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

REFERENCE

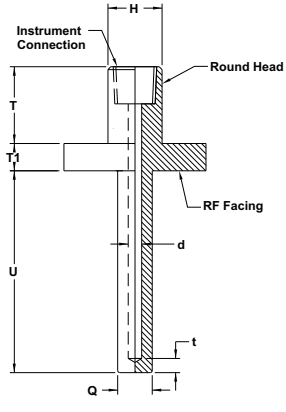
ASME PTC 19.3TW:2010

Forged / Bar-stock

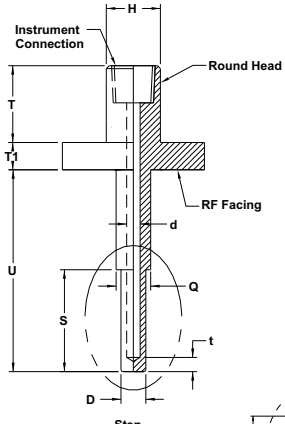
STANDARD SPECIFICATIONS

Shank form	:	Tapered
Material	:	AISI 316 SS
Instrument connection	:	½" NPT (F) / ½" 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	:	1½" RF Diameter
Flange facing type	:	Raised face
Head type	:	Round
Head size	:	48 mm

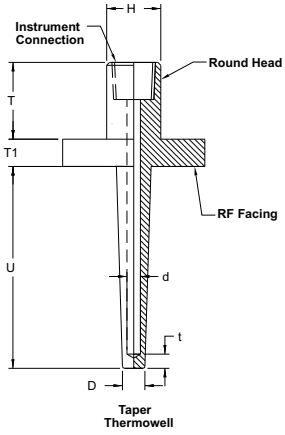
DIMENSIONAL DRAWING



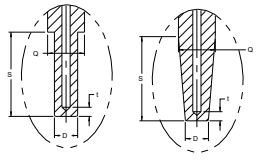
Straight Thermowell



Step Thermowell



Taper Thermowell



Note :-
T1=15mm for 1½" Flange and below
T1=20mm for 2" Flange

ORDERING CODES

1. SHANK FORM — T

S	Straight	**E**	Stepped
T	Tapered		

2. MATERIAL — MB

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

02N	¼" NPT (F)	**04N**	½" NPT (F)
05N	¾" NPT (F)	**06N**	1" NPT (F)
02B	¼" BSP (F)	**04B**	½" BSP (F)
05B	¾" BSP (F)	**06B**	1" BSP (F)
04M	M20 x 1.5 mm (F)		

4. PROCESS CONNECTION / FACING SIZE — 1

0	1" RF diameter as per AISI B16.5
1	1½" RF diameter as per AISI B16.5
2	2" RF diameter as per AISI B16.5

5. RF FACING — R

J	Ring-Type Joint
R	Raised Face

6. HEAD TYPE — R

R	Round

7. HEAD SIZE — 48

XX	48 mm (Standard)

8. LAG EXTENSION ("T") — 40

XXX	35 mm up to 250 mm

9. ROOT DIAMETER ("Q") — 30

XX.X	Mention in 'mm'

10. TIP DIAMETER ("D") — 14

XX.X	Mention in 'mm'

11. BORE DIAMETER ("d") — A

N	6.35 mm (¼")	**A**	6.6 mm
C	9.0 mm	**D**	9.6 mm
O	10 mm	**F**	11 mm

12. IMMERSION LENGTH ("U") — 255

XXXX	50 mm up to 1000 mm

13. STEP STYLE — S

S	Straight
T	Taper

14. STEP / TAPER LENGTH ("S") — 255

XXX	Mention in 'mm'

15. TIP THICKNESS ("t") — M

M	5 mm
N	6.35 mm (¼")
O	10 mm

16. OTHER OPTIONS — XM

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:
1. Other diameters, connections are available, please contact factory for details.

Rev 01
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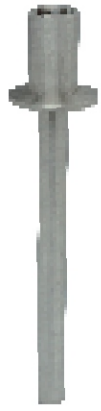
FEATURES

- Sanitary design
- Solid bar-stock drilled

APPLICATION

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

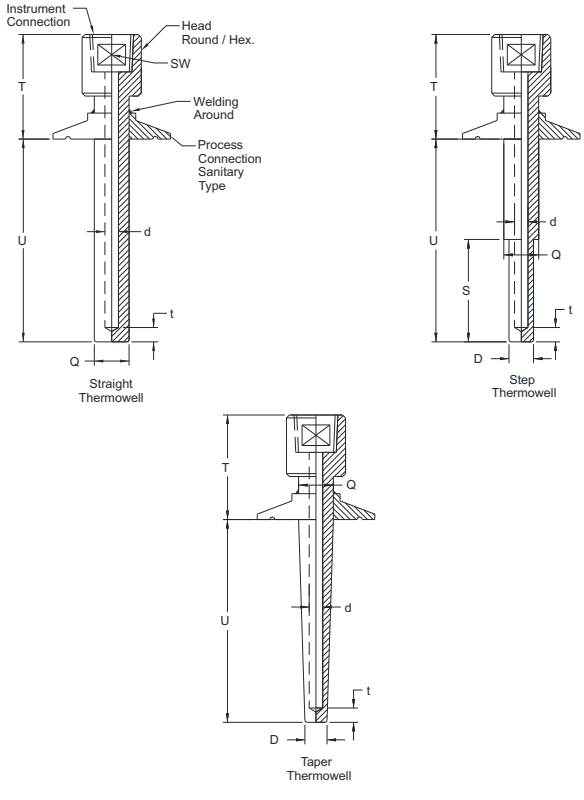
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Straight
Material	:	AISI 316 SS
Instrument connection	:	½" NPT (F) / ½" 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	:	1½" Tri-clover connection
Head type	:	Round with spanner slot
Head size	:	27 mm

DIMENSIONAL DRAWING



W202 SANITARY THERMOWELL

ORDERING CODES

1. SHANK FORM — S

S	Straight
E	Stepped
T	Tapered

2. MATERIAL — MF

MF	AISI 316 SS
MG	AISI 316L SS

3. INSTRUMENT CONNECTION — 02N

02N	¼" NPT (F)
04N	½" NPT (F)
05N	¾" NPT (F)
02B	¼" BSP (F)
04B	½" BSP (F)
05B	¾" BSP (F)
04M	M20 x 1.5 mm (F)

4. BORE DIAMETER ("d") — A

N	6.35 mm (¼")
A	6.6 mm
C	9.0 mm
D	9.6 mm
O	10 mm

5. LAG EXTENSION ("T") — 50

XXX	35 mm up to 250 mm

6. ROOT DIAMETER ("Q") — 21

XX.X	Mention in 'mm'

7. TIP DIAMETER ("D") — 21

XX.X	Mention in 'mm'

8. IMMERSION LENGTH ("U") — 150

XXXX	50 mm up to 1000 mm

13. STEP STYLE — S

S	Straight
T	Taper

9. STEP / TAPER LENGTH ("S") — 150

XXX	Mention in 'mm'

10. TIP THICKNESS ("t") — M

M	5 mm
N	6.35 mm (¼")
O	10 mm

11. PROCESS CONNECTION — T15

T01	1" Tri-clover connection
T02	2" Tri-clover connection
T15	1½" Tri-clover connection
T25	2½" Tri-clover connection

12. HEAD TYPE — L

H	Hex
L	Round with spanner slot

13. HEAD SIZE — 27

XX	Mention in 'mm'

14. OTHER OPTIONS — XM

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

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.

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Rev 01

FEATURES

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

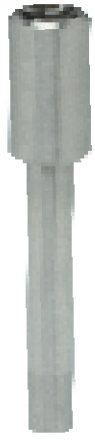
APPLICATION

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

REFERENCE

ASME PTC 19.3TW:2010

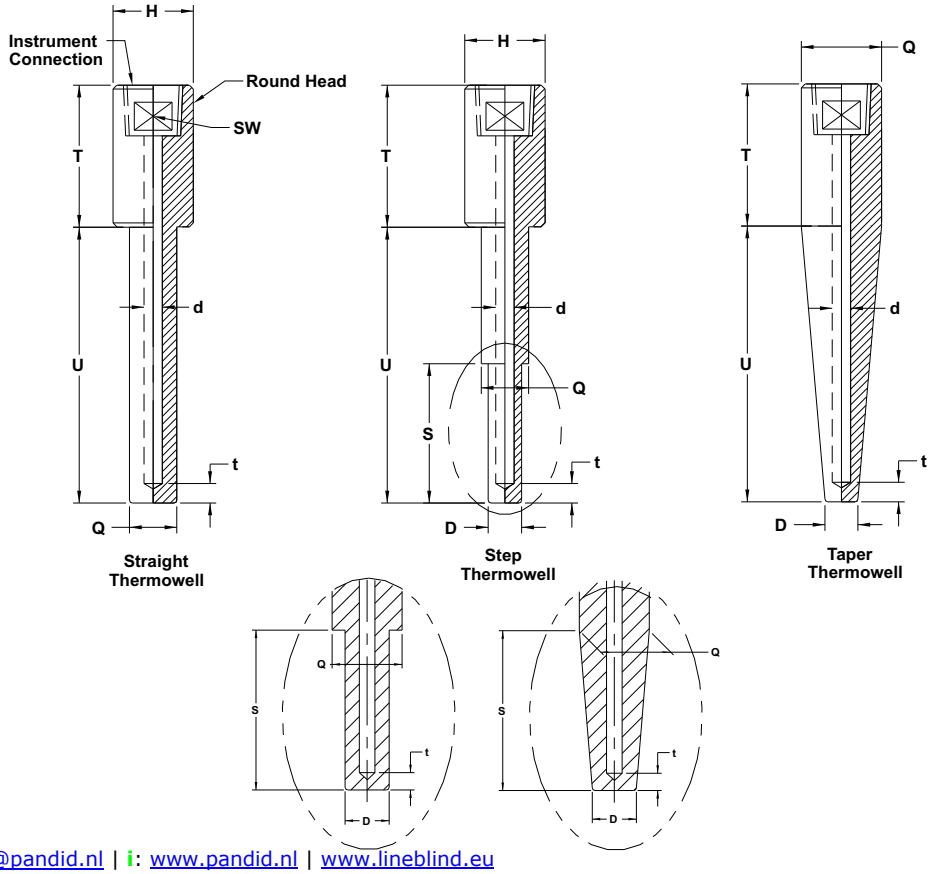
Bar-stock



STANDARD SPECIFICATIONS

Shank form	:	Tapered
Material	:	AISI 316 SS
Instrument connection	:	½" 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



W203 WELD-IN / SOCKET-WELD THERMOWELL

ORDERING CODES

1. SHANK FORM — S

S	Straight
E	Stepped
T	Tapered

2. MATERIAL — MB

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

3. INSTRUMENT CONNECTION — 02N

02N	¼" NPT (F)
04N	½" NPT (F)
05N	¾" NPT (F)
02B	¼" BSP (F)
04B	½" BSP (F)
05B	¾" BSP (F)
04M	M20 x 1.5 mm (F)

4. BORE DIAMETER ("d") — A

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

5. LAG EXTENSION ("T") — XXX

XXX	35 mm up to 250 mm

6. ROOT DIAMETER ("Q") — XX.X

XX.X	Mention in 'mm'

7. TIP DIAMETER ("D") — XX.X

XX.X	Mention in 'mm'

8. IMMERSION LENGTH ("U") — XXXX

XXXX	50 mm up to 1000 mm

9. STEP / TAPER LENGTH ("S") — XXX

XXX	Mention in 'mm'

10. TIP THICKNESS ("t") — M

M	5 mm
N	6.35 mm (¼")
O	10 mm

11. HEAD TYPE — R

R	Round

12. HEAD SIZE — 5

XX	Mention in 'mm'

13. OTHER OPTIONS — XM

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

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

NOTES:

1. Other connections are available through adaptors.

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Rev 01

FEATURES

- Partial bar-stock
- Flanged process connection

APPLICATION

- Tanks & vessels

REFERENCE

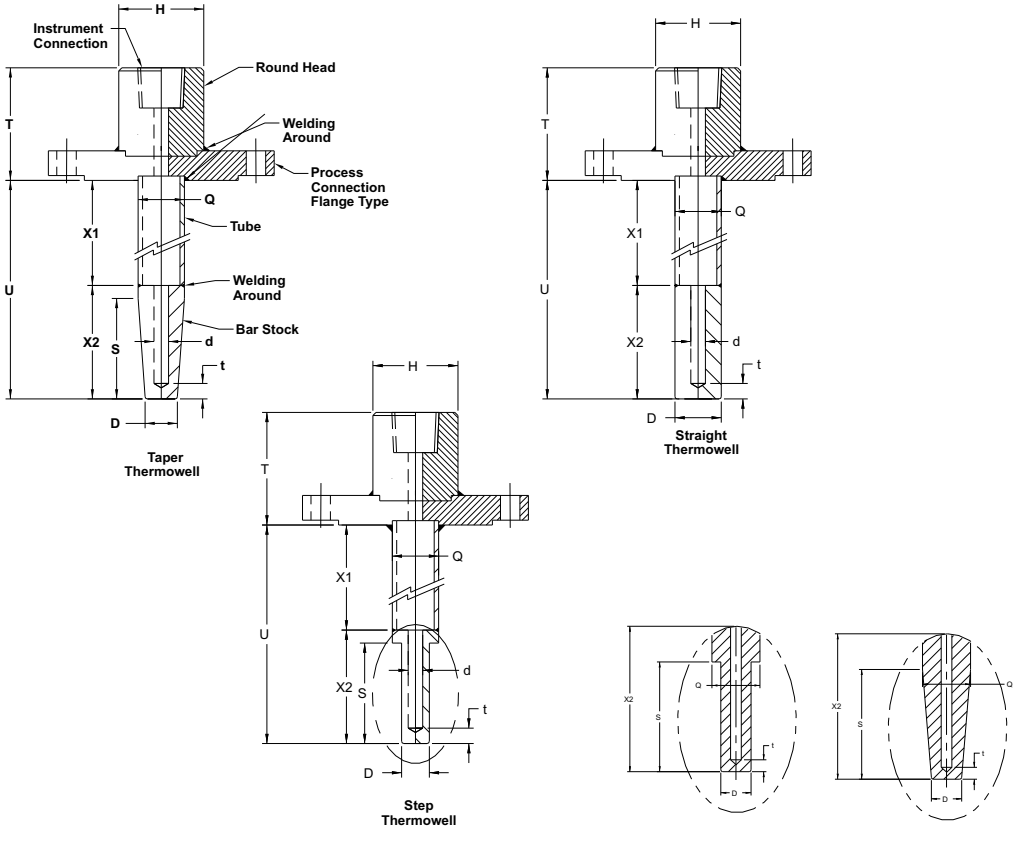
ASME PTC 19.3TW:2010

Partial Bar-stock

STANDARD SPECIFICATIONS

Shank form	:	Straight
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	½" NPT (F)
Well Tubes	:	Pipe ½" 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



W204 FLANGED THERMOWELL

ORDERING CODES

1. SHANK FORM — S

S	Straight	**T**	Tapered

2. FLANGE MATERIAL — MB

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

3. WELL (STUB & TAIL) MATERIAL — MB

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

4. INSTRUMENT CONNECTION — 02N

02N	¼" NPT (F)	**04N**	½" NPT (F)
05N	¾" NPT (F)	**06N**	1" NPT (F)
02B	¼" BSP (F)	**04B**	½" BSP (F)
05B	¾" BSP (F)	**06B**	1" BSP (F)

5. WELL PIPES — U3

U3	Pipe 3/8" Sch 40	**U4**	Pipe 3/8" Sch 80
U5	Pipe ½" Sch 40	**U6**	Pipe ½" Sch 80
U7	Pipe ¾" Sch 40	**U8**	Pipe ¾" Sch 80
UA	Pipe ¼" Sch 40	**UB**	Pipe ¼" Sch 80
UC	Pipe ½" Sch 160	**UD**	Pipe ¾" Sch 160

5. WELL TUBES — OR — U1

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

6. LAG EXTENSION ("T") — XXX

XXX	35 mm up to 250 mm

7. IMMERSION LENGTH ("U") — XXXX

XXXX	50 mm up to 1000 mm

8. STEP STYLE — S

S	Straight
T	Taper

9. STEP / TAPER LENGTH ("S") — XXX

XXX	Mention in 'mm'

10. STUB LENGTH ("X1") — XXXX

XXXX	50 mm up to 1000 mm

11. TAIL LENGTH ("X2") — XXXX

XXXX	50 mm up to 1000 mm

12. TIP THICKNESS ("t") — M

M	5 mm
N	6.35 mm (¼")
O	10 mm

13. PROCESS CONNECTION — XXX

XXX	Refer Flange Table for the codes

14. FLANGE FACING — F

F	Flat Face
J	Ring-Type Joint
R	Raised Face

15. HEAD TYPE — R

R	Round

16. HEAD SIZE — XX

XX	Mention in 'mm'

17. OTHER OPTIONS — XM

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

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.

Rev 01

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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

REFERENCE

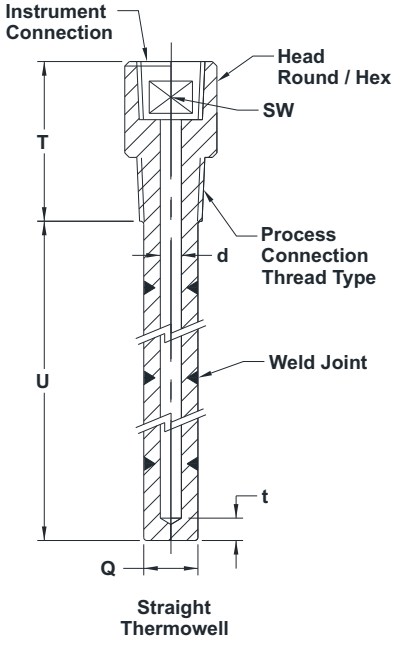
ASME PTC 19.3TW:2010

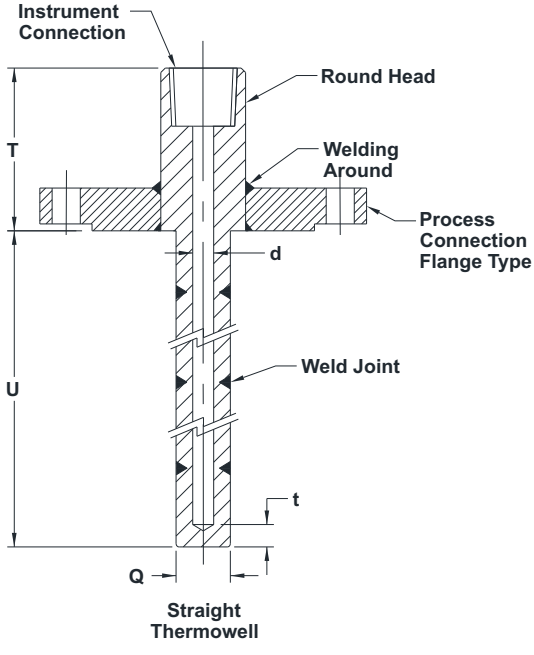
Multi-piece Bar-stock

STANDARD SPECIFICATIONS

Shank form	:	Straight
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	½" 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





W205 FLANGED THERMOWELL

ORDERING CODES

1. SHANK FORM — S

S	Straight
E	Stepped
T	Tapered

2. FLANGE MATERIAL — MB

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		

3. WELL MATERIAL — MB

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		

4. INSTRUMENT CONNECTION — 02N

02N	¼" NPT (F)	**04N**	½" NPT (F)
05N	¾" NPT (F)	**06N**	1" NPT (F)
02B	¼" BSP (F)	**04B**	½" BSP (F)
05B	¾" BSP (F)	**06B**	1" BSP (F)

5. BORE DIAMETER ("d") — A

N	6.35 mm (¼")	**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

6. LAG EXTENSION ("T") — XXX

XXX	35 mm up to 250 mm

7. ROOT DIAMETER ("Q") — XX.X

XX.X	Mention in 'mm'

8. TIP DIAMETER ("D") — XX.X

XX.X	Mention in 'mm'

9. IMMERSION LENGTH ("U") — XXXX

XXXX	50 mm up to 1000 mm

8. STEP STYLE — S

S	Straight
T	Taper

9. STEP / TAPER LENGTH ("S") — XXX

XXX	Mention in 'mm'

10. TIP THICKNESS ("t") — M

M	5 mm
N	6.35 mm (¼")
O	10 mm

11. PROCESS CONNECTION — XXX

XXX	Refer Flange Table for the codes

12. FLANGE FACING — F

F	Flat Face
J	Ring-Type Joint
R	Raised Face

13. HEAD TYPE — R

R	Round

14. HEAD SIZE — XX

XX	Mention in 'mm'

15. OTHER OPTIONS — XM

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

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

NOTES:

1. Other connections are available through adaptors.

Rev 01

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