## TEMPERATURE SENSORS - FOOD & PHARMA

### 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

**RTD**

**MODEL RAC244**

Silicone rubber jacketed cable

RAC244 has a 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.

- Pt100, 3/4-wire
- Class A / higher accuracy
- 0 to 150°C measuring range
- Single / dual elements

### RAC244 has a 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.

- Pt100, 4-wire configuration
- Class AA accuracy
- 4, 7 & 10 meter cable length
- -50°C to 150°C range
- FEP/Silicone insulated cable

**MODEL TAC243**

Teflon insulated cable with insulated tip prevents penetration of steam/condensate through cable termination.

- Pt100, 3/4-wire
- Class A / higher accuracy
- 0 to 150°C
- Single element

**MODEL RFA244**

For Fedegari autoclave

- Pt100, 4-wire configuration
- Class A / higher accuracy
- 4, 7 & 10 meter cable length
- -50°C to 150°C range
- FEP/Silicone insulated cable

**MODEL RFA244**

For Fedegari autoclave

- Pt100, 4-wire configuration
- Class A / higher accuracy
- 4, 7 & 10 meter cable length
- -50°C to 150°C range
- FEP/Silicone insulated cable

**MODEL RFA254**

For straight construction

- Pt100, 4-wire configuration
- Class A / higher accuracy
- Single element
- 0 to 150°C measuring range
- Single / dual elements

**MODEL RFA254**

For straight construction

- Pt100, 4-wire configuration
- Class A / higher accuracy
- Single element
- 0 to 150°C measuring range
- Single / dual elements

**MODEL RFA255**

For angular construction

- Pt100, 4-wire configuration
- Class A / higher accuracy
- 6 meter cable length
- -50°C to 150°C range
- Silicone rubber insulated cable

**MODEL RFA255**

For angular construction

- Pt100, 4-wire configuration
- Class A / higher accuracy
- 6 meter cable length
- -50°C to 150°C range
- Silicone rubber insulated cable

### VALIDATION

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

**RTD**

RAC243 is a highly accurate special purpose RTD. Its Teflon insulated cable with SS and reinforced tip gives it rugged and leakproof construction. Its compact design permits multiple sensors installation through a single validation port.

- Pt100, 3/4-wire
- Class A / higher accuracy
- 0 to 150°C
- Single element

**MODEL RAC243**

Teflon insulated cable

**MODEL TAC243**

Teflon insulated tip

**THERMOCOUPLE**

Teflon insulated cable with insulated tip prevents penetration of steam/condensate through cable termination.

- Copper / constantan (T type) thermocouple
- Special limits of error (Class 1)
- Stranded wires for flexibility
- 0 to 150°C measuring range

**MODEL TAC243**

Teflon insulated tip
TEMPERATURE SENSORS - FOOD & PHARMA

FOR DRY HEAT STERILIZER (DHS)

RTD
RDH245 is designed to withstand temperatures up to 265°C (482°F) in continuous use.

MODEL RDH245
- Pt100, 3-wire
- Class A accuracy
- 0 to 265°C
- Teflon insulated cable with stress relieving spring
- Single/dual element

TUNNEL VALIDATION

THERMOCOUPLE
TTV246 tunnel validation thermocouples are suitable for temperatures up to 316°C continuous use and which can be used up to 360°C (15% extra) for intermittent use.

MODEL TTV246
- T- type or K-type calibrations
- Special limits of error (Class 1)
- Upto 360°C measuring range
- Kapton insulated cable

VALIDATION PORTS FOR AUTOCLAVE

Used with teflon insulated cable

MODEL VPA241
- Individual slots for up to 18 RTD/Thermocouples
- Gland body : SS316L
- Mounting : 1.5” Tri-clover
- Pressure rating : 3 bar
- Temperature rating : Up to 150°C
- Sealant : Medical grade silicone 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

Used with silicone rubber insulated cable

MODEL VPA242
- Individual slots for up to 8 RTDs
- SS316 construction
- Mounting : 2” Tri-clover
- Pressure rating : 3 bar
- Temperature rating : Up to 150°C
- Sealant : Medical grade silicone rubber, FDA USP Class IV
- Optional : “Y” or “T” adaptor, mounting clamp & gasket
**TEMPERATURE SENSORS - FOOD & PHARMA**

**LYOPHILIZER & DEEP FREEZER**

**RTD**

RFL248 is designed to withstand the low temperature and vacuum that are found inside lyophilizers during the dehydration process.

- Pt100, 3-wire
- Class A / better accuracy
- -100 to 200°C measuring range
- PTFE 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 (Class 1)
- Stranded wires for flexibility
- -100 to 200°C measuring range

**MEASUREMENT OF SHELF TEMPERATURE UNIFORMITY IN A LYOPHILIZER**

Pucks or discs made of copper, brass or aluminum are offered with thermocouples as well as RTD.

**RTD**

- Pt100, 3-wire
- Class A / higher accuracy
- Copper, SS316 or brass body
- -80°C to 100°C

**THERMOCOUPLE**

- T type
- Class 1 accuracy
- Copper or brass body
- -80°C to 100°C

**SUITABLE FOR USE WITH RABBITS & LARGE ANIMALS**

**RECTAL PROBE**

- Pt100, 3-wire, others on request
- Class A / higher accuracy
- 0 to 100°C
- 2 & 5 mtr cable lengths
- Offered without connector

*Also known as Veterinary Implantation Probe*

**MEASUREMENT OF GELATIN TEMPERATURE**

**RTD FOR CAPSULE BANDING MACHINE**

- Pt100, 3-wire, others on request
- Class A / higher accuracy
- -50 to 200°C measuring range
- Offered without connector

**MODELS**

- RFL248
- TFL248
- RFL249
- TFL249
- RRP240
- RCB200

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TEMPERATURE SENSORS - FOOD & PHARMA

RTD WITH M12 CONNECTOR

GENERAL PURPOSE
• Pt100, 3-wire, others on request
• Class A / higher accuracy
• -50 to 200°C measuring range
• Threaded, fixed process connections
• 4-pin M12 plug-in connector
• Optional connection cable with M12 matching connector

FOR PIPE LINES
• Pt100, 3-wire, others on request
• Class A / higher accuracy
• -50 to 250°C measuring range
• 4-20 mA output optional
• For pipelines from 15NB onwards
• Threaded process connections
• 4-pin M12 plug-in connector
• Optional, connection cable with M12 matching connector
• Mating Sanitary Fittings on request

FOR WELD-IN BOSS / THERMOWELL
• -50 to 150°C measuring range
• G1/8” for mounting to weld-in boss
• Weld-in boss, dummy plug & thermowell optional
• 4-pin M12 plug-in connector
• Optional connection cable with M12 matching connector

WITH FIXED SANITARY FITTINGS
• Pt100, 3-wire, others on request
• Class A / higher accuracy
• -50 to 250°C measuring range
• With / without 4-20 mA output
• With 3/4” & 1” Tri-clovers
• 4-pin M12 plug-in connector
• Optional connection cable with M12 matching connector

ACCESSORIES FOR RCM AND RCP SERIES

ACM202  ACM204  ACM212  ACM214  CABLE
TEMPERATURE SENSORS - FOOD & PHARMA

RTD FOR VESSELS & PIPES

FOR TEMPERATURE MEASUREMENT IN TUBES

Hygienic sensors for weld-in boss or thermowell
- Pt100, 3/4-wire
- Maximum temperature 200°C
- Class A accuracy
- 15/25mm probe lengths
- G1/8" process connection
- Weld-in boss, dummy plug & thermowell optional
- With aluminium / stainless steel heads
- Head mounted transmitter optional

MODEL   RHP502

- Pt100, 3/4-wire
- Maximum temperature 200°C
- Class A accuracy
- 15/25 mm probe lengths
- Cable length in 5/10/15 mtr
- PFA cable for RTP502 & PVC cable for RTP503 models
- G1/8" process connection
- Weld-in boss, dummy plug & thermowell optional

MODEL   RTP502

MODEL   RTP503

WITH G1/2 HYGIENIC
- Measurement in vessels with agitators with front flush version
- Temperature monitoring in milk vessels
- SS316L wetted parts
- Head mounted transmitter optional
- Weatherproof / Flameproof / Stainless Steel termination head
- Pt100, 3-wire, single / dual element
- Class A accuracy or better
- 0 to 200°C range

MODEL   RHV200

WITH INGOLD PORT
- Pt100, 3-wire
- -50 to 200°C
- Class A accuracy or better
- 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
- Weatherproof / Flameproof / Stainless Steel termination head
- Head mounted transmitter optional

MODEL   RHV300
TEMPERATURE SENSORS - FOOD & PHARMA

SANITARY RTDS & THERMOCOUPLES

TRI-CLOVER CONNECTION
- SS316L wetted parts
- Reduced tip design option for fast response
- Optional head mounted transmitter, mounting clamp & gasket
- Pt100, 3-wire, other calibrations available
- -50 to 250°C, other ranges available
- Class A / higher, accuracy
- ½” / 1” / 2” / 2.5”, Tri-clover sizes

Polypropylene head
Aluminium head
ATEX head
SS mini head

RHS SERIES

PIPE LINE RTD
RHP series is a true CIP & SIP design. This series of RTD’s are used where direct insertion, viscosity or flow rate would affect accuracy. They are available with different pipe length and diameter.

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

Model RHP602

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

Model RHP612

WITH FIXED SANITARY FITTINGS
- Pt100, 3-wire, others on request
- Class A / higher accuracy
- -50 to 250°C measuring range
- With integral cable
- With 3/4” & 1” Tri-clovers

Model RTS602
## TEMPERATURE SENSORS - FOOD & PHARMA

### GENERAL PURPOSE ASSEMBLIES

**WEATHERPROOF & FLAMEPROOF TERMINATIONS**

- Pt100, 3/4-wire, others on request
- Class A / higher accuracy
- Single / dual circuits
- -50 to 400°C measuring range
- Cast aluminium head as standard

**Optional**

- Process connection
- SS304 / SS316 heads
- ATEX certified FLP head
- Cable glands

![Rhg series for wp & rfg series for flp models](image)

### SURFACE TEMPERATURE

**CLAMP-ON RTD**

- Pt100, 3/4-wire sensing element
- Class A accuracy
- Single circuit

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- Pipe diameters 25/50/75/100/150mm
- SS304/SS316 pads
- Stainless steel clamps for durability
- Detachable RTD sensor for Model RCS202
- -20 to 200°C range

### TEMPERATURE MEASUREMENT OF FROZEN FOOD

**PENETRATION PROBE**

- Offered in K thermocouple & Pt100, 3-wire
- Grounded hot junction in thermocouples
- -50 to 400°C for K type & -50 to 200°C for RTD
- Pointed tip for easy penetration
- Retractable PVC cable for K type
- Silicone rubber cable for RTD
- Hand held digital indicator available

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**PRICK PROBE**

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TEMPERATURE SENSORS - FOOD & PHARMA

HVAC AND GAS TEMPERATURE MEASUREMENT

- Wall mountable aluminium housing
- Cable gland, temperature transmitter and cable are optional
- Pt100, 3-wire
- Class B accuracy
- -50 to 100°C measuring range

IN-DOOR
- SS316L perforated sheath
- MODEL RAV210

OUT-DOOR
- Black anodized aluminium sheath
- MODEL RAV212

RTD FOR AIR AND GAS
Perforated tip RTD is suitable for measuring temperature of flowing non-corrosive air and gas (indoor use only)

- Thin film element for fast response
- Weatherproof head
- Measuring range up to 400°C
- Different process connections

AIR / GAS / DUCT TEMPERATURE MEASUREMENT

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

IN-DOOR
- Perforated Tip
- MODEL RAV310

- Closed Tip
- MODEL RAV311

OUT-DOOR
- Perforated Tip
- MODEL RAV300

- Closed Tip
- MODEL RAV301

THERMOWELL ASSEMBLIES

Thermowells are tubular fittings used to protect temperature sensors installed in industrial processes

- Straight, Stepped or Tapered designs
- One piece barstock / fabricated constructions
- Wide selection of sizes, material and dimensions
- Threaded / Flanged / Weldstock / Sanitary mountings
- 1/2", 3/4" and 1" NPT/BSP threads
- Bore size : 7, 9, 10mm...
- MOC : SS316L/316/304, Hastalloy, AL6XN, Brass
- Up to 1300mm in single piece barstock
TEMPERATURE SENSORS - FOOD & PHARMA

DIAL THERMOMETERS

- Bimetal & Gas designs
- -100 to 600°C
- In 6/8/10mm diameters
- Up to 2000mm in rigid version
- With capillary for remote mounting
- In 63, 100 & 150mm dial sizes
- Class 1 accuracy to EN 13190
- Various process connections on request

PRESSURE / VACUUM GAUGES

- Bourdon / Diaphragm Gauges
- Vacuum to 1000 bar
- Bottom, Back, Panel & Surface mounting
- With capillary for remote mounting
- In 63, 100 & 150mm dial sizes
- Class 1 accuracy to EN 837-1
- 1/8” to 1” BSP/NPT threads

ACCESSORIES FOR PRESSURE GAUGES

- PULSATION DAMPENER
- GAUGE COCK
- MANIFOLD
- NEEDLE VALVE
- SYPHON
- COOLING TOWER

PRESSURE TRANSMITTERS

- Compact stainless steel construction
- ± 0.5% accuracy
- IP67 protection
- G1/4 thread as standard
- Wide range of mechanical connections
- -25°C to 85°C usable temperature range

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## OTHER PRODUCTS

### INSTRUMENTS

![Instrument 1]

![Instrument 2]

### BMS PRODUCTS

![BMS Product 1]

![BMS Product 2]

### LEVEL PRODUCTS

![Level Product 1]

![Level Product 2]

### DOOR INTERLOCK SYSTEMS

![Door Interlock System]

### AUTOMATION

![Automation Device 1]

![Automation Device 2]

### DWYER INTERNATIONAL DISTRIBUTOR

![Dwyer Product]

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- **Instruments**: sales@radix.co.in
- **Sensors**: sensors@radix.co.in
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