

Thermowell according to DIN 43772 with flange

FORM 4F

SR

APPLICATION

Thermowells/ protective tubes Form 4 with flanges for externally threaded thermometers (mechanical thermometers, resistance thermometers, thermocouples, etc.) are installed in pipelines and pressure vessels with a counter flange, preferably in processes involving liquid and gaseous media. A neck tube can be installed between the protective tube and the Form B thermometer head.

- **Process engineering**
- **Chemical industry**
- **Pipeline construction**

EXECUTIONS

- Bore diameter d1 = $\varnothing 3.5\text{mm}$, $\varnothing 7\text{mm}$, $\varnothing 9\text{mm}$, $\varnothing 11\text{mm}$ or $\varnothing 13\text{mm}$
- Connection thread thermometer M14x1.5, M18x1.5 or G1/2"
- Test certificate EN 10204-3.1
- Internal pressure test for thermowell
- Flange design according to DIN or ASME
- External pressure test according to PN flange with test certificate
- Special versions available upon request
- Counter flange with welding nozzle according to customer specifications on request



TECHNICAL DATA

- **Process connection**
Flanges according to valid national or international standards such as EN 1092-1, DIN 2527 or ASME B16.5
- **Protective tube materials**
Stainless steel 1.4404, 1.4541, 1.4571, 316/316L; Steel 1.0460, 1.5415, 1.7335, 1.7380; Special materials available on request
- **Installation length and overall length**
according to DIN 43772 or customer design
- **Maximum process pressure**
Depending on the nominal pressure (PN) of the flange design
- **Bore diameter**
 $\varnothing 3.5\text{mm}$, $\varnothing 7\text{mm}$, $\varnothing 9\text{mm}$, $\varnothing 11\text{mm}$, $\varnothing 13\text{mm}$

DIMENSIONS FORM 4F

Dimensions in mm

Bore diameter* BO 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

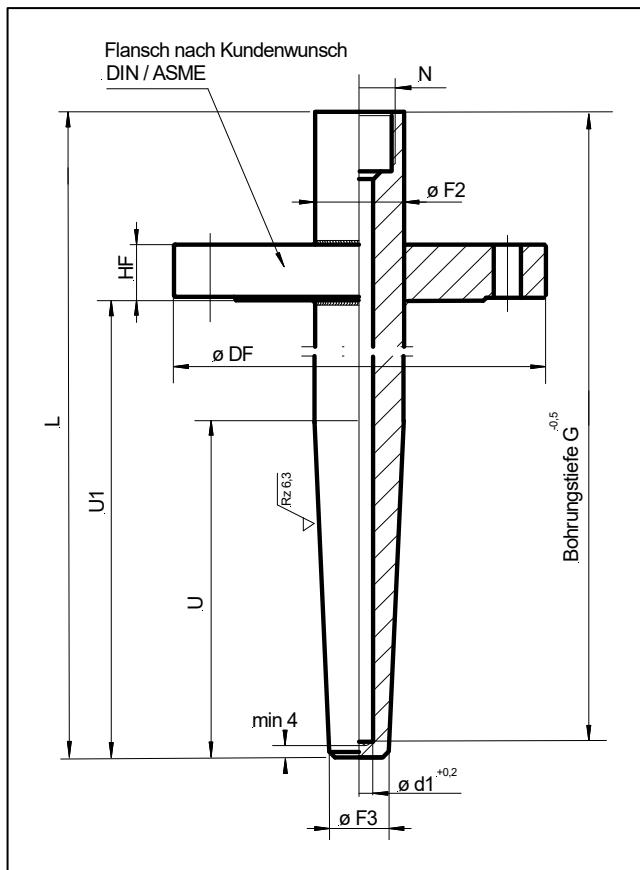
Standard lengths, Version 4F

L	U	U1	G
140	65	70	135
170	95	100	165
200	65	130	195
200	125	130	195
260	125	190	255
410	275	340	405

Labeling: Material / Batch / Manufacturer's Identification

Option Labeling:

Measuring point number / KKS



Max. process temperature, process pressure Depending on

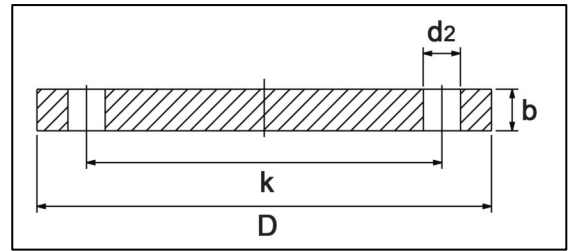
- Load diagram DIN 43772
- Thermowell / Protective tube design
 - Dimensions
 - Material
 - Flange pressure stage
- Process conditions
 - Flow velocity
 - Medium density

OPTIONS:

- Protective tube shape: Conical / Straight / Stepped
- Fully welded design
- Screw-welded design according to international standards
- Coating for wear protection (Stellite) Corrosion protection under high chemical stress (PFA, ECTFE)
- Material acceptance certificates EN 10204-3.1
- Re-stamping certificates
- Hydrostatic pressure test
- Dye penetrant testing
- Custom lengths according to customer requirements

Flange designs

Flanges EN 1092-1/A Type 5



DN	PN [bar]	Diameter øD	Bolt circle OK	Strength b	Drilling ø2	screws
25	40	115	85	18	14	4xM12
32	40	140	100	18	18	4xM16
40	40	150	110	18	18	4xM16
50	40	165	125	20	18	4xM16
	63	180	135	26	22	4xM20
65	40	185	145	22	18	8xM16
	63	205	160	26	22	8xM20
80	40	200	160	24	18	8xM16
	63	215	170	28	22	8xM20

Flanges - sealing surface roughness

Flange standard		AARH in μinch	Ra in μm	Rz in μm
EN 1092	Form A / B1		3.2 – 12.5	12.5 – 50
	Form B2		0.8 – 3.2	3.2 – 12.5
ASME B16.5	Stock finish	125-150	3.2 - 6.3	-
	Smooth finish	<125	<3.2	-
	RTJ	<63	<1.6	-
DIN 2527	Form C	-	-	40 – 160
	Form E	-	-	< 16

Order details:

Type / Protective tube shape / Protective tube material / Head diameter ØF2 / Connection to thermometer N / Bore ød1 /
Tip diameter ØF3 / Installation length U1 / Cone length U / Overall length L / Flange nominal diameter DN / Pressure rating PN /
Certificates / Options

Example designation for protective tube Form4F

Protective tube DIN 43772 - 4F - 7 - M18x1.5 - 200 - 65 - 130 - DN50 PN40 - 1.4571

designation	
form	
Bore diameter d1	
Connection thread N Thermometer	
Total length L	
cone length U	
Installation length U1	
Flange design	
Material/Material number	