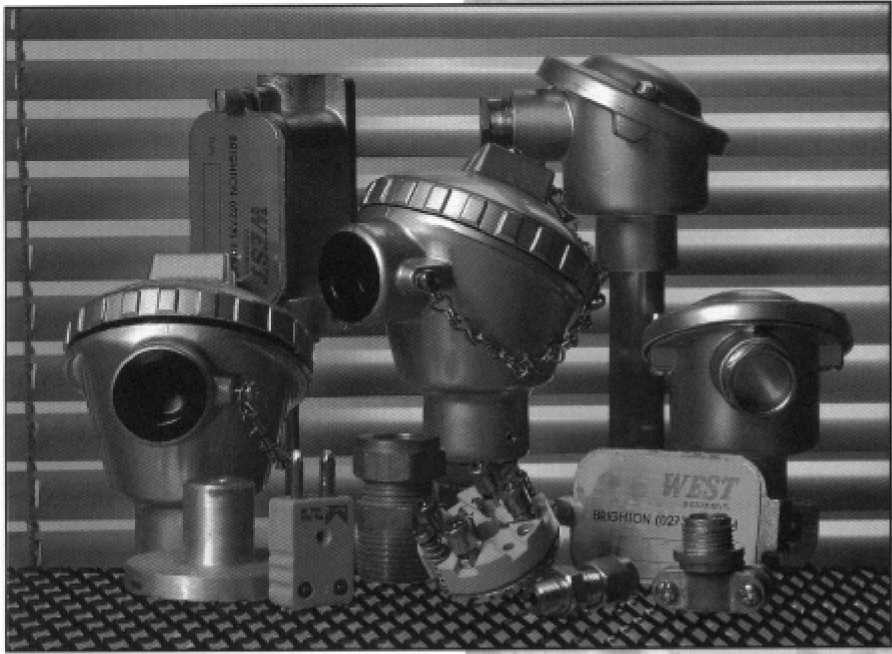
CHOOSING A SENSOR

WEST SENSOR CODING



WEST INSTRUMENTS have been manufacturing a wide range of temperature sensors for over thirty years, the expertise gained in this period allows us to offer a service second to none. The following comprehensive coding system should allow you to select the precise probe for your requirements. However, if you require a nonstandard unit then please contact our head office at Brighton where our specialist staff will be pleased to assist you.

TC...	= Thermocouple type
TRT...	= Resistance Thermometer type
S	= Sheath material (Mineral insulated to Furnace types only - all others stainless steel 316)
A	= Probe shape/construction (Straight, angled, grounded or ungrounded types)
P	= Probe length and diameter, insertion size (imperial or metric)
L	= Lead length and flexible lead style (armoured, braided, glass fibre, PVC or PTFE)
T	= Cold end termination (100mm tails, plug, socket or terminal head)
M	= Mounting method (bayonet cap, compression fitting or mounting flange)

SENSOR TYPES, OPERATING TEMPERATURES, ACCURACIES and APPLICATIONS

Type N (BS4937) Nicrosil/Nisil
The best general purpose thermocouple with wide temperature range and good stability. Has a long working life even at high temperatures and provides a low cost alternative to types R & S for up to 1300°C. In all respects, it is superior to Type K. Good resistance to oxidising atmospheres, although it must be protected from sulphurous atmospheres. The most suitable thermocouple for use in nuclear environments. Operating range -200°C to 1300°C.

Type K (BS4937) Ni-Cr/Ni-A
Good general purpose thermocouple with wide measurement range. Good resistance to oxidising atmospheres, but not recommended for sulphurous or reducing atmospheres. Suitable for use in nuclear environments. Operating range -200°C to 1100°C.

Type T (BS4937) Cu/Cu-Ni
May be used in oxidising, reducing or inert atmospheres and vacuums. Particularly suitable for measurement of low and subzero temperatures, and in atmospheres with a high moisture content. Limited upper temperature because of oxidation of the copper element. Operating range -200°C to +400°C.

Type J (BS4937) Fe/Cu-Ni
Suitable for use in oxidising, reducing or inert atmospheres. Should not be used in sulphurous atmospheres above 500°C,. Not recommended for use below ice point because of rusting and embrittlement of the iron conductor. Operating range 0°C to +750°C.

Type E (BS4937) Ni-Cr/Cu-Ni
Highest emf output per degree of the commonly used types. Suitable for use in oxidising or inert atmospheres. Not recommended for environments which are alternately reducing and oxidising, or for vacuum. Operating range -200°C to +800°C.

Type R (BS4937) Pt-13% Rh/Pt, Type S (BS4938) Pt-10% Rh/Pt and type B Pt30% Rh/Pt-6%
Recommended for high temperature use in oxidising or inert atmospheres. Prone to contamination in the presence of metallic vapours, which cause calibration drift. Performance in reducing atmospheres is very poor. Operating range 0°C to 1650°C.

Type W5 W-5% Re/W-26% Re
Recommended for use in vacuum, high purity hydrogen and high purity inert atmospheres only, 2800°C maximum.

Platinum Resistance Pt 100 (BS1904)
Platinum resistance sensors are used when measurements need to be highly accurate and repeatable. Particularly recommended for measurements of low and sub zero temperatures. Almost always used with a protective outer sheath, usually of stainless steel. Operating range -200°C to 500°C.

THERMOCOUPLE COMPARISONS

TYPE	CONDUCTOR CHARACTERISTICS		STANDARD TEMP. RANGE	STANDARD LIMIT OF ERROR	
	POSITIVE	NEGATIVE	DEGREES C	DEGREES C	OTHER
J	Iron (Magnetic)	Constantan (Non-Mag.)	0 to 750	2	± 0.75%
T	Copper (Yellow Metal)	Constantan (Silver metal)	-200 to +350	4	± 1.5%
K	Chromel (Non-Magnetic)	Alumel (Magnetic)	0 to 1100	1	± 0.75%
E	Chromel	Constantan	0 to 900	1.5	± 0.5%
S	Platinum (10% Rodium)	Platinum	0 to 1450	1.4	± 0.25%
R	Platinum (13% Rodium)	Platinum	0 to 1450	1.4	± 0.25%
B	Platinum (30% Rodium)	Platinum (6% Rodium)	800 to 1700		± 0.5%
W5	Tungsten (5% Rhendium)	Tungsten (26% Rhendium)	430 to 2000	4	± 1%

THERMOCOUPLE SHEATH MATERIALS

Except where stated, West Instruments use stainless steel 316 in the construction of their sensors. However, a wide range of material is available from stock. Please contact our sales office for advice for a particular application.

Stainless Steel 304: A low carbon 18/8 Chromium-Nickel stainless steel. Max 500°C. Good corrosion resistance.

Stainless Steel 310: A Chromium-Nickel 25/20 stainless steel. Superior corrosion resistance compared to 304 Max 1100°C.

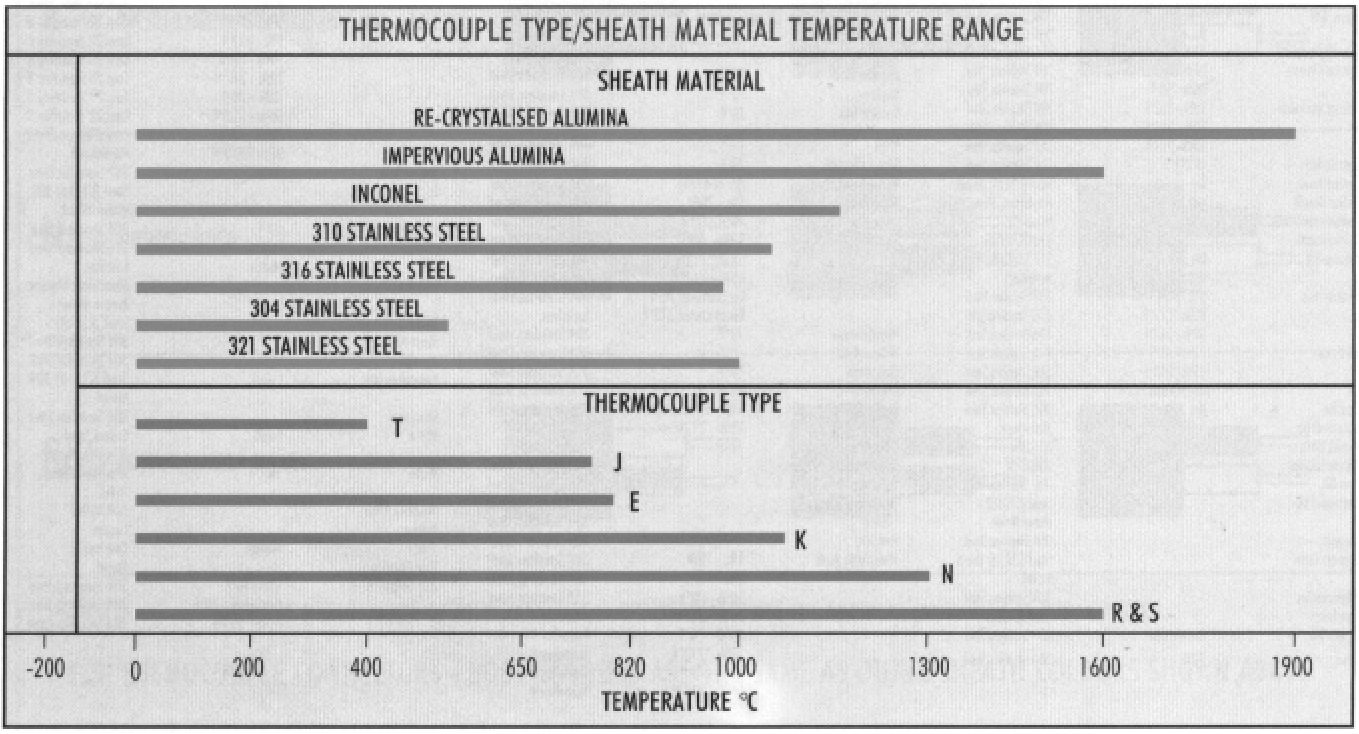
Stainless Steel 316: A Chromium-Nickel alloy 18/8/2 stainless steel with molybdenum. Better corrosion resistance than 304 or 310, improved oxidisation and higher hot temperature than 304.

Stainless Steel 321: A Chromium-Nickel alloy 18/8/2 stainless steel with molybdenum. Max 1000°C. Good corrosion resistance.

Alloy 600 (Inconel): A Nickel-Chromium alloy 76/16/7 with excellent resistance to corrosion, oxidisation and scaling. Should not be used in the presence of sulphur above 870°C Max 1200°C.

Impervious Alumina (refractory): Between 60 and 70% pure Alumina. Max 1600°C. High resistance to sulphur atmospheres and thermal shock. Specially suitable for Type R & S thermocouples.

Re-crystallised Alumina: Greater than 90% plus pure Alumina. Max 1600 - 1900°C. Very high resistance to alkaline fluxes. Specially suitable for Type R and S Thermocouples.



Note: The environmental constraints indicated relate to the sensor material themselves. When the sensor elements are enclosed within a protective sheath, e.g., mineral insulated types, then the sheath material becomes the constraining factor. Furthermore, the temperature ranges shown will be modified by any other materials used in the construction of a particular probe. This information is included in the probe specification.

FOR AVAILABILITY & TECHNICAL SUPPORT CONTACT YOUR LOCAL DISTRIBUTOR

APPLICATION GUIDE

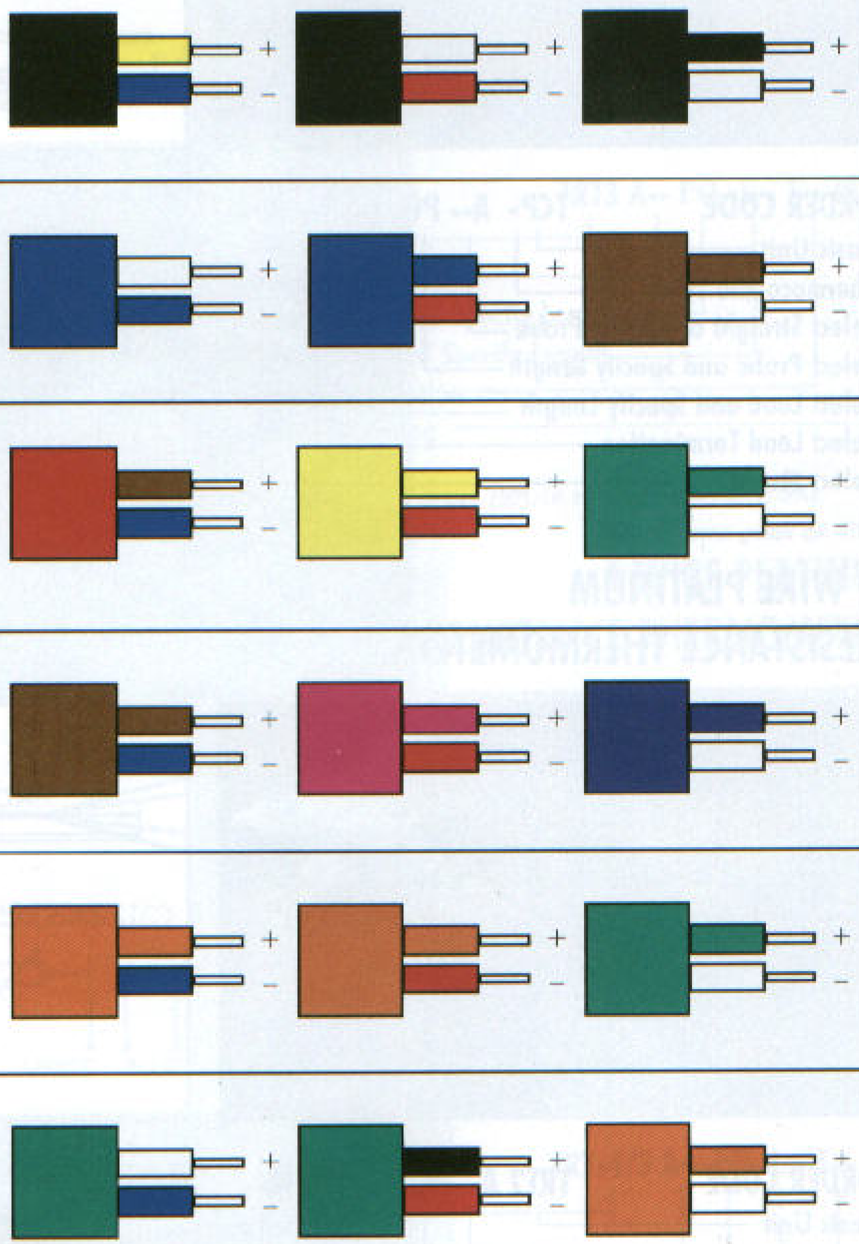
SUBSTANCE	CONDITIONS	RECOMMENDED METAL
Acetates Solvents	Crude or Pure	Monel or Nickel
Acetic Acid	10% - 70°F	304 Stainless Steel
	50% - 70°F	304 Stainless Steel
	50% - 212°F	316 Stainless Steel
	99% - 70°F	430 Stainless Steel
	99% - 212°F	430 Stainless Steel
Acetic Anhydride		Monel
Acetone	212°F	304 Stainless Steel
Acetylene		304 Monel Nickel
Alcohol Ethyl	70°C	304 Stainless Steel
	212°F	304 Stainless Steel
Alcohol Methyl	70°F	304 Stainless Steel
	212°F	304 Stainless Steel
Aluminum	Molten	Cast Iron
Aluminum Acetate	Saturated	304 Stainless Steel
Aluminum Sulphate	10%-70°F	304 Stainless Steel
	Saturated 70°F	304 Stainless Steel
	10% - 212°F	316 Stainless Steel
	Saturated 212°F	316 Stainless Steel
Ammonia	All concentrations 70°F	304 Stainless Steel
Ammonium Chloride	All concentrations 212°F	316 Stainless Steel
Ammonium Nitrate	All concentrations 70°F	304 Stainless Steel
	All concentrations 212°F	304 Stainless Steel
Ammonium Sulphate	5% - 70°F	304 Stainless Steel
	10% - 212°F	316 Stainless Steel
	Saturated 212°F	316 Stainless Steel
Aniline	All concentrations 70°F	304 Stainless Steel
Amylacetate		Monel
Asphalt		Steel (C1018)
		Phosphor Bronze
		Monel Nickel
Barium Carbonate	70°F	304 Stainless Steel
Barium Chloride 5% - 70°F		Monel
	Saturated 70°F	Monel
	Aqueous-Hot	316 Stainless Steel
Barium Hydroxide		Steel (C1018)
Barium Sulphite		Nichrome
Benzaldehyde		Steel (C1018)
Benzone	70°F	304 Stainless Steel
Benzine		Steel (C1018)
		Monel Inconel
Benzol	Hot	304 Stainless Steel
Benzoic Acid	5% Hot or Cold	304 Stainless Steel
Bromine	70°F	Tantalum
Butadiene		Brass. 304
Butane	70°F	304 Stainless Steel
Butylacetate		Monel
Butyl Alcohol		Copper
Butylenes		Steel (C1018)
		Phosphor Bronze
Butyric Acid	5% - 70°F	304 Stainless Steel
	5% - 150°F	304 Stainless Steel
Calcium Bisulphite	70°F	316 Stainless Steel
Calcium Chlorate	Dilute 70°F	304 Stainless Steel
	Dilute 150°F	304 Stainless Steel
Calcium Hydroxide	10% - 212°F	304 Stainless Steel
	20% - 212°F	304 Stainless Steel
	50% - 212°F	317 Stainless Steel
Carbolic Acid	All 212°F	316 Stainless Steel
Carbon Dioxide	Dry	Steel (C1018) Monel
Carbon Dioxide	Wet	Aluminium, Monel, Nickel
Carbon Tetrachloride	10% - 70°F	Monel
Chlorex Caustic		316SS.317SS
Chlorine Gas	Dry 70°F	317 Stainless Steel
	Moist 70°F	Hastelloy C
Chromic Acid	5% - 70°F	304 Stainless Steel
	10% - 212°F	316 Stainless Steel
	50% - 212°F	316 Stainless Steel
Citric Acid	15% - 70°F	304 Stainless Steel
	15% - 212°F	316 Stainless Steel
	Concentrated 212°F	317 Stainless Steel
Coal Tar	Hot	304 Stainless Steel
Coke Oven Gas		Aluminium
Copper Nitrate		304,316
Copper Sulphate		304,316
Core Oils		316 Stainless Steel
Cottonseed Oil		Steel (C1018)
		Monel Nickel
Creosols		304 Stainless Steel
Creosote Crude		Steel (C1018) Monel
		Nickel
Cyanogen Gas		304 Stainless Steel
Dowtherm		Steel (C1018)
Epsom Salt	Hot and Cold	304 Stainless Steel
Ether	70°F	304 Stainless Steel
Ethyl Acetate		Monel
Ethyl Chloride	70°F	304 Stainless Steel
Ethlene Glycol		Steel (C1018)
Ethyl Sulphate	70°F	Monel
Ferric Chloride	1% - 70°F	316 Stainless Steel
	5% - 70°F	Tantalum
	5% - Boiling	Tantalum
Ferric Sulphate	5% - 70°F	304 Stainless Steel
Ferrous Sulphate	Dilute 70°F	304 Stainless Steel
Formaldehyde		304 Stainless Steel
Freon		Steel (C1018)
Formic Acid	5% - 70°F	316 Stainless Steel
	5% - 150°F	316 Stainless Steel
Gallic Acid	5% - 70°F	Monel
	5% - 150°F	Monel
Gasoline	70°F	304 Stainless Steel
Glucose	70°F	304 Stainless Steel
Glycerine	70°F	304 Stainless Steel
Glyerol		304 Stainless Steel
Heat Treating		446 Stainless Steel
Hydrobromic Acid	48% - 212°F	Hastelloy B
Hydrochloric Acid	1% - 70°F	Hastelloy C
	1% - 212°F	Hastelloy B
	5% - 70°F	Hastelloy C
	5% - 212°F	Hastelloy B
	25% - 70°F	Hastelloy B
	25% - 212°F	Hastelloy B
Hydrocyanic Acid		316 Stainless Steel
Hydrofluoric Acid		Hastelloy C
Hydrogen Peroxide	70°F	316 Stainless Steel
	212°F	316 Stainless Steel
Hydrogen Sulphide	Wet and Dry	316 Stainless Steel
Iodine	70°F	Tantalum
Karosene	70°F	304 Stainless Steel
Lactic Acid	5% 70°F	304 Stainless Steel
	5% - 150°F	316 Stainless Steel
	10% - 212°F	Tantalum
Lacquer	70°F	316 Stainless Steel
Latex		Steel (C1018)
Lime Sulphur		Steel (C1018),304
		Monel
Linseed Oil	70°F	304 Stainless Steel
Magnesium Chloride	5% - 70°F	Monel
	5% - 212°F	Nickel
Magnesium Sulphate	Cold and Hot	Monel
Malic Acid	Cold and Hot	316 Stainless Steel
Mercury		Steel (C1018), 304
		Monel
Methane	70°F	Steel (1020)
Milk		304 Nickel
Mixed Acids		Carpenter 20
(Sulphuric and Nitric - all temp and %)		
Molasses		Steel (C1018)304
		Monel,Nickel
Muriatic Acid	70°F	304 Stainless Steel
Naphthe	70°F	304 Stainless Steel
Natural Gas	70°F	304 Stainless Steel
Neon	70°F	304 Stainless Steel
Nickel Chloride	70°F	304 Stainless Steel
Nickel Sulphate	Hot and Cold	304 Stainless Steel
Nitric Acid	5% - 70°F	304 Stainless Steel
	20% - 70°F	304 Stainless Steel
	50% - 70°F	304 Stainless Steel
	50% - 212°F	304 Stainless Steel
	65% - 212°F	316 Stainless Steel
	Concentrated 70°F	304 Stainless Steel
	Concentrated 212°F	Tantalem
Nitrobenzene	70°F	304 Stainless Steel
Nitrous Acid		304 Stainless Steel
Oleic Acid	70°F	315 Stainless Steel
Oleum	70°F	316 Stainless Steel
Oxalic Acid	5% - Hot and Cold	304 Stainless Steel
	10% - 212°F	Monel
Oxygen	70°F	Steel (1018)
Oxygen Liquid		304 Stainless Steel
Palmitic Acid		316 Stainless Steel
Petroleum Ether		304 Stainless Steel
Phenol		304 Stainless Steel
Pentane		304 Stainless Steel
Phosphoric Acid	1% - 70°F	304 Stainless Steel
	5% - 70°F	304 Stainless Steel
	10% - 70°F	316 Stainless Steel
	10% - 212°F	Hastelloy C
	30% - 70°F	Hastelloy B
	30% - 212°F	Hastelloy B
	85% - 70°F	Hastelloy B
	85% - 212°F	Hastelloy B
Picric Acid	70°F	304 Stainless Steel
Potassium Bromide	70°F	316 Stainless Steel
Potassium Carbonate	1% - 70°F	304 Stainless Steel
Potassium Chlorate	70°F	304 Stainless Steel
Potassium Chloride	5% - 70°F	304 Stainless Steel
	5% - 212°F	304 Stainless Steel
Potassium Hydroxide	5% - 70°F	304 Stainless Steel
	25% - 212°F	304 Stainless Steel
	50% - 212°F	316 Stainless Steel
Potassium Nitrate	5% - 70°F	304 Stainless Steel
	5% - 212°F	304 Stainless Steel
Potassium Permanganate	5% - 70°F	304 Stainless Steel
Potassium Sulphate	5% - 70°F	304 Stainless Steel
	5% -212°F	304 Stainless Steel
Potassium Sulphide	70°F	304 Stainless Steel
Propane		304 Stainless Steel
Pyrogallic Acid		304 Stainless Steel
Quinine Bisulphate	Dry	316 Stainless Steel
Quinine Sulphate	Dry	304 Stainless Steel
Resin		304 Stainless Steel
Resin Molten		304 Stainless Steel
Sea Water		Monel
Salammoniac		Monel
Salicylic Acid		Nickel
Shellac		304 Stainless Steel
Soap	70°F	304 Stainless Steel
Sodium Bicarbonate	All concentrations 70°F	304 Stainless Steel
	5% - 150°F	304 Stainless Steel
Sodium Bisulphate		Monel
Sodium Carbonate	5% - 70°F	304 Stainless Steel
	5% - 150°F	304 Stainless Steel
Sodium Chloride	5% - 70°F	316 Stainless Steel
Sodium Chloride	5% -150°F	316 Stainless Steel
	Saturated 70°F	316 Stainless Steel
	Saturated 212°F	316 Stainless Steel
Sodium Fluoride	5% - 70°F	Monel
Sodium Hydroxide		304 Stainless Steel
Sodium Hypochlorite	5% still	316 Stainless Steel
Sodium Nitrate	Fused	317 Stainless Steel
Sodium Peroxide		304 Stainless Steel
Sodium Phosphate		Steel (C1018)
Sodium Silicate		Steel (C1018)
Sodium Sulphate	70°F	304 Stainless Steel
Sodium Sulphide	70°F	316 Stainless Steel
Sodium Sulphite	150°F	304 Stainless Steel
Steam		304 Stainless Steel
Stearic Acid		304 Stainless Steel
Sulphur Dioxide	Moist Gas - 70°F	316 Stainless Steel
	Gas - 575°F	304 Stainless Steel
Sulphur	Dry - Molten	304 Stainless Steel
	Wet	316 Stainless Steel
Sulphuric Acid	5% - 70°F	Carp.20.Hastelloy B
	5% - 212°F	Carp.20.Hastelloy B
	10% - 70°F	Carp.20.Hastelloy B
	10% - 212°F	Carp.20.Hastelloy B
	50% - 70°F	Carp.20.Hastelloy B
	50% - 212°F	Carp.20.Hastelloy B
	90% - 70°F	Carp.20.Hastelloy B
	90% - 212°F	Hastelloy D
Tannic Acid	70°F	304 Stainless Steel
Tar		Steel (C1018) 304
		Monel.Nickel
Tartaric Acid	70°F	304 Stainless Steel
	150°F	316 Stainless Steel
Tin	Molten	Cast Iron
Tolyene		Aluminium.Phosper
		Bronze.Monel
Trichlorethylene		Steel (C1018)
Turpentine		304 Stainless Steel
Varnish		304 Stainless Steel
Vegetable Oils		Steel (C1018) 304
		Monel
Vinegar		304 Stainless Steel
Water	Fresh	Copper.Steel
		(C1018) Monel
Water	Salt	Aluminium.Brass.
		Monel
Whiskey,Wine		304.Nickel
Xylene		Copper
Zinc	Molten	Cast Iron
Zinc Chloride		Monel
Zinc Sulphate	5% - 70°F	304 Stainless Steel
	Saturated - 70°F	304 Stainless Steel
	25% - 212°F	304 Stainless Steel

In recommending the above materials, consideration has been given to providing a good service life without undue cost. Where two or more materials are satisfactory, the least expensive is listed. Consult the factory for information on services for materials or services not given. Other factors which will influence corrosion rates include: degree and frequency of temperature fluctuation, concentration, aerations of fluid, abrasives or cavitating conditions etc., therefore the data presented should be interpreted as one basis for material selection and not as a complete recommendation.

COLOUR CODING

INSULATION COLOUR CODES
Extension & Compensating Cables

CODE	CONDUCTORS + -	BRITISH BS 1843:1952	AMERICAN ANSI/MC 96.1	IEC584-3:1989, mod. BS4937. Part 30.1993
J	IRON/CONSTANTAN			
T	COPPER/CONSTANTAN			
K	NICKEL CHROMIUM/NICKEL ALUMINIUM*			
E	NICKEL CHROMIUM/CONSTANTAN			
N	NICROSIL/NISIL			
R&S	COPPER/COPPER NICKEL			

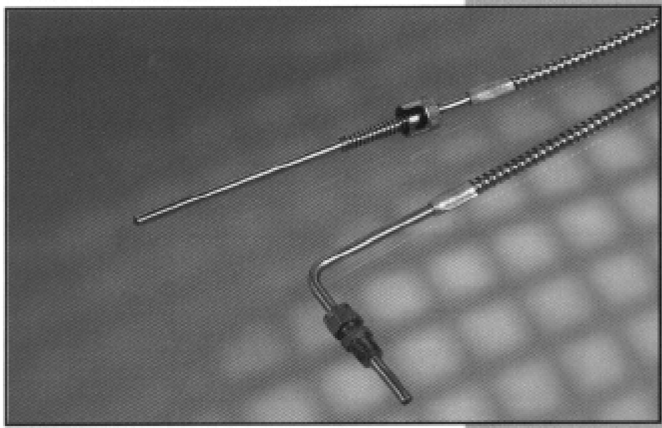


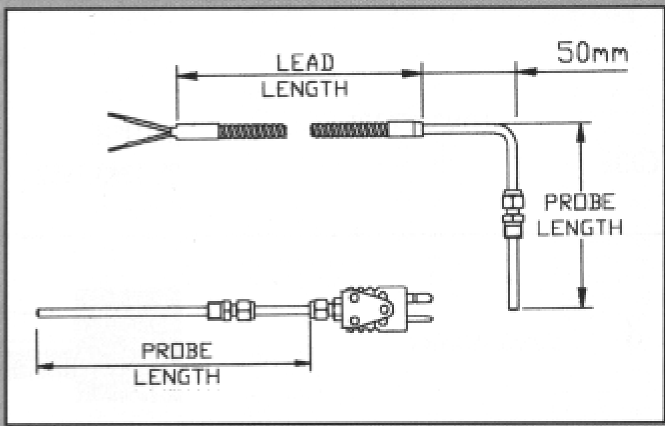
* MAGNETIC

NOTE: THE MARLIN RANGE OF THERMOCOUPLES SUPPLIED BY WEST USE THE AMERICAN (ANSI/MC96.1) BODY COLOURS.

FOR THEMOCOUPLE CONNECTORS - BODY COLOURS ARE THE SAME AS OUTER SHEATH COLOURS SHOWN ABOVE

PROTECTED LEAD & CONNECTOR TYPE THERMOCOUPLES





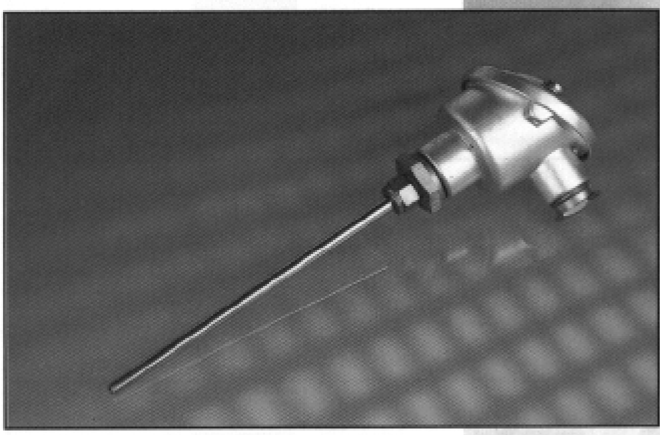
ORDER CODE TCP- A-- PO- L-- T-- M--

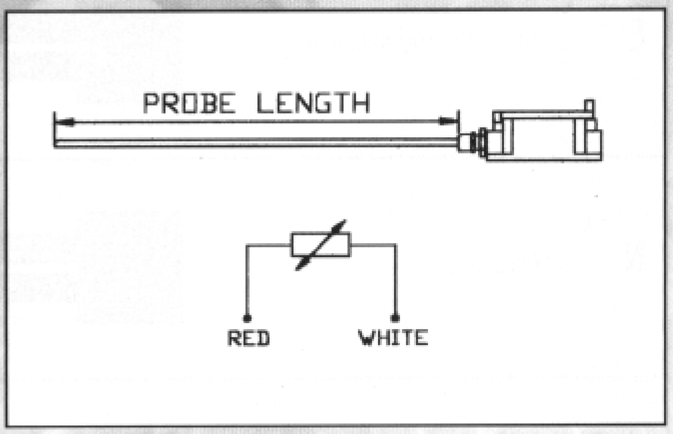
- Basic Unit
- Thermocouple Type
- Select Straight or Angled Probe
- Select Probe and Specify Length
- Select Lead and Specify Length
- Select Lead Termination
- Select Mounting

NOTE: Max working temperature 350°C

West's range of general purpose thermocouples, available in either J, T or K calibrations. Supplied as straight or angled probes.

2 WIRE PLATINUM RESISTANCE THERMOMETERS





ORDER CODE TRT2 A-- PO- L-- T-- M--

- Basic Unit
- Element Class
- Select Probe and Specify Length
- Select Lead and Specify Length
- Select Termination
- Select Mounting

NOTE: Max working temperature 250°C. For higher temperatures refer to Office.

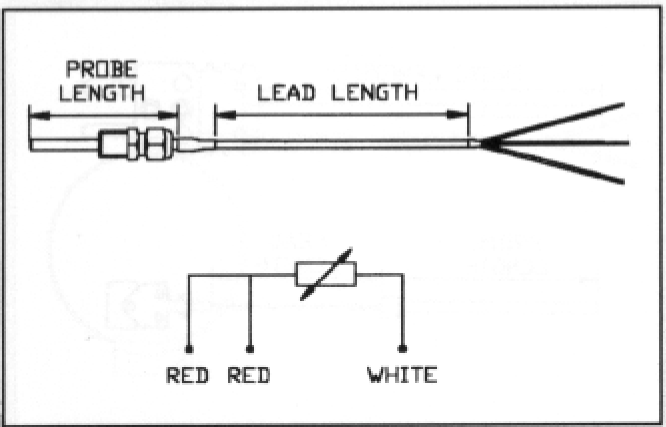
West's 2-wire, 100 Ohm RTD's are supplied with a 316 stainless steel sheath which is available in six diameters. Sensors elements of the two most common tolerance classes can be fitted depending on the requirement.
The standard leads are PTFE insulated.

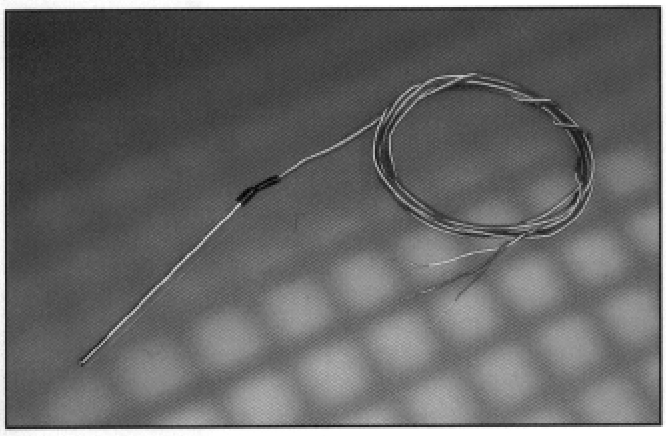
- **High accuracy - with almost linear output**
- **No deterioration with age - no drift**
- **Ideal for low temperature measurement (-200 Deg. C)**
- **Less susceptible to electric noise pick up**

FOR AVAILABILITY & TECHNICAL SUPPORT CONTACT YOUR LOCAL DISTRIBUTOR

WEST SENSORS

3 WIRE PLATINUM RESISTANCE THERMOMETERS





West's 3-wire, 100 Ohm RTD's are supplied with a 316 stainless steel sheath which is available in six diameters. Sensors elements of the two most common tolerance classes can be fitted depending on the requirement.
The standard leads are PTFE insulated.

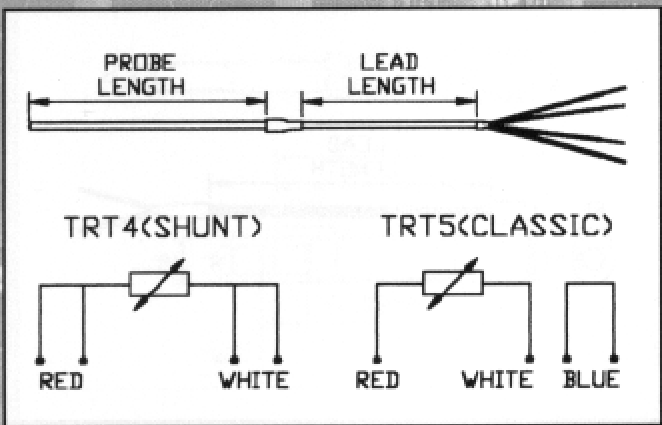
- **High accuracy - with almost linear output**
- **No deterioration with age - no drift**
- **Ideal for low temperature measurement (-200 Deg. C)**
- **Less susceptible to electric noise pick up**

ORDER CODE **TRT3 A-- PO- L-- T-- M--**

Basic Unit
Element Class
Select Probe and Specify Length
Select Lead and Specify Length
Select Termination
Select Mounting

NOTE: Max working temperature 250°C. For higher temperatures refer to Office.

4 WIRE PLATINUM RESISTANCE THERMOMETERS



West's 4-wire, 100 Ohm RTD's are supplied with a 316 stainless steel sheath which is available in six diameters. Sensors elements of the two most common tolerance classes can be fitted. The assemblies can be configured in either Shunt (Connected) or Classic (Looped) form depending on the requirement.
The standard leads are PTFE insulated.

- **High accuracy - with almost linear output**
- **No deterioration with age - no drift**
- **Ideal for low temperature measurement (-200 Deg. C)**
- **Less susceptible to electric noise pick up**

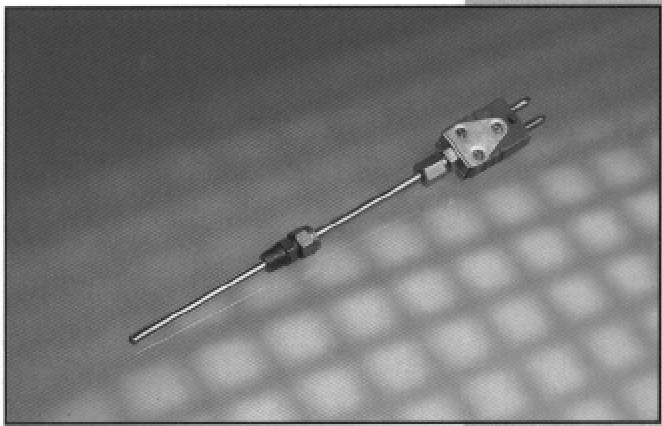
ORDER CODE **TRT-4/5 A-- PO- L-- T-- M--**

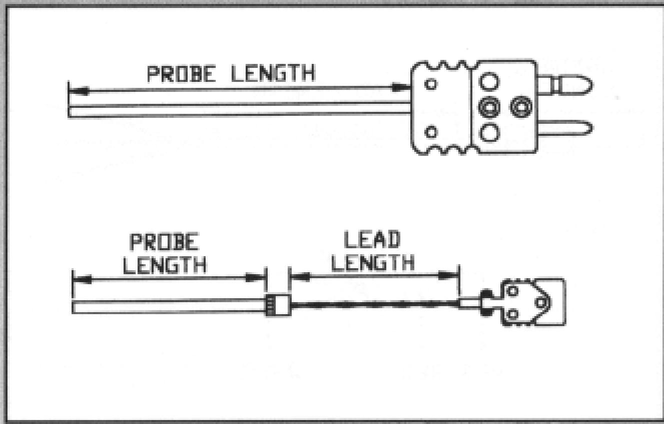
Basic Unit
Element Class
Select Probe and Specify Length
Select Lead and Specify Length
Select Termination
Select Mounting

NOTE: Max working temperature 250°C. For higher temperatures refer to Office.

FOR AVAILABILITY & TECHNICAL SUPPORT CONTACT YOUR LOCAL DISTRIBUTOR

MINERAL INSULATED THERMOCOUPLES





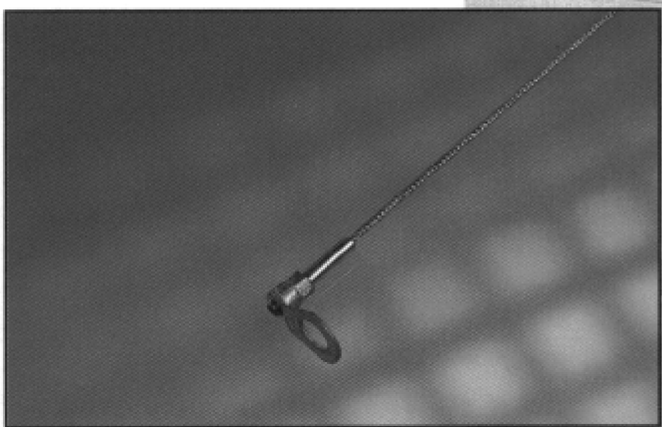
ORDER CODE TCM- S-- A-- L-- T-- M--

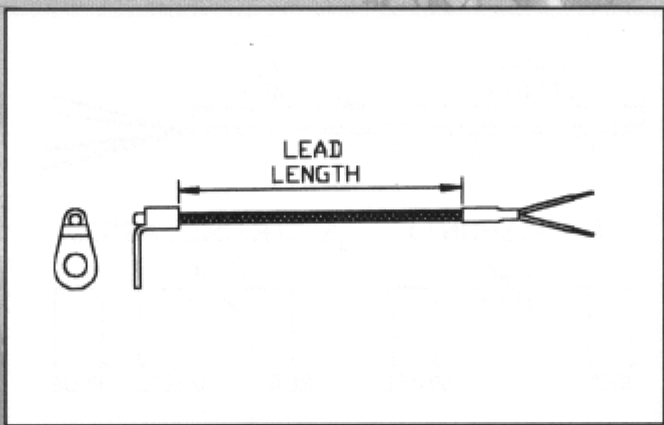
- Basic Unit
- Thermocouple Type
- Sheath, Diameter and length
- Specify Hot Junction
- Select Lead and Specify Length
- Select Termination
- Select Mounting

Mineral insulated thermocouples are able to withstand higher temperatures and have better stability than conventional thermocouple designs. They can be bent to shape without affecting performance. West's mineral insulated thermocouples can be supplied with sheath material of 310 stainless steel, 321stainless steel or Inconel 600 Nicrobell B. Sheath diameters of between 1mm and 6mm are available, they can be supplied with a variety of leads, terminations and mountings or just fitted with an ISO. pot seal.

Applications
These probes are suited to a wide variety of industrial applications, but especially where high temperatures and/or severe conditions are prevalent.

WASHER THERMOCOUPLES





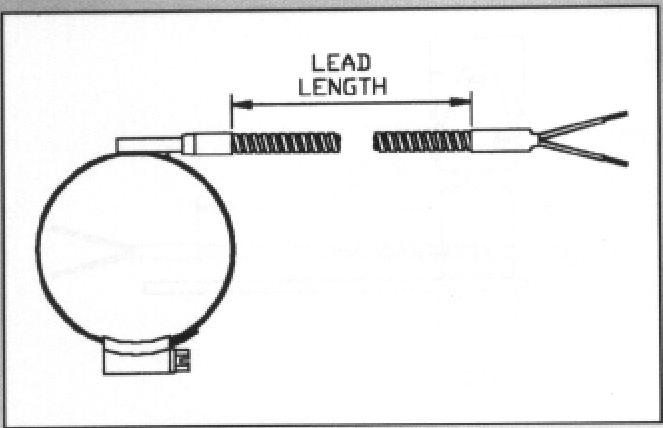
ORDER CODE TCW- A-- L-- T--

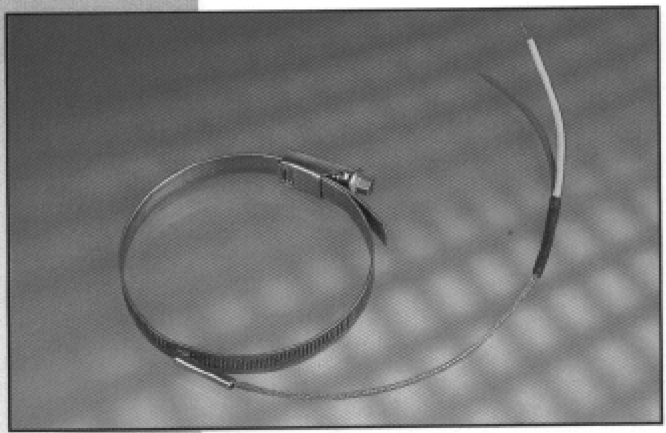
- Basic Unit
- Thermocouple Type
- Select Washer size
- Select Lead and Specify Length
- Select Lead Termination

This thermocouple has a probe with a grounded construction fitted to a crimp terminal with an M10 size hole (other sizes are available). A selection of leads and terminations can be specified to suit your applications.

Applications
Used to measure surface temperature.

RING TYPE THERMOCOUPLES



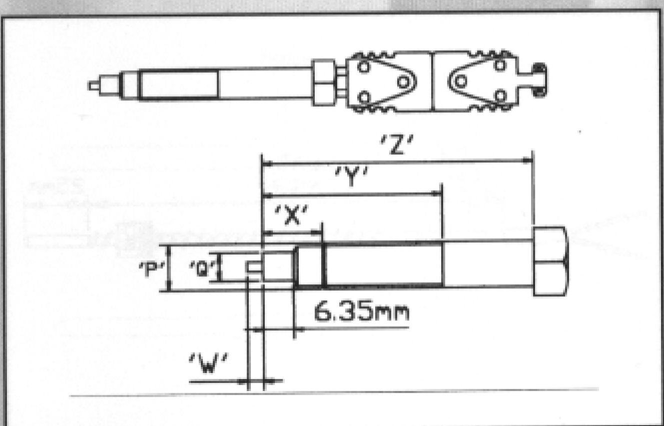


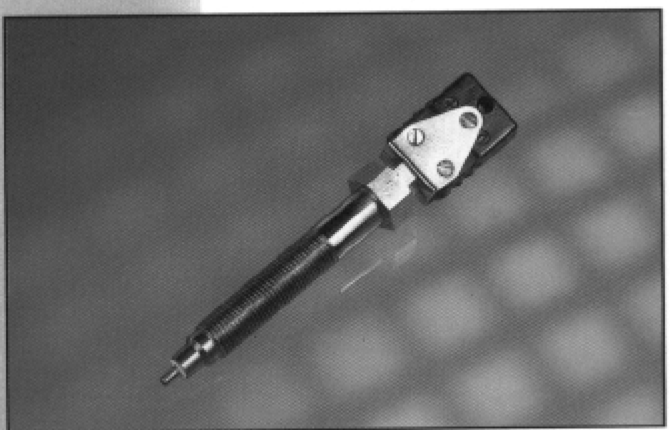
Designed to monitor pipework temperatures in a variety of industrial applications.
Supplied with a grounded junction as standard.
Stainless steel construction.

ORDER CODE TCR- A-- L-- T--

- Basic Unit
- Thermocouple Type
- Select Ring Size
- Select Lead and Specify Length
- Select Lead Termination

MELT TEMPERATURE THERMOCOUPLES





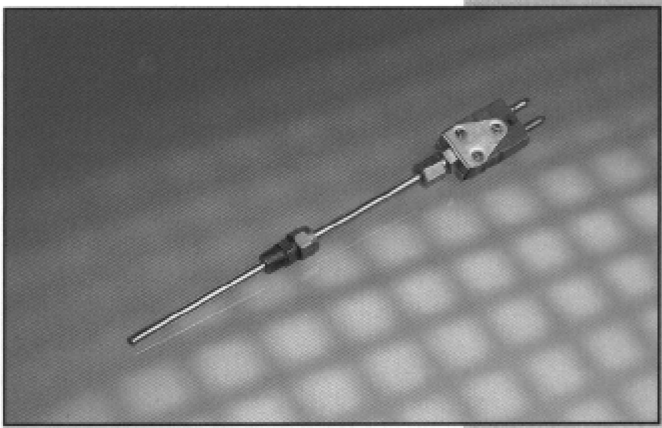
The melt thermocouple has been designed to measure the true melt temperature of a plastic extruder without being influenced by the temperature of the surrounding barrel
The duplex version is supplied with two insulated elements - one for melt measurement and control the other for a recorder or temperature indicator.
P Standard Bolt diameter: (0-420"/0.415" 10.67mm/10.54mm)
Q Standard Tip diameter: (0.3119"/0.3113" 7.92mm/7.91mm)
P Non Standard Specify
Q Non Standard Specify

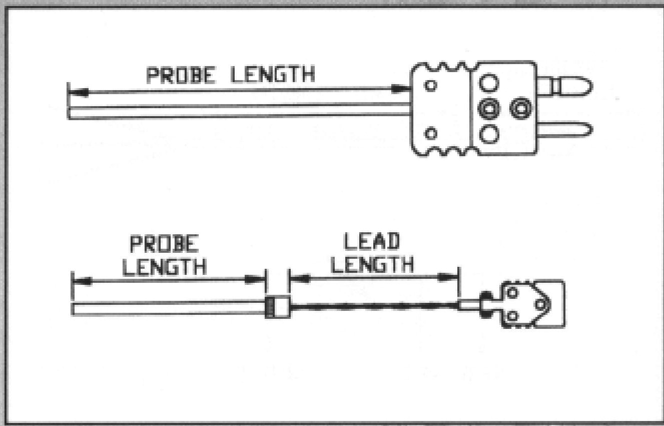
ORDER CODE TCB- W- X- Y- Z- P- Q-

- Basic Unit
- Thermocouple Type
- Immersion Depth
- Thread Start
- Thread Finish
- O/A Length
- Bolt Dimension
- Tip Dimension

WEST SENSORS

MINERAL INSULATED THERMOCOUPLES





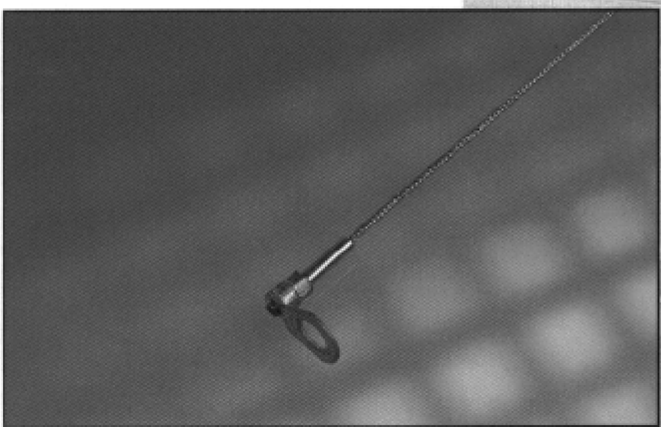
ORDER CODE TCM- S-- A-- L-- T-- M--

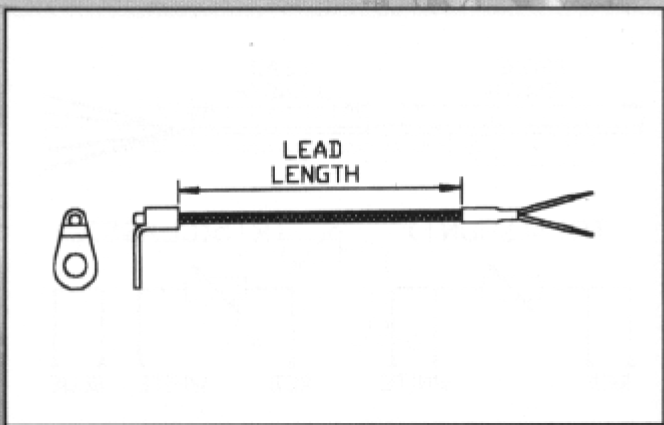
- Basic Unit
- Thermocouple Type
- Sheath, Diameter and length
- Specify Hot Junction
- Select Lead and Specify Length
- Select Termination
- Select Mounting

Mineral insulated thermocouples are able to withstand higher temperatures and have better stability than conventional thermocouple designs. They can be bent to shape without affecting performance. West's mineral insulated thermocouples can be supplied with sheath material of 310 stainless steel, 321 stainless steel or Inconel 600 Nicrobell B. Sheath diameters of between 1mm and 6mm are available, they can be supplied with a variety of leads, terminations and mountings or just fitted with an ISO. pot seal.

Applications
These probes are suited to a wide variety of industrial applications, but especially where high temperatures and/or severe conditions are prevalent.

WASHER THERMOCOUPLES





ORDER CODE TCW- A-- L-- T--

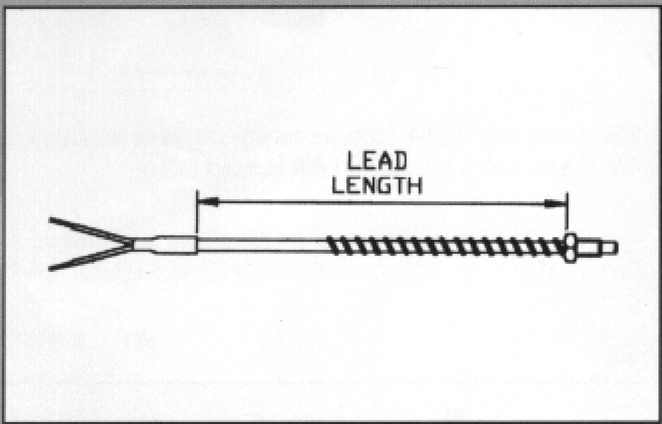
- Basic Unit
- Thermocouple Type
- Select Washer size
- Select Lead and Specify Length
- Select Lead Termination

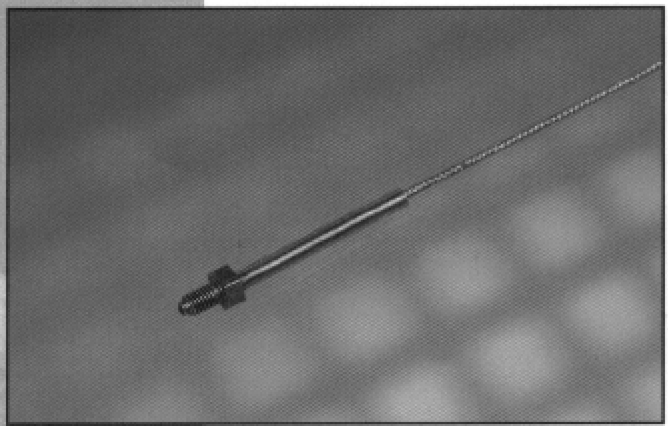
This thermocouple has a probe with a grounded construction fitted to a crimp terminal with an M10 size hole (other sizes are available). A selection of leads and terminations can be specified to suit your applications.

Applications
Used to measure surface temperature.

FOR AVAILABILITY & TECHNICAL SUPPORT CONTACT YOUR LOCAL DISTRIBUTOR

NOZZLE TYPE THERMOCOUPLES



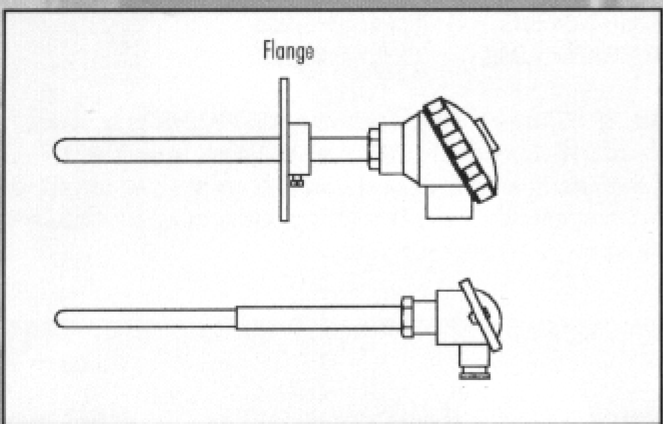


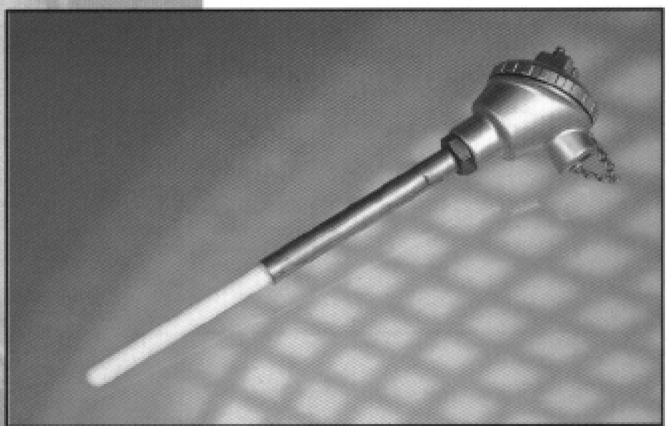
Normally used to measure the ram temperature in plastic moulding machines. This thermocouple is made with a grounded junction, a 316 stainless steel sheath and a 1/4" BSF adaptor.

ORDER CODE TCN - L-- T--

Basic Unit
Thermocouple Type
Select Lead and Specify Length
Select Lead Termination

FURNACE THERMOCOUPLES





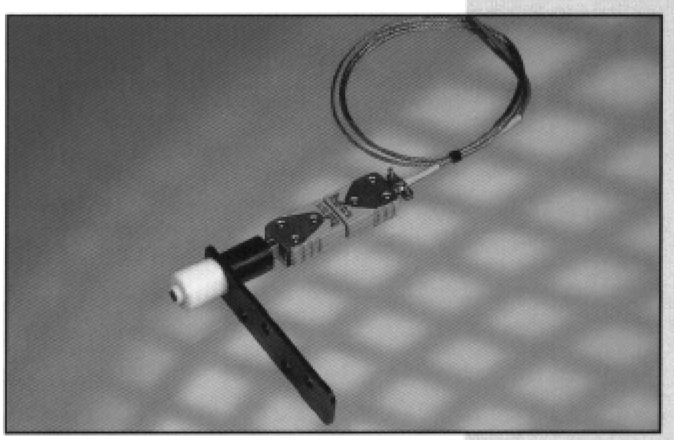
The West range of Furnace Thermocouples are particularly suited for applications which by their nature demand a more rugged sensor construction. Environments such as Exit flues, Ceramic kilns, Annealing baths and incinerators all require sensors which are chemically resistant and mechanically strong.

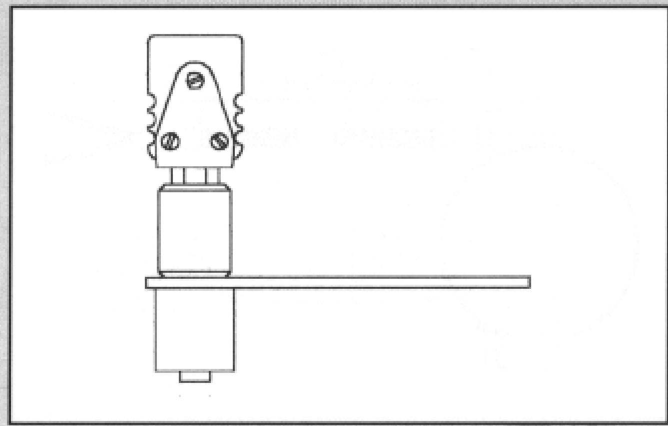
We will gladly advise on other element and sheath materials not shown in the selection below.

ORDER CODE TCF- A-- S-- T-- M--

Basic Unit
Thermocouple Type
Select Straight or Angled Probe
Sheath Material (Specify Length in mm)
Termination
Mounting

DRUM TEMPERATURE THERMOCOUPLES





ORDER CODE **TCD - L-- T--**

- **Basic Unit**
- **Thermocouple Type**
- **Select Lead and Speicfy Length**
- **Select Lead Termination**

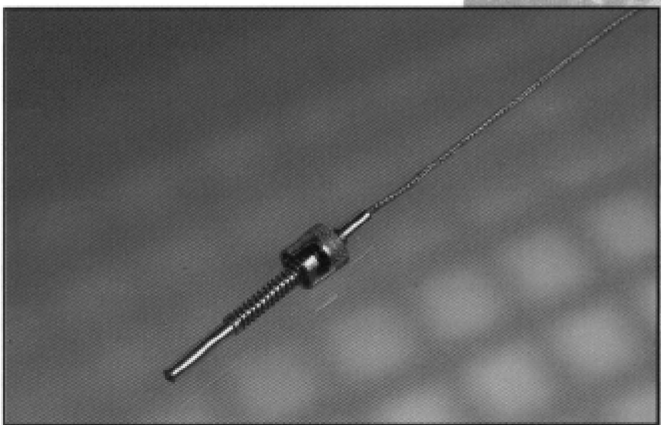
NOTE: Max. Working Temperature 250 C

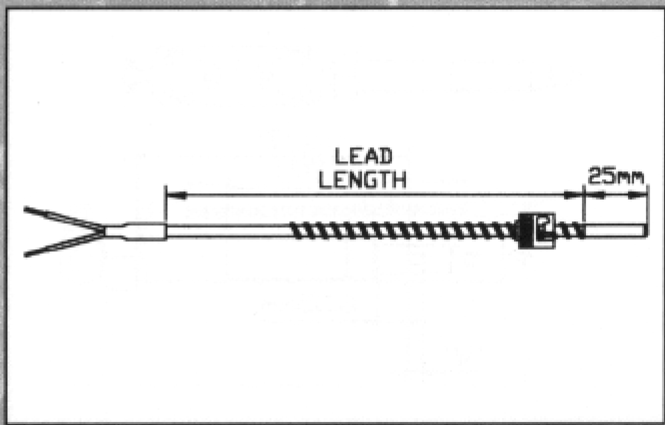
This thermocouple has the hot junction on the brass sensor shoe which is held in contact with the rotating surface by a strong spring.

Applications

This thermocouple is specifically used for measuring the surface temperature of moving bodies. Its maximum temperature rating is 250 deg C.

UNIVERSAL BAYONET THERMOCOUPLES





ORDER CODE **TCU - L-- T--**

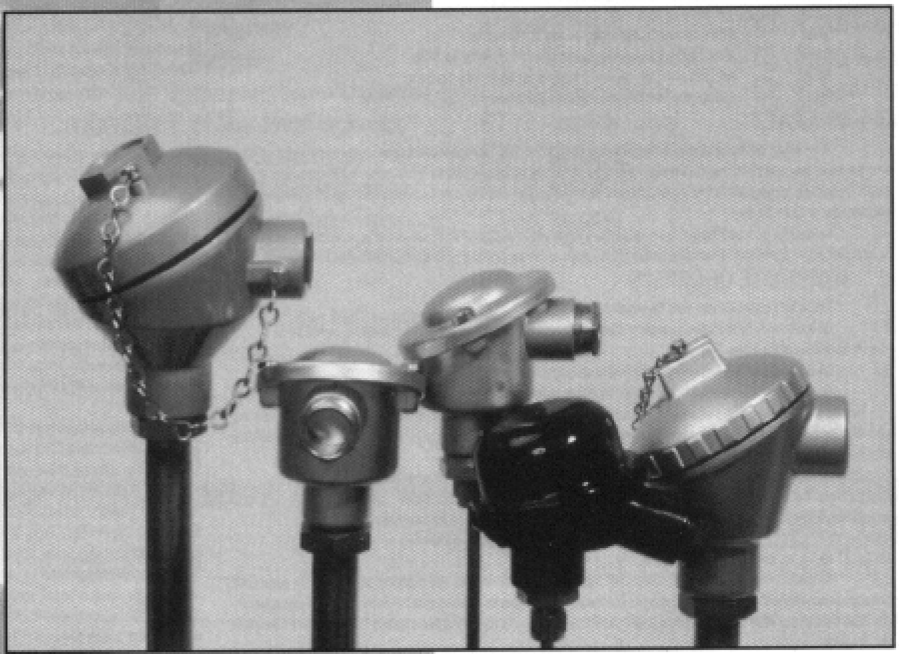
- **Basic Unit**
- **Thermocouple Type**
- **Select Lead and Specify Length**
- **Select Lead Termination**

This thermocouple is manufactured with a grounded junction as standard. The sheath is made from 316 stainless steel 25mm long, and fitted with a 300mm long spring (both are 3/16" [4.76mm] in outside diameter). A selection of leads and terminations can be specified to suit your needs.

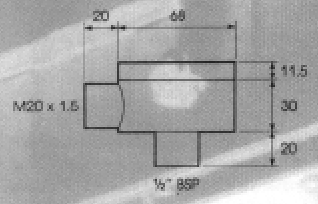
Applications

Normally used in the plastic's industry, the bayonet cap allows the immersion depth to be varied as required.

THERMOCOUPLE HEADS

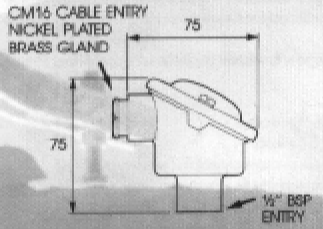


TYPE A



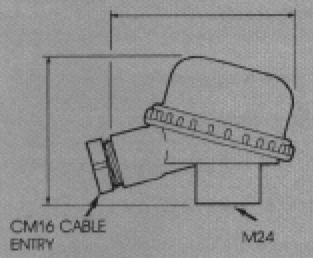
A.B.S. plastic head, with removable cover (4 screw fixing). Sealed to IP 54. 90 deg maximum.

TYPE B - DIN



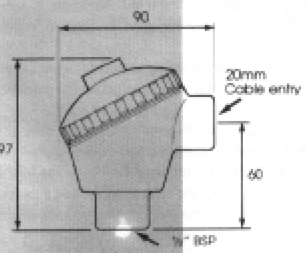
Aluminium head with removable steel cover (2 screw fixing). Sealed to IP 54.

TYPE C



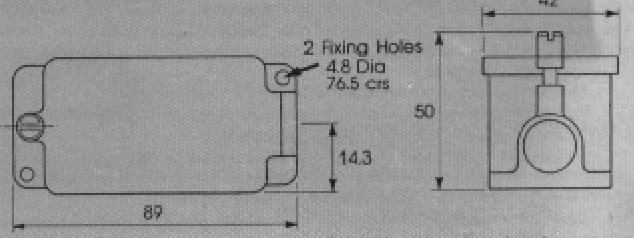
Nylon plastic head 120 deg C maximum, with screw cover. Sealed to IP 65 - Will accept transmitter.

TYPE E - HEAVY DUTY



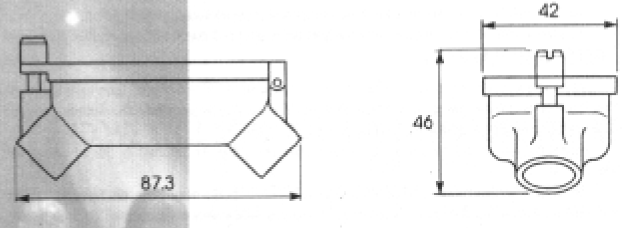
Heavy duty aluminium head, with screw cover and retaining chain. Sealed to IP 65.

TYPE P - STRAIGHT



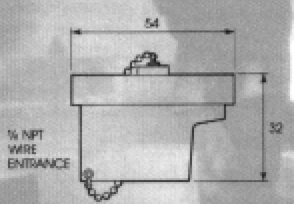
Die-cast aluminium terminal head (straight) with hinged cover and gasket. Sealed to IP 54.

TYPE P - ANGLED



Die-cast aluminium terminal head (angled) with hinged cover and gasket. Sealed to IP 54.

MINI - WEATHERPROOF



Glass-filled nylon plastic head, with screw cover and retaining chain. 175 deg C maximum.