

Manufacturers of

- Industrial Heaters
- Temperature Sensors
- Heating Systems



WELLMECH
INSTRUMENTS

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Introduction

In many process industries, heating systems are treated as standard components—until they start affecting output, consistency, or downtime.

That's where we come in.

We are WellMech Instruments, a Vadodara-based manufacturer with more than 16 years of experience in industrial electric heating systems and temperature control solutions, built around actual process conditions—not just standard designs.

Instead of offering off-the-shelf heaters, we work closely with clients to understand operating parameters such as temperature range, medium, load conditions, and duty cycles. Based on this, we design and manufacture application-specific heaters and temperature sensing systems that deliver stable performance, higher efficiency, and longer service life.

Our systems are currently supporting operations across chemical, pharmaceutical, plastics, power, oil & gas, food processing, and OEM sectors—where reliability and control are critical.

What typically makes clients choose us:

- Complete in-house design and manufacturing control
- Practical, application-driven customization (not just dimensional changes)
- Rugged construction suited for continuous industrial use
- Consistent and accurate temperature control
- Responsive technical support and dependable delivery

For a detailed overview of our product range, please refer to our attached catalogue.

If you are currently working on new requirements or facing performance challenges with existing heating systems, we would be glad to understand and suggest a suitable solution.

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Air Heaters

Air Heaters are designed to provide efficient and uniform heating of air across a wide range of industrial and process applications. Each unit features high-performance heating elements enclosed in durable metal sheaths, equipped with **finned surfaces (GI or SS fins)** to enhance heat transfer efficiency. The finned configuration increases surface area, ensuring faster heat exchange, improved energy efficiency, and uniform temperature distribution throughout the air stream. Built for reliability and long service life, these heaters perform efficiently even under continuous operation at temperatures up to **600°C**.

Applications:

Ideal for process air heating, drying systems, paint shops, air handling units (AHUs), ovens, textile dryers, food processing, pharmaceutical, and other industrial heating applications.

Material of Construction (MOC):

Constructed from premium materials such as **SS 304L, SS 316L, SS 321, SS 310, Inconel 600 / 800, and Titanium**, ensuring excellent resistance to oxidation, corrosion, and high-temperature degradation.

Connection & Mounting Details:

Available with **Flanged** or **Threaded** connections for easy installation and system compatibility.

Additionally, **Clamps and/or Threaded Ends** are provided at both ends of the heater for secure and flexible mounting, ensuring stability and ease of maintenance during operation.

Fins for Enhanced Heat Transfer:

Fitted with **Galvanized Iron (GI)** or **Stainless Steel (SS)** fins that significantly increase the heat transfer area, enabling efficient and uniform heating with minimal energy loss.

Electrical Ratings:

Designed for operation at **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with **power ratings up to 200 kW**, customizable to suit process requirements.



Key Features :

- High-efficiency finned design for superior heat transfer
- Operating temperature up to **600°C**
- Rugged, corrosion- and oxidation-resistant construction
- Clamps or threaded ends for easy and secure mounting
- Available in electric, steam, or thermic fluid heating configurations
- Custom-built to meet specific airflow, temperature, and space requirements

Technical Specifications:

- **Temperature Range:** Ambient to 600°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** Up to 200 kW
- **Heating Medium:** Electric / Steam / Thermic Fluid
- **Construction:** Tubular or Finned Type
- **Fins:** GI or SS (as per design)
- **Mounting:** Clamps / Threaded Ends / Flanged / Inline
- **Connection Type:** Flanged / Threaded

Bundle Heaters

Bundle Heaters are high-performance tubular heating solutions designed for efficient heating of cylindrical vessels, barrels, drums, and tanks. Multiple tubular heating elements are assembled together in a compact bundle, providing uniform heat distribution over the surface area of the container. These heaters offer high thermal efficiency, durability, and precise temperature control for continuous industrial operations.

Applications:

Ideal for **barrel heating, drum heating, tank heating, chemical processing, oil and grease heating, water and oil heating, and other industrial liquid or semi-solid heating applications** in chemical, petrochemical, food processing, pharmaceutical, and manufacturing industries.

Material of Construction (MOC):

Manufactured from **SS 304L, SS 316L, SS 321, SS 310, Inconel 600 / 800, and Titanium**, selected based on operating temperature, fluid type, and corrosion resistance requirements.

Enclosure & Mounting:

Available with **Flameproof** or **MS (Mild Steel) Casing** for protection and safety. Supplied with **Flanged, Threaded, or Clamp-on ends** for secure installation and ease of maintenance.

Electrical Ratings:

Designed for operation at **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with **power ratings up to**



Key Features :

- Compact, high-efficiency tubular bundle design for uniform heating
- Suitable for heating liquids, oils, or semi-solid materials
- Flameproof or MS casing for safety and durability
- Flanged, Threaded, or Clamp-on mounting options
- Corrosion- and oxidation-resistant construction
- Designed for continuous operation up to **1000°C**
- Custom-built for specific vessel sizes, heating requirements, and temperature profiles

Technical Specifications:

- **Temperature Range:** Ambient to 1000°C (as per application)
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** Up to 200 kW As per requirement
- **Heating Medium:** Oil / Water / Process Fluids
- **Construction:** Tubular Bundle Type
- **Enclosure:** Flameproof / MS Casing
- **Mounting:** Flanged / Threaded / Clamp-on
- **MOC:** SS 304L / 316L / 321 / 310 / Inconel 600 / 800 / Titanium

(Oil / Water) Immersion Heaters

Immersion Heaters are designed for direct heating of liquids such as water, oil, and other industrial fluids. These heaters are immersed directly into the medium, ensuring rapid heat transfer, high efficiency, and uniform temperature distribution. Built with high-quality tubular heating elements, they provide durability, reliability, and safe operation for continuous service.

Applications:

Ideal for heating **water, oils, chemical solutions, heat transfer fluids, process tanks, pressure vessels, boilers, and storage tanks** in industries such as chemical, petrochemical, food processing, pharmaceuticals, and general manufacturing.

Material of Construction (MOC):

Manufactured from **SS 304L, SS 316L, SS 321, SS 310, Inconel 600 / 800, and Titanium**, selected based on fluid type, temperature, and corrosion resistance requirements.

Enclosure:

Available in **Flameproof** design for hazardous environments or **MS (Mild Steel) Casing** for standard industrial applications, ensuring safety, protection, and long service life.

Mounting & Connection Details:

Supplied with **Flanged** or **Threaded** connections for easy installation. **Clamps or Threaded Ends** are provided at both sides for secure mounting and convenient maintenance.

Electrical Ratings:

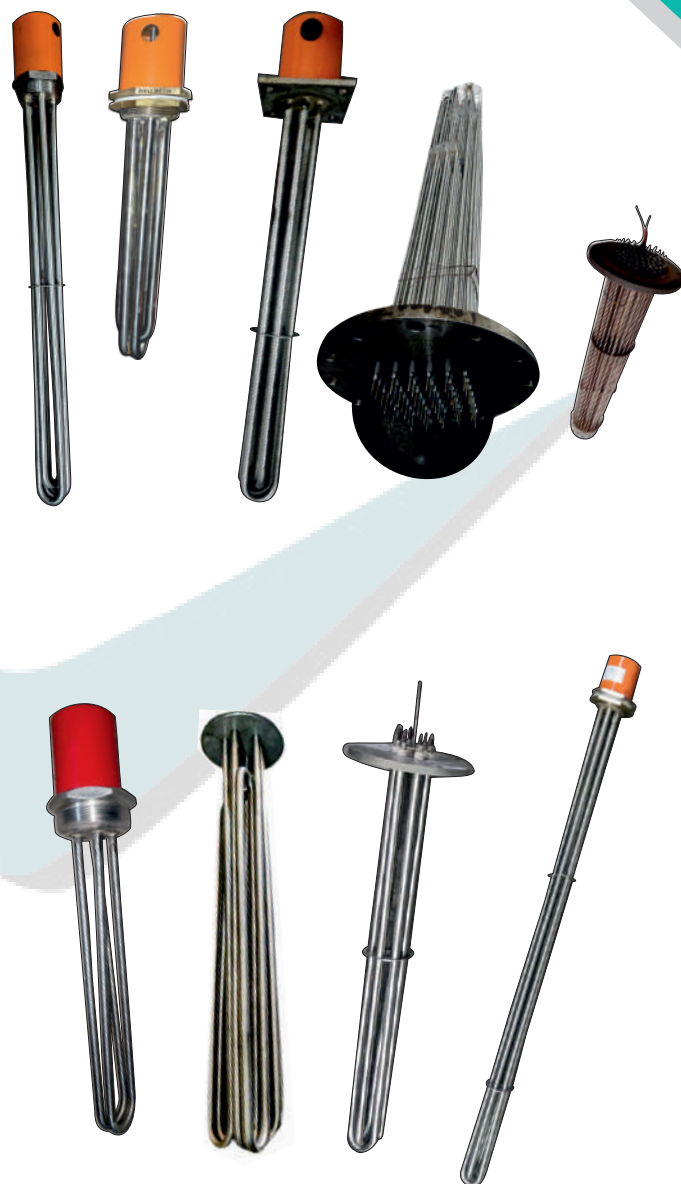
Designed for operation at **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with **power ratings up to 200 kW**, customized to meet process requirements.

Key Features :

- High-efficiency tubular design for uniform liquid heating
- Suitable for **water and oil applications**
- Flanged, Threaded, or Clamp-on mounting options
- Rugged, corrosion- and oxidation-resistant construction
- Flameproof or MS Casing enclosures for safety and durability
- Designed for continuous operation up to **600°C**
- Custom-built for specific liquid types, temperatures, and installation requirements

Technical Specifications:

- **Temperature Range:** Ambient to 600°C (as per application)
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** Up to 200 kW
- **Heating Medium:** Water / Oil / Process Fluids
- **Construction:** Tubular Type
- **Enclosure:** Flameproof / MS Casing
- **Mounting:** Flanged / Threaded / Clamp-on
- **MOC:** SS 304L / 316L / 321 / 310 / Inconel 600 / 800 / Titanium



Cartridge Heaters

Cartridge Heaters are compact, high-performance tubular heating elements designed for insertion into drilled holes or machined cavities to provide precise localized heating. They deliver efficient heat transfer, rapid response, and uniform temperature control, making them ideal for industrial and process applications where space is limited. Built for durability, these heaters operate reliably under continuous use and high temperatures.

Applications:

Widely used for **mold heating, die heating, platens, sealing bars, packaging machines, hot runner systems, laboratory equipment, and process heating** in chemical, food, pharmaceutical, and manufacturing industries.

Material of Construction (MOC):

Available in **SS 304L, SS 316L, SS 321, SS 310, Inconel 600 / 800, and Titanium**, ensuring resistance to corrosion, oxidation, and high-temperature operation.

Enclosure & Mounting:

Offered with **Flameproof** or **MS (Mild Steel) Casing** for safety and protection. Cartridge heaters are supplied with **threaded or clamp-on ends**, facilitating secure installation and easy replacement.

Electrical Ratings:

Designed for **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with **power ratings up to 50 kW**, customizable as per application requirements.



Key Features :

- Compact tubular design for precise and localized heating
- Rapid heat-up and uniform temperature control
- Flameproof or MS casing options for safety
- Threaded or Clamp-on mounting for secure installation
- Corrosion- and oxidation-resistant construction
- Suitable for continuous operation up to **600°C**
- Custom-built for specific hole diameters, lengths, and heating requirements

Technical Specifications:

- **Temperature Range:** Ambient to 600°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** Up to 50 kW

MS Drum Heaters

MS Drum Heaters are robust and efficient heating solutions designed for safe and uniform heating of metal drums, barrels, and containers. These heaters wrap around or clamp onto the drum, delivering controlled heat to maintain or raise the temperature of liquids, oils, chemicals, and other process materials. Constructed for durability and long service life, they ensure reliable performance even under continuous industrial use.

Applications :

Ideal for **heating oil, water, chemicals, adhesives, paints, waxes, and other industrial fluids** stored in drums and barrels. Commonly used in chemical, petrochemical, food processing, pharmaceutical, and manufacturing industries.

Material of Construction (MOC) :

Made from **Mild Steel (MS)** with corrosion-resistant finishes, ensuring strength, durability, and efficient heat transfer.

Enclosure & Mounting :

Available with **Flameproof** or **MS Casing** for safety and durability. Supplied with **clamps or adjustable mounting straps** for secure attachment to drums of various sizes.

Electrical Ratings :

Designed for **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with a **power rating of 12 kW**, Icustoaird customizable according to process requirements.



Key Features :

- Efficient and uniform drum heating
- Durable MS construction with corrosion-resistant finish
- Flameproof or standard MS casing options
- Adjustable clamps for secure mounting on different drum sizes
- Suitable for continuous operation up to **500°C**
- Custom-built for specific drum sizes, temperatures, and power requirements

Technical Specifications:

- **Temperature Range:** Ambient to 500°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** 12 kW As per requirement
- **MOC:** Mild Steel (MS)
- **Mounting:** Clamps / Adjustable Straps
- **Enclosure:** Flameproof / MS Casing

Flame Proof Heater

Flameproof heaters are specially engineered heating systems designed for operation in hazardous areas where flammable gases, vapors, or dust may be present. These heaters are constructed with robust flameproof enclosures that can withstand and contain any internal explosion without transmitting it to the external environment.

They ensure safe and reliable heating performance while complying with stringent hazardous area classifications, making them essential for critical industrial applications.

Applications :

Flameproof heaters are widely used in hazardous and explosive environments such as:

- Oil & Gas Refineries and Offshore Platforms
- Chemical & Petrochemical Plants
- Paint Booths & Solvent Handling Areas
- Pharmaceutical Manufacturing Units
- Storage Tanks & Fuel Handling Systems
- Hazardous Area Zones (Zone 1 & Zone 2)
- Gas Metering & Pressure Regulating Stations
- Material of Construction (MOC)

Constructed using high-grade materials to ensure safety, durability, and corrosion resistance:

- Heater Sheath: SS304 / SS316 / Incoloy
- Flameproof Enclosure: Cast Aluminum / Cast Iron / SS
- Terminal Box: Flameproof (Ex-d certified)
- Gasket & Seals: High-temperature resistant materials
- Mounting Flanges: Carbon Steel / Stainless Steel

Key Features :

- Flameproof (Ex-d) certified construction for hazardous areas
- Designed to prevent ignition of surrounding explosive atmosphere
- Robust and rugged design for long service life
- Uniform heat distribution with high efficiency
- Suitable for continuous operation in harsh environments
- Custom-built designs for specific applications
- Easy installation and maintenance
- Compatible with control panels and temperature controllers



Technical Specifications:

- | Parameter | Details |
|-------------------------------|---|
| Type | Tubular / Immersion / Duct / Air Heater |
| Power Rating | Up to 100 kW (or as required) |
| Voltage | 110V / 230V / 415V / Custom |
| Temperature Range | : Up to 800°C (depending on design) |
| Hazardous Area Classification | Zone 1 & Zone 2 |
| Protection Type | Ex-d (Flameproof) |
| IP Rating | IP65 / IP66 |
| Process Connection | Flanged / Threaded |
| Heating Element MOC | SS / Incoloy |
| Enclosure Material | Cast Aluminum / Cast Iron / SS |
| Control Options | Thermostat / PID Controller / Panel Mounted |
| Mounting | Horizontal / Vertical |
| Standards | IS / IEC / ATEX (on request) |
| Safety & Compliance | |
| | Designed as per flameproof protection standards (Ex-d) |
| | Prevents flame propagation to external atmosphere |
| | Suitable for explosive gas environments |
| | Can be supplied with third-party certification (ATEX / IECEx) |

Flexibale Jacket Heater

Flexible Heating Jackets are versatile, durable, and efficient heating solutions designed for precise temperature maintenance of tanks, drums, vessels, and irregularly shaped equipment. These jackets wrap around the surface and provide uniform heat distribution, ensuring controlled heating of liquids, chemicals, and viscous materials. Constructed for flexibility, safety, and long service life, they are ideal for both industrial and laboratory applications.

Applications :

Used for **heating water, oil, chemicals, adhesives, waxes, food products, and other process fluids** in drums, tanks, vessels, and reactors. Commonly employed in chemical, pharmaceutical, food processing, petrochemical, and manufacturing industries.

Material of Construction (MOC) :

Fabricated using **flexible silicone, fiberglass, or other insulated materials**, with heating elements protected for long-term operation. Optional **MS or Flameproof casing** is available for added protection and durability.

Mounting & Connection Details :

Equipped with **adjustable straps, clamps, or Velcro fasteners** for secure and easy installation on drums, tanks, and vessels of varying sizes.

Electrical Ratings :

Designed for operation at **220 / 230 / 240 / 380 / 415 / 440 V AC** and **24 / 48 V DC**, with **power ratings up to 12 kW**, customizable as per process requirements.



Key Features :

- Uniform and controlled heating for liquids and viscous materials
- Flexible design for easy installation on drums, tanks, and vessels
- Flameproof or MS casing options for safety
- Adjustable straps or clamps for secure mounting
- Corrosion- and oxidation-resistant construction
- Continuous operation up to **700°C**
- Custom-built to match specific container dimensions and heating requirements

Technical Specifications:

- **Temperature Range:** Ambient to 700°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC, 24 / 48 V DC
- **Power Rating:** Up to 12 kW As per requirement
- **Construction:** Flexible Heating Jacket
- **Mounting:** Adjustable Straps / Clamps / Velcro
- **Enclosure:** Flameproof / MS Casing

Industrial Furnaces

Industrial Furnaces are heavy-duty heating systems designed for high-temperature applications in various manufacturing and process industries. They provide precise temperature control, uniform heat distribution, and efficient energy utilization for critical processes. Constructed with **ceramic heating coils** for excellent thermal performance and **MS or SS outer bodies** for durability, these furnaces operate reliably even under continuous high-temperature conditions.

Applications :

Widely used for **metal melting, heat treatment, annealing, sintering, tempering, brazing, and other high-temperature processes** in steel, alloy, chemical, ceramic, glass, and metallurgical industries.

Material of Construction (MOC) :

- **Heating Element:** Ceramic with embedded heating coils for high-efficiency heat transfer
- **Outer Body:** Mild Steel (MS) or Stainless Steel (SS) for strength, durability, and corrosion resistance

Enclosure & Mounting :

Available with **MS casing** or **Flameproof enclosures** where required, designed for safety, durability, and easy access for loading and maintenance.

Heating Medium & Ratings :

Designed for **electric resistance or thermic fluid heating**, with **voltage ratings 220 / 230 / 240 / 380 / 415 / 440 V AC** and **power ratings A.P.R. As Per Requirement** customizable based on process requirements.

Key Features :

- High-temperature operation with uniform heat distribution
- Ceramic heating coils for rapid, efficient thermal transfer
- Outer body in MS or SS for durability and corrosion resistance
- Flameproof or MS casing options for safety
- Custom-built for batch or continuous processing
- Efficient insulation for minimal heat loss
- Suitable for continuous operation up to **1200°C**

Technical Specifications:

- **Temperature Range:** Ambient to 1200°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 VAC
- **Power Rating:** Up to 200 kW As Per Requirement
- **Heating Medium:** Electric / Fuel / Thermic Fluid
- **Construction:** Ceramic heating coils with MS/SS outer body
- **Enclosure:** Flameproof / MS Casing



Heating Bath

Heating Baths are precision heating systems designed for uniform and controlled heating of liquids, solutions, and samples in laboratory, chemical, and industrial applications. They provide efficient heat transfer, stable temperature control, and safe operation for continuous use. Constructed with high-quality materials and advanced insulation, heating baths ensure accurate temperature maintenance for sensitive processes.

Applications :

Ideal for **chemical reactions, sample preparation, distillation, viscosity testing, oil or water heating, and laboratory experiments** in pharmaceutical, chemical, food processing, and research industries.

Material of Construction (MOC) :

- **Heating Medium Container:** Stainless Steel (SS) or Mild Steel (MS)
- **Heating Elements:** Embedded tubular or ceramic heating coils for efficient and uniform heat transfer
- **Outer Body / Enclosure:** MS or SS with insulation for safety and durability

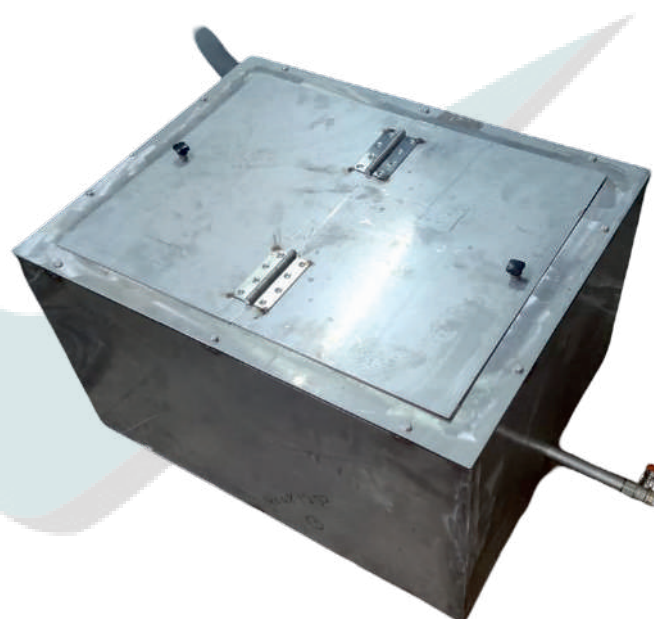
Mounting & Connection Details :

- Inner Body : SS/ns.
- Inlet our connection.

As Per Requirement

Electrical Ratings :

Designed for **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power ratings up to 100 kW**, customizable as per process requirements.



Key Features :

- Uniform and precise heating for liquids and solutions
- Durable construction with corrosion-resistant MS/SS materials
- Embedded tubular or ceramic heating elements for efficiency
- Flameproof casing options for safety
- Adjustable mounting options for various tank sizes
- Suitable for continuous operation up to **500°C** (depending on medium and design)
- Custom-built for specific temperature, volume, and heating requirements

Technical Specifications:

- **Temperature Range :** 500°C
- **Voltage :** 220 / 230 / 240 / 380 / 415 / 440 V AC
- **Power Rating :** Up to 500 kW As Per Requirement
- **Construction :** Nichrome / Kanthal Heating Coils on Ceramic Tubes
- **Heat on :** N:cr./H.Coils, Tube type heat as

Heating Coil

Heating Coils are high-performance tubular heating elements designed for efficient and uniform heat generation in industrial, metallurgical, and process applications requiring extremely high temperatures. Constructed for durability and precise temperature control, these coils provide rapid heat-up and long-lasting performance.

Applications:

Ideal for **high-temperature air, oil, and process heating, industrial furnaces, heat treatment, and metallurgical processes** in chemical, steel, alloy, and manufacturing industries.

Material of Construction (MOC):

- **Heating Element:** Nichrome or Kanthal for high-efficiency and long-lasting performance

Mounting & Connection Details:

Heating coils are **mounted exclusively on ceramic tubes** to ensure electrical insulation, high-temperature stability, and optimal heat transfer.

Electrical Ratings:

Designed for **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power ratings** As Per Requirement customizable based on process requirements.



Key Features :

- High-temperature operation up to **1000–1200°C**
- Mounted on ceramic tubes for electrical insulation and durability
- Nichrome or Kanthal elements for efficient and reliable heat transfer
- Corrosion- and oxidation-resistant construction
- Suitable for continuous operation in industrial high-temperature processes
- Custom-built for specific dimensions, voltages, and power requirements
- Custom-built for specific temperature, volume, and heating requirements

Technical Specifications:

- **Temperature Range:** Ambient to 1200°C (depending on design and medium)
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC
- **Power Rating:** As Per Requirement
- **Heating Medium:** Water / Oil / Process Liquids
- **Construction:**
- **Enclosure:** Flameproof / MS Casing
- **MOC:** kanthal / Nichrome

Hot Air Blower

Hot Air Blowers are industrial-grade heating devices designed to supply high-temperature air for drying, curing, pre-heating, and other process applications. These blowers provide uniform air distribution, precise temperature control, and efficient energy transfer, ensuring consistent process performance across industrial operations.

Applications :

Ideal for **drying, curing, baking, pre-heating, heat treatment, chemical processing, food processing, and other industrial applications** requiring controlled hot air.

Material of Construction (MOC) :

- **Heating Elements:** Nichrome or Kanthal Tubular Heaters / Heating Coils for high-efficiency and long-lasting performance
- **Casing / Body:** Mild Steel (MS) or Stainless Steel (SS) for durability and corrosion resistance

Mounting & Connection Details :

- Available in **Skid Type** or **Fix Type** for easy integration into industrial systems

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power ratings** As Per Requirement, customizable based on process requirements.



Key Features :

- Uniform hot air distribution for consistent process results
- Heating elements in **Nichrome or Kanthal Tubular Heaters / Coils** for high efficiency and durability
- Rugged MS or SS casing for corrosion resistance
- Available in **Skid Type** or **Fix Type** installations
- Adjustable mounting options for floor, wall, or duct installations
- Suitable for continuous operation up to **600°C**
- Custom-built for specific airflow, temperature, and power requirements
- Easily replaceable hearers.

Technical Specifications:

- **Temperature Range:** Ambient to 600°C
- **Voltage:** 220/230/240/380/415/440 VAC
- **Power Rating:** As Per Requirement
- **Construction:** Nichrome / Kanthal Tubular Heaters or Heating Coils
- **Mounting:** Skid Type / Fix Type
- **Hameproof Casing option for Scefety**
- **Equipped with Orbital Control Panel for controlling**

Glass Tube Type Level Indicator

Glass Tube Type Level Indicators are reliable and precise devices used for visual monitoring of liquid levels in tanks, vessels, and process equipment. Designed for industrial applications, they provide accurate level indication, corrosion resistance, and easy installation, ensuring safe and efficient operation in liquid storage and process systems.

Applications :

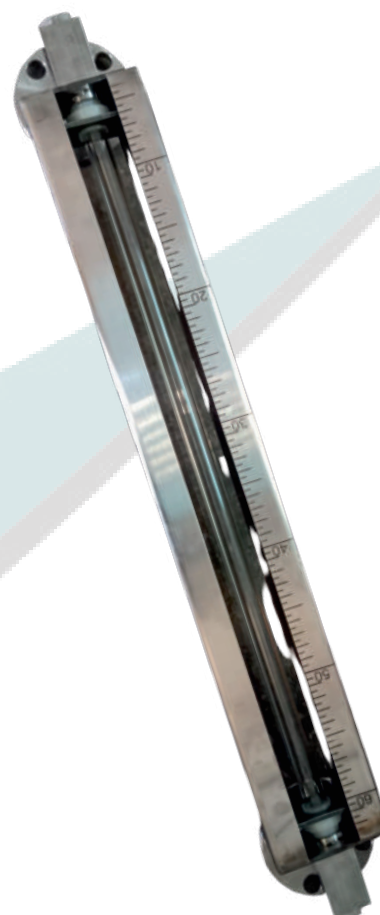
Ideal for **monitoring liquid levels in chemical, petrochemical, oil & gas, pharmaceutical, water treatment, and industrial process tanks and vessels.**

Material of Construction (MOC) :

- **Indicator Tube:** Borosilicate Glass for high transparency and thermal resistance
- **End Fittings / Flanges:** Stainless Steel (SS) or Alloy materials as per process requirements
- **Gaskets:** PTFE or other compatible materials for leak-proof operation
- **Casing :** SS

Mounting & Connection Details :

- **Flanged or Threaded connections** for easy installation
- Can be fitted **vertically** on tanks or vessels
- Optional **protective metal shrouds** for added safety



Key Features :

- Clear and precise visual level indication
- High resistance to temperature and corrosion
- Flanged or Threaded connections for secure installation
- Optional protective shrouds for industrial safety
- Customizable length and size to match tank dimensions
- Suitable for continuous operation under standard process conditions
- Easily replicable tubes.

Technical Specifications:

- **Temperature Range:** Up to 200°C (or as per design)
- **Pressure Rating:** As per flange/class rating (customizable)
- **Material:** Borosilicate Glass tube with SS / Alloy fittings
- **Mounting:** Flanged / Threaded
- **Accessories:** Gaskets (PTFE or compatible) and optional protective shroud

Mica Heater

Mica Heaters are compact and efficient heating elements designed for uniform heat distribution in industrial, laboratory, and process applications. Known for their excellent thermal conductivity and electrical insulation, mica heaters provide rapid heat-up, precise temperature control, and long-lasting performance.

Applications :

Ideal for **plastic processing, packaging machines, sealing machines, laboratory heating, dies, molds, and other industrial heating applications** requiring controlled surface temperatures.

Material of Construction (MOC) :

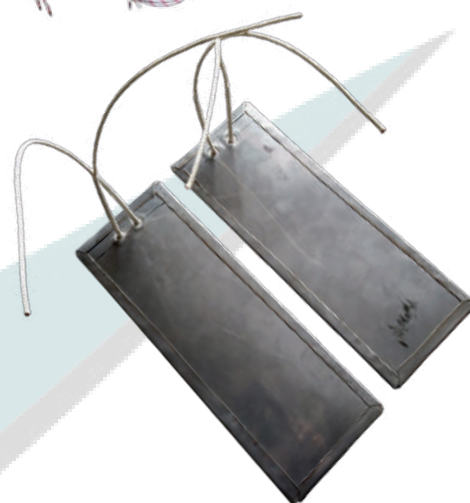
- **Heating Element:** Nichrome wire embedded in mica sheets for excellent heat transfer and electrical insulation
- **Housing / Base:** Stainless Steel (SS) or Mild Steel (Cre), as per application requirements

Types :

- **Plate Type:** Flat heating plates suitable for surface heating or mounting on flat surfaces
- **Bend Type:** Flexible bent heaters for heating curved or irregular surfaces

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with power rating of As per Requirement, customizable according to process requirements.



Key Features :

- Uniform surface heating with rapid heat-up
- Nichrome wire embedded in mica for high efficiency and durability
- Available in **Plate Type** and **Bend Type** for flexible application
- Corrosion- and oxidation-resistant construction
- Suitable for continuous operation up to **250°C**
- Custom-built for specific dimensions, voltages, and power requirements

Technical Specifications:

- **Temperature Range:** Ambient to 250°C
- **Voltage:** 220/230/240/380/415/440 V AC
- **Power Rating:** As Per Requirement
- **Construction:** Nichrome wire embedded in mica
- **Types:** Plate Type / Bend Type
- **MOC:** Mica with SS / MS base

Mould Temperature Controllers

Mould Temperature Controllers are precise and reliable devices designed to maintain accurate temperature control of molds in injection molding, die-casting, and other industrial processes. They ensure uniform heating, improved product quality, reduced cycle times, and enhanced process efficiency.

Applications :

Ideal for **injection molding, blow molding, die-casting, extrusion, and other industrial molding applications** requiring precise temperature regulation of molds and tooling.

Material of Construction (MOC) :

- **Controller Body:** High-quality, corrosion-resistant materials
- **Heating Elements:** Nichrome / Kanthal-based heaters (tubular, cartridge, or immersion type)
- **Temperature Sensors:** PT100 / Thermocouple for accurate measurement

Mounting & Connection Details :

- **Skid Type or Fix Type** for easy integration into molding machines
- Electrical connections designed for **safe, reliable, and long-term operation**

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power ratings up to** As per Requirement, customizable as per mold size and process requirements.



Key Features :

- Accurate temperature control for molds
- Rapid response for process stability
- Integrated heating and sensing elements for precise regulation
- Available in **Skid Type** or **Fix Type** installation
- Suitable for continuous operation up to **300°C** (depending on design)
- Easy-to-read digital or analog temperature display

Technical Specifications:

- **Temperature Range:** Ambient to 300°C (depending on design)
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC
- **Power Rating:** Up to As per Requirement
- **Construction:** Nichrome / Kanthal heaters with PT100 / Thermocouple sensors
- **Mounting:** Skid Type / Fix Type
- **MOC:** Corrosion-resistant housing

Hot Runner Heaters

Hot Runner Heaters are specialized heating elements designed for injection molding applications to maintain the optimal temperature of hot runner systems. They provide uniform heat distribution, precise temperature control, and energy-efficient operation, ensuring consistent material flow and high-quality molded products.

Applications :

Ideal for **injection molding, blow molding, and other plastic processing applications** where precise control of the hot runner system is critical for product quality and cycle efficiency.

Material of Construction (MOC) :

- **Heating Element:** Nichrome or Kanthal for high-efficiency and long-lasting performance
- **Sensor:** PT100 / Thermocouple for accurate temperature feedback

Mounting & Connection Details :

- Designed for easy integration into hot runner manifolds

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power rating of As per Requirement**, customizable according to hot runner size and process requirements.



Key Features :

- Uniform and precise heating of hot runner systems
- Nichrome or Kanthal elements for high efficiency and durability
- Integrated temperature sensing for precise control
- Suitable for continuous operation up to **250–300°C**
- Custom-built for specific dimensions, voltages, and power ratings

Technical Specifications:

- **Temperature Range:** Ambient to 250–300°C
- **Voltage:** 220/230/240/380/415/440 VAC
- **Power Rating:** As per Requirement
- **Construction:** Nichrome / Kanthal Heating Elements with PT100 / Thermocouple sensors
- **Mounting:** Designed for manifold integration
- **MOC:** Nichrome / Kanthal

Hot Air Oven

Hot Air Ovens are industrial and laboratory heating devices designed to provide uniform, dry heat for sterilization, drying, curing, and other thermal processing applications. They ensure precise temperature control, efficient heat transfer, and reliable operation for both laboratory and industrial processes.



Applications :

Ideal for **drying, sterilization, curing, pre-heating, and heat treatment** in **pharmaceutical, chemical, food processing, and industrial laboratories or production units.**

Material of Construction (MOC) :

- **Inner Chamber:** Mild Steel (MS) or Stainless Steel (SS) for corrosion resistance and durability
- **Outer Body / Casing:** MS or SS, powder-coated or polished for long-lasting performance
- **Heating Elements:** Nichrome or Kanthal Heating Coils, Tubular Heaters

Key Features :

- Uniform hot air circulation for consistent drying and heating
- Nichrome or Kanthal heating elements for efficient heat transfer
- Durable MS / SS inner chamber for long life and corrosion resistance
- Adjustable temperature control up to **600°C**
- Safety features including over-temperature cut-off
- Customizable sizes and power ratings for laboratory or industrial needs

Mounting & Connection Details :

- Floor-mounted or bench-mounted designs
- Electrical connections designed for **safe and reliable operation**

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power rating up to 100 kW**, customizable according to oven size and application.

Technical Specifications:

- **Temperature Range:** Ambient to 600°C
- **Voltage:** 220/230/240/380/415/440 VAC
- **Power Rating:** As per Requirement
- **Construction:** Nichrome / Kanthal Heating Elements with MS/SS Inner Chamber
- **Mounting:** Floor-mounted / Bench-mounted
- **MOC:** MS / SS Inner Chamber, MS / SS Outer Body

Control Panels

Control Panels are essential devices for managing, monitoring, and regulating industrial heating and process systems. They provide precise control over temperature, power, and operational parameters, ensuring safe, efficient, and reliable operation of industrial equipment.

Applications :

Ideal for **industrial heating systems, hot air ovens, hot air blowers, immersion heaters, furnaces, mould temperature controllers, and other process heating equipment** requiring centralized control and monitoring.

Material of Construction (MOC) :

- **Panel Body / Enclosure:** Mild Steel (MS) or Stainless Steel (SS), **Flameproof**, powder-coated or polished for durability and corrosion resistance
- **Internal Components:** High-quality electrical and electronic components from **L&T, Schneider, Siemens**, including relays, contactors, overloads, temperature controllers, fuses, and **Logics**
- **Display / Control Interface:** Digital or analog, as per requirement

Mounting & Connection Details :

- Floor-mounted, wall-mounted, or skid-mounted configurations
- Designed for safe and easy integration with heating systems and other process equipment
- Suitable for **230 / 415 / 440 V AC** industrial supply lines

Key Features :

- Centralized control of temperature, power, and operation
- High-quality electrical and electronic components from **L&T, Schneider, Siemens**, including **Logics** for automated process control
- **We make panels with all types of Logics** to suit specific industrial requirements
- Flameproof enclosure ensures safety in hazardous environments
- Digital or analog display options for real-time monitoring
- Overload and safety protections included
- Customizable design for specific industrial applications
- Suitable for continuous operation under standard industrial conditions

Technical Specifications:

- **Voltage:** 230 / 415 / 440 V AC (customizable)
- **Construction:** Flameproof MS / SS Enclosure with high-quality internal components including **Logics**
- **Mounting:** Floor-mounted / Wall-mounted / Skid-mounted
- **Control Type:** Digital or Analog Temperature and Power Controllers
- **MOC:** MS / SS



Porcelain Heaters

Porcelain Heaters are robust and efficient heating elements designed for high-temperature industrial applications. They offer excellent heat transfer, electrical insulation, and durability, making them suitable for processes requiring reliable and uniform heating.

Applications :

Ideal for **chemical processing, oil & gas, plastic processing, industrial ovens, furnaces, and other high-temperature applications** where durable and precise heating is required.

Material of Construction (MOC) :

- **Heating Element:** Nichrome / Kanthal wire embedded in high-quality porcelain for superior insulation and heat transfer
- **Enclosure / Body:** MS or SS Pipes for mechanical strength and protection
- **Body / Support:** Porcelain mounting provides electrical insulation

Mounting & Connection Details :

- Can be provided with **Clamps or Threaded connections** at ends for easy installation
- Designed for integration into industrial heating systems

Electrical Ratings :

Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**, with **power ratings up to 50 kW**, customizable according to process requirements.

Key Features :

- High electrical insulation and thermal efficiency
- Uniform and precise heating for industrial processes
- Durable porcelain construction with MS / SS pipe enclosure for long life
- Available in **various sizes and configurations** for specific applications
- Suitable for continuous operation up to **1000–1200°C**
- Easy installation with clamps or threaded ends

Technical Specifications:

- **Temperature Range:** Ambient to 1000–1200°C
- **Voltage:** 220/230/240/380/415/440 VAC
- **Power Rating:** As per Requirement
- **Construction:** Nichrome / Kanthal wire embedded in porcelain
- **Enclosure:** MS or SS Pipes
- **Mounting:** Clamps / Threaded connections
- **MOC:** Porcelain



Temperature Sensors

Temperature Sensors are precision instruments designed to accurately measure and monitor temperature in industrial processes. They provide reliable data for heating systems, furnaces, ovens, and other thermal applications, enabling precise control and efficient operation.

Applications :

Ideal for **industrial heating systems, hot air ovens, hot air blowers, immersion heaters, furnaces, mould temperature controllers, and other processes requiring accurate temperature monitoring.**

Types of Sensors :

- **RTD (Resistance Temperature Detector):** High accuracy and stability for continuous monitoring
- **Thermocouples:** Suitable for high-temperature applications, fast response, and rugged conditions
 - **Types:** J, K, S, T, R, N, B, and others as per process requirements

Material of Construction (MOC) :

- **Sheath / Body:** SS (all grades), Inconel, Titanium, Tantalum, Ceramic — selected based on process temperature, corrosion, and chemical compatibility
- High-quality internal sensing elements: Platinum for RTD, Nickel-Chromium for Thermocouple
- Coire - Tation, F.g, SS Braicdeal

Enclosure :

- Flameproof / Weatherproof enclosures available for safety and harsh environmental conditions

Mounting & Connection Details :

- Can be provided with **threaded fittings, flanges, or clamps** for easy installation
- Compatible with control panels, PLCs, and temperature controllers

Key Features :

- High accuracy and fast response time
- Wide temperature range depending on type (RTD or Thermocouple)
- Corrosion and high-temperature resistant sheath for long-term durability
- Flameproof / Weatherproof enclosures for safe operation
- Easy integration with industrial heating and process systems
- Customizable for various process requirements

Technical Specifications:

- **Temperature Range:** RTD: -200°C to 600°C | Thermocouple: -200°C to 1200°C (depending on type)
- **Output:** Resistance (RTD) / Millivolt signal (Thermocouple)
- **Also Available with temp. Transfusions**



Soldering Bath

Soldering Baths are industrial heating equipment designed to provide uniform and controlled heat for soldering applications. They are widely used in metal fabrication, electronics, and assembly processes where precision and consistent temperature are critical.

Applications :

Ideal for **metal joining, electronics assembly, wire soldering, component manufacturing, and precision soldering operations** requiring stable and uniform heating.

Material of Construction (MOC) :

- **Bath Body / Tank:** Mild Steel (MS) or Stainless Steel (SS)
- **Heating Elements:** Nichrome or Kanthal heating coil, tubular heaters
- **Insulation:** High-grade thermal insulation for efficient heat retention

Temperature Range :

- Up to **600°C**, depending on application and process requirements

Electrical Ratings :

- Operates at **220 / 230 / 240 / 380 / 415 / 440 V AC**
- Power ratings up to As Per Requirement, customizable according to bath size and industrial requirements

Enclosure & Safety :

- **Flameproof / MS Casing** available for industrial safety
- Temperature sensors (RTD / Thermocouples) for precise monitoring
- Safety features like over-temperature cut-off

Key Features :

- Uniform and precise heating for soldering operations
- Durable MS / SS construction for corrosion resistance and long life
- Efficient thermal insulation for energy savings
- Customizable sizes, power ratings, and temperature ranges
- Compatible with industrial control systems for process automation
- Equipped with digital Control Panel for precise Temp. Control

Technical Specifications:

- **Temperature Range:** Up to 600°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 V AC
- **Power Rating:** As Per Requirement
- **Construction:** MS / SS, Nichrome / Kanthal Heating Elements
- **Enclosure:** Flameproof/MS Casing
- **Sensors:** RTD/Thermocouples
- **MOC:** MS/SS



Thermowells

Thermowells are critical protective components used in temperature measurement systems to safeguard sensors such as RTDs and thermocouples from direct exposure to process conditions. They provide a strong mechanical barrier against high pressure, corrosive media, flow-induced vibration, and mechanical stress, ensuring enhanced sensor life and measurement reliability.

Thermowells also allow easy removal and replacement of sensors without interrupting the process, making them essential for continuous and critical operations.

Applications :

Ideal for **metal joining, electronics assembly, wire soldering, component manufacturing, and precision soldering operations** requiring stable and uniform heating.

Material of Construction (MOC) :

- **Bath Body / Tank:** Mild Steel (MS) or Stainless Steel (SS)
- **Heating Elements:** Nichrome or Kanthal Immersion Heaters
- **Insulation:** High-grade thermal insulation for efficient heat retention

Thermowells are widely used in industries requiring precise temperature measurement under severe operating conditions:

- Oil & Gas Processing
- Chemical & Petrochemical Plants
- Power Generation
- Pharmaceuticals & Food Processing
- Boilers, Furnaces & Heat Exchangers
- HVAC Systems
- Water & Wastewater Treatment
- Highly Corrosive Chemical Processes (with PTFE coated thermowells)

Thermowells are manufactured in a variety of materials to suit different process requirements:

- Stainless Steel: SS304, SS316, SS316L
- Carbon Steel
- Inconel (600 / 625)
- Monel
- Hastelloy
- Duplex & Super Duplex Steel

Material selection is based on process temperature, pressure, corrosion resistance, and fluid compatibility.

Key Features :

- Rugged design suitable for high pressure & temperature conditions
- Excellent resistance to corrosion and erosion
- Designed to withstand flow-induced vibration (as per standards)
- Leak-proof construction ensuring process safety
- Enables sensor replacement without process shutdown
- Available in threaded, flanged, and weld-in types
- Customizable dimensions and configurations
- Optional PTFE (Teflon) coating for superior chemical resistance
- Special Variant – PTFE Coated Thermowell

For highly corrosive and aggressive chemical environments, thermowells can be provided with PTFE (Teflon) coating, offering:

- Exceptional resistance to acids, alkalis, and solvents
- Non-stick and anti-corrosive surface properties
- Extended service life in harsh chemical applications
- Ideal for chemical reactors, dosing systems, and storage tanks

This variant is especially recommended where metallic thermowells may fail due to chemical attack.



Technical Specifications:

- **Parameter :** Details
- **Type :** Threaded / Flanged / Weld-in
- **Construction Type :** Fabricated / Barstock
- **Process Connection :** ½" to 2" BSP / NPT / Flanged (ANSI / DIN)
- **Instrument Connection :** ½" BSP / NPT (F) or as required
- **Bore Size :** 6 mm, 8 mm, 10 mm, 12 mm (customizable)
- **Insertion Length (U Length) :** As per requirement
- **Stem Profile :** Straight / Tapered / Stepped
- **Operating Temperature :** Up to 1200°C (depending on MOC)
- **Pressure Rating :** As per ASME standards
- **Surface Finish :** Machined / Polished / PTFE Coated (optional)
- **Standards :** ASME PTC 19.3 TW, ASTM, DIN

Ceramic Bend Heater

Ceramic Bend Heaters are high-efficiency industrial heating elements designed for uniform heating in confined spaces and curved surfaces. Their bendable configuration allows them to fit complex equipment geometries while providing reliable high-temperature performance.

Applications :

Ideal for **industrial furnaces, molds, dies, plastic processing, sealing, heating of pipes, and other applications requiring precise and localized heating.**

Material of Construction (MOC) :

- **Heating Element:** Nichrome / Kanthal wire
- **Insulation / Support:** High-grade ceramic for electrical insulation and heat retention
- **Enclosure / Sheath:** MS / SS enclosure providing mechanical strength and protection

Temperature Range :

- Up to **350°C** (customizable based on application)

Electrical Ratings :

- Operates at **220 / 230 / 240 / 380 / 415 / 440 VAC**
- Power rating: **As Per Requirement**, customizable according to process requirements

Type :

- **Plate Type** or **Bend Type** for flexible application in industrial setups



Key Features :

- High electrical insulation and thermal efficiency
- Bendable design for installation on curved surfaces
- Durable ceramic construction with MS / SS enclosure for long life
- Uniform and precise heating in localized areas
- Suitable for continuous industrial operation
- Power can be **customized** as per process needs
- Also equipped with insulation Lover to reduce hackett Loss

Technical Specifications:

- **Temperature Range:** Up to 350°C
- **Voltage:** 220 / 230 / 240 / 380 / 415 / 440 VAC
- **Power Rating:** •as per process needs (customizable)
- **Construction:** Nichrome / Kanthal wire with ceramic insulation
- **Type:** Plate Type / Bend Type
- **Enclosure:** MS / SS
- **MOC:** Ceramic

Level Sensor

- Applications Water & Wastewater Treatment Plants
- Chemical & Pharmaceutical Industries
- Food & Beverage Processing
- Oil & Gas Storage Tanks
- Boiler Feed Water Systems
- Fuel & Diesel Storage Tanks
- Process Vessels & Reactors
- Cooling Towers & Chillers
- Sump & Lift Stations
- Industrial Automation & Pump Protection
- Material of Construction (MOC)
- Wetted Parts: SS304 / SS316 / SS316L / PP / PVDF (application dependent)
- Float (if applicable): SS316 / PP
- Housing: Aluminium Die-Cast / Stainless Steel / ABS / Polycarbonate
- Probe: Stainless Steel / PTFE Coated
- Cable: PVC / PUR / Teflon
- Seals: NBR / Viton / EPDM
- Process Connection: BSP / NPT Threaded or Flanged

Key Features :

- Accurate and reliable liquid level measurement
- Suitable for continuous level monitoring or point level detection
- Available in contact and non-contact technologies
- High accuracy with excellent repeatability
- Corrosion-resistant construction
- Compact, maintenance-free design
- Easy installation and calibration
- Compatible with PLC, SCADA & DCS systems
- Wide operating temperature and pressure range
- Protection against tank overflow and pump dry-run
- Available with Explosion-Proof (Ex) models for hazardous areas
- IP65/IP67/IP68 enclosure options



Technical Specifications:

- Parameter Specification
- Measuring Principle Float / Ultrasonic / Radar / Capacitive / Hydrostatic (Model Dependent)
- Measuring Range 0.3 m to 30 m (Application Dependent)
- Accuracy Up to $\pm 0.25\%$ F.S.
- Output Signal 4-20 mA, 0-10 V, Relay, RS-485 Modbus, HART (Optional)
- Supply Voltage 12-30 VDC / 24 VDC / 230 VAC
- Process Connection Threaded (BSP/NPT) or Flanged
- Wetted Material SS304, SS316, SS316L, PP, PVDF
- Operating Temperature -20°C to $+120^{\circ}\text{C}$ (Higher on request)
- Process Pressure Vacuum to 25 Bar (Model Dependent)
- Protection Class IP65 / IP67 / IP68
- Electrical Connection Cable Gland / M12 Connector / Terminal Housing
- Mounting Top, Side or Bottom Mounting
- Communication Analog, Digital, Relay Outputs
- Certifications CE, RoHS (ATEX/IECEx available on selected models)

Inspection and testing

At WellMech Instruments, all products undergo stringent in-house testing and inspection to ensure performance, safety, and reliability under actual operating conditions. Our testing facilities are aligned with relevant industry standards and supported by calibrated instruments.

For Industrial Heaters :

Insulation Resistance (IR) Test

Verification of insulation integrity between live elements and sheath using a megger, as per applicable IEC / IS standards.

High Voltage (Dielectric / Hi-Pot) Test

Ensures dielectric strength of insulation under high voltage conditions, in line with IEC 60335-1 / IS 302.

Load / Performance Test

Operation at rated voltage to confirm wattage output, current draw, and heating uniformity.

Temperature Rise Test

Assessment of surface temperature and thermal performance against design parameters.

Pneumatic Leak Test (Air Pressure Test)

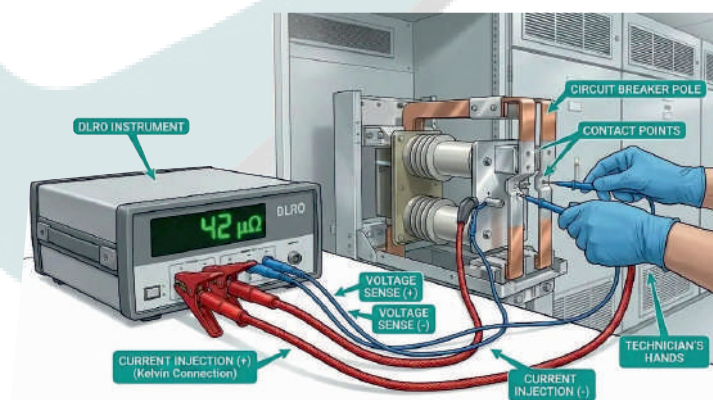
Conducted using compressed air to check for leakage in welded joints, brazed connections, and assemblies. Ensures structural integrity and leak-tightness under specified pressure conditions.

Hydrostatic Leak Test (Hydro Test)

Performed by pressurizing the heater assembly with water to verify mechanical strength and leak-proof construction. Typically conducted at pressures higher than operating conditions, in line with applicable pressure testing standards / client specifications.

Continuity & Resistance Check

Ensures correct resistance values and electrical circuit integrity.



For Temperature Sensors (RTD & Thermocouples)

Calibration & Accuracy Testing :

As per IEC 60751 (RTD) and IEC 60584 (Thermocouples).

Temperature Validation Test :

Using dry block calibrators / temperature baths across specified ranges.

Insulation Resistance Test :

Verification of electrical insulation between sensing element and sheath.

Response Time Testing (if required):

For critical applications requiring fast thermal response.

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