

Badotherm thermowell model TW2x5 is a bar stock, solid machined type thermowell with a socket weld-in process connection. The construction is available with straight, stepped, or tapered stem. The standard material is AISI 316(L) and optionally various exotic materials are available. Thermowells are designed to protect the temperature bulb from corrosive effect, extreme pressure, or other process conditions. It also allows replacing the temperature instrument without disturbing the process.



STANDARD EXECUTION

TYPE	THERMOWELL	BORE SIZE	LENGTH	PROCESS CONNECTION
bar stock	AISI 316(L)	6.5 mm	customer specific	socket weld-in

PROCESS CONNECTIONS

	size (Di)
3/4"	26.7
1"	33.4
1.5"	48.3

All dimensions in mm

INSTRUMENT CONNECTIONS, CONSTRUCTION, AND BORE SIZE

size (F1)	norm		construction	bore size (d)	
1/2"	NPT	female	straight (TW215)	6.2	10.0
1/2"	BSP	female	stepped (TW225)	6.5	10.5
3/4"	NPT	female	tapered (TW235)	7.0	11.0
3/4"	BSP	female		8.0	12.0
M18x1.5	METRIC	female		8.5	12.5
M20x1.5	METRIC	female		9.0	
M27x2.0	METRIC	female		All dimensions in mm	

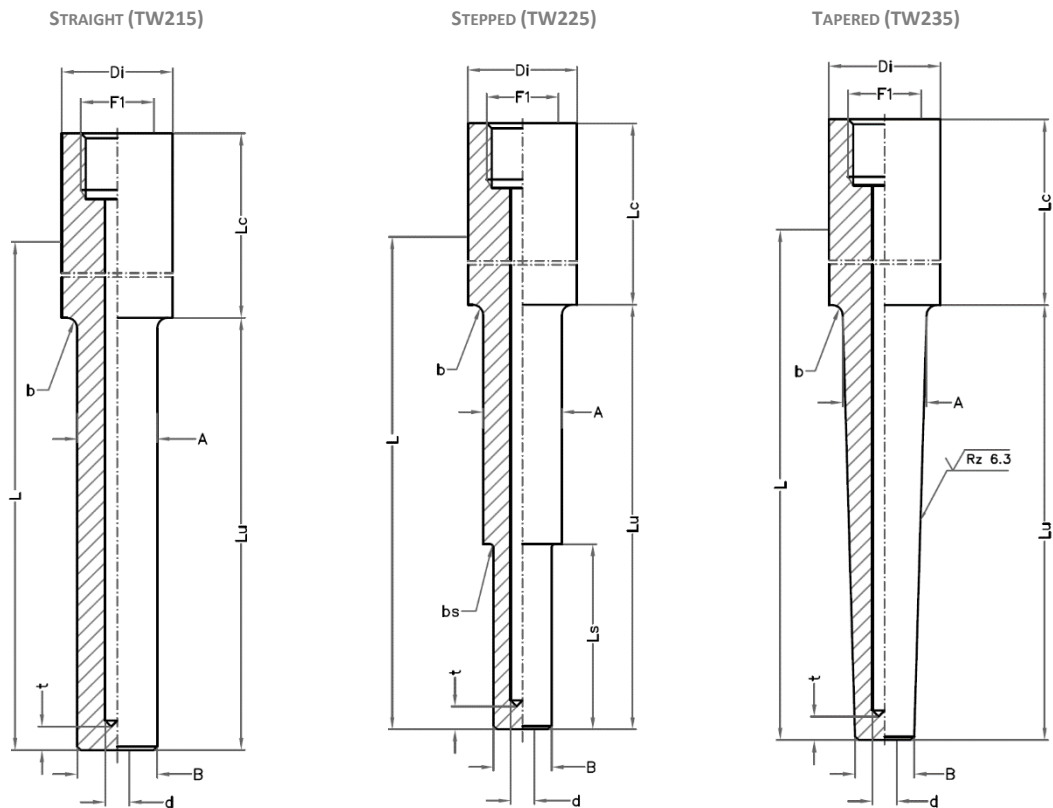
WETTED PART MATERIALS AND THREADS

stem material	threads	norms
AISI 316(L)	NPT	ANSI B1.20.1
AISI 321	BSP	ISO 228
Inconel 625	METRIC	ISO 965
Inconel 825		
Duplex 2205		
Super Duplex 2507		
Hastelloy C-276		
Monel 400		

OPTIONS

- inside pressure test
- stainless steel plug & chain
- thermowells > 610 mm
- wake frequency calculation per ASME PTC 19.3 TW-2010

DRAWING AND DIMENSIONS STANDARD EXECUTIONS



size	A	B	min / max	b	bs <sup>1</sup>	d	Di	L	Lc	Ls <sup>1</sup>	Lu	t
3/4"	21	16	12.6 / 27.6	3	3	6.5	26.7	L <sub>u</sub> + 12.5	50	120	various	8
1"	21	16	12.6 / 33.4	3	3	6.5	32.1	L <sub>u</sub> + 12.5	50	120	various	8
1.5"	21	16	12.6 / 48.3	3	3	6.5	48.3	L <sub>u</sub> + 12.5	50	120	various	8

All dimensions in mm  
 Dimensions based on standard execution d=6.5  
 For restrictions see table dimensional limits  
<sup>1</sup> only applicable for stepped executions

DIMENSIONAL LIMITS FOR STRAIGHT, TAPERED, AND STEPPED THERMOWELLS

STRAIGHT AND TAPERED

description	symbol	minimum	maximum
unsupported length	L	63.5	610
bore diameter	d	6.1	21
tip diameter	B	12.6	46.5
taper ratio	B/A	0.6	1
bore ratio	d/B	0.2	0.7
aspect ratio	L/B	2	
minimum wall thickness	(B-d)/2	3	

STEPPED

description	symbol	minimum	maximum
unsupported length	L	127	610
bore diameter	D	6.1	6.7
tip diameter	B	12.7 and 22.2	
step diameter <sup>1</sup>	B/A	0.5	0.8
step diameter <sup>2</sup>	B/A	0.6	0.9
length ratio	Ls/L	0	0.6
minimum wall thickness	(B-d)/2	3	

All dimensions in mm  
 For tapered executions L > 240 mm; there will be a tapered section (max length of 240 mm) and a straight section (L – 240 mm)  
<sup>1</sup> Step diameter ratio, for B=12.7  
<sup>2</sup> Step diameter ratio, for B=22.23



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