

## Thermowells

SOR® Thermowells are made from high-quality, thermally-conductive materials, providing long life and maximum temperature measurement accuracy.

A thermowell is a pressure-tight assembly that protects a temperature sensor in processing applications where the sensor is not mechanically or chemically compatible with the process environment. Installed directly into the piping systems on process vessels, thermowells allow sensor replacement without the need to interrupt the process flow or drain the process system.

Thermowells serve two primary functions: 1-Extend temperature instrument life by protecting sensing elements from harsh process conditions, 2-Provide process isolation, enabling technicians to remove the temperature instrument for replacement or repair while the process system remains operational.

Variety of stem and process connections

- Welded, threaded, flanged, socket, and sanitary process connections
- Step down, tapered, and straight stems

Wide selection of materials

- Alloy 600, Hastelloy, 316SS, Carbon Steel, Nickel, Monel 400, and many more

Multiple options and accessories

- Plug and chains, teflon coating, hydrostatic pressure tests, NACE certifications, velocity calculations, and more



To order indicate a code/value for each component.

THERMOWELL			
Well Type	U Length	Material	T Length

### STEP-DOWN THREADED

Type	NPT Process	OD1	OD2
SR	1/2"	5/8" (15.9 mm)	1/2" (12.7 mm)
SR0	3/4"	3/4" (19.1 mm)	1/2" (12.7 mm)
SR1	1"	7/8" (22.2 mm)	1/2" (12.7 mm)
SR2	1 1/4"	1 1/8" (28.6 mm)	3/4" (19.1 mm)
SR3	1 1/2"	1 1/8" (28.6 mm)	3/4" (19.1 mm)

### STEP-DOWN FLANGED

Type	Description
FR	Step-down Flanged

SIZE	RATING	TYPE
1" (2.54 cm)	150	RF Raised Face
1 1/2" (3.81 cm)	200	FF Flat Face
2" (5.08 cm)	300	RTJ Ring Type Joint
3" (7.62 cm)	400	
4" (10.16 cm)	600	
	900	
	1500	

### STRAIGHT THREADED

Type	Process NPT	OD1
SS	1/2"	0.680" (17.3 mm)
SS0	3/4"	3/4" (19.1 mm)
SS1	1"	7/8" (22.2 mm)
SS2	1 1/4"	1 1/8" (28.6 mm)
SS3	1 1/2"	1 1/8" (28.6 mm)

### STRAIGHT FLANGED

Type	Description
FS	Straight Flanged

SIZE	RATING	TYPE
1" (2.54 cm)	150	RF Raised Face
1 1/2" (3.81 cm)	200	FF Flat Face
2" (5.08 cm)	300	RTJ Ring Type Joint
3" (7.62 cm)	400	
4" (10.16 cm)	600	
	900	
	1500	

### TAPERED THREADED

Type	NPT Process	OD1	OD2
ST	1/2"	0.680" (17.3 mm)	5/8" (15.9 mm)
ST0	3/4"	7/8" (22.2 mm)	5/8" (15.9 mm)
ST1	1"	1 1/16" (26.0 mm)	5/8" (15.9 mm)
ST2	1 1/4"	1 1/8" (28.6 mm)	3/4" (19.1 mm)
ST3	1 1/2"	1 1/8" (28.6 mm)	3/4" (19.1 mm)

### TAPERED FLANGED

Type	Description
FT	Tapered Flanged

SIZE	RATING	TYPE
1"* (2.54 cm)	150	RF Raised Face
1 1/2" (3.81 cm)	200	FF Flat Face
2" (5.08 cm)	300	RTJ Ring Type Joint
3" (7.62 cm)	400	
4" (10.16 cm)	600	
	900	
	1500	

\* Major OD is 7/8" (22.2 mm) for flange sizes 1" (25.4 mm) and smaller.

To order indicate a code/value for each component.

THERMOWELL			
Well Type	U Length	Material	T Length

### VAN STONE

Type	NPT Process	Actual Dia. (P)	Raised Face Dia. (R)
VS1	1"	1.315" (3.34 cm)	2" (5.08 cm)
VS3	1 1/2"	1.900" (4.83 cm)	2.875" (7.30 cm)
VS4	2"	2.375" (6.03 cm)	3.625" (9.21 cm)

### STRAIGHT SOCKET

Type	NPT Process	Actual Diameter (P)	OD 1
SWS**	1/2"	0.84" (21.226 mm)	0.680" (17.272 mm)
SWS0	3/4"	1.05" (26.67 mm)	0.75" (19.05 mm)
SWS1	1"	1.315" (33.40 mm)	0.875" (22.225 mm)

Note: To fit 3,000 lbs (1360.78 kg) coupling.  
\*\* Instrument connection equals 1.062" (2.70 cm) OD

### WELD IN

Type	NPT Process	Actual Diameter (P)
WDO	3/4"	1.050" (2.67 cm)
WD1	1"	1.315" (3.34 cm)
WD2	1 1/4"	1.660" (4.22 cm)
WD3	1 1/2"	1.900" (4.83 cm)

(D=5/8" (15.8 mm) - 0.260 Bore) (D=3/4" (19.1 mm) - 0.385 (9.8 mm Bore)

### TAPERED SOCKET

Type	NPT Process	Actual Diameter (P)	OD 1	OD 2
SWT**	1/2"	0.840" (21.2mm)	0.680" (17.3 mm)	0.625" (15.9 mm)
SWT0	3/4"	1.050" (26.7 mm)	0.750" (19.05 mm)	0.625" (15.9 mm)
SWT1	1"	1.315" (33.4 mm)	1.00" (25.4 mm)	0.625" (15.9 mm)
SWT2	1 1/4"	1.66" (42.2 mm)	1.125" (28.56 mm)	0.75" (19.1 mm)
SWT3	1 1/2"	1.90" (48.3 mm)	1.375" (34.9 mm)	0.875" (22.2 mm)
SWT4	2"	2.375" (60.3 mm)	1.75" (44.5 mm)	1.250" (31.8 mm)

Note: To fit 3,000 lbs (1360.78 kg) coupling.  
\*\* Instrument connection equals 1.062" (2.7 cm) OD

### STEP DOWN SOCKET

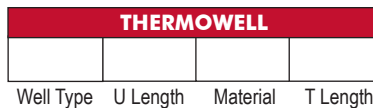
Type	NPT Process	Actual Diameter (P)	OD 1
SWR**	1/2"	0.840" (21.2 mm)	0.680" (17.3mm)
SWRO	3/4"	1.050" (26.7 mm)	0.75" (19.01 mm)
SWR1	1"	1.315" (33.4 mm)	0.875" (22.2 mm)

Note: To fit 3,000 lbs (1360.78 kg) coupling.  
\*\* Instrument connection equals 1.062" (2.7 cm) OD

### SANITARY

Type	NPT Process	Cap A	Cap B
SA10	1"	0.992" (2.52 cm)	0.200" (5.1 mm)
SA15	1 1/2"	1.984" (5.04 cm)	0.250" (6.4 mm)
SA20	2"	2.516" (6.39 cm)	0.250" (6.4 mm)
SA25	2 1/2"	3.047" (7.74 cm)	0.250" (6.4 mm)
SAT30	3"	3.579" (9.09 cm)	0.250" (6.4 mm)
SAT40	4"	4.682" (11.89 cm)	0.312" (7.9 mm)

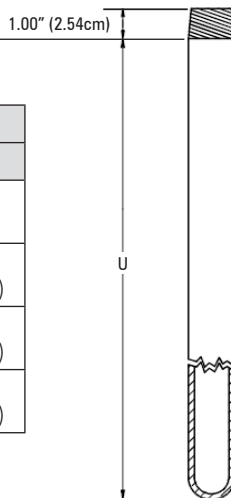
To order indicate a code/value for each component.



### PIPE

Type*	Pipe Size	OD	ID			
			SCH40	SCH80	SCH 160	XXH
PW	1/2" NPT	0.840" (21.8 mm)	0.622" (15.8 mm)	0.546" (13.9 mm)	0.466" (11.8 mm)	0.252" (6.4 mm)
PW0	3/4" NPT	1.050" (26.8 mm)	0.824" (20.9 mm)	0.742" (18.9 mm)	0.614" (15.6 mm)	0.434" (11.0 mm)
PW1	1" NPT	1.315" (33.4 mm)	1.049" (26.6 mm)	0.957" (24.3 mm)	0.815" (20.7 mm)	0.599" (15.2 mm)
PW2	1 1/4" NPT	1.660" (42.2 mm)	1.380" (35.1 mm)	1.278" (32.5 mm)	1.160" (29.5 mm)	0.896" (22.8 mm)

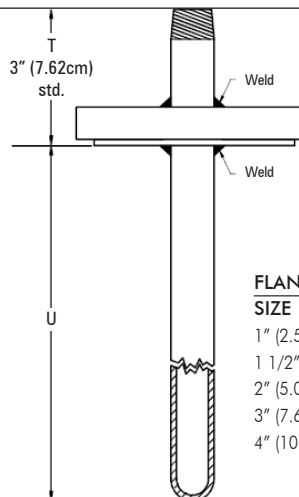
\* Schedule 40 is standard. See options for other schedules.



### FLANGED PIPE

Type*	Pipe Size	OD	ID			
			SCH40	SCH80	SCH 160	XXH
FPW	1/2" NPT	0.840" (21.8 mm)	0.622" (15.8 mm)	0.546" (13.9 mm)	0.466" (11.8 mm)	0.252" (6.4 mm)
FPW0	3/4" NPT	1.050" (26.8 mm)	0.824" (20.9 mm)	0.742" (18.9 mm)	0.614" (15.6 mm)	0.434" (11.0 mm)
FPW1	1" NPT	1.315" (33.4 mm)	1.049" (26.6 mm)	0.957" (24.3 mm)	0.815" (20.7 mm)	0.599" (15.2 mm)
FPW2	1 1/4" NPT	1.660" (42.2 mm)	1.380" (35.1 mm)	1.278" (32.5 mm)	1.160" (29.5 mm)	0.896" (22.8 mm)

\*Flanges made from same material as pipe. Schedule 40 is standard. See options for other schedules.



#### FLANGE

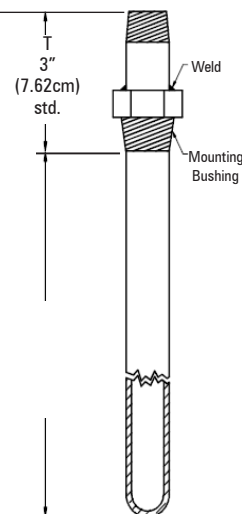
SIZE	RATING	TYPE
1" (2.54 cm)	150	RF Raised Face
1 1/2" (3.81 cm)	200	FF Flat Face
2" (5.08 cm)	300	RTJ Ring Type Joint
3" (7.62 cm)	400	
4" (10.16 cm)	600	
	900	
	1500	

### THREADED PIPE

Type*	Pipe Size	OD	ID				Std. Mounting Bushing**
			SCH40	SCH80	SCH 160	XXH	
SPW	1/2" NPT	0.840" (21.8 mm)	0.622" (15.8 mm)	0.546" (13.9 mm)	0.466" (11.8 mm)	0.252" (6.4 mm)	3/4" (19.1 mm), 1" (25.4 mm), 1 1/4" (31.8 mm), 1 1/2" (38.1 mm)
SPW0	3/4" NPT	1.050" (26.8 mm)	0.824" (20.9 mm)	0.742" (18.9 mm)	0.614" (15.6 mm)	0.434" (11.0 mm)	1" (25.4 mm), 1 1/4" (31.8 mm), 1 1/2" (38.1 mm), 2" (50.8 mm)
SPW1	1" NPT	1.315" (33.4 mm)	1.049" (26.6 mm)	0.957" (24.3 mm)	0.815" (20.7 mm)	0.599" (15.2 mm)	1 1/4" (31.8 mm), 1 1/2" (38.1 mm), 2" (50.8 mm), 2 1/2" (63.5 mm)
SPW2	1 1/4" NPT	1.660" (42.2 mm)	1.380" (35.1 mm)	1.278" (32.5 mm)	1.160" (29.5 mm)	0.896" (22.8 mm)	2" (50.8 mm), 2 1/2" (63.5 mm)

\* Schedule 40 is standard. See options for other schedules.

\*\* Bushing will be 304SS unless otherwise noted.





MEASUREMENT AND CONTROL

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