

General

Typically thermowells are used in applications where they are to remain in the measured medium and where only the temperature transducer is to be exchanged or retrofitted, or where the measured medium shall not come in contact with the temperature transducer. Thermowells also provide protection against mechanical loading.

Thermowells for dial indicating thermometers according to DIN 16179 (old) and thermowells for resistance thermometers according to DIN 43763 (old) are summarized in DIN 43772 (new) (see: Overview thermowells).

The temperature of the sensing area I2 of the thermometer must attain fully the process temperature to be measured. The depth of immersion U1 of the thermowell should be chosen sufficiently longer than the sensing area I2.

The positioned length L1 of the thermometer corresponding to the overall length L of the thermowell is given in the following data sheets.

Labom thermowells are manufactured according to national standards (DIN 43772) or to customer specification. The corresponding Labom dial indicating thermometers and temperature transmitters are fully compatible metrologically with these standards.

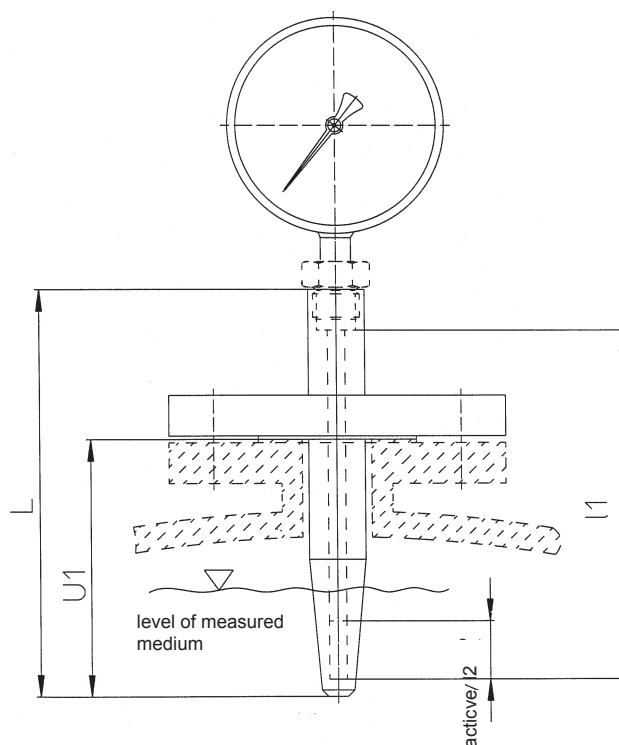
Application instructions

The loading capacity depends on these parameters:

1. Viscosity of measured medium
2. Pressure of measured medium
3. Temperature of measured medium
4. Flow velocity of measured medium
5. Positioned length of thermowell
6. Material of thermowell
7. Geometry of thermowell

Design examples for appropriate thermowell models are given in load diagrams in DIN 43772.

Upon request a calculation for thermowells can be made (for static or dynamic application) with certificate.



Installation example of a thermometer with thermowell model 4F according to DIN 43772

Material

- Cr.Ni.-steel 1.4571 (Standard)
- Cr.Ni.-steel e.g. 1.4404
- steel e.g. C 22.8
- special material e.g. Hastelloy, Tantalum, Titanium etc.
- additional coating materials e.g. PTFE or PFA

Overview thermowells

temperature transducers and temperature transmitters
s. data sheet T4

dial thermometers and dial thermometers with contact device
s. data sheet T2 + T3

