



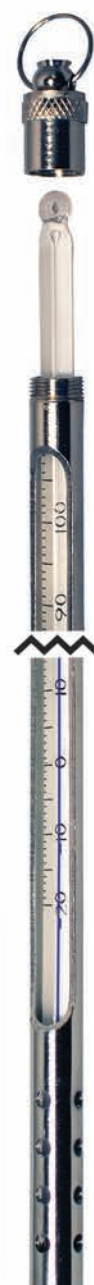
# Thermometer Line



The VEE GEE® Thermometer line consists of a large selection of high-quality instruments to meet the general and specific requirements for temperature analysis in today's laboratory and field applications.



The VEE GEE® line includes general laboratory, dial, digital, and wall-mount thermometers. There is also a large selection of thermometer armors to protect liquid-in-glass thermometers.



Ultra - Accurate: Digital  
-10°C To +100°C ±0.5°C  
+14°F To +212°F ±1.0°F

# General Glass Thermometers

## Serialized, Precision Thermometers, VEE GEE®, SafetyBlue fill



Cat. No. 80902

VEE GEE® Precision, Serialized thermometers are ideal for use in laboratories, universities, food/beverage, environmental, wastewater, and many other general-purpose applications requiring serialization.

NOTE: Non Roll Fittings Sold Separately, Cat No. 82998  
For a thermometer in this selection with an armor kit see page 6.

Cat. No.	Range	Sub Division	Filled	Approx. Length	Immersion (mm)	Backing
80701	-30 to 120°F	2 F	Safety Blue	12"	Total	White
80702	-4 to 230°F	2 F	SafetyBlue	12"	Total	White
80703	0 to 300°F	2 F	SafetyBlue	12"	Total	White
80706	-35 to 50°C	1 C	SafetyBlue	12"	Total	White
80707	-20 to 110°C	1 C	SafetyBlue	12"	Total	White
80708	-20 to 150°F	1 C	SafetyBlue	12"	Total	White
80901	-30 to 120 °F	2 F	SafetyBlue	12"	Partial	White
80902	-4 to 230°F	2 F	SafetyBlue	12"	Partial	White
80903	0 to 300°F	2 F	SafetyBlue	12"	Partial	White
80905	20 to 500°F	2 F	SafetyBlue	12"	Partial	White
80906	-35 to 50°C	1 C	SafetyBlue	15.375"	Partial	White
80907	-20 to 110°C	1 C	SafetyBlue	12"	Partial	White
80908	-20 to 150°C	1 C	SafetyBlue	12"	Partial	White
80910	-10 to 250 °F	2 F	SafetyBlue	12"	Partial	White

## Serialized, Encapsulated Thermometers, VEE GEE®, SafetyBlue fill, Encapsulated in FEP



Cat. No. 80902E

VEE GEE® Precision, Serialized, Encapsulated thermometers with FEP plastic coating.

In the event of breakage, the FEP coating contains the broken liquid and glass, preventing contamination or injury.

NOTE: Non Roll Fittings Sold Separately, Cat No. 82998  
For a thermometer in this selection with an armor kit see page 6.

Cat. No.	Range	Sub Division	Filled	Approx. Length	Immersion (mm)	Backing
80701E	-30 to 120°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80702E	-4 to 230°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80703E	0 to 300°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80704E	30 to 220°F, Encapsulated	2 F	SafetyBlue	15.375"	Total	White
80706E	-35 to 50°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80707E	-20 to 110°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80708E	-20 to 150°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80901E	-30 to 120°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80902E	-4 to 230°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80903E	0 to 300°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80904E	30 - 220°F, Encapsulated	2 F	SafetyBlue	15.375"	Partial	White
80906E	-35 to 50°C, Encapsulated	1 C	SafetyBlue	12"	Partial	White
80907E	-20 to 110°C, Encapsulated	1 C	SafetyBlue	12"	Partial	White
80908E	-20 to 150°C, Encapsulated	1 C	SafetyBlue	12"	Partial	White

## Spirit-Filled Laboratory Thermometers, VEE GEE®

VEE GEE® Spirit-filled glass thermometers are suitable for general lab use, school, and testing. They are available in a variety of ranges to meet many applications. Permanent markings and red liquid are easy to read against a white backing. Complete with Non Roll Fittings.



Cat. No. 80501

Cat. No.	Range	Subdivision	Length	Immersion (mm)	Backing
80501	-20° to 110°C	1°C	305mm / 12"	Total	White
80502	-20° to 150°C	1°C	305mm / 12"	Total	White
80503	0° to 230°F	2°F	305mm / 12"	Total	White
80504	0° to 300°F	2°F	305mm / 12"	Total	White
80521	-20° to 110°C /	1°C	305mm / 12"	76	White
	0° to 230°F	2°F			
80601	-20° to 110°C	1°C	305mm / 12"	76	White
80602	-20° to 150°C	1°C	305mm / 12"	76	White
80603	0° to 230°F	2°F	305mm / 12"	76	White
80604	0° to 300°F	2°F	305mm / 12"	76	White
80621	-20° to 110°C /	1°C	305mm / 12"	Total	White
	0° to 230°F	2°F			
80802	-20° to 110°C	No Markings	305mm / 12"	Total	White

# Dial Thermometers

VEE GEE® dial thermometers are an excellent choice for many applications including food & beverage quality control, general lab use, asphalt/concrete testing, and soil & compost testing. A wide variety of ranges are available in the three separate sizes. The smaller stem and face of the standard unit fits nicely into a shirt pocket or holder while the face and stem of the large unit allow for deeper penetration into the sample. The large faces and long stems of the 3" dial models are perfect for soil & compost testing. Catalog numbers 81550G, 82550DG, 82160-6, 82160-12, 82200-36, 82200-48, & 82200-72 feature glass faces.

## 1" Dial (Standard) Note: A plastic sheath is included with all standard-sized dial thermometers. Weight: 5.5g

Cat. No.	Range	Subdivision	Accuracy	Face Diameter	Stem Length	Stem Diameter	Weight (g)
81070	-40° to 70°C	1°C	±1°C	25mm / 1"	127mm / 5"	3.5mm / 0.138"	10
81110	-10 to +110°C	1°C		25mm / 1"	127mm / 5"	3.5mm / 0.138"	
81125	+25° to +125°F	1°F	±1°F	25mm / 1"	127mm / 5"	3.5mm / 0.138"	10
81150	0 to +150°C	2°C		25mm / 1"	127mm / 5"	3.5mm / 0.138"	
81160	+40° to +160°F	2°F	±2°F	25mm / 1"	127mm / 5"	3.5mm / 0.138"	10
81220	0 to 220° F	2°F	±2°F	25mm / 1"	127mm / 5"	3.5mm / 0.138"	10
81250	0 to +250°C	2°C		25mm / 1"	127mm / 5"	3.5mm / 0.138"	
81550	+50° to +550°F	5°F	±5°F	25mm / 1"	127mm / 5"	3.5mm / 0.138"	10
81550G	+50° to +550°F	5°F	±5°F	25mm / 1"	127mm / 5"	3.5mm / 0.138"	15



Cat. No. 81070

## 1.75" / 2" Dial (Large) Comes with Clip

Cat. No.	Range	Subdivision	Accuracy	Face Diameter	Stem Length	Stem Diameter	Weight (g)
82100	0 to 100°C	1°C		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82100V	-50 to +100°C	2.5°C		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82110	-10 to +110°C	1°C		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82125	+25 to 125°F	1°F	±1°F	44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	19
82150	0 to +150°C	2°C		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82160	-40 to +160°F	2°F		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82220	0 to +220°F	2°F	±2°F	44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	19
82250	0 to +250°C	2°C		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82250F	+50 to +250°F	2°F		44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	
82550	+50 to +550°F	5°F	±5°F	44.5mm / 1.75"	203mm / 8"	3.5mm / 0.138"	19
82550DG	+10 to 290°C	5°C	±2.5°C	51mm / 2"	203mm / 8"	3.5mm / 0.138"	36
	+50 to +550°F	5°F	±5°F				



Cat. No. 82220



Cat. No. 82550DG & Clip

## 3" Dial (Soil & Compost Testing)

Cat. No.	Range	Subdivision	Accuracy	Face Diameter	Stem Length	Stem Diameter	Weight (g)
82160-6	-40° to 160°F	2°F	±2°F	76mm / 3"	152mm / 6"	6.4mm / 0.25"	156
82160-12	-40° to 160°F	2°F	±2°F	76mm / 3"	305mm / 12"	6.4mm / 0.25"	170
82200-36	0° to 200°F	2°F	±2°F	76mm / 3"	914mm / 36"	7.9mm / 0.313"	255
82200-48	0° to 200°F	2°F	±2°F	76mm / 3"	122cm / 48"	7.9mm / 0.313"	284
82200-72	0° to 200°F	2°F	±2°F	76mm / 3"	183cm / 72"	7.9mm / 0.313"	354



Cat. No. 82160-6

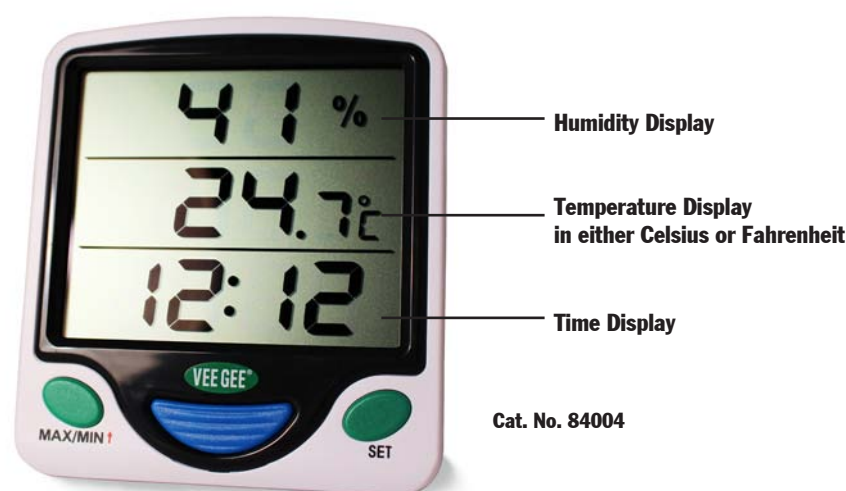


# Digital Thermometers

## Min/Max Digital Thermometer / Hygrometer / Clock

This VEE GEE® digital thermometer registers maximum and minimum temperatures in both Celsius and Fahrenheit scales. The large displays shows humidity, temperature, and time. There's even an alarm clock. Mount on a wall or set on a lab table for easy readability. Used for recording temperature differentials.

Cat. No.	Range	Subdivision	Accuracy	Dimensions	Weight (g)
84004	0° to 50°C	1°C	±1°C	110 x 98 x 21mm / 4.33 x 3.86 x 0.83"	110.6
	32° to 122°F	2°F	±2°F		
	20 - 99% Humidity	1%	± 3%		



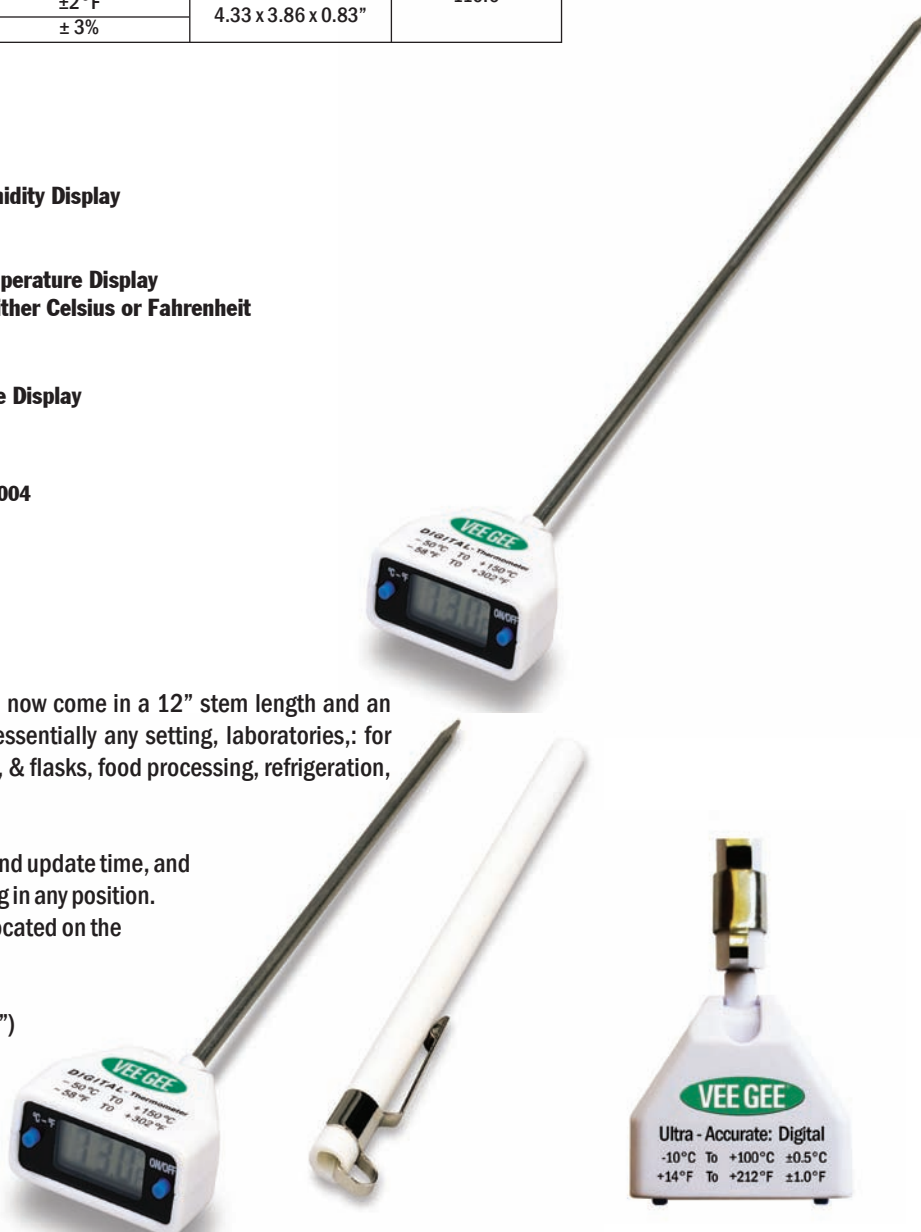
Cat. No. 84004

## Digital Stem Thermometer-Series

VEE GEE® digital stem thermometers are high accuracy and now come in a 12" stem length and an ultra accurate model. Ideal for temperature monitoring in essentially any setting, laboratories, for easily monitoring reagents and liquids in test tubes, beakers, & flasks, food processing, refrigeration, and horticulture.

The 83000-Series features a dual scale (°C / °F), fast 1-second update time, and a swiveling head that can be moved a full 180° for easy reading in any position. Both the ON/OFF switch and the Scale Selection switch are located on the face for simple access.

The thermistor sensor stems are stainless steel, 3.5mm (0.138") diameter and come with a protective case featuring a pocket clip. Also includes a 1.5V alkaline coin cell battery (Type LR44) and features automatic power-off after 10 minutes of idle use.



Cat. No.	Range	Resolution	Accuracy	Face Dimensions	Stem Length	Stem Diameter	Weight
83210 83210-12	-50° to 150°C / -58° to 302°F	0.1°C / 0.1°F	±1.0°C / ±2.0°F	36 x 17mm / 1.4 x 0.7"	127mm / 5" 300mm / 12"	3.5mm / 0.138"	14.2g / 0.5 oz.
83110	-10° to 100°C / -14° to 212°F	0.1°C / 0.1°F	±1.0°C / ±1.0°F	36 x 17mm / 1.4 x 0.7"	127mm / 5"	3.5mm / 0.138"	19.8g / .7 oz.

# Wall-Mount Thermometers

## Wall-Mount Thermometers

VEE GEE® wall-mount thermometers are large-sized instruments suitable for the laboratory or the home. They feature all-black backing with bright, permanently-fused markings. Three different styles are available with combinations of clocks, thermometers, and hygrometers. Cat. No. 85001 requires one AA battery—not included. Diameter: 248mm (9.75"); Depth: 40mm (1.6"); Weight: 487g.



**Cat. No:** 85001

**Description:** Thermometer-Hygrometer-Clock

Range	Subdivision	Accuracy
-20° to 140°F	5°F	±5°F
0-100%	2%	±2%



**Cat. No:** 85002

**Description:** Thermometer-Hygrometer

Range	Subdivision	Accuracy
-40° to 50°C	2°C	±2°C
-40° to 120°F	2°F	±2°F
0-100%	2%	±2%



**Cat. No:** 85003

**Description:** Thermometer

Range	Subdivision	Accuracy
-40° to 50°C	2°C	±2°C
-40° to 120°F	2°F	±2°F

## Thermometer Accessories

### Thermometer Clips

Cat. No.	Description	For Models
82999	Clip for Dial Thermometers (used for attaching to containers, tanks, etc.)	1", 1.75" and 2" Dial Thermometers

### Non Roll Fittings

Cat. No.	Description
82998	Non Roll Fittings - Fit on all Glass Thermometers (12 Pk)



# Thermometer Armors

VEE GEE® thermometer armor cases protect liquid-in-glass thermometers from rough handling and shock during use. Armors constructed of nickel-plated brass are available in a wide range of sizes and feature a threaded screw cap with ring top for suspension where necessary. Additionally, 2- and 3- part type armor cases are available.

## Nickel-Plated Brass Armor Only



Cat. No.	For Thermometer Length	Outside Diameter	Inside Diameter
83025A	305mm / 12"	9.5mm / 0.374"	7.5mm / 0.295"
83025B	152mm / 6"	9.5mm / 0.374"	7.5mm / 0.295"
83025C	178mm / 7"	9.5mm / 0.374"	7.5mm / 0.295"
83025D	203mm / 8"	9.5mm / 0.374"	7.5mm / 0.295"
83025E	229mm / 9"	9.5mm / 0.374"	7.5mm / 0.295"
83025F	356mm / 14"	9.5mm / 0.374"	7.5mm / 0.295"
83025G	381mm / 15"	9.5mm / 0.374"	7.5mm / 0.295"
83025N	393 / 15.5	9.5mm / 0.374"	7.5mm / 0.295"
83025H	406mm / 16"	9.5mm / 0.374"	7.5mm / 0.295"
83025J	457mm / 18"	9.5mm / 0.374"	7.5mm / 0.295"
83025M	610mm / 24"	9.5mm / 0.374"	7.5mm / 0.295"

## 2- and 3- Part Type Armor Cases

Cat. No.	For Thermometer length	Type	Metal
83040N	152mm / 6"	2-Part (Case & Cap)	Nickel-Plated Brass
83041N	152mm / 6"	3-Part (Case, Cap, & Inner Sleeve w/ Cut-Out)	Nickel-Plated Brass

## Armored Glass Thermometers, VEE GEE®



Complete with non removable protective plastic sheath and ring top. The armor casing has inlets around the thermometer bulb so measurements are taken without removing the thermometer. Permanent markings and spirit filled red liquid are easy to read against a white backing. Weight: 15g.

Cat. No.	Range	Subdivision	Length	Immersion (mm)	Backing
84050	0° to 50°C	1°C	152mm / 6"	Total	White
84125	25° to 125°F	1°F	152mm / 6"	Total	White
83030A	Plastic Armor Only (For 6" Liquid-In-Glass Thermometers)				

## Serialized, Precision Thermometers with Nickel-Plated Brass Armor Kit

SafetyBlue fill

VEE GEE® Precision, Serialized thermometers are ideal for use in laboratories, universities, food/beverage, environmental, wastewater, and many other general-purpose applications requiring serialization.

NOTE: Non Roll Fittings Sold Separately, Cat No. 82998, See Page 5

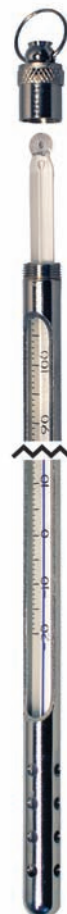
Cat. No.	Range	Sub Division	Filled	Approx. Length	Immersion (mm)	Backing
80701-A	-30 to 120°F	2 F	Safety Blue	12"	Total	White
80702-A	-4 to 230°F	2 F	SafetyBlue	12"	Total	White
80703-A	0 to 300°F	2 F	SafetyBlue	12"	Total	White
80706-A	-35 to 50°C	1 C	SafetyBlue	12"	Total	White
80707-A	-20 to 110°C	1 C	SafetyBlue	12"	Total	White
80708-A	-20 to 150°F	1 C	SafetyBlue	12"	Total	White
80901-A	-30 to 120 °F	2 F	SafetyBlue	12"	Partial	White
80902-A	-4 to 230°F	2 F	SafetyBlue	12"	Partial	White
80903-A	0 to 300°F	2 F	SafetyBlue	12"	Partial	White
80905-A	20 to 500°F	2 F	SafetyBlue	12"	Partial	White
80906-A	-35 to 50°C	1 C	SafetyBlue	15.375"	Partial	White
80907-A	-20 to 110°C	1 C	SafetyBlue	12"	Partial	White
80908-A	-20 to 150°C	1 C	SafetyBlue	12"	Partial	White
80910-A	-10 to 250 °F	2 F	SafetyBlue	12"	Partial	White

## Serialized, Encapsulated Thermometers with Nickel-Plated Brass Armor Kit

SafetyBlue fill, Encapsulated in FEP

NOTE: Non Roll Fittings Sold Separately, Cat No. 82998, See Page 5

Cat. No.	Cat. No.	Sub Division	Filled	Approx. Length	Immersion (mm)	Backing
80701E-A	-30 to 120°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80702E-A	-4 to 230°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80703E-A	0 to 300°F, Encapsulated	2 F	SafetyBlue	12"	Total	White
80704E-A	30 to 220°F, Encapsulated	2 F	SafetyBlue	15.375"	Total	White
80706E-A	-35 to 50°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80707E-A	-20 to 110°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80708E-A	-20 to 150°C, Encapsulated	1 C	SafetyBlue	12"	Total	White
80901E-A	-30 to 120°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80902E-A	-4 to 230°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80903E-A	0 to 300°F, Encapsulated	2 F	SafetyBlue	12"	Partial	White
80904E-A	30 - 220°F, Encapsulated	2 F	SafetyBlue	15.375"	Partial	White
80906E-A	-35 to 50°C, Encapsulated	1 C	SafetyBlue	12"	Partial	White
80907E-A	-20 to 110°C, Encapsulated	1 C	SafetyBlue	12"	Partial	White



Cat. No. 80702-A

# Thermometer Information

## Immersion Types for Liquid-In-Glass Thermometers

Thermometers are one of the most important instruments used in the laboratory and are a relatively inexpensive means of reliably measuring temperature, provided they are properly used and not abused. It is essential that the instruments be used in the manner prescribed if true temperatures are to be ascertained. The following are some terms that should be understood and adhered to when true temperatures are to be obtained.

**Total Immersion.** Such a thermometer is designed to indicate temperatures correctly when the bulb and the entire liquid column are exposed to the temperature being measured, except for a minimal length emergent to be visible. Therefore, the thermometer is immersed into the medium up to the point of reading.

**Partial Immersion.** Such a thermometer has a line around it at the immersion distance from the bottom. It indicates correctly when the bulb and liquid column to that line are exposed to the temperature being measured and the emergent stem is at ambient temperature. Therefore, the thermometer is immersed only up to the immersion line.

**Full Immersion.** No VEE GEE Brand Thermometers feature full immersion. However, it is important to make the distinction between "full" and "total" immersion. With full immersion thermometers, the complete thermometer (including the expansion chamber) is immersed in the medium. These instruments are generally read through a window or port in the bath.

## Temperature Conversion

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

## Column Separation

The largest single cause for failure of liquid-in-glass thermometers in the lab is due to separated columns. This can occur in transit or in the lab. The simplest and safest method to reunite a separated spirit-filled column is to force the liquid down the capillary tube by using a centrifuge, if one is available, with a cup deep enough to ensure that the centrifugal force is below the liquid column.

Carefully insert the thermometer, bulb down, in the centrifuge. Place some cotton wadding at the bottom of the cup to prevent any damage to the bulb. Turn on the centrifuge—in just a few seconds all of the liquid will be forced past the separation. If the cup is not deep enough and all of the centrifugal force is not below the column, the column will split, forcing part of the liquid down. The remainder will be forced up, filling the expansion chamber.

If a centrifuge is not available, the column can be reunited by holding the thermometer in an upright position and gingerly tapping the stem above the separation against the palm of your hand. As you gently tap the thermometer, observe the liquid above the separation until it breaks away from the wall of the capillary and runs down to join the main column.

## Spirit Filled and Safety Blue Fill

VEE GEE no longer carries liquid in glass thermometers with mercury.

- Red spirit fill is a kerosene based column with red dye which is significantly safer than mercury.
- Safety Blue filling is an organic, performance liquid that is bio-degradable and exhibits all of the qualities of mercury without the risk of contamination and hazards associated with mercury.

VEE GEE Precision, Serialized, Encapsulated thermometers are coated with FEP plastic coating. These thermometers are ideal for use in laboratories, universities, food/beverage, environmental, wastewater, and many other general-purpose applications requiring serialization. In the event of breakage, the FEP coating contains the broken liquid and glass, preventing contamination or injury.