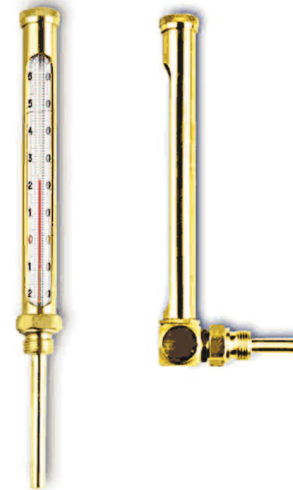


APPLICATION

Universal applications in engines, industrial and naval systems, piping and heating installations, and so on. They resist extreme hard conditions: vibrations, humidity, temperature...



How to order: F 01 01 + chosen options

1. DESCRIPTION

Liquid expansion thermometers for temperatures from -60°C to 650°C. These instruments are very tough, easy to install and reliable.

2. CONSTRUCTION / DESIGN

2.1. Design	x	Straight 90° Angle
2.2. Structure		Glass rod is fixed and protected with an aluminium case. Numerals of the scale of temperature are printed on the opal. The metallic stem is fixed to the pipe by means of threaded connections male, female or by connection bolts
2.3. Finish		The thermometer can present a threaded stem for connecting to facilities or a series of finishes depending on the purpose of its use: container finish for sample collection, pointy end for the fishery industry or conic finish for multiple purposes

3. MATERIALS AND DIMENSIONS

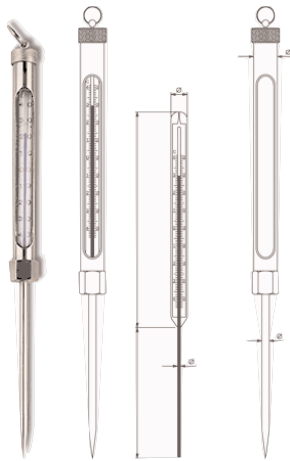
3.1. Case		
3.1.1. Dimensions		145x18mm, 200x22mm or 260x22mm
3.1.2. Materials		Brass or Stainless Steel AISI 316
3.2. Execution		Straight or Angle 90°
3.3. Glass rods		
3.2.1. Material		Prismatic glass white strip backed for temperatures up to 450°C. Round shaped glass with yellow strip for temperatures up to 500°C or 600°C
3.2.1 Thermometric liquids	x	Blue or red thermometric liquid for temperatures up to 200°C. Mercury for higher temperatures
3.4. Connection to the facility		
3.4.1. Structure		The metallic stem is fixed to the pipe by means of threaded connections male, female or by connection bolts.
3.4.2. Thread		Standard threads: 3/8" BSP 1/2" BSP 1/2" NPT M20x150
3.4.3. Material		Thread and stem in brass, carbon steel or stainless steel AISI 304 or AISI 316
3.4.4. Stem length		50, 63, 100 mm
3.4.5. Diameter of the stem		Ø10mm Option Ø12mm

4. TEMPERATURE

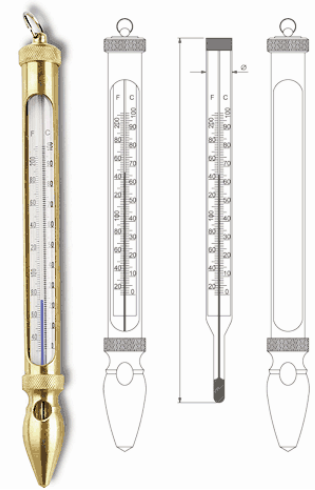
4.1. Range (°C)	-10+50 -30+50 0+60 0+100 0+120 0+160 0+200 0+300 0+400 0+500 0+600
4.2. Scales	In °C printed on the right side of the case. Double scale in °C and °F
4.3. Subdivision	According to DIN 16195 (see table 1)
4.4. Precision / Class	According to DIN 16195 (see table 1)

5. OPTIONS

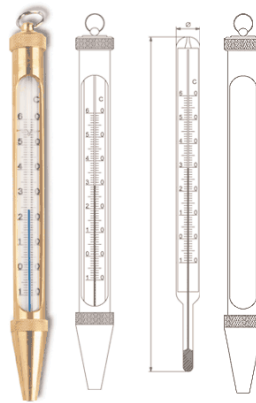
5.1. Logotypes	Customized (minimum quantity required)
5.2. Other threaded connections	3/4" BSP, Turning female thread 1/2", 1/2" BSPT...
5.3. Protection tubes	See data sheet C 03 01



Pointy end finish (pincho)



Container finish (petrolero)



Conic finish (B-175)

STANDARD DIMENSIONS (mm)					
Thermometer	a	b	c	∅	Weight (g)
F-145	145	-	22	10/12	81 + thermowell weight
F-200	200	-	22	10/12	130 + thermowell weight
F-260	260	-	22	10/12	152 + thermowell weight
Petrolero	200	57	22	-	200
B-175	200	55	22	-	190
Pincho	165	125	16	6	94

TABLE 1. Scales and precision according to DIN 16195				
Thermometer	Temperature °C	°C/line	Maximum error °C	Fluid
F-145/F-200/F-260	-60+40	1	2	thermometric liquid
F-145	-30+50	2	1	thermometric liquid or Mercury
F-200/F-260		2		
F-145	0+60	2	1	
F-200/F-260		2		
F-145	0+100	2	1	
F-200/F-260	0+120	1		
F-145/F-200/F-260	0+160 0+200	2	2	
F-145/F-200/F-260	0+300	2	2	Mercury
	0+400	5	5	
	0+500	10	5	
	0+600	10	5	