Ministat 230w

Refrigerated Heating Circulator Bath with water-cooled cooling machine. Powerful, variable speed, pressure and suction pump, evaporator (cooler) and housing of stainless steel, CFC and H-CFC free. With adjustable overtemperature protection according to DIN 12876.

Pilot ONE:
The new Pilot ONE controller with pioneering technology and advanced control functions brings numerous advantages to routine work. The extensive features list includes a brilliant 5,7“ TFT touchscreen display, USB and network connections, an integrated technical glossary and language support in 13 languages (EN, DE, FR, IT, ES, RU, CN, PT, JP, CZ, PL, KO, TR). The Pilot ONE has a convenient navigation system with easily remembered icons and menu categories which are colour sorted to make routine work simpler. Thanks to a favourites menu and One-Click operator guidance all important information is always just a few keystrokes away. Software wizards also help you to set up, ensuring correct settings. The USB port allows connection of the system to a PC or notebook. Together with the Spy software, requirements such as remote control or data transmission are easily achieved in a cost-effective manner. Network integration is easy with the internet port.

The range of functions can be expanded very easily via E-grade at any time by entering a unit specific upgrade code:

E-grade "Exclusive": TAC (True Adaptive Control) - self optimising internal and cascade control, selectable temperature control mode (Internal/Process), programmer with 3 programs (max. 15 steps), ramp function (linear), 5 point calibration, scalable graphic display, favourites menu, display resolution 0,01 K.

E-grade "Professional": Programmer with 10 programs (max. 100 steps), ramp function for temperature gradients (linear and non-linear), 2nd set point, user menus (Administrator level), calendar start.

4-year warranty - registration required.

Technical data according to DIN 12876

Operating temperature range	-40...200 °C
Temperature stability at -10°C	0,02 K
temperature set point / display	5,7" colour Touchscreen
Internal temperature sensor	Pt100
Sensor external connection	Pt100
Interface digital	Ethernet, USB (Host u. Device), RS232
Safety classification	III / FL
Heating power at 240V	2,1 kW
Heating power at 230V	2 kW
Heating power at 220V	1,8 kW
Heating power at 208V	1,6 kW
Cooling power	
at 100°C	0,42 kW
at 20°C	0,42 kW
at 0°C	0,38 kW
at -10°C	0,33 kW
at -20°C	0,25 kW
at -30°C	0,14 kW
at -40°C	0,05 kW
Refrigeration machine	water-cooled, natural refrigerant
Refrigerant (ASHRAE, GHS)	R-290 (A3, H220)
Global Warming Potential (GWP)	0,02
Refrigerant quantity	0,06 kg
Gas warning sensor	without
Pressure pump	yes
max. delivery	22 l/min
max. delivery pressure	0,7 bar
Suction pump	yes
max. delivery (suction)	16 l/min
max. delivery pressure (suction)	0,4 bar
Pump connection	M16x1 male
max. permissible kin. viscosity	50 mm²/s
Cooling water connection	G1/2 male
Consumption at water 15°C, flow 0°C	20,4 l/h

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Technical data according to DIN 12876

min. cooling water differential pressure	2 bar
max. cooling water pressure	6 bar
Bath volume	3,5 l
min. filling capacity	3 l
Bath capacity with displacement rack	1,7 l
Width bath opening WxD / bath depth	170 x 85 / 135 mm
Overall dimensions WxDxH **	255x450x476 mm
Net weight	36 kg
Power supply requirement	208-240V 1~/2~ 50/60Hz
max. current	11 A
Fuse	16 A
Pressure equipment category	4.3 DGRL
Degree of Protection	IP20
max. ambient temperature	40 °C
min. ambient temperature	5 °C
from Serial-No.:	**393233** **1.3/20**

Technical details and dimensions are subject to change. No liability is accepted for errors or omissions. Illustrations can deviate from the original.

Accessories and periphery: mini-USB cable #54949*, bath cover*, Adapter nom. dia. 12mm*, dummy plugs*, sleeve nuts thread M16x1 *, hose coupling 3/8", connection tubes, braided hoses for cooling water, drain valve, displacement insert to reduce bath volume, calibration insert
* standard equipment

Output data valid for: Room temperature 20°C, cooling water inlet 15°C and 2 bar differential pressure between cooling water inlet and -outlet. This temperature control unit has been designed to operate with cooling water up to 20°C. As the cooling water temperature increases, drop in the cooling power should be expected, and also an increased cooling water flow rate possible. Materiels used in the cooling water circuit include; copper, Stainless steel 1.4401, MS, PA, PPE, PTFE and EPDM. Please use suitable cooling water.

in accordance with EN60034-1 the following voltage and frequency tolerances are valid:
Voltage + / - 5% with a simultaneous frequency tolerance of + / - 2%
Example -5% voltage and +2% frequency -> not allowed!
-5% voltage and - 2% frequency -> allowed

Information to Electromagnetic compatibility:
Classification (disturbance) to EN55011: Class A, Group 1

Standard delivery conditions - Power cable configuration:
1. Single / two-phase devices (100V to 240V) --> with power cable and country-specific plug (please specify when ordering)
2. Three-phase devices with current consumption less than 63A --> with cable, without plug
3. Three-phase devices with current consumption greater than 63A --> without cable, without plug

This equipment is compliant to US-SNAP and all applicable EU laws. The US-SNAP end-use for this equipment is the industrial process refrigeration. Certification by a Notified Body upon request.

** Please respect space requirements. See operating conditions at www.huber-online.com