

FEATURES

- Solid bar-stock drilled design
- Possible thermowell designs: tapered, straight or stepped
- Flanged process connection

APPLICATION

- Chemical industry, process technology, equipment manufacturing
- For high chemical stress
For high process loads
- Petrochemical industry, on/offshore, plant construction

REFERENCE

ASME PTC 19.3TW

International standard

Drilled bar stock type

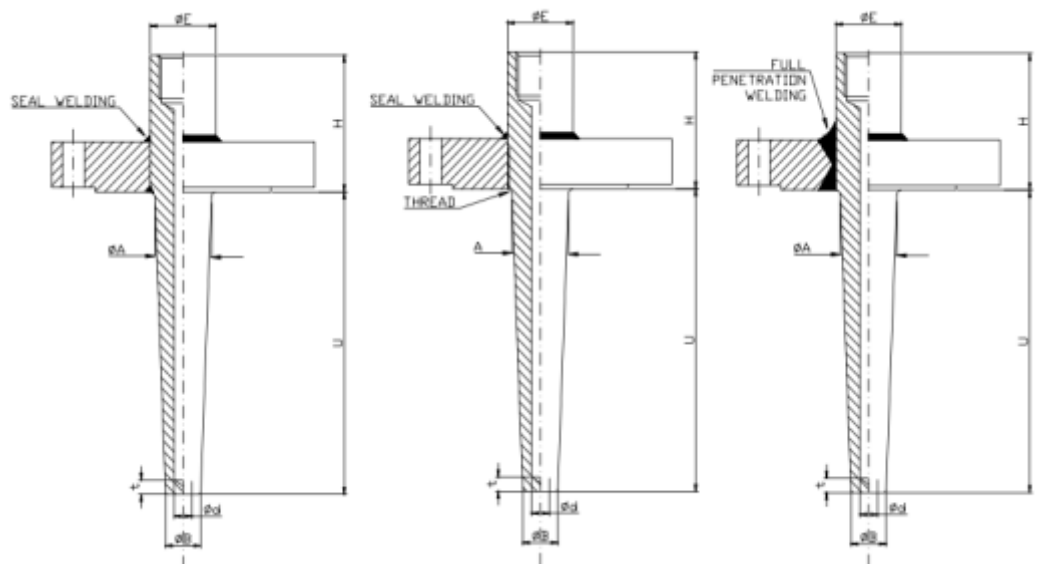


STANDARD SPECIFICATIONS

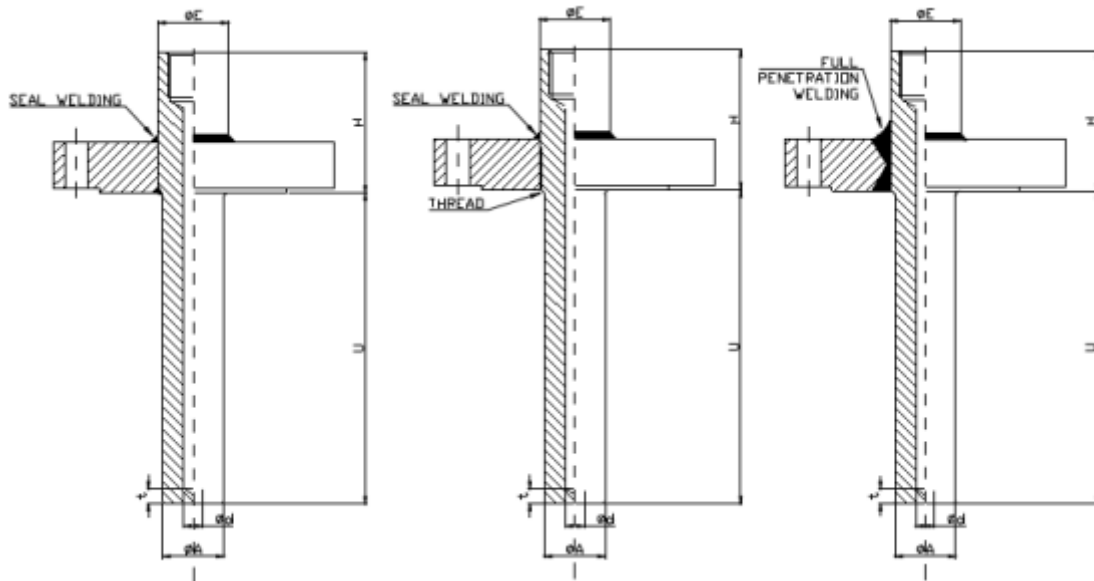
Shank form	:	tapered, straight or stepped
Flange material	:	AISI 316 SS
Well material	:	AISI 316 SS
Instrument connection	:	1/2" NPT (F) / 1/2" BSP (F)
Bore diameter	:	6.6 mm - Other bore sizes on request
Lag extension	:	60 mm
Root diameter	:	to customer specification
Tip diameter	:	to customer specification
Immersion length	:	to customer specification
Tip thickness	:	6,5 mm
Process connection	:	Flange as per ANSI B16.5, EN 1092-1, JIS, etc.
Flange facing type	:	according flange standard
Head type	:	Round
Head size	:	30 / 35 mm

DIMENSIONAL DRAWING

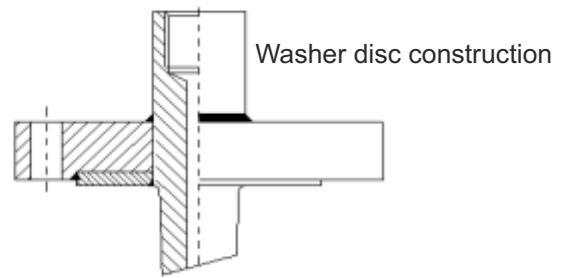
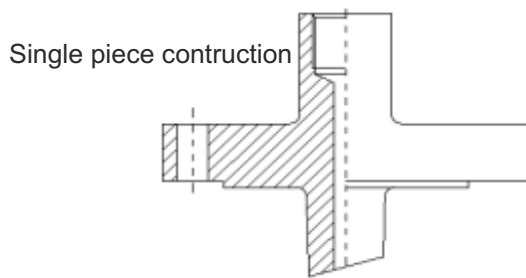
Design W104 tapered execution



Design W104 straight execution



SPECIAL DESIGN



ASME flange thermowells (typical dimensions mm)

DN	PN in lbs	Dimensions in mm					
		H	Ø A	Ø B	E	t	Ø d
1"	150	60	22	16	30	6,5	6,6 - 8,5
	300	60	22	16	30	6,5	6,6 - 8,5
	600	60	22	16	30	6,5	6,6 - 8,5
	1.500	80	22	16	30	6,5	6,6 - 8,5
	2.500	80	22	16	30	6,5	6,6 - 8,5
1 ½"	150	60	25	19	35	6,5	6,6 - 8,5
	300	60	25	19	35	6,5	6,6 - 8,5
	600	60	25	19	35	6,5	6,6 - 8,5
	1.500	80	25	19	35	6,5	6,6 - 8,5
	2.500	80	25	19	35	6,5	6,6 - 8,5
2"	150	60	25	19	35	6,5	6,6 - 8,5
	300	60	25	19	35	6,5	6,6 - 8,5
	600	60	25	19	35	6,5	6,6 - 8,5
	1.500	80	25	19	35	6,5	6,6 - 8,5
	2.500	100	25	19	35	6,5	6,6 - 8,5

EN and DIN flanges, thermowell (typical dimensions)

DN	PN in bar	Dimensions in mm [in]				
		Ø A	Ø B	E	t	Ø d
25	40	60	22	16	6,5	6,6 – 8,5
	63/64	60	22	16	6,5	6,6 – 8,5
	100	60	22	16	6,5	6,6 – 8,5
40	40	60	25	19	6,5	6,6 – 8,5
	63/64	60	25	19	6,5	6,6 – 8,5
	100	60	25	19	6,5	6,6 – 8,5
50	40	60	25	19	6,5	6,6 – 8,5
	63/64	60	25	19	6,5	6,6 – 8,5
	100	60	25	19	6,5	6,6 – 8,5

ORDERING CODES

1. SHANK FORM

S	Straight	E	Stepped
T	Tapered	P	Partially Taper

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
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
MI	AISI 321 SS		

MB

4. INSTRUMENT CONNECTION

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)	06M	M27x1.5 (F)
07M	M33 x 2 mm (F)		

04N

5. PROCESS CONNECTION

XXX Refer Flange Table for the codes

XXX

6. FLANGE FACING

F	Flat Face	TI	Large Tongue
J	Ring-Type Joint	GI	Large Groove
R	Raised Face	TS	Small Tongue
		GS	Small Groove

F

7. FLANGE TYPE

FD	ASME B16.5
FE	EN 1092-1
FF	DIN 2527

FD

ORDERING CODES

8. HEAD TYPE

R Round

R

9. HEAD SIZE

XX Mention in 'mm'

30

10. LAG EXTENSION

XXX Mention in 'mm'

50

11. ROOT DIAMETER

XX.X Mention in 'mm'

25

12. TIP DIAMETER

XX.X Mention in 'mm'

18

13. BORE DIAMETER

B	7.0 mm	A	6.6 mm
D	9.6 mm	C	9.0 mm
F	11 mm	O	10 mm
E	8,5 mm	G	13 mm

A

14. IMMERSION LENGTH ("U")

XXXX 50 mm up to 1000 mm

150

15. STEP / TAPER LENGTH ("S")

XXX Mention in 'mm' **TL** Partial taper length
SL Step length

150

16. TIP THICKNESS ("t")

M 5 mm
N 6,5 mm
O 6 mm

M

17. CONSTRUCTION

FA Flange & well full penetration welded
FB Flange & well thread jointed and seal welded
FC Flange & well seal welded

FC

18. PROTECTION ON WELL & FLANGE RF

PD PD PTFE LINING (upto 200°C)
PI Stellite
PJ PTFE COATING (upto 200°C)

XX

19. SLEEVING/OVERLAY ON WELL & FLANGE RF

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

XX

* Only Applicable for Straight Thermowell

20. OTHER OPTIONS

XI Plug & chain in SS
XK Electro polishing
XT Tag No. Marking

XM

21. CERTIFICATIONS

TC Material test certificate 3.1
TD Dye penetration test
TF PMI test
TG IGC test
TH Hydro test certificate
TI IBR certification
TN Tested to NACE standards
TW WFC as per PTC 19.3TW
TR Radiography for welding
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.