



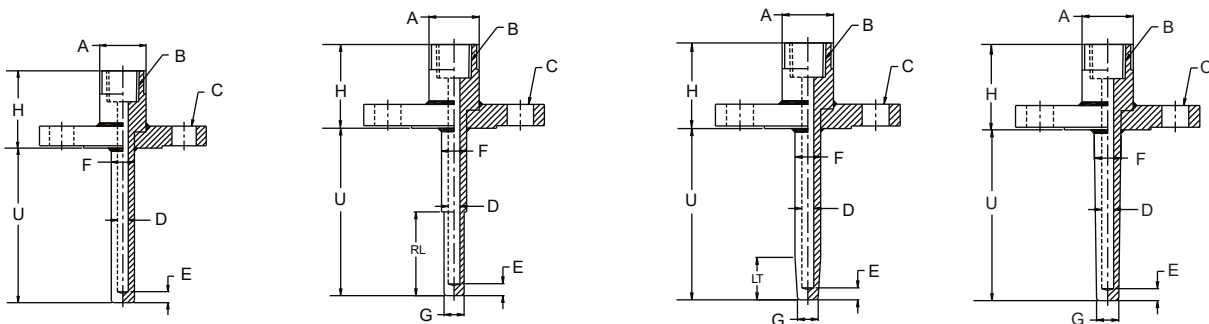
## Special Features

- 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

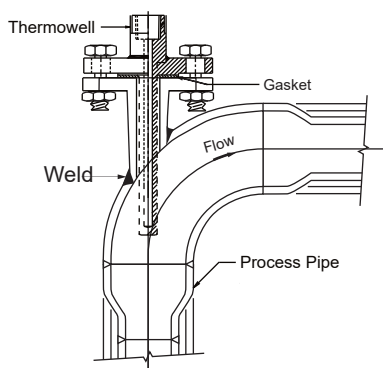
F - Full Taper

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                                                                                         |                          |                                    |                   |                   | TW2     |
| 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.)        |                          |                                    |                   |                   |         |
| S64 AISI 304 SS                                                                                     | S10 AISI 310 SS          | I60 Inconel 600                    | CST Carbon Steel  |                   | XXX     |
| S66 AISI 316 SS                                                                                     | HST Hastelloy C          | A20 Alloy 20                       |                   |                   |         |
| S6L AISI 316L SS                                                                                    | S21 AISI 321 SS          | NIK Nickel                         |                   |                   |         |
| Note : Other Materials are available on request.                                                    |                          |                                    |                   |                   |         |
| Flange Material                                                                                     |                          |                                    |                   |                   |         |
| S64 AISI 304 SS                                                                                     | S10 AISI 310 SS          | I60 Inconel 600                    | CST Carbon Steel  |                   | XXX     |
| S66 AISI 316 SS                                                                                     | HST Hastelloy C          | A20 Alloy 20                       |                   |                   |         |
| S6L AISI 316L SS                                                                                    | S21 AISI 321 SS          | NIK Nickel                         |                   |                   |         |
| Note : Other Materials are available on request.                                                    |                          |                                    |                   |                   |         |
| Instrument Connection                                                                               |                          |                                    |                   |                   |         |
| 4BF ½" BSP (F)                                                                                      | 5TF ¾" BSPT (F)          | 6NF 1" NPT (F)                     | M18 M18 x 1.5 (F) | M24 M24 x 1.5 (F) | XXX     |
| 4NF ½" NPT (F)                                                                                      | 5NF ¾" NPT (F)           | 6BF 1" BSP (F)                     | M20 M20 x 1.5 (F) | M27 M27 x 2 (F)   |         |
| 4TF ½" BSPT (F)                                                                                     | 5BF ¾" BSP (F)           | 6TF 1" BSPT (F)                    | M22 M22 x 1.5 (F) | M33 M33 x 2 (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 T ype                                                                                 |                          |                                    |                   |                   |         |
| RF Raised Face                                                                                      | FF Flat Face             | RJ Ring type joint                 |                   |                   | XX      |
| 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 65 mm, mention H65                                       |                          |                                    |                   |                   | 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                                                                                        |                          |                                    |                   |                   |         |
| H Hex Headed*                                                                                       | R Round Headed           | S Round Headed With Spanner Slots. |                   |                   | X       |
| * Maximum "U" Length below Flange will be 500 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                |                          |                                    |                   |                   |         |

## How to Order

## Example

|                                                                             |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                    |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S                                                                           | R                                                                                                                                                                                                                                                                                              | P                                                                                                                                                                                                                                                                                                       | F                                                                                                                                                                                  |
| Major Diameter "F"<br>Please specify in mm<br>e.g. : for 22 mm, mention F22 | Major Diameter Of Step 'F'<br>Please specify in mm<br>e.g. : for 22 mm, mention F22<br><br>Minor Diameter Of Step 'G'<br>Please specify in mm<br>e.g. : for 18 mm, mention G18<br><br>Length Of Step 'RL '<br>Please specify in mm<br>e.g. : for 100 mm step length from tip,<br>specify RL100 | Major Diameter Of T aper 'F'<br>Please specify in mm<br>e.g. : for 22 mm, mention F22<br><br>Minor Diameter Of T aper 'G'<br>Please specify in mm<br>e.g. : for 18 mm, mention G18<br><br>Length Of T aper 'LT'<br>Please specify in mm<br>e.g. : For taper length<br>from tip of 150 mm, specify LT150 | Major Diameter Of T aper 'F'<br>Please specify in mm<br>e.g. : for 22 mm, mention F22<br><br>Minor Diameter Of T aper 'G'<br>Please specify in mm<br>e.g. : for 18 mm, mention G18 |

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

XXXX

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

Options

|                          |                                              |
|--------------------------|----------------------------------------------|
| PAC Plug and chain in SS | CFL Counter flange with studs, nuts & gasket |
| EPL Electro polishing    | LAM Marking by Laser                         |
| ENM Marking by Engraving | STG SS Tag Plate                             |

XXX

Lining & Coatings (User to specify thickness during enquiry)

PL PTFE Lining\*  
PC PTFE Coating  
RL Rubber Lining\*

XXX

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

Tests & Certification

|                                       |                                                  |
|---------------------------------------|--------------------------------------------------|
| RBCRadiography for Bore Concentricity | WFC Wake Frequency Calculations as per PTC 19.3* |
| IBR IBR Certification                 | CCT Chemical Composition Test                    |
| METMechanical Test                    | 31B 3.1B Material Conformity Certificate         |
| ULT Ultrasonic Test                   | CNS Conformity as per NACE Standard              |
| PMI PMI Test                          |                                                  |

XXX

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

Ordering Example:

Tw2 . X . XXX . XXX . XXX . X . XXX . XX . X . XXX . XXX . X . X . XXX OR XXX OR XXXXX . XX . XXXX . XXX . XXX

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.  
For Any Custom / Non Standard / Special Requirement Consult Factory..

## Flange Table With Connection Code

### 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  |
| DN | PN  | CODE |
| 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  |
| NOMINAL SIZE | RATING /CLASS | CODE |
| 25A          | 5K            | B66  |
|              | 10K           | B67  |
|              | 40K           | B68  |
|              | 5K            | B69  |
| 32A          | 10K           | B70  |
|              | 40K           | B71  |
| 40A          | 5K            | B72  |
|              | 10K           | B73  |
|              | 40K           | B74  |
| NOMINAL SIZE | RATING /CLASS | CODE |
| 50A          | 5K            | B75  |
|              | 10K           | B76  |
|              | 40K           | B77  |
|              | 5K            | B78  |
| 65A          | 10K           | B79  |
|              | 40K           | B80  |
|              | 5K            | B81  |
|              | 10K           | B82  |
| 80A          | 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  |
|              | 2500          | B26  |
| 1 1/4"       | 150           | B27  |
|              | 300           | B28  |
|              | 600           | B29  |
|              | 900           | B30  |
|              | 1500          | B31  |
|              | 2500          | B32  |

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

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