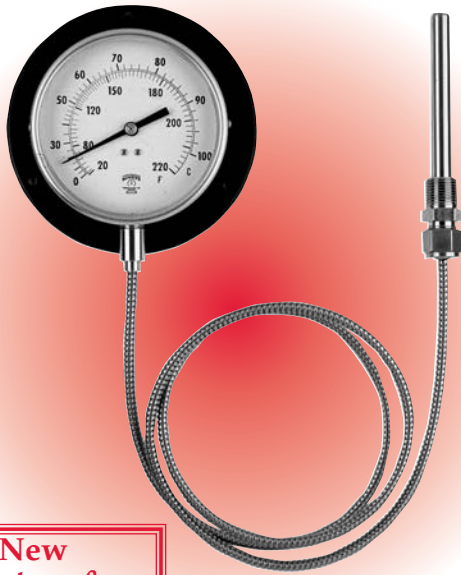


# Remote Reading Thermometer



**New  
Custom &  
Stock Products  
Available**

## Description

A remote reading thermometer allows you to take a temperature reading of the media while being in a different location. The bulb, which is the sensing portion of the thermometer is installed in the media while the dial that indicates the temperature can be located several feet (meters) or 100 feet (30 meters) or more away. Industrial applications where there are difficult to access locations or non-operator friendly conditions are prime uses for remote reading thermometers.

The capillary in remote reading thermometers are filled with either gas or vapour. The gas filled versions have linear scales on the dials (equal graduations across the entire scale) and are more accurate (0.5% accuracy of full scale value) than vapour thermometers which have non-linear dials and an accuracy of 2%. As the temperature of the bulb or sensing portion of the thermometer changes, the pressure on the gas or vapour inside the capillary changes, causing the pointer to move across the dial.

Winters complete line of remote reading vapour and gas thermometers provide quick and accurate temperature readings for any application. Each thermometer type is available in several case sizes and mounting formats, with a large choice of temperature ranges.

## How to order Custom Products:

E.g. Vapour Remote Reading, 3 1/2" (90mm) dial, 5ft. (1.5m) copper capillary, back connection, front flange with 1/2" brass union, 50-250 °F and °C

Section	I	II	III	IV	V	VI	Range
Product Code	R3	2	35	1	05	1	50-250 °F/C

**ORDER # is: R32351051 50 - 250 °F&C**

Section	Code	Description	Section	Code	Description				
I	R1	Gas Remote Reading	IV	1	Plain Brass				
	R2	Gas Direct Reading				Capillary	Capillary		
	R3	Vapour Remote Reading						Copper	Copper
	R4	Vapour Direct Reading							
		<b>Case Type, Connection</b> (see opposite page for case material)							
II	1	Bottom connection, back flange	V	05	Standard, 5 feet (1.5m)				
	2	Back connection, front flange				Capillary Length (measured in feet)	Use 2 digits ie: 15 = 15 feet		
	3	Back connection, back flange						None	Stainless Steel
	4	Vari-angle connection, (Direct reading only)							
		<b>Dial Size</b>							
III	25	2 1/2" (63mm)	VI	0	None				
	35	3 1/2" (90mm) (back connection only)				Connection	1 1/2" NPT brass union		
	40	4" (100mm)						2 1/2" NPT st/st union	
	45	4 1/2" (115mm)							3 3/4" NPT brass union
	60	6" (150mm)							
80	8" (200mm)	5 1/2" NPT brass thermowell							
			6 1/2" NPT st/st thermowell						
			7 3/4" NPT brass thermowell						
			8 3/4" NPT st/st thermowell						



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# Remote Reading Thermometers

## Vapour Ranges:

	°F only	F&°C	°C only
<b>3½" (90mm) and 4" (100mm)</b>	-40-0-110	-40-0-110° / -40-40	-40-40°
	0-100	0-100 / -20-40	-20-40
	0-180	0-180 / -20-80	-20-80
	20-220	20-220 / 0-100	0-100
	50-250	50-250 / 10-120	0-150
	50-300	50-300 / 10-150	40-175
<b>4½" (115mm)</b>	-40-0-110°	-40-0-110 / -40-40°	-40-40°
	0-100	0-110 / -20-40	-20-40
	0-180	0-180 / -20-80	0-100
	20-220	20-220 / 0-100	0-150
	50-250	50-250 / 10-120	40-175
	50-300	50-300 / 10-150	
<b>6" (150mm)</b>	-40-0-110°	-40-0-110 / -40-40°	0-100°
	0-100	0-100 / -20-40	0-150
	0-180	0-180 / -20-80	
	20-220	50-250 / 0-120	
	50-250		
	50-300		
	100-350		
	200-450		

## Gas Ranges:

	°F only	°F & °C	°C only
All Dial Sizes	-40-0-110°	0-100F / -20 - 38C°	-30-0- 40° <i>0-300</i>
	-20-0- 120	30-150 / 0 - 75	-20-0- 80 <i>0-400</i>
	30- 150	40-220 / 0 -100	-40-0- 50 <i>0-600</i>
	30- 240	80-300 / 20 -150	- 5-0-105
	40- 220	0-180 / -15 - 80	0- 50
	80- 300	0-160 / -15 - 70	0- 60
	100- 400	30-240 / - 0 -115	0-100
	<i>100- 500</i>	<i>0-600 / -20 -320</i>	0-150
	<i>200-500</i>	-40-110 / -40 - 40	0-160
	<i>200-1000</i>		0-200

Ranges in *red italics* require stainless steel capillary and bulb.

**Options:** • Duct flanges. • Sliding union. • Stainless steel 4"(100mm) and 6"(150mm) cases and capillary available on Gas remote/direct reading models • Various bulb dimensions. • Averaging bulb (gas only) • Other ranges are available upon request.

\*Please note standard bulb length is 6" (150mm) in length and 4" (100mm) immersion is required for optimum performance.

## Standard Remote Reading Thermometers Available From Stock

### Features

• 3.5" (90mm) dial • Plain brass bulb with 10 feet of copper capillary • ½" NPT brass union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31351101	R32351101	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11351101	R12351101	-40-110F/C, 0-100F/C, 30-240F/C 40-220F/C, 80-300 F/C

### Features

• 3.5" (90mm) dial • Plain brass bulb with 5 feet of copper capillary • ½" NPT union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31351051	R32351051	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11351051	R12351051	-40-110 F/C, 0-100 F/C, 30-240 F/C 40-220 F/C, 80-300 F/C

### Features

• 4.5" (115mm) dial • Plain 316 stainless steel bulb with 10 feet of stainless steel armour capillary • ½" NPT stainless steel union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31453102	R32453102	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11453102	R12453102	-40-110F/C, 0-100F/C, 30-240F/C, 40-220F/C, 80-300 F/C, 0-600F/C



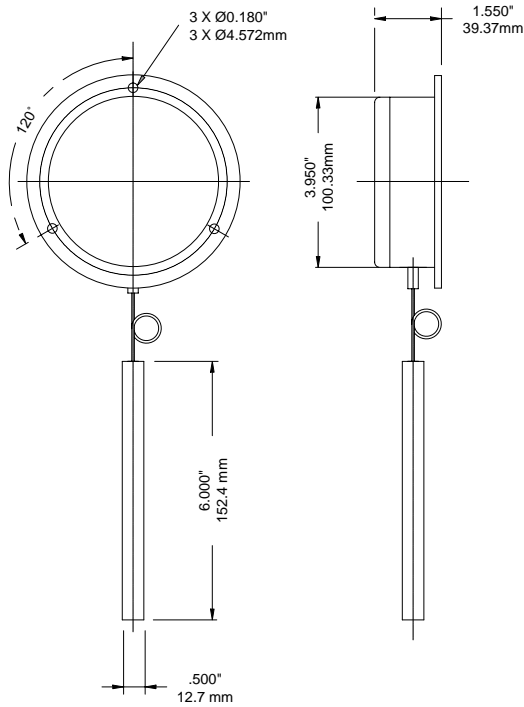
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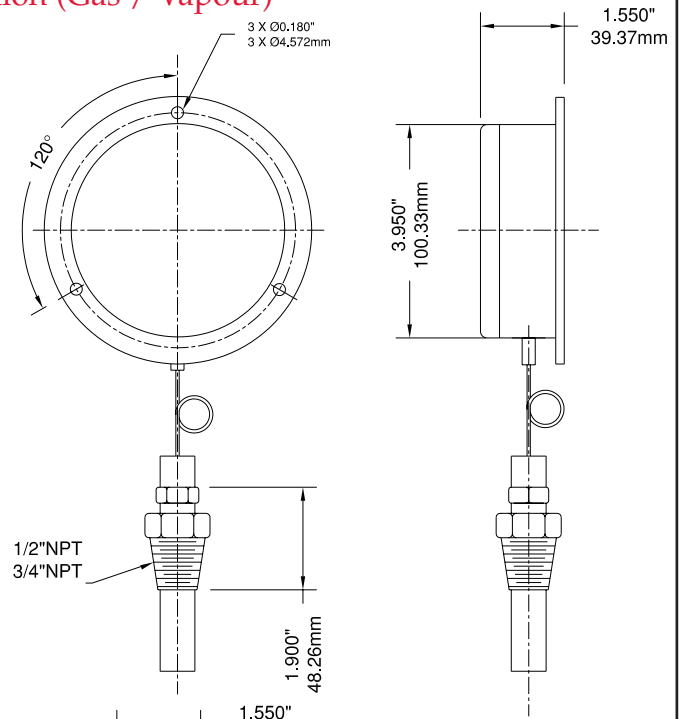
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# Gas / Vapour Filled Dial Thermometers

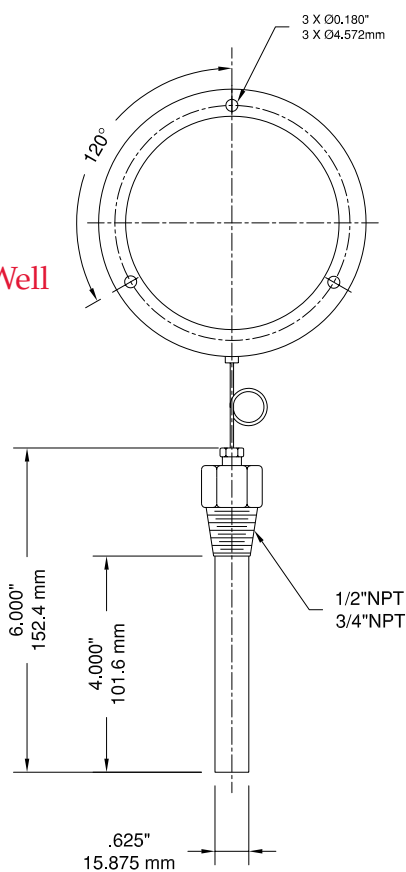
4" Bottom Connection, Back Flange, Plain Bulb (Gas / Vapour)



4" Bottom Connection, Back Flange, Sliding Union (Gas / Vapour)



4" Bottom Connection, Back Flange, Separate Well (Gas / Vapour)



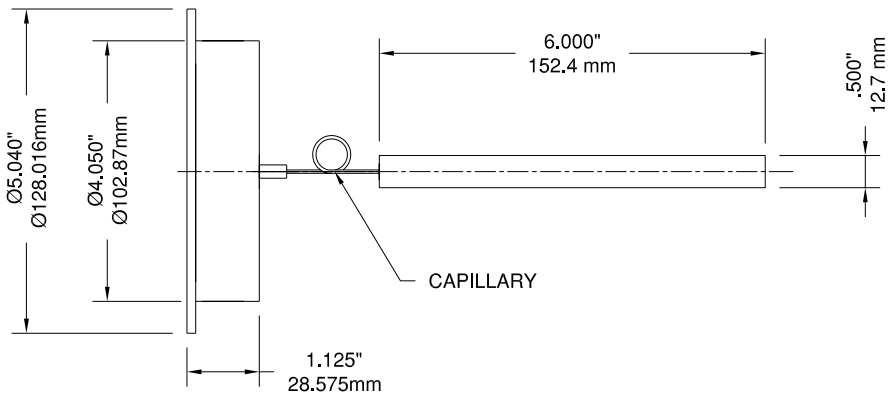
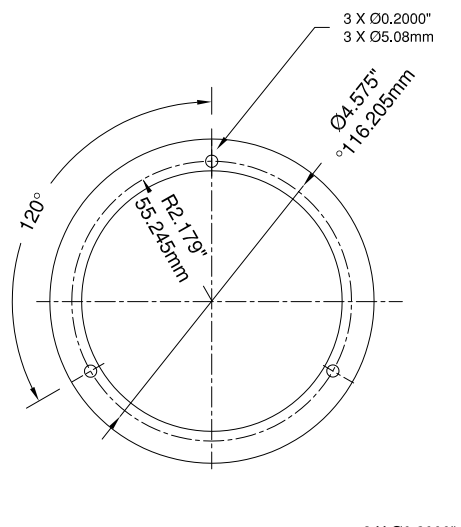
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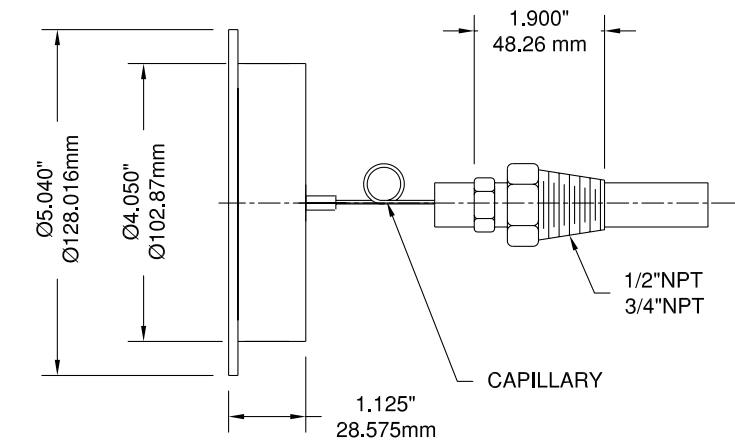
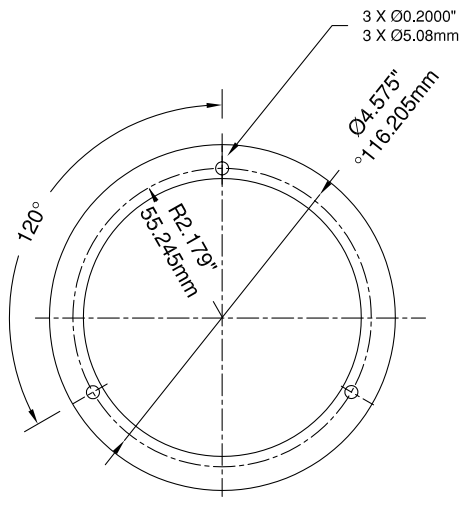
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# Gas / Vapour Filled Dial Thermometers

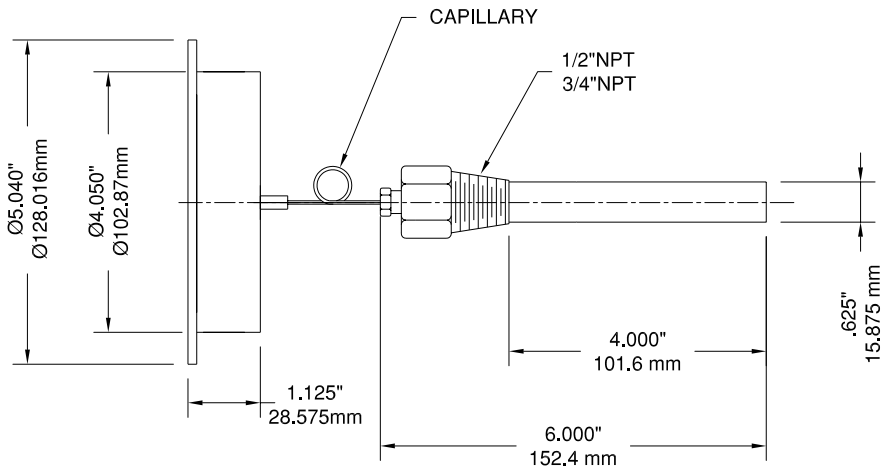
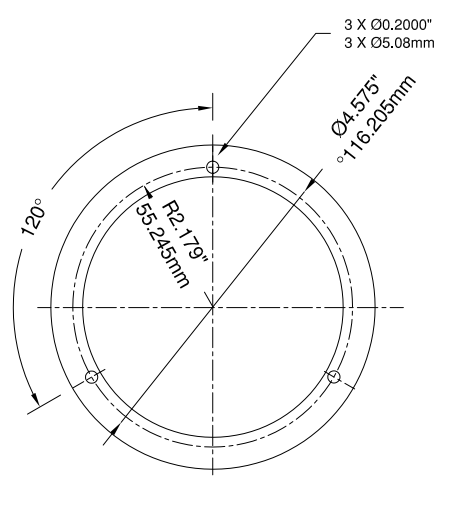
4" Back Connection, Front Flange, Plain Bulb (Gas / Vapour)



4" Back Connection, Front Flange, Sliding Union (Gas / Vapour)



4" Back Connection, Front Flange, Separate Well (Gas / Vapour)



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# Gas Filled Dial Thermometers

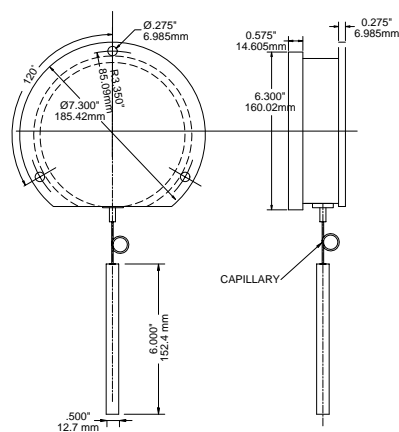
## Description

Winters Gas Filled Dial Thermometers are designed for industrial applications requiring accurate and uniform response over the entire range. The bulb, capillary and instrument internals are filled under pressure with inert gas for positive movement, accuracy and sensitivity.

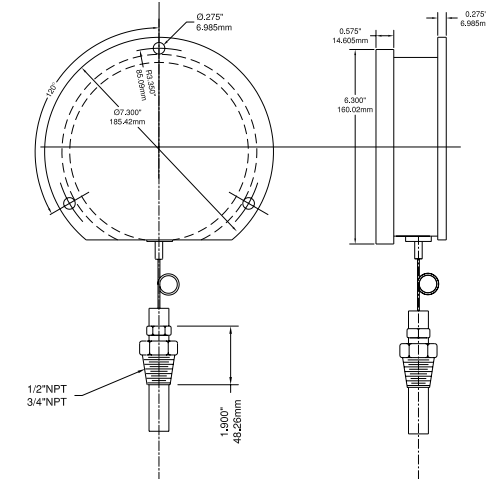
## Gas Filled Dial Specifications

<b>Dial:</b>	Aluminum, painted white with black markings
<b>Case:</b>	2 1/2" (63mm) dial, AISI 304 stainless steel 3 1/2" (90mm) dial, steel painted black 4" (100mm) dial, steel painted black 4 1/2" (115mm) dial, black phenolic or aluminum painted black 6" (150mm) dial, aluminum painted black 8" (200mm) dial, aluminum painted black
<b>Lens:</b>	Polycarbonate or glass
<b>Pointer:</b>	Aluminum, anodized black
<b>Internals:</b>	Phosphor bronze tube, brass movement
<b>Capillary:</b>	Brass or AISI 316 stainless steel
<b>Bulb:</b>	Brass or AISI 316 stainless steel, 1/2" OD x 6" standard
<b>Connection:</b>	Brass or AISI 316 stainless steel as specified
<b>Operating Temperature:</b>	Recommended maximum 75% of full scale value
<b>Accuracy:</b>	± 0.5 % full scale

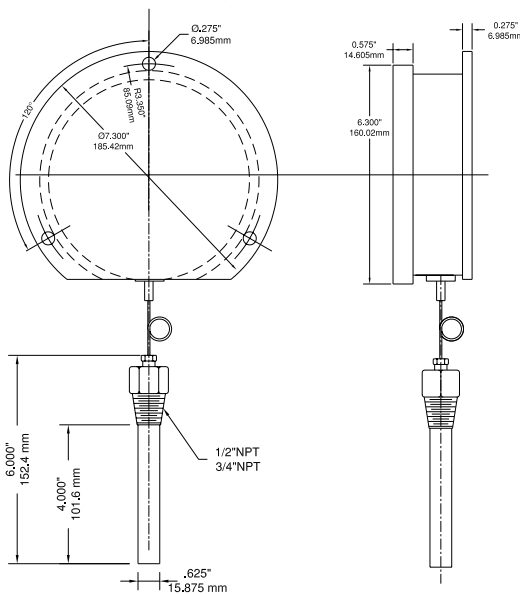
6" Gas, Bottom Connection, Back Flange, Plain Bulb



6" Gas, Bottom Connection, Back Flange, Sliding Union



6" Gas, Bottom Connection, Back Flange, Separate Well



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# Vapour Filled Thermometers

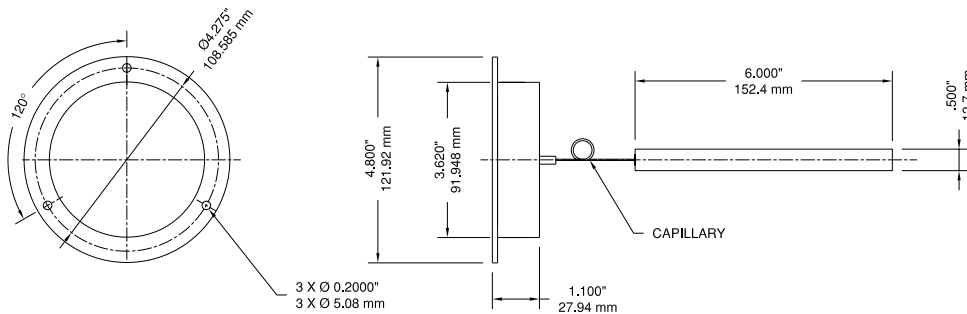
## Description

Winters Vapour Filled Thermometers provide economical and reliable remote reading service for most industrial applications. Vapour Filled Thermometers have non-linear scales, as the temperature increases the increments of measure become proportionately wider. To ensure exceptionally close readings, the operating temperature should fall in the upper half of the thermometer's scale.

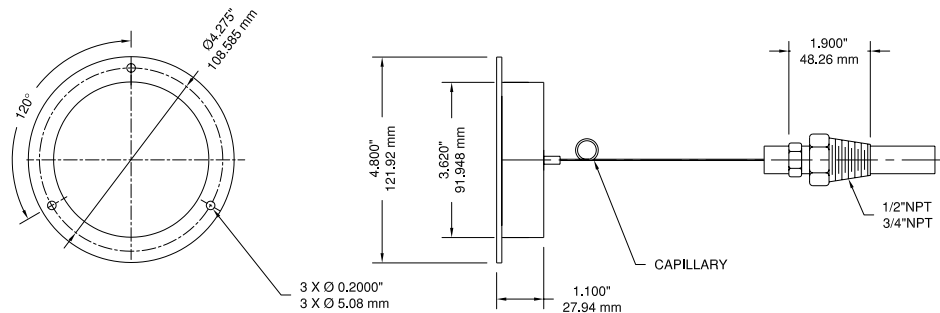
## Vapour Actuated Specifications

<b>Dial:</b>	Aluminum, painted white with black markings
<b>Case:</b>	2 1/2" (63mm) dial, AISI 304 stainless steel 3 1/2" (90mm) dial, steel painted black 4" (100mm) dial, steel painted black 4 1/2" (115mm) dial, black phenolic 6" (150mm) dial, aluminum painted black 8" (200mm) dial, aluminum painted black
<b>Lens:</b>	Polycarbonate or glass
<b>Pointer:</b>	Aluminum, anodized black
<b>Internals:</b>	Brass tube and movement
<b>Capillary:</b>	Brass or AISI 316 stainless steel
<b>Bulb:</b>	Brass or AISI 316 stainless steel, 1/2" OD x 6" standard
<b>Connection:</b>	Brass or AISI 316 stainless steel as specified
<b>Operating Temperature:</b>	Recommended maximum 75% of full scale value
<b>Accuracy:</b>	± 2% full scale (ANSI/ASME Grade B)

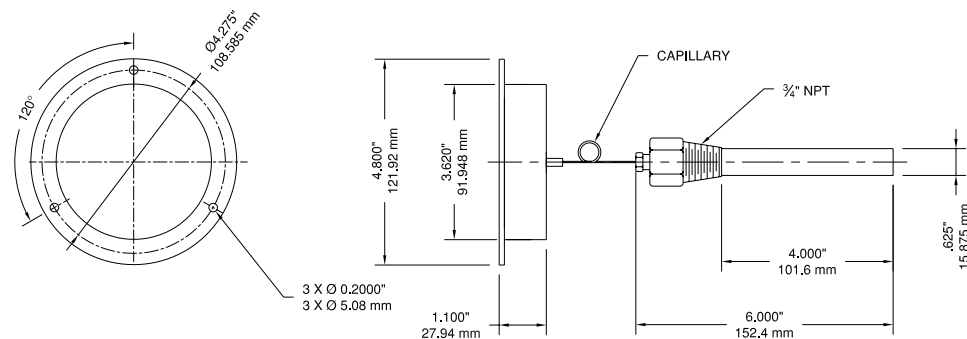
3.5" Vapour,  
Back  
Connection,  
Front Flange,  
Plain Brass  
Bulb



3.5" Vapour,  
Back  
Connection,  
Front Flange,  
Sliding Union



3.5" Vapour,  
Back  
Connection,  
Front Flange  
with optional  
Well



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