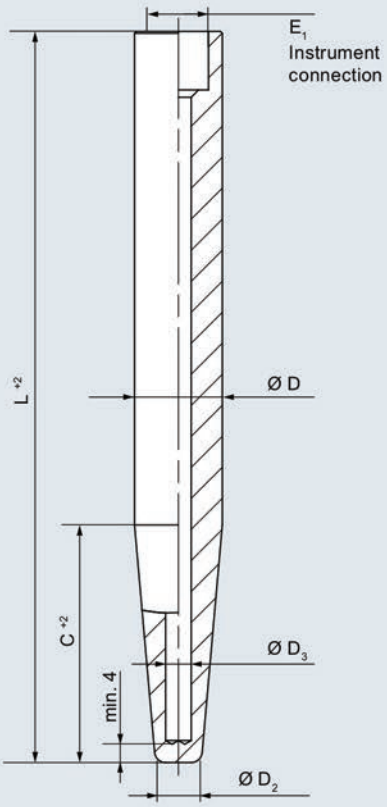
2

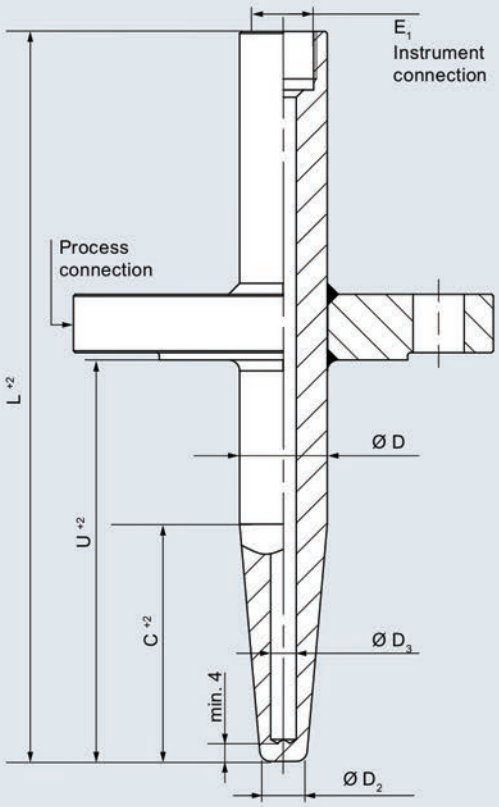
Dimensional drawings

Thermowells according to DIN 43772 - Form 4

7MT14, welded



7MT14, flange connection



Since March 2000, DIN 43772 replaces the retracted DIN 43763: 1986-03

The name 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	**7MT1410-2*N00-0NQ2**
D2	200	125	**7MT1410-4*N00-0NQ4**
D4	200	65	**7MT1410-4*N00-0NQ2**
D5	260	125	**7MT1410-5*N00-0NQ4**

Material:

*** = A**: 1.4571
*** = B**: 1.4404
*** = S**: 1.7335
*** = T**: 1.5415

2

Selection and Ordering data			Article No.	Order code
Barstock thermowells according to DIN 43772 - Form 4 ↗			7MT	
↗ Click on the Article No. for the online configuration and configuration check in the PIA Life Cycle Portal.				
Basic model				
Standard	**Process connection**	**Form**		
DIN	Weld-in/flange connection	Form 4/4F	14	
External diameter of root D	**External diameter of tip D2**	**Bore hole D3**		
24 mm	12.5 mm	7 mm	1	
26 mm	12.5 mm	7 mm	2	
32 mm	17 mm	11 mm	3	
Thermowell length L				
110 mm			01	
140 mm			02	
170 mm			03	
200 mm			04	
260 mm			05	
410 mm			06	
Thermowell material				
316Ti / 1.4571			A	
316L / 1.4404			B	
Hastelloy C276 / 2.4819			E	
1.7335 Heat-resistant			S	
1.5415 Heat-resistant			T	
PTFE 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			98 8N	Y99 + Y46
Process connection material				
Without (Form 4 for welding)			N	
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	
PTFE 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)			00	
Flange according DIN EN 1092-1 Sealing surface Initial: B1 for uncoated variants				
• DN 40, PN 10 - 16			32	
• DN 40, PN 25 - 40			33	
• DN 50, PN 10 - 16			34	
• DN 50, PN 25 - 40			35	
Flansch according ASME B16.5 Sealing surface Initial: RF for uncoated variants				
• 1.50 inch; Class 150			60	
• 1.50 inch; Class 300			61	
• 1.50 inch; Class 600			62	
• 2.00 inch; Class 150			66	
• 2.00 inch; Class 300			67	
• 2.00 inch; Class 600			68	
Customer-specific process connection			Z88	K1Y
Installation length U				
For welding (no process connection)			0N	
130 mm			0A	
190 mm			0B	
340 mm			0C	
Customer-specific installation length			8Y	Y44

Thermowells according to DIN 43772

Selection and Ordering data	Article No.	Order code
Barstock thermowells according to DIN 43772 - Form 4	7MT	- -
Connection to thermometer E1 (female thread)		
M18x1.5		Q
M20x1.5		R
M27x2.0		T
½-14 NPT		U
G½		W
G¾		X
Special version		Z Q1Y
Cone length C		
Without (straight)		0
65 mm		2
73 mm		3
125 mm		4
133 mm		5
275 mm		6

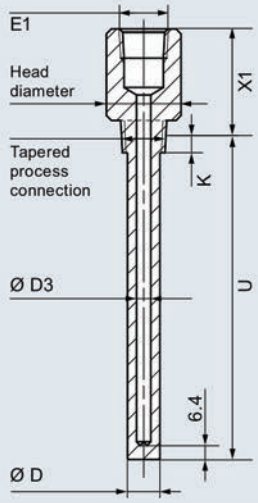
Selection and Ordering data	Order code
Options	
Add "**-Z**" to Article No. and add options, separate extensions with "+".	
Acceptance test certificate according to EN 10204-3.1	
Material certificate for wetted parts	**C12**
PMI (positive material ident.) for wetted parts	**C15**
Pressure test	**C31**
Helium leak test	**C32**
Dye-penetration-test	**C33**
Visual, dimensional and functional check	**C34**
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**

Selection and Ordering data	Order code
Surface treatment, options on request	
Wetted parts stained, neutralized and passivated	**W01**
Wetted parts 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 information	
Add "**-Z**" to Article No. and specify Order code.	
Additional information in plain text: Process connection (material, type)	**K1Y**
Additional information in plain text: Connection to thermometer E1	**Q1Y**
Customer specific production	
Processing and quotation number of special version: specify in plain text	**Y99**

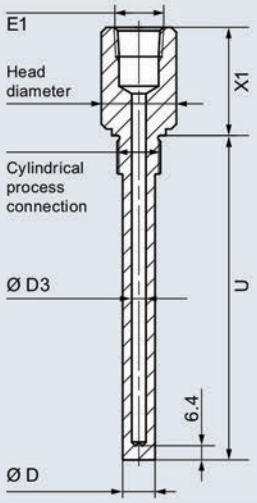
Dimensional drawings

Thermowells according to ASME B 40.9

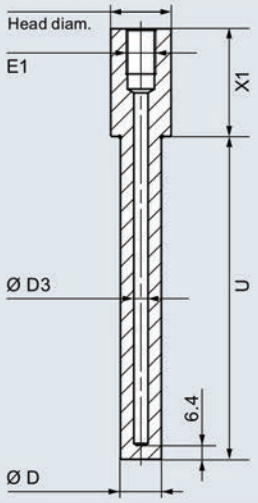
7MT21, screwed design, straight, tapered process connection



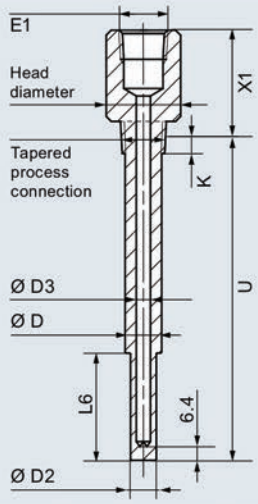
7MT21, screwed design, cylindrical process connection



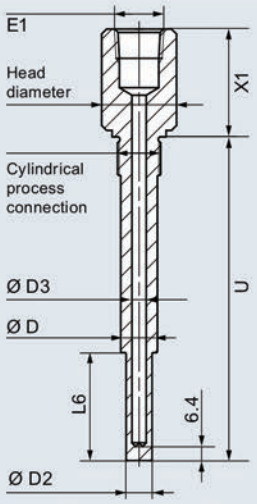
7MT31, for welding, straight



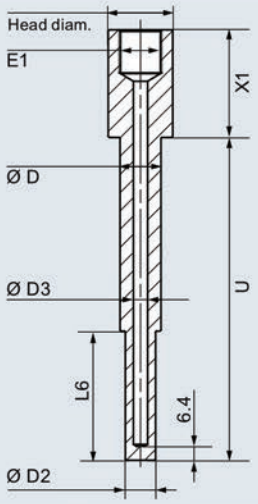
7MT22, screwed design, reduced, tapered process connection



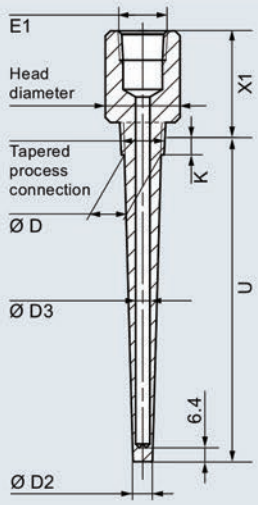
7MT22, screwed design, reduced, cylindrical process connection



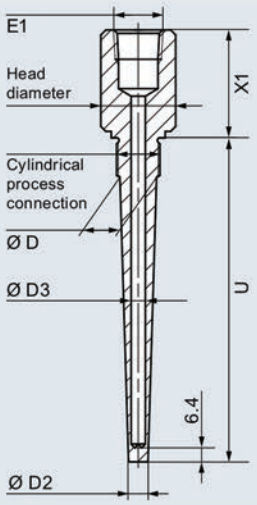
7MT32, for welding, reduced



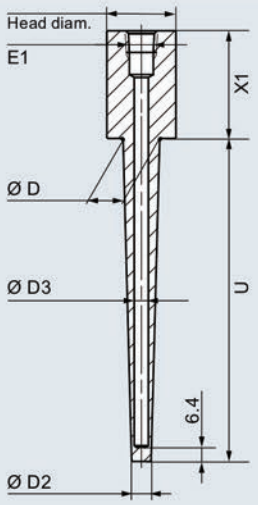
7MT23, screwed design, tapered, tapered process connection



7MT23, screwed design, tapered, cylindrical process connection

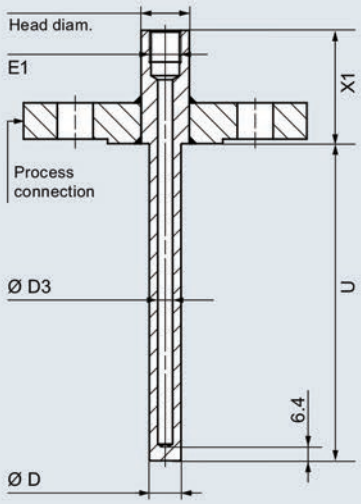


7MT33, for welding, tapered

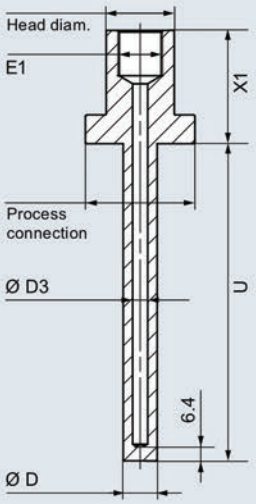


Thermowells according to ASME B40.9

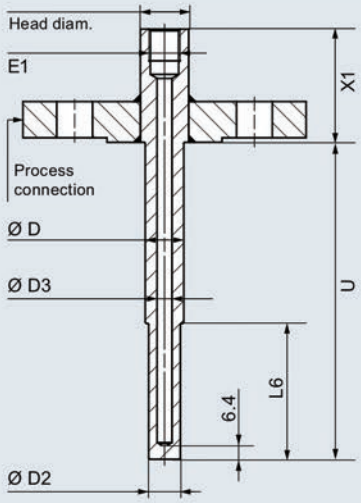
7MT41, flange connection, straight



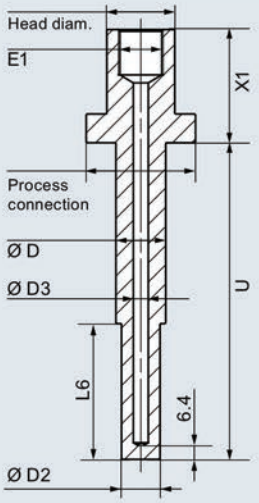
7MT51, Van Stone type, straight



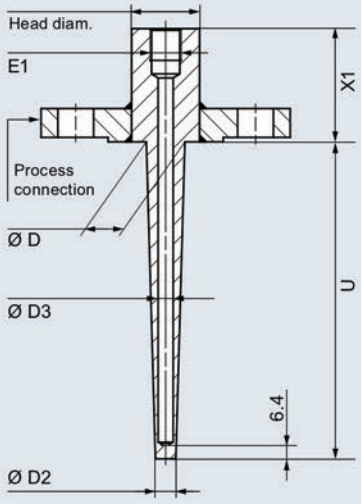
7MT42, flange connection, reduced



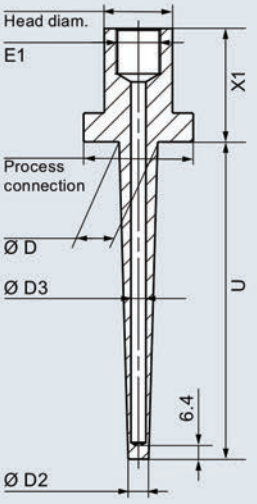
7MT52, Van Stone type, reduced



7MT43, flange connection, tapered



7MT53 Van Stone type, tapered



2

Selection and Ordering data

Article No. 7MT ■■■■ - ■■■■■ - ■■■■ ■■■ — Order code

Barstock thermowells according to ASME 40.9

↗ Click on the Article No. for the online configuration and configuration 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	↗	2 2
ASME	For welding	Reduced	↗	3 2
ASME	Flange connection	Reduced	↗	4 2
ASME	Van Stone type	Reduced	↗	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

M18x1.5	1
M20x1.5	2
½-14 NPT	5
G½	7
Special version	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			0
H27	33.4 mm	28.6 mm	33.4 mm / 51 mm	1
	48.3 mm	30 mm	48.3 mm / 73 mm	2
H32		32 mm	60.3 mm / 92 mm	3
H36		34 mm		4
H42		38 mm		5

Head length X1

	Screw-in	Weld-in	Flange	Van Stone	
25 ... 50 mm: Initial 38 mm (7MT2), 45 mm (7MT3/4)	✔	✔	✔		0
51 ... 75 mm: Initial 64 mm	✔	✔	✔	✔	1
76 ... 101 mm: Initial 89 mm	✔	✔	✔	✔	2
102 ... 126 mm: Initial 114 mm	✔	✔	✔	✔	3
127 ... 151 mm: Initial 140 mm	✔	✔	✔	✔	4
152 ... 177 mm: Initial 165 mm	✔	✔	✔	✔	5
178 ... 202 mm: Initial 191 mm	✔	✔	✔		6

Installation length U

25 ... 126 mm: Initial 25 mm	A
127 ... 253 mm: Initial 127 mm	B
254 ... 380 mm: Initial 254 mm	C
381 ... 507 mm: Initial 381 mm	D
508 ... 634 mm: Initial 508 mm	E
635 ... 761 mm: Initial 635 mm	F
762 ... 888 mm: Initial 762 mm	G

Thermowells according to ASME B40.9

2

Selection and Ordering data

Article No. 7MT□□□□-□□□□□-□□□□ Order code □□□

Barstock thermowells according to ASME 40.9

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 (sleeve, thermowell, made of 316/TI/L)			✔		Q
Duplex / 1.4462			✔	✔	P
Super Duplex / 1.4410			✔	✔	R
PTFE 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 8NN G1Y

External diamater of root D/tip D2

Straight thermowell form D	Reduced thermowell form D	Reduced thermowell form D2 (L6 = 60.3 mm/ 2.374 in)	Tapered thermowell form D	Tapered thermowell form D2	
0.50 in (12.7 mm)					0 0
0.625 in (15.9 mm)	0.625 in (15.9 mm)	0.5 in (12.7 mm)	0.625 in (15.9 mm)	0.5 in (12.7 mm)	0 1
0.75 in (19.1 mm)	0.75 in (19.1mm)	0.5 in (12.7 mm)	0.75 in (19.1mm)	0.5 in (12.7 mm)	0 2
1.00 in (25.4 mm)	1.00 in (25.4 mm)	0.5 in (12.7 mm)			0 3
1.25 in (31.8 mm)	1.25 in (31.8 mm)	0.5 in (12.7 mm)	1.00 in (25.4 mm)	0.50 in (12.7 mm)	0 4
1.50 in (38.1 mm)	1.50 in (38.1 mm)	0.5 in (12.7 mm)	1.00 in (25.4 mm)	0.75 in (19.1 mm)	0 5
			1.25 in (31.8 mm)	0.50 in (12.7 mm)	0 7
			1.25 in (31.8 mm)	0.75 in (19.1 mm)	0 8
D = 12 mm (0.47 in)			1.25 in (31.8 mm)	1.00 in (25.4 mm)	1 0
D = 14 mm (0.55 in)					1 1
D = 16 mm (0.63 in)			1.50 in (38.1mm)	0.50 in (12.7 mm)	1 2
D = 19 mm (0.75 in)			1.50 in (38.1 mm)	0.75 in (19.1 mm)	1 3
D = 22 mm (0.87 in)			1.50 in (38.1 mm)	1.00 in (25.4 mm)	1 4
D = 25 mm (0.98 in)			1.50 in (38.1 mm)	1.25 in (31.8 mm)	1 5
D = 27 mm (1.06 in)					1 6
			12 mm (0.47 in)	9 mm (0.35 in)	3 1
			14 mm (0.55 in)	9 mm (0.35 in)	3 3
			16 mm (0.63 in)	9 mm (0.35 in)	3 6
			16 mm (0.63 in)	13 mm (0.51 in)	3 7
			16 mm (0.63 in)	14 mm (0.55 in)	3 8
			19 mm (0.75 in)	9 mm (0.35 in)	4 1
			19 mm (0.75 in)	13 mm (0.51 in)	4 2
			19 mm (0.75 in)	14 mm (0.55 in)	4 3
			22 mm (0.87 in)	9 mm (0.35 in)	4 6
			22 mm (0.87 in)	13 mm (0.51 in)	4 7
			22 mm (0.87 in)	14 mm (0.55 in)	4 8
			22 mm (0.87 in)	16 mm (0.63 in)	5 0
			25 mm (0.98 in)	9 mm (0.35 in)	5 3
			25 mm (0.98 in)	13 mm (0.51 in)	5 4
			25 mm (0.98 in)	14 mm (0.55 in)	5 5
			25 mm (0.98 in)	16 mm (0.63 in)	5 6
			25 mm (0.98 in)	19 mm (0.75 in)	5 7
			27 mm (1.06 in)	9 mm (0.35 in)	6 1
			27 mm (1.06 in)	13 mm (0.51 in)	6 2
			27 mm (1.06 in)	14 mm (0.55 in)	6 3
			27 mm (1.06 in)	16 mm (0.63 in)	6 4
			27 mm (1.06 in)	19 mm (0.75 in)	6 5
			27 mm (1.06 in)	22 mm (0.87 in)	6 6
			32 mm (1.26 in)	9 mm (0.35 in)	7 0
			32 mm (1.26 in)	13 mm (0.51 in)	7 1

Selection and Ordering data					Article No.	Order code
Barstock thermowells according to ASME 40.9					7MT	
External diamater of root D/tip D2 (continued)						
Straight thermowell form	**Reduced thermowell form**		**Tapered thermowell form**			
D	**D**	**D2**	**D**	**D2**		
			32 mm (1.26 in)	14 mm (0.55 in)	7 2	
			32 mm (1.26 in)	16 mm (0.63 in)	7 3	
			32 mm (1.26 in)	19 mm (0.75 in)	7 4	
			32 mm (1.26 in)	22 mm (0.87 in)	7 5	
			32 mm (1.26 in)	25 mm (0.98 in)	7 6	
			34 mm (1.34 in)	9 mm (0.35 in)	8 0	
			34 mm (1.34 in)	13 mm (0.51 in)	8 1	
			34 mm (1.34 in)	14 mm (0.55 in)	8 2	
			34 mm (1.34 in)	16 mm (0.63 in)	8 3	
			34 mm (1.34 in)	19 mm (0.75 in)	8 4	
			34 mm (1.34 in)	22 mm (0.87 in)	8 5	
			34 mm (1.34 in)	25 mm (0.98 in)	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 x 1.5						1 L
• M27 x 2						1 M
• M33 x 2						1 N
Flange according to EN 1092-1 for 7MT4... (Flange thermowells), Sealing surface Initial: B1 for uncoated variants						
• DN 25, PN 10 - 16						2 D
• DN 40, PN 10 - 16						2 F
• DN 50, PN 10 - 16						2 H
• DN 50, PN 25 - 40						2 J
Flange according to ASME B16.5 for 7MT4... (Flange thermowells), 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
• 1.50 inch; Class 150						3 K
• 1.50 inch; Class 300						3 L
• 1.50 inch; Class 600						3 M
• 2.00 inch; Class 150						3 R
• 2.00 inch; Class 300						3 S
• 2.00 inch; Class 600						3 T
• 3.00 inch; Class 150						4 C
• 3.00 inch; Class 300						4 D
• 3.00 inch; Class 600						4 E
• 4.00 inch; Class 150						4 G
• 4.00 inch; Class 300						4 H
• 4.00 inch; Class 600						4 J
For 7MT3... and 7MT5... (Weld-in and Van Stone thermowells)						
• Without (optional collar flange for Van-Stone see "Options")						0 N

Thermowells according to ASME B40.9

Selection and Ordering data	Screw-in	Weld-in	Flange	Van Stone	Article No. 7MT	Order code
Barstock thermowells according to ASME 40.9					7MT - -	
Process connection material (identical to thermowell)						
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
Tantal (sleeve, thermowell made of 316/TI/L)			✔			Q
Duplex / 1.4462			✔			P
Super Duplex			✔			R
PTFE 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	✔		✔	✔	9N	N 1 Y
Bore D3						
D3 = 6.6 mm (0.260 in)						2
Customer-specific						9 R 1 Y

Auswahl- und Bestelldaten	Kurzangabe
Options	
Add "**-Z**" to Article No. and add options, separate extensions with "+".	
Acceptance test certificate according to EN 10204-3.1	
Material certificate for wetted parts	**C12**
PMI (positive material ident.) for wetted parts	**C15**
Pressure test	**C31**
Helium leak test	**C32**
Dye-penetration-test	**C33**
Visual, dimensional and functional check	**C34**
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 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**
Full penetration options	
Process connection welded	**G02**
Surface treatment, options on request	
Wetted parts stained, neutralized and passivated	**W01**
Wetted parts electropolished	**W02**

Auswahl- und Bestelldaten	Kurzangabe
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 information	
Add "**-Z**" to Article No. and specify Order code.	
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 specific production	
Length options U: Specify special installation length (in spec. area)	**Y44**
Length options X1: Specify special length extension (in spec. area)	**Y45**
Processing and quotation number of special version: 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**
1.00 inch, Class 600 sealing surface initial: RF	**B26**
1.50 inch, Class 150 sealing surface initial: RF	**B29**
1.50 inch, Class 300 sealing surface initial: RF	**B30**
1.50 inch, Class 600 sealing surface initial: RF	**B31**
2.00 inch, Class 150 sealing surface initial: RF	**B35**
2.00 inch, Class 300 sealing surface initial: RF	**B36**
2.00 inch, Class 600 sealing surface initial: RF	**B37**