



# TEMPERATURE CONTROL

## 2007

Thermostated baths **CTB** are used for precise control of temperature of liquids. Temperature in the bath is measured by platinum thermometer. Cooling baths for low temperatures are provided by inbuilt compressor aggregates with different output.

All models of CTB line have ergonomic design and the pump (stirrer) is integrated in the regulating block box. Insulated liquid tank has outer mantel made of steel sheets covered by the powder painting.

Tank for liquid is made of one piece of stainless steel sheet with U shaped heating element on the bottom part of the tank.

Regulating block is situated on the back side of the tank. Control elements are concentrated on the oblique part of regulating block front panel. P line of baths is equipped with two line alphanumeric display and a multifunction joystick for parameters control.

In a standard version is temperature control-led by the rotating button and is given on the good legible (LED) display. The switch allows to change between preset and actual temperature. Next rotating button is used to control the output of heating element to be able to optimize the heating depending on the preset temperature.

Mixing of the liquid in the tank can be provided either by the centrifugal pump or by the stirrer (special order). Type TB 06 is delivered without pump for such applications where the mixing is made by other way.

MTB 40 baths are delivered only with mixing unit which is situated outside of regulating block.

All baths can be equipped with external cooling by the coil situated on the part of bath lid on the back side besides of regulating block (on special order only).

Low temperature thermostated baths are designed with compressor agregate which is situated under own bath and heat exchanger is in direct contact with tank bottom. Baths for very low temperatures in the modification F have installed the compressor unit with high output and strenghtened insulation. All baths with compressor cooling have inbuilt control of the cooling agregate for work in higher temperature range.



### Technical parameters of heated baths CTB

	Liquid volume in tank (l)	Temperature (°C)	Fluctuation (60°C)	Pump output (l/min)	Dimensions (w x d) (mm)	Height with control block (mm)	Weight (kg)	Input (VA)
<b>CTB 06</b>	6	0 - 99,9	±0,03	4 l/min	312x435	495	7	2000
<b>CTB 06H</b>	6	0 - 199,9	±0,1	4 l/min	312x435	495	7	3800
<b>TB 06</b>	6	0 - 99,9	----	---	312x435	495	6	2000
<b>TB 06S</b>	6	0 - 300	----	---	312x435	495	7	3600
<b>CTB 14</b>	14l	0 - 99,9	±0,05	4 l/min	575x435	495	9	2000

### Technical parameters of heated and cooled baths CTB

	Liquid volume in tank (l)	Temperature (°C)	Fluctuation (60°C)	Pump output (l/min)	Cooling output (W)	Dimensions (w x d) (mm)	Height incl. cont. block (mm)	Weight (kg)	Input (VA)
<b>CTB 06C</b>	6	-10 - 70	±0,1	4 l/min	100	312x435	495	7	2000
<b>CTB 06F</b>	6	-30 - 70	±0,1	4 l/min	300	312x435	495	7	3800
<b>CTB 14C</b>	14	-10 - 70	±0,1	4 l/min	200	575x435	495	9	2500
<b>CTB 14F</b>	14	-30 - 70	±0,1	4 l/min	600	575x435	495	10	3800

## Technical parameters of heated and cooled baths MTB

	Liquid volume in tank (l)	Temperature (°C)	Fluctuation (60°C)	Vent. output (W)	Cooling output (W)	Dimensions (w x d) (mm)	Height incl. cont. block (mm)	Weight (kg)	Input (VA)
<b>MTB 40</b>	40	0 - 100	±0,5			550x700	880	40	2400
<b>MTB 40C</b>	40	-30 - 70	±0,5	600	300	550x700	880	53	2700

**Laboratory dryes (ovens) of LS type** with different dimension and volume are available as well as vacuum ovens **VD** with volume 10 l and 33 l. All dryer housings are made of a steel sheets covered by highly stabil powdered enamel on its surface.

Inner parts are made of stainless steel sheets. There are two or three stainless steel shelves inside.

The light insulation made from pressed glass fibres contributes to a low weight and good temperature stability.

The measuring and adjusting of a temperature value is carried out using a precise proportional regulation system with a platinum sensor. Two control units are available: P version has processor control unit with display two line alphanumeric display and compact keyboard with five elements.

S version is equipped with LED display and rotating knobs to set the temperature and heating output.

Processor versions are provided with timer, temperature increase programme and communication serial line for computer. Temperature safety thermostat and alarming unit can be added on the request.

LS ovens can be equipped with a circulatory ventilator (LSV types) or with a cooling compressor aggregate (C type).

Vacuum oven VD 33 has a robust structure of the inner box made from a thick stainless steel sheets. Moreover, this block is reinforced by a security construction on the outer side.

Outer view is similar to LS type, but VD ovens are equipped with a glass door sealed with the silicone rubber band.



## Technical parameters of LS line

Type	With ventilator	Time switch on/off	Processor control	Temp. Range (°C)	Dimensions mm (w x d x h)	Dimensions inner mm (w x d x h)	Input (VA)
<b>LS 33</b>	LSV 33	LS(V) 33T	LS(V) 33P	0-250	435x640x685	260x460x320	1800
<b>LS 100</b>	LSV 100	LS(V) 100T	LS(V) 100P	0-250	600x640x840	450x440x550	1800
<b>LS 150</b>	LSV 150	LS(V) 150T	LS(V) 150P	0-250	600x640x1100	450x440x760	1800

**RT thermoregulators** allow to control the temperature of given space. It consists of either the platinum or thermocouple thermometer, the regulation electronics, and the switch in solid phase which allows to switch the circuits of the output.

Two versions (microprocessor controlled = RTP, standard electronic = RT) are available at present. The required temperature is set up on the display by a rotating knob in standard type, the actual temperature of the thermostated system is given on the display by switching the button.

Processor controlled version is equipped with two lines alphanumeric display and a keyboard. It is possible to design a temperature programme with this type and some units are designed for cooling units control too.

The use of thermoregulator is quite simple. For example the electric hotplate and /or the thermowell is interconnected with the thermoregulator through the electric plug on the back panel of the regulator. The temperature of the liquid in the vessel is kept on the set value using the thermometer probe dipped into the liquid.

Type	Temp. probe	Temperature	Heating input	Time programme	Heating/cooling
RT 041A	Pt100	0 - 450°C	2300 VA	No	No
RT 041B	thermocouple	0 - 1200°C	2300 VA	No	No
RT 042A	Pt100	0 - 450 °C	3600 VA	No	No
RT 042B	thermocouple	0 - 1200 °C	3600 VA	No	No
RT 043A	Pt100	0 - 450 °C	6900 VA, 3 ph.	No	No
RT 043B	thermocouple	0 - 1200 °C	6900 VA, 3 ph	No	No
RTP 011A	Pt100	0 - 450 °C	2300 VA	Yes	No
RTP 011B	thermocouple	0 - 1200 °C	2300 VA	Yes	No
RTP 012A	Pt100	0 - 450 °C	3600 VA	Yes	No
RTP 012B	thermocouple	0 - 1200 °C	3600 VA	Yes	No
RTP 013A	Pt100	0 – 450 °C	6900 VA, 3 ph.	Yes	No
RTP 013B	thermocouple	0 – 1200 °C	6900 VA, 3 ph.	Yes	No
RTC 011A	Pt100	-150 - 450 °C	2300 VA	Yes	Yes
RTC 011B	thermocouple	-150 - 450 °C	2300 VA	Yes	Yes
RTC 012A	Pt100	-150 - 450 °C	3600 VA	Yes	Yes
RTC 012B	thermocouple	-150 - 450 °C	3600 VA	Yes	Yes
RTC 012A	Pt100	-150 - 450°C	6900 VA, 3 ph.	Yes	Yes
RTC 012B	thermocouple	-150 - 450 °C	6900 VA, 3 ph.	Yes	Yes