



Industrial Bimetal Thermometer Thread Connection

P-3A



- All SS construction
- External re-calibration adjustment
- Open front/ removable ring
- Hermetically sealed case
- Bottom, back, adjustable angel connection(360° rotation of head)
- Field silicon fillable for additional dampening for extreme vibration

HAWK BT series thermometer are in thread process connections. It is available in back, bottom, adjustable angle style. It has been designed specially to meet the needs of standard industrial applications and installations.

Our Bimetal thermometers are welded all stainless steel construction and are hermetically sealed. These instruments are leak tested completely to insure the integrity of the joints in the process of producing. HAWK Supplies a wide selection of the available temperature ranges from -50°C to 550°C or equivalent in °F.

Typical Application

- Medical and pharmaceutical industry
- Industrial OEM equipments
- Food and beverage processing
- Mlining industry
- Marine Industry
- Construction and agriculture equipments
- Refrigeration and HVAC systems
- Pulp and paper mills
- Energy and water managements
- Dairy
- Military

Specification

Operating

The temperature of the case should not be allowed to be exposed to continuous temperature in excess of 200°F (95°C). If silicone filled, the temperature limit is 150°F (65°C). Stem and bulb should not be contact with sustained process temperature exceeding 50% over-ranger or 800°F (425°C).

Immersion

For getting the correct temperature readings, the stem of all models in all ranges must be immersed 2" deep in liquid, and 4" deep in gas except for 0/50°C (32/122°F) which require 3" deep in liquid, and 4" deep in gas.

Thermowell

Use of a thermowell is recommended when stem or bulb would be exposed to pressure, corrosive fluid or high velocity media.

Use of a thermowell permits calibration check without interrupting or shutting the process. Thermowell are available in various styles, connections, materials and sizes. Please refer to HAWK Thermowell catalogs for detailed information.

Size

3" (80mm), 4" (100mm), 5"(125mm) or 6" (150mm)

Case&Ring

Stainless Steel 304(SS316-option), polished bayonet ring.

Stem

304 Stainless Steel, 1/4" diameter-Standard, 3/8" or others dia available.

Stem Length

2 1/2", 4", 6", 9", 12", 15", 18", 24" standard lengths, available in stem lengths up to 72" long.

Sensing Element

Bimetallic Coil

Dial Face

Aluminum, white background with black graduations and figure, anti-parallax to minimize the reading error available.

Window

Plain Glass-standard, PC Lens and Tempered Safety Glass-option

Pointer

Anodized aluminum with black finish.

Accuracy

± 1.0% of span (Grade A to ASME B40.3)

External Adjustment

External re-calibration screw on back for adjustable angle and back

connection. External re-calibration pointer for bottom connection.

Scale

°C, °F (single or dual scale)

Connection Style

- Fixed Rigid Male/Female
- Sliding Compression Male/Female
- Union Rotatable Male/Nut Female
- Swivel nut Male/Female
- Rotatable
- Plain

Connection Size

1/2", 3/8", 1/4"NPT standard, JIS, DIN, M14*1.0, M20*1.5 and others available

Weatherproof

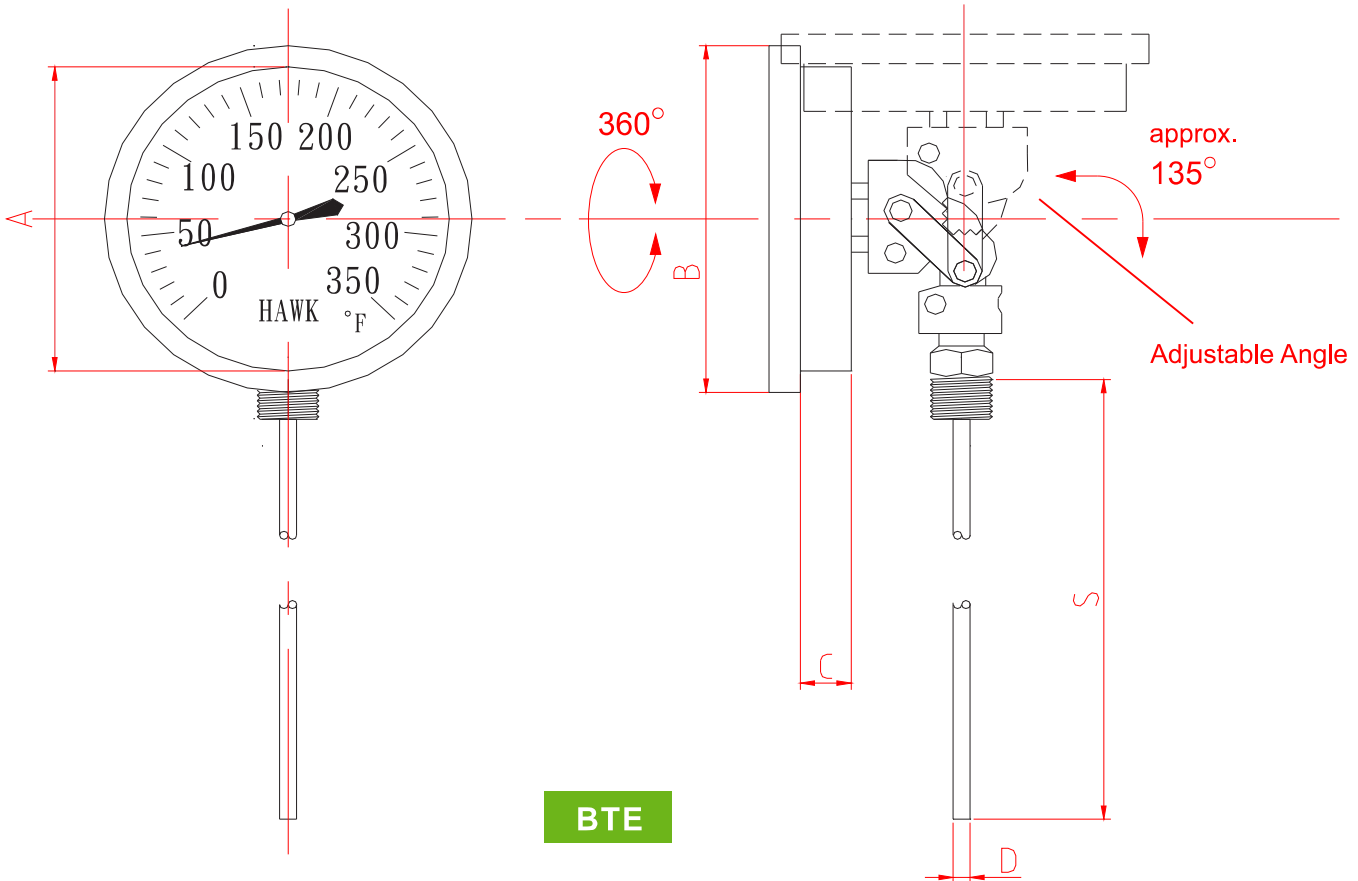
NEMA 4/4X or IP65 enclosure



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Dimensions



BTE

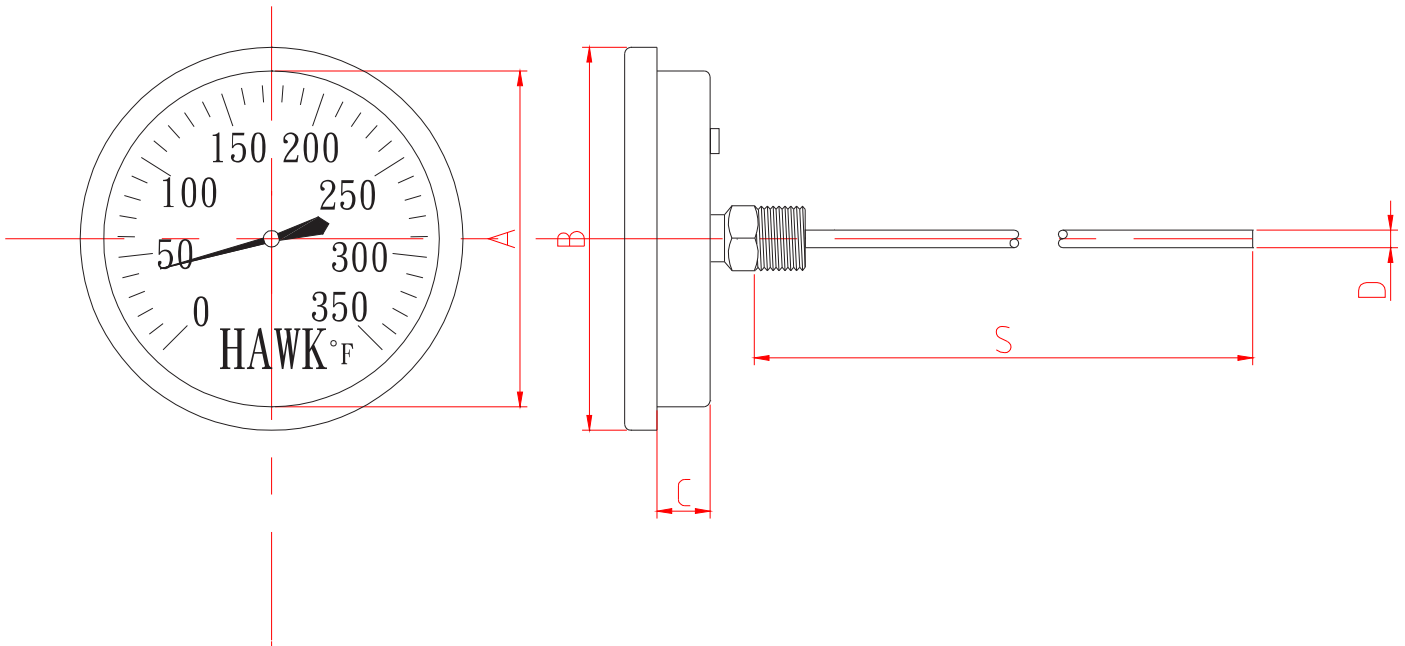
Size	A	B	C	D	S
3" (80mm)	2.76" (70mm)	3.31" (84mm)	0.71" (18mm)	1/4"(standard) to 3/8" 6.35mm(standard), 6mm, 8mm , 10mm(option)	2 1/2"(65mm), 4"(100mm), 6"(150mm), 9"(225mm), 12"(300mm), 15"(380mm), 18"(450mm), 24"(600mm) up to 72" are standard stem lengths. The other stem lengths are available on request.
4" (100mm)	4.02" (102mm)	4.69" (119mm)	0.87" (22mm)		
5" (125mm)	4.53" (115mm)	5.16" (131mm)	0.87" (22mm)		
6" (150mm)	5.51" (140mm)	6.26" (159mm)	1.10" (28mm)		



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Dimensions



BTB

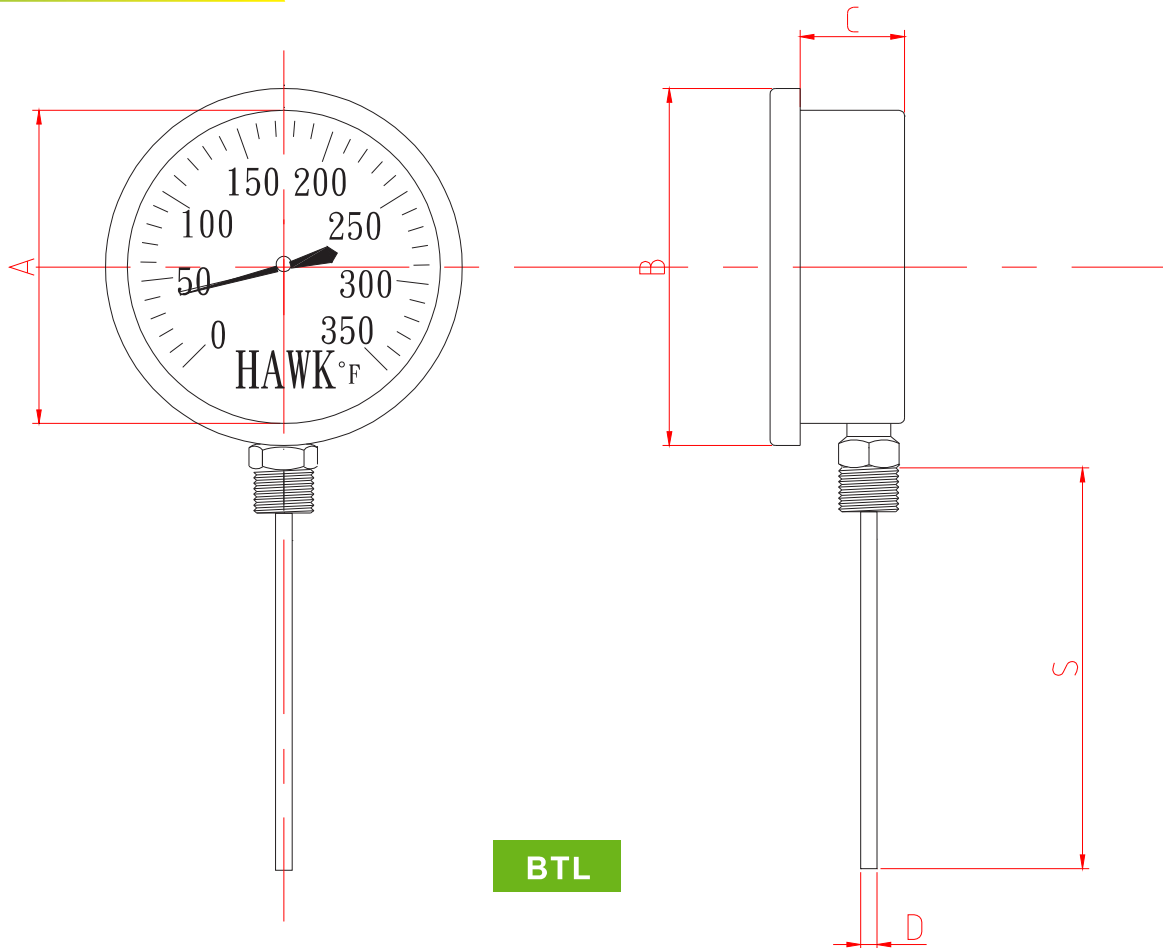
Size	A	B	C	D	S
3" (80mm)	2.76" (70mm)	3.31" (84mm)	0.71" (18mm)	1/4"(standard) to 3/8" 6.35mm(standard), 6mm, 8mm , 10mm(option)	2 1/2"(63mm), 4"(100mm), 6"(150mm), 9"(225mm), 12"(300mm), 15"(380mm), 18"(450mm), 24"(600mm) up to 72" are standard stem lengths. The other stem lengths are available on request.
4" (100mm)	4.02" (102mm)	4.69" (119mm)	0.87" (22mm)		
5" (125mm)	4.53" (115mm)	5.16" (131mm)	0.87" (22mm)		
6" (150mm)	5.51" (140mm)	6.26" (159mm)	1.10" (28mm)		



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Dimensions



BTL

Size	A	B	C	D	S
3" (80mm)	2.76" (70mm)	3.31" (84mm)	1.34" (34mm)	1/4"(standard) to 3/8" 6.35mm(standard), 6mm, 8mm , 10mm(option)	2 1/2"(65mm), 4"(100mm), 6"(150mm), 9"(225mm), 12"(300mm), 15"(380mm), 18"(450mm), 24"(600mm) up to 72" are standard stem lengths. The other stem lengths are available on request.
4" (100mm)	4.02" (102mm)	4.65" (118mm)	1.46" (37mm)		
5" (125mm)	4.53" (115mm)	5.16" (131mm)	1.30" (33mm)		
6" (150mm)	5.12" (140mm)	6.26" (159mm)	1.65" (42mm)		



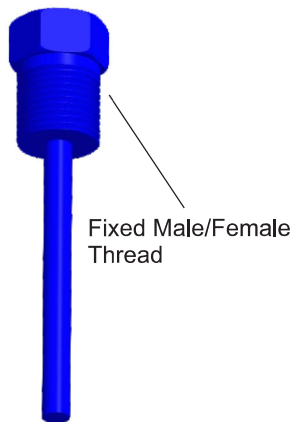
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Popular Connection

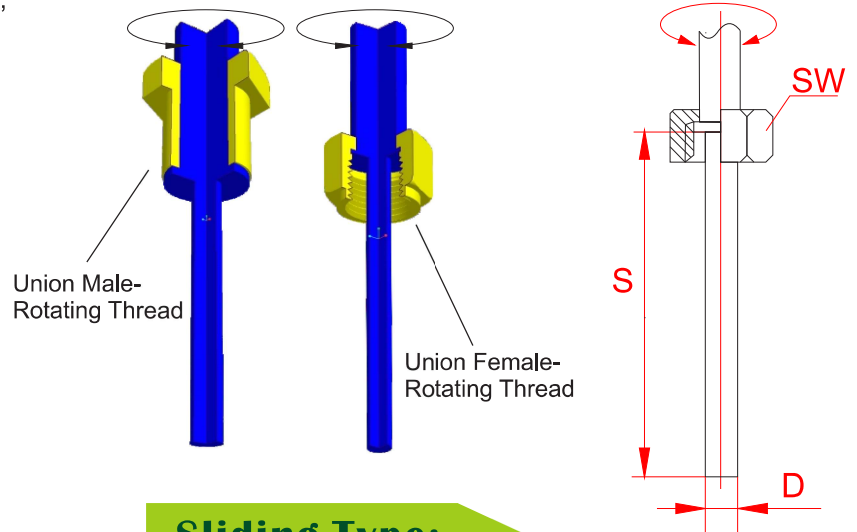
Fixed/Rigid Type:

The fixed/rigid type is the most common connection. This threaded type connection is directly attached to the process by means of a male or female NPT, BSP, BSPT or other threads.



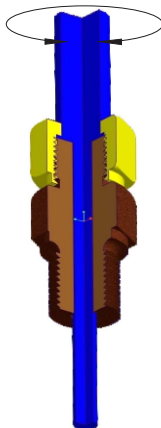
Union Type:

The Union type allows to tighten the rotating thread to fix the process connecting and turn the position of gauge face.



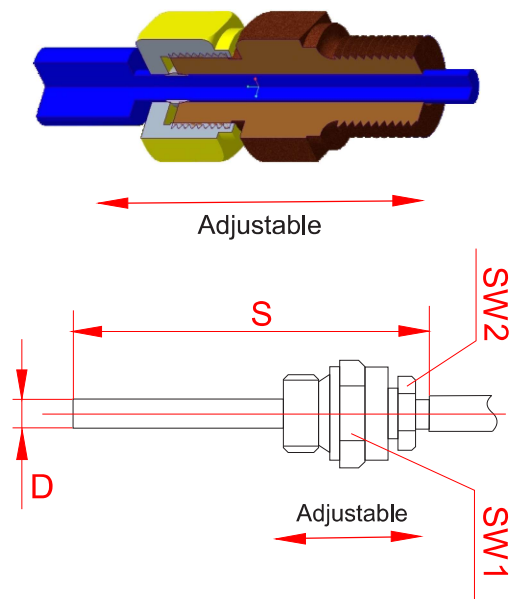
Swivel Nut:

The swivel connector is a double male adapter. It allows you to move around to turn the position of the gauge face.



Sliding Type:

The sliding type allows to adjust the variable inserted length of bulb for best performance.



Plain Type:

The plain bulbs are suitable for open tank applications without any pressure or combine with thermowell for the applications where fixed installation is not required.



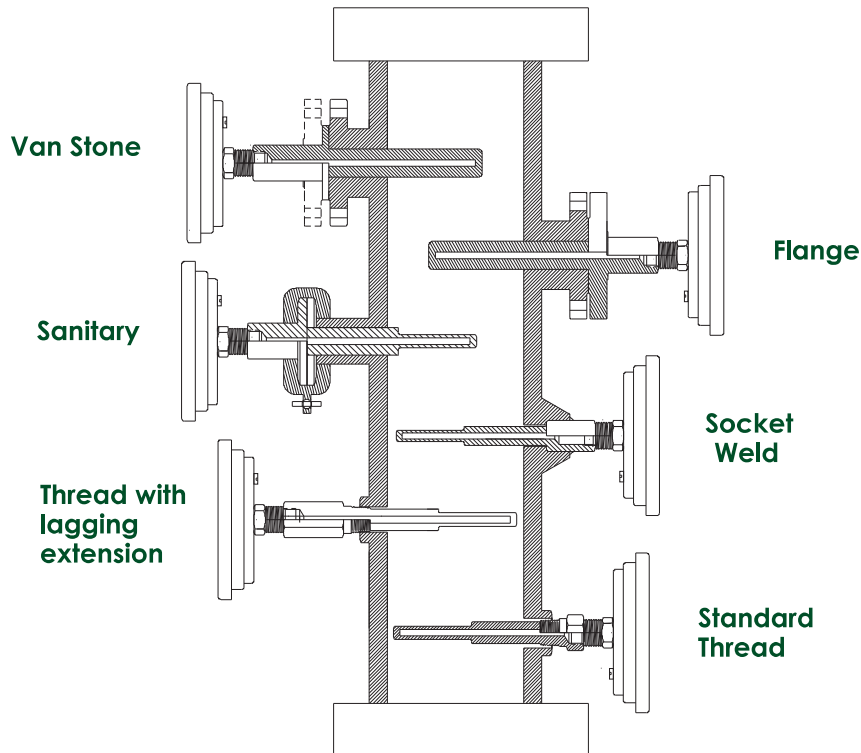


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Thermowell

Please refer to HAWK thermowell datasheets for detailed information.





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Temperature Range

- The other scales and ranges(DIN) are available in request.
- Not all listed ranges and scales are in stock, consult your distributors for available.

Temperature Ranges					
SINGLE SCALE				DUAL SCALE	
°C		°F		°C / °F	
Code	Range	Code	Range	Code	Range
C3A	-30/30	F7A	-40/70	D3A	-30/30
C4A	-20/40	F10	0/100	D4A	-20/40
C5	0/50	F10A	-100/100	D5	0/50
C5A	-50/50	F12A	-20/120	D5A	-50/50
C6	0/60	F12C	-40/120	D6	0/60
C6B	-20/60	F12D	-80/120	D6B	-20/60
C7A	-40/70	F12G	25/125	D7A	-40/70
C7B	-70/70	F14	0/140	D7B	-70/70
C8	0/80	F15	0/150	D8	0/80
C10	0/100	F15A	-70/150	D10	0/100
C10A	-50/100	F16A	-40/160	D10A	-50/100
C11A	-10/110	F18B	-40/180	D11A	-10/110
C12	0/120	F20	0/200	D12	0/120
C12A	-20/120	F20B	-40/200	D12A	-20/120
C12C	-60/120	F20C	-100/200	D12C	-60/120
C15	0/150	F22	0/220	D15	0/150
C15B	50/150	F24A	20/240	D15B	50/150
C15C	10/150	F25	0/250	D15C	10/150
C16	0/160	F30	0/300	D16	0/160
C16A	-40/160	F30A	-50/300	D16A	-40/160
C20	0/200	F30C	50/300	D20	0/200
C20A	-50/200	F30D	200/300	D20A	-50/200
C22A	-20/220	F40A	50/400	D22A	-20/220
C22B	-80/220	F50	0/500	D22B	-80/220
C25	0/250	F50A	50/500	D25	0/250
C30	0/300	F55A	50/550	D30	0/300
C40	0/400	F60	0/600	D40	0/400
C40A	50/400	F75A	50/750	D40A	50/400
C45	0/450	F75C	150/750	D45	0/450
C50	0/500	F80A	100/800	D50	0/500
C50A	100/500	F100A	200/1000	D50A	100/500
C55A	100/550	F120	0/1200	D55A	100/550



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Order Information

Example:

P- 3A - BT **B** **30** **M 2** **006** **150** **C10** **H-ZFZT**

Style **B** Back **L** Bottom **E** Adjustable Angle

Dial **30** 3"(80mm) **40** 4"(100mm) **50** 5"(125mm) **60** 6"(150mm)

Connection Style

M Fixed Rigid Male	F Fixed Rigid Female	T Sliding Compression Male	Y Sliding Compression Female
U Union Turnable Male	K Union Nut Female	X Swivel Nut Male Rotatable (Double Male Adapter)	
Z Swivel Nut Female Rotatable (Male/female Adapter)			

Size

1 1"NPT	5 3/4"NPT	2 1/2"NPT	3 3/8"NPT	4 1/4"NPT
U 1"PT(R)	T 3/4"PT(R)	A 1/2"PT(R)	G 3/8"PT(R)	B 1/4"PT(R)
I 1"PF(G)	Q 3/4"PF(G)	D 1/2"PF(G)	H 3/8"PF(G)	E 1/4"PF(G)
J M20*1.5	K M14*1.0			

OP Plain
OL Other

Stem Diameter **C25** 1/4" **C32** 5/16" **C38** 3/8" **006** 6mm **008** 8mm **010** 10mm **012** 12mm

Stem Length **2C5** 2.5" **04C** 4" **06C** 6" **09C** 9" **12C** 12" **16C** 16" **24C** 24"
075 75mm **100** 100mm **150** 150mm **200** 200mm **250** 250mm

Temperature Range

Please refer to the range table and write down the code you need.

Celsius Fahrenheit

Option

ZF Front Flange Case	ZT Tempered Safety Glass
ZG Glycerine Filled	ZX Oxygen Cleaning
ZP PC Lens	

Please refer to the options and write down the code which you need.

B **30** **M** **2** **006** **150** **C10** **H-ZFZT**

Process Connection



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Option

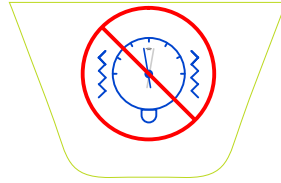


ZC Certificate of Accuracy (Factory)

ZE Certificate of Accuracy (TAF)

ZI Certificate of Accuracy (NIST)

Z1 Improved Accuracy 0.5%-mid Point (Grade 2A-ASME B40.3)

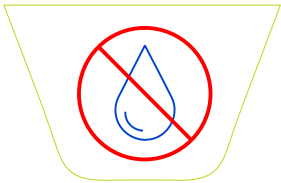


ZG Glycerine Filled

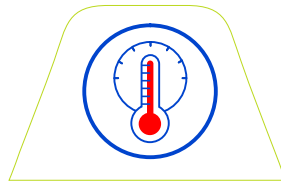
ZS Silicone Filled

ZH Halocarbon Filled

ZO Fluorolube Filled



ZX Oxygen Cleaning



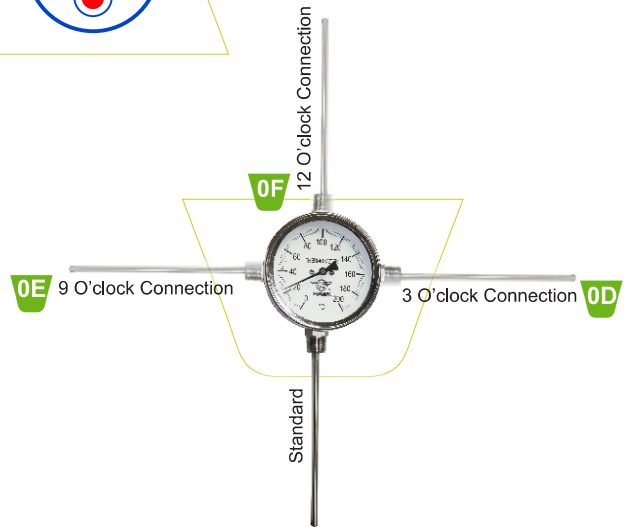
ZN NACE-MR0175-2002 Heat Treatment



ZL Laminated Safety Glass Lens

ZP Polycarbonate Lens

ZT Tempered Safety Glass Lens



Back Flange Case **ZB**



Z3 316SS Case

Front Flange Case **ZF**



TW With Jam Nut



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Option

PFA Lining Stem **TC**



316SS Stem **TB**



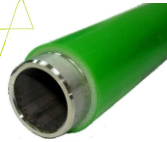
Pointed Stem **TA**



Titanium Coating Stem **TE**



PTFE Coating Stem **TD**



Red/Green Set **ZK**



Red Pointer **OA**



Stainless Steel Tag Plate **ZY**



Max/Min Registering Pointer **ZJ**



Anti Parallax with Gray Background Dial **TS**



Gray Background Dial **TQ**



Anti Parallax Dial **TR**





Industrial Bimetal Thermometer Flange Connection

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Limited Warranty and Liability

HAWK GAUGE CO.,LTD warrants all its mechanical instruments to be free from defects in materials and workmanship. HAWK agrees to repair or replace any thermometers if returned to our factory, transportation charges prepaid, and after which examination reveals is to be defective due to faculty workmanship or material. This warrant should not apply to subject to the following terms and conditions:

- A. The product has not been subjected to misuse, neglect, abuse , accident, incorrect mounting, improper use or misapplication such as negligence, accident, vandalism, shock or vibration.
- B. The performance of any system of which HAWK's products are a component part.
- C. The product has not been exposed to any other service, range or environment of greater severity than that for which the products were designed.
- D. The product has not been altered or repaired by anyone except HAWK GAUGE or its authorized service agencies.
- E. The serial number or date code has not been removed, defaced or changed.
- F. The actual pressure & temperature occurring exceed the values specified for HAWK Thermometer.

Unless otherwise specified in a manual or warranty card, or agree to in a writing signed by HAWK GAUGE office, HAWK Thermometer products shall be warranted for one years from the date of sale.

This warranty is in lieu of all other warranties expressed or implied, and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use of misuse of instruments sold by it. No agent is authorized to assume for it any liability except as set forth above.

Note

HAWK GAUGE CO.,LTD reserves the right to make product improvements and change its specifications at any time stated throughout this brochure without notification. Please contact the factory on all critical dimensions and specifications for verification.

HAWK GAUGE is not expert in the customer's technical field and therefore doesn't warrant suitability of it's product for the application selected by customer.



Data Sheet No: MKDP3ABTA2-E