

FEATURES

- Economical version
- Fabricated from pipe
- Threaded process connection

APPLICATION

- HVAC, Air filters & utilities
- Tanks & vessels

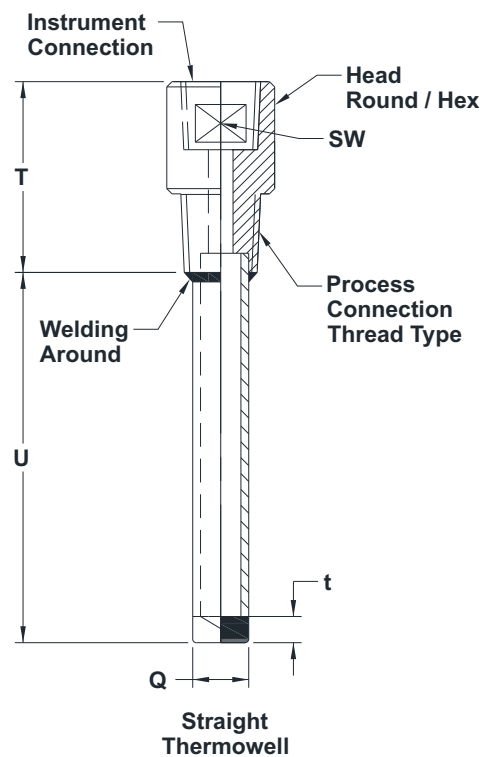
Fabricated



STANDARD SPECIFICATIONS

Shank form	:	Straight
Head Material	:	AISI 316 SS
Well Material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Well Tubes	:	Tube Ø10 x 1.5 mm THK
Lag extension	:	50 mm
Immersion length	:	100 mm
Tip thickness	:	5 mm
Process connection	:	1/2" NPT (M) / 1/2" BSP (M)
Head type	:	Hex
Head size	:	27 mm

DIMENSIONAL DRAWING



ORDERING CODES

1. SHANK FORM

S Straight

2. HEAD MATERIAL

MC AISI 304SS	ME AISI 310 SS
MF AISI 316 SS	MG AISI 316L SS
MI AISI 321 SS	M6 AISI 446 SS
MQ Inconel 600	MR Inconel 625
MS Inconel 800	MT Inconel 825
MO Hastelloy C-276	

3. WELL MATERIAL

MC AISI 304SS	ME AISI 310 SS
MF AISI 316 SS	MG AISI 316L SS
MI AISI 321 SS	M6 AISI 446 SS
MQ Inconel 600	MR Inconel 625
MS Inconel 800	MT Inconel 825
MO Hastelloy C-276	

4. INSTRUMENT CONNECTION

02N 1/4" NPT (F)	04N 1/2" NPT (F)
05N 3/4" NPT (F)	02B 1/4" BSP (F)
04B 1/2" BSP (F)	05B 3/4" BSP (F)
04M M20 x 1.5 mm (F)	

5. PROCESS CONNECTION

14N 1/2" NPT (M)	15N 3/4" NPT (M)
16N 1" NPT (M)	17N 1.5" NPT (M)
18N 2" NPT (M)	14B 1/2" BSP (M)
15B 3/4" BSP (M)	16B 1" BSP (M)
17B 1.5" BSP (M)	18B 2" BSP (M)
14M M20 x 1.5 mm (M)	

6. HEAD TYPE

H Hex (up to Immersion length 250 mm)
L Round with spanner slot

7. HEAD SIZE

XX Mention in 'mm'

8. LAG EXTENSION ("T")

XXX 35 mm up to 250 mm

9. WELL (PIPE)

U3 Pipe 3/8" Sch 40
U4 Pipe 3/8" Sch 80
U5 Pipe 1/2" Sch 40
U6 Pipe 1/2" Sch 80
U7 Pipe 3/4" Sch 40
U8 Pipe 3/4" Sch 80
UA Pipe 1/4" Sch 40
UB Pipe 1/4" Sch 80
UC Pipe 1/2" Sch 160
UD Pipe 3/4" Sch 160

9. WELL (TUBE) OR

U1 Tube Ø10 x 1.5 mm THK
UL Tube Ø12 x 2.5 mm THK
UM Tube Ø14 x 2.5 mm THK
UN Tube Ø12 x 1.0 mm THK
UO Tube Ø14 x 1.0 mm THK
UP Tube Ø16 x 2.0 mm THK

10. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

11. TIP THICKNESS ("t")

M 5 mm
N 6.35 mm (1/4")
O 10 mm

12. OTHER OPTIONS

XI Plug & chain in SS
XM Marking by engraving
TC Material test certificate 3.1
TD Dye penetration test
TM Material test certificate 2.2
TH Hydro test certificate

Ordering Example : W101-S-MC-MC-02N-14N-H-27-50-U1-100-M-XM

NOTES:

1. Other pipe/tube sizes, "U" lengths, connections are available. please contact factory for details.

2. Please refer "Technical Guidance Sheet" for the proper selection of connections according to Head size and Outer diameter of the well.

FEATURES

- Solid bar-stock drilled design
- 3 different shank styles
- Threaded process connection

APPLICATION

- Air & flue gas
- Tanks & vessels
- Oil & Gas applications
- Corrosive environments
- Power & Steel industries
- HVAC, Air filters & utilities
- On-shore/Off-shore application

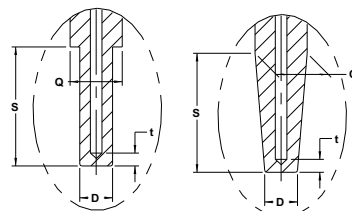
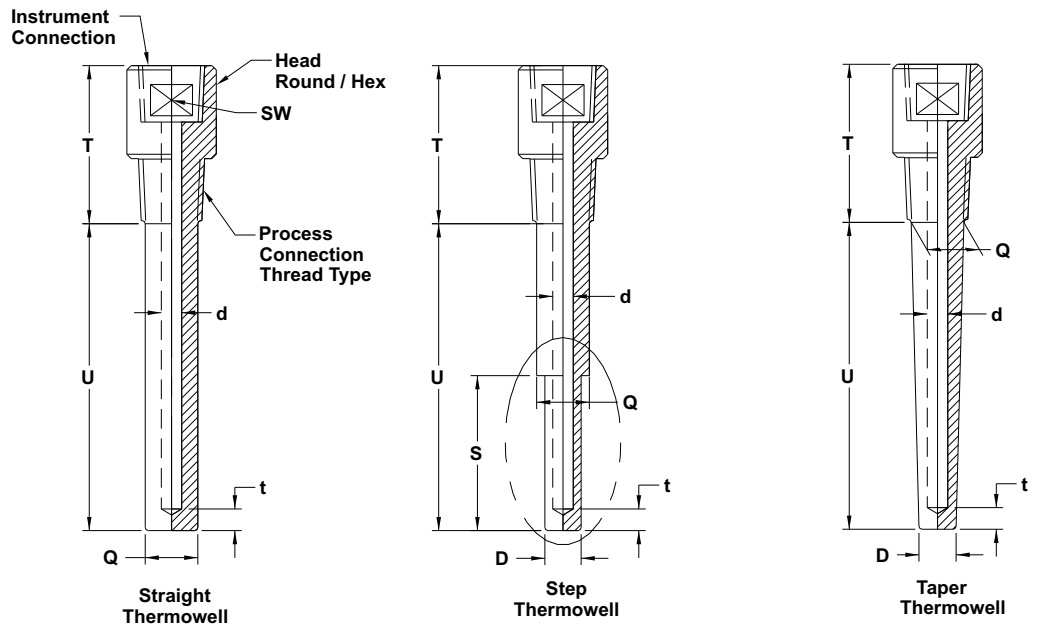
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Straight
Material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	21.0 mm
Tip diameter	:	21.0 mm
Immersion length	:	100 mm
Tip thickness	:	5 mm
Process connection	:	3/4" NPT (M) / 3/4" BSP (M)
Head type	:	Hex
Head size	:	27 mm

DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

ORDERING CODES

1. SHANK FORM

S	Straight	E	Stepped
T	Tapered		

S

2. MATERIAL

MB	Carbon Steel / ASTM A105		
MC	AISI 304SS	ME	AISI 310 SS
MF	AISI 316 SS	MG	AISI 316L SS
MM	Monel 400	MN	Monel K-500
MO	Hastelloy C-276	MQ	Inconel 600
MR	Inconel 625	MS	Inconel 800
MT	Inconel 825	MV	Titanium
MY	Alloy 20	M6	AISI 446 SS
MI	AISI 321 SS		

MB

3. INSTRUMENT CONNECTION

02N	1/4" NPT (F)	04N	1/2" NPT (F)
05N	3/4" NPT (F)	06N	1" NPT (F)
02B	1/4" BSP (F)	04B	1/2" BSP (F)
05B	3/4" BSP (F)	06B	1" BSP (F)
04M	M20 x 1.5 mm (F)		

02N

4. PROCESS CONNECTION

14N	1/2" NPT (M)	15N	3/4" NPT (M)
16N	1" NPT (M)	17N	1.5" NPT (M)
18N	2" NPT (M)	14B	1/2" BSP (M)
15B	3/4" BSP (M)	16B	1" BSP (M)
17B	1.5" BSP (M)	18B	2" BSP (M)
14M	M20 x 1.5 mm (M)		

14N

5. HEAD TYPE

H	Hex
L	Round with spanner slot

H

6. HEAD SIZE

XX	Mention in 'mm'
-----------	-----------------

27

7. LAG EXTENSION ("T")

XXX	35 mm up to 250 mm
------------	--------------------

50

8. ROOT DIAMETER ("D")

XX.X	Mention in 'mm'
-------------	-----------------

21

9. TIP DIAMETER ("D")

XX.X	Mention in 'mm'
-------------	-----------------

21

10. BORE DIAMETER ("d")

A	6.6 mm	C	9.0 mm
D	9.6 mm	F	11 mm
G	13 mm		

A

11. IMMERSION LENGTH ("U")

XXXX	50 mm up to 1000 mm
-------------	---------------------

100

12. STEP STYLE

S	Straight
T	Taper

X

13. STEP / TAPER LENGTH ("S")

XXX	Mention in 'mm'
------------	-----------------

XXX

14. TIP THICKNESS ("t")

M	5 mm	N	6.35 mm (1/4")
O	10 mm		

M

15. OTHER OPTIONS

XI	Plug & chain in SS
XK	Electro polishing
XL	Marking by laser
XM	Marking by engraving
TC	Material test certificate 3.1
TG	IGC test
TH	Hydro test certificate
TI	IBR certification
TM	Material test certificate 2.2
TN	Tested to NACE standards
TW	WFC as per PTC 19.3TW:2010
TS	Radiography for bore concentricity
TU	Ultrasonic test

XM

Ordering Example : W102-S-MB-02N-14N-H-27-50-21-21-A-100-M-XM

NOTES:

1. Other pipe/tube sizes, "U" lengths, connections are available. please contact factory for details.
2. Please refer "Technical Guidance Sheet" for the proper selection of connections according to Head size and Outer diameter of the well.

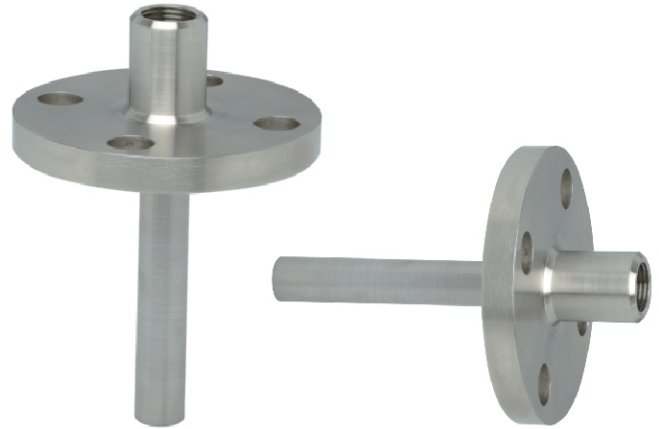
FEATURES

- Economical version
- Fabricated from pipe
- Flanged process connection

APPLICATION

- HVAC, Air filters & utilities
- Tanks & vessels

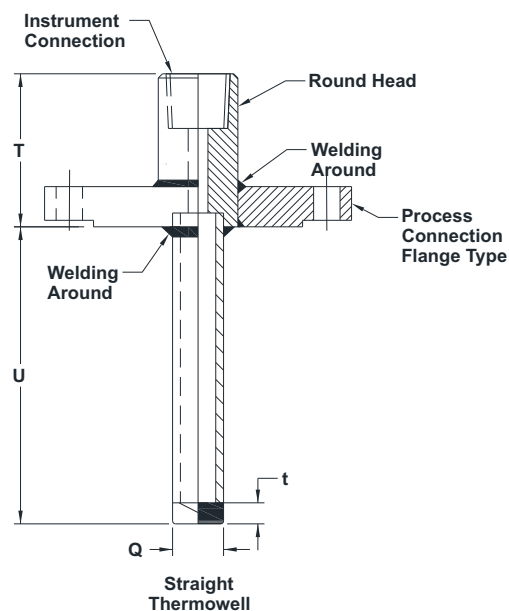
Fabricated



STANDARD SPECIFICATIONS

Shank form	:	Straight
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Well Tubes	:	Pipe 1/2" Sch 40
Lag extension	:	50 mm
Immersion length	:	100 mm
Tip thickness	:	5 mm
Process connection	:	Flange as per ANSI B16.5, EN 1092-1, JIS, etc.
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	27 mm

DIMENSIONAL DRAWING



ORDERING CODES

1. SHANK FORM

S Straight

S

2. FLANGE MATERIAL

MB Carbon Steel / ASTM A105			
MC AISI 304SS	ME AISI 310 SS		
MF AISI 316 SS	MG AISI 316L SS		
MI AISI 321 SS	M6 AISI 446 SS		
MQ Inconel 600	MR Inconel 625		
MS Inconel 800	MT Inconel 825		
MO Hastelloy C-276			

MB

3. WELL MATERIAL

MB Carbon Steel / ASTM A105			
MC AISI 304SS	ME AISI 310 SS		
MF AISI 316 SS	MG AISI 316L SS		
MI AISI 321 SS	M6 AISI 446 SS		
MQ Inconel 600	MR Inconel 625		
MS Inconel 800	MT Inconel 825		
MO Hastelloy C-276			

MB

4. INSTRUMENT CONNECTION

02N 1/4" NPT (F)	04N 1/2" NPT (F)
05N 3/4" NPT (F)	06N 1" NPT (F)
02B 1/4" BSP (F)	04B 1/2" BSP (F)
05B 3/4" BSP (F)	06B 1" BSP (F)
04M M20 x 1.5 mm (F)	

02N

5. PROCESS CONNECTION

XXX Refer Flange Table for the codes

XXX

6. FLANGE FACING

F Flat Face
J Ring-Type Joint
R Raised Face

F

7. HEAD TYPE

R Round

R

8. HEAD SIZE

XX Mention in 'mm'

27

9. LAG EXTENSION ("T")

XXX 35 mm up to 250 mm

50

10. WELL PIPES

U3 Pipe 3/8" Sch 40
U4 Pipe 3/8" Sch 80
U5 Pipe 1/2" Sch 40
U6 Pipe 1/2" Sch 80
U7 Pipe 3/4" Sch 40
U8 Pipe 3/4" Sch 80
UA Pipe 1/4" Sch 40
UB Pipe 1/4" Sch 80

U5

OR

10. WELL TUBES

U1 Tube Ø10 x 1.5 mm THK
UL Tube Ø12 x 2.5 mm THK
UM Tube Ø14 x 2.5 mm THK
UN Tube Ø12 x 1.0 mm THK
UO Tube Ø14 x 1.0 mm THK
UP Tube Ø16 x 2.0 mm THK

11. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

100

12. TIP THICKNESS ("t")

M 5 mm
N 6.35 mm (1/4")
O 10 mm

M

13. COATING ON WELL & FLANGE

PD PTFE
PE Silicon carbide
PG Tungsten carbide
PH Zirconium oxide
PI Stellite

XX

14. SLEEVING/OVERLAY ON WELL & FLANGE

PS Hastelloy C-276
PV Inconel 600
PW Titanium
PX Tantalum

XX

15. OTHER OPTIONS

XI Plug & chain in SS
XL Marking by laser
XM Marking by engraving
TC Material test certificate 3.1
TD Dye penetration test
TH Hydro test certificate
TM Material test certificate 2.2

XM

Ordering Example : W103-S-MB-MB-02N-XXX-F-R-27-50-U5-100-M-XM

NOTES:

- Other diameters, connections are available, please contact factory for details.
- Please refer "Technical Guidance Sheet" for the proper selection of connections according to Head size and Outer diameter of the well.

FEATURES

- Solid bar-stock drilled design
- 3 different shank styles
- Flanged process connection

APPLICATION

- Air & flue gas
- Tanks & vessels
- Oil & Gas applications
- Corrosive environments
- Power & Steel industries
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- On-shore/Off-shore application

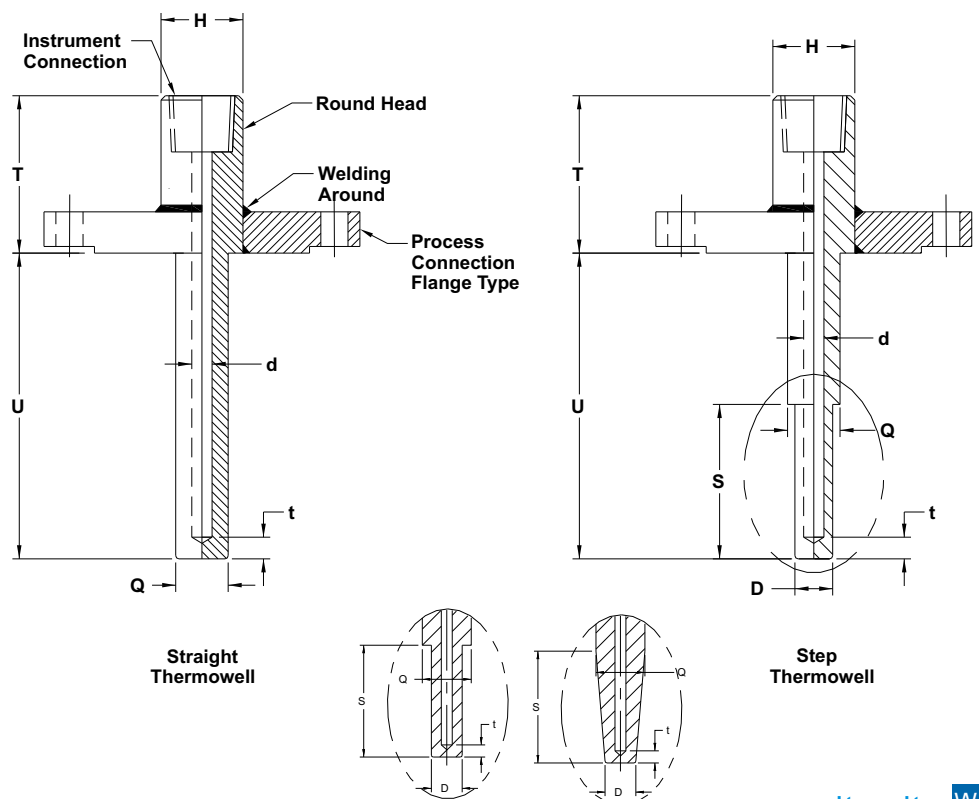
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Taper
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	25.0 mm
Tip diameter	:	18.0 mm
Immersion length	:	150 mm
Step / Taper Length	:	150 mm
Tip thickness	:	5 mm
Process connection	:	Flange as per ANSI B16.5, EN 1092-1, JIS, etc.
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	30 mm

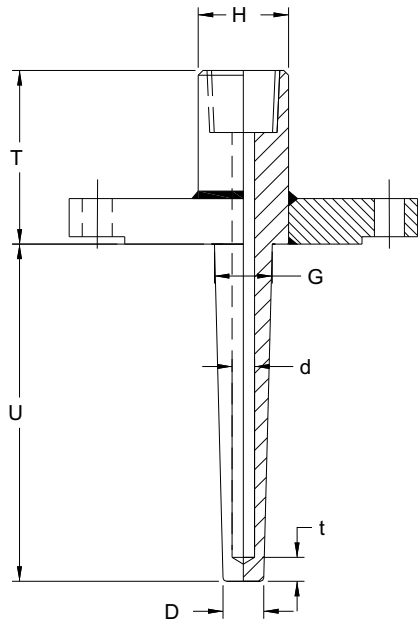
DIMENSIONAL DRAWING



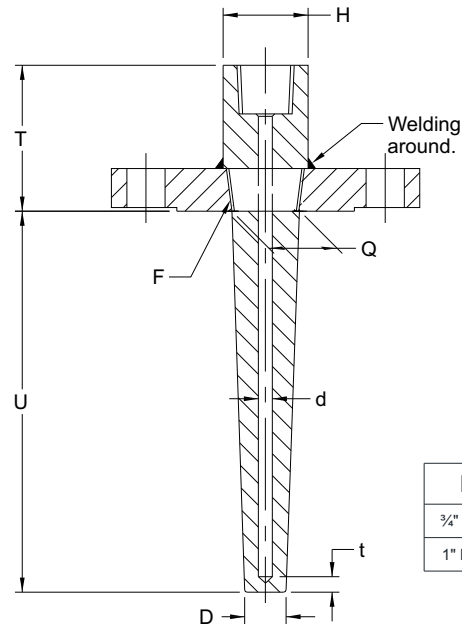
REFERENCE

ASME PTC 19.3TW:2010

DIMENSIONAL DRAWING



Taper Thermowell



F	Flange size
3/4" NPT	1" and below
1" NPT	1 1/2" and above

E.g. : "FB = Flange & well thread jointed and seal welded"

ORDERING CODES

1. SHANK FORM

S	Straight	E	Stepped
T	Tapered		

S

2. FLANGE MATERIAL

MB	Carbon Steel / ASTM A105	ME	AISI 310 SS
MC	AISI 304SS	MG	AISI 316L SS
MF	AISI 316 SS	MN	Monel K-500
MM	Monel 400	MQ	Inconel 600
MO	Hastelloy C-276	MS	Inconel 800
MR	Inconel 625	MV	Titanium
MT	Inconel 825	M6	AISI 446 SS
MY	Alloy 20		
MI	AISI 321 SS		

MB

3. WELL MATERIAL

MB	Carbon Steel / ASTM A105	ME	AISI 310 SS
MC	AISI 304SS	MG	AISI 316L SS
MF	AISI 316 SS	MN	Monel K-500
MM	Monel 400	MQ	Inconel 600
MO	Hastelloy C-276	MS	Inconel 800
MR	Inconel 625	MV	Titanium
MT	Inconel 825	M6	AISI 446 SS
MY	Alloy 20		
MI	AISI 321 SS		

MB

4. INSTRUMENT CONNECTION

02N	1/4" NPT (F)	04N	1/2" NPT (F)
05N	3/4" NPT (F)	02B	1/4" BSP (F)
04B	1/2" BSP (F)	05B	3/4" BSP (F)
04M	M20 x 1.5 mm (F)		

04N

5. PROCESS CONNECTION

XXX Refer Flange Table for the codes

XXX

6. FLANGE FACING

F	Flat Face
J	Ring-Type Joint
R	Raised Face

F

7. HEAD TYPE

R Round

R

8. HEAD SIZE

XX Mention in 'mm'

30

Recommended :
30 mm for flanges up to 1.5" sizes
35 mm for flanges above 1.5" sizes

NOTES:

- Other diameters, connections are available, please contact factory for details.
- Please refer "Technical Reference" for the proper selection of connections according to Head size and Outer diameter of the well.

ORDERING CODES

9. LAG EXTENSION ("T")		50		
XXX	35 mm up to 250 mm			
10. ROOT DIAMETER ("Q")		25		
XX.X	Mention in 'mm'			
11. TIP DIAMETER ("D")		18		
XX.X	Mention in 'mm'			
12. BORE DIAMETER ("d")		A		
N	6.35 mm (1/4")		A	6.6 mm
B	7.0 mm		C	9.0 mm
D	9.6 mm		O	10 mm
F	11 mm		G	13 mm
13. IMMERSION LENGTH ("U")			150	
XXXX	50 mm up to 1000 mm			
14. STEP STYLE		S		
S	Straight			
T	Taper			
15. STEP / TAPER LENGTH ("S")		150		
XXX	Mention in 'mm'			
16. TIP THICKNESS ("t")		M		
M	5 mm			
N	6.35 mm (1/4")			
O	10 mm			
17. CONSTRUCTION		FC		
FA	Flange & well full penetration welded			
FB	Flange & well thread jointed and seal welded			
FC	Flange & well seal welded			

18. COATING ON WELL & FLANGE		XX
PD	PTFE	
PE	Silicon carbide	
PG	Tungsten carbide	
PH	Zirconium oxide	
PI	Stellite	
19. SLEEVING/OVERLAY ON WELL & FLANGE		XX
PS	Hastelloy C-276	
PV	Inconel 600	
PW	Titanium	
PX	Tantalum	
20. OTHER OPTIONS		XM
XI	Plug & chain in SS	
XK	Electro polishing	
XL	Marking by laser	
XM	Marking by engraving	
21. CERTIFICATIONS		TC
TC	Material test certificate 3.1	
TD	Dye penetration test	
TF	PMI test	
TG	IGC test	
TH	Hydro test certificate	
TI	IBR certification	
TM	Material test certificate 2.2	
TN	Tested to NACE standards	
TQ	Certification for Hydrogen service	
TW	WFC as per PTC 19.3TW:2010	
TR	Radiography for welding	
TS	Radiography for bore concentricity	
TU	Ultrasonic test	

Ordering Example : W104-S-MB-MB-02N-XXX-F-R-30-50-25-18-A-150-S-150-M-XM-TC

NOTES:

1. Other diameters, connections are available, please contact factory for details.
2. Please refer "Technical Reference" for the proper selection of connections according to Head size and Outer diameter of the well.

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FEATURES

- Solid bar-stock drilled design
- 3 different shank styles
- Flanged process connection
- RF portion with exotic material

APPLICATION

- Air & flue gas
- Tanks & vessels
- Oil & Gas applications
- Corrosive environments
- Power & Steel industries
- On-shore/Off-shore application

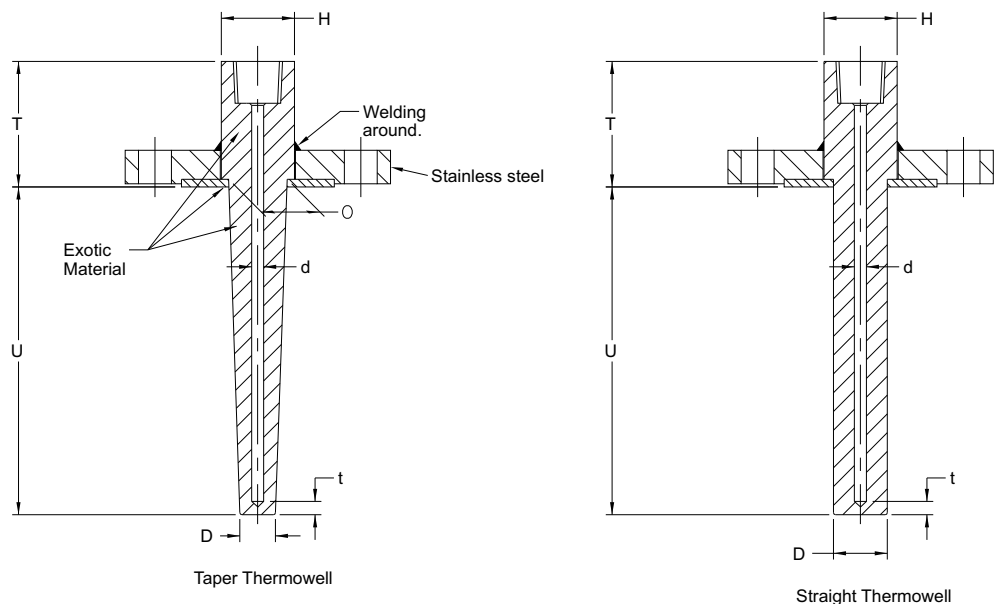
Bar-stock with exotic material RF



STANDARD SPECIFICATIONS

Shank form	:	Taper
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	25.0 mm
Tip diameter	:	18.0 mm
Immersion length	:	150 mm
Step / Taper Length	:	150 mm
Tip thickness	:	5 mm
Process connection	:	Flange as per ANSI B16.5, EN 1092-1, JIS, etc.
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	30 mm

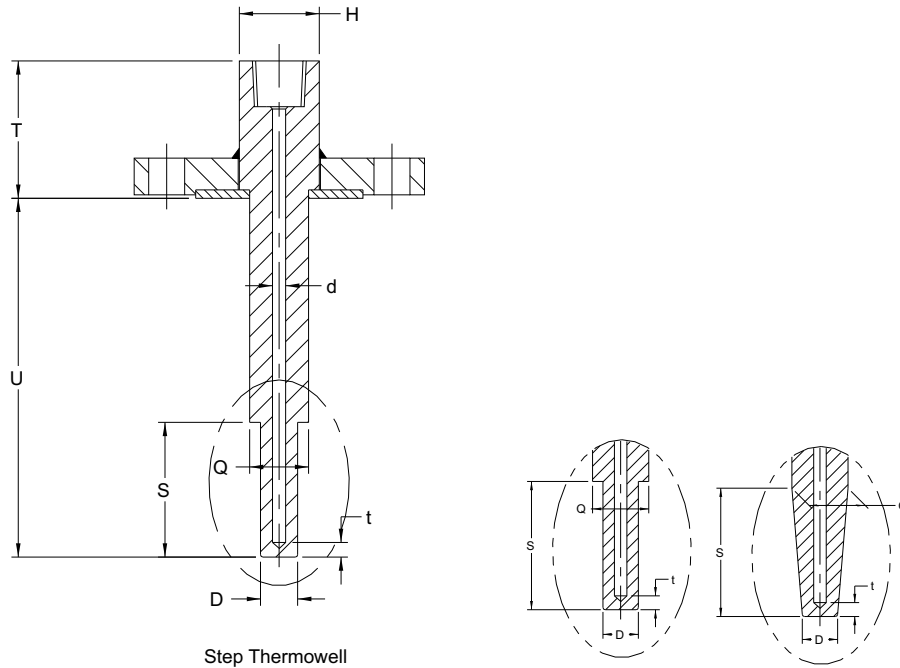
DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

DIMENSIONAL DRAWING



ORDERING CODES

1. SHANK FORM		S
S Straight	E Stepped	
T Tapered		
2. FLANGE MATERIAL		MB
MC AISI 304SS	MF AISI 316 SS	
MG AISI 316L SS		
3. WELL & FLANGE RF MATERIAL		MB
ME AISI 310 SS	MI AISI 321 SS	
M6 AISI 446 SS	MM Monel 400	
MN Monel K-500	MY Alloy 20	
MO Hastelloy C-276	MQ Inconel 600	
MR Inconel 625	MS Inconel 800	
MT Inconel 825	MV Titanium	
4. INSTRUMENT CONNECTION		04N
02N 1/4" NPT (F)	04N 1/2" NPT (F)	
05N 3/4" NPT (F)	02B 1/4" BSP (F)	
04B 1/2" BSP (F)	05B 3/4" BSP (F)	
04M M20 x 1.5 mm (F)		
5. PROCESS CONNECTION		XXX
XXX Refer Flange Table for the codes		

6. FLANGE FACING		F
F Flat Face		
J Ring-Type Joint		
R Raised Face		
7. HEAD TYPE		R
R Round		
8. HEAD SIZE		30
XX Mention in 'mm'		
Recommended :		
30 mm for flanges up to 1.5" sizes		
35 mm for flanges above 1.5" sizes		
9. LAG EXTENSION ("T")		50
XXX 35 mm up to 250 mm		
10. ROOT DIAMETER ("Q")		25
XX.X Mention in 'mm'		
11. TIP DIAMETER ("D")		18
XX.X Mention in 'mm'		

NOTES:

- Other diameters, connections are available, please contact factory for details.
- Please refer "Technical Reference" for the proper selection of connections according to Head size and Outer diameter of the well.

ORDERING CODES

12. BORE DIAMETER ("d")

N	6.35 mm (1/4")	A	6.6 mm
B	7.0 mm	C	9.0 mm
D	9.6 mm	O	10 mm
F	11 mm	G	13 mm

A

13. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

150

14. STEP STYLE

S	Straight
T	Taper

S

15. STEP / TAPER LENGTH ("S")

XXX Mention in 'mm'

150

16. TIP THICKNESS ("t")

M	5 mm
N	6.35 mm (1/4")
O	10 mm

M

17. OTHER OPTIONS

XI	Plug & chain in SS
XK	Electro polishing
XL	Marking by laser
XM	Marking by engraving

XM

18. CERTIFICATIONS

TC	Material test certificate 3.1
TD	Dye penetration test
TF	PMI test
TG	IGC test
TH	Hydro test certificate
TI	IBR certification
TM	Material test certificate 2.2
TN	Tested to NACE standards
TQ	Certification for Hydrogen service
TW	WFC as per PTC 19.3TW:2010
TR	Radiography for welding
TS	Radiography for bore concentricity
TU	Ultrasonic test

TC

Ordering Example : W104-S-MB-MB-02N-XXX-F-R-30-50-25-18-A-150-S-150-M-XM-TC

NOTES:

- Other diameters, connections are available, please contact factory for details.
- Please refer "Technical Reference" for the proper selection of connections according to Head size and Outer diameter of the well.

FEATURES

- Van-stone design
- Single piece forged drilled
- Or single piece bar-stock drilled
- Flange RF connection

APPLICATION

- Oil & Gas applications
- Corrosive environments
- On-shore/Off-shore application

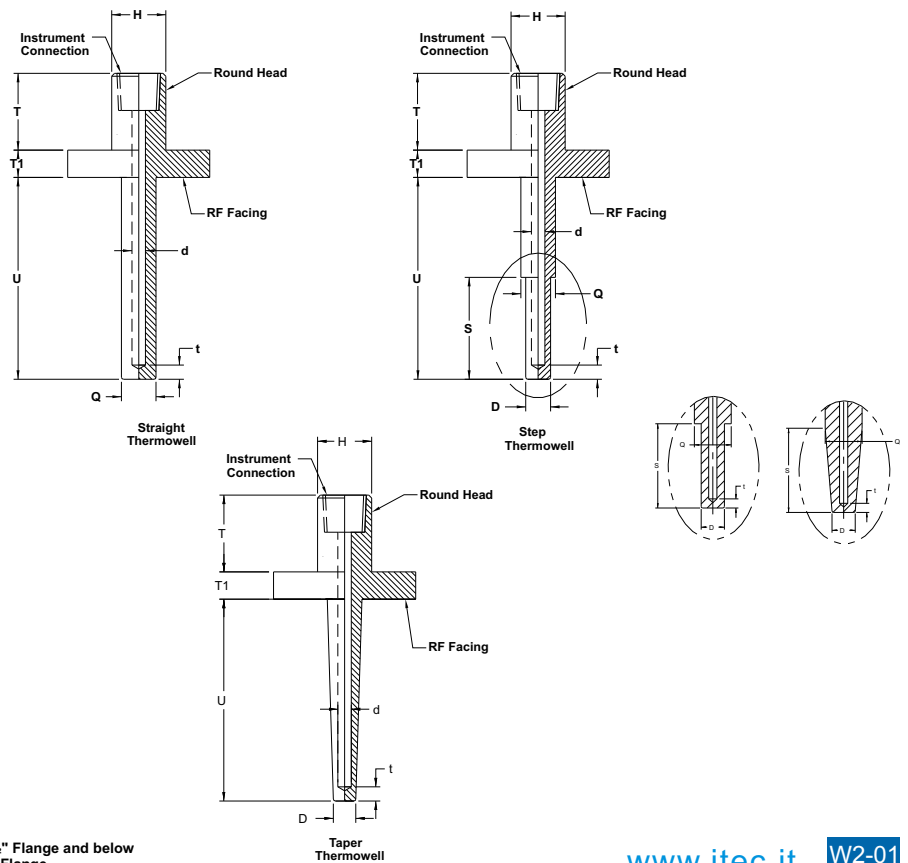
Forged / Bar-stock



STANDARD SPECIFICATIONS

Shank form	: Tapered
Material	: AISI 316 SS
Instrument connection	: 1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	: 6.6 mm
Lag extension	: 40 mm
Root diameter	: 30.0 mm
Tip diameter	: 14.0 mm
Immersion length	: 255 mm
Step / Taper Length	: 255 mm
Tip thickness	: 5 mm
Process connection	: 1 1/2" RF Diameter
Flange facing type	: Raised face
Head type	: Round
Head size	: 48 mm

DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

Note :-
 T1=15mm for 1 1/2" Flange and below
 T1=20mm for 2" Flange

ORDERING CODES

1. SHANK FORM

S	Straight	E	Stepped
T	Tapered		

2. MATERIAL

MB	Carbon Steel / ASTM A105		
MC	AISI 304SS	ME	AISI 310 SS
MF	AISI 316 SS	MG	AISI 316L SS
MM	Monel 400	MN	Monel K-500
MO	Hastelloy C-276	MQ	Inconel 600
MR	Inconel 625	MS	Inconel 800
MT	Inconel 825	MY	Alloy 20
M6	AISI 446 SS	MI	AISI 321 SS

3. INSTRUMENT CONNECTION

02N	1/4" NPT (F)	04N	1/2" NPT (F)
05N	3/4" NPT (F)	06N	1" NPT (F)
02B	1/4" BSP (F)	04B	1/2" BSP (F)
05B	3/4" BSP (F)	06B	1" BSP (F)
04M	M20 x 1.5 mm (F)		

4. PROCESS CONNECTION / FACING SIZE

0	1" RF diameter as per AISI B16.5
1	1 1/2" RF diameter as per AISI B16.5
2	2" RF diameter as per AISI B16.5

5. RF FACING

J	Ring-Type Joint
R	Raised Face

6. HEAD TYPE

R	Round
----------	-------

7. HEAD SIZE

XX	48 mm (Standard)
-----------	------------------

8. LAG EXTENSION ("T")

XXX	35 mm up to 250 mm
------------	--------------------

9. ROOT DIAMETER ("Q")

XX.X	Mention in 'mm'
-------------	-----------------

10. TIP DIAMETER ("D")

XX.X	Mention in 'mm'
-------------	-----------------

11. BORE DIAMETER ("d")

N	6.35 mm (1/4")	A	6.6 mm
C	9.0 mm	D	9.6 mm
O	10 mm	F	11 mm

12. IMMERSION LENGTH ("U")

XXXX	50 mm up to 1000 mm
-------------	---------------------

13. STEP STYLE

S	Straight
T	Taper

14. STEP / TAPER LENGTH ("S")

XXX	Mention in 'mm'
------------	-----------------

15. TIP THICKNESS ("t")

M	5 mm
N	6.35 mm (1/4")
O	10 mm

16. OTHER OPTIONS

XI	Plug & chain in SS
XK	Electro polishing
XL	Marking by laser
XM	Marking by engraving
TC	Material test certificate 3.1
TD	Dye penetration test
TF	PMI test
TG	IGC test
TH	Hydro test certificate
TI	IBR certification
TM	Material test certificate 2.2
TN	Tested to NACE standards
TP	Performance test certificate
TW	WFC as per PTC 19.3TW:2010
TR	Radiography for welding
TS	Radiography for bore concentricity
TU	Ultrasonic test

Ordering Example : W201-T-02N-1-R-R-48-30-14-A-255-S-255-N-XM

NOTES:

- Other diameters, connections are available, please contact factory for details.
- Please refer "Technical Guidance Sheet" for the proper selection of connections according to Head size and Outer diameter of the well.

FEATURES

- Sanitary design
- Solid bar-stock drilled

APPLICATION

- Biochemical & pharmaceutical
- Food & beverages
- Sterile process industries

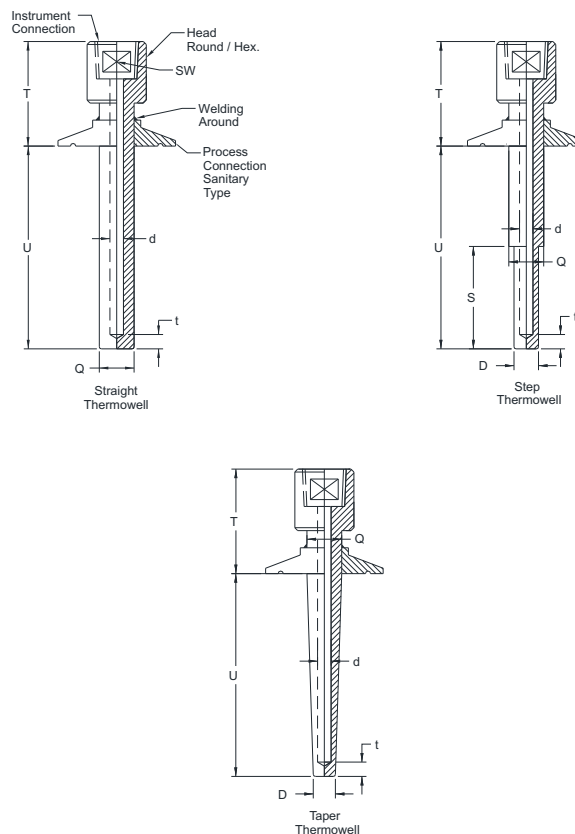
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Straight
Material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	21.0 mm
Tip diameter	:	21.0 mm
Immersion length	:	150 mm
Step / Taper Length	:	150 mm
Tip thickness	:	5 mm
Process connection	:	1 1/2" Tri-clover connection
Head type	:	Round with spanner slot
Head size	:	27 mm

DIMENSIONAL DRAWING



ORDERING CODES

1. SHANK FORM

- S Straight
- E Stepped
- T Tapered

S

2. MATERIAL

- MF AISI 316 SS
- MG AISI 316L SS

MF

3. INSTRUMENT CONNECTION

- 02N 1/4" NPT (F)
- 04N 1/2" NPT (F)
- 05N 3/4" NPT (F)
- 02B 1/4" BSP (F)
- 04B 1/2" BSP (F)
- 05B 3/4" BSP (F)
- 04M M20 x 1.5 mm (F)

02N

4. BORE DIAMETER ("d")

- N 6.35 mm (1/4")
- A 6.6 mm
- C 9.0 mm
- D 9.6 mm
- O 10 mm

A

5. LAG EXTENSION ("T")

- XXX 35 mm up to 250 mm

50

6. ROOT DIAMETER ("Q")

- XX.X Mention in 'mm'

21

7. TIP DIAMETER ("D")

- XX.X Mention in 'mm'

21

8. IMMERSION LENGTH ("U")

- XXXX 50 mm up to 1000 mm

150

13. STEP STYLE

- S Straight
- T Taper

S

9. STEP / TAPER LENGTH ("S")

- XXX Mention in 'mm'

150

10. TIP THICKNESS ("t")

- M 5 mm
- N 6.35 mm (1/4")
- O 10 mm

M

11. PROCESS CONNECTION

- T01 1" Tri-clover connection
- T02 2" Tri-clover connection
- T15 1 1/2" Tri-clover connection
- T25 2 1/2" Tri-clover connection

T15

12. HEAD TYPE

- H Hex
- L Round with spanner slot

L

13. HEAD SIZE

- XX Mention in 'mm'

27

14. OTHER OPTIONS

- XI Plug & chain in SS
- XK Electro polishing
- XL Marking by laser
- XM Marking by engraving
- TC Material test certificate 3.1
- TD Dye penetration test
- TG IGC test
- TH Hydro test certificate
- TM Material test certificate 2.2
- TN Tested to NACE standards
- TW WFC as per PTC 19.3TW:2010

XM

Ordering Example : W202-S-MF-02N-A-50-21-21-150-S-150-M-T15-L-27-XM

NOTES:

1. Other diameters, connections are available, please contact factory for details.
2. Please refer "Technical Guidance Sheet" for the proper selection of connections according to Head size and Outer diameter of the well.

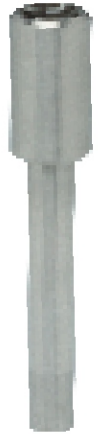
FEATURES

- Weld-in / Socket-weld design
- Solid bar-stock drilled

APPLICATION

- Oil & Gas applications
- Corrosive environments
- On-shore/Off-shore application
- Power & Utility

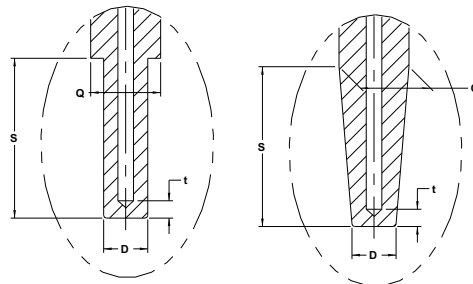
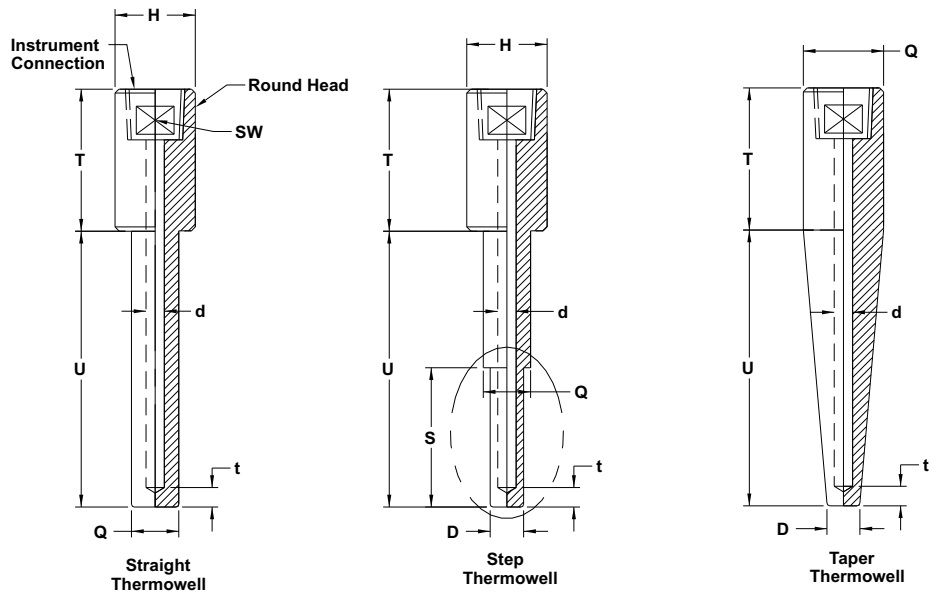
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Tapered
Material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	21.0 mm
Tip diameter	:	16.0 mm
Immersion length	:	300 mm
Step / Taper Length	:	100 mm
Tip thickness	:	5 mm
Process connection	:	Weld connection
Head type	:	Round
Head size	:	27 mm

DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

ORDERING CODES

1. SHANK FORM

S	Straight
E	Stepped
T	Tapered

S

2. MATERIAL

MB	Carbon Steel / ASTM A105
MC	AISI 304SS
ME	AISI 310 SS
MF	AISI 316 SS
MG	AISI 316L SS
MM	Monel 400
MN	Monel K-500
MO	Hastelloy C-276
MQ	Inconel 600
MR	Inconel 625
MS	Inconel 800
MT	Inconel 825
MV	Titanium
MY	Alloy 20
M6	AISI 446 SS
MI	AISI 321 SS

MB

3. INSTRUMENT CONNECTION

02N	1/4" NPT (F)
04N	1/2" NPT (F)
05N	3/4" NPT (F)
02B	1/4" BSP (F)
04B	1/2" BSP (F)
05B	3/4" BSP (F)
04M	M20 x 1.5 mm (F)

02N

4. BORE DIAMETER ("d")

A	6.6 mm
B	7.0 mm
F	11.0 mm
G	13.0 mm

A

5. LAG EXTENSION ("T")

XXX	35 mm up to 250 mm
------------	--------------------

XXX

6. ROOT DIAMETER ("Q")

XX.X	Mention in 'mm'
-------------	-----------------

XX.X

7. TIP DIAMETER ("D")

XX.X	Mention in 'mm'
-------------	-----------------

XX.X

8. IMMERSION LENGTH ("U")

XXXX	50 mm up to 1000 mm
-------------	---------------------

XXXX

9. STEP / TAPER LENGTH ("S")

XXX	Mention in 'mm'
------------	-----------------

XXX

10. TIP THICKNESS ("t")

M	5 mm
N	6.35 mm (1/4")
O	10 mm

M

11. HEAD TYPE

R	Round
----------	-------

R

12. HEAD SIZE

XX	Mention in 'mm'
-----------	-----------------

5

13. OTHER OPTIONS

XI	Plug & chain in SS
XL	Marking by laser
XM	Marking by engraving
TC	Material test certificate 3.1
TG	IGC test
TH	Hydro test certificate
TI	IBR certification
TM	Material test certificate 2.2
TN	Tested to NACE standards
TQ	Certification for Hydrogen service
TW	WFC as per PTC 19.3TW:2010

XM

Ordering Example : W203-S-MB-02N-A-XXX-XX.X-XX.X-XXXX-XXX-M-R-5-XM

NOTES:

- Other connections are available through adaptors.

FEATURES

- Partial bar-stock
- Flanged process connection

APPLICATION

- Tanks & vessels

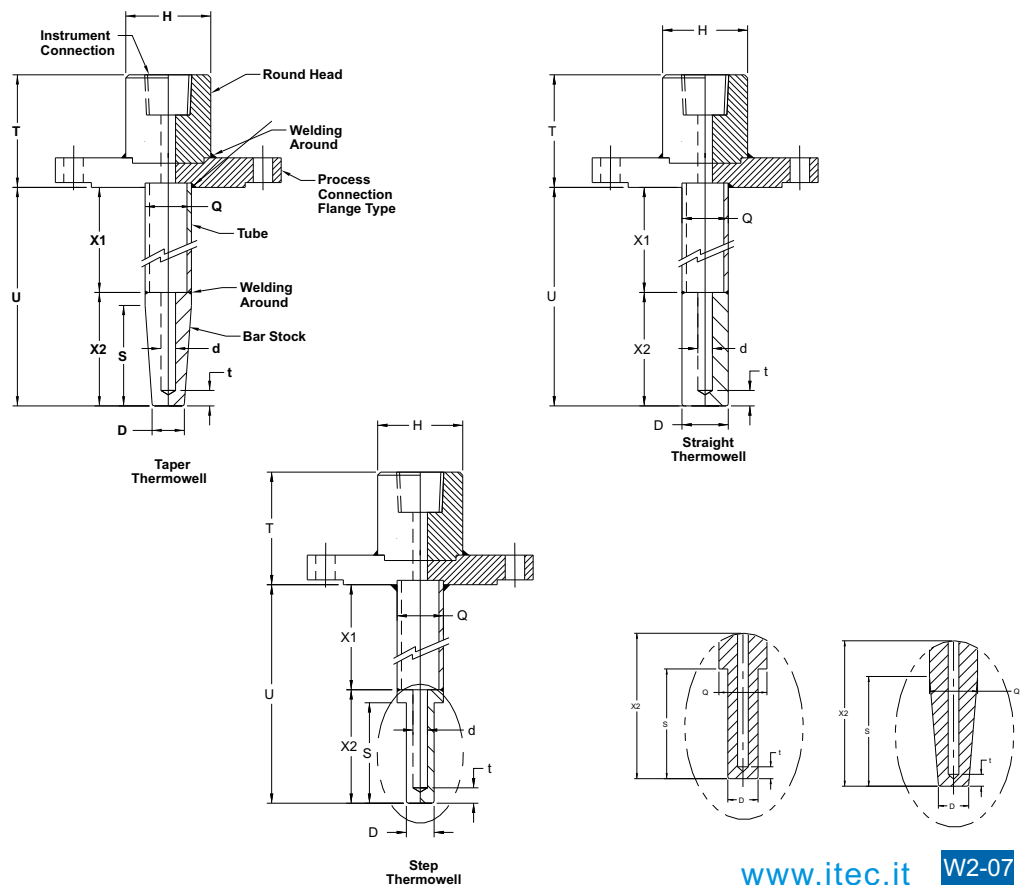
Partial Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Straight
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F)
Well Tubes	:	Pipe 1/2" Sch 40
Lag extension	:	50 mm
Immersion length	:	300 mm
Prop length	:	250 mm
Tail length	:	50 mm
Tip thickness	:	5 mm
Process connection	:	1" 150# as per ANSI B16.5
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	27 mm

DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

ORDERING CODES

1. SHANK FORM

S Straight T Tapered

S

2. FLANGE MATERIAL

MB Carbon Steel / ASTM A105
 MC AISI 304SS ME AISI 310 SS
 MF AISI 316 SS MG AISI 316L SS
 MI AISI 321 SS MQ Inconel 600
 MR Inconel 625 MO Hastelloy C-276
 MN Monel-400 MM Monel K500

MB

3. WELL (STUB & TAIL) MATERIAL

MB Carbon Steel / ASTM A105
 MC AISI 304SS ME AISI 310 SS
 MF AISI 316 SS MG AISI 316L SS
 MI AISI 321 SS MQ Inconel 600
 MR Inconel 625 MO Hastelloy C-276
 MN Monel-400 MM Monel K500

MB

4. INSTRUMENT CONNECTION

02N 1/4" NPT (F) 04N 1/2" NPT (F)
 05N 3/4" NPT (F) 06N 1" NPT (F)
 02B 1/4" BSP (F) 04B 1/2" BSP (F)
 05B 3/4" BSP (F) 06B 1" BSP (F)

02N

5. WELL PIPES

U3 Pipe 3/8" Sch 40 U4 Pipe 3/8" Sch 80
 U5 Pipe 1/2" Sch 40 U6 Pipe 1/2" Sch 80
 U7 Pipe 3/4" Sch 40 U8 Pipe 3/4" Sch 80
 UA Pipe 1/4" Sch 40 UB Pipe 1/4" Sch 80
 UC Pipe 1/2" Sch 160 UD Pipe 3/4" Sch 160

U3

5. WELL TUBES OR

U1 Tube Ø10 x 1.5 mm THK
 UL Tube Ø12 x 2.5 mm THK
 UM Tube Ø14 x 2.5 mm THK
 UN Tube Ø12 x 1.0 mm THK
 UO Tube Ø14 x 1.0 mm THK
 UP Tube Ø16 x 2.0 mm THK

U1

6. LAG EXTENSION ("T")

XXX 35 mm up to 250 mm

XXX

7. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

XXXX

8. STEP STYLE

S Straight
 T Taper

S

9. STEP / TAPER LENGTH ("S")

XXX Mention in 'mm'

XXX

10. STUB LENGTH ("X1")

XXXX 50 mm up to 1000 mm

XXXX

11. TAIL LENGTH ("X2")

XXXX 50 mm up to 1000 mm

XXXX

12. TIP THICKNESS ("t")

M 5 mm
 N 6.35 mm (1/4")
 O 10 mm

M

13. PROCESS CONNECTION

XXX Refer Flange Table for the codes

XXX

14. FLANGE FACING

F Flat Face
 J Ring-Type Joint
 R Raised Face

F

15. HEAD TYPE

R Round

R

16. HEAD SIZE

XX Mention in 'mm'

XX

17. OTHER OPTIONS

XI Plug & chain in SS
 XL Marking by laser
 XM Marking by engraving
 TC Material test certificate 3.1
 TD Dye penetration test
 TH Hydro test certificate
 TM Material test certificate 2.2
 TQ Certification for Hydrogen service

XM

Ordering Example : W204-S-MB-MB-02N-U3-U1-XXX-XXXX-XXXX-XXXX-M-XXX-F-R-XX-XM

NOTES:

1. Other connections are available through adaptors.

FEATURES

- Multiple bar-stock type
- Length up to 5 Meters
- 3 different shank styles
- Flanged / threaded process connection

APPLICATION

- Air & flue gas
- Tanks & vessels
- Oil & Gas applications
- Corrosive environments
- Power & Steel industries
- HVAC, Air filters & utilities
- On-shore/Off-shore application

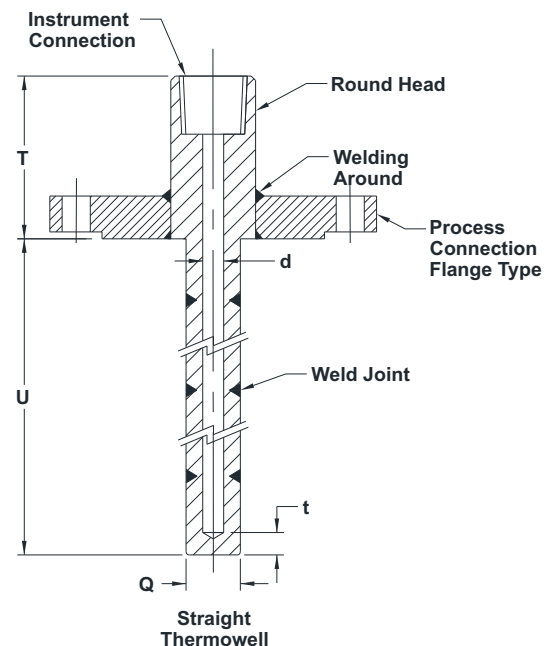
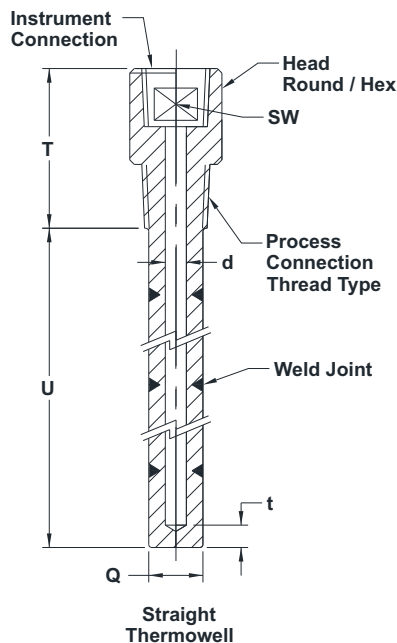
Multi-piece Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Straight
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F)
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	21.0 mm
Tip diameter	:	0 mm
Immersion length	:	2000 mm
Step / Taper Length	:	0 mm
Tip thickness	:	5 mm
Process connection	:	1" 150# as per ANSI B16.5
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	30 mm

DIMENSIONAL DRAWING



REFERENCE

ASME PTC 19.3TW:2010

ORDERING CODES

1. SHANK FORM

- S Straight
- E Stepped
- T Tapered

S

2. FLANGE MATERIAL

- | | |
|------------------------------------|------------------------|
| MB Carbon Steel / ASTM A105 | |
| MC AISI 304SS | ME AISI 310 SS |
| MF AISI 316 SS | MG AISI 316L SS |
| MM Monel 400 | MN Monel K-500 |
| MO Hastelloy C-276 | MQ Inconel 600 |
| MR Inconel 625 | MS Inconel 800 |
| MT Inconel 825 | MV Titanium |
| MY Alloy 20 | M6 AISI 446 SS |
| MI AISI 321 SS | |

MB

3. WELL MATERIAL

- | | |
|------------------------------------|------------------------|
| MB Carbon Steel / ASTM A105 | |
| MC AISI 304SS | ME AISI 310 SS |
| MF AISI 316 SS | MG AISI 316L SS |
| MM Monel 400 | MN Monel K-500 |
| MO Hastelloy C-276 | MQ Inconel 600 |
| MR Inconel 625 | MS Inconel 800 |
| MT Inconel 825 | MV Titanium |
| MY Alloy 20 | M6 AISI 446 SS |
| MI AISI 321 SS | |

MB

4. INSTRUMENT CONNECTION

- | | |
|-------------------------|-------------------------|
| 02N 1/4" NPT (F) | 04N 1/2" NPT (F) |
| 05N 3/4" NPT (F) | 06N 1" NPT (F) |
| 02B 1/4" BSP (F) | 04B 1/2" BSP (F) |
| 05B 3/4" BSP (F) | 06B 1" BSP (F) |

02N

5. BORE DIAMETER ("d")

- | | |
|-------------------------|-----------------|
| N 6.35 mm (1/4") | A 6.6 mm |
| B 7.0 mm | C 9.0 mm |
| D 9.6 mm | F 11 mm |
| G 13 mm | O 10 mm |

A

6. LAG EXTENSION ("T")

- XXX** 35 mm up to 250 mm

XXX

7. ROOT DIAMETER ("Q")

- XX.X** Mention in 'mm'

XX.X

8. TIP DIAMETER ("D")

- XX.X** Mention in 'mm'

XX.X

9. IMMERSION LENGTH ("U")

- XXXX** 50 mm up to 1000 mm

XXXX

8. STEP STYLE

- S Straight
- T Taper

S

9. STEP / TAPER LENGTH ("S")

- XXX** Mention in 'mm'

XXX

10. TIP THICKNESS ("t")

- M 5 mm
- N 6.35 mm (1/4")
- O 10 mm

M

11. PROCESS CONNECTION

- XXX** Refer Flange Table for the codes

XXX

12. FLANGE FACING

- F Flat Face
- J Ring-Type Joint
- R Raised Face

F

13. HEAD TYPE

- R** Round

R

14. HEAD SIZE

- XX** Mention in 'mm'

XX

15. OTHER OPTIONS

- XI** Plug & chain in SS
- XK** Electro polishing
- XL** Marking by laser
- XM** Marking by engraving
- TC** Material test certificate 3.1
- TD** Dye penetration test
- TH** Hydro test certificate
- TM** Material test certificate 2.2
- TN** Tested to NACE standards

XM

Ordering Example : W205-S-MB-MB-02N-A-XXX-XX.X-XX.X-XXXX-M-XXX-F-R-XX-XM

NOTES:

- Other connections are available through adaptors.

FEATURES

- Solid bar-stock drilled design
- 3 different shank styles
- Compression end process connection

APPLICATION

- Air & flue gas
- Tanks & vessels
- Oil & Gas applications
- Corrosive environments
- Power & Steel industries
- HVAC, Air filters & utilities
- On-shore/Off-shore application

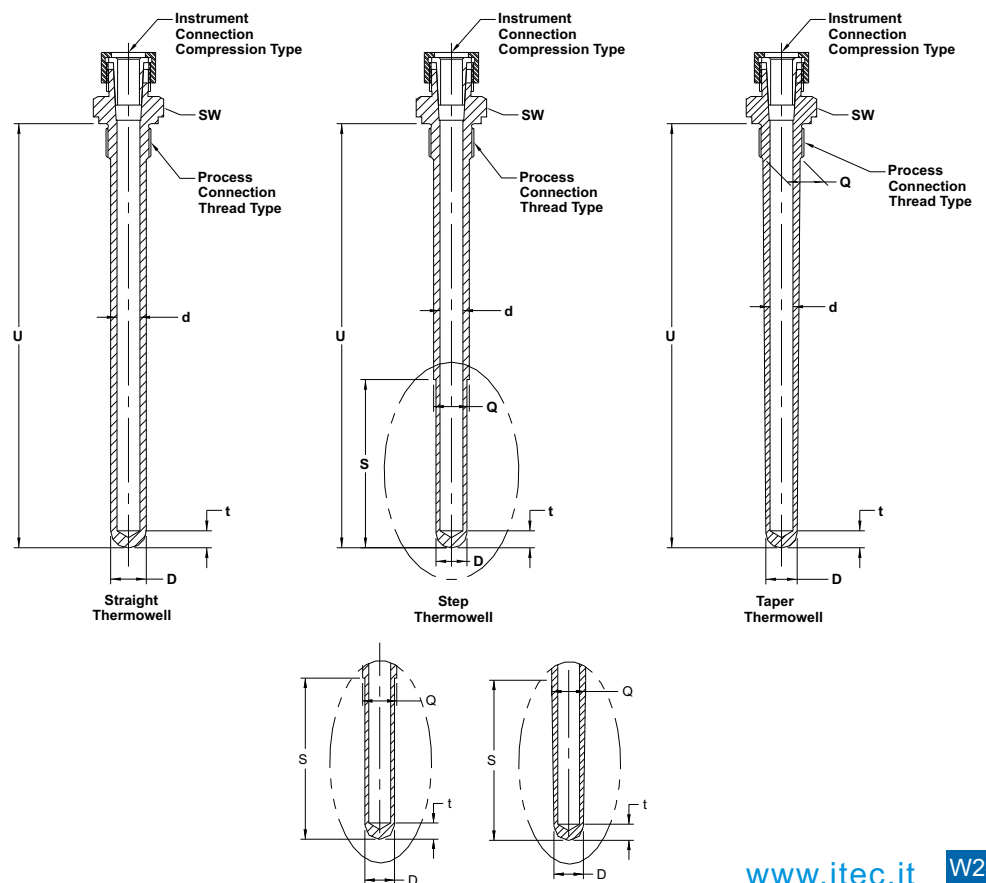
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Tapered
Material	:	AISI 316 SS
Instrument connection	:	Nut with Compression ferrule
Bore diameter	:	6.6 mm
Lag extension	:	50 mm
Root diameter	:	21.0 mm
Tip diameter	:	16.0 mm
Immersion length	:	300 mm
Step / Taper Length	:	100 mm
Tip thickness	:	5 mm
Process connection	:	3/4" NPT (M)
Head type	:	Hex
Head size	:	36 mm

DIMENSIONAL DRAWING



ORDERING CODES

1. SHANK FORM

S	Straight
E	Stepped
T	Tapered

S

2. MATERIAL

MB	Carbon Steel / ASTM A105
MC	AISI 304SS
ME	AISI 310 SS
MF	AISI 316 SS
MG	AISI 316L SS
MM	Monel 400
MN	Monel K-500
MO	Hastelloy C-276
MQ	Inconel 600
MR	Inconel 625
MS	Inconel 800
MT	Inconel 825
MV	Titanium
MY	Alloy 20
M6	AISI 446 SS
MI	AISI 321 SS

MB

3. INSTRUMENT CONNECTION

Nut with Compression ferrule
Size as per customer requirement.

4. BORE DIAMETER ("d")

A	6.6 mm
B	7.0 mm
C	9.0 mm
D	9.6 mm
F	11 mm
G	13 mm

A

5. LAG EXTENSION ("T")

XXX 35 mm up to 250 mm

XXX

6. ROOT DIAMETER ("Q")

XX.X Mention in 'mm'

XX.X

7. TIP DIAMETER ("D")

XX.X Mention in 'mm'

XX.X

8. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

XXXX

9. STEP / TAPER LENGTH ("S")

XXX Mention in 'mm'

XXX

10. TIP THICKNESS ("t")

M	5 mm
N	6.35 mm (1/4")
O	10 mm

M

11. PROCESS CONNECTION

14N	1/2" NPT (M)
15N	3/4" NPT (M)
16N	1" NPT (M)
17N	1.5" NPT (M)
18N	2" NPT (M)
14B	1/2" BSP (M)
15B	3/4" BSP (M)
16B	1" BSP (M)
17B	1.5" BSP (M)
18B	2" BSP (M)

14N

12. HEAD TYPE

H	Hex
L	Round with spanner slot

H

13. HEAD SIZE

XX Mention in 'mm'

XX

14. OTHER OPTIONS

XI	Plug & chain in SS
XK	Electro polishing
XL	Marking by laser
XM	Marking by engraving
TC	Material test certificate 3.1
TH	Hydro test certificate
TM	Material test certificate 2.2
TN	Tested to NACE standards

XM

Ordering Example : W206-S-MB-A-XXX-XX.X-XX.X-XXXX-XXX-M-14N-H-XX-XM

NOTES:

1. Other bore diameter and process connections contact factory.