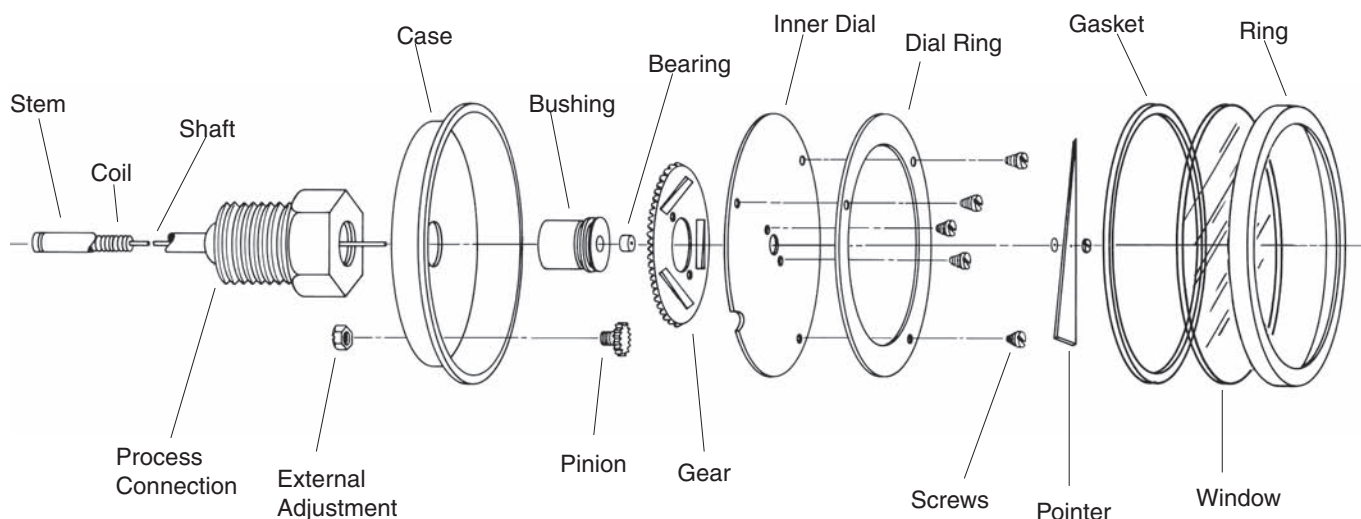


BIMETAL THERMOMETERS

BIMETAL THERMOMETERS

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Warning: When selecting all bimetal thermometers, consider the media and the ambient operating conditions. Improper application can be detrimental to the thermometer and can cause failure and possibly personal injury or property damage. Inaccuracies resulting from improper setting of the external adjustment by the user may cause personal injury or property damage. Consult ASME B40.200 (B40.3) for guidance in selection and use of bimetal thermometers.

Temperature Ranges: Standard Fahrenheit and Celsius ranges have been established to encompass all normal temperature measurement requirements. A bimetal thermometer can be used at an operating temperature anywhere throughout its dial range. Provision should be made for extreme temperature conditions. No bimetal thermometer should be exposed continuously to process temperatures over 800°F (425°C).

Operating Conditions: The maximum ambient temperature of the case should be no more than 200°F (95°C); liquid-filled series 150°F (65°C). Temperatures beyond this value may cause discoloration of the dial or result in increased pressure inside the casing which would ultimately lead to failure of the window. The lowest ambient temperature should not exceed -40°F (-40°C).

Thermowells: Thermowells must be used on any application where the stem of the bimetal thermometer may be exposed to pressure, corrosive fluids or high velocity. Additionally, the use of a thermowell permits instrument interchange or calibration check without disturbing or closing down the process.

Pointers: The pointers are balanced to close tolerances, and the paint finishes are controlled to assure long-term stability under adverse ultraviolet conditions.

Cases: There are three case styles. The CI series has no adjustment but is hermetically sealed. The hermetic seal prevents entry of moisture into the casing, minimizing the

possibility of icing or fogging inside the case. The EL series provides the same features as the EI plus the added benefit of liquid filling which prolongs instrument life. Potential wear problems caused by excessive vibration are minimized through dampening, and the liquid medium improves readability. The instruments are leak-tested to ensure the integrity of the joints. Case and stem material is 304 stainless steel.

Coils: The bimetallic coils are carefully wound and inspected. Each is heat treated for optimum stability and overtemperature capability. Each coil is silicone dampened for improved vibration resistance. Available as optional silicone free.

Bearings: The bearings are made of Teflon or other low-friction material.

Shafts: Shafts are made of specially drawn stainless steel wire with a very smooth finish.

Dials: The dials are based on computer-calculated temperature deflection data and have the Maxivision® format to minimize parallax error.

Windows: The standard window on EI and CI series are heavy-duty glass. Plastic and shatterproof glass are optional. The standard window on EL series is polycarbonate. No other options are available.

The complete line of Ashcroft® industrial bimetal thermometers and accessories provides quality choices for your temperature applications. There is a long history of superior quality in engineering, manufacturing and customer service of these products. Each Ashcroft industrial bimetal thermometer is backed by a limited five year warranty.

Each instrument is manufactured to a standard accuracy of 1% of span (ASME B40.3, Grade A) traceable to the National Institute of Standards and Technology (NIST). The bimetal coils are heat treated for stability and overtemperature capability. A single helix is used to reduce lag time. The bearings are made of a low-friction long-life material. The shafts are made of

specially drawn stainless steel with a very smooth finish. All joints are welded, and the weld between the stem and the outlet is located at the bottom of the threads to eliminate the possibility of crevice corrosion.

Silicone dampening is included for improved vibration resistance. The Ashcroft Maxivision® dial eliminates parallax error by placing the pointer in the same plane as the graduations. The dial can be rotated 360 degrees and can be angled 180 degrees with the Everyangle™ connection.

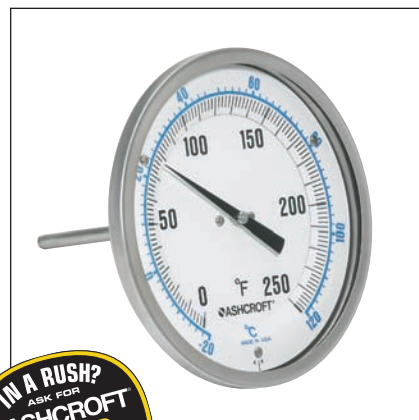
Everyangle – Case Connection: The Ashcroft Everyangle™ industrial bimetal thermometer dial face with Maxivision dial can be rotated 360 degrees and angled 180 degrees. It is available in the EI and EL (5" only in EL) series with either a threaded or compression type union connection.

This design provides maximum utility. Since the entire case can be rotated and angled, the instrument can be installed almost anywhere and adjusted so that the dial face can be easily read.

- *Hermetically sealed*
- *Tamper resistant*
- *Maxivision® dial*
- *$\pm 1\%$ full-span accuracy (ASME B40.3 Grade A)*
- *All-welded stainless steel construction*
- *Silicone on the coil provides vibration dampening and superior time response*
- *Heavy-duty glass standard; plastic or shatterproof glass optional*
- *Limited five-year warranty*

This series is tamper proof, hermetically sealed and has the Maxivision® dial. The connection locations are rear and lower. The CI series of Ashcroft® industrial bimetal thermometers was designed for applications where external adjustment or pointer reset are not desired.

The hermetic seal prevents entry of moisture into the casing, thus minimizing the possibility of fogging inside the case. The Maxivision dial provides accurate temperature readings.



SELECTION TABLE

Case Size		Style Code	Stem				Stem Lengths Available		Temperature Range									
Dial	Code		Connection	Code	Location	Code	"S" Length (inches)	Code	°F* Fahrenheit	°/Div.	Fig. Inter.	°C Celsius	°/Div.	Fig. Inter.				
2"	20	CI	Plain	40	Rear	R	2½	025	-80/120	2	20	-50/50	1	10				
			Pointed Plain	50	Rear	R			-20/120††			-20/120			2	20		
			¼ NPT	60	Rear	R			30/130††			0/50††			1	10	5	
3"	30		½ NPT	60	Rear	R	6	060	0/200	2	20	0/100	1	10				
					Lower	L	9	090	0/250			10/150						
				5"	50	60	Rear	R	12			120			50/300	5	50	0/200
15	150								50/400			0/300††						
18	180								50/550			50/450**†			5			50
Lower	L			24	240	200/700†	10	100	100/800†			100/500**†			200/1000**†			

*Dual scale ranges available for all standard °F ranges (3" and 5" case only)

**Satisfactory for continuous service up to 800°F or 425°C. Can be used for intermittent service from 800 to 1000°F, or 425 to 500°C.

Use Ashcroft Duratemp® thermometers for ranges above and below those listed above.

†Minimum stem length for these ranges is 4".

††Minimum stem length for lower connection is 4".

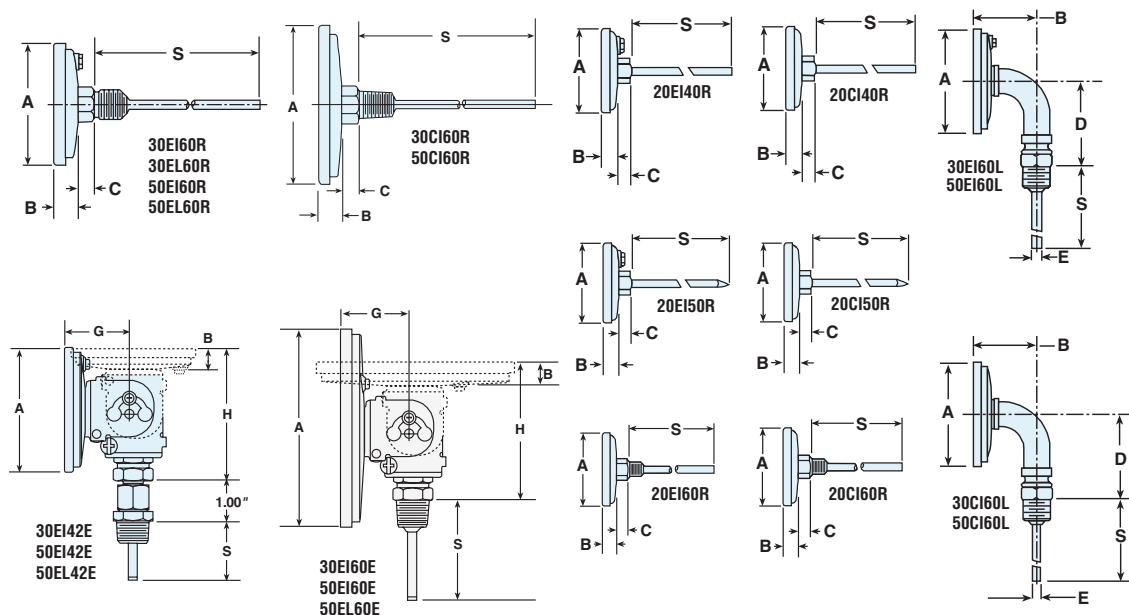
Thermowells must be used on all pressure or velocity applications, to protect the stem of thermometer from corrosion and physical damage, and to facilitate removal of the thermometer without disturbing the process. Maximum ambient temperature is 200°F (95°C).

Overtemperature Limits	
Top of Range °F	Maximum Overtemperature
up to 250	100% of span
300/550	50% of span
600/1000	800°F **

TO ORDER THIS CI SERIES BIMETAL THERMOMETER:

Select: 30 CI 60 R 040 0/250°F XNH

- Case Size: 3" Code 30
- Style: Code CI
- Stem Conn: ½ NPT Code 60
- Stem Location: Rear Code R
- Stem Length: 4" Code 040
- Range: Code 0/250°F
- Options: Stainless Steel Tag (see Page 228)



Case Series	Dial Size	Connection Location	A	B	C	D	E	G	H	S	NPT	Hex	Weight in ounces ³ S – 2½" Case Series		
													CI	EI	EL
CI, EI	2"	Rear (Plain)	2 ³ / ₃₂ (53)	3/8 (10)	5/16 (8)	–	–	–	–	– ²	–	11/16	4½	4½	–
CI, EI	2"	Rear (Plain, pointed stem)	2 ³ / ₃₂ (53)	3/8 (10)	5/16 (8)	–	–	–	–	– ²	–	11/16	4½	4½	–
CI, EI	2"	Rear (Threaded)	2 ³ / ₃₂ (53)	3/8 (10)	5/16 (8)	–	–	–	–	– ²	¼	11/16	4½	4½	–
CI, EI, EL	3"	Rear	3 ⁵ / ₃₂ (80)	1 ⁹ / ₃₂ (15)	5/16 (8)	–	–	–	–	– ²	½	7/8	7	7	8
CI, EI	3"	Lower	3 ⁵ / ₃₂ (80)	1 ²⁷ / ₃₂ (47)	–	2 ⁵ / ₈ (67)	¼ (6)	–	–	– ²	½	7/8	11	11	–
EI	3"	Everyangle	3 ⁵ / ₃₂ (80)	1 ⁹ / ₃₂ (15)	–	–	–	1 ²¹ / ₃₂ (42)	3 ⁷ / ₁₆ (87)	– ²	½	7/8	–	10	–
CI, EI, EL	5"	Rear	5 ¹ / ₃₂ (128)	2 ³ / ₃₂ (18)	5/16 (8)	–	–	–	–	– ²	½	7/8	15	16	18
CI, EI	5"	Lower	5 ¹ / ₃₂ (128)	1 ¹⁵ / ₁₆ (49)	–	3 ⁵ / ₈ (92)	¼ (6)	–	–	– ²	½	7/8	24	26	–
EI, EL	5"	Everyangle	5 ¹ / ₁₆ (128)	2 ³ / ₃₂ (18)	–	–	–	1 ⁷ / ₈ (48)	3 ⁹ / ₁₆ (91)	– ²	½	7/8	–	25	28

NOTES

1 Figures in parenthesis () are in millimeters. All other dimensions are in inches.

2 Standard "S" dimensions are 2½, 4, 6, 9, 12, 15, 18 and 24 inches.
Standard stem diameter is ¼ inch.

3 Add 1 oz. for every 2 inches of stem length.

