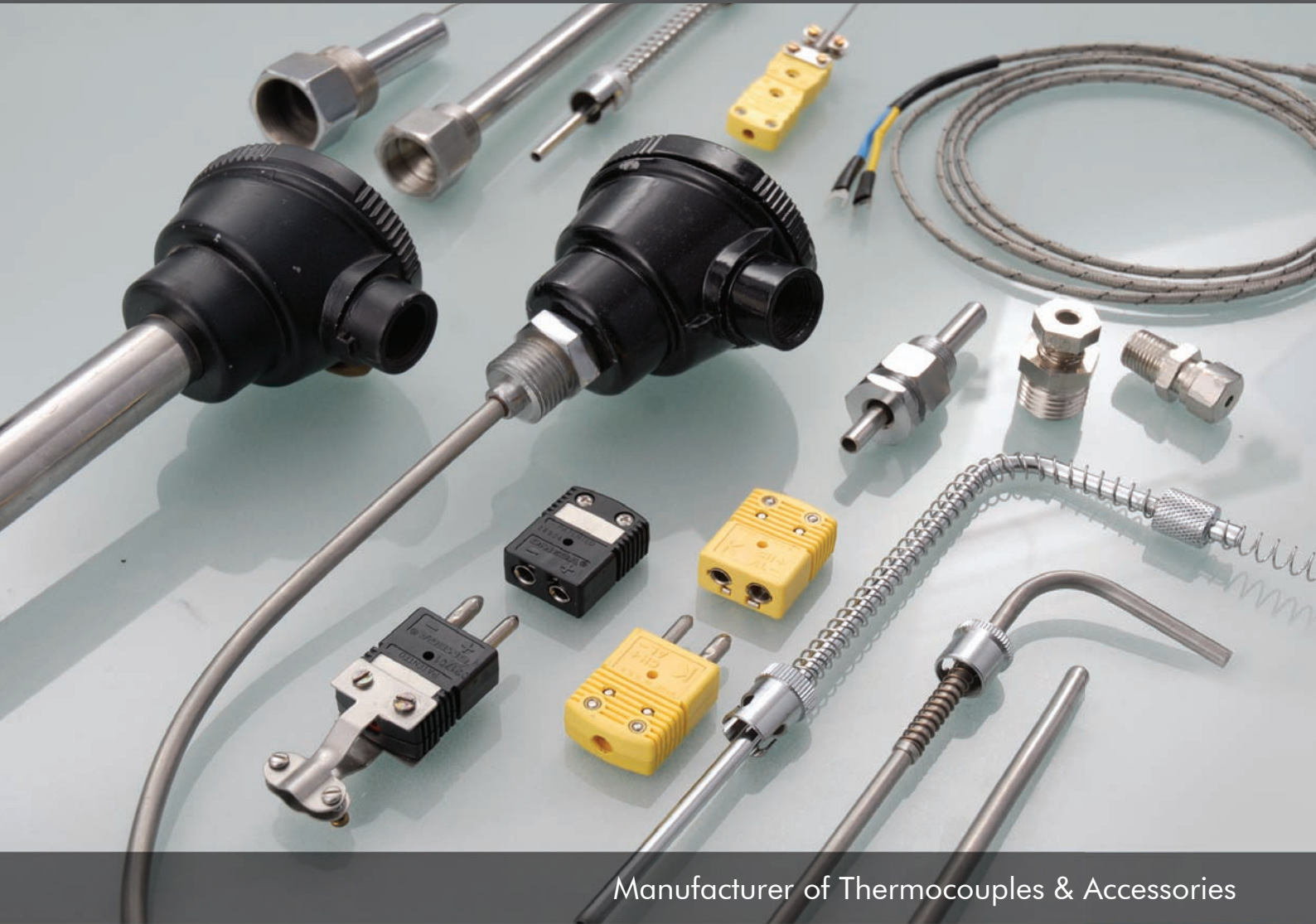




# T H E R M O C O U P L E S



Manufacturer of Thermocouples & Accessories

Alpha Engineering Company

## General Purpose Thermocouples

### GENERAL PURPOSE HEAD TYPE THERMOCOUPLES

**Used in the industry to measure temperature up to a maximum of 700° C**

Type of Thermocouple	: Chromel-Alumel (K), Iron Constantan (J)
Sheath Material	: SS 304, SS 316
Sheath O.D.	: 6mm, 8mm, 10mm, 12.7mm, Other sizes available on request
Thermocouple Length	: Standard 6", 12", 18", 24", Other sizes are available on request
Process Connection	: Standard 1/2" BSP, Others are available on request
Compression Fittings	: 1/4", 3/8", 1/2", 3/4", 1", BSP & NPT



### TRANSITION JOINT THERMOCOUPLES

**Are available to measure low temperature up to a maximum of 400° C.**

Type of Thermocouples	: Chromel-Alumel (K), Iron Constantan (J), Copper Constantan (J)
Sheath Material	: SS 304, SS 316
Sheath O.D.	: 5mm, 6mm, 8mm Other sizes available on request
Stem Length	: 4", 6", 12" Other sizes are available on request
Extension Wires	: FG/FG/SS, Teflon/Teflon



## High Temperature Head Type Thermocouples

**High Temperature Thermocouples are available to measure high temperature up to 1050° C . Different type of sheath materials are available for various applications.**

Type of Thermocouple	: Chromel-Alumel (K)
Sheath Material	: SS 304, SS 316, SS 310, Cast Iron
Sheath O.D.	: 19mm, 22mm, 25mm etc.
Thermocouple Length	: 12", 18", 20", 24", 30" Other lengths are available on request
Sheath Type	: Welded Pipe and Solid Drilled
Construction of the	: Simplex & Duplex type, Straight & Angle type (for angle type length of cold arm and the hot arm plus the media of working is to be specified).



## Very High Temperature Thermocouples

**Very High Temperature Thermocouples are used in the industry to measure very high temperature up to 1600° C.**

Type of Thermocouples	: Platinum- Platinum/Rhodium (Pt-Pt/Rh) 13% & 10%
Sheath Material	: Ceramic Sheath & Recrystallised Alumina
Thermocouple Length	: 12", 18", 24" Other lengths are available on request
Sheath O.D.	: 12mm, 15mm, 19mm, 22mm
Construction of the	: a) Single refractory & Double refractory b) Straight type & Angle type.



## Mineral Insulated Thermocouples

### MINERAL INSULATED HEAD TYPE THERMOCOUPLES

**Seamless extruded thermocouples with magnesium oxide tightly compact around the conductors which enables it to be very flexible and also give very fast response because of small diameters.**

Type of Thermocouples	: Chromel-Alumel (K) type, Iron-Constantan (J) type
Sheath Material	: SS 316, Inconel 600
Sheath O.D.	: 1mm, 1.5mm, 2mm, 3mm, 6mm, 8mm
Thermocouple Length	: 12", 18", 24", 30" Other lengths are available on request
Construction of the	: Simplex and Duplex both Grounded & Ungrounded

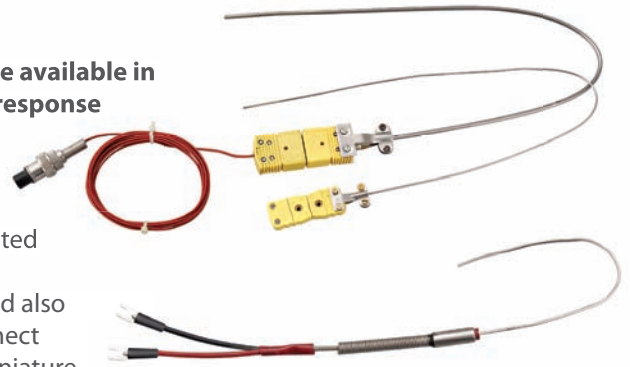


## Mineral Insulated Thermocouples

### MINERAL INSULATED TRANSITION JOINT THERMOCOUPLES

**Available to measure temperature up to a maximum of 900° C and are available in small outer diameters because of which they are flexible & very fast response**

Type of Thermocouples	: Chromel-Alumel (K), Iron Constantan (J)
Sheath Material	: SS 316, Inconel 600
Sheath O.D.	: 1mm, 1.5mm, 2mm, 3mm, 6mm, 8mm,
Thermocouple Length	: 6", 12", Other lengths required can be fabricated
Extension Wires	: PVC/ PVC, Teflon/ Teflon, FG/FG/SS
Construction of the	: Grounded and Underground Junction and also available with Thermocouple Quick Disconnect Thermocouple connectors standard and miniature.



## General Purpose Resistance Temperature Detectors (PT-100 Sensors)

### MINERAL INSULATED HEAD TYPE & TRANSITION JOINT PT-100 SENSORS

**Magnesium Oxide filled & sealed sensors with total protection from moisture, vibrating and shock. These sensors are used to measure low temperature of -200° C to 200° C. Special Teflon coated sensors are used to measure temperature of acidic / corrosive items up to 200° C.**

Type of Sensor	: R.T.D. Sensor (PT-100)
Din Standard	: Din 43760
Sheath Material	: SS 304, SS 316, Teflon Coated
Sheath O.D.	: 6mm, 8mm, 10mm
Sensor Length	: 6", 12", 18", 24", Other lengths available on request
Process Connection	: Standard 1/2" BSP fixed. Also 1/4", 1/2", 3/4" fixed and adjustable adaptors in BSP & NPT are available
Construction of the Sensor	: Simplex and Duplex with aluminium die cast head, Bakelite head or CMRI certified flameproof head.



## Bayonet Type Thermocouples & R.T.D. (PT-100 Sensors)

**Available to measure temperature of the barrel and dies of injection moulding, extruders and blow moulding machines. The spring loaded thermocouples and sensors assure proper firm tip contact to give accurate temperature.**

Type of Thermocouples	: Chromel-Alumel (K),
Sensors	Iron Constantan (J)
Bayonet Assembly Type	: PT-100
Bayonet Adaptor Type	: 1/8" BSP, 1/2" BSW, 1/4" BSW, 1/5" BSP, 5/8" BSW, 3/8" BSP
Adaptor Material	: M.S. and Plated Brass
Extension Wire	: Fibreglass/ Fibreglass/ SS & Teflon/ Teflon



## Washer Type Thermocouples

**Are used to measure the temperature of flat surface like Packaging Machines, Rubber Moulding Machines, Hot Plates Platons etc.**

These Thermocouples are custom designed therefore the length & type of thermocouple is to be specified alongwith the O.D., I.D. and thickness of the washer.



## Bolt Type Thermocouples

**Used to measure the temperature of any surface where they can be fixed by threading these thermocouples are custom designed where the length & type of the thermocouple alongwith the threading of the bolt is to be specified.**



## Thermocouple / Compensating / Extension Cable & Wires

Insulations	: Chromel-Alumel (K) type, Iron-Constantan (J)
Construction of the Wire	: Single strand and multi strand
For PT-100	: Teflon/ Teflon/ Metal Branding. Teflon/ Teflon
Number of Cores	: 2, 3, 4, 5, 6 etc., if any other type of cable or wire is required it can be fabricated



## Thermocouple Connectors

Quick disconnect thermocouple connectors both miniature & standard are available



## Adjustable Flange

Type	: Round, Oval, Split type
Material	: Aluminium



## Compression fittings

Range	: 1/4" BSP & NPT, 3/8" BSP & NPT 1/2" BSP & NPT, 3/4" BSP & NPT
Material	: Plated Brass & Stainless Steel



## Thermowells

Type	: Pipe welded, Solid drilled
Fitting	: Round Flange & Threading
Finish	: Straight & Taper
Material	: SS 304, SS316, SS310



In addition to our above mentioned standard thermocouples, resistance temperature detectors (PT-100 sensors) and the accessories, we also manufacture as per customer design and requirements.

## Also deals in:

Temperature Instruments, Counters, Timers, Load Instruments, Humidity Instruments, PH, Conductivity Instruments, RPM, PLC, DP<, Frequency Meters, Sensors, Current Transformers, Shunts, Display Systems, Power Supply, Variable Transformers, Transmitters, Calibrator Testing Instruments etc.



## Alpha Engineering company

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