

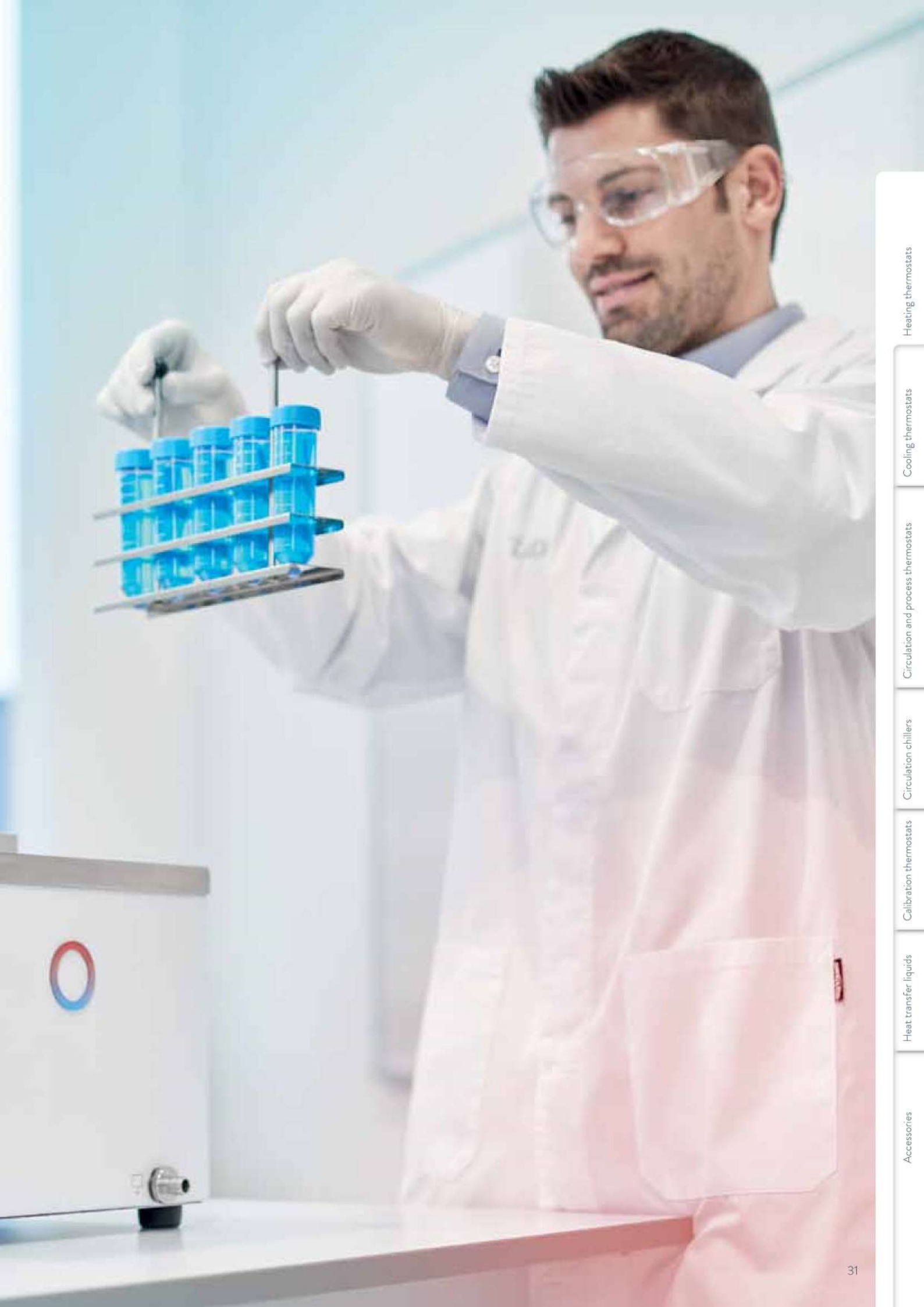
LAUDA

HEATING THERMOSTATS



Specific application examples

- Sample preparation for chemical and pharmaceutical analysis
- Medical serology
- Biotechnology
- Material testing



LAUDA PRO

Heating bath thermostats from 30 to 250 °C
for professional temperature control



Flexible operation, outstanding performance characteristics

LAUDA PRO is the cutting-edge product line with an outstanding overall concept: The innovative Base or Command Touch operating units can be detached and used as a remote control. Heating bath thermostats come equipped with a cooling coil as standard.



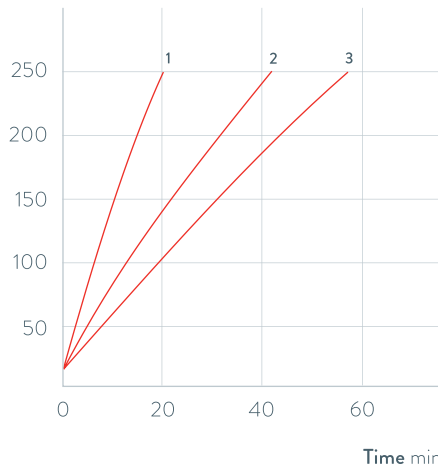
Low device height and 360° accessibility of the bath thanks to detachable remote control



Ethernet and USB interface and Pt100 connection as standard

HEATING PERFORMANCE Heat transfer liquid: Ultra 300, bath closed

Bath temperature °C



- 1 P10 C
- 2 P20 C
- 3 P30 C

Important functions

- Draining tap on the front of the device
- Operated via Base operating unit with OLED display or Command Touch with color touch screen
- Stainless steel bath vessels (insulated with handles and drain tap)
- Internal LAUDA Vario Pump with 8 selectable output levels
- Ethernet and USB interface and Pt100 connection as standard

Included accessories

Bath cover, tubing nipples with screw caps for the cooling coil

Further accessories

External pump, interface modules

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

More at www.lauda.de/1728



LAUDA PRO

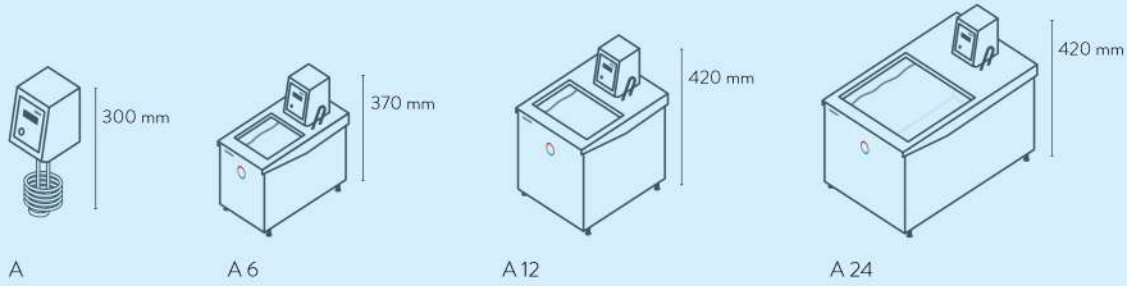
The PRO heating bath thermostats P10, P20 and P30, with volumes of 10, 20 and 30 liters, function up to a maximum temperature of 250 °C and their excellent temperature stability make them perfect for internal bath applications.



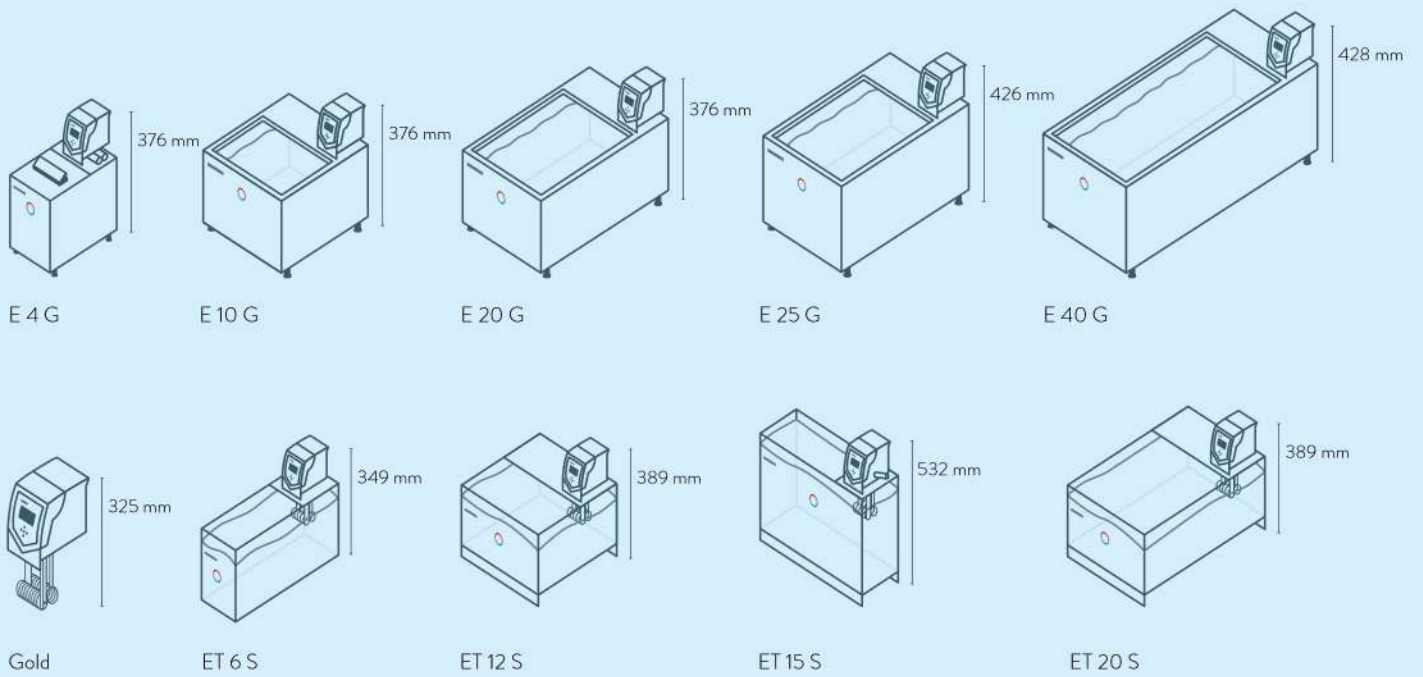
LAUDA Heating thermostats

Device type overview

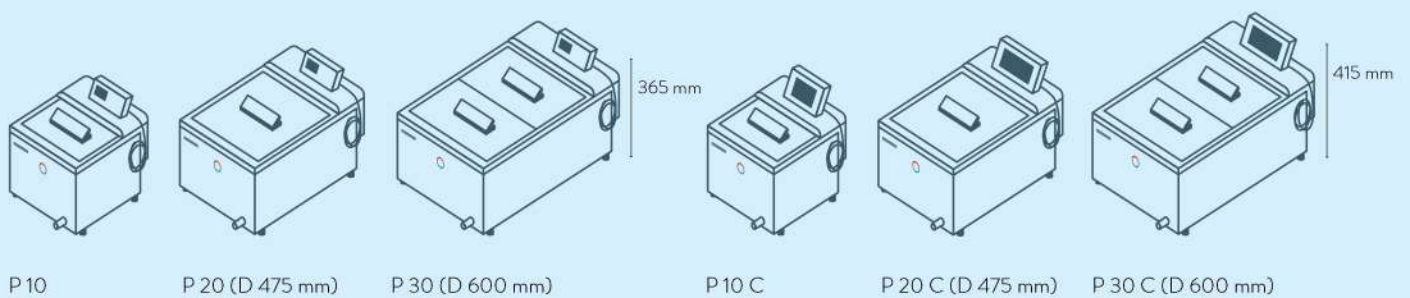
LAUDA Alpha / Page 32



LAUDA ECO / Page 34



LAUDA PRO / Page 36



LAUDA Heating 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	Number of module slots, large	Number of module slots, small
LAUDA Alpha / Page 32	-	-	-	-	-	-	-	-	-	-	-	-	-
LAUDA ECO / Page 34	Z	-	S	Z	Z	Z	Z	Z	Z	Z	Z	1	1
LAUDA PRO / Page 36	S	-	S	S	Z	Z	Z	Z	Z	Z	Z	1	-
LAUDA Proline Master	S	-	-	Z	Z	Z	Z	Z	Z	Z	Z	2	-
LAUDA Proline Command	S	-	-	Z	S	Z	Z	Z	Z	Z	Z	2	-

S = Series standard

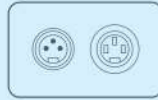
Z = Available as an accessory



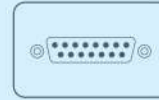
LRZ 912
Analog module



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



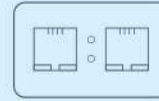
LRZ 918
Pt100/Li bus module, small cover



LRZ 921
Ethernet module



LRZ 922
EtherCAT module with M8 connection

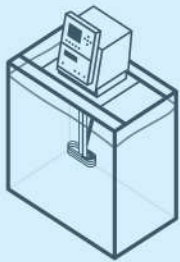


LRZ 923
EtherCAT module with RJ45 connection

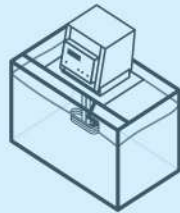


LRZ 925
External Pt100/LiBus-module, large cover

LAUDA Proline bridge thermostat / Page 38



PB C
PBD C



PB
PBD

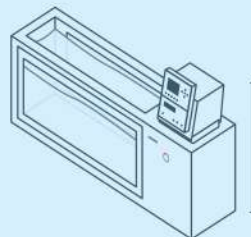
LAUDA Proline clear-view thermostat / Page 40



PV 15 C
PVL 15 C



PV 24 C
PVL 24 C



PV 36 C

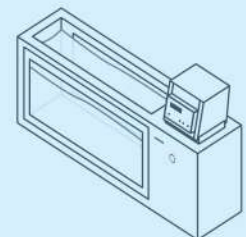
646 mm



PV 15
PVL 15



PV 24
PVL 24



PV 36

646 mm

LAUDA Heating thermostats

Function overview

Operating element	Alpha	ECO S	ECO G	PRO Base	PRO Command Touch	Proline Master	Proline Command
Display	7-Segment	LCD mono	TFT	OLED	TFT	7-Segment	LCD mono
Mode of operation	3-button	3-button softkey	Cursor softkey	Cursor softkey	Multi-touch	4-button	Cursor softkey
Removable control	-	-	-	✓	✓	-	✓
User management	-	-	-	-	✓	-	-
Data logging, export to USB stick	-	-	-	-	✓	-	-
1-point calibration	✓	✓	✓	✓	✓	✓	✓
2-point calibration	-	-	-	✓	✓	-	-
Programmer, programs/segments	-	1 / 20	5 / 150	1 / 20	100 / 5000	-	5 / 150
Programmer, tolerance range function	-	✓	✓	✓	✓	-	✓
Ramp function	-	-	-	-	✓	-	✓
Timer function	-	-	-	-	✓	-	✓
Countdown function	✓	-	-	-	✓	-	✓
Graphic temperature profile display	-	-	✓	-	✓	-	✓
Adjustable bypass	-	-	-	-	-	✓	✓
Level indicator (digital)	-	-	-	✓	✓	✓	✓
Standby timer	-	✓	✓	✓	✓	✓	✓
Low-level alarm	✓	✓	✓	✓	✓	✓	✓
Drain tap	-	✓	✓	✓	✓	✓	✓
Drain screw	✓	-	-	-	-	-	-

LAUDA Heating thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Working temperature range with water cooling °C	Operating temperature range °C	Temperature stability ±K	Safety fittings	Heater power max. kW	Pump type	Pump pressure max. bar	Pump suction max. bar	Pump flow max. pressure L /min	Pump flow max. suction L/min	Pump connection thread mm	Nipples Øe	Bath volume min. L
LAUDA PRO / Page 36														
P 10	40 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	5.0
P 20	35 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	11.0
P 30	30 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	15.0
P 10 C	40 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	5.0
P 20 C	35 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	11.0
P 30 C	30 ... 250	20 ... 250	-30 ... 250	0.01	III, FL	3.6	V	-	-	-	-	N/A	-	15.0
LAUDA Proline Bridge thermostat / Page 38														
PB	30 ... 300	20 ... 300	-30 ... 300	0.01	III, FL	3.6	VF	0.7	0.4	25.0	23	M16×1	13	0.0
PBD	30 ... 300	20 ... 300	-30 ... 300	0.01	III, FL	3.6	V	1.1	-	32.0	-	M16×1	13	0.0
PBC	30 ... 300	20 ... 300	-30 ... 300	0.01	III, FL	3.6	VF	0.7	0.4	25.0	23	M16×1	13	0.0
PBDC	30 ... 300	20 ... 300	-30 ... 300	0.01	III, FL	3.6	V	1.1	-	32.0	-	M16×1	13	0.0
LAUDA Proline Clear-view thermostat / Page 40														
PV 15	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	11.0
PV 24	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	19.0
PV 36	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	28.0
PVL 15	30 ... 100	20 ... 100	-60 ... 100	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	11.0
PVL 24	30 ... 100	20 ... 100	-60 ... 100	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	19.0
PV 15 C	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	11.0
PV 24 C	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	19.0
PV 36 C	30 ... 230	20 ... 230	0 ... 230	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	28.0
PVL 15 C	30 ... 100	20 ... 100	-60 ... 100	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	11.0
PVL 24 C	30 ... 100	20 ... 100	-60 ... 100	0.01	III, FL	3.6	V	0.8	-	25.0	-	M16×1	13	19.0

Bath volume max. L	Bath opening (W x D) mm	Bath depth mm	Usable depth mm	Height top of bath mm	Dimensions (W x D x H) mm	Weight kg	Power supply V; Hz	Loading max. kW	Cat. No.	Device type
10.0	240×150	200	180	250	310×335×365	13.5	200-230 V; 50/60 Hz	3.7	L000001	P 10
20.0	300×290	200	180	250	350×475×365	17.0	200-230 V; 50/60 Hz	3.7	L000002	P 20
28.5	340×385	200	180	250	400×600×365	23.0	200-230 V; 50/60 Hz	3.7	L000003	P 30
10.0	240×150	200	180	250	310×335×415	13.5	200-230 V; 50/60 Hz	3.7	L000004	P 10 C
20.0	300×290	200	180	250	350×475×415	17.0	200-230 V; 50/60 Hz	3.7	L000005	P 20 C
28.5	340×385	200	180	250	400×600×415	23.0	200-230 V; 50/60 Hz	3.7	L000006	P 30 C
80.0	-	-	-	-	320×185×400	8.0	230 V; 50/60 Hz	3.7	L001542	PB
80.0	-	-	-	-	320×185×400	8.0	230 V; 50/60 Hz	3.7	L001544	PBD
80.0	-	-	-	-	320×185×576	8.0	230 V; 50/60 Hz	3.7	L001543	PB C
80.0	-	-	-	-	320×185×576	8.0	230 V; 50/60 Hz	3.7	L001545	PBD C
15.0	230×135	320	285	390	506×282×590	26.0	230 V; 50/60 Hz	3.7	L001532	PV 15
24.0	405×135	320	285	390	740×282×590	36.0	230 V; 50/60 Hz	3.7	L001533	PV 24
36.0	585×135	320	285	390	1040×282×590	44.0	230 V; 50/60 Hz	3.7	L001534	PV 36
15.0	230×135	320	285	390	506×282×590	28.0	230 V; 50/60 Hz	3.7	L001538	PVL 15
24.0	405×135	320	285	390	740×282×590	39.0	230 V; 50/60 Hz	3.7	L001539	PVL 24
15.0	230×135	320	285	390	506×282×646	26.0	230 V; 50/60 Hz	3.7	L001535	PV 15 C
24.0	405×135	320	285	390	740×282×646	36.0	230 V; 50/60 Hz	3.7	L001536	PV 24 C
36.0	585×135	320	285	390	1040×282×646	44.0	230 V; 50/60 Hz	3.7	L001537	PV 36 C
15.0	230×135	320	285	390	506×282×646	28.0	230 V; 50/60 Hz	3.7	L001540	PVL 15 C
24.0	405×135	320	285	390	740×282×646	39.0	230 V; 50/60 Hz	3.7	L001541	PVL 24 C

LAUDA Heating thermostats

Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.
LAUDA Alpha / Page 32											
A	100 V; 50/60 Hz	1.0	1.0	14	L000634	A 12	100 V; 50/60 Hz	1.0	1.0	14	L000636
A	115 V; 60 Hz	1.2	1.2	14	L000630	A 12	115 V; 60 Hz	1.2	1.2	14	L000632
A 6	100 V; 50/60 Hz	1.0	1.0	14	L000635	A 24	100 V; 50/60 Hz	1.0	1.0	14	L000637
A 6	115 V; 60 Hz	1.2	1.2	14	L000631	A 24	115 V; 60 Hz	1.2	1.2	14	L000633
LAUDA ECO / Page 34											
SILVER	100 V; 50/60 Hz	1.0	1.1	14	L001082	E 40 S	100 V; 50/60 Hz	1.0	1.1	14	L001225
SILVER	115 V; 60 Hz	1.3	1.4	14	L001080	E 40 S	115 V; 60 Hz	1.3	1.4	14	L001196
SILVER	220 V; 60 Hz	1.9	2.0	3	L001078	E 40 S	220 V; 60 Hz	1.8	2.1	3	L001176
ET 6 S	100 V; 50/60 Hz	1.0	1.1	14	L001232	GOLD	100 V; 50/60 Hz	1.0	1.1	14	L001083
ET 6 S	115 V; 60 Hz	1.3	1.4	14	L001203	GOLD	115 V; 60 Hz	1.3	1.4	14	L001081
ET 6 S	220 V; 60 Hz	1.8	2.0	3	L001183	GOLD	220 V; 60 Hz	2.4	2.5	3	L001079
ET 12 S	100 V; 50/60 Hz	1.0	1.1	14	L001233	ET 6 G	100 V; 50/60 Hz	1.0	1.1	14	L001236
ET 12 S	115 V; 60 Hz	1.3	1.4	14	L001204	ET 6 G	115 V; 60 Hz	1.3	1.4	14	L001207
ET 12 S	220 V; 60 Hz	1.8	2.7	3	L001184	ET 6 G	220 V; 60 Hz	2.4	2.5	3	L001187
ET 15 S	100 V; 50/60 Hz	1.0	1.1	14	L001234	ET 12 G	100 V; 50/60 Hz	1.0	1.1	14	L001237
ET 15 S	115 V; 60 Hz	1.3	1.4	14	L001205	ET 12 G	115 V; 60 Hz	1.3	1.4	14	L001208
ET 15 S	220 V; 60 Hz	1.8	2.7	3	L001185	ET 12 G	220 V; 60 Hz	2.4	2.5	3	L001188
ET 20 S	100 V; 50/60 Hz	1.0	1.1	14	L001235	ET 15 G	100 V; 50/60 Hz	1.0	1.1	14	L001238
ET 20 S	115 V; 60 Hz	1.3	1.4	14	L001206	ET 15 G	115 V; 60 Hz	1.3	1.4	14	L001209
ET 20 S	220 V; 60 Hz	1.8	2.7	3	L001186	ET 15 G	220 V; 60 Hz	2.4	2.5	3	L001189
E 4 S	100 V; 50/60 Hz	1.0	1.1	14	L001220	ET 20 G	100 V; 50/60 Hz	1.0	1.1	14	L001239
E 4 S	115 V; 60 Hz	1.3	1.4	14	L001191	ET 20 G	115 V; 60 Hz	1.3	1.4	14	L001210
E 4 S	220 V; 60 Hz	1.8	2.1	3	L001171	ET 20 G	220 V; 60 Hz	2.4	2.5	3	L001190
E 10 S	100 V; 50/60 Hz	1.0	1.1	14	L001221	E 4 G	100 V; 50/60 Hz	1.0	1.1	14	L001226
E 10 S	115 V; 60 Hz	1.3	1.4	14	L001192	E 4 G	115 V; 60 Hz	1.3	1.4	14	L001197
E 10 S	220 V; 60 Hz	1.8	2.1	3	L001172	E 4 G	220 V; 60 Hz	2.4	2.5	3	L001177
E 20 S	100 V; 50/60 Hz	1.0	1.1	14	L001223	E 10 G	100 V; 50/60 Hz	1.0	1.1	14	L001227
E 20 S	115 V; 60 Hz	1.3	1.4	14	L001194	E 10 G	115 V; 60 Hz	1.3	1.4	14	L001198
E 20 S	220 V; 60 Hz	1.8	2.1	3	L001174	E 10 G	220 V; 60 Hz	2.4	2.5	3	L001178
E 25 S	100 V; 50/60 Hz	1.0	1.1	14	L001224	E 10 G	100 V; 50/60 Hz	1.0	1.1	14	L001227
E 25 S	115 V; 60 Hz	1.3	1.4	14	L001195	E 10 G	115 V; 60 Hz	1.3	1.4	14	L001198
E 25 S	220 V; 60 Hz	1.8	2.1	3	L001175	E 10 G	220 V; 60 Hz	2.4	2.5	3	L001178

Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.
LAUDA ECO / Page 34											
E 20 G	100 V; 50/60 Hz	1.0	1.1	14	L001229	E 40 G	100 V; 50/60 Hz	1.0	1.1	14	L001231
E 20 G	115 V; 60 Hz	1.3	1.4	14	L001200	E 40 G	115 V; 60 Hz	1.3	1.4	14	L001202
E 20 G	220 V; 60 Hz	2.4	2.5	3	L001180	E 40 G	220 V; 60 Hz	2.4	2.5	3	L001182
E 25 G	100 V; 50/60 Hz	1.0	1.1	14	L001230						
E 25 G	115 V; 60 Hz	1.3	1.4	14	L001201						
E 25 G	220 V; 60 Hz	2.4	2.5	3	L001181						
LAUDA PRO / Page 36											
P 10	100-120 V; 50/60 Hz	1.9	1.9	32	L000554	P 10 C	100-120 V; 50/60 Hz	1.9	1.9	4	L000550
P 10	100-120 V; 50/60 Hz	1.9	1.9	4	L000546	P 10 C	100-120 V; 50/60 Hz	1.9	1.9	32	L000558
P 20	100-120 V; 50/60 Hz	1.9	1.9	4	L000547	P 20 C	100-120 V; 50/60 Hz	1.9	1.9	32	L000559
P 20	100-120 V; 50/60 Hz	1.9	1.9	32	L000555	P 20 C	100-120 V; 50/60 Hz	1.9	1.9	4	L000551
P 30	100-120 V; 50/60 Hz	1.9	1.9	4	L000548	P 30 C	100-120 V; 50/60 Hz	1.9	1.9	32	L000560
P 30	100-120 V; 50/60 Hz	1.9	1.9	32	L000556	P 30 C	100-120 V; 50/60 Hz	1.9	1.9	4	L000552
LAUDA Proline Bridge thermostat / Page 38											
PB	100 V; 50/60 Hz	1.3	1.5	4	L001590	PB C	100 V; 50/60 Hz	1.3	1.5	4	L001591
PB	115 V; 60 Hz	1.7	1.9	4	L001580	PB C	115 V; 60 Hz	1.7	1.9	4	L001581
PBD	100 V; 50/60 Hz	1.3	1.5	4	L001592	PBD C	100 V; 50/60 Hz	1.3	1.5	4	L001593
PBD	115 V; 60 Hz	1.7	1.9	4	L001582	PBD C	115 V; 60 Hz	1.7	1.9	4	L001583
LAUDA Proline Clear-view thermostat / Page 40											
PV 15	100 V; 50/60 Hz	1.3	1.5	4	L001584	PV 15 C	100 V; 50/60 Hz	1.3	1.5	4	L001585
PV 15	115 V; 60 Hz	1.7	1.9	4	L001574	PV 15 C	115 V; 60 Hz	1.7	1.9	4	L001575
PV 24	200 V; 50/60 Hz	2.7	2.9	3	L001594	PV 24 C	200 V; 50/60 Hz	2.7	2.9	3	L001596
PV 24	208-220 V; 60 Hz	3.3	3.5	3	L001598	PV 24 C	208-220 V; 60 Hz	3.3	3.5	3	L001600
PV 36	200 V; 50/60 Hz	2.7	2.9	3	L001595	PV 36 C	200 V; 50/60 Hz	2.7	2.9	3	L001597
PV 36	208-220 V; 60 Hz	3.3	3.5	3	L001599	PV 36 C	208-220 V; 60 Hz	3.3	3.5	3	L001601
PVL 15	100 V; 50/60 Hz	1.3	1.5	4	L001586	PVL 15 C	100 V; 50/60 Hz	1.3	1.5	4	L001588
PVL 15	115 V; 60 Hz	1.7	1.9	4	L001576	PVL 15 C	115 V; 60 Hz	1.7	1.9	4	L001578
PVL 24	100 V; 50/60 Hz	1.3	1.5	4	L001587	PVL 24 C	100 V; 50/60 Hz	1.3	1.5	4	L001589
PVL 24	115 V; 60 Hz	1.7	1.9	4	L001577	PVL 24 C	115 V; 60 Hz	1.7	1.9	4	L001579

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

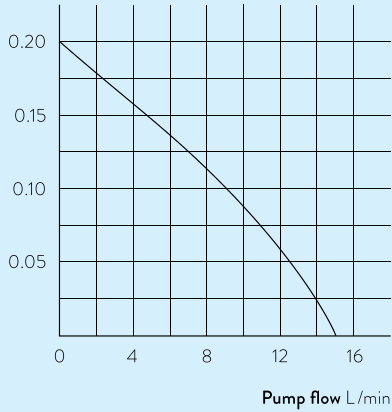
LAUDA Heating thermostats

More characteristics

LAUDA Alpha / Page 32

PUMP CHARACTERISTIC Water

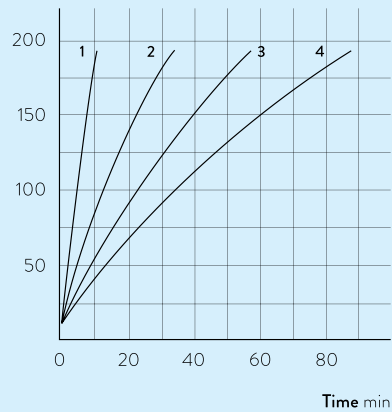
Pressure bar



LAUDA ECO / Page 34

HEATING PERFORMANCE Heat transfer liquid: Therm 240, bath closed

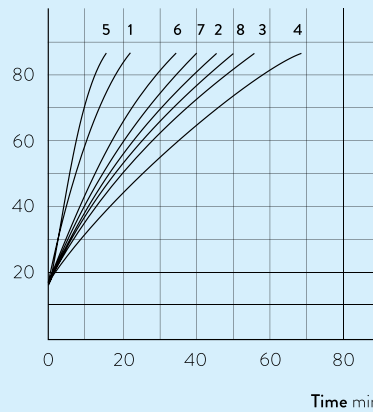
Bath temperature °C



- 1 E 4 S
- 2 E 10 S
- 3 E 20 S
- 4 E 25 S

HEATING PERFORMANCE Heat transfer liquid: Water, bath closed

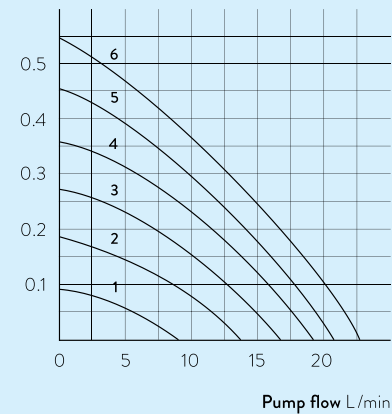
Bath temperature °C



- 1 ET 6 S
- 2 ET 12 S
- 3 ET 15 S
- 4 ET 20 S
- 5 ET 6 G
- 6 ET 12 G
- 7 ET 15 G
- 8 ET 20 G

PUMP CHARACTERISTIC Water

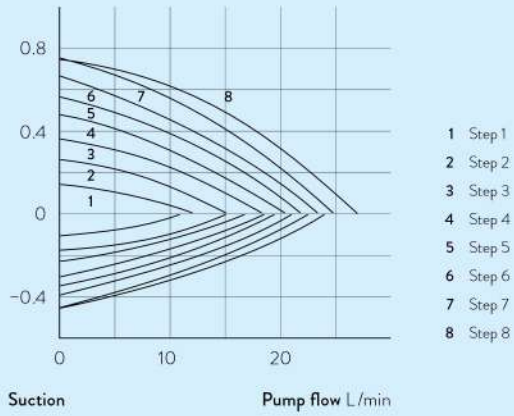
Pressure bar



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

PUMP CHARACTERISTIC for PB and PBC, Water

Pressure bar

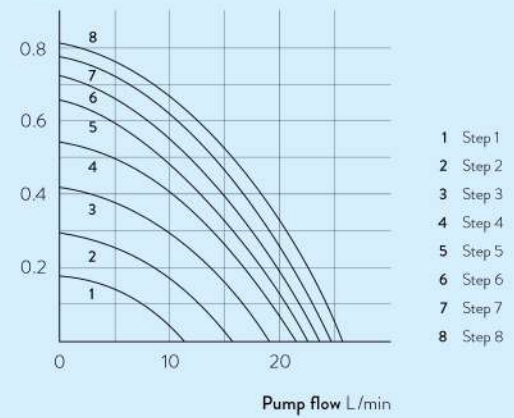


Suction

Pump flow L/min

PUMP CHARACTERISTIC for PBD and PBD C, Water

Pressure bar



Pump flow L/min

LAUDA

COOLING THERMOSTATS

°LAUDA



Specific application examples

- Sample preparation in chemistry and pharmacy
- Functional testing of electronic components
- Test of slide bearings
- Beer forcing test
- Valve testing
- Stress test
- Notch bending test
- Expansion testing
- Brookfield test
- Semi-conductor coating



LAUDA PRO

Cooling bath thermostats for professional temperature control from -100 to 200 °C

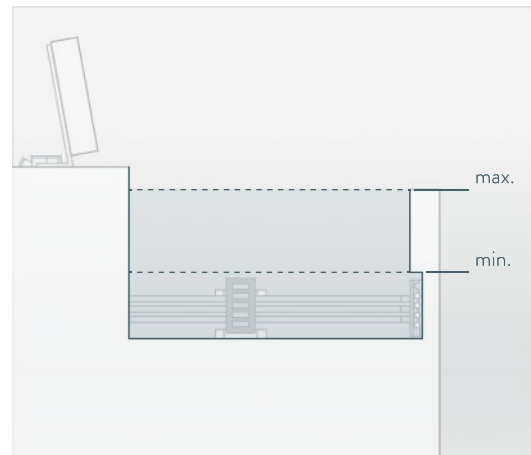


Flexible operation, outstanding performance

With LAUDA PRO, customers gain access to a cutting-edge product line with an outstanding overall concept. There are two operating units available: Base or Command Touch. These can be removed from the thermostat for very high levels of flexibility. On the one hand, this permits remote control of the devices and on the other hand, this considerably reduces the height of the devices. In addition, they are also equipped with a hybrid cooling system as standard. This enables additional cooling of the refrigerating machine with water.



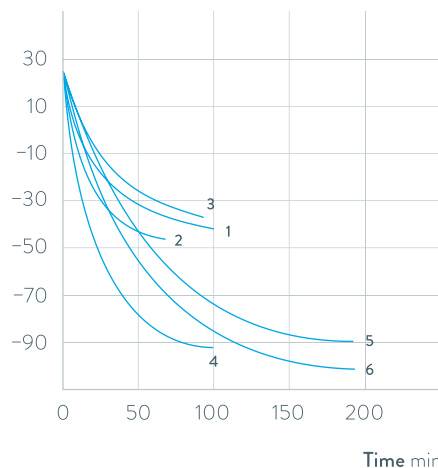
Low device height and 360° accessibility of the bath thanks to detachable remote control



Full functionality of the bath with low minimum fill height

COOLING PERFORMANCE Heat transfer liquid: Ethanol, bath closed

Bath temperature °C



- 1 RP 2040 C
- 2 RP 2045 C
- 3 RP 3035 C
- 4 RP 1090 C
- 5 RP 2090 C
- 6 RP 10100 C

Important functions

- Internal LAUDA Vario Pump with 8 selectable output levels
- Hybrid cooling of the refrigerating machine permits cooling using ambient air or, in addition, using cooling water
- Standard bath edge heating on all types prevents the formation of ice on the surface of the bath cover

Included accessories

Bath cover, tubing nipples with screw caps for the cooling coil

Further accessories

External pump, interface modules

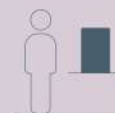
All technical data and power supply variants can be found in the [Technical data](#) section.

More at www.lauda.de/1740



LAUDA PRO

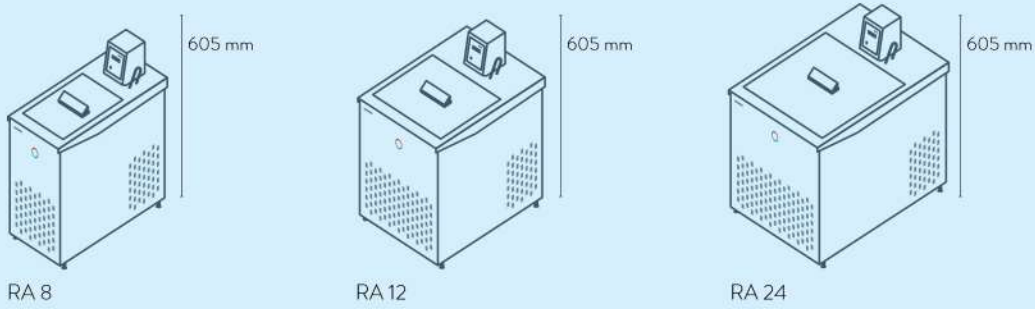
The PRO cooling bath thermostats for internal bath applications offer a working temperature range from -100 to 200 °C. An incrementally adjustable pump ensures excellent homogeneity of the bath. With their bath sizes from 10 to 30 liters and cooling capacity from 0.4 to 1.5 kW, the thermostats are suitable for a wide range of applications.



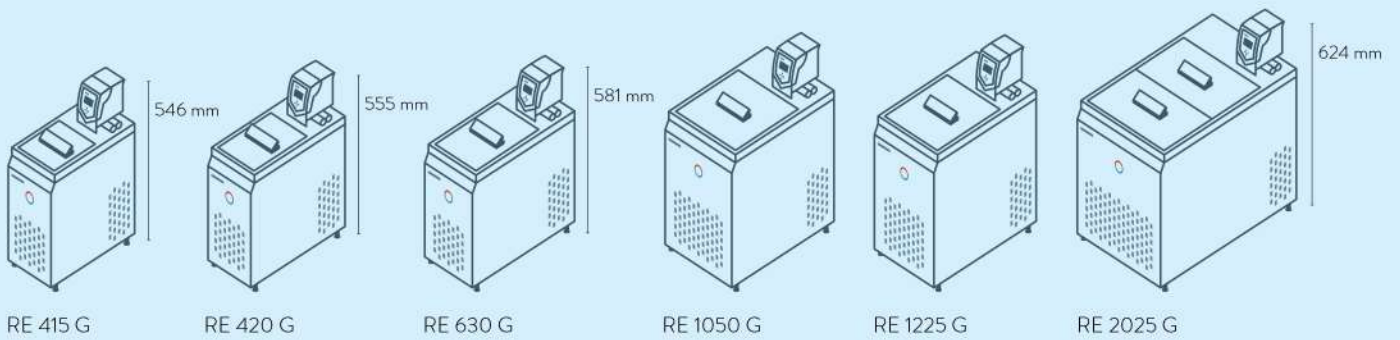
LAUDA Cooling thermostats

Device type overview

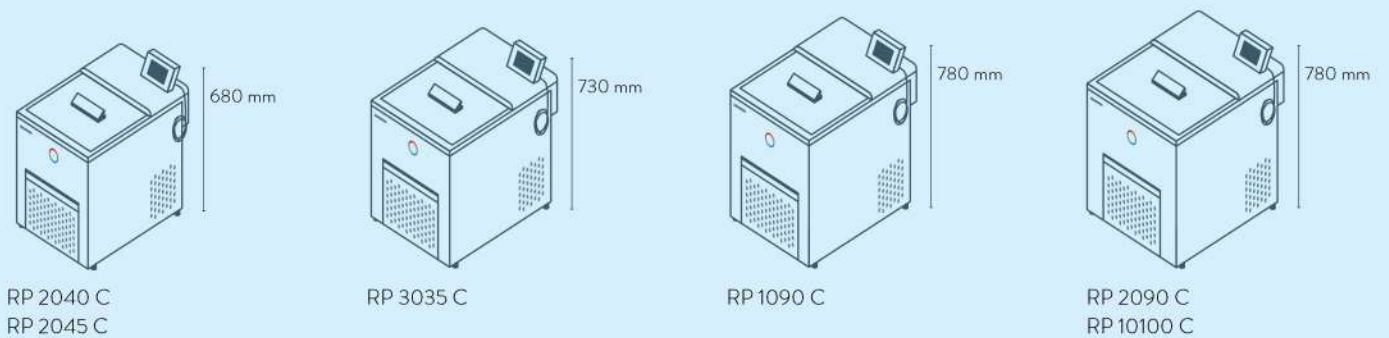
LAUDA Alpha / Page 56



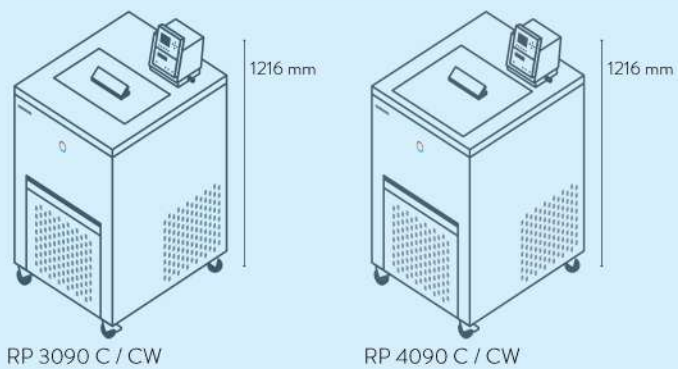
LAUDA ECO / Page 58



LAUDA PRO / Page 60



LAUDA Proline Kryomats / Page 62



LAUDA Cooling 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	Number of module slots, large	Number of module slots, small
LAUDA Alpha / Page 56	-	-	-	-	-	-	-	-	-	-	-	-	-
LAUDA ECO / Page 58	Z	-	S	Z	Z	Z	Z	Z	Z	Z	Z	1	1
LAUDA PRO / Page 60	S	-	S	S	Z	Z	Z	Z	Z	Z	Z	1	-
LAUDA Proline Kryomat / Page 62	S	-	-	Z	S	Z	Z	Z	Z	Z	Z	2	-

S = Series standard

Z = Available as an accessory



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



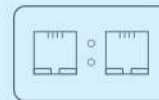
LRZ 918
Pt100/Li bus module,
small cover



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 Cooling thermostats

Function overview

Operating element	Alpha	ECO S	ECO G	PRO Base	PRO Command Touch	Proline Kryomats
Display	7-Segment	LCD mono	TFT	OLED	TFT	LCD mono
Mode of operation	3-button	3-button softkey	Cursor softkey	Cursor softkey	Multi-touch	Cursor softkey
Removable control	-	-	-	✓	✓	✓
User management	-	-	-	-	✓	-
Data logging, export to USB stick	-	-	-	-	✓	-
1-point calibration	✓	✓	✓	✓	✓	✓
2-point calibration	-	-	-	✓	✓	-
Programmer, programs/segments	-	1 / 20	5 / 150	1 / 20	100 / 5000	5 / 150
Programmer, tolerance range function	-	✓	✓	✓	✓	✓
Ramp function	-	-	-	-	✓	✓
Timer function	-	-	-	-	✓	✓
Countdown function	✓	-	-	-	✓	✓
Graphic temperature profile display	-	-	✓	-	✓	✓
Adjustable bypass	-	-	-	-	-	✓
Level indicator (digital)	-	-	-	✓	✓	✓
Standby timer	-	✓	✓	✓	✓	✓
Low-level alarm	✓	✓	✓	✓	✓	✓
Drain tap	-	✓	✓	✓	✓	✓
Drain screw	✓	-	-	-	-	-

LAUDA Cooling thermostats

Technical data according to DIN 12876 standard

Device type	Working temperature range °C	Temperature stability ±K	Safety fittings	Heater power max. kW	Cooling output kW													Pump type	Pump pressure max. bar
					20 °C	10 °C	0 °C	-10 °C	-20 °C	-25 °C	-30 °C	-40 °C	-50 °C	-60 °C	-70 °C	-80 °C	-90 °C		

LAUDA PRO / Page 60

RP 2040	-40 ... 200	0.01	III, FL	3.6	0.80 ³	0.80 ³	0.80 ³	0.60 ³	0.40 ²	-	0.19 ²	0.06 ²	-	-	-	-	-	-	V	-
RP 2045	-45 ... 200	0.01	III, FL	3.6	1.50 ³	1.43 ³	1.17 ³	0.84 ³	0.52 ²	-	0.28 ²	0.13 ²	-	-	-	-	-	-	V	-
RP 3035	-35 ... 200	0.01	III, FL	3.6	0.80 ³	0.80 ³	0.80 ³	0.58 ³	0.35 ²	-	0.16 ²	-	-	-	-	-	-	-	V	-
RP 1090	-90 ... 200	0.01	III, FL	3.6	0.80 ³	0.75 ³	0.72 ³	0.69 ³	0.66 ²	-	0.63 ²	0.60 ²	0.54 ²	0.37 ²	0.24 ²	0.11 ²	0.02 ²	-	V	-
RP 2090	-90 ... 200	0.01	III, FL	3.6	0.80 ³	0.71 ³	0.68 ³	0.65 ³	0.62 ²	-	0.61 ²	0.58 ²	0.52 ²	0.34 ²	0.18 ²	0.07 ²	0.01 ²	-	V	-
RP 10100	-100 ... 200	0.01	III, FL	3.6	0.40 ³	0.40 ³	0.40 ³	0.40 ³	0.40 ²	-	0.39 ²	0.37 ²	0.35 ²	0.32 ²	0.25 ²	0.17 ²	0.06 ²	0.01 ²	V	-
RP 2040 C	-40 ... 200	0.01	III, FL	3.6	0.80 ³	0.80 ³	0.80 ³	0.60 ³	0.40 ²	-	0.19 ²	0.06 ²	-	-	-	-	-	-	V	-
RP 2045 C	-45 ... 200	0.01	III, FL	3.6	1.50 ³	1.43 ³	1.17 ³	0.84 ³	0.52 ²	-	0.28 ²	0.13 ²	-	-	-	-	-	-	V	-
RP 3035 C	-35 ... 200	0.01	III, FL	3.6	0.80 ³	0.80 ³	0.80 ³	0.58 ³	0.35 ²	-	0.16 ²	-	-	-	-	-	-	-	V	-
RP 1090 C	-90 ... 200	0.01	III, FL	3.6	0.80 ³	0.75 ³	0.72 ³	0.69 ³	0.66 ²	-	0.63 ²	0.60 ²	0.54 ²	0.37 ²	0.24 ²	0.11 ²	0.02 ²	-	V	-
RP 2090 C	-90 ... 200	0.01	III, FL	3.6	0.80 ³	0.71 ³	0.68 ³	0.65 ³	0.62 ²	-	0.61 ²	0.58 ²	0.52 ²	0.34 ²	0.18 ²	0.07 ²	0.01 ²	-	V	-
RP 10100 C	-100 ... 200	0.01	III, FL	3.6	0.40 ³	0.40 ³	0.40 ³	0.40 ³	0.40 ²	-	0.39 ²	0.37 ²	0.35 ²	0.32 ²	0.25 ²	0.17 ²	0.06 ²	0.01 ²	V	-

LAUDA Proline Kryomats / Page 62

RP 4050 C	-50 ... 200	0.05	III, FL	3.5	5.00 ¹	-	3.00 ¹	-	1.60 ¹	-	1.00 ¹	0.50 ¹	0.25 ¹	-	-	-	-	-	V	0.5
RP 4050 CW	-50 ... 200	0.05	III, FL	3.5	6.00 ¹	-	3.50 ¹	-	1.80 ¹	-	1.10 ¹	0.60 ¹	0.25 ¹	-	-	-	-	-	V	0.5
RP 3090 C	-90 ... 200	0.05	III, FL	3.5	3.00 ¹	-	2.90 ¹	-	2.50 ¹	-	2.30 ¹	2.00 ¹	1.60 ¹	1.30 ¹	0.80 ¹	0.50 ¹	0.15 ¹	-	V	0.5
RP 3090 CW	-90 ... 200	0.05	III, FL	3.5	4.00 ¹	-	3.70 ¹	-	3.10 ¹	-	2.70 ¹	2.00 ¹	1.60 ¹	1.30 ¹	0.80 ¹	0.50 ¹	0.15 ¹	-	V	0.5
RP 4090 C	-90 ... 200	0.05	III, FL	3.5	3.00 ¹	-	2.90 ¹	-	2.50 ¹	-	2.30 ¹	2.00 ¹	1.60 ¹	1.30 ¹	0.80 ¹	0.50 ¹	0.15 ¹	-	V	0.5
RP 4090 CW	-90 ... 200	0.05	III, FL	3.5	4.00 ¹	-	3.70 ¹	-	3.10 ¹	-	2.70 ¹	2.00 ¹	1.60 ¹	1.30 ¹	0.80 ¹	0.50 ¹	0.15 ¹	-	V	0.5

¹Pump output step 2 ²Pump output step 4 ³Pump output step 8 All device types with mark >W< are water-cooled

	Pump flow max. pressure L/min	Pump connection thread mm	Nipples Øe	Bath volume min. L	Bath volume max. L	Bath opening (W x D) mm	Bath depth mm	Usable depth mm	Height top of bath mm	Dimensions (W x D x H) mm	Weight kg	Power supply V; Hz	Loading max. kW	Cat. No.	Device type
-	N/A	-	12.5	21.0	300×290	200	180	568	400×565×680	54.0	230 V; 50 Hz	3.7	L000007	RP 2040	
-	N/A	-	12.5	21.0	300×290	200	180	568	400×565×680	59.0	230 V; 50 Hz	3.7	L000008	RP 2045	
-	N/A	-	17.5	29.5	340×375	200	180	568	440×600×680	57.0	230 V; 50 Hz	3.7	L000009	RP 3035	
-	N/A	-	6.5	10.5	240×150	200	180	618	440×600×730	83.0	230 V; 50 Hz	3.7	L000010	RP 1090	
-	N/A	-	12.5	21.0	300×290	200	180	618	500×600×730	89.0	230 V; 50 Hz	3.7	L000011	RP 2090	
-	N/A	-	6.5	10.5	240×150	200	180	618	500×600×730	83.0	230 V; 50 Hz	3.7	L000012	RP 10100	
-	N/A	-	12.5	21.0	300×290	200	180	568	400×565×730	54.0	230 V; 50 Hz	3.7	L000013	RP 2040 C	
-	N/A	-	12.5	21.0	300×290	200	180	568	400×565×730	59.0	230 V; 50 Hz	3.7	L000014	RP 2045 C	
-	N/A	-	17.5	29.5	340×375	200	180	568	440×600×730	57.0	230 V; 50 Hz	3.7	L000015	RP 3035 C	
-	N/A	-	6.5	10.5	240×150	200	180	618	440×600×780	83.0	230 V; 50 Hz	3.7	L000016	RP 1090 C	
-	N/A	-	12.5	21.0	300×290	200	180	618	500×600×780	89.0	230 V; 50 Hz	3.7	L000017	RP 2090 C	
-	N/A	-	6.5	10.5	240×150	200	180	618	500×600×780	83.0	230 V; 50 Hz	3.7	L000018	RP 10100 C	
19.0	M16×1	13	32.0	44.0	350×350	250	230	905	600×700×1216	130.0	400 V; 3/N/PE; 50 Hz	5.0	L001653	RP 4050 C	
19.0	M16×1	13	32.0	44.0	350×350	250	230	905	600×700×1216	130.0	400 V; 3/N/PE; 50 Hz	5.0	L001657	RP 4050 CW	
19.0	M16×1	13	23.0	31.0	350×200	250	230	905	600×700×1216	155.0	400 V; 3/N/PE; 50 Hz	7.0	L001654	RP 3090 C	
19.0	M16×1	13	23.0	31.0	350×200	250	230	905	600×700×1216	155.0	400 V; 3/N/PE; 50 Hz	7.0	L001658	RP 3090 CW	
19.0	M16×1	13	32.0	44.0	350×350	250	230	905	600×700×1216	155.0	400 V; 3/N/PE; 50 Hz	7.0	L001655	RP 4090 C	
19.0	M16×1	13	32.0	44.0	350×350	250	230	905	600×700×1216	155.0	400 V; 3/N/PE; 50 Hz	7.0	L001659	RP 4090 CW	

LAUDA Cooling thermostats

Power supply variants

Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.
LAUDA PRO / Page 60											
RP 2040	100 V; 50/60 Hz	1.3	1.6	32	L000538	RP 2045 C	200 V; 50/60 Hz	2.7	3.2	2	L000475
RP 2040	100 V; 50/60 Hz	1.3	1.5	14	L000530	RP 2045 C	200 V; 50/60 Hz	2.7	3.2	3	L000491
RP 2040	120 V; 60 Hz	1.9	1.9	32	L000458	RP 2045 C	200 V; 50/60 Hz	2.7	3.2	32	L000523
RP 2040	120 V; 60 Hz	1.9	1.9	4	L000450	RP 2045 C	200 V; 50/60 Hz	2.7	3.2	31	L000507
RP 2040	200 V; 50/60 Hz	2.7	3.2	31	L000498	RP 2045 C	208-220 V; 60 Hz	3.3	3.5	2	L000573
RP 2040	200 V; 50/60 Hz	2.7	3.2	32	L000514	RP 2045 C	208-220 V; 60 Hz	3.3	3.5	31	L000427
RP 2040	200 V; 50/60 Hz	2.7	3.2	3	L000482	RP 2045 C	208-220 V; 60 Hz	3.3	3.5	3	L000315
RP 2040	200 V; 50/60 Hz	2.7	3.2	2	L000466	RP 2045 C	208-220 V; 60 Hz	3.3	3.5	32	L000443
RP 2040	208-220 V; 60 Hz	3.3	3.5	32	L000434	RP 3035	100 V; 50/60 Hz	1.3	1.6	32	L000539
RP 2040	208-220 V; 60 Hz	3.3	3.5	2	L000564	RP 3035	100 V; 50/60 Hz	1.3	1.5	14	L000531
RP 2040	208-220 V; 60 Hz	3.3	3.5	31	L000418	RP 3035	120 V; 60 Hz	1.9	1.9	32	L000459
RP 2040	208-220 V; 60 Hz	3.3	3.5	3	L000306	RP 3035	120 V; 60 Hz	1.9	1.9	4	L000451
RP 2040 C	100 V; 50/60 Hz	1.3	1.5	14	L000534	RP 3035	200 V; 50/60 Hz	2.7	3.2	31	L000500
RP 2040 C	100 V; 50/60 Hz	1.3	1.6	32	L000542	RP 3035	200 V; 50/60 Hz	2.7	3.2	32	L000516
RP 2040 C	120 V; 60 Hz	1.9	1.9	32	L000462	RP 3035	200 V; 50/60 Hz	2.7	3.2	2	L000468
RP 2040 C	120 V; 60 Hz	1.9	1.9	4	L000454	RP 3035	200 V; 50/60 Hz	2.7	3.2	3	L000484
RP 2040 C	200 V; 50/60 Hz	2.7	3.2	3	L000490	RP 3035	208-220 V; 60 Hz	3.3	3.5	31	L000420
RP 2040 C	200 V; 50/60 Hz	2.7	3.2	31	L000506	RP 3035	208-220 V; 60 Hz	3.3	3.5	3	L000308
RP 2040 C	200 V; 50/60 Hz	2.7	3.2	32	L000522	RP 3035	208-220 V; 60 Hz	3.3	3.5	2	L000566
RP 2040 C	200 V; 50/60 Hz	2.7	3.2	2	L000474	RP 3035	208-220 V; 60 Hz	3.3	3.5	32	L000436
RP 2040 C	208-220 V; 60 Hz	3.3	3.5	3	L000314	RP 3035 C	100 V; 50/60 Hz	1.3	1.5	14	L000535
RP 2040 C	208-220 V; 60 Hz	3.3	3.5	32	L000442	RP 3035 C	100 V; 50/60 Hz	1.3	1.6	32	L000543
RP 2040 C	208-220 V; 60 Hz	3.3	3.5	31	L000426	RP 3035 C	120 V; 60 Hz	1.9	1.9	4	L000455
RP 2040 C	208-220 V; 60 Hz	3.3	3.5	2	L000572	RP 3035 C	120 V; 60 Hz	1.9	1.9	32	L000463
RP 2045	200 V; 50/60 Hz	2.7	3.2	31	L000499	RP 3035 C	200 V; 50/60 Hz	2.7	3.2	2	L000476
RP 2045	200 V; 50/60 Hz	2.7	3.2	3	L000483	RP 3035 C	200 V; 50/60 Hz	2.7	3.2	32	L000524
RP 2045	200 V; 50/60 Hz	2.7	3.2	2	L000467	RP 3035 C	200 V; 50/60 Hz	2.7	3.2	31	L000508
RP 2045	200 V; 50/60 Hz	2.7	3.2	32	L000515	RP 3035 C	200 V; 50/60 Hz	2.7	3.2	3	L000492
RP 2045	208-220 V; 60 Hz	3.3	3.5	2	L000565	RP 3035 C	208-220 V; 60 Hz	3.3	3.5	31	L000428
RP 2045	208-220 V; 60 Hz	3.3	3.5	31	L000419	RP 3035 C	208-220 V; 60 Hz	3.3	3.5	3	L000316
RP 2045	208-220 V; 60 Hz	3.3	3.5	32	L000435	RP 3035 C	208-220 V; 60 Hz	3.3	3.5	2	L000574
RP 2045	208-220 V; 60 Hz	3.3	3.5	3	L000307	RP 3035 C	208-220 V; 60 Hz	3.3	3.5	32	L000444

Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.	Device type	Power supply V; Hz	Heater power max. kW	Loading max. kW	Plug code*	Cat. No.
LAUDA PRO / Page 60											
RP 1090	200 V; 50/60 Hz	2.7	3.2	3	L000485	RP 2090 C	200 V; 50/60 Hz	2.7	3.2	2	L000478
RP 1090	200 V; 50/60 Hz	2.7	3.2	32	L000517	RP 2090 C	200 V; 50/60 Hz	2.7	3.2	3	L000494
RP 1090	200 V; 50/60 Hz	2.7	3.2	2	L000469	RP 2090 C	200 V; 50/60 Hz	2.7	3.2	32	L000526
RP 1090	200 V; 50/60 Hz	2.7	3.2	31	L000501	RP 2090 C	200 V; 50/60 Hz	2.7	3.2	31	L000510
RP 1090	208-220 V; 60 Hz	3.3	3.5	32	L000437	RP 2090 C	208-220 V; 60 Hz	3.3	3.5	3	L000318
RP 1090	208-220 V; 60 Hz	3.3	3.5	3	L000309	RP 2090 C	208-220 V; 60 Hz	3.3	3.5	32	L000446
RP 1090	208-220 V; 60 Hz	3.3	3.5	2	L000567	RP 2090 C	208-220 V; 60 Hz	3.3	3.5	31	L000430
RP 1090	208-220 V; 60 Hz	3.3	3.5	31	L000421	RP 2090 C	208-220 V; 60 Hz	3.3	3.5	2	L000576
RP 1090 C	200 V; 50/60 Hz	2.7	3.2	32	L000525	RP 10100	200 V; 50/60 Hz	2.7	3.2	32	L000519
RP 1090 C	200 V; 50/60 Hz	2.7	3.2	2	L000477	RP 10100	200 V; 50/60 Hz	2.7	3.2	31	L000503
RP 1090 C	200 V; 50/60 Hz	2.7	3.2	31	L000509	RP 10100	200 V; 50/60 Hz	2.7	3.2	2	L000471
RP 1090 C	200 V; 50/60 Hz	2.7	3.2	3	L000493	RP 10100	200 V; 50/60 Hz	2.7	3.2	3	L000487
RP 1090 C	208-220 V; 60 Hz	3.3	3.5	31	L000429	RP 10100	208-220 V; 60 Hz	3.3	3.5	32	L000439
RP 1090 C	208-220 V; 60 Hz	3.3	3.5	2	L000575	RP 10100	208-220 V; 60 Hz	3.3	3.5	31	L000423
RP 1090 C	208-220 V; 60 Hz	3.3	3.5	32	L000445	RP 10100	208-220 V; 60 Hz	3.3	3.5	2	L000569
RP 1090 C	208-220 V; 60 Hz	3.3	3.5	3	L000317	RP 10100	208-220 V; 60 Hz	3.3	3.5	3	L000311
RP 2090	200 V; 50/60 Hz	2.7	3.2	2	L000470	RP 10100 C	200 V; 50/60 Hz	2.7	3.2	32	L000527
RP 2090	200 V; 50/60 Hz	2.7	3.2	32	L000518	RP 10100 C	200 V; 50/60 Hz	2.7	3.2	31	L000511
RP 2090	200 V; 50/60 Hz	2.7	3.2	31	L000502	RP 10100 C	200 V; 50/60 Hz	2.7	3.2	3	L000495
RP 2090	200 V; 50/60 Hz	2.7	3.2	3	L000486	RP 10100 C	200 V; 50/60 Hz	2.7	3.2	2	L000479
RP 2090	208-220 V; 60 Hz	3.3	3.5	32	L000438	RP 10100 C	208-220 V; 60 Hz	3.3	3.5	3	L000319
RP 2090	208-220 V; 60 Hz	3.3	3.5	2	L000568	RP 10100 C	208-220 V; 60 Hz	3.3	3.5	31	L000431
RP 2090	208-220 V; 60 Hz	3.3	3.5	3	L000310	RP 10100 C	208-220 V; 60 Hz	3.3	3.5	32	L000447
RP 2090	208-220 V; 60 Hz	3.3	3.5	31	L000422	RP 10100 C	208-220 V; 60 Hz	3.3	3.5	2	L000577
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RP 4050 C	200 V; 3/PE; 50/60 Hz	2.8	5.0	31	L001701	RP 3090 CW	200 V; 3/PE; 50/60 Hz	2.8	7.0	31	L001706
RP 4050 C	208 V; 3/PE; 60 Hz	3.0	5.0	31	L001677	RP 3090 CW	208 V; 3/PE; 60 Hz	3.0	7.0	31	L001682
RP 4050 CW	200 V; 3/PE; 50/60 Hz	2.8	5.0	31	L001705	RP 4090 C	200 V; 3/PE; 50/60 Hz	2.8	7.0	31	L001703
RP 4050 CW	208 V; 3/PE; 60 Hz	3.0	5.0	31	L001681	RP 4090 C	208 V; 3/PE; 60 Hz	3.0	7.0	31	L001679
RP 3090 C	200 V; 3/PE; 50/60 Hz	2.8	7.0	31	L001702	RP 4090 CW	200 V; 3/PE; 50/60 Hz	2.8	7.0	31	L001707
RP 3090 C	208 V; 3/PE; 60 Hz	3.0	7.0	31	L001678	RP 4090 CW	208 V; 3/PE; 60 Hz	3.0	7.0	31	L001683

* All data for the plug codes can be found on page 150. All device types with mark >W< are water-cooled.

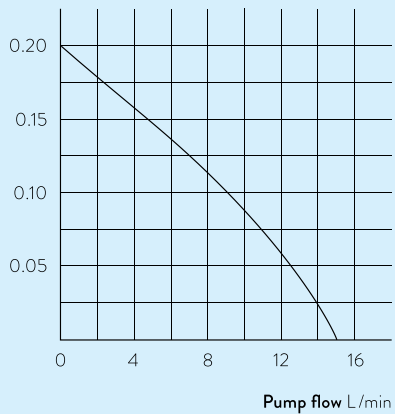
LAUDA Cooling thermostats

More characteristics

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PUMP CHARACTERISTIC Water

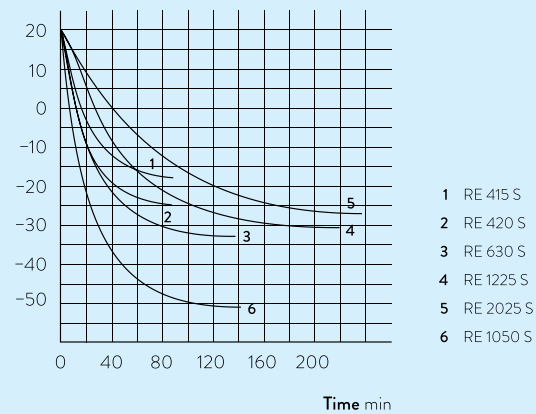
Pressure bar



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COOLING PERFORMANCE According to DIN 12876

Bath temperature °C

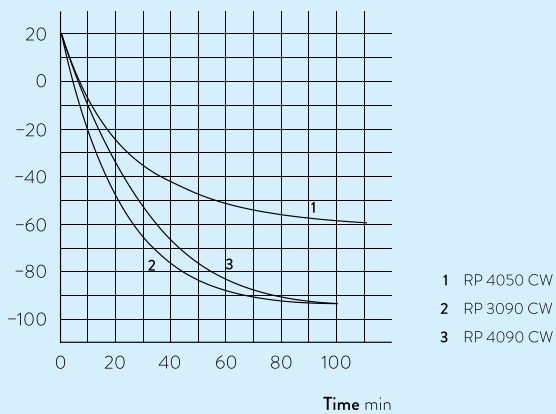


- 1 RE 415 S
- 2 RE 420 S
- 3 RE 630 S
- 4 RE 1225 S
- 5 RE 2025 S
- 6 RE 1050 S

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COOLING PERFORMANCE According to DIN 12876

Bath temperature °C



- 1 RP 4050 CW
- 2 RP 3090 CW
- 3 RP 4090 CW