



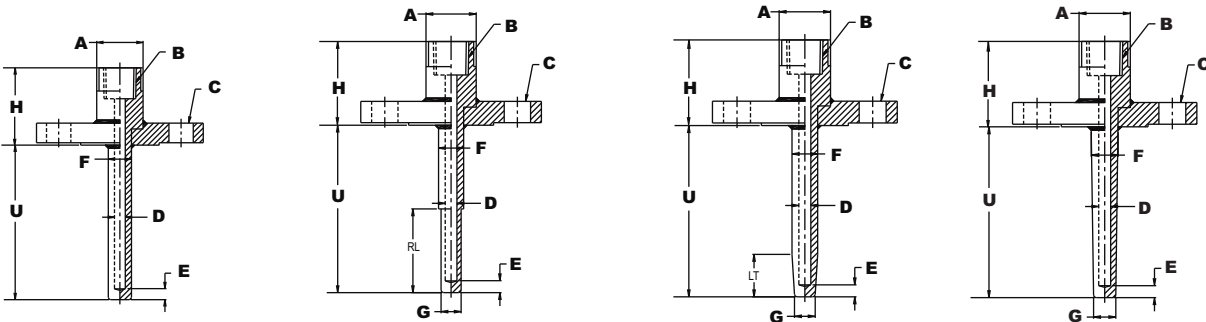
Special Features

- Design as per PTC 19.3
- These Thermowells are manufactured from solid bar stock and installed into the process by using a flanged connection
- This design is suitable for all type of RTD's, Thermocouples, Mechanical as well as digital thermometers
- Full penetration welded
- Available in various shapes like Straight, Straight with reduced tip, partial taper & full taper
- All type of flanges and flange facings are available as per ANSI / DIN / JIS & BS

Applications

- Chemical plants
- Petrochemical plants
- Engineering plants
- On shore
- Off shore
- Other similar process industries

Thermowell Drawings



S - Straight

R - Straight Reduced Tip

P - Partial Taper

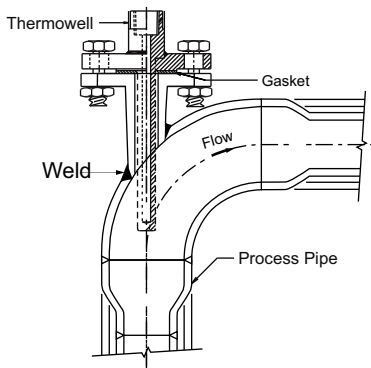
F - Full Taper

- A** - Finished Head Size
- B** - Instrument Connection
- C** - Flange
- D** - Bore Diameter

- E** - Tip Thickness
- F** - Major Diameter
- G** - Minor Diameter
- H** - Extension Length

- U** - Insertion Length
- RL** - Reduced Tip Length
- LT** - Taper Length

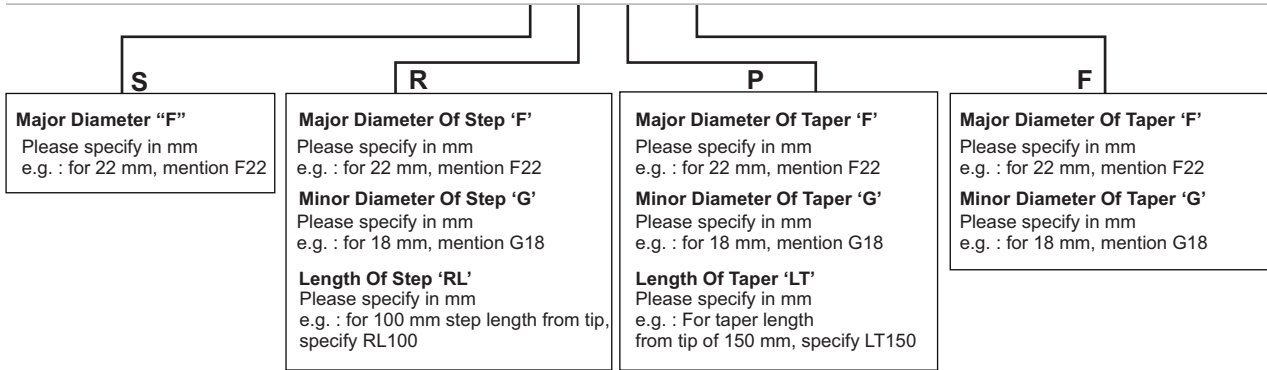
Thermowell Installation



How To Order					Example
Basic Model					W2
Type					
S - Straight	R - Straight Reduced Tip	P - Partial Taper	F - Full Taper		X
Well Material (It is recommended that the well material and flange material (wetted area) should be same.)					
LM AISI 316 SS	EP AISI 410 SS	LT Monel	LV Titanium		XX
LN AISI 316L SS	LO AISI 316Ti SS	LU Inconel 600	LX Nickel		
LP AISI 304 SS	EO AISI 310 SS	ES Inconel 625	LY HRS 446		
ER AISI 304L SS	LQ Carbon Steel	ET Incolloy 800	LZ Alloy 20		
EN AISI 321 SS		EU Incolloy 825	LS Hastelloy C		
Note : Other Materials are available on request.					
Flange Material					
LM AISI 316 SS	EN AISI 321 SS	LT Monel	LV Titanium		XX
LN AISI 316L SS	LO AISI 316Ti SS	LU Inconel 600	LX Nickel		
LP AISI 304 SS	EO AISI 310 SS	ES Inconel 625	LZ Alloy 20		
ER AISI 304L SS	LQ Carbon Steel	LS Hastelloy C			
Note : Other Materials are available on request.					
Instrument Connection					
4BF ½" BSP (F)	5TF ¾" BSPT (F)	6NF 1" NPT (F)	3MF M18 x 1.5 (F)	6MF M24 x 1.5 (F)	XXX
4NF ½" NPT (F)	5NF ¾" NPT (F)	6BF 1" BSP (F)	4MF M20 x 1.5 (F)	7MF M27 x 2 (F)	
4TF ½" BSPT (F)	5BF ¾" BSP (F)	6TF 1" BSPT (F)	5MF M22 x 1.5 (F)	9MF M33 x 2 (F)	
4FF ½" PF (F)	5PF ¾" G (F)	6PF 1" G (F)			
4PF ½" G (F)					
Note : Other Connections are available on request.					
Flange Type					
1 Blind Flange	2 SORF Flange				X
Flange "C" (size & Rating) Refer Flange table for code selection.					XXX
Flange Facing Type					
R Raised Face	F Flat Face	J Ring type joint		X	
Flange Finish					
1 - 125 AARH (Standard)	2 - 63 AARH				X
Note : Other Flange finish are available on request.					
Extension / Lagging Length "H" (In case of welding neck flange & threaded flange, consult factory.)					
Please specify in mm For e.g. : for length 50 mm, mention H50					XXX
Finished Head Size "A" (Refer Table 1.1 for selection of Head Size for Thermowell.)					
Please Specify in mm e.g. : For 28 mm Finished head Size, Specify A28					XXX
Type Of Head					
K Hex Headed*	L Round Headed	M Round Headed With Spanner Slots.		X	
* Maximum "U" Length below Flange will be 250 mm.					
Bore Diameter "D"					
A 6.6 mm	B 7 mm	C 8.5 mm	D 9 mm		X
E 10.5 mm	F 11 mm	G 13 mm	H 13.5 mm		
Note : Refer Table 1.3 of Thermowell Design Procedure for dimensions as per PTC 19.3					

Major Diameter "F"

Example



XXX
OR
XXX
OR
XXXXX

Note : Refer Table 1.3 of Thermowell Design Procedure for dimensions as per PTC 19.3

Tip Thickness "E"

XX

Standard Tip Thickness is 5 mm. e.g. : Specify E5 for 5 mm Tip Thickness For others, please specify in mm.

INSERTION LENGTH "U"

Please specify in mm e.g. : for 250 mm, mention U250

Note : Refer Table 1.4 of Thermowell Design Procedure for dimensions as per PTC 19.3

XXXX

Options

- | | |
|--------------------------------|--|
| GG Plug and chain in SS | TC Counter flange with studs, nuts & gasket |
| FW Electro polishing | CW Marking by Laser |
| CX Marking by Engraving | SX SS Tag Plate |

XX

Lining & Coatings (User to specify thickness during enquiry)

- | | |
|------------------------------------|-----------------------------------|
| FI PTFE Lining* | EW Zirconium Oxide Coating |
| FM Silicon Carbide Coating | EX Stellite Coating |
| GK Rubber Lining* | EY PTFE Coating |
| GJ Tungsten Carbide Coating | |

* Lining will be on wetted area of straight type wells only.

Overlay On Flange RF (User to specify thickness during enquiry)

- | | | | |
|-------------------------|-----------------------|--------------------|--------------------|
| LS Hastelloy 'C' | LT Monel | LV Titanium | LX Nickel |
| LR Hastelloy 'B' | LU Inconel 600 | LW Tantalum | LZ Alloy 20 |

Sleeve Material (Wall Thickness : 1 mm)

- | | | |
|-------------------------|-----------------------|-----------------------------|
| GM Hastelloy 'C' | FQ Monel | FT Tantalum (0.4 mm) |
| FO Hastelloy 'B' | FR Inconel 600 | FV Alloy 20 |
| FP Nickel | FJ Titanium | |

Tests & Certification

- | | |
|--|--|
| C1 Radiography for Bore Concentricity | C8 Certification for Hydrogen Service |
| C2 IBR Certification | C9 Certification for Oxygen Service |
| C3 Mechanical Test | T1 Chemical Composition Test |
| C4 Ultrasonic Test | T2 3.1B Material Conformity Certificate |
| C5 PMI Test | T3 Radiography for Welding |
| C6 IGC Test | T4 Dye Penetration Test |
| C7 Wake Frequency Calculations as per PTC 19.3# | TF Conformity as per NACE standard |

#Please Specify Fluid, Max. Pressure, Temperature & Flow velocity for wake frequency calculations as per PTC 19.3

Ordering Example:

W2 . X . XX . XX . XXX . X . XXX . X . X . XXX . XXX . X . X . XXX OR XXX OR XXXXX . XX . XXXX . XX

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

Flange Table With Connection Codes

AS PER DIN 2527

DN	PN	CODE	
10	6	A01	
	10	A02	
	16	A03	
	25	A04	
	40	A05	
	64	A06	
	100	A07	
	160	A08	
	250	A09	
	400	A10	
15	6	A11	
	10	A12	
	16	A13	
	25	A14	
	40	A15	
	64	A16	
	100	A17	
	160	A18	
	250	A19	
	400	A20	
20	6	A21	
	10	A22	
	16	A23	
	25	A24	
	40	A25	
25	6	A26	
	10	A27	
	16	A28	
	25	A29	
	40	A30	
	64	A31	
	100	A32	
	160	A33	
250	A34		
400	A35		
32	6	A36	
	10	A37	
	16	A38	
	25	A39	
	40	A40	
	40	6	A41
		10	A42
		16	A43
25		A44	
40		A45	
64		A46	
100		A47	
160		A48	
250		A49	
400		A50	
50	6	A51	
	10	A52	
	16	A53	
	25	A54	
	40	A55	
	64	A56	
	100	A57	
	160	A58	
	250	A59	
	400	A60	

DN	PN	CODE
65	6	A61
	10	A62
	16	A63
	25	A64
	40	A65
	64	A66
	100	A67
	160	A68
	250	A69
	400	A70
80	6	A71
	10	A72
	16	A73
	25	A74
	40	A75
	64	A76
	100	A77
	160	A78
	250	A79
	400	A80

AS PER JIS - B 2210

NOMINAL SIZE	RATING /CLASS	CODE
10A	5K	B57
	10K	B58
	40K	B59
15A	5K	B60
	10K	B61
	40K	B62
20A	5K	B63
	10K	B64
	40K	B65
25A	5K	B66
	10K	B67
	40K	B68
	40K	B68
32A	5K	B69
	10K	B70
40A	40K	B71
	5K	B72
	10K	B73
40A	40K	B74
	5K	B75
	10K	B76
	40K	B77
50A	5K	B78
	10K	B79
	40K	B80
	40K	B80
65A	5K	B81
	10K	B82
	40K	B83
80A	5K	B81
	10K	B82
	40K	B83

AS PER DIN 2642

DN	PN	CODE
10	10	A90
		A91
		A92
		A93
		A94
		A95
		A96
		A97
		A98
		A99

AS PER DIN 2633

DN	PN	CODE
10	16	A81
		A82
		A83
		A84
		A85
		A86
		A87
		A88
		A89
		A90

AS PER DIN 2635

DN	PN	CODE
10	40	B01
		B02
		B03
		B04
		B05
		B06
		B07
		B08
		B09
		B10

AS PER ANSI B 16.5

NOMINAL SIZE	RATING/CLASS	CODE
1/2"	150	B09
	300	B10
	600	B11
	900	B12
	1500	B13
	2500	B14
3/4"	150	B15
	300	B16
	600	B17
	900	B18
	1500	B19
	2500	B20

NOMINAL SIZE	RATING /CLASS	CODE
1"	150	B21
	300	B22
	600	B23
	900	B24
	1500	B25
1 1/4"	2500	B26
	150	B27
	300	B28
	600	B29
	900	B30
1 1/2"	1500	B31
	2500	B32
	150	B33
	300	B34
	600	B35
2"	900	B36
	1500	B37
	2500	B38
	150	B39
	300	B40
2 1/2"	600	B41
	900	B42
	1500	B43
	2500	B44
	150	B45
3"	300	B46
	600	B47
	900	B48
	1500	B49
	2500	B50
3 1/2"	150	B51
	300	B52
	600	B53
	900	B54
	1500	B55
4"	2500	B56
	150	B57
	300	B58
	600	B59
	900	B60

AS PER BS - 10

NOMINAL SIZE	TABLE	CODE
1/2"	D	B84
	E	B85
	F	B86
	H	B87
	J	B88
	K	B89
3/4"	D	B90
	E	B91
	F	B92
	H	B93
	J	B94
	K	B95

NOMINAL SIZE	TABLE	CODE
1"	D	B96
	E	B97
	F	B98
	H	B99
	J	C01
	K	C02
1 1/4"	D	C03
	E	C04
	F	C05
	H	C06
	J	C07
	K	C08

NOMINAL SIZE	TABLE	CODE
1 1/2"	D	C09
	E	C10
	F	C11
	H	C12
	J	C13
	K	C14
2"	D	C15
	E	C16
	F	C17
	H	C18
	J	C19
	K	C20

NOMINAL SIZE	TABLE	CODE
2 1/2"	D	C21
	E	C22
	F	C23
	H	C24
	J	C25
	K	C26
3"	D	C27
	E	C28
	F	C29
	H	C30
	J	C31
	K	C32

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