high precision thermoregulation

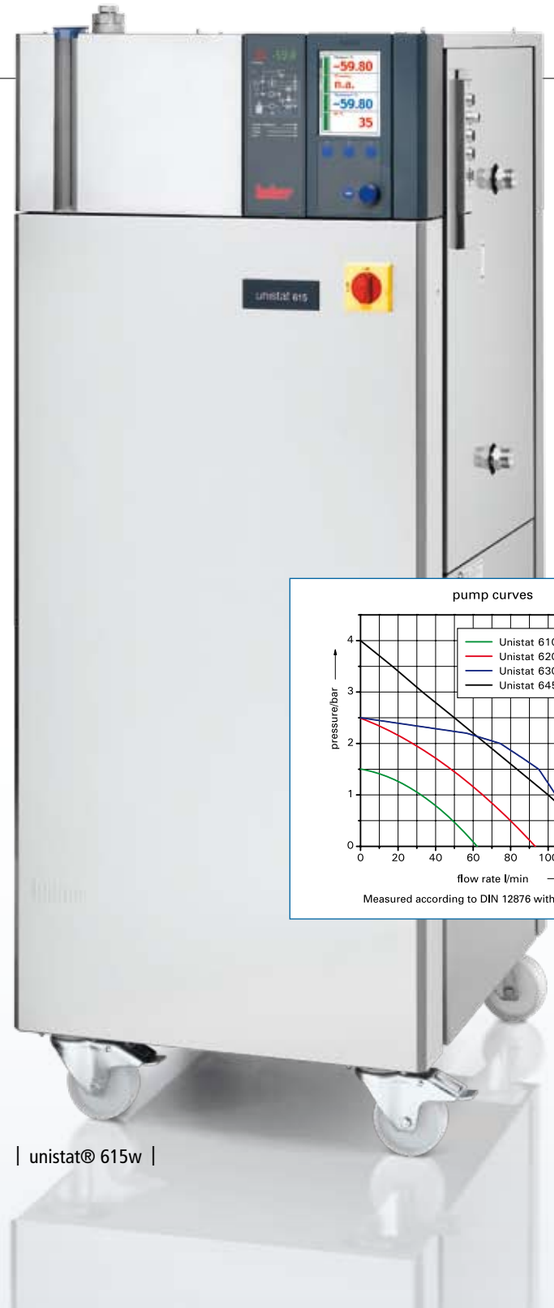
Catalogue 2009/2010

huber

| unistat® 510w | | unistat® 430 | | unistat® 520w |

| unistat® tango nuevo |

| unistat® 650w |



| unistat® 615w |

-55 °C
Models
from 0,7 to 21 kW

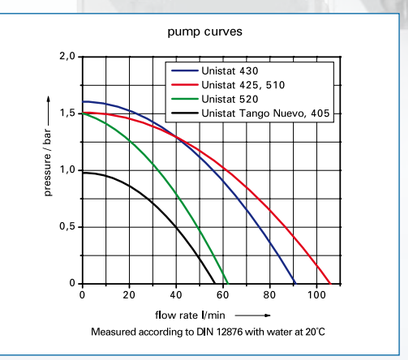
-60 °C
Models
from 7 to 130 kW

VPC
Variable Pressure Control

ATEX
ATEX Solutions (Option)

Additional heating
(Option)

huber Natural Refrigerant inside



	Model to -55 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating (kW)	Cooling Power (kW) at (°C) 250	200	100	0	-20	-40	Dimensions W x D x H (mm)	Cat.No.	G	Price
	tango nuevo	-45...250	55	1,0[1]	1,5 / 3,0	0,7	0,7	0,7	0,7	0,4	0,06	425 x 270 x 636	1000.0001.05	3	
	tango nuevo wl	-45...250	55	1,0[1]	1,5 / 3,0	0,7	0,7	0,7	0,7	0,4	0,05	425 x 270 x 636	1000.0002.05	3	
	unistat® 405	-45...250	55	1,0[1]	1,5 / 3,0	1,0	1,0	1,0	1,0	0,6	0,1	425 x 308 x 636	1002.0003.05	3	
	unistat® 405w	-45...250	55	1,0[1]	1,5 / 3,0	1,3	1,3	1,3	1,3	0,7	0,15	425 x 270 x 636	1002.0002.05	3	
New!	unistat® 410w	-45...250	55	1,0[1]	1,5 / 3,0	2,5	2,5	2,5	1,5	0,8	0,2	425 x 360 x 636	1031.0001.05	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 1332	1005.0002.05	3	
	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 1332	1005.0003.05	3	
	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 1332	1005.0006.05	3	
	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 1332	1005.0007.05	3	
	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 1332	1005.0001.05	3	
New!	unistat® 515w	-55...250	105	1,5[2]	6,0	7,0	7,0	7,0	5,0	2,8	0,9	460 x 550 x 1332	1032.0001.05	4	
	unistat® 520w	-55...200	60	1,5[2]	6,0	–	6,0	6,0	6,0	4,2	1,5	540 x 604 x 1332	1006.0001.05	4	
New!	unistat® 525w	-55...250	60	1,5[2]	6,0	10,0	10,0	10,0	7,0	4,2	1,5	460 x 550 x 1332	1033.0001.05	4	
New!	unistat® 530w	-55...250	90	2,5[2]	12,0	19,0	19,0	21,0	21,0	9,5	3,0	540 x 704 x 1491	1034.0001.05	4	

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

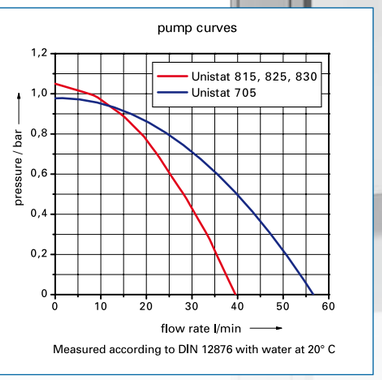
	Model to -60 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating (kW)	Cooling Power (kW) at (°C) 200	100	0	-20	-40	-60	Dimensions W x D x H (mm)	Cat.No.	G	Price
	unistat® 610w	-60...200	60	1,5[2]	6,0	7,0	7,0	7,0	6,4	3,3	0,8	600 x 704 x 1520	1007.0001.05	4	
	unistat® 615w	-60...200	60	1,5[2]	12,0	9,5	9,5	9,5	8,0	4,8	1,2	600 x 704 x 1520	1007.0002.05	4	
	unistat® 620w	-60...200	90	2,5[2]	12,0	12,0	12,0	12,0	12,0	6,5	1,8	700 x 804 x 1520	1008.0002.05	4	
	unistat® 625w	-60...200	90	2,5[2]	12,0	16,0	16,0	16,0	15,0	7,4	2,2	700 x 804 x 1520	1008.0003.05	4	
	unistat® 630w	-60...200	110	2,5[2]	24,0	22,0	22,0	21,0	20,0	15,0	5,0	920 x 1004 x 1655	1009.0001.05	5	
	unistat® 635w	-60...200	110	2,5[2]	24,0	27,0	27,0	27,0	25,0	18,0	6,0	920 x 1004 x 1655	1009.0002.05	5	
	unistat® 640w	-60...200	110	2,5[2]	30,0	32,0	32,0	32,0	27,0	20,0	6,0	920 x 1204 x 1655	1010.0001.05	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	1011.0001.05	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	1012.0002.05	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	1013.0001.05	5	

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

-85 °C
Air- or water-cooled

| unistat® 825 |

| unistat® 930w |



Measured according to DIN 12876 with water at 20° C

| unistat® 815w |

huber Natural Refrigerant inside

| unistat® 705w |

-90 °C
-120 °C
Models from 5,2 to 36 kW

| unistat® 910w |

VPC
Variable Pressure Control

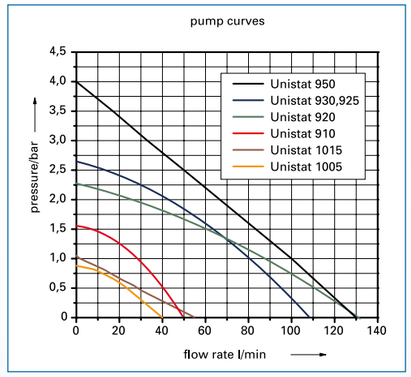
ATEX
ATEX Solutions (Option)

Additional heating
(Option)

Scale-up live – more than 30 Unistats in operation

„Here in GSK Chemical Development, at Research Triangle Park, we've been using jacketed laboratory reactors of various sizes for over ten years now. From the very beginning, our temperature control requirements demanded the best solution available, and we have relied on Huber Unistats to deliver this capability. The Huber technology has allowed us to significantly improve our process development activities and is a critical tool in collecting data for Quality by Design studies."

Roy Flanagan,
Team Manager, Process Safety and Design



Model to -85 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating (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	1,2[1]	1,5/3,0	0,6	0,6	0,6	0,65	0,6	0,6	0,3	–	425 x 400 x 720	1001.0002.05	3	
unistat® 705w	-75...250	55	1,0[1]	1,5/3,0	0,6	0,6	0,6	0,65	0,6	0,6	0,3	–	425 x 400 x 720	1001.0001.05	3	
unistat® 815	-85...250	40	1,1[1]	2,0	1,3	1,3	1,3	1,5	1,5	1,4	1,2	0,2	460 x 604 x 1342	1014.0003.05	3	
unistat® 815w	-85...250	40	1,1[1]	2,0	1,5	1,5	1,5	1,5	1,5	1,4	1,2	0,2	460 x 604 x 1342	1014.0004.05	3	
unistat® 825	-85...250	40	1,1[1]	3,0	2,3	2,3	2,3	2,2	2,0	2,0	1,4	0,3	460 x 604 x 1342	1014.0001.05	4	
unistat® 825w	-85...250	40	1,1[1]	3,0	2,3	2,3	2,3	2,4	2,4	2,4	1,5	0,3	460 x 604 x 1342	1014.0002.05	4	
unistat® 830	-85...200	40	1,1[1]	3,0	–	4,0	3,8	3,6	3,5	3,5	2,2	0,7	540 x 654 x 1500	1015.0001.05	4	
unistat® 830w	-85...200	40	1,1[1]	3,0	–	4,0	3,8	3,7	3,6	3,6	2,2	0,7	540 x 654 x 1500	1015.0002.05	4	

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

Model to -90 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating (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® 910w	-90...250	40	1,5[2]	6,0	5,2	5,2	5,2	5,2	5,2	4,7	3,1	0,9	600 x 704 x 1565	1016.0001.05	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	920 x 1204 x 1655	1017.0011.05	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	920 x 1204 x 1655	1017.0001.05	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	920 x 1204 x 1655	1017.0002.05	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	1700 x 3500 x 1850	1018.0002.05	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	1018.0001.05	5	

Model to -90 °C	Working Temperature Range (°C)	Pump max. VPC (l/min)	(bar)	Heating (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® 1005w	-120...100	30	0,8[1]	2,0	–	1,5	1,5	1,5	1,5	1,4	1,4	1,0	700 x 804 x 1520	1019.0001.05	4	
unistat® 1015w	-120...100	44	1,5[1]	4,0	–	2,5	2,5	2,5	2,5	2,5	2,0	2,0	920 x 1204 x 1655	1020.0001.05	5	

Option: natural refrigerants available on request

Unichiller®
with air cooled refrigeration

| UC045T |

| UC110T |

[kW]
to 40 kW
air cooled models from 1.7 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)	(W/dm³) at 15°C	0°C	Cat.No.	G	Price
UC017T	-10..40	B	27	3,0	1,7	0,9	0,4	-	450 x 510 x 1160	6,4	3,4	3013.0001.04	3	
UC020T	-20..40	B	27	3,0	2,0	2,0	1,5	0,8	450 x 510 x 1160	7,5	7,5	3013.0002.04	3	
UC025T	-10..40	B	27	3,0	2,5	1,2	0,6	-	450 x 510 x 1160	9,4	4,5	3013.0003.04	3	
UC040T	-10..40	B	27	3,0	4,0	2,5	1,5	-	500 x 550 x 1420	11,0	6,9	3014.0001.04	3	
UC045T	-20..40	B	27	3,0	4,5	4,5	2,9	1,5	500 x 550 x 1420	12,4	12,4	3014.0002.04	3	
UC055T	-10..40	C3	65	5,5	5,5	3,0	1,3	-	600 x 632 x 1610	9,1	5,0	3015.0001.04	3	
UC060T	-20..40	C3	65	5,5	6,0	6,0	3,9	2,0	600 x 630 x 1600	9,9	9,9	3015.0002.04	3	
UC080T	-10..40	C3	90	5,5	8,0	4,8	2,5	-	600 x 790 x 1610	11,4	6,5	3016.0001.04	3	
UC100T	-20..40	C3	90	5,5	10,0	10,0	6,5	2,5	600 x 790 x 1610	13,1	13,1	3017.0001.04	4	
UC110T	-10..40	C3	90	5,5	11,0	6,0	2,7	-	600 x 790 x 1610	14,4	7,9	3017.0002.04	4	
UC130T**	-10..40	C3	90	5,5	13,0	8,5	4,5	-	874 x 1185 x 1820	6,8	4,4	3018.0001.04	4	
UC150T**	-20..40	D3	180	4,5	15,0	15,0	9,7	3,7	874 x 1485 x 1820	6,2	6,2	3019.0001.04	4	
UC160T**	-10..40	D3	180	4,5	16,0	8,8	4,0	-	874 x 1185 x 1820	8,3	4,6	3018.0002.04	4	
UC200T**	-10..40	D3	180	4,5	20,0	11,0	5,0	-	874 x 1485 x 1855	8,3	4,6	3019.0002.04	4	
UC210T**	-20..40	D3	180	4,5	21,0	21,0	13,6	5,2	874 x 1985 x 1855	6,6	6,6	3020.0001.04	4	
UC250T**	-10..40	D3	180	4,5	25,0	14,0	6,2	-	874 x 1985 x 1855	7,8	4,4	3020.0002.04	5	
UC260T**	-20..40	D3	220	4,5	26,0	26,0	13,6	5,2	874 x 1985 x 1855	8,0	8,0	3020.0003.04	5	
UC300T**	-10..40	D3	220	4,5	30,0	16,5	7,5	-	874 x 1985 x 1855	9,3	5,1	3020.0004.04	5	
UC400T**	-10..40	D3	220	4,5	40,0	22,0	10,0	-	2500 x 1685 x 1785	5,3	2,9	3021.0001.04	5	

** without trolley Option: heating 2 kW to 100°C Option: Natural Refrigerant available on request

Unichiller®
with water cooled refrigeration

huber Natural Refrigerant inside

| UC 025Tw |

| UC 130Tw |

[kW]
to 50 kW
water cooled models from 1.7 to 50 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)	(W/dm³) at 15°C	0°C	Cat.No.	G	Price
UC017Tw	-10..40	B	27	3,0	1,7	0,9	0,4	–	400 x 440 x 1100	8,8	4,6	3024.0001.04	3	
UC020Tw	-20..40	B	27	3,0	2,0	2,0	1,5	0,8	400 x 440 x 1100	10,3	10,3	3024.0002.04	3	
UC025Tw	-10..40	B	27	3,0	2,5	1,2	0,6	–	400 x 440 x 1100	12,9	6,2	3024.0003.04	3	
UC030Tw	-20..40	B	27	3,0	3,0	3,0	2,0	1,0	400 x 440 x 1100	15,5	15,5	3025.0001.04	3	
UC040Tw	-10..40	B	27	3,0	4,0	2,5	1,5	–	400 x 440 x 1100	20,7	12,9	3025.0002.04	3	
UC055Tw	-10..40	C3	65	5,5	5,5	4,0	2,0	–	500 x 550 x 1265	15,8	11,5	3026.0001.04	3	
UC060Tw	-20..40	C3	65	5,5	6,0	6,0	3,8	2,1	500 x 550 x 1265	17,2	17,2	3026.0002.04	3	
UC080Tw	-10..40	C3	90	5,5	8,0	4,65	2,35	–	500 x 550 x 1265	23,0	13,4	3026.0003.04	3	
UC100Tw	-20..40	C3	90	5,5	10,0	10,0	6,3	3,0	600 x 600 x 1450	19,2	19,2	3027.0001.04	4	
UC110Tw	-10..40	C3	90	5,5	11,0	5,8	2,55	–	600 x 600 x 1450	21,1	11,1	3027.0002.04	4	
UC130Tw	-10..40	C3	90	5,5	13,0	7,0	3,0	–	600 x 600 x 1450	24,9	13,4	3027.0003.04	4	
UC150Tw	-20..40	D3	180	4,5	15,0	15,0	10,0	5,0	760 x 800 x 1560	15,8	15,8	3028.0001.04	4	
UC160Tw	-10..40	D3	180	4,5	16,0	9,5	5,5	–	600 x 600 x 1450	30,7	18,2	3027.0004.04	4	
UC200Tw	-10..40	D3	180	4,5	20,0	10,7	4,7	–	760 x 800 x 1560	21,1	11,3	3028.0002.04	4	
UC210Tw	-20..40	D3	180	4,5	21,0	21,0	15,5	9,5	760 x 800 x 1560	22,1	22,1	3028.0003.04	4	
UC250Tw	-10..40	D3	180	4,5	25,0	14,0	6,2	–	760 x 800 x 1560	26,4	14,3	3028.0004.04	5	
UC260Tw	-20..40	D3	220	4,5	26,0	26,0	20,0	12,0	760 x 800 x 1560	27,4	27,4	3028.0005.04	5	
UC300Tw**	-10..40	D3	220	4,5	30,0	16,0	7,1	–	760 x 900 x 1560	28,1	15,0	3029.0001.04	5	
UC400Tw**	-10..40	D3	220	4,5	40,0	21,0	10,0	–	760 x 900 x 1560	37,5	19,7	3029.0002.04	5	
UC500Tw**	-10..40	D3	220	4,5	50,0	26,0	–	–	1070 x 760 x 1625	37,8	19,7	3030.0001.04	5	

** without trolley Option: heating 2 kW to 100°C Option: Natural Refrigerant available on request

Modern Classics: Bath Thermostats

Compatible Control Circulators are modern classics. Their predecessors have spread the still exclusive exchangeable controllers throughout the world since 1980.

CC circulators are classic constructions. 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.

State of the art pump technology: The top range models with the CC-Pilot have powerful pressure and suction pumps. The pump speed can be controlled steplessly to suit the bath configuration. The maximum permissible pressure for an external application can be controlled via the optional „ComBox" (digital interfaces RS232 and RS485, analogue interface 4-20mA, external control signal and programmable alarm) and pressure sensor. The pressure control VPC (variable pressure control) has already proved itself as an additional protection against glass breakage in the Unistats®.

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 the formation of condense water or ice.

Chic: Circulator with stainlees steel coat with exchangeable CC-Pilot or as Low-Cost alternative with the new MC-Controller.

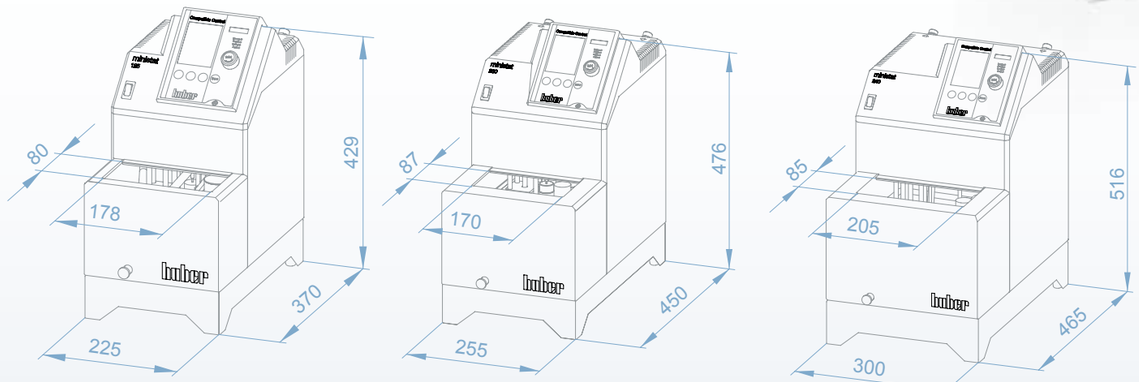
All stainless steel ministats® set the standard in the compact class

Ministats® – exceptionally compact and powerful – the smallest cooling thermostat in the world since 1976. It´s compact form allows it to be placed in a smallest space, e.g. in a laboratory extract hood. All three ministats® are now available with air- or water-cooling. Compliance with DIN 12876-1, class 3 allows it to be used unsupervised in continual operation. The maximum ambient temperature is +40 °C. A powerful variable speed pressure/suction pump can thermoregulate either objects in the bath and/or external applications. The maximum pressure can be controlled using an optional pressure sensor. VPC (variable pressure control) protects delicate glassware. This small volume and high power means exceptionally rapid heating and cooling rates are achieved. Displacement inserts (optional) reduced the bath volume by approximately 50 % amplifying this effect. The exposed surface area of the bath and thereby the moisture absorption is reduced. 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 in the bath. All parts in contact with the thermofluid are made of stainless steel or high quality plastic. Ministats® have the CC-Pilot 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 CC-Pilot 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 ComBox (NAMUR Standard) and so be integrated in a process control system.

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

- **Increased functionality with accessories (Option):**
  - External pressure sensor for VPC pressure control
  - Combox (NAMUR Standard): (RS232, RS485, programmable volt-free contact,
  - ECS (external control signal), Level monitoring), Calibration and displacement insert.



| ministat® 125-cc | | ministat® 230-cc | | ministat® 240-cc |

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-cc	-25..150	2,75/1,3*	120	1,0	27	0,7	20	0,4	0,30	0,20	0,05	–	2014.0001.04	2	
ministat® 125w-cc	-25..150	2,75/1,3*	120	1,0	27	0,7	20	0,4	0,30	0,20	0,10	–	2014.0002.04	2	
ministat® 230-cc	-40..200	3,2/1,7*	135	2,0	27	0,7	20	0,4	0,42	0,38	0,25	0,14	2015.0001.04	2	
ministat® 230w-cc	-40..200	3,2/1,7*	135	2,0	27	0,7	20	0,4	0,42	0,38	0,25	0,14	2015.0002.04	2	
ministat® 240-cc	-45..200	4,9/2,8*	157	2,0	27	0,7	20	0,4	0,60	0,55	0,35	0,20	2016.0001.04	2	
ministat® 240w-cc	-45..200	4,9/2,8*	157	2,0	27	0,7	20	0,4	0,60	0,55	0,35	0,20	2016.0002.04	2	

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

| ministat 240-cc | | ministat 230-cc | | ministat 125-cc* |

Features

- Compact ergonomic design
- CC-Pilot with Plug & Play technology, Large TFT-display, bright LCD-display with zoom function and display resolution 0,1 °C, EASY Control
- RS232 interface and connection for optional ComBox (NAMUR Standard)
- 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
- Calibrateable 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 on front

VPC
Variable Pressure Control

Plug & Play
3 years warranty

Cooling Power to DIN

5 °C lower and more power

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.