# Unistat 520w

Refrigerated Heating Circulator with water-cooled cooling machine and optical level indicator. Magnetic coupled circulation pump made of stainless steel. 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 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, ZH, PT, JA, CS, 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.

4-year warranty - registration required.

**Technical data according to DIN 12876**

| | |
|---|---|
| Operating temperature range | -55...250 °C |
| Temperature stability at -10°C | 0,01 K |
| temperature set point / display | 5,7" colour Touchscreen |
| 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 | III / FL |
| Heating power | 6 kW |
| Cooling power with | Thermooil |
| at 250°C | 6 kW |
| at 200°C | 6 kW |
| at 100°C | 6 kW |
| at 20°C | 6 kW |
| Cooling power with | Ethanol |
| at 0°C | 6 kW |
| at -20°C | 4,2 kW |
| at -40°C | 1,5 kW |
| at -50°C | 0,65 kW |
| Refrigeration machine | water-cooled, natural refrigerant |
| Refrigerant (ASHRAE, GHS) | R-1270 (A3, H220) |
| Global Warming Potential (GWP) | 0 |
| UN-number | UN 3358 |
| Circulation pump: | MK pump |
| max. delivery | 79 l/min |
| max. delivery pressure | 1,5 bar |
| Delivery at 0,25 bar | 72 l/min |
| Delivery at 0,5 bar | 63 l/min |
| Delivery at 0,75 bar | 54 l/min |
| Delivery at 1,0 bar | 43 l/min |
| Delivery at 1,25 bar | 29 l/min |
| Pump connection | M30x1,5 male |

**Order-No.: 1072.0021.01**

**Technical data according to DIN 12876**

| | |
|---|---|
| max. permissible kin. viscosity | 50 mm²/s |
| Cooling water connection | G1/2 male |
| min. cooling water differential pressure | 1 bar |
| max. cooling water pressure | 6 bar |
| min. filling capacity | 4,9 l |
| Filling capacity expansion tank | 16 l |
| Overall dimensions WxDxH ** | 544x806x1550 mm |
| Power supply requirement | 208V 3~ 60Hz |
| Degree of Protection | IP20 |
| min. ambient temperature | 5 °C |
| max. ambient temperature | 40 °C |

**from Serial-No.:** **1.0/24**

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

Included Accessories:
mini-USB cable #54949, E-grade "Professional" #9496, hose connection for G1/2 male,

Optional accessories:
E-grade "Explore" #10495, SpyLight-Software, Com.G@te Namur, PC-Com.G@te-cable, Holder for Com.G@te #10018, Com.G@te-extension cable: upon request, RS232 adapter cable #55018, heat transfer fluid, 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, further accessories, etc.: see catalog.

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.

Note: Connection option for extract ventilation

Output data valid for: Room temperature 20°C, cooling water inlet 15°C and 1 bar differential pressure between cooling water inlet and -outlet. This temperature control unit is designed to operate with cooling water intake temperature between 5°C and 20°C. When cooling water temperatures fall below the condensation point, it is essential to insulate the cooling water pipes in the unit.
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
Attention: leakage current > 3,5mA

External branch circuit protection according to UL 489 required.
For the specification, please refer to the electrical schematics.

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