



Thermowells



measuring
•
monitoring
•
analysing

TWL-0



- Built-up, bar stock/drilled (tapered, straight or stepped shank)
- Up to PN 250
- Up to +800 °C
- Thermowells up to 5000 mm or 1000 mm length (depending on model)



T2

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Description

Thermowells are used to protect the thermometer bulb from corrosive effects, pressure and high flow of process fluids and allow interchangeability of the thermometer for calibration or replacement without disturbing the process.

Thermowells are made from bar-stock, heavy duty design or from a tube, that is closed at the tip by a welded tip.

Upon request and at extra charge, the thermowells can be provided with:

- Plug and chain (stainless steel)
- PTFE, PFA, HALAR® coatings protection
- Plate roughness (polished) (R_a 0.8 μ m)
- Other materials
- Material acc. to NACE MR0103-ISO15156 (MR0175) latest edition-conformity and EN10204 2.1, 2.2, 3.1, 3.2
- Dye penetration test certificate
- Pressure test
- Magnetic particles test
- Positive Material Identification (PMI)
- Bore diameter: 4...20 mm
- Customised marking on thermowell/flange
- Bore concentricity R_x
- Full penetration welding R_x ultrasonic test thermowell
- Calculation acc. to ASME PTC 19.3

Technical Details

Operating pressure:	up to 250 bar (depending on thermowell)
Process connection:	
- Thread:	G 1/2 male, G 3/4 male, G1 male, 1/2" NPT, 3/4" NPT, 1" NPT (others on request)
- DIN-flange:	DN15, 20, 25, 32, 40, 50 (others on request)
- ANSI flange:	1/2", 3/4", 1", 1 1/2", 2" (others on request)
- Weld-in	3/4", 1", 1 1/4" (others on request)
- Materials:	1.4404 (others on request)



Order Details (example: **TWL-0000NBG4A00**)

Model	Sensor type	Sensor type/class	Sensor wiring	Connection head/ transmitter	Process connection of temperature sensor ¹⁾
TWL-	0 = without	0 = without	0 = without	0 = without	N = ½" NPT male G = G ½ male X = special

Order Details (continued)

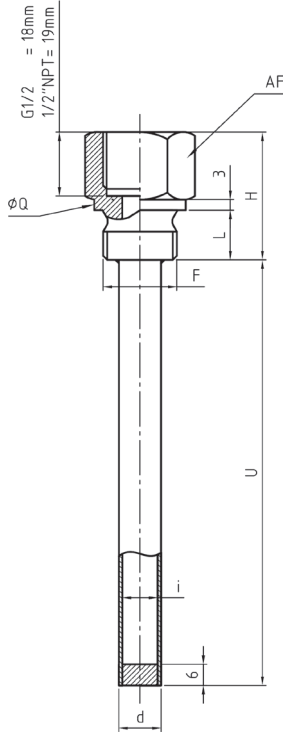
Thermowell specification				Immersion length and lagging extension length ¹⁾	Options
Thermowell type	Process connection	Process connection size	Nominal pressure (process connection)		
0 = without B = cylindrical, multipart, welded G = cylindrical, bar stock/drilled with stepped shank D = tapered shank, bar stock/drilled X = special option	G = G-thread N = NPT-thread	4 = ½" (not for thermowell 0) 5 = ¾" 6 = 1" X = special	A = PN 25 (only for thermowell B) B = PN 100 (only for thermowell G) C = PN 250 (only for thermowell D)	0 = without lagging extension "T" 1 = with lagging extension "T"	0 = without Y = special option (specify in clear text)
	S²⁾ = welded	5 = ¾" 6 = 1" 7 = 1 ¼" X = special	B = PN 100 (only for thermowell G) C = PN 250 (only for thermowell D)		
	F = DIN flange	4 = DN 15 5 = DN 20 6 = DN 25 7 = DN 32 8 = DN 40 9 = DN 50 X = special	1 = PN 6 2 = PN 16 3 = PN 40 4 = PN 100 (not for DN 15) X = special		
	A = ANSI flange	4 = ½" (not for thermowell G/D) 5 = ¾" 6 = 1" 8 = 1 ½" 9 = 2" X = special	5 = 150 lbs 6 = 300 lbs 7 = 600 lbs (not for ½") 8 = 900 lbs (not for ½") 9 = 1500 lbs (not for ½") X = special		

¹⁾ Immersion length "U", hole diameter "I" and lagging extension "T" must be specified in writing.
Please check lengths very precise in order to ensure a perfect match of sensor and thermowell.

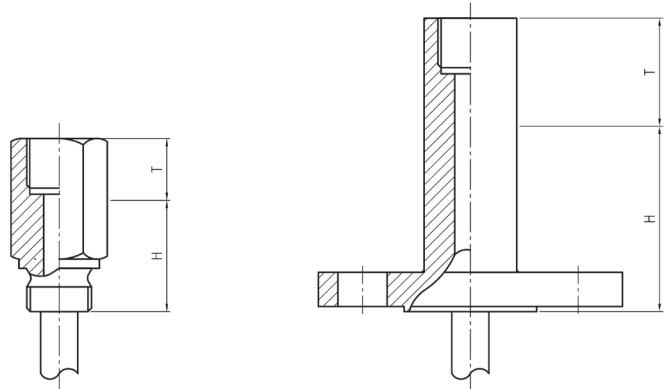
²⁾ Not for thermowell model B

Dimensions Thermowell Model TWL- ... B ...

Cylindrical thermowell, welded, with process connection G-thread (max. PN25 at 20 °C)

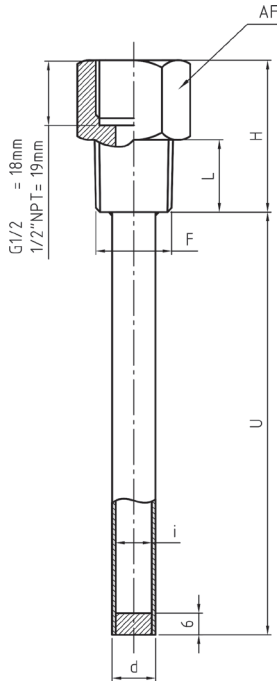


Lagging Extension "T"



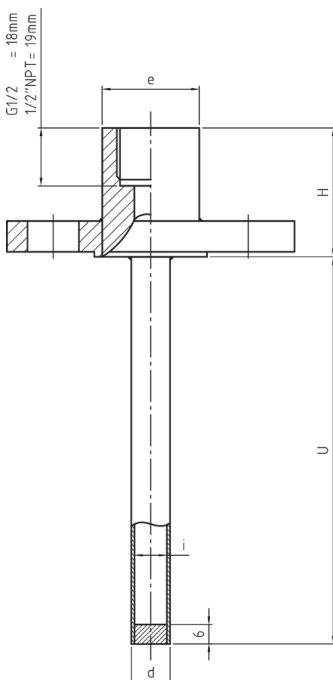
Process connection	Max. total length	AF	F	i	d	H	L	Q
G-thread	5000 mm	27	G 1/2 B	10	12	36	14	26
				12	14			
		36	G 3/4 B	10	12	38	16	31.7
				12	14			
		41	G 1 B	10	12	40	18	39
				12	14			

Cylindrical thermowell, welded, with process connection NPT-thread (max. PN25 at 20 °C)



Process connection	Max. total length	AF	F	i	d	H	L
NPT-thread	5000 mm	27	½" NPT	10	12	42	20
				12	14		
		27	¾" NPT	10	12	43	20
				12	14		
		36	1" NPT	10	12	46	24
				12	14		

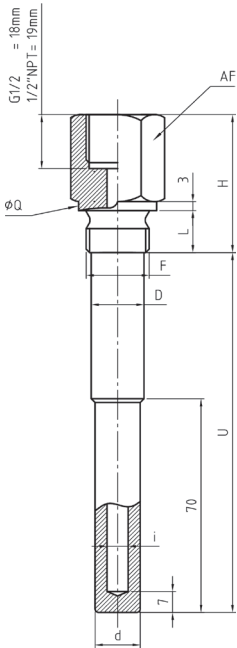
Cylindrical thermowell, welded, with process connection flange acc. DIN or ANSI (max. PN6...40 at 20 °C)



Process connection	Max. total length	i	d	H	e	
with flange	5000 mm	10/12	12/14	40	30	
						ANSI ½"
						ANSI ¾"
					ANSI 1"	
					ANSI 1 ½"	
		35				
			ANSI 2"			
		10/12	12/14	40	30	
						DIN DN 15
						DIN DN 20
35						
	DIN DN 25					
DIN DN 32						
DIN DN 40						
DIN DN 50						

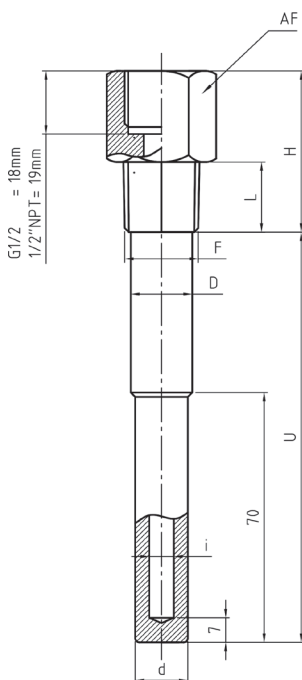
Dimensions Thermowell Model TWL-...G...

Cylindrical thermowell, bar stock/drilled with stepped shank and process connection G-thread (max. PN 100 at 20°C)



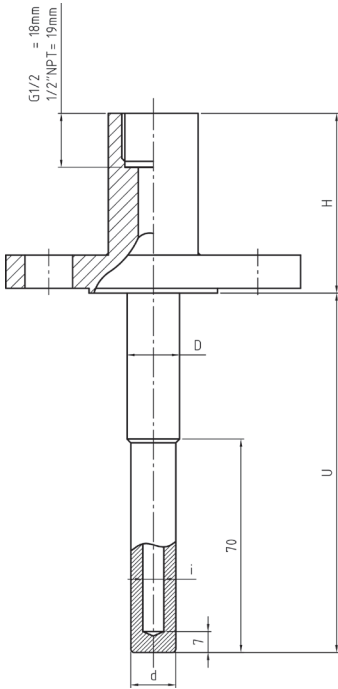
Process connection	Max. total length	AF	F	i	d	D	H	L	Q
G-thread	1000 mm	27	G 1/2 B	7-8-9	15	17.5	46	14	26
				10-12	17.5	17.5			
		36	G 3/4 B	7-8-9	15	18	51	16	31.7
				10-12	18	21			
		41	G 1 B	7-8-9	15	21	51	18	39
				10-12	18	25			

Cylindrical thermowell, bar stock/drilled with stepped shank and process connection NPT-thread (max. PN 100 at 20°C)



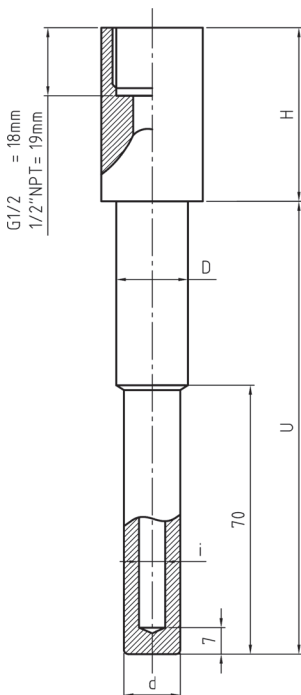
Process connection	Max. total length	AF	F	i	d	D	H	L
NPT-thread	1000 mm	27	1/2" NPT	7-8-9	15	17.5	46	20
				10-12	17.5	17.5		
		27	3/4" NPT	7-8-9	15	18	51	24
				10-12	18	21		
		36	1" NPT	7-8-9	15	21	51	24
				10-12	18	25		

Cylindrical thermowell, bar stock/drilled with stepped shank and process connection flange acc. DIN or ANSI (max. PN 100 at 20°C)



Process connection		Max. total length	i	d	D	H	e				
Flange	ANSI 3/4"	1000 mm	7-8-9	15	17.5	60	30				
			10-12	17.5	17.5						
	ANSI 1"		7-8-9	15	18			60	35		
			10-12	18	21						
	ANSI 1 1/2"		7-8-9	15	21					60	30
			10-12	18	25						
	ANSI 2"		7-8-9	15	21	60	35				
			10-12	18	25						
	DIN DN 20		7-8-9	15	17.5			60	30		
			10-12	17.5	17.5						
	DIN DN 25		7-8-9	15	18					60	35
			10-12	18	21						
	DIN DN 32		7-8-9	15	21	60	30				
			10-12	18	25						
	DIN DN 40		7-8-9	15	21			60	35		
			10-12	18	25						
DIN DN 50	7-8-9	15	21	60	30						
	10-12	18	25								

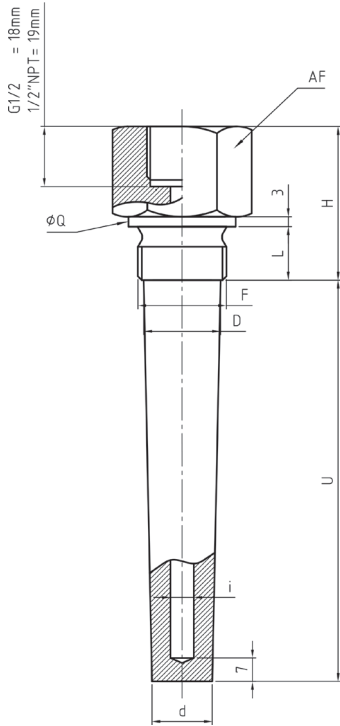
Cylindrical thermowell, bar stock/drilled with stepped shank and process connection for weld-on (max. PN 100 at 20°C)



Process connection		Max. total length	F	i	d	D	H
for weld-on	DN 3/4"	1000 mm	26.9	7-8-9	15	19	46
				10-12	18		
	DN 1"		7-8-9	15	22	51	
			10-12	18			

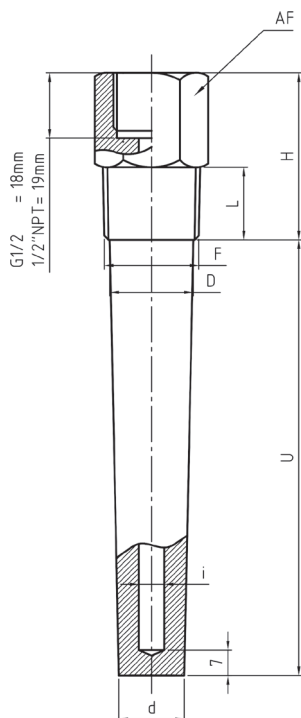
Dimensions Thermowell Model TWL-...D...

Tapered shank, bar stock/drilled thermowell with process connection G-thread (max. PN250 at 20 °C)



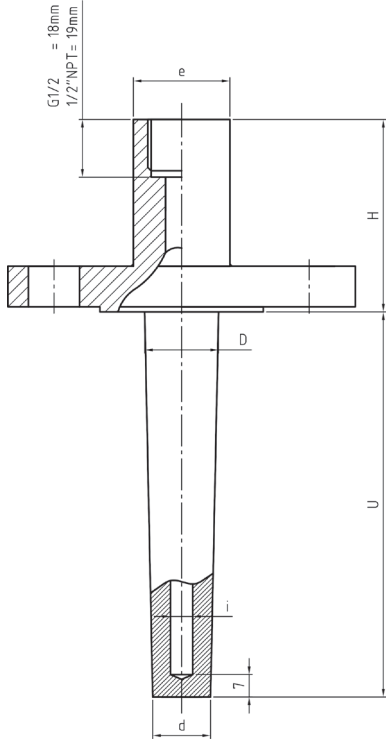
Process connection	Max. total length	AF	F	i	d	D	H	L	Q
G-thread	1000 mm	36	G 3/4 B	7-8-9	18	23	46	20	31.7
				10-12	21				
		41	G 1 B	7-8-9	18	29	51	25	39
				10-12	21				

Tapered shank, bar stock/drilled thermowell with process connection NPT-thread (max. PN250 at 20 °C)



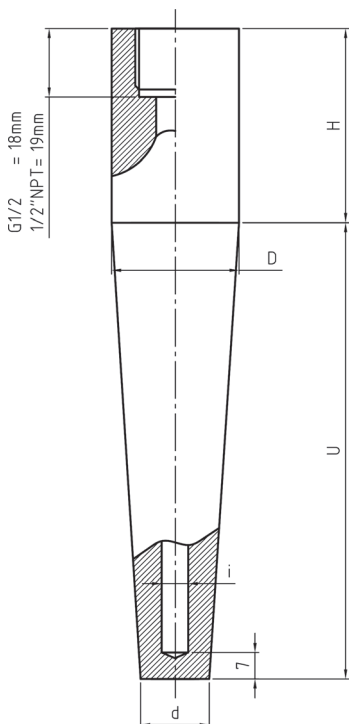
Process connection	Max. total length	AF	F	i	d	D	H	L
NPT-thread	1000 mm	27	3/4" NPT	7-8-9	18	23	46	20
				10-12	21			
		36	1" NPT	7-8-9	18	29	51	24
				10-12	21			

Tapered shank, bar stock/drilled thermowell with process connection flange acc. DIN or ANSI (max. PN250 at 20°C)



Process connection		Max. total length	i	d	D	H	e
flange	ANSI 1"	1000 mm	7-8-9	18	23	60	30
			10-12	21			
	ANSI 1 1/2"		7-8-9	18	29		35
			10-12	21			
	ANSI 2"		7-8-9	18	29		35
			10-12	21			
	DIN DN 25		7-8-9	18	23	60	30
			10-12	21			
	DIN DN 32		7-8-9	18	29		35
			10-12	21			
	DIN DN 40		7-8-9	18	29		35
			10-12	21			
	DIN DN 50		7-8-9	18	29	35	
			10-12	21			

Tapered shank, bar stock/drilled thermowell with process connection for weld-on (max. PN250 at 20°C)



Process connection		Max. total length	i	d	D	H
for weld-on	DN 1"	1000 mm	7-8-9	18	33.4	51
			10-12	21		
	DN 1 1/4"		7-8-9	18	38.1	51
			10-12	21		