

## Data Sheet

# Sanitary Thermowells

### FEATURES

- One piece bar stock construction
- Stamped with mill traceable material and heat number
- Testing and certifications including Wake Frequency Calculations ASME PTC 19.3 TW-2016
- Standard or customized dimensions

### TYPICAL USES

- Pharmaceutical / Biotech
- Food and beverages



**Sanitary Thermowells**  
1", 1½", 2" Tri-Clamp® sizes

### SPECIFICATIONS

|                        |  |
|------------------------|--|
| Shank Style:           | Straight, Tapered or Stepped                           |
| Process Connection:    | 1", 1½" or 2" Tri-Clamp®                               |
| Instrument Connection: | ½ NPSM or ½ NPT Female                                 |
| Bore Size:             | 0.260" or 0.385"                                       |
| Surface Finish:        | 8-12 Ra or 4-12 Ra                                     |
| Lagging:               | 2": if U-dimension is <3"<br>3": if U-dimension is >3" |
| Cap and Chain:         | Brass or stainless steel                               |

**TABLE 1**

| OPTIONS                                 | CODE |
|---|------|
| Stamp tag number on thermowell          | NF   |
| Stainless steel tag wired to thermowell | NH   |
| Hydrostatic test-internal               | W9   |
| Clean for oxygen service                | 6B   |
| Wake frequency calculation              | W5   |
| 4-12 Ra finish                          | PT   |
| Material origin restriction             | UM   |

### Certificates

|  |       |
|--|-------|
| Certificate of Conformance (per order)             | CD-1A |
| Physical and Chemical Material Test Report (MTR's) | W6    |
| Positive Material Identification (PMI)             | MQ    |
| NACE Certificate of Compliance                     | CD-5  |

### KEY BENEFITS

- Protects instrument against corrosive effects and physical damage caused by media flow
- Permits instrument interchange or calibration check without disturbing/closing down the process
- Traceability of material origin for quality assurance and control

**TABLE 2**

| MATERIALS                   | CODE |
|-----------------------------|------|
| 304 Stainless steel         | C    |
| 316 Stainless steel         | S    |
| Hastelloy® B/C              | G/H  |
| Carpenter® 20               | D    |
| Duplex 2205 Stainless steel | J    |
| Super Duplex S32750         | SD   |
| Inconel® 600                | W    |
| Titanium                    | TI   |

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|   |          |    |   |      |  |   |   |     |   |   |     |       |
|---|----------|----|---|------|--|---|---|-----|---|---|-----|-------|
| <b>ORDERING CODE</b>  | Example: | 15 | W | 0250 |  | H | C | 260 | S | 2 | X6B | L0350 |
| <b>P-Process Connection Size</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| 10 - 1" Tri-Clamp®  |          |    |   |      |  |   |   |     |   |   |     |       |
| 15 - 1½" Tri-Clamp®   |          |    |   |      |  |   |   |     |   |   |     |       |
| 20 - 2" Tri-Clamp®  |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Thermowell</b>   |          |    |   |      |  |   |   |     |   |   |     |       |
| W - Thermowell  |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>U-Process Insertion Length</b>   |          |    |   |      |  |   |   |     |   |   |     |       |
| 0250 - 2½"  |          |    |   |      |  |   |   |     |   |   |     |       |
| 0450 - 4½"  |          |    |   |      |  |   |   |     |   |   |     |       |
| 0750 - 7½"  |          |    |   |      |  |   |   |     |   |   |     |       |
| 1050 - 10½"   |          |    |   |      |  |   |   |     |   |   |     |       |
| 1350 - 13½"   |          |    |   |      |  |   |   |     |   |   |     |       |
| 1650 - 16½"   |          |    |   |      |  |   |   |     |   |   |     |       |
| 2250 - 22½"   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>I-Instrument Connection</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| Blank - ½ NPSM  |          |    |   |      |  |   |   |     |   |   |     |       |
| 2 - ½ NPT Female  |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>T-Lagging</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| Blank - No lagging  |          |    |   |      |  |   |   |     |   |   |     |       |
| L - Lagging (for special lag length, see below)   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Shank Type</b>   |          |    |   |      |  |   |   |     |   |   |     |       |
| H - Tapered   |          |    |   |      |  |   |   |     |   |   |     |       |
| S - Straight  |          |    |   |      |  |   |   |     |   |   |     |       |
| R - Stepped   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Process Connection</b>   |          |    |   |      |  |   |   |     |   |   |     |       |
| C - Sanitary  |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Bore Diameter</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| 260 - 0.260"  |          |    |   |      |  |   |   |     |   |   |     |       |
| 385 - 0.385"  |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Material (Refer to Table 2)</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| C - 304 Stainless steel   |          |    |   |      |  |   |   |     |   |   |     |       |
| S - 316 Stainless steel   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Cap and Chain</b>  |          |    |   |      |  |   |   |     |   |   |     |       |
| Blank - No cap and chain  |          |    |   |      |  |   |   |     |   |   |     |       |
| 1 - Brass   |          |    |   |      |  |   |   |     |   |   |     |       |
| 2 - Stainless steel   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Options - (see Table 1 on page 1 for additional options (if choosing an option(s) must include an "X")</b> |          |    |   |      |  |   |   |     |   |   |     |       |
| 6B - Clean for oxygen service   |          |    |   |      |  |   |   |     |   |   |     |       |
| <b>Special Lagging Length</b>   |          |    |   |      |  |   |   |     |   |   |     |       |
| L - Lagging length × 100 (ex: 3.5" × 100 = L0350)   |          |    |   |      |  |   |   |     |   |   |     |       |

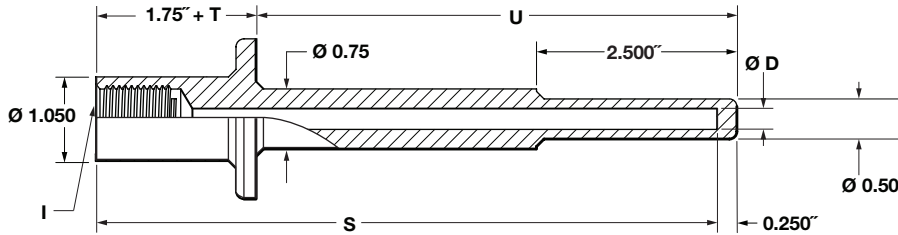
# Data Sheet

## Sanitary Thermowells

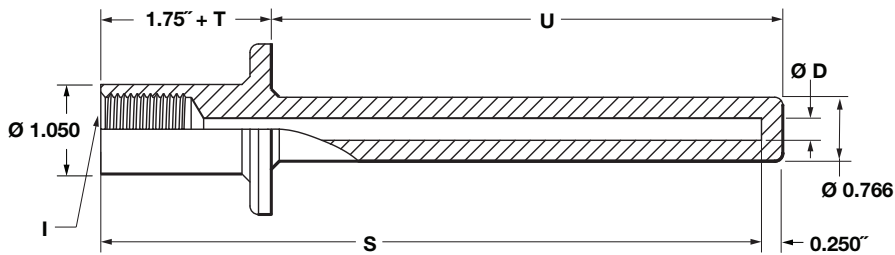
### DIMENSIONS

For reference only, consult Ashcroft for specific dimensional drawings

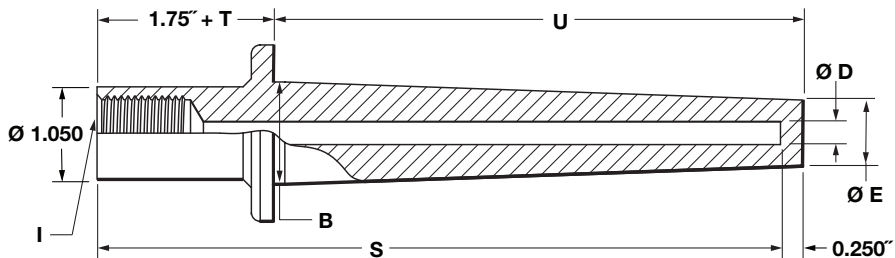
#### Sanitary Stepped Thermowell



#### Sanitary Straight Thermowell



#### Sanitary Tapered Thermowell



### Thermowell Legend

I - Instrument connection ( $\frac{1}{2}$ " NPSM is STD.)

E - Tip O.D.

D - Bore diameter

U - Insertion depth

S - Instrument stem length or bore depth

B - Root OD

T - Lag dimension when required

### Sanitary Tapered

| B      | E<br>0.260 Bore | E<br>0.385 Bore |
|--------|-----------------|-----------------|
| 0.875" | 0.625"          | 0.768"          |