



***Weksler® Pressure and
Temperature Instruments
Full Line Catalog***



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RANGE

The maximum operating pressure should not exceed 75% of the full-scale range. The normal operating range should be in the middle half of the range (between 25% and 75% of the full-scale range); whenever possible.

DIAL SIZE

Select a dial size that allows you to comfortably read the dial from the normal distance when installed.

PRESSURE SYSTEM MATERIAL

The media to which the gauge will be subjected is critical to the selection of the proper material for the Bourdon tube, bellows, and socket. Consult "corrosion chart" on page 5 for proper selection of pressure system materials. Weksler models are offered with:

- Phosphor bronze Bourdon tube (or bellows) with brass sockets.
- 316 stainless steel Bourdon tube (or bellows) with 316 stainless steel sockets.
- 316 stainless steel Bourdon tube with alloy steel sockets.
- Monel Bourdon tubes with Monel sockets.

For applications where the above materials may not be suitable, a diaphragm seal will be necessary to protect the pressure gauge system.

ACCURACY

Select a gauge with the desired accuracy as follows:

- $\frac{1}{4}\%$ – test gauges only (not for in-line service)
- $\frac{1}{2}\%$ – Weksler Royal gauges ($4\frac{1}{2}$ " dial size and larger) and Weksler digital gauges ($2\frac{1}{2}$ " case size)
- 1% – Weksler Regal gauges, 100 MM Gauge, EA14 gauge
- 2-1-2% – Weksler duplex, differential and low pressure gauges
- 3-2-3% – Weksler BY12, BY42, UA15, UA20, UA25, UA35 series utility gauges

MOVEMENT

Select either a gauge with 300 series stainless steel movement for long wear or a gauge with bronze or brass movement for applications where vibration and pulsation are not present.

CASE

A wide variety of case styles and materials are offered. Determine how the gauge is to be mounted: direct, surface (wall) or flush (in panel). Determine the desired case materials: polypropylene (or phenol); aluminum (black enameled) or stainless steel (300 series).

Determine case type:

- Safety (solid front with blow-out back)
- Standard (open front with rubber blow-out disc at rear)

Note – All safety case styles are designated by a number. Standard case styles are designated by a letter.

WINDOW

A glass face is standard in most gauges. If breakage is a concern, a plastic or shatterproof glass face is optional at extra cost on most Weksler Royal and Regal gauges. (Glycerin filled and sanitary gauges have plastic face as standard).

POINTER

All Weksler gauges (except utility types) have adjustable pointers. This permits pointer repositioning during calibration check or allows maximum precision at a specific point.

TEMPERATURE

The ambient temperature to which the gauge will be subjected should not exceed 150°F. If higher temperatures are encountered the gauge must be isolated from the source of heat. The temperature of the media to which the gauge is subjected to is also critical. Gauges with phosphor bronze Bourdon tubes should not be subjected to process temperatures in excess of 150°F. Gauges with metal cases and either 316 stainless steel or monel bourdons can withstand higher process temperatures, but as temperature exceeds 150°F hardening of the gasketing and discoloration of the dial may occur. In addition, accuracy will be affected by approximately 1.5% per 100°F. Both 316 stainless steel and monel gauges in metal cases will withstand 750°F for short periods of time without rupture, but other parts of the gauge will be destroyed and calibration will be lost.

VIBRATION

If present, a glycerin filled gauge is recommended.

PULSATION

If present, a pressure snubber or throttle screw is recommended.

WARNING: Misuse, Including Excessive Pressure, Vibration, Pulsation, Temperature And Corrosion May Cause Failure That Can Result in Damage Or Injury. We suggest that users of Pressure Gauges refer to American National Standard ASME B40.1 entitled "Gauges, Pressure And Vacuum Indicating Dial Type – Elastic Element" for guidance in Gauge selection. This document may be obtained from American Society of Mechanical Engineers (ASME) United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

The primary considerations in specifying or purchasing a pressure gauge are the accuracy required and the media to be used in its application. This corrosion chart has been prepared to assist you in the selection of the gauge material that is best for your installation requirement.

The media being measured must be compatible with the wetted parts of the pressure instrument. To use the chart below, locate the media whose pressure is to be measured and select a suitable material from those available. This is a simplified chart and assumes the media temperature is below 200°F except for media with an * which must be below 100°F. Throttling devices and/or a liquid filled

instrument are recommended in applications with pulsation or vibration. These recommendations are only a guide, as service life is dependent on temperature, concentrations, catalysts that may be added, or other conditions beyond our control. Consult customer service for specific applications and for any media not listed.

MEDIA APPLICATION	Pressure Instrument Material				
	Brass or bronze	Steel	316 SS	Monel	Diaphragm seals**
Acetone*	•		•	•	
Acetic Acid <40%			•		
Acetic Anhydride					•
Acetylene (Dry)		•	•		
Acrolein 100%					•
Air	•	•	•	•	
Alcohol, Ethyl	•		•	•	
Alum. Chloride >10%					•
Alum. Sulfate 10-50%					•
Ammonia Gas (Dry)		•	•		
Ammonium Chloride <40%					•
Ammonium Nitrate <50%			•		
Ammonium Sulfate <60%					•
Aniline>99%			•		
Argon	•	•	•	•	
Beer			•		
Benzidine >99%					•
Benzene <50%			•	•	
Benzoic Acid <70%					•
Boric Acid <25%			•		
Bromine (Dry)					•
Butane	•	•	•	•	
Butyric Acid <10%					•
Calcium Chloride <80%					•
Calcium Hydroxide <50%					•
Carbon Dioxide	•	•	•	•	
Carbon Monoxide (Dry) >99%	•		•	•	
Chlorine (Dry)					•
Chlorine (Moist)					•
Chloroform (Dry)			•	•	
Chromic Acid					•
Citric Acid 10-50%			•		
Corn Oil			•		

MEDIA APPLICATION	Pressure Instrument Material				
	Brass or bronze	Steel	316 SS	Monel	Diaphragm seals**
Crude Oil (Sour)				•	
Crude Oil (Sweet)			•	•	
Ethyl Acetate	•		•	•	
Ethylene Oxide >99%*	•		•	•	
Ferric Chloride <40%					•
Ferric Sulfate <10%			•		
Ferrous Chloride <30%					•
Ferrous Sulfate <50%					•
Fluorine Gas (Dry) No Air				•	
Formaldehyde <95%			•	•	
Formic Acid*					•
Freons		•	•		
Furfural <10%					•
Gasoline (Flowing)	•		•		
Glycerin >99%	•	•	•	•	
Hydrobromic Acid					•
Hydrochloric Acid					•
Hydrofluoric Acid					•
Hydrofluosilic Acid					•
Hydrogen ⁽²⁾	•		•		
Hydrogen Peroxide <50%					•
Kerosene	•	•	•	•	
Lactic Acid <70%*(2)			•		
Magnesium Chloride <40%					•
Mercury >99%			•		
Milk			•		
Naphtha >99%	•	•	•	•	
Naphthalene >99%			•	•	
Nickel Chloride >99%					•
Nitric Acid <95%*			•		
Nitrogen	•	•	•	•	
Oleic Acid	•				•
Oxalic Acid*					•

MEDIA APPLICATION	Pressure Instrument Material				
	Brass or bronze	Steel	316 SS	Monel	Diaphragm seals**
Oxygen (Gas) ⁽¹⁾	•		•	•	
Palmitic Acid >99%*			•		
Phosphoric Acid <80%*			•		
Picric Acid <10%			•		
Propane (Dry) DOT Quality	•	•	•	•	
Sea Water (Flowing)				•	
Silver Nitrate <70%					•
Sodium Bicarbonate <20%			•	•	
Sodium Bisulfate <30%					•
Sodium Carbonate <40%			•	•	
Sodium Chromate <60%	•	•	•	•	
Sodium Cyanide*		•	•		
Sodium Hydroxide < 40%				•	
Sodium Hypochlorite <25%					•
Sodium Phosphate, Tri <60%		•	•	•	
Sodium Silicate <50%		•	•	•	
Sodium Sulfide <50%					•
Stannous Chloride <10%					•
Steam (Use siphon)	•	•	•	•	
Stearic Acid			•		
Sulfur Dioxide (Dry) >99%					•
Sulfur Trioxide (Dry) >99%					•
Sulfuric Acid					•
Tannic Acid <80%		•	•	•	
Tartaric Acid <50%			•	•	
Tin Chloride (ous) <10%					•
Toluene >99%	•	•	•	•	
Turpentine >98%	•	•	•	•	
Water (tap)	•		•	•	
Whiskey			•		
Zinc Chloride <25%*					•
Zinc Sulphate <40%					•

(1) Monel and 316 stainless steel are acceptable for oxygen service, provided the instrument has been cleaned for service and is free from oil. Order variation X6B.

(2) Over 1000 psi—entire system must be 316 stainless steel.

*Media temperature must be below 100°F.

**Any standard Bourdon tube or bellows material may be used in conjunction with a diaphragm seal (with bellows use a Viton or Kalrez diaphragm), but the gauge selection should take into consideration the corrosive environment in which it is to operate.

Table revised June 1st, 2005

STANDARD FEATURES

Movement: Precision design, stainless steel rotary gear type. Wear-resistant, and virtually frictionless for long, accurate service.

Dial & Pointer: Mirrored dial and balanced knife-edge aluminum pointer permits reading without parallax error. Dial surface is white, with black numerals and graduations in a full 270° arc. Graduation lines are same width as the knife edge on pointer.

Dial Sizes: 4½", 6"

Connection Location: ¼ or ½ male NPT

Case: Choice of two black enameled die cast aluminum cases, solid front, safety type

Style 4: Back flanged type, bayonet ring, for surface or direct mounting. Bottom connected.

Style 6: Hinged front flush mount type, back connected.

Test Gauges are designed specifically for periodic bench testing and recalibration of production type gauges. They are also recommended for use in test cells such as on research projects, and as portable instruments for field inspectors and traveling engineers. Test gauges are not suggested for continuous duty in service installations.



STANDARD RANGES

RANGE CODE	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0/15 psi	1 psi	0.05 psi
PD	0/30 psi	2 psi	0.10 psi
PE	0/60 psi	5 psi	0.20 psi
PF	0/100 psi	5 psi	0.50 psi
PG	0/160 psi	10 psi	1.0 psi
PH	0/200 psi	10 psi	1.0 psi
PJ	0/300 psi	20 psi	1.0 psi
PK	0/400 psi	20 psi	2.0 psi

STANDARD RANGES

RANGE CODE	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PM	600 psi	0/50 psi	2.0 psi
PO	800 psi	0/50 psi	5.0 psi
PP	1000 psi	0/50 psi	5.0 psi
PR	1500 psi	0/100 psi	5.0 psi
PS	2000 psi	0/100 psi	10.0 psi
PT	3000 psi	0/200 psi	10.0 psi
PV	5000 psi	0/500 psi	20 psi
PY	10,000 psi	0/1000 psi	50 psi

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE
TA14 ⁽²⁾	Phosphor Bronze	4½"
TA16 ⁽²⁾	Tube, Brass Socket	6"
TA24	K Monel Tube,	4½"
TA26	and Socket	6"

NOTES:

- (1) The accuracy of measurement is influenced by the ambient temperature. The Weksler test gauge is calibrated to be accurate to within ¼ of 1% of full scale range at 77°F. (25°C). Using the gauge in ambient temperatures other than this requires the application of a correction of 0.02% of the indicated pressure for each 1°F. The correction is minus if the temperature is higher and plus if lower than 77°F.
- (2) 0/400 psi maximum range.
- (3) Refer to page 26 for case dimensions.

HOW TO ORDER

T A 1 4 4 P K 4 L W

1. Basic 4-digit Catalog No. From Table Above
2. Case Style "4" (Bottom Connection) or "6" (Back Connection)
3. Range Code From Range Tables Above
4. Thread Size: 4 = ¼ NPT Male (Standard); 2 = ½ NPT Male
5. Connection Location: L = Lower (Bottom); or R = Rear (Back)
6. Dial Color: W = White (Standard), B = Black (Optional)

General Purpose Digital Gauge Type WDG4251L $\pm 1/2\%$ of Span Terminal Point Accuracy

STANDARD FEATURES

The Weksler WDG4251L offers 0.5% of span accuracy, while the stainless steel sensor and socket make this product suitable not only for dry air applications but for other media as well.

This product offers selectable units of measure so rather than purchasing one gauge for each unit of measure required, the solution is one gauge for multiple units of measure.

The WDG4251L is standard with many features not offered, or offered only as options, on competitor's digital gauge products, such as peak hold and 5 digit display. When compared to mechanical gauges the WDG4251L offers overall enhanced value.

- Enhanced value versus mechanical gauges
- No-nonsense accuracy – $\pm 0.5\%$ full scale accuracy
- Easy-to-read – 5 digit display with .48" character size, backlite display feature to enhance visibility
- Versatile – nine engineering units and stainless steel sensor suitable for a variety of applications
- Standard features – max.-pressure indication; ranges from vacuum to 20,000 psi, including compound
- Competitively priced
- IP65



PRODUCT SPECIFICATIONS

Type no.:	WDG4251L
Accuracy:	$\pm 0.5\%$ of span
Case Size:	2 1/2"
Case Material:	Polycarbonate
Wetted Parts:	17-4 PH stainless steel sensor; 316L stainless steel socket
Socket Size:	1/4 NPT
Connection:	Lower
Ranges:	Vac. thru 20,000 psi (see engineering units below for other units of measurement)
Battery:	Two AA alkaline batteries; 2000 hours battery life
Overpressure:	
Proof Pressure:	Vac – 2,000: 200%
% of Span	3,000 – 5,000: 150%
7,500 – 20,000: 120%	
Burst Pressure:	Vac – 2,000: 800%
% of Span	3,000 – 5,000: 500%
7,500 – 20,000: 300%	
Cycle Life:	10 million cycles
Vibration:	MIL-STD-202G, Method 201A
Shock:	MIL-STD-202G, Method 213B, Test Condition K
Operating Temp.:	–4°F to 140°F, (–20°C to 60°C) ambient temp.; –4°F to 176°F, (–20°C to 80°C) process media temp
Storage Temp.:	Batteries Installed: –4°F to 140°F, (–20°C to 60°C) Batteries Removed: –4°F to 176°F, (–20°C to 80°C)
Temp. Coef.:	0.04%/°F (–20°F to 180°F) zero and span Reference Temp. 70°F
Update Rate:	1Hz, 2Hz, 4Hz
Agency Approvals:	CE (heavy industrial), ASME B40.7, RoHS, UL 61010/ cUL (pending)
Packaging:	Individual carton

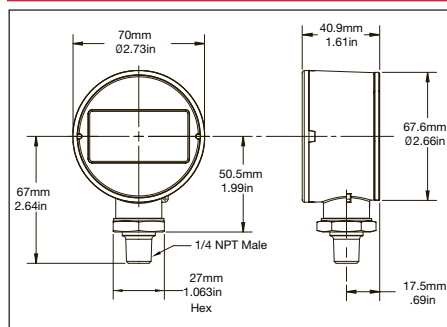
DISPLAY

Type:	LCD	
Display Digits:	5	
Display Resolution:	Full Scale Numerical Value	Display Resolution
	$\geq -15 > 0$	–XX.000
	$> 0 < 2$	X.0000
	$\geq 2 < 20$	XX.000
	$\geq 20 < 200$	XXX.00
	$\geq 200 < 2000$	XXXX.0
	$\geq 2000 < 19,999$	XXXXX
Character Height:	0.48"	
Backlight:	OFF by default	
Battery:	Four-level battery indication	

KEYBOARD FUNCTIONS

On/Off:	Manually turns unit on and off (four options: never, 5 min., 10 min., 20 min.)
Maximum (Peak Hold):	Displays max. value when activated
Zero/Clear:	Zeros display or clears max. value when activated
Engineering Units:	psi, in.Hg, cmHg, mmHg, kPa, MPa, bar, kg/cm ² , ftH ₂ O
Field Calibration:	Zero and span

W-DG4251L GAUGE DIMENSIONS



CATALOG NUMBERS

Dial Size	2 1/2"
Connection Location	Bottom
Connection NPT	1/4
Range	
30"/0/vac.	WDG4251LVC4L
0-15 psi	WDG4251LPC4L
0-30 psi	WDG4251LPD4L
0-60 psi	WDG4251LPE4L
0-100 psi	WDG4251LPF4L
0-150 psi	WDG4251LP14L
0-200 psi	WDG4251LPH4L
0-300 psi	WDG4251LPJ4L
0-500 psi	WDG4251LPL4L
0-1000 psi	WDG4251LPP4L
0-2000 psi	WDG4251LPS4L
0-3000 psi	WDG4251LPT4L
0-5000 psi	WDG4251LPV4L
0-10,000 psi	WDG4251LPY4L
0-15,000 psi	WDG4251LPZ4L
0-20,000 psi	WDG4251LP24L

**TO ORDER SPECIFY 12 DIGIT CATALOG
NUMBER FROM TABLE ABOVE**

ROYAL & REGAL GAUGES

Process Gauges	11-13
Receiver Gauges	14
Industrial Gauges	15-17
Altitude Gauges	18
Refrigeration & Ammonia Gauges	19
100mm Gauges	20
Duplex Gauges	21
Differential Gauges	22
Special Application Gauges	23
Bellows Gauges	24
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Case Styles & Dimensions	26-29

Royal Process Gauges, ±0.5% Accuracy 316 SS Tube and Socket 4½" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 4½"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Standard with style #2 case; Polypropylene safety case (solid front, blow-out back) suitable for surface or direct mounting.

Bourdon Tube: 316 stainless steel

Socket: 316 stainless steel



PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi
PR	0-1500 psi	200 psi	10 psi
PS	0-2000 psi	200 psi	20 psi
PT	0-3000 psi	500 psi	20 psi
PV	0-5000 psi	500 psi	50 psi
PY	0-10,000 psi	1000 psi	100 psi
PZ	0-15,000 psi	3000 psi	100 psi
P2	0-20,000 psi	2000 psi	200 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

DESCRIPTION

CATALOG NO.	GAUGE TYPE
AA44	Standard "Dry" Gauge
AS44	Hermetically Sealed "Dry" Gauge
AY44	Glycerin Filled Gauge

CASE STYLE

OPTIONAL CASE STYLE*	
LOWER CONNECT	BACK CONNECT
#4 Aluminum Safety	#4 Aluminum Safety
	#6 Aluminum Flush

*Extra cost.

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi
CI	30"-0-600 psi	30" & 100 psi	10"/10 psi

NOTES:

- Royal Gauges are calibrated in accordance with ASME B40.1 Grade 2A (±1/2%).
- Metric dials can be furnished, see page 25.

HOW TO ORDER

1. Basic 4-digit Catalog No. From Table Above AA44
2. Polypropylene case style #2 standard or case style from above table 2
3. Range Code From Range Tables Above P
4. Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male F
5. Connection Location: L = Lower (Bottom), R = Back (Rear) 4
6. Dial Color: W = White L
7. If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 W ()

Royal Process Gauges, ±0.5% Accuracy K Monel Tube and Monel 400 Socket 4½" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 4½"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Standard with style #2 case; Polypropylene safety case (solid front, blow-out back) suitable for surface or direct mounting (standard).

Bourdon Tube: Monel

Socket: Monel



PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi
PR	0-1500 psi	200 psi	10 psi
PS	0-2000 psi	200 psi	20 psi
PT	0-3000 psi	500 psi	20 psi
PV	0-5000 psi	500 psi	50 psi
PY	0-10,000 psi	1000 psi	100 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

DESCRIPTION

CATALOG NO.	GAUGE TYPE	CASE STYLE	
		OPTIONAL CASE STYLE*	
		LOWER CONNECT	BACK CONNECT
AA24	Standard "Dry" Gauge	#4 Aluminum Safety	#4 Aluminum Safety
AS24	Hermetically Sealed "Dry" Gauge		#6 Aluminum Flush
AY24	Glycerin Filled Gauge		

*Extra cost.

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	5"/2 psi
CI	30"-0-600 psi	30" & 100 psi	10"/5 psi

NOTES:

- Royal Gauges are calibrated in accordance with ASME B40.1 Grade 2A (±1/2%).
- Metric dials can be furnished, see page 25.

HOW TO ORDER

A A 2 4 2 P F 4 L W ()

- Basic 4-digit Catalog No. From Table Above _____
- Polypropylene case style #2 standard or case style from above table _____
- Range Code From Range Tables Above _____
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male _____
- Connection Location: L = Lower (Bottom), R = Back (Rear) _____
- Dial Color: W = White _____
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Royal Process Gauges

±0.5% Accuracy
6", 8 1/2" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 6", 8 1/2"

Thread Size: 1/4 male NPT; 1/2 male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Standard with style #4 case; Aluminum safety case (solid front, blow-out back) suitable for surface or direct mounting.

Optional Case Style:

(6" size only)

Back connect #6 Aluminum Flush

Bourdon Tube: See Table Below

Socket: See Table Below



PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi
PR	0-1500 psi	200 psi	10 psi
PS	0-2000 psi	200 psi	20 psi
PT	0-3000 psi	500 psi	20 psi
PV	0-5000 psi	500 psi	50 psi
PY	0-10,000 psi	1000 psi	100 psi
PZ	0-15,000 psi	3000 psi	100 psi
P2	0-20,000 psi	2000 psi	200 psi

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi
CI	30"-0-600 psi	30" & 100 psi	10"/10 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE
AA16	Brass/ Bronze	6"	Dry
AS16		6"	Herm. Seal.
AY16		6"	Liq. Fill
AA26	Monel	6"	Dry
AS26		6"	Herm. Seal.
AY26		6"	Liq. Fill
AA46	316 SS	6"	Dry
AS46		6"	Herm. Seal.
AY46		6"	Liq. Fill
AA48		8 1/2"	Dry (only)

CASE STYLES

OPTIONAL CASE STYLES*

BACK CONNECT

#6 Aluminum Flush
(6" Back Conn. Only)

*Extra cost.

NOTES:

- Royal Gauges are calibrated in accordance with ASME B40.1 Grade 2A (±1/2%).
- Metric dials can be furnished, see page 25.

HOW TO ORDER

A A 4 6 4 P F 4 L W ()

- Basic 4-digit Catalog No. From Table Above
- Aluminum case style #4 standard or case style from above table
- Range Code From Range Tables Above
- Thread Size: 4 = 1/4 Npt Male (Standard); 2 = 1/2 Npt Male
- Connection Location: L = Lower (Bottom), R = Back (Rear)
- Dial Color: W = White
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35

Royal Receiver Gauges ±0.5% Accuracy 4½" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 4½"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Standard with style #2 case; Polypropylene safety case (solid front, blow-out back) suitable for surface or direct mounting (standard).

Bourdon Tube: 316 stainless steel

Socket: 316 stainless steel

Receiver gauges are used with a transmitter (transducer) to translate distant point air signals into units of pressure, temperature, liquid level or flow. Outer scale marked with equal increments of transmitted signal, inner scale graduated with units of specific measured variable (i.e.: square root, %).



AR44

STANDARD RANGES (3-15 PSI SIGNAL)

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
OC	0-100	1 psi	.25 psi
OH	0-10 Sq. Rt.	5 psi	.5 psi

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE
AR44	316 SS	4½"	Receiver

CASE STYLES

OPTIONAL CASE STYLE*	
LOWER CONNECT	BACK CONNECT
#4 Style Alum. Safety	#6 Style Alum. Flush

*Extra cost.

NOTES:

- Royal Gauges are calibrated in accordance with ASME B40.1 Grade 2A (±1/2%).

HOW TO ORDER

A R 4 4 2 O C 4 L W ()

- Basic 4-digit Catalog No. From Table Above _____
- Polypropylene Case Style #2 (Standard) or case style from above table _____
- Range Code From Range Tables Above _____
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male _____
- Connection Location: L = Lower (Bottom), R = Back (Rear) _____
- Dial Color: W = White _____
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Regal Industrial Gauge

±1.0% Accuracy
3½" Dial Size

STANDARD FEATURES

Available in 3½" dial sizes, Regal pressure gauges are liquid fillable and field convertible for panel mounting. Both zero and span adjustments are standard. The gauge is available dry, liquid-filled weatherproof or hermetically sealed.

- Designed for safety and long life
- All stainless, all-welded construction for long life
- ASME Grade 1A, 1% accuracy full scale
- No stop pin to mask false zero reading – ensures safety and process control
- Bourdon tube, see table below
- Socket, see table below



BA43

PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi
PR	0-1500 psi	200 psi	10 psi
PS	0-2000 psi	200 psi	20 psi
PT	0-3000 psi	500 psi	20 psi
PV	0-5000 psi	500 psi	50 psi
PY	0-10,000 psi	1000 psi	100 psi
PZ	0-15,000 psi	3000 psi	100 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE
BA13	Brass/Bronze ⁽¹⁾	3½"	Dry
BS13			Herm. Sealed
BY13			Liquid Fill
BA43	316 SS		Dry
BS43			Herm. Sealed
BY43			Liquid Fill

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi
CI	30"-0-600 psi	30" & 100 psi	10"/10 psi

CASE STYLES

OPTIONAL CASE STYLE†*	
LOWER CONNECT	BACK CONNECT
"X" Style SS Back Flanged	"X" Style SS
	Back Flanged
	"U" Style SS
	U-Clamp
	"V" Style SS
	Front Flanged

†See page 26 for case dimensions. *Extra cost.

NOTES:

1. Brass/Bronze maximum range is 1000 psi.
2. Metric dials available, see page 25.

HOW TO ORDER

B A 4 3 Y P F 4 L W ()

1. Basic 4-digit Catalog No. From Table Above _____
2. Stainless Steel Case Style "Y" Standard or case style from above table _____
3. Range Code From Range Tables Above _____
4. Thread Size: 4 = ¼ Npt Male (only) _____
5. Connection Location: L = Lower (Bottom), R = Back (Rear) _____
6. Dial Color: W = White _____
7. If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Regal Industrial Gauge ±1.0% Accuracy Bronze/Brass 4½" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 4½"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Polypropylene safety case #2 (solid front, blow-out back) suitable for surface or direct mounting (standard).

Bourdon Tube: Bronze

Socket: Brass



PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE
BA14	Brass/Bronze ⁽²⁾	4½"	Dry
BS14			Herm. Seal.
BY14			Liquid Fill

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi
CI	30"-0-600 psi	30" & 100 psi	10"/10 psi

NOTES:

- Regal gauges are calibrated in accordance with ASME B40.1 Grade 1A (±1%).
- Brass/Bronze maximum range is 1000 psi.

CASE STYLES

OPTIONAL CASE STYLE*	
LOWER CONNECT	BACK CONNECT
#4 Style Alum. Safety	#4 Style Alum. Safety
	#6 Style Alum. Safety

*Extra cost.

HOW TO ORDER

B A 1 4 2 P F 4 L W ()

- Basic 4-digit Catalog No. from Table Above _____
- Polypropylene Case Style #2 (Standard) or choose from above table _____
- Range Code From Range Tables Above _____
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male _____
- Connection Location: L = Lower (Bottom), R = Back (Rear) _____
- Dial Color: W = White _____
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

STANDARD FEATURES
Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 6", 8½", 12"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)⁽³⁾
Case: 6", 8½" Aluminum safety case (solid front, blow-out back) suitable for surface or direct mounting (4 Style).

12" Aluminum (open front)

Back Flanged: (E style)

Bourdon Tube: See table below

Socket: See table below

PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PC	0-15 psi	1 psi	.25 psi
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi
PR	0-1500 psi	200 psi	10 psi
PS	0-2000 psi	200 psi	20 psi
PT	0-3000 psi	500 psi	20 psi
PV	0-5000 psi	500 psi	50 psi
PY	0-10,000 psi	1000 psi	100 psi
PZ	0-15,000 psi	3000 psi	100 psi
P2	0-20,000 psi	2000 psi	200 psi

VACUUM RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
VC	30"-0 Hg. Vac	3"	.2"

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE	OPTIONAL CASE STYLE*	
				LOWER CONNECT	BACK CONNECT
BA16	Brass/Bronze ⁽⁴⁾	6"	Dry	#4 Style Alum. Safety (only)	#6 Style Alum. Flush
BS16			Herm. Seal.		
BY16			Liq. Fill		
BA18	Brass/Bronze ⁽⁴⁾	8½"	Dry	#4 Style Alum. Safety (only)	#4 Style Alum. Safety (only)
BA49	316 SS	12"	Dry	"E" Style Alum. Safety Back Flanged	Not Available in Back Connect

*Extra cost.

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	5" & 3 psi	.5"/2 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/5 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 20 psi	5"/2 psi
CF	30"-0-200 psi	30" & 20 psi	5"/2 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi
CI	30"-0-600 psi	30" & 100 psi	10"/10 psi

NOTES:

- Regal Gauges are calibrated in accordance with ASME B40.1 Grade 1A (±1%).
- Metric dials can be furnished, see page 25.
- 12" available in lower connect only
- Brass/Bronze maximum range is 1000 psi.

HOW TO ORDER
B A 1 6 4 P F 4 L W ()

- Basic 4-digit Catalog No. From Table Above _____
- Case Style from Table Above _____
- Range Code From Range Tables Above _____
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male _____
- Connection Location: L = Lower (Bottom), R = Back (Rear) _____
- Dial Color: W = White _____
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Regal Altitude Gauges ±1.0% Accuracy 316 St. St. Tube & Socket 3½" & 4½" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 3½" (12), 4½"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: Standard with style #2 case; 4½" polypropylene safety case (solid front, blow-out back) suitable for surface or direct mounting (standard). 3½" stainless steel case ("Y" style)

Bourdon Tube: 316 St. St.

Socket: 316 St. St.



BM1 ALTITUDE RANGES

RANGE CODE	TOTAL GRADUATION	FIGURE INTERVALS	SMALLEST GRADUATION
HA	0-30 ft.	5 ft.	½ ft.
HB	0-70 ft.	10 ft.	1 ft.
HC	0-100 ft.	10 ft.	1 ft.
HD	0-160 ft.	20 ft.	2 ft.
HE	0-200 ft.	20 ft.	2 ft.
HF	0-250 ft.	25 ft.	5 ft.
HG	0-300 ft.	50 ft.	5 ft.
HH	0-400 ft.	50 ft.	5 ft.
HI	0-500 ft.	50 ft.	5 ft.
HJ	0-600 ft.	100 ft.	10 ft.

BN1 ALTITUDE/PRESSURE

RANGE CODE	TOTAL GRADUATION	FIGURE INTERVALS	SMALLEST GRADUATION
HO	15 psi & 35 ft.	3 psi & 5 ft.	¼ psi & ½ ft.
HP	30 psi & 70 ft.	5 psi & 10 ft.	½ psi & 1 ft.
HQ	50 psi & 116 ft.	10 psi & 10 ft.	1 psi & 2 ft.
HW	60 psi & 140 ft.	10 psi & 20 ft.	1 psi & 2 ft.
HR	100 psi & 231 ft.	10 psi & 25 ft.	1 psi & 5 ft.
HS	150 psi & 345 ft.	20 psi & 20 ft.	2 psi & 5 ft.
HT	200 psi & 460 ft.	20 psi & 50 ft.	2 psi & 5 ft.
HU	300 psi & 690 ft.	50 psi & 50 ft.	5 psi & 10 ft.

BOURDON TUBE AND SOCKET

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE
BM43	316 SS	3½"	Altitude (only)
BN43			Altitude & PSI equivalent
BM44	316 SS	4½"	Altitude (only)
BN44			Altitude & PSI equivalent

CASE STYLES

OPTIONAL CASE STYLE*	
LOWER CONNECT	BACK CONNECT
"X" Style SS Back Flng.	"U" Style SS U-Clamp
	"V" Style SS Front Flng "X" Style SS Back Flng
#4 Style Alum. Safety	#6 Style Alum. Flush

*Extra cost.

NOTES:

- Regal Gauges are calibrated in accordance with ASME B40.1 Grade 1A (±1%).
- 3½" available in ¼ male NPT only.

HOW TO ORDER

B M 4 4 2 H A 4 L W ()

- Basic 4-digit Catalog No. From Table Above
- Polypropylene case style #2 (Standard) or choose from above table
- Range Code From Range Tables Above
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male
- Connection Location: L = Lower (Bottom), R = Back (Rear)
- Dial Color: W = White
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35

Regal Refrigerant and Ammonia Gauges

±1.0% Accuracy
3½", 4½" & 6" Dial Size

STANDARD FEATURES

Movement: All 300 series stainless steel

Pointer: Geared micrometer adjustable, balanced

Dial: White enameled aluminum with black graduations and numerals 270° Arc

Dial Sizes: 3½", 4½", 6"

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower (Bottom), Back (Rear)

Case: 3½", "Y" Style SS

4½", #2 Polypropylene safety

6", #4 Aluminum safety

Bourdon Tube: 316 stainless steel

Socket: 316 stainless steel

Refrigerant gauges indicate both pressure and vacuum with corresponding temperature of refrigerants.

Ammonia gauges indicate both pressure and vacuum with corresponding temperature in ammonia systems.



BOURDON TUBE AND SOCKET				CASE STYLES	
CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE	OPTIONAL CASE STYLE*	
				LOWER CONNECT	BACK CONNECT
BP43	316 SS	3½"	Ammonia	"X" Style SS Back Flng.	"U" Style SS U-Clamp
BQ43			Refrigeration		"V" Style SS Front Flng "X" Style SS Back Flng
BP44	316 SS	4½"	Ammonia	#4 Style Alum. Safety	#6 Style Alum. Flush
BQ44			Refrigeration		
BP46	316 SS	6"	Ammonia	#4 Style Alum. Safety	#6 Style Alum. Flush
BQ46			Refrigeration		

*Extra cost.

BP AMMONIA GAUGE RANGES

DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION	RANGE CODE
30"-0-150 psi	30" & 25 psi	5" & 5 psi	AA
30"-0-300 psi	30" & 25 psi	5" & 5 psi	AB

BQ REFRIGERANT GAUGE RANGES			R12	R22	R134A	R502
30"-0-150 psi	30" & 25 psi	5" & 5 psi	FH	FN	F7	F5
30"-0-300 psi	30" & 25 psi	5" & 5 psi	FI	FO	F8	F6
300 psi	25 psi	5 psi	FF	FM	-	F4

NOTES:

- Any standard pressure or compound range, from 30 to 400# can be furnished for ammonia or refrigerant use, without temperature equivalent, at no additional charge
- Figure intervals and smallest graduations above are for 4½" and 6" gauges. Graduations and intervals may vary for 3½" dial sizes.

HOW TO ORDER

B P 4 4 2 A B 4 L W ()

- Basic 4-digit Catalog No. From Table Above _____
- Polypropylene case style #2 (Standard) or choose from above table _____
- Range Code From Range Tables Above _____
- Thread Size: 4 = ¼ Npt Male (Standard); 2 = ½ Npt Male _____
- Connection Location: L = Lower (Bottom), R = Back (Rear) _____
- Dial Color: W = White, B = Black (optional) _____
- If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

100mm Gauge
±1.0 % Accuracy
316 St. St. Tube & Socket

STANDARD FEATURES

Movement: 300 series stainless steel

Pointer: Micrometer adjustable

Dial: White enameled aluminum

Dial Size: 100mm – dry or glycerin filled

Connection Location: 1/4 NPT or 1/2 NPT lower (bottom)

Case: Polished 304 stainless steel

Hermetically sealed

Dry version is liquid fillable in field

304 stainless steel case and bezel

Bourdon Tube & Socket: 316 stainless steel

- Suitable for a broad range of industrial applications



PRESSURE RANGES

SPECIFY 10 DIGIT CATALOG NUMBER FROM THE TABLE BELOW

RANGE DUAL SCALE PSI & KPA	10 DIGIT CATALOG NUMBERS			
	DRY GAUGE		GLYCERIN FILLED GAUGE	
	1/4 NPT	1/2 NPT	1/4 NPT	1/2 NPT
HG vac & 100-0 kPa	N/A	BA4CYVC2LW	BY4CYVC4LW	BY4CYVC2LW
30"-0-30 psi & 100-0-200 kPa	BA4CYCB4LW	BA4CYCB2LW	BY4CYCB4LW	BY4CYCB2LW
30"-0-60 psi & 100-0-400 kPa	BA4CYCC4LW	N/A	BY4CYCC4LW	BY4CYCC2LW
30"-0-150 psi & 100-0-1000 kPa	N/A	N/A	BY4CYCE4LW	BY4CYCE2LW
0-15 psi & 0-100 kPa	BA4CYPC4LW	BA4CYPC2LW	BY4CYPC4LW	BY4CYPC2LW
0-30 psi & 0-200 kPa	BA4CYPD4LW	BA4CYPD2LW	BY4CYPD4LW	BY4CYPD2LW
0-60 psi & 0-400 kPa	BA4CYPE4LW	BA4CYPE2LW	BY4CYPE4LW	BY4CYPE2LW
0-100 psi & 0-700 kPa	BA4CYPF4LW	BA4CYPF2LW	BY4CYPF4LW	BY4CYPF2LW
0-160 psi & 0-1100 kPa	BA4CYPG4LW	BA4CYPG2LW	BY4CYPG4LW	BY4CYPG2LW
0-200 psi & 0-1400 kPa	BA4CYPH4LW	BA4CYPH2LW	BY4CYPH4LW	BY4CYPH2LW
0-300 psi & 0-2100 kPa	BA4CYPJ4LW	BA4CYPJ2LW	BY4CYPJ4LW	BY4CYPJ2LW
0-600 psi & 0-4200 kPa	BA4CYPM4LW	BA4CYPM2LW	BY4CYPM4LW	BY4CYPM2LW
0-1000 psi & 0-7000 kPa	BA4CYPP4LW	BA4CYPP2LW	BY4CYPP4LW	BY4CYPP2LW
0-2000 psi & 0-14000 kPa	N/A	N/A	N/A	BY4CYPS2LW
0-3000 psi & 0-21000 kPa	N/A	BA4CYPT2LW	N/A	BY4CYPT2LW
0-5000 psi & 0-35000 kPa	N/A	N/A	BY4CYPV4LW	BY4CYPV2LW

HOW TO ORDER

1. Select 10-digit Catalog No. From Table Above

Regal Duplex Gauges ±2-1-2% Accuracy 4½" Dial Size

STANDARD FEATURES

Movement: Bronze

Pointer: Non-adjustable red and black pointers

Dial: White enameled aluminum with black graduations and numerals.

Dial Sizes: 4½"

Thread Size: ¼ male NPT (only)

Connection Location: Lower or Rear (back)

Case: Suitable for direct or surface mounting.

Lower – (bottom) connect available in "A" style aluminum flanged case (only).

Back – (rear) connect "A" style (standard) "W" style (optional) aluminium flush

The Weksler Type BB14A duplex gauge is used to display two separate input pressures on the same gauge for comparison purposes.



BB14A

NOTES:

1. Regal Duplex Gauges are calibrated in accordance with ASME B40.1 Grade A (±1% middle third). See page 4 of this catalog for further reference to ASME B40.1.
2. Metric dials can be furnished. See Page 25.

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	MAXIMUM PRESSURE (psi)	DIAL SIZE (INCHES)	STANDARD CASE
BB14	Phosphor Bronze Bourdon Forged Brass Socket	1000	4½	Style "A" ⁽¹⁾ Style "W" ⁽²⁾

NOTE: BB1 series *not* available with safety cases.

1. Aluminum back flanged, bottom connection only.
2. Aluminum hinged, back connection only.

PRESSURE RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
PD	0-30 psi	5 psi	.5 psi
PE	0-60 psi	10 psi	1 psi
PF	0-100 psi	10 psi	1 psi
PG	0-160 psi	20 psi	2 psi
PH	0-200 psi	20 psi	2 psi
PJ	0-300 psi	50 psi	5 psi
PK	0-400 psi	50 psi	5 psi
PM	0-600 psi	100 psi	10 psi
PO	0-800 psi	100 psi	10 psi
PP	0-1000 psi	100 psi	10 psi

COMPOUND RANGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
CA	30"-0- 15 psi	10" & 2 & 15 psi	1"/5 psi
CB	30"-0- 30 psi	10" & 5 psi	1"/1 psi
CC	30"-0- 60 psi	10" & 10 psi	1"/1 psi
CD	30"-0-100 psi	30" & 10 psi	2"/1 psi
CE	30"-0-150 psi	30" & 25 psi	5"/5 psi
CF	30"-0-200 psi	30" & 20 psi	5"/5 psi
CG	30"-0-300 psi	30" & 50 psi	10"/5 psi

HOW TO ORDER

B B 1 4 A C C 4 L W ()

1. Basic 4-digit Catalog No. From Table Above _____
2. Case Style Code A for lower conn., W for back conn. _____
3. Range Code From Range Tables Above (See notation above) _____
4. Thread Size: 4 = ¼ Npt Male (only) _____
5. Connection Location: L = Lower (Bottom); or R = Rear (Back) _____
6. Dial Color: W = White (Standard), B = Black (Optional) _____
7. If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Regal Differential Gauges

±2-1-2% Accuracy
4½" & 6" Dial Size

STANDARD FEATURES

Movement: Bronze

Pointer: Geared micrometer adjustable

Dial: White enameled aluminum. Black graduations and numerals

Dial Sizes: 4½", 6"

Thread Size: ¼ male NPT only

Connection Location: 4½" lower (bottom) or Back (rear) 6" lower (bottom) only

Case: Suitable for direct or surface mounting. Available in "A" style aluminum case only.

To measure the difference between two pressure sources, apply high pressure, then low pressure. Read differential pressure on the gauge. BC designed with "O" at top center, BD with "O" at the left.



BD14A

BC GAUGES RANGE TABLE

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION	STATIC PRESSURE LIMITS
DA	10-0- 10 psi	2 psi	0.5 psi	30 psi
DB	15-0- 15 psi	3 psi	0.2 psi	60 psi
DC	30-0- 30 psi	5 psi	1 psi	120 psi
DD	50-0- 50 psi	10 psi	1 psi	200 psi
DE	100-0-100 psi	20 psi	2 psi	300 psi
DF	200-0-200 psi	50 psi	5 psi	600 psi
DG	300-0-300 psi	100 psi	10 psi	900 psi
DH	400-0-400 psi	100 psi	10 psi	1200 psi

BD GAUGES RANGE TABLE

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION	STATIC PRESSURE LIMITS
PB	*0-10 psi	2 psi	¼ psi	45 psi
P5	*0-20 psi	2 psi	⅓ psi	30 psi
PD	0-30 psi	5 psi	½ psi	60 psi
PE	0-60 psi	10 psi	1 psi	120 psi
PF	0-100 psi	10 psi	1 psi	200 psi
PG	0-160 psi	20 psi	2 psi	300 psi
PH	0-200 psi	20 psi	2 psi	300 psi
PJ	0-300 psi	50 psi	5 psi	450 psi
PK	0-400 psi	50 psi	5 psi	600 psi
PM	0-600 psi	100 psi	10 psi	900 psi
PO	0-800 psi	100 psi	10 psi	1200 psi
PP	0-1,000 psi	100 psi	10 psi	1500 psi

*Only available with BD44, **180° dial arc

CATALOG NO.	BOURDON TUBE & SOCKET MATERIAL	DIAL SIZE (Inches)	STD. CASE
BC14 or BD14	Phosphor Bronze	4½	Style "A"
BC16 or BD16	Forged Brass Socket	6	Style "A"
BC44 or BD44	Stainless Steel, 316	4½	Style "A"

NOTES:

1. Regal Differential Gauges are calibrated in accordance with ASME B40.1 Grade A (±1% middle third). See page 4 of this catalog for further reference to ASME B40.1.

HOW TO ORDER

B C 1 6 A D D 4 L W ()

1. Basic 4-digit Catalog No. From Table Above _____
2. Case Style Code "A" (only) _____
3. Range Code From Range Tables Above (See notation above) _____
4. Thread Size: 4 = ¼ Npt Male (only) _____
5. Connection Location: L = Lower (Bottom); or R = Rear (Back) _____
6. Dial Color: W = White (Standard), B = Black (Optional) _____
7. If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

Special Application Gauge Type RV14, ASME B 40.1 Grade 2A ($\pm 0.5\%$ of span) 4½" Dial Size

STANDARD FEATURES

RV14 Reid Vapor Test Gauge

The Weksler Type RV14 is a specialized pressure gauge used by the petroleum industry to measure vapor pressures of various petroleum products.

- Accuracy ASME B 40.1 Grade 2A ($\pm 0.5\%$ of span)
- Dial Size 4½" only
- White dial and black pointer



RV14

SPECIFICATIONS

Gauge Type Number	Dial Size (Inches)	Case & Ring Material Finish	Bourdon Tube & Tip Material (all joints welded)	Socket Material	Pressure Range (psi)	Pointer	Movement	NPT Conn.
Reid Vapor Test RV14	4½	Case: Aluminum black epoxy coated	Phosphor Bronze Tip: Brass (All joints silver brazed)	Brass	15/600	Micrometer Adjustable	Stainless steel Teflon coated, pinion and sector shaft, rotary geared	¼

STANDARD RANGES

Code	Range psi	Figure Interval	Minor Graduation
PC	0/15	1	0.1
PD	0/30	2	0.2
PE	0/60	4	0.25
PF	0/100	5	0.5
PH	0/200	10	1
PI	0/250	10	1
PJ	0/300	10	1
PK	0/400	20	2
PM	0/600	20	2

HOW TO ORDER

R V 1 4 4 P C 4 L W

1. Basic 4-digit Catalog No. RV14 _____
2. Case Style Code "4" (only case available) _____
3. Range Code From Range Tables Above _____
4. Thread Size: 4 = ¼ Npt Male (only thread size available) _____
5. Connection Location: L = Lower (Bottom) _____
6. Dial Color: W = White _____

Low Pressure Gauges – Bellows Type ±2-1-2% Accuracy 4½" Dial Size

STANDARD FEATURES

Movement: Bronze

Pointer: Balanced Slotted adjustable

Dial: White enameled aluminum. Black graduations and numerals

Thread Size: ¼ male NPT; ½ male NPT

Connection Location: Lower or Rear (back)

Case: Style "2" polypropylene safety suitable for direct or surface mounting.

Ideal for applications under 15 psi.



BL44

RANGES FOR BELLWS GAUGES

CODE NO.	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION	BL1	BL4
				DIAL ARC	
PA	0 to 5 psi	1 psi	1/16 psi	270°	270°
PB	0 to 10 psi	1 psi	1/8 psi	270°	270°
WR	10 to 0" Water Vac.	2"	1/4"	90°	–
WS	15 to 0" Water Vac.	3"	1/2"	90°	–
WT	40 to 0" Water Vac. & 75 mm Hg.	5" & 10 mm	1" & 1 mm	270°	180°
VD	5 to 10" Hg. Vac.	1"	1/10"	270°	270°
VA	10 to 0" Hg. Vac.	2"	1/4"	270°	270°
WW	10" Water Vacuum & 10" Water Pressure	2"	1/2"	180°	180°
WX	20" Water Vacuum & 40" Water Pressure	10"	1"	270°	270°
WY	10" Hg. Vacuum & 5 psi Pressure	2" & 1 psi	1/8" & .1 psi	270°	270°
WA	0 to 10" Water Press.	1"	1/4"	90°	–
WB	0 to 15" Water Press.	3"	1/4"	90°	90°
WH	0 to 20" Water Press. & 12oz.	1/2" & 1 oz.	1" & 1/4 oz.	180°	90°
WI	0 to 30" Water Press. & 18oz.	5" & 1 oz.	1/2" & 1/8 oz.	215°	–
WI	0 to 30" Water Press. & 18oz.	10" & 1 oz.	1" & 1/2 oz.	–	180°
WJ	0 to 40" Water Press. & 24 oz.	5" & 3 oz.	1" & 1/2 oz.	270°	180°
WK	0 to 60" Water Press. & 35 oz.	10" & 5 oz.	1" & 1 oz.	270°	270°
WL	0 to 80" Water Press. & 45 oz.	10" & 5 oz.	1" & 1 oz.	270°	270°
WM	0 to 100" Water Press. & 57 oz.	10" & 5 oz.	1" & 1 oz.	270°	270°

BELLWS AND SOCKET

CATALOG NO.	BELLWS & SOCKET MATERIAL	DIAL SIZE	GAUGE TYPE	OPTIONAL CASE STYLE*	
				LOWER CONNECT	BACK CONNECT
BL14	Phsp. Brnz. Bellows Brass Socket	4½"	Low Pressure	#4 Aluminum Safety	#6 Aluminum Safety
BL44	316 SS Bellows 316 SS Socket				

*Extra cost.

HOW TO ORDER

B L 4 4 2 W K 4 L W ()

1. Basic 4-digit Catalog No. From Table Above _____
2. Polypropylene case style #2 (Standard) or choose from above table _____
3. Range Code From Range Tables Above _____
4. Thread Size: 4 = ¼ Npt Male; 2 = ½ Npt Male _____
5. Connection Location: L = Lower (Bottom); or R = Rear (Back) _____
6. Dial Color: W = White (Standard), B = Black (Optional) _____
7. If Any Gauge Options Are Desired – Specify Option Code(s) From Page 35 _____

kg/cm²

CODE	DUAL SCALE	CODE	SINGLE SCALE
MR	76-0 CMS & 30-0 VAC	E1	76-0 CMS
MZ	76 CMS/O/1 kg/cm ² & 30~-0-14 psi	EZ	76 CMS/O/1 kg/cm ²
MS	76 CMS/O/2 kg/cm ² & 30~-0-28 psi	E2	76 CMS/O/2 kg/cm ²
MT	76 CMS/O/4 kg/cm ² & 30~-0-57 psi	E3	76 CMS/O/4 kg/cm ²
MU	76 CMS/O/ 7 kg/cm ² & 30~-0-100 psi	E4	76 CMS/O/7 kg/cm ²
MV	76 CMS/O/10 kg/cm ² & 30~-0-140 psi	E5	76 CMS/O/10 kg/cm ²
MX	76 CMS/O/21 kg/cm ² & 30~-0-300 psi	E7	76 CMS/O/21 kg/cm ²
MA	0-1 kg/cm ² & 0-14 psi	EA	0-1 kg/cm ²
MB	0-2 kg/cm ² & 0-28 psi	EC	0-2 kg/cm ²
MC	0-4 kg/cm ² & 0-57 psi	EF	0-4 kg/cm ²
MD	0-7 kg/cm ² & 0-100 psi	EG	0-7 kg/cm ²
ME	0-11 kg/cm ² & 0-160 psi	EH	0-11 kg/cm ²
MF	0-14 kg/cm ² & 0-200 psi	EI	0-14 kg/cm ²
MQ	0-18 kg/cm ² & 0-250 psi	EJ	0-18 kg/cm ²
MG	0-21 kg/cm ² & 0-300 psi	EK	0-21 kg/cm ²
MH	0-28 kg/cm ² & 0-400 psi	EL	0-28 kg/cm ²
MP	0-35 kg/cm ² & 0-500 psi	EM	0-36 kg/cm ²
MI	0-42 kg/cm ² & 0-600 psi	EN	0-42 kg/cm ²
MJ	0-56 kg/cm ² & 0-800 psi	EO	0-56 kg/cm ²
MK	0-70 kg/cm ² & 0-1000 psi	EP	0-70 kg/cm ²
ML	0-105 kg/cm ² & 0-1500 psi	EQ	0-105 kg/cm ²
M2	0-140 kg/cm ² & 0-2000 psi	ER	0-140 kg/cm ²
MM	0-210 kg/cm ² & 0-3000 psi	ES	0-210 kg/cm ²
MN	0-350 kg/cm ² & 0-5000 psi	EU	0-350 kg/cm ²
MD	0-700 kg/cm ² & 0-10,000 psi	EV	0-700 kg/cm ²

kPa

CODE	DUAL SCALE	CODE	SINGLE SCALE
L2	30/0 VAC & 100/0 kPa	K1	-100/0 kPa
L3	30~/0/15 psi & 100/0/100 kPa	K2	100/0/100 kPa
L4	30~/0/30 psi & 100/0/200 kPa	K3	100/0/200 kPa
L5	30~/0/60 psi & 100/0/400 kPa	K4	100/0/400 kPa
L6	30~/0/100 psi & 100/0/700 kPa	K5	100/0/700 kPa
L7	30~/0/150 psi & 100/0/1000 kPa	K6	100/0/1000 kPa
L8	30~/0/200 psi & 100/0/1400 kPa	K7	100/0/1500 kPa
LA	0-15 psi & 0-100 kPa	KA	0-100 kPa
LB	0-30 psi & 0-200 kPa	KB	0-200 kPa
LC	0-60 psi & 0-400 kPa	KC	0-400 kPa
LD	0-100 psi & 0-700 kPa	KO	0-700 kPa
LE	0-160 psi & 0-1000 kPa	KE	0-1000 kPa
LF	0-200 psi & 0-1400 kPa	KF	0-1400 kPa
LG	0-300 psi & 0-2100 kPa	KG	0-2000 kPa
LH	0-400 psi & 0-2800 kPa	KH	0-3000 kPa
LI	0-600 psi & 0-4200 kPa	KP	0-4000 kPa
LJ	0-800 psi & 0-5600 kPa	KI	0-5000 kPa
LK	0-1,000 psi & 0-7000 kPa	KZ	0-7000 kPa
LL	0-1,500 psi & 0-10,500 kPa	KJ	0-10,000 kPa
LM	0-2,000 psi & 0-14,000 kPa	KK	0-15,000 kPa
LN	0-3,000 psi & 0-21,000 kPa	KL	0-20,000 kPa
LO	0-5,000 psi & 0-35,000 kPa	KM	0-40,000 kPa
LP	0-10,000 psi & 0-70,000 kPa	KN	0-100,000 kPa

BAR

CODE	DUAL SCALE	CODE	SINGLE SCALE
A1	30~/0 VAC & -1 bar	B2	-1/0 bar
A2	30~/0/15 psi & -1-0-1 bar	B3	-1/1.5 bar
A3	30~/0/30 psi & -1-0-2 bar	B4	-1/3 bar
A4	30~/0/60 psi & -1-0-4 bar	B5	-1/9 bar
A5	30~/0/100 psi & -1-0-7 bar	B6	-1/15 bar
A6	30~/0/150 psi & -1-0-10 bar	B9	-1/24 bar
A7	30~/0/200 psi & -1-0-14 bar	BA	0/1 bar
AC	0-15 psi & 0-1 bar	BB	0/1.6 bar
AD	0-30 psi & 0-2 bar	BC	0/2.5 bar
AE	0-60 psi & 0-4 bar	BD	0/4 bar
AF	0-100 psi & 0-7 bar	BE	0/6 bar
AG	0-160 psi & 0-11 bar	BF	0/10 bar
AH	0-200 psi & 0-14 bar	BG	0/16 bar
AJ	0-300 psi & 0-20 bar	BH	0/25 bar
AK	0-400 psi & 0-27 bar	BI	0/40 bar
AM	0-600 psi & 0-40 bar	BJ	0/60 bar
AO	0-800 psi & 0-56 bar	BK	0/100 bar
AP	0-1,000 psi & 0-70 bar	BL	0/160 bar
AR	0-1,500 psi & 0-100 bar	BM	0/250 bar
AS	0-2,000 psi & 0-140 bar	BN	0/400 bar
AT	0-3,000 psi & 0-200 bar	BO	0/600 bar
AV	0-5,000 psi & 0-350 bar	BP	0/1,000 bar
AY	0-10,000 psi & 0-700 bar	BQ	0/1,600 bar

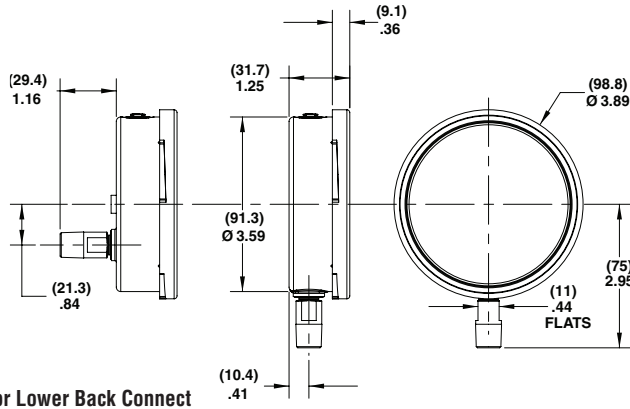
EQUIVALENTS

1 kPa = 0.14504 psi
 1 bar = 14.5 psi = 100 kPa
 1 kg/cm² = 14.22 psi
 1 in. H₂O = 0.0361 psi
 1 cmHg = 0.1934 psi

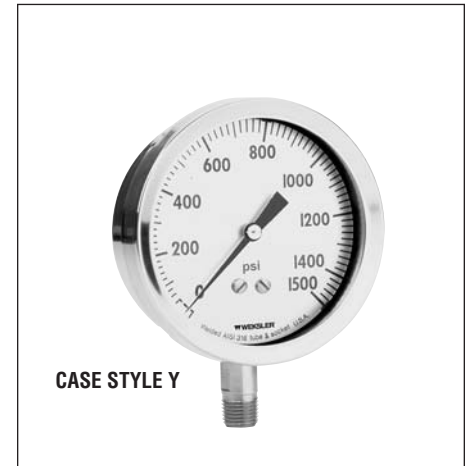
EQUIVALENTS**CONVERSION FROM PSI:**

1 psi = 6.8947 kPa
 1 psi = .06894 BAR
 1 psi = .07031 kg/cm²

CASE STYLE "Y"

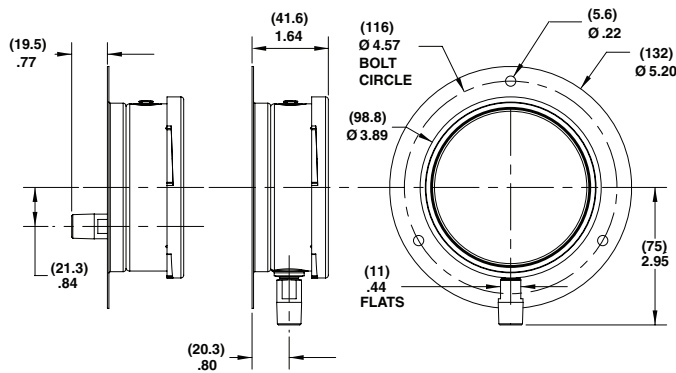


Stem Mount, Lower or Lower Back Connect



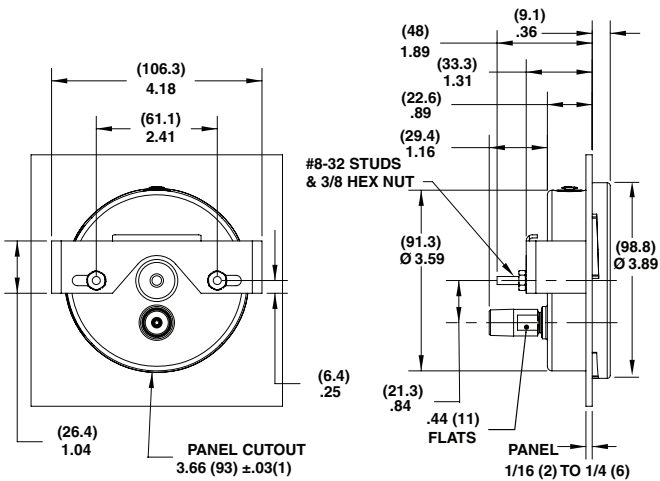
CASE STYLE Y

CASE STYLE "X"



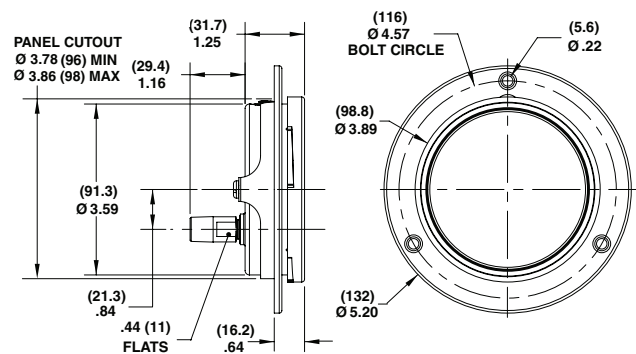
Stem Mount, Lower or Lower Back Connect With Front Flange

CASE STYLE "U"



U-Clamp Panel Mount, Lower Back Connect

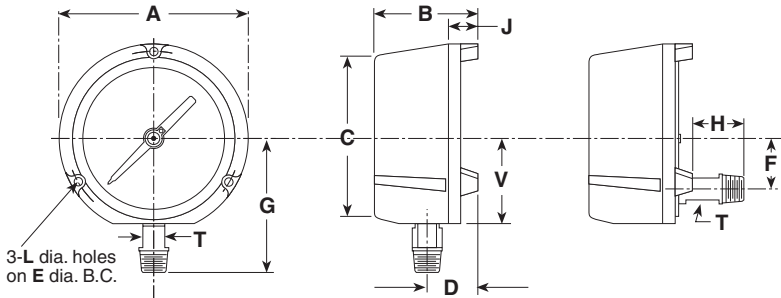
CASE STYLE "V"



Flush Surface Mount, Lower Back Connect With Back Flange

Note: Dimensions in brackets () are millimeters.

CASE STYLE "2"

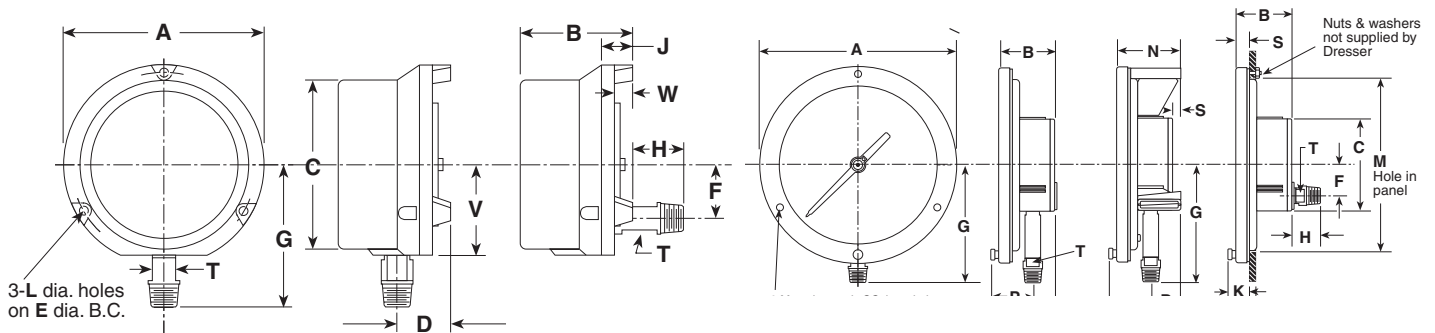


Surface Mount, Lower & Back Connect
Polypropylene Safety



Dial Size Inches	A	B	C	D	E	F	G	H	J	L	T	V	Weight (lbs)
4½	5¼ ₁₆ (148)	3¾ (86)	5¼ ₁₆ (129)	1¾ (41)	5¾ (137)	1¾ (41)	3¼ ₁₆ (100)	¾ (20)	1 (25)	(6)	⅝ (16)	2¾ (67)	2½

CASE STYLE "4"



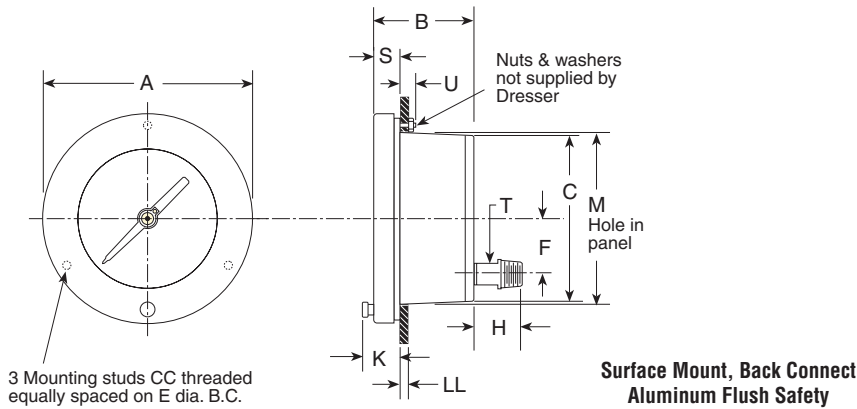
Surface Mount, Lower & Back Connect
Aluminum Safety

Dial Size Inches	A	B	C	D	E	F	G	H	J	K
4½	5¼ ₁₆ (148)	3¼ ₃₂ (86)	4¾ (124)	1¾ (41)	5¾ (137)	1¾ (42)	3¼ ₁₆ (100)	7⁄8 (20)	1¼ ₁₆ (27)	—
6	7¾ ₁₆ (192)	3½ (89)	6¾ (162)	1¾ (41)	7 (178)	1½ (42)	4½ (114)	—	—	—
8½	10¼ ₁₆ (256)	2¾ (73)	4¾ (121)	1¼ ₁₆ (27)	9¾ (244)	1¾ (41)	6 (152)	1¾ (35)	—	1¼ ₁₆ (27)

Dial Size Inches	L	M	N	P	S	T	V	CC	LL	Wgt. (lbs)
4½	.218 (6)	—	—	2¼ (54)	—	⅝ (16)	2¾ (67)	—	—	2½
6	—	—	—	—	—	—	—	—	⅝-½ (3)(13)	3¾
8½	—	9 (228)	3¾ ₃₂ (83)	—	1¼ ₁₆ (17)	—	—	#10-24	—	4½

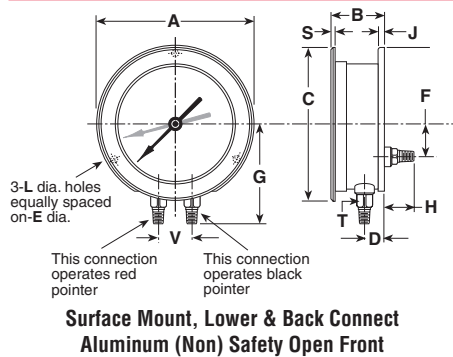


CASE STYLE "6"



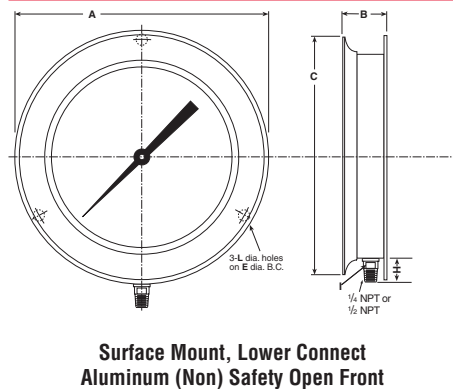
Dial Size Inches	A	B	C	E	F	H	K	M	P	S	T	U	CC	LL	Weight (lbs)
4 1/2	6 3/2 (148)			5 3/2 (137)				4 7/2 (124)					#10-24		2 1/2
6	7 1/2 (192)	2 7/2 (73)	4 3/4 (121)	7 (178)	1 5/2 (41)	1 3/2 (35)	1 1/2 (27)	6 1/2 (165)	2 1/2 (54)	5/2 (16)	5/2 (16)	3/4 (19)	1/2-20	1 1/2-1/2 (3)(13)	3

CASE STYLE "A"



Dial Size Inches	A	B	C	D	E	F	G	H	I	J	L	V	AA	HH	Wgt (lbs)
4 1/2	5 13/16 (148)	2 1/4 (57)	5 7/8 (149)	2 7/32 (22)	5 3/8 (137)	1 1/16 (27)	3 25/32 (96)	1 17/32 (39)	1 9/32 (15)	3/8 (10)	7/32 (6)	1 1/2 (38)	—	—	2.4 1.0 kg
6	7 11/16 (18)	2 5/8 (67)	6 3/32 (168)	1 5/16 (24)	7 (178)	1 11/16 (43)	4 15/16 (110)	5 15/32 (37)	5/8 (16)	3/16 (5)	9/32 (7)	1 5/8 (42)	—	—	3.6 1.6 kg

CASE STYLE "E"



Dial Size Inches	A	B	C	D	E	G	J	K	L	M	S	Wgt (lbs)
12	14 1/2 (368)	2 1/16 (75)	14 1/4 (361)	1 1/2 (26)	13 1/2 (343)	7 1/2 (191)	3/16 (5)	—	.281 (7)	12 11/16 (329)	3/16 (5)	8 3.6 kg

GAUGE ACCESSORIES

Accessories/Options/Tools..... 31-33
Snubbers34
Gauge Cocks, Needle Valves, Siphons35

THROTTLING DEVICES

A throttling device should be used when a pressure gauge is subjected to rapid pressure fluctuations, which make the gauge difficult to read because of rapid pointer movement. Such a device reduces pressure impact, slows the speed and range of pointer movement, and prolongs gauge life.

Throttling effect is obtained by installing a restricting orifice between the gauge socket connection and the bourdon tube. Several types are available: throttle screws, pressure snubbers, pulsation dampeners, Gauge Saver® and the Campbell MICRO-BEAN.

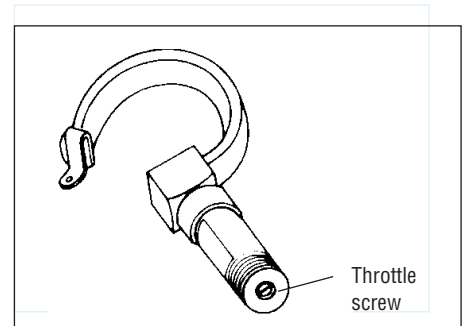
Severe service applications are characterized by the presence of significant levels of pressure pulsation and/or vibration. Gauges should be protected from severe pressure pulsation by the inclusion of a dampener such as a throttle plug/screw or porous metal snubber. If the pulsation is extreme, a liquid-filled gauge, with dampener, should be used. A liquid-filled gauge will also last significantly longer than a comparable dry gauge when vibration is present. If the vibration levels are extreme, the only solution may be to remotely mount the gauge away from the source of vibration. In that case capillary tubing may be used to connect the gauge to the pressure source.

THROTTLE SCREWS

The simplest means of providing a restriction in the socket, a throttle screw, should be ordered with the gauge. Threaded or pressed into an instrument socket, the throttle screw orifice selected is based on the viscosity of the pressure fluid, rapidity of pressure fluctuations, and the amount of dampening effect desired.

A smaller orifice should be used for low viscosities, high frequencies, high pres-

sure and reduced pointer amplitude. To accommodate these variables, throttle screws are available in these sizes: 0.0135, 0.020, 0.031, 0.040, and 0.070 inches, in brass and stainless steel. When orifice size or service condition is not specified, a 0.020-inch orifice will be supplied on Royal pressure gauges 0.0135, on 3½" Regal Gauges.



STATIONARY RED SET HAND

**Stationary Red Set Hand**

to indicate a specific pressure. Ring must be removed to move the hand.

OVERLOAD STOP

**Overload Stop**

to protect gauge system against extreme overpressure.

SPECIAL DIAL

**Special Dial**

ranges different from standards, or custom artwork, available on application.

MAXIMUM POINTER

**Maximum Pointer**

available for gauges 4½" size and larger. Indicates maximum pressure attained. Can be reset by a knob on outside of window.

VACUUM STOP

**Vacuum Stop**

to protect low range gauges against vacuum.

OPTIONAL WINDOWS



Plastic Disc – optional for glass window
Laminated Safety Glass – optional for glass window
Nonglare Glass – optional for glass window

ELECTRIC WARNING CONTACTS

The electric contact feature is a switching mechanism actuated by the indicating pointer. Switch points are adjustable and can be set throughout the 270° arc. Contacts are used to activate alarms and relays. (Not recommended for continuous switching). The Weksler electric contact is an ideal accessory to turn on a signal light, sound an alarm, or operate a pump or valve. The contacts can easily be set so that a circuit can be closed or opened at a desired pressure or temperature. Settings can be easily made in the field without removing the instrument from service. Contact adjustment is made externally with a removable key to make the instrument virtually tamper proof. Contacts are equipped with adjustable magnets to eliminate chatter caused by vibration. A plug-in connector with five feet of electrical cable is standard.

STANDARD FEATURES

- High impact polycarbonate enclosure for ambient temperature up to 150°F
- Full scale contact adjustment from front of enclosure
- Available on ranges 30 psi and up
- Magnetically assisted, silver alloy contact
- Accuracy $\pm 2\%$ of scale arc (add to instrument accuracy)
- Rated for $\frac{1}{4}$ amp. 110 volt AC non-inductive load
- Available in: 4½" case styles #2*, #4, #6, "A"
6" case styles #2, #4, #6, "A"

Model	Code	Contact arrangements
2265	XED	High and low contact
	XEE	Double high contact
	XEF	Double low contact
	XEG	"OFF" at low and high, and "ON" in between

* Style case #2 with lower connect comes with DIN Connection. No cable, mating connector available at extra charge.



Indicating accuracy of Royal Gauge, above 300 psi with contact:
 Pointer not carrying contact – 1.0%.
 Pointer carrying contact – 1.5%.
 For ranges below 30 psi, add an additional ½% to indicating accuracies.

TEST GAUGE CARRYING CASE

This rugged blow-molded high-density polyethylene carrying case accommodates the standard 4½", 6 & 8½" Regal analog test gauges. It accepts both lower and back connect gauges. A foam insert protects the gauge when not in use. Type No. 2505.



* Not available in 3½" Regal

(1) Standard for $3\frac{1}{2}$

[illegible]

Gauge Size (inches)	Ring O.D. (inches)	A Dia. (inches)	"B"-Three Screws
			Size
4½	6.000	5.625	#10-24 x 1½"
67.765	7.25	¼-20 x 1½"	

Used to flush-mount 4½" and 6" Royal and bellows type gauges. Standard finish is black; polished stainless steel finish is available at an extra charge, 4½" and 6".

CODE	DESCRIPTION	TYPE	MOUNTING MATERIAL
56	Flush Mounting Rings*	1278M	Black
57		1278MC	Polished SS

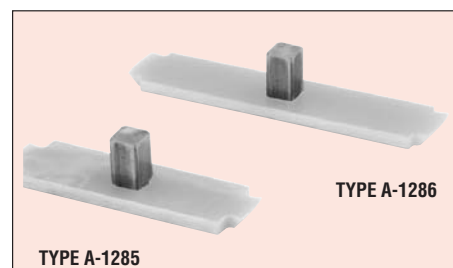
*For 4½" and 6" Royal / Regal gauges manufactured after 10/1/04

Ring Wrench – 4½"

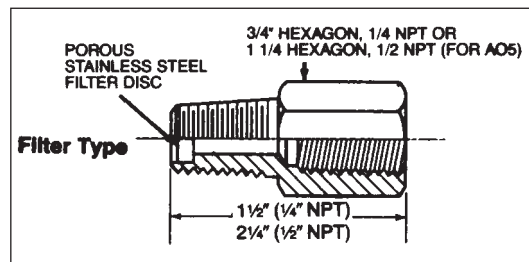
(For installing front threaded rings in 4½" #2, #4 safety cases)

Ring Wrench – 6"

(For installing front threaded rings in 6" #4 aluminum safety cases)



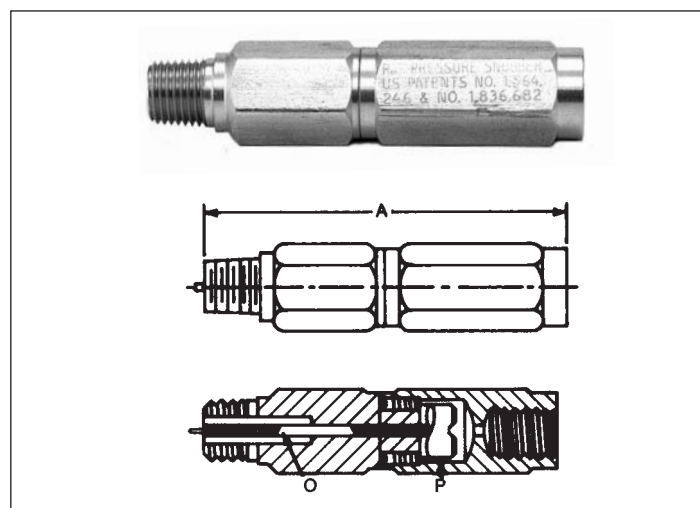
FILTER TYPE



Filter Type: Snubbing element consists of a $\frac{3}{8}$ " diameter x $\frac{1}{8}$ " thick Micro Metallic stainless steel filter. When placed in the line just before the pressure gauge, the gauge pointer moves across the scale at a rate which is proportional to the pressure differential across the snubber element.

TYPE NUMBER	GAS OR LIQUID IN PIPE LINE	PRESSURE RANGE	CONNECTION	MATERIAL
BW 41 BW 42 BW 43	Air Water-Light Oil Heavy Oil	1,500 psi	1/4 NPT	Brass
SW 41 SW 42 SW 43	Air Water-Light Oil Heavy Oil	5,000 psi	1/4 NPT	SS
A05D A05E A05G	Heavy Oil Water Light Oil Air	20,000 psi	1/2 NPT	SS

PISTON TYPE



Piston Type: Shocks and pulsations are absorbed in the doughnut-shaped orifice (O) formed by the piston (P) in the tube. As the piston moves up and down with the pulsation, it automatically clears away any sediment or pipe scale that would clog a simple orifice or needle valve.

Each snubber is furnished with three pistons. The snubbing may be changed to suit individual installations by changing pistons. By using the proper piston, any of the listed snubbers can be made to operate satisfactorily from vacuum to its maximum rated pressure on any fluid compatible with the body material. These snubbers may be installed vertically, horizontally, inverted, or at any angle.

TYPE NUMBER	GAS OR LIQUID IN PIPE LINE	PRESSURE RANGE LBS.	PIPE SIZE AND LENGTH	MATERIAL
RS1	Air, water, steam, etc.	0-3000	1/4 NPT	Brass
RS7	Thin corrosive liquid, gases	0-5,000	A = 3 1/2"	SS
RS8	Thick corrosive liquids		1/2 NPT	Brass
RS6	Oil, water, etc.	0-10,000	A = 3 3/8"	SS
RS9	Thin or thick corrosive			

ADJUSTABLE SNUBBER



MODEL	MAX. WORKING PRESS.	BODY MATERIAL	LENGTH O.A.	THREAD LENGTH	THREAD SIZE
MSB4	3,000	Brass	1.60	.50	1/4 NPT
MSB2	3,000	Brass	2.28	.80	1/2 NPT
MSS4	5,000	316SS	1.60	.50	1/4 NPT
MSS2	10,000	316SS	2.28	.80	1/2 NPT

NOTE: The adjusting screw, ball and ball retainer are Stainless Steel, Buna N Seals are standard. Teflon, Viton and Butyl Seals are available.

Adjustable Snubber

The Universal Adjustable Snubber has a ball check cut-off to block line surges, shock waves and fluid hammer; and an adjustable fine thread choke valve to tune out line pulsations. The combination of the ball cut-off and a tunable choke valve makes it an all-purpose, universal Snubber that is used on low displacement instruments such as bourdon tube gauges which require heavy dampening; and with high displacement instruments such as diaphragm, piston and bellows operated gauges, recorders and controllers, which require moderate to heavy dampening.

The adjustable choke valve is also used as a positive shut-off valve, to isolate the gauge or instrument, for servicing or replacement.

The operation of the Adjustable Snubber cut-off ball and the choke valve is shown in the chart. The cut-off ball blocks and clamps off shock and hammer transients in the line, which are above the normal pressure level in the system. The choke valve throttles and dampens out pulsations and cyclic pressure waves, and may be adjusted to dampen out to any level desired to prevent pointer oscillation on gauges, chart painting on recorders, instability in controllers or, damage to instruments, generally.

BRASS GAUGE COCKS

TYPE NO.	TYPE	CONNECTIONS	MAXIMUM PRESSURE
A10	Tee Handle - Brass	¼" Female	125 psi
A10C	Tee Handle - Chrome Plated	¼" Female	125 psi
A10E	Heavy Duty Tee Handle	¼" Female	200 psi
A11	Lever Handle - Brass	¼" Male and Female	200 psi
A12	Lever Handle - Brass	¼" Female	200 psi
A20	Tee Handle - Brass	½" Female	200 psi

TEE HANDLE
COCK (A10)HEAVY DUTY
TEE HANDLE
COCK (A10E)LEVER HANDLE
COCK (A12)

BAR STOCK NEEDLE VALVES

These valves are used primarily to closely regulate fine flow. However, they may be used as a throttling device on lines where rapid and excessively pulsating pressures would tend to effect the gauge performance or mechanism.

TYPE NO.	SIZE	MATERIAL	PRESSURE & TEMP. RATING
BBV4	¼ NPT	Brass: For oil, water, gas, etc.	600 psi @ 300°F
SSV4	¼ NPT	303 Stainless Steel: For oil, water, gas, etc.	5000 psi @ 500°F
AV34	¼ NPT	Bronze: For oil, water, gas, etc.	500 psi @ 150°F
AV32	½ NPT		
AV44	¼ NPT	Carbon Steel: Parkerized and Parcolaced, for resistance to corrosion.	475 psi @ 1,000°F 550 psi @ 900°F 600 psi @ 850°F 10,000 psi @ 150°F
AV42	½ NPT		
AV74	¼ NPT	316 Stainless Steel provides greatest overall resistance to corrosion; very good for sub-zero service.	4,000 psi @ 150°F
AV72	½ NPT		

BAR
STOCK
NEEDLE
VALVE
(Brass)
(BBV4)BAR
STOCK
NEEDLE
VALVE
(AV34)

SIPHONS

When a gauge is to be used for steam pressures, a siphon filled with water is recommended between the line and gauge to prevent high temperature steam from entering the gauge bourdon tube.

TYPE NO.	SIZE	SIPHON MATERIAL	CAPACITY
A03I	¼ NPT	Iron (Schedule 40)	500 psi and 400°F
A03B		Brass	250 psi and 400°F
CPS4		Seamless Steel, extra heavy (Schedule 80)	1,000 psi and 850°F
CPSS4		Seamless Stainless Steel XH (Schedule 80)	2,000 psi and 1000°F
CPS2	½ NPT	Steel (Schedule 80)	1,000 psi and 850°F
CPSS2		Seamless Stainless Steel XH (Schedule 80)	2,000 psi and 1000°F



SIPHON

GAUGE TOOLS — Hand Jack: for removing pointer. Specify Type A01. **Hand Set:** for installing pointer. Specify Type A02

ECONOMY UTILITY GAUGES

Dry Gauges	39
Liquid Filled Gauges.....	40-42
Contractor Gauges	43

**Dry Gauges, Steel Case,
Bronze Tube, Brass Socket,
±3-2-3% Accuracy**

STANDARD FEATURES

- Available in 1½", 2", 2½" and 3½" sizes
- Black finish steel case and ring with plastic window
- Panel gauge case is black finish steel with studs and chrome-plated ring.
- Panel mount gauges available in 1½", 2" and 2½" sizes
- ¾ NPT lower and back connection available 1½" size; ¼ NPT lower and back connection available in 2" and 2½" sizes; ¼ NPT lower connection available in 3½" size
- Dual scale dials with bar/kPa in blue (inner scale); psi in black (outer scale); on white background

CATALOG NUMBERS

Dial Size	1½"		2"		2½"		3½"
Connection Location	Back	Bottom	Back	Bottom	Back	Bottom	Bottom
Connection NPT	¾	¾	¼	¼	¼	¼	¼
Range (psi/bar/kPa)							
30"0/ vac. and -1/0 bar (-100/0 kPa)	UA15H8C	UA15H8L	UA20H4C	UA20H4L	UA25H4C	UA25H4L	UA35H4L
30"0/30 psi and -1/0/2 bar (-100/0/200 kPa)	—	—	UA20J4C	UA20J4L	—	UA25J4L	UA35J4L
30"0/60 psi and -1/0/4 bar (-100/0/400 kPa)	—	—	—	UA20K4L	—	UA25K4L	UA35K4L
30"0/150 psi and -1/0/10 bar (-100/0/1000 kPa)	—	—	—	—	UA25L4C	UA25L4L	UA35L4L
30"0/300 psi and -1/0/10 bar (-100/0/2000 kPa)	—	—	—	—	—	UA25M4L	UA35M4L
0-15 psi and 1 bar (100 kPa)	UA15N8C	UA15N8L	UA20N4C	UA20N4L	UA25N4C	UA25N4L	UA35N4L
0-30 psi and 2 bar (200 kPa)	UA15A8C	UA15A8L	UA20A4C	UA20A4L	UA25A4C	UA25A4L	UA35A4L
0-60 psi and 4 bar (400 kPa)	UA15B8C	UA15B8L	UA20B4C	UA20B4L	UA25B4C	UA25B4L	UA35B4L
0-100 psi and 7 bar (700 kPa)	UA15C8C	UA15C8L	UA20C4C	UA20C4L	UA25C4C	UA25C4L	UA35C4L
0-160 psi and 11 bar (1100 kPa)	UA15D8C	UA15D8L	UA20D4C	UA20D4L	UA25D4C	UA25D4L	UA35D4L
0-200 psi and 14 bar (1400 kPa)	UA15E8C	UA15E8L	UA20E4C	UA20E4L	UA25E4C	UA25E4L	UA35E4L
0-300 psi and 21 bar (2100 kPa)	—	—	UA20F4C	UA20F4L	UA25F4C	UA25F4L	UA35F4L
0-600 psi and 42 bar (4200 kPa)	—	—	—	UA20G4L	—	UA25G4L	UA35G4L

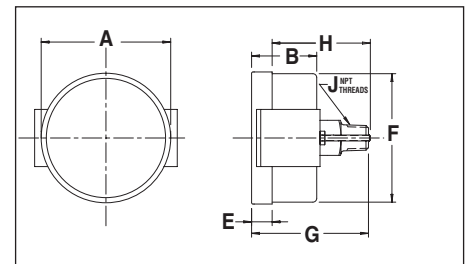
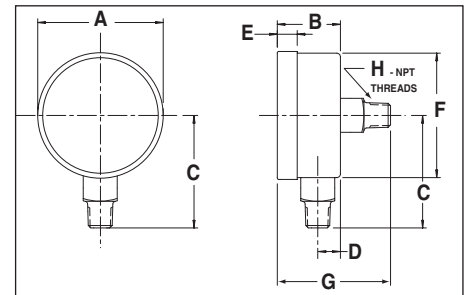
To order: specify the "catalog number" from table above. For panel mount gauges (back connection only) add "-UC" to the 7 digit catalog number. (NOT ALL MODELS ARE AVAILABLE AS PANEL MOUNT).

GAUGE DIMENSIONS UA15, UA20, UA25, UA35

Lower Connection Gauge Size/Type		A	B	C	D		E	F
					¾	¼		
UA15	Inch	1.66	0.99	1.45	0.33	—	0.32	1.61
	mm	42	25	37	8	—	5	41
UA20	Inch	2.08	1.13	1.80	—	0.37	0.39	2.01
	mm	53	28	46	—	9	10	51
UA25	Inch	2.48	1.13	1.95	—	0.42	0.39	2.43
	mm	63	29	50	—	11	10	62
UA35	Inch	3.47	1.16	2.68	—	0.46	0.43	3.42
	mm	88	29	68	—	12	11	87
Back Connection Gauge Size/Type		A	B	E	F	G	H	
UA15	Inch	1.66	.99	0.31	1.61	1.56	1/8	
	mm	42	25	8	41	40		
UA20	Inch	2.08	1.13	0.39	2.01	1.85	1/4	
	mm	53	29	10	51	47		
UA25	Inch	2.48	1.13	0.39	2.44	1.87	1/4	
	mm	63	29	10	62	47		

GAUGE DIMENSIONS UA15-UC, UA20-UC, UA25-UC

Back Connection Gauge Size/Type		A	B	E	F	G	H	J
UA15	Inch	1.78	1.00	0.20	1.62	1.60	1.24	1/8
	mm	45	25	5	41	41	31	
UA20	Inch	2.20	1.10	0.18	2.01	1.81	1.59	1/4
	mm	56	28	4	51	46	40	
UA25	Inch	2.62	1.15	0.23	2.47	1.83	1.67	1/4
	mm	66	29	6	63	46	42	



PANEL CUT-OUT

Panel Cut-Out	Hole Diameter		Max. Panel Thickness
	Minimum Inches (mm)	Maximum Inches (mm)	
1½" Gauge	1.615	1.665	1/8"
2" Gauge	2.035	2.095	7/16"
2½" Gauge	2.462	2.538	7/16"

STANDARD FEATURES

- Available in 40mm, 50mm, 63mm and 100mm sizes
- Stainless steel case and ring with plastic window
- 1/2 NPT back connection available in 40mm size; 1/4 NPT lower and back connection available in 50mm and 63mm sizes; 1/4 NPT lower connection available in 100mm size
- Dual scale dials with bar/kPa in blue (inner scale); psi in black (outer scale); on white background
- Panel mount kits available

CATALOG NUMBERS

Dial Size	40mm	50mm		63mm		100mm
Connection Location	Back	Back	Bottom	Back	Bottom	Bottom
Connection NPT	1/2	1/4	1/4	1/4	1/4	1/4
Range (psi/bar/kPa)						
30/70/ vac. and -1/0 bar (-100/0 kPa)	BY10YVC8CW	—	—	BY12YVC4CW	BY12YVC4LW	BY14YVC4LW
30/70/30 psi and -1/0/2 bar (-100/0/200 kPa)	—	—	—	BY12YCB4CW	BY12YCB4LW	—
30/70/60 psi and -1/0/4 bar (-100/0/400 kPa)	—	BY11YCC4CW	—	—	BY12YCC4LW	BY14YCC4LW
30/70/150 psi and -1/0/10 bar (-100/0/1000 kPa)	—	—	—	BY12YCE4CW	BY12YCE4LW	—
0-15 psi and 0/1 bar (100 kPa)	—	—	—	BY12YPC4CW	—	—
0-30 psi and 0/2 bar (200 kPa)	BY10YPD8CW	—	BY11YPD4LW	BY12YPD4CW	BY12YPD4LW	BY14YPD4LW
0-60 psi and 0/4 bar (400 kPa)	BY10YPE8CW	BY11YPE4CW	BY11YPE4LW	BY12YPE4CW	BY12YPE4LW	BY14YPE4LW
0-100 psi and 0/7 bar (700 kPa)	BY10YPF8CW	BY11YPF4CW	BY11YPF4LW	BY12YPF4CW	BY12YPF4LW	BY14YPF4LW
0-160 psi and 0/11 bar (1100 kPa)	BY10YPG8CW	BY11YPG4CW	BY11YPG4LW	BY12YPG4CW	BY12YPG4LW	BY14YPG4LW
0-200 psi and 0/14 bar (1400 kPa)	—	—	—	BY12YPH4CW	BY12YPH4LW	—
0-300 psi and 0/21 bar (2100 kPa)	BY10YPJ8CW	—	—	BY12YPJ4CW	BY12YPJ4LW	BY14YPJ4LW
0-600 psi and 0/42 bar (4200 kPa)	—	—	—	BY12YPM4CW	BY12YPM4LW	—
0-1000 psi and 0/70 bar (7000 kPa)	BY10YPP8CW	—	—	BY12YPP4CW	BY12YPP4LW	BY14YPP4LW
0-2000 psi and 0/140 bar (14,000 kPa)	—	—	—	BY12YPS4CW	BY12YPS4LW	—
0-3000 psi and 0/210 bar (21,000 kPa)	BY10YPT8CW	—	BY11YPT4LW	BY12YPT4CW	BY12YPT4LW	BY14YPT4LW
0-5000 psi and 0/350 bar (35,000 kPa)	BY10YPV8CW	—	—	BY12YPV4CW	BY12YPV4LW	—
0/10,000 psi and 0/700 bar (70,000 kPa)	—	—	—	BY12YPY4CW	BY12YPY4LW	—

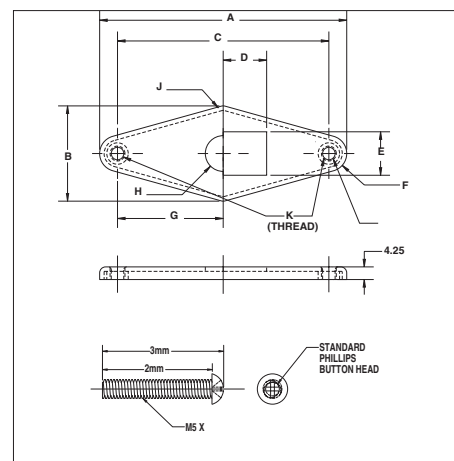
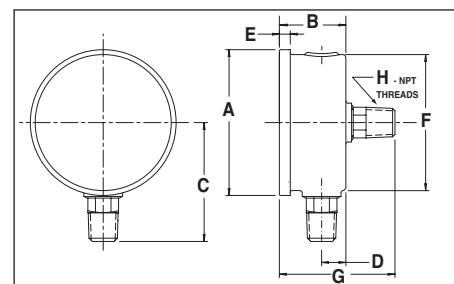
To order: specify 10-digit "catalog number" from above table. For panel mount gauges (back connection only) add "-UC" to 10-digit catalog number.

GAUGE DIMENSIONS BY10Y, BY11Y, BY12Y, BY14Y

Lower Connection Gauge Size/Type			A	B	C	D-¼	E	F
50 mm	BY11Y	Inch	2.21	1.11	1.86	0.37	0.19	2.01
		mm	56	28	47	9	5	51
63 mm	BY12Y	Inch	2.62	1.13	2.08	0.39	0.22	2.45
		mm	66	29	53	10	5	75
100 mm	BY14Y	Inch	4.29	1.42	3.14	0.46	0.29	3.88
		mm	109	36	80	12	7	98
Back Connection Gauge Size/Type			A	B	F	G	H	
40 mm	BY10Y	Inch	1.78	1.00	1.61	1.62	1/8	
		mm	45	25	41	41		
50 mm	BY11Y	Inch	2.21	1.11	2.02	2.05	1/4	
		mm	56	28	51	52		
63 mm	BY12Y	Inch	2.62	1.13	2.45	2.05	1/4	
		mm	66	29	62	52		

PANEL MOUNT ASSEMBLY FOR 40mm, 50mm, 63mm GAUGES

Part No.		A	B	C	D	E	F	G	H	J	K
40mm Clamp	Inch	2.36	1.02	189	0.45	0.44	0.94	0.94	0.20	0.10	M5X0.8
	mm	60	26	48	11.6	11.3	24	24	5	2.50	M5X0.8
50mm Clamp	Inch	2.83	1.26	236	0.57	0.56	0.47	1.18	0.24	0.10	M5X0.8
	mm	72	32	60	14.6	14.2	30	72	6	2.50	M5X0.8
63mm Clamp	Inch	3.27	1.26	280	0.57	0.56	0.47	1.40	0.24	0.10	M5X0.8
	mm	83	32	71	14.6	14.2	12	35.5	6	2.50	M5X0.8



PANEL MOUNT PART NUMBER

ITEM - NO.

- U-clamp 40
- U-clamp 50
- U-clamp 63

STANDARD FEATURES

- Available in 40mm, 50mm, 63mm and 100mm sizes
- Stainless steel case and ring with plastic window
- ½ NPT back connection available in 40mm size; ¼ NPT lower and back connection available in 50mm and 63mm sizes; ¼ NPT lower connection available in 100mm size
- Dual scale dials with bar/kPa in blue (inner scale); psi in black (outer scale); on white background
- Panel mount kits available

CATALOG NUMBERS

Dial Size	40mm	50mm	63mm	100mm
Connection Location	Back	Back	Bottom	Bottom
Connection NPT	½	¼	¼	¼
Range (psi/bar/kPa)				
30"70/ vac. and -1/0 bar(-100/0 kPa)	BY40YVC8CW	—	—	BY42YVC4CW BY42YVC4LW BY45YVC4LW
30"70/30 psi and -1/0/2 bar (-100/0/200 kPa)	—	—	—	BY42YCB4CW BY42YCB4LW —
30"70/60 psi and -1/0/4 bar (-100/0/400 kPa)	—	—	—	BY42YCC4CW BY42YCC4LW BY45YCC4LW
30"70/150 psi and -1/0/10 bar (-100/0/1000 kPa)	—	—	—	BY42YCE4CW BY42YCE4LW —
0-15 psi and 0/1 bar (100 kPa)	—	—	—	BY42YPC4CW BY42YPC4LW —
0-30 psi and 0/2 bar (200 kPa)	BY40YPD8CW	BY41YPD4CW	—	BY42YPD4CW BY42YPD4LW BY45YPD4LW
0-60 psi and 0/4 bar (400 kPa)	BY40YPE8CW	BY41YPE4CW	—	BY42YPE4CW BY42YPE4LW BY45YPE4LW
0-100 psi and 0/7 bar (700 kPa)	—	BY41YPF4CW BY41YPF4LW	BY42YPF4CW BY42YPF4LW	BY45YPF4LW
0-160 psi and 0/11 bar (1100 kPa)	BY40YPG8CW	BY41YPG4CW BY41YPG4LW	BY42YPG4CW BY42YPG4LW	BY45YPG4LW
0-200 psi and 0/14 bar (1400 kPa)	—	—	—	BY42YPH4CW BY42YPH4LW —
0-300 psi and 0/21 bar (2100 kPa)	BY40YPJ8CW	BY41YPJ4CW	—	BY42YPJ4CW BY42YPJ4LW BY45YPJ4LW
0-600 psi and 0/42 bar (4200 kPa)	—	—	—	BY42YPM4CW BY42YPM4LW —
0-1000 psi and 0/70 bar (7000 kPa)	—	—	BY41YPP4LW	BY42YPP4CW BY42YPP4LW BY45YPP4LW
0-2000 psi and 0/140 bar (14,000 kPa)	—	—	—	BY42YPS4CW BY42YPS4LW —
0-3000 psi and 0/210 bar (21,000 kPa)	—	—	—	BY42YPT4CW BY42YPT4LW BY45YPT4LW
0-5000 psi and 0/350 bar (35,000 kPa)	—	—	—	BY42YPV4CW BY42YPV4LW BY45YPV4LW
0/10,000 psi and 0/700 bar (70,000 kPa)	—	—	—	BY42YPY4CW BY42YPY4LW BY45YPY4LW

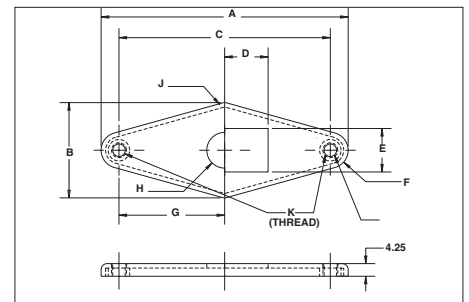
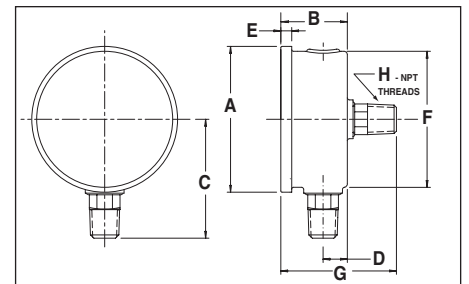
To order: specify 10-digit "catalog number" from above table. For panel mount gauges (back connection only) add "-UC" to 10-digit catalog number.

GAUGE DIMENSIONS BY40Y, BY41Y, BY42Y, BY45Y

Lower Connection Gauge Size/Type			A	B	C	D-¼	E	F
50 mm	BY41Y	Inch	2.21	1.11	1.86	0.37	0.19	2.01
		mm	56	28	47	9	5	51
63 mm	BY42Y	Inch	2.62	1.13	2.08	0.39	0.22	2.45
		mm	66	29	53	10	5	75
100 mm	BY45Y	Inch	4.29	1.42	3.14	0.46	0.29	3.88
		mm	109	36	80	12	7	98
Back Connection Gauge Size/Type			A	B	F	G	H	
40 mm	BY40Y	Inch	1.78	1.00	1.61	1.62	⅛	
		mm	45	25	41	41		
50 mm	BY41Y	Inch	2.21	1.11	2.02	2.05	¼	
		mm	56	28	51	52		
63 mm	BY42Y	Inch	2.62	1.13	2.45	2.05	¼	
		mm	66	29	62	52		

PANEL MOUNT ASSEMBLY DIMENSIONS FOR 40mm, 50mm, 63mm GAUGES

Part No.		A	B	C	D	E	F	G	H	J	K
40mm Clamp	Inch	2.36	1.02	189	0.45	0.44	0.94	0.94	0.20	0.10	M5X0.8
	mm	60	26	48	11.6	11.3	24	24	5	2.50	M5X0.8
50mm Clamp	Inch	2.83	1.26	2.36	0.57	0.56	0.47	1.18	0.24	0.10	M5X0.8
	mm	72	32	60	14.6	14.2	30	72	6	2.50	M5X0.8
63mm Clamp	Inch	3.27	1.26	2.80	0.57	0.56	0.47	1.40	0.24	0.10	M5X0.8
	mm	83	32	71	14.6	14.2	12	35.5	6	2.50	M5X0.8



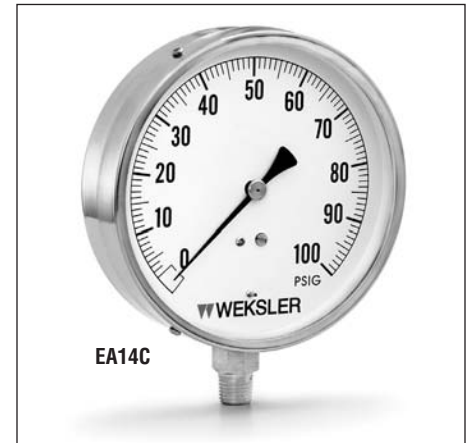
PANEL MOUNT PART NUMBER

ITEM - NO.

- U-clamp 40
- U-clamp 50
- U-clamp 63

STANDARD FEATURES

- 4 1/2" diameter
- Corrosion Resistant Stainless Steel Case and Ring, Plastic Lens.
- Zero adjusting screw.
- Soft soldered phosphor bronze tube with brass socket. Suitable for steam, water, air, oil, gas or any medium not corrosive to copper alloys.
- Bronze/brass movement.
- Easy to read dial; white background with bold black numerals and graduations, 270° arc.
- 1/4 NPT bottom connection only.



PRESSURE RANGES

CATALOG NO	DIAL RANGES	FIGURE INTERVALS	SMALLEST GRADUATION
EA14A	0- 30 psi	5 psi	1/2 psi
EA14B	0- 60 psi	10 psi	1 psi
EA14C	0-100 psi	10 psi	1 psi
EA14D	0-160 psi	20 psi	2 psi
EA14E	0-200 psi	20 psi	2 psi
EA14F	0-300 psi	50 psi	5 psi
EA14G	0-500 psi	50 psi	5 psi

VACUUM RANGES

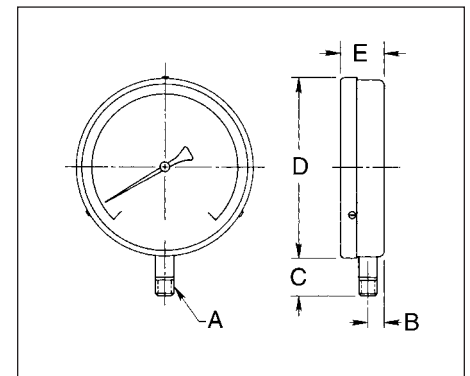
EA14H	30"-0 Hg. Vac	5 in.	1/2 in.
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COMPOUND RANGES

EA14J	30"-0- 30 psi	10" & 5 psi	1" & 1 psi
EA14K	30"-0-100 psi	15" & 10 psi	5" & 1 psi
EA14L	30"-0-150 psi	30" & 25 psi	5" & 5 psi

TO ORDER: SPECIFY 5 DIGIT "CATALOG NUMBER" FROM ABOVE TABLE.

DIMENSIONS



GAUGE DIMENSIONS – EA14C

A	B	C	D	E
1/4 NPT	7/16	1 1/16	4 15/16	1 3/16
	(11)	(27)	(126)	(30)

BIMETAL THERMOMETERS

Introduction	45
Adjustable Angle	46
3" Dial Size – Rigid Forms.....	47
5" Dial Size – Rigid Forms.....	48
3" Dial Size – Heavy Duty	49
Pocket Bimetal	50
Sanitary Wells, Conversion Kit, Duct Flange	51



RANGE

The maximum operating pressure should not exceed 75% of the full-scale range. The normal operating range should be in the middle half of the range (between 25% and 75% of the full-scale range); whenever possible.

DIAL SIZE

Select a dial size that allows you to comfortably read the dial from the normal distance when installed.

ACCURACY

All Weksler BiMetal Thermometers have an accuracy of $\pm 1\%$ of the full-scale range. For accurate readings stem must be immersed at least 2 inches in liquids and 4 inches in gases.

UNDER/OVER RANGE PROTECTION

Temporary exposure to temperatures under or over 50% of the full-scale range will not impair accuracy (up to 500°F or 260°C maximum).

CASE ASSEMBLY

The case, bezel, stem and fittings are stainless steel (300 series). The head assembly is sealed to exclude dirt, dust and moisture on 3" and 5" dial sizes, all joints are welded.

DIALS

Dials are white with clear black graduations and numerals and are easy to read.

FACE

A gasketed glass window is standard on 3" and 5" dial sizes. Where breakage is a concern, a plastic or shatterproof glass window is optional at extra cost. On 1" and 2" dial sizes a plastic window is standard (no options available). Plastic windows are not suitable where head temperature exceeds 150°F (65°C).

EXTERNAL ADJUSTMENT

An external adjustment at the rear of the 3" and 5" case permits adjustment at a specific point or pointer repositioning during calibration check.

VIBRATION AND SHOCK

If present, use of either a heavy duty bimetal or a remote mounted gas actuated thermometer is recommended.

HIGH PRESSURE OR CORROSIVE APPLICATIONS

In these applications, use of a separable thermowell is recommended. In addition to protecting the thermometer, thermowells facilitate removal of the thermometer without having to shut down the system.

Adjustable Angle Type 3" and 5" Dial Size

STANDARD RANGES

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to $\pm 1\%$ of Scale Range
- Gasketed Glass Face
- Case is sealed to exclude dirt, dust and moisture
- 3" and 5" dial sizes
- Angularly adjustable frame permits positioning of dial to accommodate viewing requirements

3" AND 5" DIAL SIZE CATALOG NUMBERS

STEM LENGTH	FIXED THREAD		UNION CONNECTED	
	3"	5"	3"	5"
2½"	CF02	AF02	CU02	AU02
4"	CF04	AF04	CU04	AU04
6"	CF06	AF06	CU06	AU06
9"	CF09	AF09	CU09	AU09
12"	CF12	AF12	CU12	AU12
15"	CF15	AF15	CU15	AU15
18"	CF18	AF18	CU18	AU18
24"	CF24	AF24	CU24	AU24

NOTE: Union connected types must be used with thermowells, longer length available on special order.

STANDARD RANGES

CODE	Fahrenheit
FC	-80 to 120°F
FE	-40 to 120°F
FG	0 to 150°F
FJ	0 to 200°F
FL	0 to 250°F
FM	30 to 240°F
FN	30 to 130°F †
FR	50 to 300°F
FS	50 to 400°F
FT	50 to 550°F
FX	150 to 750°F †
FY	200 to 1000°F* †
Celsius	
CD	-50 to 50°C
CJ	0 to 100°C
CM	-10 to 110°C
CN	0 to 50°C †
CR	0 to 150°C
CS	0 to 200°C
CU	0 to 300°C
CX	50 to 450°C †
CY	100 to 550°C* †

SEPARABLE THERMOWELLS AVAILABLE
SEE PAGES 59 - 63

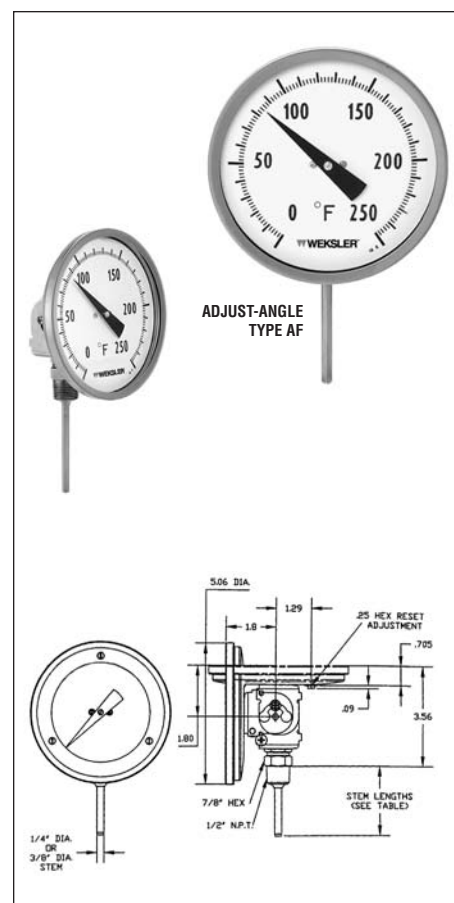
CODE	DUAL SCALE		
	Fahrenheit (on outside)	and	Celsius (on inside)
DE	-40/120°F	and	-40/50°C
DF	40/160°F	and	-40/70°C
DN	30/130°F	and	0/55°C †
DJ	0/200°F	and	-20/94°C
DL	0/250°F	and	-20/120°C
DR	50/300°F	and	10/150°C
DS	50/400°F	and	10/200°C
DT	50/550°F	and	10/290°C
DX	100/800°F*	and	40/430°C †
DY	200/1,000°F	and	100/550°C* †

*Not recommended for continuous service above 800°F (425°C).

For such temperatures see pg. 63.

†Minimum stem length for these ranges 4".

OPTIONAL FEATURES	
CODE	Description
EL	Liquid Filling for Catalog No's AF, 3A, 5A only
PD	Plastic Window
SG	Shatter Proof Glass
NN	Paper Tag
NH	Stainless Steel Tag
DM	Dial Markings
C4	Calibration Certificate



HOW TO ORDER

1. Basic 4-digit Catalog No. From Table Above **A F 0 6 4 4 F M X**
2. Stem Diameter: "4" = .250" O.D. (Standard); "5" = .375" O.D. (Extra Cost)
3. Thread Size: "4" = 1/2 NPT Male (AF Series); "U" = 1/2 NPT Male Swivel Nut (AU Series)
4. 2 Digit Range Code from Range Tables Above
5. Option(s): "X" = None Required; "9" = Option(s) Required (Extra Cost)

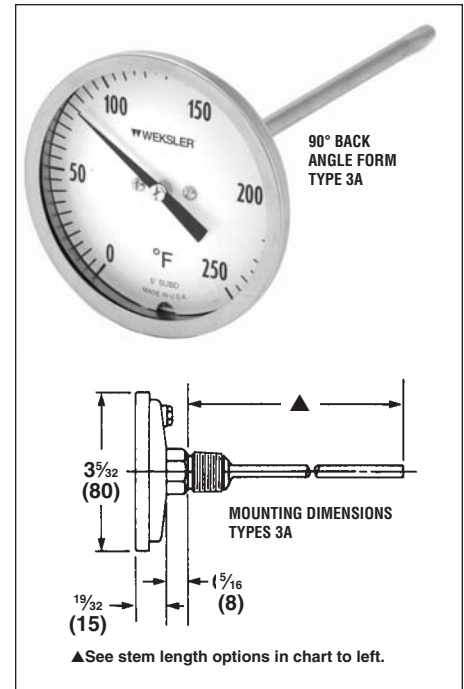
If option(s) are required specify: Plastic Face, Shatterproof Glass Face, Paper Tag, Stainless Steel Tag

STANDARD FEATURES

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to $\pm 1\%$ of Scale Range
- Gasketed Glass Face
- Case is sealed to exclude dirt, dust and moisture
- 3" dial size

CATALOG NUMBERS*		
STEM LENGTH	90° BACK ANGLE FORM	STRAIGHT FORM
2½"	3A02	3S02
4"	3A04	3S04
6"	3A06	3S06
9"	3A09	3S09
12"	3A12	3S12
15"	3A15	3S15
18"	3A18	3S18
24"	3A24	3S24

Longer stem lengths available on special order.



STANDARD RANGES

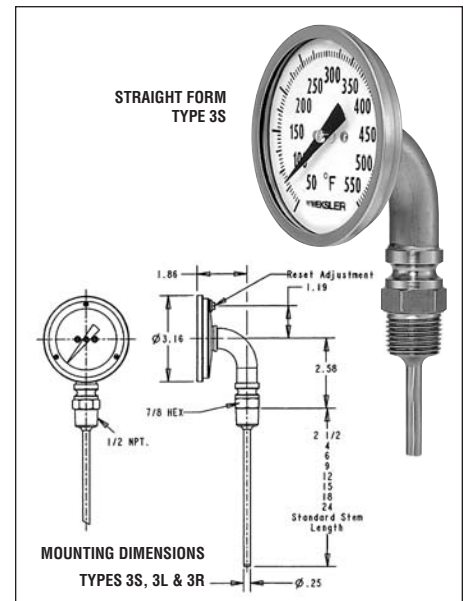
CODE	Fahrenheit
FC	-80 to 120°F
FE	-40 to 120°F
FG	0 to 150°F
FJ	0 to 200°F
FL	0 to 250°F
FM	30 to 240°F
FN	30 to 130°F †
FR	50 to 300°F
FS	50 to 400°F
FT	50 to 550°F
FX	150 to 750°F †
FY	200 to 1000°F* †
Celsius	
CD	-50 to 50°C
CJ	0 to 100°C
CM	-10 to 110°C
CN	0 to 50°C †
CR	0 to 150°C
CS	0 to 200°C
CU	0 to 300°C
CX	50 to 450°C †
CY	100 to 550°C* †

DUAL SCALE			
CODE	Fahrenheit (on outside)	and	Celsius (on inside)
DE	-40/120°F	and	-40/50°C
DF	40/160°F	and	-40/70°C
DN	30/130°F	and	0/55°C †
DJ	0/200°F	and	-20/94°C
DL	0/250°F	and	-20/120°C
DR	50/300°F	and	10/150°C
DS	50/400°F	and	10/200°C
DT	50/550°F	and	10/290°C
DX	100/800°F*	and	40/430°C †
DY	200/1,000°F	and	100/550°C* †

*Not recommended for continuous service above 800°F (425°C). For such temperatures see pg. 63.

†Minimum stem length for these ranges 4".

OPTIONAL FEATURES	
CODE	Description
EL	Liquid Filling for Catalog No's AF, 3A, 5A only
PD	Plastic Window
SG	Shatter Proof Glass
NN	Paper Tag
NH	Stainless Steel Tag
DM	Dial Markings
C4	Calibration Certificate



SEPARABLE THERMOWELLS AVAILABLE
SEE PAGES 59 - 63

HOW TO ORDER

3 S 0 4 4 4 D R X

1. Basic 4-digit Catalog No. From Table Above
2. Stem Diameter: "4" = .250" O.D. (Standard); "5" = .375" O.D. (Extra Cost)
3. Thread Size: "4" = 1/2 NPT Male; "U" = 1/4 NPT Male (Extra Cost)
4. 2 Digit Range Code from Range Tables Above
5. Option(s): "X" = Non Required Option(s) Required (Extra Cost) Select code from above table

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to $\pm 1\%$ of Scale Range
- Gasketed Glass Face
- Case is sealed to exclude dirt, dust and moisture
- 5" dial size

CATALOG NUMBERS*		
STEM LENGTH	90° BACK ANGLE FORM	STRAIGHT FORM
2½"	5A02	5S02
4"	5A04	5S04
6"	5A06	5S06
9"	5A09	5S09
12"	5A12	5S12
15"	5A15	5S15
18"	5A18	5S18
24"	5A24	5S24

Longer stem lengths available on special order

STANDARD RANGES

CODE	Fahrenheit
FC	-80 to 120°F
FE	-40 to 120°F
FG	0 to 150°F
FJ	0 to 200°F
FL	0 to 250°F
FM	30 to 240°F
FN	30 to 130°F †
FR	50 to 300°F
FS	50 to 400°F
FT	50 to 550°F
FX	150 to 750°F†
FY	200 to 1000°F*†
	Celsius
CD	-50 to 50°C
CJ	0 to 100°C
CM	-10 to 110°C
CN	0 to 50°C
CR	0 to 150°C
CS	0 to 200°C
CU	0 to 300°C
CX	50 to 450°C†
CY	100 to 550°C*†

**SEPARABLE THERMOWELLS AVAILABLE
SEE PAGES 59 - 63**

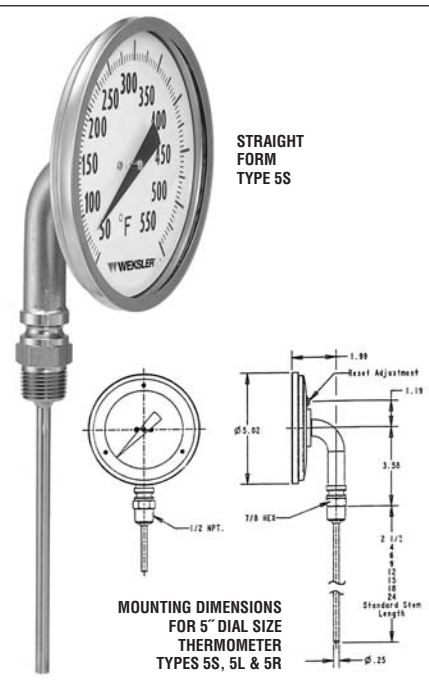
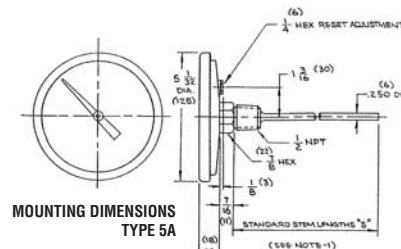
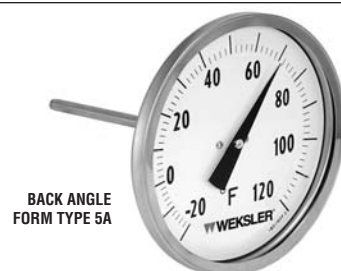
	DUAL SCALE		
CODE	Fahrenheit (on outside)	and	Celsius (on inside)
DE	-40/120°F	and	-40/50°C
DF	40/160°F	and	-40/70°C
DN	30/130°F	and	0/55°C †
DJ	-0/200°F	and	-20/94°C
DL	0/250°F	and	-20/120°C
DR	50/300°F	and	10/150°C
DS	50/400°F	and	10/200°C
DT	50/550°F	and	10/290°C
DX	100/800°F*	and	40/430°C†
DY	200/1,000°F	and	100/550°C†

*Not recommended for continuous service above 800°F (425°C).

For such temperatures see pg. 63.

†Minimum stem length for these ranges 4".

OPTIONAL FEATURES	
CODE	Description
EL	Liquid Filling for Catalog No's AF, 3A, 5A only
PD	Plastic Window
SG	Shatter Proof Glass
NN	Paper Tag
NH	Stainless Steel Tag
DM	Dial Markings
C4	Calibration Certificate



HOW TO ORDER

5 A 0 6 4 4 F J X

1. Basic 4-digit Catalog No. From Table Above _____
2. Stem Diameter: "4" = .250"O.D. (Standard); "5" = .375" O.D. (Extra Cost) _____
3. Thread Size: "4" = 1/2 NPT Male; "U" = 1/4 NPT Male (Extra Cost) _____
4. 2 Digit Range Code from Range Tables Above _____
5. Option(s): "X" = Non Required Option(s) Required (Extra Cost) Select code from above table _____

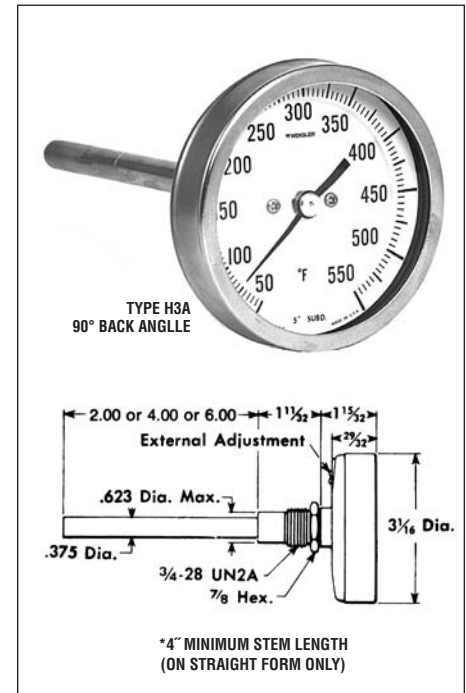
STANDARD FEATURES

- Shock and Vibration Resistant
- Stainless Steel Construction
- Plastic Crystal
- Dished Anti-Parallax Dial for Easy Reading
- External Recalibration Adjustment at Rear of Case
- Accurate to 1% of Scale Range (when tested without well)
- Interchangeable with 5" Scale Size "Submarine" Thermometers Having Same Stem Length
- 3/4"-28 UN2A Union Connection Assembly Must be used with Well (or Bushing)

STEM LENGTH	CATALOG NUMBERS	
	90° BACK ANGLE FORM	STRAIGHT FORM
2"	H3A2	H3S2
4"	H3A4	H3S4
6"	H3A6	H3S6

NOTE: A minimum of 2" insertion (immersion) is required for accurate readings and proper response.

CODE	Fahrenheit
D	-40 to 120°F in 2° divs.*
H	0 to 200°F in 2° divs.
L	20 to 240°F in 2° divs.
P	50 to 300°F in 2° divs.
Q	50 to 400°F in 5° divs.
R	50 to 500°F in 5° divs.
S	50 to 750°F in 10° divs.
CODE	Celsius
1	-50 to 50°C in 1° divs.*
2	-10 to 110°C in 1° divs.
5	0 to 150°C in 2° divs.
6	0 to 200°C in 2° divs.
8	0 to 300°C in 5° divs.



HOW TO ORDER

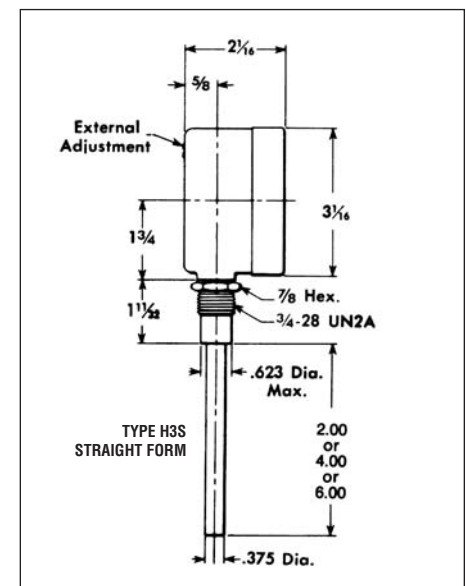
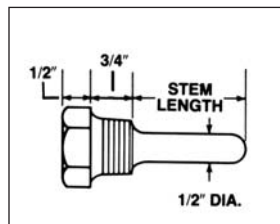
H 3 S 4 H

1. Basic 4-digit Catalog No. _____
2. Range Code _____

THERMOWELLS FOR HEAVY DUTY BIMETAL THERMOMETERS .385" BORE – 3/4-28" FEMALE THREAD (INTERNAL)

THREADED TYPE – 3/4-14 NPT MALE

THERMOMETER STEM LENGTH	WELL LENGTH (OVERALL)	CATALOG NO.
		304 SS
2"	3 1/4"	W3G1
4"	5 1/4"	W5G1
6"	7 1/4"	W7G1

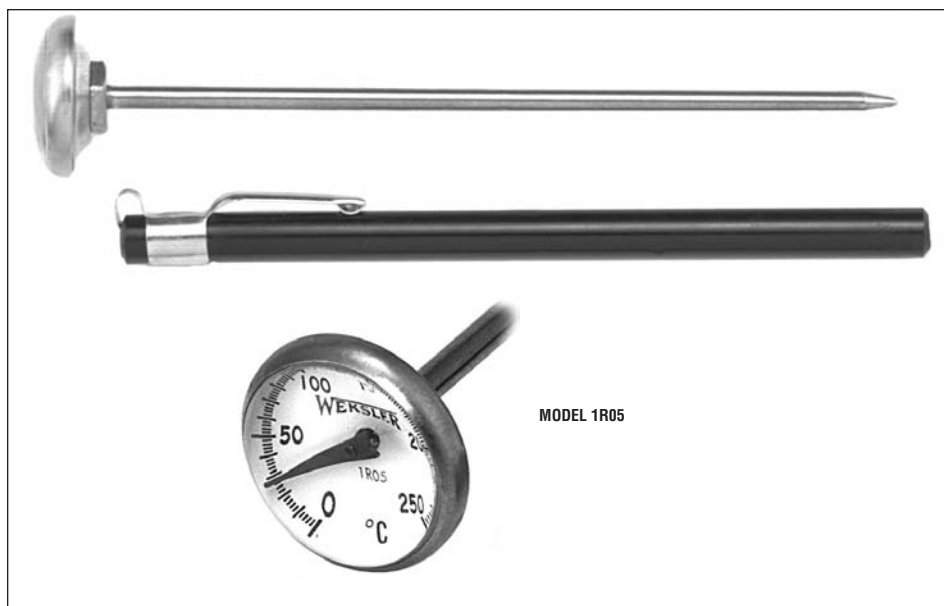


To Order: Specify 4 digit catalog no. from above tables

STANDARD FEATURES

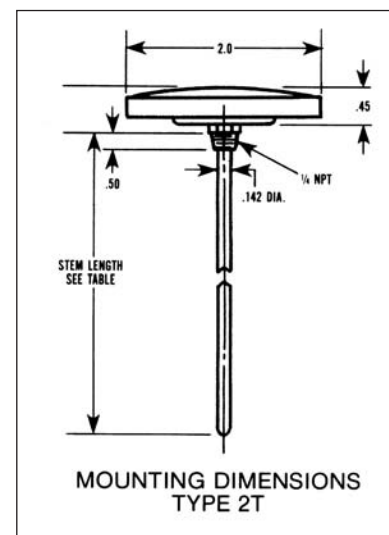
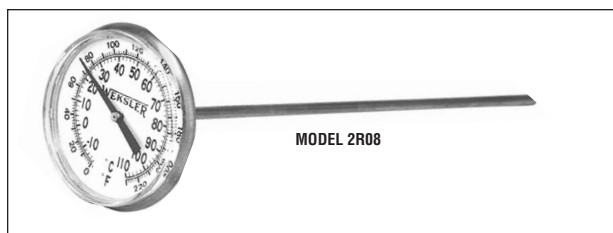
- 1" dial
- 5" stem length
- .142" stem diameter
- Complete with pocket case and clip
- Standard with plastic crystal and recalibration feature

CATALOG NUMBER	STANDARD RANGES
1R05A	-40 to 160°F in 2° divs.
1R05B	25 to 125°F in 1° divs.
1R05C	0 to 220°F in 2° divs.
1R05D	50 to 550°F in 5° divs.
1R05E	-50 to 100°C in 2° divs.
1R05F	-10 to 110°C in 2° divs.
1R05G	0 to 150°C in 2° divs.
1R05H	0 to 250°C in 5° divs.



STANDARD FEATURES

- 2" dial
- All Stainless Steel Construction
- Accurate to $\pm 1\%$ of Scale Range
- Dual Scale (Both °F and °C) Ranges



MOUNTING CLIP FOR 1" and 2" PN TPC

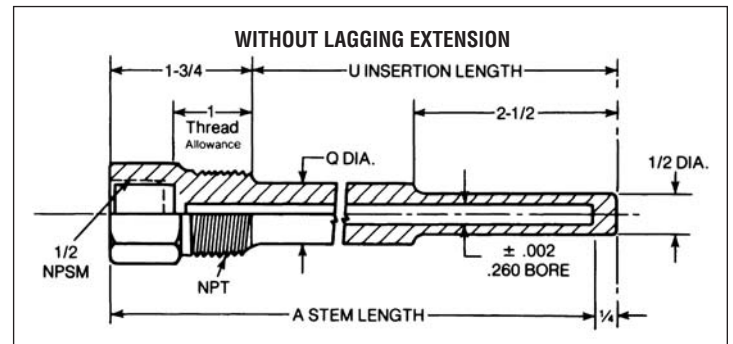
CATALOG NUMBER	DUAL SCALE (BOTH °F AND °C) FAHRENHEIT ON OUTER – CELSIUS ON INNER SCALE			TYPE
2R08A	-40 to 160°F in 2° divs.	and	-40 to 70°C in 2° divs.	8" Plain Stem With Recalibration Feature
2R08B	25 to 125°F in 1° divs.	and	-5 to 50°C in 1° divs.	
2R08J	0 to 180°F in 2° divs.	and	-18 to 83°C in 1° divs.	
2R08C	0 to 220°F in 1° divs.	and	-10 to 110°C in 2° divs.	
2R08K	50 to 400°F in 5° divs.	and	10 to 106°C in 2° divs.	
2R08D	50 to 550°F in 5° divs.	and	10 to 290°C in 5° divs.	2½" Stem ¼ NPT Fixed Thread
2T02A	-40 to 160°F in 2° divs.	and	-40 to 70°C in 2° divs.	
2T02C	0 to 220°F in 2° divs.	and	-10 to 110°C in 2° divs.	4" Stem ¼ NPT Fixed Thread
2T04A	-40 to 160°F in 2° divs.	and	-40 to 70°C in 2° divs.	
2T04B	25 to 125°F in 1° divs.	and	-5 to 50°C in 1° divs.	
2T04C	0 to 220°F in 2° divs.	and	-10 to 110°C in 2° divs.	

HOW TO ORDER

Specify 5 digit catalog number from above tables

**FOR INDUSTRIAL BIMETAL THERMOMETERS
WITH .250" DIAMETER ELEMENTS**

- .385" bore available for use with instruments with .375" diameter elements
- All Weksler standard thermowells are bored from solid bar stock


3/4" NPT – CATALOG NUMBERS

A	U	Q	BRASS	304 SS	316 SS
4	2½	—	S3B4	S3G4	S3J4
6	4½	¾	S3B6	S3G6	S3J6
9	7½	¾	S3B9	S3G9	S3J9
12	10½	¾	S3B2	S3G2	S3J2

Brass wells are not recommended for installations involving high pressures and/or temperatures over 400°F. Brass cap and chain available to keep bore clean when not in use.

.260" bore standard. If .385" bore is required:

(1) Add the letter K at the end of the catalog no.;

(2) "Q" diameter is changed to 49/64" along entire length of insertion ("U" dimension).

For pressure – temperature rating use Table 1 on page 89.

NOTE: 2½" STEM THERMOMETERS USE SPECIAL LIMITED SPACE WELLS.

GLASS
THERMOMETERS

Adjustable Angle Glass Thermometers55
Adjustable Angle Air Duct Thermometers56
Adjust Angle Digital Thermometers.....57
Dimensions, Thermowells.....58
Navy/Marine Thermometer59
Economy Glass Thermometer59

Adjust Angle Thermometer, Mercury Free, Standard Model A935AF5

STANDARD FEATURES

- Mercury Free.
- Molded Valox® – V-shaped black case for ranges up to and including 300°F
- Die cast black aluminum V-shaped case for ranges above 300°F.
- Glass front excludes dust and dirt.
- White aluminum scale with bold black graduations and figures.
- Mercury Free blue liquid in glass with magnifying lens for easy readability.
- Accuracy is $\pm 1\%$ of full scale.
- Easy adjustment permits case and stem to be rotated 360°.
- 3½", 6", 9" & 12" stems available.
- 1¼"-18" NEF swivel nut.

OPTIONS

- Plastic window available for both 7" and 9" scale.
- Aluminum case available for low ranges (300°F and below).

RANGES

FAHRENHEIT

–40/110F
0/120F
0/160F
30/180F
30/240F
30/300F
50/400F⁽¹⁾
50/550F⁽¹⁾

MINOR GRADS

2°
1°
2°
2°
2°
5°
5°
5°

RANGE CODE

F1
F2
F3
F4
F5
F6
F7
F8

CELSIUS

–20/45C
0/50C
0/100C
0/160C⁽¹⁾
0/200C⁽¹⁾
0/300C⁽¹⁾

1°
1°
1°
2°
2°
5°

C1
C2
C3
C4
C5
C6

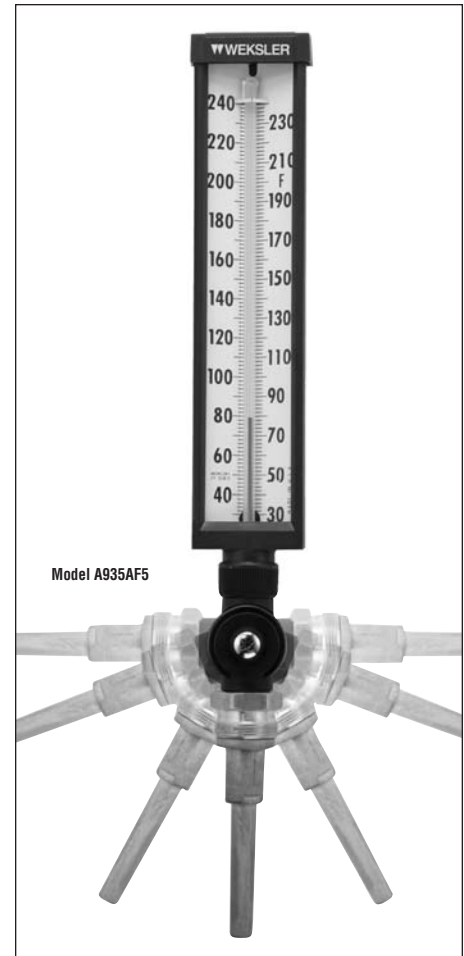
DUAL SCALE

–40/110F & –40/43C
0/120F & –15/48C
0/160F & –15/70C
30/180F & 0/82C
30/240F & 0/115C
30/300F & 0/150C
50/400F & 10/200C⁽¹⁾
50/550F & 10/290C⁽¹⁾

2°
1°
2°
2°
2°
5°
5°
5°

D1
D2
D3
D4
D5
D6
D7
D8

(1) Must be supplied with optional aluminum case.



HOW TO ORDER

1. Product Type: **A**
2. Scale Size: 7 = 7" Scale; 9 = 9" Scale **9**
3. Stem Length: 35 = 3½"; 60 = 6"; 90 = 9"; 12 = 12" **35**
4. Connection Location: A = Adjust Angle **A**
5. Range (see table) **F5**
6. Options: AL = Aluminum Case*; PD = Plastic Window **— AL**

*Aluminum case is required for ranges over 300°F

STANDARD FEATURES

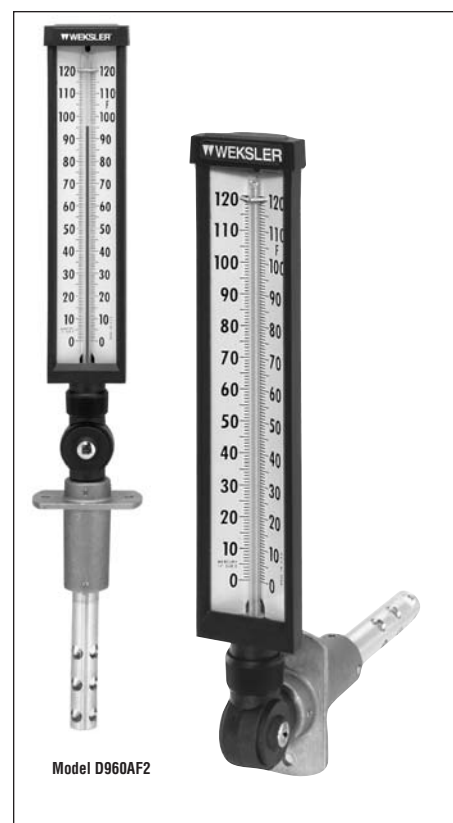
- Mercury Free.
- Molded Valox® – V-shaped black case supplied as standard.
- Glass front excludes dust and dirt.
- White aluminum scale with bold black graduations and flanges.
- Mercury Free blue liquid in glass with magnifying lens for easy readability.
- Accuracy is $\pm 1\%$ of full scale.
- Easy adjustment permits case and stem to be rotated 360°.
- 3½", 6", 9" & 12" stems available.
- Protective slotted bulb guard, ¾" diameter aluminum stem and 3" diameter union flange

OPTIONS

- Plastic window available for both 7" and 9" scale.
- Lagging extension.
- Aluminum case.

RANGES

MINOR FAHRENHEIT	RANGE GRADS	CODE
-40/110F	2°	F1
0/120F	1°	F2
0/160F	2°	F3
30/180F	2°	F4
30/240F	2°	F5
CELSIUS		
-20/45C	1°	C1
0/50C	1°	C2
0/100C	1°	C3
DUAL SCALE		
-40/110F & -40/43C	2°	D1
0/120F & -15/48C	1°	D2
0/160F & -15/70C	2°	D3
30/180F & 0/82C	2°	D4
30/240F & 0/115C	2°	D5



HOW TO ORDER

1. Product Type: **D** — Air Duct Thermometer
2. Scale Size: 7 = 7" Scale; 9 = 9" Scale **9**
3. Stem Length: 35 = 3½"; 60 = 6"; 90 = 9"; 12 = 12" **60**
4. Connection Location: A = Adjust Angle **A**
5. Range (see table) **F2**
6. Options: PD = Plastic Window, AL = Aluminum Case **— AL**

LIGHT-POWERED ADJUSTABLE ANGLE DIGITAL THERMOMETER

The Weksler™ light-powered industrial thermometer offers an environmentally friendly alternative to mercury-filled industrial thermometers. The light-powered industrial thermometer can help reduce inventory requirements with its switchable °F and °C feature, which offers a wide variety of ranges in a single unit (–40/300°F and –40/150°C). The high impact ABS case can be adjusted for viewing from any angle. Stem lengths of 3½" and 6" are available and are interchangeable with standard glass column industrial thermometers. The light-powered industrial thermometer features a ½" LCD digital display.

SPECIFICATIONS

Switchable Range:
–40/300°F – –40/150°C

Accuracy:
1% of reading or 1° whichever is greater

Display:
½" LCD digits

Resolution:
1/10° between –19.9/199.9°F or 28/93°C

Update Rate:
10 seconds

Recalibration:
Internal potentiometer

Sensor:
Glass passivator thermistor

ACCESSORIES

Thermowells For Adjustable
Angle Thermometers:
See page 5

PHYSICAL CHARACTERISTICS

Case:
High-impact ABS

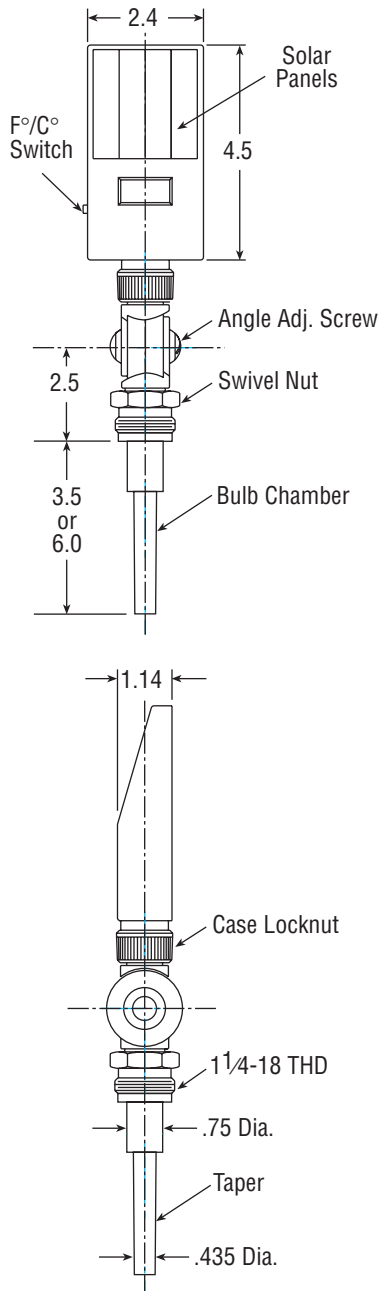
Stem Assemblies, Industrial Glass:
Full conformance with Fed. Spec. GGT-321D

Stem Lengths:
3½" and 6"

Standard Connection:
1¼"-18 NEF Swivel Nut

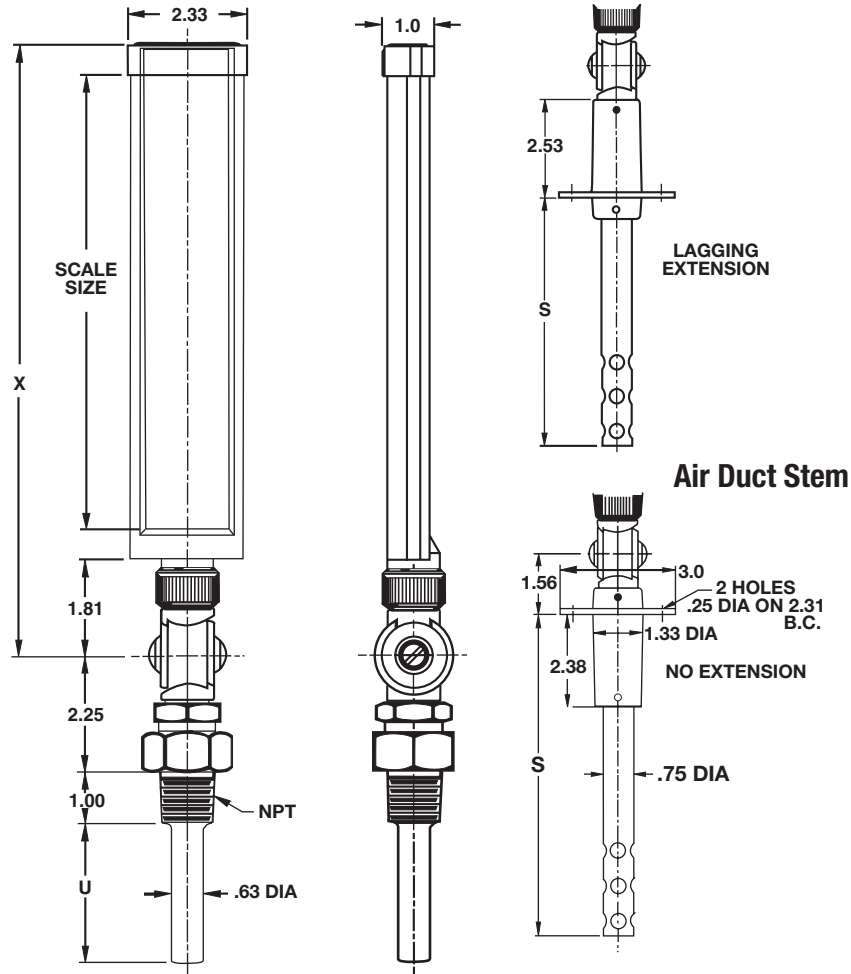
Weight: 10 oz.

DIMENSIONS

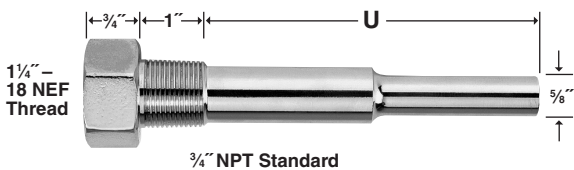


HOW TO ORDER

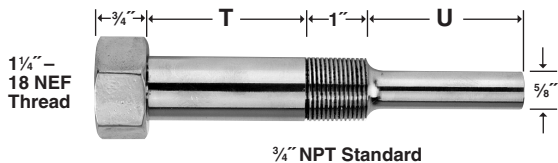
- Product Type: AD = Adjust Angle Digital Thermometer
- Stem Length: 35 = 3½"; 60 = 6"
- Connection Location: A = Adjust Angle
- Range: FC = Switchable Range –40/300°F or –40/150°C



THERMOWELLS FOR ADJUST ANGLE THERMOMETERS



THERMOMETER STEM LENGTH	"U" DIM.	$\frac{3}{4}$ NPT BRASS
3½"	2½"	G1E3D2
6"	5"	G1M3D2
9"	8"	G1S3D2
12"	11"	G1T3D2



THERMOMETER STEM LENGTH	"T" DIM.	"U" DIM.	$\frac{3}{4}$ NPT BRASS
3½"	1	1½"	G1E3D2B
6"	2½"	2½"	G1M3D2E
9"	2½"	5½"	G1S3D2E
12"	2½"	8½"	G1T3D2E

Navy/Marine Thermometer

STANDARD FEATURES

- Molded Valox® – V-shaped gray case.
- White aluminum scale with bold black graduations and flanges.
- 2" and 4" stems available.
- 3¼" overall length thermowell (optional) to be used with 2" stem.
- 5¼" overall length thermowell (optional) to be used with 4" stem.
- Red reading with magnifying lens for easy readability.

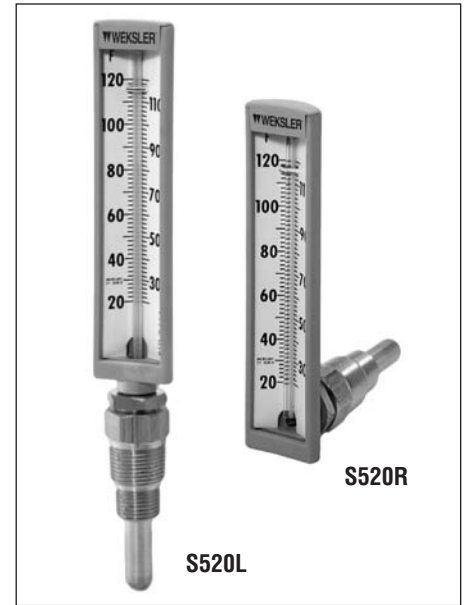
RANGES

DUAL SCALE	MINOR GRADS	RANGE CODE
–40/110F & –40/43C	2°/2°	D1
20/180F & –5/80C	2°/2°	DØ
30/240F & 0/115C	2°/2°	D5
50/400F & 10/200C	5°/2°	D7

PART NUMBERS*

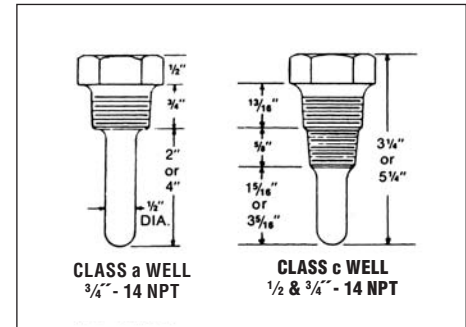
CONNECTION LOCATION	STEM LENGTHS	
	2"	4"
Lower	S520L	S540L
Back	S520R	S540R

*Include range code (above) at end of above # to complete the part number.



THERMOWELL DIMENSIONS – ¾-28" Female Thread (Internal)

WELL CLASS	STEM LENGTH OF THERMOMETER	OVERALL LENGTH OF WELL	CATALOG #	
			BRASS	304SS
a	2 inch	3¼"	N/A	W3G1
	4 inch	5¼"	N/A	W5G1
c	2 inch	3¼"	W3B3	N/A
	4 inch	5¼"	W5B3	N/A



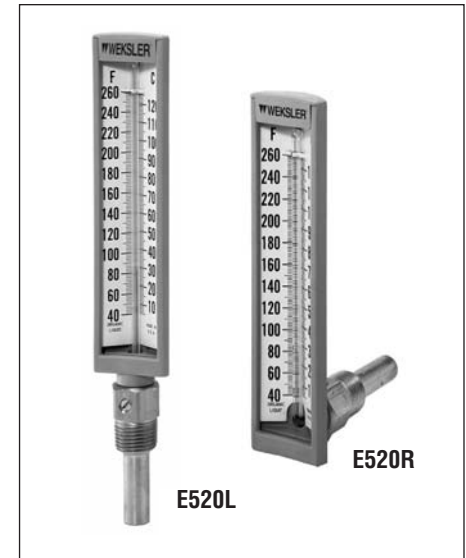
Economy Thermometer

STANDARD FEATURES

- Molded Valox® – V-shaped gray case.
- Red reading spirit filled tube with magnifying lens for easy readability.
- 40/260F and 5/125C is standard range (2°F divisions and 1°C divisions)
- White aluminum scale with bold black graduations and figures.
- 2" stem supplied as standard.
- Supplied standard with removable ½ NPT brass well, 2" length (1.375" insertion).

PART NUMBERS

CONNECTION LOCATION	2" STEM
Lower	E520L
Back	E520R



GAS ACTUATED THERMOMETERS

Case Styles/Dimensions.....	62-63
Selection Terms	64
How to Order	65-66
Thermowells	67
Temperature Conversion Table	68

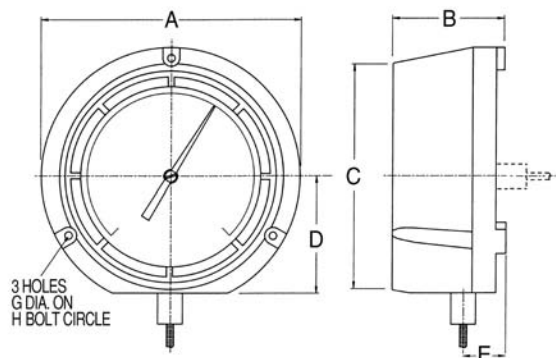
SURFACE (WALL) OR DIRECT MOUNT TYPES



Snap-in glass retaining ring.
Standard for 4½" remote.

STYLE	DIAL SIZE	MATERIAL
P	4½"	Polypropylene

SURFACE (WALL) OR DIRECT MOUNT TYPES



GAUGE SIZE	A	B	C	D	E	F	G	H
4½" INCH	5.83	2.56	5.08	2.62	1.00	.20	.24	5.39

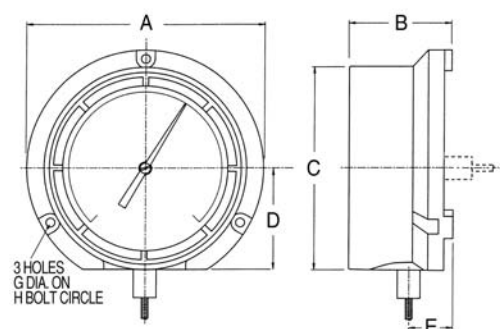
SURFACE (WALL) MOUNT TYPES



Style "A" has bayonet type glass retaining ring.
Extra cost option.

STYLE	DIAL SIZE	MATERIAL
A	4½"	Aluminum Black Textured Enamel Finish

SURFACE (WALL) MOUNT TYPES



GAUGE SIZE	A	B	C	D	E	F	G	H
4½" INCH	5.81	2.69	5.00	2.50	1.12	.20	.22	5.38

HINGED FRONT TYPE FOR FLUSH MOUNTING

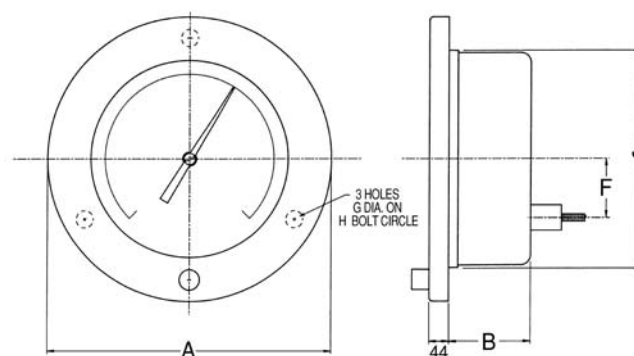


Molded plastic hinged front ring allows easy access to dial and pointer.
Extra cost option.

NOTE: Only available with rear (back) connection.

STYLE	DIAL SIZE	MATERIAL
W	4½"	Aluminum Black Textured Enamel Finish

HINGED FRONT TYPE FOR FLUSH MOUNTING



GAUGE SIZE	A	B	F	G	H	J
4½" INCH	6.31	1.63	1.35	.19	5.38	4.88

X-PANEL HOLE CUT-OUT DIAMETER

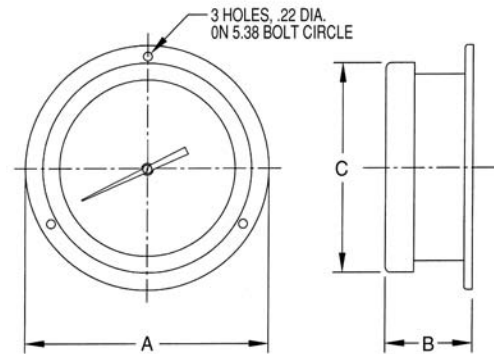
SURFACE (WALL) MOUNT TYPES

**BAYONET TYPE GLASS
RETAINING RING**

4½" dial size remote mount
thermometers.

Extra cost option.

STYLE	DIAL SIZE(S)	MATERIAL
X	4½"	Stainless Steel

SURFACE (WALL) MOUNT TYPES


GAUGE SIZE	A	B	C	G	H
4½" INCH	5.90	2.10	5.05	.22	5.38

HINGED FRONT TYPE FOR FLUSH MOUNTING

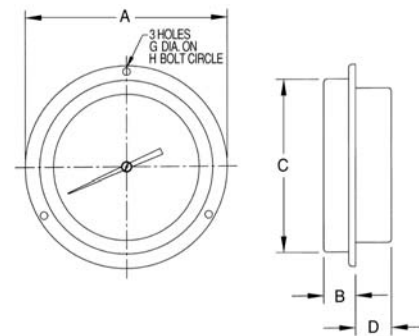

Front flanged case for semi-flush
mounting.

Bayonet type glass retaining ring.

Extra cost option.

NOTE: Only available with rear (back) connection.

STYLE	DIAL SIZE(S)	MATERIAL
V	4½"	Stainless Steel

HINGED FRONT TYPE FOR FLUSH MOUNTING


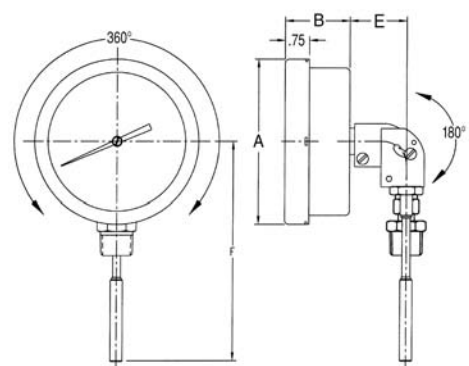
GAUGE SIZE	A	B	C	D	G	H
4½" INCH	5.90	.94	5.05	1.04	.22	5.55

DIRECT MOUNT TYPES (Flangeless Case)

**BAYONET TYPE GLASS
RETAINING RING**

Standard on all stainless steel
adjust angle.

STYLE	DIAL SIZE(S)	MATERIAL
Y	4½"	Stainless Steel

DIRECT MOUNT TYPES (Flangeless Case)


GAUGE SIZE	A	B	E	F
4½" INCH	5.04	2.00	1.75	6.81

X-PANEL HOLE CUT-OUT DIAMETER

RANGE

The maximum operating temperature should not exceed 75% of the full-scale range. The normal operating range should be in the middle half of the range (between 25% and 75% of the full-scale range); whenever possible.

ACCURACY

All Weksler gas actuated dial thermometers have an accuracy of $\pm 1\%$ of the full-scale range. For accurate readings the entire sensitive portion of the bulb must be fully immersed into the medium being measured.

CASE

A wide variety of case styles and materials are offered. Determine how the thermometer is to be mounted: direct, surface (wall) or flush (in panel). Determine the desired case material: polypropylene, aluminum (black enameled) or stainless steel (300 series).

FACE

A gasketed glass window is standard. Where breakage is a concern, a plastic or shatterproof glass window is optional at extra cost. Plastic windows are not suitable where head temperature exceeds 150°F (65°C).

POINTER

All Weksler gas actuated thermometers have adjustable pointers. This permits pointer repositioning during calibration check or allows maximum precision at a selected point within the scale range.

MOUNTING

Weksler gas actuated thermometers are available in remote mounted types (with capillary tubing between case and sensing bulb) and direct mounted types (sensing bulb is attached directly to case). Remote mounted types allow the temperature to be read at a location remote from the actual temperature source. Remote mounting is also desirable to isolate the head (case, scale, pointer and internal parts) from the damaging effects of shock, vibration or excessive heat that may be present at the temperature source. Direct mounted thermometers are available in “adjust angle” types which allow the head of the thermometer to be positioned for the most desirable viewing angle. Direct mounted units are installed directly on pipes, tanks or other vessels.

BULB TYPES

Weksler gas actuated thermometers are available with various styles of plain bulbs or union connection bulbs. The bulb is the sensing element at the tip of the thermometer that reacts to temperature changes. The entire thermometer including the bulb, head assembly and capillary tubing (on remote types) is filled with an inert nitrogen gas offering fast response and linear dial graduations. Plain bulbs are those without threaded fittings for sensing air temperature or liquid temperatures in open tanks, vats, sinks, etc. Union connected bulbs have threaded swivel nuts that hold the bulb into a bulb fitting such as a thermowell, bushing or flange.

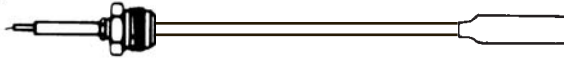
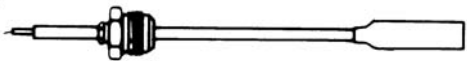
HIGH PRESSURE OR CORROSIVE APPLICATIONS

In these applications, use of a separable thermowell is recommended. In addition to protecting the thermometer, thermowells facilitate removal of the thermometer without having to shut down the system.

TABLE 1**REMOTE AND DIRECT MOUNTED TYPES**

BASE CATALOG NO.	DIAL SIZE	TYPE
413B	4½"	REMOTE MOUNTED
453B	4½"	ALL STAINLESS STEEL ADJUSTABLE ANGLE

TABLE 2 – BULB TYPE AND SIZE**FOR REMOTE MOUNT TYPES**

PLAIN BULB FOR AIR TEMPERATURE  13" Long .375 Diameter	CODE A
PLAIN BULB FOR LIQUIDS IN OPENTANKS, VATS, SINKS, ETC.  6" Long .50" Diameter *Only available with standard spring armor. Cannot exceed 40 ft. N/A with interlock armor.	C*
SLIDING UNION CONNECTION WITH 12" BENDABLE EXTENSION  3" x .375" Diameter Bulb, ½ NPT Swivel Nut	3
 18" Bendable	8
SLIDING UNION CONNECTION WITH 12" BENDABLE EXTENSION  3" x .625" Diameter Bulb, 1"-20 NEF-2B Swivel Nut	N
 3½" x .625" Diameter Bulb, w/1"-20 NEF-2B Swivel Nut	J

FOR DIRECT MOUNT TYPES

¾" O.D. – ½"-14 NPSM Swivel Nut

Union Connection (fixed length)
Wells, bushings or flanges required
for installation



CODE	STEM LENGTH	FITS WELL*
4	4"	4¼" O.A.
6	6"	6½" O.A.
9	9"	9¼" O.A.
2	12"	12¼" O.A.

*Uses "K" Series Thermowells (See page 7)

TABLE 3 – CASE STYLES**WALL MOUNTED TYPES**

CODE	CASE TYPE
P	Molded Polypropylene, Turret Type standard
A	Aluminum, Rear Flange Black Aluminum Bayonet Ring Extra cost option
X	Stainless Steel, Rear Flange Stainless Steel Bayonet Ring Extra cost option

FLUSH PANEL MOUNTED STYLES

V	Stainless Steel Case and Bayonet Ring Front Flange – Semi-Flush Mounting Extra cost option
W	Aluminum Case Hinged Front Plastic Bezel Extra cost option

DIRECT MOUNTED TYPES

CODE	CASE TYPE
Y	Stainless Steel, Flangeless Stainless Steel Bayonet Ring Standard on base catalog No. 453B

TABLE 4

CONNECTION LOCATION CODE	AVAILABILITY	
	ALL SS ADJUSTABLE ANGLE	REMOTE MOUNT
C = Center Back	•	
L = Lower		•
R = Rear		•

TABLE 5

CODE	CAPILLARY TYPE
S	Spring Armor
I	Interlock Armor*
X	None

*Required for lengths greater than 40 ft.

TABLE 6

CODE	LENGTH OF CAPILLARY TUBING LENGTHS UP TO 100'
00	None
02	2'
05	5'
10	10'

TABLE 7 – STANDARD RANGES

CODE	FAHRENHEIT	CODE	DUAL SCALE
FR	–320/100	DB	–40/180°F & –40/80°C
FS	–120/120	DC	–20/120°F & –80/50°C
FC	–40/180	DD	0/120°F & –15/50°C
FF	0/120	DF	0/300°F & –10/150°C
FI	0/300	DH	20/240°F & 0/110°C
FL	20/240	DI	50/550°F & 10/290°C
FN	50/550	DP	50/750°F & 0/400°C
FO	50/750	DQ	400/1200°F & 200/650°C
FQ	400/1200		

TABLE 8 – OPTIONS

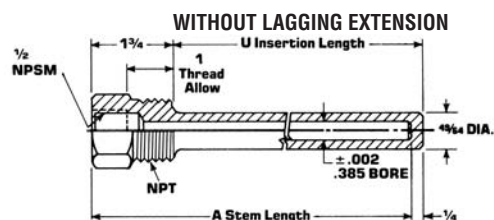
FEATURES	OPTION CODE
Plastic Lens	PD
Shatterproof Glass	SG
Movable Red Set Hand	SH
Markings on Dial	DM
Paper Tag Attached to Instrument	NN
Stainless Steel Tag Attached by Wire	NH

HOW TO ORDER

1. Specify 4-digit Base Catalog No. from Table 1 413B
 2. Add Bulb Digit from Table 2 3
 3. Add Case Style Digit from Table 3 P
 4. Add Connection Location Digit from Table 4 L
 5. Add Capillary Type Digit from Table 5 (enter "X" if none required) S
 6. Add Capillary Length Digit from Table 6 (enter "00" if none required) 05
 7. Add Range Code Digits from Table 7 FF
 8. Add Optional Feature Code Digit from Table 8 ()

“K” SERIES THERMOWELLS

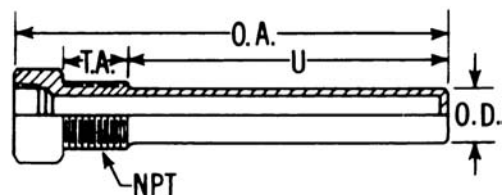
(Fits $\frac{3}{8}$ " O.D. Bulb with $\frac{1}{2}$ " NPSM Swivel Nut)



PART NUMBERS – 3/4 NPT				
A	U	BRASS	304 SS	316 SS
4	2½	S3B4K	S3G4K	S3J4K
6	4½	S3B6K	S3G6K	S3J6K

“5F” SERIES THERMOWELL

(Fits $\frac{5}{8}$ " O.D. Bulb with 1-20 NEF-2B Swivel Nut)



WITHOUT LAGGING EXTENSION

PART NUMBERS – 3/4 NPT**				
O.A. LENGTH	U DIM.	BRASS	304 SS	316 SS
4¼	2½	D1E5F2	D6E5F2	D4E5F2
6¼	5	D1M5F2	D6M5F2	D4M5F2

NOTE: The numbers in the center of each column refer to the temperature either in degrees Celsius or Fahrenheit which it is desired to convert into the

other scale. If converting from Fahrenheit degrees to Celsius degrees the equivalent temperature will be found in the left column, while if converting from

degrees Celsius to degrees Fahrenheit the answer will be found in the column on the right.

-459.4 to -10			-9 to +50			51 to 110			120 to 700			710 to 1300		
C		F	C		F	C		F	C		F	C		F
-273	-459.4		-22.8	-9	15.8	10.6	51	123.8	48.9	120	248	377	710	1310
-268	-450		-22.2	-8	17.6	11.1	52	125.6	54.4	130	266	382	720	1328
-262	-440		-21.7	-7	19.4	11.7	53	127.4	60.0	140	284	388	730	1346
-257	-430		-21.1	-6	21.2	12.2	54	129.2	65.6	150	302	393	740	1364
-251	-420		-20.6	-5	23.0	12.8	55	131.0	71.1	160	320	399	750	1382
-246	-410		-20.0	-4	24.8	13.3	56	132.8	76.7	170	338	404	760	1400
-240	-400		-19.4	-3	26.6	13.9	57	134.6	82.2	180	356	410	770	1418
-234	-390		-18.9	-2	28.4	14.4	58	136.4	87.8	190	374	416	780	1436
-229	-380		-18.3	-1	30.2	15.0	59	138.2	93.3	200	392	421	790	1454
-223	-370		-17.8	0	32.0	15.6	60	140.0	98.9	210	410	427	800	1472
-218	-360		-17.2	1	33.8	16.1	61	141.8	100	212	413.6	432	810	1490
-212	-350		-16.7	2	35.6	16.7	62	143.6	104	220	428	438	820	1508
-207	-340		-16.1	3	37.4	17.2	63	145.4	110	230	446	443	830	1526
-201	-330		-15.6	4	39.2	17.8	64	147.2	116	240	464	449	840	1544
-196	-320		-15.0	5	41.0	18.3	65	149.0	121	250	482	454	850	1562
-190	-310		-14.4	6	42.8	18.9	66	150.8	127	260	500	460	860	1580
-184	-300		-13.9	7	44.6	19.4	67	152.6	132	270	518	466	870	1598
-179	-290		-13.3	8	46.4	20.0	68	154.4	138	280	536	471	880	1616
-173	-280		-12.8	9	48.2	20.6	69	156.2	143	290	554	477	890	1634
-169	-273	-459.4	-12.2	10	50.0	21.1	70	158.0	149	300	572	482	900	1652
-168	-270	-454	-11.7	11	51.8	21.7	71	159.8	154	310	590	488	910	1670
-162	-260	-436	-11.1	12	53.6	22.2	72	161.6	160	320	608	493	920	1688
-157	-250	-418	-10.6	13	55.4	22.8	73	163.4	166	330	626	499	930	1706
-151	-240	-400	-10.0	14	57.2	23.3	74	165.2	171	340	644	504	940	1724
-146	-230	-382	-9.44	15	59.0	23.9	75	167.0	177	350	662	510	950	1742
-140	-220	-364	-8.89	16	60.8	24.4	76	168.8	182	360	680	516	960	1760
-134	-210	-346	-8.33	17	62.6	25.0	77	170.6	188	370	698	521	970	1778
-129	-200	-328	-7.78	18	64.4	25.6	78	172.4	193	380	716	527	980	1796
-123	-190	-310	-7.22	19	66.2	26.1	79	174.2	199	390	734	532	990	1814
-118	-180	-292	-6.67	20	68.0	26.7	80	176.0	204	400	752	538	1000	1832
-112	-170	-274	-6.11	21	69.8	27.2	81	177.8	210	410	770	543	1010	1850
-107	-160	-256	-5.56	22	71.6	27.8	82	179.6	216	420	788	549	1020	1868
-101	-150	-238	-5.00	23	73.4	28.3	83	181.4	221	430	806	554	1030	1886
-95.6	-140	-220	-4.44	24	75.2	28.9	84	183.2	227	440	824	560	1040	1904
-90.0	-130	-202	-3.89	25	77.0	29.4	85	185.0	232	450	842	566	1050	1922
-84.4	-120	-184	-3.33	26	78.8	30.0	86	186.8	238	460	860	571	1060	1940
-78.9	-110	-166	-2.78	27	80.6	30.6	87	188.6	243	470	878	577	1070	1958
-73.3	-100	-148	-2.22	28	82.4	31.1	88	190.4	249	480	896	582	1080	1976
-67.8	-90	-130	-1.67	29	84.2	31.7	89	192.2	254	490	914	588	1090	1994
-62.2	-80	-112	-1.11	30	86.0	32.2	90	194.0	260	500	932	593	1100	2012
-56.7	-70	-94.0	-0.56	31	87.8	32.8	91	195.8	266	510	950	599	1110	2030
-51.1	-60	-76.0	0	32	89.6	33.3	92	197.6	271	520	968	604	1120	2048
-45.6	-50	-58.0	0.56	33	91.4	33.9	93	199.4	277	530	986	610	1130	2066
-40.0	-40	-40.0	1.11	34	93.2	34.4	94	201.2	282	540	1004	616	1140	2084
-38.9	-38	-36.4	1.67	35	95.0	35.0	95	203.0	288	550	1022	621	1150	2102
-37.8	-36	-32.8	2.22	36	96.8	35.6	96	204.8	293	560	1040	627	1160	2120
-36.7	-34	-29.2	2.78	37	98.6	36.1	97	206.6	299	570	1058	632	1170	2138
-35.6	-32	-25.6	3.33	38	100.4	36.7	98	208.4	304	580	1076	638	1180	2156
-34.4	-30	-22.0	3.89	39	102.2	37.2	99	210.2	310	590	1094	643	1190	2174
-33.3	-28	-18.4	4.44	40	104.0	37.8	100	212.0	316	600	1112	649	1200	2192
-32.2	-26	-14.8	5.00	41	105.8	38.3	101	213.8	321	610	1130	654	1210	2210
-31.1	-24	-11.2	5.56	42	107.6	38.9	102	215.6	327	620	1148	660	1220	2228
-30.0	-22	-7.6	6.11	43	109.4	39.4	103	217.4	332	630	1166	666	1230	2246
-28.9	-20	-4.0	6.67	44	111.2	40.0	104	219.2	338	640	1184	671	1240	2264
-27.8	-18	-0.4	7.22	45	113.0	40.6	105	221.0	343	650	1202	677	1250	2282
-26.7	-16	3.2	7.78	46	114.8	41.1	106	222.8	349	660	1220	682	1260	2300
-25.6	-14	6.8	8.33	47	116.6	41.7	107	224.6	354	670	1238	688	1270	2318
-24.4	-12	10.4	8.89	48	118.4	42.2	108	226.4	360	680	1256	693	1280	2336
-23.3	-10	14.0	9.44	49	120.2	42.8	109	228.2	366	690	1274	699	1290	2354
			10.0	50	122.0	43.3	110	230.0	371	700	1292	704	1300	2372

INTERPOLATION FACTORS

C		F	C		F
0.56	1	1.8	3.89	7	12.6
1.11	2	3.6	4.44	8	14.4
1.67	3	5.4	5.00	9	16.2
2.22	4	7.2	5.56	10	18.0
2.78	5	9.0			
3.33	6	10.8			



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