

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 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.



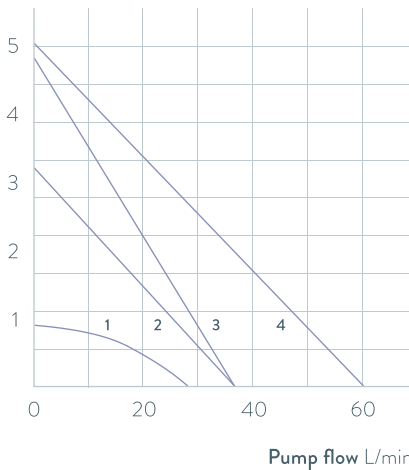
Malfunction Alarm contact included as standard, as well as module slots for additional interfaces



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

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

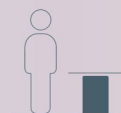
All technical data and power supply variants can be found in the ›Technical data‹ section.

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.

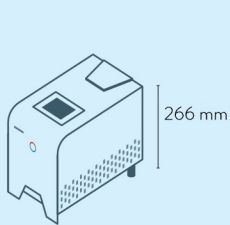


LAUDA Circulation and process thermostats

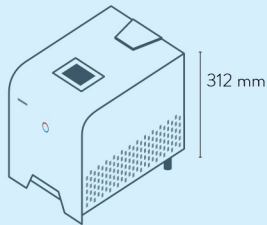
Device type overview

LAUDA LOOP / Page 80

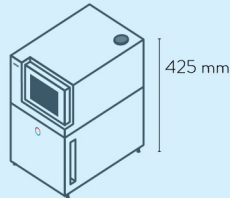
LAUDA PRO / Page 82



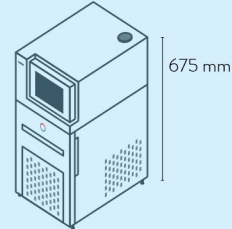
LOOP 100



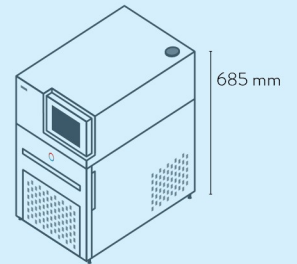
LOOP 250



P 2 E

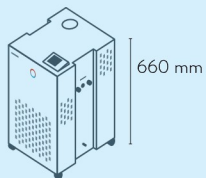


RP 240 EC
RP 245 EC
RP 250 EC

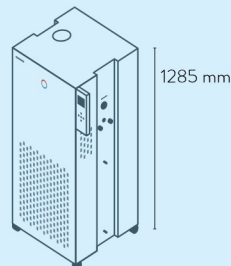


RP 290 EC

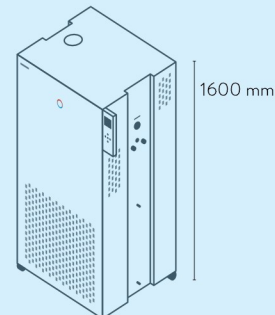
LAUDA Integral T / Page 84



IN 130 T
IN 230 T
IN 230 TW



IN 530 T
IN 530 TW

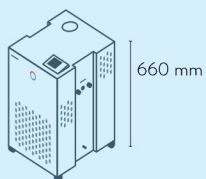


IN 1030 T

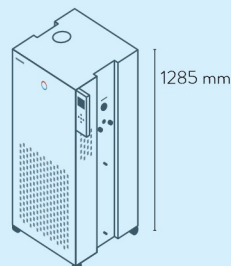


IN 1330 TW

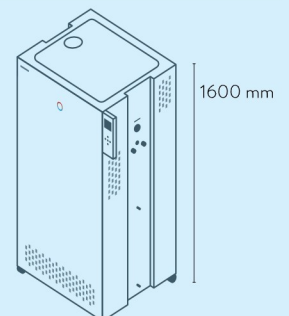
LAUDA Integral XT / Page 86



IN 150 XT
IN 250 XTW

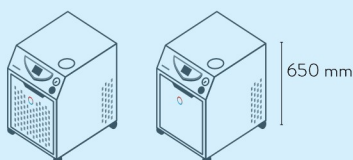


IN 550 XT / IN 550 XTW
IN 280 XT / IN 280 XTW
IN 750 XT
IN 950 XTW

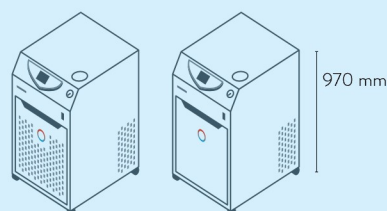


IN 1850 XTW
IN 590 XTW
IN 1590 XTW

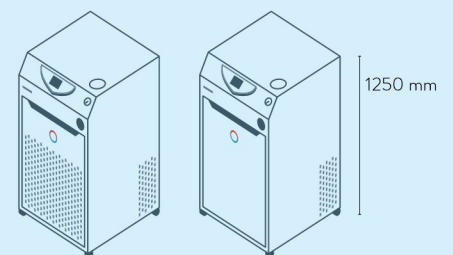
LAUDA Variocool / Page 88



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 Kryoheater 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



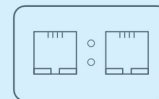
LRZ 918
Pt100/LiBus-Modul, small cover



LRZ 921
Ethernet module



LRZ 922
EtherCAT module with M8 connection



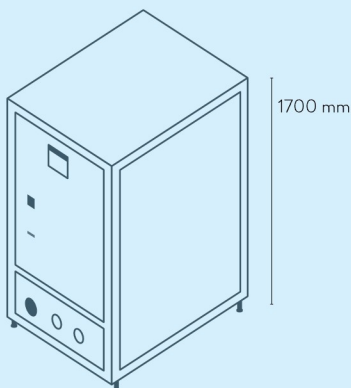
LRZ 923
EtherCAT module with RJ45 connection



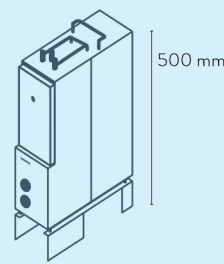
LRZ 925
External Pt100/LiBus-module, large cover

LAUDA Kryoheater Selecta / Page 90

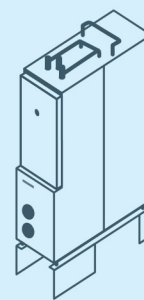
LAUDA-Noah Semistat / Page 92



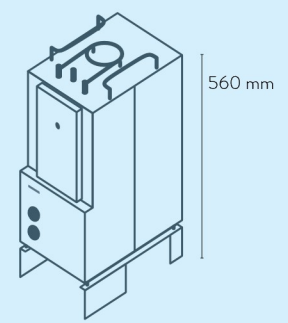
KHS 3560 W
KHS 2190 W



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 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	M30×1,5	2.5	8.7	430×550×760	IP 21	60	103.0	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	105.0	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	171.0	12.0	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	62	176.0	12.0	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz	L002676	IN 550 XTW
3.1	65	M30×1,5	4.8	17.2	560×550×1325	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	M30×1,5	4.8	17.2	560×550×1325	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	M38×1,5	8.0	28.6	760×650×1605	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	M30×1,5	4.8	17.2	560×550×1325	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	M30×1,5	4.8	17.2	560×550×1325	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	M30×1,5	8.0	28.6	760×650×1605	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	M38×1,5	10.0	30.6	760×650×1605	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	M30×1,5	2.6	8.1	335×550×660	IP 21C	51	60.0	3.7	230 V; 50 Hz	L001839	XT 4 H
2.9	45	M30×1,5	2.6	8.1	335×550×660	IP 21C	51	64.0	3.7	230 V; 50 Hz	L001840	XT 4 HW
2.9	45	M30×1,5	2.6	8.1	335×550×660	IP 21C	51	62.0	8.7	400 V; 3/PE; 50 Hz	L001845	XT 8 H
2.9	45	M30×1,5	2.6	8.1	335×550×660	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	450×550×650	IP 32	51	54.0	2.6	230 V; 50 Hz	L000711	VC 1200
0.9	28	G 3/4	8.0	15.0	450×550×650	IP 32	51	54.0	3.3	230 V; 50 Hz	L000712	VC 1200
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	53	54.0	3.3	230 V; 50 Hz	L000923	VC 1200
3.2	37	G 3/4	8.0	15.0	450×550×790	IP 32	53	54.0	2.6	230 V; 50 Hz	L000921	VC 1200
4.8	37	G 3/4	8.0	15.0	450×550×790	IP 32	57	54.0	2.6	230 V; 50 Hz	L000922	VC 1200
4.8	37	G 3/4	8.0	15.0	450×550×790	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 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.	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 5000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	4.3	34	L001041	VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	5.7	33	L001012
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	4.5	34	L000764	VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	5.7	33	L001013
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	4.5	34	L001010	VC 10000	200 V; 3/PE; 50/60 Hz	5.7	3.2	37.0	7.6	33	L000775
VC 5000 W	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	4.5	34	L001011	VC 10000	200 V; 3/PE; 50/60 Hz	5.7	4.8	37.0	7.6	33	L001029
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	5.4	33	L000774	VC 10000	200 V; 3/PE; 50/60 Hz	5.7	4.3	60.0	7.6	33	L001030
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	5.4	33	L001027	VC 10000	208-220 V; 3/PE; 60 Hz	6.9	3.2	37.0	7.7	33	L000758
VC 7000	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	5.4	33	L001028	VC 10000	208-220 V; 3/PE; 60 Hz	6.9	4.8	37.0	7.7	33	L000999
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	5.7	33	L000757	VC 10000	208-220 V; 3/PE; 60 Hz	6.9	5.0	60.0	7.7	33	L001000
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	4.8	37.0	5.7	33	L000997	VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	3.2	37.0	7.6	33	L000783
VC 7000	208-220 V; 3/PE; 60 Hz	4.1	5.0	60.0	5.7	33	L000998	VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	4.8	37.0	7.6	33	L001044
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	3.2	37.0	5.4	33	L000782	VC 10000 W	200 V; 3/PE; 50/60 Hz	5.7	4.3	60.0	7.6	33	L001045
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	4.8	37.0	5.4	33	L001042	VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	3.2	37.0	7.7	33	L000766
VC 7000 W	200 V; 3/PE; 50/60 Hz	3.4	4.3	60.0	5.4	33	L001043	VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	4.8	37.0	7.7	33	L001014
VC 7000 W	208-220 V; 3/PE; 60 Hz	4.1	3.2	37.0	5.7	33	L000765	VC 10000 W	208-220 V; 3/PE; 60 Hz	6.9	5.0	60.0	7.7	33	L001015