

THERMAL ISOLATION BOTTLE™ (TIB)

Reotemp's Thermal Isolation Bottles (TIB) are used to monitor the temperature of ultra low freezers, refrigerators, incubators, walk-in freezers, and other critical applications. The isolation bottles are filled with glass beads, glycol, or are filled by the customer with matching media. Then, a RTD sensor is inserted into the bottles. By submerging the temperature sensor, the Thermal Isolation Bottle ensures the temperature readings will not be thrown off when the door is opened and ambient air rushes in. The result is a highly accurate and stable temperature reading that mimics the temperature of the critical medium being monitored.



Made in USA

FEATURES / BENEFITS

- High Accuracy RTD's with Matched Pair Accuracy ($\pm 0.20\%$ of span or 0.1°C , whichever is greater. (Optional))
- High Accuracy 4-20mA 2-Wire Transmitter Output
- NEMA-4X Washdown Rated Polycarbonate Enclosure
- Digital Display (optional)
- Metal Mounting Bracket for Stability



8.5oz. bottle with 1 Port;
Blind enclosure

8.5oz. bottle with 1 Port;
Digital Display



2oz. bottle with 1 Port



2oz. Stainless Steel
Bottle with 1 Port
(Applications $> 120^{\circ}\text{C}$)

THERMAL ISOLATION BOTTLE™ (TIB)

BUILD YOUR THERMAL ISOLATION BOTTLE: Choose options to build a part number. For example: TIB38NGSPA60-TX-6-MP

TIB	38GS	PA	60	-TX
SERIES	# OF PORTS/ BOTTLE SIZE/FILL	RTD	LEADWIRE LENGTH	TERMINATION
TIB = Thermal Isolation Bottle	<i>Nalgene Bottles (Standard)</i> 38NGS = 3 Port/8.5oz/Glass Beads 38NGY = 3 Port/8.5oz/Glycol 38NEM = 3 Port/8.5oz/Empty 18NGS = 1 Port/8.5oz/Glass Beads 18NGY = 1 Port/8.5oz/Glycol 18NEM = 1 Port/8.5oz/Empty 12NGS = 1 Port/2oz/Glass Beads 12NGY = 1 Port/2oz/Glycol 12NEM = 1 Port/2oz/Empty <i>Stainless Steel Bottle</i> 12SGS = 1Port/2oz/Glass Beads 12SEM = 1 Port/2oz/Empty	PA = Single 100Ω Class A RTD (0.06%) Pt/385/A PH = Single 1,000Ω Class A RTD (0.06%) Pt/385/A	?? = Leadwire Length in Inches	-TX = Blind Enclosure with 4-20mA Transmitter inside NEMA 4X Polycarbonate Connection Box -TXDC = (Celsius) Digital Display with 4-20mA Transmitter inside NEMA 4X Polycarbonate Connection Box -TXDF = (Fahrenheit) Digital Display with 4-20mA Transmitter inside NEMA 4X Polycarbonate Connection Box -S = Stripped Leads

-6

-MP

4-20mA CALIBRATION RANGE

OPTIONS

- 1 = -200/0°C (-328/32°F)
- 10 = -200/50°C (-328/122°F)
- 1A = -200/40°C (-328/104°F)
- 1B = -200/100°C (-328/212°F)
- 2 = -100/0°C (-148/32°F)
- 2A = -100/100°C (-148/212°F)
- 3 = -100/50°C (-148/122°F)
- 4 = -50/50°C (-58/122°F)
- 5 = -30/100°C (-22/212°F)
- 6 = -25/25°C (-13/77°F)
- 7 = 0/50°C (32/122°F)
- 8 = 0/100°C (32/212°F)
- 9 = 0/120°C (32/248°F)
- 11 = 0/160°C (32/320°F)
- 12 = 0/180°C (32/356°F)
- 13 = 0/200°C (32/392°F)

- MP = Matched Pair; 2 Point Match; Factory Choice; Includes Certificate
- R1 = 1 Point Calibration Certificate; Factory Choice
- R3 = 3 Point Calibration Certificate; Factory Choice
- C1 = 1 Point Calibration Certificate; Customer Choice
- C3 = 3 Point Calibration Certificate; Customer Choice
- TS = Stainless Steel Tag (1-10 Characters)
- TM = Stainless Steel Tag (11-80 Characters)

Note: All Calibration Certificates are NIST Traceable.

Note: Custom Ranges Available. Contact Factory.

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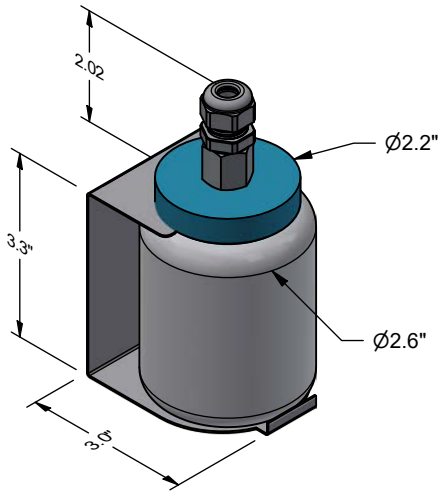
SPECIFICATIONS

RTD and Transmitter Combined Accuracy	Matched Pair (Optional): ± 0.2% of span or 0.1°C, whichever is greater
RTD Accuracy	Class A = ± (0.15 + 0.002 t)°C [-30/200°C]
Transmitter Accuracy	±0.1% of Span
RTD Type	100Ω Pt., 0.00385 Ω/Ω°C, 3-wire, Class A
Operating Temperature	Nalgene Bottle/Stem/Wire: -200/120°C (-328/248°F) Stainless Bottle/Stem/Wire: -200/204°C (-328/400°F) Food Grade USP (Propylene glycol); non-toxic: -40/120°C (-40/248°F) Soda Lime Glass: -200/204°C (-328/400°F) Transmitter: -40/85°C (-40/185°F)
Stem Material	316 Stainless Steel
Stem Diameter	3/16"
Wire	AWG #22, Stranded, TFE Insulated, with TFE Jacket Overall
Thermowell	316 Stainless Steel (some models)
Transmitter	4-20mA Output, 8 to 35 VDC Loop Powered
Connection Box	Polycarbonate Enclosure, NEMA-4X
Bottle Fill	Glass Beads (Soda Lime Glass) Food Grade USP (Propylene glycol); non-toxic Empty (Customer to Fill)
Bottle Sterility	Lab Quality, Non-Sterile (Nalgene)
Bracket Material	316 Stainless Steel
Bracket Size	(H x W x D): 2oz Bottle: 2.5" (64mm) x 1.5" (38mm) x 1.8" (46mm) 8.5oz Bottle: 3.4" (86mm) x 2.6" (66mm) x 3" (76mm)
Mounting Screws/Material	#10-16 Thread x 1/2" (12.7 mm) / 410 Stainless Steel
Insulation Resistance	1,000 Megohms minimum at 500 VDC

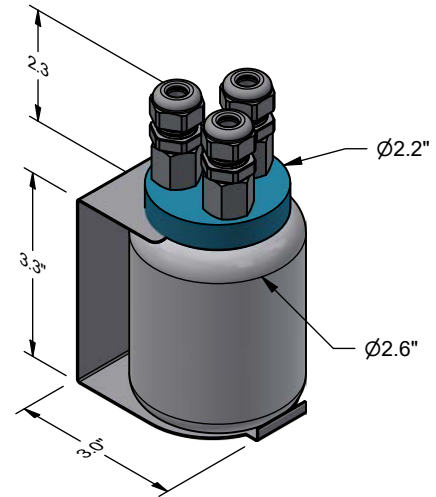
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TIB Bottle Dimensions

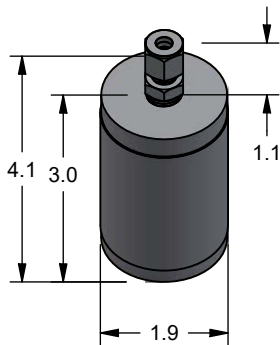
8.5oz. bottle with 1 Port Model #'s: 18NGS, 18NGY, 18NEM



8.5oz. bottle with 3 Port Model #'s: 38NGS, 38NGY, 38NEM



2oz. Stainless Steel bottle with 1 Port Model #'s: 12SGS, 12SEM



2oz. bottle with 1 Port Model #'s: 12NGS, 12NGY, 12NEM

