

Special Features :

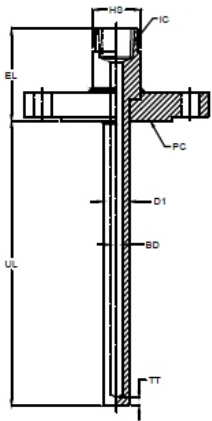
- Design as per PTC 19.3.
- These Thermowells are manufactured from solid bar stock and installed into the process with the process by using a flanged connection.
- The design is suitable for all type of RTD's, Thermocouples, Mechanical as well as digital Thermometers.
- Full penetration welded.
- Available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

Application :

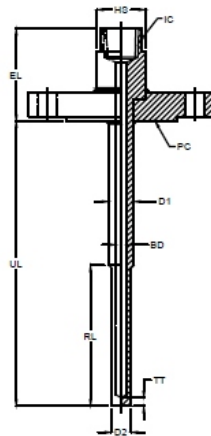
- Chemical Plants
- Petrochemical Plants
- On Shore & Off Shore
- Engineering Plants
- Other similar process Industries



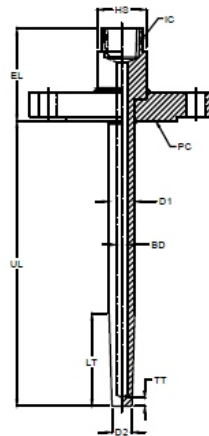
Thermowell Drawings :



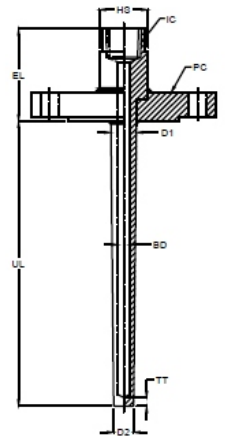
(ST - Straight)



(SR - Straight Reduced Tip)



(PT - Partial Taper)



(FT - Full Taper)

HS - Finished Head Size
 IC - Instrument Connection
 PC - Process Connection
 BD - Bore Diameter

TT - Tip Thickness
 D1 - Major Diameter
 D2 - Minor Diameter
 EL - Extension Length

UL - Insertion Length
 RL - Reduced Tip Length
 LT - Taper Length

SELECTION OF MODEL

(1) MODEL CODE

(2) TYPE

Straight	ST
Straight Reduced Tip	SR

Partial Taper	PT
Full Taper	FT

(3) WELL MATERIAL (It is recommended that well material and flange material (wetted area) should be same.)

Carbon Steel	CS
AISI 304 SS	S4
AISI 316 SS	S6
AISI 316L SS	S6L

AISI 321 SSI	S21
AISI 310 SS	S10
Hastelloy C	HT
Monel	MN

Inconel 625	IN
Titanium	TI
Nickel	NI

Note: Other Materials are available on Request.

TW2

ST

S6

SELECTION OF MODEL

(4) FLANGE MATERIAL

Carbon Steel	CS
AISI 304 SS	S4
AISI 316 SS	S6
AISI 316L SS	S6L

AISI 321 SSI	S21
AISI 310 SS	S10
Hastelloy C	HT
Monel	MN

Inconel 625	IN
Titanium	BR
Nickel	NI

Note: Other Materials are available on Request.

(5) INSTRUMENT CONNECTION "IC"

1/2" BSP(F)	4BF
1/2" NPT(F)	4NF
1/2" R(F)	4RF
1/2" G(F)	4GF
3/4" BSP(F)	5BF

3/4" NPT(F)	5NF
3/4" R(F)	5RF
3/4" G(F)	5GF
1" BSP(F)	6BF
1" NPT(F)	6NF

1" G(F)	6GF
1" R(F)	6RF
M18 x 1.5(F)	3MF
M20 x 1.5(F)	4MF
M22 x 1.5(F)	5MF

M24 x 1.5(F)	6MF
M27 x 1.5(F)	7MF
M33 x 1.5(F)	9MF

Note: Other Connections are available on Request.

(6) FLANGE TYPE

Normal Flange	NF
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Slip-on Flange	SF
----------------	----

(7) FLANGE "PC" (SIZE & RATING)

As per ANSI, JIS, JPI, DIN etc. (Refer Flange Table for code selection)

(8) FLANGE FACING TYPE

Raised Face	RF
-------------	----

Flat Face	FF
-----------	----

Ring type Joint	RJ
-----------------	----

(9) EXTENSION / LAGGING LENGTH "EL"

EL50 (Standard)

e.g. : For length 50mm, mention EL50.

(10) FINISHED HEAD SIZE "HS"

PLEASE SPECIFY IN MM

e.g. : For 28mm Finished head size, Specify HS28

(11) TYPE OF HEAD

Hex Headed	HH
Round Headed with Spanner Slots*	RS
Round Headed	RH

(12) BORE DIAMETER "BD"

PLEASE SPECIFY IN MM

e.g. : For length 9mm, mention BD9.

Note: Refer Thermowell design procedure for dimension as per PTC 19.3

(13) MAJOR DIAMETER

ST	RT	PT
<p>Major Diameter "D1" Please specify in mm e.g. For 22mm mention D122</p>	<p>Major Diameter of Step "D1" Please specify in mm e.g. For 22mm mention D122</p>	<p>Major Diameter of Taper "D1" Please specify in mm e.g. For 22mm mention D122</p>
<p>Major Diameter of Taper "D1" Please specify in mm e.g. For 22mm mention D122</p>	<p>Minor Diameter of Step "D2" Please specify in mm e.g. For 18mm mention D218</p>	<p>Minor Diameter of Taper "D2" Please specify in mm e.g. For 18mm mention D218</p>
<p>Minor Diameter of Taper "D2" Please specify in mm e.g. For 18mm mention D218</p>	<p>Length of Step "RL" Please specify in mm e.g. For 100mm step length from tip, specify RL100</p>	<p>Length of Step "TL" Please specify in mm e.g. For taper length from tip of 150mm, specify TL150</p>

Note: Refer Thermowell design procedure for dimension as per PTC 19.3

S6

4NF

NF

XX

RF

EL50

HS28

HH

BD9

XX

SELECTION OF MODEL

(14) TIP THICKNESS "TT"

TT5 (Standard)

e.g. : For Tip Thickness 5mm, specify TT5.

(15) INSERTION LENGTH "UL"

PLEASE SPECIFY IN mm

e.g. : For 800mm, mention UL800.

Note: Refer Thermowell design procedure for dimension as per PTC 19.3

(16) OPTIONS

Plug & Chain in SS	CP
SS Tag Plate	TS
Marking by Laser	LM
Counter Flange with stud, nuts & gasket	CF

(17) LINING & COATING (User to Specify thickness during enquiry)

PTFE Lining*	LB
Silicon Carbide Coating	SC
Rubber Lining*	RL
Tungsten Carbide Coating	TC

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

(18) TESTS & CERTIFICATION

Radiography fo Bore Concentricity	TC1	Wake Frequency Calculations as [per PTC 19.3*	TC7
IBR Certification	TC2	Certification for Hydrogen Service	TC8
Mechanical Test	TC3	Certification for Oxygen Service	TC9
Ultrasonic Test	TC4	Chemical Composition Test	TT1
PMI Test	TC5	3.1B Material Conformity Certificate	TT2
IGC Test	TC6	Radiography for Welding	TT3
Dye Penetration Test	TT4	Conformity as per NACE Standard	TNC

* Please specify Fluid, Max. Pressure, Temperature & Flow Velocity for wake frequency calculations as per PTC 19.3

Example	1	2	3	4	5	6	7	8	9
SELECTION OF MODEL	TW2	ST	S6	S6	4NF	NF	XX	RF	EL50

Example	10	11	12	13	14	15	16	17	18
SELECTION OF MODEL	HS28	HH	BD9	XX	TT5	UL800	XX	XX	XX

TT5

UL800

XX

XX

XX

SELECTION OF FLANGE

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
	6	A41
	10	A42
	16	A43
	25	A44
	40	A45
40	64	A46
	100	A47
	160	A48
	250	A49
	400	A50
	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

NOMINAL SIZE	RATING /CLASS	CODE
25A	5K	B66
	10K	B67
	40K	B68
	5K	B69
32A	10K	B70
	40K	B71
	5K	B72
40A	10K	B73
	40K	B74

NOMINAL SIZE	RATING /CLASS	CODE
50A	5K	B75
	10K	B76
	40K	B77
65A	5K	B78
	10K	B79
	40K	B80
80A	5K	B81
	10K	B82
	40K	B83

AS PER DIN 2642

DN	PN	CODE
10	10	A90
15		A91
20		A92
25		A93
32		A94
40		A95
50		A96
65		A97
80		A98

AS PER DIN 2633

DN	PN	CODE
10	16	A81
15		A82
20		A83
25		A84
32		A85
40		A86
50		A87
65		A88
80		A89

AS PER DIN 2635

DN	PN	CODE
10	40	A99
15		B01
20		B02
25		B03
32		B04
40		B05
50		B06
65		B07
80		B08

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
	150	B15
3/4"	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

NOMINAL SIZE	RATING /CLASS	CODE
1 1/2"	150	B33
	300	B34
	600	B35
	900	B36
	1500	B37
2"	2500	B38
	150	B39
	300	B40
	600	B41
	900	B42
2 1/2"	1500	B43
	2500	B44

NOMINAL SIZE	RATING /CLASS	CODE
2 1/2"	150	B45
	300	B46
	600	B47
	900	B48
	1500	B49
3"	2500	B50
	150	B51
	300	B52
	600	B53
	900	B54
3 1/2"	1500	B55
	2500	B56

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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