

# Sterimaster® Autoclave Chamber/Load Sensor

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 the bulkhead connection.

The Sterimaster® Chamber/Load Sensor has been designed to withstand these conditions and offers a reliability factor surpassing anything previously obtainable. Every weld undergoes NDT examination and each completed assembly is leak tested.



*Sterimaster® shown with optional sanitary flange mount. Model SL104 is used for water cascading and steam sterilizers.*

## Mechanical

### Sensor Diameter:

- 3.0 mm, 3.18 mm (0.125"), 4.76 mm (0.187"), 6.0 mm, 6.35 mm (0.250")

### Sensor Length:

- 100 mm (4") minimum, 305 mm (12") maximum
- 316 stainless steel

### Flexible Armor:

- 10.6 mm (0.42") OD x 9150 mm (30') maximum
- 316 stainless steel

### Bulkhead Tailpiece:

- 16.0 mm, 6.35 mm (0.250") OD x 152 mm (6") long standard

### Leadwire/Jacket Length:

- 6100 mm (20') maximum

## RTD

### Element:

- Single or dual PT 100 with 3- or 4-wire connection, Class "B" and "A" tolerance meeting BS EN 60751:1996. Fractional 1/10 tolerance available.

### Leadwire/Jacket:

- PTFE insulated 26 AWG stranded conductors with thick-walled extruded silicone rubber jacket.

### Operating Range:

- -50°C to +150°C (-58°F to +302°F)
- Vacuum to 3.5 bar (50 psig)

## Thermocouple

### Type:

- Single or dual types "T", "E", "J" or "K" to ASTM E230

### Leadwire/Jacket:

- PTFE insulated 26 AWG stranded conductors with thick-walled extruded silicone rubber jacket.

### Operating Range:

- -50°C to +150°C (-58°F to +302°F)
- Vacuum to 3.5 bar (50 psi)

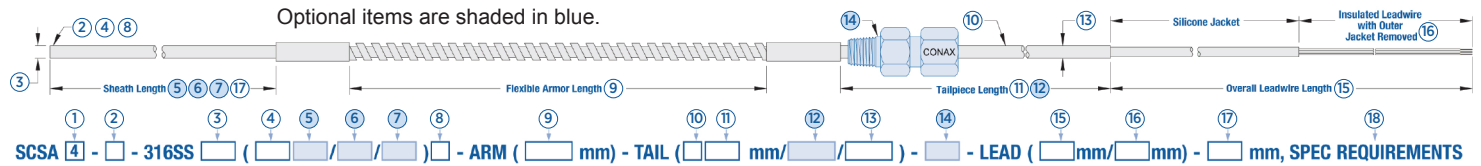
## Accessories

- Various types of tailpiece sealing gland assemblies are available. Refer to Conax Technologies' Pressure and Vacuum Sealing Assemblies, Catalog 5001.



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## Sterimaster® Assembly Description for Thermocouples



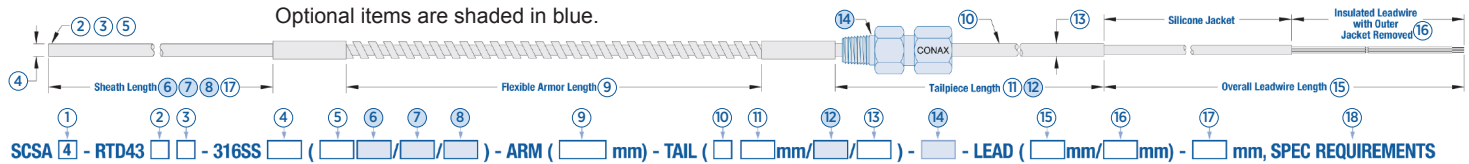
1. Model Number  
4 = SL104
2. Thermocouple Type  
For Standard Limits of Error  
T = Copper/Constantan  
E = Chromel/Constantan  
J = Iron/Constantan  
K = Chromel/Alumel
3. Sheath Diameter (2)  
300 = 3.00 mm  
320 = 3.18 mm (0.125")  
476 = 4.76 mm (0.187")  
600 = 6.00 mm  
635 = 6.35 mm (0.250")
4. Tip Configuration/Style  
SS = Straight with Standard Tip  
SC = Straight with Chisel Point Tip  
SP = Straight with Pointed Tip  
RS = Reduced with Standard Tip  
RC = Reduced with Chisel Point Tip  
RP = Reduced with Pointed Tip  
BS = 90° Bend with Standard Tip  
BC = 90° Bend with Chisel Point Tip  
BP = 90° Bend with Pointed Tip  
RBS = Reduced 90° Bend with Standard Tip  
RBC = Reduced 90° Bend with Chisel Point Tip  
RBP = Reduced 90° Bend with Pointed Tip
5. Required for "R" Reduced, "B" 90° Bent or "RB" Reduced 90° Bent Tips.  
**OMIT FOR STRAIGHT TIP**  
Length (mm) of "R" Reduced Tip (25 mm minimum) (3)  
Length (mm) of "B" 90° Bent Tip (40 mm minimum)  
Length (mm) of "RB" 90° Bent Non-Reduced Tip (15 mm minimum)
6. Required for "RB" Reduced 90° Bent Tip Only  
**OMIT FOR "S" STRAIGHT, "R" REDUCED AND "B" 90° BENT TIPS**  
Length (mm) of "RB" Reduced Tip (25 mm minimum)
7. Required for "R" Reduced or "RB" Reduced 90° Bent Tip Only  
**OMIT FOR "S" STRAIGHT AND "B" 90° BENT TIPS**  
Diameter of Reduced Tip  
320 = 3.18 mm (0.125")  
476 = 4.76 mm (0.187")
8. Sensor Configuration/Junction  
U = 2 wire, Single, ungrounded  
G = 2 wire, Single, grounded  
2U = 4 wire, Dual, ungrounded  
2G = 4 wire, Dual, grounded  
3U = 6 wire, Triple, ungrounded  
3G = 6 wire, Triple, grounded  $\geq 4.76$  mm (0.187") sensor sheath
9. Length (mm) of Flexible Armor Section  
460 mm minimum, 9150 mm maximum
10. Tailpiece Construction  
S = Straight  
B = 90° Bend
11. Length (mm) of Tailpiece  
For "S" Straight Tailpiece  
75 mm minimum, 305 mm maximum  
For "B" 90° Bent Tailpiece  
100 mm minimum, 305 mm maximum for overall
12. Required for "B" 90° Bent Tailpiece Only  
**OMIT FOR "S" STRAIGHT TAILPIECE**  
Length (mm) of 90° Bent Tip (40 mm minimum)
13. Tailpiece Diameter  
600 = 6.00 mm  
635 = 6.35 mm (0.250")
14. Mounting - see Catalog 5001 or visit our website at [www.conaxtechnologies.com](http://www.conaxtechnologies.com).
15. Overall Leadwire Length (mm)  
6100 mm maximum
16. Length (mm) of Insulated Leadwire with Outer Jacket Removed  
75 mm minimum, 200 mm maximum
17. Sheath Length (mm)  
For "S" Straight Tip  
100 mm minimum, 305 mm maximum  
For "R" Reduced Tip (Summation of Reduced Tip Length & Non-Reduced Tip Length)  
100 mm minimum, 305 mm maximum overall  
For "B" 90° Bent Tip  
100 mm minimum, 305 mm maximum overall  
For "RB" reduced 90° Bent Tip  
100 mm minimum, 305 mm maximum overall
18. Special Requirements that are not defined in the description.

### Notes

1. All lengths to be expressed in millimeters.
2. If "R" Reduced Tip or "RB" Reduced 90° Bent Tip Configuration, 6.00 & 6.35 are the only allowable sheath diameters for the non-reduced section.
3. If "R" Reduced Tip Configuration, the non reduced sheath length shall be 13 mm minimum.

**Example: SCSA4-TT-316SS635(SS)2U-ARM  
(3048mm)-TAIL(S100mm/635)-LEAD  
(4600mm/100mm)-305mm**

## Sterimaster® Assembly Description for RTDs



- Model Number**  
4 = SL104
- Sensor Tolerance (2)**  
W = Class "B" ( $\pm 0.3^{\circ}\text{C}$  @  $0^{\circ}\text{C}$ )  
S = Class "A" ( $\pm 0.15^{\circ}\text{C}$  @  $0^{\circ}\text{C}$ )  
R = 1/10 class "B" ( $\pm 0.03^{\circ}\text{C}$  @  $0^{\circ}\text{C}$ )
- Sensor Lead Configuration**  
2 = 2-wire Single  
3 = 3-wire Single  
4 = 4-wire Single  
6 = 2-wire Dual  
7 = 3-wire Dual  $\geq 4.76 \text{ mm (0.187")}$  sensor sheath  
8 = 4-wire Dual  
10 = 2-wire Triple  $\geq 6.35 \text{ mm (0.250")}$  sensor sheath  
11 = 3-wire Triple  
12 = 4-wire Triple
- Sheath Diameter (3)**  
300 = 3.00 mm  
320 = 3.18 mm (0.125")  
476 = 4.76 mm (0.187")  
600 = 6.00 mm  
635 = 6.35 mm (0.250")
- Tip Configuration/Style**  
SS = Straight with Standard Tip  
SC = Straight with Chisel Point Tip  
SP = Straight with Pointed Tip  
RS = Reduced with Standard Tip  
RC = Reduced with Chisel Point Tip  
RP = Reduced with Pointed Tip  
BS = 90° Bend with Standard Tip  
BC = 90° Bend with Chisel Point Tip  
BP = 90° Bend with Pointed Tip  
RBS = Reduced 90° Bend with Standard Tip  
RBC = Reduced 90° Bend with Chisel Point Tip  
RBP = Reduced 90° Bend with Pointed Tip
- Required for "R" Reduced, "B" 90° Bent or "RB" Reduced 90° Bent Tips**  
**OMIT FOR STRAIGHT TIP**  
Length (mm) of "R" Reduced Tip (25 mm minimum) (4)  
Length (mm) of "B" 90° Bent Tip (40 mm minimum)  
Length (mm) of "RB" 90° Bent Non-Reduced Tip (15 mm minimum)
- Required for "RB" Reduced, 90° Bent Tip Only**  
**OMIT FOR "S" STRAIGHT, "R" REDUCED AND "B" 90° BENT TIPS**  
Length (mm) of "RB" Reduced Tip (25 mm minimum)
- Required for "R" Reduced or "RB" Reduced 90° Bent Tip Only**  
**OMIT FOR "S" STRAIGHT AND "B" 90° BENT TIP**  
Diameter of Reduced Tip  
320 = 3.18 mm (0.125")  
476 = 4.76 mm (0.187")
- Length (mm) of Flexible Armor Section**  
460 mm minimum, 9150 mm maximum
- Tailpiece Construction**  
S = Straight  
B = 90° Bend
- Length (mm) of Tailpiece**  
For "S" Straight Tailpiece  
75 mm minimum, 305 mm maximum  
For "B" 90° Bent Tailpiece  
100 mm minimum, 305 mm maximum for overall
- Required for "B" 90° Bent Tailpiece Only**  
**OMIT FOR "S" STRAIGHT TAILPIECE**  
Length (mm) of 90° Bent Tip (40 mm minimum)
- Tailpiece Diameter**  
600 = 6.00 mm  
635 = 6.35 mm (0.250")
- Mounting - see Catalog 5001C or visit our website at [www.conaxtechnologies.com](http://www.conaxtechnologies.com).**
- Overall Leadwire Length (mm)**  
6100 mm maximum
- Length (mm) of Insulated Leadwire with Outer Jacket Removed**  
75 mm minimum, 200 mm maximum
- Sheath Length (mm)**  
For "S" Straight Tip  
100 mm minimum, 305 mm maximum  
For "R" Reduced Tip (Summation of Reduced Tip Length & Non-Reduced Tip Length)  
100 mm minimum, 305 mm maximum overall  
For "B" 90° Bent Tip  
100 mm minimum, 305 mm maximum overall  
For "RB" Reduced 90° Bent Tip  
100 mm minimum, 305 mm maximum overall
- Special Requirements that are not defined in the description.**

**Example: SCSA-RTD43W3-316SS635(SS)-ARM (3048mm)-TAIL(S100mm/635)-LEAD (4600mm/100mm)-305mm**

### Notes

- All lengths to be expressed in millimeters.
- RTD types "S" and "R" are recommended with 4-lead configuration only.
- If "R" Reduced Tip or "RB" Reduced 90° Bent Tip Configuration, 6.00 & 6.35 are the only allowable sheath diameters for the non-reduced section.
- If "R" Reduced Tip Configuration, the non-reduced sheath length shall be 13 mm minimum.

# Conax has the ideas and solutions to help you succeed

Conax Technologies is a leader in the design and manufacture of temperature sensors and compression seal fittings for a broad range of industries and applications worldwide.

For over 60 years, our customers have relied on our experience and technical expertise to provide both standard products and one-of-a-kind solutions. We've earned their trust because Conax customers know that when they pick up the phone, our experienced engineers will be on the other end of the line ready to roll up their sleeves and find the best solution.

We know that innovative ideas come from collaboration. By taking the time to understand your unique challenges, we develop the ideal solutions that help you—and your customers—succeed.

Our commitment to providing quality, innovative products on time and at a competitive cost continue to make us an indispensable partner for every customer we serve.

**For more information, visit [www.conaxtechnologies.com](http://www.conaxtechnologies.com).**

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