

Vapor- and Gas-Actuated Thermometers

Starts at
\$52



- ✓ Accuracy ± 1 Scale Division or 1% Scale for Gas
- ✓ Brass Movement with Precision Gearing
- ✓ White Dial with Black Graduations
- ✓ Phosphor Bronze Bourdon Tube

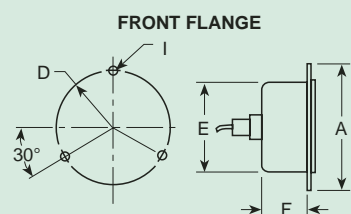


OMEGA® remote vapor- and gas-actuated thermometers are manufactured to the highest standards for a wide range of uses and can be fitted into almost any temperature-indicating application. These instruments are ideal for remote reading, such as panel installations, with capillary lengths of 1 to 100'. Vapor, or more precisely *vaporized liquid*, thermometers will give excellent readings, provided the temperature being measured is above or below ambient temperature. Vapor instruments also have progressive graduations and are best read in the upper $\frac{2}{3}$ of the dial range. Many ranges are available between -40 to 232°C (-40 to 450°F), and care should be taken to select a range that will locate the operating temperatures within the upper $\frac{2}{3}$ of the dial range.

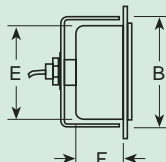
OMEGA® gas-actuated thermometers combine advanced gas coil technology with a state-of-the-art gas absorbent (Class IV) thermal system, producing a superior temperature measurement instrument that can be fitted to a wide variety of applications. Gas-actuated thermometers have an advantage over vapor-actuated thermometers in that they are more accurate over the full range. They also operate at higher and lower ranges than vapor-actuated thermometers.

The linear dial on all OMEGA® gas thermometers provides a consistent 1% accuracy across the full span of each range. This, combined with over 20 Fahrenheit and dual ranges, from -196 to 649°C (-320 to 1200°F), provides complete coverage of all normal temperature requirements.

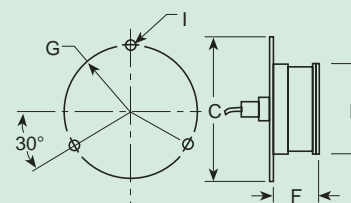
CASE AND MOUNTING DIMENSIONS



U-CLAMP



REAR FLANGE



Specifications

Dial Sizes: 2", 2½", 3½", 4½"

Dial: Aluminum with white finish and black markings

Pointer: Furnished standard adjustable

Movement: Brass with precision gearing

Bourdon Tube:

Vapor-phosphor bronze

Gas: Nitrogen in nispau coil

Accuracy:

Vapor: ± 1 scale division

Gas: $\pm 1\%$ of scale

Process Connection: Plain bulb,

$\frac{1}{2}$ NPT union; or thermowell

Note: thermowells must be used whenever the bulb would be exposed to pressure, fluid velocity, or corrosive media.

Window: Polycarbonate STD; glass available on all models

Bulb: Stainless steel or copper; bulb O.D. $\frac{3}{8}$ " on plain bulbs, $\frac{7}{16}$ " with threads. Bulb lengths from $2\frac{1}{2}$ " to $7\frac{1}{8}$ " depending on capillary length.

Capillary: Copper, copper with bronze braid armor; stainless steel with stainless steel armor; capillary lengths 1 to 100' (standard length, 5')

Dial Size	A	B	C	D	E	F	G	H	I
2"	2.94	2.25	—	1.28R	2.05	0.98	—	—	0.14
2½"	3.69	2.81	—	1.56R	2.56	1.0	—	—	0.17
3½"	4.75	3.97	4.75	2.16R	3.59	1.41RF 0.75 UC,FF	2.16R	3.69	0.16
4½"	5.88	—	5.88	2.69R	4.59FF 4.87RF	1.41RF 0.75 UC,FF	2.69R	4.69	0.22

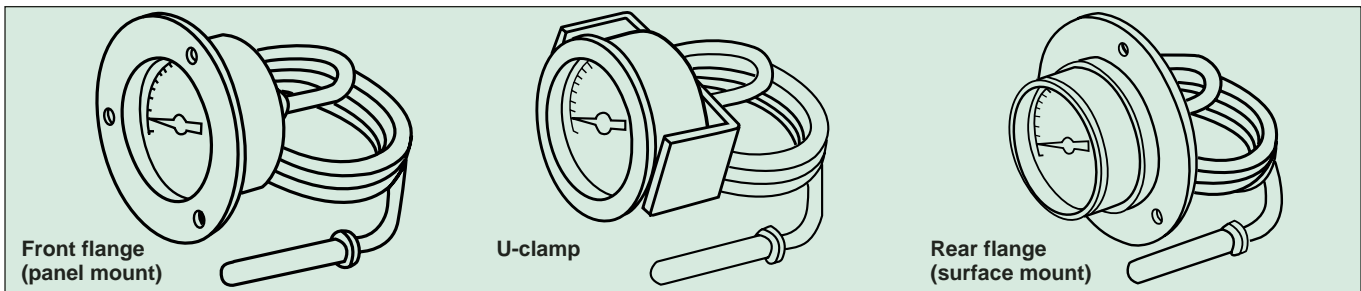


Table 1: Case Style

MOST POPULAR MODELS HIGHLIGHTED!

Code	Dial	Case	Lens*	Connection Location	Price	
					VA	GA
Front Flange (Panel Mount)						
20FR	2"	Stainless steel	Polycarbonate*	Rear	\$52	\$104
25FR	2½"	Stainless steel	Polycarbonate*	Rear	54	108
35FR	3½"	Stainless steel	Polycarbonate*	Rear	92	184
45FR	4½"	Stainless steel	Polycarbonate*	Rear	99	198
45FL	4½"	Black aluminum (hinge ring type)	Polycarbonate*	Lower rear	179	358
U-Clamp (Panel Mount)						
20UR	2"	Stainless steel	Polycarbonate*	Rear	\$59	\$118
25UR	2½"	Stainless steel	Polycarbonate*	Rear	70	140
35UR	3½"	Stainless steel	Polycarbonate	Rear	83	166
Rear flange (Surface Mount)						
20RR	2"	Stainless steel	Polycarbonate*	Rear	\$59	\$118
35RR	3½"	Stainless steel	Polycarbonate*	Rear	87	174
35RB	3½"	Stainless steel	Polycarbonate*	Bottom	87	174
45RR	4½"	Stainless steel	Polycarbonate*	Rear	98	186
45RB	4½"	Stainless steel	Polycarbonate*	Bottom	98	186
45TB	4½"	Phenolic	Glass**	Bottom (turret)	172	344

* Glass lens available; specify "Glass" lens, add \$9 to price. ** Polycarbonate lens available; specify "Poly" lens, add \$9 to price.

Table 2: Temperature Ranges††
For Vapor (Model No. Starts with "VA")

°F Ranges		°F and °C Ranges	
Code	°F Range	Code	°F (°C) Range
-20	-40 to 60°F	-21	-40 to 60 (-40 to 15)
-30	-40 to 110°F	-31	-40 to 110 (-40 to 40)
-32	-20 to 120°F	-33	-20 to 120 (-30 to 50)
-72	0 to 180°F	-73	0 to 180 (-20 to 80)
-49	0 to 150°F	-79	0 to 150 (-15 to 65)
-80	20 to 220°F	-81	20 to 220 (0 to 105)
-50	40 to 240°F	-51	40 to 240 (0 to 115)
-56	0 to 250°F	-57	0 to 250 (-20 to 120)
-60	30 to 300°F	-61	30 to 300 (0 to 150)
-68†	100 to 350°F	-66†	100 to 350 (40 to 175)
-70†	200 to 450°F	-71†	200 to 450 (100 to 230)

Table 2A for Gas (Model No. Starts with "GA")

Code	°F Ranges	Div	Code	°F and (°C) Ranges	Div	Price
-FB	-320 to 100°F	5°	-DB	-320 to 100 (-200 to 40)	5°/2°	\$272 setup + 26.50/ea
-FE	-120 to 120°F	2°	-DE	-120 to 120 (-85 to 50)	2°/1°	No extra charge
-FG	-40 to 180°F	2°	-DG	-40 to 180 (-40 to 80)	2°/2°	No extra charge
-FH	0 to 120°F	1°	-DH	0 to 120 (-15 to 50)	1°/1°	No extra charge
-FJ	60 to 120°F	1°	-DJ	60 to 120 (15 to 50)	1°/½°	No extra charge
-FL	20 to 240°F	2°	-DL	20 to 240 (-5 to 110)	2°/1°	No extra charge
-FN	0 to 300°F	5°	-DN	0 to 300 (-10 to 150)	5°/1°	No extra charge
-FP	50 to 550°F	5°	-DP	50 to 550 (10 to 29)	5°/5°	No extra charge
-FR	50 to 750°F	5°	-DR	50 to 750 (0 to 400)	5°/5°	Add \$92
-FT	400 to 1200°F	10°	-DT	400 to 1200 (200 to 650)	10°/5°	Add \$92

Table 3: Capillary and Bulbs

Code††	Capillary and Bulb Material	Capillary Protection	Price First 5' (Standard Length)		Price 10'		Price/ add 1 foot	
			VA	GA	VA	GA	VA	GA
-A	Copper	None	-	-	\$10	\$20	\$2	\$4
-C	Copper	Bronze braid	\$14	\$28	34	68	4	8
-D†	316 SS	None	50	100	80	160	6	12
-E†	316 SS	SS armor	68	136	118	236	10	20

Table 4: Capillary Length

Code	Connection Type	Material	Price	
			VA	GA
-J1	None (Plain Bulb)	-	-	-
-K2	½ NPT Union	Brass	\$10.50	\$21
-L2†	½ NPT Union	316 SS	25.00	50
-M2†	½ NPT sliding union, jam nut and bendable extension	316 SS	95.00	190
-J2	Jam nut only (required with thermowell)	Brass	\$6.00	\$12
-J3	Jam nut only (required with thermowell)	316 SS	17.50	35

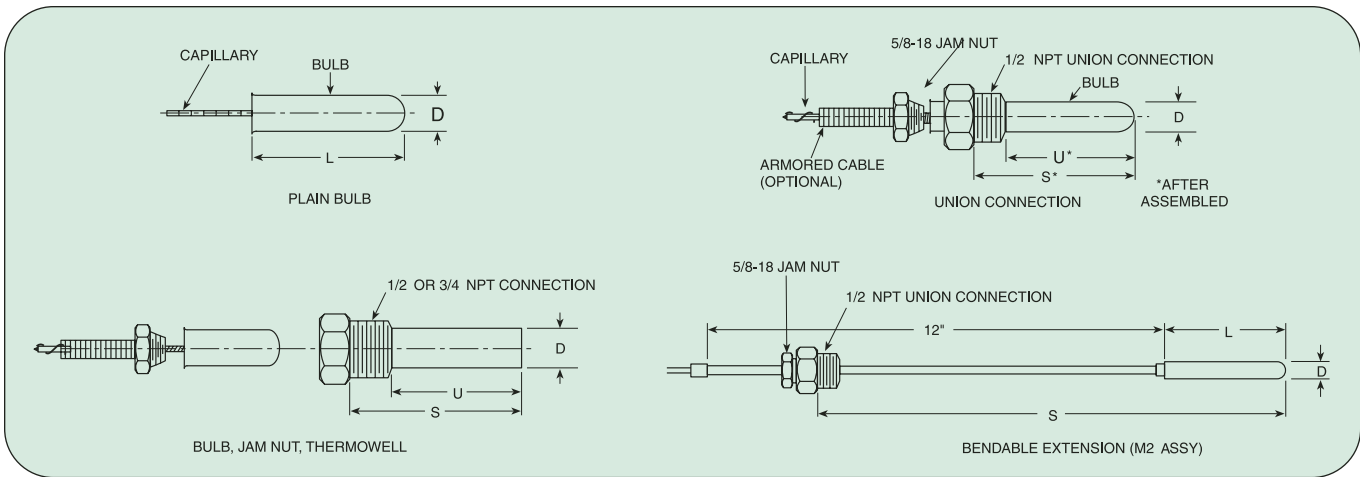
Note: Capillary lengths over 5' effect bulb length. See Dimensions Table.

Table 5: Process Connection

Code	Connection Type	Material	Price	
			VA	GA
-J1	None (Plain Bulb)	-	-	-
-K2	½ NPT Union	Brass	\$10.50	\$21
-L2†	½ NPT Union	316 SS	25.00	50
-M2†	½ NPT sliding union, jam nut and bendable extension	316 SS	95.00	190
-J2	Jam nut only (required with thermowell)	Brass	\$6.00	\$12
-J3	Jam nut only (required with thermowell)	316 SS	17.50	35

† Higher temp ranges are available with -D or -E and -L2 or -M2. M2 only available with 316 SS capillary.

†† Ranges 300°F or above for vapor-actuate and all gas-actuated models only offered with stainless steel systems.



Dimensions: in

ALL MODELS AVAILABLE FOR FAST DELIVERY!

Capillary Length	Plain Bulb		Union Connection			Thermowell			Bendable Ext		
	L	D	U	S	D	U	S	D	L	S	D
1 to 5' (bulb #1)	2½	¾	1¾	2¾	7/16	1½	2½	9/16	2½	3-13	¾
6 to 10' (bulb #1)	3¾	¾	1¾	2¾	7/16	1½	2½	9/16	3¾	4-14	¾
11 to 25' (bulb #2)	3¾	¾	2½	3¼	7/16	2½	3¾	9/16	3¾	4-14	¾
26 to 50' (bulb #3)	4¾	¾	4½	5¼	7/16	4½	5¾	9/16	4¾	5-15	¾
51 to 75' (bulb #4)	7¾	¾	6½	7¼	7/16	6½	7¾	9/16	7¾	8-18	¾
76 to 100' (bulb #5)	10¾	¾	8½	9¼	7/16	8½	9¾	9/16	10¾	11-21	¾

Thermowells for Vapor- and Gas-Actuated Bulbs (except M2)

½ NPT			¾ NPT		
Model No.	Price VA or GA	Description	Model No.	\$ VA or GA	Description
1/2-445S-U1 15/16-316SS-CB	\$27.00	1 to 10' Capillary (bulb #1)	3/4-445S-U1 15/16-316SS-CB	\$27.00	1 to 10' Capillary (bulb #1)
1/2-445S-U1 15/16-316SS-SB	27.00		3/4-445S-U1 15/16-316SS-SB	27.00	
1/2-445S-U1 15/16-BRASS-CB	18.00		3/4-445S-U1 15/16-BRASS-CB	18.00	
1/2-445S-U1 15/16-BRASS-SB	18.00		3/4-445S-U1 15/16-BRASS-SB	18.00	
1/2-445S-U2 5/8-316SS-CB	29.00	11 to 25' Capillary (bulb #2)	3/4-445S-U2 5/8-316SS-CB	29.00	11 to 25' Capillary (bulb #2)
1/2-445S-U2 5/8-316SS-SB	29.00		3/4-445S-U2 5/8-316SS-SB	29.00	
1/2-445S-U2 5/8-BRASS-CB	18.50		3/4-445S-U2 5/8-BRASS-CB	18.50	
1/2-445S-U2 5/8-BRASS-SB	18.50		3/4-445S-U2 5/8-BRASS-SB	18.50	
1/2-445S-U4 5/8-316SS-CB	40.50	26 to 50' Capillary (bulb #3)	3/4-445S-U4 5/8-316SS-CB	40.50	26 to 50' Capillary (bulb #3)
1/2-445S-U4 5/8-316SS-SB	40.50		3/4-445S-U4 5/8-316SS-SB	40.50	
1/2-445S-U4 5/8-BRASS-CB	25.00		3/4-445S-U4 5/8-BRASS-CB	25.00	
1/2-445S-U4 5/8-BRASS-SB	25.00		3/4-445S-U4 5/8-BRASS-SB	25.00	
1/2-445S-U6 5/8-316SS-CB	55.00	51 to 75' Capillary (bulb #4)	3/4-445S-U6 5/8-316SS-CB	55.00	51 to 75' Capillary (bulb #4)
1/2-445S-U6 5/8-316SS-SB	55.00		3/4-445S-U6 5/8-316SS-SB	55.00	
1/2-445S-U6 5/8-BRASS-CB	34.50		3/4-445S-U6 5/8-BRASS-CB	34.50	
1/2-445S-U6 5/8-BRASS-SB	34.50		3/4-445S-U6 5/8-BRASS-SB	34.50	
1/2-445S-U8 5/8-316SS-CB	70.00	76 to 100' Capillary (bulb #5)	3/4-445S-U8 5/8-316SS-CB	70.00	76 to 100' Capillary (bulb #5)
1/2-445S-U8 5/8-316SS-SB	70.00		3/4-445S-U8 5/8-316SS-SB	70.00	
1/2-445S-U8 5/8-BRASS-CB	45.00		3/4-445S-U8 5/8-BRASS-CB	45.00	
1/2-445S-U8 5/8-BRASS-SB	45.00		3/4-445S-U8 5/8-BRASS-SB	45.00	

To Order Construct a Model Number as Follows - See 3 Examples Below:

Model No.	Table 1	Table 2 or 2A	Table 3	Table 4	Table 5	Table 6
VA or GA*	Case Style and Size	Temperature Range	Capillary and Bulb	Capillary Length (feet)	Process Connection	Thermowell (Optional)
1) VA	25FR	32	D	05	J1	
Price:	(\$54)	(NC)	(NC)	(\$50)	(NC)	
2) GA	45FL	DH	E	12	L2	
Price:	(\$358)	(NC)	(NC)	(\$276)	(\$50)	
3) VA	25FRGlass	32	D	10	J3	1/2-445S-U1 15/16-316SS-SB
Price:	(\$63)	(NC)	(NC)	(\$80)	(\$17.50)	(\$27)

Price for Example 1) \$104; for 2) \$684; for 3) \$187.50.

omega.co.uk[®]

Your One-Stop Source for Process Measurement and Control!

Freephone 0800 488 488 | International +44(0) 161 777 6622 | Fax +44(0) 161 777 6622 | Sales@omega.co.uk

www.omega.co.uk



UNITED STATES

www.omega.com

1-800-TC-OMEGA
Stamford, CT.

UNITED KINGDOM

www.omega.co.uk

Manchester, England
0800-488-488
+44-(0)161-777-6611

CANADA

www.omega.ca

Laval(Quebec)
1-800-TC-OMEGA

FRANCE

www.omega.fr

0800-466-342

GERMANY

www.omega.de

Deckenfronn, Germany
0800-8266342

BENELUX

www.omega.nl

0800-099-33-44



More than 100,000 Products Available!

• Temperature

Calibrators, Connectors, General Test and Measurement Instruments, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders, Relative Humidity Measurement Instruments, PT100 Probes, PT100 Elements, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples, Thermowells and Head and Well Assemblies, Transmitters, Thermocouple Wire, RTD Probes

• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters