

LAUDA CIRCULATION AND PROCESS THERMOSTATS

°LAUDA

Specific application examples

- Refractometer
- Polarimeter
- Single-use bioreactors
- Extruder for food production
- Micro reactors
- Responsive control in chemical/pharmaceutical surroundings
- Climate chambers
- Space simulation
- Electric mobility; battery testing
- Test rigs
- Stress test
- Crystallization regulation
- Freeze-drying
- Micro structures
- Coating plants



LAUDA LOOP

The compact, lightweight circulation thermostat for external applications from 4 to 80 °C

4°C  80°C

Extremely versatile, flexibly usable thermo-electric circulation thermostat

The LAUDA LOOP circulation thermostat is sure to impress with its constant temperature range between 4 and 80 °C. Its compact construction and low weight, as well as wide voltage input range of 100 to 240 volts, make it possible to put it to use flexibly and spontaneously anywhere in the world – the ›Plug and Play‹ setup with quick-fit couplings makes it especially easy to use. The intuitive three-button softkey operation and simple menu navigation in five available languages via the well-lit, high-contrast OLED display make using the device a breeze.



max. 4l

min. 2l

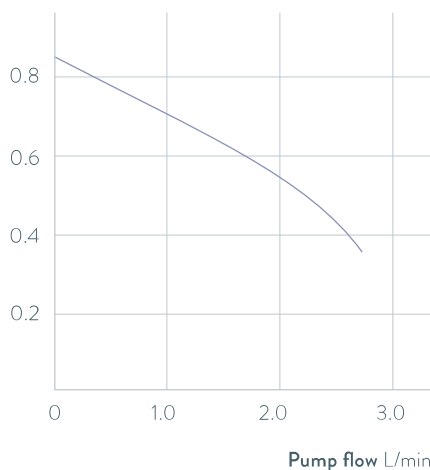
Simple three-button controls with OLED display



Standard-issue RS 232 interface for system integration into processes

PUMP CHARACTERISTIC Water

Pressure bar



Important functions

- Pump connections with quick-fit couplings for easy consumer changes
- Can be operated with non-flammable liquids (water, water/glycol)
- Cooling technology free of coolant ensures silent, low-vibration operation

Included accessories

Hose nozzles for pump connections

Further accessories

Tubing

All technical data and power supply variants can be found in the ›Technical data‹ section.

More at www.lauda.de/1748



LAUDA LOOP

The L100 and L250 air-cooled device types achieve a cooling capacity of 120 and 250 watt. The devices are primarily for use at constant temperatures with low power requirements. Both device types are especially energy-efficient and silent in partial-load operation.



LAUDA PRO

Compact circulation thermostats for professional temperature control from -90 to 250 °C

-90 °C

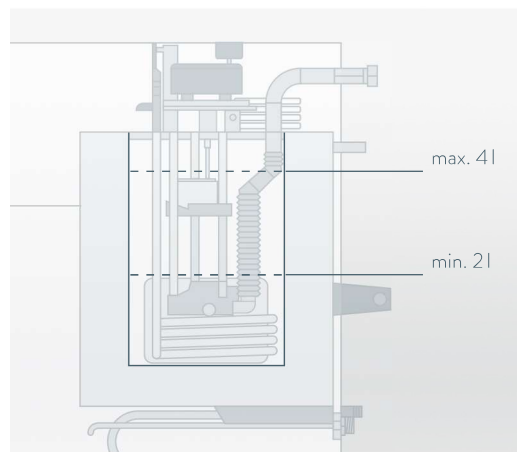
250 °C

Flexible operation, outstanding performance characteristics

LAUDA PRO is the cutting-edge product line with an outstanding overall concept: The circulation thermostats with small, active volumes of liquid enable rapid temperature changes in external applications. The innovative Base or Command Touch operating units can be detached and used as a remote control. The cooling thermostats come equipped with hybrid cooling as standard, which allows for additional cooling of the refrigerating machine with water.



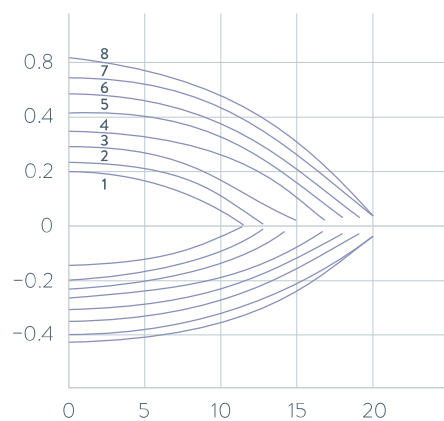
Many basic functions with the economic Base variant



The small filling volume and powerful vario flex pump offer fast temperature changes with low operating costs and material consumption

PUMP CHARACTERISTICS Water

Pressure bar



- 1 Step 1
- 2 Step 2
- 3 Step 3
- 4 Step 4
- 5 Step 5
- 6 Step 6
- 7 Step 7
- 8 Step 8

Suction

Pump flow L/min

Important functions

- Tower design for small footprint
- LAUDA Vario Flex Pump with 8 available output levels, pump connections at rear
- SmartCool system for digital, energy-saving cooling control including automatic compressor control

Included accessories

Tubing nipples for pumps and cooling water connection

Further accessories

Tubing, interface modules

All technical data and power supply variants can be found in the ›Technical data‹ section.

More at www.lauda.de/1750



LAUDA PRO

The PRO heating circulation thermostats are designed for external applications up to 250 °C. The compact construction permits space-saving installation of the thermostats. An integrated cooling coil, fitted as standard, provides cooling. The PRO cooling circulation thermostats are ideal for external applications where rapid temperature changes are required. The cooling output of 0.6 and 0.8 kW or 1.5 kW, combined with a very low filling volume permit these rapid temperature changes.



LAUDA Integral T

Process thermostats for professional external temperature control in the temperature range of -30 to 150 °C



High-performance process thermostats for effective control of external temperature control processes

LAUDA Integral T process thermostats are ideally suited for the effective control of external temperature control processes in a temperature range from -30 to 150 °C. The Integral T process thermostats enable fast temperature changes thanks to tailored heating outputs and cooling capacities with small internal volumes. The open hydraulic system means that the device vents quickly without any impairment of function, and is thus ideal for temperature controlling processes with frequent changes of consumer or user. The Integral T also reliably handles classic areas of application, such as reaction control or climate simulation. Integral thermostats can be flexibly integrated in various communication scenarios thanks to the integrated web server, monitoring and control via PC or mobile devices and the modular interface concept.

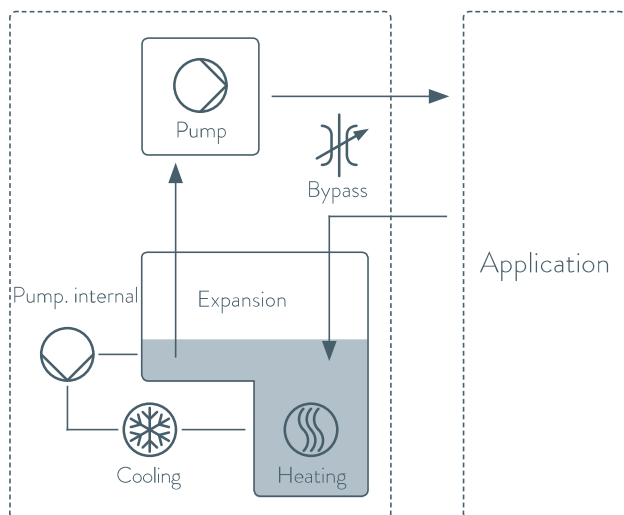


Three different housing sizes, depending on the output power



Ethernet, USB, malfunction contact and Pt100 as standard, two module slots for additional interfaces

INTEGRAL T HYDRAULIC DIAGRAM



Important functions

- Compact, open bath system with large expansion volume
- Programmer with 150 temperature/time segments
- Self-adaption of the controller for optimized temperature control
- Adjustable bypass for pressure limitation
- Filling from above, drainage from the side
- Electronic level monitoring
- Operation in internal LAN possible on web server via PC or tablet/smartphone

Included accessories

Nipples for pump connections

Further accessories

Tubing, 4-port manifold

All technical data and power supply variants can be found in the ›Technical data‹ section.

More at www.lauda.de/1752



LAUDA Integral T

The bypass in the Integral T reduces the linear pump characteristics when it opens. Pressure-sensitive applications can therefore be protected by reducing the discharge pressure. The digital pressure indication in the Integral T display facilitates manual adjustment of the discharge pressure by means of a bypass. The robust and powerful immersion pressure pump ensures reliable, leak-free and safe operation. The independent internal circulation of the heat transfer liquid ensures maximum heating and cooling capacity.



LAUDA Integral XT

High-performance process thermostats from 1.5 to 20 kW for temperature control from -90 to 320 °C

-90 °C

320 °C

Process thermostats for dynamic temperature control tasks

LAUDA Integral XT process thermostats operate according to the flow principle with a cold oil blanket which allows the utilization of temperature control liquid over a significantly larger temperature range. The Integral XT process thermostats are ideal for dynamic temperature control tasks. The electronically controlled, magnetically coupled pump can set the flow rate optimally both for the requirements of pressure-sensitive consumers and for applications with high hydraulic resistance. An internal bypass also increases flexibility. Integral thermostats can be flexibly integrated in various communication scenarios thanks to the integrated web server, monitoring and control via PC or mobile devices and the modular interface concept.

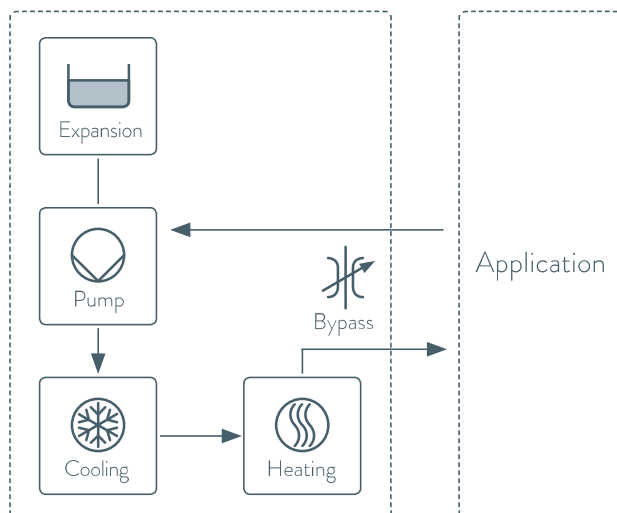


TFT display with different screens or temperature profiles



Bypass included as standard. For increased internal flow rates in applications requiring pressure limitations

INTEGRAL XT HYDRAULIC DIAGRAM



Important functions

- High-performance LAUDA Vario Pump (pressure pump) with 8 selectable output levels or flow pressure control
- Programmer with 150 temperature/time segments, can be divided into five programs
- Two additional module slots available for retrofit
- Operation in internal LAN possible on web server via PC or tablet/smartphone

Standard equipment

Ethernet and USB interfaces, Pt-100 and malfunction contact

Additional accessories

Hoses, adapters
Through-flow control systems

All technical data and power supply variants can be found in the »Technical data« section.

More at www.lauda.de/1754



LAUDA Integral XT

The Integral XT uses an eight-stage, robust and sealed magnetically coupled Vario pump with selectable characteristics to ensure a reliable supply to the consumer, even with high flow resistance. The menu-driven selection of the pump level enables optimum thermal connection of the application with the required discharge pressure and volume flow rate.



LAUDA Variocool

Cooling circulation thermostats from -20 to 80 °C
with cooling capacities up to 10 kW and powerful pumps

-20°C  80°C

Comprehensive spectrum of services for demanding temperature control tasks

The LAUDA Variocool with optional heater is a fully fledged circulation thermostat suitable for use with non-flammable heat transfer liquid within a moderate temperature range. Equipment incorporating different pumps, individual interface module expansions and the option of external temperature control allow operation as a standalone unit or full integration in a process control system.



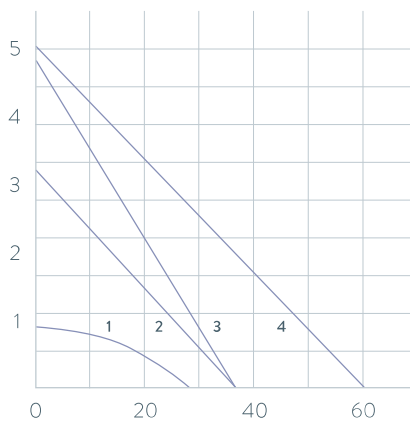
Malfunction Alarm contact included as standard, as well as module slots for additional interfaces



Flexible customization to applications due to optional heating and high performance pumps

PUMP CHARACTERISTIC Water

Pressure bar



- 1 0,9 bar, 28 L/min
- 2 3,2 bar, 37 L/min
- 3 4,8 bar, 37 L/min
- 4 5,0 bar, 60 L/min

Pump flow L/min

Important functions

- Adjustable bypass for pressure limitation
- Filling opening at the top, drain tap at the rear
- Integrated programmer with 150 segments, can be divided into 5 programs
- Electronic level indicator and low-level alarm
- SmartCool system for digital, energy-saving cooling control, including automatic compressor control

Included accessories

Nipples, screw caps

Further accessories

Hoses, interface modules

All technical data and power supply variants can be found in the ›Technical data‹ section.

More at www.lauda.de/1756



LAUDA Variocool

All models are available in air and water-cooled versions (W) and fitted with moveable as well as fixable castors. High-performance circulation chillers in a tower design starting from the VC 5000 model are available with sound insulation.



LAUDA Kryoheater Selecta

Process thermostats from -90 to $200\text{ }^{\circ}\text{C}$

for high-performance, professional temperature control

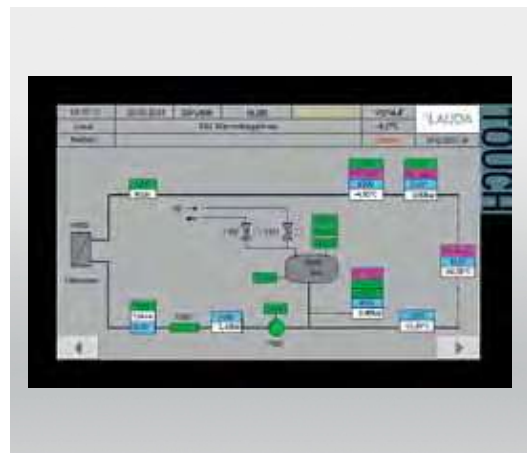


High-performance temperature control – impressive energy efficiency and reliability

LAUDA process thermostats from the Kryoheater Selecta (KHS) product line are synonymous with high-performance temperature control, long service life, ease of maintenance and intuitive operation. Depending on the lowest required temperature, either a two-level compressor (down to $-60\text{ }^{\circ}\text{C}$) or a cascade cooling system (down to $-90\text{ }^{\circ}\text{C}$) is used. Condenser cooling is performed using cooling water and is controlled continuously and precisely. An incremental switch offers energy-saving and low-wear partial load operation via automatic compressor control.



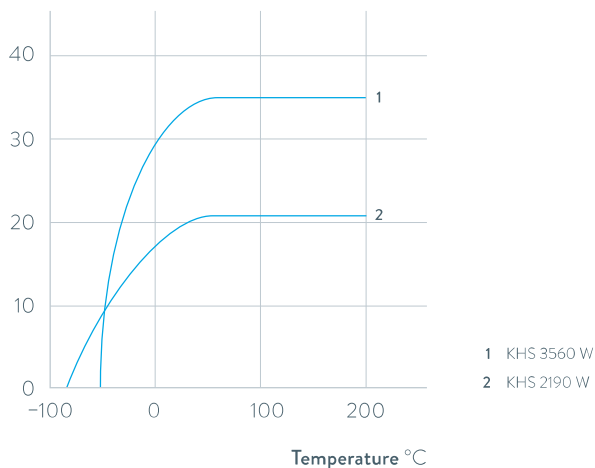
Secure and reliable use in production environment thanks to protection class IP 54 and the durable steel frame construction of the device



SPC controlling with 7" touch panel for intuitive operation and extensive data exchange with process control systems

COOLING POWER Heat transfer liquid: Kryo 65 / Kryo 90

Effective cooling power kW



Important functions

- Powerful, magnetically-coupled pump (high flow rate, even with pressure losses), speed-controlled or with flow pressure control
- Prepared for pressurized nitrogen overlay
- Visualization of pending faults, status display of all system components
- User management
- Free choice of analog or digital interface included in the standard delivery, other optional interfaces also available
- USB port and LEMO connector for external temperature probe as standard

Available accessories

Thermostating and cooling water tubing, adapters

All technical data and power supply variants can be found in the [Technical data](#) section.

More at www.lauda.de/1758



LAUDA Kryoheater Selecta

The Kryoheater Selecta product line consists of the two devices KHS 3560 W and KHS 2190 W, which can be used in chemical and pharmaceutical production. They also perform impressively in simulations of the environmental conditions at inspection stations in the automotive and aerospace industry. The process thermostats are designed for pressurized operation with nitrogen. Benefits include the increase in maximum operating temperature and the extension in service life of the heat transfer liquids.



LAUDA-Noah Semistat

Thermo-electric process thermostats
for the semiconductor industry from -20 to 90 °C

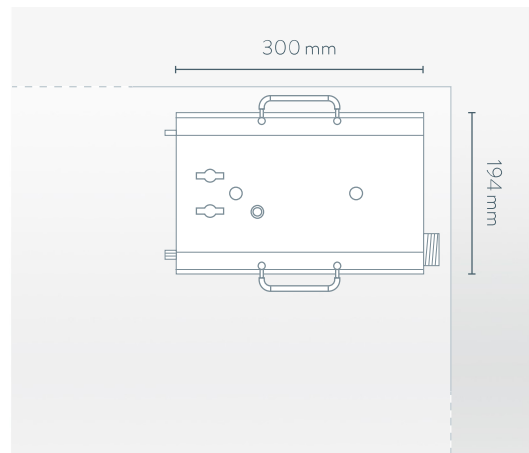


Fast and precise temperature control for demanding processes

The thermoelectric Semistat temperature control system offers reproducible temperature control for plasma etching applications. This system dynamically controls the temperature of the electrostatic wafer chuck (ESC) and can be used in all types of etching processes. The LAUDA-Noah Semistat thermoelectric temperature control systems are based on established principles of heat transfer used for Peltier elements. These elements allow quick and precise temperature control required for complex processes involved in the manufacture of components progressively getting smaller and smaller in size.



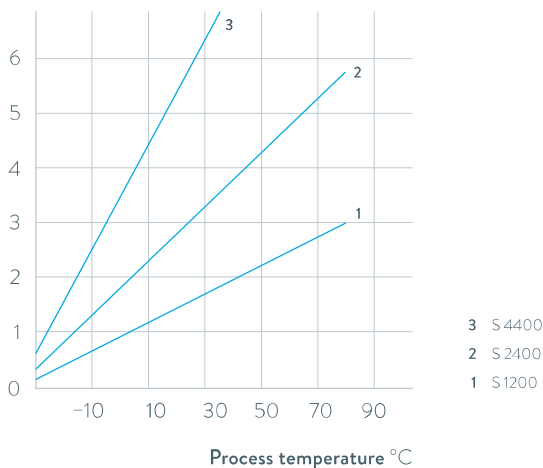
Dynamic, stable temperature control



Small footprint

COOLING POWER dependent on process temperature and flow rate of cooling water

Effective cooling power kW



Important functions

- Compressor and refrigerant-free system with low energy consumption
- Smallest footprint in the industry, no footprint required for underfloor installation
- Extremely low volume of heat transfer fluid

Available accessories

Communications modules with remote control function (RS-485 protocol)

All technical data and power supply variants can be found in the ›Technical data‹ section.

More at www.lauda.de/1760



LAUDA-NOAH Semistat

Semistat temperature control systems can reduce energy consumption by up to 90% compared to compressor-based systems.

Minimal space requirements with the option of underfloor installation at the point of use minimizes cleanroom use.

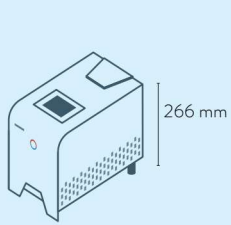


LAUDA Circulation and process thermostats

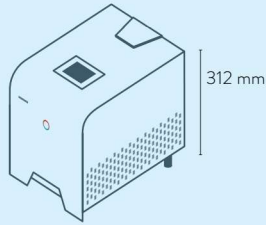
Device type overview

LAUDA LOOP / Page 80

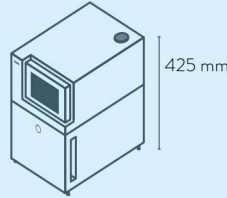
LAUDA PRO / Page 82



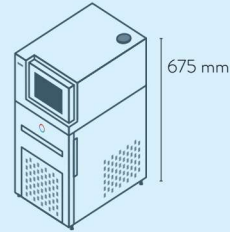
LOOP 100



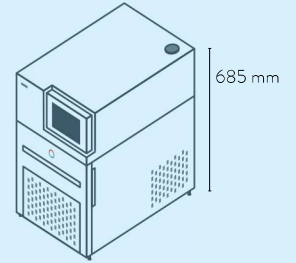
LOOP 250



P 2 E

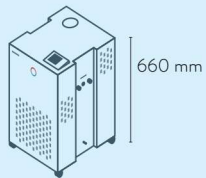


RP 240 EC
RP 245 EC
RP 250 EC



RP 290 EC

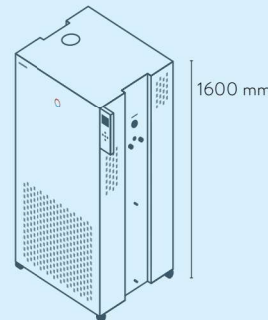
LAUDA Integral T / Page 84



IN 130 T
IN 230 T
IN 230 TW



IN 530 T
IN 530 TW

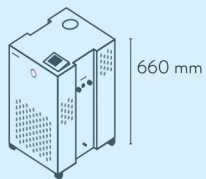


IN 1030 T



IN 1330 TW

LAUDA Integral XT / Page 86



IN 150 XT
IN 250 XTW

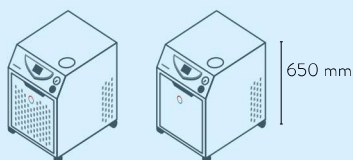


IN 550 XT / IN 550 XTW
IN 280 XT / IN 280 XTW
IN 750 XT
IN 950 XTW

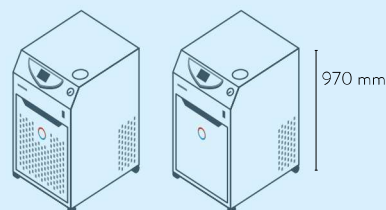


IN 1850 XTW
IN 590 XTW
IN 1590 XTW

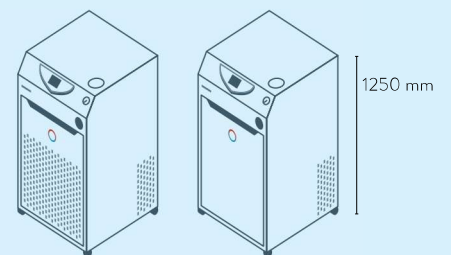
LAUDA Variocool / Page 88



VC 1200
VC 2000
VC 1200 W
VC 2000 W



VC 3000
VC 5000
VC 3000 W
VC 5000 W



VC 7000
VC 10000
VC 7000 W
VC 10000 W

LAUDA Circulation and process thermostats

Interfaces

	Pt 100 (1)	Pt 100 (2)	USB	Ethernet	RS 232 / 485	Analog	Namur contact	Sub-D contact	Profibus	EtherCat M8	EtherCat RJ 45	Modbus	Profinet	Malfunction contact	Number of module slots, large	Number of module slots, small
LAUDA LOOP / Page 80	-	-	-	-	S	-	-	-	-	-	-	-	-	-	-	-
LAUDA PRO / Page 82	S	-	S	S	Z	Z	Z	Z	Z	Z	Z	-	-	-	1	-
LAUDA Integral T / Page 84	S	Z	S	S	Z	Z	Z	Z	Z	Z	Z	-	-	S	2	-
LAUDA Integral XT / Page 86	S	Z	S	S	Z	Z	Z	Z	Z	Z	Z	-	-	S	2	-
LAUDA Variocool / Page 88	Z	-	S	Z	Z	Z	Z	Z	Z	Z	Z	-	-	S	1	1
LAUDA Kryoh heater Selecta / Page 90	S	-	S	-	OD	OD	-	-	OD	-	OD	-	OD	-	-	-

S = Series standard
 Z = Available as an accessory
 OD = optional (cannot be retrofitted)



LRZ 912
Analog module



LRZ 913
RS 232/485 interface



LRZ 914
Contact module with single input and single output (NAMUR)



LRZ 915
Contact module with 3 inputs and 3 outputs



LRZ 917
Profibus module



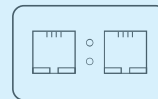
LRZ 918
Pt100/LiBus-Modul, small cover



LRZ 921
Ethernet module



LRZ 922
EtherCAT module with M8 connection



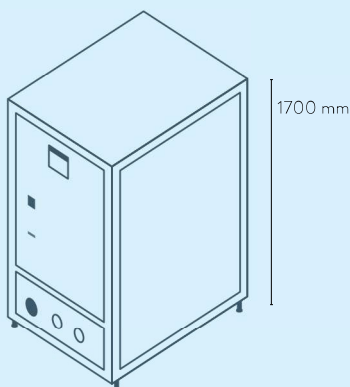
LRZ 923
EtherCAT module with RJ45 connection



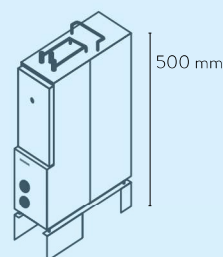
LRZ 925
External Pt100/LiBus-module, large cover

LAUDA Kryoh heater Selecta / Page 90

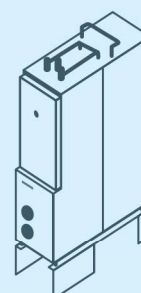
LAUDA-Noah Semistat / Page 92



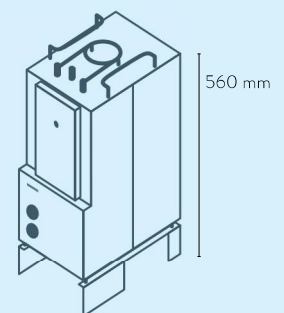
KHS 3560 W
KHS 2190 W



S 1200



S 2400



S 4400

LAUDA Circulation and process thermostats

Function overview

Operating element	LOOP	PRO E	PRO EC	Integral T	Integral XT	Variocool	Kryoheater Selecta
Display	OLED	OLED	TFT	TFT	TFT	TFT	TFT
Mode of operation	3-button softkey	Cursor softkey	Multi-touch	Cursor softkey	Cursor softkey	Cursor softkey	Multi-touch
Removable control	-	✓	✓	Z	Z	-	-
User management	-	-	✓	Operator / Viewer	Operator / Viewer	-	✓
Data logging, export to USB stick	-	-	✓	✓	✓	-	✓
1-point calibration	✓	✓	✓	✓	✓	✓	-
2-point calibration	✓	✓	✓	✓	✓	-	-
Self-adaptation controller	-	-	✓	✓	✓	-	-
Safety mode	-	✓	✓	✓	✓	-	-
Programmer, programs/segments	-	1 / 20	100 / 5000	5 / 150	5 / 150	5 / 150	OD
Programmer, tolerance range function	-	✓	✓	✓	✓	✓	OD
Ramp function	-	-	✓	Z	Z	-	OD
Timer function	-	-	✓	✓	✓	-	-
Countdown function	-	-	✓	-	-	-	-
Graphic temperature profile display	-	-	✓	✓	✓	✓	✓
Pump pressure display (digital)	-	-	-	✓	✓	-	✓
Adjustable bypass	-	-	-	✓	✓	✓	-
Level indicator (digital)	-	✓	✓	✓	✓	✓	✓
Standby timer	✓	✓	✓	✓	✓	✓	✓
Flow control instrument	-	-	-	-	-	Z	-
Flow pressure control	-	-	-	-	✓	-	✓
Flow measurement + control	-	-	-	-	Z	-	OD
Overflow	-	✓	✓	✓	✓	-	✓
Low-level alarm	✓	✓	✓	✓	✓	✓	✓
Drain tap	-	✓	✓	✓	✓	✓	✓

Z = Available as an accessory

OD = optional (cannot be retrofitted)

LAUDA Circulation and process thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Temperature stability ±K	Cooling of the refrigerating machine	Heater power max. kW	Cooling output kW													
					200 °C	100 °C	20 °C	10 °C	0 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	-60 °C	-70 °C	-80 °C	-90 °C
LAUDA LOOP / Page 80																		
LOOP 100	4 ... 80	0.10	Air	0.2	-	-	0.12	0.06	-	-	-	-	-	-	-	-	-	-
LOOP 250	4 ... 80	0.10	Air	0.4	-	-	0.25	0.13	-	-	-	-	-	-	-	-	-	-
LAUDA PRO / Page 82																		
P 2 E	80 ... 250	0.05	Water	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P 2 EC	80 ... 250	0.05	Water	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RP 240 E	-40 ... 200	0.05	Hybrid	2.5	-	-	0.60 ³	0.60 ³	0.60 ³	0.41 ³	0.24 ²	0.12 ²	0.02 ¹	-	-	-	-	-
RP 240 EC	-40 ... 200	0.05	Hybrid	2.5	-	-	0.60 ³	0.60 ³	0.60 ³	0.41 ³	0.24 ²	0.12 ²	0.02 ¹	-	-	-	-	-
RP 245 E	-45 ... 200	0.05	Hybrid	2.5	-	-	0.80 ³	0.80 ³	0.80 ³	0.53 ³	0.34 ²	0.15 ²	0.04 ²	-	-	-	-	-
RP 245 EC	-45 ... 200	0.05	Hybrid	2.5	-	-	0.80 ³	0.80 ³	0.80 ³	0.53 ³	0.34 ²	0.15 ²	0.04 ²	-	-	-	-	-
RP 250 E	-50 ... 200	0.05	Hybrid	2.5	-	-	1.50 ³	1.44 ³	1.20 ³	0.84 ³	0.54 ²	0.29 ²	0.11 ²	0.02 ¹	-	-	-	-
RP 250 EC	-50 ... 200	0.05	Hybrid	2.5	-	-	1.50 ³	1.44 ³	1.20 ³	0.84 ³	0.54 ²	0.29 ²	0.11 ²	0.02 ¹	-	-	-	-
RP 290 E	-90 ... 200	0.05	Hybrid	2.5	-	-	0.80 ³	0.77 ³	0.74 ³	0.72 ³	0.70 ²	0.68 ²	0.64 ²	0.56 ²	0.39 ²	0.21 ²	0.09 ²	0.01 ¹
RP 290 EC	-90 ... 200	0.05	Hybrid	2.5	-	-	0.80 ³	0.77 ³	0.74 ³	0.72 ³	0.70 ²	0.68 ²	0.64 ²	0.56 ²	0.39 ²	0.21 ²	0.09 ²	0.01 ¹
LAUDA Integral T / Page 84																		
IN 130 T	-30 ... 120	0.05	Air	2.7	-	1.40	1.40	1.35	1.20	0.80	0.40	0.10	-	-	-	-	-	-
IN 230 T	-30 ... 120	0.05	Air	2.7	-	2.20	2.20	1.90	1.50	1.00	0.60	0.15	-	-	-	-	-	-
IN 230 TW	-30 ... 120	0.05	Water	2.7	-	2.30	2.30	2.30	1.90	1.30	0.75	0.35	-	-	-	-	-	-
IN 530 T	-30 ... 120	0.05	Air	8.0	-	5.00	5.00	4.50	3.80	2.60	1.50	0.60	-	-	-	-	-	-
IN 530 TW	-30 ... 120	0.05	Water	8.0	-	6.00	6.00	5.50	4.50	3.00	1.60	0.70	-	-	-	-	-	-
IN 1030 T	-30 ... 150	0.10	Air	8.0	-	11.00	11.00	9.50	7.10	4.90	3.00	1.60	-	-	-	-	-	-
IN 1330 TW	-30 ... 150	0.10	Water	16.0	-	13.00	13.00	10.00	7.60	5.40	3.40	1.70	-	-	-	-	-	-

¹Pump output step 2 ²Pump output step 4 ³Pump output step 8

Pump pressure max. bar	Pump flow max. pressure L/min	Pump connection thread mm	Bath volume min. L	Bath volume max. L	Dimensions (W x D x H) mm	Protection Rating	Noise level dB (A)	Weight kg	Loading max. kW	Power supply V; Hz	Cat. No.	Device type
0.8	2.6	Quick C. 1/4"	0.3	0.3	175×301×266	IP 21	57	6.9	0.2	100-240 V; 50/60 Hz	L000027	LOOP 100
0.8	2.6	Quick C. 1/4"	0.3	0.3	261×368×312	IP 21	57	11.9	0.4	100-240 V; 50/60 Hz	L000580	LOOP 250
0.7	22	M16×1	2.4	4.4	250×365×425	IP 21	47	15.5	2.7	200-230 V; 50/60 Hz	L000019	P 2 E
0.7	22	M16×1	2.4	4.4	250×365×425	IP 21	47	15.5	2.7	200-230 V; 50/60 Hz	L000020	P 2 EC
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	54	46.0	3.7	230 V; 50 Hz	L000021	RP 240 E
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	54	46.0	3.7	230 V; 50 Hz	L000023	RP 240 EC
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	54	46.0	3.7	230 V; 50 Hz	L000022	RP 245 E
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	54	46.0	3.7	230 V; 50 Hz	L000024	RP 245 EC
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	57	47.0	3.7	230 V; 50 Hz	L002494	RP 250 E
0.7	22	M16×1	2.4	4.4	300×430×675	IP 21	57	47.0	3.7	230 V; 50 Hz	L002495	RP 250 EC
0.7	22	M16×1	2.4	4.4	390×600×685	IP 21	56	79.0	3.7	230 V; 50 Hz	L002502	RP 290 E
0.7	22	M16×1	2.4	4.4	390×600×685	IP 21	56	79.0	3.7	230 V; 50 Hz	L002503	RP 290 EC
3.5	40	G 3/4	3.6	8.7	430×550×760	IP 21	61	76.0	3.7	230 V; 50 Hz	L002663	IN 130 T
3.5	40	G 3/4	3.6	8.7	430×550×760	IP 21	63	80.0	3.7	230 V; 50 Hz	L002664	IN 230 T
3.5	40	G 3/4	3.6	8.7	430×550×760	IP 21	58	82.0	3.7	230 V; 50 Hz	L002665	IN 230 TW
3.5	40	G 3/4	7.2	20.5	560×550×1325	IP 21	62	146.0	11.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002666	IN 530 T
3.5	40	G 3/4	7.2	20.5	560×550×1325	IP 21	62	148.0	11.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002667	IN 530 TW
5.5	60	M38×1,5	9.7	25.5	760×650×1605	IP 21	69	212.0	20.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002668	IN 1030 T
5.5	60	M38×1,5	9.7	25.5	760×650×1605	IP 21	59	214.0	20.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002669	IN 1330 TW

LAUDA Circulation and process thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Temperature stability ±K	Cooling of the refrigerating machine	Heater power max. kW	Cooling output kW													
					200 °C	100 °C	20 °C	10 °C	0 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	-60 °C	-70 °C	-80 °C	-90 °C
LAUDA Integral XT / Page 86																		
IN 150 XT	-45 ... 220	0.05	Air	3.5	1.50 ³	1.50 ³	1.50 ³	1.50 ³	1.30 ³	1.00 ³	0.70 ²	0.30 ²	0.06 ²	-	-	-	-	
IN 250 XTW	-45 ... 220	0.05	Water	3.5	2.20 ³	2.20 ³	2.10 ³	2.00 ³	1.80 ³	1.40 ³	1.00 ²	0.55 ²	0.20 ²	-	-	-	-	
IN 550 XT	-50 ... 220	0.05	Air	8.0	5.00 ³	5.00 ³	5.00 ³	4.80 ³	4.60 ³	3.30 ³	2.30 ²	1.20 ²	0.50 ²	0.10 ¹	-	-	-	
IN 550 XTW	-50 ... 220	0.05	Water	8.0	5.80 ³	5.80 ³	5.80 ³	5.80 ³	5.40 ³	4.00 ³	2.60 ²	1.45 ²	0.55 ²	0.12 ¹	-	-	-	
IN 750 XT	-45 ... 220	0.05	Air	8.0	7.00 ³	7.00 ³	7.00 ³	7.00 ³	5.40 ³	3.60 ³	2.60 ²	1.60 ²	0.80 ²	-	-	-	-	
IN 950 XTW	-50 ... 220	0.05	Water	8.0	9.50 ³	9.50 ³	9.50 ³	8.50 ³	6.20 ³	4.30 ³	3.00 ²	1.70 ²	0.90 ²	0.35 ¹	-	-	-	
IN 1850 XTW	-50 ... 220	0.05	Water	16.0	20.00 ³	20.00 ³	20.00 ³	15.00 ³	11.50 ³	8.50 ³	6.10 ²	3.60 ²	1.90 ²	1.10 ¹	-	-	-	
IN 280 XT	-80 ... 220	0.05	Air	4.0	1.60 ³	1.60 ³	1.60 ³	1.55 ³	1.50 ³	1.50 ³	1.70 ²	1.70 ²	1.65 ²	1.40 ²	0.85 ²	0.35 ²	0.15 ²	
IN 280 XTW	-80 ... 220	0.05	Water	4.0	1.70 ³	1.70 ³	1.70 ³	1.65 ³	1.60 ³	1.60 ³	1.80 ²	1.80 ²	1.80 ²	1.50 ²	0.90 ²	0.45 ²	0.18 ²	
IN 590 XTW	-90 ... 220	0.05	Water	8.0	4.50 ³	4.50 ³	4.50 ³	4.45 ³	4.40 ³	4.40 ³	4.60 ²	4.60 ²	4.50 ²	4.20 ²	2.70 ²	1.40 ²	0.60 ²	0.20 ¹
IN 1590 XTW	-90 ... 220	0.05	Water	12.0	18.50 ³	18.50 ³	18.50 ³	15.00 ³	11.50 ³	8.70 ³	8.50 ²	8.50 ²	7.50 ²	6.00 ²	4.00 ²	2.20 ²	0.90 ²	0.35 ¹
XT 4 H	80 ... 320	0.05		3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	
XT 4 HW	30 ... 320	0.10	Water	3.6	16.00 ²	9.00 ²	-	-	-	-	-	-	-	-	-	-	-	
XT 8 H	80 ... 320	0.05		8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
XT 8 HW	30 ... 320	0.10	Water	8.0	16.00 ²	9.00 ²	-	-	-	-	-	-	-	-	-	-	-	
LAUDA Variocool / Page 88																		
VC 1200	-20 ... 80	0.05	Air	1.5	-	-	1.20	1.00	0.70	0.40	0.14	-	-	-	-	-	-	
VC 1200	-20 ... 80	0.05	Air	2.3	-	-	1.20	1.00	0.70	0.40	0.14	-	-	-	-	-	-	
VC 1200	-20 ... 80	0.05	Air	2.3	-	-	1.12	0.92	0.62	0.32	0.06	-	-	-	-	-	-	
VC 1200	-20 ... 80	0.05	Air	1.5	-	-	1.12	0.92	0.62	0.32	0.06	-	-	-	-	-	-	
VC 1200	-20 ... 80	0.05	Air	1.5	-	-	1.00	0.80	0.50	0.20	0.01	-	-	-	-	-	-	
VC 1200	-20 ... 80	0.05	Air	2.3	-	-	1.00	0.80	0.50	0.20	0.01	-	-	-	-	-	-	

¹Pump output step 2 ²Pump output step 4 ³Pump output step 8

Pump pressure max. bar	Pump flow max. pressure L/min	Pump connection thread mm	Bath volume min. L	Bath volume max. L	Dimensions (W x D x H) mm	Protection Rating	Noise level dB (A)	Weight kg	Loading max. kW	Power supply V; Hz	Cat. No.	Device type
3.1	65	M30 x 1,5	2.5	8.7	430 x 550 x 760	IP 21	60	103.0	3.7	230 V; 50 Hz	L002673	IN 150 XT
3.1	65	M30 x 1,5	2.5	8.7	430 x 550 x 760	IP 21	57	105.0	3.7	230 V; 50 Hz	L002674	IN 250 XTW
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	65	171.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002675	IN 550 XT
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	62	176.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002676	IN 550 XTW
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	66	169.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002677	IN 750 XT
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	67	173.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002678	IN 950 XTW
6.0	120	M38 x 1,5	8.0	28.6	760 x 650 x 1605	IP 21	62	272.0	20.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002680	IN 1850 XTW
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	62	183.0	9.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002684	IN 280 XT
3.1	65	M30 x 1,5	4.8	17.2	560 x 550 x 1325	IP 21	60	187.0	9.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002685	IN 280 XTW
3.1	65	M30 x 1,5	8.0	28.6	760 x 650 x 1605	IP 21	61	274.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002687	IN 590 XTW
3.1	65	M38 x 1,5	10.0	30.6	760 x 650 x 1605	IP 21	63	345.0	25.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002689	IN 1590 XTW
2.9	45	M30 x 1,5	2.6	8.1	335 x 550 x 660	IP 21C	51	60.0	3.7	230 V; 50 Hz	L001839	XT 4 H
2.9	45	M30 x 1,5	2.6	8.1	335 x 550 x 660	IP 21C	51	64.0	3.7	230 V; 50 Hz	L001840	XT 4 HW
2.9	45	M30 x 1,5	2.6	8.1	335 x 550 x 660	IP 21C	51	62.0	8.7	400 V; 3/PE; 50 Hz	L001845	XT 8 H
2.9	45	M30 x 1,5	2.6	8.1	335 x 550 x 660	IP 21C	51	66.0	8.7	400 V; 3/PE; 50 Hz	L001846	XT 8 HW
0.9	28	G 3/4	8.0	15.0	450 x 550 x 650	IP 32	51	54.0	2.6	230 V; 50 Hz	L000711	VC 1200
0.9	28	G 3/4	8.0	15.0	450 x 550 x 650	IP 32	51	54.0	3.3	230 V; 50 Hz	L000712	VC 1200
3.2	37	G 3/4	8.0	15.0	450 x 550 x 790	IP 32	53	54.0	3.3	230 V; 50 Hz	L000923	VC 1200
3.2	37	G 3/4	8.0	15.0	450 x 550 x 790	IP 32	53	54.0	2.6	230 V; 50 Hz	L000921	VC 1200
4.8	37	G 3/4	8.0	15.0	450 x 550 x 790	IP 32	57	54.0	2.6	230 V; 50 Hz	L000922	VC 1200
4.8	37	G 3/4	8.0	15.0	450 x 550 x 790	IP 32	57	54.0	3.3	230 V; 50 Hz	L000924	VC 1200

LAUDA Circulation and process thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Temperature stability ±K	Cooling of the refrigerating machine	Heater power max. kW	Cooling output kW													
					200 °C	100 °C	20 °C	10 °C	0 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	-60 °C	-70 °C	-80 °C	-90 °C
LAUDA Variocool / Page 88																		
VC 1200 W	-20 ... 80	0.05	Water	2.3	-	-	1.20	1.00	0.70	0.40	0.14	-	-	-	-	-	-	-
VC 1200 W	-20 ... 80	0.05	Water	1.5	-	-	1.20	1.00	0.70	0.40	0.14	-	-	-	-	-	-	-
VC 1200 W	-20 ... 80	0.05	Water	1.5	-	-	1.12	0.92	0.62	0.32	0.06	-	-	-	-	-	-	-
VC 1200 W	-20 ... 80	0.05	Water	2.3	-	-	1.12	0.92	0.62	0.32	0.06	-	-	-	-	-	-	-
VC 1200 W	-20 ... 80	0.05	Water	1.5	-	-	1.00	0.80	0.50	0.20	0.01	-	-	-	-	-	-	-
VC 1200 W	-20 ... 80	0.05	Water	2.3	-	-	1.00	0.80	0.50	0.20	0.01	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	1.5	-	-	2.00	1.50	1.06	0.68	0.38	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	2.2	-	-	2.00	1.50	1.06	0.68	0.38	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	1.5	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	2.2	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	2.2	-	-	1.80	1.30	0.86	0.48	0.18	-	-	-	-	-	-	-
VC 2000	-20 ... 80	0.05	Air	1.5	-	-	1.80	1.30	0.86	0.48	0.18	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	1.5	-	-	2.00	1.50	1.06	0.68	0.38	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	2.2	-	-	2.00	1.50	1.06	0.68	0.38	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	1.5	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	2.2	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	1.5	-	-	1.80	1.30	0.86	0.48	0.18	-	-	-	-	-	-	-
VC 2000 W	-20 ... 80	0.05	Water	2.2	-	-	1.80	1.30	0.86	0.48	0.18	-	-	-	-	-	-	-
VC 3000	-20 ... 80	0.05	Air	1.5	-	-	3.00	2.40	1.68	0.95	0.45	-	-	-	-	-	-	-
VC 3000	-20 ... 80	0.05	Air	1.5	-	-	2.80	2.20	1.48	0.75	0.25	-	-	-	-	-	-	-
VC 3000 W	-20 ... 80	0.05	Water	1.5	-	-	3.00	2.40	1.68	0.95	0.45	-	-	-	-	-	-	-
VC 3000 W	-20 ... 80	0.05	Water	1.5	-	-	2.80	2.20	1.48	0.75	0.25	-	-	-	-	-	-	-
VC 5000	-20 ... 80	0.05	Air	4.5	-	-	5.00	3.90	2.75	1.70	0.90	-	-	-	-	-	-	-
VC 5000	-20 ... 80	0.05	Air	4.5	-	-	4.50	3.40	2.25	1.20	0.40	-	-	-	-	-	-	-
VC 5000	-20 ... 80	0.05	Air	4.5	-	-	4.65	3.55	2.40	1.35	0.55	-	-	-	-	-	-	-
VC 5000 W	-20 ... 80	0.05	Water	4.5	-	-	5.00	3.90	2.75	1.70	0.90	-	-	-	-	-	-	-
VC 5000 W	-20 ... 80	0.05	Water	4.5	-	-	4.50	3.40	2.25	1.20	0.40	-	-	-	-	-	-	-
VC 5000 W	-20 ... 80	0.05	Water	4.5	-	-	4.65	3.55	2.40	1.35	0.55	-	-	-	-	-	-	-

Pump pressure max. bar	Pump flow max. pressure L/min	Pump connection thread mm	Bath volume min. L	Bath volume max. L	Dimensions (W x D x H) mm	Protection Rating	Noise level dB (A)	Weight kg	Loading max. kW	Power supply V; Hz	Cat. No.	Device type
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	50	51.0	3.3	230 V; 50 Hz	L000732	VC 1200 W
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	50	51.0	2.6	230 V; 50 Hz	L000731	VC 1200 W
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	52	51.0	2.6	230 V; 50 Hz	L000954	VC 1200 W
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	52	51.0	3.3	230 V; 50 Hz	L000956	VC 1200 W
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	51.0	2.6	230 V; 50 Hz	L000955	VC 1200 W
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	51.0	3.3	230 V; 50 Hz	L000957	VC 1200 W
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	52	57.0	2.6	230 V; 50 Hz	L000713	VC 2000
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	52	57.0	3.3	230 V; 50 Hz	L000714	VC 2000
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	57.0	2.6	230 V; 50 Hz	L000925	VC 2000
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	57.0	3.3	230 V; 50 Hz	L000927	VC 2000
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	58	57.0	3.3	230 V; 50 Hz	L000928	VC 2000
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	58	57.0	2.6	230 V; 50 Hz	L000926	VC 2000
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	50	54.0	2.6	230 V; 50 Hz	L000733	VC 2000 W
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	50	54.0	3.3	230 V; 50 Hz	L000734	VC 2000 W
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	53	54.0	2.6	230 V; 50 Hz	L000958	VC 2000 W
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	53	54.0	3.3	230 V; 50 Hz	L000960	VC 2000 W
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	54.0	2.6	230 V; 50 Hz	L000959	VC 2000 W
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	56	54.0	3.3	230 V; 50 Hz	L000961	VC 2000 W
3.2	37	G 3/4	20.0	33.0	550×650×970	IP 32	57	93.0	2.6	230 V; 50 Hz	L000715	VC 3000
4.8	37	G 3/4	20.0	33.0	550×650×970	IP 32	61	93.0	2.6	230 V; 50 Hz	L000929	VC 3000
3.2	37	G 3/4	20.0	33.0	550×650×970	IP 32	55	89.0	2.6	230 V; 50 Hz	L000735	VC 3000 W
4.8	37	G 3/4	20.0	33.0	550×650×970	IP 32	59	89.0	2.6	230 V; 50 Hz	L000962	VC 3000 W
3.2	37	G 3/4	20.0	33.0	550×650×970	IP 32	65	98.0	7.8	400 V; 3/N/PE; 50 Hz	L000728	VC 5000
4.8	37	G 3/4	20.0	33.0	550×650×970	IP 32	69	98.0	7.8	400 V; 3/N/PE; 50 Hz	L000948	VC 5000
5.0	60	G 3/4	20.0	33.0	550×650×970	IP 32	69	98.0	7.8	400 V; 3/N/PE; 50 Hz	L000949	VC 5000
3.2	37	G 3/4	20.0	33.0	550×650×970	IP 32	64	94.0	7.8	400 V; 3/N/PE; 50 Hz	L000746	VC 5000 W
4.8	37	G 3/4	20.0	33.0	550×650×970	IP 32	68	94.0	7.8	400 V; 3/N/PE; 50 Hz	L000981	VC 5000 W
5.0	60	G 3/4	20.0	33.0	550×650×970	IP 32	68	94.0	7.8	400 V; 3/N/PE; 50 Hz	L001995	VC 5000 W

LAUDA Circulation and process thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Temperature stability ±K	Cooling of the refrigerating machine	Heater power max. kW	Cooling output kW													
					200 °C	100 °C	20 °C	10 °C	0 °C	-10 °C	-20 °C	-30 °C	-40 °C	-50 °C	-60 °C	-70 °C	-80 °C	-90 °C

LAUDA Variocool / Page 88

VC 7000	-20 ... 80	0.10	Air	4.5	-	-	7.00	5.30	3.70	2.40	1.30	-	-	-	-	-	-	-
VC 7000	-20 ... 80	0.10	Air	4.5	-	-	6.50	4.80	3.20	1.90	0.80	-	-	-	-	-	-	-
VC 7000	-20 ... 80	0.10	Air	4.5	-	-	6.65	4.95	3.35	2.05	0.95	-	-	-	-	-	-	-
VC 7000 W	-20 ... 80	0.10	Water	4.5	-	-	7.00	5.30	3.70	2.40	1.30	-	-	-	-	-	-	-
VC 7000 W	-20 ... 80	0.10	Water	4.5	-	-	6.50	4.80	3.20	1.90	0.80	-	-	-	-	-	-	-
VC 7000 W	-20 ... 80	0.10	Water	4.5	-	-	6.65	4.95	3.35	2.05	0.95	-	-	-	-	-	-	-
VC 10000	-20 ... 80	0.10	Air	7.5	-	-	10.00	7.60	5.30	3.50	2.00	-	-	-	-	-	-	-
VC 10000	-20 ... 80	0.10	Air	7.5	-	-	9.50	7.10	4.80	3.00	1.50	-	-	-	-	-	-	-
VC 10000	-20 ... 80	0.10	Air	7.5	-	-	9.65	7.25	4.95	3.15	1.65	-	-	-	-	-	-	-
VC 10000 W	-20 ... 80	0.10	Water	7.5	-	-	10.00	7.60	5.30	3.50	2.00	-	-	-	-	-	-	-
VC 10000 W	-20 ... 80	0.10	Water	7.5	-	-	9.50	7.10	4.80	3.00	1.50	-	-	-	-	-	-	-
VC 10000 W	-20 ... 80	0.10	Water	7.5	-	-	9.65	7.25	4.95	3.15	1.65	-	-	-	-	-	-	-

LAUDA Kryoheater Selecta / Page 90

KHS 3560 W	-60 ... 200	0.50	Water	18.0	35.00	-	35.00	32.00	30.00	29.00	18.00	14.00	10.00	6.00	2.50	-	-	-
KHS 2190 W	-90 ... 200	0.50	Water	18.0	21.00	-	21.00	20.00	18.00	15.00	11.00	10.50	10.00	9.50	9.00	6.30	3.50	1.00

LAUDA-Noah Semistat / Page 92

S 1200	-20 ... 90	0.10	Water	-	-	-	1.20	0.90	0.60	0.35	0.08	-	-	-	-	-	-	-
S 2400	-20 ... 90	0.10	Water	-	-	-	2.45	1.93	1.40	0.88	0.20	-	-	-	-	-	-	-
S 4400	-20 ... 90	0.10	Water	-	-	-	4.40	3.50	2.60	1.65	0.70	-	-	-	-	-	-	-

Pump pressure max. bar	Pump flow max. pressure L/min	Pump connection thread mm	Bath volume min. L	Bath volume max. L	Dimensions (W x D x H) mm	Protection Rating	Noise level dB (A)	Weight kg	Loading max. kW	Power supply V; Hz	Cat. No.	Device type
3.2	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	66	138.0	8.8	400 V; 3/N/PE; 50 Hz	L000729	VC 7000
4.8	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	69	138.0	8.8	400 V; 3/N/PE; 50 Hz	L000950	VC 7000
5.0	60	G 1 1/4	48.0	64.0	650×670×1250	IP 32	69	138.0	8.8	400 V; 3/N/PE; 50 Hz	L000951	VC 7000
3.2	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	60	131.0	8.8	400 V; 3/N/PE; 50 Hz	L000747	VC 7000 W
4.8	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	64	131.0	8.8	400 V; 3/N/PE; 50 Hz	L000982	VC 7000 W
5.0	60	G 1 1/4	48.0	64.0	650×670×1250	IP 32	64	131.0	8.8	400 V; 3/N/PE; 50 Hz	L000983	VC 7000 W
3.2	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	67	147.0	11.1	400 V; 3/N/PE; 50 Hz	L000730	VC 10000
4.8	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	70	147.0	11.1	400 V; 3/N/PE; 50 Hz	L000952	VC 10000
5.0	60	G 1 1/4	48.0	64.0	650×670×1250	IP 32	70	147.0	11.1	400 V; 3/N/PE; 50 Hz	L000953	VC 10000
3.2	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	61	140.0	11.1	400 V; 3/N/PE; 50 Hz	L000748	VC 10000 W
4.8	37	G 1 1/4	48.0	64.0	650×670×1250	IP 32	65	140.0	11.1	400 V; 3/N/PE; 50 Hz	L000984	VC 10000 W
5.0	60	G 1 1/4	48.0	64.0	650×670×1250	IP 32	65	140.0	11.1	400 V; 3/N/PE; 50 Hz	L000985	VC 10000 W
5.5	85	DN 25	15.0	55.0	920×1200×1700	IP 54	68	850.0	29.5	400 V; 3/PE; 50 Hz	L001984	KHS 3560 W
5.5	85	DN 25	15.0	55.0	920×1200×1700	IP 54	68	890.0	32.8	400 V; 3/PE; 50 Hz	L001989	KHS 2190 W
2.8	22	1/2"	1.00	1.30	116×232×470	-	-	15	-	-	-	S 1200
2.8	22	1/2"	1.25	1.60	116×300×560	-	-	25	-	-	-	S 2400
2.8	27	1/2"	2.50	2.80	194×300×560	-	-	38	-	-	-	S 4400

LAUDA Circulation and process thermostats

Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.
LAUDA PRO / Page 82															
P 2 E	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	32	L000557	RP 245 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000541
P 2 E	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	4	L000549	RP 245 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000533
P 2 EC	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	32	L000561	RP 245 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000461
P 2 EC	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	4	L000553	RP 245 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	4	L000453
RP 240 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000540	RP 245 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000521
RP 240 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000532	RP 245 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000505
RP 240 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000460	RP 245 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000489
RP 240 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	4	L000452	RP 245 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000425
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000488	RP 245 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000313
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000520	RP 245 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000441
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000504	RP 245 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000545
RP 240 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000440	RP 245 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000537
RP 240 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000312	RP 245 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	4	L000457
RP 240 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000424	RP 245 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000465
RP 240 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000544	RP 245 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000529
RP 240 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000536	RP 245 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000513
RP 240 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000464	RP 245 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000497
RP 240 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	4	L000456	RP 245 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000321
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000512	RP 245 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000449
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000496	RP 245 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000433
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000528	RP 250 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002498
RP 240 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000448	RP 250 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002499
RP 240 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000320	RP 290 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002506
RP 240 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000432	RP 290 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002507

*All data for the plug codes can be found on page 150

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.
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LAUDA Integral T / Page 84

IN 230 T	200 V; 50/60 Hz	2.2	3.5	40.0	3.2	3	L002789	IN 130 T	208-220 V; 60 Hz	2.6	4.0	45.0	3.5	3	L002788
IN 230 TW	200 V; 50/60 Hz	2.2	3.5	40.0	3.2	3	L002790	IN 1030 T	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	5.5	60.0	20.0	33	L002885
IN 130 T	200 V; 50/60 Hz	2.2	3.5	40.0	3.2	3	L002787	IN 1330 TW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	5.5	60.0	20.0	33	L002886
IN 230 TW	208-220 V; 60 Hz	2.6	4.0	45.0	3.5	3	L002792	IN 530 T	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.5	40.0	11.0	34	L002883
IN 230 T	208-220 V; 60 Hz	2.6	4.0	45.0	3.5	3	L002791	IN 530 TW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.5	40.0	11.0	34	L002884

LAUDA Integral XT / Page 86

IN 250 XTW	200 V; 50/60 Hz	3.1	3.1	65.0	3.2	3	L002795	IN 590 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65.0	12.0	34	L002897
IN 150 XT	200 V; 50/60 Hz	3.0	3.1	65.0	3.2	3	L002793	IN 280 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	4.0	3.1	65.0	9.0	34	L002892
IN 250 XTW	208-220 V; 60 Hz	3.4	3.1	65.0	3.5	3	L002796	XT 4 H	200 V; 50/60 Hz	2.7	2.9	45.0	3.2	3	L001851
IN 150 XT	208-220 V; 60 Hz	3.3	3.1	65.0	3.5	3	L002794	XT 4 H	208-220 V; 60 Hz	3.2	2.9	45.0	3.6	3	L001847
IN 750 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65.0	12.0	34	L002889	XT 4 HW	200 V; 50/60 Hz	2.7	2.9	45.0	3.2	3	L001852
IN 550 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65.0	12.0	34	L002887	XT 4 HW	208-220 V; 60 Hz	3.2	2.9	45.0	3.6	3	L001848
IN 280 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	4.0	3.1	65.0	9.0	34	L002893	XT 8 H	200 V; 3/PE; 50/60 Hz	8.0	2.9	45.0	8.7	31	L001853
IN 550 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65.0	12.0	34	L002888	XT 8 H	208-220 V; 3/PE; 60 Hz	8.0	2.9	45.0	8.7	31	L001849
IN 1590 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	12.0	3.1	65.0	25.0	33	L002898	XT 8 HW	200 V; 3/PE; 50/60 Hz	8.0	2.9	45.0	8.7	31	L001854
IN 1850 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	6.0	120.0	20.0	33	L002895	XT 8 HW	208-220 V; 3/PE; 60 Hz	8.0	2.9	45.0	8.7	31	L001850

LAUDA Circulation and process thermostats

Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.
LAUDA Variocool / Page 88															
VC 1200	200 V; 50/60 Hz	1.1	0.9	28.0	2.3	3	L000768	VC 2000	208-220 V; 60 Hz	1.3	3.2	37.0	2.5	3	L000990
VC 1200	200 V; 50/60 Hz	1.7	0.9	28.0	2.9	3	L000769	VC 2000	208-220 V; 60 Hz	2.1	3.2	37.0	3.2	3	L000992
VC 1200	200 V; 50/60 Hz	1.7	3.2	37.0	2.9	3	L001018	VC 2000	208-220 V; 60 Hz	1.3	4.8	37.0	2.5	3	L000991
VC 1200	200 V; 50/60 Hz	1.1	3.2	37.0	2.3	3	L001016	VC 2000	208-220 V; 60 Hz	2.1	4.8	37.0	3.2	3	L000993
VC 1200	200 V; 50/60 Hz	1.7	4.8	37.0	2.9	3	L001019	VC 2000 W	200 V; 50/60 Hz	1.7	0.9	28.0	2.9	3	L000779
VC 1200	200 V; 50/60 Hz	1.1	4.8	37.0	2.3	3	L001017	VC 2000 W	200 V; 50/60 Hz	1.0	0.9	28.0	2.3	3	L000778
VC 1200	208-220 V; 60 Hz	1.3	0.9	28.0	2.4	3	L000751	VC 2000 W	200 V; 50/60 Hz	1.7	3.2	37.0	2.9	3	L001037
VC 1200	208-220 V; 60 Hz	2.1	0.9	28.0	3.1	3	L000752	VC 2000 W	200 V; 50/60 Hz	1.1	3.2	37.0	2.3	3	L001035
VC 1200	208-220 V; 60 Hz	1.3	3.2	37.0	2.4	3	L000986	VC 2000 W	200 V; 50/60 Hz	1.7	4.8	37.0	2.9	3	L001038
VC 1200	208-220 V; 60 Hz	2.1	3.2	37.0	3.1	3	L000988	VC 2000 W	200 V; 50/60 Hz	1.1	4.8	37.0	2.3	3	L001036
VC 1200	208-220 V; 60 Hz	1.3	4.8	37.0	2.4	3	L000987	VC 2000 W	208-220 V; 60 Hz	1.3	0.9	28.0	2.5	3	L000761
VC 1200	208-220 V; 60 Hz	2.1	4.8	37.0	3.1	3	L000989	VC 2000 W	208-220 V; 60 Hz	2.1	0.9	28.0	3.2	3	L000762
VC 1200 W	200 V; 50/60 Hz	1.0	0.9	28.0	2.3	3	L000776	VC 2000 W	208-220 V; 60 Hz	2.1	3.2	37.0	3.2	3	L001008
VC 1200 W	200 V; 50/60 Hz	1.7	0.9	28.0	2.9	3	L000777	VC 2000 W	208-220 V; 60 Hz	1.3	3.2	37.0	2.5	3	L001006
VC 1200 W	200 V; 50/60 Hz	1.1	3.2	37.0	2.3	3	L001031	VC 2000 W	208-220 V; 60 Hz	2.1	4.8	37.0	3.2	3	L001007
VC 1200 W	200 V; 50/60 Hz	1.7	3.2	37.0	2.9	3	L001033	VC 2000 W	208-220 V; 60 Hz	1.3	4.8	37.0	2.5	3	L001005
VC 1200 W	200 V; 50/60 Hz	1.1	4.8	37.0	2.3	3	L001032	VC 3000	200 V; 50/60 Hz	1.0	3.2	37.0	2.6	3	L000772
VC 1200 W	200 V; 50/60 Hz	1.7	4.8	37.0	2.9	3	L001034	VC 3000	200 V; 50/60 Hz	1.1	4.8	37.0	2.6	3	L001024
VC 1200 W	208-220 V; 60 Hz	2.1	0.9	28.0	3.1	3	L000760	VC 3000	208-220 V; 60 Hz	1.3	3.2	37.0	2.8	3	L000755
VC 1200 W	208-220 V; 60 Hz	1.3	0.9	28.0	2.4	3	L000759	VC 3000	208-220 V; 60 Hz	1.3	4.8	37.0	2.8	3	L000994
VC 1200 W	208-220 V; 60 Hz	2.1	3.2	37.0	3.1	3	L001003	VC 3000 W	200 V; 50/60 Hz	1.0	3.2	37.0	2.6	3	L000780
VC 1200 W	208-220 V; 60 Hz	1.3	3.2	37.0	2.4	3	L001001	VC 3000 W	200 V; 50/60 Hz	1.1	4.8	37.0	2.6	3	L001039
VC 1200 W	208-220 V; 60 Hz	2.1	4.8	37.0	3.1	3	L001004	VC 3000 W	208-220 V; 60 Hz	1.3	3.2	37.0	2.8	3	L000763
VC 1200 W	208-220 V; 60 Hz	1.3	4.8	37.0	2.4	3	L001002	VC 3000 W	208-220 V; 60 Hz	1.3	4.8	37.0	2.8	3	L001009
VC 2000	200 V; 50/60 Hz	1.7	0.9	28.0	2.9	3	L000771	VC 5000	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	4.3	34	L000773
VC 2000	200 V; 50/60 Hz	1.0	0.9	28.0	2.3	3	L000770	VC 5000	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	4.3	34	L001025
VC 2000	200 V; 50/60 Hz	1.7	3.2	37.0	2.9	3	L001022	VC 5000	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	4.3	34	L001026
VC 2000	200 V; 50/60 Hz	1.1	3.2	37.0	2.3	3	L001020	VC 5000	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	4.5	34	L000756
VC 2000	200 V; 50/60 Hz	1.7	4.8	37.0	2.9	3	L001023	VC 5000	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	4.5	34	L000995
VC 2000	200 V; 50/60 Hz	1.1	4.8	37.0	2.3	3	L001021	VC 5000	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	4.5	34	L000996
VC 2000	208-220 V; 60 Hz	1.3	0.9	28.0	2.5	3	L000753	VC 5000 W	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	4.3	34	L000781
VC 2000	208-220 V; 60 Hz	2.1	0.9	28.0	3.2	3	L000754	VC 5000 W	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	4.3	34	L001040

*All data for the plug codes can be found on page 150

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.
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Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. bar	Pump flow max. pressure L/min	Loading max. kW	Plug code*	Cat. No.
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LAUDA Variocool / Page 88

VC 5000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	4.3	34	L001041
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	4.5	34	L000764
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	4.5	34	L001010
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	4.5	34	L001011
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	5.4	33	L000774
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	5.4	33	L001027
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	5.4	33	L001028
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	5.7	33	L000757
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	5.7	33	L000997
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	5.7	33	L000998
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	5.4	33	L000782
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	5.4	33	L001042
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	5.4	33	L001043
VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	5.7	33	L000765

VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	5.7	33	L001012
VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	5.7	33	L001013
VC 10000	200 V; 3/PE; 50/60 Hz	5.7	3.2	37.0	7.6	33	L000775
VC 10000	200 V; 3/PE; 50/60 Hz	5.7	4.8	37.0	7.6	33	L001029
VC 10000	200 V; 3/PE; 50/60 Hz	5.7	4.3	60.0	7.6	33	L001030
VC 10000	208-220 V; 3/PE; 60 Hz	6.9	3.2	37.0	7.7	33	L000758
VC 10000	208-220 V; 3/PE; 60 Hz	6.9	4.8	37.0	7.7	33	L000999
VC 10000	208-220 V; 3/PE; 60 Hz	6.9	5.0	60.0	7.7	33	L001000
VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	3.2	37.0	7.6	33	L000783
VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	4.8	37.0	7.6	33	L001044
VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	4.3	60.0	7.6	33	L001045
VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	3.2	37.0	7.7	33	L000766
VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	4.8	37.0	7.7	33	L001014
VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	5.0	60.0	7.7	33	L001015

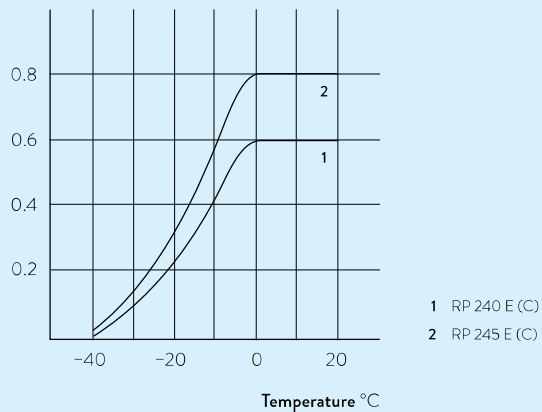
LAUDA Circulation and process thermostats

More characteristics

LAUDA PRO / Page 82

COOLING POWER Heat transfer liquid: Ethanol

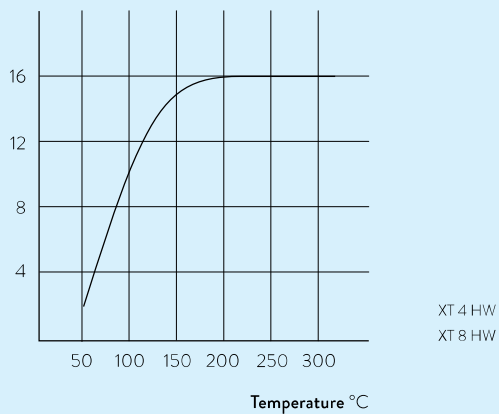
Effective cooling power kW



LAUDA Integral XT / Page 86

COOLING POWER Heat transfer liquid: Ultra 350

Effective cooling power kW



LAUDA-Noah Semistat / Page 92

PUMP CHARACTERISTIC Water

Pressure bar

