RTD SENSOR

INTRODUCTION

This data sheet is intended to be a complete reference and guide for radix resistance temperature detector (RTD) assemblies and accessories. It also includes information for ordering sensors, terminal heads, process connections and thermowells as complete assemblies

Definition

A Resistance Temperature Detector operates on the principle of the change in electrical resistance in wire as a function of temperature

The Element

An element is the actual sensing unit. Two types of elements are generally used. Thin Film and wire wound.

Thin film elements are made by depositing platinum as a film on a substrate and then encapsulating both. By this method, very small, fast responding, high accurate elements are made

Wire wound elements are made of 99.99% pure platinum wound on a ceramic or glass core and hermetically sealed within a ceramic or glass capsule

The Sheath

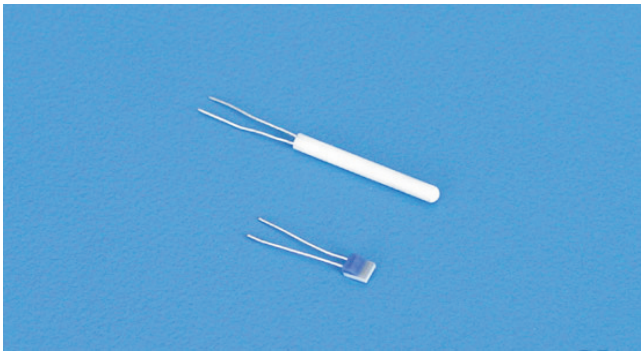
The sheath, a closed end tube immobilizes the element, protecting it against moisture and the environment to be measured. The sheath also provides protection and stability to the lead wires / integral cable from the fragile element leads

The Assembly

An assembly consists of an element, a sheath, a lead wire, a termination and/or process connection

Advantages

- High accuracy
- Excellent long-term stability
- High signal output level which allows transmission over long distances



SPECIFICATIONS

Nominal Resistance

In accordance with DIN EN 60751, the nominal resistance is defined as follows :

100 RTD at 100°C
Temperature coefficient averaged between 0 and 100°C = 3.85×10^{-3} °C^{-1}

Temperature Range

Assemblies are available with a standard measuring range from -50°C to +400°C with an option of an extended range capability from -196°C to +600°C using wire wound element. The wire wound version offers better long-term stability and improved mechanical robustness against vibrations

Limits of error

Tolerance Class B : t = ± (0.30 + 0.005 x t) valid for the complete temperature range from -196°C to +600°C

Tolerance Class A : t = ± (0.15 + 0.002 x t) valid only for the temperature range from -30°C to +350°C

Element

Standard size of elements : Film : 2mm x 5mm
Wire wound : 3mm x 30mm

Insulation Resistance

1000 Megohms minimum insulation resistance when measured at 500 VDC and at room temperature

Self Heating

0.15 K/mW when measured by the metod defined in DIN EN 60751:1996

Immersion Length

60mm usable immersion length when tested according to DIN EN 60751

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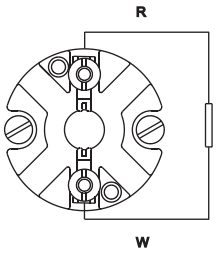
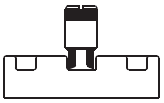
RTD SENSOR

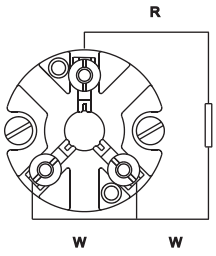
TOLERANCE					
	Basic Value	Class A (1/2 DIN)		Class B (DIN)	
Temp°C			°C		°C
-200	18.52	±0.24	±0.55	±0.56	±1.30
-100	60.26	±0.14	±0.35	±0.32	±0.80
-50	80.31	±0.09	±0.25	±0.21	±0.55
0	100	±0.06	±0.15	±0.12	±0.30
50	119.40	±0.09	±0.25	±0.21	±0.55
100	138.51	±0.13	±0.35	±0.30	±0.80
200	175.86	±0.20	±0.55	±0.48	±1.30
300	212.05	±0.27	±0.75	±0.64	±1.80
400	247.09	±0.33	±0.95	±0.79	±2.30
500	280.98	±0.38	±1.15	±0.93	±2.80
600	313.71	±0.43	±1.35	±1.06	±3.30
650	329.64	±0.46	±1.45	±1.13	±3.60
700	345.28	-	-	±1.17	±3.80
800	375.70	-	-	±1.28	±4.30
850	390.48	-	-	±1.34	±4.60

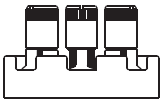
ELECTRICAL CONNECTION





2 WAY





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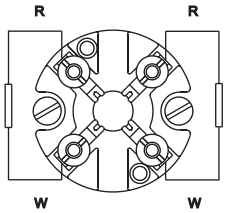
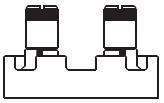
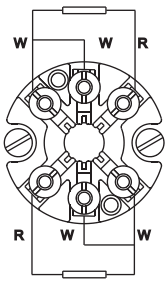
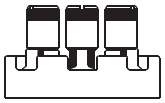




4 WAY





6 WAY

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REPLACEMENT ELEMENT

A replacement element is made of vibration resistant, flexible mineral insulated (MI) cable. Recommended diameter of insert is 1mm less than the bore diameter of thermowell. While selecting the sheath length, spring travel length (max 10mm) has to be taken into account to ensure proper contact at the bottom of the thermowell. Generally used alongwith protection sheaths or barstock thermowells

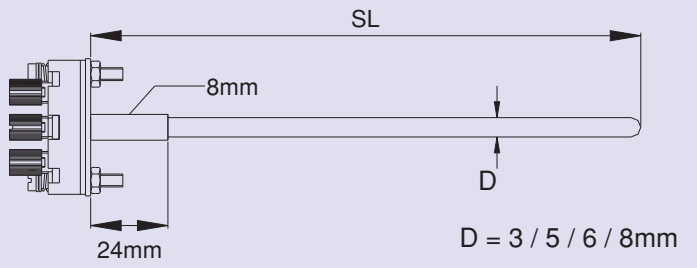
Applications

- Industrial
- Laboratory

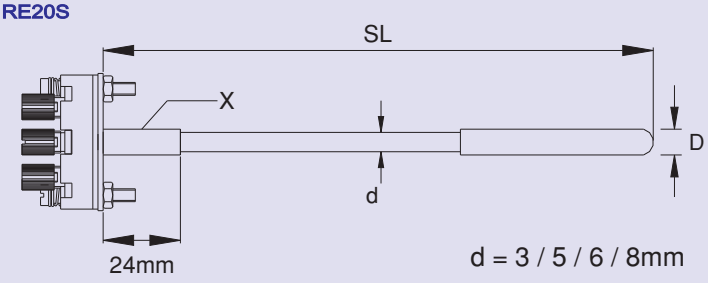
Features

- Platinum RTD elements
- In 50, 100, 200, 500, 1000 and 1000 ohm resistance values
- Standard measuring range of -50°C to +400°C
- Class A & Class B accuracies
- Electrical characteristics as per DIN EN 60751 (DIN IEC 751)
- 3, 5, 6 and 8mm sheath diameters
- Made of SS 316, Mineral Insulated cable
- Spring loaded construction
- High purity ceramic terminal block

MODEL RE10S



MODEL RE20S



How To Order

RE10S - 1 A3 2 AN340 - C 6 300 - X

- X — Optional accessories*
- 300 — Sheath Length in mm
- 6 — Sheath Dia**
- C — Sheath Material
- AN340 — Thread (Refer Table Pc1 & PC2)
- 2 — Accuracy
- A3 — Type of RTD
- 1 — Type of terminal
- RE10S — Model

USE SUFFIX "D" IN PLACE OF "S" FOR DUAL ELEMENT

*Optional Accessories * : Cable glands, Head mounted transmitters, cables etc. Specify separately*

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension

** For model RE11S, specify "D" & "d" while ordering
Eg. 6mm sheath & 8mm tip should be mentioned as 68

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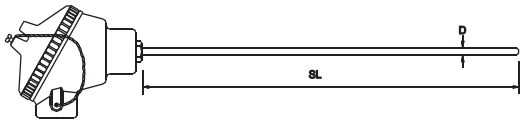
WITH TERMINAL HEAD

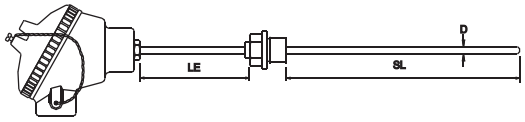
- Non-bendable sheath
- -50 to 250°C range
- Standard lengths are 150, 300, 450mm & 600mm. Longer assemblies not recommended
- Termination : Aluminium head with threaded cap and chain
- Elements are terminated in to nickel plated brass terminals mounted on high purity ceramic terminal block
- Different types of terminal heads are available
- PG13.5 (F) single cable entry. Dual entries & glands are optional

STANDARD



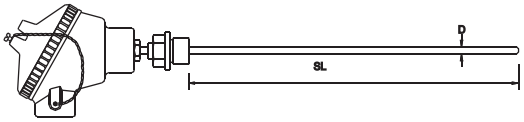
MODEL RH 00 S

FIXED FITTING



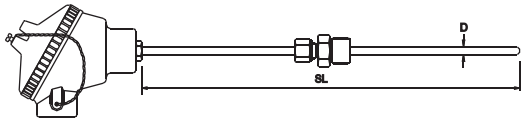
MODEL RH 04 S

FIXED FITTING



MODEL RH 02 S

ADJ FITTING

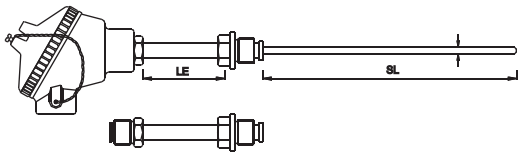


MODEL RH 06 S

FIXED FITTING

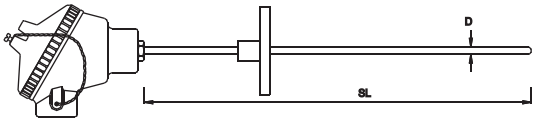
MODEL RH 12 S

DISTANCE PIECE



MODEL RH 11 S

ADJ FLANGE



MODEL RH 08 S

How to order

RH 40S | W1 | - | A3 | 2 | AN120 | 60 | - | 300 | C | X

- Optional Accessories *
- Sheath Material
- Sheath Length in mm
- Sheath Dia (two digits)
- Process Connection (Tables PC1 & PC2)
- Accuracy
- Type of RTD
- Type of Head
- Model

USE SUFFIX "D" IN PLACE OF "S" FOR DUAL ELEMENT

*Optional Accessories * : Cable glands, Head mounted transmitters, cables etc. Specify separately*

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension

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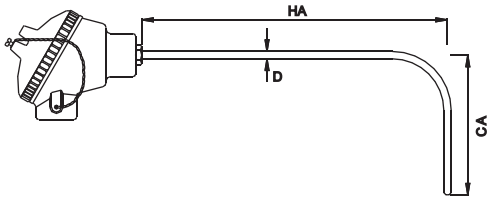
ANGULAR CONSTRUCTION

ANGULAR



MODEL RH 90 S

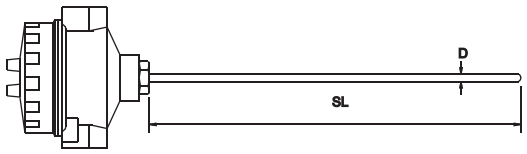
How to order

RH 90S	W1	-	A3	2	AN120	60	-	300	300	C	X

- Optional Accessories *
- Sheath Material
- Sheath Length (CA) in mm
- Sheath Length (HA) in mm
- Sheath Dia
- Process Connection on cold arm
- Accuracy
- Type of RTD
- Type of Head
- Model

WITH FLAMEPROOF HEAD

STANDARD



MODEL RF 00 S

How to order

RF 00S	F1	-	A3	2	AN120	60	-	300	C	X

- Optional Accessories *
- Sheath Material
- Sheath Length in mm
- Sheath Dia
- Process Connection (Tables Pc1 & PC2)
- Accuracy
- Type of RTD
- Type of Head
- Model

USE SUFFIX "D" IN PLACE OF "S" FOR DUAL ELEMENT

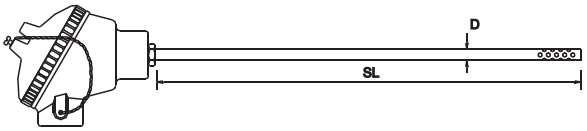
*Optional Accessories * : Cable glands, Head mounted transmitters, cables etc. Specify separately*

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension

FOR AIR & GAS

MODEL RH 10 S

- For flowing non-corrosive air (Indoor only)
- Perforated tip and thin film element for fast response
- 8mm dia as standard
- Refer Table INDxxx for process connection
- Type W1 head
- Upto 400°C



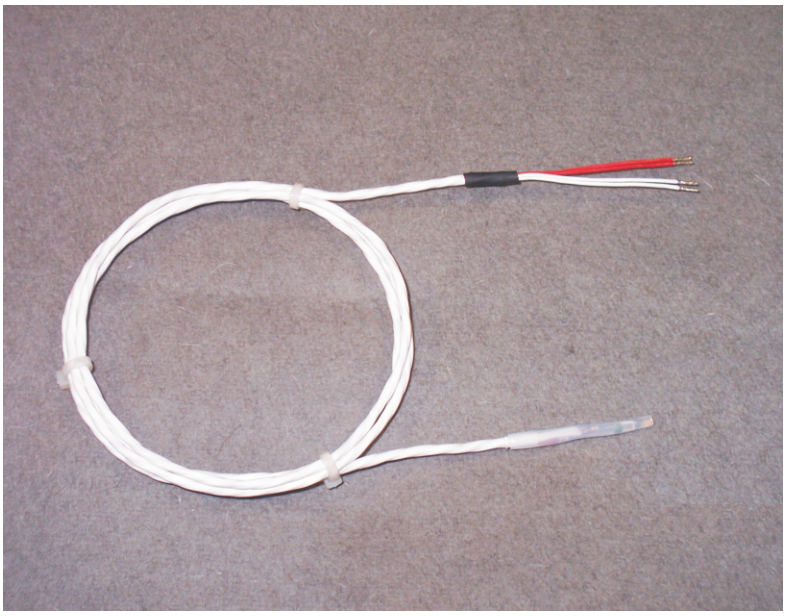
How to order

RH 10S	W1	-	A3	2	AN120	80	-	300	C	X

- Optional Accessories *
- Sheath Material
- Sheath Length in mm
- Sheath Dia
- Process Connection
- Accuracy
- Type of RTD
- Type of Head
- Model

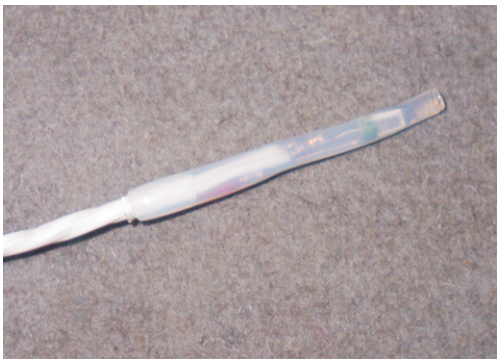
FOR ACIDS AND ALKALIES

MODEL RT 470 S



- For directly immersing in acids and alkalies
- Upto 150 deg.C
- PTFE jacketed cable
- TEFLON insulated tip

MODEL RT 470 D for dual element



Options

- Type of RTD
- Accuracy
- No. of Elements
- Cable Length

How to order

RT 470S A3 - 2 - 3000 X

- X — Optional Accessories *
- 3000 — Cable Length in mm
- 2 — Accuracy
- A3 — Type of RTD
- RT 470S — Model

*Optional Accessories * : 3 Pin Connectors, Field Mounted Transmitters etc. Specify separately*

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension

All dimensions are in mm, unless otherwise specified

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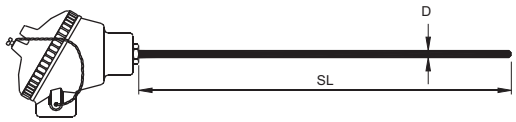
RTD SENSOR

FOR ACIDS AND ALKALIES

WITH TEFLON COATED SHEATH

STANDARD



MODEL RH 270 S

FIXED FITTING

MODEL RH 272 S

- Teflon (PTFE) coated SS316 sheath protects the sheath from acids and alkalies
- Standard thickness, 0.5mm
- Up to 200°C
- Available up to 1000mm length
- 6 mm standard diameter
- Titanium sheath in 8/10mm dia for longer life
- Plastic terminal head
- Stainless steel heads and polyamide cable glands optional
- Angular assemblies available

How to order

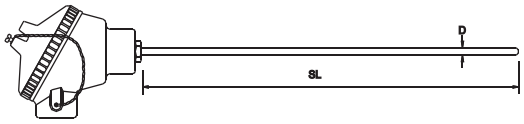
RH270S P - A3 2 XXX 60 - 300 C X

- X — Optional Accessories *
- C — Sheath Material
- 300 — Sheath Length in mm
- 60 — Sheath Dia
- XXX — Process Connection**
- 2 — Accuracy
- A3 — Type of RTD
- P — Type of Head
- RH270S — Model

WITH TITANIUM SHEATH

- Up to 200°C
- Available up to 1000mm length
- 6, 8 & 10mm diameters
- Teflon coating on Titanium ensures longer life
- Plastic terminal head
- Stainless steel heads optional
- Angular assemblies available

STANDARD



MODEL RH 370 S

How to order

RH370S P - A3 2 AN120 60 - 300 X

- X — Optional Accessories *
- 300 — Sheath Length in mm
- 60 — Sheath Dia
- AN120 — Process Connection (Tables PC1 & PC2)
- 2 — Accuracy
- A3 — Type of RTD
- P — Type of Head
- RH370S — Model

USE SUFFIX "D" IN PLACE OF "S" FOR DUAL ELEMENT

*Optional Accessories * : Cable glands, Head mounted transmitters, cables etc. Specify separately*

** Only with fixed fittings

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension

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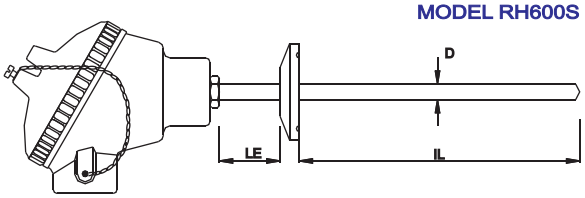
WITH TERMINAL HEAD

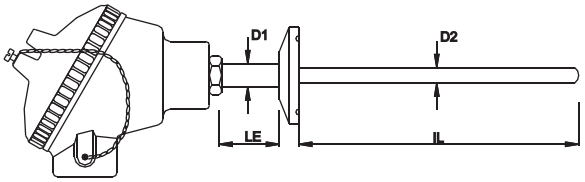
Used in food, dairy, beverage, pharmaceutical and chemical processes where contamination cleanliness os of great concern. The sketches provided are for reference purpose only to help in the selection of the correct fitting style for new or replacement sensor assemblies

- Tri-Clovers made of SS316L
- Ss316 for other process connections
- -50 to 250°C range, other ranges available
- Termination : Aluminium head with threaded cap and chain

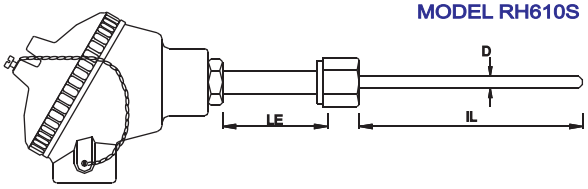
MODEL RH600S



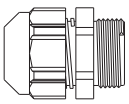
MODEL RH610S



MODEL RH610S



PG TABLE IND 8



- Weatherproof
- Polyamide
- PG 9, PG 13.5,.....
- ½"BSP & ½"NPT threads also

How to order

RH 600S	W1	-	A3	2	AN120	60	-	300	50	C	X
Model	Type of Head		Type of RTD	Accuracy	Process Connection	Sheath Dia (two digits)		Immersion Length in mm	Lag Extension in mm	Sheath Material	Optional Accessories *

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length, IL - Immersion length, LE - Lag extension

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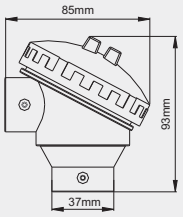
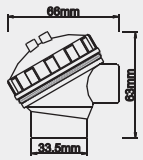
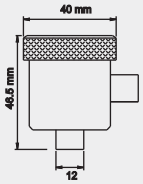


Material : Aluminium
Colour : Silver
Order Code : W3

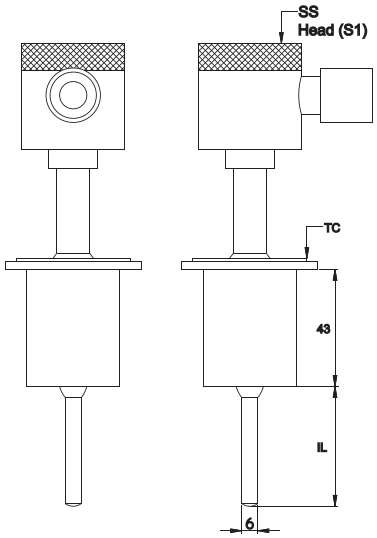


Material : Aluminium
Colours : Silver
Order Code : W6



Material : SS304
Order Code : S1

MODEL RH620S



FOR PHARMA INDUSTRY

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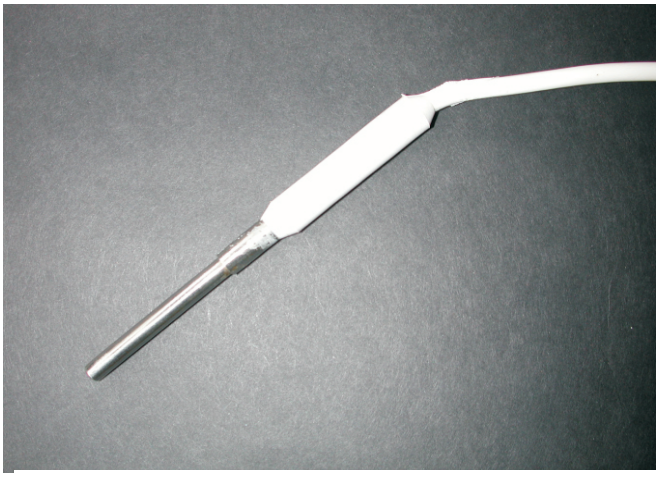
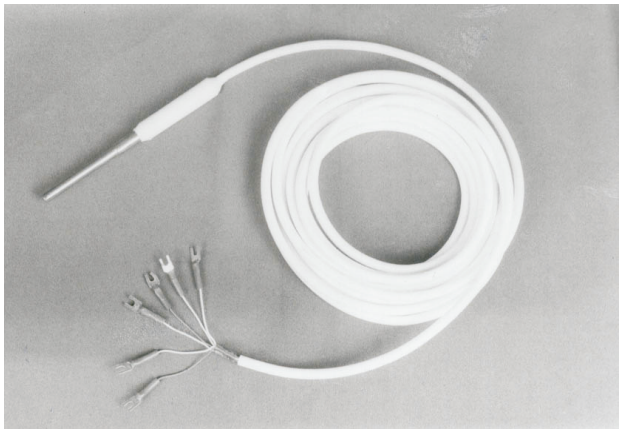
RTD SENSOR

RTDS FOR AUTOCLAVE

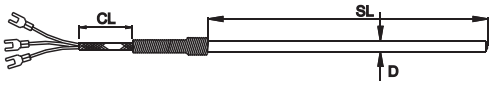


DHS

Autoclave RTDs



MODEL RT 300S



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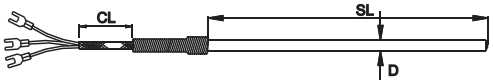
TRANSITION JOINT ASSEMBLIES

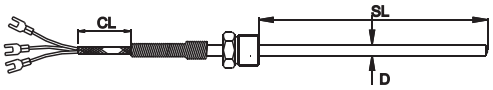
Integral cable makes the assembly lighter and easy to install

- Easy to use models
- Standard models for -50 to 250°C range. Other ranges available
- SS316 sheath. SS316L optional
- PTFE insulated and jacketed cables. Stainless steel overbraided cables available

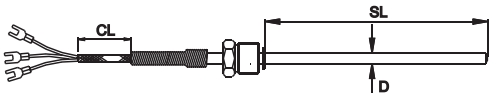
MODEL RT 300S



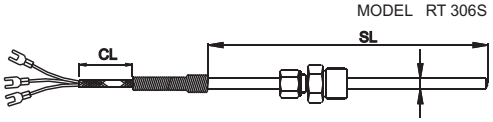
MODEL RT 302S



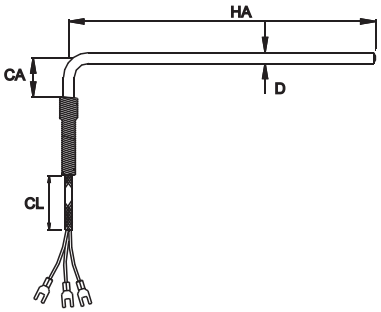
MODEL RT 303S



MODEL RT 306S



MODEL RT 310S



SHEATH MATERIALS

TABLE R2

CODE	TYPE
A	SS304
C	SS316
O	BRASS

ACCURACY

TABLE R3

CODE	TYPE
1	CLASS A
2	CLASS B
3	1/3 DIN

CABLE INSULATION

TABLE R4

T	PTFE INDIVIDUAL & OVERALL
TS	PTFE INDIVIDUAL & OVERALL WITH SS BRAIDING
F	GLASS FIBRE INDIVIDUAL & OVERALL
FS	GLASS FIBRE INDIVIDUAL & OVERALL WITH SS BRAIDING

How to order

RT306S A3 2 ABP120 60 - 300 C 2 F

- F — Cable insulation
- 2 — Cable length (mtrs)
- C — Sheath Material
- 300 — Sheath Length*
- 60 — Sheath Dia (Two digits)
- ABP120 — Process Connection (Table PC1 & PC2)
- 2 — Accuracy
- A3 — Type of RTD
- RT306S — Model

* Specify HA & CA lengths for model RT310S (600mm max)
Replace Suffix "S" with "D" for dual element
Abbreviations : D - Sheath Dia, SL - Sheath Length, CL - Cable length

All dimensions are in mm, unless otherwise specified

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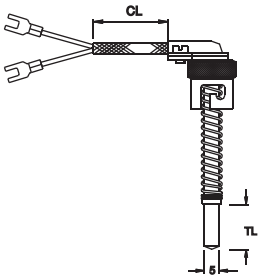
BAYONET RTD ASSEMBLIES, FIXED LENGTH

- Commonly used model
- Standard range -50 to 250°C. Other ranges available
- SS316 sheath
- PTFE insulated and jacketed cables. Stainless steel overbraided cables available
- Supplied with 1 meter cable or in multiples thereof
- Bayonet caps and fitting made of plated brass. SS304 caps and fitting available

Model RB1S



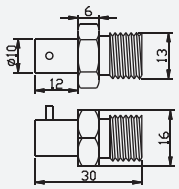
Model RB2S

STANDARD BAYONET CAPS

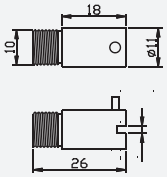
ORDER CODE	ID (MM)	NO OF SLOTS		
12O1	12	ONE		

ADAPTORS

1/4" BSP



1/8" BSP



STANDARD BAYONET ADAPTORS

CODE	THREAD	MATL	LENGTH	NO OF PINS
OW380	3/8" BSW	BRASS	15	ONE
OW120	½" BSW	BRASS	15	TWO
OBP180	1/8" BSP	BRASS	15	ONE
OM10-1.5	M10 X 1.5	BRASS	15	ONE

TIP		SPRING	
DIA	LENGTH	DIA	LENGTH
5	15	6.5	45

How To Order

RB1S A - 2 OW380 12O1 - 5 15 - 1000 T

- T — Cable insulation
- 1000 — Cable length mm
- 15 — Tip length mm
- 5 — Tip dia mm
- 12O1 — Bayonet cap type
- OW380 — Adaptor
- 2 — Accuracy
- A — Type of RTD
- RB1S — Model

Replace Suffix "S" with "D" for dual element
Abbreviations : CL : Cable length, TL : Tip length

All dimensions are in mm, unless otherwise specified

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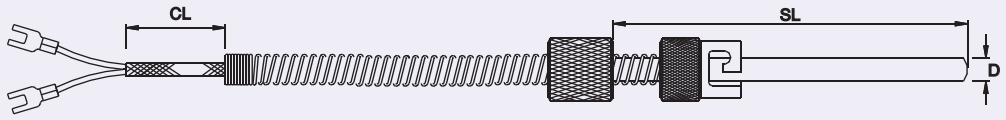
BAYONET THERMOCOUPLE ASSEMBLIES, ADJUSTABLE LENGTH

TIP DIA/ LENGTH, SPRING DIA/ LENGTH & TEMPERATURE RATING

SH DIA	SH LENGTH	SPRING LENGTH
6	150	250

- Standard range -50 to 250°C. Other ranges available
- SS316 sheath
- PTFE insulated and jacketed cables. Stainless steel overbraided cables available
- Supplied with 1 meter cable or in multiples thereof
- Bayonet caps and fitting made of plated brass. Ss304 caps and fitting available



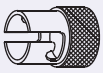
RB3S

STANDARD BAYONET ADAPTORS

CODE	THREAD	MATL	LENGTH	NO OF PINS
OW380	3/8" BSW	BRASS	15	ONE
OW120	½" BSW	BRASS	15	TWO
OBP180	1/8" BSP	BRASS	15	ONE
OM10-1.5	M10 X 1.5	BRASS	15	ONE

STANDARD BAYONET CAPS

ORDER CODE	ID (MM)	NO OF SLOTS
15O1	15	ONE
15O2	15	TWO



How To Order

RB3S A - 2 OW380 12O1 - 5 15 - 1000 T

- Cable insulation
- Cable length mm
- Sheath length in mm
- Sheath dia in mm
- Bayonet cap type
- Adaptor
- Accuracy
- Type of RTD
- Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Sheath Dia, SL - Sheath Length, CL - Cable length

All dimensions are in mm, unless otherwise specified

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FOR OUTDOOR TEMPERATURE

MODEL RR-1S

- ABS housing
- 8mm sheath diameter
- -20 to 65 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering

FOR ROOM TEMPERATURE

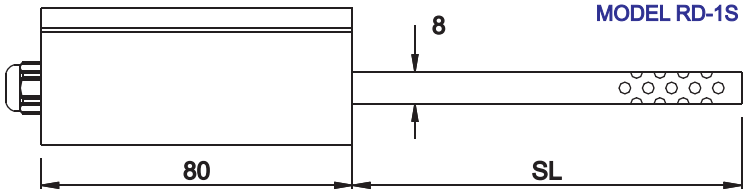
MODEL RR-2S

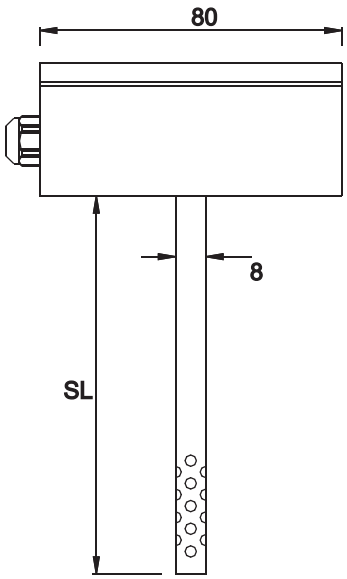
- ABS housing
- 6mm sheath diameter
- -20 to 65 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering

FOR DUCT TEMPERATURE

- ABS housing
- 8mm sheath diameter
- -20 to 65 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering

MODEL RD-1S





MODEL RD-1S

- ABS housing
- 8mm sheath diameter
- -20 to 65 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering

Replace Suffix "S" with "D" for dual element
Abbreviations : SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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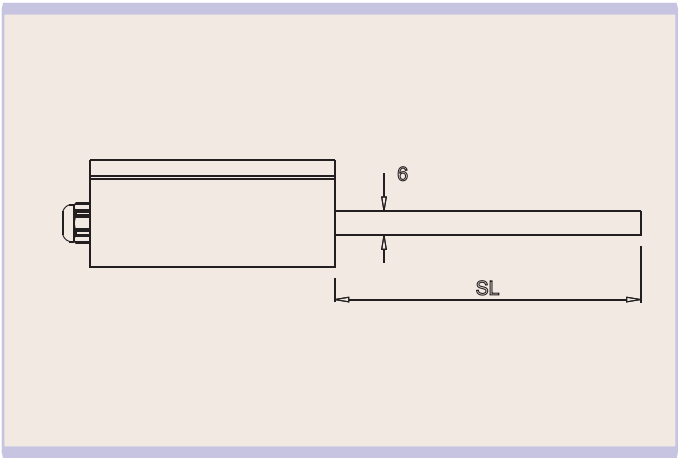
FOR OUTDOOR APPLICATIONS

- ABS housing
- 6mm sheath diameter
- -20 to 65 deg.C Temperature Range
- SS 316 wetted parts
- 3-Wire Pt100 Class A Element Standard
- Standard Housing Sizes (mm) : 82(L) x 80(W) x 55(H) & 58(L) x 64(W) x 35(H)
- Cable Gland : PG9 for bigger & Pg7 for smaller housing
- 100mm length standard

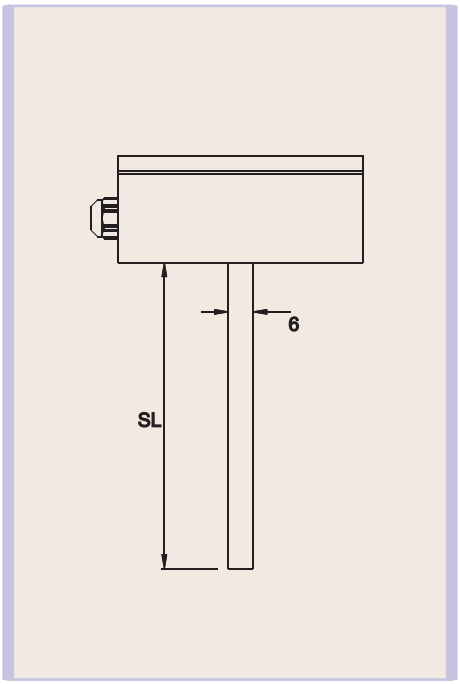
OPTIONS

- Process Connection
- Terminal Head
- Sheath Length
- Temperature transmitter
- Cable
- Element
- Accuracy

MODEL RO-1S



MODEL RO-2S



RO-1S & RO-2S series RTD assemblies are available in standard lengths from 50mm to 300mm with a 3-wire Class A element (100.00 ± 0.06 at 0°C. Please consult sales for available options including different types of process connections, accuracies etc.

Replace Suffix "S" with "D" for dual element
Abbreviations : SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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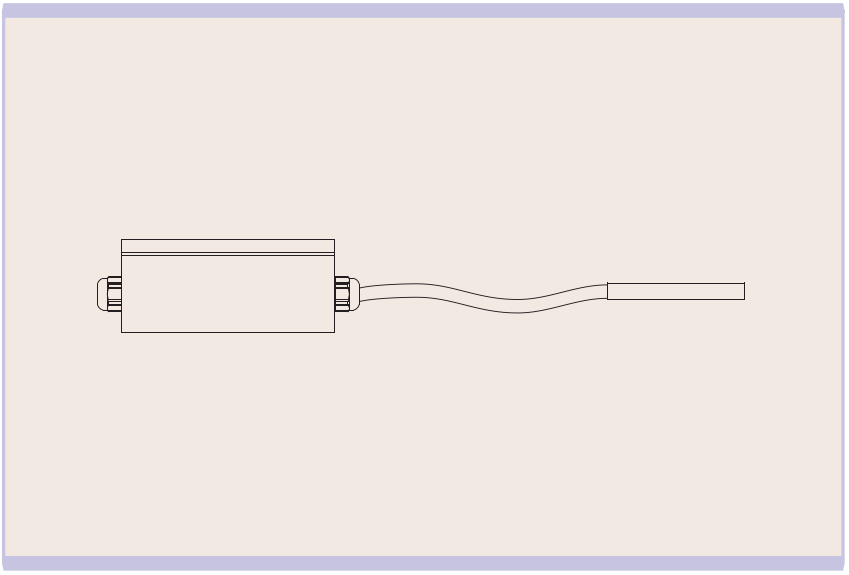
FOR INDOOR APPLICATIONS

MODEL RT-1S



How To Order

RT1S A - 1 ABS58 XX - 60 100 - 2000 TSi

- Cable insulation
- Cable length mm
- Sheath length in mm
- Sheath dia in mm
- Process Connection
- Housing size
- Accuracy
- Type of RTD
- Model

Replace Suffix "S" with "D" for dual element

All dimensions are in mm, unless otherwise specified

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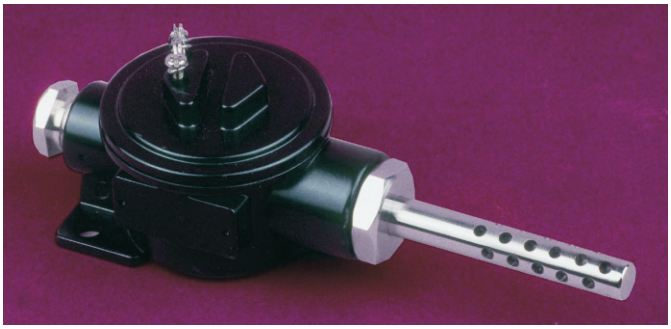
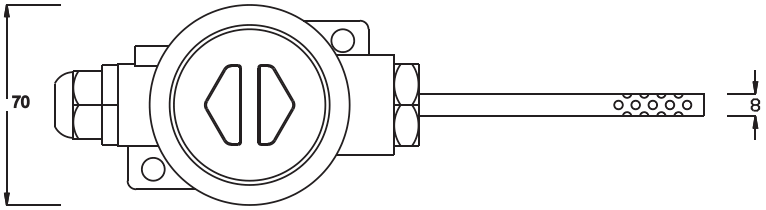
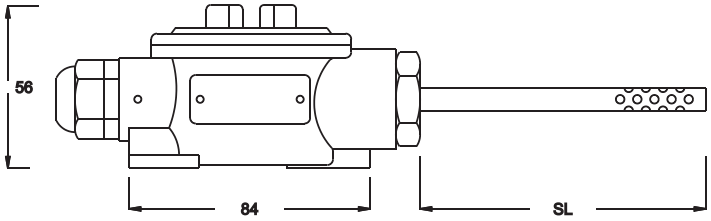
FOR ROOM TEMPERATURE

MODEL RR-3S



- Cast aluminium housing
- 8mm sheath diameter
- -50 to 100 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering

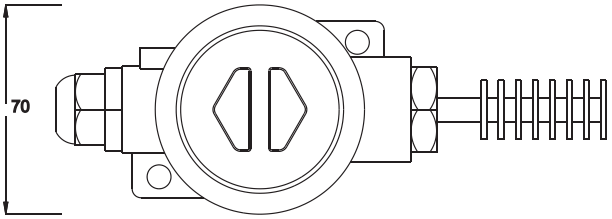


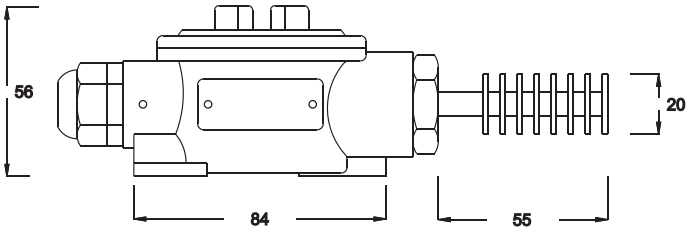


FOR OUTDOOR APPLICATIONS

MODEL RR-4S

- Cast aluminium housing
- 20mm dia anodized aluminium sheath
- Fins for fast sensing
- -20 to 100 deg.C
- Temperature transmitter and cable optional
- Specify model and sheath length while ordering





Specify model and SL while ordering

Replace Suffix "S" with "D" for dual element
Abbreviations : SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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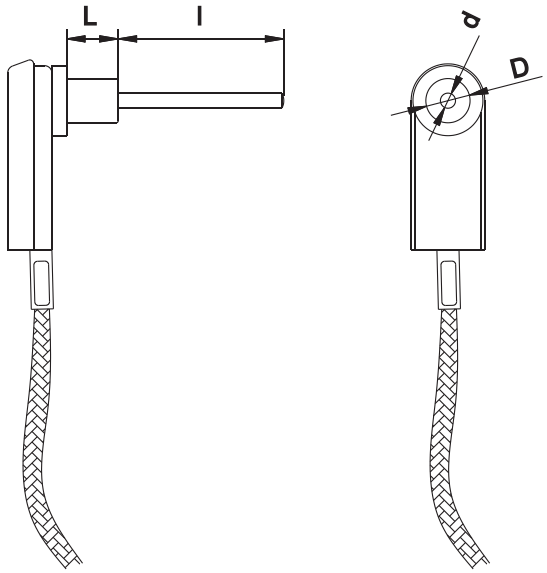
GODET RTD FOR TEXTILE INDUSTRY



DIPSTICK RTD FOR OIL TEMPERATURE MEASUREMENT

MODEL RD 10 S

- Flexible steel spring ensures easy insertion
- "O" rings prevent leakage of fluid while in use
- -20 to 200 deg.C range
- PTFE insulated cable as standard
- Specify model and cable length while ordering

Replace Suffix "S" with "D" for dual element
Abbreviations : SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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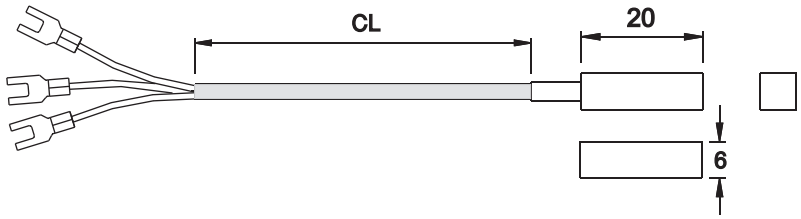
RTD SENSOR

SURFACE TEMPERATURE

For temperature measurement of block surfaces, parts and body of machineries

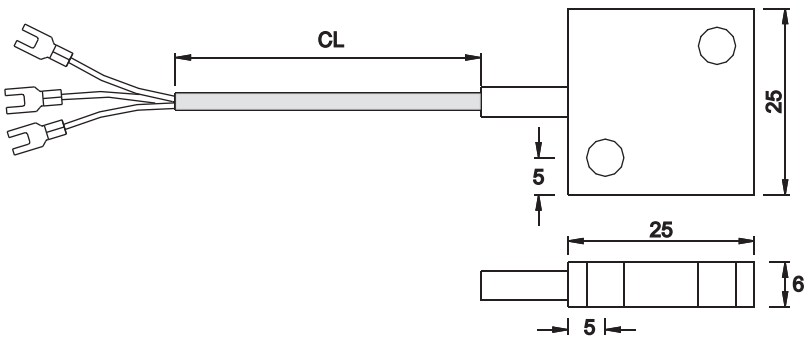
- Easy to use models
- Standard models for -50 to 250°C range. Other ranges available
- Brass, SS304 & SS316 sheath materials
- PTFE insulated and jacketed cables
- Supplied with 1 meter cable or in multiples thereof



SO-2D for double element

MODEL SO-1S

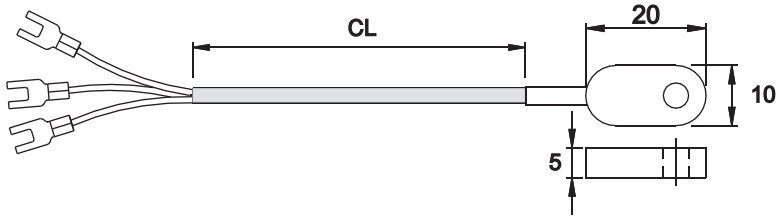
- For sensing temperature inside slots
- Made of brass for fast sensing
- 20mm x 6mm x 6mm
- Model SA-1 with SS304 and SC-1 with SS316 sheaths
- Other sizes available
- Specify model, cable length and temperature range while ordering



SA-2D for double element

MODEL SA-2S

- For sensing temperature surface temperature
- Made of SS304
- 25mm x 25mm x 6mm
- Model SC-2S with SS316 and SO-2S with Brass pads
- 5.2mm dia mounting holes
- Other sizes available
- Specify model, cable length and temperature



SO-3D for double element

MODEL SO-3S

- For sensing temperature surface temperature
- Made of Brass
- 20mm x 10mm x 5mm
- Model SC-2S with SS316 and SA-2S with Ss304 pads
- 4.2mm dia mounting holes
- Specify model, cable length and temperature range while ordering

Replace Suffix "S" with "D" for dual element
Abbreviations : CL : Cable length

All dimensions are in mm, unless otherwise specified

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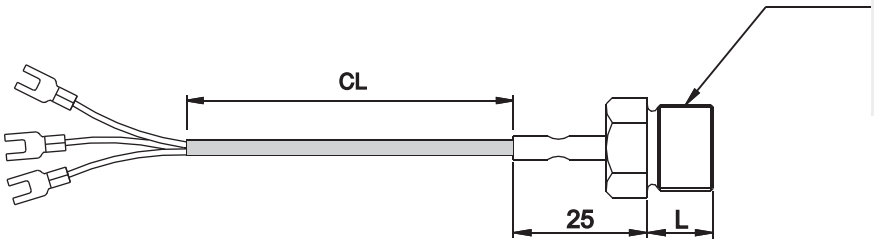
MODEL SA-5S

- For sensing temperature of machine parts
- Made of SS304
- Model SC-5S with SS304 and SO-5S with Brass fittings
- Other thread sizes available
- Specify model, cable length and temperature range while ordering

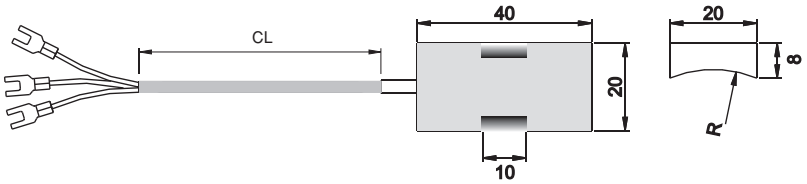
CODE	THREAD	THREAD LENGTH
M6	M6	10
M810	M8 X 1	12
M1010	M10 X 1	15
M1215	M12 X 1.5	20



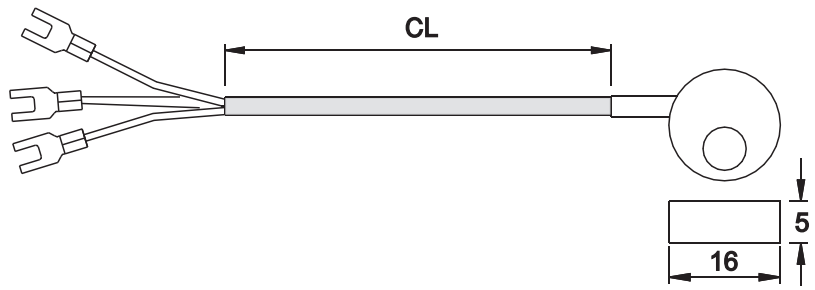
SA-5D for double element

MODEL SC-6S

- For sensing surface temperature of machines
- Made of SS316
- Model SA-6S with SS304 and SO-6S with Brass pads
- Other pad sizes available
- Specify model, cable length and temperature range while ordering



SA-5D for double element



SO-4D for double element

MODEL SO-4S

- For sensing temperature surface temperature
- Made of Brass
- 16mm diameter
- Model SC-2S with SS316 and SA-2S with SS304 washers
- 6.2mm dia eccentric mounting hole
- Specify model, cable length and temperature range while ordering

Replace Suffix "S" with "D" for dual element
Abbreviations : CL : Cable length

All dimensions are in mm, unless otherwise specified

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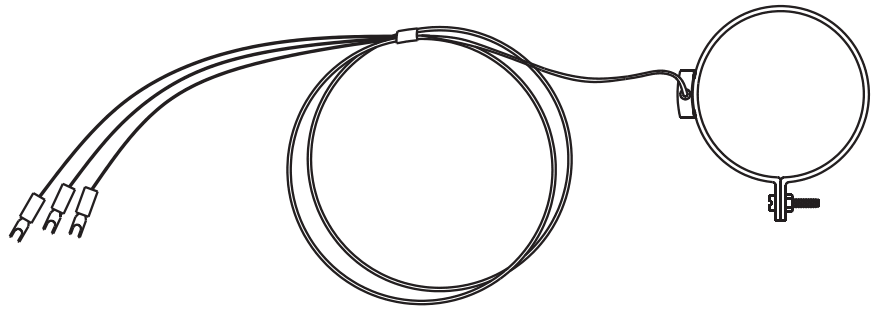
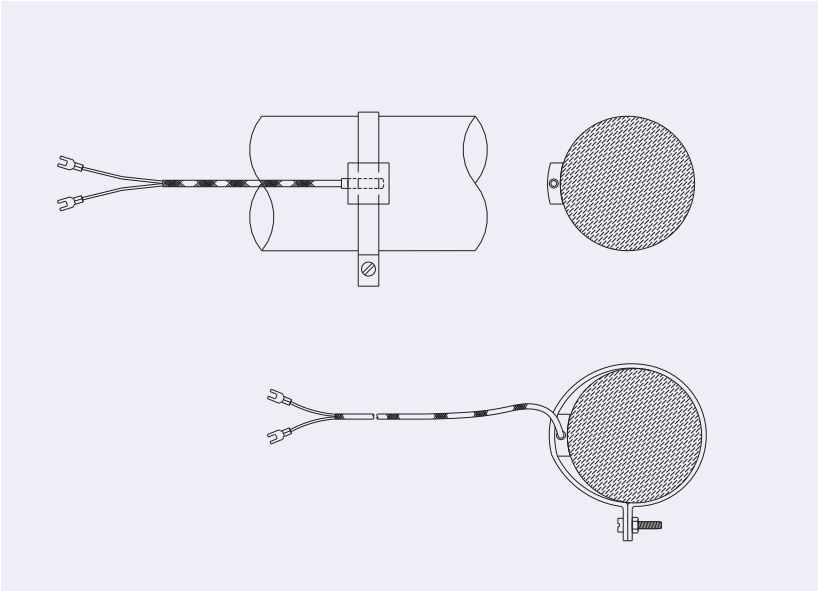
CLAMP - ON RTD

- For pipe / cylinder surface temperature measurement where welding, drilling etc. are not possible
- Stainless steel clamps for durability
- Transition joint type termination &1 mtr. long teflon insulated, stainless steel overbraided cable as standard
- -20 to 200 deg.C range

MODEL SA-7S



Specify diameter of the object to be sensed, cable length & operating temperature while ordering



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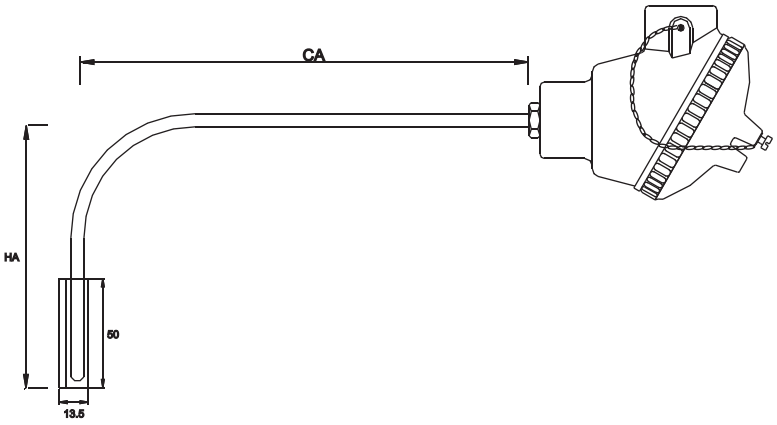
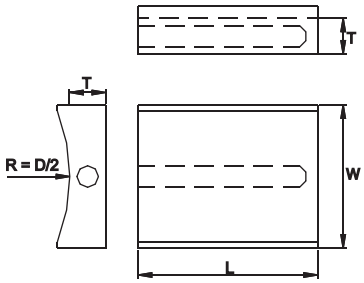
HEAT TRACING SENSORS

For using in **Heat Tracing** systems to measure the surface temperature of process pipes which carry products whose temperature must be controlled to prevent freeze-up, or to maintain a viscosity level so that the inner medium will flow
Cold arm length is to be selected to suit the thickness of insulation
Pads are pushed fitted for easy installation and replacement.
Pads can be welded or clamped to the pipe. Do not weld pad to the surface without removing the clamp. High weld temperature may damage the inner element

- Rigid stem (sheath) construction
- Standard models for -50 to 250°C range. Other ranges also
- SS316 sheath material
- Curved pads to match pipe diameter
- SS304 & SS316 pads
- Other terminations available





PIPE OD	L	W	T
15mm	50	12	9
19mm	50	12	9
21mm	50	15	10
25mm	50	15	10
50mm	50	25	10
100mm	50	25	10

How To Order

RH110S - W1 A3 2 AN120 - 60 100 300 - 250

- Optional accessories*
- Cold arm length in mm
- Hot arm length in mm
- Sheath Dia
- Process Connection
- Accuracy
- Type of RTD
- Type of head
- Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Sheath Dia, SL - Sheath Length, T - Thickness, R - Radius of curvature, W - Width

All dimensions are in mm, unless otherwise specified

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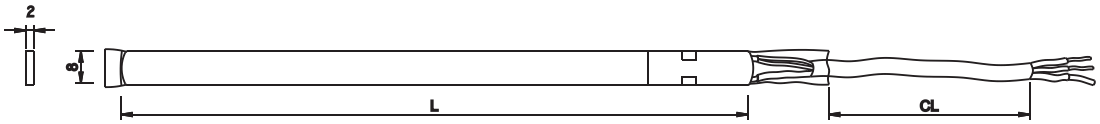
RTD SENSOR

SLOT RTDS

- For measurement of winding temperature
- Made of fibre body
- Designed to withstand voltage upto 3KV
- Can be inserted between windings
- Select suitable length to get mean temperature
- Upto 180 deg.C
- Supplied with PTFE insulated and jacketed cable
- Dual elements available

MODEL RS 100 S



STD LENGTHS

CODE	L
SR50	50
SR100	100
SR150	150

How To Order

RS100S - A3 SR100 1

- 1 — Cable length in mtrs
- SR100 — Length (Code)
- A3 — Pt 100, 3 wire as per IEC 751
- RS100S — Model

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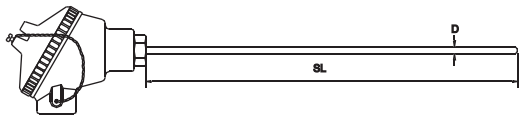
WITH TERMINAL HEAD

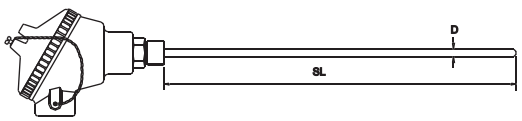
- Flexible sheath
- -50 to 400°C range
- Lengths upto 50 meters***
- Termination : Aluminium head with threaded cap and chain
- Different types of terminal heads are available
- PG13.5 (F) single cable entry. Dual entries & glands are optional
- SS316 sheath material
- Elements are terminated in to nickel plated brass terminals mounted on high purity ceramic terminal block mounted on spring loaded stainless steel disc
- Spring loading protects ceramic terminal block from damage due to impact and vibrations. It ensures proper contact at the hot end

STANDARD



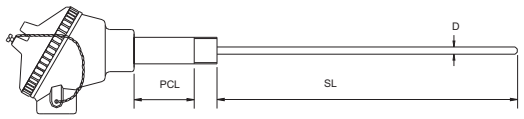
MODEL RH 500 S

HEX NIPPLE



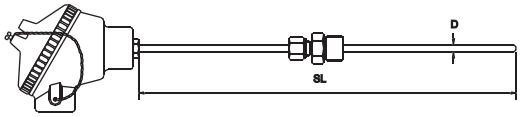
MODEL RH 502 S

ROUND NIPPLE



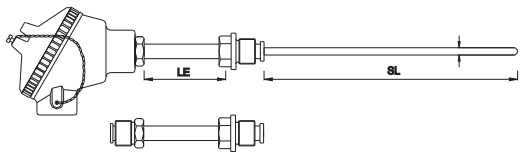
MODEL RH 503 S

ADJ. FITTING



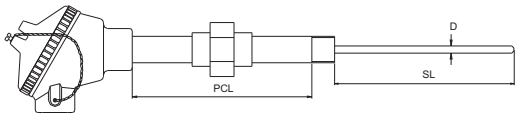
MODEL RH 56 S

DISTANCE PIECE



MODEL RH 505 S

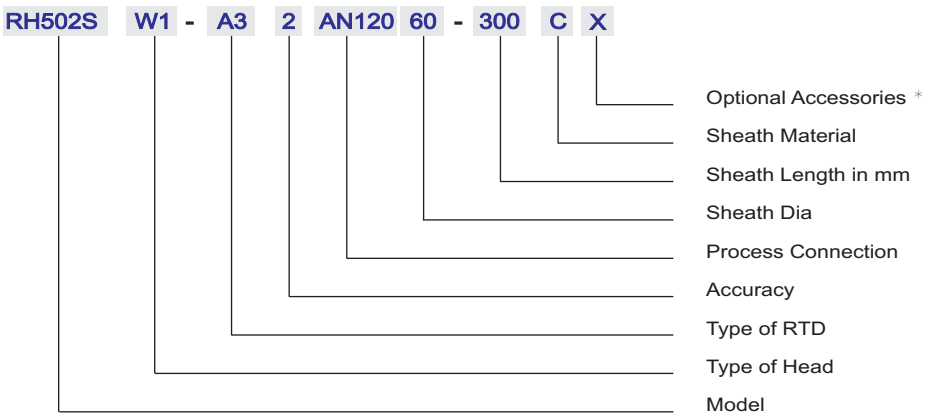
NUN ASSEMBLY**



MODEL RH 505 S

** Nipple-Union-Nipple assembly

How to order



*Optional Accessories * : Cable glands, Head mounted transmitters, cables etc. Specify separately*

Abbreviations : D - Sheath Dia, SL - Sheath Length, LE - Lag Extension, PCL - Process connection length

*** Check suitability of instrument
Use suffix "D" in place of "S" for dual element

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FLAME PROOF / EXPLOSION PROOF ASSEMBLIES

MI RTDs terminated into Flameproof head suitable for using in hazardous areas
Standard Flame Proof heads are certified for using in gas groups I, IIA & IIB
Assemblies for gas group IIC (Hydrogen) are also available
Heads made of die cast aluminium. SS304, SS316 and Cast Iron heads optional

WITH HEX NIPPLE   MODEL FH 502 S

Same as model RH 502 S but with flameproof head for gas groups I, IIA & IIB

FH 552 S for gas group IIC

FH 502 D for double element

How To Order

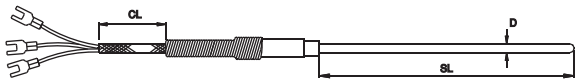
FH502S W1 - A3 2 AN120 60 - 300 C X

- X — Optional Accessories *
- C — Sheath Material
- 300 — Sheath Length in mm
- 60 — Sheath Dia
- AN120 — Process Connection
- 2 — Accuracy
- A3 — Type of RTD
- W1 — Type of Head
- FH502S — Model

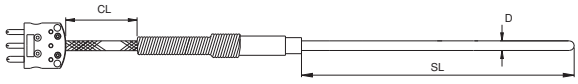
TRANSITION JOINT RTDS

- 100. 150 & 300mm long sheaths as standard
- Standard cable length : 1 meter
- PTFE taped, colour coded cable as standard
- Fibreglass insulated, SS overbraided cable available
- Stainless steel transition joint cap crimped to the sheath
- Spring provided to protect cable from extensive bending
- Cables terminated in to fork type lugs as standard
- Refer "Cable termination styles" for other terminations

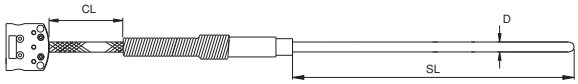
MODEL RT 210 S



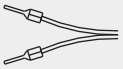
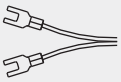
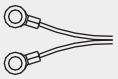
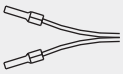
MODEL RT 220 S



MODEL RT 230 S



COLD END TERMINATION STYLES

BARE LEADS CODE BR	
PIN TYPE CODE PN	
FORK TYPE LUGS CODE FR	
RING TYPE LUGS CODE RG	
FLAT LUGS CODE FL	

INSULATION

T	PTFE INDIVIDUAL & OVERALL
TS	PTFE INDIVIDUAL & OVERALL WITH SS BRAIDING
FS	GLASS FIBRE INDIVIDUAL & OVERALL WITH SS BRAIDING

How to order

RT220S A3 2 ABP120 60 - 300 C 2 F C5

- C5 — Cable termination style
- F — Cable insulation
- 2 — Cable length (mtrs)
- C — Sheath Material
- 300 — Sheath Length*
- 60 — Sheath Dia (Two digits)
- ABP120 — Process Connection
- 2 — Accuracy
- A3 — Type of RTD
- RT220S — Model

Replace Suffix "S" with "D" for dual element

All dimensions are in mm, unless otherwise specified

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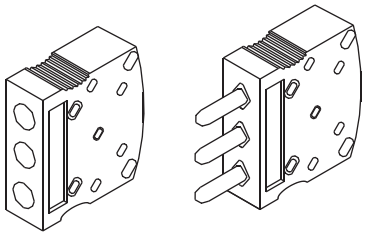
RTD SENSOR

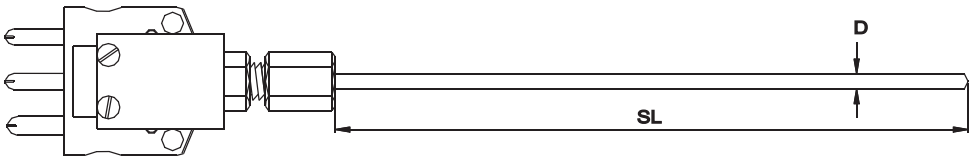
QUICK DISCONNECT RTDS

- Laboratory applications
- With miniature 3 pin plug and socket
- Mineral Insulated construction
- 3mm, 5mm and 6mm diameters
- -50 to 400 deg.C range
- Socket is supplied alongwith plug and vice versa
-



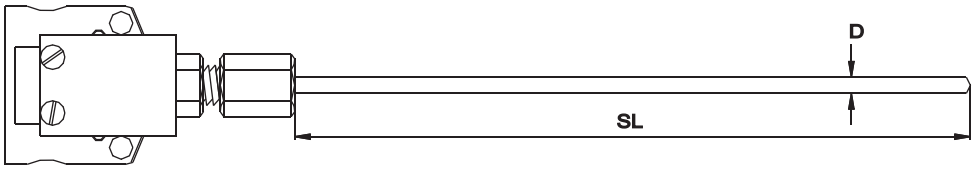
RQ 210S

WITH MINIATURE PLUG

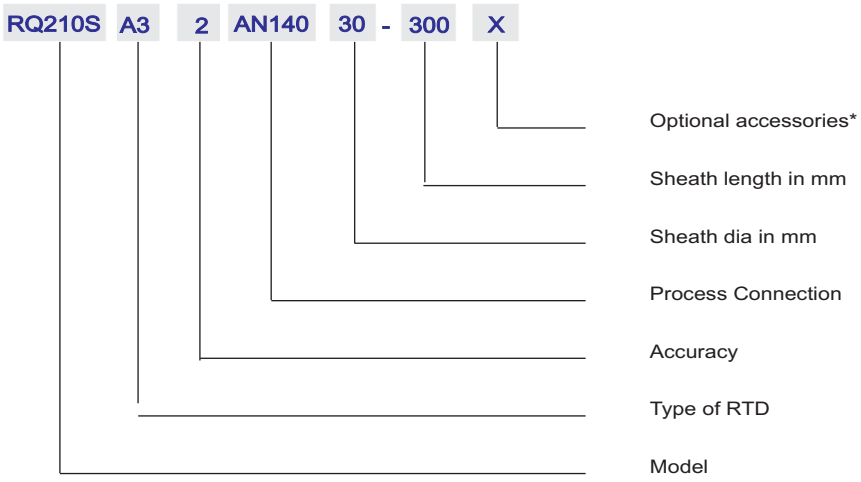


RQ 215S

WITH MINIATURE SOCKET



How To Order



Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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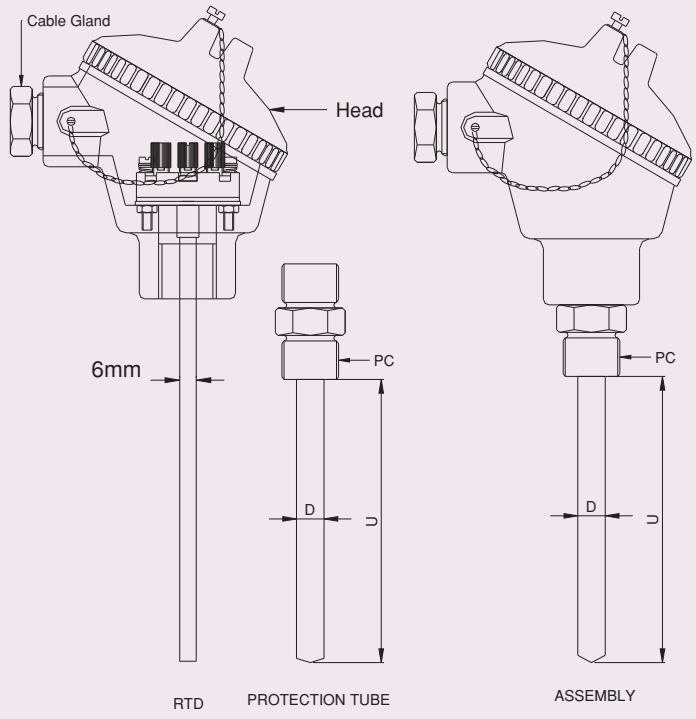

RP 102S WITH WELDED FITTING

How to order

RP 102S W15 - A3 2 ABP12 90 - 300 C X

- X — Optional Accessories *
- C — Sheath Material
- 300 — Immersion Length in mm
- 90 — OD of protection tube
- ABP12 — Process Connection
- 2 — Accuracy
- A3 — Type of RTD
- W15 — Type of Head
- RP 102S — Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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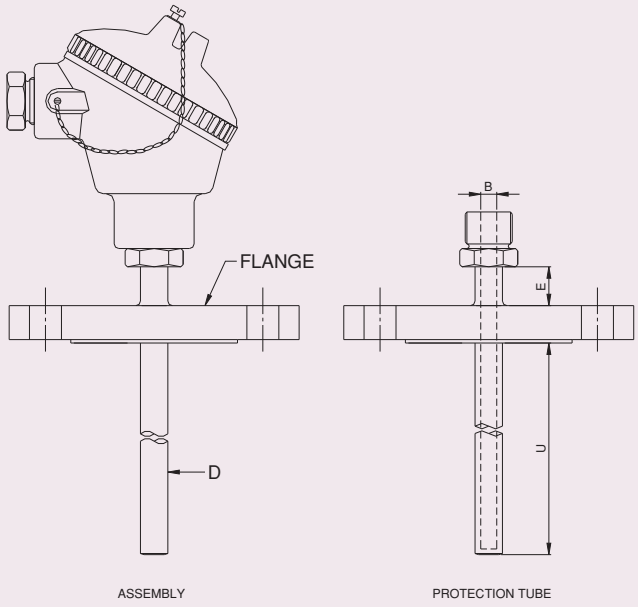

RP 108S **WITH WELDED FLANGE**

How to order

RP 108S W15 - A3 2 25A150 120 - 300 C X

- Optional Accessories *
- Sheath Material
- Immersion Length in mm
- OD of protection tube
- Process Connection
- Accuracy
- Type of RTD
- Type of Head
- Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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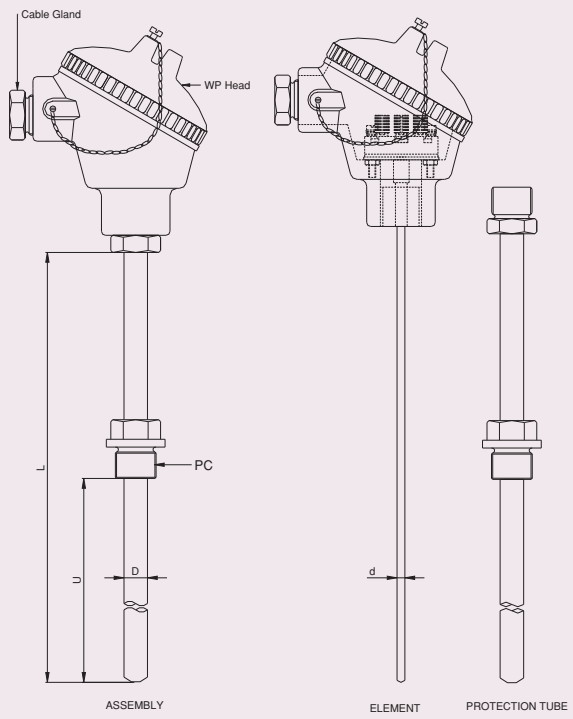

RP 104S WITH WELDED FITTING

How to order

RP 102S W15 - A3 2 ABP12 90 - 200 - 300 C X

- X — Optional Accessories *
- C — Sheath Material
- 300 — Length below head in mm
- 200 — Immersion Length in mm
- 90 — OD of protection tube
- ABP12 — Process Connection
- 2 — Accuracy
- A3 — Type of RTD
- W15 — Type of Head
- RP 102S — Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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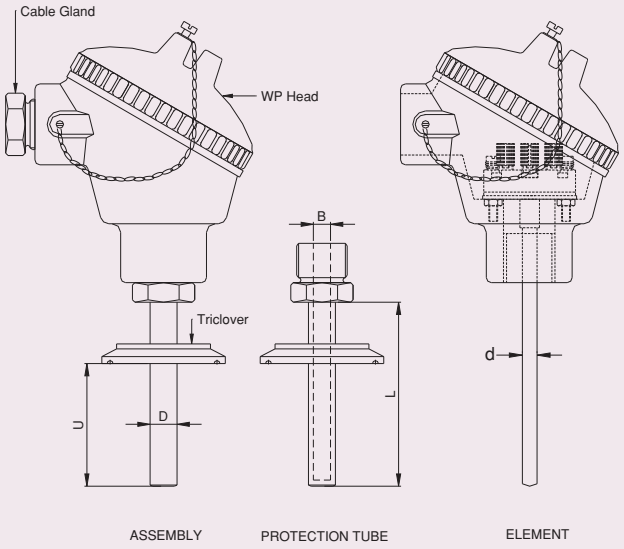

RP 118S WITH TRICLOVER

How to order

RP 108S W15 - A3 2 25A150 120 - 300 C X

- Optional Accessories *
- Sheath Material
- Immersion Length in mm
- OD of protection tube
- Process Connection
- Accuracy
- Type of RTD
- Type of Head
- Model

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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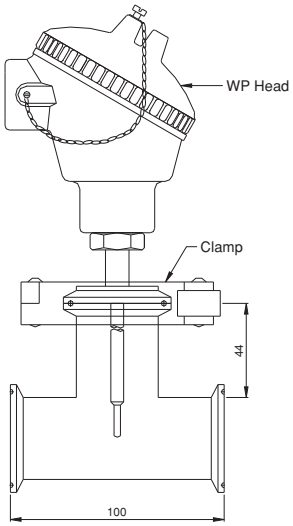
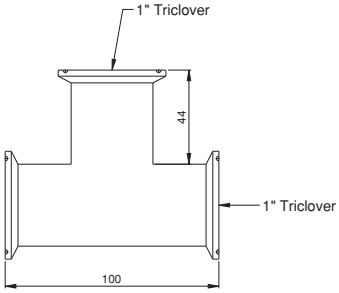
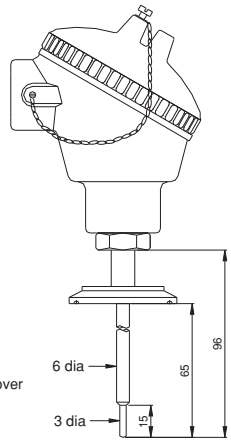


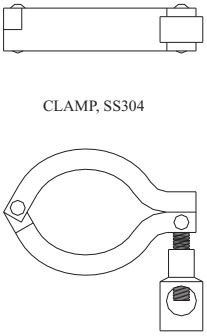
ASSEMBLY



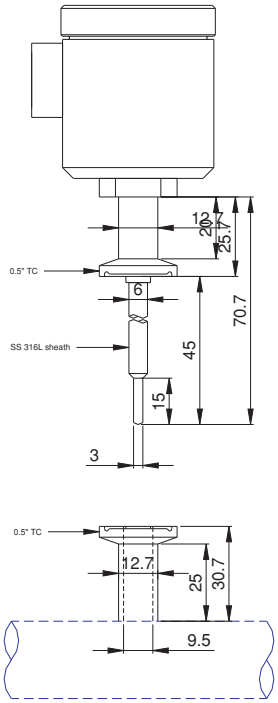
TEE JOINT



RTD SENSOR



CLAMP, SS304



Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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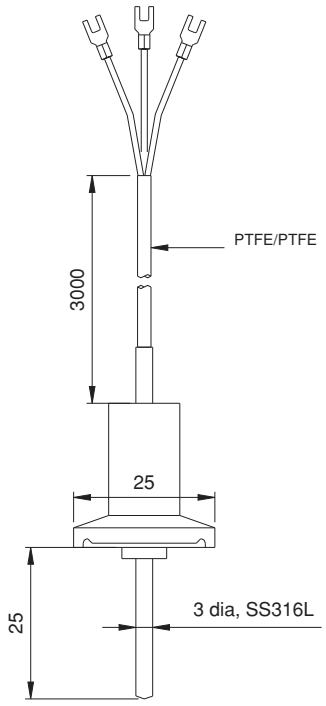

CIPLA, PITHAMPUR

Replace Suffix “S” with “D” for dual element
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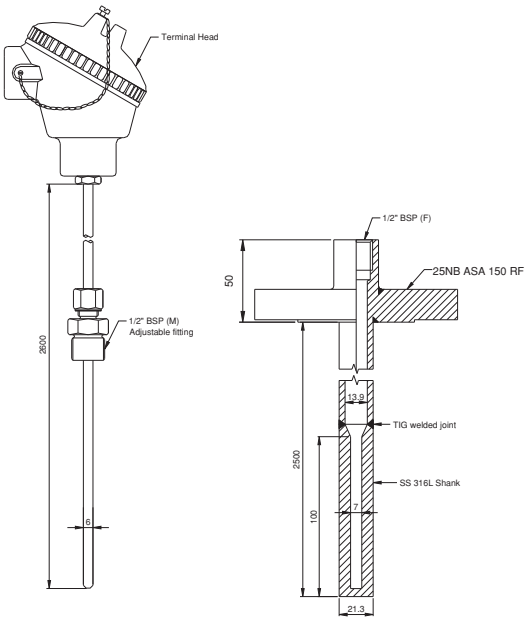

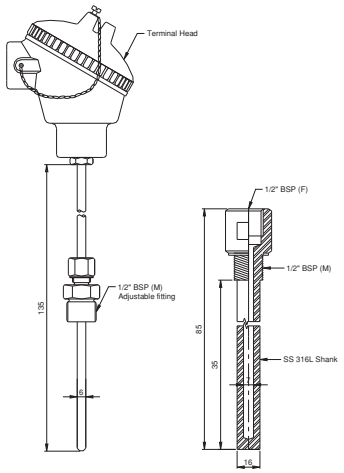

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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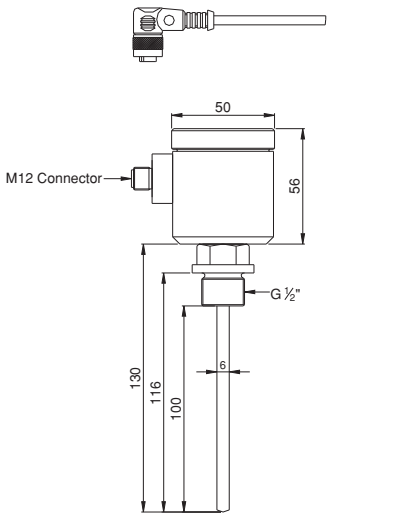

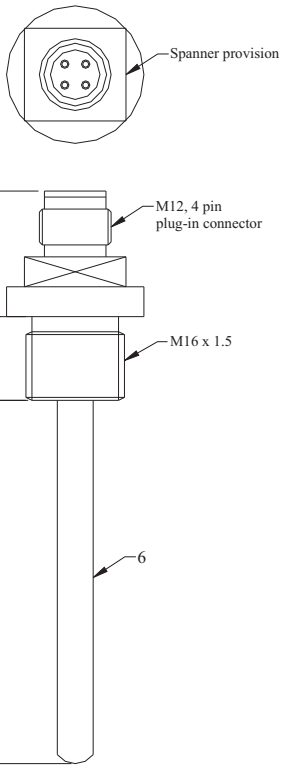

Replace Suffix "S" with "D" for dual element
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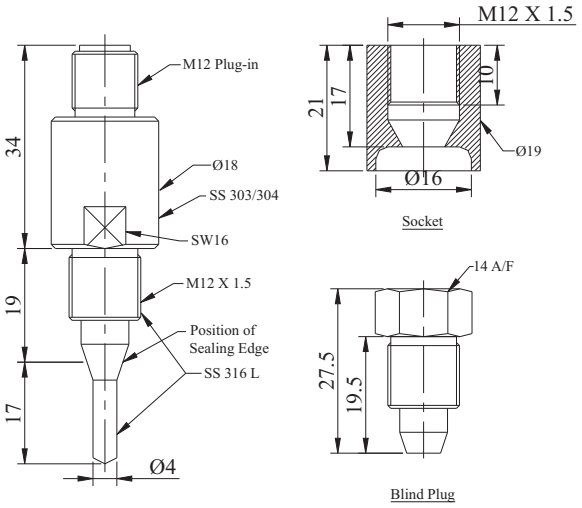
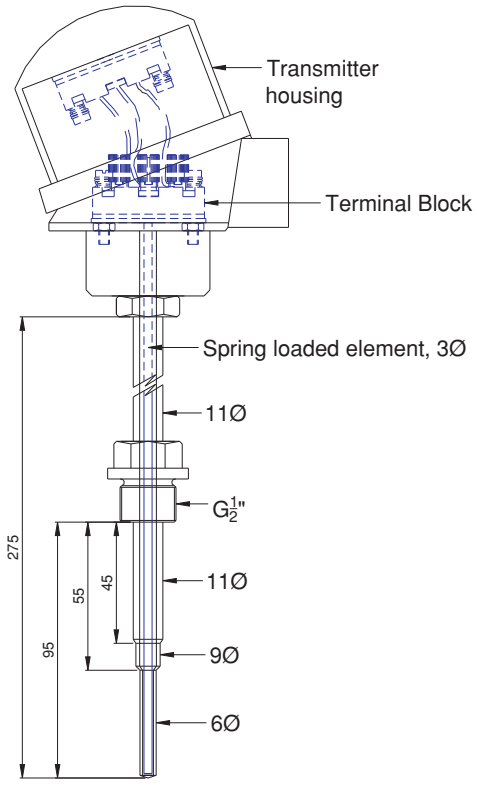
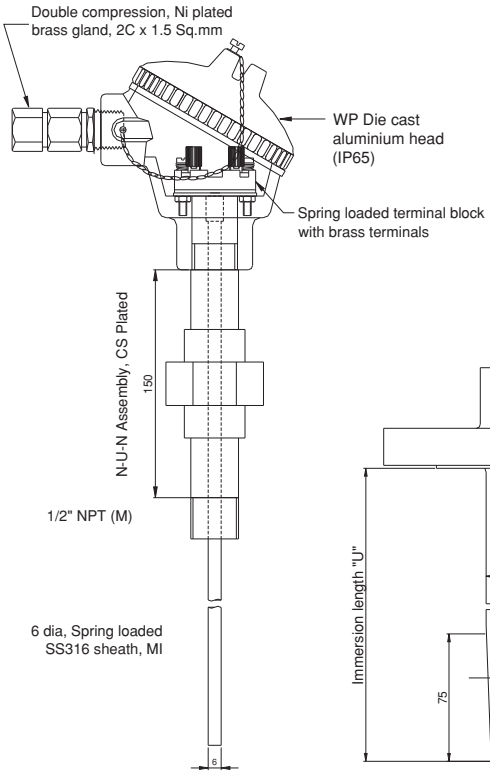


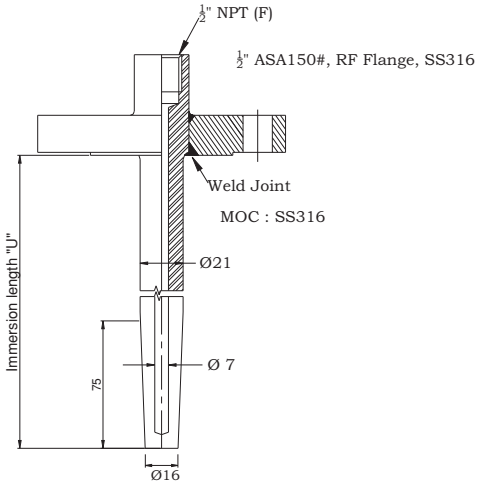


Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

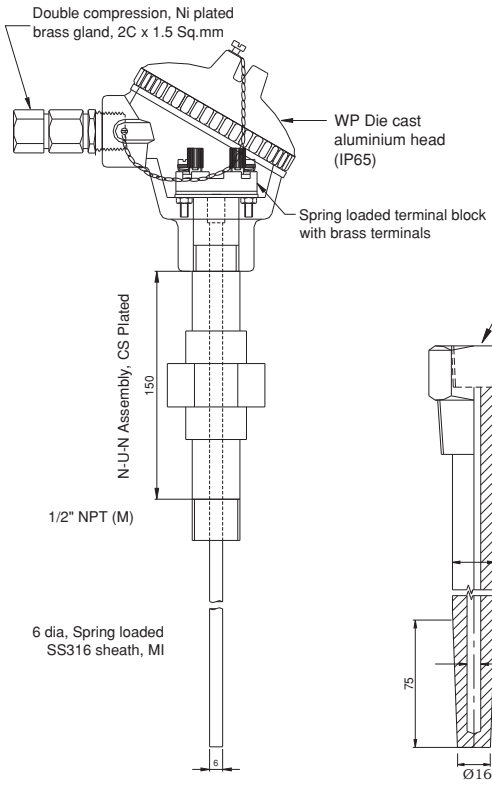
All dimensions are in mm, unless otherwise specified



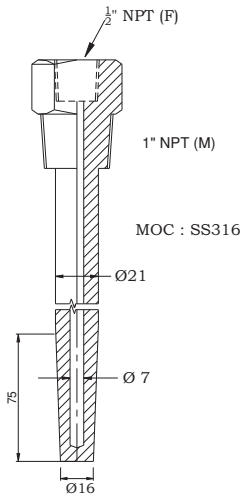
RTD Sensor



Thermowell



RTD Sensor



Thermowell

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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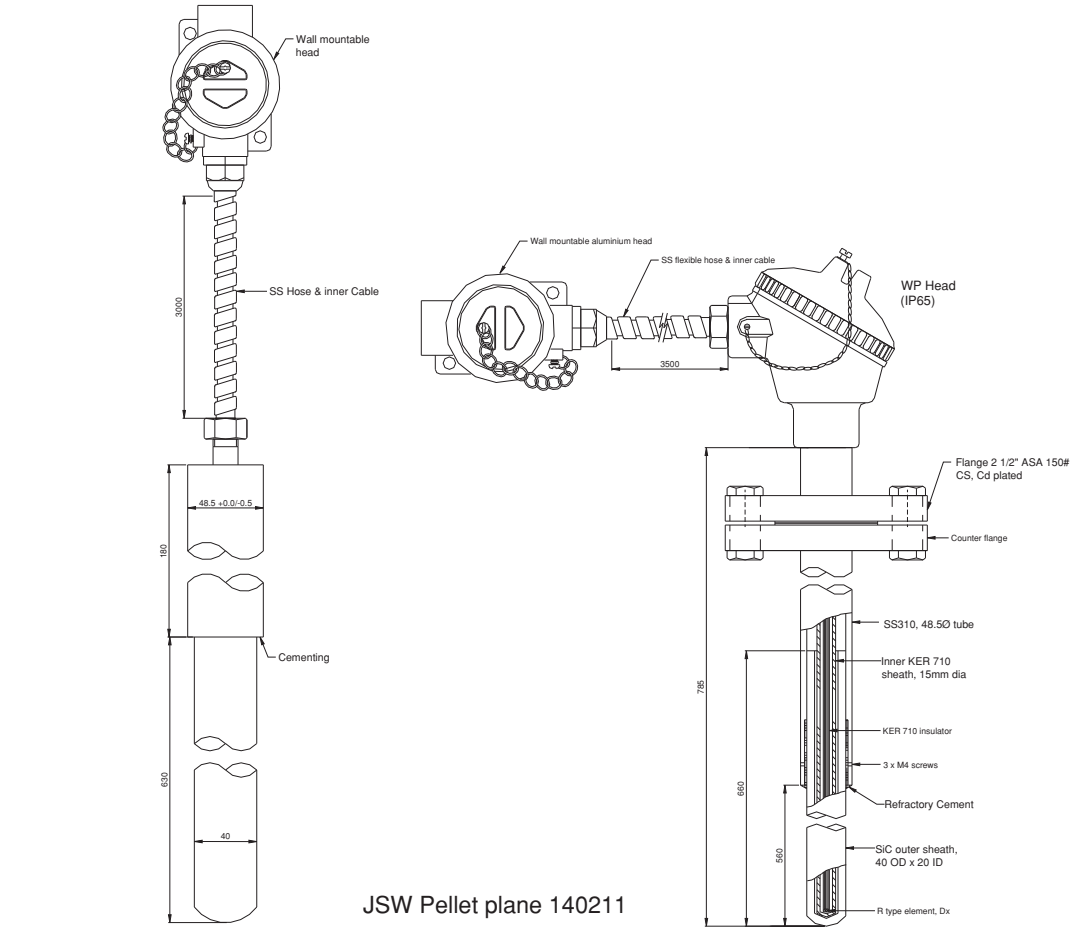
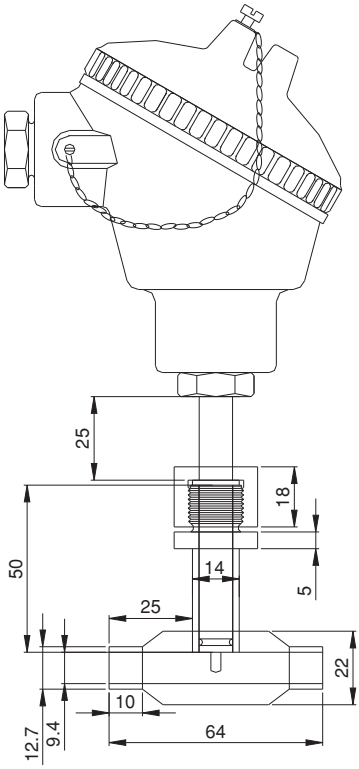
RTD SENSOR

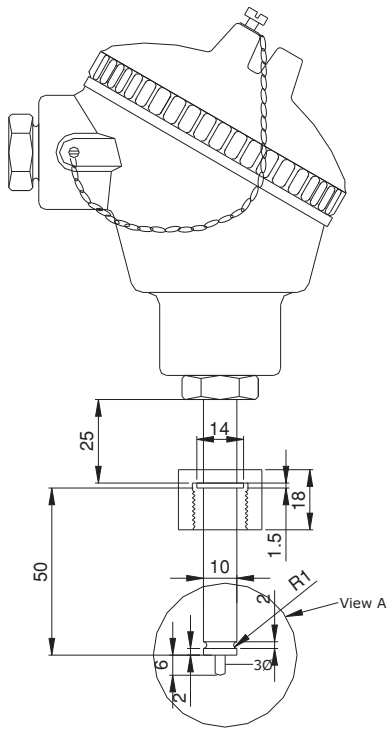
FOR PIPE LINES



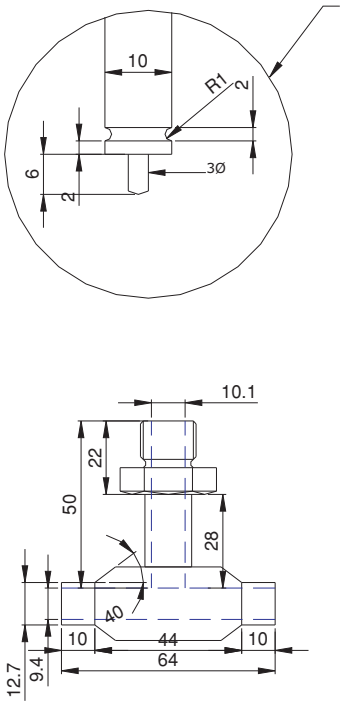
JSW Pellet plane 140211



ASSEMBLY



RTD SENSOR



TEE FOR WELDING

Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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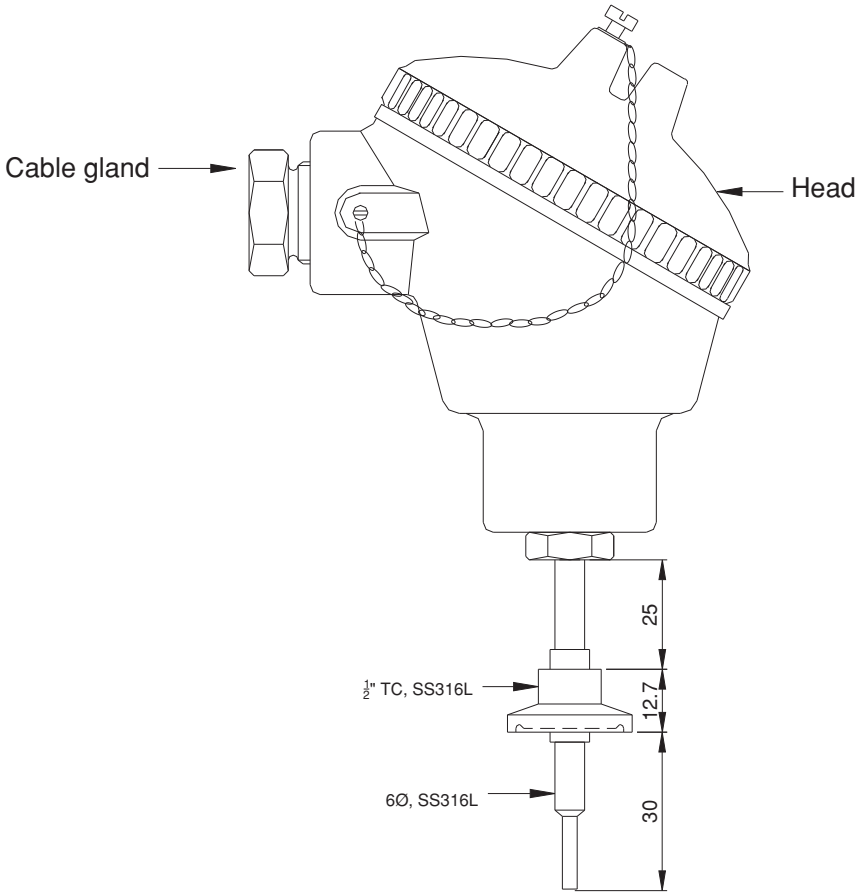

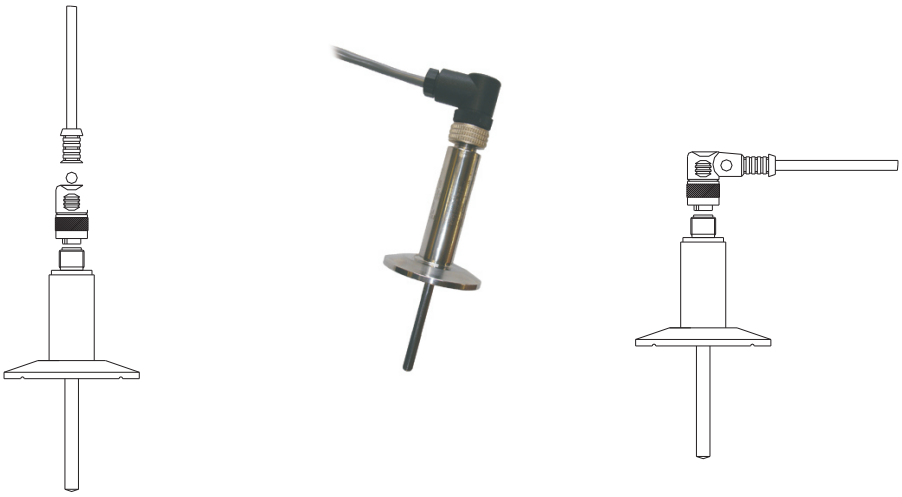

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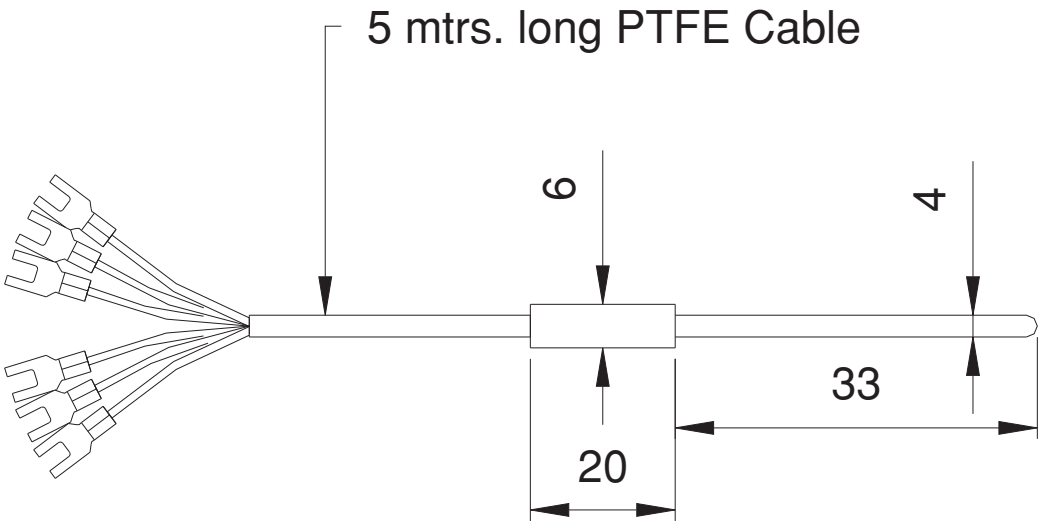
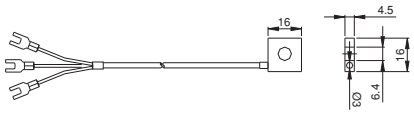
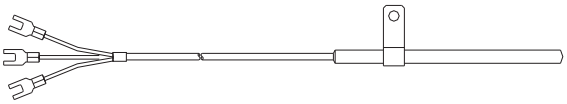
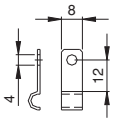


WASHER RTD
MOC : SS 304

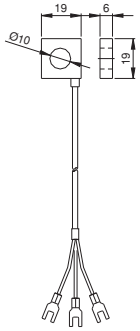


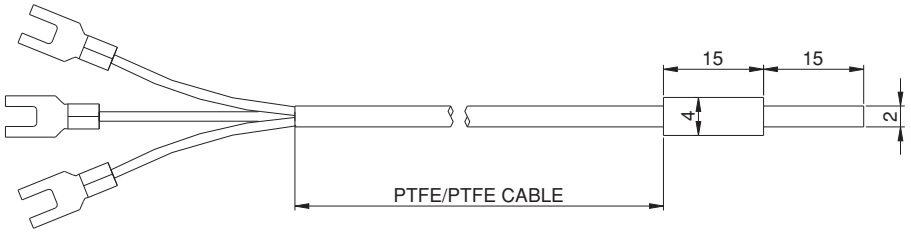
RTD with wall mountable clamp





CLAMP





Replace Suffix “S” with “D” for dual element
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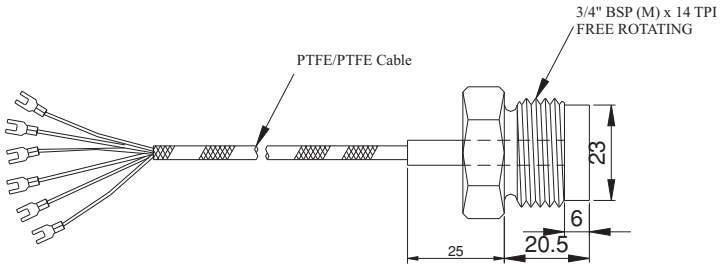
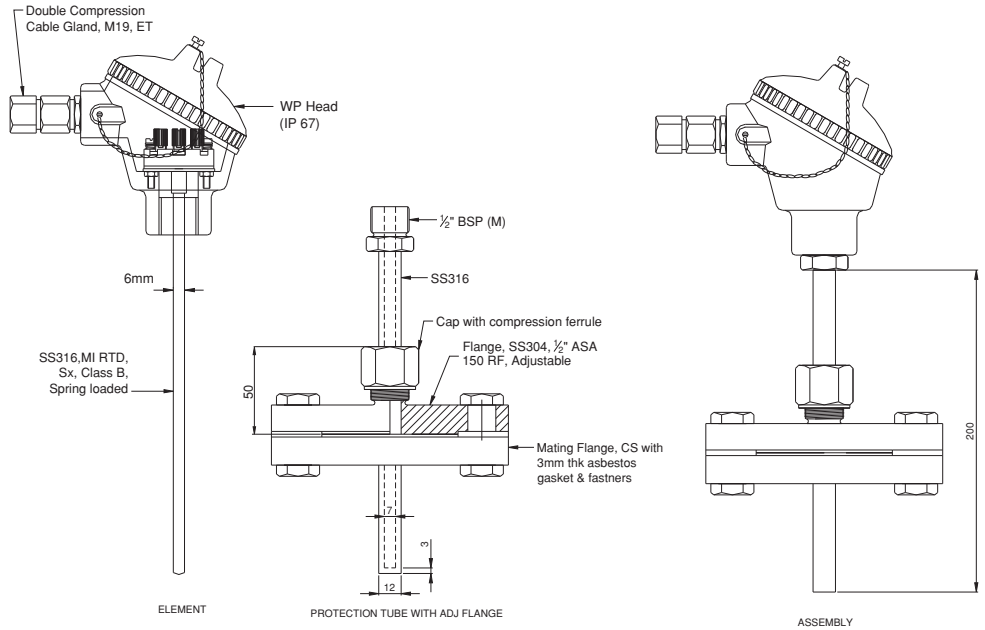
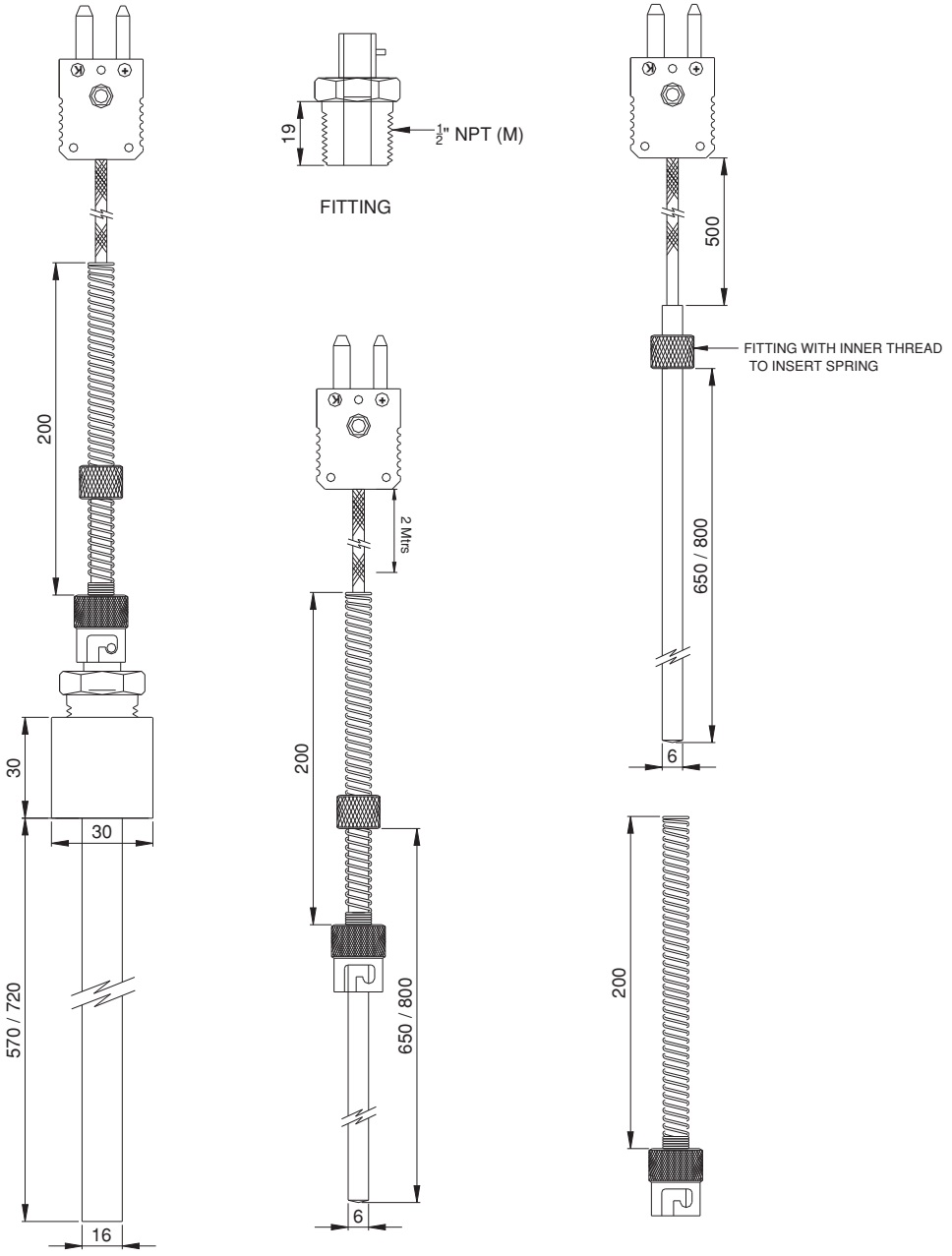




Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified



Replace Suffix "S" with "D" for dual element
Abbreviations : D - Diameter, SL - Sheath Length

All dimensions are in mm, unless otherwise specified

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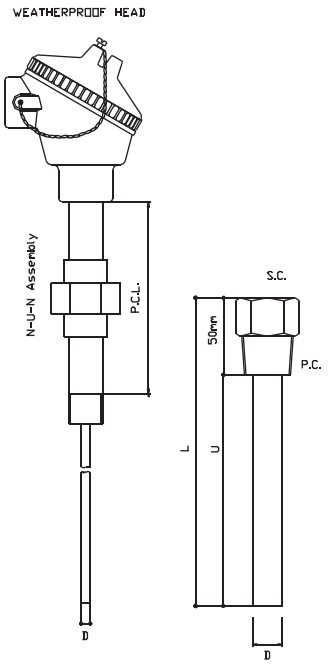
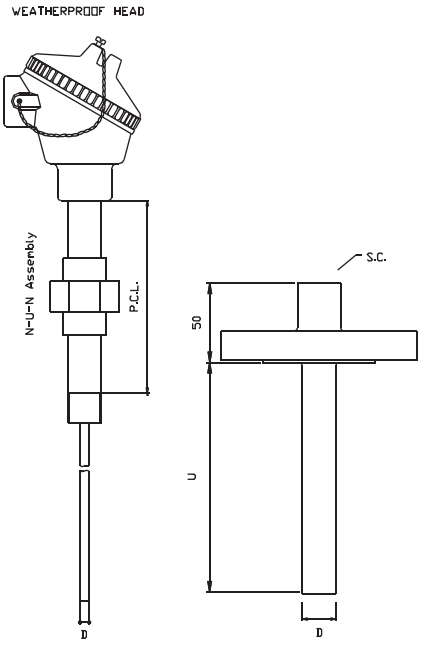
RTD SENSOR

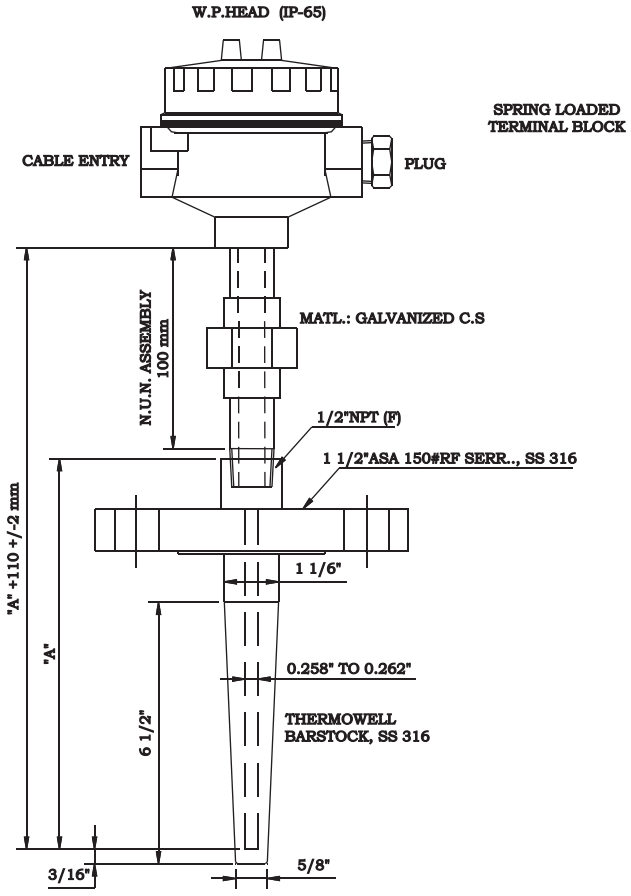
SAMPLE ASSEMBLIES

WITH NUN ASSEMBLY & THREADED THERMOWELL



WITH NUN ASSEMBLY & FLANGED THERMOWELL





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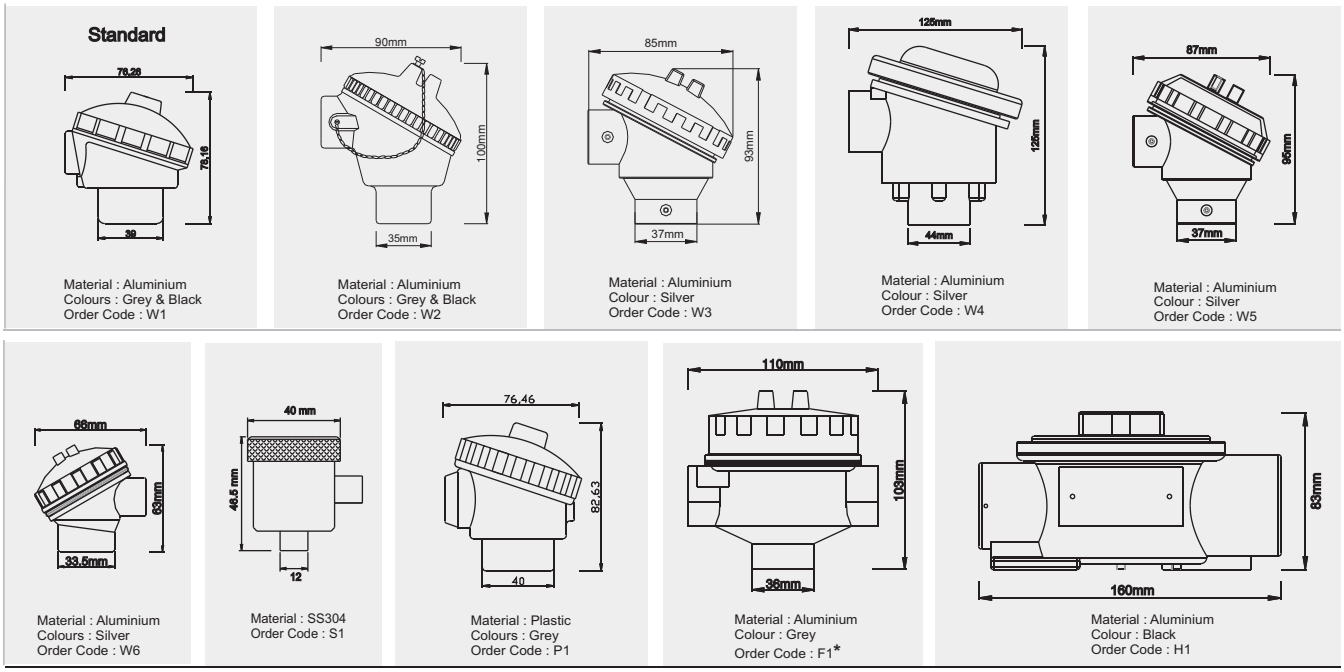
TERMINAL HEADS

TABLE IND3



Material : Aluminium
Colours : Grey & Black
Order Code : W1

Material : Aluminium
Colours : Grey & Black
Order Code : W2

Material : Aluminium
Colour : Silver
Order Code : W3

Material : Aluminium
Colour : Silver
Order Code : W4

Material : Aluminium
Colour : Silver
Order Code : W5

Material : Aluminium
Colours : Silver
Order Code : W6

Material : SS304
Order Code : S1

Material : Plastic
Colours : Grey
Order Code : P1

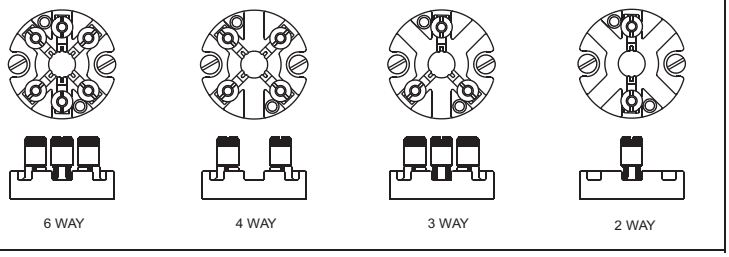
Material : Aluminium
Colour : Grey
Order Code : F1*

Material : Aluminium
Colour : Black
Order Code : H1

* F2 for Ss304, F3 for Ss316 & F4 for CI

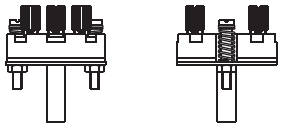
CERAMIC TERMINAL BLOCKS

WITH ROUND TERMINALS (CAP TYPE) — CODE 1



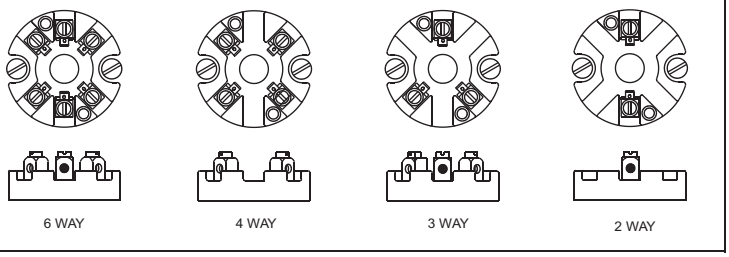
6 WAY | 4 WAY | 3 WAY | 2 WAY

CERAMIC TERMINAL BLOCKS WITH SUPPORTING DISC



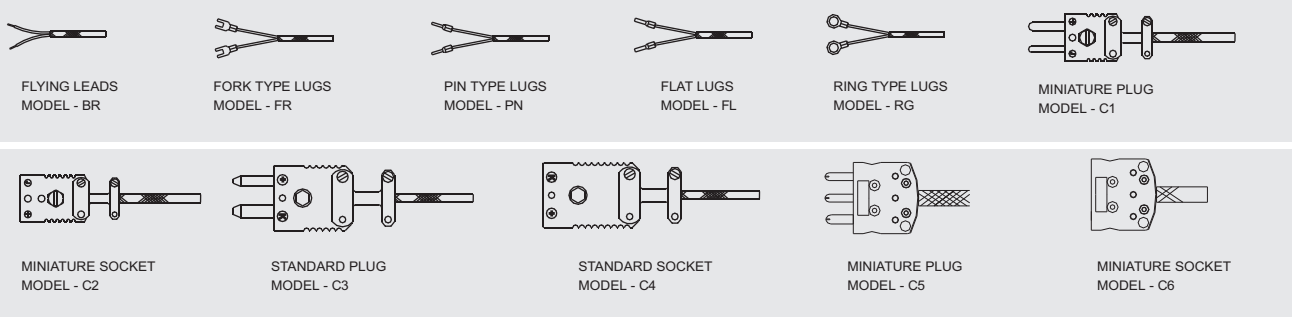
3 WAY | 2 WAY

WITH SQUARE TERMINALS (SCREWED TYPE) — CODE 2



6 WAY | 4 WAY | 3 WAY | 2 WAY

CABLE TERMINATION STYLES



FLYING LEADS
MODEL - BR

FORK TYPE LUGS
MODEL - FR

PIN TYPE LUGS
MODEL - PN

FLAT LUGS
MODEL - FL

RING TYPE LUGS
MODEL - RG

MINIATURE PLUG
MODEL - C1

MINIATURE SOCKET
MODEL - C2

STANDARD PLUG
MODEL - C3

STANDARD SOCKET
MODEL - C4

MINIATURE PLUG
MODEL - C5

MINIATURE SOCKET
MODEL - C6

Abbreviations : EL - Extention Length

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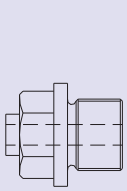
PROCESS CONNECTIONS

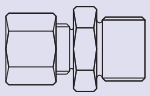
- ADJUSTABLE COMPRESSION FITTINGS
- WELDED FITTINGS
- HEX NIPPLES
- ROUND NIPPLES
- NIPPLE - UNION - NIPPLE ASSEMBLIES
- WELDED FLANGES
- ADJUSTABLE FLANGES
- SANITARY FITTINGS

TABLE IND 6

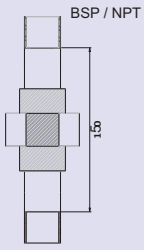


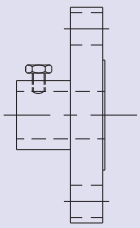
1/2" BSPP

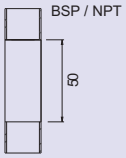
1/2" NPT

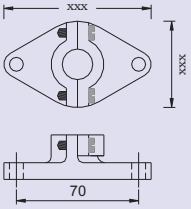


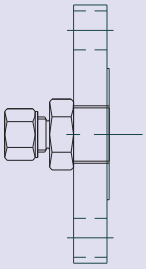
BSP ACF

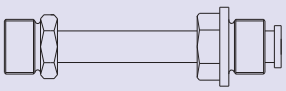


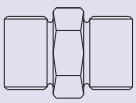


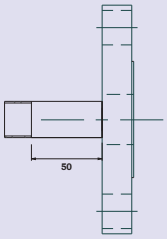




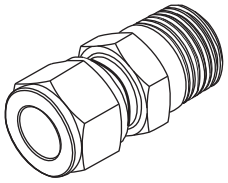




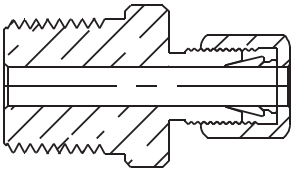




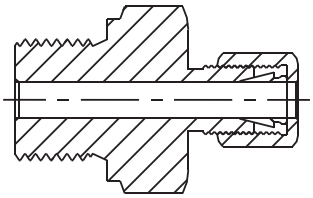
PROCESS CONNECTIONS



NPT



BSPP



METRIC

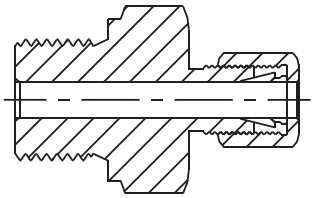
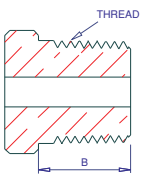
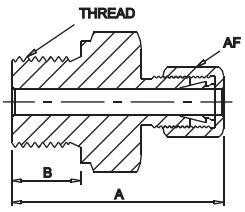


TABLE IND18

NPT			BSPP			BSPT			METRIC		
CODE	THREAD	TPI	CODE	THREAD	TPI	CODE	THREAD	TPI	CODE	THREAD	PITCH
N180	1/8	27	B180	1/8	28	BT180	1/8	28	M6X1	M6	1
N140	1/4	18	B140	1/4	19	BT140	1/4	19	M8X1	M8	1
N380	3/8	18	B380	3/8	19	BT380	3/8	19	M10X1	M10	1
N120	1/2	14	B120	1/2	14	BT120	1/2	14	M12X1	M12	1
N340	3/4	14	B340	3/4	14	BT340	3/4	14	M16X1	M16	1
N100	1	11 1/2	B100	1	11	BT100	1	11	M20X2	M20	1
N140	1 1/4	11 1/2	B140	1 1/4	11	BT140	1 1/4	11	M22X2	M22	1
N112	1 1/2	11 1/2	B112	1 1/2	11	BT112	1 1/2	11	M30X2	M30	1

	NPT	BSPP
THREAD	B IN MM	
1/8	9.5	8
1/4	14.3	12
3/8	14.3	12
1/2	19	14
3/4	19	16
1	23.9	18
1 1/4	24.6	20
1 1/2	25.4	20





TYPES OF RTDS

TABLE R1

CODE	TYPE
A2	Pt100, 2 wire
A3	Pt100, 3 wire
A4	Pt100, 4wire
B2	Pt50, 2 wire
B3	Pt50, 3 wire
B4	Pt50, 4wire
C2	Pt200, 2 wire
C3	Pt200, 3 wire
C4	Pt200, 4wire
D2	Pt500, 2 wire
D3	Pt500, 3 wire
D4	Pt500, 4wire
E2	Pt1000, 2 wire
E3	Pt1000, 3 wire
E4	Pt1000, 4wire

SHEATH MATERIALS

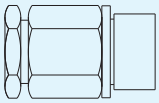
TABLE R2

CODE	TYPE
A	SS304
C	SS316
O	BRASS

CABLE GLANDS

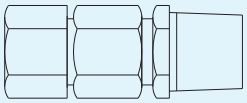
TABLE IND 8

SG



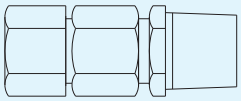
- Weatherproof
- Single compression
- Nickel plated brass
- ½"BSP & ½"NPT threads

DG



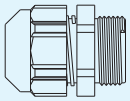
- Weatherproof
- Double compression
- Nickel plated brass
- ½"BSP & ½"NPT threads

DG



- Weatherproof
- Double compression
- Nickel plated brass
- ½"BSP & ½"NPT threads

PG



- Weatherproof
- Polyamide
- PG 9, PG 13.5,.....
- ½"BSP & ½"NPT threads also