



COOLING CONSTANT TEMPERATURE BATH "VT-PO-03"

Operating manual

! *Before using this instrument, carefully read the operating manual.*

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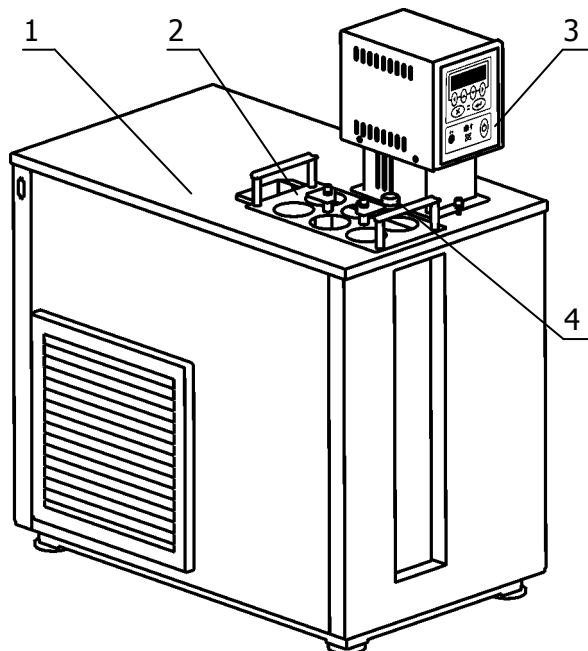
This manual provides the information needed to operate cooling constant temperature bath "VT-po-03".

INTRODUCTION

Intended use

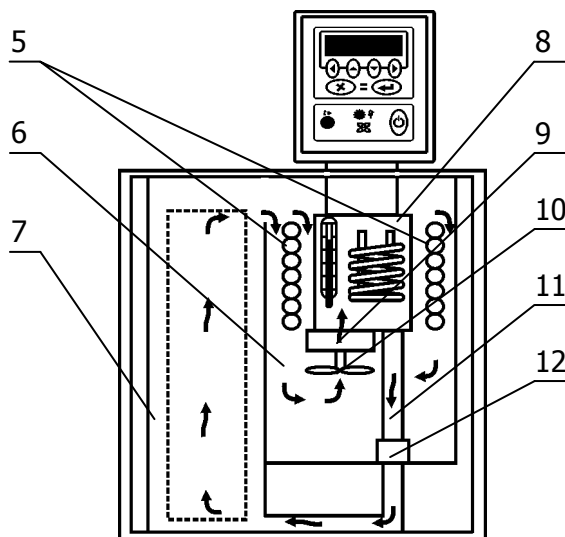
Cooling constant temperature bath "VT-po-03" with insulating glass window is intended for standard test method for density, relative density (specific gravity), or API gravity of crude petroleum and liquid petroleum products by hydrometer method according to ASTM D1298, IP 160 or ISO 3675.

Appearance and parts names



Cooling constant temperature bath consists of heating immersion circulator 3 and bath tank 1. The bath tank contains main 6 and operating 7 baths; and a refrigerating machine. The main bath includes coil 5 which pumps coolant while operating the refrigerating machine, output pipe 11 and socket 12. Adapter for test thermometer 4 is located on cylinder holder 2.

The operating principle of the baths is based on supporting a preset constant temperature of flowing thermal fluid in the bath tank and providing a good temperature uniformity of the operating bath. The circulation of the thermal fluid is provided by rotary pump 9, located in the heating immersion circulator.



Maintaining of the preset temperature by means of heating is provided by immersion circulator 1.

Pump 5 of immersion circulator pours thermal fluid from main bath 6, where it was stirred with impeller 10, to chamber 8 with heater and temperature sensor. In the chamber thermal fluid temperature is adjusted and poured into operating bath 7 through output pipe 11, connected to socket 12. Then thermal fluid returns to main bath 6 by overflowing.

Environmental Conditions

Indoor use only.

Ambient temperature: +10...+35 °C.

Air humidity: max. relative humidity 80 % for temperatures up to +31 °C,

Max. mains fluctuation of ± 10 % are permissible.

Safety Recommendations

Avoid strikes to the housing, vibrations, damage to the operating element panel (keypad, display), and contamination.

Do not store the instrument in aggressive atmosphere.

Protect the instrument from contamination.

Only qualified personnel are authorized to perform configuration, installation, maintenance and repairs of the circulator.

Routine operation can also be carried out by untrained personnel who should however be instructed by trained personnel.

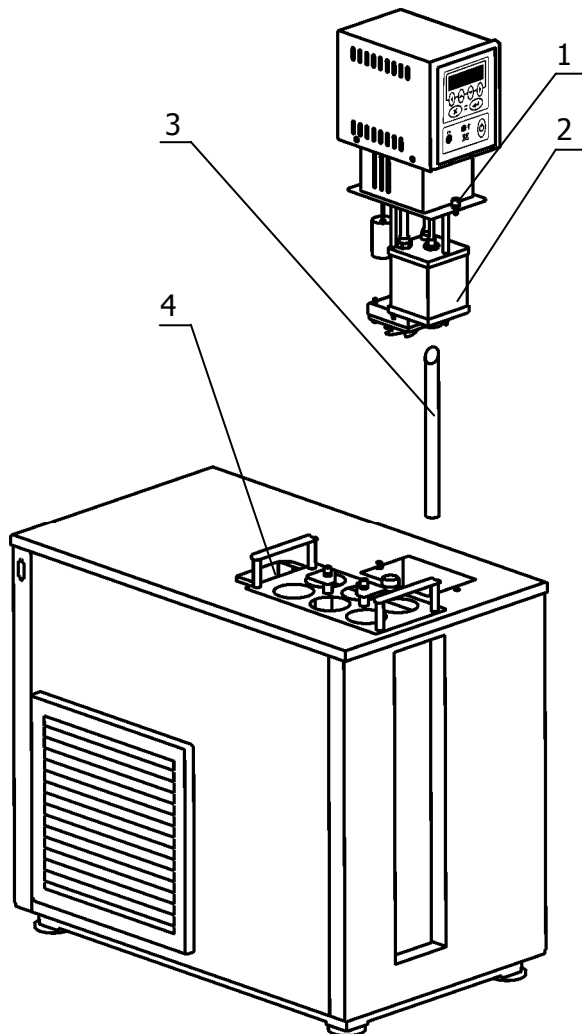
! *CAUTION: The instrument is not for use in explosive atmosphere.*

USING THE COOLING CONSTANT TEMPERATURE BATH

! *NOTE: Throughout this manual, keystrokes are represented in **bold type**; references to messages on the display are in "quotes."*

! *Before using the bath, carefully read the operating manual.*

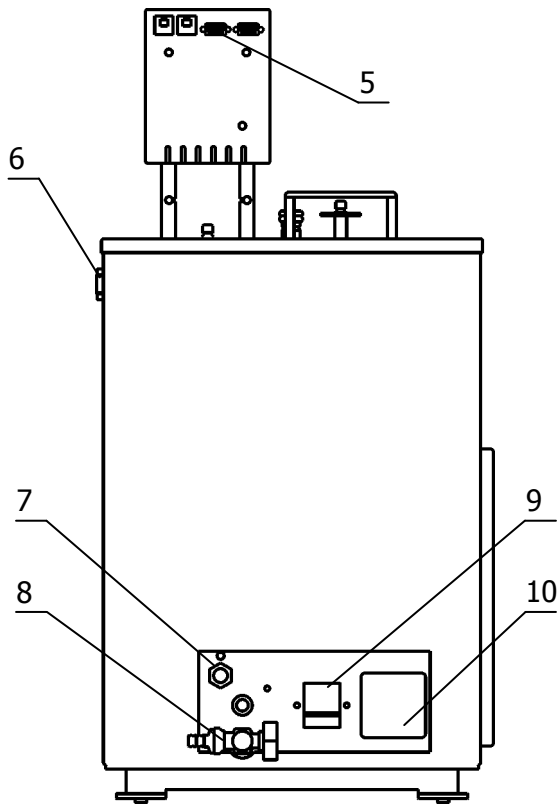
Preparation



Carefully select a spot for installing instrument with free air access for circulator and refrigerating machine ventilation. Make sure it is far away from any kind of heat source.

Place the instrument on an even surface with a pad, made of nonflammable material.

Insert output pipe 3 with its taper end up into the corresponding socket in the bottom of the bath tank. Place chamber 2 of the immersion circulator on top of pipe 3, negotiating coil 5 loops. Insert the circulator in the bath tank up to the stop and secure it with screws 1 on the bath cover.



Connect the circulator connector 5 and re-fragmenting machine connector 6 by means of the cable from our delivery package. Attach a draining hose to overflow socket 7 and place it in the tank of at least 1.5 L in volume to collect the excess of thermal fluid.

Fill the baths up with thermal fluid using one of the holes on the bath cover. Keep adding thermal fluid before it starts to drip from overflow socket 7.

Connect the circulator cable in plug 10, located on the back panel of the bath tank. Connect the instrument to the power supply (220 V).

Insert the lamp from our delivery package in adapter 4.

Turn automatic switch 9 on.

When cleaning the bath, drain thermal fluid through drain valve 8.

To operate the instrument, read the "M11 Heating Immersion Circulator. Operating manual".

GENERAL SPECIFICATIONS

Working temperature range:	+0...+100 °C
Set-point resolution	0.01 °C
Display resolution	0.01 °C
Temperature stability	±0.1 °C
Temperature uniformity	±0.1 °C
Digital setting accuracy	±0.5 °C
Digital setting repeatability	±0.05 °C
Heating capacity	2000 W
Cooling capacity at 0 °C	140 W
Bath volume	22 Liters
Dimensions, W×D×H	385×700×710 mm
Bath opening	120×210 mm
Bath depth	500 mm
Size of glass panel	95×450 mm
Weight	60 kg
Power supply	230 V, 50/60 Hz
Warranty	2 years