Catalogue 2017

Dynamic Temperature Control Systems · Chillers · Bath Circulators · Specials · Accessories

huber

high precision thermoregulation

in Laboratory, Pilot Plant and Production

high precision thermoregulation

in Laboratory, Pilot Plant and Production

We are one of the technologically leading suppliers for high precision thermoregulation solutions in research and industry. Our products ensure precise temperature control throughout the whole world in laboratories, pilot plants and production processes. Our product range offers temperature control solutions for applications from -125 °C to +425 °C.

We have been driving technological development in the field of liquid temperature control with continuous innovations since 1968. The introduction of the Unistat technology 1989 was a revolution in temperature control, setting standards for thermodynamics and accuracy. In addition to dynamic temperature control systems, our product range includes chillers, classic heating & cooling circulators and a range of special solutions and bespoke systems.

Environmentally friendly temp

Our customers were the first who could purchase environmentally friendly refrigeration down to -125 °C. As the prohibition of CFCs came into force, there were already thousands of environmentally friendly Huber machines in operation. As a result of this advantage whilst other suppliers were working on producing CFC free systems, we were able to concentrate on reducing energy requirements. Today a large proportion of our product lines are available with natural refrigerants.

Behind our environmental commitment, stand both business and ideological considerations. In our view, worsening environmental conditions make action essential. We see the development of environmentally friendly temperature control machines as active environmental protection.
Take one look at our manufacturing facilities, it can be seen that we take environmental protection seriously. The Tango factory is a thermodynamic masterpiece, and an energy saving wonder. Massive concrete, triple glazed windows, a thick layer of insulation and 40 km of plastic tubing in the floor, ceiling and walls give a massive heat exchanger. As a result of this we heated a volume of around 60000 m³ with minimum consumption of energy. The majority of the required heat energy comes directly from our production – mainly from the test run of our products.

erature control

Natural Refrigerant!

The Huber mission "Environment plus"

1982 **MISSION Environment plus:** First intelligent cooling circulator with cooling power adjustment and water cooled refrigeration with water saving energy management.

1993 **MISSION Environment plus:** First to convert to non CFC refrigerants. 7 years before the legal phase out.

1994 **MISSION Environment plus:** First to convert to non H-CFC refrigerants. 6 years before the legal phase out.

2006 **MISSION Environment plus:** Cooling circulators with the option "natural refrigerant" in accordance with the regulations of the global green house policy of F. Hoffmann-La Roche AG.

2009 **MISSION Environment plus:** Environmental friendly cooling with CO_2 refrigeration machines in accordance with the guidelines regarding the global green house policy of F. Hoffman-La Roche AG.

2010 **MISSION Environment plus:** Process heat coupling: Unistats are combined with already available primary energy sources such as steam, cooling brine or liquid Nitrogen.

2014 **MISSION Environment plus:** Certification according to the ECOfit programme of Baden-Württemberg for industrial environmental protection.

2016 **MISSION Environment plus:** Introduction of the energy management system based on EN 16247 to recognize the saving possibilities. We were honoured with the Environmental Award of Baden-Württemberg.

Controller and Functions

Depending on requirements and budget, units with three different types of controllers are available. The KISS and OLÉ offers simple 4-button operation, OLED temperature display and low prices therefore it is the first choice for many routine tasks. The Pilot ONE touchscreen controller is the controller of choice for more demanding applications. Our Plug & Play technology guarantees highly precise results with professional features, simplifying daily work. Thanks to the electronic upgrade system, functionality expansion is possible at any time – even retrospectively on existing equipment.

Huber Calendar

Advantages & Functions

- Advanced temperature control
- Easy to operate
- Electronic upgrade for the expansion of features and functionality
- Colour TFT touchscreen (Pilot ONE)
- Extensive security features
- Integrated programmer
- Digital and analogue interfaces
- Multiple options for data communication
- Removable controller which can be used as a remote control
- Remote operation via network and Internet

Practical Examples:

» Automatic execution of temperature profiles

» Data recording via RS232 or USB interface

» Activation of additional functions via electronic upgrade for more complex applications

» Integration in a process control system via analogue interface

» Remote control when operated under a fume hood

» Automatic adjustment of the control parameters under heavily changing system conditions

The appropriate controls

An easy decision:
Pilot ONE®, KISS® and OLÉ offer a range of functionality to suit all temperature control requirements.

The three controllers mean that all applications requirements are covered. Depending on budget and application, a controller can be selected that meets the applications requirements. If only a basic functionality is required, an inexpensive model with KISS or OLÉ could be chosen. If the application requires more extensive features, a unit that has the powerful Pilot ONE controller could be the best choice. Pilot ONE models offer the added advantage of functionality upgrades with "E-grades" where the software can be updated by entering a unit specific upgrade code.

KISS® and OLÉ Controller:

- **Simple operation with four keys**
- **OLED display**
- **Basic functions**

Economic, low cost, robust: KISS and OLÉ Controller for simple applications

for each application

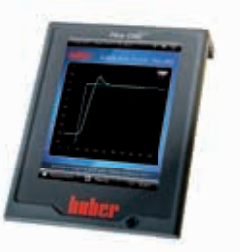
Our Plug & Play technology means that all models are equipped with easily replaceable controllers. This technology allows rapid progress in the development of operator comfort and control. Since the 1980s Huber systems have had removable controllers allowing the basic components of our products to be easily interchanged. Thanks to backwards compatibility, it is even possible to retrofit old equipment with modern technology. The base unit and controllers are matched automatically – simply remove the old controller, fit the new one and go!

Pilot ONE® Controller:

- **Comfortable touchscreen operation**
- **5,7“ TFT colour display**
- **Professional features**
- **USB and Ethernet**
- **13 languages**

User friendly, many functions and exchangeable thanks to Plug & Play technology: Pilot ONE

Controller functions comparison



	Function / Features	Pilot ONE® with E-grade® "Professional"	Pilot ONE® with E-grade® "Exclusive"	Pilot ONE® with E-grade® "Basic"
Thermoregulation	Controller parameter tuning	TAC (True Adaptive Control)	TAC (True Adaptive Control)	predefined [1]
	Calibration program for control sensor (Internal, Process)	5 Point	5 Point	2 Point
	Monitoring (Level protection, Over temperature protection [2])	✓	✓	✓
	Adjustable limit alarms	✓	✓	✓
	VPC (Variable Pressure Control) [3]	✓	✓	✓
	Venting program	✓	✓	✓
	Compressor automatic control	✓	✓	✓
	Set point limits	✓	✓	✓
	Programmer	10 prg. / 10 steps each (max. 100 steps)	3 prg. / 5 steps each (max. 15 steps)	
	Ramp function	linear, non-linear	linear	
	Temperature control mode (Internal, Process)	✓	✓	
	Maximum heating / cooling power adjustable	✓	✓	
Display & Operation	Temperature display	5,7" Touchscreen	5,7" Touchscreen	5,7" Touchscreen
	Display mode	graphic, numeric	graphic, numeric	graphic, numeric
	Display resolution	0,1 °C / 0,01 °C	0,1 °C / 0,01 °C	0,1 °C
	Graphic display of temperature curves	Window, full screen, scalable	Window, full screen, scalable	Window, full screen, scalable
	Calendar, Date, Time	✓	✓	✓
	Language: DE / EN / FR / IT / ES / PT / CZ / PL / RU / CN / JP / KO / TR	✓	✓	✓
	Temperature format (°C / °F)	✓	✓	✓
	Display mode (screen) switch by swiping	✓	✓	✓
	Favourites menu	✓	✓	✓
	User menues (Administrator level)	✓		
	2nd set point	✓		
Connections	Digital interface RS232	✓	✓	✓
	USB interfaces (Host and Device)	✓	✓	✓
	Ethernet RJ45 interface	✓	✓	✓
	Pt100 external sensor connection	✓	✓	✓
	External control signal / ECS STANDBY [5]	✓	✓	✓
	Programmable volt-free contact / ALARM [5]	✓	✓	✓
	AIF (Analogue interface) 0/4-20 mA or 0-10 V [6]	✓	✓	✓
	Digital interface RS485 [6]	✓	✓	✓
Various	Alarm signal optical / acoustic	✓	✓	✓
	AutoStart (Mains failure automatic)	✓	✓	✓
	Plug & Play technology	✓	✓	✓
	Technical glossary	✓	✓	✓
	Remote control / Data visualisation via Spy Software	✓	✓	✓
	E-grade Evaluation versions available (valid for 30 days)	✓	✓	✓
	Service data recorder (flight recorder)	✓	✓	✓
	Saving/loading of temperature control programs via USB	✓	✓	
	Process data logging direct to USB stick	✓	✓	
	Calendar start	✓		

All E-grades are available as evaluation versions (30 days valid) free of charge.

	KISS® (Circulators)	OLÉ (Minichiller®/Unichiller®)
	predefined	predefined
	1 Point	1 Point
	✓	✓
	✓	✓
	✓	✓
	✓	✓
	OLED	OLED
	numeric	numeric
	0,1 °C	0,1°C
	DE / EN	DE / EN
	✓	✓
	✓	✓
	✓	✓
	✓[4]	✓[4]
	✓	✓
	✓	✓
	✓	✓

[1] 30-day evaluation version TAC function available

[2] For units with integrated over-temperature protection

[3] For models with variable-speed pump or an external bypass

[4] Pt100 external sensor connection optional, only available factory fitted (additional charge)

[5] Standard on Unistats, otherwise via optional Com.G@te or POKO/ECS Interface

[6] Via optional Com.G@te

Process-relevant data is always in view

The Pilot ONE is plain talking, gives user confidence, is easy to operate and keeps the user continuously informed of all relevant process data

The colourful TFT display shows all Pilot ONE information in plain text. Process temperature, internal (flow or jacket) temperature, pump pressure and all safety-relevant information can be read easily and quickly.

TFT Display
Graphical Colour Display

The display can be varied as required and in addition to a concise but comprehensive list of data, the most important information (set-point, actual, and internal/process temperature and Over Temperature limit) are shown in a larger format, making the essentials easier to read from a distance. The temperature resolution can be displayed to 0.1 °C or 0.01 °C and the temperature can be viewed in Celsius or Fahrenheit format.

Depending on the configuration of the system, the pressure is variable using the "VPC" (Variable Pressure Control) feature protecting against breakage, e.g. glass reactor. The parameters of the PID control system can be manually adjusted or with intelligent "TAC" (True Adaptive Control) – the self-optimizing cascade control is fully automated, ensuring tight control and the best possible results. The "set-point limit" function, "programmable alarms" and the user-defined alarm actions add further dimensions to safe working practices. In the event of a problem, visual and audible alarms can be activated. The clock and calendar functions allow individual settings for "auto-start" in the event of power failure or a timed automatic commencement of a program.

A calibrated function facilitates both off-set and span calibrations of the internal and (optional) process sensors. Depending on the software version, a digital and/or analogue interface records data.

Plug & Play

Plug & Play technology – proven since 1982

The modular concept of the controllers facilitates easy field repairs and thanks to the clever Plug & Play technology, both Pilots are easily upgradeable using modern flash technology, as new software versions become available. Circulators and chillers all operate with a standard user interface; an advantage for users of multiple Huber temperature control systems. The Pilot ONE controller can be mounted remotely to control the unit via a data cable, offering unprecendeted levels of functionality and flexibility.

Plug & Play
Controller

Function Upgrade at any time

Adaptable and a good investment, thanks to the E-grade electronic upgrade function

All circulators and circulation chillers, fitted with the Pilot ONE controller, benefit from the flexibility offered by the electronic upgrade function. Even in the basic version these machines have easy to use functionality for mastering most temperature control requirements. Using E-grade, the range of functions can be expanded in order to adapt to special applications. An electronic upgrade is very simple. The user only has to enter a machine specific activation code in order to activate the additional functions. The activation code can be retroactively ordered at any time, and will be sent by E-mail. As well as the standard "Basic" version there are the "Exclusive" and "Professional" to choose from. The upgrades activate additional functions such as the ramp function, programmer, TAC cascade control, adjustable user menus, calendar start, 2nd set point, graphical display and external temperature control.

The E-grade offers an easy and flexible way to adapt an existing machine to growing requirements or more complex applications.

Pilot ONE	Functionality	Cat.No.
Basic	Functions see pages 10/11	
Exclusive (additional to Basic functions)	+ Temperature control mode (Internal / Process) + Process data logging direct to USB stick + Display resolution 0,1°C / 0,01°C + Programmer with 3 programs / 5 steps each (max. 15 steps) + Ramp function (linear) + TAC (True Adaptive Control) + Saving / loading via USB	9495
Professional* (additional to Exclusive functions)	+ Programmer with 10 programs / 10 steps each (max. 100 steps) + Calendar start + Ramp function (linear and non-Linear) + User menus can be customised (Administrator Level) + 2nd set point	9496

* Installed as standard on all Unistats

The electronic upgrade allows the functionality to grow with your requirements

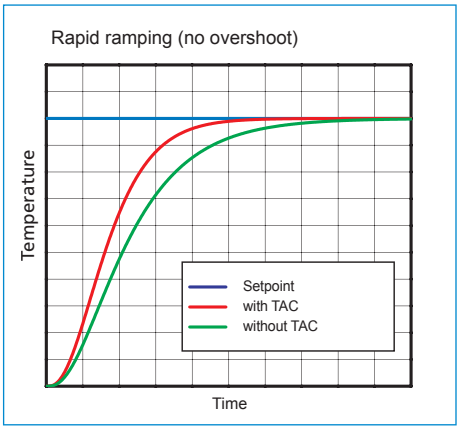
E-grade® Explore

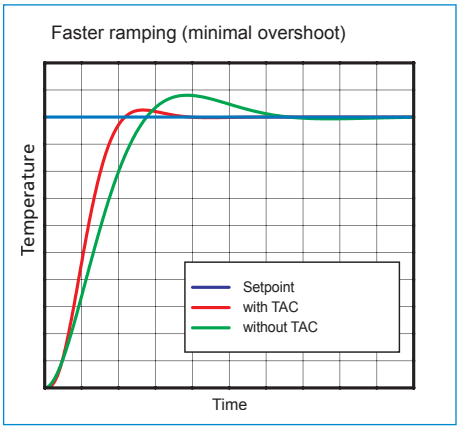
The E-grade Explore (Cat.No. 10495) for Unistats is a development tool for chemical processes which gives access to the following values:

- Performance: Heating or cooling capacity of the system
- Temperature values: Setpoint, internal, process, return
- Temperature differences: ΔT internal-return, ΔT process-return, ΔT process-internal
- Circulation pump: Pressure / speed (depending on model)

E-grade® OPC-UA

The OPC-UA (OPC Unified Architecture) protocol (Cat.No. 10561) describes data semantically and thus allows a data exchange between automation systems without the need to program a driver for this purpose. The automation system must support OPC-UA. With the E-grade OPC-UA, Huber temperature control units with Pilot ONE can already communicate via the modern OPC-UA protocol.





True Adaptive Control

Self-optimising temperature control

Varying research criteria and process demands change the thermal load on the temperature control system. What does not change is the requirement for good control.

The solution is "TAC" which has the capability to automatically change with those demands. By building a multi-dimensional model of the process, the TAC is able to automatically adjust its PID parameters to cope with and respond rapidly to sudden changes in the process.

Operating in both "Jacket" and "Process" control, TAC provides responsive and close control. Rapid changes with no overshoot, that is what TAC brings to the process – automatically and under all conditions. User defined ramp rates allows for faster or slower response. If TAC is not required, the user can manually adjust the PID parameters.

| VPC Bypass |

Variable Pressure Control (VPC)

Pressure control with controllable soft-start

VPC was developed to protect glass reactors from damage caused by high fluid pressure. VPC also compensates for changes in viscosity as heat transfer fluid is heated and cooled. Unistats for typical laboratory applications have a variable speed pump with soft-start, and using a pressure sensor can control their maximum fluid pressure. Unistats with larger capacities can control the pressure using a pressure sensor and a stepless bypass (option).

Minimal pressure and maximum flow encourages optimal heat transfer. The VPC enables the best performance to be achieved while remaining within the defined pressure limits of the application.

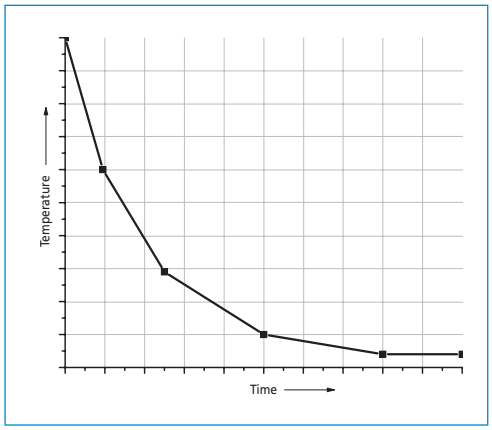
With kind permission of Roche AG (CH)

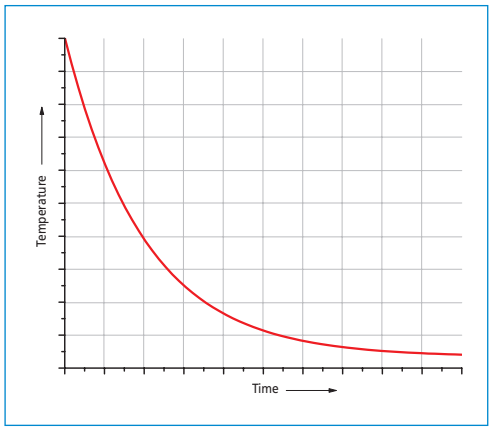
Maximum HTF flow

Improved pump design together with reduced internal flow resistance gives higher HTF flows with lower HTF pressures meaning more efficient thermal transfer and faster ramping of the process for the same power.
Bench top and floor standing Unistats that use the new "M24" pump connections are supplied with "M16" adaptors to allow for convenient fitting to existing systems using "M16" fittings.

CoolNet®

CoolNet – precise valve control
In refrigeration equipment, refrigerant is controlled by a metering valve. Unistat refrigeration works with a CoolNet stepper-motor controlled expansion valve, that has been produced in the Tango Factory since 2002. The valve opening is precisely controlled at between 0 and 600 steps, with a resolution of 0,005 mm/step. This allows the CoolNet to achieve the optimal evaporator flow, and highest possible cooling capacity at each working temperature. Precise and reproducible control for temperatures down to -130 °C.





Programmer

Programmer with linear ramp function

Single temperature changes can be achieved using the linear ramp function. The easy to use programmer, with 100 steps, is available for more complex temperature requirements. Individual steps can be pieced together to form a profile. Each step of the program can be selected to be either temperature or time stable. For each step, additional functions (potential free contact, analogue interface, temperature control mode) can be activated or deactivated.

Programmer
with Ramp Functions

Non-linear Ramp Function (NLR)

Designed for crystallisation processes, non-linear temperature profiles allow higher purity crystals to be produced. Instead of using the temperature programmer to piece together rectangular or linear ramps, e-functions can be used to define a continuous setpoint form. The diagrams shows the high precision of the e-function (below) in contrast to a linear ramp (above, with 6 steps).

Safety

Unistats have many features for handling temperature control applications remotely and safely during continuous operation. Over-temperature, setpoint and alarm limits can be adjusted according to the conditions of the application. The temperature and pressure sensors can be calibrated and the microprocessor controller monitors the operating status. VPC (Variable Pressure Control) monitors the maximum pressure in the fluid loop. Passive components ensure a extraordinarily high level of reliability.

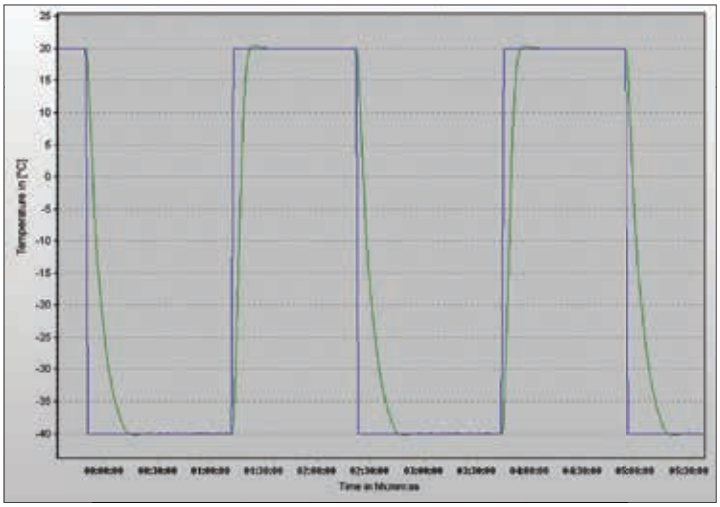
Protection+
Level / Overtemperature

In case of emergency, Unistats can be electrically isolated. For critical processes Unistats offer emergency cooling.

"Process safety over-temperature protection": This unique user-activated feature disables the heater while initiating 100 % cooling should an over-temperature condition be caused by a thermal runaway in the process.

Reproducibility

Unistats allow reproducible thermoregulation results with high dynamics.



Ex-Protection

Two solutions are available for ATEX areas:
The Unistat can be placed in a Stainless Steel Ex px pressure enclosure. Compressed air is pumped in purging the cabinet of any potentially dangerous vapours and creating a pressure slightly above atmospheric to keep potentially explosive vapours out. An ATEX certified remote control is located in the ATEX zone, controlling the Unistat situated in the safe zone.

ATEX Version available

Firmware-Updates

Firmware updates keep your units with Pilot ONE controller at the forefront of technology. Free updates allow you to benefit from technical advances and new functions even after the purchase. The software "Pilot ONE Flasher" is all that is required (download from www.huber-online.com). After the installation the latest firmware can be automatically downloaded from the server and transmitted to the Pilot ONE controller.

Pilot Remote Software

Pilot Remote Software (Cat.No. 10645) is a Windows software for temperature control units using the Pilot ONE. The software enables the complete user display of the Pilot ONE to be displayed on a Windows PC, and to operate our units from the PC.
The Pilot Remote Software uses a secure authentification. It is thus certain that non authorised persons cannot remotely control the unit, nor that communication can take place with the wrong unit by mistake.

Dynamic Thermoregulation

For more than 20 years, the dynamic thermoregulation of the Unistat range introduced a revolution in fluid temperature control. Unistats are the ideal solution for fast and precise thermal control of externally connected applications. In comparison to other circulators, the Unistats offer rapid temperature change and a wide temperature range without fluid change. There are over 70 models to choose from with cooling powers from 0,7 to 130 kW. What ever the application, Unistats provide professional scale-up offering the same stable process conditions from the development lab to production systems.

TFT Touch 5,7" Colour Display
Plug & Play Controller
TAC True Adaptive Control
VPC Variable Pressure Control
Easy Control User friendly operation
Programmer with Ramp Functions
Protection+ Level / Overtemperature
Heating Power Options available
CoolNet® max. Cooling Power
Natural Refrigerant
ATEX Version available
USB Ports Remote control & storage
Ethernet Communication via LAN
SpyControl® Control, Visualize, Record

Huber Calendar

Advantages & Functions

- Working temperatures from -125 °C to +425 °C
- Powerful thermodynamics
- Highly accurate, intelligent temperature control
- High process stability and reproducibility
- Fast heating and cooling rates
- High cooling powers from 0,7 to 130 kW
- Large temperature range without fluid change
- Increased thermal fluid life
- Incredibly compact
- Brilliant 5,7“ TFT touchscreen with graphic display
- Comprehensive warning and safety functions

Typical Applications:

» Reactor systems, Autoclaves
» Pilot systems
» Miniplant systems
» Scale up for operational development
» Double wall reactors
» Reaction calorimeter
» Distillation systems
» Test rigstands
» Material testing
» Combinational chemistry
» Semiconductor industry
» Kilo labs
» Vacuum chambers

Functions and features depend on the model, see chapter “Controllers & Functions” for details.

Unistats® – Highly dynamic ther

Unistats® should not be compared to conventional technology.

Tango and the big Unistats for -125 °C to +425 °C for laboratory and production

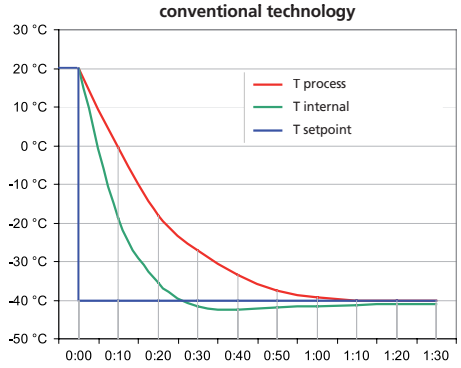
Safety is a priority
Our engineers know what is required in research and production: **PROCESS SAFETY!**

The security that the critical process temperatures in your laboratory or production facility run exactly as required, with no compromises, every time. Unistats bring peace of mind whilst delivering **PROCESS STABILITY in high end quality!**

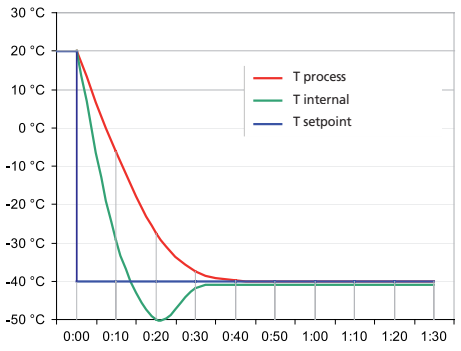
Pump technology
Our improvements in pump technology have increased HTF flow rates and resulted in tangible improvments in heat transfer to and from the application.

Predictable, repeatable results and a previously unachievable response to changing thermal loads, provide a much faster return on investment, further improved by the minimal operating costs of the Unistat principle!

Temperature dynamics with conventional technology



Temperature dynamics of the unistats



moregulation

Conventional baths and circulating chillers operate with a hydraulically open bath.
With open bath technology (picture 1) the bath fluid is un-pressurised and open to atmosphere, regardless of whether the temperature control is internal (A), or external (B). During external temperature control (B) the level must be controlled in two locations. In typical externally closed temperature control (picture 2) where the object is directly (D) or indirectly (C) in contact with the heat transfer medium, the atmospherically open bath is also used to contain the expansion and contraction in HTF volume as the fluid heats and cool.

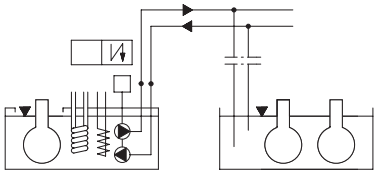
Unistats embody capacity and dynamics. Small in size, big in power.
The Unistat system (Pic. 3) combines the efficiencies of effective thermodynamics and modern microelectronics, making it a highly efficient alternative to open bath temperature control technology. Unistats are circulators without a bath. An expansion vessel for thermal expansion and contraction replaces the conventional bath. The expansion vessel is isolated from the thermoregulation of open baths (F). Being hydraulically sealed they can be located below or above the application.
The Unistat principle uses minimal heat transfer fluid (HTF) volume and increased thermal transfer abilities through higher HTF flow rates, reduced HTF pressure and highly efficient heat exchange surfaces. This Increases the systems speed of response to changes in demand. Unistats have the most rapid ramping rates, and are capable of cooling rates of more than 100 K/hr. For comparisons in cooling power densities (Watt/litre) please refer to DIN 12876.

Large Unistats in tower cases have small footprints and require little floor space

Tango Club
In 1988 the first generation proved the concept of the Unistat technology. The second generation consolidated and led the growth of Unistat technology into industry. The Third Generation is refined, more efficient and more responsive, gives tighter control and is easier to use.

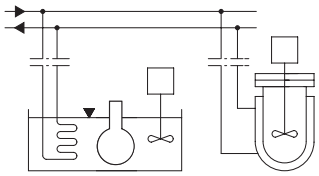
The international Tango Club (Unistat users across the world) sheds light on the trends of tomorrow. As a result, the range of functions has been increased, and simple control has eased operation. Every function of the Unistat has been subjected to uncompromising tests on applications under industry conditions the quality spotlight of experienced users focused on results.

Picture 1: Open Baths



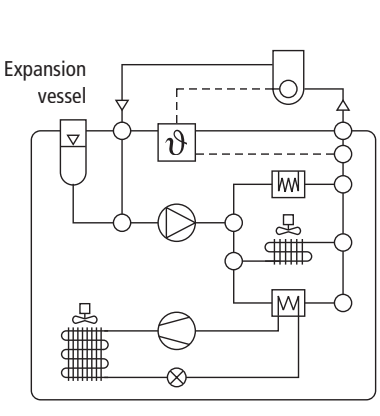
A B

Picture 2: Closed Circuits

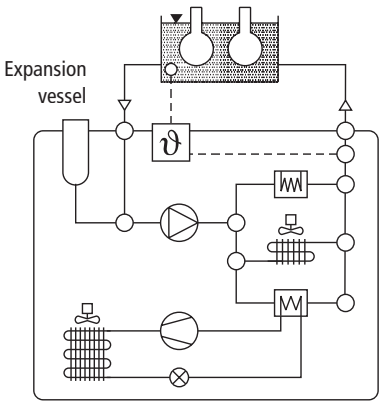


C D

Picture 3: The Unistat Principle



E



F

Unistats® – for professional Sc

Predestined for process and chemical engineering

Unistats are predestined for applications in process and chemical engineering, such as temperature control of reactors, autoclaves, miniplant/pilot systems, reactor blocks and calorimeters.
Unistat temperature control systems with their excellent thermodynamics provide highly accurate and reproducible results, guaranteeing short heating and cooling times and a wide temperature range without fluid change. Environmentally and economically Unistats stand out, offering natural refrigerants and an efficient energy management system for reduced operating costs.

ale-up

Professional Scale-Up

The Unistat range offers temperature control solutions from the smallest process up to production volumes with temperatures from -125 °C up to +425 °C and cooling capacities from 0,7 to 130 kW. The range offers over 60 models, in sleek tower housings, or flat-build, for flexible scale-up in Research, Kilolabs, Miniplant, Pilot-Plant, and Production. Whilst the Unistats grow with the application, their operation and the Unistat principle remain the same.

Unistat® Advantages

- **Fast heating and cooling rates**
  ideal for isothermal chemical processes
- **Highly responsive**
  the first choice for operational safety with exothermic reactions
- **Reproducible precision**
  for demanding temperature applications from -125 °C to +425 °C
- **Incredibly compact**
  "volume cooling power" truly powerful, truly compact
- **Wide temperature ranges with no oil change**
  DW-Therm thermal fluid offers a temperature range from -90 °C to +200 °C
- **Large and full colour 5,7" TFT touchscreen**
  with graphic capabilities, multilingual, interactive and easy to use
- **High cooling power densitiy [W/l]**
  for dynamic and rapid temperature changes
- **Flexible communication**
  with USB and Ethernet interfaces

Unistats® create space

A compact machine is one that is small with no loss of power. This is measured with the ratio W/dm^3. At every temperature the Unistat is the most compact.

The small Tangos®: Petite Fleur®

The small Tangos® mark the entry level into the world of Unistats®. The compact dimensions and excellent thermodynamics make the Petite Fleur® and Grande Fleur® ideal for precise temperature control of research reactors.

VPC
Variable Pressure Control

DIN 12876
Our cooling powers are always quoted at full pump speed

Plug & Play
3 years warranty

Petite Fleur meets Grande Fleur
Less than a Unistat Tango, but more than a Petite Fleur, the new Grande Fleur expands the range of dynamic temperature control systems. Users now get even more performance at a low price. The Grande Fleur offers all of the great performance and features of the Unistat series such as USB, Ethernet and RS232 interfaces, the touchscreen controller Pilot ONE, process data recording via USB as well as natural refrigerants and thermodynamics.
Both models are equipped with the touchscreen controller Pilot ONE with a brilliant 5.7" TFT display. The E-grade "Professional" with many features for demanding temperature applications is included as standard.

Functionality for all applications
The Petite Fleur and Grande Fleur come with full controller functionality found with all Unistats. They have excellent thermodynamic properties which result in high temperature ramp rates and control accuracy. The powerful variable speed pump combined with the VPC pressure control and the TAC adaptive internal and cascade control ensure the best possible results.

Unistats for professional scale-up and process development
The introduction of the small Tangos now means that the Unistat temperature control systems are available with cooling capacities from 480 Watts at +20 °C. Unistats offer professional scale-up from small scale laboratory R&D through to production plant. The Unistat temperature control systems, with a temperature range of -125 °C to +425 °C and cooling and heating powers up to 130 kW, can be combined with customer steam and brine systems and are therefore suitable for applications beyond the 10 m³ class.

meets Grande Fleur®

Lift and roll
The compact form of the small Tangos means they are ideally suited to fit in extract hoods. The rollers fitted at the back of the unit allow it to be easily manoeuvred into the required position, just lift and roll.

Ready for action
If the application is regularly changed, residual water in hoses and reactors can be a problem. The water contaminates the thermal fluid and inhibits the heat transfer process. The Petite Fleur and Grande Fleur's water separation system allows water to be removed from the thermal fluid during thermal regulation.

More power
DIN 12876 requires that cooling powers are measured at full pump speed. Decreasing the pump speed reduces the heat energy entering the system. This leads to higher cooling powers and lower end temperatures. The small Tangos have an remarkably powerful pump. Decreasing the pump speed can make additional cooling power available – an extra 30 to 50 Watts can be achieved. We always quote cooling at maximum pump speed.

View from the back:
Com.G@te (optional), pump connections

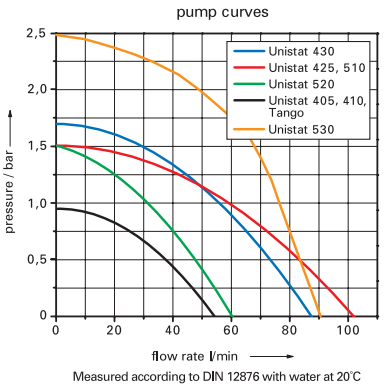
Model	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 200	20	0	-20	-30	Dimensions W x D x H (mm)	Cat.No.	G	Price
Petite Fleur	-40...200	25	0,9	1,5	0,48	0,48	0,45	0,27	0,16	260 x 450 x 504	1030.0001.01	3	
Petite Fleur w	-40...200	25	0,9	1,5	0,48	0,48	0,45	0,27	0,16	260 x 450 x 504	1030.0003.01	3	
Petite Fleur-eo	-40...200	25	0,9	1,5	0,48	0,48	0,45	0,27	0,16	260 x 450 x 504	1030.0004.01	3	
Grande Fleur	-40...200	47	0,9	1,5	0,60	0,60	0,60	0,35	0,20	295 x 540 x 565	1041.0001.01	3	
Grande Fleur w	-40...200	47	0,9	1,5	0,60	0,60	0,60	0,35	0,20	295 x 540 x 565	1041.0007.01	3	
Grande Fleur-eo	-40...200	47	0,9	1,5	0,60	0,60	0,60	0,35	0,20	295 x 540 x 565	1041.0004.01	3	
Grande Fleur w-eo	-40...200	47	0,9	1,5	0,60	0,60	0,60	0,35	0,20	295 x 540 x 565	1041.0010.01	3	

eo = for external open operation All units use natural refrigerant as standard

Unistat 510w | Unistat 430 | Unistat 520w

-55 °C
Models
from 0,7 to 21 kW

Unistat tango



Measured according to DIN 12876 with water at 20°C

VPC
Variable Pressure Control

ATEX
ATEX Solutions (Option)

Additional Heating
(Option)

Model to -55 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 250	200	100	0	-20	-40	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat tango	-45...250	55	0,9[1]	1,5/3,0	0,7	0,7	0,7	0,7	0,4	0,06	426 x 270 x 631	1000.0016.01	3	
Unistat tango w*	-45...250	55	0,9[1]	1,5/3,0	0,7	0,7	0,7	0,7	0,4	0,06	426 x 270 x 631	1000.0021.01	3	
Unistat tango wl	-45...250	55	0,9[1]	1,5/3,0	0,7	0,7	0,7	0,7	0,4	0,06	426 x 270 x 631	1000.0017.01	3	
Unistat 405	-45...250	55	0,9[1]	1,5/3,0	1,0	1,0	1,0	1,0	0,6	0,15	426 x 307 x 631	1002.0021.01	3	
Unistat 405w	-45...250	55	0,9[1]	1,5/3,0	1,3	1,3	1,3	1,3	0,7	0,15	426 x 307 x 631	1002.0022.01	3	
Unistat 410	-45...250	55	0,9[1]	3,0	1,7	2,5	2,5	1,5	0,8	0,2	460 x 554 x 1200	1031.0010.01	3	
Unistat 410w	-45...250	55	0,9[1]	1,5/3,0	1,7	2,5	2,5	1,5	0,8	0,2	425 x 360 x 636	1031.0005.01	3	
Unistat 425	-40...250	105	1,5[2]	2,0	2,0	2,0	2,0	2,5	1,8	0,2	460 x 554 x 1453	1005.0057.01	35	
Unistat 425w	-40...250	105	1,5[2]	2,0	2,8	2,8	2,8	2,5	1,9	0,2	460 x 554 x 1453	1005.0058.01	35	
Unistat 430	-40...250	90	1,7[2]	4,0	3,5	3,5	3,5	3,5	2,2	0,3	460 x 554 x 1453	1005.0059.01	35	
Unistat 430w	-40...250	90	1,7[2]	4,0	3,5	3,5	3,5	3,5	2,2	0,3	460 x 554 x 1453	1005.0060.01	35	
Unistat 510	-50...250	105	1,5[2]	6,0	5,3	5,3	5,3	5,3	2,8	0,9	1100 x 755 x 1370	1005.0082.01	35	
Unistat 510w	-50...250	105	1,5[2]	6,0	5,3	5,3	5,3	5,3	2,8	0,9	460 x 554 x 1453	1005.0061.01	35	
Unistat 515w	-55...250	105	1,5[2]	6,0	7,0	7,0	7,0	5,3	2,8	0,9	460 x 554 x 1453	1032.0006.01	4	
Unistat 520w	-55...250	60	1,5[2]	6,0	6,0	6,0	6,0	6,0	4,2	1,5	540 x 604 x 1332	1006.0020.01	4	
Unistat 525	-55...250	60	1,5[2]	6,0	10,0	10,0	10,0	7,0	4,2	1,5	1290 x 736 x 1596	1033.0015.01	4	
Unistat 525w	-55...250	60	1,5[2]	6,0	10,0	10,0	10,0	7,0	4,2	1,5	540 x 604 x 1332	1033.0008.01	4	
Unistat 527w	-55...250	90	2,5[2]	6,0	7,0	12,0	12,0	12,0	6,0	2,0	540 x 704 x 1491	1034.0014.01	4	
Unistat 530w	-55...250	90	2,5[2]	12,0	7,0	19,0	21,0	16,0	9,0	3,0	540 x 704 x 1491	1034.0015.01	4	

[1] integrated VPC pressure control [2] VPC pressure control via optional bypass *Model uses natural refrigerant as standard, for all other models available on request Flat built models available on request

Unistat 950w

-60 °C
Models
from 7 to 130 kW

Natural Refrigerant!

Unistat 615w

Model to -60 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 200	100	0	-20	-40	-60	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat 610	-60...200	60	1,5[2]	6,0	7,0	7,0	7,0	6,4	3,3	0,8	1290 x 735 x 1600	1007.0040.01	4	
Unistat 610w	-60...200	60	1,5[2]	6,0	7,0	7,0	7,0	6,4	3,3	0,8	630 x 704 x 1520	1007.0031.01	4	
Unistat 615w	-60...200	60	1,5[2]	12,0	9,5	9,5	9,5	8,0	4,8	1,2	630 x 704 x 1520	1007.0032.01	4	
Unistat 620w	-60...200	90	2,5[2]	12,0	12,0	12,0	12,0	12,0	6,5	1,8	730 x 804 x 1520	1008.0040.01	4	
Unistat 625w	-60...200	90	2,5[2]	12,0	16,0	16,0	16,0	15,0	7,4	2,2	730 x 804 x 1520	1008.0041.01	4	
Unistat 630w	-60...200	110	2,5[2]	24,0	22,0	22,0	21,0	20,0	14,0	5,0	950 x 1005 x 1650	1009.0021.01	5	
Unistat 635w	-60...200	110	2,5[2]	24,0	27,0	27,0	27,0	25,0	18,0	6,0	950 x 1005 x 1650	1009.0022.01	5	
Unistat 640w	-60...200	110	2,5[2]	30,0	32,0	32,0	35,0	30,0	18,0	6,0	950 x 1005 x 1650	1010.0007.01	5	
Unistat 645w	-60...200	130	4,0[2]	36,0	45,0	45,0	45,0	42,0	22,0	7,0	1830 x 1200 x 1830	1011.0006.01	5	
Unistat 650w	-60...200	130	4,0[2]	48,0	65,0	65,0	65,0	56,0	30,0	11,0	1830 x 1200 x 1830	1012.0005.01	5	
Unistat 680w	-60...200	130	4,0[2]	96,0	130,0	130,0	130,0	80,0	60,0	20,0	4500 x 2000 x 2000	1013.0003.01	5	

[2] VPC pressure control via optional bypass

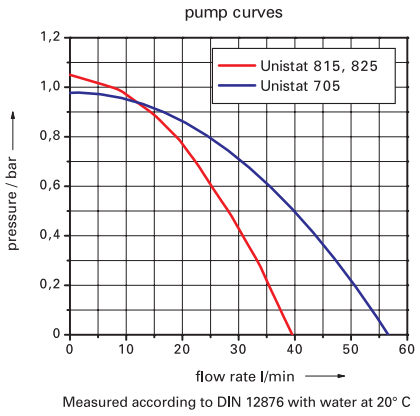
Options: natural refrigerant, additional heating capacity, air cooled units available on request

-85 °C
Air- or water-cooled

| Unistat 825 |

| Unistat 815w |

| Unistat 705w |



Measured according to DIN 12876 with water at 20° C

VPC
Variable Pressure Control

ATEX
ATEX Solutions (Option)

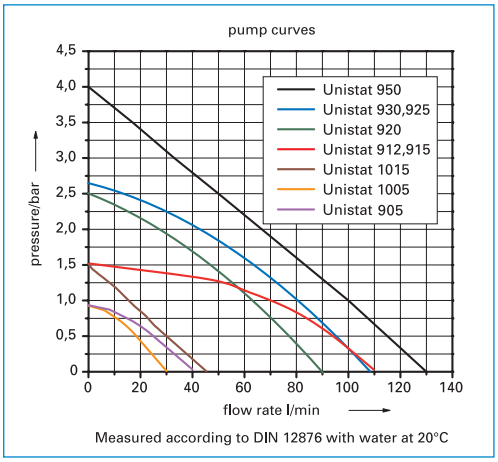
Additional Heating
(Option)

Model to -85 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 250	200	100	0	-20	-40	-60	-80	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat 705	-75...250	55	0,9[1]	1,5 / 3,0	0,6	0,6	0,6	0,65	0,6	0,6	0,3	–	425 x 400 x 720	1001.0020.01	3	
Unistat 705w	-75...250	55	0,9[1]	1,5 / 3,0	0,6	0,6	0,6	0,65	0,6	0,6	0,3	–	425 x 400 x 720	1001.0021.01	3	
Unistat 815	-85...250	40	0,9[1]	2,0	1,3	1,3	1,3	1,5	1,5	1,4	1,2	0,2	460 x 604 x 1465	1014.0049.01	35	
Unistat 815w	-85...250	40	0,9[1]	2,0	1,5	1,5	1,5	1,5	1,5	1,4	1,2	0,2	460 x 604 x 1465	1014.0050.01	35	
Unistat 825	-85...250	40	0,9[1]	3,0	2,3	2,3	2,3	2,2	2,0	2,0	1,4	0,3	460 x 604 x 1465	1014.0051.01	4	
Unistat 825w	-85...250	40	0,9[1]	3,0	2,3	2,3	2,3	2,4	2,4	2,4	1,5	0,3	460 x 604 x 1465	1014.0052.01	4	

[1] Integrated VPC pressure control Option: natural refrigerants available on request

Unistat 930w

Unistat 915w



-90 °C
-120 °C

Models
from 3,8 to 36 kW

Model to -90 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	Pump max. VPC (bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 250	200	100	0	-20	-40	-60	-80	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat 905	-90...250	40	0,9[1]	6,0	4,0	4,0	3,8	3,6	3,5	3,5	2,2	0,7	540 x 654 x 1500	1035.0011.01	4	
Unistat 905w	-90...250	40	0,9[1]	6,0	4,5	4,5	4,5	4,5	4,5	4,0	2,5	0,7	540 x 654 x 1500	1035.0012.01	4	
Unistat 912w	-90...250	110	1,5[2]	6,0	7,0	7,0	7,0	7,0	7,0	6,0	3,5	0,9	630 x 704 x 1565	1016.0027.01	4	
Unistat 915w	-90...250	110	1,5[2]	6,0	11,0	11,0	11,0	11,0	11,0	8,0	4,0	1,1	630 x 704 x 1565	1036.0006.01	4	
Unistat 920w	-90...200	90	2,5[2]	12,0	–	11,0	11,0	11,0	11,0	10,0	8,0	2,0	950 x 1205 x 1650	1017.0025.01	4	
Unistat 925w	-90...200	110	2,5[2]	12,0	–	16,0	16,0	16,0	16,0	15,0	13,5	3,5	950 x 1205 x 1650	1017.0026.01	4	
Unistat 930w	-90...200	110	2,5[2]	24,0	–	19,0	19,0	20,0	20,0	20,0	15,0	5,0	950 x 1205 x 1650	1017.0027.01	5	
Unistat 950	-90...200	130	4,0[2]	36,0	–	30,0	30,0	30,0	30,0	30,0	24,0	10,0	3315 x 1485 x 3040	1018.0008.01	5	
Unistat 950w	-90...200	130	4,0[2]	36,0	–	36,0	36,0	36,0	36,0	36,0	25,0	10,0	2630 x 1300 x 1930	1018.0009.01	5	

[1] integrated VPC pressure control [2] VPC pressure control via bypass Option: natural refrigerants available on request

Model to -120 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	Pump max. VPC (bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 100	0	-20	-40	-60	-80	-100	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat 1005w	-120...100	30	0,9[1]	2,0	1,5	1,5	1,5	1,5	1,4	1,4	1,0	700 x 804 x 1520	1019.0009.01	4	
Unistat 1015w	-120...100	44	1,5[2]	4,0	2,5	2,5	2,5	2,5	2,5	2,0	2,0	950 x 1205 x 1650	1020.0010.01	5	

[1] integrated VPC pressure control [2] VPC pressure control via bypass Option: natural refrigerants available on request

High Temperature Circulators

High-precision and space saving temperature control up to +425 °C. The new HT circulators of the Unistat TR401 range set new standards in safety, easy operation, and rapid, dynamic temperature control. The Unistat TR401w HT model features an integral stepper motor to control the HT-Cooling, level protection and configurable overtemperature protection. Its minimal internal volume allows short heat-up times to be achieved, while at the same time the maximum expansion tank temperature is limited to +60 °C. The working life and properties of the thermal fluid are also protected, by avoiding direct contact between the hot fluid and atmosphere.

The HT circulators with controlled HT-Cooling are suitable for temperature control applications up to +425 °C, e.g. a double jacketed reaction vessel (reactor), and pilot plants, as well as the semiconductor industry and high temperature distillation. They are suitable for maintaining constant high temperatures, or to contain an exothermic reaction at high temperature.

Advantages:

- Small space required
- Low fill-volume
- High pump capacity
- Rapid, efficient filling of the complete application – with venting
- +60 °C max. expansion tank temperature
- Plug & Play technology
- Simple operation
- High level of safety through constant monitoring

| Unistat TR401 |

Model	Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 400	300	200	100	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat TR401	50...400	31	0,9[1]	3,0/9,0	–	–	–	–	288 x 379 x 890	1028.0007.01	3	
Unistat TR401w HT	(15) 50...400	26	0,8[1]	3,0/9,0	10,0	10,0	10,0	10,0	288 x 379 x 890	1028.0018.01	3	
Unistat TR402	80...425	31	1,0[1]	3,0/9,0	–	–	–	–	288 x 332 x 870	1028.0006.01	3	

[1] integrated VPC pressure control

Plug & Play
3 years warranty

Unistat T305

Unistat T320w HT

Unistat T340w HT

Model	Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating Power (kW)	Cooling Power (kW) at (°C) 400	300	200	100	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat T305	65...300	45	0,9[1]	3,0/6,0	–	–	–	–	425 x 250 x 631	1003.0021.01	3	
Unistat T305 HT	65...300[3]	45	0,9[1]	3,0/6,0	–	3,2	2,3	0,6	425 x 250 x 631	1003.0020.01	3	
Unistat T305w HT	(15) 65...300	45	0,9[1]	3,0/6,0	–	10,0	10,0	10,0	425 x 250 x 631	1003.0017.01	3	
Unistat T320w HT	(15) 65...300	60	1,5[2]	12,0	–	10,0	10,0	6,0	460 x 554 x 1330	1004.0019.01	35	
Unistat T330	65...300	60	2,5[2]	24,0	–	–	–	–	460 x 554 x 1330	1004.0031.01	35	
Unistat T330w HT	(15) 65...300	60	2,5[2]	24,0	–	10,0	10,0	6,0	460 x 554 x 1330	1004.0025.01	35	
Unistat T340w HT	(15) 65...300	60	2,5[2]	48,0	–	10,0	10,0	6,0	600 x 704 x 1520	1024.0007.01	35	
Unistat T402	80...425	45	0,9[2]	3,0/6,0	–	–	–	–	505 x 400 x 765	1038.0003.01	3	

[1] integrated VPC pressure control [2] VPC pressure control via bypass [3] Lowest working temperature 15 K above ambient temperature

Unistats® „P"

For applications with high pressure drops, e.g. in the Flow-Through chemistry or in the Semicon industry

Unistat P505w

Unistat P810w

The Unistat „P" series are suitable for applications with have been designed with small cross sectional areas, and therefore high pressure drops. These applications require higher pump pressures. A pressure control and associated reduction of the flow rate is not required. These systems can operate with a high flow rate for optimum heat transfer.
Typical applications are found in Flow-Through chemistry and in the Semicon industry.

We have extended our Unistat series with new models „P" (Pressure) for this type of application. They have circulating pumps with high pressures.

Unistat P404

Model	Working Temperature Range (°C)	Pump max. (l/min)	Pump max. (bar)	Heating Power (kW)	Cooling Power (kW) at (°C) * 0	-20	-40	-60	-80	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unistat P404	-45...250	50	3,0	3,5	1,0	0,5	0,05	–	–	460 x 554 x 660	1043.0001.01	35	
Unistat P505	-55...250	50	4,0	6,0	5,3	2,8	0,9	–	–	1200 x 805 x 1493	1044.0004.01	4	
Unistat P505w	-55...250	50	3,0	6,0	5,0	2,2	0,3	–	–	460 x 554 x 1453	1044.0001.01	4	
Unistat P527w	-55...250	90	5,5	12,0	12,0	6,0	2,0	–	–	540 x 704 x 1491	1045.0001.01	4	
Unistat P634w	-60...200	90	5,5	24,0	25,0	23,0	16,0	–	–	950 x 1005 x 1650	1046.0001.01	5	
Unistat P810w	-85...250	50	3,0	3,4	1,5	1,4	1,3	1,1	0,3	460 x 604 x 1465	1047.0001.01	4	
Unistat P904w	-90...250	50	3,0	6,0	4,1	4,1	3,7	2,0	0,3	540 x 654 x 1650	1048.0001.01	4	

* Cooling power data quoted at maximum pump capacity according to DIN 12876

Unistats® in practice

In comparison to conventional thermal control systems, Unistats differ sometimes considerably in their thermodynamic characteristics. In practice Unistats offer definite advantages in your work: noticeably shorter heating and cooling times, better stability and reproducibility through the entire process chain, greater safety for expensive glass reactors and the contained substances, together with simple and easy operation.

Advantages:

1 Process Safety
Unistats provide an option to allow the circulation pump and compressor to continue to work despite an over temperature trip. This allows controlled heat removal and protects your thermally controlled products from being destroyed.

2 De-Gassing
Unistats only require de-gassing after each application set up. As a result uncontrolled conditions during normal operation will be minimised.

3 Hydraulically sealed
Volume changes due to fluid temperature fluctuations are equalised by the expansion vessel. The fluid in the expansion vessel hydraulically seals the fluid circuit and prevents early Oxidation.

4 Touchscreen Colour Display
The large, graphic touchscreen aids operation and shows convenient display of temperature runs directly on the machine. Therefore essential application parameters are always in view.

5 Data-Communication
Unistats offer numerous possibilites for data communication. RS232, Ethernet and USB interfaces are fitted as standard, as well as various analogue interfaces.

6 Temperature Control
The intelligent temperature control TAC analyses the controlled fluid circuit continuously, and adjusts the control parameters automatically. The result is the best control results even with difficult applications.

7 Pressure Control
The pressure control VPC continuously monitors the pressure in the connected application and therefore protects the sensitive glass reactor from breakage.

8 Power / Volume
Unistats have a high power to volume ratio (Watts/Litre). In practice, Unistats offer a very high speed of temperature change in the region of several hundreds of Kelvin per hour.

9 Space saving design
Unistats have a compact design requiring little space. The power to volume ratio (Watts/cm³) according to DIN 12876 documents the extremely small space requirement of the Unistats.

10 Heat Transfer
Powerful circulation pumps and a large hose cross section ensure maximized flow rates and optimum heat transfer.

Explosion proof installations

Two solutions are available for ATEX areas:
The Unistat can be placed in a Stainless Steel Ex px pressure enclosure. Compressed air is pumped in purging the cabinet of any potentially dangerous vapours and creating a pressure slightly above atmospheric to keep potentially explosive vapours out.
An ATEX certified remote control is located in the ATEX zone, controlling the Unistat situated in the safe zone.

Description:
Ex px enclosure for zone 1 with pressure encapsulation to EN 60079-2

Type:
Ex II 2G Ex px II T4 Gb

Features:
- Stainless steel construction
- Standard operation with Pilot ONE
- Temperature monitoring with compressed air cooling
- 1x Pt100 process sensor connection and 1x Ethernet

Please advise us of the zone, explosion sub-group and temperature class when requesting information.

Ex px Enclosure	for Unistat model	Dimensions W x D x H (mm)	Cat.No.	Price
Ex px Enclosure I	425w, 430w, 510w, 515w, 520w, 525w, 527w, 530w, 610w, 615w, 620w, 625w, 815w, 825w, 905w, 912w, 915w, 1005w, T320w HT, T330w HT	990 x 1150 x 1750	10148	
Ex px Enclosure II	630w, 635w, 640w, 920w, 925w, 930w*, 1015w*	1405 x 1349 x 1900	10149	
Ex px Enclosure III	645w, 650w	2250 x 1694 x 2108	10150	
Ex px Enclosure IV	unistat tango w, 405w, 705w, T305w HT	990 x 675 x 970	10151	
Remote Control Unistat II 2G EEx ib IIC T4	all Unistats, Pilot ONE	–	on request	
Ex ia Process Temperature Measurement	all Unistats, Pilot ONE	–	on request	

*on request

Flexible solutions for calibration in production

Unical 700 – Calibration bath for measurement and control sensors

High Precision Calibration

Calibration is a comparison between a measurement system and a reference or standard. During the comparison it is established how large the deviation between the two values or if the value lies within the specified limits. Calibration is normally carried out in accordance with rigorous national or international standards. Meaningful and comparable measurements around the world require calibrated instruments. The quality of measurements is defined in terms of tolerance and repeatability, and is only achievable with the use of calibrated measurement devices or by adjusting sensors. Calibration baths are used in quality management departments of industry and research. The modular concept based on the combination of a calibration bath with a Unistat, which dictates the temperature range and speed of temperature change. The stainless steel calibration bath is designed in a similar format to a calorimeter to ensure temperature homogeneity. Baths with a 118 mm diameter and depth of 384 mm are offered for calibration of measurement and control sensors. The calibration space is freely accessible and symmetrical. The upper edge is designed to allow exact reading of the temperature measured by glass thermometers and also offers a tight seal for the customer specific bath lid. The calibration space of the baths can be customised to suit specific customer requirements.

Advantages

- Temperature stability up to ± 0,002 K
- Temperature homogeneity better than ± 0,01 K
- External overflow vessel
- 5-point calibration of the control sensor

The insulated stainless steel or PTFE bath covers allow for individual data recordings for sensors and thermometers, etc. We can custom design and manufacture the covers to your specifications (additional cost).

See page 83 for the calibration inserts for our bath circulators.

Accessories	Temperature Range (°C)	Cat. No.	G	Price
Bath Covers stainless steel*	-100...300	6367	1	
Bath Covers PTFE*	-100...200	6365	1	

* Additional cost for holes

Model	Temperature Range (°C)	Pump Connection	Dimensions W x D x H (mm)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Cat.No.	G	Price
Unical 700	-100...300	M30x1,5	300 (440*) x 300 x 566	Ø118	384	7,0	9623	3	

* with external overflow vessel (140 mm)

Circulating Chillers / Immersion Coolers

Many applications depend on a reliable source of cooling. Circulating chillers in the Unichiller range offer an ideal solution for environmentally friendly and economical cooling in laboratory and industry. There are over 50 air and water cooled models to choose from, with cooling powers from 0,3 to 50 kW. Efficient energy management in all Huber chillers ensures low operating costs and reduced usage of valuable fresh water. Huber circulating chillers are a resource saving solution with a quick return on investment.

TFT Touch 5,7" Colour Display
Plug & Play Controller
TAC True Adaptive Control
VPC Variable Pressure Control
Easy Control User friendly operation
Programmer with Ramp Functions
Protection+ Level / Overtemperature
Heating Power Options available
CoolNet® max. Cooling Power
Natural Refrigerant
ATEX Version available
USB Ports Remote control & storage
Ethernet Communication via LAN
SpyControl® Control, Visualize, Record

Huber Calendar

Advantages & Functions

- Working temperatures from -25 °C to +100 °C
- High cooling powers up to 50 kW
- Powerful circulation pumps up to 220 l/min
- Modern energy management
- Space saving tower design
- Robust stainless steel construction
- Safe for continuous operation, with alarm and warning functions
- Highly accurate temperature control
- Option for heating / temperatures up to +100 °C
- Extensive features (depending on model) with Pt100 sensor connection, RS232, 5 point calibration, heating, etc.

Typical Applications:

» Cooling of analysis machines
» Electron microscopes
» Distillation systems
» Rotary evaporators
» Soxhlet systems
» X-Ray machines
» Refractometer
» Spectrometers
» Vacuum systems
» Semiconductor industry
» Cooling water supplies
» Gas Chromatographs
» Lasers, optics, LED

Functions and features depend on the model, see chapter "Controllers & Functions" for details.

Huber chillers:

Simple to use, Huber chillers have small footprints, are robust, with modern energy management, flexible functionality and modular technology – these are the results of designs without compromise.

Unichillers are intelligent chillers which can be used as an environmentally friendly and economic alternative to tap water for process cooling. Low temperatures increase efficiency and recovery rates in gas condensation processes. In contrast to tap water a desired setpoint can be selected between -10/-20 °C to +80 °C and controlled with a temperature stability of ±0,5 K. The product range includes 27 air cooled and 26 water cooled models, with cooling powers from 0,3 kW to 50 kW. Most models can be factory fitted with a heater. The casings are made of high quality stainless steel to ensure long life.

Natural Refrigerant!

Minichiller and Unichiller for environmentally friendly refrigeration

Minichiller® and Unichiller®

Unichillers with Pilot ONE
The tower models offer power with small footprints. These models are fitted with the exchangeable Pilot ONE, and are used in both research and production.

Features
- Space saving tower design: small dimensions, high powers
- Robust stainless steel construction
- Reliable continuous operation with alarm and early warning functions
- Pilot ONE with Plug & Play technology
- Splash protection of display
- Large and full colour 5,7" TFT touchscreen
- Digital level indicator
- Simple to fill and drain
- Connections for RS232, USB and Ethernet
- Strong pumps for systems with large pressure drops
- High flow rates for optimal heat transfer
- External Pt100 sensor via 4-wire Lemo connector
- 5-Point calibration
- IP-class to IEC EN 60529: 21
- Options (factory fitted)
  - Heater and adjustable over temperature protection
  - VPC (Variable Pressure Control) with steplessly variable bypass and pressure sensor
  - Winter operation for use in low temperature external environments
  - Weather protection
  - Tropical versions for environmental temperature up to +45 °C
  - Stronger pumps

Heating option

All units (except Minichiller with MPC) can be factory fitted with optional heating and independent over-temperature protection. Increasing the maximum working temperature to +100 °C and the temperature stability to ± 0,2 K. The new construction allows constant operation in ambient temperatures up to +40 °C. The water-cooled models are especially quiet and require little cooling water even at full cooling power. Despite the increasing costs of water the ROI is exceptionally short. All models with maximum pump pressure of 2,5 bar have an adjustable bypass and a pressure gauge.

Pump option

We offer alternative pumps for applications with higher pressure drops. Further information on request.

Minichillers® with MPC®

Small, robust and cost effective with a stainless steel casing. Minichillers are the smallest Unichillers in the world and are an economic and environmentally friendly cooling solution for many laboratory applications. Minichillers are available with air or water-cooled refrigeration systems. They are fitted with an illuminated level indicator, overflow and drain on the front. The filling port is on the top of the unit.

Minichiller 900w

Minichiller 300

Model	Working Temp. Range (°C)	Pump Data Pump max. (l/min)	(bar)	max. Suction (l/min)	(bar)	Cooling Power (kW) at (°C) 15	0	-10	-20	Dimensions W x D x H (mm)	Cat.No.	G	Price
Minichiller 280	-5...40	14	0,25	10,5	0,17	0,28	0,2	–	–	225 x 360 x 380	3006.0101.99	2	
Minichiller 300	-20...40 (80)**	14	0,25	10,5	0,17	0,3	0,2	0,14	0,07	225 x 360 x 380	3006.0063.99	2	
Minichiller 300w	-20...40 (80)**	14	0,25	10,5	0,17	0,3	0,2	0,14	0,07	225 x 360 x 380	3006.0065.99	2	
Minichiller 600*	-20...40	24	0,7	18	0,4	0,6	0,5	0,35	0,15	280 x 490 x 424	3006.0067.99	2	
Minichiller 900w	-25...40	25	0,9	–	–	0,9	0,7	0,4	0,2	230 x 350 x 540	3006.0068.99	2	

* With rollers (rear) ** Permissible temperature in return line +80°C Units use natural refrigerant as standard

Minichillers® with OLÉ

The Minichillers with new OLÉ controller combine state of the art technology with simple operation. OLÉ models are suitable for routine tasks in research and industry and are convincing as practice oriented basic equipment.
They are equipped with USB and RS232 interfaces as standard and have a bright, large OLED display.

| Minichiller 600 OLÉ |

| Minichiller 280 OLÉ |

Model	Working Temp. Range (°C)	Pump Data Pump max. (l/min)	(bar)	max. Suction (l/min)	(bar)	Cooling Power (kW) at (°C) 15	0	-10	-20	Dimensions W x D x H (mm)	Cat.No.	G	Price
Minichiller 280 OLÉ	-5...40	14	0,25	10,5	0,17	0,28	0,2	–	–	225 x 360 x 380	3006.0105.98	2	
Minichiller 300 OLÉ	-20...40 (80)**	14	0,25	10,5	0,17	0,3	0,2	0,14	0,07	225 x 360 x 380	3006.0089.98	2	
Minichiller 300w OLÉ	-20...40 (80)**	14	0,25	10,5	0,17	0,3	0,2	0,14	0,07	225 x 360 x 380	3006.0090.98	2	
Minichiller 600 OLÉ*	-20...40	24	0,7	18	0,4	0,6	0,5	0,35	0,15	280 x 490 x 424	3006.0098.98	2	
Minichiller 900w OLÉ	-25...40	25	0,9	–	–	0,9	0,7	0,4	0,2	230 x 350 x 540	3006.0100.98	2	

* With rollers (rear) ** Permissible temperature in return line +80°C Units use natural refrigerant as standard Option: Heating 1 kW (Minichiller 600: 2 kW) (additional cost)

Unichillers® with OLÉ

| Unichiller 007 OLÉ |

| Unichiller 022w OLÉ |

Model	Working Temp. Range (°C)	Pump max. (l/min)	Pump max. (bar)	Cooling Power (kW) at (°C) 15	0	-10	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller 007 OLÉ	-20...40	29	1,0	0,7	0,55	0,4	350 x 496 x 622	3012.0120.98	3	
Unichiller 010 OLÉ	-20...40	29	1,0	1,0	0,8	0,5	350 x 496 x 622	3012.0124.98	3	
Unichiller 012 OLÉ	-20...40	29	1,0	1,2	1,0	0,7	420 x 487 x 579	3009.0090.98	3	
Unichiller 012w OLÉ	-20...40	29	1,0	1,2	1,0	0,7	350 x 496 x 622	3012.0133.98	3	
Unichiller 015 OLÉ	-20...40	29	1,0	1,5	1,0	0,7	420 x 487 x 579	3009.0094.98	3	
Unichiller 015w OLÉ	-20...40	29	1,0	1,5	1,0	0,7	350 x 496 x 622	3012.0137.98	3	
Unichiller 022 OLÉ	-10...40	29	1,0	2,2	1,6	1,0	460 x 590 x 743	3010.0050.98	3	
Unichiller 022w OLÉ	-10...40	29	1,0	2,2	1,6	1,0	420 x 487 x 579	3009.0098.98	3	
Unichiller 025 OLÉ	-10...40	29	1,0	2,5	2,0	1,2	460 x 590 x 743	3010.0054.98	3	
Unichiller 025w OLÉ	-10...40	29	1,0	2,5	2,0	1,2	420 x 487 x 579	3009.0102.98	3	

Options on request: Heating, Natural refrigerants

Model with high pressure pump	Working Temp. Range (°C)	Pump max. (l/min)	Pump max. (bar)	Cooling Power (kW) at (°C) 15	0	-10	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller P007 OLÉ	-20...40	25	2,5	0,7	0,55	0,4	350 x 496 x 622	3012.0161.98	3	
Unichiller P010 OLÉ	-20...40	25	2,5	1,0	0,8	0,5	350 x 496 x 622	3012.0163.98	3	
Unichiller P012 OLÉ	-20...40	25	2,5	1,2	1,0	0,7	420 x 487 x 579	3009.0115.98	3	
Unichiller P012w OLÉ	-20...40	25	2,5	1,2	1,0	0,7	350 x 496 x 622	3012.0165.98	3	
Unichiller P015 OLÉ	-20...40	25	2,5	1,5	1,0	0,7	420 x 487 x 579	3009.0117.98	3	
Unichiller P015w OLÉ	-20...40	25	2,5	1,5	1,0	0,7	350 x 496 x 622	3012.0167.98	3	
Unichiller P022 OLÉ	-10...40	25	2,5	2,2	1,6	1,0	460 x 590 x 743	3010.0064.98	3	
Unichiller P022w OLÉ	-10...40	25	2,5	2,2	1,6	1,0	420 x 487 x 579	3009.0119.98	3	
Unichiller P025 OLÉ	-10...40	25	2,5	2,5	2,0	1,2	460 x 590 x 743	3010.0066.98	3	
Unichiller P025w OLÉ	-10...40	25	2,5	2,5	2,0	1,2	420 x 487 x 579	3009.0121.98	3	

Options on request: Heating, Natural refrigerants, EO models (for externally open applications)

Unichillers® with Pilot ONE®

| Unichiller 015-H |

| Unichiller 012w |

Model	Working Temp. Range (°C)	Pump max. (l/min)	Pump max. (bar)	Cooling Power (kW) at (°C) 15	0	-10	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller 007	-20...40	29	1,0	0,7	0,55	0,4	350 x 496 x 622	3012.0189.01	3	
Unichiller 010	-20...40	29	1,0	1,0	0,8	0,5	350 x 496 x 622	3012.0191.01	3	
Unichiller 012	-20...40	29	1,0	1,2	1,0	0,7	420 x 487 x 579	3009.0145.01	3	
Unichiller 012w	-20...40	29	1,0	1,2	1,0	0,7	350 x 496 x 622	3012.0193.01	3	
Unichiller 015	-20...40	29	1,0	1,5	1,0	0,7	420 x 487 x 579	3009.0147.01	3	
Unichiller 015w	-20...40	29	1,0	1,5	1,0	0,7	350 x 496 x 622	3012.0195.01	3	
Unichiller 022	-10...40	29	1,0	2,2	1,6	1,0	460 x 590 x 743	3010.0081.01	3	
Unichiller 022w	-10...40	29	1,0	2,2	1,6	1,0	420 x 487 x 579	3009.0149.01	3	
Unichiller 025	-10...40	29	1,0	2,5	2,0	1,2	460 x 590 x 743	3010.0083.01	3	
Unichiller 025w	-10...40	29	1,0	2,5	2,0	1,2	420 x 487 x 579	3009.0151.01	3	

Options on request: Heating, Natural refrigerants

Model with high pressure pump	Working Temp. Range (°C)	Pump max. (l/min)	Pump max. (bar)	Cooling Power (kW) at (°C) 15	0	-10	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller P007	-20...40	25	2,5	0,7	0,55	0,4	350 x 496 x 622	3012.0169.01	3	
Unichiller P010	-20...40	25	2,5	1,0	0,8	0,5	350 x 496 x 622	3012.0171.01	3	
Unichiller P012	-20...40	25	2,5	1,2	1,0	0,7	420 x 487 x 579	3009.0123.01	3	
Unichiller P012w	-20...40	25	2,5	1,2	1,0	0,7	350 x 496 x 622	3012.0173.01	3	
Unichiller P015	-20...40	25	2,5	1,5	1,0	0,7	420 x 487 x 579	3009.0125.01	3	
Unichiller P015w	-20...40	25	2,5	1,5	1,0	0,7	350 x 496 x 622	3012.0175.01	3	
Unichiller P022	-10...40	25	2,5	2,2	1,6	1,0	460 x 590 x 743	3010.0068.01	3	
Unichiller P022w	-10...40	25	2,5	2,2	1,6	1,0	420 x 487 x 579	3009.0127.01	3	
Unichiller P025	-10...40	25	2,5	2,5	2,0	1,2	460 x 590 x 743	3010.0070.01	3	
Unichiller P025w	-10...40	25	2,5	2,5	2,0	1,2	420 x 487 x 579	3009.0129.01	3	

Options on request: Heating, Natural refrigerants, EO models (for externally open applications)

Unichillers®
with air cooled refrigeration

| Unichiller 045T |

| Unichiller 110T |

[kW] to 40 kW

air cooled models
from 0,7 to 40 kW

Model	Working Temp. Range (°C)	Pump max. Type	(l/min)	(bar)	Cooling Power (kW) at (°C) 15	0	-10	-20	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller 017T	-10...40	B	25	3,0	1,7	0,9	0,4	–	450 x 510 x 1230	3013.0001.01	3	
Unichiller 020T	-20...40	B	25	3,0	2,0	2,0	1,5	0,8	450 x 510 x 1230	3013.0002.01	3	
Unichiller 025T	-10...40	B	25	3,0	2,5	1,2	0,6	–	450 x 510 x 1230	3013.0003.01	3	
Unichiller 040T	-10...40	B	26	3,0	4,0	2,5	1,5	–	500 x 552 x 1451	3014.0001.01	3	
Unichiller 045T	-20...40	B	26	3,0	4,5	4,5	2,9	1,5	500 x 552 x 1451	3014.0002.01	3	
Unichiller 055T	-10...40	C3	57	5,6	5,5	3,0	1,3	–	600 x 692 x 1613	3015.0042.01	3	
Unichiller 060T	-20...40	C3	80	5,6	6,0	6,0	3,9	2,0	600 x 692 x 1613	3015.0044.01	3	
Unichiller 080T	-10...40	C3	84	5,6	8,0	4,8	2,5	–	600 x 790 x 1614	3016.0001.01	3	
Unichiller 100T	-20...40	C3	96	5,6	10,0	10,0	6,5	2,5	600 x 790 x 1614	3017.0001.01	4	
Unichiller 110T	-10...40	C3	90	5,6	11,0	6,0	2,7	–	600 x 790 x 1614	3017.0002.01	4	
Unichiller 130T*	-10...40	C3	90	5,6	13,0	7,0	4,5	–	905 x 1582 x 1837	3018.0012.01	4	
Unichiller 150T*	-20...40	D3	220	4,7	15,0	15,0	9,7	3,7	905 x 1582 x 1837	3019.0020.01	4	
Unichiller 160T*	-10...40	C3	96	5,6	16,0	8,8	4,0	–	905 x 1582 x 1837	3018.0013.01	4	
Unichiller 200T*	-10...40	D3	220	4,7	20,0	11,0	5,0	–	905 x 1582 x 1837	3019.0026.01	4	
Unichiller 210T*	-20...40	D3	220	4,7	21,0	21,0	13,6	5,2	904 x 2172 x 1870	3020.0001.01	4	
Unichiller 250T*	-10...40	D3	220	4,7	25,0	14,0	6,2	–	904 x 2172 x 1870	3020.0002.01	5	
Unichiller 260T*	-20...40	D3	220	4,7	26,0	26,0	13,6	5,2	904 x 2172 x 1870	3020.0003.01	5	
Unichiller 300T*	-10...40	D3	220	4,7	30,0	16,5	7,5	–	904 x 2172 x 1870	3020.0004.01	5	
Unichiller 400T*	-10...40	D3	220	4,6	40,0	22,0	10,0	–	904 x 2172 x 1870	3021.0001.01	5	

* without rollers Option: Heating 2 kW to +100 °C (additional cost) EO Models (for externally open applications) on request Option: natural refrigerant available on request

Unichillers®
with water cooled refrigeration

[kW] to 50 kW
water cooled models
from 1,2 to 50 kW

| Unichiller 025Tw |

| Unichiller 130Tw |

Model	Working Temp. Range (°C)	Pump max. Type	(l/min)	(bar)	Cooling Power (kW) at (°C) 15	0	-10	-20	Dimensions W x D x H (mm)	Cat.No.	G	Price
Unichiller 017Tw	-10...40	B	25	3,0	1,7	0,9	0,4	–	400 x 440 x 1230	3024.0021.01	3	
Unichiller 020Tw	-20...40	B	25	3,0	2,0	2,0	1,5	0,8	400 x 440 x 1230	3024.0025.01	3	
Unichiller 025Tw	-10...40	B	25	3,0	2,5	1,2	0,6	–	400 x 440 x 1230	3024.0031.01	3	
Unichiller 030Tw	-20...40	B	26	3,0	3,0	3,0	2,0	1,0	400 x 440 x 1230	3025.0022.01	3	
Unichiller 040Tw	-10...40	B	26	3,0	4,0	2,5	1,5	–	400 x 440 x 1230	3025.0033.01	3	
Unichiller 055Tw	-10...40	C3	57	5,6	5,5	4,0	2,0	–	500 x 552 x 1261	3026.0001.01	3	
Unichiller 060Tw	-20...40	C3	80	5,6	6,0	6,0	3,8	2,1	500 x 552 x 1261	3026.0002.01	3	
Unichiller 080Tw	-10...40	C3	84	5,6	8,0	4,65	2,35	–	500 x 552 x 1261	3026.0003.01	3	
Unichiller 100Tw	-20...40	C3	96	5,6	10,0	10,0	6,3	3,0	600 x 600 x 1450	3027.0001.01	4	
Unichiller 110Tw	-10...40	C3	90	5,6	11,0	5,8	2,55	–	600 x 600 x 1450	3027.0002.01	4	
Unichiller 130Tw	-10...40	C3	96	5,6	13,0	7,0	4,5	–	600 x 600 x 1450	3027.0003.01	4	
Unichiller 150Tw	-20...40	D3	200	4,7	15,0	15,0	10,0	5,0	760 x 800 x 1560	3028.0001.01	4	
Unichiller 160Tw	-10...40	C3	96	5,6	16,0	9,5	5,5	–	600 x 600 x 1450	3027.0004.01	4	
Unichiller 200Tw	-10...40	D3	200	4,7	20,0	10,7	4,7	–	760 x 800 x 1560	3028.0002.01	4	
Unichiller 210Tw	-20...40	D3	200	4,7	21,0	21,0	15,5	9,5	760 x 800 x 1560	3028.0003.01	4	
Unichiller 250Tw	-10...40	D3	200	4,7	25,0	14,0	6,2	–	760 x 800 x 1560	3028.0004.01	5	
Unichiller 260Tw	-20...40	D3	210	4,7	26,0	26,0	20,0	12,0	760 x 800 x 1560	3028.0005.01	5	
Unichiller 300Tw	-10...40	D3	210	4,7	30,0	16,0	7,1	–	760 x 900 x 1560	3029.0001.01	5	
Unichiller 400Tw	-10...40	D3	210	4,7	40,0	21,0	10,0	–	760 x 900 x 1560	3029.0002.01	5	
Unichiller 500Tw*	-10...40	D3	220	4,7	50,0	30,0	–	–	1000 x 1103 x 1580	3030.0001.01	5	

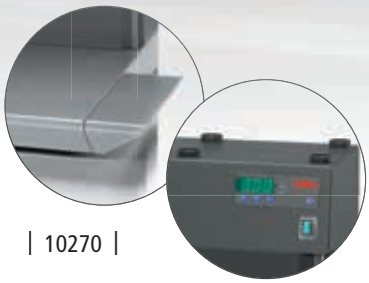
* without rollers Option: Heating 2 kW to +100 °C (additional cost) EO Models (for externally open applications) on request Option: natural refrigerant available on request

RotaCool®

This chiller in space saving L-shape is especially designed for rotary evaporators. The additional space required on the laboratory table is zero! Abracadabra: the RotaCool virtually disappears completely when the rotary evaporator is placed on it. the RotaCool is a product to provide a dedicated cooling service to all small bench top rotary evaporators.

Natural Refrigerant!

ECO FRIENDLY



| 10270 |

| 10275 |

Accessories	Cat. No.	G	Price
Additional extension plate (112 mm)	10270	1	
Vacuum pump mounting	10275	1	

Model	Working Temp. Range (°C)	Cooling Power (kW) at (°C) 15	0	-10	Pump Data Pump max. (l/min)	(bar)	max. Suction (l/min)	(bar)	Dimensions W x D x H (mm)	Cat.No.	G	Price
RotaCool	-10...40	0,42	0,35	0,22	14	0,25	10,5	0,17	470 x 580 x 420	3033.0007.99	3	

Natural refrigerant as standard

DC30

Flow-through Chillers

Flow-through Chillers are designed for simple, low demand cooling applications. They are commonly used in combination with the CC-202C or CC-205B series to remove heat in order to cool a process back to room temperature.

Model	Working Temp. Range (°C)	Cooling Power (kW) at 15°C	0°C	-20°C	Dimensions W x D x H (mm)	Cat.No.	G	Price
DC30	-30...50	0,2	0,15	0,07	190 x 250 x 360	3000.0001.99	2	
DC31	-30...50	0,4	0,35	0,10	250 x 310 x 400	3001.0001.99	2	
DC32	-30...50	0,6	0,47	0,12	280 x 340 x 460	3002.0001.99	2	

All units use natural refrigerant as standard

Immersion Coolers

"Dip" or "Immersion" coolers are ideal for simple cooling applications when low temperatures are required such as vapour traps or for cooling individual flasks. They are also commonly used to remove heat from the baths in the "A" and "B" series. The units with an "E" have the capability to control the temperature to a stability of +/- 0,5 K to DIN 12876. All models can be delivered with a flexible evaporator coil (no extra cost). The model name and Cat.No. have the suffix "F". Flexible probes & custom probes available.

TC100E | TC50 | TC45-F

Model	Working Temperature Range (°C)	Cooling Power (kW) at 0°C	-20°C	-30°C	-90°C	Dimensions W x D x H (mm)	Cat.No. "Standard"	Cat.No. with flexible evaporator	G	Price
TC45	-45...100	0,24	0,18	0,1	–	190 x 295 x 360	3003.0001.99	3003.0003.99	2	
TC45E	-45...100	0,24	0,18	0,1	–	190 x 295 x 360	3003.0002.99	3003.0004.99	2	
TC50	-50...50	0,3	0,26	0,2	–	260 x 330 x 415	3004.0001.99	3004.0003.99	2	
TC50E	-50...50	0,3	0,26	0,2	–	260 x 330 x 415	3004.0002.99	3004.0004.99	2	
TC100	-100...40	0,16	0,15	0,14	0,07	295 x 500 x 570	3005.0043.99	3005.0045.99	2	
TC100E	-100...40	0,16	0,15	0,14	0,07	295 x 500 x 570	3005.0044.99	3005.0046.99	2	

All units use natural refrigerant as standard

Hotbox

The Hotbox is a heating circulator with Pilot ONE for thermoregulation of externally open applications. With its compact form the Hotbox is ideal for installation in production systems. The Hotbox has a stainless steel pump and adjustable over temperature protection complying with DIN 12876.

| Application example |

| HB120 |

Model	Working Temperature Range (°C)	Connection	Pump Flow Rate (l/min)	max. Pressure (bar)	Heating Power (kW)	Dimensions W x D x H (mm)	Cat.No.	G	Price
HB45	45...250	M24x1,5	55	0,9	4,5	185 x 440 x 405	2030.0001.01	3	
HB60	60...250	M30x1,5	90	2,5	6,0	323 x 451 x 498	2031.0004.01	3	
HB120	60...250	M30x1,5	100	2,5	12,0	323 x 451 x 498	2031.0003.01	3	

Heat Transfer Station (HTS)

The HTS has no mechanical refrigeration but is fitted with a circulation pump, a plate heat exchanger and the Pilot ONE controller*. This compact circulator provides low cost cooling with a predictably stable pressure and flow to the application. As no mechanical refrigeration system is fitted (compressor etc.), the machine is silent, efficient and energy saving. It offers an economic alternative to standard circulators when a chilled water supply is already available. The HTS heat exchanger is suited for temperature control of bio reactors, condensers, rotary evaporators, vapour traps etc.

Advantages: Models HTS PS3-PS15

- Efficient circulation pump
- Pilot ONE controller
- RS232 interface
- Pt100 external sensor connection
- Efficient thermal transfer
- Low cooling water usage
- Application protection with cooling stage separation

***Model HTS PS1**
This model includes the heat exchanger system, but is not equipped with the Pilot ONE controller. This unit is suitable for less demanding applications.

HTS PS5

Model	Operating Temperature Range (°C)	Pump Flow Rate (l/min)	Pump max. Pressure (bar)	Cooling Power[3] at 20°C (kW)	Heating Power OPTIONAL (max. kW)[4]	Dimensions W x D x H (mm)	Cat.No.	G	Price
HTS PS1[1]	(5)...(80)[2]	8	0,2	0,6	–	280 x 427 x 414	3011.0008.99	2	
HTS PS3	(3)...(95)[2]	33	0,7	3,0	2,0	280 x 491 x 414	3011.0001.01	3	
HTS PS5	(3)...(95)[2]	25	2,5	5,0	2,0	280 x 491 x 414	3011.0006.01	3	
HTS PS6	(3)...(95)[2]	25	2,5	6,0	10,0	400 x 491 x 529	3011.0002.01	3	
HTS PS15	(3)...(95)[2]	25	2,5	15,0	10,0	400 x 491 x 529	3011.0024.01	4	

[1] air cooled [2] Auxiliary cooling/heating device required (see glossary „Working Temperature Range") [3] Cooling power data measured with cooling water-inlet temperature of 10 °C and 2 bar
[4] Optionally available on request with heating and over temperature protection

Baths and Circulators

The circulators are split into two product lines, the Compatible Control models and the simpler KISS models. Both product lines represent classically constructed laboratory circulators with open baths. Baths and circulators for heating applications up to +300 °C are available, as well as models for heating and cooling applications from -90 °C to +200 °C. Immersion or bridge circulators are suitable for thermal control of existing baths. The Ministat, the smallest cooling and heating circulator in the world, is the first choice for operation in fume-hoods or integrating into systems.

TFT Touch 5,7" Colour Display
Plug & Play Controller
TAC True Adaptive Control
VPC Variable Pressure Control
Easy Control User friendly operation
Programmer with Ramp Functions
Protection+ Level / Overtemperature
Heating Power Options available
CoolNet® max. Cooling Power
Natural Refrigerant
ATEX Version available
USB Ports Remote control & storage
Ethernet Communication via LAN
SpyControl® Control, Visualize, Record

Huber Calendar

Advantages & Functions

- Working temperatures from -90 °C to +300 °C
- Models for internal and external temperature control
- High heating and cooling powers up to 7 kW
- Powerful controllable circulation pumps
- Function expansion with the E-grade system is available at any time
- High precision cascade temperature control
- Large and full colour 5,7" TFT touchscreen
- Programmer with calendar / clock function
- Extended range of languages including a selection of European and Asian
- Comprehensive warning and safety functions

Typical Applications:

» Temperature control of samples
» Materials testing
» Analysis, life sciences, medicine
» Distillation systems
» Miniplant
» Autoclaves
» Calibration
» Petroleum tests
» Temperature control of test equipment
» Quality control
» Process technology
» Cosmetics, foodstuffs

Functions and features depend on the model, see chapter "Controllers & Functions" for details.

Modern Classics: Bath

Compatible Control Circulators are modern classics. Plug & Play technology has spread throughout the world since 1980.

Circulators

Compatible Control circulators are classic constructions. The pump, control sensor, heater and evaporator are all located at the back part of the bath. This allows the use of both, optional calibration inserts for high precision calibration and also displacement inserts for increasing system temperature dynamics.

KISS – Temperature control made easy
The new KISS circulators combine modern technology with easy operation and are suited for routine lab applications from -30 to +200 °C. The menu navigation via the OLED display is easy and self-explanatory. KISS circulators are equipped with a USB and RS232 interface as standard. Optionally (factory fitted), an additional connection socket for a Pt100 sensor is available.

State of the art pump technology: The top range models with the Pilot ONE have powerful pressure and suction pumps. The pump speed can be controlled steplessly to suit the bath configuration.

Robust construction: The thermoregulation bath is welded to the unit cover plate. This means that no seal is required and offers lifelong protection to the insulation. The cover plate is also thermoregulated to avoid condensation or ice formation.

Chic: Circulator with stainless steel casing with exchangeable Pilot ONE or as low-cost alternative with the KISS controller

Pilot ONE with TFT-display and Plug & Play technology

Hot and Cold: Compatible Control heating circulators operate up to +300 °C and with heating powers up to 4 kW.
Cooling bath circulators are available with working ranges between -90 °C and +200 °C. The Ministat is the smallest cooling circulator in the world that actively cools at +200 °C.
Active Cooling Control – permanent operation of the refrigeration system at the maximum working temperature. This has been a feature of all Compatible Control refrigerated circulators since 1976.

Environmentally friendly refrigeration: All refrigeration machines have automatic cooling power control and thereby reduce energy consumption and heat emission to an absolute minimum. Water-cooled models typically use approximately one third of the cooling water required by other circulators. Huber refrigeration machines stopped using CFCs and HCFCs (R22) years before the prohibition and therefore have an ozone depletion potential (ODP) of zero. In addtion, to bring the greenhouse effect to zero, Compatible Control circulators are available with natural refrigerants.

Natural Refrigerant! ECO FRIENDLY

The facts are convincing!

Large power to HTF volume ratio (W/dm³): Unusually large cooling powers, even at low temperatures, and a compact form result in large power to HTF volume ratios.

High cooling power density (W/L): Many bath circulators are suitable for displacement inserts allowing unusually high cooling power density and corresponding rapid temperature changes even at low temperatures.

Stainless steel casings: Quality and chic – stainless steel and little paint.

Air-cooled or water-cooled: The larger water-cooled units use typically two thirds the amount of cooling water used by conventional units. Intorduced in 1997 the CC-410wl was the first cooling circulator in the world that offered an automatic change over from air or water cooling. In summer economic use of water – in winter air-cooled operation for heating the lab.

Safety first: No compromise with safety! The requirements of the highest safety classification (III/FL) to DIN 12876 are achieved through level protection and an adjustable independent overtemperature protection.

Infinitely variable: The simple versions are typical bath circulators, and as the name suggests mostly used for direct thermoregulation in the bath. They comprise of an immersion circulator and a bath. The bath is available in different sizes and materials. The polycarbonate baths (A) are transparent with operating temperatures up to +100 °C. The insulated stainless steel baths (B) have a maximum working temperature of +200 °C. The simple circulators comprise of an immersion circulator (CC-E or KISS E) and a cooling bath (K).

KISS circulators are available in three colour options: grey (standard), red and blue.

Heating Circulators with Polycarbonate baths

The transparent polycarbonate baths are suitable for use up to +100 °C. An Immersion circulator is mounted on the bath bridge for all models. With a pump adaptor, this combination can also be used with external, closed applications. The models with the Pilot ONE have a variable speed pressure/suction pump and are therefore also suitable for externally open applications. The temperature stability, in accordance with DIN 12876, is 0,02 K for the Compatible Control models and 0,05 K for the KISS models.

CC-118A

Immersion Circulators

Immersion thermostats are the basis for many device combinations with polycarbonate or stainless steel bath vessels. There is a universally usable screw clamp in the scope of delivery for the thermostats to be very easily mounted on any desired vessels. Negative temperatures of down to -30°C can be realised in combination with a cooling bath. All models are fitted with a powerful pressure/suction pump and meet the requirements of safety class III (FL) for use with flammable fluids. A pump adapter for external temperature control and cooling coils for a cooling water connection can be obtained as accessories.

CC-E

KISS E

Model	Temperature Range (°C)	Temperature Stability[1] (K)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Safety Class[2]	Dimensions W x D x H / ID[3] (mm)	Cat.No.	G	Price
CC-E	(-30)* 25...200	0,02	2,0	27	0,7	22	0,4	FL, III	132 x 159 x 315/150	2000.0023.01	1	
KISS E	(-30)* 25...200	0,05	2,0	14	0,25	10,5	0,17	FL, III	132 x 163 x 312/150	2035.0012.98	1	
CC-E xd	(-30)* 25...200	0,02	2,0	22	0,4	17	0,25	FL, III	132 x 159 x 360/195	2000.0005.01	1	

[1] to DIN 12876, measured in a stainless steel tank 12 litres
[2] FL for flammable liquids, III = adjustable overtemperature protection and addition low-liquid level protection
[3] Immersion Depth
* Auxiliary cooling device required (see glossary „Working Temperature Range")

Plug & Play

3 years warranty

CC-112A | CC-110A | CC-108A | CC-106A

KISS 118A | KISS 112A | KISS 110A | KISS 108A | KISS 106A

Model	Temperature Range (°C)	Heating Power (kW)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-106A	(15)* 25...100	2,0	130 x 110	150	6	27	0,7	22	0,4	147 x 307 x 330	2001.0001.01	1	
KISS 106A	(15)* 25...100	2,0	130 x 110	150	6	14	0,25	10,5	0,17	147 x 307 x 330	2037.0043.98	1	
CC-108A	(15)* 25...100	2,0	130 x 210	150	8	27	0,7	22	0,4	147 x 407 x 330	2001.0002.01	1	
KISS 108A	(15)* 25...100	2,0	130 x 210	150	8	14	0,25	10,5	0,17	147 x 407 x 330	2037.0045.98	1	
CC-110A	(15)* 25...100	2,0	130 x 310	150	10	27	0,7	22	0,4	147 x 507 x 330	2001.0003.01	1	
KISS 110A	(15)* 25...100	2,0	130 x 310	150	10	14	0,25	10,5	0,17	147 x 507 x 330	2037.0047.98	1	
CC-112A	(15)* 25...100	2,0	275 x 161	150	12	27	0,7	22	0,4	333 x 360 x 335	2001.0004.01	1	
KISS 112A	(15)* 25...100	2,0	275 x 161	150	12	14	0,25	10,5	0,17	333 x 360 x 335	2037.0049.98	1	
CC-118A	(15)* 25...100	2,0	275 x 321	150	18	27	0,7	22	0,4	333 x 520 x 335	2001.0005.01	1	
KISS 118A	(15)* 25...100	2,0	275 x 321	150	18	14	0,25	10,5	0,17	333 x 520 x 335	2037.0051.98	1	

* Auxiliary cooling device required (see glossary „Working Temperature Range“)

Safety class III/FL

Heating Circulators with stainless steel baths

The insulated stainless steel baths are suitable for use up to +200 °C. All models have a bridge mounted CC-E or KISS-E immersion circulator. With a pump adaptor, this combination can also be used with externally closed and externally open* applications. The temperature stability is 0,02 K for CC-E and 0,05 K for KISS-E to DIN 12876.
The models with the Pilot ONE have a variable speed pressure/suction pump and are therefore also suitable for external open applications.

*with option level control

Model	Temperature Range (°C)	Heating Power (kW)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-208B	(-30)* 25...200	2,0	230 x 127	150	8,5	27	0,7	22	0,4	290 x 350 x 375	2002.0001.01	1	
KISS 208B	(-30)* 25...200	2,0	230 x 127	150	8,5	14	0,25	10,5	0,17	290 x 350 x 375	2038.0053.98	1	
CC-212B	(-30)* 25...200	2,0	290 x 152	150	12	27	0,7	22	0,4	350 x 375 x 375	2002.0002.01	1	
KISS 212B	(-30)* 25...200	2,0	290 x 152	150	12	14	0,25	10,5	0,17	350 x 375 x 375	2038.0052.98	1	
CC-215B	(-30)* 25...200	2,0	290 x 152	200	15	27	0,7	22	0,4	350 x 375 x 425	2002.0003.01	1	
KISS 215B	(-30)* 25...200	2,0	290 x 152	200	15	14	0,25	10,5	0,17	350 x 375 x 425	2038.0051.98	1	
CC-220B	(-30)* 25...200	2,0	290 x 329	150	20	27	0,7	22	0,4	350 x 555 x 375	2002.0004.01	1	
KISS 220B	(-30)* 25...200	2,0	290 x 329	150	20	14	0,25	10,5	0,17	350 x 555 x 375	2038.0050.98	1	
CC-225B	(-30)* 25...200	2,0	290 x 329	200	25	27	0,7	22	0,4	350 x 555 x 425	2002.0005.01	1	
KISS 225B	(-30)* 25...200	2,0	290 x 329	200	25	14	0,25	10,5	0,17	350 x 555 x 425	2038.0049.98	1	

* Auxiliary cooling device required (see glossary „Working Temperature Range")

CC-225B

KISS 104A

CC-202C

Heating Circulators

Good things come in small packages! Thanks to their low bath volumes the models CC-104A and KISS 104A (with polycarbonate bath) as well as the CC-202C and KISS 202C (with stainless steel bath) are especially suitable for controlling the temperature of small external applications. All models are fitted with rear mounted M16x1 pump connections as standard. Models with the Pilot ONE have a speed regulated pressure/suction pump. The temperature constancy, in accordance with DIN 12876, is 0,02 K with the Compatible Control models and 0,05 K for the KISS models.

Model	Temperature Range (°C)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-104A	(15)* 25...100	Ø25	150	4	2,0	27	0,7	22	0,4	147 x 235 x 330	2001.0016.01	1	
KISS 104A	(15)* 25...100	Ø25	150	4	2,0	14	0,25	10,5	0,17	147 x 235 x 330	2037.0040.98	1	
CC-202C	(-30)* 45...200	Ø25	150	2	2,0	27	0,7	22	0,4	178 x 260 x 355	2003.0001.01	1	
KISS 202C	(-30)* 45...200	Ø25	150	2	2,0	14	0,25	10,5	0,17	178 x 260 x 355	2039.0012.98	1	

* Auxiliary cooling device required (see glossary „Working Temperature Range")
Models CC-202C and KISS 202C are fitted with an integrated cooling coil as standard. With the models CC-104A and KISS 104A the cooling coil is an optional extra.

| CC-130A Visco 3 |

| Holder for Ubbelohde Viscosimeter for Visco 3 (Cat.No. 9586) |

Visco Baths

The "viscosity baths" are designed for capillary viscometery and density measurements. They are constructed from transparent polycarbonate and are suitable for temperatures up to +100 °C. They have a cooling coil for connection to a cooling source (e.g. a Minichiller) to provide cooling. Various functions can be activated via E-grade.
The Visco 3-Model features a steel cover to facilitate three measurement inserts of 90 x 90 mm.
The Visco 5-Model is fitted with a steel cover with five Ø 51 mm openings.

Model	Temperature Range (°C)	Heating Power (kW)	Opening W x D (mm)	Bath Depth (mm)	Volume (ltr)	Pressure pump Pressure (l/min)	Pressure pump max. (bar)	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-130A Visco 3	(15)* 28...100	2,0	90 x 90	310	30	27	0,7	500 x 240 x 490	2001.0006.01	1	
CC-130A Visco 5	(15)* 28...100	2,0	Ø 51	310	30	27	0,7	500 x 240 x 490	2001.0007.01	1	

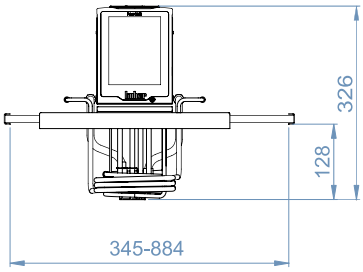
* Auxiliary cooling device required (see glossary „Working Temperature Range")

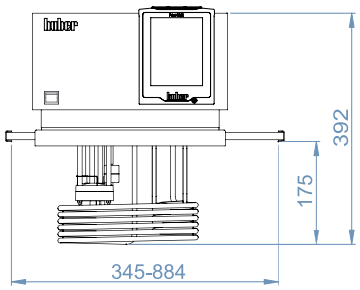
without accessories

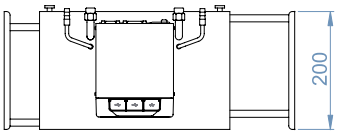
VPC
Variable Pressure Control

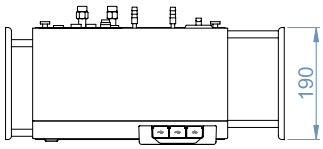
| CC-200BX |

| CC-300BX |









Bridge Circulators

The bridge circulators are suitable for use with a range of baths. The variable speed pressure/suction pump with VPC technology is ideal for external thermoregulation applications. Models with bigger heating capacities are suitable for larger baths. The telescopic arms can be extended up to 884 mm.

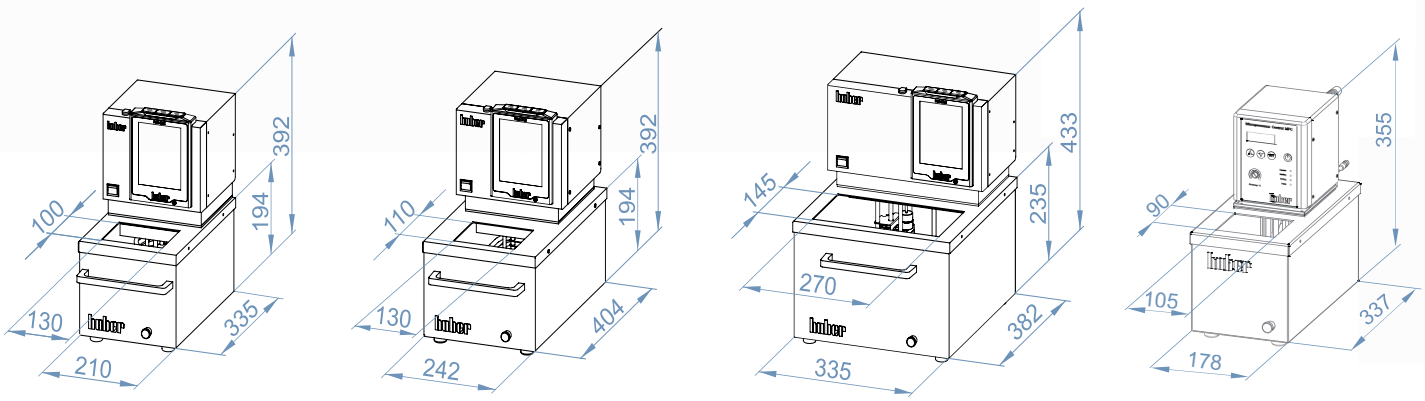
Model	Temperature Range (°C)	Heating Power (kW)	Temperature Stability** (K)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cat.No.	G	Price
CC-200BX	(-20)* 28...200	2,0	0,02	27	0,7	22	0,4	2000.0003.01	1	
CC-300BX	(-20)* 28...300	3,0/4,0	0,02	25	0,7	18,5	0,4	2007.0002.01	1	

* Auxiliary cooling device required (see glossary „Working Temperature Range“) **to DIN 12876

Heating Bath Circulators

Heating baths circulators are suitable for temperatures up to +200 °C or +300 °C depending on model. The Compatible Control models have a continuously variable pressure and suction pump. The pump pressure can be controlled with an optional pressure sensor, and so can protect your valuable glass-ware from breakage. The machines are preferred and used for temperature control of externally connected applications. Additionally there is the possibility to control the temperature of objects placed directly in the open bath.

CC-304B | CC-308B | CC-315B | KISS 205B



Model	Temperature Range (°C)	Bath Volume (ltr)	Bath Depth (mm)	Heating Power (kW)	Temperature Stability to DIN 12876 (K)	Pump Data max. Pressure (l/min)	(bar)	max. Suction (l/min)	(bar)	Cat.No.	G	Price
CC-205B	(-30)* 45...200	5,0	150	2,0	0,02	27	0,7	22	0,4	2004.0001.01	1	
KISS 205B	(-30)* 45...200	5,0	150	2,0	0,05	14	0,25	10,5	0,17	2040.0012.98	1	
CC-304B	(-20)* 28...300	5,0	155	3,0	0,02	25	0,7	18,5	0,4	2005.0001.01	1	
CC-308B	(-20)* 28...300	8,5/5,2**	155	3,0	0,02	25	0,7	18,5	0,4	2006.0001.01	1	
CC-315B	(-20)* 28...300	15/8,5**	200	3,0/4,0	0,02	25	0,7	18,5	0,4	2007.0001.01	1	

* Auxiliary cooling device required (see glossary „Working Temperature Range“) ** with displacement insert

Plug & Play
3 years warranty

CC-K20 / CC-K25 | CC-K12 / CC-K15 | KISS K20 / KISS K25 | KISS K12 / KISS K15

Natural Refrigerant! ECO FRIENDLY

Cooling Circulators

Combinations of immersion circulators and insulated cooling baths are a low-cost solutions for direct thermoregulation for the temperature range -20/ -30 °C to +200 °C. The cooling baths operate with natural refrigerants. A pump adapter (optional) can be fitted for thermoregulation of externally closed and externally open* applications. Models with the Pilot ONE have a variable speed pressure/suction pump and are suitable for externally open thermoregulation applications. The temperature stability is 0,02 K for the Compatible Control models and 0,05 K for the KISS models.

*with optional level control

Model	Working Temp. Range (°C)	Heating Power (kW)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 0	Cooling Power (kW) at (°C) -10	Cooling Power (kW) at (°C) -20	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-K12	-20...200	2,0	290 x 152	150	12	27	0,7	22	0,4	0,2	0,12	0,05	350 x 560 x 430	2009.0002.01	2	
KISS K12	-20...200	2,0	290 x 152	150	12	14	0,25	10,5	0,17	0,2	0,12	0,05	350 x 560 x 430	2009.0020.98	2	
CC-K15	-20...200	2,0	290 x 152	200	15	27	0,7	22	0,4	0,2	0,12	0,05	350 x 560 x 430	2010.0002.01	2	
KISS K15	-20...200	2,0	290 x 152	200	15	14	0,25	10,5	0,17	0,2	0,12	0,05	350 x 560 x 430	2010.0017.98	2	
CC-K20	-30...200	2,0	290 x 329	150	20	27	0,7	22	0,4	0,35	0,27	0,16	350 x 555 x 615	2011.0002.01	2	
KISS K20	-30...200	2,0	290 x 329	150	20	14	0,25	10,5	0,17	0,35	0,27	0,16	350 x 555 x 615	2011.0013.98	2	
CC-K25	-30...200	2,0	290 x 329	200	25	27	0,7	22	0,4	0,35	0,27	0,16	350 x 555 x 615	2012.0002.01	2	
KISS K25	-30...200	2,0	290 x 329	200	25	14	0,25	10,5	0,17	0,35	0,27	0,16	350 x 555 x 615	2012.0015.98	2	

Safety class III/FL All units use natural refrigerant as standard

Compatible Control Cooling Circulators

The K6 and the more powerful K6s models are compact cooling bath circulators for temperatures from -25 °C to +200 °C. These units are a combination of a cooling bath and immersion circulator, in combination with an integrated pump they are suitable for external open* or closed applications.
The CC-E immersion circulator with its suction/pressure pump is suitable for externally open and closed applications. The temperature stability is 0,02 K for the Compatible Control models and 0,05 K for the KISS models.

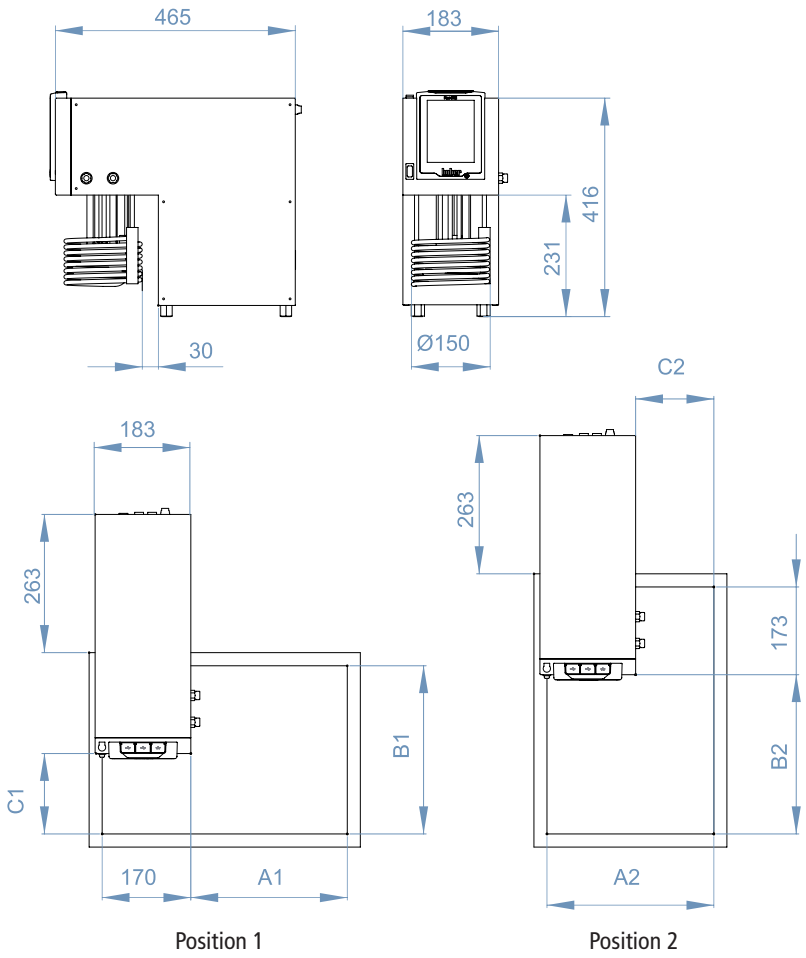
*with optional level control

| CC-K6 |
| CC-K6s |

| KISS K6 |
| KISS K6s |

Model	Working Temperature Range (°C)	Heating Power (kW)	Bath Opening (mm)	Bath Depth (mm)	Bath Volume (ltr)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 20	Cooling Power (kW) at (°C) 0	Cooling Power (kW) at (°C) -20	Dimensions W x D x H (mm)	Cat.No.	G	Price
CC-K6	-25...200	2,0	140 x 120	150	4,5	27	0,7	22	0,4	0,20	0,15	0,05	210 x 400 x 546	2008.0005.01	2	
KISS K6	-25...200	2,0	140 x 120	150	4,5	14	0,25	10,5	0,17	0,20	0,15	0,05	210 x 400 x 546	2008.0043.98	2	
CC-K6s	-25...200	2,0	140 x 120	150	4,5	27	0,7	22	0,4	0,26	0,21	0,05	210 x 400 x 546	2008.0002.01	2	
KISS K6s	-25...200	2,0	140 x 120	150	4,5	14	0,25	10,5	0,17	0,26	0,21	0,05	210 x 400 x 546	2008.0044.98	2	

All units use natural refrigerant as standard



Variostat® – the cooling circulator for a variety of baths

This immersion circulator can thermoregulate a wide range of baths between -30 °C and +150 °C. The innovative construction allows the user ultimate flexibility. The circulation can be adjusted to suit the bath size using the stepless variable speed suction/pressure pump. The pump can also be controlled with an optional pressure sensor for external applications.

Insulated stainless steel baths are available in three standard sizes or can be made to measure. A drain is fitted as standard on the short side (or on request this can be fitted on the long side). The order number has the suffix L to indicate the drain on the long side (Example 6052-L).

Natural Refrigerant! ECO FRIENDLY

Volume (Litre)	End Temp. (°C)	Cooling Time* (min) with Ethanol to 0°C	-10°C	-20°C	free Bath Opening (mm) Position 1 A1	B1	C1	Position 2 A2	B2	C2
5,5	-30	15	30	55	85	160	–	160	85	–
11,0	-25	30	60	110	200	200	28	200	198	30
22,0	-20	65	130	240	300	320	148	320	298	150

*Cooling time, measured with ⅔ of bath covered

Insulated baths see Page 85

Model	Working Temperature Range (°C)	Bath Volume (ltr)	Heating Power (kW)	Pump Data max. Pressure (l/min)	(bar)	max. Suction (l/min)	(bar)	Cooling Power (kW) at (°C) 100	20	0	-20	-30	Cat.No.	G	Price
Variostat	-30...150	variable	1,0	25	0,7	18,5	0,4	0,3	0,3	0,2	0,12	0,03	2013.0003.01	2	

Function version available by E-grade Temperature Stability to DIN 12876: 0,02 K Natural refrigerant as standard

All stainless steel Ministats® set the standard in the compact class

Natural Refrigerant!

Exceptionally compact and powerful, Ministats have been the smallest cooling circulators in the world since 1976. Their compact form allows them to be placed in small spaces, e.g. in a laboratory extraction hood. All three Ministats are now available with air or water cooling. Compliance with DIN 12876, class 3 allows them to be used unsupervised in continual operation. The maximum ambient temperature is +40 °C.

The powerful variable speed pressure/suction pump can thermoregulate objects in the bath or external applications. The maximum pressure can be controlled using an optional pressure sensor – VPC (Variable Pressure Control) – which protects delicate glassware. The small volume and high power of the Ministats means exceptionally rapid heating and cooling rates are achieved. Optional displacement inserts reduce the bath volume by approximately 50 % amplifying this effect and reducing moisture absorption in the thermal fluid. All models have Active Cooling Control for cooling power control at the maximum working temperature and an automatic cooling power regulation for energy saving operation and reduced heat dissipation into the lab.

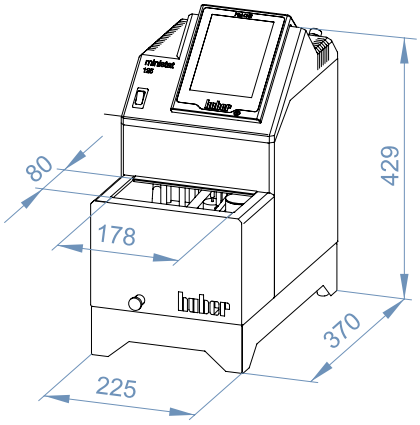
The bath opening is large enough to allow small objects to be thermoregulated within. All parts in contact with the thermal fluid are made of stainless steel or polycarbonate.

Ministats have the Pilot ONE with Plug & Play technology (proven since 1980). In the event of service the controller can be simply swapped. Using a data cable the Ministat can be remotely controlled. The Pilot ONE has a state of the art microprocessor controller and a high precision temperature measurement system for exact and reproducible temperature control. The functionality and TFT-display are supported by Easy Control. Ministats can be fitted with a Com.G@te (NAMUR Standard) allowing them to be integrated into a process control system.

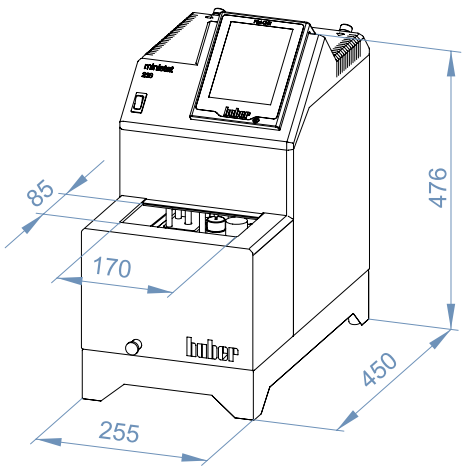
Typical applications for the smallest cooling circulator in the world are external closed systems e.g. photometer, refractometer and viscosimeter.

Increased functionality with optional accessories:

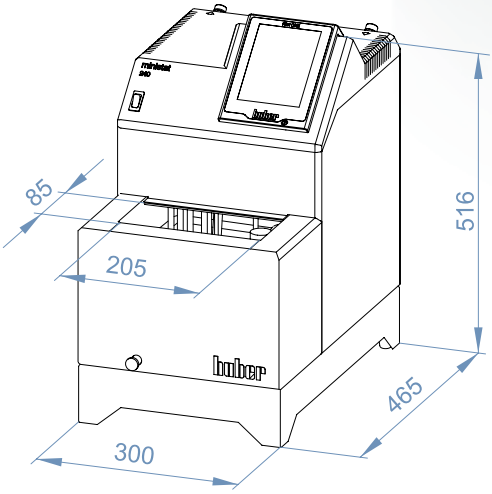
– External pressure sensor for VPC pressure control
– Com.G@te (NAMUR Standard): RS232, RS485, programmable volt-free contact, ECS (external control signal), Level monitoring
– Calibration and displacement inserts



| Ministat 125 |



| Ministat 230 |



| Ministat 240 |

Model	Working Temperature Range (°C)	Bath Volume (ltr)	Bath Depth (mm)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 20	0	-20	-30	Cat.No.	G	Price
Ministat 125	-25...150	2,75/1,3*	120	1,0	22	0,7	16	0,4	0,30	0,21	0,05	–	2014.0011.01	2	
Ministat 125w	-25...150	2,75/1,3*	120	1,0	22	0,7	16	0,4	0,30	0,20	0,10	–	2014.0006.01	2	
Ministat 230	-40...200	3,2/1,7*	135	2,0	22	0,7	16	0,4	0,42	0,38	0,25	0,14	2015.0005.01	2	
Ministat 230w	-40...200	3,2/1,7*	135	2,0	22	0,7	16	0,4	0,42	0,38	0,25	0,14	2015.0007.01	2	
Ministat 240	-45...200	4,9/2,8*	157	2,0	22	0,7	16	0,4	0,60	0,55	0,35	0,125	2016.0005.01	2	
Ministat 240w	-45...200	4,9/2,8*	157	2,0	22	0,7	16	0,4	0,60	0,55	0,35	0,125	2016.0006.01	2	

* with displacement insert Temperature Stability to DIN 12876: 0,02 K All units use natural refrigerant as standard

Ministat 240 | Ministat 230 | Ministat 125** |

Features

- Compact ergonomic design
- Pilot ONE with Plug & Play technology
- Large and full colour 5,7" TFT touch-screen, EASY Control
- Connections for RS232, USB and Ethernet
- Steplessly variable pump speed for homogeneous temperature distribution in bath or optimal circulation and heat transfer in external applications
- Active Cooling Control
- Pt100 External-Sensor
- Calibratable temperature sensor
- Adjustable over temperature and level protection
- Compliant with DIN12876-1 class 3
- Pump connections for external applications
- Bath opening for thermoregulation of objects in bath
- Drain tap on front (option)**

VPC
Variable Pressure Control

DIN 12876
Our cooling powers are always quoted at full pump speed

Plug & Play
3 years warranty

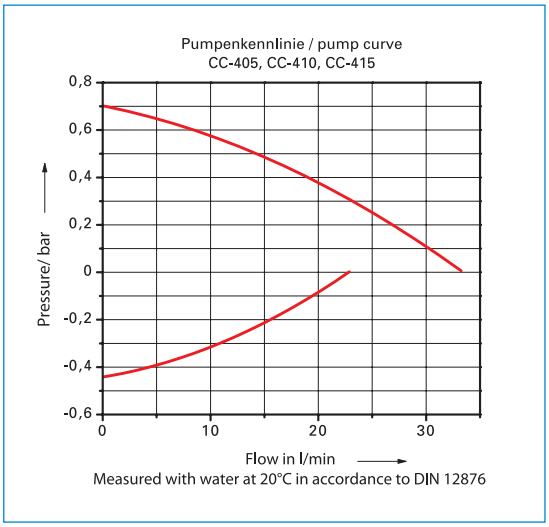
Cooling Power to DIN

DIN – Deutsches Institut für Normung, is the national standards body for Germany.
The standard, DIN 12876, demands that the quoted cooling capacity is to be measured during full pump power. Reducing the pump power reduces the heat entering the system. This leads to more net cooling capacity and makes lower temperatures possible. Ministats have an unusually strong pump. Reducing the pump speed increases in cooling power can be obtained from 30 to 50 Watts and over up to 5 °C lower end temperatures. We always quote the cooling power at full pump power.

Cooling Bath Circulators

Huber cooling bath circulators perform safe and repeatable heating and cooling tasks in the lab. 22 models covering the range -90 °C to +200 °C with a selection of heating and cooling powers are available with air or water cooling (w). Natural refrigerants for environmentally friendly operation are available on request. A powerful variable speed pressure/suction pump allows the thermoregulation of objects directly in the bath or can be used to control external applications. The pump speed is stepless and when used in combination with an optional pressure sensor the maximum pressure can be controlled. VPC (Variable Pressure Control) ensures the best circulation and protects delicate glass apparatus from breakage caused by overpressure.

Small volume and high heating and cooling powers result in the short heating and cooling rates. Optional displacement inserts reduce the bath volume by half increasing this effect. Additionally the bath surface area is reduced, lowering moisture absorption. The optional calibration insert allows all Huber cooling circulators to be used as calibration baths. The calibration insert ensures an even temperature distribution with a temperature stability of +/-0,01 K. All models have Active Cooling Control for cooling power control at the maximum working temperature and an automatic cooling power regulation for energy saving operation and reduced heat dissipation into the lab. Depending on the model carry handles or castors are fitted for easy transportation. The drain is located on the front of the unit to enable simple drainage of the bath. The cover plate is thermoregulated to avoid condensation. All models have the Pilot ONE with Plug & Plug technology which can be simply swapped in the event of a service.



| CC-405 |

Model	Working Temperature Range (°C)	Bath Volume (ltr)	Bath Depth (mm)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 100	20	0	-20	-30	-40	Cat.No.	G	Price
CC-405	-40...200	5	150	1,5	25	0,7	18,5	0,4	0,7	0,7	0,7	0,45	0,18	0,03	2017.0001.01	2	
CC-405w	-40...200	5	150	1,5	25	0,7	18,5	0,4	0,7	0,7	0,7	0,45	0,18	0,03	2017.0002.01	2	
CC-410	-45...200	22/8,5*	200	3,0	25	0,7	18,5	0,4	0,8	0,8	0,8	0,5	0,15	0,1	2019.0004.01	2	
CC-410wl	-45...200	22/8,5*	200	3,0	25	0,7	18,5	0,4	0,8	0,8	0,8	0,5	0,15	0,1	2019.0001.01	3	
CC-415	-40...200	5	150	1,5	25	0,7	18,5	0,4	1,2	1,2	1,0	0,6	0,2	0,05	2018.0001.01	2	
CC-415wl	-40...200	5	150	1,5	25	0,7	18,5	0,4	1,2	1,2	1,0	0,6	0,2	0,05	2018.0002.01	3	

* with displacement insert Option: natural refrigerant available on request Temperature Stability to DIN 12876: 0,02 K

The Pilot ONE can be used as a remote control (with data cable). The Pilot ONE is a high tech microprocessor based controller with a high precision measurement system for exact and reproducible results. The wide ranging functionality is supported by a large TFT display and simple operation. Huber cooling circulators can be equipped with a Com.G@te to the NAMUR standard to enable integration in a process control system. Depending on the bath dimensions objects can be thermoregulated within the bath. Typical applications for these classics are the thermoregulation of externally closed systems, e.g. photometer, refractometer, viscosimeter, double-jacketed reactors and autoclaves. They are used in miniplants, kilo labs, for stock point measurement, for low temperature calibration, for petroleum tests and many more applications.

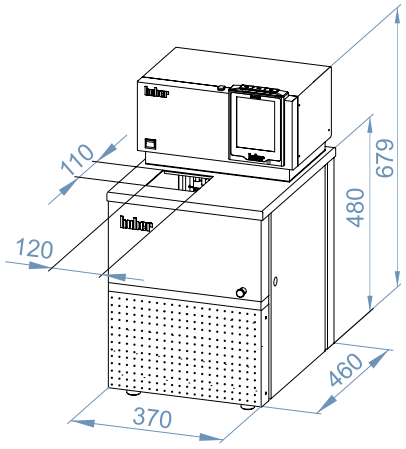
| CC-415wl |

| CC-410wl |

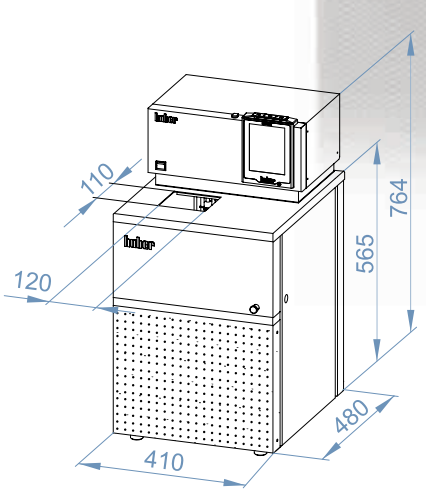
VPC
Variable Pressure Control

Plug & Play
3 years warranty

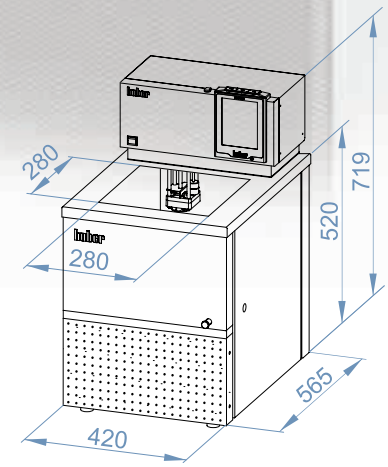
Natural Refrigerant! ECO FRIENDLY



| CC-405, CC-405w |



| CC-415, CC-415wl |

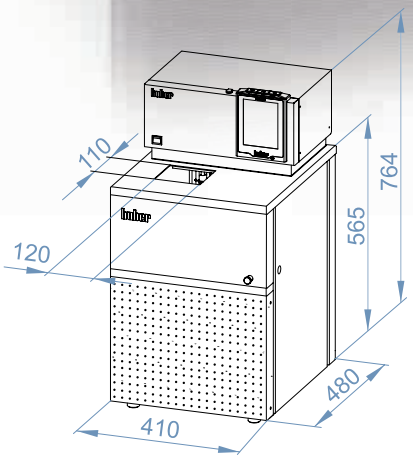


| CC-410, CC-410wl |

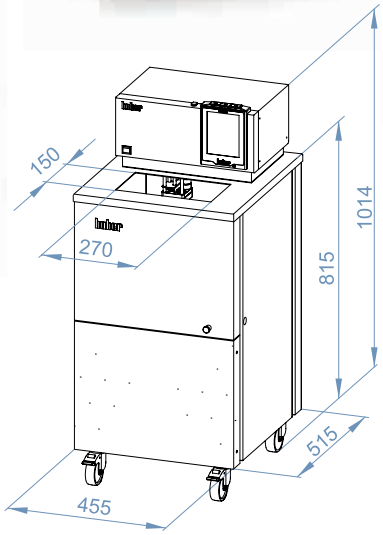
| CC-505 |

| CC-510w |

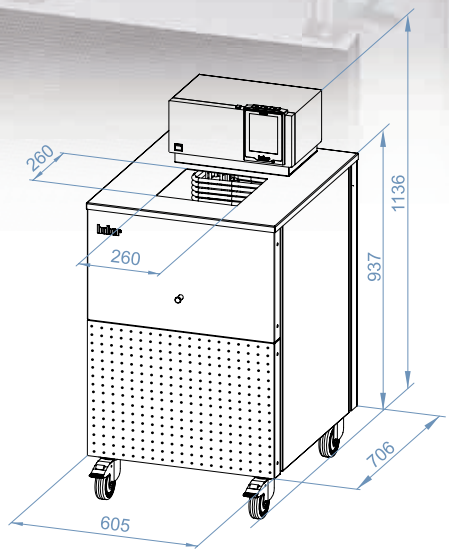
| CC-515 |



| CC-505, CC-505wl, CC-508 |



| CC-510w, CC-515w |



| CC-510, CC-515 |

Model	Working Temp. Range (°C)	Bath Volume (ltr)	Bath Depth (mm)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 100	20	0	-20	-40	Cat.No.	G	Price
CC-505	-50...200	5	150	1,5	25	0,7	18,5	0,4	1,2	1,2	1,0	0,6	0,15	2018.0003.01	2	
CC-505wl	-50...200	5	150	1,5	25	0,7	18,5	0,4	1,2	1,2	1,0	0,6	0,15	2018.0004.01	3	
CC-508	-55...200	5	160	3,0	25	0,7	18,5	0,4	1,5	1,5	1,5	1,0	0,3	2018.0023.01	2	
CC-508w	-55...200	5	160	3,0	25	0,7	18,5	0,4	1,5	1,5	1,5	1,0	0,3	2018.0026.01	2	
CC-510	-50...200	26/15*	200	3,0	25	0,7	18,5	0,4	2,1	2,1	2,1	1,0	0,4	2020.0010.01	2	
CC-510w	-50...200	18/11*	200	3,0	25	0,7	18,5	0,4	2,4	2,4	2,4	1,0	0,4	2020.0002.01	2	
CC-515	-55...200	26/15*	200	3,0	25	0,7	18,5	0,4	3,3	3,3	3,3	1,6	0,6	2021.0001.01	2	
CC-515w	-55...200	18/11*	200	3,0	25	0,7	18,5	0,4	3,3	3,3	3,3	1,6	0,6	2020.0003.01	2	
CC-520w	-55...200	17/10*	200	3,0	25	0,7	18,5	0,4	5,0	5,0	5,0	3,0	1,5	2022.0001.01	3	
CC-525w	-55...100	17/10*	200	3,0	25	0,7	18,5	0,4	7,0	7,0	5,0	3,0	1,5	2023.0001.01	3	

* with displacement insert Function version available by E-grade Option: natural refrigerant available on request Temperature Stability to DIN 12876: 0,02 K

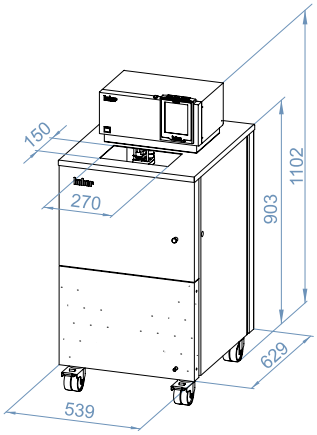
Features

- Compact ergonomic design
- Pilot ONE with Plug & Play technology
- Display protected against splashing
- Large and full colour 5,7" TFT touchscreen
- Connections for RS232, USB and Ethernet
- Steplessly variable pump speed for homogeneous temperature distribution in bath or optimal circulation and heat transfer in external applications
- Active Cooling Control – mechanical cooling up to maximum working temperature
- Intelligent energy management with cooling power control for energy saving, environmentally friendly operation and reduced heat emissions
- Pt100 External-Sensor connection via 4-wire Lemo plug
- Calibratable temperature sensor
- Adjustable over temperature and level protection
- Low level early warning system
- Compliant with DIN12876-1 safety class III/FL
- Pump connections for external applications
- Bath opening for direct thermoregulation of objects
- Temperature controlled bath housing to prevent the formation of ice or condensation
- Drain on front (for regular fluid change: optional dran valve)

- **Increased functionality with E-grade (Optional):**
  - True Adaptive Control – self optimising internal and cascade control
  - Display resolution 0,01 K
  - Integrated programmer with 3 programs each with 5 segments or up to 100 segments distributed over 10 programs
  - Ramp function for quick temperature changes
  - Multi point calibration of temperature sensor

- **Increased functionality with accessories (Optional):**
  - External pressure sensor for VPC pressure control
  - Com.G@te acc. to NAMUR Standard RS232, RS485, programmable volt-free contact, ECS (external control signal), level monitoring
  - Calibration and displacement inserts

Natural Refrigerant! ECO FRIENDLY



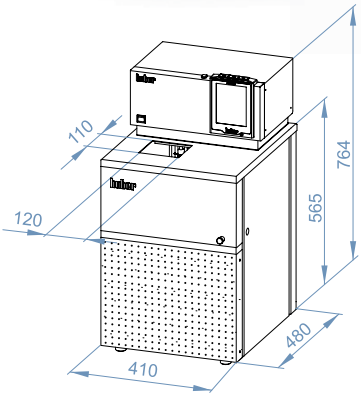
| CC-520w, CC-525w |

| CC-520w |

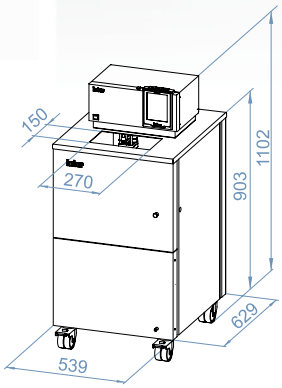
| CC-805 |

| CC-820w |

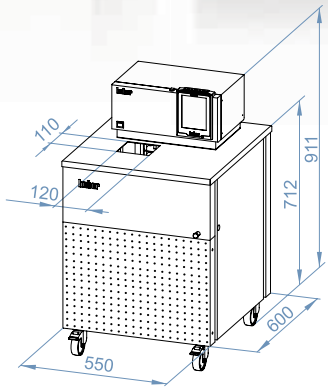
| CC-902 |



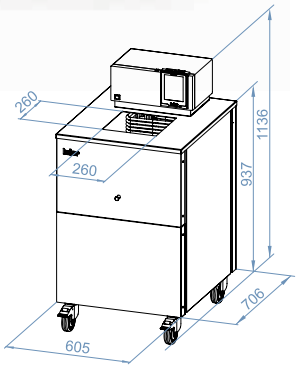
| CC-805 |



| CC-820, CC-820w |



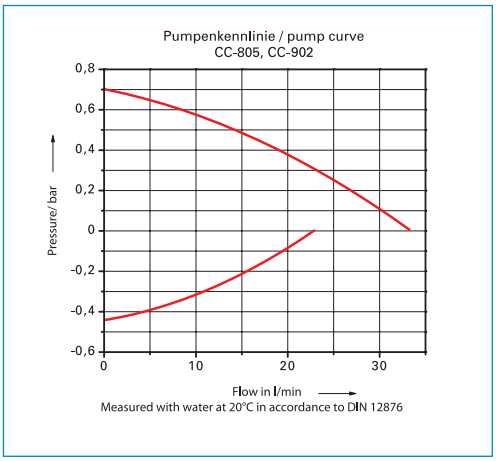
| CC-902 |

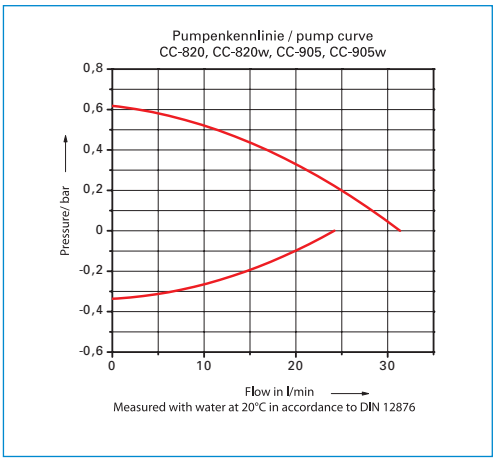


| CC-905, CC-905w, CC-906w |

Model	Working Temp. Range (°C)	Bath Volume (ltr)	Bath Depth (mm)	Heating Power (kW)	Pump Data max. Pressure (l/min)	Pump Data max. Pressure (bar)	Pump Data max. Suction (l/min)	Pump Data max. Suction (bar)	Cooling Power (kW) at (°C) 100	20	0	-20	-40	-60	Cat.No.	G	Price
CC-805	-80...100	5	150	1,5	25	0,7	18,5	0,4	0,5	0,5	0,5	0,4	0,3	0,3	2024.0001.01	2	
CC-820	-80...100	17/10*	200	3,0	25	0,7	18,5	0,4	1,2	1,2	1,2	1,1	0,9	0,6	2025.0001.01	3	
CC-820w	-80...100	17/10*	200	3,0	25	0,7	18,5	0,4	1,2	1,2	1,2	1,1	0,9	0,6	2025.0002.01	3	
CC-902	-90...200	5	150	1,5	25	0,7	18,5	0,4	1,2	1,2	1,2	1,1	0,9	0,6	2026.0005.01	3	
CC-905	-90...200	26/15*	200	3,0	25	0,7	18,5	0,4	2,0	2,0	2,0	1,9	1,7	1,0	2027.0001.01	3	
CC-905w	-90...200	26/15*	200	3,0	25	0,7	18,5	0,4	2,0	2,0	2,0	1,9	1,7	1,0	2027.0002.01	3	
CC-906w	-90...200	30/19*	200	3,0	25	0,7	18,5	0,4	3,0	3,0	3,0	2,8	2,4	1,6	2036.0001.01	3	

* with displacement insert Function version available by E-grade Option: natural refrigerant available on request Temperature Stability to DIN 12876: 0,02 K





| CC-905w |

| BFT5 |

Beer Force-Ageing-Test Bath

We offer a special air cooled circulator for the beer force-ageing-test. It is equipped with a programmer for the change between 0 °C / +40 °C and 0 °C / +60 °C in a 24 hour cycle. Casings and bath parts are made of stainless steel.

Model	Working Temperature Range (°C)	Bath Opening W x D (mm)	Bath Depth (mm)	Heating Power (kW)	Cooling Power at 20°C (kW)	Dimensions W x D x H (mm)	Cat.No.	G	Price
BFT5	-40...80	350 x 410	270	2,0	1,2	460 x 710 x 911	2041.0001.01	3	

Safety class III/FL

Accessories

All accessories are designed to optimise the operation of your Huber temperature control unit. The highest material quality and tested functionality guarantee reliability and the best temperature control results.

The range of accessories allow you to find all you need to operate your temperature control system. Stainless steel baths, hoses, thermal fluids, adaptors, Pt100 sensors, software, interfaces and much more.

Huber Calendar

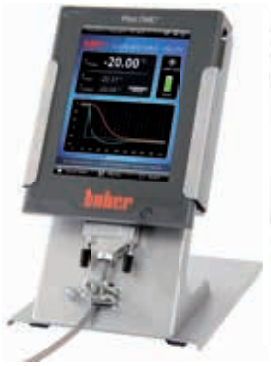

Pilot ONE®
Tmin -35°C Tmax 90°C UT 95°C
huber
21.04.2017 08:31 Pilot ONE
T Prozess -20.00 °C

| Pilot ONE |

Plug & Play Controller

Controller with E-grade function to upgrade or as a replacement for an existing temperature control machine.

Controller	Cat.No.	G	Price
Pilot ONE controller for CC Circulators, Unichiller, Unistats	503.0011	3	



| 9494 |

| 9493 |

| 56014 |

Accessories for Controller

Holder and extension cable for using the Plug & Play controller as a remote control.

Controller	Cat.No.	G	Price
Table stand for Pilot ONE	9494	1	
Wall mounting bracket for Pilot ONE	9493	1	
Side mounting bracket for Pilot ONE	10072	1	
Extension cable for controller Pilot ONE for using the controller as remote control, length 3 m	16160	1	
USB connection cable for controller Pilot ONE to PC	54949	1	
Touchpen for Pilot ONE	56014	1	

External Pt100 sensors

For external thermoregulation applications a range of sensors are available. Special versions can be made on request.

Sensors (Standard cable length 1,5 m)	Cat.No.	G	Price
Closed, Ø 6 mm, 180 mm	6138	1	
Closed with handle Ø 6 mm, 200 mm	6105	1	
Closed Ø 8 mm, 400 mm	6064	1	
Open in protective pipe Ø 8 mm, 170 mm	6205	1	
M16x1 sensor for flow or return	6352	1	
M16x1 sensor for flow or return double	6353	1	
M30x1,5 sensor for flow or return	6509	1	
M30x1,5 sensor for flow or return double	6510	1	
G3/4 sensor for flow or return	10142	1	
G1 1/4 sensor for flow or return	9937	1	
Extension cable Pt100, length 3 m	6292	1	

Calibration bend

Calibration bend mounted on the machine outlet. The calibration bend has a sensor pocket for sensor which has to be calibrated by the user. The measured value appears on the display as reference for the internal flow temperature sensor.

Calibration bend		Cat.No.	G	Price
for calibration of the internal flow temp. sensor (Ø 4mm)	M16x1	9914	1	
for calibration of the internal flow temp. sensor (Ø 6mm)	M24x1,5	10005	1	
for calibration of the internal flow temp. sensor (Ø 6mm)	M30x1,5	9779	1	
for calibration of the internal flow temp. sensor (Ø 6mm)	M38x1,5	9925	1	

More dimensions and configurations on request

Thermal Fluids

Huber thermal fluids are recommended because they have excellent thermodynamic and environmental characteristics. Safe reliable operation relies on compliance with safety standards to ensure optimal results.
Safety datasheets are available at www.huber-online.com.

DW-Therm – exclusive for Unistats (closed systems)

DW-Therm is a mixture of isometric triethoxysilanes and has been developed for hydraulically systems.

- excellent stability at high temperatures
- low viscosity at low temperatures
- low volatility and pleasant odour
- easy handling (no creeping like silicone oils)
- good compatibility with silicone oils
- insoluble in water, environmentally friendly

DW-Therm HT – exclusive for Unistats (closed systems)

DW-Therm HT is a mixture of partially hydrogenated terphenyls.
It is for use exclusively in high temperature Unistats.

- long lifetime at high temperatures under inert atmosphere: 3-4 years
- good thermal properties for heat transfer
- favourable heat transfer characteristics
- high thermal oxidation stability

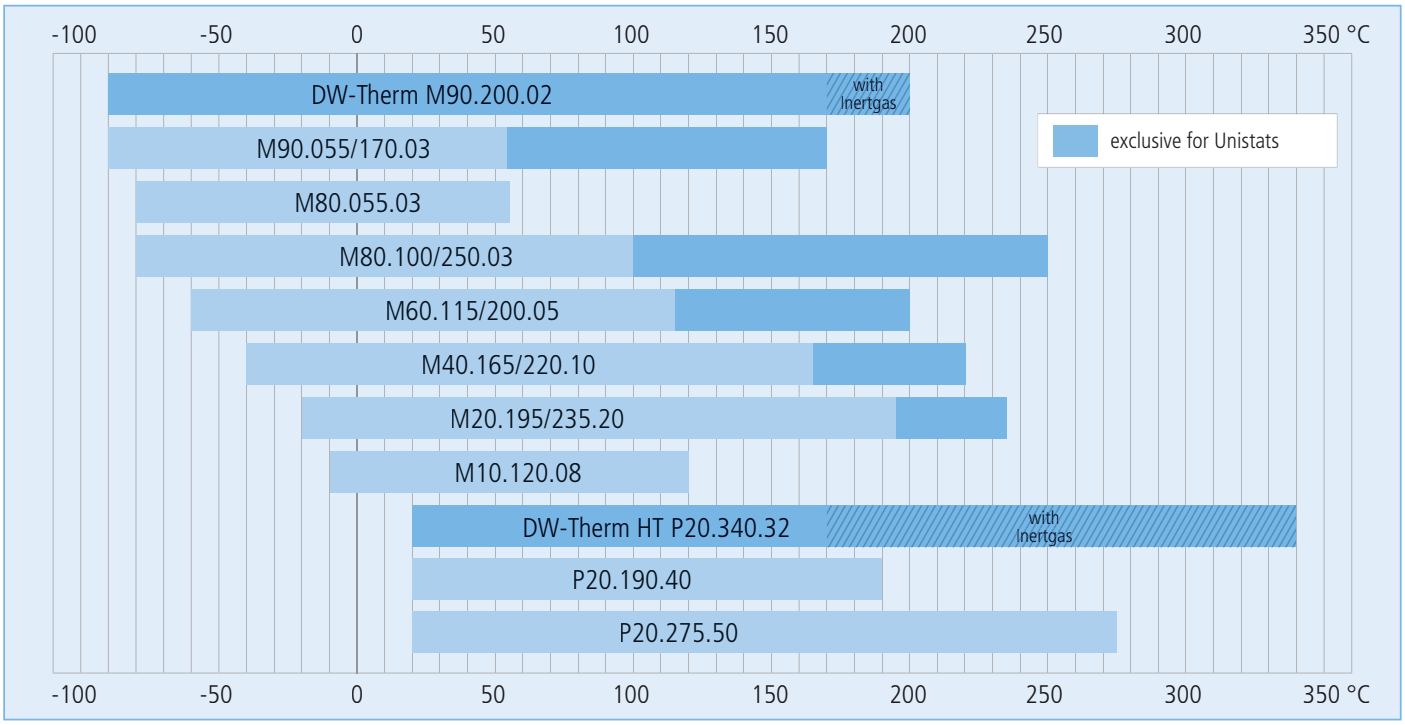
The product name gives information about the characteristics, e.g.:

Thermal Fluid	Temperature Range	Viscosity at +25°C
P20.340.32	plus 20 °C ... +340 °C	32 mm²/s
M80.055.03	minus 80 °C ... +55 °C	3 mm²/s

Thermal Fluid		Litre	Cat.No. (G1)	Price
DW-Therm*	M90.200.02	10	6479	
DW-Therm HT*	P20.340.32	5	6672	
		10	6673	
MinOil	P20.190.40	5	6155	
		20	6156	
SynOil	M10.120.08	5	9684	
		10	9685	
SilOil	P20.275.50	5	6157	
		10	6158	
SilOil	M20.195/235.20	5	6161	
		10	6162	
SilOil	M40.165/220.10	5	6163	
		10	6164	
SilOil	M60.115/200.05	5	6165	
		10	6166	
SilOil	M80.055.03	5	6167	
		10	6168	
SilOil	M80.100/250.03	5	6275	
		10	6276	
SilOil	M90.055/170.03	5	6258	
		10	6259	
Drain valve for thermal fluid			31735	
Antifreeze		5	10656	
		10	6170	
		50	6171	
Algae Protection		0,1	6172	

* exclusive for Unistats

Working temperature range for thermal fluids



Hoses, insulated

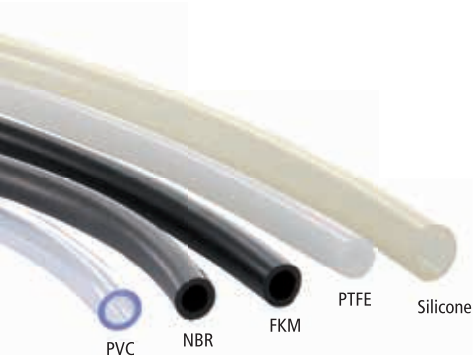
Inner material PTFE for optimum thermal transfer			Temperature Range	Length	Cat.No.	G	Price
NW 12	AD 37 mm	M24x1,5	-60...260 °C	100 cm	9325	1	
NW 12	AD 37 mm	M24x1,5	-60...260 °C	150 cm	9326	1	
NW 12	AD 37 mm	M24x1,5	-60...260 °C	200 cm	9327	1	
NW 12	AD 37 mm	M24x1,5	-60...260 °C	300 cm	9328	1	
NW 20	AD 44 mm	M30x1,5	-60...260 °C	100 cm	9612	1	
NW 20	AD 44 mm	M30x1,5	-60...260 °C	150 cm	9613	1	
NW 20	AD 44 mm	M30x1,5	-60...260 °C	200 cm	9614	1	
NW 20	AD 44 mm	M30x1,5	-60...260 °C	300 cm	9615	1	
NW 25	AD 56 mm	M38x1,5	-60...260 °C	100 cm	9616	1	
NW 25	AD 56 mm	M38x1,5	-60...260 °C	150 cm	9617	1	
NW 25	AD 56 mm	M38x1,5	-60...260 °C	200 cm	9618	1	
NW 25	AD 56 mm	M38x1,5	-60...260 °C	300 cm	9619	1	

Inner material is PTFE with a smooth internal bore for best flow characteristics and optimum heat transfer

Inner material metal for wide temperature ranges			Temperature Range	Length	Cat.No.	G	Price
NW 12	AD 33 mm	M16x1	-50...200 °C	100 cm	9608	1	
NW 12	AD 33 mm	M16x1	-50...200 °C	150 cm	9609	1	
NW 12	AD 33 mm	M16x1	-50...200 °C	200 cm	9610	1	
NW 12	AD 33 mm	M16x1	-50...200 °C	300 cm	9611	1	
NW 12	AD 44 mm	M16x1	-100...350 °C	100 cm	6084	1	
NW 12	AD 44 mm	M16x1	-100...350 °C	150 cm	6085	1	
NW 12	AD 44 mm	M16x1	-100...350 °C	200 cm	6136	1	
NW 12	AD 44 mm	M16x1	-100...350 °C	300 cm	6255	1	
NW 12	AD 44 mm	M24x1,5	-100...350 °C	100 cm	9274	1	
NW 12	AD 44 mm	M24x1,5	-100...350 °C	150 cm	9275	1	
NW 12	AD 44 mm	M24x1,5	-100...350 °C	200 cm	9276	1	
NW 12	AD 44 mm	M24x1,5	-100...350 °C	300 cm	9277	1	
NW 12	AD 56 mm	M24x1,5	-120...400 °C	100 cm	6784	1	
NW 12	AD 56 mm	M24x1,5	-120...400 °C	150 cm	6785	1	
NW 12	AD 56 mm	M24x1,5	-120...400 °C	200 cm	6786	1	
NW 12	AD 56 mm	M24x1,5	-120...400 °C	300 cm	6787	1	
NW 20	AD 56 mm	M30x1,5	-100...350 °C	100 cm	6426	1	
NW 20	AD 56 mm	M30x1,5	-100...350 °C	150 cm	6386	1	
NW 20	AD 56 mm	M30x1,5	-100...350 °C	200 cm	6427	1	
NW 20	AD 56 mm	M30x1,5	-100...350 °C	300 cm	6428	1	
NW 25	AD 63 mm	M38x1,5	-100...350 °C	100 cm	6655	1	
NW 25	AD 63 mm	M38x1,5	-100...350 °C	150 cm	6656	1	
NW 25	AD 63 mm	M38x1,5	-100...350 °C	200 cm	6657	1	
NW 25	AD 63 mm	M38x1,5	-100...350 °C	300 cm	6658	1	

Inner material is corrugated hose for especially high and low working temperatures

AD = External diameter



Hoses, pressureless

Hose		Temperature Range	Cat.No.	G	Price / m
NW 3,2	PVC	-20...60 °C	6072	1	
NW 8	PVC	-20...60 °C	6071	1	
NW 12	PVC	-20...60 °C	6070	1	
NW 8	NBR	-25...110 °C	6075	1	
NW 12	NBR	-25...110 °C	6073	1	
NW 8	FKM	-20...180 °C	6079	1	
NW 12	FKM	-20...180 °C	34322	1	
NW 8	PTFE	-60...180 °C	6350	1	
NW 12	PTFE	-60...180 °C	6351	1	
NW 8	Silicone	-40...180 °C	6077	1	
NW 12	Silicone	-40...180 °C	6076	1	

As protection against condensation or for high temperatures, we recommend our listed insulated hoses

All prices per metre

Flexible Braided Hoses (cooling water)

Hose (HDPE)	Temperature Range	Length	Cat.No.	G	Price
G½	-20...90 °C	100 cm	16851	1	
G½	-20...90 °C	150 cm	16852	1	
G½	-20...90 °C	200 cm	16853	1	
G¾	-20...90 °C	100 cm	16854	1	
G¾	-20...90 °C	150 cm	16855	1	
G¾	-20...90 °C	200 cm	16856	1	
G1	-20...90 °C	100 cm	16857	1	
G1	-20...90 °C	150 cm	16858	1	
G1	-20...90 °C	200 cm	16859	1	
G1 ¼	-20...90 °C	100 cm	18021	1	
G1 ¼	-20...90 °C	150 cm	18022	1	
G1 ¼	-20...90 °C	200 cm	18023	1	

Flexible braided hoses suitable for water and water / Mono ethylene glycol mixtures up to 50%.
As protection against condensation or for high temperatures, we recommend our listed insulated hoses.

Hose

Hose (EPDM)	Temperature Range	Cat.No.	G	Price / m
NW 12 AD 19,6 mm	-40...100 °C	10506	1	

AD = External diameter

Price per metre

Hose Insulation

Insulation for	Thickness	Internal Ø	Cat.No.	G	Price / m
Hose 8 mm	7 mm	13 mm	6083	1	
Hose 12 mm	7 mm	17 mm	6082	1	
Hose 12 mm	12 mm	17 mm	3968	1	
Flexible braided hose, insulated M16x1	22 mm	42 mm	6375	1	
Flexible braided hose, insulated M30x1,5	23 mm	57 mm	6377	1	
Flexible braided hose G½	13 mm	22 mm	1782	1	
Flexible braided hose G¾	13 mm	28 mm	1889	1	
Flexible braided hose G1¼	22 mm	50 mm	6376	1	
Flexible braided hose G½, self-adhesive	19 mm	19 mm	10067	1	
Flexible braided hose G¾, self-adhesive	19 mm	28 mm	10068	1	
Flexible braided hose G1, self-adhesive	19 mm	35 mm	10069	1	
Flexible braided hose G1¼, self-adhesive	19 mm	42 mm	10070	1	

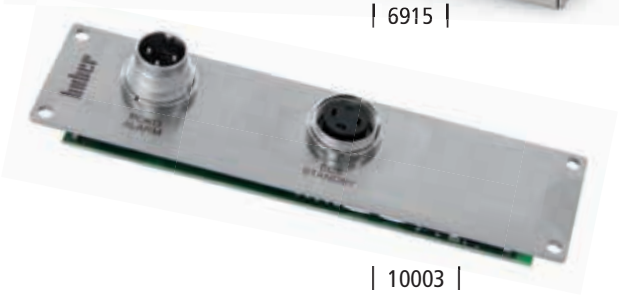
Unipump® Pressure Booster

Designed to compensate for pressure loss in external systems the Unipump is made of stainless steel for temperatures from -120 °C to +300 °C. The Unipump is connected in series with the pump of compatible control circulator and can be controlled via the voltfree contact of the Com.G@te.

Unipump		Pressure Increase max. (bar)	Cat.No.	G	Price
Unipump I DC	M24x1,5	1,0	527.0008	2	
Unipump II	M30x1,5	1,5	527.0019	2	
Unipump II, 2-stage	M30x1,5	2,5	527.0020	2	
Unipump III	M38x1,5	1,5	527.0021	2	
Unipump III, 2-stage	M38x1,5	2,5	527.0022	2	
Control Cable Unipump / Unistat (3 m)			6221	1	

| 31217 |

| 6915 |



| 10003 |

Com.G@te® and POKO/ECS Interface

Units with the Pilot ONE controller have USB and LAN connections fitted as standard. For applications where additional connections are required, depending on the model, the following optional interface modules are available:

Com.G@te

The Com.G@te has connections complying with the NAMUR standard. The following interfaces are integrated: RS232 (bi-directional), RS485 (bi-directional), ECS external control signal, Volt free contact (programmable), AIF Analogue-Interface 0/4-20 mA or 0-10 V (bi-directional).

POKO/ECS Interface

The POKO/ECS Interface has connections complying with the NAMUR Standard and is fitted as standard on all Unistats. The following interfaces are integrated: ECS external control signal, POKO Volt free contact (programmable).

Com.G@te (NAMUR)	for	Cat.No.	G	Price
Com.G@te, intern	Petite Fleur, Grande Fleur, Unichiller with Pilot ONE, Ministats, CC-300BX to CC-906w	31217	1	
Com.G@te, external	Unistats, CC-E to CC-205B	6915	1	
POKO/ECS Interface	Unichiller with Pilot ONE, Ministats, CC-300BX to CC-906w	10003	1	
Holder for Com.G@te	Unistats (tower housing models)	10018	1	
Holder for Com.G@te	Unistats (bench top models)	10019	1	

Control cables

A range of control cables is available for USB, RS232, RS485 or analogue interfaces (AIF). Cables are also available for external control signal (ECS), a potential-free contact (POKO) or by an external float switch (LEVEL).

Control Cables (Standard length 3 m) from	Note	Cat.No.	G	Price
Pilot ONE, Mini-USB	to PC, USB Typ A	54949	1	
Units with RS232 (9 pin) / Com.G@te	e.g. to PC, 9 pin Sub-D	6146	1	
Units with RS232 (15 pin)	e.g. to PC, 9 pin Sub-D	55018	1	
RS485	Cable end open	6279	1	
AIF	Cable end open	9353	1	
ECS	Cable end open	9491	1	
POKO	Cable end open	9490	1	
LEVEL	Cable end open	9492	1	

Profibus

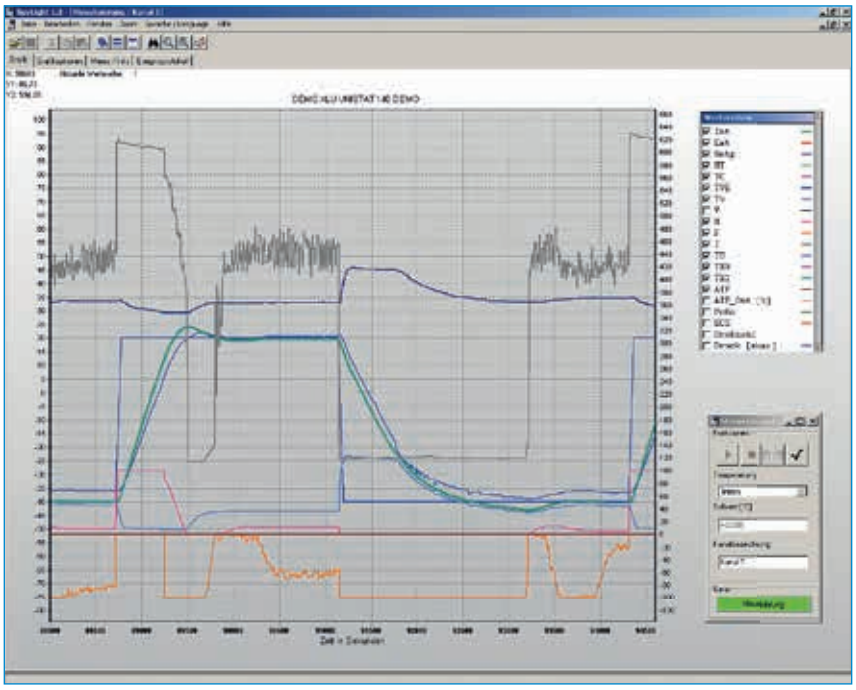
| 10503 |

Our Profibus accessory enables the connection of Huber temperature control machines to Profibus systems, offering a comprehensive range of possibilities for data communication with PLC and process control systems.

Profibus Solution for units with Pilot ONE	Cat.No.	G	Price
Profibus Gateway 3E, external (complete, in housing)	10503	3	

SpyLight®

The SpyLight software (free of charge) enables process relevant data to be visualised and documented. The communication options are RS232, RS485, USB (virtual COM-Port) or TCP/IP. SpyLight is easy to install, is economic with computer resources and child's play to use. The recorded data is displayed to a base of time; the axes are freely scalable and a zoom function helps the evaluation of individual segments.



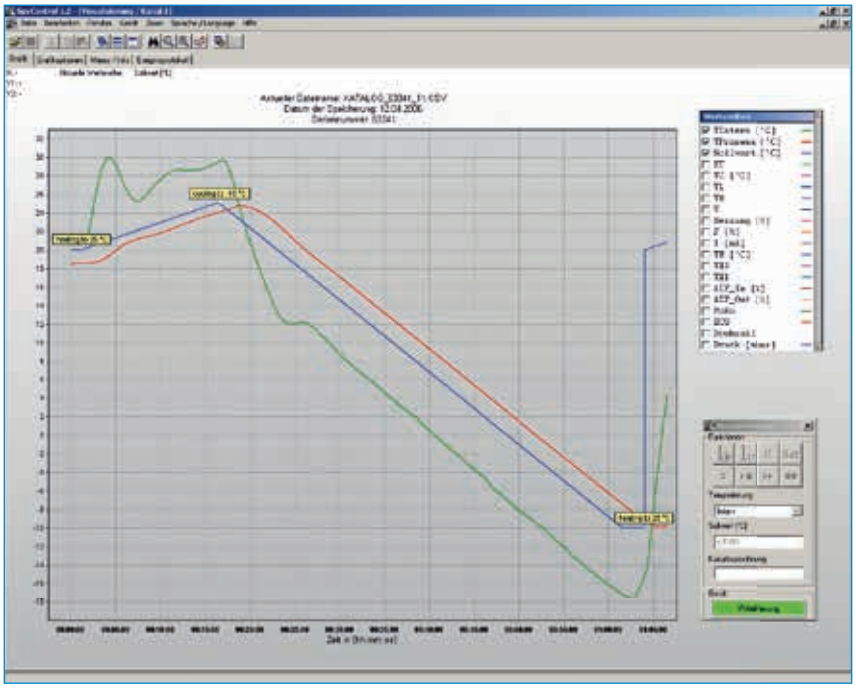
Test with a 20 litre reactor filled with DW-Therm

SpyControl®

SpyControl is based on the SpyLight software but offers more features. Installation and operation is identical. SpyControl can operate up to 10 channels simultaneously. Each channel is independently documented and the graphic options can be configured as required. SpyControl allows the user to issue the following instructions to the unit:

- Set point
- Change from jacket to process temperature
- Start/Stop

In addition the software offers the option of controlling one or more machines with a programmer. The user can provide temperature programs for the machines, which then automatically run. Segments of a temperature control program can be entered easily using the Temperature control-Xplorer which is a module of SpyControl. The temperature control programs produced can be modified or changed and archived. The basic course of a temperature control program can also be displayed graphically.



Temperature with ramp function in a 20 litre reactor filled with DW-Therm

Huber Software	Cat.No.	G	Price
SpyLight (1 Channel)	6790	1	
SpyControl (10 Channel)	6792	1	

Trolleys

Stainless steel trolleys make the circulators mobile.

Model	Cat.No.	G	Price
Trolley for Unistat tango, T305/HT/w HT	9350	2	
Trolley for Unistat 705, 705w, 410w	6263	2	
Trolley for Unistat 405/w	9392	2	
Trolley for Unichiller 007, 010, 012w, 015w, 023w	9564	2	
Trolley for Unichiller 012, 015, 022w, 025w	9607	2	
Trolley for K20, K25	6334	2	
Trolley for CC-405	6715	2	
Trolley for CC-410wl	6295	2	
Trolley for CC-805, CC-415, CC-505, CC-508	6235	2	
Trolley for Ministat 125 / 125w	9596	2	
Trolley for Ministat 230 / 230w	9597	2	
Trolley for Ministat 240 / 240w	9598	2	

VPC Bypass for pressure reduction

Stepless controlled VPC Bypass			Cat.No.	G	Price
Stepless controlled VPC bypass (not mounted on unit)	for Unistats	M24x1,5	9819	4	
-90°C...+200°C		M30x1,5	9726	4	
		M38x1,5	9820	4	
	for Unichiller	G3/4	9767	4	
		G1 1/4	9757	4	
If VPC bypass is to be mounted directly on unit, please contact your local distributor with machine type.					

Manual bypass			Cat.No.	G	Price
For Unistats	M16x1	-20...+140°C	6415	1	
	M24x1,5	-20...+150°C	9339	1	
	M30x1,5	-20...+150°C	6417	1	
	M38x1,5	-20...+150°C	9340	1	
For Unichiller	G3/4	-20...+150°C	6933	1	
	G1 1/4	-20...+150°C	9414	1	

Manual bypass with pressure gauge			Cat.No.	G	Price
For Unistats	M16x1	-20...+140°C	9889	1	
	M24x1,5	-20...+150°C	9969	1	
	M30x1,5	-20...+150°C	9890	1	
	M38x1,5	-20...+150°C	9970	1	
For Unichiller	G3/4	-20...+150°C	9888	1	
	G1 1/4	-20...+150°C	9622	1	

External pressure sensors for VPC

External pressure sensors for VPC		Cat.No.	G	Price
For units with VPC bypass	M24x1,5	9338	4	
(Cable length 3m)	M30x1,5	9336	4	
	M38x1,5	9337	4	
For units with VPC variable speed pumps	M16x1	9792	4	
(Cable length 3m)	M24x1,5	9794	4	
	M30x1,5	9795	4	

Safety devices

Safety Devices		Cat.No.	G	Price
Float switch in sight glass, leak monitoring (highest safety class)	Float switch	6152	1	
Breather Controller for Unistats: Atmospheric sealing kit for sight glass and expansion vessel, for pressurisation of the thermal fluid circuit	Breather Controller for Unistats	9771	3	

Options for weather protection and winter operation

Safety Devices		Cat.No.	G	Price
Weather protection and winter operation for outside siting and low environmental temperatures	Weather protection for Unistats and Unichillers	on request		
	Winter operation for Unistats and Unichillers	on request		

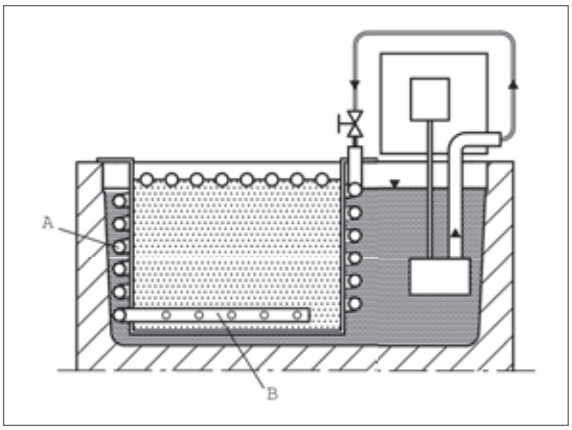
Calibration inserts

Calibration insert	Cat.No.	G	Price
Ministat 125, Ministat 125w	6806	2	
Ministat 230, Ministat 230w	6807	2	
Ministat 240, Ministat 240w	6808	2	
CC-405, CC-405w, CC-415, CC-415wl, CC-505, CC-505wl, CC-508, CC-508w CC-805, CC-902	10020	2	
CC-410, CC-410wl	6294	2	
CC-510w, CC-515w, CC-520w, CC-525w, CC-820, CC-820w	6496	2	
CC-510, CC-515, CC-905, CC-905w, CC-906w	6150	2	
CC-308B	9355	1	
CC-315B	6126	1	

Function principle

The thermal fluid at constant temperature flows through the heat exchanger (A) and via the distributor pipe (B) down into the calibrating bath. Temperature fluctuations in the circulator are evened out in (A). The entire system acts as a calorimeter. There are virtually no gradients and no delay in the case of swift ramps. Temperature stability can be improved by a factor of 5 to 10.

The calibration baths in combination with Unistats (page 35) work in the same principle.



Displacement inserts

Displacement insert	Cat.No.	G	Price
Ministat 125, Ministat 125w	6818	2	
Ministat 230, Ministat 230w	6819	2	
Ministat 240, Ministat 240w	6820	2	
CC-410, CC-410wl	6293	2	
CC-510w, CC-515w, CC-520w, CC-525w, CC-820, CC-820w	6049	2	
CC-510, CC-515, CC-905, CC-905w, CC-906w	6050	2	
CC-308B	31973	1	
CC-315B	6043	1	
CC-205B	6041	1	

Simple options to boost performance

- Reducing the bath volume reduces the thermal load and leads to faster ramping times.
- Reduce the liquid's exposed surface area, which reduces moisture absorption.
- Contain the expansion volume HTF and prevent the bath from overflowing.

Polycarbonate Baths

All models are designed to operate up to a maximum temperature of +100 °C.

Model	Dimensions W x D x H (mm)	Bath Opening W x D (mm)	Bath Depth (mm)	Bath Volume (ltr)	Cat.No.	G	Price
106A	142 x 305 x 161	130 x 290	150	6	30527	1	
108A	142 x 405 x 161	130 x 390	150	8	30528	1	
110A	142 x 505 x 161	130 x 490	150	10	30529	1	
112A	333 x 358 x 166	275 x 342	150	12	30523	1	
118A	333 x 518 x 166	275 x 502	150	18	30526	1	
130A	500 x 200 x 322	480 x 180	312	30	17098	1	

225B | 215B | 208B

Stainless Steel Baths (insulated)

All models are designed to operate up to a maximum temperature of +200 °C.

Model	Dimensions W x D x H (mm)	Bath Opening W x D (mm)	Bath Depth (mm)	Bath Volume (ltr)	Cat.No.	G	Price
208B	290 x 350 x 206	235 x 290	150	8,5	6683	1	
212B	350 x 375 x 206	290 x 320	150	12	6684	1	
215B	350 x 375 x 256	290 x 320	200	15	6012	1	
220B	350 x 555 x 206	290 x 500	150	20	6685	1	
225B	350 x 555 x 256	290 x 500	200	25	6013	1	

K20, K25 | K12, K15

Cooling Baths

The cooling baths K12 to K25 use natural refrigerants. In combination with an immersion circulator these cooling systems offer active cooling, in continuous operation over the complete working range.

Model	Temperature Range (°C)	Bath Opening W x D (mm)	Bath Depth (mm)	Bath Volume (ltr)	Cooling Power (kW) at 0°C	Cooling Power (kW) at -10°C	Cooling Power (kW) at -20°C	Dimensions W x D x H (mm)	Cat.No.	G	Price
K12	-20...200	290 x 320	150	12	0,2	0,12	0,05	350 x 560 x 263	2009.0001.99	2	
K15	-20...200	290 x 320	200	15	0,2	0,12	0,05	350 x 560 x 263	2010.0001.99	2	
K20	-30...200	290 x 500	150	20	0,35	0,27	0,16	350 x 555 x 448	2011.0001.99	2	
K25	-30...200	290 x 500	200	25	0,35	0,27	0,16	350 x 555 x 448	2012.0001.99	2	

Double-wall version, with inlet and outlet connections at additional cost | With inlet and outlet connections at additional cost | Drain on the narrow side as standard

Stainless Steel Baths

Insulated stainless steel baths are available in three standard sizes. They can be customised to suit requirements at additional cost with the addition of inlet/outlet connections for either direct flow into the bath or into the jacket of the bath.
The drain is fitted as shown but can be fitted on the long side on request. The order number has the suffix -L (e.g. 6052-L).

Stainless Steel Bath	Depth (mm)	Opening W x D (mm)	Dimensions W x D x H (mm)	Cat.No.	G	Price
5,5 litre	165	160 x 232	210 x 282 x 205	6052	2	
11 litre	165	200 x 370	250 x 420 x 205	6053	2	
22 litre	165	320 x 470	370 x 520 x 205	6054	2	
Drain valve with cap				6839	1	

Insulated Cover for:		Cat.No.	G	Price
Stainless steel bath	5,5 litre	6176	2	
Stainless steel bath	11 litre	6178	2	
Stainless steel bath	22 litre	6180	2	

Custom sizes and double-wall versions with inlet and outlet connections on request

Bath Bridges

Model	Cat.No.	G	Price
Polycarbonate bath 106A, 108A, 110A	19592	1	
Polycarbonate bath 112A, 118A	19593	1	
Stainless steel bath 208B	19594	1	
Stainless steel bath 212B, 215B, 220B, 225B	19595	1	
Cooling bath K12, K15, K20, K25	19596	1	

Adjustable Bases

for stainless steel, polycarbonate and cooling baths with CC-E, KISS E

Model	Cat.No.	G	Price
Adjustable base for 112A	40764	1	
Adjustable base for 212B, 215B, K12, K15	40763	1	
Adjustable base for 118A, 220B, 225B, K20, K25	40681	1	

Bath Covers

for stainless steel, polycarbonate and cooling baths with CC-E, KISS E

Model	Cat.No.	G	Price
Bath cover one piece 106A	37533	1	
Bath cover one piece 108A	37552	1	
Bath cover one piece 110A	37572	1	
Bath cover one piece 112A	37653	1	
Bath cover one piece 118A	9579	1	
Bath cover one piece 208B	19597	1	
Bath cover one piece 212B, 215B, K12, K15	19598	1	
Bath cover one piece 220B, 225B, K20, K25	19599	1	
Bath cover back 118A, 220B, 225B, K20, K25	6024	1	
Bath cover front 118A	41313	1	
Bath cover front 220B, 225B, K20, K25	19598	1	

18 litres and larger, covers can be in one or two parts

Bath Covers

Suitable for use with adjustable bases for stainless steel, polycarbonate and cooling baths with CC-E, KISS E

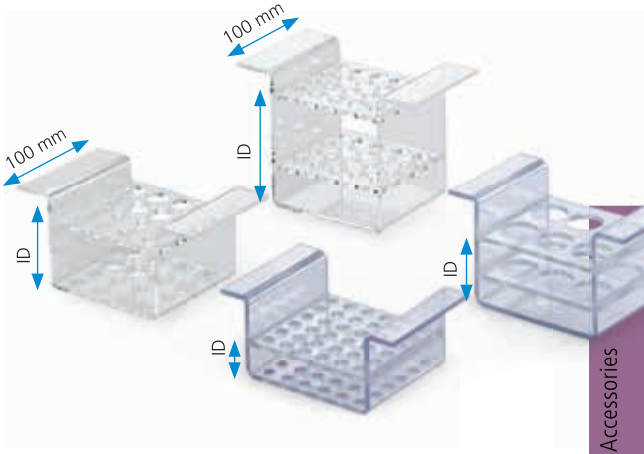
Model	Cat.No.	G	Price
Bath cover one piece 112A	41291	1	
Bath cover one piece 212B, 215B, K12, K15	41279	1	
Bath cover back 118A, 220B, 225B, K20, K25	41280	1	

18 litres and larger, covers are in two parts

Polycarbonate test tube racks

for 106A to 110A

Type	Holes	Immersion Depth (mm) ID	Cat.No.	G	Price
A	12 x Ø22	50	6028	1	
B	20 x Ø17	55	6029	1	
C	20 x Ø17	95	6030	1	
D	30 x Ø13	45 (Hemolyse)	6031	1	
E	6 x Ø31	50	6032	1	
F	36 x Ø11	25 (Eppendorf)	6033	1	



Stainless steel test tube racks

for 112A, 118A, 212B to 225B and cooling baths K12-K25

Type	Holes	Immersion Depth (mm) ID	Cat.No.	G	Price
1	36 x Ø18	100	6037	1	
2	45 x Ø13	70	6038	1	
3	46 x Ø17	100	6039	1	
4	58 x Ø13	70	6040	1	

Other Accessories

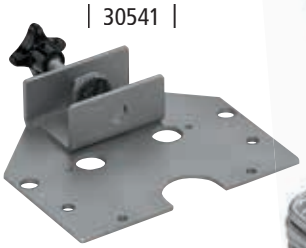
Accessory	Cat.No.	G	Price
Holder for immersion coolers TC45(E), TC50(E), TC100(E) for mounting on bath	14562	1	
Drain valve with cap (not for baths 112A, 118A and 130A)	6839	1	
Drain valve without cap (for baths 112A, 118A and 130A)	6026	1	
Pump adaptor for KISS E, CC-E with baths 106A to 118A	19606	1	
Pump adaptor for KISS E, CC-E with baths 208B to 225B and K12 to K25	19607	1	
Pump adaptors with screw clamp for open baths	10030	1	
Cooling coil for KISS-E, CC-E with baths 104A to 118A	30554	1	
Cooling coil for KISS-E, CC-E with baths 208B to 225B	30564	1	
Pump discharge pipe (for diverting flow in bath) for bath circulators with KISS E, CC-E	33288	1	
Screw clamp for KISS E, CC-E	30541	1	
Stand for KISS E and CC-E	6302	1	
DS level controller for external open baths, only suitable for units with pressure and suction pump and Minichiller. Useable for baths with a maximum wall thickness of 26 mm.	9580	1	
Holder for Ubbelohde-Viscosimeter for Visco 3	9586	2	

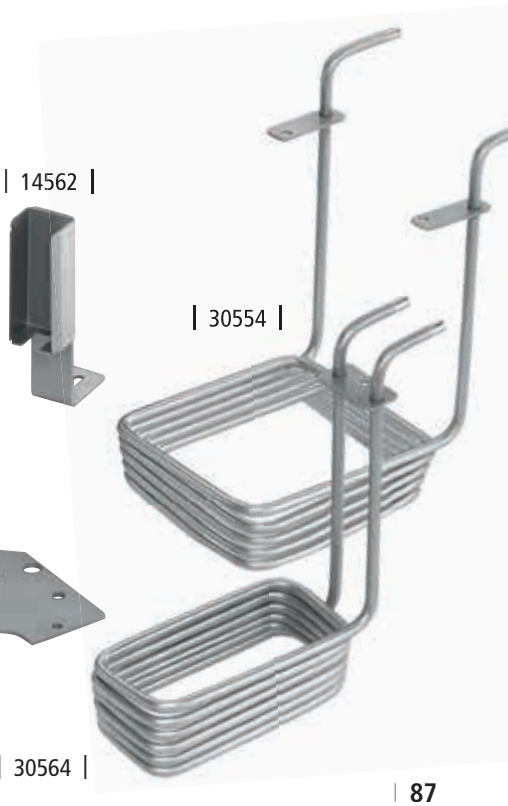
| 19606 |

| 19607 |

| 6839 |

| 30541 |





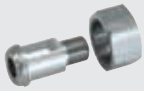
| 14562 |

| 30554 |

| 30564 |

Adaptor for M16x1	Thread	(G1) to	Cat.No.	Price
	male	M16x1 male	6278	
	female	M16x1 female	6359	
	male	G1/2 male	6299	
	male	G1/2 female	6364	
	female	R1/2 male	6360	
	female	G1/2 female	6229	
	male	G3/4 female	5443	
	female	G3/4 female	6361	
	female	M30x1,5 male	6431	
	male	M30x1,5 male	6449	
	male	M30x1,5 female	6454	

Adaptor for M24x1,5	Thread	(G1) to	Cat.No.	Price
	female	M30x1,5 male	6723	
	female	M16x1 male	6724	
	female	3/4 NPT female	6874	
	male	M16x1 female	6945	
	male	R1/2 female	9243	
	female	R1/2 male	9244	
	male	M24x1,5 male	9386	

Adaptor for M30x1,5	Thread	(G1) to	Cat.No.	Price
	male	M30x1,5 male	6448	
	female	G3/8 male	6445	
	male	G1/2 male	6393	
	male	R1/2 female	6394	
	female	G1/2 male	6391	
	female	G1/2 female	6392	
	male	G3/4 male	6447	
	male	R3/4 female	6442	
	female	G3/4 female	6452	
	female	3/4 NPT male	6472	
	male	G1 male	6444	
	female	G1 female	6453	
	male	M38x1,5 female	6612	

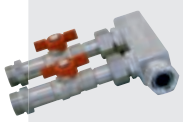
Adaptor for R1/2	Thread	(G1) to	Cat.No.	Price
	female	R1/2 female	6358	
	female	3/4 NPT female	6356	

Adaptor for M38x1,5	Thread	(G1) to	Cat.No.	Price
	female	1 NPT male	6600	
	female	R3/4 male	6665	

More adaptors on request

M16x1	(G1)	Cat.No.	Price
	Hose Connector NW 8 Hose Connector NW 12	6086 6087	
	Blank Plug	6088	
	Nut	6089	
	Micro Hose Connector NW 3,2	6090	
	90° Adaptor	6195	
	Ball Valve* Ball Valve**	6091 328240	
	2-way Header 3-way Header 4-way Header 5-way Header	6194 6193 6187 6815	
	2-way Valve System* 3-way Valve System* 4-way Valve System* 5-way Valve System*	6284 6285 6286 6816	

* Temperature range: -20°C...+140°C (max. 6 bar at +140°C)
** Temperature range: -60°C...+200°C (max. 20 bar at +175°C)

M24x1,5	(G1)	Cat.No.	Price
	90° Adaptor	9256	
	Ball Valve* Ball Valve**	9236 328184	
	2-way Header 3-way Header 4-way Header	9233 9234 9235	
	2-way Valve System* 3-way Valve System* 4-way Valve System*	9245 9246 9247	

* Temperature range: -10°C...+150°C (max. 20 bar at +80°C)
** Temperature range: -60°C...+200°C (max. 20 bar at +175°C)

M30x1,5	(G1)	Cat.No.	Price
	90° Adaptor	6461	
	Ball Valve* Ball Valve**	6451 328203	
	2-way Header 3-way Header 4-way Header	6420 6421 6422	
	2-way Valve System* 3-way Valve System* 4-way Valve System*	6423 6463 6464	

* Temperature range: -10°C...+150°C (max. 20 bar at +80°C)
** Temperature range: -60°C...+200°C (max. 20 bar at +175°C)

M38x1,5	(G1)	Cat.No.	Price
	90° Adaptor	6699	
	Ball Valve* Ball Valve**	6700 328191	
	2-way Header 3-way Header 4-way Header	6706 6707 6708	
	2-way Valve System* 3-way Valve System* 4-way Valve System*	6709 6710 6711	

* Temperature range: -10°C...+180°C (max. 10 bar at +180°C)
** Temperature range: -60°C...+200°C (max. 20 bar at +175°C)

G1/2, G3/4 and R1/2	(G1)	Cat.No.	Price
	Hose connections G1/2 for 3/8 hose	2294	
	Hose connections G3/4 for 1/2 hose	2295	
	90° Adaptor R1/2 to M30x1,5 female	9323	

Connections for Mettler Toledo "LabMax", "RC1"	Adaptor Unistat 40x Metal hose NW20 / M30x1,5:	(G1)	Cat.No.	Price
For use with the LabMax or the RC1 in variations	M30x1,5 male - R1/2 female		6394	
High temp, Mid temp and low temp, use the adaptors	M30x1,5 male - R3/4 female		6442	
listed here.	M16x1 female - M30x1,5 male		6431	

Service Agreements

Regular checking and servicing of your unit is the best protection for minimising down time, and also serves for long life and maintains the value of the unit. A regular professional check of your system also ensures control accuracy and economy.

Service Agreements	Cat.No.	G	Price
Service Agreements for circulators A standard agreement with regular checking of all safety arrangements and machine functions, as well as checking of cooling and heating performance for any visible wear. Inclusive service protocol and data logging with every service. Service interval and work performed can be indiviually customised to suit individual requirements. For more information contact your local distributor.			

Certificates / Calibration

If required, you can obtain a factory calibration certificate. Test protocol and other certification for your Huber unit is available on request.

Document	Cat.No.	G	Price
Factory calibration certificate – temperature stability to DIN12876	6252		
Factory calibration certificate – absolute accuracy	6905		
Testing protocol FAT (Final Acceptance Test)	9778		
Analysis certificate for thermal fluid	9669		

3-2-2 Warranty Benefits

With the 3-2-2 warranty you receive additional guarantee benefits without extra costs. To get the benefits of the warranty extension, visit the website and complete the online registration form.

The warranty is then automatically extended:

- **3 years for plug and play electronic components**
- **2 years for refrigeration components**
- **2 years for mechanical and electrical components**

Online-Registration at www.huber-online.com/register

IQ/OQ-Documentation

IQ/OQ documentation is available for your Huber unit, within the framework of quality management or validation. You can obtain comprehensive IQ/OQ documentation for many models.

For more information contact your local distributor

User Training

In our user training courses we communicate technical information about temperature control units and their practical application. You receive valuable information which enable optimum machine use. The course coverage and contents is matched to the requirements and prior knowledge of the participants.

For more information contact your local distributor

Technical Service on site

Our technical on site service can resolve many problems directly with you on site. Our qualified technical personnel can support you if required for machine installations, or carry out small repairs on site repairs. Lost time can often be minimised and transport costs avoided.

For more information contact your local distributor

Model	Catalogue Page	Temperature Range	T_{min} with Cooling	T_{min} with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening W x D x H	Resolution of Display	Temperature Stability	Cooling Power at 300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C	-100°C
		°C	°C	°C	kW	l	l	l	mm	°C	K	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
Unistate to -55°C																					
Petite Fleur	25	-40...200			1,5		1,5			0,01	0,01		0,48	0,48	0,48	0,45	0,27	0,04			
Petite Fleur w	25	-40...200			1,5		1,5			0,01	0,01		0,48	0,48	0,48	0,45	0,27	0,04			
Petite Fleur-eo	25	-40...200			1,5		1,5			0,01	0,01		0,48	0,48	0,48	0,45	0,27	0,04			
Grande Fleur	25	-40...200			1,5		1,5			0,01	0,01		0,60	0,60	0,60	0,60	0,35	0,04			
Grande Fleur w	25	-40...200			1,5		1,5			0,01	0,01		0,60	0,60	0,60	0,60	0,35	0,04			
Grande Fleur-eo	25	-40...200			1,5		1,5			0,01	0,01		0,60	0,60	0,60	0,60	0,35	0,04			
Grande Fleur w-eo	25	-40...200			1,5		1,5			0,01	0,01		0,60	0,60	0,60	0,60	0,35	0,04			
Unistat tango	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		0,7	0,7		0,7	0,4	0,06			
Unistat tango w	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		0,7	0,7		0,7	0,4	0,06			
Unistat tango wl	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		0,7	0,7		0,7	0,4	0,06			
Unistat 405	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		1,0	1,0		1,0	0,6	0,15			
Unistat 405w	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		1,3	1,3		1,3	0,7	0,15			
Unistat 410	26	-45...250			3,0		3,0			0,01	0,01		2,5	2,5	2,5	1,5	0,8	0,2			
Unistat 410w	26	-45...250			1,5 / 3,0		1,5			0,01	0,01		2,5	2,5	2,5	1,5	0,8	0,2			
Unistat 425	26	-40...250			2,0		3,6			0,01	0,01		2,0	2,0	2,0	2,5	1,8	0,2			
Unistat 425w	26	-40...250			2,0		3,6			0,01	0,01		2,8	2,8	2,8	2,5	1,9	0,2			
Unistat 430	26	-40...250			4,0		3,9			0,01	0,01		3,5	3,5	3,5	3,5	2,2	0,3			
Unistat 430w	26	-40...250			4,0		3,9			0,01	0,01		3,5	3,5	3,5	3,5	2,2	0,3			
Unistat 510	26	-50...250			6,0		5,3			0,01	0,01		5,3	5,3		5,3	2,8	0,9			
Unistat 510w	26	-50...250			6,0		4,7			0,01	0,01		5,3	5,3		5,3	2,8	0,9			
Unistat 515w	26	-55...250			6,0		4,7			0,01	0,01		7,0	7,0	7,0	5,0	2,8	0,9			
Unistat 520w	26	-55...250			6,0		5,1			0,01	0,01		6,0	6,0		6,0	4,2	1,5			
Unistat 525	26	-55...250			6,0		5,1			0,01	0,01		10,0	10,0	10,0	7,0	4,2	1,5			
Unistat 525w	26	-55...250			6,0		5,1			0,01	0,01		10,0	10,0	10,0	7,0	4,2	1,5			
Unistat 527w	26	-55...250			6,0		7,2			0,01	0,01		12,0	12,0	12,0	12,0	6,0	2,0			
Unistat 530w	26	-55...250			12,0		7,2			0,01	0,01		19,0	21,0	21,0	16,0	9,0	3,0			
Unistate to -75°C																					
Unistat 610	27	-60...200			6,0		5,65			0,01	0,01		7,0	7,0		7,0	6,4	3,3	0,8		
Unistat 610w	27	-60...200			6,0		5,65			0,01	0,01		7,0	7,0		7,0	6,4	3,3	0,8		
Unistat 615w	27	-60...200			12,0		5,65			0,01	0,01		9,5	9,5		9,5	8,0	4,8	1,2		
Unistat 620w	27	-60...200			12,0		5,2			0,01	0,01		12,0	12,0		12,0	12,0	6,5	1,8		
Unistat 625w	27	-60...200			12,0		3,4			0,01	0,01		16,0	16,0	16,0	16,0	15,0	7,4	2,2		
Unistat 630w	27	-60...200			24,0		11,4			0,01	0,01		22,0	22,0		21,0	20,0	14,0	5,0		
Unistat 635w	27	-60...200			24,0		21,0			0,01	0,01		27,0	27,0		27,0	25,0	18,0	6,0		
Unistat 640w	27	-60...200			30,0		17,0			0,01	0,01		32,0	32,0	35,0	35,0	30,0	18,0	6,0		
Unistat 645w	27	-60...200			36,0		30,0			0,01	0,01		45,0	45,0		45,0	42,0	22,0	7,0		
Unistat 650w	27	-60...200			48,0		28,0			0,01	0,01		65,0	65,0		65,0	56,0	30,0	11,0		
Unistat 680w	27	-60...200			96,0		40,0			0,01	0,01		130,0	130,0		130,0	80,0	60,0	20,0		
Unistat 705	28	-75...250			1,5 / 3,0		1,5			0,01	0,01		0,6	0,6		0,65	0,6	0,6	0,3		
Unistat 705w	28	-75...250			1,5 / 3,0		1,5			0,01	0,01		0,6	0,6		0,65	0,6	0,6	0,3		
Unistate to -85°C																					
Unistat 815	28	-85...250			2,0		3,8			0,01	0,01		1,3	1,3		1,5	1,5	1,4	1,2	0,2	
Unistat 815w	28	-85...250			2,0		3,2			0,01	0,01		1,5	1,5		1,5	1,5	1,4	1,2	0,2	
Unistat 825	28	-85...250			3,0		2,9			0,01	0,01		2,3	2,3		2,2	2,0	2,0	1,4	0,3	
Unistat 825w	28	-85...250			3,0		3,0			0,01	0,01		2,3	2,3		2,4	2,4	2,4	1,5	0,3	
Unistate to -90°C																					
Unistat 905	29	-90...250			6,0		3,5			0,01	0,01		4,0	3,8		3,6	3,5	3,5	2,2	0,7	
Unistat 905w	29	-90...250			6,0		3,5			0,01	0,01		4,5	4,5		4,5	4,5	4,0	2,5	0,7	
Unistat 912w	29	-90...250			6,0		5,2			0,01	0,01		7,0	7,0		7,0	7,0	6,0	3,5	0,9	
Unistat 915w	29	-90...250			6,0		5,2			0,01	0,01		11,0	11,0		11,0	11,0	8,0	4,0	1,1	
Unistat 920w	29	-90...200			12,0		12,0			0,01	0,01		11,0	11,0	11,0	11,0	11,0	10,0	8,0	2,0	

max. Flow Rate – Pressure	max. Press – Pressure Pump	max. Flow Rate – Suction Pump	max. Press – Suction Pump	Pump Connection	Circulation Pump	Safety Class	Overtemperature Protection	Low Level Protection	Dimensions W x D x H / ID	Weight	Power Supply[1]	Refrigeration Machine Cooling	min. Ambient Temperature	max. Ambient Temperature	Cooling Water Connection	Natural Refrigerant[2]	Cat. No.	Model
l/min	bar	l/min	bar						mm	kg	V; Hz		°C	°C				
25	0,9			M16x1	Yes, vpc	III/FL	Yes	Yes	260 x 450 x 504	45,0	230;1~;50	AIR	5	40		S	1030.0001.01	Petite Fleur
25	0,9			M16x1	Yes, vpc	III/FL	Yes	Yes	260 x 450 x 504	45,0	230;1~;50	WATER	5	40	G1/2	S	1030.0003.01	Petite Fleur w
25	0,9			M16x1	Yes, vpc	III/FL	Yes	Yes	260 x 450 x 504	45,0	230;1~;50	AIR	5	40		S	1030.0004.01	Petite Fleur-eo
47	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	295 x 540 x 565	55,0	230;1~;50	AIR	5	40		S	1041.0001.01	Grande Fleur
47	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	295 x 540 x 565	55,0	230;1~;50	WATER	5	40	G1/2	S	1041.0007.01	Grande Fleur w
47	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	295 x 540 x 565	55,0	230;1~;50	AIR	5	40		S	1041.0004.01	Grande Fleur-eo
47	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	295 x 540 x 565	55,0	230;1~;50	WATER	5	40	G1/2	S	1041.0010.01	Grande Fleur w-eo
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	426 x 270 x 631	56,0	230;1~;50 / 400;3~N;50	AIR	5	40		O	1000.0016.01	Unistat tango
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	426 x 270 x 631	56,0	230;1~;50 / 400;3~N;50	WATER	5	40	G1/2	S	1000.0021.01	Unistat tango w
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	426 x 270 x 631	56,0	230;1~;50 / 400;3~N;50	AIR+WATER	5	40	G1/2	O	1000.0017.01	Unistat tango wl
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	426 x 307 x 631	65,0	230;1~;50 / 400;3~N;50	AIR	5	40		O	1002.0021.01	Unistat 405
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	426 x 307 x 631	62,0	230;1~;50 / 400;3~N;50	WATER	5	40	G1/2	O	1002.0022.01	Unistat 405w
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	460 x 554 x 1200	139,0	400;3~;50	AIR	5	40		A	1031.0010.01	Unistat 410
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 360 x 636	67,5	230;1~;50 / 400;3~N;50	WATER	5	40	G1/2	O	1031.0005.01	Unistat 410w
105	1,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	155,0	400;3~;50	AIR	5	40		A	1005.0057.01	Unistat 425
105	1,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	159,0	400;3~;50	WATER	5	40	G1/2	O	1005.0058.01	Unistat 425w
90	1,7			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	161,0	400;3~;50	AIR	5	40		A	1005.0059.01	Unistat 430
90	1,7			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	159,0	400;3~;50	WATER	5	40	G1/2	O	1005.0060.01	Unistat 430w
105	1,5			M30x1,5	Yes	III/FL	Yes	Yes	1100 x 755 x 1370	324,0	400;3~;50	AIR	5	40		A	1005.0082.01	Unistat 510
105	1,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	163,0	400;3~;50	WATER	5	40	G1/2	A	1005.0061.01	Unistat 510w
105	1,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1453	176,0	400;3~;50	WATER	5	40	G1/2	A	1032.0006.01	Unistat 515w
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	540 x 604 x 1332	203,0	400;3~;50	WATER	5	40	G1/2	A	1006.0020.01	Unistat 520w
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	1290 x 736 x 1596	406,0	400;3~;50	AIR	5	40		A	1033.0015.01	Unistat 525
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	540 x 604 x 1332	203,0	400;3~;50	WATER	5	40	G1/2	A	1033.0008.01	Unistat 525w
90	2,5			M30x1,5	Yes	III/FL	Yes	Yes	540 x 704 x 1491	288,0	400;3~;50	WATER	5	40	G3/4	A	1034.0014.01	Unistat 527w
90	2,5			M30x1,5	Yes	III/FL	Yes	Yes	540 x 704 x 1491	288,0	400;3~;50	WATER	5	40	G3/4	A	1034.0015.01	Unistat 530w
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	1290 x 735 x 1600	488,0	400;3~;50	AIR	5	40		A	1007.0040.01	Unistat 610
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	630 x 704 x 1520	348,0	400;3~;50	WATER	5	40	G1/2	O	1007.0031.01	Unistat 610w
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	630 x 704 x 1520	358,0	400;3~;50	WATER	5	40	G1/2	O	1007.0032.01	Unistat 615w
90	2,5			M30x1,5	Yes	III/FL	Yes	Yes	730 x 804 x 1520	440,0	400;3~;50	WATER	5	40	G3/4	O	1008.0040.01	Unistat 620w
90	2,5			M30x1,5	Yes	III/FL	Yes	Yes	730 x 804 x 1520	448,0	400;3~;50	WATER	5	40	G3/4	O	1008.0041.01	Unistat 625w
110	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1005 x 1650	682,0	400;3~;50	WATER	5	40	G3/4	O	1009.0021.01	Unistat 630w
110	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1005 x 1650	734,0	400;3~;50	WATER	5	40	G3/4	O	1009.0022.01	Unistat 635w
110	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1005 x 1650	734,0	400;3~;50	WATER	5	40	G3/4	O	1010.0007.01	Unistat 640w
130	4,0			M38x1,5	Yes	III/FL	Yes	Yes	1830 x 1200 x 1830	1400	400;3~;50	WATER	5	40	G1 1/2	A	1011.0006.01	Unistat 645w
130	4,0			M38x1,5	Yes	III/FL	Yes	Yes	1830 x 1200 x 1830	1500	400;3~;50	WATER	5	40	G1 1/2	A	1012.0005.01	Unistat 650w
130	4,0			M38x1,5	Yes	III/FL	Yes	Yes	4500 x 2000 x 2000	3500	400;3~;50	WATER	5	40	G2	A	1013.0003.01	Unistat 680w
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 400 x 720	90,0	230;1~;50 / 400;3~N;50	AIR	5	40		A	1001.0020.01	Unistat 705
55	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 400 x 720	90,0	230;1~;50 / 400;3~N;50	WATER	5	40	G1/2	O	1001.0021.01	Unistat 705w
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	460 x 604 x 1465	214,0	400;3~;50	AIR	5	40		A	1014.0049.01	Unistat 815
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	460 x 604 x 1465	217,0	400;3~;50	WATER	5	40	G1/2	O	1014.0050.01	Unistat 815w
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	460 x 604 x 1465	215,0	400;3~;50	AIR	5	40		A	1014.0051.01	Unistat 825
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	460 x 604 x 1465	204,0	400;3~;50	WATER	5	40	G1/2	O	1014.0052.01	Unistat 825w
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	540 x 654 x 1500	238,0	400;3~;50	AIR	5	40			1035.0011.01	Unistat 905
40	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	540 x 654 x 1500	238,0	400;3~;50	WATER	5	40	G1/2		1035.0012.01	Unistat 905w
110	1,5			M30x1,5	Yes	III/FL	Yes	Yes	630 x 704 x 1565	384,0	400;3~;50	WATER	5	40	G1/2	O	1016.0027.01	Unistat 912w
110	1,5			M30x1,5	Yes	III/FL	Yes	Yes	630 x 704 x 1565	384,0	400;3~;50	WATER	5	40	G3/4	O	1036.0006.01	Unistat 915w
90	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1205 x 1650	855,0	400;3~;50	WATER	5	40	G3/4	O	1017.0025.01	Unistat 920w

FL = Suitable for inflammable and non-inflammable liquids

[1] Voltage can be changed, must be specified with order

[2] S = Standard, O = Option, A = On Request

[3] Option

Model	Catalogue Page	Temperature Range	T_{min} with Cooling	T_{min} with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening W x D x H	Resolution of Display	Temperature Stability	Cooling Power at									
												300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C	-100°C
		°C	°C	°C	kW	l	l	l	mm	°C	K	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
Unistat 925w	29	-90...200			12,0		12,0			0,01	0,01		16,0	16,0	16,0	16,0	16,0	15,0	13,5	3,5	
Unistat 930w	29	-90...200			24,0		12,0			0,01	0,01		19,0	19,0	19,0	20,0	20,0	20,0	15,0	5,0	
Unistat 950	29	-90...200			36,0		30,0			0,01	0,01		30,0	30,0	30,0	30,0	30,0	30,0	24,0	10,0	
Unistat 950w	29	-90...200			36,0		30,0			0,01	0,01		36,0	36,0	36,0	36,0	36,0	36,0	25,0	10,0	
Unistate to -120°C																					
Unistat 1005w	29	-120...100			2,0		3,6			0,01	0,01			1,5	1,5	1,5	1,5	1,5	1,4	1,4	1,0
Unistat 1015w	29	-120...100			4,0		7,0			0,01	0,01			2,5	2,5	2,5	2,5	2,5	2,5	2,0	2,0
Unistat High Temperature Circulators, Unistat Heating Circulators																					
Unistat TR401	30	50...400			3,0 / 9,0		2,3			0,01/0,1	0,05										
Unistat TR401w HT	30	50...400		15	3,0 / 9,0		2,3			0,01/0,1	0,05	10,0	10,0	10,0							
Unistat TR402	30	80...425			3,0 / 9,0		3,0			0,01/0,1	0,05										
Unistat T305	31	65...300		15	3,0 / 6,0		1,45			0,01	0,02										
Unistat T305 HT	31	65...300			3,0 / 6,0		1,9			0,01	0,01	3,2	2,3	0,6							
Unistat T305w HT	31	65...300		15	3,0 / 6,0		1,9			0,01		10,0	10,0	10,0							
Unistat T320w HT	31	65...300		15	12,0		3,5			0,01		10,0	10,0	6,0							
Unistat T330	31	65...300			24,0		3,5			0,01											
Unistat T330w HT	31	65...300		15	24,0		3,5			0,01		10,0	10,0	6,0							
Unistat T340w HT	31	65...300		15	48,0		12,5			0,01		10,0	10,0	6,0							
Unistat T402	31	80...425		15	3,0 / 6,0		1,45			0,01	0,02										
Minichillers with MPC																					
Minichiller 280	40	-5...40					2,0			0,1	1,0					0,2					
Minichiller 300	40	-20...40(80)					1,4			0,1	0,5					0,2	0,07				
Minichiller 300w	40	-20...40(80)					1,4			0,1	0,5					0,2	0,07				
Minichiller 600	40	-20...40					2,8			0,1	0,5					0,5	0,15				
Minichiller 900w	40	-25...40					1,25			0,1	0,5					0,7	0,2				
Minichillers with OLÉ																					
Minichiller 280 OLÉ	41	-5...40					2,0			0,1	1,0					0,2					
Minichiller 300 OLÉ	41	-20...40(80)					1,4			0,1	0,5					0,2	0,07				
Minichiller 300w OLÉ	41	-20...40(80)					1,4			0,1	0,5					0,2	0,07				
Minichiller 600 OLÉ	41	-20...40					2,8			0,1	0,5					0,5	0,15				
Minichiller 900w OLÉ	41	-25...40					1,25			0,1	0,5					0,7	0,2				
Unichillers (Bench top) with OLÉ																					
Unichiller 007 OLÉ	42	-20...40					3,8			0,1	0,5					0,55	0,20				
Unichiller 010 OLÉ	42	-20...40					3,8			0,1	0,5					0,8	0,15				
Unichiller 012 OLÉ	42	-20...40					3,8			0,1	0,5					1,0	0,25				
Unichiller 012w OLÉ	42	-20...40					3,8			0,1	0,5					1,0	0,25				
Unichiller 015 OLÉ	42	-20...40					3,8			0,1	0,5					1,0	0,30				
Unichiller 015w OLÉ	42	-20...40					3,8			0,1	0,5					1,0	0,30				
Unichiller 022 OLÉ	42	-10...40					3,8			0,1	0,5					1,6					
Unichiller 022w OLÉ	42	-10...40					3,8			0,1	0,5					1,6					
Unichiller 025 OLÉ	42	-10...40					3,8			0,1	0,5					2,0					
Unichiller 025w OLÉ	42	-10...40					3,8			0,1	0,5					2,0					
Unichiller (Bench top) with Pilot ONE																					
Unichiller 007	43	-20...40					3,8			0,01/0,1	0,5					0,55	0,2				
Unichiller 010	43	-20...40					3,8			0,01/0,1	0,5					0,8	0,15				
Unichiller 012	43	-20...40					3,8			0,01/0,1	0,5					1,0	0,25				
Unichiller 012w	43	-20...40					3,8			0,01/0,1	0,5					1,0	0,25				
Unichiller 015	43	-20...40					3,8			0,01/0,1	0,5					1,0	0,3				
Unichiller 015w	43	-20...40					3,8			0,01/0,1	0,5					1,0	0,3				
Unichiller 022	43	-10...40					3,8			0,01/0,1	0,5					1,6					
Unichiller 022w	43	-10...40					3,8			0,01/0,1	0,5					1,6					
Unichiller 025	43	-10...40					3,8			0,01/0,1	0,5					2,0					

max. Flow Rate – Pressure	max. Press – Pressure Pump	max. Flow Rate – Suction Pump	max. Press – Suction Pump	Pump Connection	Circulation Pump	Safety Class	Overtemperature Protection	Low Level Protection	Dimensions W x D x H / ID	Weight	Power Supply[1]	Refrigeration Machine Cooling	min. Ambient Temperature	max. Ambient Temperature	Cooling Water Connection	Natural Refrigerant[2]	Cat. No.	Model
l/min	bar	l/min	bar						mm	kg	V; Hz		°C	°C				
110	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1205 x 1650	947,0	400;3~;50	WATER	5	40	G3/4	O	1017.0026.01	Unistat 925w
110	2,5			M38x1,5	Yes	III/FL	Yes	Yes	950 x 1205 x 1650	940,0	400;3~;50	WATER	5	40	G3/4	O	1017.0027.01	Unistat 930w
130	4,0			M38x1,5	Yes	III/FL	Yes	Yes	3315 x 1485 x 3040	2100	400;3~;50	AIR	5	40		A	1018.0008.01	Unistat 950
130	4,0			M38x1,5	Yes	III/FL	Yes	Yes	2630 x 1300 x 1930	2250	400;3~;50	WATER	5	40	G1 1/4	A	1018.0009.01	Unistat 950w
30	0,9			M30x1,5	Yes, vpc	III/FL	Yes	Yes	700 x 804 x 1520	355,0	400;3~;50	WATER	5	40	G1/2		1019.0009.01	Unistat 1005w
44	1,5			M30x1,5	Yes	III/FL	Yes	Yes	950 x 1205 x 1650	685,0	400;3~;50	WATER	5	40	G1/2		1020.0010.01	Unistat 1015w
31	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	288 x 379 x 890	37,0	230;1~;50/60 / 400;3~N;50/60		5	40	G1/2		1028.0007.01	Unistat TR401
26	0,8			M24x1,5	Yes, vpc	III/FL	Yes	Yes	288 x 379 x 890	47,0	230;1~;50/60 / 400;3~N;50/60		5	40	G1/2		1028.0018.01	Unistat TR401w HT
31	1,0			M24x1,5	Yes, vpc	III/FL	Yes	Yes	288 x 332 x 870	48,0	230;1~;50/60 / 400;3~N;50/60		5	40	G1/2		1028.0006.01	Unistat TR402
45	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 250 x 631	35,0	230;1~;50/60 / 400;3~N;50/60		5	40			1003.0021.01	Unistat T305
45	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 250 x 631	36,0	230;1~;50/60 / 400;3~N;50/60		5	40			1003.0020.01	Unistat T305 HT
45	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	425 x 250 x 631	41,5	230;1~;50/60 / 400;3~N;50/60		5	40	G1/2		1003.0017.01	Unistat T305w HT
60	1,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1330	124,0	400;3~;50		5	40	G1/2		1004.0019.01	Unistat T320w HT
60	2,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1330	138,0	400;3~;50		5	40			1004.0031.01	Unistat T330
60	2,5			M30x1,5	Yes	III/FL	Yes	Yes	460 x 554 x 1330	138,0	400;3~;50		5	40	G1/2		1004.0025.01	Unistat T330w HT
60	2,5			M30x1,5	Yes	III/FL	Yes	Yes	600 x 704 x 1520	163,0	400;3~;50		5	40	G1/2		1024.0007.01	Unistat T340w HT
45	0,9			M24x1,5	Yes, vpc	III/FL	Yes	Yes	505 x 400 x 765	54,0	230;1~;50/60 / 400;3~N;50/60		5	40	G1/2		1038.0003.01	Unistat T402
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	28,0	230;1~;50/60	AIR	5	40		S	3006.0101.99	Minichiller 280
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	23,0	230;1~;50/60	AIR	5	40		S	3006.0063.99	Minichiller 300
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	23,0	230;1~;50/60	WATER	5	40	G1/2	S	3006.0065.99	Minichiller 300w
24	0,7	18	0,4	M16x1	Yes, A	I/NFL	No	Yes	280 x 490 x 424	36,0	230;1~;50/60	AIR	5	40		S	3006.0067.99	Minichiller 600
25	0,9			M16x1	Yes, A	I/NFL	No	No	230 x 350 x 540	32,0	230;1~;50	WATER	5	40	G1/2	S	3006.0068.99	Minichiller 900w
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	28,0	230;1~;50/60	AIR	5	40		S	3006.0105.98	Minichiller 280 OLÉ
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	23,0	230;1~;50/60	AIR	5	40		S	3006.0089.98	Minichiller 300 OLÉ
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	No	225 x 360 x 380	23,0	230;1~;50/60	WATER	5	40	G1/2	S	3006.0090.98	Minichiller 300w OLÉ
24	0,7	18	0,4	M16x1	Yes, A	I/NFL	No	Yes	280 x 490 x 424	36,0	230;1~;50/60	AIR	5	40		S	3006.0098.98	Minichiller 600 OLÉ
25	0,9			M16x1	Yes, A	I/NFL	No	No	230 x 350 x 540	32,0	230;1~;50	WATER	5	40	G1/2	S	3006.0100.98	Minichiller 900w OLÉ
29	1,0			G3/4	Yes	I/NFL	No	No	350 x 496 x 622	56,0	230;1~;50/60	AIR	5	40		O	3012.0120.98	Unichiller 007 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	No	350 x 496 x 622	49,0	230;1~;50/60	AIR	5	40			3012.0124.98	Unichiller 010 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	No	420 x 487 x 579	52,0	230;1~;50	AIR	5	40			3009.0090.98	Unichiller 012 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	No	350 x 496 x 622	52,0	230;1~;50	WATER	5	40	G1/2	O	3012.0133.98	Unichiller 012w OLÉ
29	1,0			G3/4	Yes	I/NFL	No	No	420 x 487 x 579	52,0	230;1~;50	AIR	5	40			3009.0094.98	Unichiller 015 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	350 x 496 x 622	52,0	230;1~;50	WATER	5	40	G1/2	O	3012.0137.98	Unichiller 015w OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	78,0	230;1~;50	AIR	5	40			3010.0050.98	Unichiller 022 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 487 x 579	93,0	230;1~;50	WATER	5	40	G1/2	O	3009.0098.98	Unichiller 022w OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	88,0	230;1~;50	AIR	5	40			3010.0054.98	Unichiller 025 OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 487 x 579	95,0	230;1~;50	WATER	5	40	G1/2	O	3009.0102.98	Unichiller 025w OLÉ
29	1,0			G3/4	Yes	I/NFL	No	Yes	350 x 430 x 622	57,0	230;1~;50/60	AIR	5	40		A	3012.0189.01	Unichiller 007
29	1,0			G3/4	Yes	I/NFL	No	Yes	350 x 430 x 622	57,0	230;1~;50/60	AIR	5	40		A	3012.0191.01	Unichiller 010
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 480 x 579	52,0	230;1~;50	AIR	5	40		A	3009.0145.01	Unichiller 012
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 480 x 579	52,0	230;1~;50	WATER	5	40		A	3012.0193.01	Unichiller 012w
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 480 x 579	52,0	230;1~;50	AIR	5	40		A	3009.0147.01	Unichiller 015
29	1,0			G3/4	Yes	I/NFL	No	Yes	420 x 480 x 579	52,0	230;1~;50	WATER	5	40		A	3012.0195.01	Unichiller 015w
29	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	83,0	230;1~;50	AIR	5	40		A	3010.0081.01	Unichiller 022
29	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	83,0	230;1~;50	WATER	5	40		A	3009.0149.01	Unichiller 022w
29	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	83,0	230;1~;50	AIR	5	40		A	3010.0083.01	Unichiller 025

FL = Suitable for inflammable and non-inflammable liquids

[1] Voltage can be changed, must be specified with order

[2] S = Standard, O = Option, A = On Request

[3] Option

Model	Catalogue Page	Temperature Range	T_{min} with Cooling	T_{min} with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening W x D x H	Resolution of Display	Temperature Stability	Cooling Power at 300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C	-100°C
		°C	°C	°C	kW	l	l	l	mm	°C	K	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
Unichiller 025w	43	-10...40					3,8			0,01/0,1	0,5					2,0					
Unichillers air-cooled with Pilot ONE																					
Unichiller 017T	44	-10...40					2,5			0,01/0,1	0,5					0,9					
Unichiller 020T	44	-20...40					2,5			0,01/0,1	0,5					2,0	0,8				
Unichiller 025T	44	-10...40					2,5			0,01/0,1	0,5					1,2					
Unichiller 040T	44	-10...40					3,5			0,01/0,1	0,5					2,5					
Unichiller 045T	44	-20...40					3,5			0,01/0,1	0,5					4,5	1,5				
Unichiller 055T	44	-10...40					5,0			0,01/0,1	0,5					3,0					
Unichiller 060T	44	-20...40					5,0			0,01/0,1	0,5					6,0	2,0				
Unichiller 080T	44	-10...40					5,0			0,01/0,1	0,5					4,8					
Unichiller 100T	44	-20...40					8,36			0,01/0,1	0,5					10,0	2,5				
Unichiller 110T	44	-10...40					8,36			0,01/0,1	0,5					6,0					
Unichiller 130T	44	-10...40					14,0			0,01/0,1	0,5					7,0					
Unichiller 150T	44	-20...40					14,0			0,01/0,1	0,5					15,0	3,7				
Unichiller 160T	44	-10...40					14,0			0,01/0,1	0,5					8,8					
Unichiller 200T	44	-10...40					14,0			0,01/0,1	0,5					11,0					
Unichiller 210T	44	-20...40					14,0			0,01/0,1	0,5					21,0	5,2				
Unichiller 250T	44	-10...40					14,0			0,01/0,1	0,5					14,0					
Unichiller 260T	44	-20...40					14,0			0,01/0,1	0,5					26,0	5,2				
Unichiller 300T	44	-10...40					14,0			0,01/0,1	0,5					16,5					
Unichiller 400T	44	-10...40					14,0			0,01/0,1	0,5					22,0					
Unichillers water-cooled with Pilot ONE																					
Unichiller 017Tw	45	-10...40					2,5			0,01/0,1	0,5					0,9					
Unichiller 020Tw	45	-20...40					2,5			0,01/0,1	0,5					2,0	0,8				
Unichiller 025Tw	45	-10...40					2,5			0,01/0,1	0,5					1,2					
Unichiller 030Tw	45	-20...40					2,5			0,01/0,1	0,5					3,0	1,0				
Unichiller 040Tw	45	-10...40					2,5			0,01/0,1	0,5					2,5					
Unichiller 055Tw	45	-10...40					5,9			0,01/0,1	0,5					4,0					
Unichiller 060Tw	45	-20...40					5,9			0,01/0,1	0,5					6,0	2,1				
Unichiller 080Tw	45	-10...40					5,9			0,01/0,1	0,5					4,65					
Unichiller 100Tw	45	-20...40					6,5			0,01/0,1	0,5					10,0	3,0				
Unichiller 110Tw	45	-10...40					6,5			0,01/0,1	0,5					5,8					
Unichiller 130Tw	45	-10...40					6,5			0,01/0,1	0,5					7,0					
Unichiller 150Tw	45	-20...40					12,7			0,01/0,1	0,5					15,0	5,0				
Unichiller 160Tw	45	-10...40					6,5			0,01/0,1	0,5					9,5					
Unichiller 200Tw	45	-10...40					12,7			0,01/0,1	0,5					10,7					
Unichiller 210Tw	45	-20...40					13,0			0,01/0,1	0,5					21,0	9,5				
Unichiller 250Tw	45	-10...40					5,5			0,01/0,1	0,5					14,0					
Unichiller 260Tw	45	-20...40					12,3			0,01/0,1	0,5					26,0	12,0				
Unichiller 300Tw	45	-10...40					9,5			0,01/0,1	0,5					16,0					
Unichiller 400Tw	45	-10...40					9,5			0,01/0,1	0,5					21,0					
Unichiller 500Tw	45	-10...40					17,0			0,01/0,1	0,5					30,0					
RotaCool, Flow-through Chillers, Immersion Coolers																					
RotaCool	46	-10...40					1,5			0,1	1,0					0,35					
DC30	47	-30...50														0,15	0,07				
DC31	47	-30...50														0,35	0,10				
DC32	47	-30...50														0,47	0,12				
TC45	47	-45...100														0,24	0,18	0,05			
TC45E	47	-45...100								0,1	0,5					0,24	0,18	0,05			
TC50	47	-50...50														0,3	0,26				
TC50E	47	-50...50								0,1	0,5					0,3	0,26				
TC100	47	-100...40														0,16	0,15		0,12	0,12	0,01

max. Flow Rate – Pressure	max. Press – Pressure Pump	max. Flow Rate – Suction Pump	max. Press – Suction Pump	Pump Connection	Circulation Pump	Safety Class	Overtemperature Protection	Low Level Protection	Dimensions W x D x H / ID	Weight	Power Supply[1]	Refrigeration Machine Cooling	min. Ambient Temperature	max. Ambient Temperature	Cooling Water Connection	Natural Refrigerant[2]	Cat. No.	Model
l/min	bar	l/min	bar						mm	kg	V; Hz		°C	°C				
25	1,0			G3/4	Yes	I/NFL	No	Yes	460 x 590 x 743	83,0	230;1~;50	WATER	5	40		A	3009.0151.01	Unichiller 025w
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	450 x 510 x 1230	114,0	230;1~;50	AIR	5	40		A	3013.0001.01	Unichiller 017T
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	450 x 510 x 1230	130,0	230;1~;50	AIR	5	40		A	3013.0002.01	Unichiller 020T
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	450 x 510 x 1230	119,0	230;1~;50	AIR	5	40		A	3013.0003.01	Unichiller 025T
26	3,0			G3/4	Yes, B	I/NFL	No	Yes	500 x 552 x 1451	164,0	400;3~;50	AIR	5	40		A	3014.0001.01	Unichiller 040T
26	3,0			G3/4	Yes, B	I/NFL	No	Yes	500 x 552 x 1451	164,0	400;3~;50	AIR	5	40		A	3014.0002.01	Unichiller 045T
57	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 692 x 1613	175,0	400;3~;50	AIR	5	40		A	3015.0042.01	Unichiller 055T
80	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 692 x 1613	199,0	400;3~;50	AIR	5	40		A	3015.0044.01	Unichiller 060T
84	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 790 x 1614	234,0	400;3~;50	AIR	5	40		A	3016.0001.01	Unichiller 080T
96	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 790 x 1614	230,0	400;3~;50	AIR	5	40		A	3017.0001.01	Unichiller 100T
90	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 790 x 1614	230,0	400;3~;50	AIR	5	40		A	3017.0002.01	Unichiller 110T
90	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	905 x 1582 x 1837	375,0	400;3~;50	AIR	5	40		A	3018.0012.01	Unichiller 130T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	905 x 1582 x 1837	481,0	400;3~;50	AIR	5	40		A	3019.0020.01	Unichiller 150T
96	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	905 x 1582 x 1837	480,0	400;3~;50	AIR	5	40		A	3018.0013.01	Unichiller 160T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	905 x 1582 x 1837	490,0	400;3~;50	AIR	5	40		A	3019.0026.01	Unichiller 200T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	904 x 2172 x 1870	430,0	400;3~;50	AIR	5	40		A	3020.0001.01	Unichiller 210T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	904 x 2172 x 1870	430,0	400;3~;50	AIR	5	40		A	3020.0002.01	Unichiller 250T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	904 x 2172 x 1870	430,0	400;3~;50	AIR	5	40		A	3020.0003.01	Unichiller 260T
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	904 x 2172 x 1870	450,0	400;3~;50	AIR	5	40		A	3020.0004.01	Unichiller 300T
220	4,6			G1 1/4	Yes, D3	I/NFL	No	Yes	904 x 2172 x 1870	639,0	400;3~;50	AIR	5	40		A	3021.0001.01	Unichiller 400T
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	400 x 440 x 1230	96,0	230;1~;50	WATER	5	40	G1/2	O	3024.0021.01	Unichiller 017Tw
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	400 x 440 x 1230	109,0	230;1~;50	WATER	5	40	G1/2	O	3024.0025.01	Unichiller 020Tw
25	3,0			G3/4	Yes, B	I/NFL	No	Yes	400 x 440 x 1230	109,0	230;1~;50	WATER	5	40	G1/2	O	3024.0031.01	Unichiller 025Tw
26	3,0			G3/4	Yes, B	I/NFL	No	Yes	400 x 440 x 1230	115,0	400;3~;50	WATER	5	40	G1/2	O	3025.0022.01	Unichiller 030Tw
26	3,0			G3/4	Yes, B	I/NFL	No	Yes	400 x 440 x 1230	110,0	400;3~;50	WATER	5	40	G1/2	O	3025.0033.01	Unichiller 040Tw
57	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	500 x 552 x 1261	168,0	400;3~;50	WATER	5	40	G1/2	O	3026.0001.01	Unichiller 055Tw
80	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	500 x 552 x 1261	173,0	400;3~;50	WATER	5	40	G1/2	O	3026.0002.01	Unichiller 060Tw
84	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	500 x 552 x 1261	183,0	400;3~;50	WATER	5	40	G1/2	O	3026.0003.01	Unichiller 080Tw
96	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 600 x 1450	230,0	400;3~;50	WATER	5	40	G1/2	O	3027.0001.01	Unichiller 100Tw
90	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 600 x 1450	222,0	400;3~;50	WATER	5	40	G1/2	O	3027.0002.01	Unichiller 110Tw
96	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 600 x 1450	370,0	400;3~;50	WATER	5	40	G1/2	O	3027.0003.01	Unichiller 130Tw
200	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 800 x 1560	359,0	400;3~;50	WATER	5	40	G3/4	O	3028.0001.01	Unichiller 150Tw
96	5,6			G1 1/4	Yes, C3	I/NFL	No	Yes	600 x 600 x 1450	235,0	400;3~;50	WATER	5	40	G3/4	O	3027.0004.01	Unichiller 160Tw
200	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 800 x 1560	430,0	400;3~;50	WATER	5	40	G3/4	O	3028.0002.01	Unichiller 200Tw
200	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 800 x 1560	430,0	400;3~;50	WATER	5	40	G3/4	O	3028.0003.01	Unichiller 210Tw
200	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 800 x 1560	430,0	400;3~;50	WATER	5	40	G3/4	O	3028.0004.01	Unichiller 250Tw
210	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 800 x 1560	430,0	400;3~;50	WATER	5	40	G3/4	O	3028.0005.01	Unichiller 260Tw
210	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 900 x 1560	450,0	400;3~;50	WATER	5	40	G3/4	O	3029.0001.01	Unichiller 300Tw
210	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	760 x 900 x 1560	450,0	400;3~;50	WATER	5	40	G3/4	O	3029.0002.01	Unichiller 400Tw
220	4,7			G1 1/4	Yes, D3	I/NFL	No	Yes	1000 x 1103 x 1580	520,0	400;3~;50	WATER	5	40	G1 1/4	O	3030.0001.01	Unichiller 500Tw
14	0,25	10,5	0,17	M16x1	Yes	I/NFL	No	Yes	470 x 580 x 420	32,0	230;1~;50/60	AIR	5	40		S	3033.0007.99	RotaCool
				M16x1	No	I/NFL	No	No	190 x 250 x 360	16,0	230;1~;50	AIR	5	40		S	3000.0001.99	DC30
				M16x1	No	I/NFL	No	No	250 x 310 x 400	23,0	230;1~;50/60	AIR	5	40		S	3001.0001.99	DC31
				M16x1	No	I/NFL	No	No	280 x 340 x 460	30,0	230;1~;50	AIR	5	40		S	3002.0001.99	DC32
					No	I/NFL	No	No	190 x 295 x 360	16,0	230;1~;50/60	AIR	5	40		S	3003.0001.99	TC45
					No	I/NFL	No	No	190 x 295 x 360	16,0	230;1~;50/60	AIR	5	40		S	3003.0002.99	TC45E
					No	I/NFL	No	No	260 x 330 x 415	25,0	230;1~;50/60	AIR	5	40		S	3004.0001.99	TC50
					No	I/NFL	No	No	260 x 330 x 415	25,0	230;1~;50/60	AIR	5	40		S	3004.0002.99	TC50E
					No	I/NFL	No	No	295 x 500 x 570	61,0	230;1~;50/60	AIR	5	40		S	3005.0043.99	TC100

FL = Suitable for inflammable and non-inflammable liquids

[1] Voltage can be changed, must be specified with order

[2] S = Standard, O = Option, A = On Request

[3] Option

Model	Catalogue Page	Temperature Range	T_{min} with Cooling	T_{min} with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening W x D x H	Resolution of Display	Temperature Stability	Cooling Power at									
												300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C	-100°C
		°C	°C	°C	kW	l	l	l	mm	°C	K	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
TC100E	47	-100...40								0,1	0,5					0,16	0,15		0,12	0,12	0,01
Hotbox, Heat Transfer Station (HTS)																					
HB45	48	45...250			4,5		3,5			0,01/0,1	0,5										
HB60	48	60...250			6,0		3,5			0,01/0,1	0,5										
HB120	48	60...250			12,0		3,5			0,01/0,1	0,5										
HTS PS1	49	(5)...(80)													0,6**						
HTS PS3	49	(3)...(95)			2,0*					0,1					3,0**						
HTS PS5	49	(3)...(95)			2,0*					0,1					5,0**						
HTS PS6	49	(3)...(95)			10,0*		5,0			0,1					6,0**						
HTS PS15	49	(3)...(95)			10,0*		5,0			0,1					15,0**						
Compatible Control Heating Circulators and KISS Heating Circulators																					
CC-E	56	25...200	-30	20	2,0					0,01/0,1	0,02										
KISS E	56	25...200	-30	20	2,0					0,1	0,05										
CC-E xd	56	25...200	-30	20	2,0					0,01/0,1	0,02										
CC-106A	57	25...100	15	20	2,0	6,0	4,9		130 x 110 x 150	0,01/0,1	0,02										
KISS 106A	57	25...100	15	20	2,0	6,0	4,9		130 x 110 x 150	0,1	0,05										
CC-108A	57	25...100	15	20	2,0	8,0	6,6		130 x 210 x 150	0,01/0,1	0,02										
KISS 108A	57	25...100	15	20	2,0	8,0	6,6		130 x 210 x 150	0,1	0,05										
CC-110A	57	25...100	15	20	2,0	10,0	8,4		130 x 310 x 150	0,01/0,1	0,02										
KISS 110A	57	25...100	15	20	2,0	10,0	8,4		130 x 310 x 150	0,1	0,05										
CC-112A	57	25...100	15	20	2,0	12,0	12,0		275 x 161 x 150	0,01/0,1	0,02										
KISS 112A	57	25...100	15	20	2,0	12,0	12,0		275 x 161 x 150	0,1	0,05										
CC-118A	57	25...100	15	20	2,0	18,0	18,0		275 x 321 x 150	0,01/0,1	0,02										
KISS 118A	57	25...100	15	20	2,0	18,0	18,0		275 x 321 x 150	0,1	0,05										
CC-208B	58	25...200	-30	20	2,0	8,5	8,5		230 x 127 x 150	0,01/0,1	0,02										
KISS 208B	58	25...200	-30	20	2,0	8,5	8,5		230 x 127 x 150	0,1	0,05										
CC-212B	58	25...200	-30	20	2,0	12,0	12,0		290 x 152 x 150	0,01/0,1	0,02										
KISS 212B	58	25...200	-30	20	2,0	12,0	12,0		290 x 152 x 150	0,1	0,05										
CC-215B	58	25...200	-30	20	2,0	15,0	15,0		290 x 152 x 200	0,01/0,1	0,02										
KISS 215B	58	25...200	-30	20	2,0	15,0	15,0		290 x 152 x 200	0,1	0,05										
CC-220B	58	25...200	-30	20	2,0	20,0	20,0		290 x 329 x 150	0,01/0,1	0,02										
KISS 220B	58	25...200	-30	20	2,0	20,0	20,0		290 x 329 x 150	0,1	0,05										
CC-225B	58	25...200	-30	20	2,0	25,0	25,0		290 x 329 x 200	0,01/0,1	0,02										
KISS 225B	58	25...200	-30	20	2,0	25,0	25,0		290 x 329 x 200	0,1	0,05										
CC-104A	59	25...100	15	20	2,0	4,0	3,6		Ø 25 x 150	0,01/0,1	0,02										
KISS 104A	59	25...100	15	20	2,0	4,0	3,6		Ø 25 x 150	0,1	0,05										
CC-202C	59	45...200	-30	20	2,0	2,0			Ø 25 x 150	0,01/0,1	0,02										
KISS 202C	59	45...200	-30	20	2,0	2,0			Ø 25 x 150	0,1	0,05										
CC-130A Visco 3	60	28...100	15	15	2,0	30,0	25,5		90 x 90 x 310	0,01/0,1	0,02										
CC-130A Visco 5	60	28...100	15	15	2,0	30,0	25,5		Ø 51 x 310	0,01/0,1	0,02										
CC-200BX	61	28...200	-20	20	2,0					0,01/0,1	0,02										
CC-300BX	61	28...300	-20	20	3,0 / 4,0					0,01/0,1	0,02										
CC-205B	62	45...200	-30	20	2,0	5,0			105 x 90 x 150	0,01/0,1	0,02										
KISS 205B	62	45...200	-30	20	2,0	5,0			105 x 90 x 150	0,1	0,05										
CC-304B	62	28...300	-20		3,0	5,0	3,2		130 x 100 x 155	0,01/0,1	0,02										
CC-308B	62	28...300	-20		3,0	8,5	6,0	5,2	130 x 110 x 155	0,01/0,1	0,02										
CC-315B	62	28...300	-20		3,0/ 4,0	15,0	11,5	8,5	270 x 145 x 200	0,01/0,1	0,02										
Compatible Control Cooling Bath Circulators and KISS Cooling Bath Circulators																					
CC-K12	63	-20...200			2,0	12,0			290 x 152 x 150	0,01/0,1	0,02				0,25	0,2	0,05				
KISS K12	63	-20...200			2,0	12,0			290 x 152 x 150	0,1	0,05				0,25	0,2	0,05				
CC-K15	63	-20...200			2,0	15,0			290 x 152 x 200	0,01/0,1	0,02				0,25	0,2	0,05				
KISS K15	63	-20...200			2,0	15,0			290 x 152 x 200	0,1	0,05				0,25	0,2	0,05				

*Option available on request: Heater, over-temperature protection and safety class II/FL

**Cooling power data measured with cooling water-inlet temperature of +10 °C and 2 bar

max. Flow Rate – Pressure	max. Press – Pressure Pump	max. Flow Rate – Suction Pump	max. Press – Suction Pump	Pump Connection	Circulation Pump	Safety Class	Overtemperature Protection	Low Level Protection	Dimensions W x D x H / ID	Weight	Power Supply[1]	Refrigeration Machine Cooling	min. Ambient Temperature	max. Ambient Temperature	Cooling Water Connection	Natural Refrigerant[2]	Cat. No.	Model
l/min	bar	l/min	bar						mm	kg	V; Hz		°C	°C				
					No	I/NFL	No	No	295 x 500 x 570	61,0	230;1~;50/60	AIR	5	40		S	3005.0044.99	TC100E
55	0,9			M24x1,5	Yes, vpc	II/FL	Yes	Yes	185 x 440 x 405	21,0	400;3~N;50		5	40			2030.0001.01	HB45
90	2,5			M30x1,5	Yes	II/FL	Yes	Yes	323 x 451 x 498	44,0	400;3~N;50		5	40			2031.0004.01	HB60
100	2,5			M30x1,5	Yes	II/FL	Yes	Yes	323 x 451 x 498	44,0	400;3~N;50		5	40			2031.0003.01	HB120
8	0,2			M16x1	Yes	I/NFL		Yes	280 x 427 x 414	18,0	230;1~N;50/60		5	40			3011.0008.99	HTS PS1
33	0,7			M16x1	Yes, vpc	I/NFL*	Yes*	Yes	280 x 491 x 414	21,0	230;1~N;50/60		5	40			3011.0001.01	HTS PS3
25	2,5			G3/4	Yes	I/NFL*	Yes*	Yes	280 x 491 x 414	26,0	230;1~N;50/60		5	40			3011.0006.01	HTS PS5
25	2,5			G3/4	Yes	I/NFL*	Yes*	Yes	400 x 491 x 529	39,0	230;1~N;50/60		5	40			3011.0002.01	HTS PS6
25	2,5			G3/4	Yes	I/NFL*	Yes*	Yes	400 x 491 x 529	39,0	230;1~N;50/60		5	40			3011.0024.01	HTS PS15
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	132 x 159 x 315/150	4,0	230;1~;50/60		5	40			2000.0023.01	CC-E
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	132 x 163 x 312/150	3,4	230;1~;50/60		5	40			2035.0012.98	KISS E
22	0,4	17	0,25	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	132 x 159 x 360/195	4,8	230;1~;50/60		5	40			2000.0005.01	CC-E xd
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	147 x 307 x 330	5,0	230;1~;50/60		5	40			2001.0001.01	CC-106A
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	147 x 307 x 330	5,0	230;1~;50/60		5	40			2037.0043.98	KISS 106A
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	147 x 407 x 330	6,0	230;1~;50/60		5	40			2001.0002.01	CC-108A
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	147 x 407 x 330	6,0	230;1~;50/60		5	40			2037.0045.98	KISS 108A
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	147 x 507 x 330	6,0	230;1~;50/60		5	40			2001.0003.01	CC-110A
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	147 x 507 x 330	6,0	230;1~;50/60		5	40			2037.0047.98	KISS 110A
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	333 x 360 x 335	8,0	230;1~;50/60		5	40			2001.0004.01	CC-112A
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	333 x 360 x 335	8,0	230;1~;50/60		5	40			2037.0049.98	KISS 112A
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	333 x 520 x 335	8,0	230;1~;50/60		5	40			2001.0005.01	CC-118A
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	333 x 520 x 335	8,0	230;1~;50/60		5	40			2037.0051.98	KISS 118A
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	290 x 350 x 375	10,0	230;1~;50/60		5	40			2002.0001.01	CC-208B
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	290 x 350 x 375	10,0	230;1~;50/60		5	40			2038.0053.98	KISS 208B
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 375 x 375	11,0	230;1~;50/60		5	40			2002.0002.01	CC-212B
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 375 x 375	11,0	230;1~;50/60		5	40			2038.0052.98	KISS 212B
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 375 x 425	12,0	230;1~;50/60		5	40			2002.0003.01	CC-215B
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 375 x 425	12,0	230;1~;50/60		5	40			2038.0051.98	KISS 215B
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 555 x 375	14,0	230;1~;50/60		5	40			2002.0004.01	CC-220B
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 555 x 375	14,0	230;1~;50/60		5	40			2038.0050.98	KISS 220B
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 555 x 425	16,0	230;1~;50/60		5	40			2002.0005.01	CC-225B
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 555 x 425	16,0	230;1~;50/60		5	40			2038.0049.98	KISS 225B
27	0,7	22	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	147 x 235 x 330	6,0	230;1~;50/60		5	40			2001.0016.01	CC-104A
14	0,25	10,5	0,17	M16x1	Yes	III/FL	Yes	Yes	147 x 235 x 330	5,0	230;1~;50/60		5	40			2037.0040.98	KISS 104A
27	0,7	22	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	178 x 260 x 355	8,0	230;1~;50/60		5	40			2003.0001.01	CC-202C
14	0,25	10,5	0,17	M16x1	Yes	III/FL	Yes	Yes	178 x 260 x 355	8,0	230;1~;50/60		5	40			2039.0012.98	KISS 202C
27	0,7			M16x1	Yes, vpc	III/FL	Yes	Yes	500 x 240 x 490	11,0	230;1~;50/60		5	40			2001.0006.01	CC-130A Visco 3
27	0,7			M16x1	Yes, vpc	III/FL	Yes	Yes	500 x 240 x 490	11,0	230;1~;50/60		5	40			2001.0007.01	CC-130A Visco 5
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	345 x 200 x 326	12,0	230;1~;50/60		5	40			2000.0003.01	CC-200BX
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	345 x 190 x 392	13,0	230;1~;50/60 / 400;3~N;50/60		5	40			2007.0002.01	CC-300BX
27	0,7	22	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	178 x 337 x 355	9,0	230;1~;50/60		5	40			2004.0001.01	CC-205B
14	0,25	10,5	0,17	M16x1	Yes	III/FL	Yes	Yes	178 x 337 x 355	9,0	230;1~;50/60		5	40			2040.0012.98	KISS 205B
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	210 x 335 x 392	13,0	230;1~;50/60		5	40			2005.0001.01	CC-304B
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	242 x 404 x 392	18,0	230;1~;50/60		5	40			2006.0001.01	CC-308B
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	335 x 382 x 433	22,0	230;1~;50/60 / 400;3~N;50/60		5	40			2007.0001.01	CC-315B
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 560 x 430	28,0	230;1~;50/60	AIR	5	40		S	2009.0002.01	CC-K12
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 560 x 430	28,0	230;1~;50/60	AIR	5	40		S	2009.0020.98	KISS K12
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 560 x 430	28,0	230;1~;50/60	AIR	5	40		S	2010.0002.01	CC-K15
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 560 x 430	28,0	230;1~;50/60	AIR	5	40		S	2010.0017.98	KISS K15

FL = Suitable for inflammable and non-inflammable liquids

[1] Voltage can be changed, must be specified with order

[2] S = Standard, O = Option, A = On Request

[3] Option

Model	Catalogue Page	Temperature Range	T_{min} with Cooling	T_{min} with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening W x D x H	Resolution of Display	Temperature Stability	Cooling Power at									
												300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C	-100°C
		°C	°C	°C	kW	l	l	l	mm	°C	K	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
CC-K20	63	-30...200			2,0	20,0			290 x 329 x 150	0,01/0,1	0,02				0,4	0,35	0,16				
KISS K20	63	-30...200			2,0	20,0			290 x 329 x 150	0,1	0,05				0,4	0,35	0,16				
CC-K25	63	-30...200			2,0	25,0			290 x 329 x 200	0,01/0,1	0,02				0,4	0,35	0,16				
KISS K25	63	-30...200			2,0	25,0			290 x 329 x 200	0,1	0,05				0,4	0,35	0,16				
CC-K6	64	-25...200			2,0	4,5			140 x 120 x 150	0,01/0,1	0,02				0,2	0,15	0,05				
KISS K6	64	-25...200			2,0	4,5			140 x 120 x 150	0,1	0,05				0,2	0,15	0,05				
CC-K6s	64	-25...200			2,0	4,5			140 x 120 x 150	0,01/0,1	0,02				0,26	0,21	0,05				
KISS K6s	64	-25...200			2,0	4,5			140 x 120 x 150	0,1	0,05				0,26	0,21	0,05				
K12	85	-20...200				12,0			290 x 320 x 150						0,25	0,2	0,05				
K15	85	-20...200				15,0			290 x 320 x 200						0,25	0,2	0,05				
K20	85	-30...200				20,0			290 x 500 x 150						0,4	0,35	0,16				
K25	85	-30...200				25,0			290 x 500 x 200						0,4	0,35	0,16				
Compatible Control Cooling Bath Circulators																					
Variostat	65	-30...150			1,0					0,01/0,1	0,02			0,3	0,3	0,2	0,12				
Ministat 125	66	-25...150			1,0	2,75	2,0	1,3	178 x 80 x 120	0,01/0,1	0,02			0,3	0,3	0,21	0,05				
Ministat 125w	66	-25...150			1,0	2,75	2,0	1,3	178 x 80 x 120	0,01/0,1	0,02			0,3	0,3	0,2	0,1				
Ministat 230	66	-40...200			2,0	3,2	2,8	1,7	170 x 85 x 135	0,01/0,1	0,02			0,42	0,42	0,38	0,25	0,05			
Ministat 230w	66	-40...200			2,0	3,2	2,8	1,7	170 x 85 x 135	0,01/0,1	0,02			0,42	0,42	0,38	0,25	0,05			
Ministat 240	66	-45...200			2,0	4,9	3,0	2,8	205 x 85 x 157	0,01/0,1	0,02			0,6	0,6	0,55	0,35	0,05			
Ministat 240w	66	-45...200			2,0	4,9	3,0	2,8	205 x 85 x 157	0,01/0,1	0,02			0,6	0,6	0,55	0,35	0,05			
CC-405	68	-40...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			0,7	0,7	0,7	0,45	0,03			
CC-405w	68	-40...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			0,7	0,7	0,7	0,45	0,03			
CC-410	68	-45...200			3,0	22,0		8,5	280 x 280 x 200	0,01/0,1	0,02			0,8	0,8	0,8	0,5	0,1			
CC-410wl	68	-45...200			3,0	22,0		8,5	280 x 280 x 200	0,01/0,1	0,02			0,8	0,8	0,8	0,5	0,1			
CC-415	68	-40...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			1,2	1,2	1,0	0,6	0,05			
CC-415wl	68	-40...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			1,2	1,2	1,0	0,6	0,05			
CC-505	70	-50...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			1,2	1,2	1,0	0,6	0,15			
CC-505wl	70	-50...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			1,2	1,2	1,0	0,6	0,15			
CC-508	70	-55...200			3,0	5,0			120 x 110 x 160	0,01/0,1	0,02			1,5	1,5	1,5	1,0	0,3			
CC-508w	70	-55...200			3,0	5,0			120 x 110 x 160	0,01/0,1	0,02			1,5	1,5	1,5	1,0	0,3			
CC-510	70	-50...200			3,0	26,0		15,0	260 x 260 x 200	0,01/0,1	0,02			2,1	2,1	2,1	1,0	0,4			
CC-510w	70	-50...200			3,0	18,0		11,0	270 x 150 x 200	0,01/0,1	0,02			2,4	2,4	2,4	1,0	0,4			
CC-515	70	-55...200			3,0	26,0		15,0	260 x 260 x 200	0,01/0,1	0,02			3,3	3,3	3,3	1,6	0,6			
CC-515w	70	-55...200			3,0	18,0		11,0	270 x 150 x 200	0,01/0,1	0,02			3,3	3,3	3,3	1,6	0,6			
CC-520w	70	-55...200			3,0	17,0		10,0	270 x 150 x 200	0,01/0,1	0,02			5,0	5,0	5,0	3,0	1,5			
CC-525w	70	-55...100			3,0	17,0		10,0	270 x 150 x 200	0,01/0,1	0,02			7,0	7,0	5,0	3,0	1,5			
CC-805	72	-80...100			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			0,5	0,5	0,5	0,4	0,3	0,3	0,06	
CC-820	72	-80...100			3,0	17,0		10,0	270 x 150 x 200	0,01/0,1	0,02			1,2	1,2	1,2	1,1	0,9	0,6	0,14	
CC-820w	72	-80...100			3,0	17,0		10,0	270 x 150 x 200	0,01/0,1	0,02			1,2	1,2	1,2	1,1	0,9	0,6	0,14	
CC-902	72	-90...200			1,5	5,0			120 x 110 x 150	0,01/0,1	0,02			1,2	1,2	1,2	1,1	0,9	0,6	0,2	
CC-905	72	-90...200			3,0	26,0		15,0	260 x 260 x 200	0,01/0,1	0,02		2,0	2,0	2,0	2,0	1,9	1,7	1,0	0,34	
CC-905w	72	-90...200			3,0	26,0		15,0	260 x 260 x 200	0,01/0,1	0,02		2,5	2,0	2,0	2,0	1,9	1,7	1,0	0,34	
CC-906w	72	-90...200			3,0	30,0		19,0	260 x 260 x 200	0,01/0,1	0,02		3,0	3,0	3,0	3,0	2,8	2,4	1,6	0,55	
BFT5	73	-40...80			2,0	40,0			350 x 410 x 270	0,01/0,1	0,03				1,2						

max. Flow Rate – Pressure	max. Press – Pressure Pump	max. Flow Rate – Suction Pump	max. Press – Suction Pump	Pump Connection	Circulation Pump	Safety Class	Overtemperature Protection	Low Level Protection	Dimensions W x D x H / ID	Weight	Power Supply[1]	Refrigeration Machine Cooling	min. Ambient Temperature	max. Ambient Temperature	Cooling Water Connection	Natural Refrigerant[2]	Cat. No.	Model
l/min	bar	l/min	bar						mm	kg	V; Hz		°C	°C				
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 555 x 615	36,0	230;1~;50/60	AIR	5	40		S	2011.0002.01	CC-K20
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 555 x 615	36,0	230;1~;50/60	AIR	5	40		S	2011.0013.98	KISS K20
27	0,7	22	0,4	M16x1[3]	Yes, vpc	III/FL	Yes	Yes	350 x 555 x 615	36,0	230;1~;50/60	AIR	5	40		S	2012.0002.01	CC-K25
14	0,25	10,5	0,17	M16x1[3]	Yes	III/FL	Yes	Yes	350 x 555 x 615	36,0	230;1~;50/60	AIR	5	40		S	2012.0015.98	KISS K25
27	0,7	22	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	210 x 400 x 546	25,0	230;1~;50/60	AIR	5	40		S	2008.0005.01	CC-K6
14	0,25	10,5	0,17	M16x1	Yes	III/FL	Yes	Yes	210 x 400 x 546	25,0	230;1~;50/60	AIR	5	40		S	2008.0043.98	KISS K6
27	0,7	22	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	210 x 400 x 546	25,0	230;1~;50/60	AIR	5	40		S	2008.0002.01	CC-K6s
14	0,25	10,5	0,17	M16x1	Yes	III/FL	Yes	Yes	210 x 400 x 546	25,0	230;1~;50/60	AIR	5	40		S	2008.0044.98	KISS K6s
					No		No	No	350 x 560 x 263	20,0	230;1~;50/60	AIR	5	40		S	2009.0001.99	K12
					No		No	No	350 x 560 x 263	20,0	230;1~;50/60	AIR	5	40		S	2010.0001.99	K15
					No		No	No	350 x 555 x 448	30,0	230;1~;50/60	AIR	5	40		S	2011.0001.99	K20
					No		No	No	350 x 555 x 448	30,0	230;1~;50/60	AIR	5	40		S	2012.0001.99	K25
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	183 x 465 x 416	24,0	230;1~;50/60	AIR	5	40		S	2013.0003.01	Variostat
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	225 x 370 x 429	25,0	230;1~;50/60	AIR	5	35		S	2014.0011.01	Ministat 125
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	225 x 370 x 429	25,0	230;1~;50/60	WATER	5	40	G1/2	S	2014.0006.01	Ministat 125w
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	255 x 450 x 476	35,0	230;1~;50/60	AIR	5	40		S	2015.0005.01	Ministat 230
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	255 x 450 x 476	35,0	230;1~;50/60	WATER	5	40	G1/2	S	2015.0007.01	Ministat 230w
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	300 x 465 x 516	41,0	230;1~;50/60	AIR	5	40		S	2016.0005.01	Ministat 240
22	0,7	16	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	300 x 465 x 516	41,0	230;1~;50/60	WATER	5	40	G1/2	S	2016.0006.01	Ministat 240w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	370 x 460 x 679	55,0	230;1~;50/60	AIR	5	40		O	2017.0001.01	CC-405
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	370 x 460 x 679	55,0	230;1~;50/60	WATER	5	40	G1/2	O	2017.0002.01	CC-405w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	420 x 565 x 719	69,0	230;1~;50/60	AIR	5	40	G1/2	O	2019.0004.01	CC-410
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	420 x 565 x 719	72,0	230;1~;50/60	AIR+WATER	5	40	G1/2	O	2019.0001.01	CC-410wl
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	60,0	230;1~;50/60	AIR	5	40			2018.0001.01	CC-415
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	61,0	230;1~;50/60	AIR+WATER	5	40	G1/2	O	2018.0002.01	CC-415wl
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	60,0	230;1~;50/60	AIR	5	40			2018.0003.01	CC-505
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	62,0	230;1~;50/60	AIR+WATER	5	40	G1/2	O	2018.0004.01	CC-505wl
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	60,0	230;1~;50	AIR	5	40		S	2018.0023.01	CC-508
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	68,0	230;1~;50	WATER	5	40		S	2018.0026.01	CC-508w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	605 x 706 x 1136	143,0	400;3~N;50	AIR	5	40			2020.0010.01	CC-510
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	455 x 515 x 1014	96,0	400;3~N;50	WATER	5	40	G1/2	O	2020.0002.01	CC-510w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	605 x 706 x 1136	143,0	400;3~N;50	AIR	5	40			2021.0001.01	CC-515
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	455 x 515 x 1014	102,0	400;3~N;50	WATER	5	40	G1/2	O	2020.0003.01	CC-515w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	539 x 629 x 1102	141,0	400;3~N;50	WATER	5	40	G1/2	O	2022.0001.01	CC-520w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	539 x 629 x 1102	142,0	400;3~N;50	WATER	5	40	G1/2	O	2023.0001.01	CC-525w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	410 x 480 x 764	80,0	230;1~;50/60 / 400;3~N;50	AIR	5	40		O	2024.0001.01	CC-805
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	539 x 629 x 1102	150,0	400;3~N;50	AIR	5	40			2025.0001.01	CC-820
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	539 x 629 x 1102	150,0	400;3~N;50	WATER	5	40	G1/2	O	2025.0002.01	CC-820w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	550 x 600 x 911	139,0	230;1~;50	AIR	5	40			2026.0005.01	CC-902
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	605 x 706 x 1136	162,0	400;3~N;50	AIR	5	40			2027.0001.01	CC-905
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	605 x 706 x 1136	170,0	400;3~N;50	WATER	5	40	G1/2	O	2027.0002.01	CC-905w
25	0,7	18,5	0,4	M16x1	Yes, vpc	III/FL	Yes	Yes	605 x 706 x 1136	185,0	400;3~N;50	WATER	5	40	G1/2	O	2036.0001.01	CC-906w
					Yes, vpc	III/FL	Yes	Yes	460 x 710 x 911	74,0	230;1~;50/60	AIR	5	40			2041.0001.01	BFT5

FL = Suitable for inflammable and non-inflammable liquids

[1] Voltage can be changed, must be specified with order

[2] S = Standard, O = Option, A = On Request

[3] Option

A Ambient Temperature Range

is the permissible temperature range of the environment in which the unit will function. It is 5...40 °C for all Huber units in this catalogue. The quoted cooling powers are for an ambient temperature of +20 °C.

B Bath Opening

is the usable surface that is available for direct thermoregulation, as a rule over the entire usable depth.

Bath Circulator

is a circulator which is equipped with a pump and a bath that contains the object to be thermoregulated. The built-in circulating pump is used to mix the bath liquid, but can also be used if necessary to circulate the thermal fluid through an externally connected circuit, e.g. connection of a flow-through cooler to allow the cooling of heating circulators.

Bath/Circulation Circulator

is a circulator with a bath opening which allows objects to be directly thermoregulated in the bath, but also includes a pump for external closed or open applications. Note: pressure & suction pump is required for open applications. Compatible Control circulators have pressure & suction pump.

Bath Volume (also fill volume)

is the volume of the bath liquid that is required for adequate operation of the circulator, but without considering the volume of thermal fluid in the external circuit. If two values are given, the lower value indicates the minimum required volume with displacement insert, the upper value the permissible maximum amount. The difference is the so-called expansion volume. Especially in the case of external applications, the size of the expansion tank must be considered, since the circulator must also take up the expansion of the liquid in the external circuit. The smaller the surface area of the expansion tank the lower is the area of thermal fluid open to attack from oxidation and air humidity absorption.

C Calibration Bath (CAL)

is a bath circulator with especially high temperature stability and especially consistent temperature distribution through the bath.

Chiller (Unichiller)

is a special cooling circulator which is designed exclusively as a circulator. Circulation chillers have evolved from circulators and form a separate range of units in terms of their type of construction (DeskTop, Tower), the cooling and pump capacities. Generally they have no accessible bath. They are often used as a substitute for cooling with tap water. (exception: Minichiller).

Clear-view Bath

is a bath circulator with transparent walls for direct observation of the object being thermoregulated.

D Discharge Pressure

is the positive pressure of the circulating pump of a circulator directly at the pump discharge. If only one value is given in the tables, then this involves the maximum delivery pressure for flow rate zero. Pump curves illustrate discharge in relation to the flow rate.

E E-grade

stands for electronic upgrade. E-grade can extend the functionality of the Pilot ONE. A unit specific activation code is required. This can be carried out in the factory. If ordered at a later date the activation code can be sent by E-Mail.

Extended Working Temperature Range

is the temperature range that can be attained when using a factory-fitted cooling coil when operating with cooling water.

F Flow Rate

is the volume of liquid delivered per time unit by the circulating pump measured with water. If only one value is given in the table, this is the maximum flow rate for a zero discharge pressure. Pump curves illustrate discharge in relation to the flow rate.

Flow-through Chiller (DC)

is an add-on cooler which is connected into an external circuit to upgrade a heating circulator to a heating/cooling circulator. Flow-through chillers are used to replace water cooling, and also to extend the lower operating temperature.

H Heat Load

is the maximum capacity of the installed electric heater. The heating is controlled proportionally. The heating is continually controlled, and as the set point temperature is approached the power is reduced automatically.

Heating Circulator

is a circulator whose working temperature range is primarily above the ambient temperature adds heat to the thermal fluid.

Hydraulically Sealed Circulator (Unistats)

is a circulator in which thermal fluid is pumped through an open or closed external circuit. Hydraulically sealed circulators e.g. the Unistats can have a thermally discoupled expansion vessel, whose surface temperature is not the operating temperature. They do not have an accessible bath. Unistats have a thermally discoupled active surface (expansion vessel), where by the surface temperature is not necessarily the same as the operating temperature.

I Immersion Cooler

is an additional chiller with a flexible tube and a cooling coil (evaporator) for immersion cooling of any desired bath.

Immersion Circulator

is a circulator that can be combined with a bath and to form a complete unit. Immersion circulators are equipped with a screw clamp to attach them to any desired bath wall or can be fixed on a stand. Immersion circulators can also be fitted to a bridge and mounted permanently in a bath.

Industrial Circulator (Unichiller-H)

is a cooling circulator (Unichiller range) with factory fitted heating. Industrial circulators have high cooling, heating and pump powers which allow quick cooling and heating rates due to the small internal volumes. They are ideal for temperature control in process technology, within a smaller temperature range (-20 °C to +120 °C).

Interface, analogue

is used to input the set value or to output the actual value of temperature in analogue form, generally in the form of a current (0/4–20 mA or 0–10 V).

Interface, digital

is used to transfer data between connected units in digital form via data cable. The set and actual temperature values are the main items transferred. The serial RS232 interface allows a point-to-point connection. This means that at anyone time only two participants such as the circulator and the PC can communicate with each other via the interface. The RS485 interface is an addressable interface where up to 32 participants can be connected. Each participant of the bus system has its address.

Intrinsic Temperature

is the operating temperature of a heating circulator that is reached when the heating is switched off. It depends on the pump power, thermal fluid (viscosity and density) used and the insulation of the circulator, e.g. with or without a cover on the bath.

N Net Cooling Capacity

is the effective capacity available in cooling circulators or circulating chillers. This is the net cooling power of the unit after the frictional heat produced by the circulating pump and the heat entering as a result of non-ideal insulation has been subtracted.

O Operating Temperature Range

is the temperature range that is limited by the permissible lowest and highest operating temperatures.

P Pressure/Suction Pump

has a pressure and a suction stage which are driven by the same motor. The thermal fluid is delivered from the pressure stage from the circulator into the circuit, and the suction stage draws the liquid back into the circulator. A pressure/suction pump can be used in just the same way as a pressure pump for a closed circuit. It has the advantage compared to a pressure pump that the pressure in the external circuit falls from positive values (pressure) in the flow line to negative values (suction) in the return line and is almost zero in the application itself. Thus it is suitable for the thermoregulation of pressure-sensitive glass vessels. Additionally it is possible to thermoregulate an open external circuit (e.g. a bath) with the aid of a pressure/suction pump. This cannot be done with a pure pressure pump, since this delivers thermal fluid to the bath. The thermal fluid can only be returned to the bath via a suction stage. In any case a so-called constant level device is required to maintain a constant level in the bath and this ensures that the flows of both pump stages are controlled so that they are equal. This is the only way that the level in the external bath can be maintained constant.

Process Control

Often cascade control, is when the temperature control is dictated by the temperature of the connected external application. A temperature sensor (often a Pt100 4 wire configuration with a Lemosa plug) is therefore required in the external application, which is connected to the circulator. The actual value measured at the external application is measured and a set point for the circulator is continually calculated. Depending on the operating temperature, insulation losses and exothermic reactions, the bath temperature and thus the flow temperature of the circulator can be considerably above or below the set point. (Always consider the safety limits of the fluid!!)

R Cooling/Heating Circulator

is a circulator whose working temperature range is above and below the ambient temperature, and which can either add heat to or extract heat from the thermal fluid.

Refrigerant

is used in the refrigeration unit within the circulator and extracts the heat from the thermal fluid, when the compressed gas expands in the evaporator. Huber has been completely CFC free since 1992 and HCFC (e.g. R22) free since 1994. Huber uses only refrigerants which do no damage to the ozone layer (ODP Ozone Depletion Potential, ODP=0), and minimal Global warming potential (GWP, i.e. Green house effect).

Cooling Circulator

is a circulator whose working temperature range is below the ambient temperature and draws heat from the thermal fluid. Huber cooling circulators are strictly speaking cooling/heating circulators, since their working temperature range is above and below the ambient temperature. Heat can be extracted from and added to the thermal fluid.

S Safety Classes

It is possible to use non-flammable or flammable bath liquids with circulators. The relevant safety requirements are given in DIN EN 61010-2-010. There is a distinction made between the NFL classes with built-in over-heating protection that are exclusively for non-flammable liquids and FL (Flammable) with adjustable overtemperature protection and low level protection for flammable liquids (all Huber circulators).

Standards

The safety requirements for electrical laboratory equipment, and especially also those for circulators, have been defined in European standards EN 61010-1 and EN 61010-2-01 0, replacement for DIN 12879, among others. The terms and characteristic of characteristic data is defined in DIN 12876-1 and DIN 12876-2.

Suction Pressure

is the negative pressure of the circulating pump of a circulator directly at the pump suction. If only one value is given in the tables, then this is the maximum suction pressure for zero flow rate. Pump curves illustrate suction pressure in relation to the flow rate.

T Temperature Homogeneity

is the temperature difference between the highest and the lowest measured temperature in a bath tank. In comparison with temperature stability it is determined not only over a defined time period, but also the spatial distribution of temperature within the bath. The temperature uniformity depends on various factors and is influenced for example by the nature and the viscosity of the thermal fluid, the level of circulation or by objects in the bath.

Temperature Stability

is the temperature difference between the highest and the lowest measured temperature divided by two. This value is determined at one point (e.g. the geometric centre of a bath tank or pump output) within a defined period of time (e.g. 30 min.). According to DIN 12876 the measurement must be made at +70 °C (with water) for a heating circulator and at -10 °C (ethanol) for a cooling circulator.

True Adaptive Control (TAC)

is a Huber designed dynamic adaptive controller that continually updates its PID parameters. The TAC controller constructs a virtual multidimensional model of the application in real time to cope with sudden changes in thermal load such as during an exothermic reaction.

V Variable Pressure Control VPC

VPC is an active pressure control capability that allows the operator to control to either a maximum set pressure or pump speed. Through this feature it is possible to maintain the highest HTF flow rates within application pressure limitations (e.g. glass reactors).

W Working Temperature Range

is the temperature range which can be attained at an ambient temperature of +20 °C by the circulator alone and with the exclusive use of electrical energy. The operating temperature, that may only be reached by using auxiliary devices, is indicated in brackets. In the case of a heating circulator the working temperature begins above room temperature (as a result of the energy introduced by the pump and the effective insulation) and ends at the upper limit of the operating temperature. The WTR of a cooling circulator begins with the lowest operating temperature of the unit and finishes with the upper temperature at which the refrigeration machine can permanently operate.

3-2-2 Warranty

Thank you for your interest in Huber temperature control systems. Our free of charge 3-2-2 warranty extension offers many extra benefits. All you have to do is to fill in the free online registration form on our website.

Your advantages when registering for free

The guarantee for all Huber products is 12 months from the day of delivery. When registering the machine giving the end customer address and the serial number, Huber will give an extended guarantee as listed below:

3 years	for plug and play electronic components
2 years	for refrigeration components (including compressor)
2 years	for mechanical and electrical components which are subject to the regular abrasion (e.g. pumps)

Register your product online now at:

www.huber-online.com/register

Hotline

Do you have a thermoregulation problem or questions relating to our products? You can contact us Monday to Friday from 7:30 to 18:00 (CET).

Sales:	+49-781-9603-123
Technical Support:	+49-781-9603-244
Order Processing:	+49-781-9603-109

Terms and Conditions (Extract)

Validity, defence clause

All deliveries and services of the Peter Huber Kältemaschinenbau AG (supplier) are exclusively according to these general business terms and conditions (conditions) and any possible special contractual agreements. Other (purchasing etc.) conditions of the buyer are not a part of the contract, even if not specifically rejected in the order confirmation.

Prices

Unless otherwise agreed, the price is ex works, not including packing, transport, insurance, customs costs and other various incidental expenses accruing. In addition to the price, the sales tax must be added at the appropriate legally valid rate.

Payment Terms

If pre-payment has not been agreed, invoices are all payable within 30 days net, no discount.

Retention of ownership

The goods remain the property of the supplier (title is retained) until the fulfilment of all outstanding financial claims against the buyer.

The buyer may offer the (title retained) goods within the framework of normal business, however now all resulting demands for securing payment to the supplier up to the indebted sum (inclusive sales tax) passes to the new purchaser. The supplier acknowledges this.

Delivery times and delivery delays

The delivery time is calculated under the agreement of the contractual parties. Compliance on the part of the supplier is under the condition that all business and technical questions between the contracted parties are explained, and that the buyer has fulfilled all his obligations within the allotted time. If this is not the case, then the delivery time is extended appropriately. The delivery time is when items for delivery, have left the suppliers works or are ready for pick-up. An article can be offered for selling on by the buyer is allowed.

Transport and liability transfer

The order for the transport of the goods must be placed by the buyer.

The risk is passed to the buyer as soon as the items to be delivered have left the factory. This is also valid for part deliveries or when the supplier is contracted to perform other work (e.g. delivery, assembly and installation).

If the delivery is delayed, or omitted due to circumstances outwith the control of the supplier or because the buyer has so requested, then the risk passes to the buyer from the day the buyer is notified that the goods are ready for collection. This is also true for any delay in acceptance of the goods by the buyer due to other reasons.

Trials

If goods are supplied for testing, then it is classed as being bought by the buyer, if it is not returned within the agreed return time frame. If no return time has been agreed, this is to be taken as 4 weeks. The date of the invoice is decisive. In case of return, the buyer bears the cost of transport, checking and any other costs incurred by the supplier (Cleaning, servicing, repairs etc).

Warranty claims

The supplier is liable for Material and defective title of the delivery, under exception from further liability as follows:

The place of repair is exclusively decided by the supplier. Normally, the repairs take place at the registered office of the supplier, or at another place deemed suitable by the supplier.

The buyer has the right under the legal regulations to withdraw from the contract, when the supplier, under consideration of the legal exceptions, has given a reasonable date for repair or replacement due to a manufacturing defect, which has now elapsed without success. If it is only a minor complaint, then the buyer has the right of a reduction in the contract price.

Further demands (damages etc) from the buyer are excluded. The seller is not liable for any problems resulting from an alteration to the unit made by the purchaser or any third party. The seller is also not responsible for any alterations to equipment which have not been authorised in writing in advance. Repairs which have not been authorised in writing by the supplier, outsourced work and modifications of any kind, non intended use, the changing or removal or manipulation of the machine label or the serial number. All rule out supplier responsibility for defects.

The supplier is not under any circumstances liable for damages to the buyer or end customer caused by the non availability of parts or through production stoppage (e.g. due to late parts deliveries).

Returns according to the (German) electrical and electronic equipment regulation (ElektroG)

The sale price excludes the cost for return and disposal of old equipment. The buyer is considered to be different than private households in the sense of this regulation. If required, the supplier can organise the return and recycling or disposal of such equipment as is distributed by the supplier, on payment of all charges so arising.

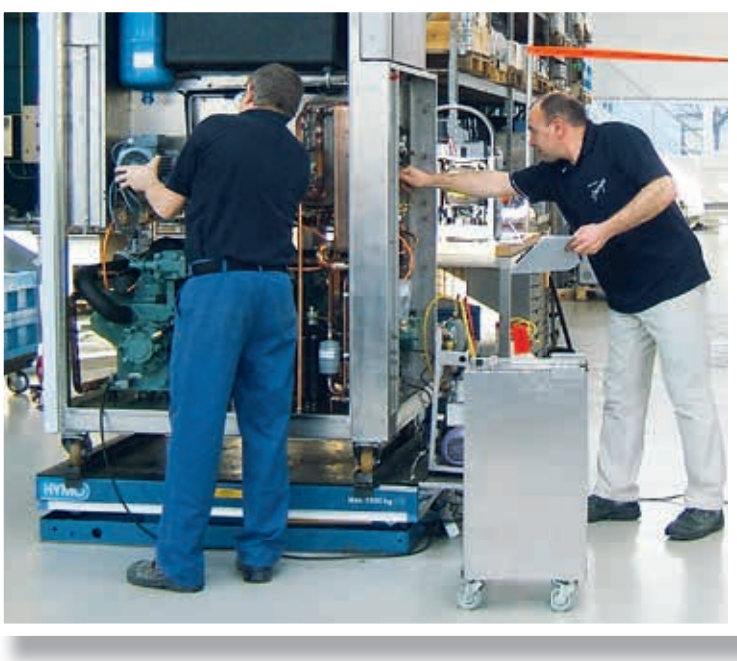
Severability Clause

If a clause in these conditions is invalid, it does not change the validity of the other clauses. If a clause is partially invalid, then the other parts of the clause remain valid. The parties are bound to replace the invalid clause with a valid replacement clause, which comes as close as possible to the economic use of the invalid clause.

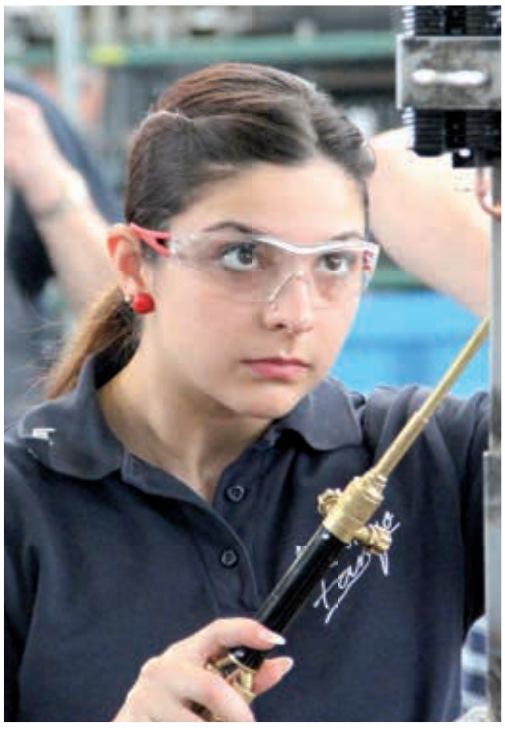
Note

Please note that the terms and conditions described here are only valid for direct business with Peter Huber Kältemaschinenbau AG. Please consult your distributor for their terms of business.

Tango Factory



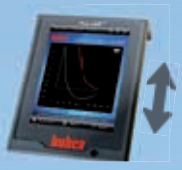
huber



Reliable, environmentally friendly and excellent value for money

Quality
Made in Germany

Excellent value
for money



Innovative
Plug & Plug

Case studies for
performance comparison

Proven
technology

Worldwide
Sales & Services

Accurate information
according to DIN 12876

Safe investment
due to E-grade function

Safety for operator
and application

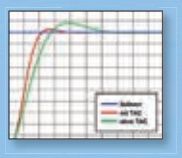
Environmentally friendly
with natural refrigerant

Connections for
USB and network

Models for all
applications

Time saving heat-up
and cool-down times

Easy-to-use
operation



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