
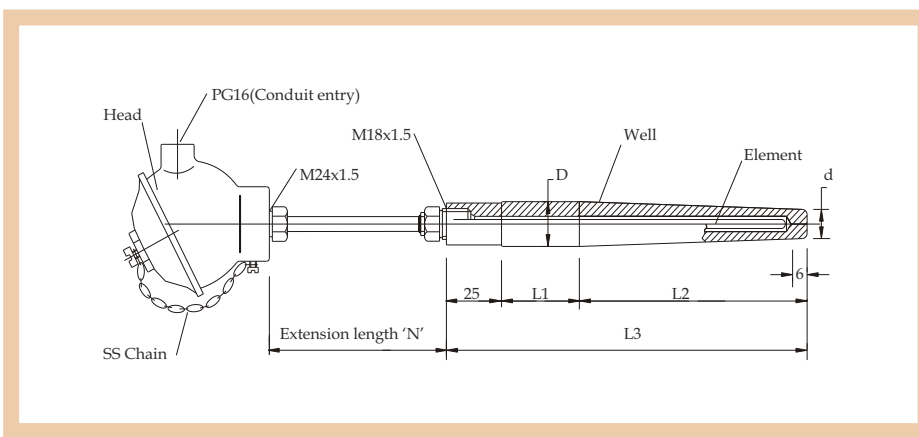


# 500# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Weld in Thermowell.
- Form D as per DIN 43763.
- Certified for use in hazardous area. 
- Available with "in-head" 2-wire Temperature Transmitter.



Mi Thermocouple or Resistance Thermometer Sensor fitted into a terminal Head, and provided with head extension and drilled bar stock Thermowell would form a typical complete assembly ready for use in the application designed for. The design of the complete assembly depends on various parameters such as, temperature, dynamic pressure, flow velocity, abrasive nature of process fluid, intricate nature of installation and insertion lengths required.

Various designs are available as standard products, few of which are illustrated in this leaflet. We can design and manufacture assemblies, single/duplex as well as multipoint to suit practically every process. Thermowells are available in standard AISI 300 series Stainless Steel as well as in ferritic steels such as 13CrMo44 or 10CrMo910.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.5mm
10	10mm	11.0mm

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box
KB	DIN 'B' W/P
KA	DIN 'A' W/P

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
4	Extension in 316SS
5	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	L3	L2	D	d
D1	140	65	24	12.5
D2	200	125	24	12.5
D3	200	125	30	16
D4	200	65	24	12.5
D5	260	125	24	12.5
D6	255	125	30	16

Note : Type D3 and D6 are for 8 dia inserts.  
All other types are 6 dia inserts

Code	Well Type
W	Weld-in

Code	Well Material
316	316SS
321	321SS
316Ti	316SS Ti stabilised
F11	13CrMo44
F22	10CrMo910

Code	No of entries
1	One entry
2	Two entries

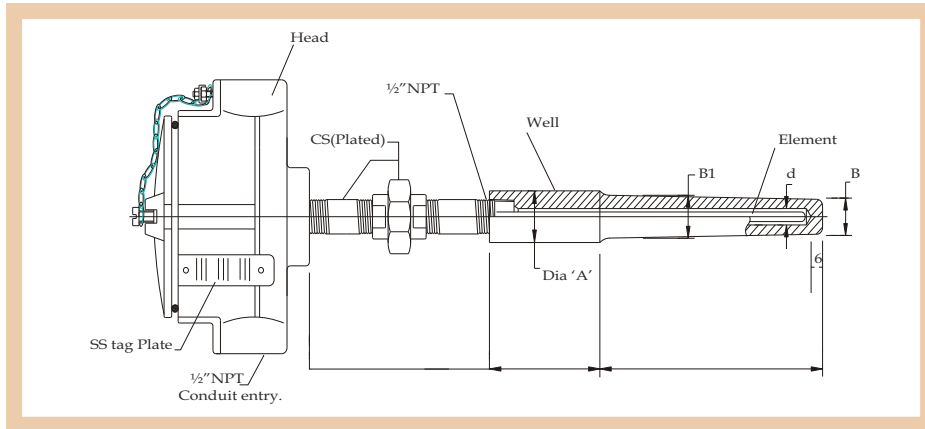
### ORDERING EXAMPLE

500# SERIES 1-Pt-6-316-KB-1-F11-W-D1-Op7

# 510# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Bar stock Weld-In tapered well for use in socket weld or straight through socket.
- Certified for use in hazardous area. 
- Safe design as per ASME PTC19.3.
- Available with “in-head” 2-wire Temperature



Mi Thermocouple or Resistance Thermometer Sensor fitted into a terminal Head, and provided with head extension and drilled bar stock Thermowell would form a typical complete assembly ready for use in the application designed for. The design of the complete assembly depends on various parameters such as, temperature, dynamic pressure, flow velocity, abrasive nature of process fluid, intricate nature of installation and insertion lengths required.

Weld-in wells are provided with a cylindrical head suitable for welding into a socket weld or straight through socket. Thermowells are available in standard AISI 300 series Stainless Steel as well as exotic materials such as Incoloy 800, Inconel 600, Monel 400, Hastelloy alloys C276 and alloy B.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2" NPT and ungrounded Junction for Thermocouples.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.5mm
10	10mm	11.0mm

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box

Code	No of entries
1	One entry
2	Two entries

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
4	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	Socket	A	B1	B
20	20mm	26.6	22	16
25	25mm	33.4	25	19
32	32mm	42.1	33	25
40	40mm	48.3	42	30
00	Define A, B1, B			

Code	Well Extension
T	Define

Code	Well Insertion
U	Define

Code	Well Type
W	Weld-in

Code	Well Material
316	316SS
304	304SS
321	321SS
446	446SS
Inc8	Incoloy 800
Inc6	Inconel 600

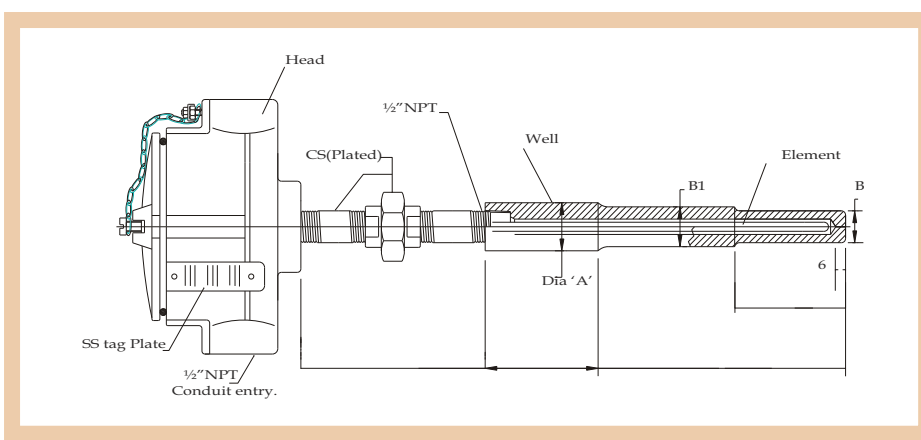
### ORDERING EXAMPLE

510# SERIES 1-K-6-316-D-1-316-W-U=250-T=70-25-Op0

# 520 Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Weld-In Stepped Shank well.
- Certified for use in hazardous area. 
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



Mi Thermocouple or Resistance Thermometer Sensor fitted into a terminal Head, and provided with head extension and drilled bar stock Thermowell would form a typical complete assembly ready for use in the application designed for. Weld in wells are provided with a cylindrical head for welding into a socket weld or a straight through socket.

Thermowells are available in standard AISI 300 series Stainless Steel as well as exotic materials such as Incoloy 800, Inconel 600, Monel 400, Hastelloy alloys C276 and alloy B.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.5mm
10	10mm	11.0mm

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box

Code	No of entries
1	One entry
2	Two entries

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
4	Extension in 316SS
5	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	Socket	A	B1	B
20	20mm	26.6	22	16
25	25mm	33.4	25	19
32	32mm	42.1	33	25
40	40mm	48.3	42	30
00	Define A, B1, B			

Code	Well Extension
T	Define

Code	Well Insertion
U	Define

Code	Well Type
W	Weld-in


  

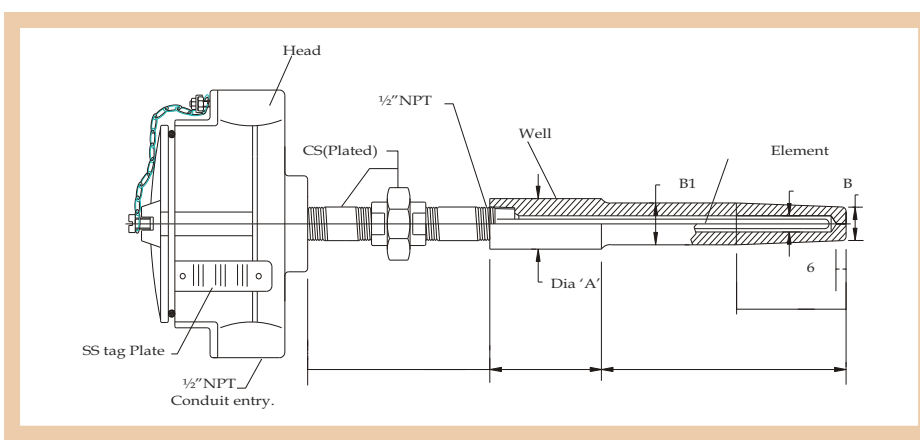
Code	Well Material
316	316SS
304	304SS
321	321SS
446	446SS
Inc8	Incoloy 800
Inc6	Inconel 600

**ORDERING EXAMPLE**  
520# SERIES 1-K-6-316-D-1-316-W-U=250-T=70-25-Op0

# 530# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Weld-In Straight and tapered shank well.
- Certified for use in hazardous area. 
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



The Thermocouple or RTD assembly illustrated in this leaflet is with a weld in well having straight shank with a tapered tail. These wells are provided with a cylindrical head for welding into a socket weld or a straight through socket.

Thermowells are available in standard AISI 300 series Stainless Steel as well as exotic materials such as Incoloy 800, Inconel 600, Monel 400, Hastelloy alloys C276 and alloy B.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples unless specified otherwise. Define dimensions B1 same as Dimension B, when a fully straight shank well is required.


Code	No of Elements	Code	Options			
1	Simplex	0	None			
2	Duplex	1	Head in 304SS			
3	Triplex	2	Head in 316SS			
		3	Extension in 304SS			
		4	Extension in 316SS			
		5	Other Conduit entry			
		6	In Head Transmitter			
		7	Brass Cable Gland			
		8	SS Cable Gland			
		10	Special requirement			
Code	Elements	Code	Socket	A	B1	B
J	Iron-Constantan	20	20mm	26.6	22	16
K	Chromel-Alumel	25	25mm	33.4	25	19
T	Copper-Constantan	32	32mm	42.1	33	25
E	Chromel-Constantan	40	40mm	48.3	42	30
N	Nicrosil-Nisil	00	Define A, B1, B			
Pt	Pt100 RTD					
Code	Sheath Dia	'd'	Code	Well Extension		
6	6mm	7.0mm	T	Define		
8	8mm	8.5mm				
10	10mm	11.0mm	Code	Well Insertion		
			U	Define		
Code	Sheath Material	Code	Well Type			
316	316SS	W	Weld-in			
321	321SS					
Inc	Inconel 600	Code	Well Material			
Code	Head Type	316	316SS			
D	Weatherproof	304	304SS			
F	Flameproof IIA/IIB	321	321SS			
C	Flameproof IIC	446	446SS			
JB	Junction Box	Inc8	Incoloy 800			
Inc6	Inconel 600	Inc6	Inconel 600			
Code	No of entries					
1	One entry					
2	Two entries					

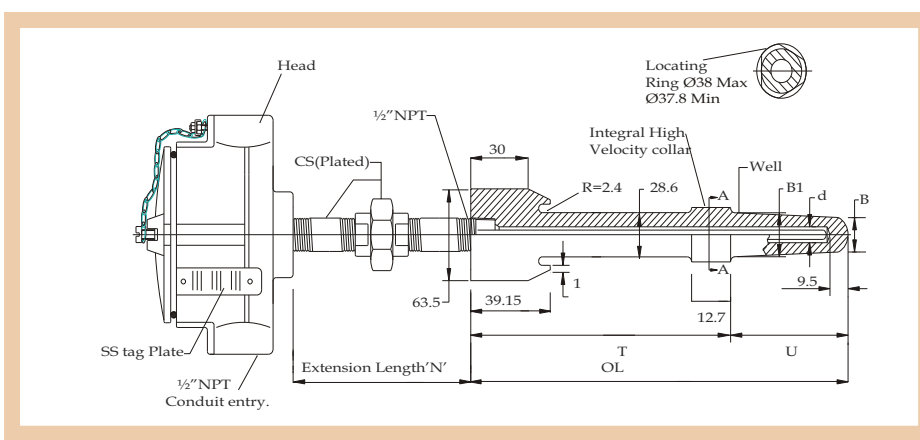
### ORDERING EXAMPLE

530# SERIES 1-K-6-316-D-1-316-W-U=250-T=70-32-Op1

# 540# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A High Pressure weld in well.
- Certified for use in hazardous area. 
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



The assembly shown in this leaflet is with a weld in Thermowell manufactured from bar stock as per ASTM A276 grade 321SS or 316SS, duly tested prior to manufacture as per agreed QA plan. These assemblies are used for temperature measurement of high pressure and high velocity steam lines and are largely used in performance testing of utility boilers.

The Thermowell is butt welded on the weldolet provided on the pipings and the collar provided on thermowell fits snugly in the pipe wall, thus reducing the suspended length of the thermowell, and thereby meeting the ASME PTC19.3 code requirement.

Thermowells are provided with IBR certification, material integrity test certificates and are also subjected to a heat treatment of 950 Deg C prior to final finishing. A plug and chain is provided, when thermowells are supplied as "Test Wells".

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples unless specified otherwise.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
4	Extension in 316SS
5	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	Weldolet size	A	B1	B
BW2"XXS	2"XXS	63.5	25.4	19

Code	Well Extension
T	Define

Code	Well Insertion
U	Define

Code	Well Type
W	Weld-in

Code	Well Material
316	316SS
304	304SS
321	321SS
446	446SS

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.5mm
10	10mm	11.0mm

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box

Code	No of entries
1	One entry
2	Two entries

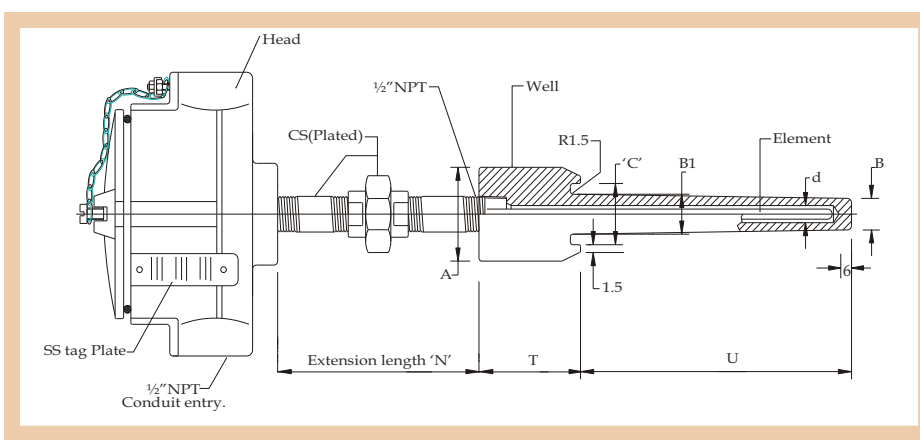
### ORDERING EXAMPLE

540# SERIES 1-K-6-316-D-1-316-W-U=84.1-T=206.4-BW2"SchXXS-Op0

# 550# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Butt weld design tapered well.
- Certified for use in hazardous area. 
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



Mi Thermocouple or Resistance Thermometer Sensor fitted into a terminal Head, and provided with head extension and drilled bar stock Thermowell would form a typical complete assembly ready for use in the application designed for. The design of the complete assembly depends on various parameters such as, temperature, dynamic pressure, flow velocity, abrasive nature of process fluid, intricate nature of installation and insertion lengths required.

High velocity collar can be provided to reduce the suspended length of thermowell and to meet ASME PTC19.3 requirement. Thermowells are available in standard AISI 300 series Stainless Steel as well as exotic materials such as Incoloy 800, Inconel 600, Monel 400, Hastelloy alloys C and B.

The Thermowell illustrated in this leaflet is for butt welding to a weldolet and well dimensions given are suitable for weldolet size of 1.5" and 2" and schedule 40 to schedule XXS.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples unless specified otherwise.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.5mm
10	10mm	11.0mm

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box

Code	No of entries
1	One entry
2	Two entries

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
3	Extension in 316SS
4	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	Weldolet size	A	B1	B
BW1.5"40	1.5"Sch40	48	41	16
BW1.5"80	1.5"Sch80	48	38	16
BW1.5"160	1.5"Sch160	48	34	16
BW1.5"XXS	1.5"SchXXS	48	28	16
BW2"40	2"Sch40	60	52	16
BW2"80	2"Sch80	60	49	16
BW2"160	2"Sch160	60	43	16
BW2"XXS	2"SchXXS	60	38	16

Note: 'B' will be 19mm for sheath dia of 8mm  
And 22mm for sheath dia of 10mm.  
'B1' will be B+3

Code	Well Extension
T	Define

Code	Well Insertion
U	Define

Code	Well Type
W	Weld-in

Code	Well Material
316	316SS
304	304SS
321	321SS
Inc6	Inconel 600

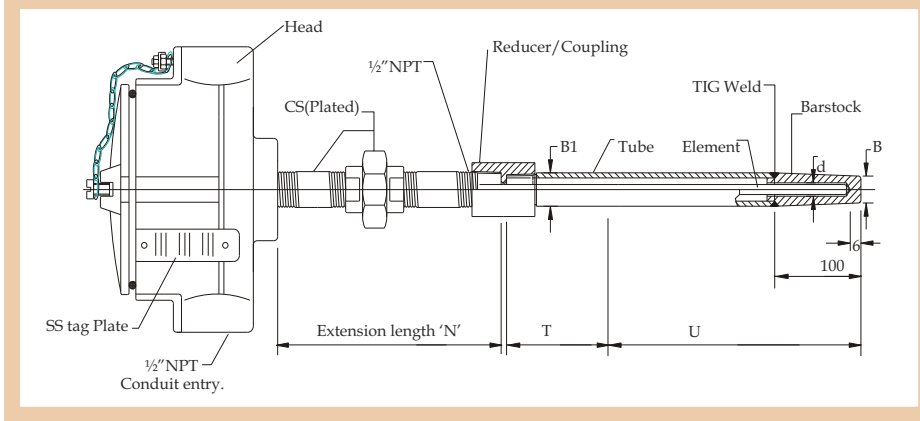
### ORDERING EXAMPLE

550# SERIES 1-K-6-316-D-1-316-W-U=250-T=70-BW1.5"40-Op0

# 560# Series

## Thermocouple & Resistance Thermometer Assemblies with

- A Built up Weld -in well with tail portion in bar stock.
- Built up from seamless tubes.
- Certified for use in hazardous area. 
- Available with "in-head" 2-wire
- Temperature Transmitter.



Mi Thermocouple or Resistance Thermometer Sensor fitted into a terminal Head, and provided with head extension and built up Weld in Thermowell would form a typical complete assembly ready for use in the application designed for.

Thermowells are built up from seamless tubes with tail portion of 100mm made from bar stock and TIG welded. These wells are suitable for welding onto a straight through socket. Thermowells are available in standard AISI 300 series Stainless Steel as well as exotic materials such as Incoloy 800, Inconel 600, 446SS.

The standard execution as shown in this leaflet is with plated CS extension and Aluminum head with conduit entry of 1/2"NPT and ungrounded Junction for Thermocouples unless specified otherwise.

Code	No of Elements
1	Simplex
2	Duplex
3	Triplex

Code	Options
0	None
1	Head in 304SS
2	Head in 316SS
3	Extension in 304SS
4	Extension in 316SS
5	Other Conduit entry
6	In Head Transmitter
7	Brass Cable Gland
8	SS Cable Gland
10	Special requirement

Code	Elements
J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
E	Chromel-Constantan
N	Nicrosil-Nisil
Pt	Pt100 RTD

Code	Well Type
W	Weld-in

Code	Sheath Dia	'd'
6	6mm	7.0mm
8	8mm	8.0mm
10	10mm	10.0mm

Code	Well Extension
T	Define

Code	Well Insertion
U	Define

Code	Well Dimensions	B1 x W/t	B
3/8" Sch80	17.15 x 3.18		12.7
1/2" Sch80	21.30 x 3.73		16.0
3/4" Sch80	26.60 x 3.91		22.0

Other Dimensions also available.

Code	Head Type
D	Weatherproof
F	Flameproof IIA/IIB
C	Flameproof IIC
JB	Junction Box

Code	Well Material
316	316SS
304	304SS
321	321SS
Inc6	Inconel 600

Code	Sheath Material
316	316SS
321	321SS
Inc	Inconel 600

Code	No of entries
1	One entry
2	Two entries

### ORDERING EXAMPLE

560# SERIES 1-K-6-316-D-1-316-1/2"Sch80-U=640-T=30-W-Op0