

PALMER

Designed and Built in Asheville,
North Carolina - USA

Sanitary Bimetal Thermometers

Models 3BES • 5BES Back Connected Case

Models 3AES • 5AES All Angle Case

Palmer's Sanitary Bimetal Thermometers are specifically designed for all sterile processing environments. Choice of 12 temperature ranges in Fahrenheit or Celsius ensures just the right thermometer for your sanitary processing or storage applications. Our experience in the field enables us to offer a line of sanitary thermometers with the design, quality and craftsmanship that make them an industry standard for rugged reliability and consistent accuracy.

Installed Directly into Process: No thermowell needed. Palmer Sanitary Bimetal Thermometers utilize standard Tri-Clamp® sanitary fittings for faster installation and speed of response with reduced installation costs.

Complies with 3A Sanitary Standard: All product contact surfaces and radius's comply with this industry wide standard.

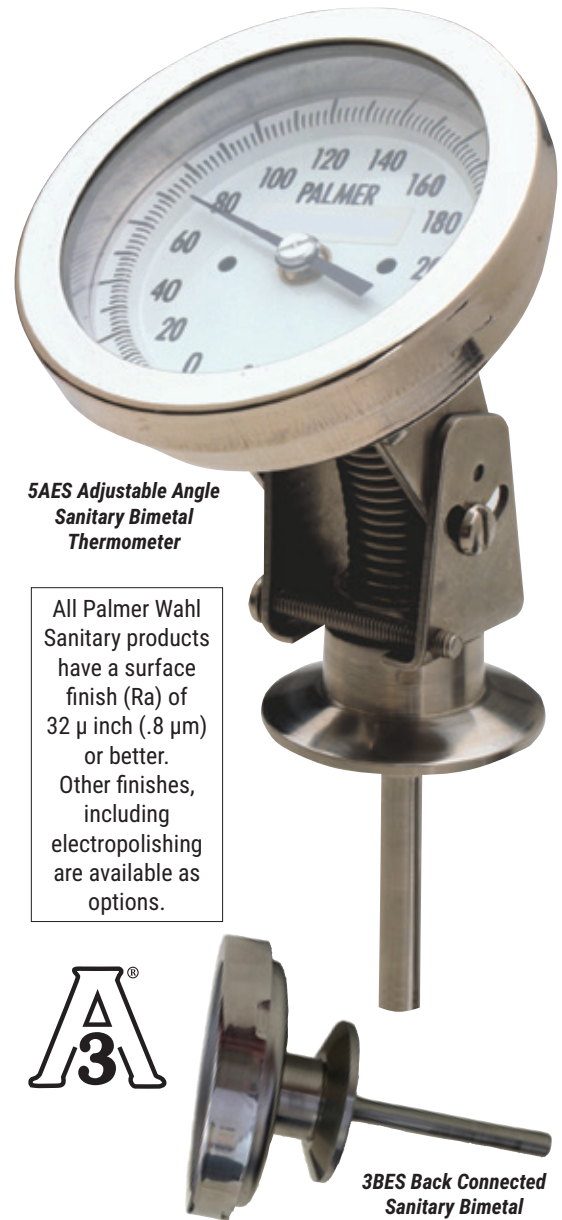
Accurate: Consistent accuracy is achieved within one scale division. Ambient temperature changes in the thermometer's case location will not affect accuracy.

Environmentally Conscious: Bimetal sensor eliminates any concern over mercury or glass tubes.

Simple, Convenient Recalibration: An adjustable pointer provides easy, precise recalibration. This feature also permits setting for zero calibration error at any desired temperature point within scale range.

Easy-to-Read Dials in 3" or 5" Diameter: Deep-drawn metal dial with aligned pointer provides an anti-parallax design, creating significantly improved legibility and reduced reading errors. Low glare dial background surface printed with high-contrast numerals and graduations.

Hermetically Sealed Case and Plexiglass Lens: Internal elements are secured in the stainless steel case by means of a quick-lock, cam-action bezel ring. A heavy-duty, heat-resistant gasket seals out moisture, preventing icing and condensation, even in wash-down areas.



5AES Adjustable Angle
Sanitary Bimetal
Thermometer

All Palmer Wahl Sanitary products have a surface finish (Ra) of 32 μ inch (.8 μ m) or better. Other finishes, including electropolishing are available as options.



3BES Back Connected
Sanitary Bimetal
Thermometer

Models 3BES • 5BES • 3AES • 5AES Series Specifications

All Angle:	3AES and 5AES - All Angle Connected Case
Fixed Back Connected:	3BES and 5BES - Fixed Center Back Connected Case
Case:	Polished-Type 304 Stainless Steel case and bezel in 3" (3-5/16 inch, 84 mm actual) or 5" (5-1/16 inch, 129 mm actual) Size. Hermetically sealed cases.
Element:	Single helix bimetallic coil sensing element (with silicone gel coated coil for ranges below 500°F), located in bottom 2-1/2 inches of thermometer stem.
Dial Face:	Black graduations and numerals on white background. Anti-parallax dial design linear scale with high-visibility tapered-tip black pointer.
Lens:	Shatter-resistant Plexiglass. Optional Shatterproof Safety Glass.
Fitting:	One Piece Solid Bar stock, 3-A Sanitary Fitting, 304 Stainless Steel. Tri-Clamp® sizes: 1-1/2", 2", or 3".
Stem:	5/16" (7.94mm) Diameter Polished-Type 304 Stainless Steel. All welded. Optional 316 Stainless Steel Tri-Clamp, Fitting and Stem.
Stem Lengths:	Standard length: 2.5 inches (63.5 mm), 4.5 inches (114.3 mm), 6 inches (152 mm) and 9 inches (229 mm). Same immersion as sanitary thermowell.
Recalibration:	Adjustable pointer.
Over-Range:	Protected design allows temporary swings of up to 50% of range without permanent damage to thermometer.
Accuracy:	ASME B-40.3 Grade A, \pm 1% of Full Scale. Ambient temperature changes at the case will not affect accuracy.

Applications

- Pharmaceutical
- Bio-Technologies
- Aseptic Beverage Processing
- Dairy Product Lines & Storage Tanks
- Aseptic Food Processing & Storage Tanks
- Cosmetics



Specifications subject to change without notice.

Tri-Clamp is a registered trademark of the Alfa Laval Company.

September
2022

Palmer Wahl Instruments, Inc. • Toll Free: 800-421-2853 • Phone: 828-658-3131 • www.palmerwahl.com

Palmer / Wahl
BEYOND THE SCALE

Sanitary Bimetals Models 3BES • 5BES • 3AES • 5AES Ordering Guide

Models 3BES • 5BES • 3AES • 5AES Series Sanitary Bimetal Thermometers	
Step 1 - Select: Bimetal Size and Case Style	
Code	Bimetal Size and Case Style
3BES	3" Fixed Center Back Connected Sanitary Bimetal Thermometer
5BES	5" Fixed Center Back Connected Sanitary Bimetal Thermometer
3AES	3" All Angle Connected Sanitary Bimetal Thermometer
5AES	5" All Angle Connected Sanitary Bimetal Thermometer

Step 2 - Select: Tri-Clamp® Size	
Code	Length
1.5	1.5 inches (38.1 mm)
2.0	2 inches (50.8 mm)
3.0	3 inches (76.2 mm)

Step 3 - Select: Stem Length	
Code	Length
2.5	2.5 inches (63.5 mm)
4.5	4.5 inches (114.3 mm)
6	6 inches (152 mm)
9	9 inches (229 mm)

Step 4 - Select: Temperature Range					
Code	°F Range	° Div	Code	°C Range	° Div
-40/120F	-40° to 120°	1°	-50/100C	-50° to 100°	1°
0/200F	0° to 200°	2°	-20/120C	-20° to 120°	1°
0/250F	0° to 250°	2°	0/50C	0° to 50° *	0.5°
25/125F	25° to 125° *	1°	0/100C	0° to 100°	1°
50/300F	50° to 300°	2°	0/150C	0° to 150°	1°
50/400F	50° to 400°	5°	0/200C	0° to 200°	2°

* 4.5" Stem only

Step 4 - Select: Options	
Code	Options
(GF)	Glycerin Filled
(MX)	316 Stainless Steel Tri-Clamp, Fitting and Stem
(PC)	Plastic Crystal
(SPG)	Shatterproof Safety Glass

Sanitary Bimetal	Tri-Clamp® Size	Stem Length	Temperature Range	Options
Insert Codes in boxes above to build part number				

Model # Example:
3AES2.02.0-50/100C(GF): 3 inch (76.2 mm) Sanitary Bimetal Thermometer, All Angle Connected Case, 2 inch (50.8 mm) Tri-clamp, 2.5 inches (63.5 mm) Stem Length, -50° to 100° Celsius temperature range, Glycerin Filled



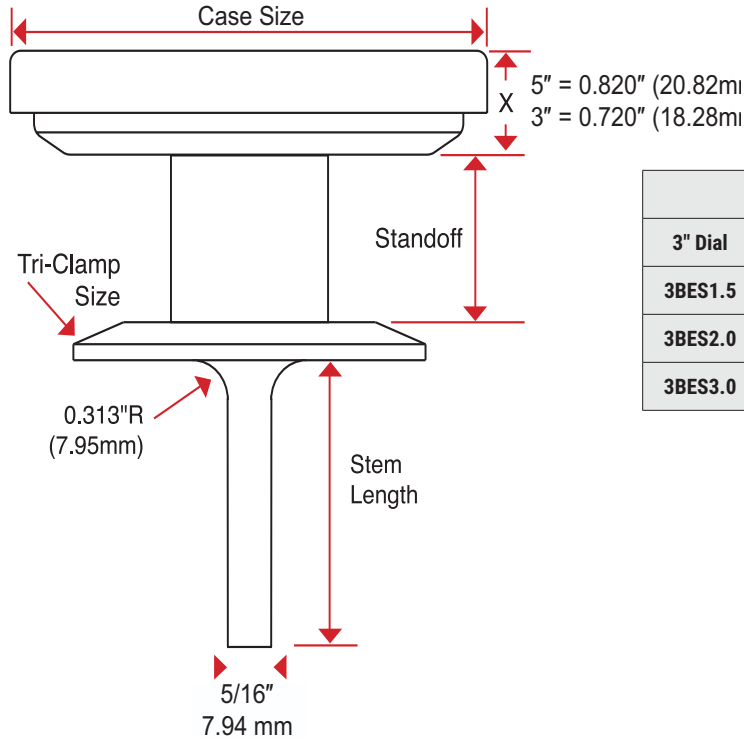
We build to order:
 if your process requires an option not shown here please call Customer Service.

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Sanitary Bimetals Models 3BES • 5BES • 3AES • 5AES Dimensional Drawings

Fixed Center Back Connected Sanitary Bimetal

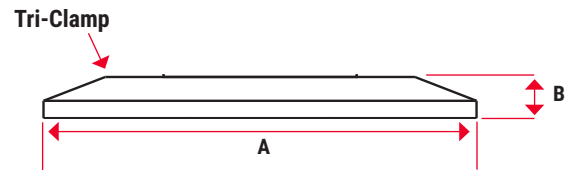
3" Dial - Model 3BES, 5" Dial - Model 5BES



Case Sizes:

3" Case - 3-5/16" 84 mm
5" Case - 5-1/16" 129 mm

Back Connected Case Standoff Dimensions					
3" Dial	Standoff		5" Dial	Standoff	
3BES1.5	0.5 in	12.7 mm	5BES1.5	0.5 in	12.7 mm
3BES2.0	0.875 in	22.22 mm	5BES2.0	0.875 in	22.22 mm
3BES3.0	0.875 in	22.22 mm	5BES3.0	0.875 in	22.22 mm

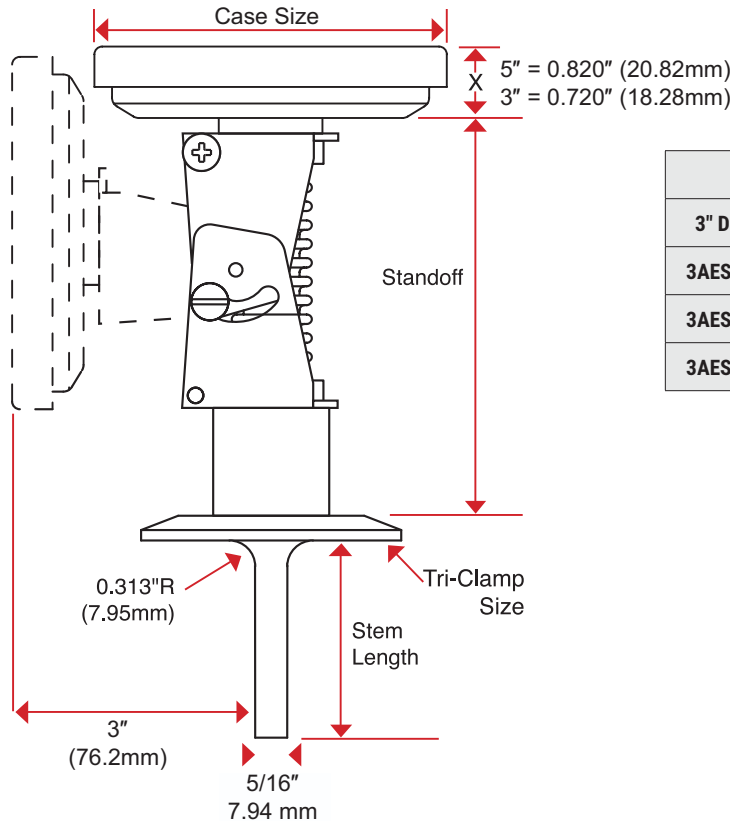


How to Measure Tri-Clamp Size		
Size*	Dimension A	Dimension B
1.5"	1.984 inches	0.250 inches
2.0"	2.516 inches	0.250 inches
3.0"	3.579 inches	0.250 inches

*Tube OD.
For a detailed drawing please call Customer Service.

All Angle Connected Sanitary Bimetal

3" Dial - Model 3AES, 5" Dial - Model 5AES



All Angle Case Standoff Dimensions					
3" Dial	Standoff		5" Dial	Standoff	
3AES1.5	2.875 in	73.02 mm	5AES1.5	2.875 in	73.02 mm
3AES2.0	3.438 in	87.32 mm	5AES2.0	3.438 in	87.32 mm
3AES3.0	3.0 in	76.2 mm	5AES3.0	3.0 in	76.2 mm

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