

Refrigerated Heating Circulator with water-cooled cooling machine and optical level indicator. Circulation pump made of stainless steel with cooled shaft seal with free shaft, without bearing in the liquid. Automatical switch-over and capacity adaption for heating and cooling machine. Copper soldered evaporator, moistened parts and housing made of stainless steel. As well as for externally closed and also externally open applications. With adjustable overtemperature protection according to DIN 12876. Powerful variable speed pump (soft start) with integrated pressure control with optional external pressure sensor.

#### 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.

#### further functions:

E-grade Professional installed as standard, TAC (True Adaptive Control) - self optimising internal and cascade control, selectable temperature control mode (Internal/Process), programmer with 10 programs (max. 100 steps), ramp function (linear and non-linear), 5 point calibration, scalable graphic display, favourites menu, display resolution 0,01 K, integrated technical glossary, 2nd set point, user menus (Administrator level), calendar start, wallpaper selection.

3-2-2 warranty - registration required.

#### Technical data according to DIN 12876

Operating temperature range	-85...250 °C	
Temperature stability at -10°C	0,01 K	
temperature set point / display	5,7" colour Touchscreen	<b>Order-No.: 1023.0012.01</b>
Resolution of display	0,01 K	
Internal temperature sensor	Pt100	
Sensor external connection	Pt100	
Interface digital	Ethernet, USB (Host u. Device), RS232	
digital input	ECS ONE	
digital output	POKO ONE	
Alarm message	optic, acoustic, relay	
Safety classification	Class III / FL	
Heating power	3 kW	
Cooling power with	Thermooil	
at 250°C	2,3 kW	
at 200°C	2,3 kW	
at 100°C	2,3 kW	
Cooling power with	Ethanol	
at 0°C	2,4 kW	
at -20°C	2,4 kW	
at -40°C	2,4 kW	
at -60°C	1,5 kW	
at -80°C	0,3 kW	
at -85°C	0,2 kW	
Refrigeration machine	water-cooled, CFC- and HCFC-free	
Refrigerant	R507	
Refrigerant quantity	0,95 kg	
Refrigerant 2nd stage	R23	
Refrigerant quantity 2nd stage	0,44 kg	
Circulation pump:		
max. delivery	40 l/min	
max. delivery pressure	0.9 bar	
Delivery at 0,1 bar	30 l/min	
Delivery at 0,3 bar	25 l/min	

## Technical data according to DIN 12876

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Delivery at 0,5 bar	18 l/min
Delivery at 0,8 bar	9 l/min
Pump connection	M30x1,5 male
max. permissible kin. viscosity	50 mm <sup>2</sup> /s
Cooling water connection	G1/2 male
Consumption at water 15°C, flow 0°C	231 l/h
min. cooling water differential pressure	1 bar
max. cooling water pressure	6 bar
min. filling capacity	4 l
Filling capacity expansion tank	18 l
Overall dimensions WxDxH **	1200x654x742 mm
Net weight	226 kg
Power supply factory configured (3 Phase)	400V 3~ 50Hz *
max. current (3 Phase)	12,5 A
Fuse (3 phase)	3x16 A
power supply convertible (3 phase)	440V 3~ 60Hz
max. current convertible (3 phase)	12,5 A
fuse convertible (3 phase)	3x16 A
Degree of Protection	IP20
min. ambient temperature	5 °C
max. ambient temperature	40 °C

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from Serial-No.:

1.0/12

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\*, E-grade "Professional" #9496\*, E-grade "Explore" #10495, SpyLight-Software, hose connection for G1/2 male, \* Com.G@te Namur, PC-Com.G@te-cabel, Holder for Com.G@te #10018, Com.G@te-extension cable: upon request, RS232 adapter cable #55018, Thermofluid, external pressure sensor, metal hoses, braided hoses for cooling water, external sensor, connecting cable, isolation sleeve for external open applications, float switch in sight glass for extended security.  
Note: Pump connections: Bore shape Y (60°) according to DIN 3863, pipework/flexible tempering hoses: Ball socket according to DIN 3863, sleeve nut according to DIN 3870.

\* standard equipment

Output data valid for: Room temperature 20° C, cooling water inlet 15° C and 3 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. Materials 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

Alternative (factory set) power supply - please quote configuration at time of ordering.

\*\* Please respect space requirements. See operating conditions at [www.huber-online.com](http://www.huber-online.com)