

Thermowell Design Checklist



Company:	Location:	Date:	
Name:	Ref:	Tag:	

- Thermowell Process Connection**
- Threaded:**
- 1/2" NPT 3/4" NPT 1" NPT
 - Other: _____
- Flanged:**
- 1" NPS 1.5" NPS 2" NPS
 - Other: _____
 - Class 150 Class 900
 - Class 300 Class 1500
 - Class 600 Class 2500
 - Other: _____
 - Raised face Ring-type joint Flat face
- Socket Weld:**
- 3/4" NPS 1" NPS
 - Class 3000 Class 6000
- Lap-Joint (Vanstone):**
- 1" NPS 1.5" NPS 2" NPS
 - Other: _____

- Thermowell Shank Profile**
- Tapered Shank (Standard dimensions)
 - Custom Root OD (A): _____
 - Custom Tip OD (A): _____
 - Straight Shank (Standard dimensions)
 - Custom OD (A/B): _____
 - Stepped Shank
 - StrakeWell™
 - Straight Stepped

Thermowell Dimensions

Specify "U" Length: _____

Specify "H" Length: _____

(Reference thermowell design section for standards)

- Thermowell Bore**
- 0.260" (Std.) 0.385" Other: _____

- Thermowell Material**
- Shank Material:
- 316/316L Stainless Steel
 - A350 LF2
 - Hastelloy C276
 - Inconel 600
 - Other: _____
- Flange Material:
- Same as shank material
 - Other: _____

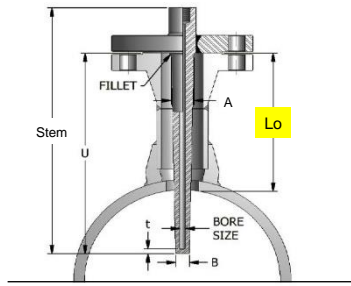
- Additional Material Options:
- Shank Overlay Helical Strakes(StrakeWell™)
- Material:
- Satellite Tungsten Carbide
 - Chrome Carbide Other: _____
 - Overlay/StrakeWell™ Details:

- NDT Requirements & Documents**
- Hydro-testing per ASME B31.3 (1.5x @10min)
 - LPI - Liquid penetrant testing
 - HT - Hardness testing
 - PMI - Positive material identification
 - RT - Radiography testing – full pen weld
 - UT - Ultrasonic testing
 - MT - Magnetic particle testing
 - FT - Ferrite testing
 - Visual - Visual inspection

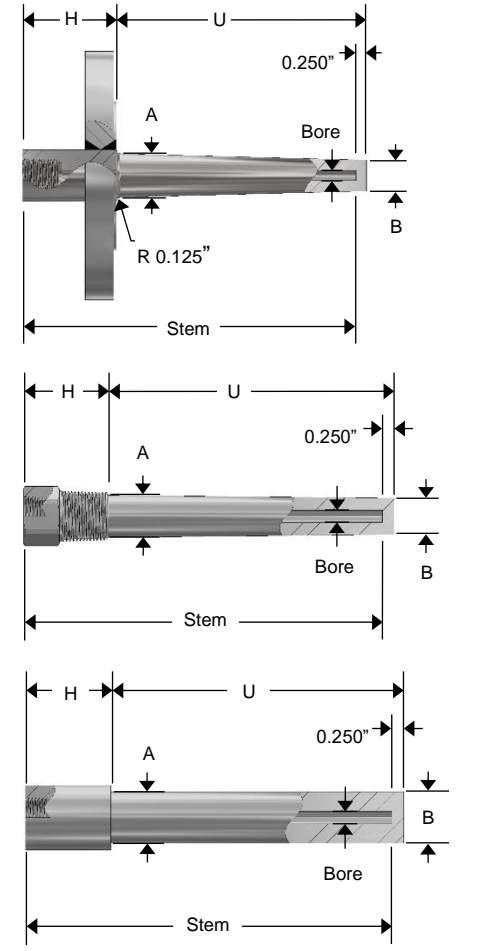
- Design & Certification Documents**
- CRN - ASME B31.3 Process Piping
 - CRN - ASME Sec. VIII Div1
 - CRN - ASME B31.1 Power Piping
 - Certificate of Compliance:
 - Aircom general
 - NACE MR0175 (2003)
 - NACE MR0175 - ISO15156 (NDT-HT Req'd.)
 - Other: _____

- Other Documentation**
- MTR – Material/mill test reports
 - ITP – Inspection & test plan
 - Dimensional drawings
 - MRB
 - Catalog data
 - Weld procedure specification
 - IOM Manual
 - Data sheets (mark-up)
 - QC Manual (TOC)
 - AQP Certificate

- Wake Frequency Calculation (ASME PTC19.3)**
- Wake Frequency Calculation:
- Process Fluid Type: _____
- Min/Max Temperature: _____
- Min/Max Pressure: _____
- Fluid Velocity: _____
- Fluid Density: _____
- Fluid Viscosity: _____
- Shielded Length (Lo): _____
- Nozzle Inside Diameter (ID): _____
- Allowances (Corrosion/Erosion): _____



Thermowell Design Reference Material



Helical Strakes on StrakeWell™ Thermowell



Thermowell "H" Lengths

Threaded & socket weld
Standard "H" length is 1.75" (minimum)

Flanged thermowell
Standard "H" length:
2.25" for Class 150, 300 & 600
3.25" for Class 900, 1500 & 2500

Stem Length = Overall Length - Tip Thickness
Note: For instrument sizing, the Stem length of a thermowell is the overall length of the thermowell LESS the Tip Thickness.

Instrumentation connection is 1/2" NPT (std.)

Notes:
