

## Plug & Play

3 years warranty



| CC-K12 / CC-K15 |

| KISS K20 / KISS K25 |

| KISS K12 / KISS K15 |

Natural  
Refrigerant!



## 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			Pump Data		Cooling Power (kW) at (°C)			Dimensions WxDxH (mm)	Cat.No.	G	Price	
			Opening (mm)	Depth (mm)	Volume (litr)	max. Pressure (l/min)	max. Suction (bar)	0	-10	-20					
CC-K12	-20...200	2,0	290x152	150	12	27	0,7	22	0,4	0,2	0,12	0,05	350x560x430	2009.0002.01	2
KISS K12	-20...200	2,0	290x152	150	12	14	0,25	10,5	0,17	0,2	0,12	0,05	350x560x430	2009.0020.98	2
CC-K15	-20...200	2,0	290x152	200	15	27	0,7	22	0,4	0,2	0,12	0,05	350x560x430	2010.0002.01	2
KISS K15	-20...200	2,0	290x152	200	15	14	0,25	10,5	0,17	0,2	0,12	0,05	350x560x430	2010.0017.98	2
CC-K20	-30...200	2,0	290x329	150	20	27	0,7	22	0,4	0,35	0,27	0,16	350x555x615	2011.0002.01	2
KISS K20	-30...200	2,0	290x329	150	20	14	0,25	10,5	0,17	0,35	0,27	0,16	350x555x615	2011.0013.98	2
CC-K25	-30...200	2,0	290x329	200	25	27	0,7	22	0,4	0,35	0,27	0,16	350x555x615	2012.0002.01	2
KISS K25	-30...200	2,0	290x329	200	25	14	0,25	10,5	0,17	0,35	0,27	0,16	350x555x615	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			Pump Data			Cooling Power (kW) at (°C)			Dimensions WxDxH (mm)	Cat.No.	G	Price
			Opening (mm)	Depth (mm)	Volume (ltr)	max. Pressure (l/min)	max. Suction (bar)	20	0	-20					
CC-K6	-25...200	2,0	140x120	150	4,5	27	0,7	22	0,4	0,20	0,15	0,05	210x400x546	2008.0005.01	2
KISS K6	-25...200	2,0	140x120	150	4,5	14	0,25	10,5	0,17	0,20	0,15	0,05	210x400x546	2008.0043.98	2
CC-K6s	-25...200	2,0	140x120	150	4,5	27	0,7	22	0,4	0,26	0,21	0,05	210x400x546	2008.0002.01	2
KISS K6s	-25...200	2,0	140x120	150	4,5	14	0,25	10,5	0,17	0,26	0,21	0,05	210x400x546	2008.0044.98	2

All units use natural refrigerant as standard

# 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



# 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!

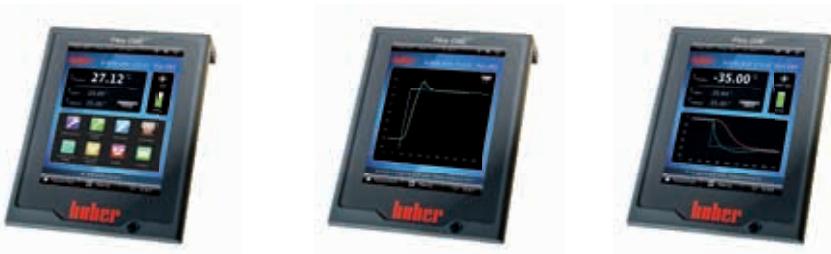
## Pilot ONE® Controller:

- ▶ 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)
	Calibration program for control sensor (Internal, Process)	5 Point	5 Point
	Monitoring (Level protection, Over temperature protection <sup>2</sup> )	✓	✓
	Adjustable limit alarms	✓	✓
	VPC (Variable Pressure Control) <sup>3</sup>	✓	✓
	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
	Display mode	graphic, numeric	graphic, numeric
	Display resolution	0,1 °C / 0,01 °C	0,1 °C / 0,01 °C
	Graphic display of temperature curves	Window, full screen, scalable	Window, full screen, scalable
	Calendar, Date, Time	✓	✓
	Language: DE / EN / FR / IT / ES / PT / CZ / PL / RO / CN / JP / KO / TR	✓	✓
	Temperature format (°C / °F)	✓	✓
	Display mode (screen) switch by swiping	✓	✓
	Favourites menu	✓	✓
	User menues (Administrator level)	✓	
Connections	2 <sup>nd</sup> set point	✓	
	Digital interface RS232	✓	✓
	USB interfaces (Host and Device)	✓	✓
	Ethernet RJ45 interface	✓	✓
	Pt100 external sensor connection	✓	✓
	External control signal / ECS STANDBY <sup>5</sup>	✓	✓
	Programmable volt-free contact / ALARM <sup>5</sup>	✓	✓
	AIF (Analogue interface) 0/4-20 mA or 0-10 V <sup>6</sup>	✓	✓
Various	Digital interface RS485 <sup>6</sup>	✓	✓
	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
✓	✓
✓	✓
✓	✓
✓ <sup>4</sup>	✓ <sup>4</sup>
✓	✓
✓	✓
✓	✓



<sup>1</sup> 30-day evaluation version TAC function available

<sup>2</sup> For units with integrated over-temperature protection

<sup>3</sup> For models with variable-speed pump or an external bypass

<sup>4</sup> Pt100 external sensor connection optional,  
only available factory fitted (additional charge)

<sup>5</sup> Standard on Unistats, otherwise via optional Com.G@te  
or POKO/ECS Interface

<sup>6</sup> 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, vi-



sual 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 unprecedeted 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

**E-grade®**  
Extended Functionality

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.
<b>Basic</b>	Functions see pages 10/11	
<b>Exclusive</b> (additional to Basic functions)	<ul style="list-style-type: none"> <li>+ Temperature control mode (Internal / Process)</li> <li>+ Process data logging direct to USB stick</li> <li>+ Display resolution 0,1°C / 0,01°C</li> <li>+ Programmer with 3 programs / 5 steps each (max. 15 steps)</li> <li>+ Ramp function (linear)</li> <li>+ TAC (True Adaptive Control)</li> <li>+ Saving / loading via USB</li> </ul>	9495
<b>Professional*</b> (additional to Exclusive functions)	<ul style="list-style-type: none"> <li>+ Programmer with 10 programs / 10 steps each (max. 100 steps)</li> <li>+ Calendar start</li> <li>+ Ramp function (linear and non-Linear)</li> <li>+ User menus can be customised (Administrator Level)</li> <li>+ 2nd set point</li> </ul>	9496

\* Installed as standard on all Unistats



**The electronic upgrade allows the functionality to grow with your requirements**

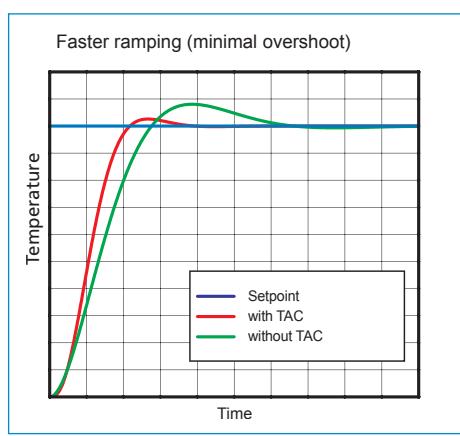
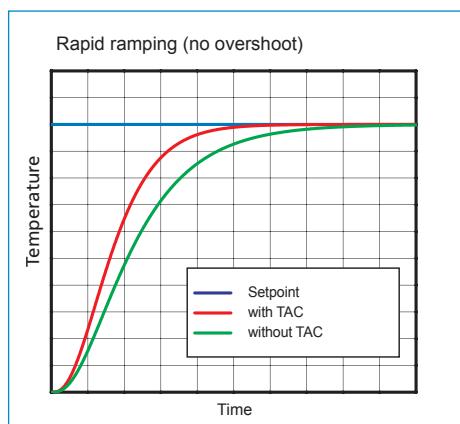
## E-grade® Explore

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:  $\Delta T$  internal-return,  $\Delta T$  process-return,  $\Delta T$  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.

**TAC** True Adaptive Control

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.



# 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®

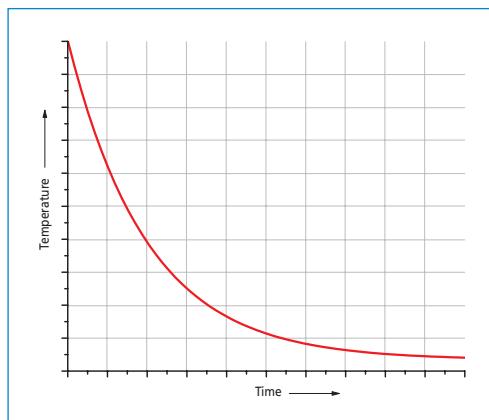
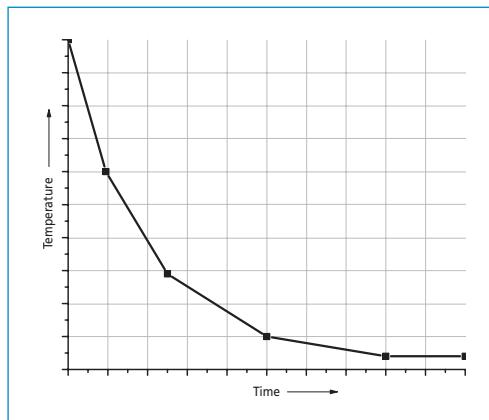
### CoolNet – precise valve control

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.

**CoolNet®**  
max. Cooling Power





## Programmer

### Programmer with linear ramp function

Single temperature changes can be achieved using the linear ramp function. The easy to use programmer,

**Programmer**  
with Ramp Functions

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.

### 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

**Protection+**  
Level / Overtemperature

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.

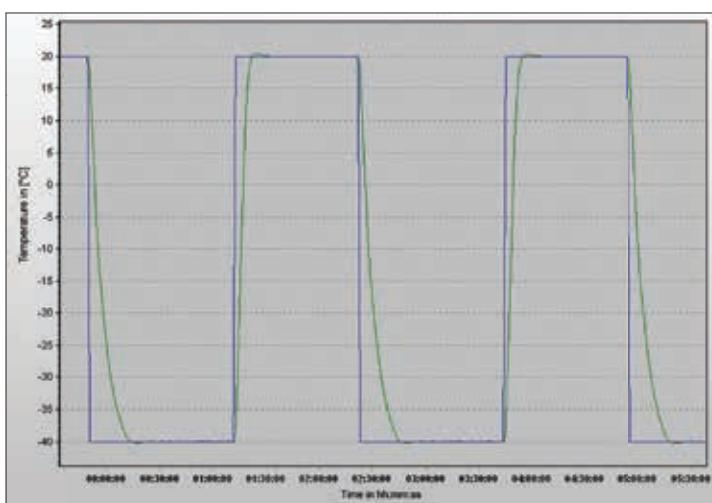
In case of emergency, Unistats can be electrically isolated. For critical processes Unistats offer emergency cooling.

### "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.





## Pilot ONE® Remote-Software

Pilot ONE Remote GUI 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 Remote GUI uses a secure authentication. 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.

## Ex-Protection

Two ATEX compliant solutions are available for ATEX areas: The Unistat can be placed in a stainless steel Ex-p 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. Alternatively an ATEX certified remote control (II 2 G EEx ib IIC T4) is located in the ATEX zone, controlling the Unistat situated in the safe zone.

## 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](http://www.huber-online.com)). After the installation the latest firmware can be automatically downloaded from the server and transmitted to the Pilot ONE controller.



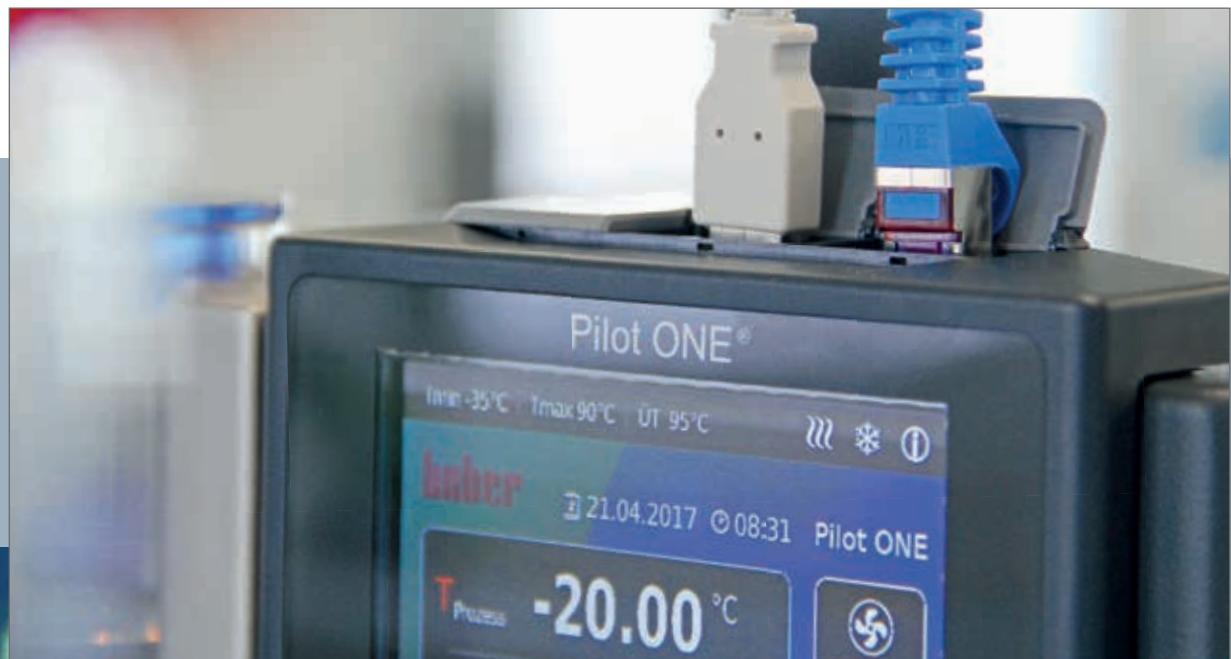
# Accessories

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



Accessories





| Pilot ONE |



| 9494 |



| 9493 |



| 56014 |

## 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	

## 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](http://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

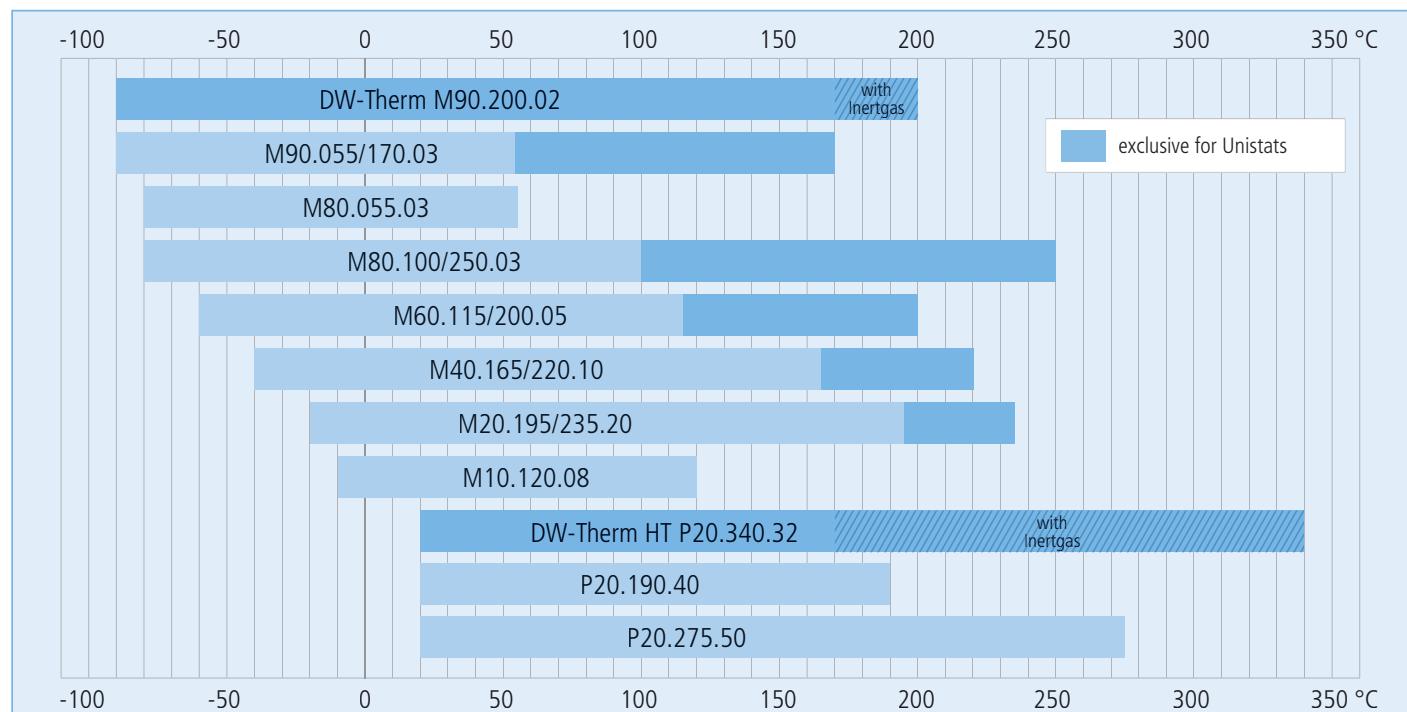
The product name gives information about the characteristics, e.g.:

Thermal Fluid	Temperature Range	Viscosity at +25°C
P20.340.32	plus 20 °C ... +340 °C	32 mm <sup>2</sup> /s
M80.055.03	minus 80 °C ... +55 °C	3 mm <sup>2</sup> /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 (Ethylenglycol)		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	-30...80 °C	6075	1
NW 12	NBR	-30...80 °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	

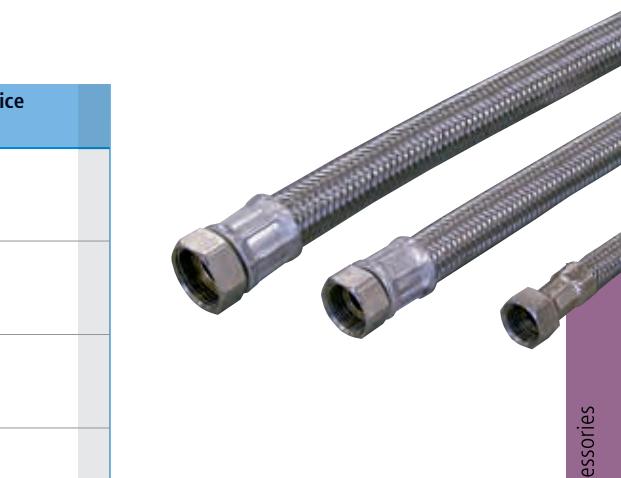
Flexible braided hoses suitable for water and water/Mono ethylene glycol mixtures up to 50%.

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



Accessories

## 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	1,0	527.0008	2	
Unipump II	1,5	527.0019	2	
Unipump II, 2-stage	2,5	527.0020	2	
Unipump III	1,5	527.0021	2	
Unipump III, 2-stage	2,5	527.0022	2	
Control Cable Unipump / Unistat (3 m)		6221	1	

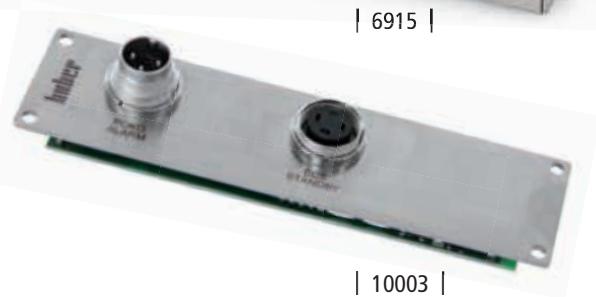




| 31217 |



| 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	

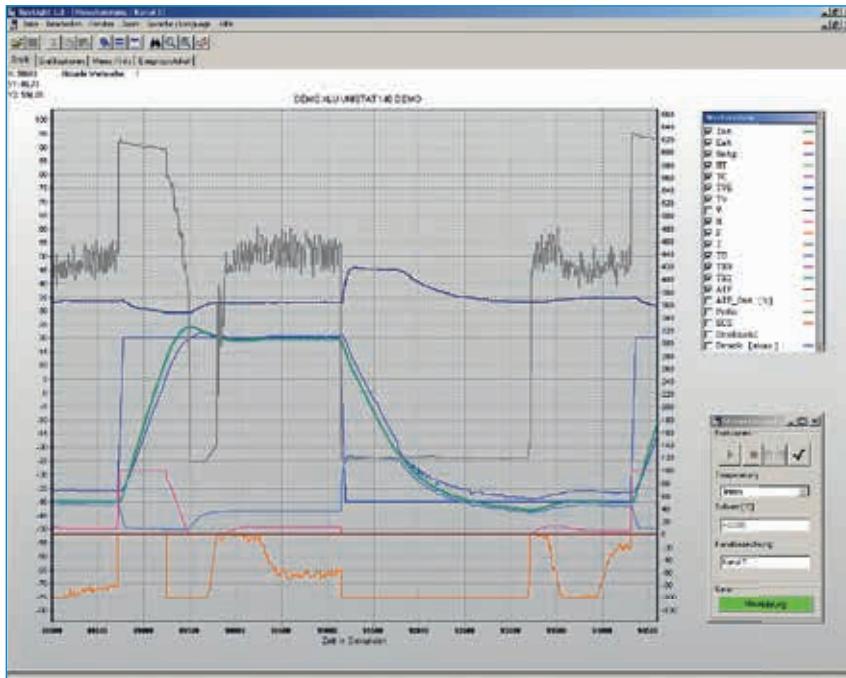
## Profibus

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.

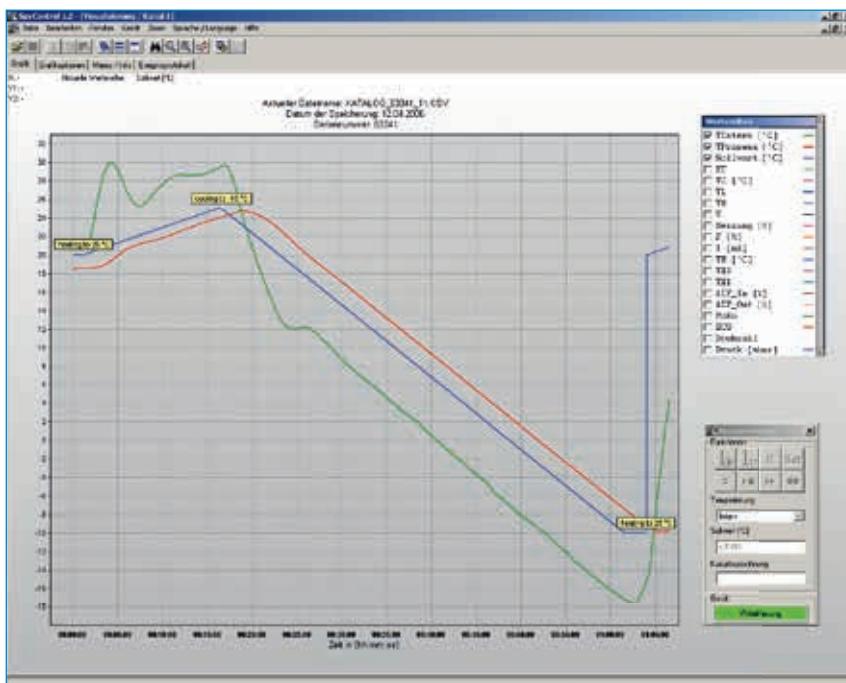
Profibus Solution for units with Pilot ONE	Cat.No.	G	Price
Profibus Gateway 3E, external (complete, in housing)	10503	3	

## 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



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	

## 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.

### 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 ( <u>not</u> mounted on unit)	for Unistats -90°C...+200°C	M24x1,5	9819	4	
		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	Manual bypass with pressure gauge	Cat.No.	G	Price
For Unistats	M16x1	-20...+140°C	6415	1			
	M24x1,5	-10...+150°C	9339	1			
	M30x1,5	-10...+150°C	6417	1			
	M38x1,5	-10...+150°C	9340	1			
For Unichiller	G3/4	-20...+110°C	6933	1			
	G1 1/4	-20...+110°C	9414	1			

### External pressure sensors for VPC

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



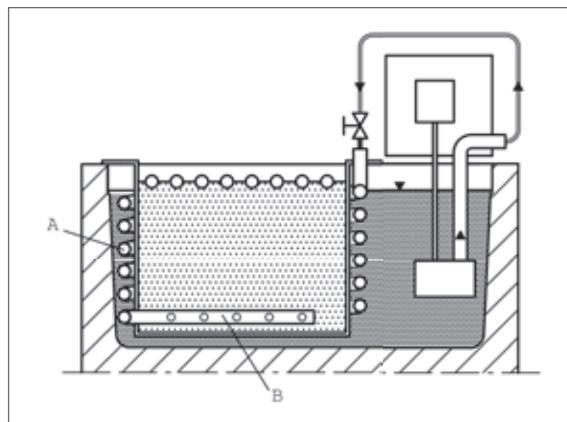
### Function principle

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 WxDxH (mm)	Opening WxD (mm)	Bath	Volume (ltr)	Cat.No.	G	Price
			Depth (mm)				
106A	142x305x161	130x290	150	6	30527	1	
108A	142x405x161	130x390	150	8	30528	1	
110A	142x505x161	130x490	150	10	30529	1	
112A	333x358x166	275x342	150	12	30523	1	
118A	333x518x166	275x502	150	18	30526	1	
130A	500x200x322	480x180	312	30	17098	1	



## Stainless Steel Baths (insulated)

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

Model	Dimensions WxDxH (mm)	Opening WxD (mm)	Bath	Volume (ltr)	Cat.No.	G	Price
			Depth (mm)				
208B	290x350x206	235x290	150	8,5	6683	1	
212B	350x375x206	290x320	150	12	6684	1	
215B	350x375x256	290x320	200	15	6012	1	
220B	350x555x206	290x500	150	20	6685	1	
225B	350x555x256	290x500	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)	Opening WxD (mm)	Bath Depth (mm)	Volume (litr)	Cooling Power (kW) at			Dimensions WxDxH (mm)	Cat.No.	G	Price
					0°C	-10°C	-20°C				
K12	-20...200	290x320	150	12	0,2	0,12	0,05	350x560x263	2009.0001.99	2	
K15	-20...200	290x320	200	15	0,2	0,12	0,05	350x560x263	2010.0001.99	2	
K20	-30...200	290x500	150	20	0,35	0,27	0,16	350x555x448	2011.0001.99	2	
K25	-30...200	290x500	200	25	0,35	0,27	0,16	350x555x448	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 WxD (mm)	Dimensions W x D x H (mm)	Cat.No.	G	Price
5,5 litre	165	160x232	210x282x205	6052	2	
11 litre	165	200x370	250x420x205	6053	2	
22 litre	165	320x470	370x520x205	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

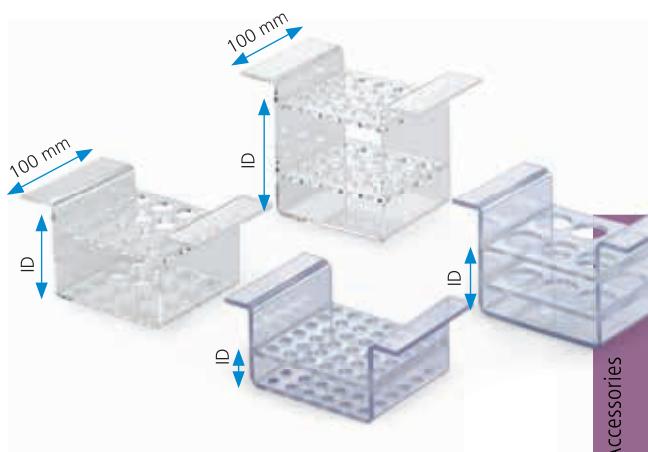
Model	Cat.No.	G	Price
Bath cover one piece 112A	41291	1	
Bath cover one piece 212B, 215B, K12, K15	41279	1	
Bath cover back 118A, 220B, 225B, K20, K25	41280	1	

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

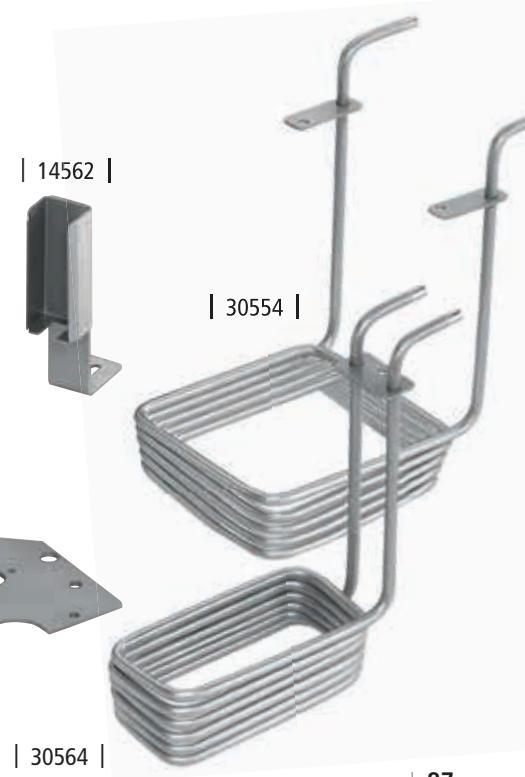
for 112A, 118A, 212B to 225B and cooling baths K12-K25

Type	Holes	Immersion Depth (mm)	Cat.No.	G	Price
1	36 x Ø17	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	



<b>Adaptor for M16x1</b>	<b>Thread</b>	<b>to</b>	<b>(G1)</b>	<b>Cat.No.</b>	<b>Price</b>
	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	

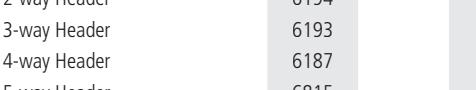
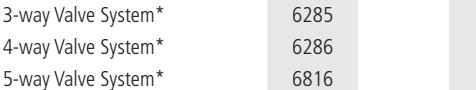
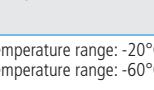
<b>Adaptor for M30x1,5</b>	<b>Thread</b>	<b>to</b>	<b>(G1)</b>	<b>Cat.No.</b>	<b>Price</b>
	male	M30x1,5 male		6448	
	female	G3/8 male		6445	
	male	G1/2 male		6393	
	male	R1/2 female		6394	
	female	G1/2 male		6391	
	female	G1/2 female		6392	
	male	G3/4 male		6447	
	male	R3/4 female		6442	
	female	G3/4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

<b>Adaptor for M24x1,5</b>	<b>Thread</b>	<b>to</b>	<b>(G1)</b>	<b>Cat.No.</b>	<b>Price</b>
	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	

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

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

More adaptors on request

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

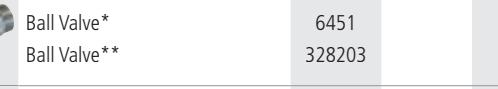
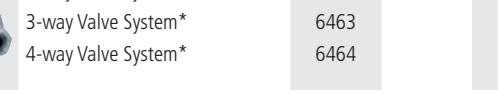
\* Temperature range: -20°C...+140°C (max. 6 bar at +140°C)

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

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

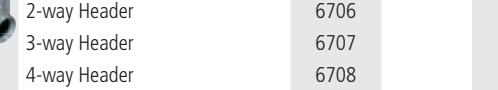
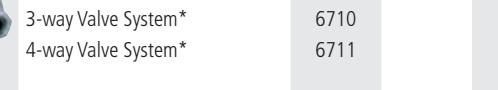
\* Temperature range: -10°C...+150°C (max. 20 bar at +80°C)

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

M30x1,5	(G1)	Cat.No.	Price
	90° Adaptor	6461	
	Ball Valve*	6451	
	Ball Valve**	328203	
	2-way Header	6420	
	3-way Header	6421	
	4-way Header	6422	
	2-way Valve System*	6423	
	3-way Valve System*	6463	
	4-way Valve System*	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*	6700	
	Ball Valve**	328191	
	2-way Header	6706	
	3-way Header	6707	
	4-way Header	6708	
	2-way Valve System*	6709	
	3-way Valve System*	6710	
	4-way Valve System*	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 High temp, Mid temp and low temp, use the adaptors listed here.	M30x1,5 male - R1/2 female		6394	
	M30x1,5 male - R3/4 female		6442	
	M16x1 female - M30x1,5 male		6431	





Model	Technical Data										Cooling Power at									
	Catalogue Page	Temperature Range	T <sub>min</sub> with Cooling	T <sub>min</sub> with Water Cooling	Heating Power	Bath Volume	min. Filling Capacity	Bath Volume with Displacement Insert	Bath Opening WxDxH	Resolution of Display	Temperature Stability	300°C	200°C	100°C	20°C	0°C	-20°C	-40°C	-60°C	-80°C
	°C	°C	°C	kW	I	I	mm	°C	K	kW	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						
<b>Compatible Control Cooling Bath Circulators</b>																				
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	0,06		
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	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							

\* 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

I/min	bar	I/min	bar																	
27	0,7	22	0,4	M16x1 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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	No	350 x 560 x 263	20,0	230;1~;50/60	AIR	5	40		S	2009.0001.99	K12		
				No		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	No	350 x 555 x 448	30,0	230;1~;50/60	AIR	5	40		S	2011.0001.99	K20		
				No		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	S	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		O	2018.0013.01	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		O	2018.0016.01	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

<sup>1</sup> Voltage can be changed, must be specified with order<sup>2</sup> S = Standard, O = Option, A = On Request<sup>3</sup> Option



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The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

