typically between 7 mm - 14 mm. Other dimensions are available upon request.

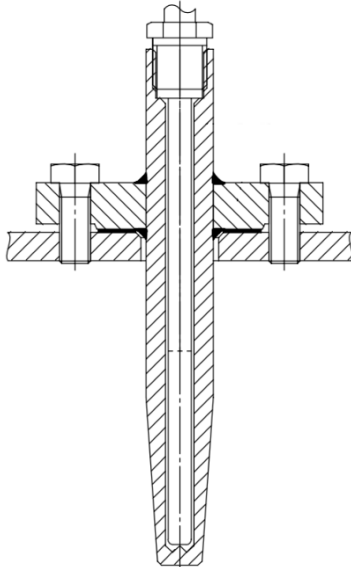
Material

- Steel 1.0460 (P250GH / ca. A105)
- Heat resistant steel 1.7335 (13CrMo4-5 / A182 Gr. F11)
- Stainless steel 1.4571 (A182 Gr. 316Ti)

Other materials are available upon request.

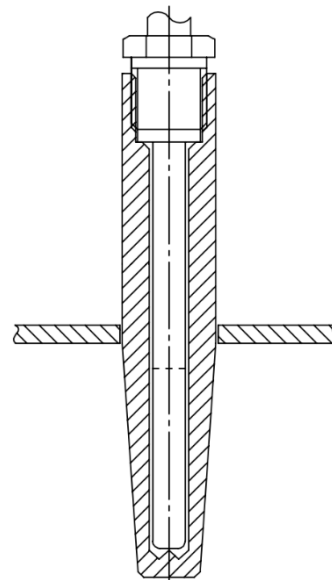
Installation examples

Thermowell with flanged process connection



and threaded thermal sensor connection

Thermowell with welded process connection



and threaded thermal sensor connection

Quality Assurance

Manufacturing and testing are carried out according to the relevant guidelines or customer specifications. If requested, thermowell resonance and structural calculations can be offered for the specific process conditions.

Standard acceptance test according to EN 10049. Special acceptance tests are available upon request.