

THERMOWELLS according DIN 43772

FORM 4 - for welding in

SR

APPLICATION

The thermowells Form 4 for thermometers with external thread (acc. Bimetal-thermometers, resistance thermometers Pt100, thermocouples) with cap nut or double nipple, are designed to weld-in for pipes or pressure vessels, preferably in processes of liquid and gaseous media.

The protective tubes of the Form 4 are designed for pressures up to 400bar depending for process conditions and the choice of material.

For critical application conditions is a separate calculation recommended.

STANDARD VERSIONS

Material Thermowell

- Stainless-Steel or Steel

Process connection F2

- Thermowell outer diameter Ø 18 mm, Ø 24 mm, Ø 26 mm, Ø 32 mm

Connection to Thermometer N

- Thread M14 x 1,5, M18 x 1,5, G ½, G ¾

Bore diameter d1

- Ø 3,5 mm, Ø 7 mm, Ø 9 mm, Ø 11 mm

Options

- Inspection certificate DIN EN 10204 – APZ 3.1 or APZ 3.2 (TÜV-inspection)
- Re-stamping certificates
- Hydrostatic pressure test (up to 500bar)
- Special designs and lengths up to 1000mm according to customer on request (1/2NPT, 3/4NPT)
- Welding sleeves or temperature sockets according to customer on request

The max. process temperature and pressure is dependent on:

- Strength diagram acc. DIN 43772
- Design of thermowell
 - Dimensions
 - Material
- Flow velocity
- Medium density



TECHNICAL DATA

MATERIALS

heat-resistant Steel	stainless Steel	Special materials
Steel C22.8/P250GH –Material-No. 1.0460 Steel 16Mo3 –Material-No. 1.5415 Steel 13CrMo4-5 –Material-No. 7335 Steel 10CrMo9-10 –Material-No. 1.7380/1.7383	CrNi-steel - Material-No. 1.4571 CrNi-steel - Material-No. 1.4541 CrNi-steel - Material-No. 1.4404 stainless-steel - Material-No. 1.4922 stainless-steel - Material-No. 1.4903 stainless-steel - Material-No. 1.4841	Alloy, Hastelloy

Standard design and dimensions Thermowell - Form 4

Drilling * BO $\varnothing d1$	Diameter F2	Thread N	Diameter F3
3,5	18h7	M14x1,5	9
7	24h7	M18x1,5	12,5
	26h7	G1/2	
9			15
11	32h11	G3/4	17
13			19

Length L	Cone length U	Hole depth G	Mass [kg]
110	65	105	0,240
110	73	105	0,230
140	65	135	0,340
170	133	165	0,340
200	65	195	0,540
200	125	195	0,450
260	125	255	0,650
410	275	405	0,920

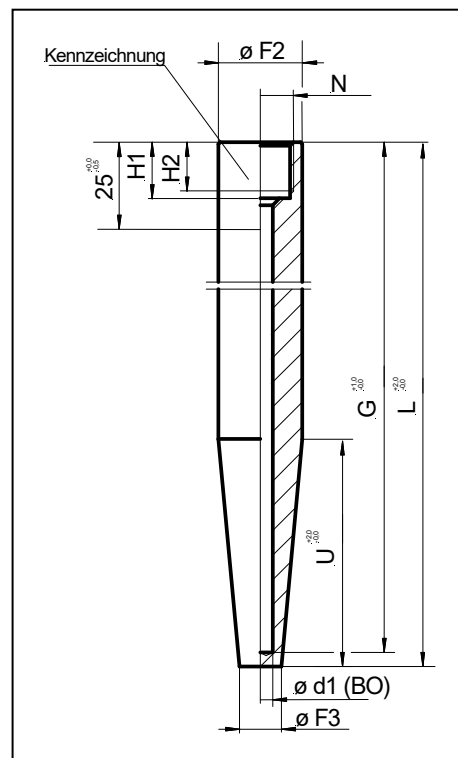
* other bore diameter on request

The form SR D1 to SR D5 correspond the old standard to DIN 43763:

Dimensions in mm

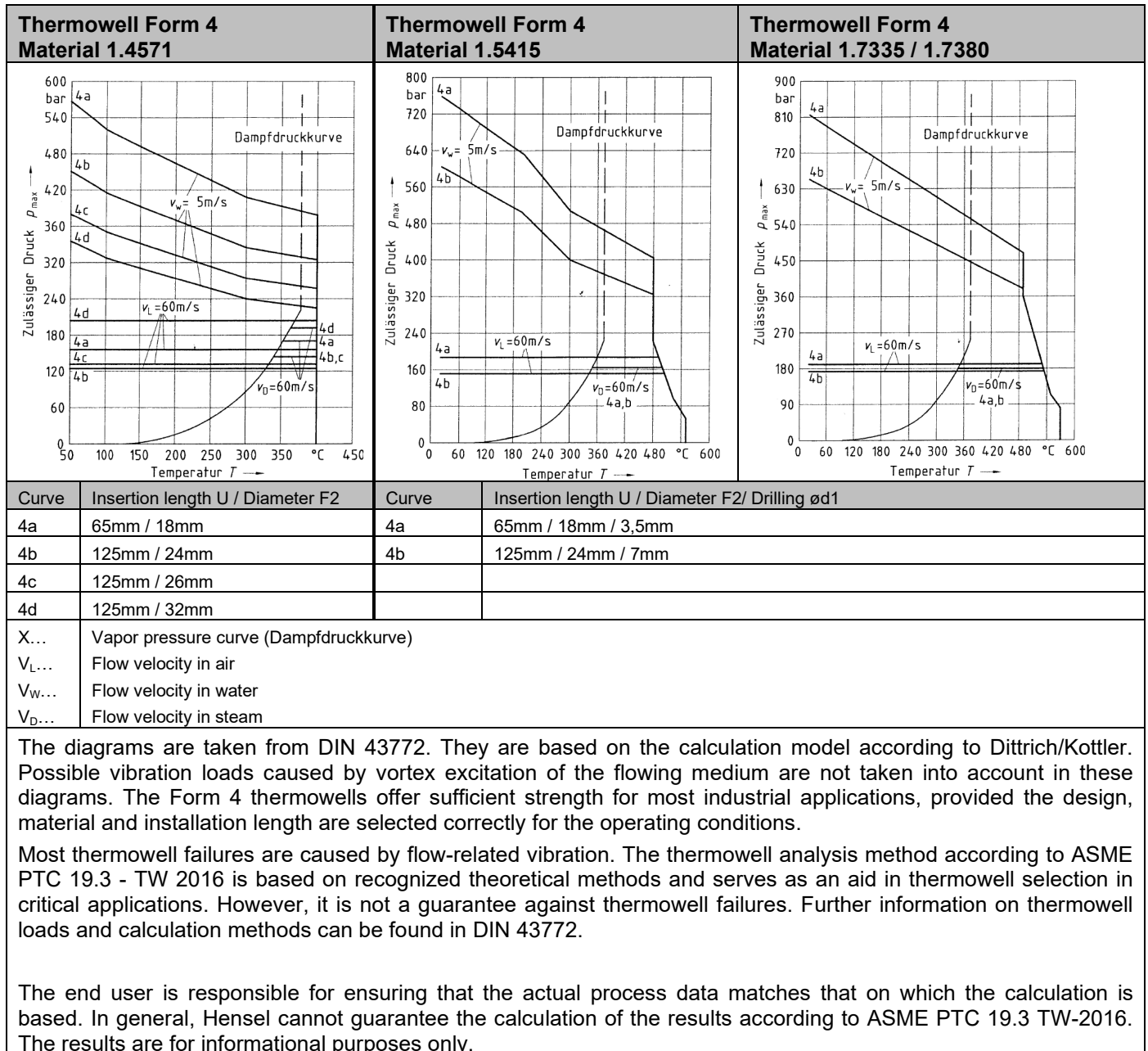
Dimensions in mm

FORM 4 Art.-Nr.	Length L	Cone length U	Diameter F2	Diameter F3	Drilling Ø d1	Mass [kg]
connecting thread N = M18x1,5						
SR D1	140	65	24mmh7	12,5	7,0	0,340
SR D2	200	125				0,450
SR D4	200	65				0,540
SR D5	260	125				0,650
connecting thread N = M14x1,5						
SR D1S	140	65	18mmh7	9,0	3,5	0,195
SR D2S	200	125				0,265
SR D4S	200	65				0,320
SR D5S	260	125				0,330



Pressure and vibration resistance for thermowells

The permissible pressure load of the thermowells at different temperatures is shown for thermowells according to DIN 43772 (materials 1.4571, 1.5415, 1.7335, 1.7380) in the following figures/diagramm.



Hydrostatic Pressure Test for Thermowell Form4

The hydrostatic pressure test is a strength test of the thermowell components.

Standard: internal pressure test at 500bar / test time 3min / 100% of the components (or according to customer specifications)

(Documentation - Hydrostatic Pressure Test Certificate)

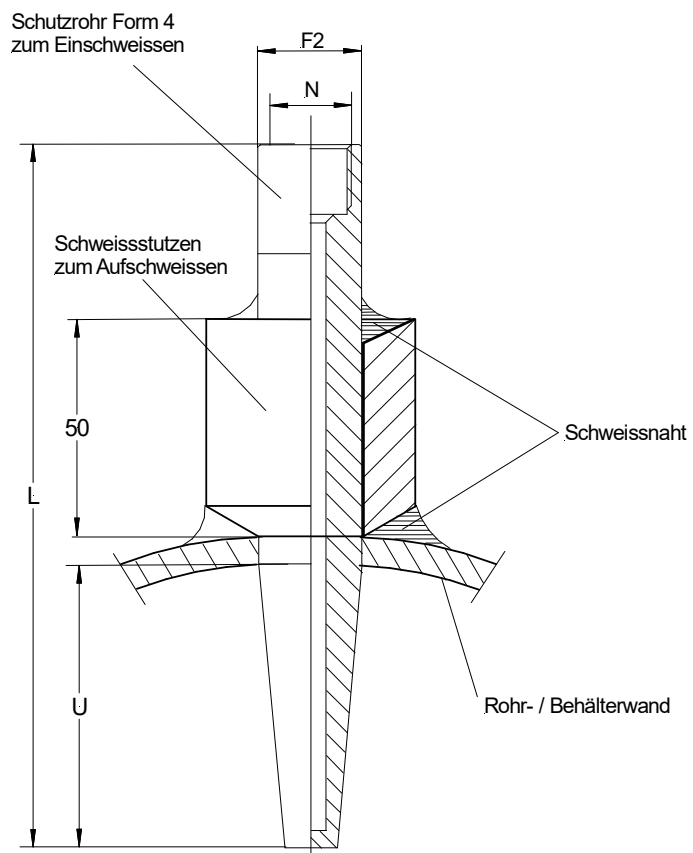
Based on Standard PED AD 2000 - leaflet HP30

Installation recommendation

Installation in combination with high-pressure welded sleeve. The bore of the sleeve is adapted to the diameter of the Thermowell (F2).

Example:

Design of the high-pressure welding sleeve according to standard SR HDMU type 01 ... type 04 or customer request.



Example for identification Thermowell Form4

Thermowell DIN 43772 – 4 – 7 – M18x1,5 – 200 – 65 – 16Mo3

Designation

Form

Drilling diameter $\phi d1$

Connecting thread Thermometer N

Overall length L

Insertion length U

Material

Designation	
Form	
Drilling diameter $\phi d1$	
Connecting thread Thermometer N	
Overall length L	
Insertion length U	
Material	