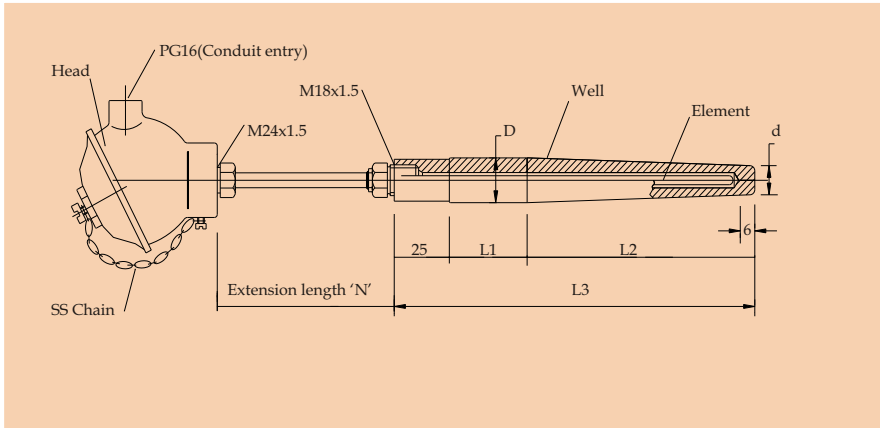


500 Series Thermocouple & Resistance Thermometer Assemblies with

- A Weld in Thermowell.
- Form D as per DIN 43763.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Available with "in-head" 2-wire Temperature Transmitter.



MsMi 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	8.0mm
10	10mm	10.0mm

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	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

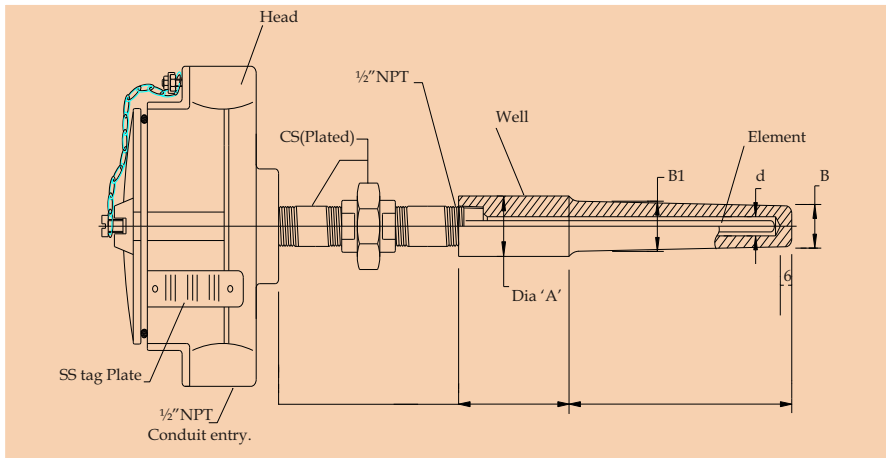
Code	Well Material
316	316SS
321	321SS
316Ti	316SS Ti stabilised
F11	13CrMo44
F22	10CrMo910

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.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



MsMi 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. 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 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	8.0mm
10	10mm	10.0mm

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

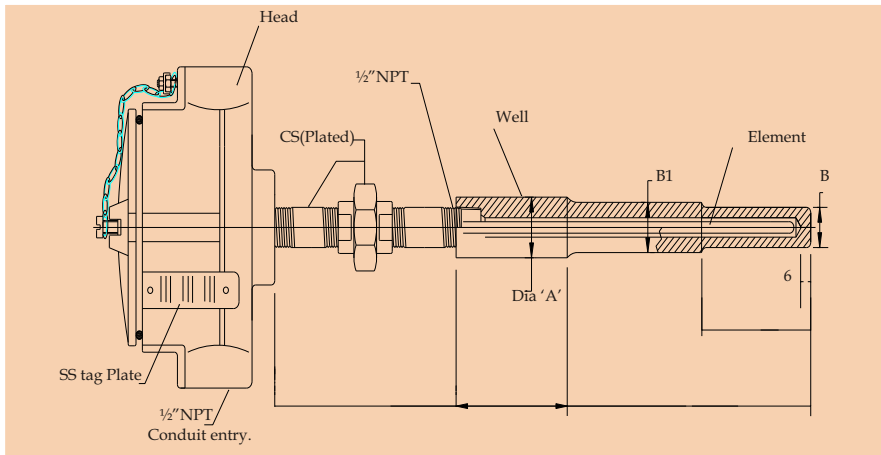
Code	Well Material
316	316SS
304	304SS
321	321SS
446	446SS
Inc8	Incoloy 800
Inc6	Inconel 600

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.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.



Msmi 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.

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 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	8.0mm
10	10mm	10.0mm

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

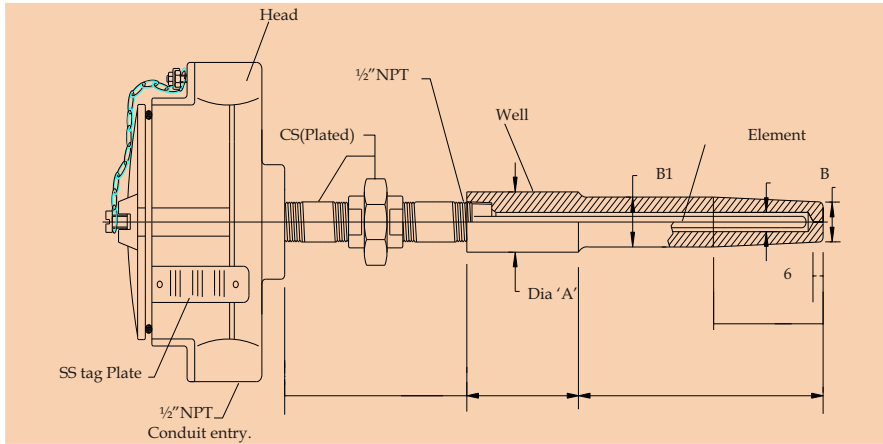
Code	Well Material
316	316SS
304	304SS
321	321SS
446	446SS
Inc8	Incoloy 800
Inc6	Inconel 600

ORDERING EXAMPLE

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

Pyro Electric Instruments Goa Pvt Ltd.

Office : G/B, Hill Crown Apartments, College Road, Mapusa, Goa 403507; Email: pyroadmin@pyro-electric.in



530 Series Thermocouple & Resistance Thermometer Assemblies with

- A Weld-In Straight and tapered shank well.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- 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.

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 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
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	8.0mm
10	10mm	10.0mm

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

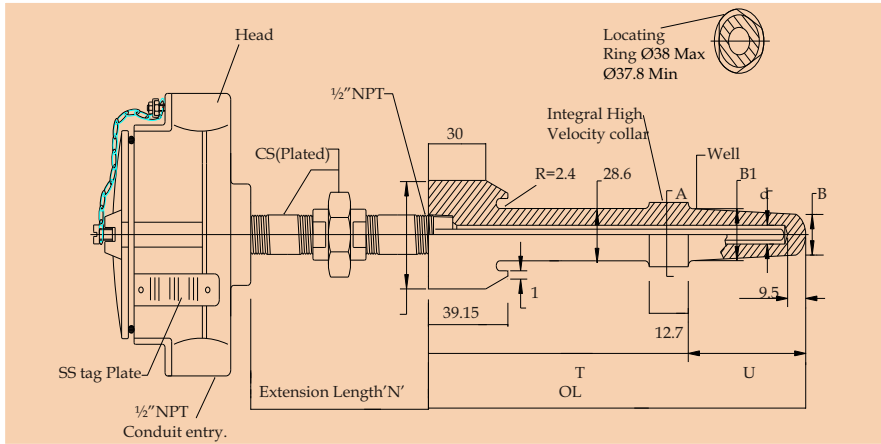
530 SERIES 1-K-6-316-D-1-316-W-U=250-T=70-32-Op1

Pyro Electric Instruments Goa Pvt Ltd.

Office : G/B, Hill Crown Apartments, College Road, Mapusa, Goa 403507; Email: pyroadmin@pyro-electric.in

540 Series Thermocouple & Resistance Thermometer Assemblies with

- A High Pressure weld in well.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Safe design as per ASME PTC19.3.
- Available with "in-head" 2-wire Temperature Transmitter.

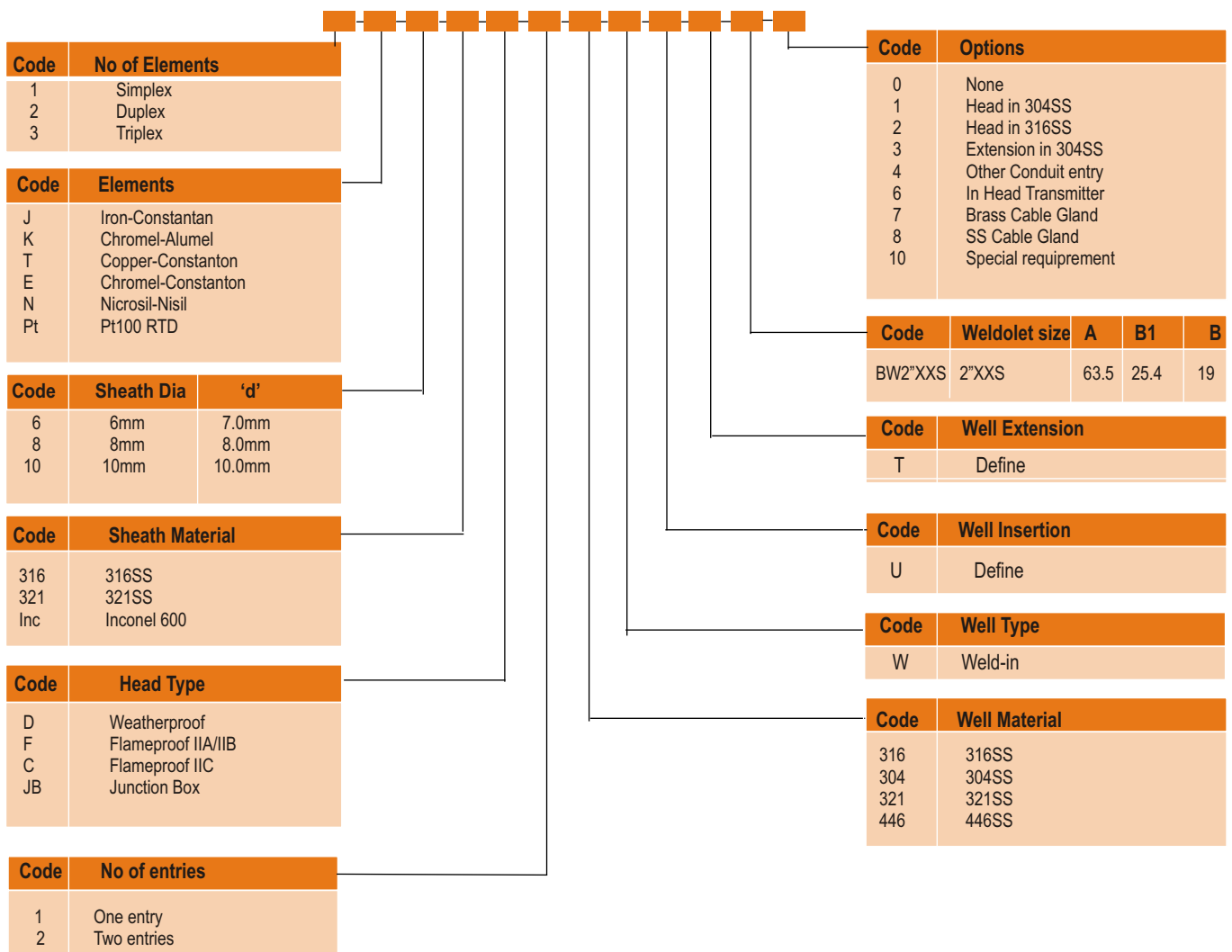


The assembly shown in this leaflet is with a weld in Thermowell manufactured from bar stock as per ASTM A276 grade 321SS or 316SS, duly tested prior to manufacture as per agreed QA plan. These assemblies are used for temperature measurement of high pressure and high velocity steam lines and are largely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

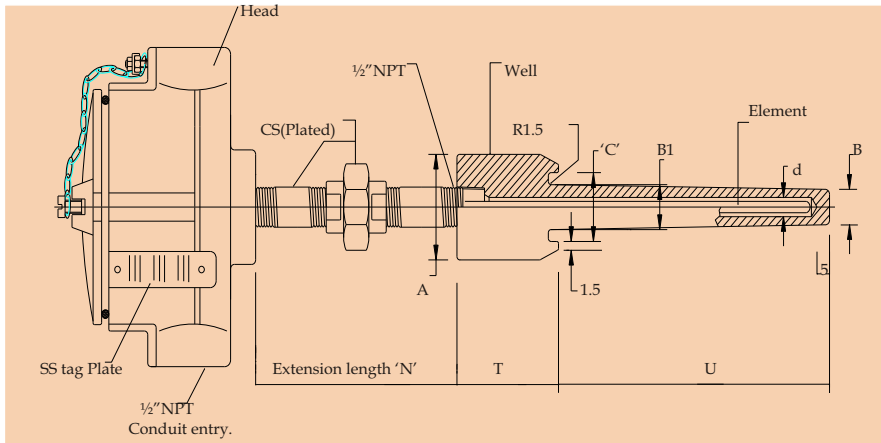
Thermowells are provided with IBR certification, material integrity test certificates and are also subjected to a heat treatment of 950 Deg C prior to final finishing. A plug and chain is provided, when thermowells are supplied as "Test Wells".

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.



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.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Safe design as per ASME PTC19.3.
- Available with “in-head” 2-wire Temperature Transmitter.

MsMi 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	8.0mm
10	10mm	10.0mm

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	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

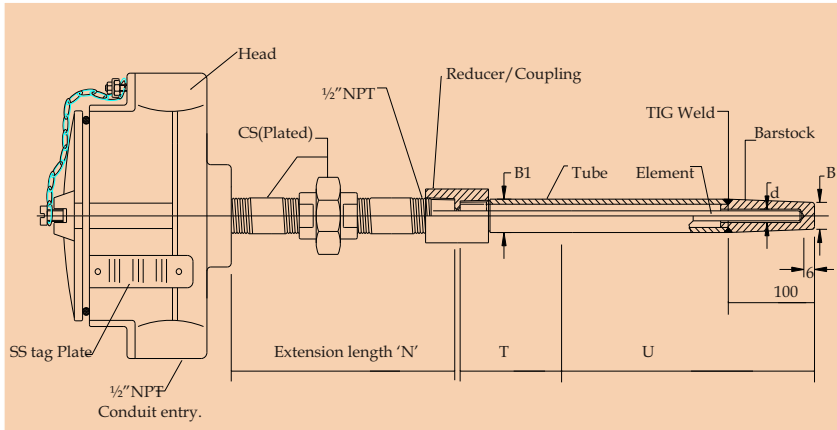
Code	Well Insertion
U	Define

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.
- Flameproof or Weatherproof execution in SS316 or Aluminum.
- Available with "in-head" 2-wire Temperature Transmitter.

MsMi 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 inch 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	8.0mm
10	10mm	10.0mm

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	Well Type
W	Weld-in

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

ORDERING EXAMPLE

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