



*Weksler® Temperature  
Instruments Full  
Line Catalog*





# **TABLE OF CONTENTS**



	PAGE
Selecting A Pressure Gauge.....	4

### **BIMETAL THERMOMETERS**

Introduction .....	45
Adjustable Angle AFCF .....	46
3" Dial Size – Rigid Forms 3A, 3S .....	47
5" Dial Size – Rigid Forms 5A, 5S .....	48
3" Dial Size – Heavy Duty H3A, H3S.....	49
Pocket Bimetal IR, 2R, 2T .....	50

### **GLASS THERMOMETERS**

Adjustable Glass Thermometers	
A735, A935 .....	55
Adjustable Air Duct Thermometers	
D735, D790.....	56
Adjust Angle Digital Thermometers	
AD35, AD60 .....	57
Dimensions, Thermowells .....	58
Marine Thermometers S520, S540 .....	59
Economy Glass Thermometers E520L .....	60

### **GAS ACTUATED THERMOMETERS**

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

### 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.

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:

- 1/4% – test gauges only (not for in-line service)
- 1/2% – Weksler Royal gauges (4 1/2" dial size and larger) and Weksler digital gauges (2 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.

# **BIMETAL THERMOMETERS**

Introduction .....	7
Adjustable Angle .....	8
3" Dial Size – Rigid Forms.....	9
5" Dial Size – Rigid Forms.....	10
3" Dial Size – Heavy Duty.....	11
Pocket Bimetal .....	12
Sanitary Wells, Conversion Kit, Duct Flange .....	13







### **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.

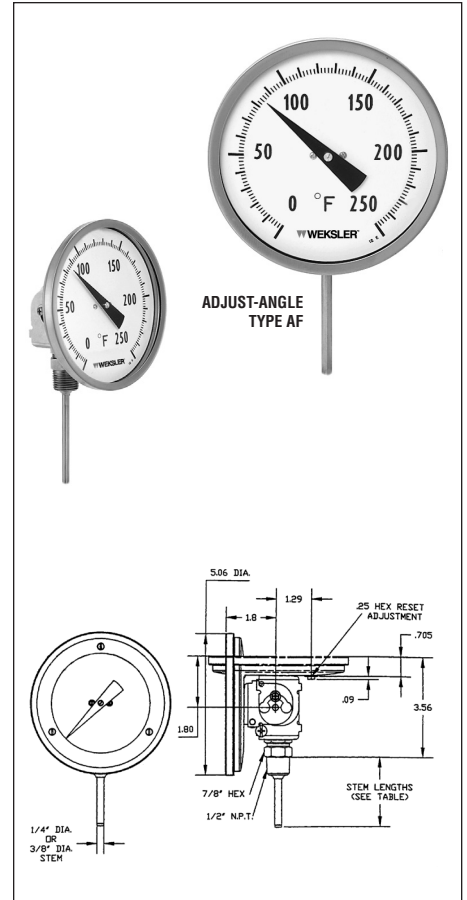
**STANDARD RANGES**

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to ±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* †

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

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

**HOW TO ORDER**

**A F 0 6 4 4 F M 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" = ½ NPT Male (AF Series); "U" = ½ 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) \_\_\_\_\_

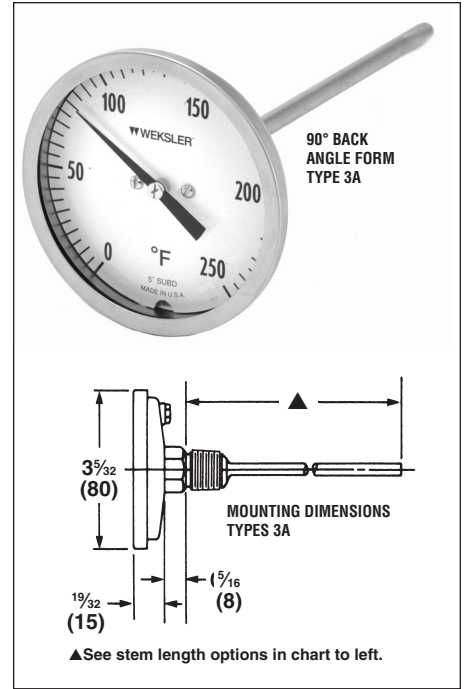
If option(s) are required specify: Plastic Face, Shatterproof Glass Face, Paper Tag, Stainless Steel Tag

**STANDARD FEATURES**

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to ±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* †

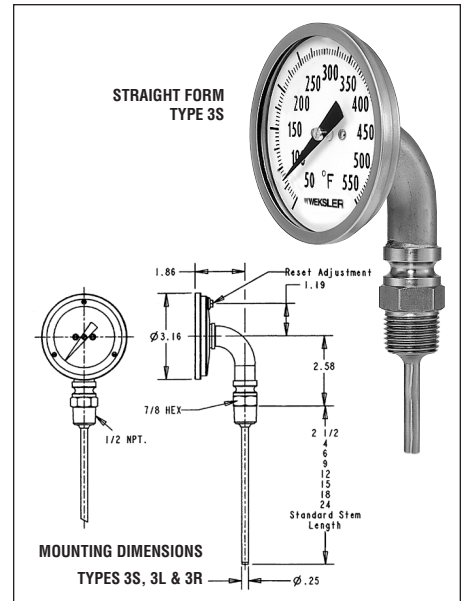
  

CODE	Celsius
CD	-50 to 50°C
CJ	0 to 100°C
CM	-10 to 110°C
CN	0 to 50°C †
CR	0 to 150°C
CS	0 to 200°C
CU	0 to 300°C
CX	50 to 450°C †
CY	100 to 550°C* †

CODE	DUAL SCALE	
	Fahrenheit (on outside)	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**

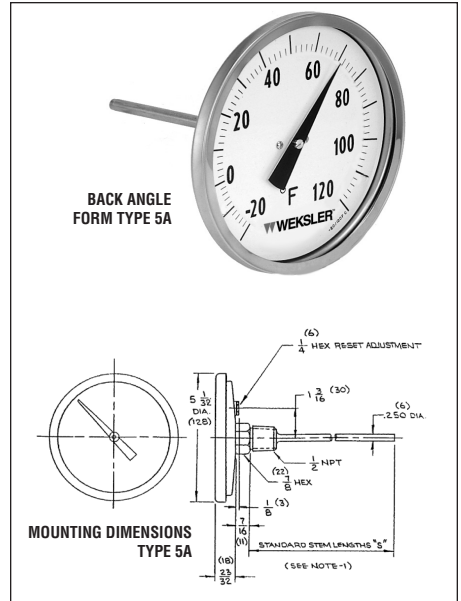
1. Basic 4-digit Catalog No. From Table Above \_\_\_\_\_
2. Stem Diameter: "4" = .250" O.D. (Standard); "5" = .375" O.D. (Extra Cost) \_\_\_\_\_
3. Thread Size: "4" = 1/2 NPT Male; 2 = 1/4 NPT Male Back Angle Rear Only (Extra Cost) \_\_\_\_\_
4. 2 Digit Range Code from Range Tables Above \_\_\_\_\_
5.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

**STANDARD FEATURES**

- All Stainless Steel Construction
- External Recalibration Adjustment
- White dial with black markings
- Accurate to ±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**

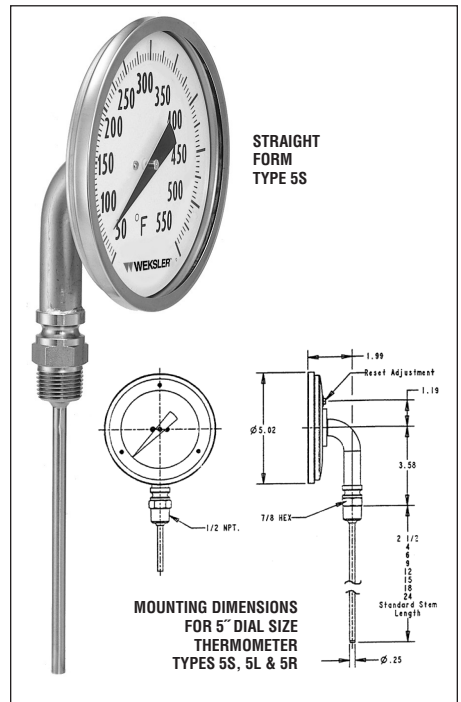
CODE	Fahrenheit
FC	-80 to 120°F
FE	-40 to 120°F
FG	0 to 150°F
FJ	0 to 200°F
FL	0 to 250°F
FM	30 to 240°F
FN	30 to 130°F †
FR	50 to 300°F
FS	50 to 400°F
FT	50 to 550°F
FX	150 to 750°F †
FY	200 to 1000°F* †
Celsius	
CD	-50 to 50°C
CJ	0 to 100°C
CM	-10 to 110°C
CN	0 to 50°C
CR	0 to 150°C
CS	0 to 200°C
CU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

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

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



**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" = ½ NPT Male; 2 = ¼ NPT Male, Back Angle Rear Only (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)

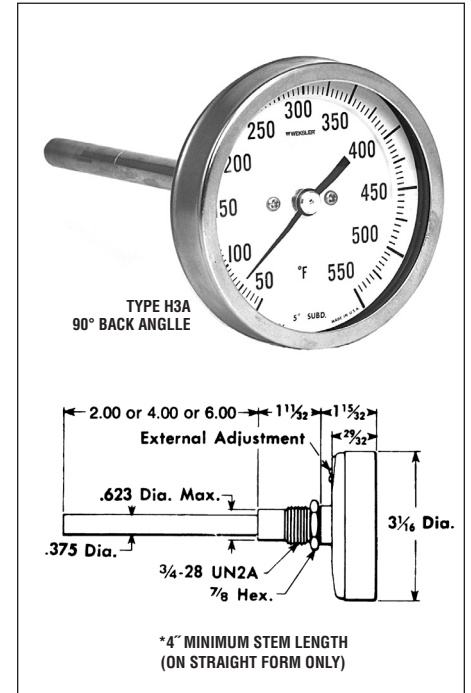
STEM LENGTH	CATALOG NUMBERS	
	90° BACK ANGLE FORM	STRAIGHT FORM
2"	H3A2	H3S2
4"	H3A4	H3S4
6"	H3A6	H3S6

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**

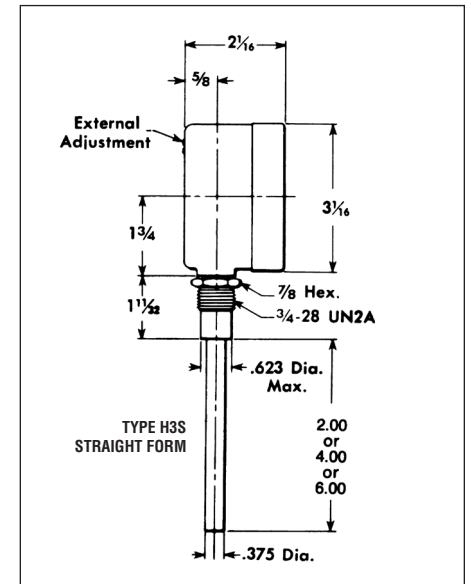
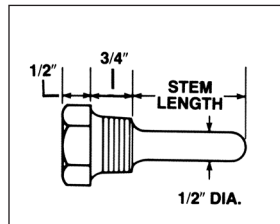
**H 3 S 4 H**

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

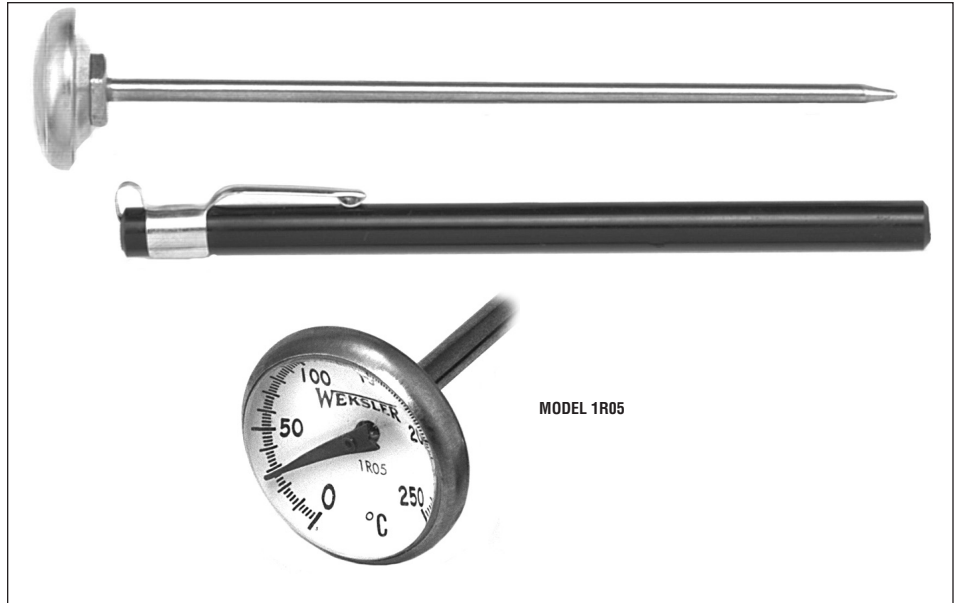


To Order: Specify 4 digit catalog no. from above tables

**STANDARD FEATURES**

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

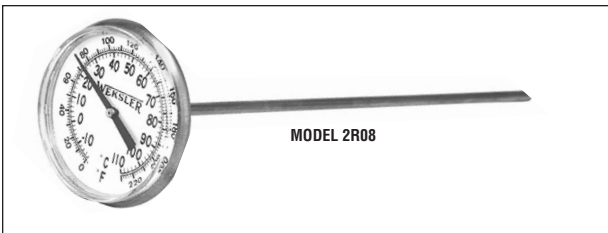
CATALOG NUMBER	STANDARD RANGES
1R05A	-40 to 160°F in 2° divs.
1R05B	25 to 125°F in 1° divs.
1R05C	0 to 220°F in 2° divs.
1R05D	50 to 550°F in 5° divs.
1R05E	-50 to 100°C in 2° divs.
1R05F	-10 to 110°C in 2° divs.
1R05G	0 to 150°C in 2° divs.
1R05H	0 to 250°C in 5° divs.



MODEL 1R05

**STANDARD FEATURES**

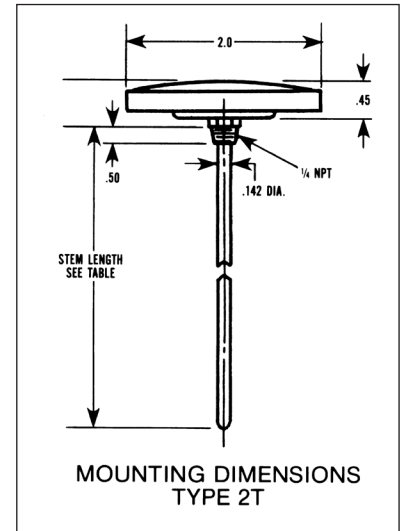
- 2" dial
- All Stainless Steel Construction
- Accurate to ±1% of Scale Range
- Dual Scale (Both °F and °C) Ranges



MODEL 2R08



MODEL 2T02



MOUNTING DIMENSIONS  
TYPE 2T

MOUNTING CLIP FOR 1" and 2" PN TPC

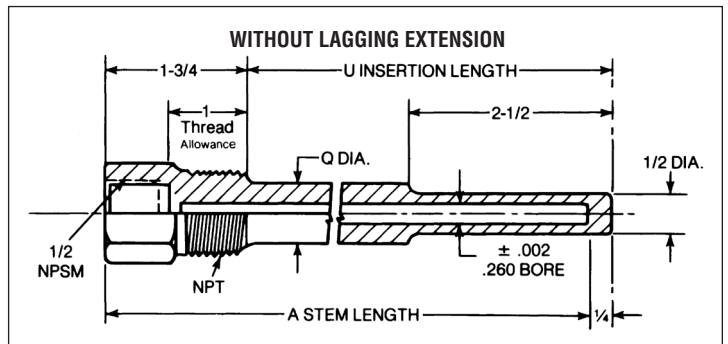
CATALOG NUMBER	DUAL SCALE (BOTH °F AND °C)		TYPE
	FAHRENHEIT ON OUTER – CELSIUS ON INNER SCALE		
2R08A	-40 to 160°F in 2° divs.	and -40 to 70°C in 2° divs.	8" Plain Stem With Recalibration Feature
2R08B	25 to 125°F in 1° divs.	and -5 to 50°C in 1° divs.	
2R08J	0 to 180°F in 2° divs.	and -18 to 83°C in 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.	
2T02A	-40 to 160°F in 2° divs.	and -40 to 70°C in 2° divs.	2½" Stem ¼ NPT Fixed Thread
2T02C	0 to 220°F in 2° divs.	and -10 to 110°C in 2° divs.	
2T04A	-40 to 160°F in 2° divs.	and -40 to 70°C in 2° divs.	4" Stem ¼ NPT Fixed Thread
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 Thermometers .....	17
Adjustable Angle Air Duct Thermometers .....	18
Adjust Angle Digital Thermometers.....	19
Dimensions, Thermowells .....	20
Navy/Marine Thermometer .....	21
Economy Glass Thermometer .....	21



## 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<sup>(1)</sup>  
50/550F<sup>(1)</sup>

#### 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<sup>(1)</sup>  
0/200C<sup>(1)</sup>  
0/300C<sup>(1)</sup>

1°  
1°  
1°  
2°  
2°  
5°

C1  
C2  
C3  
C4  
C5  
C6

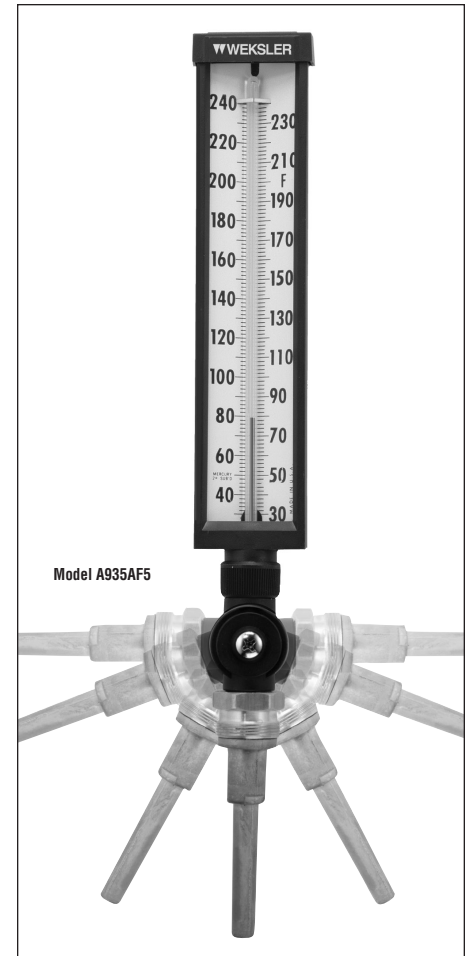
#### DUAL SCALE

–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<sup>(1)</sup>  
50/550F & 10/290C<sup>(1)</sup>

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**  
A = Adjust Angle Thermometer
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**

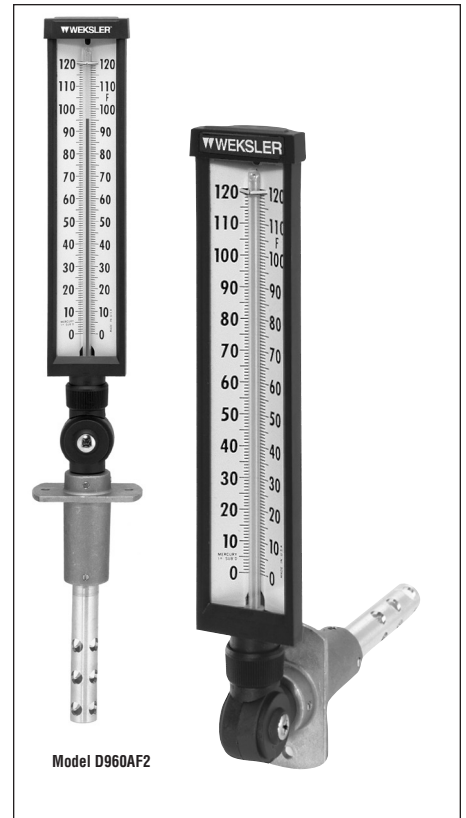
- Mercury Free.
- Molded Valox® – V-shaped black case supplied as standard.
- Glass front excludes dust and dirt.
- White aluminum scale with bold black graduations and flanges.
- Mercury Free blue liquid in glass with magnifying lens for easy readability.
- Accuracy is  $\pm 1\%$  of full scale.
- Easy 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
<b>CELSIUS</b>		
-20/45C	1°	C1
0/50C	1°	C2
0/100C	1°	C3
<b>DUAL SCALE</b>		
-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**

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

### 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:** ¼° between –19.9/199.9°F or 28/93°C

**Update Rate:** 10 seconds

**Recalibration:** Internal potentiometer

**Sensor:** Glass passivator thermistor

**Lux Rating:** 10 Lux

**Ambient Oper. Temp.** –30°F – 140°F

**Ambient Temp. Error:** Zero

**Humidity Rating:** 100%

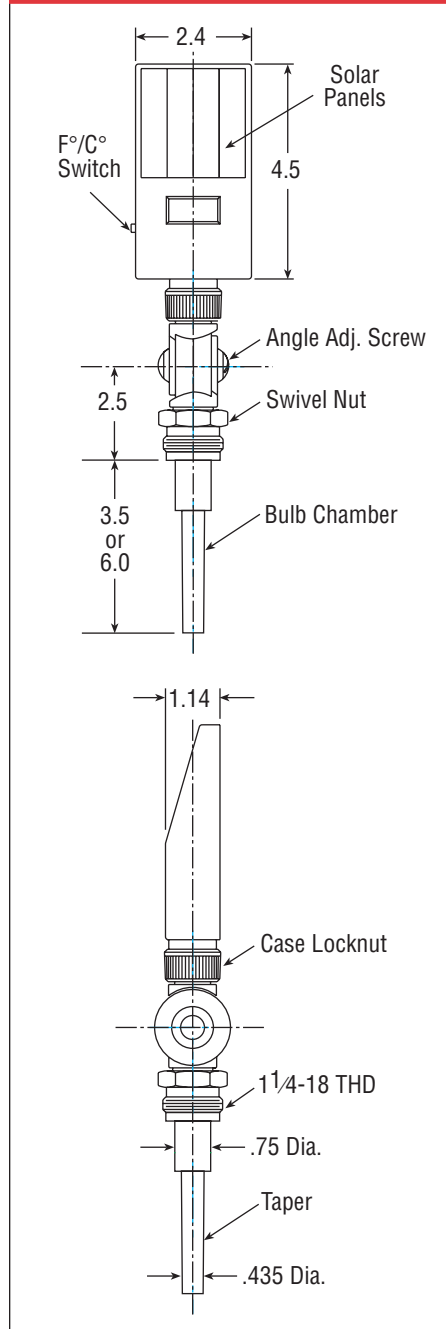
### ACCESSORIES

Thermowells For Adjustable Angle Thermometers:  
See page 5

### PHYSICAL CHARACTERISTICS

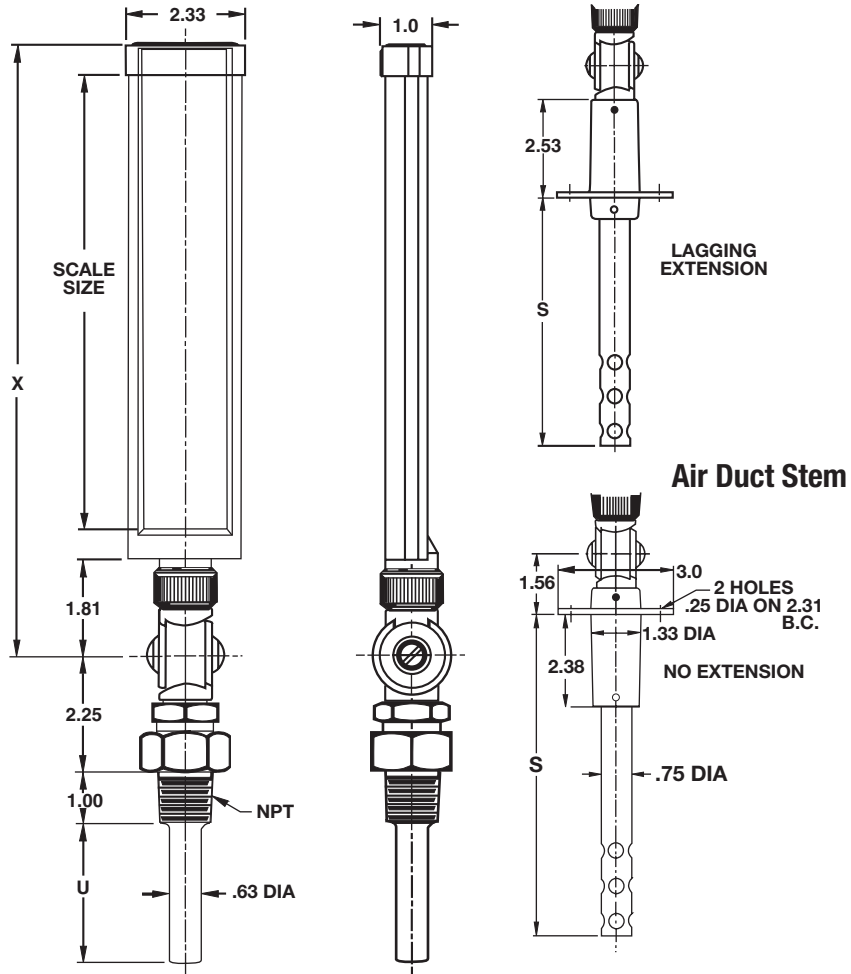
Case:  
High-impact ABS  
Stem Assemblies, Industrial Glass:  
Full conformance with Fed. Spec. GGT-321D  
Stem Lengths:  
3½" and 6"  
Standard Connection:  
1¼"-18 NEF Swivel Nut  
Weight: 10 oz.

### DIMENSIONS

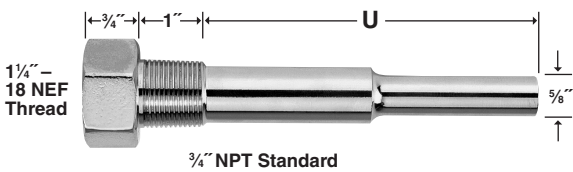


### HOW TO ORDER

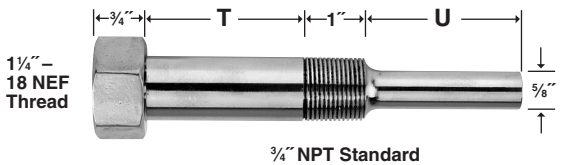
1. Product Type: AD = Adjust Angle Digital Thermometer
2. Stem Length: 35 = 3½"; 60 = 6"
3. Connection Location: A = Adjust Angle
4. Range: FC = Switchable Range –40/300°F or –40/150°C



**THERMOWELLS FOR ADJUST ANGLE THERMOMETERS**



THERMOMETER STEM LENGTH	"U" DIM.	3/4" NPT BRASS
3 1/2"	2 1/2"	G1E3D2
6"	5"	G1M3D2
9"	8"	G1S3D2
12"	11"	G1T3D2



THERMOMETER STEM LENGTH	"T" DIM.	"U" DIM.	3/4" NPT BRASS
3 1/2"	1	1 1/2"	G1E3D2B
6"	2 1/2"	2 1/2"	G1M3D2E
9"	2 1/2"	5 1/2"	G1S3D2E
12"	2 1/2"	8 1/2"	G1T3D2E

**Navy/Marine Thermometer**

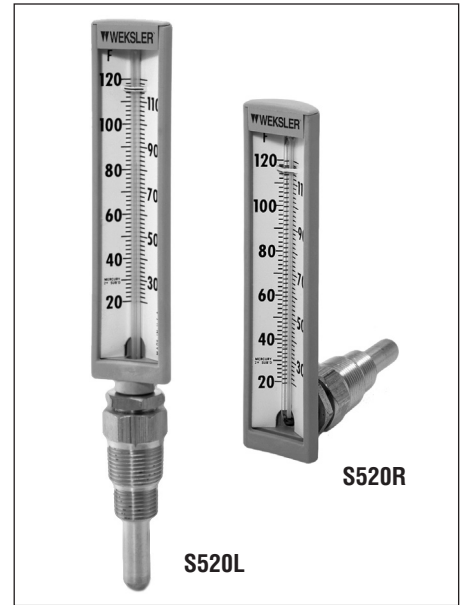
**STANDARD FEATURES**

- Molded Valox® – V-shaped gray case.
- White aluminum scale with bold black graduations and flanges.
- 2" stem.
- 3/4" overall length thermowell (optional) to be used with 2" stem.
- Red reading with magnifying lens for easy readability.

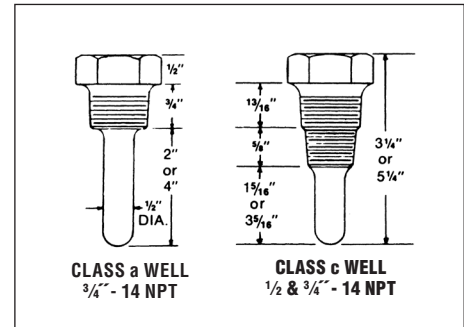
RANGES		
DUAL SCALE	MINOR GRADS	RANGE CODE
-40/110F & -40/43C	2°/2°	D1
20/180F & -5/80C	2°/2°	DØ
30/240F & 0/115C	2°/2°	D5
50/400F & 10/200C	5°/2°	D7

PART NUMBERS*	
CONNECTION LOCATION	STEM LENGTH
	2"
Lower	S520L
Back	S520R

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



THERMOWELL DIMENSIONS – 3/4"-28" Female Thread (Internal)				
WELL CLASS	STEM LENGTH OF THERMOMETER	OVERALL LENGTH OF WELL	CATALOG #	
			BRASS	304SS
a	2 inch	3 1/4"	N/A	W3G1
c	2 inch	3 1/4"	W3B3	N/A

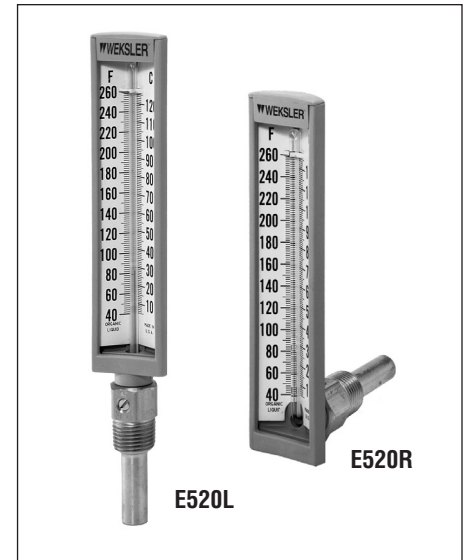


**Economy Thermometer**

**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 1/2 NPT brass well, 2" length (1.375" insertion).

PART NUMBERS	
CONNECTION LOCATION	2" STEM
Lower	E520L
Back	E520R







# **GAS ACTUATED THERMOMETERS**

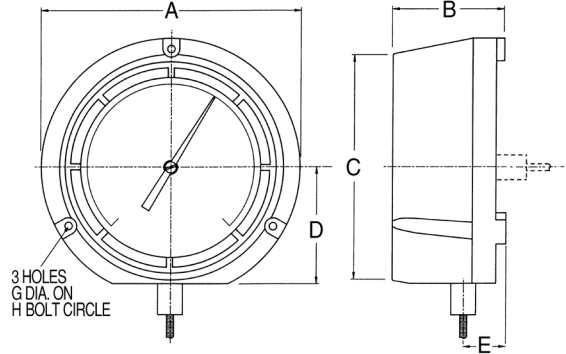
Case Styles/Dimensions.....	24-25
Selection Terms .....	26
How to Order .....	27-28
Thermowells .....	29
Temperature Conversion Table .....	30

**SURFACE (WALL) OR DIRECT MOUNT TYPES**



Snap-in glass retaining ring.  
Standard for 4 1/2" remote.

**SURFACE (WALL) OR DIRECT MOUNT TYPES**



GAUGE SIZE	A	B	C	D	E	F	G	H
4 1/2" INCH	5.83	2.56	5.08	2.62	1.00	.20	.24	5.39

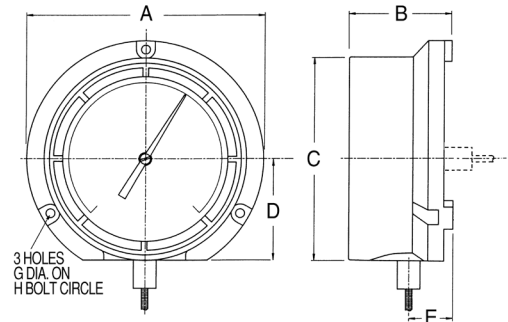
STYLE	DIAL SIZE	MATERIAL
P	4 1/2"	Polypropylene

**SURFACE (WALL) MOUNT TYPES**



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

**SURFACE (WALL) MOUNT TYPES**



GAUGE SIZE	A	B	C	D	E	F	G	H
4 1/2" INCH	5.81	2.69	5.00	2.50	1.12	.20	.22	5.38

STYLE	DIAL SIZE	MATERIAL
A	4 1/2"	Aluminum Black Textured Enamel Finish

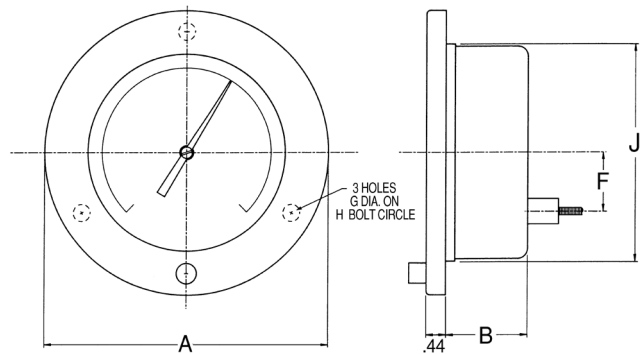
**HINGED FRONT TYPE FOR FLUSH MOUNTING**



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

NOTE: Only available with rear (back) connection.

**HINGED FRONT TYPE FOR FLUSH MOUNTING**



GAUGE SIZE	A	B	F	G	H	J
4 1/2" INCH	6.31	1.63	1.35	.19	5.38	4.88

STYLE	DIAL SIZE	MATERIAL
W	4 1/2"	Aluminum Black Textured Enamel Finish

X-PANEL HOLE CUT-OUT DIAMETER

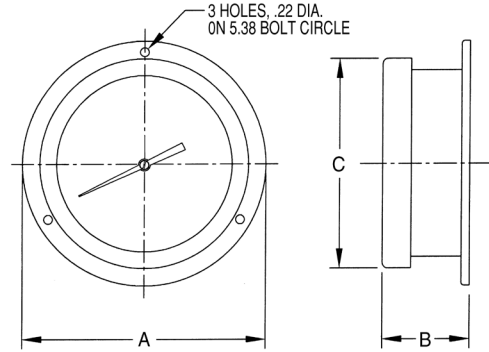
**SURFACE (WALL) MOUNT TYPES**



**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**

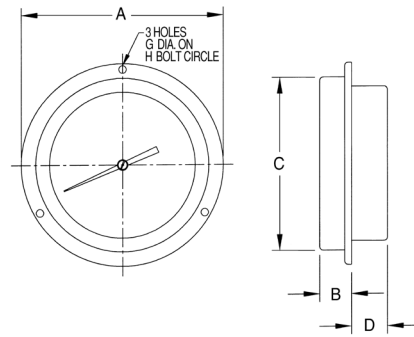


Front flanged case for semi-flush  
mounting.  
Bayonet type glass retaining ring.  
Extra cost option.

NOTE: Only available with rear (back) connection.

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

**HINGED FRONT TYPE FOR FLUSH MOUNTING**



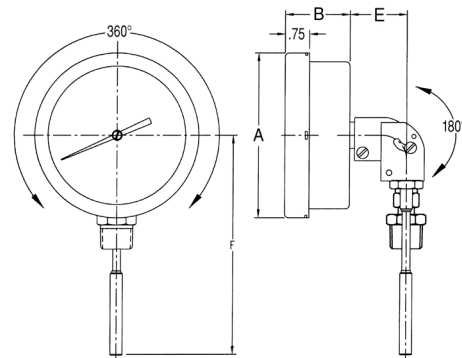
GAUGE SIZE	A	B	C	D	G	H
4½" INCH	5.90	.94	5.05	1.04	.22	5.55

**DIRECT MOUNT TYPES (Flangeless Case)**



**BAYONET TYPE GLASS  
RETAINING RING**  
Standard on all stainless steel  
adjust angle.

**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


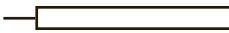


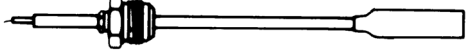


FOR REMOTE MOUNT TYPES																	
<b>PLAIN BULB FOR AIR TEMPERATURE</b>  <p>13" Long .375 Diameter</p>	CODE	A															
<b>PLAIN BULB FOR LIQUIDS IN OPENTANKS, VATS, SINKS, ETC.</b>  <p>6" Long .50" Diameter</p> <p>*Only available with standard spring armor. Cannot exceed 40 ft. N/A with interlock armor.</p>	CODE	C*															
<b>SLIDING UNION CONNECTION WITH 12" BENDABLE EXTENSION</b>  <p>3" x .375" Diameter Bulb, ½ NPT Swivel Nut</p>	CODE	3															
 <p>18" Bendable</p>	CODE	8															
<b>SLIDING UNION CONNECTION WITH 12" BENDABLE EXTENSION</b>  <p>3" x .625" Diameter Bulb, 1"-20 NEF-2B Swivel Nut</p>	CODE	N															
 <p>3½" x .625" Diameter Bulb, w/1"-20 NEF-2B Swivel Nut</p>	CODE	J															
<b>FOR DIRECT MOUNT TYPES</b> ⅜" O.D. – ½"-14 NPSM Swivel Nut Union Connection (fixed length) Wells, bushings or flanges required for installation																	
	<table border="1"> <thead> <tr> <th>CODE</th> <th>STEM LENGTH</th> <th>FITS WELL*</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>4"</td> <td>4¼" O.A.</td> </tr> <tr> <td>6</td> <td>6"</td> <td>6½" O.A.</td> </tr> <tr> <td>9</td> <td>9"</td> <td>9¼" O.A.</td> </tr> <tr> <td>2</td> <td>12"</td> <td>12¼" O.A.</td> </tr> </tbody> </table>	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.	
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'

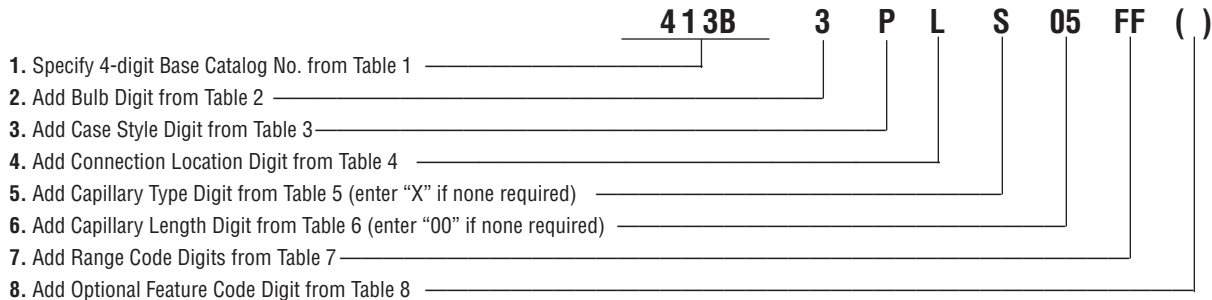
**TABLE 7 – STANDARD RANGES**

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**

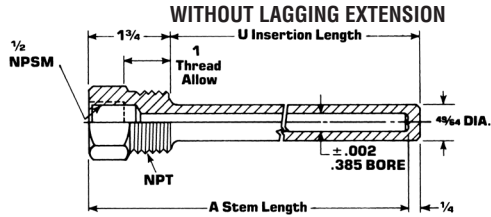
FEATURES	OPTION CODE
Plastic Lens	PD
Shatterproof Glass	SG
Movable Red Set Hand	SH
Markings on Dial	DM
Paper Tag Attached to Instrument	NN
Stainless Steel Tag Attached by Wire	NH

**HOW TO ORDER**



**“K” SERIES THERMOWELLS**

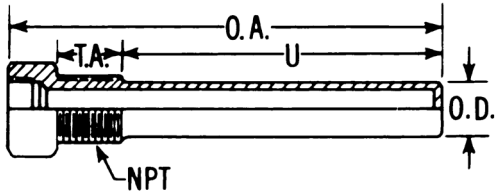
(Fits 3/8" O.D. Bulb with 1/2" NPSM Swivel Nut)



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 3/8" O.D. Bulb with 1-20 NEF-2B Swivel Nut)



WITHOUT LAGGING EXTENSION

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



### Gas Actuated Thermometers – Conversion Table

**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	3.89	7
1.11	2	4.44	8
1.67	3	5.00	9
2.22	4	5.56	10
2.78	5		
3.33	6		







Weksler Instruments  
250 E. Main Street, Stratford, CT 06614  
Tel: 203-378-8281 • Fax: 203-385-0408  
[www.ashcroft.com](http://www.ashcroft.com)