

# LAUDA CIRCULATION AND PROCESS THERMOSTATS

°LAUDA

## Specific application examples

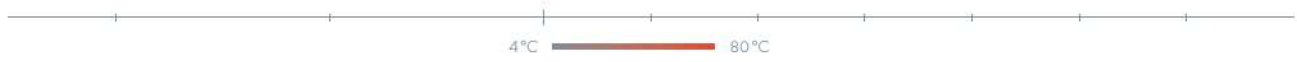
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- Refractometer
- Polarimeter
- Single-use bioreactors
- Extruder for food production
- Micro reactors
- Responsive control in chemical/pharmaceutical surroundings
- Climate chambers
- Space simulation
- Electric mobility; battery testing
- Test rigs
- 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



## 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.



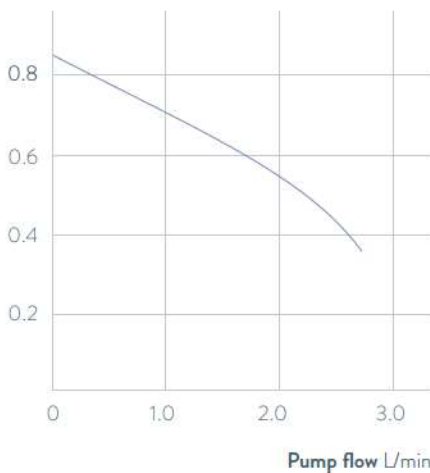
Simple three-button controls with OLED display



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](http://www.lauda.de/1748)





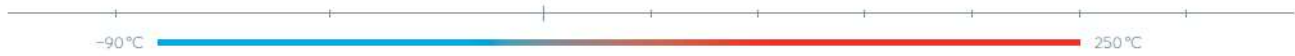
### LAUDA LOOP

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  $250^{\circ}\text{C}$

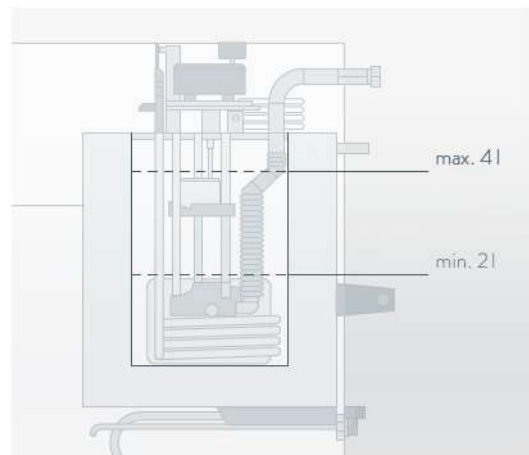


## Flexible operation, outstanding performance characteristics

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.



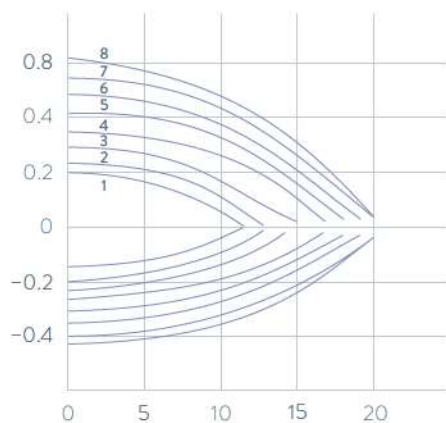
Many basic functions with the economic Base variant



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

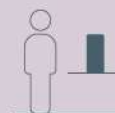
All technical data and power supply variants can be found in the [Technical data](#) section.

More at [www.lauda.de/1750](http://www.lauda.de/1750)



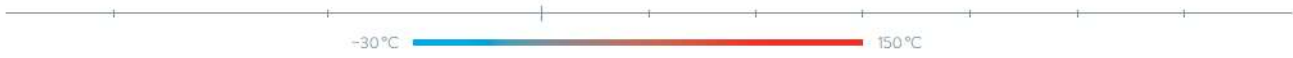
### LAUDA PRO

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



LAUDA Integral T process thermostats are optimally suited to the effective monitoring of external temperature control processes in temperatures ranging from  $-30$  to  $150$  °C. 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.

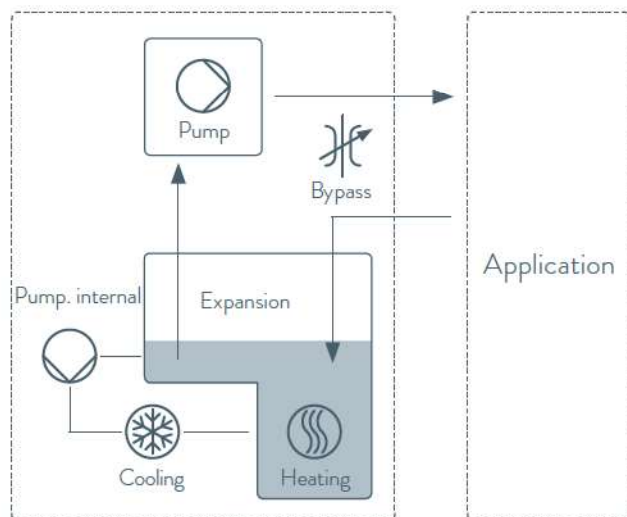


Three different housing sizes, depending on the output power



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
- Remote monitoring and maintenance via LAUDA.LIVE

### 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.

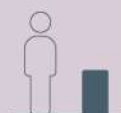
More at [www.lauda.de/1752](http://www.lauda.de/1752)





### LAUDA Integral T

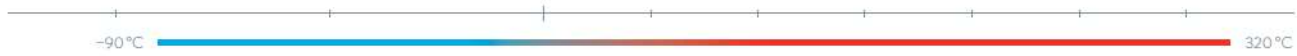
The bypass in the Integral T reduces the linear pump characteristics when it opens. Pressure-sensitive applications can therefore be protected by reducing the discharge pressure. The digital pressure indication in the Integral T display facilitates manual adjustment of the discharge pressure by means 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 25 kW for temperature control from  $-90$  to  $320$  °C



LAUDA Integral XT process thermostats operate according to the flow principle with a cold oil overlay which enables the utilization of temperature control media over a significantly larger temperature range—optimal 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.

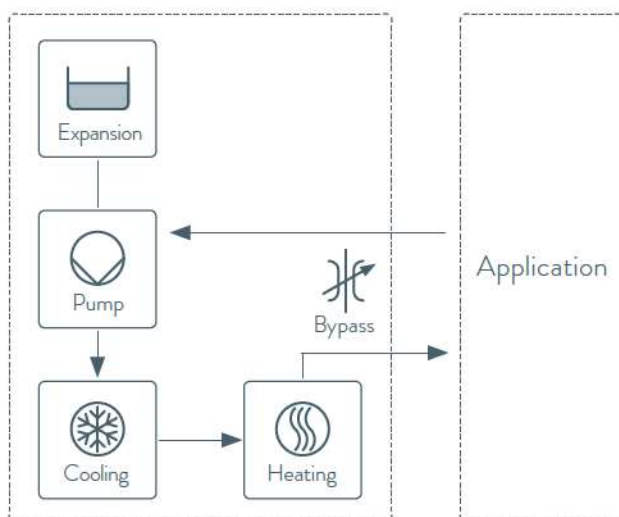


TFT display with different screens or temperature profiles



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 interface modules available for retrofit
- Operation in internal LAN possible on web server via PC or tablet/smartphone
- Remote monitoring and maintenance via LAUDA.LIVE

### Standard equipment

Ethernet and USB interfaces, Pt-100 and malfunction contact

### Additional accessories

Hoses, adapters, through-flow control systems

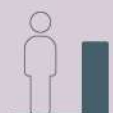
All technical data and power supply variants can be found in the [Technical data](#) section.

More at [www.lauda.de/1754](http://www.lauda.de/1754)



### LAUDA Integral XT

The Integral XT uses an eight-stage, robust and 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 pressure and volume flow rate.



# LAUDA Integral P

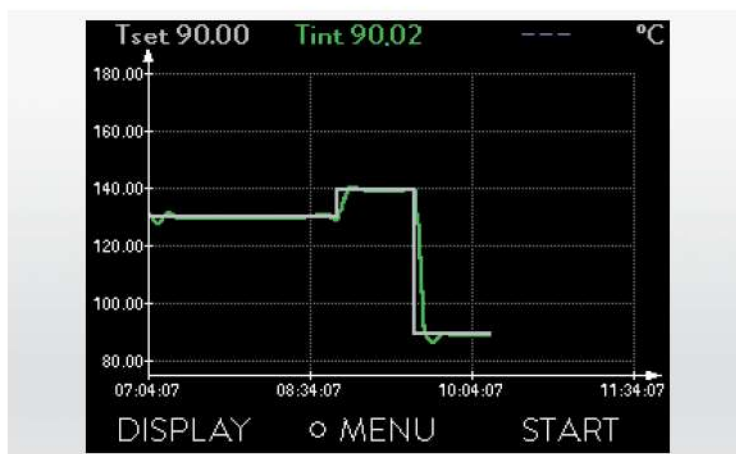
High-performance process thermostats from 20 to 25 kW for temperature control from  $-40$  to  $140^{\circ}\text{C}$



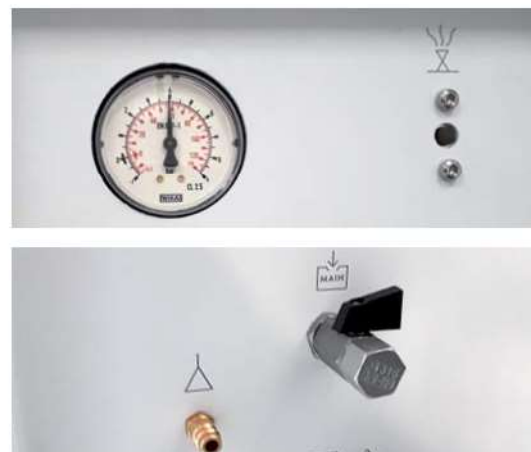
The new LAUDA Integral P process thermostats function according to the flow principle, with a pressure overlay of up to 4 bar. This allows non-flammable water/glycol mixtures to be used in a temperature range of  $-40$  to  $140^{\circ}\text{C}$ .

Thanks to the electronically controlled, magnetically coupled pump, optimized flow rates can be set for different applications.

$-40^{\circ}\text{C}$  ◀ Water/glycol mixtures ▶  $140^{\circ}\text{C}$

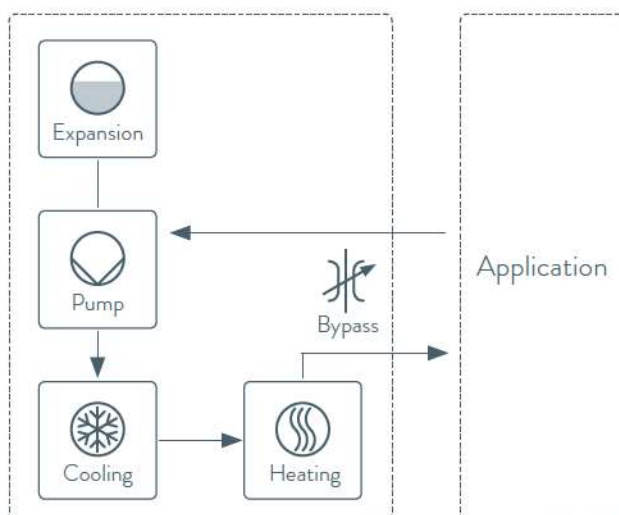


TFT display with different screens or temperature profiles



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

## INTEGRAL P 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 interface modules available for retrofit
- Operation in internal LAN possible on web server via PC or tablet/smartphone
- Venturi element for vacuum filling
- Remote monitoring and maintenance via LAUDA.LIVE

### 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](http://www.lauda.de/1754)

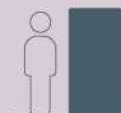
NEW

LAUDA.LIVE  
ready



### LAUDA Integral P

The new LAUDA Integral P process thermostats function according to the flow principle, with a pressure overlay of up to 4 bar. This allows non-flammable water/glycol mixtures to be used in a temperature range of -40 to 140 °C. Thanks to the electronically controlled, magnetically coupled pump, optimized flow rates can be set for different applications.





# LAUDA Variocool

Process thermostats from  $-20$  to  $80^{\circ}\text{C}$   
with cooling capacities up to  $10\text{ kW}$  and powerful pumps

$-20^{\circ}\text{C}$    $80^{\circ}\text{C}$

## Powerful and flexible in use

A comprehensive performance spectrum enables the LAUDA Variocool to deal with sophisticated process temperature control in the moderate temperature range. Equipment incorporating various pumps and individual expansion with interface modules, including the option of external temperature control, allow optimized adaptation to changing requirements in the process environment.



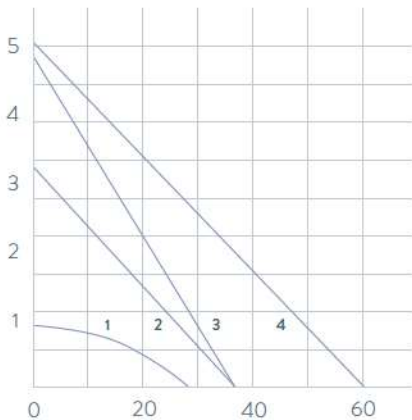
Malfunction contact included as standard. A Pt100 module for external temperature control and interfaces for analog and digital communication can also be added.



Analog pressure indication for operational control, can be adjusted via the bypass on the back of the device

## 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

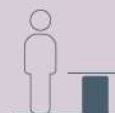
All technical data and power supply variants can be found in the [Technical data](#) section.

More at [www.lauda.de/1756](http://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 process thermostats in a tower design starting from the VC 5000 model are available with sound insulation.



# LAUDA Semistat

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

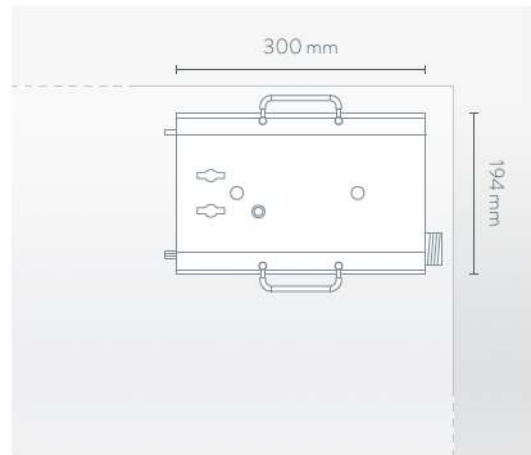


## Fast and precise temperature control for demanding processes

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 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.



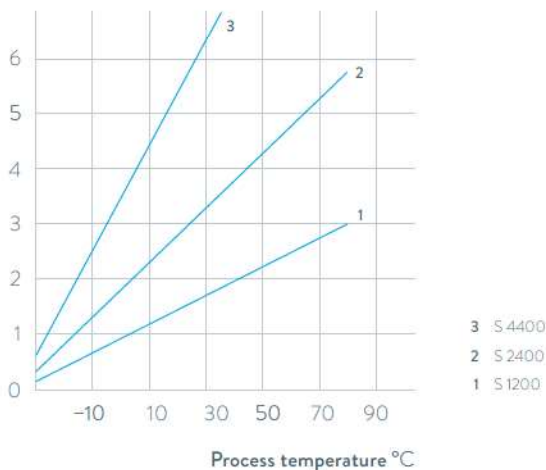
The Power Supply Controller (PSC) meets industry-specific SEMI S2 and F47 standards



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, ideally suited 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.

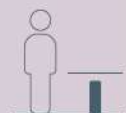
More at [www.lauda.de/1760](http://www.lauda.de/1760)



### LAUDA 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.



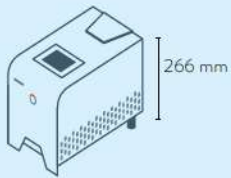


# LAUDA Circulation and process thermostats

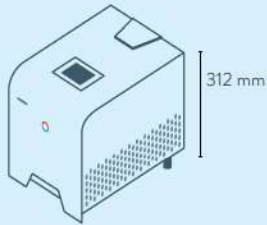
## Device type overview

LAUDA LOOP / Page 84

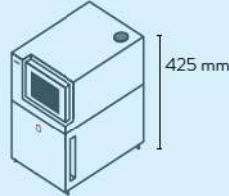
LAUDA PRO / Page 86



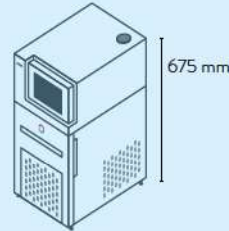
LOOP100



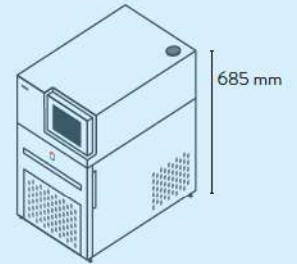
LOOP250



P 2 E

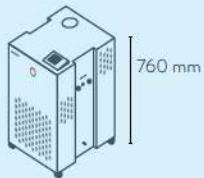


RP 240 EC  
RP 245 EC  
RP 250 EC



RP 290 EC

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IN 130 T  
IN 230 T  
IN 230 TW



IN 530 T  
IN 530 TW

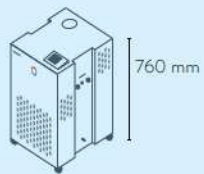


IN 1030 T



IN 1330 TW  
IN 1830 TW

LAUDA Integral XT / Page 90



IN 150 XT  
IN 250 XTW  
IN 4 XTW / IN 8 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

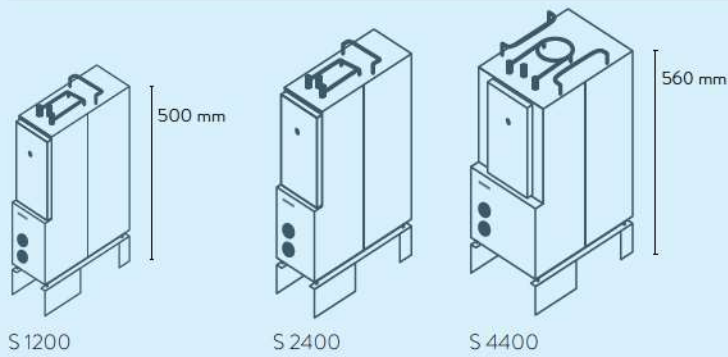
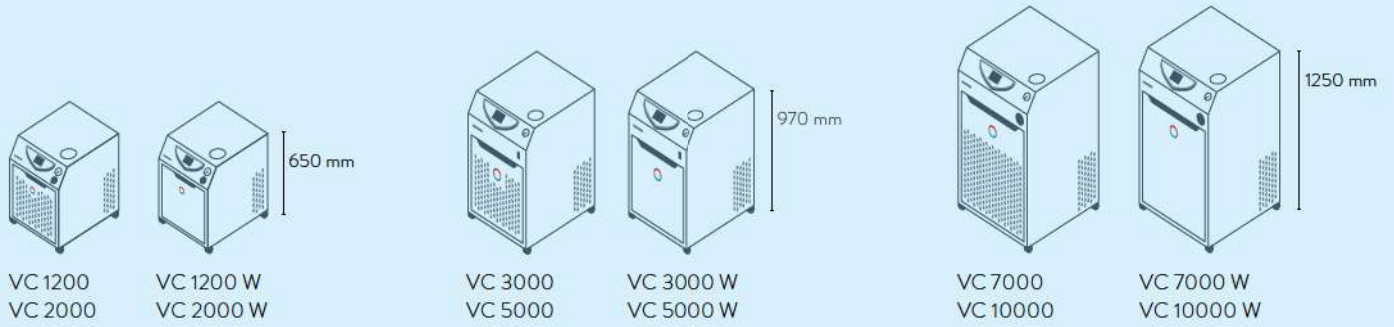


IN 2560 XTW

LAUDA Integral P / Page 92



IN 2050 PW  
IN 2560 PW



# LAUDA Circulation and process thermostats

## Interfaces

	Pt 100 (1)	Pt 100 (2)	USB	Ethernet	RS 232 / 485	Analog	Namur contact	D-Sub contact	PROFIBUS	EtherCAT M8	EtherCAT RJ 45	Malfunction contact	Number of module slots, large	Number of module slots, small	RS232/485 module Advanced	Contact module NAMUR Advanced	Contact module D-Sub Advanced	Profibus module Advanced	Ethernet module Advanced	Profinet module Advanced	CAN module Advanced
LAUDA LOOP / Page 84	-	-	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAUDA PRO / Page 86	S	-	S	S	Z	Z	Z	Z	Z	Z	Z	-	1	-	Z	Z	Z	Z	-	Z	Z
LAUDA Integral T / Page 88	S	Z	S	S	Z	Z	Z	Z	Z	Z	Z	S	2	-	Z	Z	Z	Z	S	Z	Z
LAUDA Integral XT / Page 90	S	Z	S	S	Z	Z	Z	Z	Z	Z	Z	S	2	-	Z	Z	Z	Z	S	Z	Z
LAUDA Integral P / Page 92	S	Z	S	S	Z	Z	Z	Z	Z	Z	Z	S	2	-	Z	Z	Z	Z	S	Z	Z
LAUDA Variocool / Page 94	Z	-	S	Z	Z	Z	Z	Z	Z	Z	Z	S	1	1	Z	Z	Z	Z	Z	Z	Z

S = Series standard  
Z = Available as an accessory

### LAUDA interfaces



LRZ 912  
Analog module



LRZ 913  
RS 232/485 interface



LRZ 914  
Contact module, 1 input, 1 output (NAMUR)



LRZ 915  
Contact module, 3 inputs, 3 outputs



LRZ 917  
Profibus module



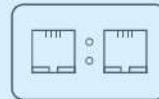
LRZ 918  
Pt100/LiBus-Modul, small cover



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 interfaces Advanced\* (Modules available as accessories from Q3 / 2022)



LRZ 926  
RS232/485 module Advanced, D-Sub 9-pin



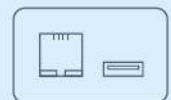
LRZ 927  
Contact module NAMUR Advanced, 1 input, 1 output



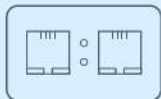
LRZ 928  
Contact module D-Sub Advanced, 3 inputs, 3 outputs



LRZ 929  
Profibus module Advanced, D-Sub 9-pin



LRZ 930  
Ethernet module Advanced, RJ45



LRZ 932  
Profinet module Advanced, RJ45



LRZ 933  
CAN module Advanced, D-Sub 9-pin

\*Interfaces of the Advanced generation replace modules in the process thermostats of the same name as per the above selection table

# LAUDA Circulation and process thermostats

## Function overview

Operating element	LOOP	PROE	PROEC	Integral T	Integral XT	Integral P	Variocool
Display	OLED	OLED	TFT	TFT	TFT	TFT	TFT
Mode of operation	3-button softkey	Cursor softkey	Multi-touch	Cursor softkey	Cursor softkey	Cursor softkey	Cursor softkey
Removable control	-	√	√	Z	Z	Z	-
User management	-	-	√	Operator / Viewer	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 / 146	5 / 146	5 / 146	5 / 146
Programmer, tolerance range function	-	√	√	√	√	√	√
Ramp function	-	-	√	Z	Z	Z	-
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	Z	-
Overflow	-	√	√	√	√	√	-
Low-level alarm	√	√	√	√	√	√	√
Drain tap	-	√	√	√	√	√	√

Z = Available as an accessory



# 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
<b>LAUDA LOOP/ Page 84</b>																		
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	-	-	-	-	-	-	-	-	-	-
<b>LAUDA PRO/ Page 86</b>																		
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 <sup>3</sup>	0.60 <sup>3</sup>	0.60 <sup>3</sup>	0.41 <sup>3</sup>	0.24 <sup>2</sup>	0.12 <sup>2</sup>	0.02 <sup>1</sup>	-	-	-	-	-
RP 240 EC	-40 ... 200	0.05	Hybrid	2.5	-	-	0.60 <sup>3</sup>	0.60 <sup>3</sup>	0.60 <sup>3</sup>	0.41 <sup>3</sup>	0.24 <sup>2</sup>	0.12 <sup>2</sup>	0.02 <sup>1</sup>	-	-	-	-	-
RP 245 E	-45 ... 200	0.05	Hybrid	2.5	-	-	0.80 <sup>3</sup>	0.80 <sup>3</sup>	0.80 <sup>3</sup>	0.53 <sup>3</sup>	0.34 <sup>2</sup>	0.15 <sup>2</sup>	0.04 <sup>2</sup>	-	-	-	-	-
RP 245 EC	-45 ... 200	0.05	Hybrid	2.5	-	-	0.80 <sup>3</sup>	0.80 <sup>3</sup>	0.80 <sup>3</sup>	0.53 <sup>3</sup>	0.34 <sup>2</sup>	0.15 <sup>2</sup>	0.04 <sup>2</sup>	-	-	-	-	-
RP 250 E	-50 ... 200	0.05	Hybrid	2.5	-	-	1.50 <sup>3</sup>	1.44 <sup>3</sup>	1.20 <sup>3</sup>	0.84 <sup>3</sup>	0.54 <sup>2</sup>	0.29 <sup>2</sup>	0.11 <sup>2</sup>	0.02 <sup>1</sup>	-	-	-	-
RP 250 EC	-50 ... 200	0.05	Hybrid	2.5	-	-	1.50 <sup>3</sup>	1.44 <sup>3</sup>	1.20 <sup>3</sup>	0.84 <sup>3</sup>	0.54 <sup>2</sup>	0.29 <sup>2</sup>	0.11 <sup>2</sup>	0.02 <sup>1</sup>	-	-	-	-
RP 290 E	-90 ... 200	0.05	Hybrid	2.5	-	-	0.80 <sup>3</sup>	0.77 <sup>3</sup>	0.74 <sup>3</sup>	0.72 <sup>3</sup>	0.70 <sup>2</sup>	0.68 <sup>2</sup>	0.64 <sup>2</sup>	0.56 <sup>2</sup>	0.39 <sup>2</sup>	0.21 <sup>2</sup>	0.09 <sup>2</sup>	0.01 <sup>1</sup>
RP 290 EC	-90 ... 200	0.05	Hybrid	2.5	-	-	0.80 <sup>3</sup>	0.77 <sup>3</sup>	0.74 <sup>3</sup>	0.72 <sup>3</sup>	0.70 <sup>2</sup>	0.68 <sup>2</sup>	0.64 <sup>2</sup>	0.56 <sup>2</sup>	0.39 <sup>2</sup>	0.21 <sup>2</sup>	0.09 <sup>2</sup>	0.01 <sup>1</sup>
<b>LAUDA Integral T/ Page 88</b>																		
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	-	-	-	-	-	-
IN 1830 TW	-30 ... 150	0.10	Water	16.0	-	19.00	19.00	15.00	11.50	7.50	5.00	2.70	-	-	-	-	-	-

<sup>1</sup>Pump output step 2 <sup>2</sup>Pump output step 4 <sup>3</sup>Pump 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	Part Number	Device type
0.8	2.6	Quick C. 1/4"	0.26	0.28	175×301×266	IP 21	57	7	0.2	100-240 V; 50/60 Hz	L000027	LOOP 100
0.8	2.6	Quick C. 1/4"	0.30	0.32	261×368×312	IP 21	57	12	0.4	100-240 V; 50/60 Hz	L000580	LOOP 250
0.68	22	M16×1	2.4	4.4	250×365×425	IP 21	47	16.5	2.7	200-230 V; 50/60 Hz	L000019	P 2 E
0.68	22	M16×1	2.4	4.4	250×365×425	IP 21	47	17.0	2.7	200-230 V; 50/60 Hz	L000020	P 2 EC
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	54	41.5	3.7	230 V; 50 Hz	L000021	RP 240 E
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	54	41.5	3.7	230 V; 50 Hz	L000023	RP 240 EC
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	54	38.5	3.7	230 V; 50 Hz	L000022	RP 245 E
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	54	40.0	3.7	230 V; 50 Hz	L000024	RP 245 EC
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	57	46.5	3.7	230 V; 50 Hz	L002494	RP 250 E
0.68	22	M16×1	2.4	4.4	300×430×675	IP 21	57	47.5	3.7	230 V; 50 Hz	L002495	RP 250 EC
0.68	22	M16×1	2.4	4.4	390×600×685	IP 21	56	76.5	3.7	230 V; 50 Hz	L002502	RP 290 E
0.68	22	M16×1	2.4	4.4	390×600×685	IP 21	56	78.5	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	79	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	84	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	60	85	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	66	149	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	150	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	70	223	11.0	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	62	225	18.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002669	IN 1330 TW
5.5	60	M38×1.5	9.7	25.5	760×650×1605	IP 21	67	244	18.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002670	IN 1830 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
<b>LAUDA Integral XT / Page 90</b>																		
IN 150 XT	-45 ... 220	0.05	Air	3.5	1.50 <sup>3</sup>	1.50 <sup>3</sup>	1.50 <sup>3</sup>	1.50 <sup>3</sup>	1.30 <sup>3</sup>	1.00 <sup>3</sup>	0.70 <sup>2</sup>	0.30 <sup>2</sup>	0.06 <sup>2</sup>	-	-	-	-	-
IN 250 XTW	-45 ... 220	0.05	Water	3.5	2.20 <sup>3</sup>	2.20 <sup>3</sup>	2.10 <sup>3</sup>	2.00 <sup>3</sup>	1.80 <sup>3</sup>	1.40 <sup>3</sup>	1.00 <sup>3</sup>	0.55 <sup>2</sup>	0.20 <sup>2</sup>	-	-	-	-	-
IN 550 XT	-50 ... 220	0.05	Air	8.0	5.00 <sup>3</sup>	5.00 <sup>3</sup>	5.00 <sup>3</sup>	4.80 <sup>3</sup>	4.60 <sup>3</sup>	3.30 <sup>3</sup>	2.30 <sup>2</sup>	1.20 <sup>2</sup>	0.50 <sup>2</sup>	0.10 <sup>1</sup>	-	-	-	-
IN 550 XTW	-50 ... 220	0.05	Water	8.0	5.80 <sup>3</sup>	5.80 <sup>3</sup>	5.80 <sup>3</sup>	5.80 <sup>3</sup>	5.40 <sup>3</sup>	4.00 <sup>3</sup>	2.60 <sup>2</sup>	1.45 <sup>2</sup>	0.55 <sup>2</sup>	0.12 <sup>1</sup>	-	-	-	-
IN 750 XT	-45 ... 220	0.05	Air	8.0	7.00 <sup>3</sup>	7.00 <sup>3</sup>	7.00 <sup>3</sup>	7.00 <sup>3</sup>	5.40 <sup>3</sup>	3.60 <sup>3</sup>	2.60 <sup>2</sup>	1.60 <sup>2</sup>	0.80 <sup>2</sup>	-	-	-	-	-
IN 950 XTW	-50 ... 220	0.05	Water	8.0	9.50 <sup>3</sup>	9.50 <sup>3</sup>	9.50 <sup>3</sup>	8.50 <sup>3</sup>	6.20 <sup>3</sup>	4.30 <sup>3</sup>	3.00 <sup>2</sup>	1.70 <sup>2</sup>	0.90 <sup>2</sup>	0.35 <sup>1</sup>	-	-	-	-
IN 1850 XTW	-50 ... 220	0.05	Water	16.0	20.00 <sup>3</sup>	20.00 <sup>3</sup>	20.00 <sup>3</sup>	15.00 <sup>3</sup>	11.50 <sup>3</sup>	8.50 <sup>3</sup>	6.10 <sup>2</sup>	3.60 <sup>2</sup>	1.90 <sup>2</sup>	1.10 <sup>1</sup>	-	-	-	-
IN 2560 XTW	-60 ... 220	0.10	Water	24.0	25.00 <sup>3</sup>	25.00 <sup>3</sup>	25.00 <sup>3</sup>	24.50 <sup>3</sup>	22.50 <sup>3</sup>	22.00 <sup>3</sup>	18.50 <sup>2</sup>	12.50 <sup>2</sup>	8.70 <sup>2</sup>	5.00 <sup>1</sup>	3.00 <sup>2</sup>	-	-	-
IN 280 XT	-80 ... 220	0.05	Air	4.0	1.60 <sup>3</sup>	1.60 <sup>3</sup>	1.60 <sup>3</sup>	1.55 <sup>3</sup>	1.50 <sup>3</sup>	1.50 <sup>3</sup>	1.70 <sup>2</sup>	1.70 <sup>2</sup>	1.65 <sup>2</sup>	1.40 <sup>2</sup>	0.85 <sup>2</sup>	0.35 <sup>2</sup>	0.15 <sup>2</sup>	-
IN 280 XTW	-80 ... 220	0.05	Water	4.0	1.70 <sup>3</sup>	1.70 <sup>3</sup>	1.70 <sup>3</sup>	1.65 <sup>3</sup>	1.60 <sup>3</sup>	1.60 <sup>3</sup>	1.80 <sup>2</sup>	1.80 <sup>2</sup>	1.80 <sup>2</sup>	1.50 <sup>2</sup>	0.90 <sup>2</sup>	0.45 <sup>2</sup>	0.18 <sup>2</sup>	-
IN 590 XTW	-90 ... 220	0.05	Water	8.0	4.50 <sup>3</sup>	4.50 <sup>3</sup>	4.50 <sup>3</sup>	4.45 <sup>3</sup>	4.40 <sup>3</sup>	4.40 <sup>3</sup>	4.60 <sup>2</sup>	4.60 <sup>2</sup>	4.50 <sup>2</sup>	4.20 <sup>2</sup>	2.70 <sup>2</sup>	1.40 <sup>2</sup>	0.60 <sup>2</sup>	0.20 <sup>1</sup>
IN 1590 XTW	-90 ... 220	0.05	Water	12.0	18.50 <sup>3</sup>	18.50 <sup>3</sup>	18.50 <sup>3</sup>	15.00 <sup>3</sup>	11.50 <sup>3</sup>	8.70 <sup>3</sup>	8.50 <sup>2</sup>	8.50 <sup>2</sup>	7.50 <sup>2</sup>	6.00 <sup>2</sup>	4.00 <sup>2</sup>	2.20 <sup>2</sup>	0.90 <sup>2</sup>	0.35 <sup>1</sup>
IN 4 XTW*	25 ... 320	0.10	Water	3.5	17.00 <sup>3</sup>	10.00 <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
IN 8 XTW*	25 ... 320	0.10	Water	8.0	17.00 <sup>3</sup>	10.00 <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
<b>LAUDA Integral P / Page 92</b>																		
IN 2050 PW	-40 ... 140	0.05	Water	16.0	-	20.00 <sup>3</sup>	20.00 <sup>3</sup>	15.00 <sup>3</sup>	10.80 <sup>3</sup>	7.80 <sup>3</sup>	4.80 <sup>2</sup>	3.00 <sup>2</sup>	1.60 <sup>2</sup>	-	-	-	-	-
IN 2560 PW	-40 ... 140	0.10	Water	24.0	-	25.00 <sup>3</sup>	25.00 <sup>3</sup>	25.00 <sup>3</sup>	24.50 <sup>3</sup>	24.00 <sup>3</sup>	17.70 <sup>3</sup>	11.00 <sup>3</sup>	7.50 <sup>3</sup>	-	-	-	-	-

\*Cooling water supply must be provided for operation

<sup>1</sup>Pump output step 2 <sup>2</sup>Pump output step 4 <sup>3</sup>Pump 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	Part Number	Device type
3.1	65	M30×1.5	2.5	8.7	430×550×760	IP 21	60	103	3.7	230 V; 50 Hz	L002673	IN 150 XT
3.1	65	M30×1.5	2.5	8.7	430×550×760	IP 21	57	106	3.7	230 V; 50 Hz	L002674	IN 250 XTW
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	65	177	10.5	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002675	IN 550 XT
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	64	177	10.5	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002676	IN 550 XTW
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	68	176	11.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002677	IN 750 XT
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	69	176	11.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002678	IN 950 XTW
6.0	120	M38×1.5	8.0	28.6	760×650×1605	IP 21	62	288	18.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002680	IN 1850 XTW
6.0	100	M38×1.5	12.6	34.4	1100×895×1865	IP 21	74	613	37.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002681	IN 2560 XTW
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	63	198	9.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002684	IN 280 XT
3.1	65	M30×1.5	4.8	17.2	560×550×1325	IP 21	62	195	9.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002685	IN 280 XTW
3.1	65	M30×1.5	8.0	28.6	760×650×1605	IP 21	64	279	11.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002687	IN 590 XTW
3.1	65	M38×1.5	10.0	30.6	760×650×1605	IP 21	65	356	19.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002689	IN 1590 XTW
3.1	60	M30×1.5	3.3	9.5	430×550×760	IP 21	52	52	3.7	230 V; 50 Hz	L002682	IN 4 XTW
3.1	60	M30×1.5	3.6	9.8	430×550×760	IP 21	52	86	9.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002683	IN 8 XTW
6.0	120	M38×1.5	11.1	36.3	1100×895×1865	IP 21	58	382	18.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L003214	IN 2050 PW
6.0	100	M38×1.5	12.1	48.1	1100×895×1865	IP 21	74	647	37.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L003308	IN 2560 PW



# 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 94

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 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	2.3	-	-	1.12	0.92	0.62	0.32	0.06	-	-	-	-	-	-	-
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	2.2	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
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	2.2	-	-	1.92	1.42	0.98	0.60	0.30	-	-	-	-	-	-	-
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	-	-	4.65	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	-	-	4.65	3.55	2.40	1.35	0.55	-	-	-	-	-	-	-
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	-	-	6.65	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	-	-	6.65	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	-	-	9.65	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	-	-	9.65	7.25	4.95	3.15	1.65	-	-	-	-	-	-	-

## LAUDA Semistat / Page 96

S 1200	-20 ... 90	0.10	Water	3.0	-	-	1.20	0.90	0.60	0.35	0.08	-	-	-	-	-	-	-
S 2400	-20 ... 90	0.10	Water	6.0	-	-	2.45	1.93	1.40	0.88	0.20	-	-	-	-	-	-	-
S 4400	-20 ... 90	0.10	Water	12.0	-	-	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	Part Number	Device type
0.9	28	G 3/4	8	15	450×550×650	IP 32	51	51	3.3	230 V; 50 Hz	L000712	VC 1200
3.2	37	G 3/4	8	15	450×550×790	IP 32	53	51	3.3	230 V; 50 Hz	L000923	VC 1200
0.9	28	G 3/4	8	15	450×550×650	IP 32	50	50	3.3	230 V; 50 Hz	L000732	VC 1200 W
3.2	37	G 3/4	8	15	450×550×790	IP 32	52	50	3.3	230 V; 50 Hz	L000956	VC 1200 W
0.9	28	G 3/4	8	15	450×550×650	IP 32	52	63	3.3	230 V; 50 Hz	L000714	VC 2000
3.2	37	G 3/4	8	15	450×550×790	IP 32	56	63	3.3	230 V; 50 Hz	L000927	VC 2000
0.9	28	G 3/4	8	15	450×550×650	IP 32	50	58	3.3	230 V; 50 Hz	L000734	VC 2000 W
3.2	37	G 3/4	8	15	450×550×790	IP 32	53	64	3.3	230 V; 50 Hz	L000960	VC 2000 W
3.2	37	G 3/4	20	33	550×650×970	IP 32	57	89	2.6	230 V; 50 Hz	L000715	VC 3000
4.8	37	G 3/4	20	33	550×650×970	IP 32	61	89	2.6	230 V; 50 Hz	L000929	VC 3000
3.2	37	G 3/4	20	33	550×650×970	IP 32	55	88	2.6	230 V; 50 Hz	L000735	VC 3000 W
4.8	37	G 3/4	20	33	550×650×970	IP 32	59	88	2.6	230 V; 50 Hz	L000962	VC 3000 W
3.2	37	G 3/4	20	33	550×650×970	IP 32	65	97	7.8	400 V; 3/N/PE; 50 Hz	L000728	VC 5000
5.0	60	G 3/4	20	33	550×650×970	IP 32	69	97	7.8	400 V; 3/N/PE; 50 Hz	L000949	VC 5000
3.2	37	G 3/4	20	33	550×650×970	IP 32	64	97	7.8	400 V; 3/N/PE; 50 Hz	L000746	VC 5000 W
5.0	60	G 3/4	20	33	550×650×970	IP 32	68	97	7.8	400 V; 3/N/PE; 50 Hz	L001995	VC 5000 W
3.2	37	G 1 1/4	48	64	650×670×1250	IP 32	66	124	8.8	400 V; 3/N/PE; 50 Hz	L000729	VC 7000
5.0	60	G 1 1/4	48	64	650×670×1250	IP 32	69	124	8.8	400 V; 3/N/PE; 50 Hz	L000951	VC 7000
3.2	37	G 1 1/4	48	64	650×670×1250	IP 32	60	122	8.8	400 V; 3/N/PE; 50 Hz	L000747	VC 7000 W
5.0	60	G 1 1/4	48	64	650×670×1250	IP 32	64	133	8.8	400 V; 3/N/PE; 50 Hz	L000983	VC 7000 W
3.2	37	G 1 1/4	48	64	650×670×1250	IP 32	67	137	11.1	400 V; 3/N/PE; 50 Hz	L000730	VC 10000
5.0	60	G 1 1/4	48	64	650×670×1250	IP 32	70	137	11.1	400 V; 3/N/PE; 50 Hz	L000953	VC 10000
3.2	37	G 1 1/4	48	64	650×670×1250	IP 32	61	131	11.1	400 V; 3/N/PE; 50 Hz	L000748	VC 10000 W
5.0	60	G 1 1/4	48	64	650×670×1250	IP 32	65	131	11.1	400 V; 3/N/PE; 50 Hz	L000985	VC 10000 W
2.8	22	1/2"	1.00	1.30	116×232×470	-	-	15	-	-	L003276	S 1200
2.8	22	1/2"	1.25	1.60	116×300×560	-	-	25	-	-	L003277	S 2400
2.8	27	1/2"	2.50	2.80	194×300×560	-	-	38	-	-	L003278	S 4400



# LAUDA Circulation and process thermostats

## Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz bar	Pump flow max. pressure 60 Hz L/min	Loading max. kW	Plug code*	Part Number	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz bar	Pump flow max. pressure 60 Hz L/min	Loading max. kW	Plug code*	Part Number
P 2 E	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	32	L000557	RP 245 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000461
P 2 E	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	4	L000549	RP 245 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	4	L000453
P 2 EC	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	32	L000561	RP 245 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000521
P 2 EC	100-120 V; 50/60 Hz	1.8	0.7	22.0	1.9	4	L000553	RP 245 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000505
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	3	L000489
RP 240 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000532	RP 245 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000425
RP 240 E	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000460	RP 245 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000313
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	32	L000441
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000488	RP 245 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000545
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000520	RP 245 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000537
RP 240 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000504	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	32	L000440	RP 245 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000465
RP 240 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000312	RP 245 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000529
RP 240 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	31	L000424	RP 245 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000513
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	3	L000497
RP 240 EC	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000536	RP 245 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L000321
RP 240 EC	120 V; 60 Hz	1.8	0.7	22.0	1.9	32	L000464	RP 245 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000449
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	31	L000433
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	31	L000512	RP 250 E	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002498
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L000496	RP 250 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	3	L002499
RP 240 EC	200 V; 50/60 Hz	1.9	0.7	22.0	3.2	32	L000528	RP 250 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L002657
RP 240 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	32	L000448	RP 250 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L002658
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
RP 245 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.6	32	L000541	RP 290 E	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L002659
RP 245 E	100 V; 50/60 Hz	1.3	0.7	22.0	1.5	14	L000533	RP 290 EC	208-220 V; 60 Hz	2.3	0.7	22.0	3.5	3	L002660

\*All data for the plug codes can be found on page 162

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz bar	Pump flow max. pressure 60 Hz L/min	Loading max. kW	Plug code*	Part Number	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz bar	Pump flow max. pressure 60 Hz L/min	Loading max. kW	Plug code*	Part Number
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LAUDA Integral T / Page 88

IN 130 T	200 V; 50/60 Hz	2.2	4.5	45	3.2	3	L002787	IN 230 TW	200 V; 50/60 Hz	2.2	4.5	45	3.2	3	L002790
IN 130 T	208-220 V; 60 Hz	2.7	4.5	45	3.5	3	L002788	IN 530 T	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	4.6	65	11.0	34	L002883
IN 230 T	208-220 V; 60 Hz	2.7	4.5	45	3.5	2	L003302	IN 530 TW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	4.6	65	11.0	34	L002884
IN 230 T	208-220 V; 60 Hz	2.7	4.5	45	3.5	3	L002791	IN 1030 T	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	7.0	70	11.0	34	L002885
IN 230 T	200 V; 50/60 Hz	2.2	4.5	45	3.2	3	L002789	IN 1330 TW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	7.0	70	18.0	33	L002886
IN 230 TW	208-220 V; 60 Hz	2.7	4.5	45	3.5	2	L003303	IN 1830 TW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	7.0	70	18.0	33	L003274
IN 230 TW	208-220 V; 60 Hz	2.7	4.5	45	3.5	3	L002792								

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IN 150 XT	208-220 V; 60 Hz	3.3	3.1	65	3.5	3	L002794	IN 950 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65	11.0	34	L002890
IN 150 XT	200 V; 50/60 Hz	3.0	3.1	65	3.2	3	L002793	IN 1850 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	6.0	120	18.0	33	L002895
IN 150 XT	208-220 V; 60 Hz	3.3	3.1	65	3.5	2	L003304	IN 280 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	4.0	3.1	65	9.0	34	L002892
IN 250 XTW	208-220 V; 60 Hz	3.4	3.1	65	3.5	2	L003305	IN 280 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	4.0	3.1	65	9.0	34	L002893
IN 250 XTW	208-220 V; 60 Hz	3.4	3.1	65	3.5	3	L002796	IN 590 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65	11.0	34	L002897
IN 250 XTW	200 V; 50/60 Hz	3.1	3.1	65	3.2	3	L002795	IN 1590 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	12.0	3.1	65	19.0	33	L002898
IN 550 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65	10.5	34	L002887	IN 4 XTW	200 V; 50/60 Hz	2.9	3.1	60	3.2	3	L002799
IN 550 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65	10.5	34	L002888	IN 4 XTW	208-220 V; 60 Hz	3.3	3.1	60	3.5	3	L002800
IN 750 XT	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	65	11.0	34	L002889	IN 8 XTW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	8.0	3.1	60	9.0	34	L002891

LAUDA Integral P / Page 92

IN 2050 PW	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	16.0	6.0	120	18.0	33	L003319								
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# LAUDA Circulation and process thermostats

## Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz <sup>bar</sup>	Pump flow max. pressure 60 Hz L /min	Loading max. kW	Plug code*	Part Number	Device type	Power supply V; Hz	Heater power max. kW	Pump pressure max. 60 Hz <sup>bar</sup>	Pump flow max. pressure 60 Hz L /min	Loading max. kW	Plug code*	Part Number
VC 1200	200 V; 50/60 Hz	1.7	0.9	28	2.9	3	L000769	VC 5000 W	200 V; 3/PE; 50/60 Hz	3.4	3.2	37	4.3	34	L000781
VC 1200	200 V; 50/60 Hz	1.1	0.9	28	2.3	3	L000768	VC 5000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60	4.3	34	L001041
VC 1200	208-220 V; 60 Hz	2.1	0.9	28	3.1	3	L000752	VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37	4.5	34	L000764
VC 1200 W	200 V; 50/60 Hz	1.7	0.9	28	2.9	3	L000777	VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60	4.5	34	L001011
VC 1200 W	208-220 V; 60 Hz	2.1	0.9	28	3.1	3	L000760	VC 7000	200 V; 3/PE; 50/60 Hz	3.4	3.2	37	5.4	33	L000774
VC 2000	200 V; 50/60 Hz	1.7	0.9	28	2.9	3	L000771	VC 7000	200 V; 3/PE; 50/60 Hz	3.4	4.3	60	5.4	33	L001028
VC 2000	208-220 V; 60 Hz	2.1	0.9	28	3.2	3	L000754	VC 7000	208-220 V; 3/PE; 60 Hz	4.1	3.2	37	5.7	33	L000757
VC 2000 W	200 V; 50/60 Hz	1.7	0.9	28	2.9	3	L000779	VC 7000	208-220 V; 3/PE; 60 Hz	4.1	5.0	60	5.7	33	L000998
VC 2000 W	208-220 V; 60 Hz	2.1	0.9	28	3.2	3	L000762	VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	3.2	37	5.4	33	L000782
VC 3000	200 V; 50/60 Hz	1.0	3.2	37	2.6	3	L000772	VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60	5.4	33	L001043
VC 3000	200 V; 50/60 Hz	1.1	4.8	37	2.6	3	L001024	VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37	5.7	33	L000765
VC 3000	208-220 V; 60 Hz	1.3	3.2	37	2.8	3	L000755	VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60	5.7	33	L001013
VC 3000	208-220 V; 60 Hz	1.3	4.8	37	2.8	3	L000994	VC 10000	200 V; 3/PE; 50/60 Hz	5.7	3.2	37	7.6	33	L000775
VC 3000 W	200 V; 50/60 Hz	1.0	3.2	37	2.6	3	L000780	VC 10000	200 V; 3/PE; 50/60 Hz	5.7	4.3	60	7.6	33	L001030
VC 3000 W	200 V; 50/60 Hz	1.1	4.8	37	2.6	3	L001039	VC 10000	208-220 V; 3/PE; 60 Hz	6.9	3.2	37	7.7	33	L000758
VC 3000 W	208-220 V; 60 Hz	1.3	3.2	37	2.8	3	L000763	VC 10000	208-220 V; 3/PE; 60 Hz	6.9	5.0	60	7.7	33	L001000
VC 3000 W	208-220 V; 60 Hz	1.3	4.8	37	2.8	3	L001009	VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	3.2	37	7.6	33	L000783
VC 5000	200 V; 3/PE; 50/60 Hz	3.4	3.2	37	4.3	34	L000773	VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	4.3	60	7.6	33	L001045
VC 5000	200 V; 3/PE; 50/60 Hz	3.4	4.3	60	4.3	34	L001026	VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	3.2	37	7.7	33	L000766
VC 5000	208-220 V; 3/PE; 60 Hz	4.1	3.2	37	4.5	34	L000756	VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	5.0	60	7.7	33	L001015
VC 5000	208-220 V; 3/PE; 60 Hz	4.1	5.0	60	4.5	34	L000996								

\*All data for the plug codes can be found on page 162



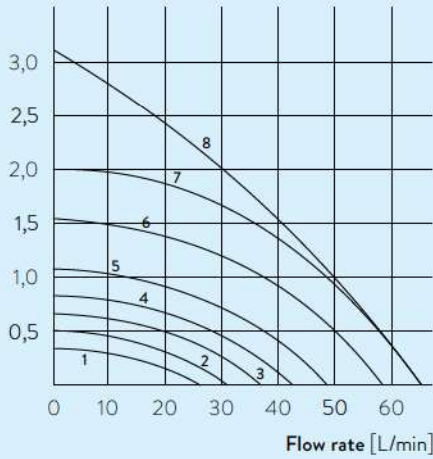
# LAUDA Circulation and process thermostats

## More characteristics

LAUDA Integral IN 150 XT, 250 XTW, 280 XT, 280 XTW, 590 XT, 590 XTW, 550 XT, 550 XTW, 750 XT, 950 XTW, 1350 XTW, 1590 XTW / Page 90

PUMP CHARACTERISTICS Liquid: Water

Pressure [bar]

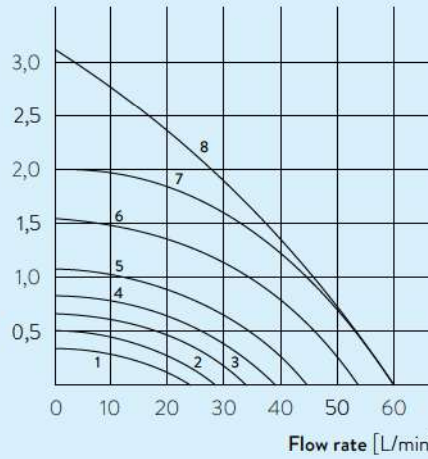


- 1 Stage 1
- 2 Stage 2
- 3 Stage 3
- 4 Stage 4
- 5 Stage 5
- 6 Stage 6
- 7 Stage 7
- 8 Stage 8

LAUDA Integral IN 4 XTW, IN 8 XTW / Page 90

PUMP CHARACTERISTICS Liquid: Water

Pressure [bar]

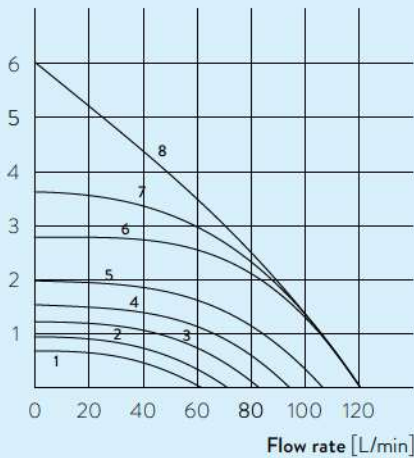


- 1 Stage 1
- 2 Stage 2
- 3 Stage 3
- 4 Stage 4
- 5 Stage 5
- 6 Stage 6
- 7 Stage 7
- 8 Stage 8

LAUDA Integral IN 1850 XTW, IN 2050 PW / Page 90, 92

PUMP CHARACTERISTICS Liquid: Water

Pressure [bar]



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

LAUDA Integral IN 2560 XTW / PW / Page 90, 92

PUMP CHARACTERISTICS Liquid: Water

Pressure [bar]

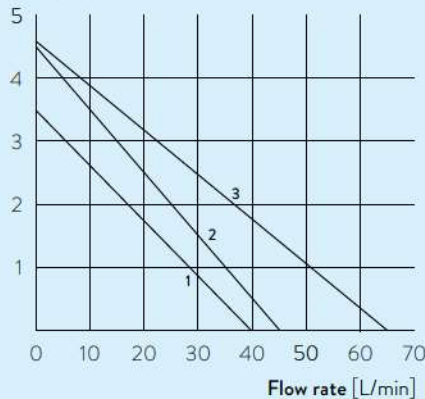


- 4 Stage 4
- 5 Stage 5
- 6 Stage 6
- 7 Stage 7
- 8 Stage 8

LAUDA Integral IN 130 T, IN 230 T, IN 230 TW, IN 530 T, IN 530 TW / Page 88

PUMP CHARACTERISTICS Liquid: Water

Pressure [bar]

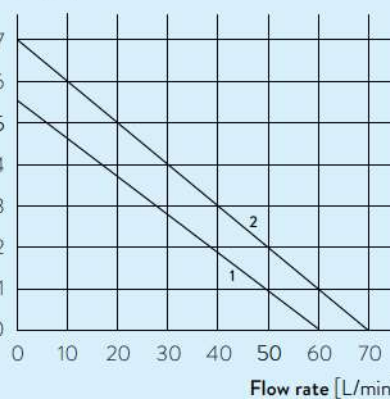


- 1 50 Hz
- 2 60 Hz  
(IN 130 T,  
IN 230 T,  
IN 230 TW)
- 3 60 Hz  
(IN 530 T,  
IN 530 TW)

LAUDA Integral IN 1030 T, IN 1330 TW, IN 1830 TW / Page 88

PUMP CHARACTERISTICS Liquid: Water

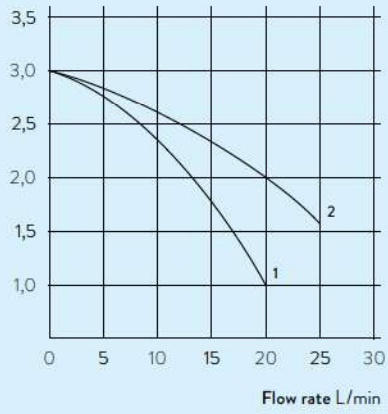
Pressure [bar]



- 1 50 Hz
- 2 60 Hz

**PUMP CHARACTERISTIC** Water

Pressure bar



- 2 S 4400
- 1 S 1200, S 2400