



Water Thermostat MTB 40 CT Operating Manual

Product Description:

Water thermostat **MTB 40 CT** consists of a water tank, an electronic controller block and an agitator.

The tank of about 45-l capacity is made of stainless steel, with external thermal insulation and a metal housing. The heating element (1950 W) and the platinum resistor thermometer Pt 100 are mounted at the bottom. The agitator is attached to the housing. The electronic controller block rests on spacer bars above the tank (to ensure thermal insulation). The tank is equipped with an adjustable overflow and an outlet valve situated on the rear side. Under the tank there is installed a cooling aggregate using ecological unexceptinable cooling medium R 134A.

The controller block panel contains (from left to right): the mains switch (MAINS), a power-on indicator, a digital temperature display, two knobs for temperature setting (TEMP 1, TEMP 2), a measuring/setup toggle (MEAS / SET), 2 indicators signalling that the pre-set temperature has been reached (0 TERM 1), a knob for heat power adjustment (HEAT POWER), a yellow heater power indicator, a stirrer switch (STIRRER) and a cooler switch (COOL). The connector for plugging-in the agitator is on the rear panel. A time switch for time program selection (see a separate instruction manual) is situated in the top right part. Two different temperatures (TEMP 1, TEMP 2) can be programmed - cooling must be on (the COOL switch). If the time program is off, cooling is used only when the pre-set temperature is below ambient.

Use:

The instrument is designed to maintain constant temperature of objects immersed in the water bath.

Technical specifications:

The instrument is designed in safety class I (protected by connection to neutral)

Controlled temperature range	-10 °C to +80 °C
Temperature setup and reading	in 1 °C steps
Temperature stability (at 60 °C)	0.1 °C
Power	230 V, 50/60 Hz
Heater power input	1950 W max. + max 750 VA cooling aggregate
Power input control range	10 % to 90 % approximately
Dimensions (d x w x h)	520 x 520 x 620 mm
Weight	about 30 kg

Operating instructions:

Thermostatted circulation water bath **MTB 40 CT** is designed to maintain constant temperature. To ensure appropriate function the instrument must be kept clean and water from the bath must be prevented from splashing on the controller block.

Power may be switched on only after the bath has been first filled with water - water level must be at least 30 mm above the uppermost propeller of the agitator. Carefully filtered tap water may be used but distilled/demineralised water is preferred.

Fill the instrument with water and connect it to power supply 230 V; prior to switching the MAINS switch on always check that the agitator switch is off: plug the agitator connector into the socket provided in the rear panel and switch off the agitator (the STIRRER switch). Only then turn power on - the power indicator lights up - and switch on the agitator. Set the MEAS-SET switch to SET, use the appropriate knob to set about 40 °C on the display, and set the heater power to level 4. Now toggle the MEAS SET switch to MEAS and follow the rising temperature on the display; if it finally reaches and stays at the pre-set value the heating and control systems are functioning properly.

By following the above directives you have familiarised yourself with the water thermostat **MTB 40 CT** and checked its proper function. To ensure effective utilisation and long service life some additional guidelines should be observed:

1. To ensure the best function of the temperature control system the heater power must be optimised for the existing external conditions. In general, the lower the pre-set temperature, the lower the required heater power (set up by the knob below the digital switch for temperature setup). At a higher heater power the required temperature is reached sooner but may overshoot.
2. When the instrument is to be out of operation for a longer time, drain the water from the tank and wipe it dry.

Note: It is recommended to connect the bath *via* a residual current circuit breaker.

Manufacturing, distribution and service

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