

FLUID T

PORTABLE TEMPERATURE CALIBRATOR -35/+250°C



The new **FLUID T** are portable thermostatic liquid calibrators used for checking thermocouples, platinum resistance and glass thermometers in the laboratory as well as in the field.

It consists of an aluminium liquid bath whose capacity is about 400 cc and it is constantly kept homogeneous by a magnetic mixer whose speed is adjustable according to the viscosity of the fluid used.

Low-temperature models with subzero field do not employ external cooling fluids; the equalization block is heated and cooled by a static Peltier cell system.

They are equipped with a new 32-bit PID microprocessor-based controller with resolution up to 0.001 °C, unit setting in °C °F and K, programming of ascent/descendent ramps and storage of the thermostats operative temperature.

The new **FLUID T** series of calibrators is equipped with an innovative touch-sensitive display, where the various icons are graphically displayed, making it easier to select different instrument settings.

The calibrators are also available in the **3I version**, in which the instruments are equipped with an acquisition card having three configurable inputs to be able to connect all types of sensors:

- EXT and REF to be able to connect thermocouples type B, E, J, K, N, R, S, T and RTDs type PT100, PT1000
- ANALOG for probes with 0-10V or 4-20 mA output

The REF input is provided for the reference sample probe, thus obtaining a complete calibration system which can be certified by Accredia centres, in compliance with ISO 9000 regulations. The EXT input is provided for probes that are being tested; hence, the instrument can display the temperature of the well, the temperature of the sensor to be checked and the temperature of the reference sample probe, at the same time.

The calibrators are equipped with B type USB serial interface to operate in automatic mode connected to the PC by means of the Aq2Sp2 software which is capable to automate control procedure and allow to print reports, so they are easily traceable in compliance with ISO 9000 standards.

APPLICATIONS:

- Control and calibration of temperature sensors, in the laboratory and in the field, in accordance with ISO 9000 standards
- Control of thermostats
- Control of glass thermometers
- Automatic computer-controlled calibrations

MAIN CHARACTERISTICS:

- Operating range
-35°C /250°C
-31°F/+482°F
- 4 different models
- High stability and precision
- Screen Touch Display
- Display resolution up to 0.001
- Light weight and compactness
- Holder for sensors under test
- Multi-hole inserts available
- Automatic ramp function
- USB connection



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**TESTING
EXPERTISE**

FLUID 100T and FLUID100+T

They do not use external cooling fluids; the internal liquid bath, respectively 54 and 60 mm in diameter with a depth of 170 mm, are heated and cooled by a static Peltier cell system. Magnetic stirring ensures proper heat transmission and excellent stability and uniformity values; the large size of the bath (60 mm) makes it possible to test sensors of various lengths and diameters.

FLUID 200T and FLUID200+T

The internal liquid bath is heated with two electrical resistances and cooled by a fan.

As in FLUID100+T and FLUID100, magnetic stirring evens out the internal temperature.



FLUID T are equipped with adjustable holders to support the probes under test and glass thermometers.

Extention Tube

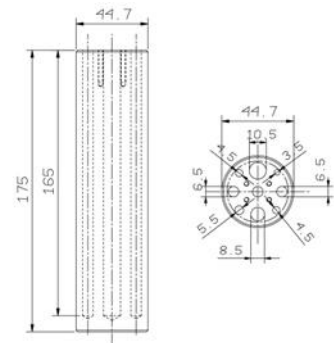
The extension tube is suitable for increasing the depth of the liquid tank. Total depth: 230 mm



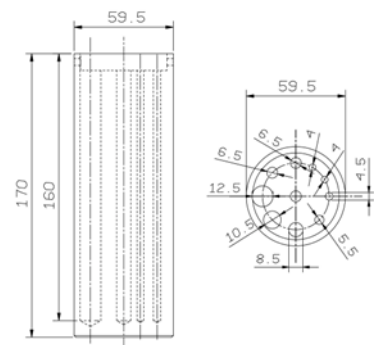
Inserts



The FLUID T can be equipped with Anticorodal inserts with holes on demand to be used as dry calibrators.



Perforated insert for FLUID100T/200T
Codice: 2D2846



Perforated insert for FLUID100+T
Codice: 2D4566



Kit supports for holding the probes under test.



Plugs and leads for connecting external probes and thermostat test.

Silicon Oil



Bottles of silicon oils available in addition to the standard equipment.

Codes:

SILICONE200C5 (-40°C/+130°C)
SILICONE47V10 (-30°C/+150°C)
SILICONE47V20 (-20°C/+200°C)
SILICONE47V50 (30°C/+230°C)
SILICONE47V100 (50°C/+250°C)

COMPARATIVE TABLE				
Specifications	FLUID100+T	FLUID100T	FLUID200T	FLUID200+T
Temperature range*	-35°C ÷ +120°C	-18°C ÷ +140°C	Temp. Amb. ÷ +200°C	Temp. Amb. ÷ +250°C
Display	SCREEN TOUCH			
Dysplay accuracy**	±0.15°C		±0.2°C	
units of measure	°C - °F - K			
Display resolution	0.1°/ 0.01°/ 0.001°C			
Mean heating time (stabilization included)	from T _{amb} to 140°C approx 40 min.	from T _{amb} to 140°C approx 55 min.	from T _{amb} tu 200°C approx 30 min.	
Mean cooling time (stabilization included)	from 120°C to T _{amb} .approx 1 1100 min.	from 140°C a T _{amb} approx 50 min.	from 200°C to 50°C approx 75 min.	
Stability ***	±0.02°C at 0°C		±0.03°C full temperature range	
Axial uniformity	±0.05°C		±0.01°C +140°C	
Radial uniformity measured from the bottom up to 40 mm	±0.02°C at 0°C	±0.07°C at 140°C	±0.06°C at 140°C	
Hole diameter	45 mm	60 mm		
Hole depth	170 mm			
Insert material	Anticorodal			
Swich test, voltage	On/Off 4.5 V DC			
Adjustable ramp function	from 0.1°C /min.			
PC interface	B type USB			
External probes	Pt100 at 3/4 wires- Pt1000,Thermocouples: J,K,N,R,S,E,T,B - Sensors with 0-10 V or 4-20 mA output			
Automatic calibration	on 5 points			
Operating voltage	230 o 115 VAC			
Electric power	350 VA	300 VA	500 VA	
Calibrator size	160x360x350 mm			
Calibrator weight with standard equipment	11 Kg		8.3 kg	

Diameter sensor_ 6 mm - the achievement of stabilization is confirmed by a signal:-

* values measured at room temperature 20°C

** temperature deviation between the display and the reference probe

*** maximum temperature difference at a stable temperature over 30 minutes

Touch Display



Touch-sensitive display with graphic visualization of the various functions allowing the various functions to be activated intuitively without having to consult the user manual.

The new 32-bit microprocessor-based PID controller allows a resolution down to 0.001 °C

Cordura® Soft Bag



Code:

2TRMBAG-FLUID

Dimensions: 410x220x380 mm

Weight: 1.45 kg

Packaging dimensions: 600x370x500 mm

Practical and sturdy Cordura® bag with two side pockets for inserts, a front pocket for documents, shoulder carrying strap, particularly lightweight, it is suitable for carrying and protecting the calibrator with its inserts.

Aluminium rigid case



Code:

2DC505-000

Dimensions: 450x280x380 mm

Weight: 4.8 kg

Packaging dimensions: 600x370x500 mm

Sturdy aluminium case that provides maximum safety for carrying the instrument.

Standard Equipment:

FLUID100T / FLUID100+T

- Bottle 500 cc of silicon oil 47V10
- Closure cap for transport
- Fluid emptying system
- Holder for glass thermometers
- Power supply cable
- Fuses kit
- Thermostat connection cables
- Instruction manual
- Kit of clamp connection (only 3I version)
- Cordura® Soft Bag

FLUID200T / 200+T

- Bottle 500cc of silicon oil 47V20 (200T)
- Bottle 500 cc of silicon oil 47V50 (200+T)
- Closure cap for transport
- Fluid emptying system
- Holder for glass thermometers
- Power supply cable
- Fuses kit
- Thermostat connection cables
- Instruction manual
- Kit of clamp connection (only 3I version)
- Cordura® Soft Bag



Silicon oils available

Bottle 500 cc of silicon oil 200C5 (-40°/+130°C)
BOTTLE200C5

Bottle 500 cc of silicon oil 47V10 (-30°C/+150°C)
BOTTLE47V10

Bottle 500 cc of silicon oil 47V20 (-20°C/+200°C)
BOTTLE47V20

Bottle 500 cc of silicon oil 47V50 (30°/+230°C)
BOTTLE47V50

Bottle 500 cc of silicon oil 47V100 (50°C/ +250°C)
BOTTLE47V100

Accessories on demand:

- Aluminium insert - 2D2846.
- Blind aluminium insert - 2d2678
- Insert with customizable holes
- Tub insert - 2D5314
- Extension Tube
- Aq2Sp2 software
- USB cable
- ACCREDIA certificate (only 3I version) performed with sample probe connected to FLUID
- water-cooling coil - 0FLUIDCOOLING (only FLUID200T/200+T version)
- Aluminium rigid case 2DC505-000

Extension Tube

The extension tube is used to increase the depth of tanks and consequently the immersion of probes. Total length 230 mm.

Code: PROLUNGAFLUID



Water-cooling coil

Water cooling coil to speed up the descent time to room temperature.

Code: 0FLUIDCOOLING



How to order:

FLUID100T / FLUID100+T

- Standard version
- 00-1 115V 50/60 Hz
- 00-2 230V 50/60 Hz
- Version with 3 configurable input
- 3I-1 115V 50/60 Hz
- 3I-2 230V 50/60 Hz

FLUID200T / FLUID200+T

- Standard version
- 00-1 115V 50/60 Hz
- 00-2 230V 50/60 Hz
- Version with 3 configurable input
- 3I-1 115V 50/50 Hz
- 3I-2 230V 50/60 Hz



Tub insert

This insert allows the oil to be removed from the calibrator or replaced with other oil without having to turn the calibrator upside down to drain it, the oil is contained in special removable inserts so that it can be replaced with a dry insert or with another insert containing a different oil.

Code: 2D5314



CERTIFICATION:

All instruments are supplied with final testing, stability and accuracy report traceable to Accredia standards.



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