Selection and ordering data

Barstock thermowells according to DIN 43772 - Form 4			Article No. 7MT																		Order code		
Click the article number for online configuration and buildability check in the PIA Life Cycle Portal.																							
Basic model																							
Standard	***Process connection***	***Form***																					
DIN	Weld-in/flange connection	Form 4/4F			1	4																	
Outer diameter of root D	Outer diameter of tip D2	Bore hole D3																					
24 mm (0.94 inches)	12.5 mm (0.49 inches)	7 mm (0.28 inches)					1																
26 mm (1.02 inches)	12.5 mm (0.49 inches)	7 mm (0.28 inches)					2																
32 mm (1.26 inches)	17 mm (0.67 inches)	11 mm (0.43 inches)					3																
Thermowell length L																							
110 mm (4.3 inches)								0		1													
140 mm (5.5 inches)								0		2													
170 mm (6.7 inches)								0		3													
200 mm (7.9 inches)								0		4													
260 mm (10.2 inches)								0		5													
410 mm (16.1 inches)								0		6													
Thermowell material																							
316Ti / 1.4571											A												
316L / 1.4404											B												
Hastelloy C276 / 2.4819 (flange with flanged wheel)											E												
1.7335 Heat-resistant											S												
1.5415 Heat-resistant											T												
PFA coating (thermowell made of 316/TI/L)											U												
ECTFE (HALAR) (thermowell made of 316/TI/L)											V												
Stellite coating (thermowell made of 316/TI/L)											W												
Customer-specific thermowell							9	8		8	N										Y	9	9
																						+	
																					Y	4	6
Process connection material																							
Without (form 4 for welding)												N											
316Ti/1.4571												A											
316L/1.4404												B											
Hastelloy C276/2.4819												E											
1.7335 Heat-resistant												S											
1.5415 Heat-resistant												T											
PFA coating (thermowell made of 316/TI/L)												U											
ECTFE (HALAR) (thermowell made of 316/TI/L)												V											
Stellite coating (thermowell made of 316/TI/L)												W											
Process connection																							
Without (form 4 for welding)													0	0									
Flange according to EN 1092-1 sealing surface Initial B1 for uncoated variants																							
• DN 40, PN 10 ... 16													3	2									
• DN 40, PN 25 ... 40													3	3									
• DN 50, PN 10 ... 16													3	4									
• DN 50, PN 25 ... 40													3	5									
Flange according to ASME B16.5 sealing surface Initial RF for uncoated variants																							
• 1.50 inches; Class 150													6	0									
• 1.50 inches; Class 300													6	1									
• 1.50 inches; Class 600													6	2									
• 2.00 inches; Class 150													6	6									
• 2.00 inches; Class 300													6	7									
• 2.00 inches; Class 600													6	8									
Customer-specific process connection												Z	8	8							K	1	Y
Installation length U																							
For welding (no process connection)																0	N						
130 mm (5.1 inches)																0	A						

Selection and ordering data (continued)

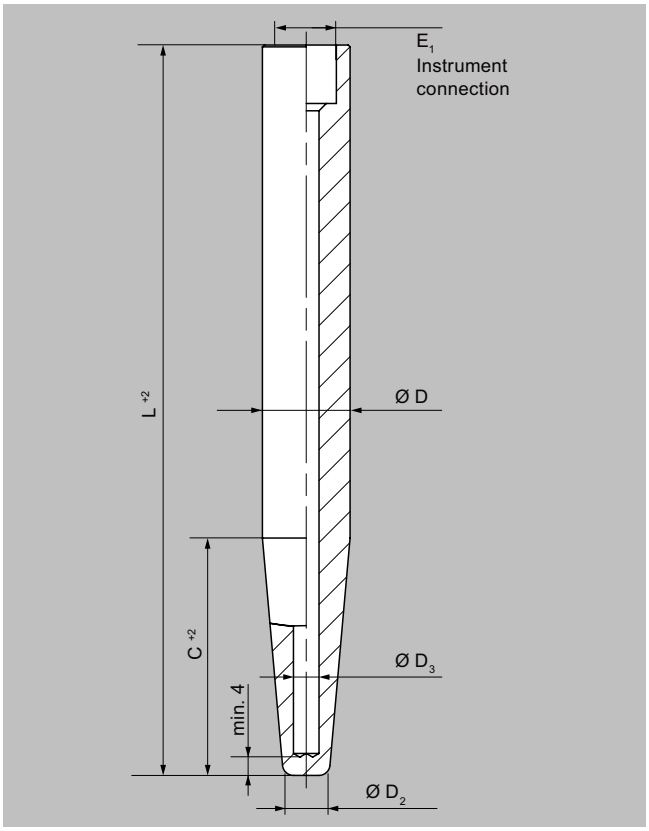
Barstock thermowells according to DIN 43772 - Form 4	Article No. 7MT ● ● ● ● - ● ● ● ● ● - ● ● ● ●	Order code ● ● ●
190 mm (7.5 inches)	0 B	
340 mm (13.4 inches)	0 C	
Customer-specific installation length	8 Y	Y 4 4
Connection to thermometer E1 (female thread)		
M18×1.5	Q	
M20×1.5	R	
M27×2.0	T	
½-14 NPT	U	
G½	W	
G¾	X	
Special design	Z	Q 1 Y
Cone length C		
Without (straight)	0	
65 mm (2.6 inches)	2	
73 mm (2.9 inches)	3	
125 mm (4.9 inches)	4	
133 mm (5.2 inches)	5	
275 mm (10.8 inches)	6	

Options Add "-Z" to article number and specify options; separate multiple expansions with "+".	Order code
Inspection certificate according to EN 10204-3.1	
Material certificate, material in contact with media	**C12**
PMI (positive material ident.), in contact with media	**C15**
Pressure test	**C31**
Helium leak test	**C32**
Dye-penetration test	**C33**
Compliance with order	**C35**
X-ray test concentricity of bore hole	**C47**
Ultrasound test concentricity of bore hole	**C48**
MR-01-75 NACE conformity	**C50**
MR-01-03 NACE conformity	**C53**
Grease-free (cleaned for oxygen applications, for example)	**C51**
Additional options	
Thread protection stainless steel plug and chain	**A55**
Forged flange	**A76**
Sealing surface with concentric lines	**A77**
TAG marking	**Y15**
Additional flange sealing surfaces	
FF-Flat Face according to ASME B16.5	**A70**
RTJ ring type joint according to ASME B16.5	**A71**
Type B2 according to EN1092-1	**A72**
Type C according to EN1092-1	**A73**
Type D according to EN1092-1	**A74**
Additional designs Add **"-Z"** to article number and specify plain text.	
Additional information	
Additional information in plain text: Process connection (material, type)	**K1Y**
Additional information in plain text: Connection to thermometer E1	**Q1Y**
Customer single job production	
Processing and quotation number of special design: Specify in plain text	**Y99**

Dimensional drawings

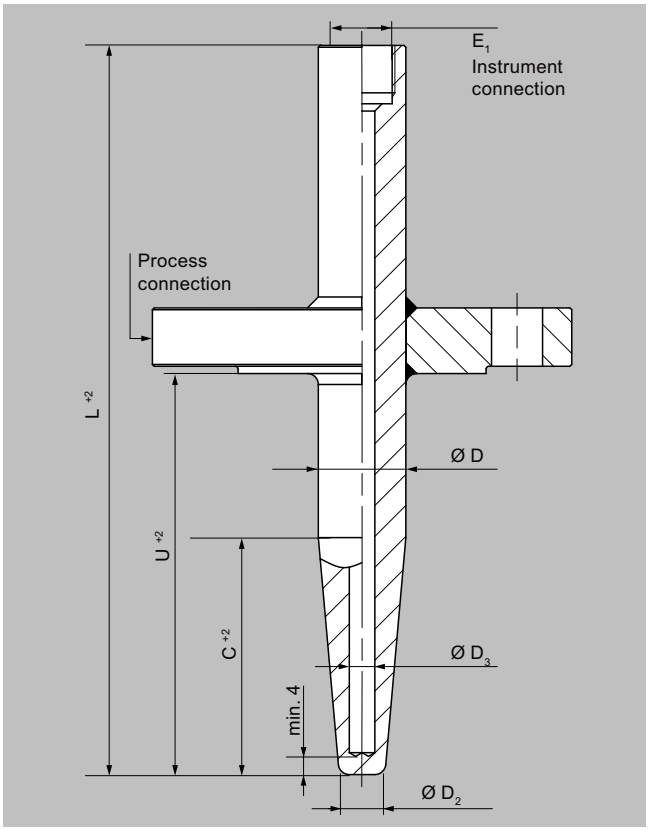
Thermowells according to DIN 43772 - Form 4

7MT14, welded



Dimensional drawings (continued)

7MT14, flange connection



The label of the D sleeves is from the previous standard but still used today. The table below shows the order information for the corresponding successor products from DIN 43772.

Design	L [mm]	C [mm]	Ordering data
D1	140	65	**7MC1410-2*N00-0NQ2**
D2	200	125	**7MC1410-4*N00-0NQ4**
D4	200	65	**7MC1410-4*N00-0NQ2**
D5	260	125	**7MC1410-5*N00-0NQ4**
			Material: * = **A**: 1.4571 * = **B**: 1.4404 * = **S**: 1.7335 * = **T**: 1.5415

Selection and ordering data

Barstock thermowells according to ASME B40.9							Article No. 7MT																Order code		
Click the article number for online configuration and buildability check in the PIA Life Cycle Portal.																									
Basic model																									
Standard	***Process connection***	***Form***																							
ASME	Screwed design	Straight					2	1																	
ASME	For welding	Straight					3	1																	
ASME	Flange connection	Straight					4	1																	
ASME	Van Stone type	Straight					5	1																	
ASME	Screwed design	Reduced form					2	2																	
ASME	For welding	Reduced form					3	2																	
ASME	Flange connection	Reduced form					4	2																	
ASME	Van Stone type	Reduced form					5	2																	
ASME	Screwed design	Tapered					2	3																	
ASME	For welding	Tapered					3	3																	
ASME	Flange connection	Tapered					4	3																	
ASME	Van Stone type	Tapered					5	3																	
Connection to thermometer E1																									
M18×1.5									1																
M20×1.5									2																
½-14 NPT									5																
G½									7																
Special design									9														Y	9	9
Head diameter of the thermowell																									
Screwed design - width across flats	***For welding***	***Flange connection***	***Van Stone head / process connection***																						
	26.7 mm (1.05 inches)									0															
H27	33.4 mm (1.32 inches)	28.6 mm (1.13 inches)	33.4 mm/51 mm (1.32 inches/2.01 inches)							1															
	48.3 mm (1.9 inches)	30 mm (1.18 inches)	48.3 mm/73 mm (1.9 inches/2.87 inches)							2															
H32		32 mm (1.26 inches)	60.3 mm/92 mm (2.37 inches/3.62 inches)							3															
H36		34 mm (1.39 inches)								4															
H42		38 mm (1.5 inches)								5															
Head length X1			Screw-in	Weld-in	Flange	Van Stone																			
25 ... 50 mm (0.99 ... 1.97 inches): Initial 38 mm (1.5 inches) (7MT2), 45 mm (1.77 inches) (7MT3/4)			✓	✓	✓						0														
51 ... 75 mm (2 ... 2.95 inches): Initial 64 mm (2.5 inches)			✓	✓	✓	✓					1														
76 ... 101 mm (3 ... 3.98 inches): Initial 89 mm (3.5 inches)			✓	✓	✓	✓					2														
102 ... 126 mm (4 ... 4.96 inches): Initial 114 mm (4.5 inches)			✓	✓	✓	✓					3														
127 ... 151 mm (5 ... 5.95 inches): Initial 140 mm (5.5 inches)			✓	✓	✓	✓					4														
152 ... 177 mm (... 6.97 inches): Initial 165 mm (6.5 inches)			✓	✓	✓	✓					5														
178 ... 202 mm (7 ... 7.95 inches): Initial 191 mm (7.5 inches)			✓	✓	✓						6														
Installation length U																									
25 ... 126 mm (1 ... 4.99 inches): Initial 25 mm (0.99 inches)												A													
127 ... 253 mm (5 ... 9.99 inches): Initial 127 mm (5 inches)												B													
254 ... 380 mm (10 ... 14.99 inches): Initial 254 mm (10 inches)												C													
381 ... 507 mm (15 ... 19.99 inches): Initial 381 mm (15 inches)												D													
508 ... 634 mm (20 ... 24.99 inches): Initial 508 mm (20 inches)												E													

Selection and ordering data (continued)

Barstock thermowells according to ASME B40.9					Article No. 7MT																	Order code		
635 ... 761 mm (25 ... 29.99 inches): Initial 635 mm (25 inches)												F												
762 ... 888 mm (30 ... 34.99 inches): Initial 762 mm (30 inches)												G												
Thermowell material		Screw-in	Weld-in	Flange	Van Stone																			
316L / 1.4404		✓	✓	✓	✓								B											
Carbon steel / A105		✓	✓	✓									C											
Hastelloy C276 / 2.4819 (flange with flanged wheel)				✓	✓								E											
Hastelloy C22 / 2.4602 (flange with flanged wheel)				✓	✓								F											
304L / 1.4306		✓	✓	✓	✓								H											
321 / 1.4541		✓	✓	✓	✓								K											
Monel alloy 400 / 2.4360 (flange with flanged wheel)				✓	✓								L											
Tantalum (barrel, thermowell made of 316/TI/L)				✓									Q											
Duplex / 1.4462				✓	✓								P											
Superduplex / 1.4410				✓	✓								R											
PFA coating (thermowell made of 316/TI/L)				✓	✓								U											
ECTFE (HALAR) (thermowell made of 316/TI/L)				✓	✓								V											
Stellite coating (thermowell made of 316/TI/L)				✓	✓								W											
Customer-specific thermowell (head diameter/X1/U/material)		✓		✓	✓						9		8	N	N							G	1	Y
Outer diameter of root D/tip D2																								
Straight thermowell form	**Reduced thermowell form**		**Tapered thermowell form**																					
D	**D**	**D2 (L6 = 60.3 - mm)**	**D**	**D2**																				
0.50 inches (12.7 mm)															0	0								
0.625 inches (15.9 mm)	0.625 inches (15.9 mm)	0.50 inches (12.7 mm)	0.625 inches (15.9 mm)	0.50 inches (12.7 mm)											0	1								
0.75 inches (19.1 mm)	0.75 inches (19.1 mm)	0.50 inches (12.7 mm)	0.75 inches (19.1 mm)	0.50 inches (12.7 mm)											0	2								
1.00 inch (25.4 mm)	1.00 inch (25.4 mm)	0.50 inches (12.7 mm)													0	3								
1.25 inches (31.8 mm)	1.25 inches (31.8 mm)	0.50 inches (12.7 mm)	1.00 inch (25.4 mm)	0.50 inches (12.7 mm)											0	4								
1.50 inches (38.1 mm)	1.50 inches (38.1 mm)	0.50 inches (12.7 mm)	1.00 inch (25.4 mm)	0.75 inches (19.1 mm)											0	5								
			1.25 inches (31.8 mm)	0.50 inches (12.7 mm)											0	7								
			1.25 inches (31.8 mm)	0.75 inches (19.1 mm)											0	8								
D = 12 mm (0.47 inches)			1.25 inches (31.8 mm)	1.00 inch (25.4 mm)											1	0								
D = 14 mm (0.55 inches)															1	1								
D = 16 mm (0.63 inches)			1.50 inches (38.1 mm)	0.50 inches (12.7 mm)											1	2								
D = 19 mm (0.75 inches)			1.50 inches (38.1 mm)	0.75 inches (19.1 mm)											1	3								
D = 22 mm (0.87 inches)			1.50 inches (38.1 mm)	1.00 inch (25.4 mm)											1	4								
D = 25 mm (0.98 inches)			1.50 inches (38.1 mm)	1.25 inches (31.8 mm)											1	5								
D = 27 mm (1.06 inches)															1	6								
			12 mm (0.47 inches)	9 mm (0.35 inches)											3	1								
			14 mm (0.55 inches)	9 mm (0.35 inches)											3	3								

Selection and ordering data (continued)

Barstock thermowells according to ASME B40.9			Article No. 7MT ● ● ● ● - ● ● ● ● ● - ● ● ● ● ●	Order code ● ● ●
	16 mm (0.63 inches)	9 mm (0.35 inches)	3 6	
	16 mm (0.63 inches)	13 mm (0.51 inches)	3 7	
	16 mm (0.63 inches)	14 mm (0.55 inches)	3 8	
	19 mm (0.75 inches)	9 mm (0.35 inches)	4 1	
	19 mm (0.75 inches)	13 mm (0.51 inches)	4 2	
	19 mm (0.75 inches)	14 mm (0.55 inches)	4 3	
	22 mm (0.87 inches)	9 mm (0.35 inches)	4 6	
	22 mm (0.87 inches)	13 mm (0.51 inches)	4 7	
	22 mm (0.87 inches)	14 mm (0.55 inches)	4 8	
	22 mm (0.87 inches)	16 mm (0.63 inches)	5 0	
	25 mm (0.98 inches)	9 mm (0.35 inches)	5 3	
	25 mm (0.98 inches)	13 mm (0.51 inches)	5 4	
	25 mm (0.98 inches)	14 mm (0.55 inches)	5 5	
	25 mm (0.98 inches)	16 mm (0.63 inches)	5 6	
	25 mm (0.98 inches)	19 mm (0.75 inches)	5 7	
	27 mm (1.06 inches)	9 mm (0.35 inches)	6 1	
	27 mm (1.06 inches)	13 mm (0.51 inches)	6 2	
	27 mm (1.06 inches)	14 mm (0.55 inches)	6 3	
	27 mm (1.06 inches)	16 mm (0.63 inches)	6 4	
	27 mm (1.06 inches)	19 mm (0.75 inches)	6 5	
	27 mm (1.06 inches)	22 mm (0.87 inches)	6 6	
	32 mm (1.26 inches)	9 mm (0.35 inches)	7 0	
	32 mm (1.26 inches)	13 mm (0.51 inches)	7 1	
	32 mm (1.26 inches)	14 mm (0.55 inches)	7 2	
	32 mm (1.26 inches)	16 mm (0.63 inches)	7 3	
	32 mm (1.26 inches)	19 mm (0.75 inches)	7 4	
	32 mm (1.26 inches)	22 mm (0.87 inches)	7 5	
	32 mm (1.26 inches)	25 mm (0.98 inches)	7 6	
	34 mm (1.34 inches)	9 mm (0.35 inches)	8 0	
	34 mm (1.34 inches)	13 mm (0.51 inches)	8 1	
	34 mm (1.34 inches)	14 mm (0.55 inches)	8 2	
	34 mm (1.34 inches)	16 mm (0.63 inches)	8 3	
	34 mm (1.34 inches)	19 mm (0.75 inches)	8 4	
	34 mm (1.34 inches)	22 mm (0.87 inches)	8 5	
	34 mm (1.34 inches)	25 mm (0.98 inches)	8 6	
Customer-specific	Customer-specific	Customer-specific	9 0	L 1 Y
Process connection				
Thread for 7MT2... (screw-in thermowells)				
• G½"			1 A	
• G¾"			1 B	
• G1"			1 C	
• R½"			1 D	
• R¾"			1 E	
• R1"			1 F	
• ½" NPT			1 G	
• ¾" NPT			1 H	
• 1" NPT			1 J	
• M20 × 1.5			1 L	
• M27 × 2			1 M	
• M33 × 2			1 N	
Flange according to EN 1092-1 for 7MT4... (Flange thermowell), Sealing surface initial: B1 for uncoated variants, as of Class 900 RTJ				
• DN25, PN10 - 40			2 D	
• DN40, PN10 - 40			2 F	
• DN50, PN10 - 16			2 H	

Selection and ordering data (continued)

Barstock thermowells according to ASME B40.9	Article No. 7MT ● ● ● ● - ● ● ● ● ● - ● ● ● ●	Order code ● ● ●
• DN50, PN25 - 40	2 J	
Flange according to ASME B16.5 for 7MT4... (Flange thermowell), Sealing surface initial: RF for uncoated variants		
• 1.00 inch; Class 150	3 E	
• 1.00 inch; Class 300	3 F	
• 1.00 inch; Class 600	3 G	
• 1.00 inch; Class 900/1500	3 H	
• 1.50 inches; Class 150	3 K	
• 1.50 inches; Class 300	3 L	
• 1.50 inches; Class 600	3 M	
• 1.50 inches; Class 900/1500	3 N	
• 2.00 inches; Class 150	3 R	
• 2.00 inches; Class 300	3 S	
• 2.00 inches; Class 600	3 T	
• 2.00 inches; Class 900/1500	3 U	
• 3.00 inches; Class 150	4 C	
• 3.00 inches; Class 300	4 D	
• 3.00 inches; Class 600	4 E	
• 3.00 inches; Class 900	4 F	
• 3.00 inches; Class 1500	4 L	
• 4.00 inches; Class 150	4 G	
• 4.00 inches; Class 300	4 H	
• 4.00 inches; Class 600	4 J	
• 4.00 inches; Class 900	4 K	
• 4.00 inches; Class 1500	4 M	
For 7MT3... and 7MT5... (weld-in and Van Stone thermowells)		
• None (for optional collar flanges for Van Stone, see "Options")	0 N	

Process connection material (identical to thermowell)	Screw-in	Weld-in	Flange	Van Stone		
316L / 1.4404	✓		✓	✓	B	
Carbon steel / A105	✓		✓		C	
Hastelloy C276 / 2.4819 (flange with flanged wheel)			✓		E	
Hastelloy C22 / 2.4602			✓		F	
304L / 1.4306	✓		✓		H	
321 / 1.4541	✓		✓		K	
Monel alloy 400 / 2.4360 (flange with flanged wheel)			✓		L	
Tantalum (barrel, thermowell made of 316/TI/L)			✓		Q	
Duplex / 1.4462			✓		P	
Super duplex			✓		R	
PFA coating (thermowell made of 316/TI/L)			✓		U	
ECTFE (HALAR) (thermowell made of 316/TI/L)			✓		V	
Stellite coating (thermowell made of 316/TI/L)			✓		W	
Customer-specific	✓		✓	✓	9 N N	N 1 Y

Bore hole D3		
D3 = 6.6 mm (0.260 inches)	2	
Customer-specific	9	R 1 Y

Selection and ordering data (continued)

Options Add "-Z" to article number and specify options; separate multiple expansions with "+".	Order code
Inspection certificate according to EN 10204-3.1	
Material certificate, material in contact with media	**C12**
PMI (positive material ident.), in contact with media	**C15**
Pressure test	**C31**
Helium leak test	**C32**
Dye-penetration test	**C33**
Compliance with order	**C35**
X-ray test for welding seams	**C41**
Ultrasound test for welding seams	**C44**
X-ray test concentricity of bore hole	**C47**
Ultrasound test concentricity of bore hole	**C48**
MR-01-75 compliance	**C50**
MR-01-03 compliance	**C53**
Grease-free (cleaned for oxygen applications, for example)	**C51**
CRN marking	**C60**
Additional options	
Thread protection stainless steel plug and chain	**A55**
Forged flange	**A76**
Sealing surface with concentric lines	**A77**
Marking of the installation length (7MT4 flange versions only)	**A78**
TAG marking	**Y15**
Full penetration options	
Process connection welded	**G02**
Surface treatment, options on request	
Parts in contact with media stained, neutralized and passivated	**W01**
Parts in contact with media electropolished	**W02**
Additional flange sealing surfaces	
FF-Flat Face according to ASME B16.5	**A70**
RTJ ring type joint according to ASME B16.5	**A71**
Type B2 according to EN1092-1	**A72**
Type C according to EN1092-1	**A73**
Type D according to EN1092-1	**A74**
Additional designs Add **"-Z"** to article number and specify plain text.	
Additional information	
Additional information in plain text: Thermowell (head diameter/X1/U/material)	**G1Y**
Additional information in plain text: AD root D [tip D2]	**L1Y**
Additional information in plain text: Process connection (material/type)	**N1Y**
Additional information in plain text: Bore hole D3:	**R1Y**
Customer single job production	
Length options U: Specify special installation length (in spec. area)	**Y44**
Length options X1: Specify special length extension (in spec. area)	**Y45**
Processing number of special design: Specify in plain text	**Y99**
Optional collar flanges 316L (Van Stone only)	
1.00 inch; Class 150 sealing surface Initial: RF	**B24**
1.00 inch; Class 300 sealing surface Initial: RF	**B25**

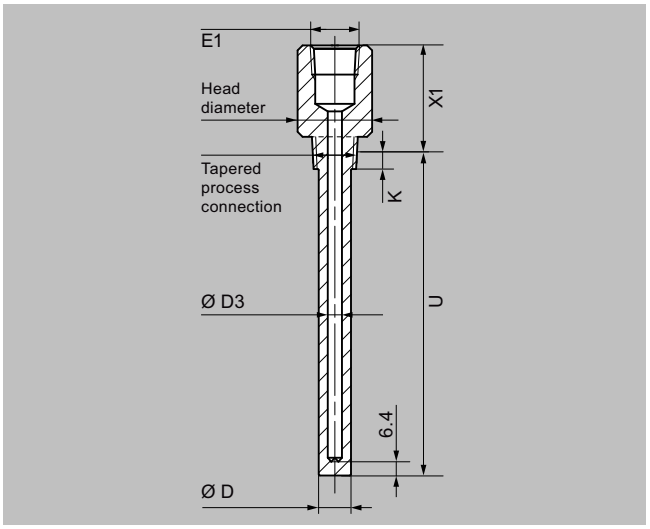
Selection and ordering data (continued)

Options Add "-Z" to article number and specify options; separate multiple expansions with "+".	Order code
1.00 inch; Class 600 sealing surface Initial: RF	**B26**
1.50 inches; Class 150 sealing surface Initial: RF	**B29**
1.50 inches; Class 300 sealing surface Initial: RF	**B30**
1.50 inches; Class 600 sealing surface Initial: RF	**B31**
2.00 inches; Class 150 sealing surface Initial: RF	**B35**
2.00 inches; Class 300 sealing surface Initial: RF	**B36**
2.00 inches; Class 600 sealing surface Initial: RF	**B37**

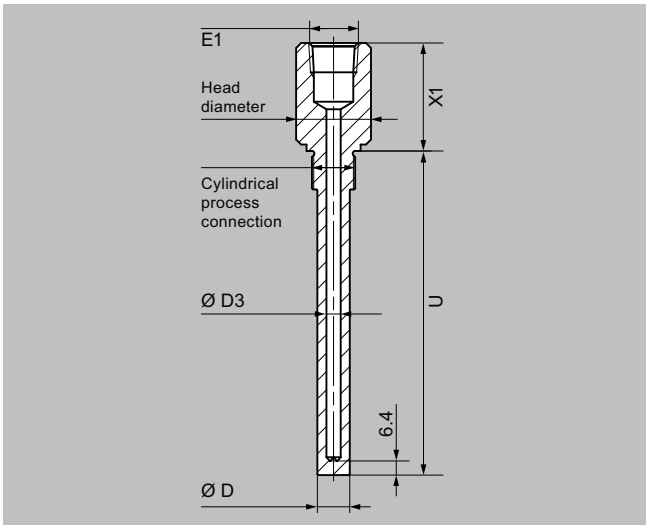
Dimensional drawings

Thermowells according to ASME B40.9

7MT21, screwed design, straight, tapered process connection

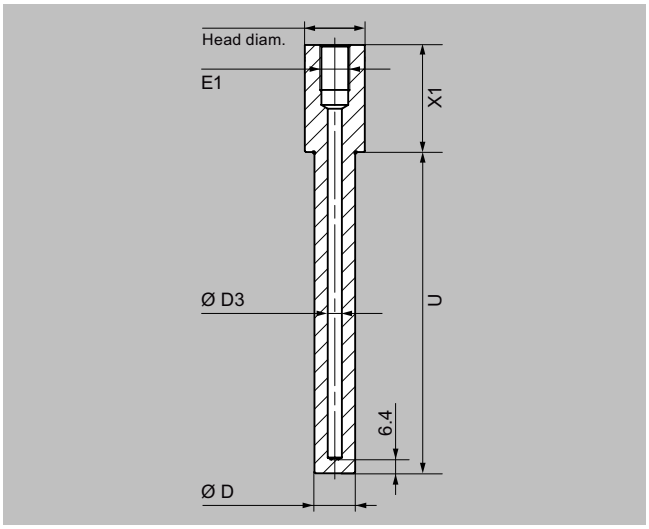


7MT21, screwed design, straight, cylindrical process connection

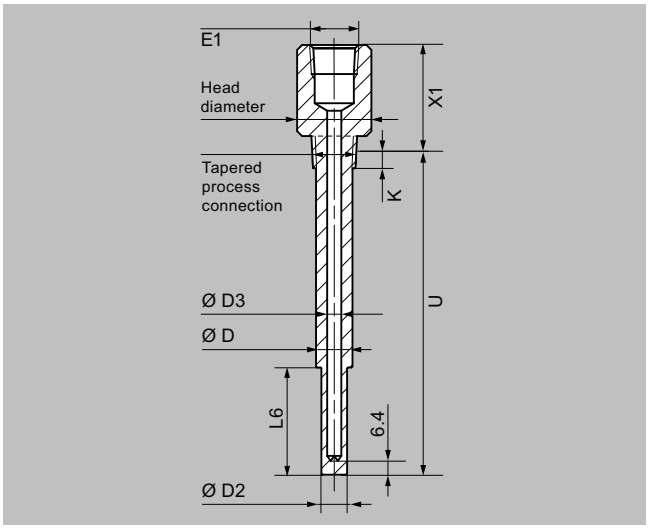


Dimensional drawings (continued)

7MT31, for welding, straight

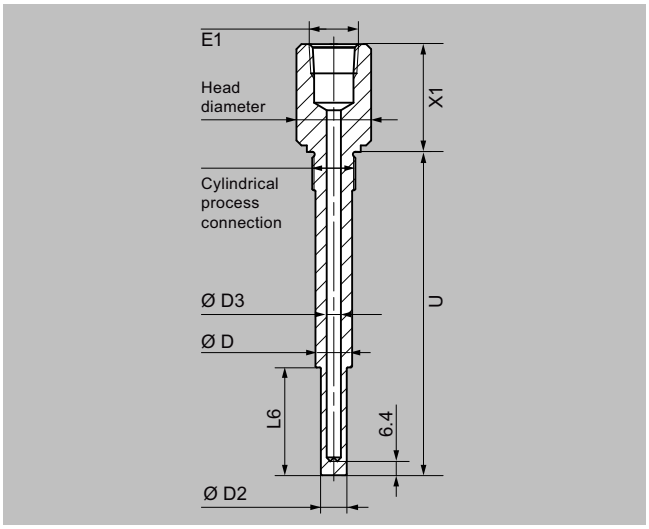


7MT22, screwed design, reduced, tapered process connection

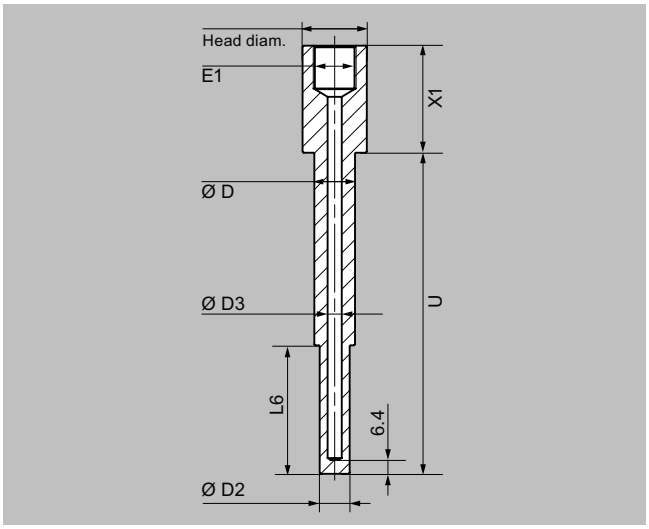


Dimensional drawings (continued)

7MT22, screwed design, reduced, cylindrical process connection

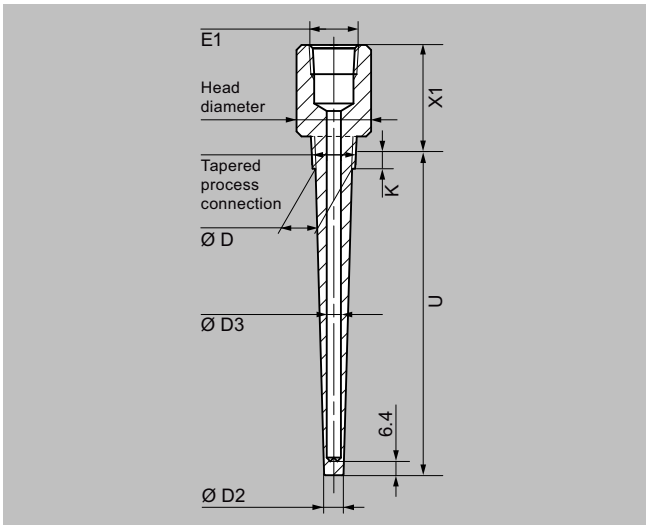


7MT32, for welding, reduced

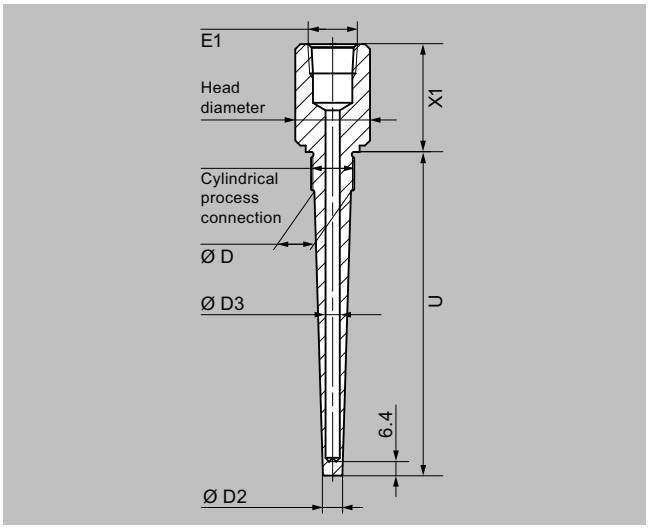


Dimensional drawings (continued)

7MT23, screwed design, tapered, tapered process connection

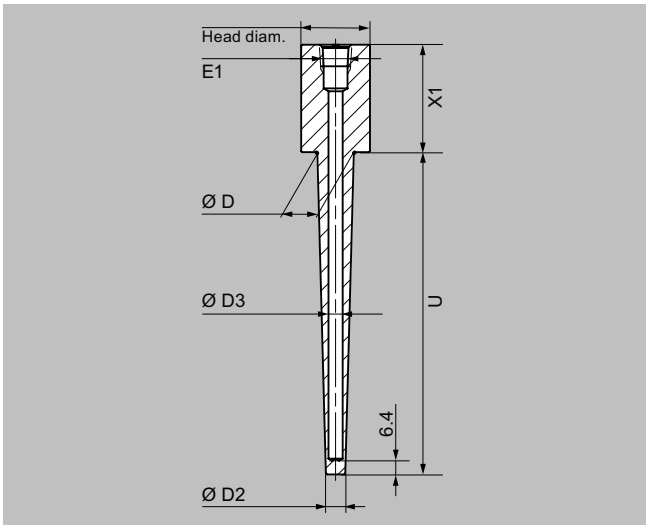


7MT23, screwed design, tapered, cylindrical process connection

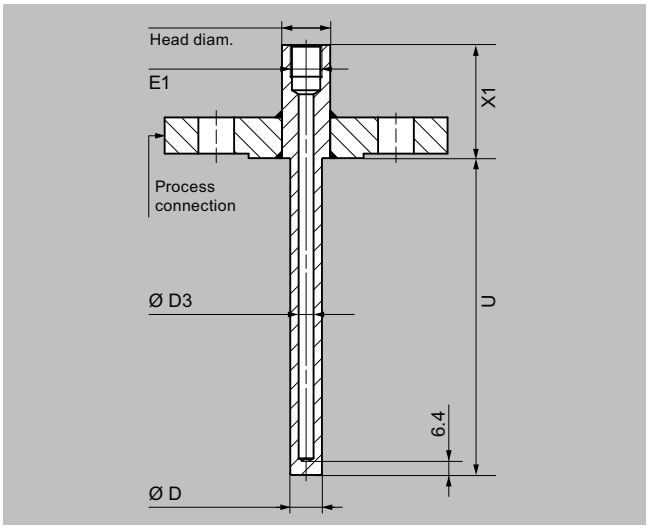


Dimensional drawings (continued)

7MT33, for welding, tapered

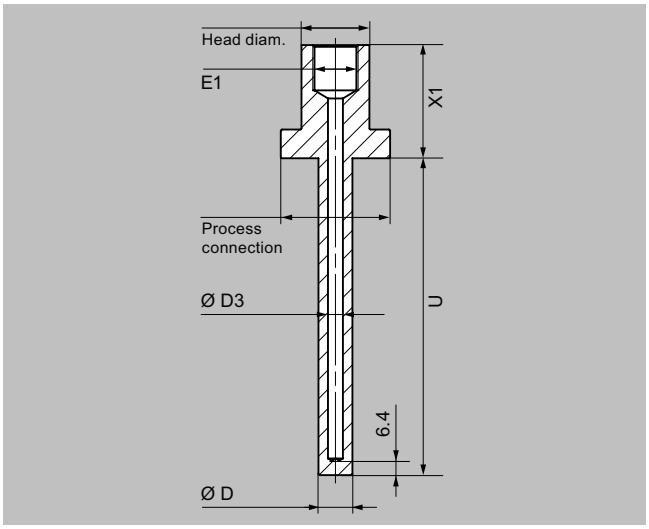


7MT41, flange connection, straight

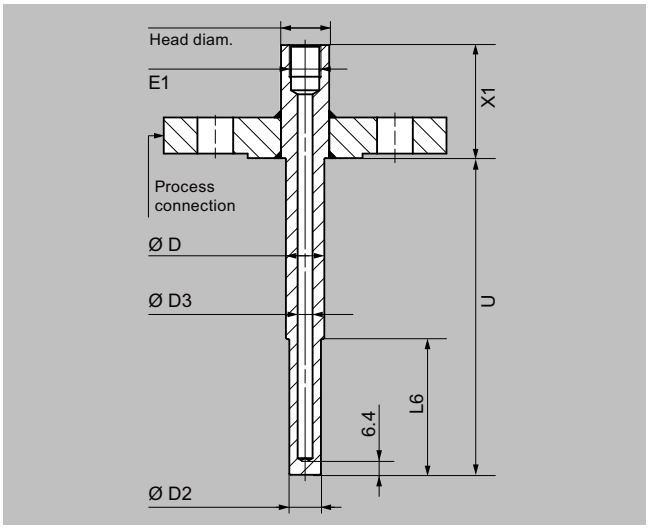


Dimensional drawings (continued)

7MT51, Van Stone type, straight

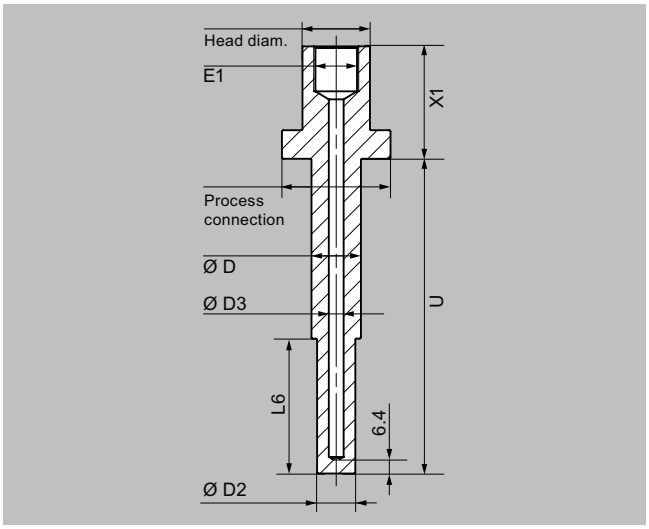


7MT42, flange connection, reduced

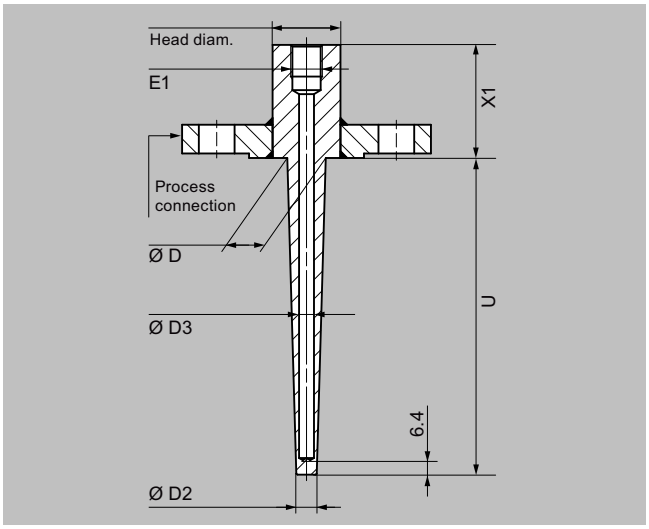


Dimensional drawings (continued)

7MT52, Van Stone type, reduced



7MT43, flange connection, tapered



Dimensional drawings (continued)

7MT53 Van Stone type, tapered