TWS190

SCREWING-IN THERMOWELL

Screwing-in thermowell

acc. to DIN 43772

form 5, 6, 7, 8

Description

Thermowells in conductive materials are used to separate the thermometer from the medium.

A thermowell is particularly recommended for service with pressurized media. In addition, thermowells protect the thermometers from aggressive media and facilitate replacement of the thermometer.

An extensive range of standard versions provides for service in variety of applications.

Features

- O for thermometers with male or female thread
- O for aggressive media
- O Standard material: Stainless steel 1.4571
- O Large selection of standard versions available
- O Special materials and dimensions as required

Versions

- O fabricated (TWS191, TWS194)
- O solid-drilled (TWS192, TWS195)

Form of thermowell acc. to DIN 43772

- O Form 5 – TWS 191
- O Form 6 – TWS 192
- O Form 8 – TWS 194
- O Form 9 – TWS 195

Options

- O other materials or coverings

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Technical Data

Type	TWS191	TWS192	TWS194	TWS195
Type of thread	for thermometers with male thread		for thermometers with female thread	
Version	Fabricated	Solid-drilled	Fabricated	Solid-drilled
Max. process temperature [1)]	600°C	600°C	600°C	600°C
Max. pressure (statical) [1)]	40bar	150 bar	40 bar	150 bar
Material of thermowell	1.4571			
Thermometer connection	G½, G¾			
Process connection	G½, G¾			
Standard lengths U_1	82, 142, 182, 232, 382mm		73, 110, 170, 210, 260mm	

1) Rating depends on the parameters process medium, process pressure and temperature, flow rate and design of thermowell. In critical applications an additional calculation is recommended.

Correlation thermowell – thermometer for standard lengths

TWS191 / TWS192

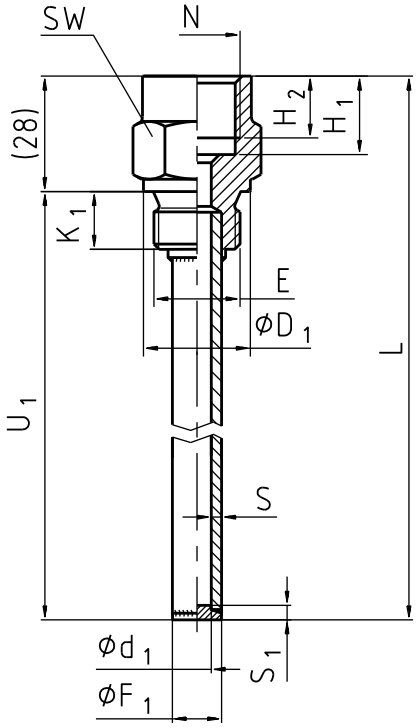
thermowell Insertion length U_1	**thermometer stem length l_1**	
	connection male thread	**connection male nut**
45	63	---
82	100	80
142	160	140
182	200	180
232	250	230
	$l_1 = U_1 + 18mm$	$l_1 = U_1 - 2mm$

TWS194 / TWS195

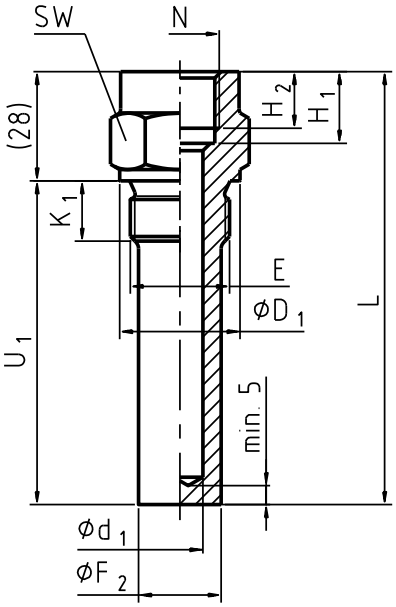
thermowell insertion length U_1	**thermometer stem length l_1**
	Union nut
73	89
110	126
170	186
210	226
260	276
	$l_1 = U_1 + 16mm$

Dimensions

TWS191



TWS192



Legend

E	Process connection	S	Wall thickness
H_1	Bore depth for female thread	S_1	Ground height
H_2	Length of female thread	U_1	Insertion length
K_1	Length of male thread	$Ød_1$	Bore size
L	Total length	$ØD_1$	Diameter of sealing face
N	Instrument connection	$ØF_1$	Outer diameter of thermowell
SW	Flats	$ØF_2$	Outer diameter of thermowell

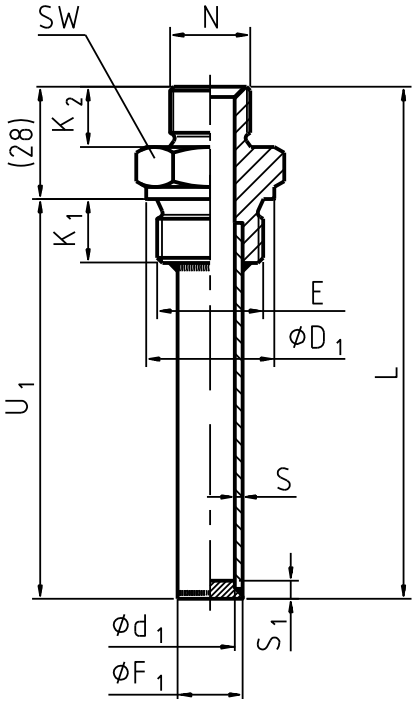
	E	N	Ød1	$ØF_1$; $ØF_2$	H_1	H_2	K_1	$ØD_1$	S	S_1	SW
TWS 191	G ½	G ½	6,2	8	19	15	14	26	0,9	1	27
			8,2	10							
			10,2	12							
			7						2,5	3,5	
			9	14							
			11						1,5	2,5	
TWS 192			7	17					----	---	
			9								
			11								

Calculation of thermometer- stem length

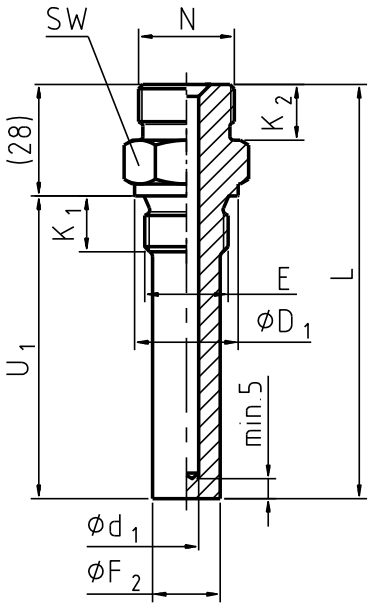
Connection design	Thermometer length l_1
S fixed male thread	l_1=L - 10mm l_1=U_1 + 18mm
2 male nut	l_1=L - 30mm l_1=U_1 - 2mm

Dimensions

TWS194



TWS195



Legend

E	Process connection	S	Wall thickness
K_1	Length of male thread	S_1	Ground height
K_2	Length of male thread for therm. connection	U_1	Insertion length
L	Total length	$Ød_1$	Bore size
N	Connection thread for thermometer	$ØD_1$	Diamter of sealing face
SW	Flats	$ØF_1$	Outer diameter of thermowell
		$ØF_2$	Outer diameter of thermowell

	E	N	Ød1	$ØF_1$; $ØF_2$	K_1	K_2	D_1	S	S_1	SW
TWS 194	G ½	G ½	6,2	8	14	12	26	0,9	1	27
			8,2	10						
			10,2	12						
			7					2,5	3,5	
			9	14						
			11					1,5	2,5	
TWS 195			7	17				----	---	
			9							
			11							

Calculation of thermometer-stem length

Connection design	Thermometer length l_1
3 union nut	l_1=L - 12mm l_1=U_1 + 16mm

Subject to technical modifications