

Sensing Temperature Since 1982 !



Temperature
Sensors for

Aluminium Smelters & Industries

- Thermocouples
- RTDs
- Thermowells & Protection Pipes
- Temperature Transmitters
- Temperature Indicators
- Cables & Accessories



THERMOCOUPLES

Cu/Const (T), Fe/Ko(J), Cr/Ko (E), Cr/Al (K), Nicrosil/Nisil (N), Pt/Pt Rh-10% (S), 13% (R), 30% (B)

Rigid & Flexible
Constructions with
Ceramic or Mineral
insulation, in various
Moc's and Configurations,
with Epoxy Potted
Termination, Quick Disconnect
Plugs and IP 65 & Gr IIA & II B,
Ex-proof Enclosures



Thermocouples for Every Plant

KILNS – Carbon Anode Bake



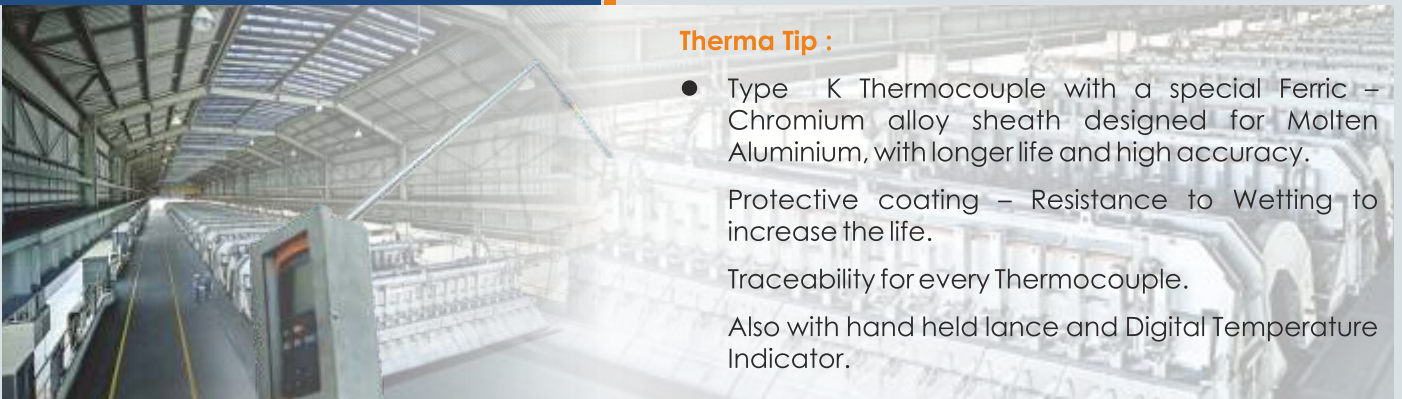
Flue Wall Temperature :

- Type N Thermocouple with Inconel 600/601 Protection sheath, with additional Ferric–Chromium inner lining for Increased life.
- A special design protection pipe “Therma-101”, Suitable for Very High Temperature and Sulphur atmosphere.

Anode Temperature :

- Type N Thermocouple with Sandvik 253 MA protection sheath.
- Smaller dia size, 253 MA pipe with conical shape at the Tip for proper penetration in Anode.

POT ROOMS - Reduction Process



Therma Tip :

- Type K Thermocouple with a special Ferric – Chromium alloy sheath designed for Molten Aluminium, with longer life and high accuracy.

Protective coating – Resistance to Wetting to increase the life.

Traceability for every Thermocouple.

Also with hand held lance and Digital Temperature Indicator.

Reduction – Cathode lining :

- Type K Thermocouple, Mineral Insulated, 3 mm size, long inserts with Polyolefin Insulation for measuring Pre Heating Temperature.

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RESISTANCE THERMOMETERS (RTD'S)

PT-100, 200, 500 & 1000 (DIN IEC 751)

Rigid & Flexible
Constructions with
Ceramic or Mineral
insulation, in various
Moc's and Configurations,
with Epoxy Potted
Termination, Quick Disconnect
Plugs and IP 65 & Gr IIA & II B,
Ex-proof Enclosures



Section of Aluminium Smelters...

CAST HOUSE – Melting Furnace



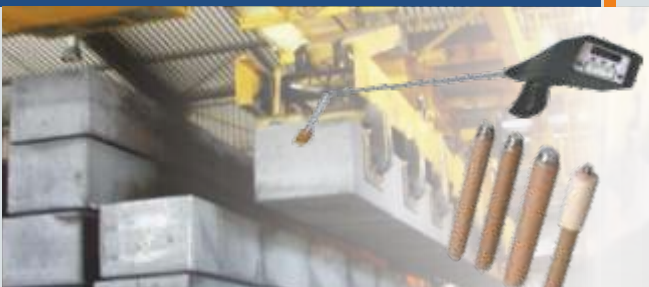
- Type K Thermocouple with Very Thick wall Carbon Steel pipes as outer sheath & Boron Nitride coating ensures long life.
- Replaceable lower Tip, filled & compacted with Refractory Insulation provides cost effective solution.
- Seamless, single long pipe suitable for Sample & Hold Mechanism.

LAUNDER & CASTING TABLE



- Fast Response, Long life "Therma Tip" Type K thermocouple.
- 'L' Shape Thermocouple with, Ferric-Chromium, Thick wall, Drilled bar sheath.
- Other Protection Sheaths such as Silicon Carbide, Silicon Nitride, Graphite sheaths are also available.

RODDING PLANT



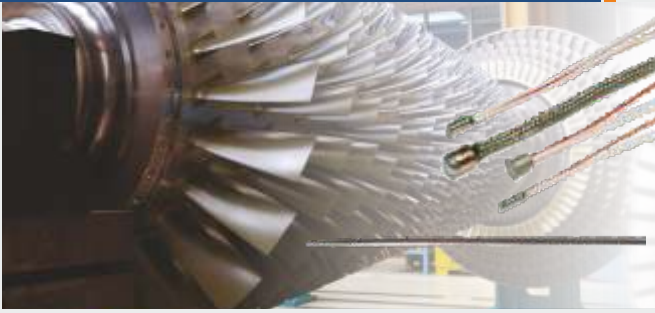
- Disposable Paper Tube Thermocouples – Low cost.
- Type R & S, High Temperature measurement up to 1750°C.
- Paper Tube lengths up to 1200 mm, with Aluminium and Steel cap.
- Digital hand held Lance for direct reading,

CALCINER



- For High Temperature measurement, Type R & S Thermocouples.
- Thick wall Ceramic sheaths & Double wall construction for Extended life.

GAS TURBINE & POWER PLANTS



- Exhaust Gas Temperature. High precision, Triplex Type K Thermocouple with Tapered Tip.
- Thermocouples for Wheel Space, Blade Path, Lube oil heater etc.
- Miniature RTD for Bearing temperature.

CABLES

The Type of Cables

- Thermocouple Extension Cables & Compensating Cables
- RTD Cables
- Control Cables
- Instrumentation Cables
- Multi Pair, Multi Core, Twisted, Shielded, Braided & Armored

Insulation Types

- **PVC** : Flame Retardant PVC insulation provides good chemical resistance and suitable up to 105°C.
- **FEP / PFA / TFE** : Teflon insulation has excellent resistance to Abrasion, solvent, Chemical and Moisture. Suitable up to 260°C.
- **Fiber Glass** : Individual conductors and overall insulated with glass Fiber, used in very high temperature, up to 700°C.
- **Ceramic Fiber** : Extreme high Temperature applications up to 1000°C.



THERMOWELL

1. Transmitter
2. Digital Thermometer
2. Head
3. Plug & Socket
4. Fittings



INDUSTRY

- Automobile
- Brewery & Distillery
- Cement & Mining
- Chemical
- Dairy
- Drugs
- Fertilizer
- Food
- Foundries
- Furnaces
- Glass
- Forging Units
- Heat Treatment
- Metal & Steel
- Paper & Pulp
- Petro Chemical
- Petroleum
- Plastic



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