Thermowells

Included in our thermowell series are standardized wells of threaded, ANSI flanged, Van Stone and Weld-in types.

Threaded wells are made in readily welded or brazed materials for installations requiring seal welding or brazing. The pipe thread provides the mechanical strength, the weld merely seals.

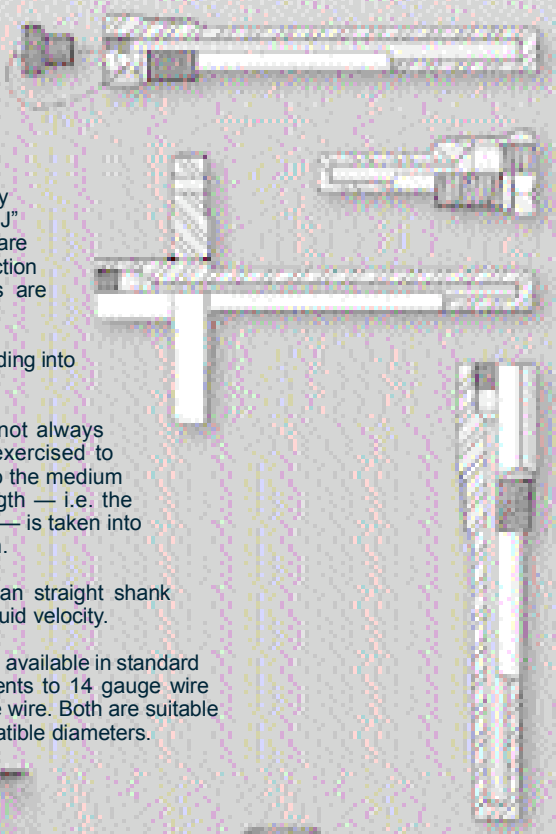
ANSI flanged wells consist of a bar-stock well which is permanently welded to a top quality flange. Standard construction uses primary “J” groove weld and a bevel groove secondary weld. Both welds are machined to produce a clean fillet. This double welded construction eliminates possibility of crevice corrosion since no open joints are exposed from either inside or outside the installation.

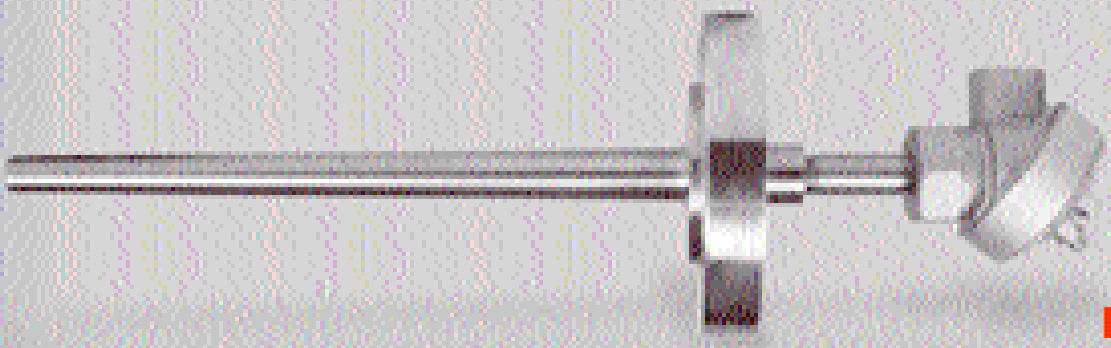
Socket weld types of wells can be installed easily by merely welding into place to form a clean and tight connection.

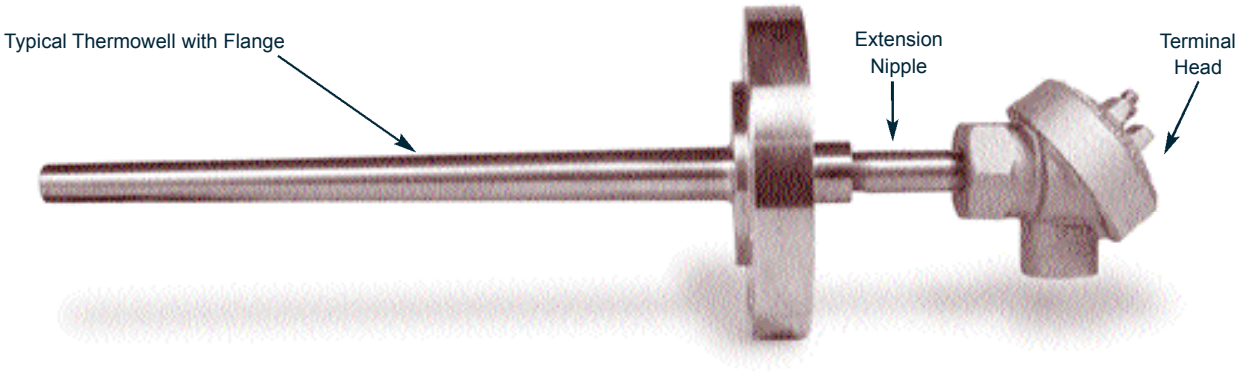
The insertion length “rule of thumb” of ten diameters is not always practical when installing thermowells. Care should be exercised to make certain that the sensitive tip is totally immersed into the medium being measured. Above all, be sure that the dead length — i.e. the length required to pass through walls, pipe fittings, etc. — is taken into account when choosing the necessary insertion length.

Our tapered thermowells provide greater rigidity than straight shank styles. They are well-suited to applications of high fluid velocity.

The thermowells shown on the following pages are available in standard bore diameters of .260" for thermocouple elements to 14 gauge wire and .385" for thermocouple elements to 8 gauge wire. Both are suitable for use with metal sheathed elements of compatible diameters.







Material - The Longevity Factor

In general, the thermowell material chosen for the installation is governed mainly by the corrosion conditions to which the well is exposed. Recommended materials for various services are given in the corrosion table on pages 67 to 69. The high mirror polish given to all stainless and monel wells provides maximum corrosion resistance.

Sometimes the major consideration is strength rather than corrosion-resistance. For example, a high pressure water service may require a stainless steel well, while from a corrosion standpoint, a brass well would be satisfactory.

Connection - The Installation Factor

In these pages you will find standardized wells of threaded, flanged (A.N.S.I. and Van Stone), and socket welded types with standard bore sizes.

Threaded wells are all made in readily welded or brazed materials for installations requiring seal welding or brazing. The pipe thread provides the mechanical strength, the weld merely seals.

Flanged wells other than Van Stone type) consist of a bar-stock well which is permanently welded to a top quality flange. Standard construction uses a primary “J” groove weld and a bevel groove secondary weld. Both welds are machined to produce a clean fillet. this double welded construction eliminates possibility of crevice corrosion since no open joints exposed from either inside or outside the installation.

Socket welding types of wells are simple to install - merely welded into place.These wells fit A.N.S.I. standard socket weld coupling of flanges. The resulting installation is clean and tight.

Insertion Length - The Accuracy Factor

The distance from the end of the well to the underside of the thread, or other connection means, (designated as “U”) is the insertion length. For best accuracy, this length should be long enough to permit the entire temperature sensitive part of the well to project into the temperature medium being measured. A properly installed thermowell will project into the liquid and amount equal to its sensitive length plus at least one inch. In air or gas, the bulb should be immersed into the sensitive length plus at least three inches.

Thermocouples and thermistors have short sensitive lengths and therefore can use the smallest insertion lengths.

Bi-metal thermometers, resistance thermometers, and liquid-in-glass thermometers have bulbs with sensitive portions between one and two inches long. Therefore, the minimum standard insertion length of 2-1/2" must be entirely immersed in liquid for proper accuracy.

Filled system thermometer bulbs may have sensitive portions from one to several inches in length. Determine the sensitive length of bulb before choosing an insertion length.

Above all - be sure that dead length i.e. - that required to pass thru wall, pipe fittings, etc. is taken into account when choosing the necessary well insertion length.

B o re Size - The Interchange ability Factory

Several types of temperature measuring instruments are used in most installations. The selection of a standard bore diameter provides extreme flexibility; the same well can accommodate thermocouple resistance thermometer, bi-metal thermometer, or test thermometer.

The bore size of wells shown in this catalog cover the most commonly used temperature sensing elements as follows:

.260 Diameter Bore: Bi-metal Thermometers (1/4" stem)
Thermocouples - (#20 Gauge)
Liquid-in-glass Test thermometers (Unarmored)
Other elements having .252" maximum diameter.

.385 Diameter Bore: Bi-metal Thermometers (3.8" Stem)
Thermocouples - (#14 Gauge)
Liquid-in-glass Test thermometers (Armored)
Other elements having .377" maximum diameter.

Tap e red or Straight Shank - The Velocity Rating Factor

Tapered shank wells provide greater rigidity for the same sensitivity. The higher strength to weight ratio gave these wells higher natural frequency than for equivalent length straight shank wells, thus permitting operation at higher fluid velocity.

INTRODUCTION TO THERMOWELLS

Thermowell Material Selection Guide	
Application	Material
Heat Treating	
Annealing Up to 704˚C (1300˚F) Over 704˚C (1300˚F)	 Black Steel Inconel 600,[a] Type 446 SS
Carburizing Hardening Up to 816˚C (1500˚F) 1093˚C (1500 to 2000˚F) Over 1093˚C (200˚F) Nitriding salt baths Cyanide	 Black Steel Inconel 600,[a] Type 446 SS Ceramic[b] Type 446 SS Nickel (CP)
Neutral	Type 446 SS
High Speed	Ceramic[b]
Iron and Steel	
Basic oxygen furnace	Quartz
Blast furnaces Downcomer Stove dome Hot blast main Stove trunk Stove outlet flue	 Inconel 600, Type 446 SS Silicon carbide Inconel 600 Inconel 600 Black steel
Open hearth Flues and stack Checkers Waste heat boiler	 Inconel 600, Type 446 SS Inconel 600, Cermets Inconel 600, Type 446 SS
Billet heating slab heating and butt welding Up to 1093˚C (2000˚F) Over 1093˚C (2000˚F)	 Inconel 600, Type 446 SS Silicon ceramic carbide[b]
Bright annealing batch Top work temperature Bottom work temperature	 Not required (use bare Type J thermocouple) Type 446 SS
Continuous furnace section forging	Inconel 600, ceramic[b]
Soaking pits Up to 1093˚C (2000˚F) Over1093˚C (2000˚F)	 Inconel 600 Silicon ceramic carbide[b]
Nonferrous Metals	
Aluminum Melting Heat treating	 Cast iron (white-washed) Black steel
Brass or bronze	Not required (use dip-type thermocouple)
Lead	Type 446 SS, black steel
Magnesium	Black steel, cast iron
Tin	Extra heavy carbon steel
Zinc	Extra heavy carbon steel
Pickling tanks	Chemical Lead
Cement	
Exit flues	Inconel 600, Type 446 SS
Kilns, heating zone	Inconel 600

Thermowell Material Selection Guide	
Application	Material
Ceramic	
Kilns	Ceramic[b] and silicon carbide[c]
Dryers	Silicon carbide, black steel
Vitreous enameling*	Inconel 600, Type 446 SS
Glass	
Fore hearths and feeders	Platinum thimble
Lehrs	Black steel
Tanks Roof and wall Flues and checkers	 Ceramic[a] Inconel 600, Type 446 SS
Paper	
Digesters	Type 316 SS, Type 446 SS
Petroleum	
Dewaxing	Type 304, 310, 316, 321, 347 SS carbon steel
Towers	Type 304, 310, 316, 321, 347 SS carbon steel
Tranfer lines	Type 304, 310, 316, 321, 347 SS carbon steel
Factioning column	Type 304, 310, 316, 321, 347 SS carbon steel
Bridgewall	Type 304, 310, 316, 321, 347 SS carbon steel
Power	
Coal-air mixtures	304SS
Flue gases	Black steel, Type 446 SS
Preheaters	Black steel, Type 446 SS
Steel lines	Type 347 or 316 SS
Water Lines	Low carbon steels
Boiler tubes	Types 304, 309 or 310 SS
Gas Producers	
Producers gas	Type 446 SS
Water gas Carburetor Superheater Tar stills	 Inconel 600, Type 446 SS Inconel 600, Type 446 SS Low carbon steels
Incinerators	
Up to 1093˚C (2000˚F)	Inconel 600, Type 446 SS
Over 1093˚C (2000˚F)	Ceramic (primary) silicon carbide (secondary)[a]
Food	
Baking ovens	Black steel
Charretort, sugar	Black steel
Vegetables and fruit	Type 304 SS
Chemical	
Acetic acid 10 to 50% 21˚C (70˚F) 50% 100˚C (212˚F) 99% 21 to 100˚C (70 to 212˚F)	 Type 304, Hastelloy C,[d] Monel Type 316, Hastelloy C,[d] Monel Type 430, Hastelloy C,[d] Monel
Alcohol, ethyl, methyl 21 to 100˚C (70 to 212˚F)	 Type 304
Ammonia All concentration 21˚C (70˚F)	 Type 304, 316 SS
Ammonium cloride All concentration 100˚C (70˚F)	 Type 316 SS, Monel

[a] Trademark of the International Nickel Co.
[b] Due to susceptibility to cracking, sudden thermal shocks should be avoided.
[c] Due to susceptibility to cracking, sudden thermal shocks should be avoided.
[d] Trademark of the Cabot Corp.
[e] Trademark of the Driver-Harris Co.
[f] Trademark of the Driver-Harris Co.

INTRODUCTION TO THERMOWELLS

Thermowell Material Selection Guide

Application	Material
Chemical (continued)	
Ammonium nitrate All concentration 21˚C to 100˚C (70 to 212˚F)	Type 316 SS
Ammonium sulphate, 10% to saturated 100˚C (212˚F)	Type 316 SS
Barium chloride, all concentrations, 21˚C (70˚F)	Monel, Hastelloy C
Barium hydroxide, all concentrations, 21˚C (70˚F)	Low carbon steels
Barium sulphite	Nichrome,[c] Hastelloy C
Brines	Monel
Bromine	Tantalum Monel
Butadiene	Type 304 SS
Butane	Type 304 SS
Butylacetate	Monel
Butyl alcohol	Copper, Type 304 SS
Calcium, Chlorate, dilute	Type 304 SS
Calcium hydroxide 10% to 20% 100˚C (212˚F) 50% 100˚C (212˚F)	Type 304 SS, Hastelloy C Type 316 SS, Hastelloy C
Carbolic acid, all, 100˚C (212˚F)	Type 316 SS
Carbon dioxide, wet or dry	2017-T4 aluminum, Monel, nickel
Chlorine gas Dry, 21˚C (70˚F) Moist, -7 to 100˚C (20 to 212˚F)	Type 316 SS, Monel Hastelloy C
Chromic acid, 10% to 20% 100˚C (212˚F)	Type 316 SS, Hastelloy C (all concentrations)
Citric acid 15% 21˚C (70˚F) 15% 100˚C (212˚F) Concentrated,100˚C(212˚F)	Type 304 SS, Hastelloy C (all concentrations) Type 316 SS, Hastelloy C (all concentrations) Type 316 SS, Hastelloy C (all concentrations)
Copper nitrate	Types 304 SS, 316 SS
Copper sulphate	Types 304 SS, 316 SS
Cresols	Types 304 SS
Cyanogen gas	Type 304 SS
Dow therm[f]	Low carbon steels
Ether	Type 304 SS
Ethyl acetate	Monel, Type 304 SS
Ethyl chloride, 21˚C (70˚F)	Type 304 SS, low carbon steel
Ethyl sulphate, 21˚C (70˚F)	Monel
Ferric chloride, 5% 21˚C (70˚F) to boiling	Tantalum, Hastelloy C
Ferric sulphate, 5% 21˚C (70˚F)	Type 304 SS
Ferrous sulphate, dilute, 21˚C (70˚F)	Type 304 SS
Formaldehyde	Types 304 SS, 316 SS
Formic acid, 5% 21˚C to 66˚C (70˚ to 150˚F)	Type 316 SS
Freon	Monel

Material Selection Guide

Application	Material
Chemical (continued)	
Gallic acid, 5% 21˚C to 66˚C (70˚ to 150˚F)	Monel
Gasoline, 21˚C (70˚F)	Type 304 SS, low carbon steel
Glucose, 21˚C (70˚F)	Type 304 SS
Glycerine, 21˚C (70˚F)	Type 304 SS
Glycerol	Type 304 SS
Hydrobromic acid, 98% 100˚C (212˚F)	Hastelloy B
Hydrochloric acid, 1%, 5% 21˚C (70˚F) 1%, 5% 100˚C (212˚F) 25% 21 to 100˚C (212˚F)	Hastelloy C Hastelloy B Hastelloy B
Hydrofluoric acid, 60% 100˚C (212˚F)	Hastelloy C, Monel
Hydrogen peroxide, 21 to 100˚C (212˚F)	Types 316SS, 304 SS
Hydrogen sulphide, wet and dry	Types 316SS
Iodine, 21˚C (70˚F)	Tantalum
Lactic acid 5% 21˚C (70˚F) 5% 66˚C (150˚F) 10% 100˚C 212˚F)	Type 304 SS Type 316 SS Tantalum
Magnesium chloride, 5% 21˚C (70˚F) 5% 100˚C 212˚F)	
Magnesium sulphate, hot and cold	Monel
Muriatic acid, 21˚C (70˚F)	Tantalum
Naptha, 21˚C (70˚F)	Type 304 SS
Natural gas, 21˚C (70˚F)	Type 304 SS
Nickel chloride, 21˚C (70˚F)	Type 304 SS
Nickel sulphate, hot and cold	Type 304 SS
Nitric acid 5% 21˚C (70˚F) 20% 21˚C (70˚F) 50% 100˚C (212˚F) 65% 100˚C (212˚F) Concentrated, 21˚C (70˚F) Concentrated, 100˚C (212˚F)	Type 304 SS, 316 SS Type 304 SS, 316 SS Type 304 SS, 316 SS Type 316 SS Type 304 SS, 316 SS Tantalum
Nitrobenzene, 21˚C (70˚F)	Type 304 SS
Oleic acid, 21˚C (70˚F)	Type 316 SS
Oleum, 21˚C	Type 316 SS
Oxalic acid 5% hot and cold 10% 100˚C (212˚F)	Type 304 SS Monel
Oxygen 21˚C (70˚F)	Steel
Liquid	SS
Elevated temperatures	SS
Palmitic acid	Type 316 SS
Pentane	Type 340 SS
Phenol	Types 304 SS, 316 SS

[a] Trademark of the International Nickel Co.
[b] Due to susceptibility to cracking, sudden thermal shocks should be avoided.
[c] Due to susceptibility to cracking, sudden thermal shocks should be avoided.
[d] Trademark of the Cabot Corp.
[e] Trademark of the Driver-Harris Co.
[f] Trademark of the Driver-Harris Co.

INTRODUCTION TO THERMOWELLS

Thermowell Material Selection Guide

Application	Material
Chemical (continued)	
Phosphoric acid 1%, 5% 21˚C (70˚F) 10% 21˚C (70˚F) 10% 100˚C (212˚F) 30% 21 to 100˚C (70 to 212˚F) 85% 21 to 100˚C (70 to 212˚F)	 Type 304 SS Type 316 SS Hastelloy C Hastelloy B Hastelloy B
Picric acid, 21˚C (70˚F)	Type 304 SS
Potassium bromide, 21˚C (70˚F)	Type 316 SS
Potassium carbonate, 1% 21˚C (70˚F)	Type 304 SS, Type 316 SS
Potassium chlorate, 21˚C (70˚F)	Type 304 SS
Potassium hydroxide 5% 21˚C (70˚F) 25% 100˚C (212˚F) 60% 100˚C (212˚F)	 Type 304 SS Type 304 SS Type 316 SS
Potassium nitrate 5% 21˚C (70˚F) 5% 100˚C (212˚F)	 Type 304 SS Type 304 SS
Potassium permanganate, 5% 21˚C (70˚F)	Type 304 SS
Potassium sulphate, 5% 21˚C (70˚F)	Type 304 SS, Type 316 SS
Potassium sulphide, 5% 21˚C (70˚F)	Type 304 SS, Type 316 SS
Propane	Type 304 SS, low carbon steel
Pyrogallic acid	Type 304 SS
Quinine bisulphate, dry	Type 316 SS
Quinine sulphate, dry	Types 304 SS
Seawater	Monel or Hastelloy C
Salicylic acid	Nickel
Sodium bicarbonate All concentrations, 21˚C (70˚F) 5% 66˚C (150˚F)	 Types 304 SS Types 304 SS, 316 SS
Sodium carbonate, 5% 21˚C to 66˚C (70˚ to 150˚F)	Types 304 SS, 316 SS
Sodium chloride, 5% 21˚C to 66˚C (70˚ to 150˚F) Saturated 21 to 100˚C (70 to 212˚F)	 Types 316 SS Types 316 SS, Monel
Sodium fluoride, 5% 21˚C (70˚F)	Monel
Sodium hydroxide	Types 304 SS, 316 SS, Hastelloy C
Sodium hypochlorite, 5% still	Types 316 SS, Hastelloy C
Sodium nitrate, fused	Type 316 SS
Sodium peroxide	Type 304 SS
Sodium sulphate, 21˚C (70˚F)	Types 304 SS, 316 SS
Sodium sulphide, 21˚C (70˚F)	Type 316 SS
Sodium sulphite, 30% 66˚C (150˚F)	Type 304 SS
Sodium dioxide Moist gas, 21˚C (70˚F) Gas, 302˚C (575˚F)	 Type 316 SS Types 304 SS, 316 SS
Sulphur Dry Molten Wet	 Type 304 SS Type 316 SS

Thermowell Material Selection Guide

Application	Material
Chemical (continued)	
Sulphuric acid 5% 21 to 100˚C (70 to 212˚F) 10% 21 to 100˚C (70 to 212˚F) 50% 21 to 100˚C (70 to 212˚F) 90% 21˚C (70˚F) 90% 100˚C (212˚F)	 Hastelloy B, Type 316 SS Hastelloy B Hastelloy B Hastelloy B Hastelloy D
Tannic acid, 21˚C (70˚F)	Type 304 SS, Hastelloy B
Tartaric acid, 21˚C (70˚F) 66˚C (150˚F)	 Type 304 SS Type 316 SS
Toluene	2017-T4 aluminum, low carbon steel
Turpentine	Types 304 SS, 316 SS
Whiskey and wine	Types 304 SS, nickel
Xylene	Copper
Zinc chloride	Monel
Zinc sulphate 5% 21˚C (70˚F) Saturated, 21˚C (70˚F) 25% 100˚C (212˚F)	 Types 304 SS, 316 SS Types 304 SS, 316 SS Types 304 SS, 316 SS

Thermo-Couple Products Co.

Reference Charts and Tables on pages 67-69 are courtesy of the American Society for Testing and Materials. Taken from publication STP 47OB, "Manual on the Use of Thermocouples in Temperature Measurement."

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[b] Due to susceptibility to cracking, sudden thermal shocks should be avoided.
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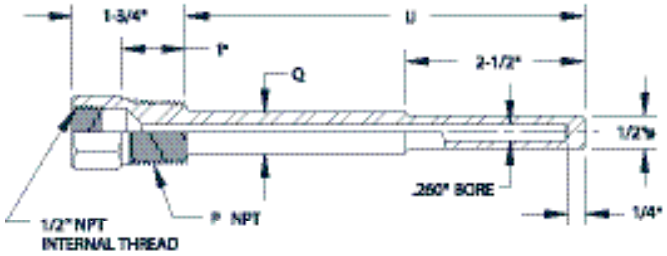
[d] Trademark of the Cabot Corp.
[e] Trademark of the Driver-Harris Co.
[f] Trademark of the Driver-Harris Co.

Thermo-Couple Products Co.

STANDARD THERMOWELLS

Series 6000

- Standard Bore Size: .260"
- Reduced Tip for Faster Heat Response
- Brass Plug and Chain Optional



Process Connection "P"	1/2"	3/4"	1"
Diameter "Q"	5/8"	3/4"	7/8"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6000 - C - 3/4 - 7.5 - 0 - 0

6000 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
2.5	2-1/2"
4.5	4-1/2"
7.5	7-1/2"
10.5	10-1/2"
13.5	13-1/2"
16.5	16-1/2"
22.5	22-1/2"
For other length consult factory	

If lagging extension is required see 6100 Series

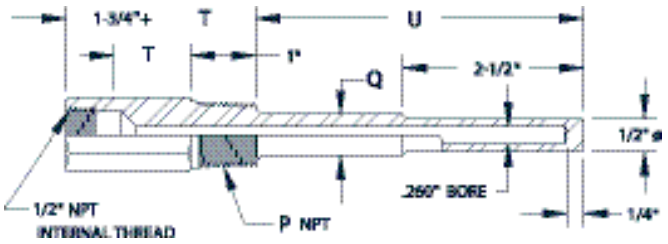
Metric Orders Welcome

Place an **mm** in the appropriate selection box: [100 **mm**]

STANDARD LAG THERMOWELLS

Series 6100

- Standard Bore Size: .260
- Reduced Tip for Faster Heat Response
- Brass Plug and Chain Optional



Process Connection "P"	1/2"	3/4"	1"
Diameter "Q"	5/8"	3/4"	7/8"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6100 - C - 1/2 - 7.5 - 0 - 0

6100 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"	
2.5	2-1/2"	T = 2"
4.5	4-1/2"	T = 3"
7.5	7-1/2"	
10.5	10-1/2"	
13.5	13-1/2"	
16.5	16-1/2"	
22.5	22-1/2"	
For other length consult factory		

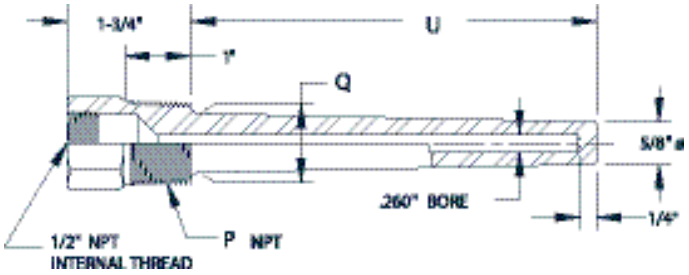
Metric Orders Welcome

Place an **mm** in the appropriate selection box: 100 **mm**

HEAVY DUTY WELL

Series 6200

- Standard Bore Size: .260"
- Tapered Design to Provide Greater Rigidity
- Brass Plug and Chain Optional



Process Connection "P"	1/2"	3/4"	1"
Diameter "Q"	5/8"	7/8"	1-1/16"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6200 - C - 3/4 - 7.5 - 0 - 0

6200 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

If lagging extension is required see 6250 Series

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
2.5	2-1/2"
4.5	4-1/2"
7.5	7-1/2"
10.5	10-1/2"
13.5	13-1/2"
16.5	16-1/2"
22.5	22-1/2"
For other length consult factory	

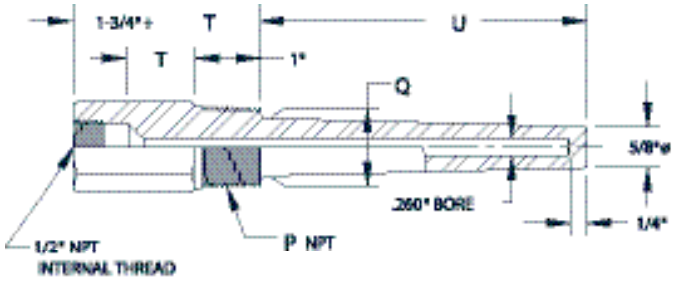
Metric Orders Welcome

Place an **mm** in the appropriate selection box: [100 **mm**]

HEAVY DUTY WELL

Series 6250

- Standard Bore Size: .260"
- Tapered Design to Provide Greater Rigidity
- Brass Plug and Chain Optional



Process Connection "P"	1/2"	3/4"	1"
Diameter "Q"	5/8"	7/8"	1-1/16"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6250 - C - 3/4 - 7.5 - 0 - 0

6250 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"	
2.5	2-1/2"	T = 2"
4.5	4-1/2"	T = 3"
7.5	7-1/2"	
10.5	10-1/2"	
13.5	13-1/2"	
16.5	16-1/2"	
22.5	22-1/2"	
For other length consult factory		

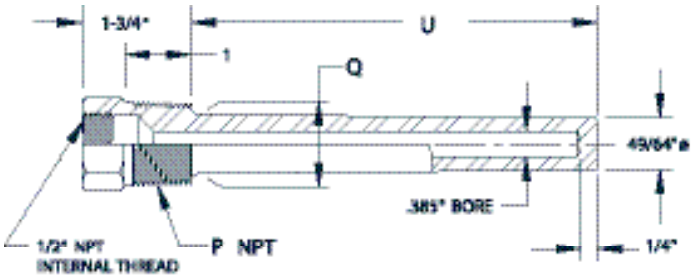
Metric Orders Welcome

Place an **mm** in the appropriate selection box: 100 **mm**

HEAVY DUTY WELL

Series 6300

- Standard Bore Size: .385"
- Tapered Design to Provide Greater Rigidity
- Brass Plug and Chain Optional



Process Connection "P"	3/4"	1"
Diameter "Q"	7/8"	1-1/16"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6300 - C - 3/4 - 7.5 - 0 - 0

6300 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
3/4	3/4" NPT
1	1" NPT

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
2.5	2-1/2"
4.5	4-1/2"
7.5	7-1/2"
10.5	10-1/2"
13.5	13-1/2"
16.5	16-1/2"
22.5	22-1/2"
For other length consult factory	

If lagging extension is required see 6350 Series

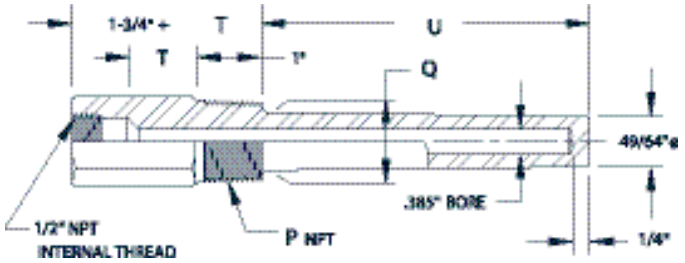
Metric Orders Welcome

Place an **mm** in the appropriate selection box: [100 **mm**]

HEAVY DUTY WELL

Series 6350

- Standard Bore Size: .385"
- Supplied with a Standard Lag Length
- Brass Plug and Chain Optional



Process Connection "P"	3/4"	1"
Diameter "Q"	7/8"	1-1/16"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6350 - C - 3/4 - 7.5 - 0 - 0

6350 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

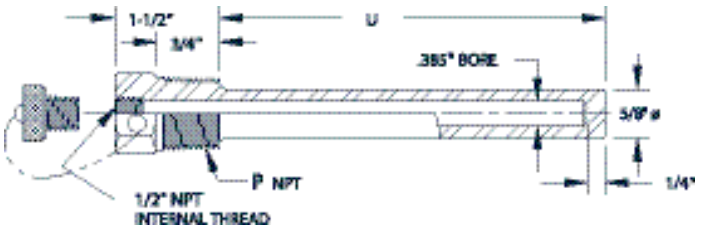
CODE	THERMOWELL INSERTION LENGTH "U"	
2.5	2-1/2"	T = 2"
4.5	4-1/2"	T = 3"
7.5	7-1/2"	
10.5	10-1/2"	
13.5	13-1/2"	
16.5	16-1/2"	
22.5	22-1/2"	
For other length consult factory		

Metric Orders Welcome

Place an **mm** in the appropriate selection box: 100 **mm**

TEST WELL

Series 6400
- Standard Bore Size: .385"
- Brass Plug and Chain Standard



Enter a selection for each item, please fax your inquiry to TCP.

Example: 6400 - C - 3/4 - 8 - 0 - 0

6400 - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
1/2	1/2" NPT
3/4	3/4" NPT
1	1" NPT

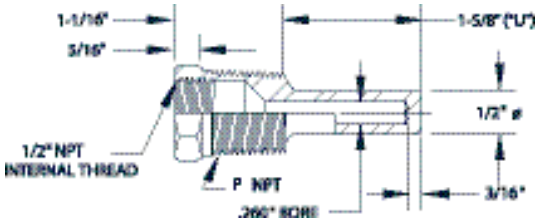
CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
2	2"
4	4"
6	6"
8	8"
10	10"
12	12"
For other length consult factory	

LIMITED SPACE WELL

Series 6500
- Standard Bore Size: .260
- Brass Plug and Chain Optional



Metric Orders Welcome
Place an **mm** in the appropriate selection box: 100 **mm**

Example: 6500 - C - 3/4 - 1.625 - 0 - 0

6500 - [ ] - [ ] - 1.625 - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PROCESS CONNECTION "P"
3/4	3/4" NPT
1	1" NPT
For special requirements contact factory. 1/2" NPT - Not available	

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

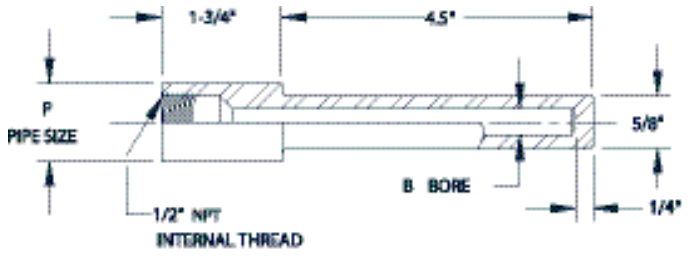
CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
1.625	Only available in 1-5/8" ("U")
For other length consult factory	

SOCKET - WELD WELL

Series 6600

- Standard Bore Size: .260" or .385"
- Used in Seal Welded Applications for Maximum Vessel Integrity
- Brass Plug and Chain Optional



Pipe Size "P"	B	Q
3/4"	.260" .385"	3/4" 49/64"
1"	.260" .385"	7/8" 7/8"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6600 - C - .260 - 3/4 - 7 - 0 - 0

6600 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	BORE DIAMETER "B"
.260	.260"
.385	.385"

CODE	PIPE SIZE
3/4	3/4" Pipe (1.050 Nom. O.D.)
1	1 Pipe (1.315 Nom. O.D.)

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	THERMOWELL INSERTION LENGTH "U"
2.5	2-1/2"
4.5	4-1/2"
7.5	7-1/2"
10.5	10-1/2"
13.5	13-1/2"
16.5	16-1/2"
22.5	22-1/2"
For other length consult factory	

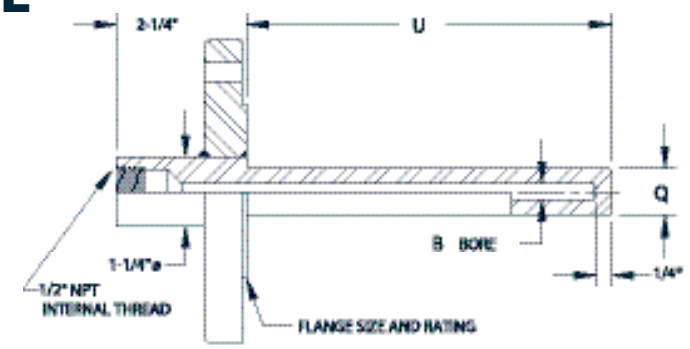
Metric Orders Welcome

Place an **mm** in the appropriate selection box: 100 **mm**

FLANGE THERMOWELL

Series 6700

- Standard Bore Size: .260" or .385"
- Flange is Fully Welded to Thermowell
- Brass Plug and Chain Optional



Bore "B"	.260"	.385"
Diameter "Q"	3/4"	7/8"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6700 - C - .260 - 7 - 1.5 - 300 - FF - 0 - 0

6700 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
D	446 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	BORE DIAMETER "B"
.260	.260"
.385	.385"

CODE	THERMOWELL INSERTION LENGTH "U"
2	2"
4	4"
7	7"
10	10"
13	13"
16	16"
22	22"
For other length consult factory	

CODE	FLANGE SIZE
1	1"
1.5	1.5"
2	2"
3	3"

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	FACING
FF	Flat Face
RF	Raised Face
RTF	Ring Type Joint
SFRF	Smooth Face, Raised Face

CODE	RATING
150	150 lb.
300	300 lb.
600	600 lb.
900	900 lb.

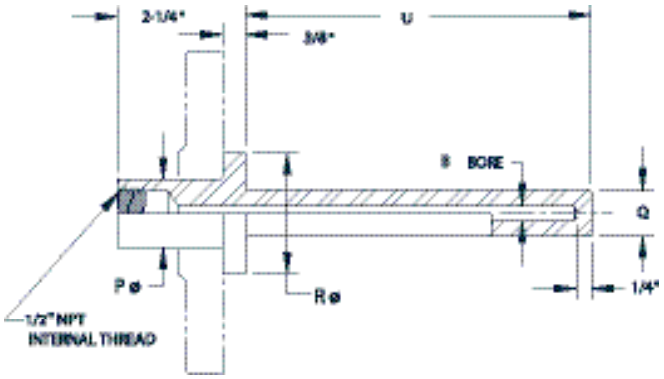
Metric Orders Welcome

Place an **mm** in the appropriate selection box: 100 **mm**

VAN STONE THERMOWELL

Series 6800

- Standard Bore Size: .260" or .385"
- Can be Supplied with a Lap Joint Flange
- Brass Plug and Chain Optional



Diameter "Q"	3/4"	7/8"
Bore "B"	.260"	.385"

Enter a selection for each item, please fax your inquiry to TCP.

Example: 6800 - C - 1 - .260 - 7 - 0 - 0 - 0

6800 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

CODE	MATERIAL
S	Carbon Steel *(C1018)*
C	304 Stainless Steel
H	316 Stainless Steel
M	Monel
A	Inconel 600
Consult factory for other materials	

CODE	PIPE SIZE	"P" Dia.	"R" Dia.
1	1"	1.325"	2"
1.5	1-1/2"	1.900"	2-7/8"

CODE	BORE DIAMETER "B"
.260	.260"
.385	.385"

CODE	THERMOWELL INSERTION LENGTH "U"
2	2"
4	4"
7	7"
10	10"
13	13"
16	16"
22	22"
For other length consult factory	

CODE	OTHER PERTINENT DATA
0	NONE
999	Special Request Consult Factory

CODE	PLUG AND CHAIN
0	NONE
1	Brass
2	Stainless Steel

CODE	FLANGE SIZE AND RATING
0	None
1	1", 150 lb. Lap Joint - Carbon Steel
2	1", 300 lb. Lap Joint - Carbon Steel
3	1- 1/2", 150 lb. Lap Joint - Carbon Steel
4	1- 1/2", 300 lb. Lap Joint - Carbon Steel