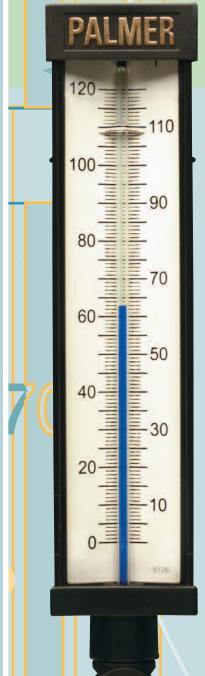


INDUSTRIAL THERMOMETERS

Sky Blue Fill
Economy Line
New! Solar Digital
Classic Line
Prover Tank
Narrow Case
Wide Case







PALMER Wah

www.palmerwahl.com 1-800-421-2853

Economy Industrials

Model 9AL • 9FL • 9ALSB • 9FLSB Economy Industrial Thermometers



"SKY BLUE" Fill (SB) Environmentally Safe Models are filled with a mercury-free Blue Liquid. SB Models are available in 9" Cases, with either 3-1/2" or 6" Stem Lengths, Ranges up to 300°F. Mercury filled models are still available.

All Angle Adjustment: (pictured at right) Just two screws permit cases to be rotated 180° and stems to be positioned in 10° increments. Users can "infinitely" adjust Economy Line Industrial Thermometers to virtually any viewing angle required.

Easy Readability: Standard Lens front glass tube is "Red Reading" Mercury-Filled or Sky Blue Fill. Compact, yet visible 9" (229mm) Plastic or Aluminum, or 12" (305mm) Aluminum (only) cases, fitted with a "V" shaped white aluminum scale graduated with bold black lines and numerals.

Accuracy: Economy Line Industrial Thermometers are calibrated against standards traceable to the National Institute of Standards and Technology (NIST) and are guaranteed accurate to ±1 scale division.



Construction: User selection of either tough, black-finished molded high temperature Plastic Case (9FL Models) or extruded, black-finished Aluminum Case (9AL or 12AL Models). Glass crystal, machined Brass Swivel Nut, and cast aluminum stem and seat are standard on all 3-1/2" stems.

Connection Assembly: Tapered Bulb Chamber allows maximum metal-to-metal contact with matching tapered thermowell for fast response and increased accuracy. Brass Swivel Nut is industry standard 1-1/4"-18 UNEF thread.

Range and Stem Length Selection: Full selection of Fahrenheit or Dual F & C Range scales available from -40 to 400°F (-40 to 204°C). Stock stem lengths are 3.5"(89 mm), 6"(152 mm), 8"(203 mm), 9"(229 mm) and 12"(305 mm).

Air Duct Construction: Air Duct Models feature a super-sensitive bare bulb protected by a 3/4" diameter perforated aluminum bulb guard. This design allows exposure to circulating air while still protecting the glass tube from any impact.

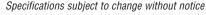
Environmentally Safe, Sky Blue Fill, Industrial Thermometer

9AL, 9FL Standard Range Codes						
°F Code	°F Div	Dual, °F & °C Code	°F/°C Div			
-40/110F	2°	-40/110F&C	2°F/2°C			
0/120F	1°	0/120F&C	1°F/0.5°C			
0/160F	2°	0/160F&C	2°F/0.5°C			
20/180F	2°	20/180F&C	2°F/1°C			
30/240F	2°	30/240F&C	2°F/1°C			
30/300F	2°	30/300F&C	2°F/1°C			
50/400F*	5°	50/400F&C*	5°F/2°C			
100/550F	NA	100/550F&C	NA			

* AL only, and not available in "Sky Blue" Fill

9AL, 9FL Base Model Numbers										
			Aluminum Case (AL)				Plastic Case (FL)			
		Mercu	Mercury Fill Sky Blue Fill (SB)			Mercu	ıry Fill	Sky Blue Fill (SB)		
Case	Size	9" Scale*				9" Scale				
Bulb	Туре	Tapered	Air Duct (AD)	Tapered	Air Duct (AD)	Tapered Air Duct (AD) Tapered Air Duct (A			Air Duct (AD)	
	3.5" (89mm)	9AL3.5	NA	9ALSB3.5	NA	9FL3.5	NA	9FLSB3.5	NA	
	6" (152mm)	9AL6	9ALAD6	9ALSB6	9ALADSB6	9FL6	9FLAD6	9FLSB6	9FLADSB6	
Stem Length	8" (203mm)	9AL8	NA	9ALSB8	NA	9FL8	NA	9FLSB8	NA	
g	9" (229mm	9AL9	NA	9ALSB9	NA	9FL9	NA	9FLSB9	NA	
	12" (305mm)	9AL12	9ALAD12	9ALSB12	9ALADSB12	9FL12	9FLAD12	9FLSB12	9FLADSB12	

* Optional 12" Case available, Aluminum only.



Model 9AL • 9FL • 9ALSB • 9FLSB

Economy

→ 1.25 in

Specifications

Case Length: 9" (220mm) Plastic or Aluminum Case, optional 12" (305mm) Aluminum.

Case Material: Painted Aluminum (AL) or

Molded Plastic (FL).

Case Style: All Angle Adjustable.

Crystal: Glass Crystal Standard.

Scale: High visibility V-shaped painted white aluminum scale, black markings.

Glass Tube: Mercury Fill: Red Reading Lens glass, individually calibrated, thoroughly annealed and aged for permanent accuracy.

Sky Blue Fill: Magnified Lens; highly vi

Fill: "Red-Reading" Mercury Fill, or SI Blue Fill (SB Models)

Accuracy: Accurate to ±1 scale divisio

Fitting: 1-1/4"-18 UNEF machined Bras

Swivel Nut.

Stem Material: Standard Cast Alumini

Stem and Seat.

Bulb: Choice of Tapered Bulb Chamber

perforated Air Duct design.

Calibration: Calibrated to NIST tracea

standards.

Ordering Information				
9AL, 9FL Option Codes				
Code Option Description				
12	12" (305 mm) Case Substitute "12" in place of "9" inch Scale in Base Model No. Table			
(B)	Brass Stem and Seat			
(PC)	Plastic Crystal			
Discontinued	Red Spirit Fill (300°F/150°C limit)			
(\$)	Stainless Steel Stem/Seat material			
58	Adjustable, Tilting Air Duct Flange Order Part No. " 58 " as a separate item			
1140-9 or 1140-9	Flanged Union Connection Order Part No. 1140-9 or 1141-9			

Standard three holes drilled in flange; 9/32" (7.1 mm) diameter equally spaced on 2-5/16" (57.7 mm) diameter bolt circle.

Specify either: Model 1140-9: 0.75" (19.1 mm) Flanged Union Connection, or Model 1141-9: 2.5" (63 mm) Extended Neck Flanged Union.

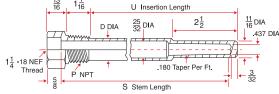
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 um _{10.41in} 		8.81in 10.25	in
er or			
ble		0.5 in	
Se	et	Ť <u></u>	
*	-	-Lock Screw	
1.69 in		Swivel Nut Seating Disk	
Dimensions for 9" Case		0.63 in D	
Models Taper	red →	stem length	ONE YEAR WARRANTY
Тарог	■	0.44 in Dia.	TRACEABLE TO

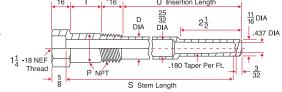
← 2.5 in →

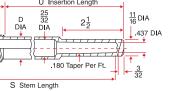
Part Number Example						
Base Model No.	Temp. Range	Option Code				
9FLAD	6	30/240F&C	(S)			
9" Case, Plastic Case Air Duct Mercury Fill	6" Stem	30/240°F & 0/114°C Dual Scale Range	Stainless Steel Stem and Seat			

Economy Thermowells with 3/4"-14 NPT External Thread for Industrial Thermometers								
	Regul	ar Series Ther	mowells	Lagging Extension Thermowells			ls	
Well Material	Stem Length "S"	Insertion Length "U"	Model Number	Stem Length "S"	Insertion Length "U"	Lagging Extension "T"	Model Number	
Cast Brass	3.5"	2.5"	1140-203-01A	3.5"	1.75"	1"	1141-203-01A	
Cast Brass	6"	5"	1140-206-01A	6"	2.5"	2.5"	1141-206-01A	
Mach. Brass	8"	7"	1140-208-01	8"	4"	3"	1141-208-01	
Mach. Brass	9"	8"	1140-209-01	9"	5"	3"	1141-209-01	
Mach. Brass	12"	11"	1140-212-01	12"	8"	3"	1141-212-01	

For a full listing of Industrial Thermometer Thermowells & Union Connections, please request catalog No. PW1100.







Air Duct Stem Model with bare bulb

"P" = 3/4"-14 NPT External Thread

Specifications subject to change without notice



Solar Digital Thermometers

305°



Made in USA

Model PST500 • PST550 Solar Digital Industrial Thermometers

PST500 Solar Digital Thermometer **PST550** Solar Digital Thermometer with Transmitter

NEW! Palmer PST Solar Digital Industrial Thermometers are environmentally friendly, mercury-free thermometers, *which can even be powered by a flashlight!* Palmer Thermometers set industry standards for accuracy, quality, and rugged operation. They offer 1% accuracy and are designed and constructed for long-term service.

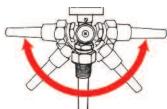
Direct Replacement for Industrial Glass and Bimetal Thermometers.

Transmitter: Single unit allows for local reading and remote transmitting. Dual sensors offer convenient and reliable independent operation for a variety of applications.

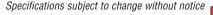
All Angle Adjustment: Just one screw permits cases to be rotated 180° and stem to be positioned in 10° increments. Users can "infinitely" adjust thermometers to virtually any viewing angle required.

Easy Readability: Large digital display can be seen from a distance.

Self Powered: No need for batteries.

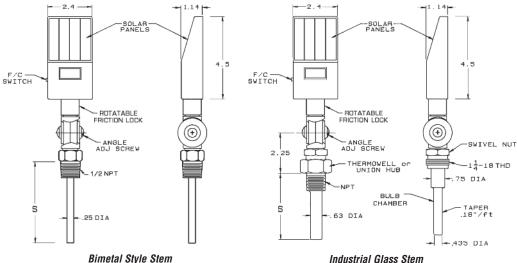


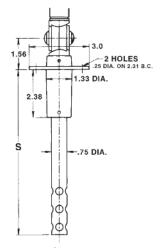
Specifications						
	PST500	PST550				
	Solar Powered Dig	ital Thermometer				
Output	NA	4-20mA Transmitter				
Case	Hi-Impact ABS Case, A	All Angle Adjustable				
Range	-50° to 300°F (-45° to 15	50°C) F & C Switchable				
Display	1/2" LCD digits, wide	e ambient formula				
Accuracy	1% of reading or 1°, v	whichever is greater				
Resolution	1/10° between -19.9° to	199.9°F (-28° to 93°C)				
Recalibration	Through case potenti	ometer adjustment				
Lux Rating	10 Lux (one foot candle)					
Update	10 seconds					
Ambient Temperature	-30° to 140°F (-35° to 60°C)					
Ambient Temp Error	Zer	0				
Humidity	100	%				
Sensor	Glass passivated Thermistor - NTC	Thermistor based - NTC				
Fitting	1-1/4"-18 UNEF Machir	ned Brass Swivel Nut				
Stem Material	Standard Cast Alumir	num Stem and Seat				
Stem Assemblies	Bimetalic, Industri	al, Air Duct type				
	Transmitter					
Range	NA	-58° to 302°F (-50° to 150°C)				
Output	NA	4-20 mA				
Ambient Operating Temp	NA	-15° to 185°F (-25° to 85°C)				
Ambient Error	NA	0.01% Span (°C)				
Supply	NA 8 to 35 VDC					
Max Load Resistance	NA 775W with 24VDC Suppl					
Accuracy	NA	0.1% of Span				
Sensor	NA	Platinum 100ΩRTD				



Solar Digital Thermometers

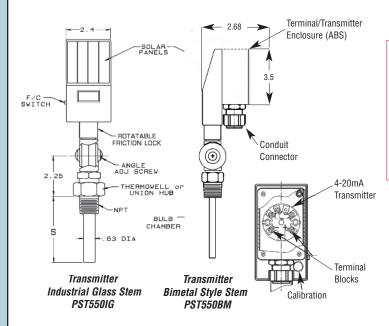
Model PST500 • PST550 Solar Industrial Digital Thermometers



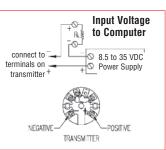


Industrial Glass Stem Assembly PST500IG

Air Duct Stem Assembly PST500AD and PST550AD



Assembly PST500BM



For RL = 250Ω					
V VOLT	I mA	°F	°C		
1	4	-58	-50		
5	20	+302	+150		

Compatible with most building automation systems with 4-20mA input









Ordering Information							
	5	Solar Thermomete	r	Solar Thermometer with Transmitter			
Stem Length	Bimetal Style	Industrial Glass	Air Duct	Bimetal Style	Industrial Glass	Air Duct	
2.5"	PST500BM025 ¹	NA	NA	PST550BM025	NA	NA	
3.5"	NA	PST500IG035 ²	NA	NA	PST550IG035	NA	
4"	PST500BM040 ¹	NA	NA	PST550BM040	NA	NA	
6"	PST500BM060 ¹	PST500IG060 ²	PST500AD060	PST550BM060	PST550IG060	PST550AD060	
9"	NA	NA	PST500AD090	NA	NA	PST550AD090	
12"	NA	NA	PST500AD120	NA	NA	PST550AD120	

Bimetal Style: Fully interchangeable with Bimetallic Dial Thermometers Industrial Glass: Fully interchangeable with Industrial Glass Thermometers

Specifications subject to change without notice



¹ Sockets available. ² without Socket

Classic Industrials

Model 200 Series • 300 Series

Classic Industrials

Mercury Thermometers are the most reliable thermometers in the world. Palmer Industrial Thermometers set industry standards for accuracy, quality, and rugged operation. With looks to match their performance, these classic thermometers are designed and constructed for long-term industrial process service. For some applications requiring maximum response time using a union instead of a thermowell, specify one piece stem and bulb.

Specifications

Case Length: 300 Series - 9" (220mm) Case, or 200 Series - 12" (305mm) Case.

Case Material: Extruded "V" shaped brass with chrome finish.

Case Styles: Straight, 90° Back Angle, Left Side, Right Side, Incline, or Recline Angle. Please contact the factory for custom models and special needs.

Crystal: Instrument Quality Glass, Plastic optional.

Scale: 300 Series: Numerals and graduations are printed on a painted metal scale, Engraved Scale for Optional ranges. 200 Series: Scales are individually engraved for each glass tube. Optional Dual Scales

Glass Tube: "Red-Reading" Lens glass, individually calibrated, thoroughly annealed and aged for permanent accuracy.

Fill: "Red-Reading" Mercury Fill Standard, Red Spirit Fill optional (up to 300°F/150°C only).

Accuracy: ±1/2 scale division, ±1 scale division if Red Spirit Filled. Special calibration from customer supplied set points available.

Calibration: Calibrated to NIST traceable standards.

Fitting: 1-1/4"-18 UNEF machined Brass Swivel Nut connection is standard. Stainless Steel optional.

Bulb: Tapered design for maximum contact and heat transfer from Thermowell. Stem and Bulb are Stainless Steel.

Wells & Fittings: Palmer Industrial Thermowells are listed in Palmer Catalog PW1100.







220

200

180

160

140

120

210

190

170

150

130

110

Thermometer

200 / 300 Series Base Model Numbers					
200 Series 12" Scale Code	300 Series 9" Scale Code	Case Style			
209	309	Straight			
229	329	90° Back Angle			
268R	368R	Right Side Angle**			
268L	368L	Left Side Angle**			
249-30I ¹	249-30I1	30° Incline Angle			
249-451	349-451	45° Incline Angle			
249-30R ¹	249-30R1	30° Recline Angle			
249-45R	349-45R	45° Recline Angle			
249-75R	349-75R	75° Recline Angle			
249-105R	349-105R	105° Recline Angle			

^{**} Illustration to show example of the position of stem to case. See table above for model numbers. 1 Discontinued



Left Side Angle



Right Side Angle

200 / 300 Series Standard Range Codes						
°F Code	9" Case Div	12" Case Div*	°C Code	9" Case Div	12" Case Div*	
0/100F	1°	0.5°	-18/40C	1°	0.5°	
0/100F&R	1°	0.5°	0/80C	1°	0.5°	
30/180F	2°	1°	0/115C	1°	1°	
30/240F	2°	2°	0/150C	2°	1°	
170/270F	1°*	1°	10/205C	2°	2°	
170/270F&P	1°*	1°				
30/300F	2°	2°				
50/400F	5°	2°				
200/300F	1°*	1°				
200/400F	2°	2°				

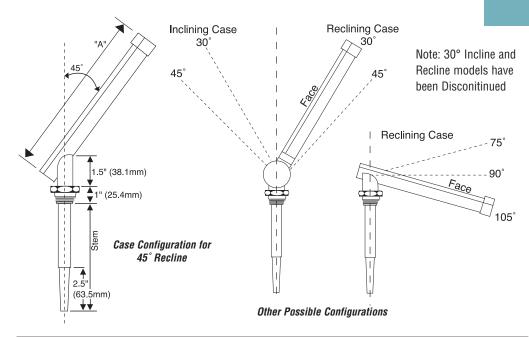
200 / 300 Series Optional Range Codes*						
°F Code	9" Case Div	12" Case Div	°C Code	9" Case Div	12" Case Div	
-40/110F	2°	1°	-40/45C	1°	0.5°	
-30/130F	2°	1°	40/265C	2°	2°	
0/160F	2°	1°	95/405C	NA	NA	
180/360F	2°	2°				
180/360F&P	2°	1°				
250/400F	2°	2°				
100/550F	NA	NA				
150/600F	NA	NA				
200/750F	NA	NA				

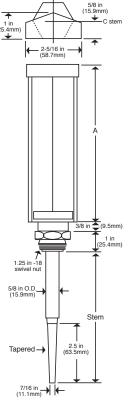
^{*} Engraved Scale

Specifications subject to change without notice

Model 200 Series • 300 Series

Classic **Industrials**





Straight Case Configuration

110

Ordering Information

To select a thermometer, please specify the following:

- 1) Base Model Code for Case Size and Case Style from table pg 6
- 2) Stem Length Code from table below
- 3) Range Code from tables pg 6
- 4) Specify Option Codes from table at right

200 / 300 Series Stem Length Codes				
Code Length (mm)				
3.5	3.5" (89mm)			
6	6 6" (152.4mm)			
8	8" (203mm)			
12 12" (305mm)				

200 / 300 Series Uption Codes					
Code Option Description					
(DH)	Case Drain Holes				
(DS)	Dual Scale				
(ES)	Special Engraved Scale (Std on 200, 12")				
(OPS)	One-Piece Stem/Bulb				
(PC)	Plastic Crystal				
(RS)	Red Spirit Fill (up to 300°F)				
(SN)	304 SS Swivel Nut				

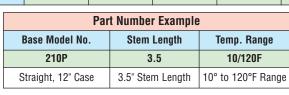
Part Number Example					
Base Model No.	Stem Length	Temp. Range	Option Code		
329	3.5	30/240F	(RS)		
90° Back Angle, 9" Case	3.5" Stem Length	30° to 240°F Range	Red Spirit Fill		

Prover Tank Industrial Thermometers

Prover Tank 12" Base Model Numbers							
Stem Length	Straight 90° Left Side Right Side 30° Incline 30° Ro Back Angle Mount Mount Mount Mo						
3.5"	210P3.5	210PBA3.5	210PLS3.5	210PRS3.5	210PI3.51	210PR3.51	
6"	210P6	210PBA6	210PLS6	210PRS6	210PI61	210PR61	
8"	210P8	210PBA8	210PLS8	210PRS8	210PI81	210PR81	
12"	210P12	210PBA12	210PLS12	210PRS12	210PI121	210PR121	

np. Range
10/120F

- Range: 10° to 120°F (1/2° divisions) Add Range Code 10/120F to Base Model Number to complete a Prover Tank Model number
- Over-range reservoir to 150°F
- · Nickel Plated Scale to resist gasoline vapors
- 12" Brass Case/Chrome Finish
- "Red-Reading" Mercury Fill NOTE: Longer Stem Lengths available on request.



Specifications subject to change without notice

¹Discontinued



All Angle Wide or **Narrow Case**

120

100

80

NIST

Model 3AA

Wide Case

220

200

180

160

120-

190

170

150

130

110

90

Model 7AA

All Angle

Narrow Case

10° incre

All Angle

Model 3AA • 2AA • 7AA • All Angle **Wide or Narrow Case Thermometers**

All Angle, Wide Case Models 3AA and 2AA are a versatile solution to many problems encountered in ordering, stocking, and replacing Industrial Thermometers. 2-1/4" wide in either 9" or 12" case. All Angle Adjustment feature allows one thermometer to be "infinitely" adjusted to virtually any installation and viewing angle, greatly simplifying engineering and purchasing operations. Red Reading, Mercury-Filled tubes for high visibility and accuracy. Red Spirit Fill also available.

All Angle, Narrow Case Model 7AA offers quality and economy together in a space saving thermometer. Only 1-11/32" wide with a 6-1/2" case, this thermometer also includes a Brass thermowell. Features All Angle Adjustment.

Specifications

Case Length: 3AA: 9" (229mm); 2AA: 12" (305mm). 7AA: 6-1/2" (165.1 mm).

Case Width: 3AA, 2AA: 2.25" (57mm) Case.

7AA: 1-11/32" (34 mm) Case.

Case Material: 3AA, 2AA: Aluminum.

7AA: Blue Painted Aluminum.

Case Style: All Angle Adjustable. Crystal: 3AA, 2AA: Instrument Glass.

7AA: Plastic Crystal and Cover.

Scale: Black numerals and graduations on aluminum scale. Engraved scale standard on 12".

Glass Tube: 3AA, 2AA: "Red-Reading" Lens glass, individually calibrated, thoroughly annealed and aged for permanent accuracy. 7AA: Magnified Lens; compact, yet visible.

Fill: 3AA. 2AA: "Red-Reading" Mercury Fill Standard, Red Spirit optional. 7AA: Sky Blue Fill.

Accuracy: 3AA, 2AA: ±1/2 scale division, ±1 scale division if Red Spirit Filled. 7AA: 1% of Full Scale.

Calibration: 3AA, 2AA: Calibrated to NIST traceable standards.

Fitting: 3AA, 2AA: 1-1/4" -18 UNEF Brass Swivel Nut, Stainless Steel optional. 7AA: Blue Painted Aluminum Knuckle.

Bulb: 3AA, 2AA: Stainless Steel, tapered, 0.437" (11mm). 7AA: Aluminum, Straight Shank, 3/8" Diameter.

Thermowell: 3AA, 2AA: See Palmer Thermowell Catalog PW1100. 7AA: 1/2" NPT Brass Thermowell with 0.531" diameter included.

Ordering Information

Please specify the following:

- 1) Base Model Number
- 2) Stem Length Code
- 3) Range Code
- 4) Options Code (not 7AA)

Note: The 7AA replaces the 6AA and 6000 Series which have been discontinued. For further information, and a detailed drawing comparing both models, please contact our Sales office. I

Stem Length Codes						
7AA	7AA 3AA / 2AA Length (mm)					
2.25	NA	2.25" (57.2mm)				
NA	3.5	3.5" (89mm)				
NA	6	6" (152.4mm)				
NA	8	8" (203mm)				
NA	12	12" (305mm)				

3AA / 2AA Option Codes				
Code	Option Description			
(DH)	Drain Holes			
(DS)	Dual Scale			
(ES)	Engraved Scale			
(OPS)	One Piece Stem/Bulb			
(PC)	Plastic Crystal			
(RS)	Red Spirit Fill			
(SN)	304SS Swivel Nut			

All Angle Adjustment: Just two
screws permit cases to be rotated
180° and stems to be positioned in
10° increments. Users can "infinitely"
adjust Wide Case Industrial
Thermometers to virtually any
viewing angle required.

7AA / 3AA / 2AA STANDARD RANGE CODES							
°F Range Code	7" Div	9" Div	12" Div*	Dual Range Code	7" Div	9" Div	12" Div*
-40/110F	NA	2°	1°	-40/110F&C	NA	2°F / 2°C	1°F / 1°C
0/120F	NA	1°	1°	0/120F&C	NA	1°F / 0.5°C	1°F / 0.2°C
0/160F	2°	2°	1°	0/160F&C	2°	2°F/ 0.5°C	1°F / 0.2°C
20/180F	NA	2°	1°	20/180F&C	NA	2°F / 1°C	1°F / 0.5°
30/240F	2°	2°	1°	30/240F&C	2°	2°F / 1°C	1°F / 0.5°C
30/300F	NA	2°	2°	30/300F&C	NA	2°F / 1°C	2°F / 1°C
50/400F*	NA	5°	5°	50/400F&C*	NA	5°F / 2°C	5°F / 2°C
50/400F*	NA	5°	5°	50/400F&C*	NA	5°F / 2°C	5°F / 2°C

* Mercury Fill only.



ISO9001:2008 CERTIFIED

Specifications subject to change without notice