IT603 Thermocouple Assembly With Fixed / Adjustable & N-U-N Connection

Special Features

- Mineral insulated cable.
- Spring loaded design for positive contact with thermowell
- Available in various connections & sheath diameters
- Enclosures (Head)
- Weatherproof IP - 67
- Flameproof Gr. IIA, IIB
- Explosion proof IIA, IIB, IIC
- Transmitter output 4 - 20 mA (Optional)
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

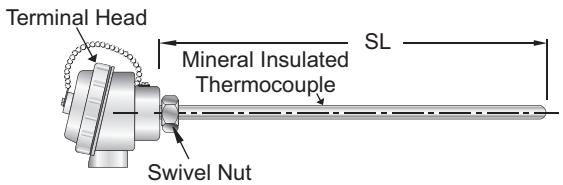
- Such design is generally used in all industries, machinery manufactures, bearing temp. measurement etc. where space is limited

Specifications

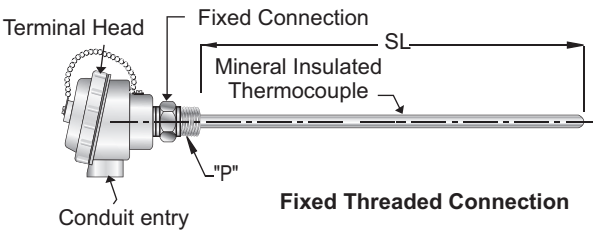
Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Terminal head type	:	Screwed type, Weatherproof, IP-67 in Die Cast Aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Head extension type	:	Without threaded connection
Sheath length “SL” below head	:	150 mm
Tag plate	:	Aluminum tag plate

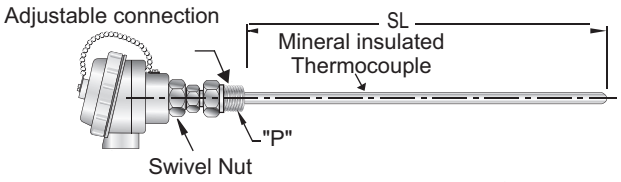
Dimensional Details



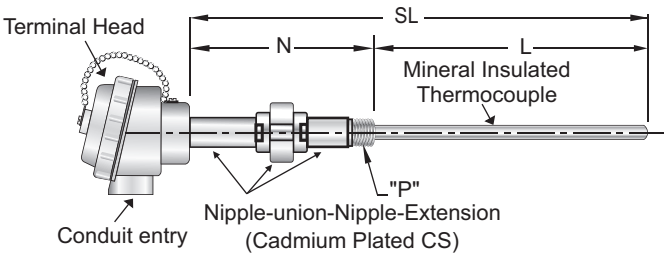
Without Threaded Connection



Fixed Threaded Connection



Adjustable Threaded Connection



Nipple - Union - Nipple

Notes : • Drawings are not to scale. • All Dimensions are in mm.

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T01 Thermocouple Assembly With Fixed / Adjustable & N-U-N Connection

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Element	
1 Simplex (Standard) **2** Duplex (Above sheath dia. 3 mm)	X
Element	
K Chromel-Alumel (Standard) **J** Iron-Constantan **T** Copper-Constantan **E** Chromel-Constantan **R** Platinum 13% Rhodium - Platinum* **S** Platinum 10% Rhodium - Platinum* **B** Platinum 6% Rhodium - Platinum 30% Rhodium* **N** Nicrosil - Nisil *Non MI Beaded (Sheath diameter 6 mm & above)	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1 (Std.)	X
Hot Junction Type	
G Grounded Junction **UG** Un-grounded Junction (Std.)	X
Sheath Diameter	
1 1.0 mm* **4.5** 4.5 mm **1.5** 1.5 mm* **6** 6.0 mm (Std.) **2** 2.0 mm* **8** 8.0 mm Others, Please specify. **3** 3.0 mm **12** 12.7 mm	X
Sheath Material	
1 SS 316 (Std.) **3** SS 310 **2** SS 316L **6** Inconel 600	X
* Applicable for Simplex Elements only.	
Terminal Head Type	
F Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum **E** Screwed type, explosion proof, IP-67, Gr.IIC in Die-cast Aluminum **H** Hinged type,weatherproof,IP-67 in Die-cast Aluminum **B** Weatherproof Head, IP-67 in Die-cast Aluminum with cover fitted with two screws. **A** Screwed type, weatherproof, IP-65 in Die Cast Aluminum (Standard) **3** Terminal head in SS 304 - WP, IP-67 **4** Terminal head in SS 316 - WP, IP-67 **5** Terminal head in Cast Iron, IP-65	X
No of Conduit Entry / Entries	
1 One (Std.) **2** Two	X
Conduit Entry Size	
A 3/4" ET(F) (Std.) **B** 1/2" NPT(F) **C** 3/4" NPT(F) other, please specify	X
Head Extension Type	
X Head with swivel nut **E** Head with nipple extension **U** Head with nipple union extension **N** Head with nipple union nipple extension **T** Fixed threaded connection **A** Adjustable threaded connection	X

How To Order	Example
Sheath Length 'SL' Below Head / L	
SL - Specify in mm	250 mm
Process conn. "P"	
4NM ½"NPT (M) **4NF** ½"NPT (F) **4BF** ½"BSP (F) **5NM** 3/4" NPT (M) **5NF** 3/4" NPT (F) **5BM** 3/4" BSP (M) **5BF** 3/4" BSP (F)	XXX
Other Options	
13 Head mounted transmitter (4-20 mA) **14** SS base plate suitable for temperature transmitter mounting **21** Plug for conduit entry in Carbon Steel **22** Plug for conduit entry in SS 304 **23** Plug for conduit entry in SS 316 **32** S. C. cable gland in Nickel plated Brass - WP **33** D. C. cable gland in Nickel plated Brass - WP **34** S. C. cable gland in SS 304 - WP **35** D. C. cable gland in SS 304 - WP **36** S. C. cable gland in SS 316 - WP **37** D. C. cable gland in SS 316 - WP **38** S. C. cable gland in nickel plated brass - FLP **39** D. C. cable gland in nickel plated brass - FLP **40** S. C. cable gland in SS 304 - FLP **41** D. C. cable gland in SS 304 - FLP **42** S. C. cable gland in SS 316 - FLP **43** D. C. cable gland in SS 316 - FLP **EC** Head with nipple extension 50 mm in CS **E4** Head with nipple extension 50 mm in SS 304 **E6** Head with nipple extension 50 mm in SS 316 **UC** Head with nipple extension 100 mm in CS **U4** Head with nipple extension 100 mm in SS 304 **U6** Head with nipple extension 100 mm in SS 316 **NC** Head with nipple extension 150 mm in CS **N4** Head with nipple extension 150 mm in SS 304 **N6** Head with nipple extension 150 mm in SS 316 **AC** Adjustable threaded connection **PW** Calibration certificate **SX** SS tag plate	XX

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT604 Thermocouple Assembly With Single / Double Protecting Tube (Flanged / Screwed Connection)

Special Features

- Assembly with KER 710 or KER 610 tube for high temperature application..
- Thermocouple element is available in different wire sizes..
- Available in various connections & sheath diameters
- Enclosures (Head)
- Weatherproof IP - 67
- Flameproof Gr. IIA, IIB
- Explosion proof IIA, IIB, II C
- Transmitter output 4 - 20mA (Optional)
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

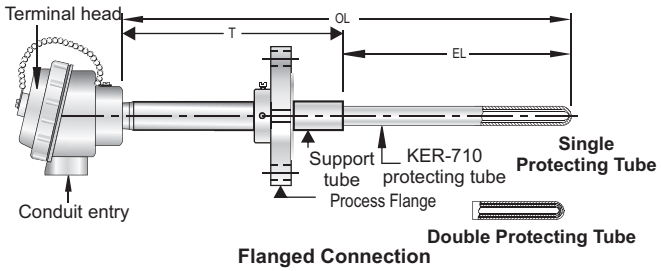
- Temperature measurement of furnaces, combustion chambers, recuperators and similar applications.

Specification

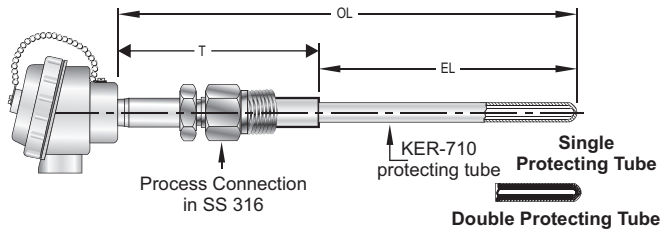
Standard Version

Thermocouple type	:	Beaded element
No of elements	:	Simplex
Elements	:	Platinum 13% Rhodium - Platinum (R type) Non MI beaded
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Wire diameter for beaded element	:	26 SWG (0.45 mm)
Terminal head type	:	Screwed type, weatherproof, IP-67 in die cast aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Head extension type	:	Adjustable flange
Support tube material	:	SS 446
Protecting tube material	:	KER 710
Protecting tube size	:	15 x 10 mm
Flange material	:	ASTM A105 (CS)
Flange type/size	:	Adjustable Flange (1½" 150#RF)
Support tube length "T"	:	150 mm
Exposed length 'EL'	:	EL=500 mm
Overall length "OL"	:	650 mm
Tag plate	:	SS tag plate

Dimensional Details



Flanged Connection



Threaded Connection

Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order

		Example
Basic model		
Optional Extras		
(Select if you required options other than standard product details)		
No of Element		
1 Simplex (Std.) **2** Duplex		X
Element Type		
R Platinum 13% Rhodium - Platinum (Standard) **S** Platinum 10% Rhodium - Platinum **B** Platinum 6% Rhodium - Platinum 30% Rhodium **K** Chromel-Alumel		X
Accuracy		
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1 (Std.)		X
Hot Junction Type		
G Grounded Junction **UG** Un-Grounded Junction		X
Wire Diameter		
Standard Wire Gauge (Beaded Element)		
24 24 SWG (0.45 mm) **25** 25 SWG (0.50 mm) **29** 29 SWG (0.35 mm)		XX
Terminal Head Type		
F Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum **E** Screwed type, explosion proof, IP-67, Gr.IIC in Die-cast Aluminum **H** Hinged type,weatherproof,IP-67 in Die-cast Aluminum **B** Weatherproof Head, IP-67 in Die-cast Aluminum with cover fitted with two screws. **A** Screwed type, weatherproof, IP-65 in Die Cast Aluminum (Standard) **3** Terminal head in SS 304 - WP, IP-67 **4** Terminal head in SS 316 - WP, IP-67 **5** Terminal head in Cast Iron, IP-65		X
No of Conduit Entry / Entries		
1 One (Std.) **2** Two		X
Conduit Entry Size		
A 3/4" ET(F) (Std.) **B** 1/2" NPT(F) **C** 3/4" NPT(F) other, please specify		X

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T02 Thermocouple Assembly With Single / Double Protecting Tube (Flanged / Screwed Connection)

How To Order	Example
Head Extension Type	
A Adjustable threaded connection **F** Fixed flanged connection **N** Fixed flanged connection with NUN **AF** Adjustable Flange	X
Support Tube Material	
1 SS 316 **3** SS 310 **6** Inconel 600	X
Outer Protecting Tube Material	
1 KER - 710 **S** Silicon Carbide **6** Pythagoras (KER - 610) **T** Tungsten Carbide Others, Please specify.	X
Outer Protecting Tube for Single OR Double Protection	
10 10 x 6 mm **12** 12 x 8 mm **15** 15 x 10 mm **20** 20 x 15 mm **24** 24 x 18 mm others, please specify.	XX
Inner Protecting Tube Material for Double Protection Only	
1 KER - 710 **X** Not Applicable **6** Pythagoras (KER - 610)	X
Inner Protecting Tube Dia for Double Protection Only	
06 6 x 4 mm (Select Outer tube size 12 x 8 mm) **08** 8 x 5 mm (Select Outer tube size 15 x 10 mm) **10** 10 x6 mm (Select Outer tube size 20 x 15 mm) **12** 12 x 8 mm (Select Outer tube size 20 x 15 mm) **15** 15 x 11 mm (Select Outer tube size 24 x 18 mm) **XX** Not applicable	XX
Flange / Threaded Connection Material	
2 A182 F304 **3** A182 F316	X
Consult factory for other material.	
Adjustable / Threaded Connection Type / Size	
6BM 1" BSP (M) **7BM** 1 ½" BSP (M) **8BM** 2" BSP (M) **6NM** 1" NPT (M) **7NM** 1 ½" NPT (M) **8NM** 2" NPT (M)	XXX
(As per ANSI B 16.5)*	
B15 3/4" 150 # **B21** 1" 150 # **B39** 2" 150 # **B16** 3/4" 300 # **B22** 1" 300 # **B40** 2" 300 # **B17** 3/4" 600 # **B23** 1" 600 # **B41** 2" 600 # **B33** 1 ½" 150 # **B51** 3" 150 # **B34** 1 ½" 300 # **B52** 3" 300 # **B35** 1 ½" 600 # **B53** 3" 600 #	
(* Please mention the flange face and flange finish) Please consult factory for other flanges.	

How To Order	Example
Overall / Exposed Length	
EL - Specify in mm. OL - Specify in mm.	500 mm / 650 mm
Support Tube Length	
T - Specify in mm.	150 mm
NUN Length (If Applicable)	
N - Specify in mm.	100 mm
Other Options	
21 Plug for conduit entry in carbon steel **22** Plug for conduit entry in SS 304 **23** Plug for conduit entry in SS 316 **32** S. C. cable gland in Nickel plated Brass - WP **33** D. C. cable gland in Nickel plated Brass - WP **34** S. C. cable gland in SS 304 - WP **35** D. C. cable gland in SS 304 - WP **36** S. C. cable gland in SS 316 - WP **37** D. C. cable gland in SS 316 - WP **38** S. C. cable gland in nickel plated brass - FLP **39** D. C. cable gland in nickel plated brass - FLP **40** S. C. cable gland in SS 304 - FLP **41** D. C. cable gland in SS 304 - FLP **42** S. C. cable gland in SS 316 - FLP **43** D. C. cable gland in SS 316 - FLP **EC** Head with nipple extension 50 mm in CS **E4** Head with nipple extension 50 mm in SS 304 **E6** Head with nipple extension 50 mm in SS 316 **UC** Head with nipple extension 100 mm in CS **U4** Head with nipple extension 100 mm in SS 304 **U6** Head with nipple extension 100 mm in SS 316 **NC** Head with nipple extension 150 mm in CS **N4** Head with nipple extension 150 mm in SS 304 **N6** Head with nipple extension 150 mm in SS 316 **PW** Calibration certificate **SX** SS tag plate	XX

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT605 Thermocouple Assembly ('L 'Type)

Special Features

- Mineral insulation
- Various hot arm and cold arm material combinations are available
- Transmitter output 4 - 20mA (Optional)
- Reference standard :- IEC - 584.2 / ANSI MC - 96.1

Application

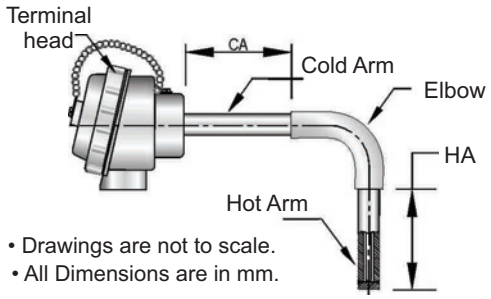
- Furnace temperature measurement and similar applications

Specifications

Standard Version

Thermocouple type	:	Mineral insulated metal sheathed
No of elements	:	Simplex
Elements	:	Chromel - Alumel (K type)
Hot junction type	:	Ungrounded junction
Accuracy	:	Class 2 as per
	:	IEC - 584.2 / ANSI MC - 96.1
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Terminal head type	:	Screwed type, weatherproof,
	:	IP-67 in Die Cast Aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Hot arm material	:	Inconel 600
Cold arm material	:	Galvanized iron
Hot / cold arm size	:	½" Sch. 40 pipe
Hot arm length	:	400 mm
Cold arm length	:	300 mm
Tag plate	:	Aluminum tag plate

Dimensional Details



Notes : • Drawings are not to scale.
• All Dimensions are in mm.

How To Order

		Example
Basic model		
Optional Extras		
(Select if you required options other than standard product details)		
Thermocouple Type		
1 MI Cable **2** Bead Type		X
No. of Elements		
1 Simplex (Std.) **2** Duplex		X
Element Type		
J Iron-Constantan **E** Chromel-Constantan **T** Copper-Constantan **K** Chromel-Alumel (Std.)		X
Hot Junction Type		
G Grounded Junction **UG** Un-Grounded Junction (Std.)		X
Accuracy		
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1 (Std.)		
Sheath Diameter		
1 1.0 mm* **4.5** 4.5 mm **1.5** 1.5 mm* **6** 6.0 mm (Std.) **2** 2.0 mm* **8** 8.0 mm Others, Please specify. **3** 3.0 mm **12** 12.7 mm		X
* Applicable for Simplex Elements only.		
Sheath Material		
1 SS 316 (Std.) **3** SS 310 **2** SS 316L **6** Inconel 600		X

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How To Order	Example
Terminal Head Type	
F Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum **E** Screwed type, explosion proof, IP-67, Gr.IIC in Die-cast Aluminum **H** Hinged type,weatherproof,IP-67 in Die-cast Aluminum **B** Weatherproof Head, IP-67 in Die-cast Aluminum with cover fitted with two screws. **A** Screwed type, weatherproof, IP-65 in Die Cast Aluminum (Standard) **3** Terminal head in SS 304 - WP, IP-67 **4** Terminal head in SS 316 - WP, IP-67 **5** Terminal head in Cast Iron, IP-65	X
No of Conduit Entry / Entries	
1 One (Std.) **2** Two	X
Conduit Entry Size	
A 3/4" ET(F) (Std.) **B** 1/2" NPT(F) **C** 3/4" NPT(F) other, please specify	X
Hot Arm Material	
6 Inconel 600 **3** SS 310 **4** SS 446	X
Cold Arm Material	
1 SS 316 **3** SS 310 **4** SS 446	X
Hot / Cold Arm Size	
P1 1/2" Sch. 40, SS 316 Other, please specify **P4** 3/4" Sch. 80, SS 316 Other, please specify	XX
Hot Arm Length	
HA - Specify in mm.	400 mm
Cold Arm Length	
CA - Specify in mm.	300 mm
Other Options	
13 Head mounted transmitter (4-20 mA) **14** SS base plate suitable for temperature transmitter mounting **21** Plug for conduit entry in Carbon Steel **22** Plug for conduit entry in SS 304 **23** Plug for conduit entry in SS 316 **32** S. C. cable gland in nickel plated brass - WP **33** D. C. cable gland in nickel plated brass - WP **34** S. C. cable gland in SS 304 - WP **35** D. C. cable gland in SS 304 - WP **36** S. C. cable gland in SS 316 - WP **37** D. C. cable gland in SS 316 - WP **38** S. C. cable gland in nickel plated brass - FLP **39** D. C. cable gland in nickel plated brass - FLP **40** S. C. cable gland in SS 304 - FLP **41** D. C. cable gland in SS 304 - FLP **42** S. C. cable gland in SS 316 - FLP **43** D. C. cable gland in SS 316 - FLP **PW** Calibration certificate **SX** SS tag plate	XX

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT606 Thermocouple Assembly With Weld Pad / Integral Collar (Skin Temp.)

Special Features

- Mineral insulated cable.
- Available in various sheath diameters
- Enclosures (Head)
  Weatherproof IP - 67
  Flameproof Gr. IIA, IIB
  Explosion proof IIA, IIB, IIC
- Transmitter output 4 - 20 mA (Optional)
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

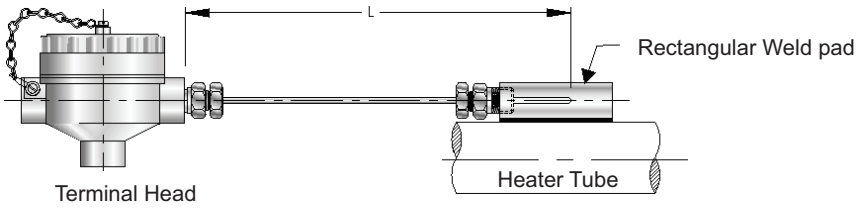
- This design is specifically used to measure skin temperature of heater tube or flat surface
- Our thermocouple assembly will be with weld pad which will be directly welded on heater tube or flat surface
- Curvature to weld pad will be provided as required by customer
- Typical applications are measurement of surface temperature of refractory lined vessels, columns, reactors in petrochemical plants and oil refineries and pipelines

Specifications

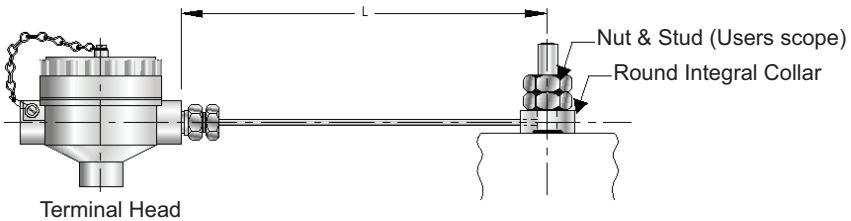
Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded Junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Terminal head type	:	Screwed type, weatherproof, IP-67 in Die Cast Aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Mounting type	:	'C' clamp
Weld pad size	:	50 x 25 x 25 mm
Weld pad material	:	SS 316
Sheath length"L" below head	:	3000 mm
Tag plate	:	SS tag plate

Dimensional Details



Assy with Rectangular Weld Pad



Assy with Round Integral Collar

Notes : • Drawings are not to scale. • All Dimensions are in mm.

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Thermocouple Assembly With Weld Pad / Integral Collar (Skin Temp.)

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Element	
1 Simplex (Std.) **2** Duplex (above sheath dia. 3 mm)	X
Element	
K Chromel-Alumel **T** Copper-Constantan **J** Iron-Constantan **E** Chromel-Constantan	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Sheath Diameter	
1 1.0 mm **6** 6.0 mm **1.5** 1.5 mm **4.5** 4.5 mm **2** 2.0 mm **8** 8.0 mm Others, Please specify. **3** 3.0 mm	X
Sheath Material	
1 SS 316 **6** Inconel 600 **3** SS 310	X
Terminal Head Type	
F Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum **E** Screwed type, explosion proof, IP-67, Gr.IIC in Die-cast Aluminum **H** Hinged type,weatherproof, IP-67 in Die-cast Aluminum **B** Weatherproof Head, IP-67 in Die-cast Aluminum with cover fitted with two screws. **A** Screwed type, weatherproof, IP-65 in Die Cast Aluminum (Standard) **3** Terminal head in SS 304 - WP, IP-67 **4** Terminal head in SS 316 - WP, IP-67 **5** Terminal head in Cast Iron, IP-65	X
No of Conduit Entry / Entries	
1 One **2** Two	X
Conduit Entry Size	
A 3/4" ET(F) (Std). **C** 3/4" NPT(F) other, please specify **B** 1/2" NPT(F)	X
Mounting Type	
C 'C' Clamp **S** Surface mounting for junction box **B** Bracket mounting for head (SS 304) **P** 2"NB pipe mounting bracket (SS 304)	X
Weld Pad Size (L x W x H)	
1 50 x 25 x 25 mm **3** 100 x 50 x 50 mm **2** 100 x 25 x 25 mm **X** Not applicable other, please specify	X
Round Integral Collar Size (OD x ID x Thk), SS 316	
1 30 x 19 x 10 mm **2** 40 x 19 x 10 mm **3** 50 x 19 x 10 mm **X** Not applicable Other, please specify	X

How To Order	Example
Weld Pad / Collar Material	
1 SS 316 **4** SS 446 **3** SS 310 **6** Inconel 600	X
Sheath Length 'L' below Head	
L - Specify in mm.	3000 mm
Other Options	
13 Head mounted transmitter (4-20 mA) **14** SS base plate suitable for Temperature transmitter mounting **21** Plug for conduit entry in carbon steel **22** Plug for conduit entry in SS 304 **23** Plug for conduit entry in SS 316 **32** S. C. cable gland in nickel plated brass - WP **33** D. C. cable gland in nickel plated brass - WP **34** S. C. cable gland in SS 304 - WP **35** D. C. cable gland in SS 304 - WP **36** S. C. cable gland in SS 316 - WP **37** D. C. cable gland in SS 316 - WP **38** S. C. cable gland in nickel plated brass - FLP **39** D. C. cable gland in nickel plated brass - FLP **40** S. C. cable gland in SS 304 - FLP **41** D. C. cable gland in SS 304 - FLP **42** S. C. cable gland in SS 316 - FLP **43** D. C. cable gland in SS 316 - FLP **PW** Calibration certificate	XX

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

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IT607 Thermocouple Insert With Terminal Block / SS Base Plate For Temp. Transmitter Mounting

Special Features

- Spring loaded design for positive contact with Thermowell
- Available in various standard sheath diameters and sheath materials
- Transmitter output 4 - 20mA (optional)
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

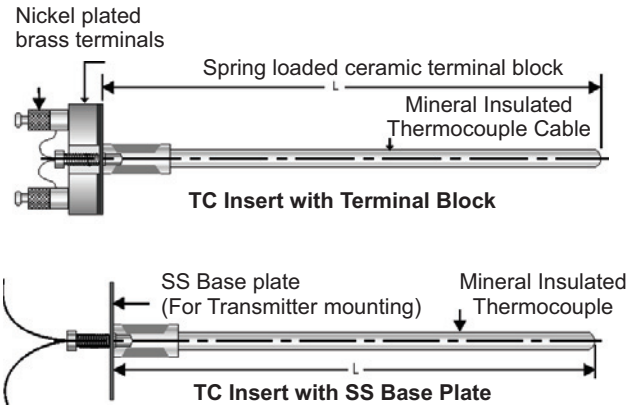
- Used as a spare or replacement thermocouple element in existing Thermocouple assembly with thermowells / protection tubes

Specifications

Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Cold end termination	:	Spring loaded terminal block with SS base plate OD = 41 mm, PCD = 33 mm
Total length "L" mm	:	150 mm
Tag plate	:	Aluminum tag plate

Dimensional Details



Notes : • Drawings are not to scale.
• All Dimensions are in mm.

How To Order				Example
Basic model				
Optional Extras				
(Select if you required options other than standard product details)				
No of Elements				
1	Simplex (Std.)	**2**	Duplex (Above sheath dia. 3 mm)	X
Element Type				
K	Chromel-Alumel			X
J	Iron-Constantan			
T	Copper-Constantan			
E	Chromel-Constantan			
R	Platinum 13% Rhodium - Platinum*			
S	Platinum 10% Rhodium - Platinum*			
B	Platinum 6% Rhodium - Platinum 30% Rhodium*			
N	Nicrosil - Nisil			
* Non MI beaded (Sheath diameter 6 mm & above)				
Accuracy				
1	Class 1 as per IEC - 584.2 / ANSI MC - 96.1			X
2	Class 2 as per IEC - 584.2 / ANSI MC - 96.1			
Hot Junction Type				
G	Grounded Junction	**UG**	Un-Grounded Junction	X
Sheath Diameter				
1	1.0 mm	**6**	6.0 mm	X
1.5	1.5 mm	**4.5**	4.5 mm	
2	2.0 mm	**8**	8.0 mm	
3	3.0 mm		Others, please specify.	
Sheath Material				
1	SS 316	**6**	Inconel 600	X
3	SS 310			
Total Length				
L - Specify in mm.				150 mm
Other Options				
13	Head Mounted Transmitter (4 - 20 mA) (With SS base plate)			XX
PW	Calibration Certificate			
SX	SS Tag Plate			

Note :
1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT608 Multi-point Thermocouple Assembly *With Protecting Tube*

Special Features

- Mineral insulation enables flexibility and durability
- Available in various process connections & sheath diameters
- Enclosures Junction Box
  Weatherproof IP - 67
  Flameproof Gr. IIA, IIB
  Explosion proof IIA, IIB, II C
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

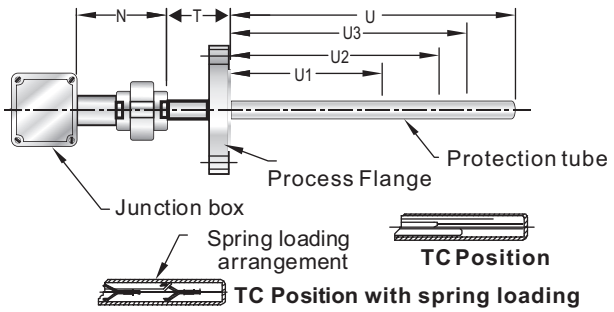
- These assemblies are find application in Refinery and Petrochemical plants which includes catalytic crackers, lime kilns, distillation columns & pressurized reactor vessels.

Specification

Standard Version

Thermocouple type	:	Mineral insulated metal Sheathed
No of elements	:	Simplex
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Element type	:	Chromel - Alumel (K type)
No of points	:	Three
Hot junction type	:	Ungrounded junction
Sheath Diameter for MI thermocouple	:	3 mm
Sheath material	:	SS 316
Junction box type	:	Weatherproof, IP 67 in Die Cast Aluminum
No of conduit entries	:	One
Conduit entry size	:	3/4" ET(F)
Junction box extension type	:	Junction box with Nipple Union of CS
Protecting tube material	:	SS 316
Protecting tube size	:	½" Sch. 40
Flange material	:	SS 316
Flange type / size	:	1½"150# RF
Insertion length	:	U = 1500 mm
TC point location (mm)	:	Example :U1 = 500,
	:	U2 = 750, U3 = 1350
Extension length "T"mm	:	150 mm
Junction box extension Length "N"mm	:	200 mm
Tag plate	:	SS Tag Plate

Dimensional Details



Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order

		Example
Basic model		
Optional Extras		
(Select if you required options other than standard product details)		
Thermocouple Type		
MI	Mineral insulated metal sheathed	X
No of Element		
1 Simplex (Std.) **2**	Duplex (Above sheath dia. 3 mm)	X
Accuracy		
1	Class 1 as per IEC - 584.2 / ANSI MC - 96.1	X
2	Class 2 as per IEC - 584.2 / ANSI MC - 96.1	
Element Type		
K	Chromel-Alumel	
J	Iron-Constantan	
T	Copper-Constantan	
E	Chromel-Constantan	X
N	Nicrosil - Nisil	
No of Points*		
1	1 Thermocouple	
2	2 Thermocouples	
4	4 Thermocouples	X
5	5 Thermocouples	
6	6 Thermocouples	
9	9 Thermocouples	
	Other, Please Specify	
*As per customer requirement and Thermowell size will be changed		
Hot Junction Type		
G Grounded Junction	**UG** Un-Grounded Junction	X
Sheath Diameter		
1 1.0 mm	**4.5** 4.5 mm	
1.5 1.5 mm	**6** 6.0 mm	X
2 2.0 mm	**8** 8.0 mm	
3 3.0 mm		
Consult factory for other size.		
Sheath Material		
1 SS 316	**6** Inconel 600	X
3 SS 310		

01-10-13

How To Order						Example
Junction Box Type						
F	Flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum					X OR XX
E	Explosionproof, IP-67, Gr. IIC in Die-cast Aluminum					
16	Junction box extension in Aluminum WP - 10 Cable Entries					
17	Junction box extension in Aluminum FLP - 10 Cable Entries					
No of Conduit Entry / Entries						
1	One (Std.)	**2**	Two	**3**	Three	X
Conduit Entry Size						
A	3/4" ET (F)					X
B	1/2" NPT(F)					
C	3/4"NPT(F) other, please specify					
Junction Box Extension Type						
F	With flexible hose	**P**	Protecting Tube			X
Protecting Tube Material						
1	SS 316	**4**	SS 446			X
3	SS 310	**6**	Inconel 600			
Protecting Tube						

	Size	OD in mm	Wall Thk. in mm	Example
N4	1/2" Sch. 40	21.3	2.77	XX
N8	1/2" Sch. 80	21.3	3.74	
R4	1" Sch. 40	33.4	3.4	
R8	1" Sch. 80	33.4	4.5	
T4	1.5" Sch. 40	48.3	3.7	
T8	1.5" Sch. 80	48.3	5.1	
U4	2" Sch. 40	60.3	3.9	
U8	2" Sch. 80	60.3	5.5	

Other, Please Specify						
Flange Type / Size						
(As per ANSI B 16.5)*						
B09	½" 150 #	**B21**	1" 150 #	**B39**	2" 150 #	XXX
B10	½" 300 #	**B22**	1" 300 #	**B40**	2" 300 #	
B11	½" 600 #	**B23**	1" 600 #	**B41**	2" 600 #	
B15	3/4" 150 #	**B33**	1 ½" 150 #	**B51**	3" 150 #	
B16	3/4" 300 #	**B34**	1 ½" 300 #	**B52**	3" 300 #	
B17	3/4" 600 #	**B35**	1 ½" 600 #	**B53**	3" 600 #	
(* Please mention the flange face and flange finish) Please consult factory for other flanges.						
Multipoint Insertion Length						U1=500 mm U2=750 mm U3=1350 mm
U1, U2, U3...Specify in mm.						
Insertion Length						1500 mm
U- Specify in mm.						
Nipple-Union Length						150 mm
N - Specify in mm.						
Flexible Hose Length (If applicable)						200 mm
F - Specify in mm						

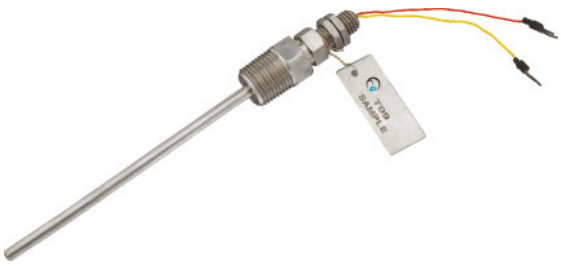
How To Order		Example
Other Options		XX
20	Plug for conduit entry in Carbon Steel	
21	Plug for conduit entry in Carbon Steel	
22	Plug for conduit entry in SS 304	
23	Plug for conduit entry in SS 316	
24	Guide tube design	
25	Spring loading arrangement inside the protecting tube	
32	S. C. cable gland in nickel plated Brass - WP	
33	D. C. cable gland in nickel plated Brass - WP	
34	S. C. cable gland in SS 304 - WP	
35	D. C. cable gland in SS 304 - WP	
36	S. C. cable gland in SS 316 - WP	
37	D. C. cable gland in SS 316 - WP	
38	S. C. cable gland in nickel plated brass - FLP	
39	D. C. cable gland in nickel plated brass - FLP	
40	S. C. cable gland in SS 304 - FLP	
41	D. C. cable gland in SS 304 - FLP	
42	S. C. cable gland in SS 316 - FLP	
43	D. C. cable gland in SS 316 - FLP	
UC	Head with nipple extension 100 mm in CS	
U4	Head with nipple extension 100 mm in SS 304	
U6	Head with nipple extension 100 mm in SS 316	
NC	Head with nipple extension 150 mm in CS	
N4	Head with nipple extension 150 mm in SS 304	
N6	Head with nipple extension 150 mm in SS 316	
PW	Calibration certificate	

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT609 Thermocouple Insert With Crimp On Pot Seal / Threaded Pot



Special Features

- Mineral insulated with compact MgO powder
- Thermocouple with adjustable process connection for adjustable insertion length
- Available in various standard sheath diameters and sheath materials
- Mineral insulation enables thermocouples to be used at higher temperatures
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

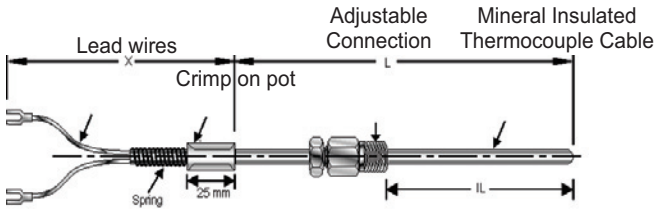
- Moulding machine, Plastic industry

Specifications

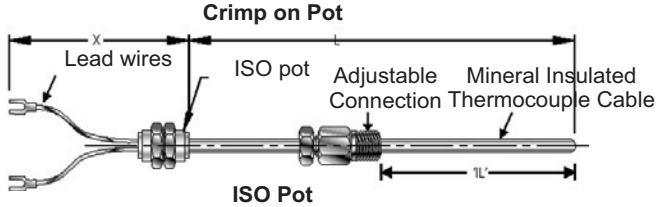
Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Cold end termination	:	Crimp on pot
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Total length"L"(mm)	:	150 mm
Lead wire length "X"mm	:	3000 mm
Lead wire type	:	PTFE / PTFE / SS Wire braided lead wires
Process connection	:	½" BSP (M)
Tag plate	:	Aluminum tag plate

Dimensional Details



Crimp on Pot



ISO Pot

Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Elements	
1 Simplex (Std.) **2** Duplex (Above sheath dia. 3 mm)	X
Element Type	
K Chromel-Alumel **E** Chromel-Constantan **J** Iron-Constantan **N** Nicrosil - Nisil **T** Copper-Constantan	X

How To Order

How To Order	Example
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Sheath Diameter	
1 1.0 mm **6** 6.0 mm **1.5** 1.5 mm **4.5** 4.5 mm **2** 2.0 mm **8** 8.0 mm **3** 3.0 mm Others, please specify.	X
Sheath Material	
1 SS 316 **6** Inconel 600	X
Cold End Termination	
A Crimp on pot **B** 4.5 mm ISO pot (Threaded pot) with lead wires **C** 6.0 mm ISO pot (Threaded pot) with lead wires **D** 8.0 mm ISO pot (Threaded pot) with lead wires **E** 12.0 mm ISO pot (Threaded pot) with lead wires	X
Total Length	
L - Specify in mm.	150 mm
Lead Wire Length	
X - Specify in mm.	3000 mm
Lead Wire Type	
1 PTFE insulated lead wires **2** PTFE / PTFE insulated lead wires **3** PTFE / PTFE / SS wires **4** Fibre Glass insulated lead wires **5** Fibre Glass / Fibre Glass insulated lead wires **6** Fibre Glass / Fibre Glass / SS braided lead wires Other please specify	X
Process conn. "P"	
4NM 1/2" NPT (M) **5NM** 3/4" NPT (M) **4NF** 1/2" NPT (F) **5NF** 3/4" NPT (F) **4BF** 1/2" BSP (F) **5BF** 3/4" BSP (F) **4BM** 1/2" BSP(M) **5BM** 3/4" BSP (M) Others, please specify.	XXX
Options	
PW Calibration Certificate **SX** SS tag plate	XX

Note : 1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT610 Thermocouple Insert With Plug & Jack Connector

Special Features

- Mineral insulation enables Thermocouples to be used at higher temperatures
- Thermocouple with adjustable process connection for adjustable insertion length
- Available in various standard sheath diameters and sheath materials
- Cold end termination will be with plug and Jack connector for quick disconnection type application
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

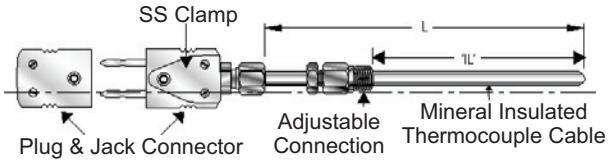
- General industry and for high temperature applications

Specifications

Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Cold end termination	:	Standard plug & jack connector
Immersion length 'IL'/ Element length"L"(mm)	:	L = 150 mm
Process connection	:	½"BSP (M) Adj.
Tag plate	:	Aluminum tag plate

Dimensional Details



Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Elements	
1 Simplex (Std.) **2** Duplex (Above sheath dia. 3 mm)	X
Element Type	
K Chromel-Alumel **E** Chromel-Constantan **J** Iron-Constantan **N** Nicrosil - Nisil **T** Copper-Constantan	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Sheath Material	
1 SS 316 **2** SS 316L **6** Inconel 600	X

How To Order

How To Order	Example
Sheath Diameter	
1 1.0 mm **6** 6.0 mm **1.5** 1.5 mm **4.5** 4.5 mm **2** 2.0 mm **8** 8.0 mm **3** 3.0 mm Others, please specify.	X
Cold End Termination	
1 Standard plug & jack connector **2** Miniature plug & jack connector **3** Standard omega plug & jack connector **4** Miniature omega plug & jack connector **9** High temp. Standard omega plug & jack connector **A** High temp. Miniature omega plug & jack connector Others, please specify.	X
Total Length	
L - Specify in mm.	150mm
Process conn. "P"	
4NM ½" NPT (M) **5NM** 3/4" NPT (M) **4NF** ½" NPT (F) **5NF** 3/4" NPT (F) **4BF** ½" BSP (F) **5BM** 3/4" BSP (M) **4BM** ½" BSP (M) **5BF** 3/4" BSP (F) Others, please specify.	XXX
Options	
PW Calibration Certificate **SX** SS tag plate	XX

Note :
1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT611 Thermocouple Insert With Spring Loaded Bayonet Fitting (Straight / 90° Angular)

Special Features

- Spring loaded design
- Available in various sheath diameters and sheath materials
- Bayonet fitting size is available as per customer's requirements
- Straight or Angular Mounting
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

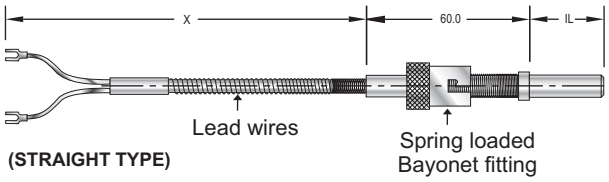
- Injection moulding machine in plastic industry

Specifications

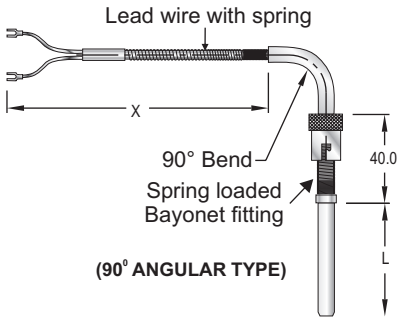
Standard Version

No of Elements	:	Simplex
Element Type	:	Iron - Constantan (J type)
Accuracy	:	Class 2 as per
	:	IEC - 584.2 / ANSI MC - 96.1
Hot Junction Type	:	Grounded Junction
Sheath Diameter	:	4.5 mm
Sheath Material	:	SS 316
Immersion Length"IL"mm	:	30 mm
Lead Wire Length"X"mm	:	3000 mm
Lead Wire Type	:	PTFE / PTFE / SS braided lead wires
Process Connection	:	Spring loaded bayonet Connector, I.D.=12.0 mm
Bayonet Connector	:	Double Slot
Mounting	:	Straight or Angular
Tag Plate	:	Aluminum Tag Plate

Dimensional Details



(STRAIGHT TYPE)



(90° ANGULAR TYPE)

Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Elements	
1 Simplex (Std.) **2** Duplex (Above sheath dia. 3 mm)	X
Element Type	
K Chromel-Alumel **J** Iron Constant	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Sheath Diameter	
3 3.0 mm **6** 6.0 mm **4.5** 4.5 mm **8** 8.0 mm	X
Sheath Material	
1 SS 316	X
Immersion Length (IL)	
IL - Specify in mm.	30 mm
Lead Wire Length	
X - Specify in mm.	3000 mm
Lead Wire Type	
1 PTFE insulated lead wires **2** PTFE / PTFE insulated lead wires **3** PTFE / PTFE / SS wires **4** Fibre Glass insulated lead wires **5** Fibre Glass / Fibre Glass insulated lead wires **6** Fibre Glass / Fibre Glass / SS braided lead wires Other please specify	X
Other Options	
B1 Spring loaded bayonet connector with single slot **PW** Calibration certificate **SX** SS tag plate **LR** 90° angular type mounting	XX

Note :
1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT612 Beaded Thermocouple Insert

Special Features

- Bare wise Thermocouple element with ceramic insulators
- Thermocouple type 'R', 'S' and 'B' are available in 26 SWG or lower size
- Low cost version
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

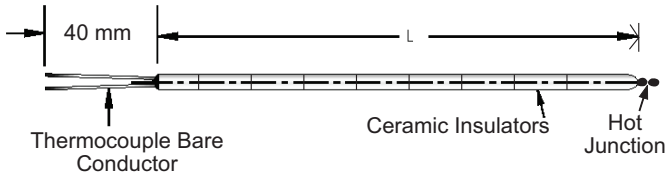
- As a replacement Thermocouple element in existing thermowells / protection tubes

Specifications

Standard Version

No of elements	:	Simplex
Element type	:	Chromel - Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction type	:	Ungrounded junction
Sheath material diameter	:	6.0 mm
Sheath material	:	SS 316
Cold end termination	:	Bare conductors
Element length"L"(mm)	:	150 mm
Tag plate	:	Aluminum tag plate

Dimensional Details



Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order

How To Order				Example
Basic model				
Optional Extras				
(Select if you required options other than standard product details)				
No of Elements				
1	Simplex (Std.)	**2**	Duplex	X
Element Type				
K	Chromel-Alumel			X
J	Iron-Constantan			
T	Copper-Constantan			
E	Chromel-Constantan			

How To Order

How To Order				Example
Element Type				
R	Platinum 13 % Rhodium- Platinum			X
S	Platinum 10 % Rhodium - Platinum			
B	Platinum 6 % Rhodium - Platinum 30 % Rhodium			
N	Nicrosil - Nisil			
Accuracy				
1	Class 1 as per IEC - 584.2 / ANSI MC - 96.1			X
2	Class 2 as per IEC - 584.2 / ANSI MC - 96.1			
Wire Diameter				
08	8 SWG		(4.0641 mm)	XX
10	10 SWG		(3.2512 mm)	
12	12 SWG		(2.6416 mm)	
16	16 SWG		(1.6256 mm)	
20	20 SWG		0.9144 mm)	
26	26 SWG		(0.4572 mm)	
Others please specify				
Insulator OD				
4	3.5 mm	**10**	10.0 mm	X OR XXX
6	6.0 mm	**12**	12.0 mm Others please specify	
8	8.0 mm			
Element Length				
L - Specify in mm				150 mm
Other Options				
PW	Calibration certificate			XX
SX	SS tag plate			

Note :
1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

Note : Specifications and dimensions given in this product catalogue represents the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.

IT613 Mineral Insulated (M.I.) Thermocouple *With Bare Conductor*

Special Features

- Mineral insulated Thermocouple is flexible / pliable and can be routed through high Temperature environment
- Available in various standard sheath diameters and sheath materials
- Bare conductors provided for termination of your choice
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

- As a replacement Thermocouple element in existing thermowells / protection tubes

Specifications

Standard Version

No of elements	:	Simplex
Element type	:	Chromel-Alumel (K type)
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Hot junction	:	Ungrounded junction
Sheath diameter	:	6.0 mm
Sheath material	:	SS 316
Cold end termination	:	Bare conductors
Element length"L"(mm)	:	150 mm
Tag plate	:	Aluminum tag plate

Dimensional Details

Notes : • Drawings are not to scale. • All Dimensions are in mm.

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
No of Elements	
1 Simplex (Std.) **2** Duplex (Above sheath dia. 3 mm)	X
Element Type	
K Chromel-Alumel **E** Chromel-Constantan **J** Iron-Constantan **N** Nicrosil - Nisil **T** Copper-Constantan	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Sheath Diameter	
1 1.0 mm **2** 2.0 mm **6** 6.0 mm **1.5** 1.5 mm **3** 3.0 mm **8** 8.0 mm **4.5** 4.5 mm Others, please specify.	X
Sheath Material	
1 SS 316 **6** Inconel 600 **3** SS 310 Others, please specify	X
Element Length	
L - Specify in mm.	150 mm
Other Options	
PW Calibration certificate **SX** SS tag plate	XX

Note :
1. When selecting option "PW", please also specify temp. points at which calibration is to be carried out .

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IT614 Thermocouple For Molten Aluminum (Straight)

Special Features

- Assembly with Cart Iron tube for high temp. application Thermocouple element is available in different wire sizes.
- Available in various process connections & sheath diameters
- Enclosures (Head)
  Weatherproof IP - 67
  Flameproof Gr. IIA, IIB
  Explosion proof IIA, IIB, II C
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

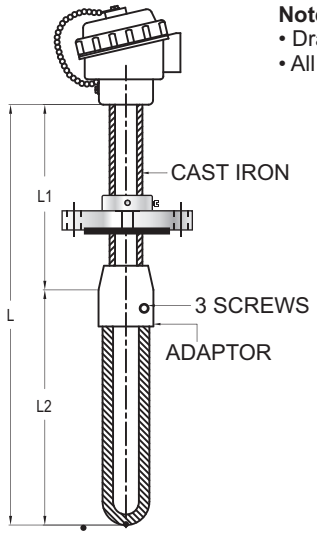
- Temperature measurement of furnaces, combustion chambers, recuperators and similar applications.

Specifications

Standard Version

Thermocouple type	:	Mineral insulated metal Sheathed
No of elements	:	Simplex
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Element type	:	Chromel - Alumel (K type)
Hot junction type	:	Ungrounded junction
Terminal head Type	:	Screwed type, weatherproof, IP-67 in Die Cast Aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Sheath diameter	:	6 mm
Sheath material	:	SS 316
Thermowell material (cold end)	:	SS 316
Thermowell material (hot end)	:	Cast Iron
Thermowell OD x ID	:	21 x 17 mm
Process connection	:	½"150 # Adj. Flange,
Flange / threaded conn. material	:	SS 316
Thermowell (cold end) length "L1"	:	500 mm
Thermowell (hot end) length 'L2'	:	500 mm
Tag plate	:	SS tag plate

Dimensional Details



Notes :
- Drawings are not to scale.
- All Dimensions are in mm.

How To Order

How To Order				Example
Basic model				
Optional Extras				
(Select if you required options other than standard product details)				
Thermocouple Type				
MI	Mineral insulated metal sheathed (Std.)			X
No of Element				
1	Simplex	**2**	Duplex	X
Element Type				
K	Chromel-Alumel			
J	Iron-Constantan			
T	Copper-Constantan			X
E	Chromel-Constantan			
N	Nicrosil - Nisil			
Accuracy				
1	Class 1 as per IEC - 584.2 / ANSI MC - 96.1			X
2	Class 2 as per IEC - 584.2 / ANSI MC - 96.1			
Hot Junction Type				
G	Grounded Junction	**UG**	Un-Grounded Junction	X
Terminal Head Type				
F	Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum			
E	Screwed type, explosion proof, IP-67, Gr.IIC in Die-cast Aluminum			
H	Hinged type,weatherproof,IP-67 in Die-cast Aluminum			X
B	Weatherproof Head, IP-67 in Die-cast Aluminum with cover fitted with two screws.			
A	Screwed type, weatherproof, IP-65 in Die Cast Aluminum (Standard)			
3	Terminal head in SS 304 - WP, IP-67			
4	Terminal head in SS 316 - WP, IP-67			
5	Terminal head in Cast Iron, IP-65			
No of Conduit Entry / Entries				
1	One	**2**	Two	X
Conduit Entry Size				
A	3/4" ET(F)	**C**	3/4" NPT(F)	X
B	1/2" NPT(F)		Other, please specify.	
Sheath Diameter				
1	1.0 mm	**4.5**	4.5 mm	
1.5	1.5 mm	**6**	6.0 mm	X
2	2.0 mm	**8**	8.0 mm	
3	3.0 mm		Others, please specify.	

Thermocouple For Molten Aluminum (Straight)

How To Order				Example
Sheath Material				
1	SS 316	**6**	Inconel 600	X
3	SS 310	**8**	Inconel 800	
4	SS 446			
Thermowell Material (Cold End)				
1	SS 316			X
3	SS 310			
4	SS 446			
6	Inconel 600			
8	Inconel 800			
Thermowell Material (Hot End)				
SN	Silicon Nitride.			XX
Thermowell OD x ID (Cold End)				
OD x ID - Specify in mm.				21x17
Thermowell OD x ID (Hot End)				
OD x ID - Specify in mm.				XX
Flange / Threaded Connection Material				
2	A182 F304			X
3	A182 F316			
Consult factory for other material.				
(As per ANSI B 16.5)*				
B15	3/4" 150 #	**B21**	1" 150 #	**B39** 2" 150 #
B16	3/4" 300 #	**B22**	1" 300 #	**B40** 2" 300 #
B17	3/4" 600 #	**B23**	1" 600 #	**B41** 2" 600 #
		B33	1 ½" 150 #	**B51** 3" 150 #
		B34	1 ½" 300 #	**B52** 3" 300 #
		B35	1 ½" 600 #	**B53** 3" 600 #

* Please mention the flange face and flange finish).
Please consult factory for other flanges.

How To Order	Example
Thermowell (Cold End) Length "L1"	
L1 - Specify in mm.	500 mm
Thermowell (Cold End) Length "L2"	
L2 - Specify in mm.	1000 mm
Other Options	
21 Plug for conduit entry in Carbon Steel	XX
22 Plug for conduit entry in SS 304	
23 Plug for conduit entry in SS 316	
32 S. C. cable gland in nickel plated brass - WP	
33 D. C. cable gland in nickel plated brass - WP	
34 S. C. cable gland in SS 304 - WP	
35 D. C. cable gland in SS 304 - WP	
36 S. C. cable gland in SS 316 - WP	
37 D. C. cable gland in SS 316 - WP	
38 S. C. cable gland in Nickel plated Brass - FLP	
39 D. C. cable gland in Nickel plated Brass - FLP	
40 S. C. cable gland in SS 304 - FLP	
41 D. C. cable gland in SS 304 - FLP	
42 S. C. cable gland in SS 316 - FLP	
43 D. C. cable gland in SS 316 - FLP	
PW Calibration certificate	

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

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IT615 Tri-Level Thermocouple With Long Thimble

Special Features

- Assembly with platinum thimble for molten glass application
- Thermocouple element is available in different wire sizes..
- Available in various connections & sheath diameters
- Enclosures (Head)
  Weatherproof IP - 67
  Flameproof Gr. IIA, IIB
  Explosion proof IIA, IIB, II C
- Reference standard : IEC - 584.2 / ANSI MC - 96.1

Application

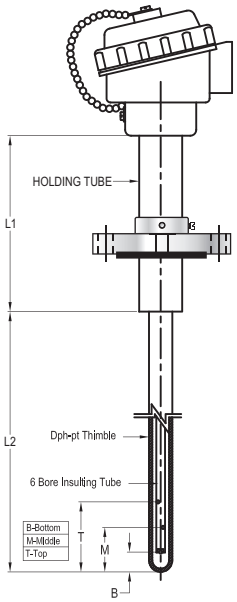
- Temperature measurement of furnaces, combustion chambers, recuperators and similar applications.

Specifications

Standard Version

Thermocouple type	:	Beaded element
No of elements	:	Triplex
Accuracy	:	Class 2 as per IEC - 584.2 / ANSI MC - 96.1
Elements	:	Platinum 13% Rhodium - Platinum (R type)
Hot junction type	:	Ungrounded junction
Terminal head Type	:	Screwed type, weatherproof, IP-67 in Die Cast Aluminum
No of conduit entry	:	One
Conduit entry size	:	3/4" ET(F)
Insulating tube diameter	:	4.5 mm
Insulating tube material	:	KER 710
Wire diameter	:	0.45 mm
Holding tube OD x ID x L	:	25 x 18 x 500 mm
Holding tube material	:	SS 316
Dph platinum thimble OD x ID x L	:	15 x 10 x 300 mm
Process connection	:	½"150 # Adj. Flange,
Element length from tip	:	B = 20, M = 70, T = 120 mm
Flange / threaded conn. material	:	SS 316
Tag plate	:	SS Tag Plate

Dimensional Details



Notes :
- Drawings are not to scale.
- All Dimensions are in mm.

How To Order

How To Order	Example
Basic model	
Optional Extras	
(Select if you required options other than standard product details)	
Thermocouple Type	
BE Beaded element	X
No of Elements	
3 Triplex (Standard)	X
Accuracy	
1 Class 1 as per IEC - 584.2 / ANSI MC - 96.1 **2** Class 2 as per IEC - 584.2 / ANSI MC - 96.1	X
Element Type	
R Platinum 13% Rhodium - Platinum (Non MI Beaded) **S** Platinum 10% Rhodium - Platinum (Non MI Beaded) **B** Platinum 6% Rhodium - Platinum 30% Rhodium (Non MI Beaded)	X
Hot Junction Type	
G Grounded Junction **UG** Un-Grounded Junction	X
Terminal Head Type	
F Screwed type, flameproof, IP-67, Gr. IIA IIB in Die-cast Aluminum **E** Screwed type, explosionproof, IP-67, Gr. IIC in Die-cast Aluminum **H** Hinged type, weatherproof, IP-67 in Die-cast Aluminum **3** Terminal head in SS 304 - WP, IP-67 **4** Terminal head in SS 316 - WP, IP-67 **5** Terminal head in Cast Iron, IP-65	X
No of Conduit Entry / Entries	
1 One **2** Two	X
Conduit Entry Size	
A 3/4" ET (F) **C** 3/4" NPT(F) **B** 1/2" NPT(F) Other, please specify	X
Insulating Tube Diameter	
3.5 3.5 mm **6.5** 6.5 mm **4.5** 4.5 mm **8.5** 8.5 mm **5.5** 5.5 mm Others, please specify.	X
Insulating Tube Material	
KER 710 Recrystalized Alumina	X

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How To Order	Example
Wire Diameter	
Standard Wire Gauge (Beaded Element)	
25 25 SWG (0.50 mm) **29** 29 SWG (0.35 mm)	XX
Holding Tube OD x ID x L	
OD x ID x L - Specify in mm.	X
Holding Tube Material	
1 SS 316 **3** SS 310 **4** SS 446 **6** Inconel 600 **8** Inconel 800	X
Platinum Thimble OD x ID x L	
OD x ID x L - Specify in mm.	X
Flange / Threaded Connection Material	
2 A182 F304 **3** A182 F316	X
Consult factory for other material.	
(As per ANSI B 16.5)*	
B15 3/4" 150 # **B21** 1" 150 # **B39** 2" 150 # **B16** 3/4" 300 # **B22** 1" 300 # **B40** 2" 300 # **B17** 3/4" 600 # **B23** 1" 600 # **B41** 2" 600 # **B33** 1 ½" 150 # **B51** 3" 150 # **B34** 1 ½" 300 # **B52** 3" 300 # **B35** 1 ½" 600 # **B53** 3" 600 #	
(* Please mention the flange face and flange finish) Please consult factory for other flanges.	

How To Order	Example
Element Length from Tip (B, M & T)	
L1 - Specify in mm.	20/70/120 mm
Other Options	
21 Plug for conduit entry in Carbon Steel **22** Plug for conduit entry in SS 304 **23** Plug for conduit entry in SS 316 **32** S. C. cable gland in nickel plated brass - WP **33** D. C. cable gland in nickel plated brass - WP **34** S. C. cable gland in SS 304 - WP **35** D. C. cable gland in SS 304 - WP **36** S. C. cable gland in SS 316 - WP **37** D. C. cable gland in SS 316 - WP **38** S. C. cable gland in Nickel plated Brass - FLP **39** D. C. cable gland in Nickel plated Brass - FLP **40** S. C. cable gland in SS 304 - FLP **41** D. C. cable gland in SS 304 - FLP **42** S. C. cable gland in SS 316 - FLP **43** D. C. cable gland in SS 316 - FLP **PW** Calibration certificate	XX

Note :

1. When selecting option "PW", please also specify temp. Points at which calibration is to be carried out .
2. Explanations of Abbreviations used:
   SC = Single Compression SS = Stainless Steel
   DC = Double Compression FLP = Flameproof
   WP = Weatherproof

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