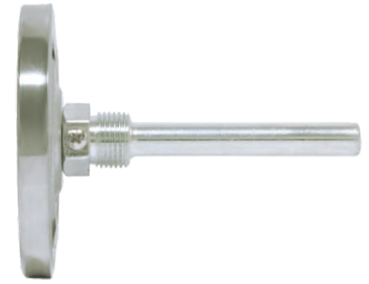


412-63B



412-100B



Application

- ✓ Temperature indication of liquids and gases under process
- ✓ Tanks and collectors
- ✓ Hot water & HVAC

Special Features

- ✓ Cost effective temperature measurement
- ✓ Covering the wide range between -30 to + 500°C

Description

Model 412 Economy Thermometers also known as hot water thermometers are suitable for use in numerous applications such as HVAC, boilers and heating systems as well as machinery manufacturing.

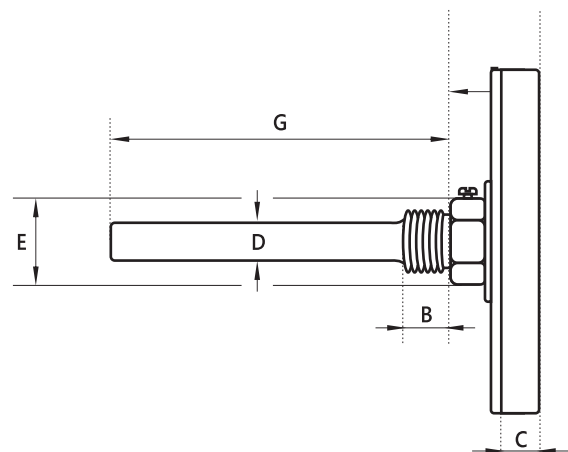
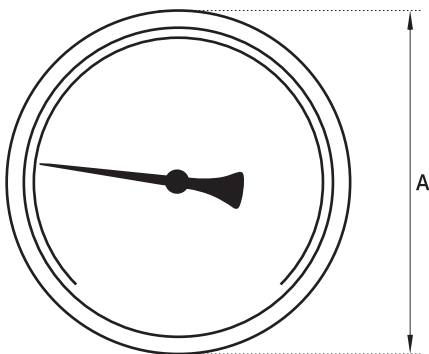
412 series are equipped with a thermowell with a dual function:

1. Protecting the stem
2. Ease of future replacements

This thermometer with 63mm dial is widely used in coffee and cooking machines. Model 412 temperature gauge is cost effective but it has enjoyed the same care in production process as more expensive models.

Dimensions (in mm)

■ DS 63 & 100, Center Back connection



Nominal Size	A	B	C	D	E	F	G
63	63.5	12	9	12	22	23	40, 50, 100, 150, 200, 300, 400, 500, 600
100	100	15	11	12	24	27	50, 100, 150, 200, 300, 400, 500, 600

Default Specification

Design	Nominal Sizes in mm
EN 13190	63, 100
Scale Ranges °C	Thermowell
-30...+50, -30...+60, -30...+70 -20...+120, 0...60, 0...100, 0...120, 0...160 0...200, 0...250, 0...300, 0...400, 0...500	Material: Brass for 412-63B SS316 for 412-100B & 412-100L Diameter: 12 mm
Case	Stem
412-63B & 412100B: Galvanized steel	Material: Copper Alloy* Diameter: 9 mm
Pointer	Accuracy
Aluminum	Class 2
Window	Dial
Glass	Aluminum
Process Connection of Thermowell	Pressure Limitation at Thermowell
G 1/2	Max. 60 bar
Ingress Protection	Temperature Units
Bottom connections: IP52 Back connections: IP51	°C (centigrade)
Insertion Lengths in mm	Storage & Transport Temperature
40, 50, 100, 150, 200, 300, 400, 500, 600	-20...+60 °C
Zero Adjustment	Temperature Element
YES, check bottom of the stem	Bi-metal sensor

* model 412-100L has stainless steel stem for temperatures ≥ 200 °C

Options

- ✓ BSP process connection of thermowell
- ✓ Thermowell materials from SS316 or other
- ✓ Plastic pointer for ≤ 200 °C
- ✓ Special dial designs for special applications
- ✓ Other temperature units (F) or dual scale (C/F)

Measuring Range & Maximum Permissible Errors

Model 412 economy thermometers follow Class 2 accuracy according to EN 13190 standard.

Temperature Range °C	Measuring Range °C	Limits of Error \pm °C
-30...+50	-20...+40	2
-30...+60	-20...+50	2
-30...+70	-20...+60	2
-20...+120	-10...+110	4
0...60	+10...+50	2
0...100	+10...+90	2
0...120	+10...+110	4
0...160	+20...+140	4
0...200	+20...+180	4
0...250	+30...+220	5
0...300	+30...+270	10
0...400	+50...+350	10
0...500	+50...+450	10

* All 412 thermometers perform equal to or better than the limits of error presented in above table.

* The measuring range limit is indicated on dial by the use of two triangular marks.



GTS GAUGES TRANSMITTERS SWITCHES

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