radix®

TEMPERATURE SENSORS

FOR FOOD AND PHARMA

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AUTOCLAVES / STEAM STERILIZERS

The environmental conditions found in pharmaceutical autoclave chambers are extreme for any equipment. These conditions are a major cause of sensor failure in chamber/load probes, due to the ingress of moisture into the sensor and the unacceptable leakage of steam/condensate through cable termination.

CONTINUOUS USE

MODEL **RT044**
Silicon rubber jacket cable

RTD

RT044 has Completely sealed construction. As a result, the entire sensor assembly, including the probe and cables extending from the RTD, can be completely submerged in water without affecting accuracy or long-term stability

- Pt-100, 3/4-Wire
- Class A / higher accuracy
- 0 to 150 °C measuring range

VALIDATION

A critical factor when validating any autoclave is the calibration of measurement probes, especially temperature probes.

RTD

RT043 is highly accurate special purpose RTD. It's Teflon insulated cable with SS reinforce tip gives it rugged and leakproof construction. Its compact design permits multiple sensors installation through single validation port.

- Pt-100, 3/4-Wire
- Class A / higher accuracy
- 0 to 150 °C measuring range

MODEL **RT043**
Teflon insulated cable

THERMOCOUPLE

Teflon insulated cable with Insulated tip prevents penetration of Steam/ Condensate through cable termination.

- Copper / Constantan (T type) thermocouple
- Special limits of error
- Stranded wires for flexibility
- -200 to 260 C measuring range

MODEL **TT043**
Teflon insulated tip

DRY HEAT STERILIZER (DHS)

Dry heat for sterilization is used for materials that are sensitive to the presence of moisture.

The Dry-Heat sterilization process is accomplished by conduction; that is where heat is absorbed by the exterior surface of an item and then passed inward to the next layer. Eventually, the entire item reaches the proper temperature needed to achieve sterilization. The proper time and temperature for Dry-Heat sterilization is 160°C (320°F) for 2 hours or 170°C (340°F) for 1 hour.

RTD

MODEL **RT045**

RT045 is designed to withstand temperatures upto 250°C (482°F) in continuous application.
RTD element is enclosed in SS316 protection tube to protect it from external mechanical damage. MgO is filled inside tube for effective heat transfer between metallic wall and sensing element RTD element is terminated into Teflon insulated integral flexible cable which are rated for 250°C and strain relive spring are provided to protect cable from excessive bending.

- Pt-100, 3-Wire
- Class B / Class A accuracy
- -50 to 250 C
- Teflon insulated cable with Stress relieving spring

TUNNEL VALIDATION

Sterilization within a hot air tunnel is a critical process and there is a regulatory requirement for process validation in most countries. Thermal validation consists of accurately measuring the temperature at critical points within the sterilization chamber throughout the process, thus accuracy of the sensors used to perform thermal validation is critical.

THERMOCOUPLE

Dry heat generally employs a temperature between 250°C and 400°C for varying time.
Usually temperatures of at least 200°C for at least 1 hour will be used in ovens during validations. Dry heat tunnels will use much higher temperatures as high as 325 °C or higher but for only a few minutes.

TT046 tunnel validation thermocouples are suitable for temperatures upto 316°C continuous application, which can be used upto 360°C (15% extra) for intermittent application.

- T- type OR K-type calibrations
- Special limits of error
- Upto 360 °C measuring range
- Kapton insulated cable

MODEL **TT046**

LYOHPHILIZER & DEEP FREEZER

Lyophilization is a technique used to remove water from a solution to leave a dry "cake". This is mostly used for the final preparation of sterile temperature sensitive products.
Temperature is critical parameters during freeze-drying. Thus freeze driers require regular validation. This will generally involve temperature mapping of the shelf but validation of the required between-batch.

RTD

Single stage deep freezer refrigeration system goes below -20°C / -40°C and double stage refrigeration system goes below -80°C

RT048 is designed to withstand Low temperature and vacuum that are observed inside Lyophilizer's during dehydration process.
It can measure temperature between -100 to 200 °C

- Pt-100, 3-Wire
- Class B / Class A
- -100 to 200 °C measuring range
- Teflon insulated cable

MODEL **RT048**

RTD WITH M12 CONNECTOR

- Pt-100, 3- wire, others on request
- Class B / Class A / Higher accuracy
- -50 to 250 °C measuring range

MODEL RC Series

- Threaded / Triclover, Fixed process connections
- 4-Pin M12 Plug-in connector
- Optional, connection cable with M12 counter part
- M12 connectors for easy assembly

** An M12 Extension cable is required for installation.

SANITARY RTD

Our sanitary RTD and thermocouple temperature sensors have been designed for food, beverage and dairy applications where sensor corrosion and case of cleaning is very important.

Radix offers complete line of Sanitary and high-purity temperature sensors for accurate and reliable temperature measurment
The product contact surface is free of pits, crevices and pockets thus preventing corrosion and microbial growth

TRICLOVER CONNECTION

- SS316L wetted part
- Transition joint, W.P / Flameproof/ Stainless Steel, termination head
- Reduced tip design option for fast response
- Optional, head mounted transmitter, Mounting clamp & gasket

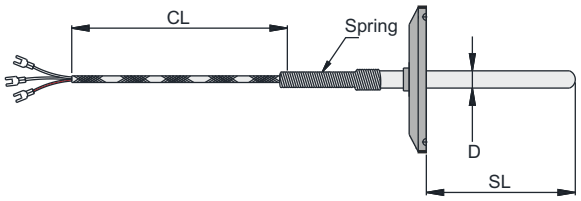
Polypropylene head

Aluminium head

MODEL **RH607**

Pt 100, 3-Wire, other calibrations available
-50 to 250°C, other ranges available
Class B / A / higher, accuracy
½" / 1" / 1.5" / 2" / 2.5", Triclover sizes

MODEL **RT607**



SANITARY INGOLD PORT

The Ingold port fitting offers a clean and safe instrumentation mounting configuration while maintaining the ease-of-use of a removable sensor.

- Pt 100, 3-Wire
- -50 to 200°C
- Class A accuracy
- 3/4" BSP (F) or 1 1/4" BSP (F), Nut
- Ingold fitting design for easy installation.
- Sanitary O-ring for moisture proof operation.
- Stainless steel locking nut for Ingold port.
- Optional reduced tip for faster response.
- W.P / Flameproof/ Stainless Steel, termination head
- Head mounted transmitter options in SS head.

MODEL **RH604**

SURFACE TEMPERATURE

WASHER RTD

Washer RTDs are designed to be mounted over a threaded stud that has been welded to the measuring surface. It is held in place with a matching threaded nut to facilitate a positive surface contact

- Easy to use
- Standard temperature range , -50 to 250°C.
- SS304 Washer
- PTFE insulated and jacketed cable
- Supplied with 3 meter cable or in multiple of 1 meter
- Stainless steel over-braided cables available

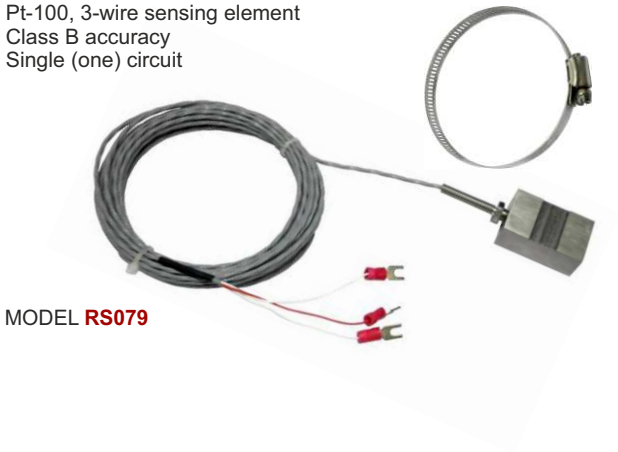
MODEL RS091 / RS092 / RS093

- Pt-100, 3-wire
- Class B accuracy
- Single (one) circuit

CLAMP - ON RTD

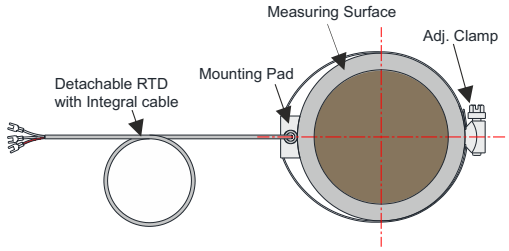
Clamp-On RTD is suitable for temperature measurement on pipe / cylinder surface where welding, drilling etc. is not possible

- Pt-100, 3-wire sensing element
- Class B accuracy
- Single (one) circuit



MODEL **RS079**

- Suitable for 50 mm/ 100 mm / 150 mm pipe diameter
- SS mounting clamp
- Stainless steel clamps for durability
- Detachable RTD sensor for easy replacement
- -20 to 200 deg.C range



PIPE LINE RTD

RL series is true CIP & SIP design. This series of RTD's are used where direct insertion, viscosity or flow rate would affect accuracy. They are available in variable pipe length and diameter.

WELD-IN CONNECTION

MODEL RL602

- Offered with Sanitary Tri-clover RTD, Weld-in Tee joint with / without mounting clamps and gaskets

CLAMP-IN CONNECTION

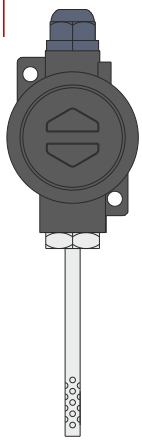
MODEL RL601

- Offered with Sanitary Tri-clover RTD, Clamp-in Tee joint with / without mounting clamps and gaskets

HVAC AND GAS TEMPERATURE MEASURMENT

ROOM TEMPERATURE MEASUREMENT

- Wall mountable aluminium housing
- Ceramic beads insulated element
- SS316L perforated sheath
- Class A accuracy, cable gland, temperature transmitter and cable are optional

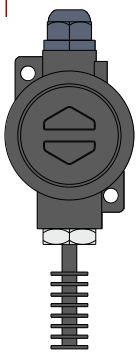


- Pt-100, 3-wire
- Class B accuracy
- -50 to 100 °C measuring range

MODEL RG200

OUTDOOR TEMPERATURE MEASUREMENT

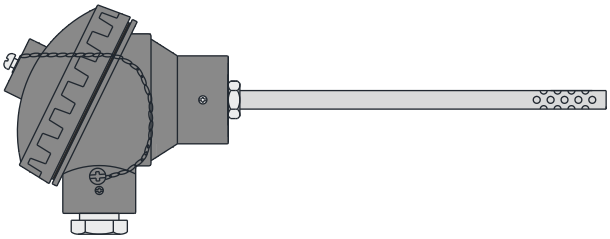
- Wall mountable aluminium housing
- Mgo insulated element
- Black anodized aluminium sheath with fins
- Class A accuracy, cable gland, temperature transmitter and cable are optional



- Pt-100, 3-wire
- Class B accuracy
- -50 to 100 °C measuring range

MODEL RG210

RTD FOR AIR AND GAS



Perforated tip RTD is suitable for measuring Temperature of flowing non-corrosive air and gas (Indoor only)

- Perforated tip and thin film element for fast response.
- Weather -proof head
- Measuring range Upto 400°C
- Different process connection

AIR / GAS / DUCT TEMPERATURE MEASUREMENT

MODEL RG Series

- Light in weight, easy to use
- ABS housing
- PG 9, polyamide cable gland
- Optional temperature transmitter and cable

Perforated Tip

Closed Tip

MODEL RG000

RTD WITH PROTECTION TUBE

RTD with replaceable inner element provides economic and easy maintenance. Typical use includes pharma machinery, hot & chilled water lines

- Weatherproof/ Flameproof/ SS, termination heads
- Optional, head mounted transmitter, cable gland and connection cables

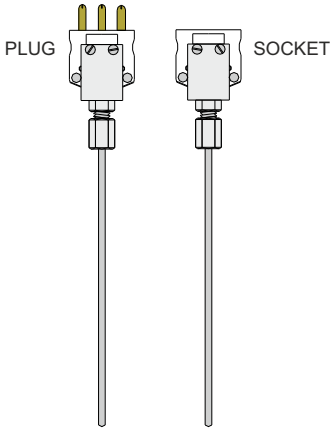
MODEL RP607

- Pt 100, 3/4-Wire, other calibrations available
- Class B / Class A / Higher accuracy
- -50 to 400°C measuring range

QUICK DISCONNECT ASSEMBLIES

The RQ / TQ series temperature sensors are quick disconnect models with miniature/ standard plug and socket. Quick disconnect assemblies are light in weight, and have quick response time. For these reasons they are commonly used in laboratories.

- Bendable sheath
- Light in Weight
- Easy connection band disconnection
- Mineral Insulated construction
- -50 to 400 °C range



MODEL RQ Series *(RTD with plug / socket)*
TQ Series *(Thermocouple with plug / socket)*

- -50 to 400 °C measuring range (RTD)
- Upto 1150 °C measuring range (Thermocouple)
- MI, Compact Mgo insulation
- Upto 50 meters bendable sheath length
- Miniature / Sub-minature, Plug & Socket

VALIDATION PORT

MODEL VPA241

Suitable for autoclave validation, where multiple senors have to placed in autoclave through one port. This product has a robust leak proof design and easy to use assembly.

- Individual slots for upto 18 RTD/thermocouples
- Gland body : SS316L
- Mounting : 1.5” Tri-clamp
- Pressure rating : 3 bar
- Temperature rating : Upto 150 °C
- Sealant : Medical grade Silicon rubber, FDA USP Class IV
- CAP : Barstock brass
- Compression disc & screw : SS304
- 'Y' or 'T' adaptor for doubling the quantity
- Optional : Expander, Mounting clamp & gasket

OTHER PRODUCTS

INSTRUMENTS

BMS PRODUCTS

LEVEL PRODUCTS

DOOR INTERLOCK SYSTEMS

AUTOMATION

PRESSURE GAUGES, DIAL THERMOMETERS

CAT598R0

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