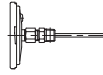
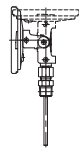


I-type



T-type



Free angle-type

TB44-45-46 Series Free Angle Type Bimetal Thermometer

OUTLINE

This bimetal thermometers uses a bimetal which is composed of two types of metal with different thermal coefficients of expansion and they are wound into a helical form, change according to temperature is transmitted to the indicator, to indicate temperature.

FEATURES

- Few error due to ambient temperature exists when compared with the liquid filled type.
- This thermometer is safe due to no charged liquid. (no environment pollution)
- This thermometer is simple in construction and reasonable priced.

* When selecting a thermometer, select a thermometer which is normally applied to a temperature range of 30% to 60% of full span. Check to confirm that the material of the wetted parts is appropriate measuring gas or liquid.

Principle / Construction :

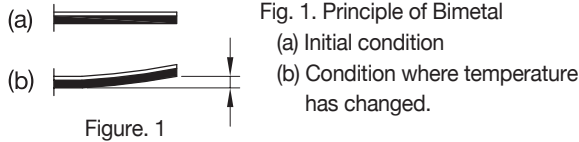


Figure. 1

Fig. 1. Principle of Bimetal

- (a) Initial condition
(b) Condition where temperature has changed.



Figure. 2

Fig. 2. Bimetal of thermometer (Helical)

SPECIFICATION

- **Model :** TB44 -45-46 Series (Free Angle type) Bimetal Thermometer

- **Fluid :** Gas or Liquid

- **Case of construction :** IP65

- **Size :**
 - ∅ 100 ----- TB44
 - ∅ 125 ----- TB45
 - ∅ 150 ----- TB46

- **Mounting :** Free angle type

- **Connection size :**
 - 3/8"PF, 3/8"PT, 3/8"NPT
 - 1/2"PF, 1/2"PT, 1/2"NPT
 - 3/4"PF, 3/4"PT, 3/4"NPT

* For other connection, please contact us.
* Flange connection is available. (Option)

- **Material :**
 - Case & Cover ----- 304SS, 316SS (Option)
 - Bulb & Connector ----- 304SS, 316SS (Option)
 - Sensing element ----- Bimetal (MF Std.)

- **Connection type :** Union type & Slide type

- **Zero adjustment :** Extended (Option)

- **Manufacturing range :**
 - 50 ~ 50°C → 0 ~ 600°C
 - * 0 ~ 600°C (Request option)

- **Accuracy :**
 - ±2.0% F.S. (Std.)
 - ±1.0% F.S. (Request option)

- **Window :** Glass, Safety glass (option)

- **Dial scale specified :** (Request option) Dual scale, Printed word, Colored circle

- **Bulb(Stem) dia. :** ∅ 6.4, ∅ 8, ∅ 10 (Other size is option)

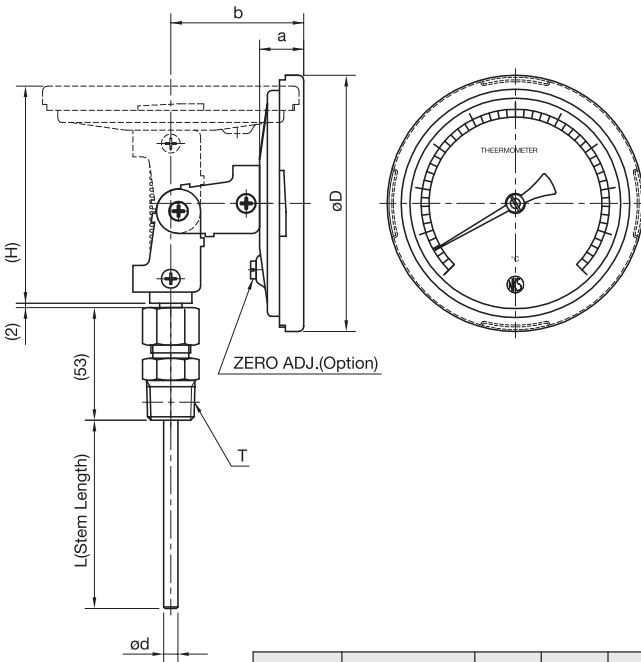
- **Thermowell :** (Request option)

- **Bulb(Stem) length :** See length table

- **Weight :** TB44 : Approx. 0.55kg
TB45 : Approx. 0.7kg
TB46 : Approx. 0.85kg

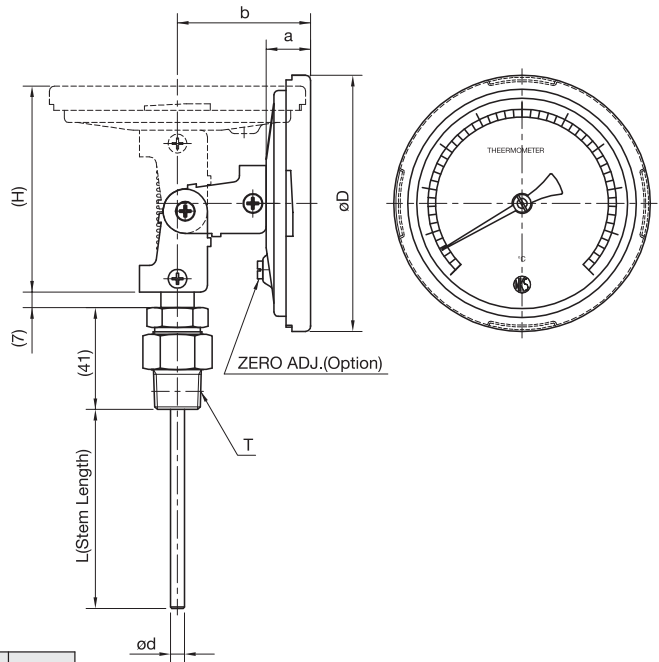
Outline dimension & Mounting type (TB44 ·45·46 Series free angle type)

TB44·45·46-0 □ □



Slide type

TB44·45·46-0 □ □



Union type

MODEL	DIAL SIZE	D	a	b	H
TB44	100(4")	116	20	60	93
TB45	125(5")	135	20	60	93
TB46	150(6")	171	21	61	94

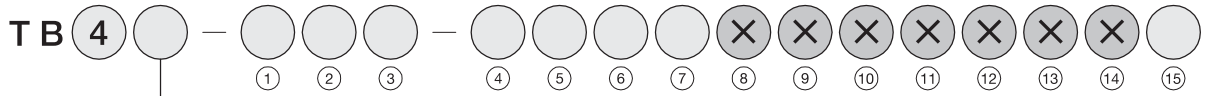
Scale range · Stem dia. · Stem length table

Scale range (°C)	Minimum graduation °C	Order code	Standard accuracy	Stem length "L"					
				(Min.)			(Max.)		
				ø6.4	ø8	ø10	ø6.4	ø8	ø10
-50 ~ 50	2	A	±2.0% F.S. (±1.0% F.S.= Request option)	95	80	65	500	700	1400
-30 ~ 50	2	B		110	100	75	500	700	1400
-20 ~ 100	2	C		80	70	60	500	700	1400
-10 ~ 50	1	D		130	120	95	500	700	1400
0 ~ 50	1	E		150	140	115	500	700	1400
0 ~ 60	1	F		130	120	95	500	700	1400
0 ~ 80	2	G		110	110	80	500	700	1400
0 ~ 100	2	H		95	85	65	500	700	1400
0 ~ 120	2	I		80	65	60	500	700	1400
0 ~ 150	2	J		70	60	55	500	700	1400
0 ~ 200	5	K		60	55	50	500	700	1400
0 ~ 250	5	L		70	70	60	500	700	1400
0 ~ 300	5	M		65	65	50	500	700	1400
0 ~ 400	10	N		60	60	50	500	700	1400
0 ~ 500	10	O		70	70	50	500	700	1400
0 ~ 600	10	P		Option	50	50	50	500	700

- * Above minimum insertion length is the one for without thermowell, 25mm to be increased to the above length.
- * Above length is the minimum necessary length of bulb to be inserted into the fluid to be measured.
- * Bulb length should be over the above length and specify 5mm steps.

Model number configuration (TB44 -45-46 Series free angle type)

* For ordering, Please specify the model number and each spec.



Model		Selective spec.		Option
Dial size	4	100 Dia.		
	5	125 Dia.		
	6	150 Dia.		
① Thermowell	0	Without thermowell		
	1	With thermowell (Option)		
② Union type	0	Union type		
	1	Slide type		
③ Type of connection	0	PT1/2		
	1	PT3/4		
	2	NPT1/2		
	3	PF1/2		
	4	PF3/4		
	B	PT3/8		
	D	NPT3/4		
④ Range (°C)	A	Refer to range table		
	∧			
	P			
⑤ Bulb material	1	304SS		
	2	316SS (Option)		
⑥ Bulb outer diameter	0	ø6.4 (Max. : 500L)		
	1	ø8 (Max. : 700L)		
	2	ø10 (Max. : 1400L)		
⑦ Bulb length (L)	1	From min. insertion length to Max. length (Up to 500mm for 6.4mm bulb)		
⑮ Document	0	Nil		
	1	Required		