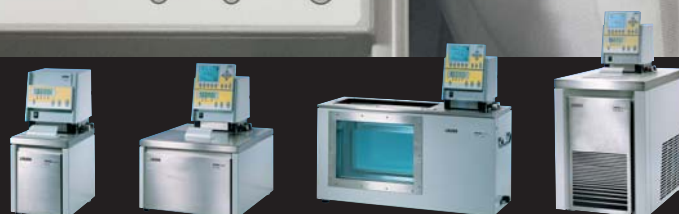


Heating and cooling thermostats at temperatures from **-90 up to 300 °C** for professional use in research, application engineering and production



Heating and cooling thermostats at temperatures from -90 up to 300 °C
for professional use in research, application engineering and production

Flexible and highly-precise thermostating: the LAUDA Varioflex pump



LAUDA Varioflex pump

LAUDA Proline devices have the unique high-performance Varioflex pump. This extremely reliable pressure and suction pump with its eight output steps enables flexible adjustment to the required capacity. By means of the robust thermostating system and most modern program controllers, the LAUDA Proline enables the most demanding cyclical temperature controls. The Varioflex pressure pump ensures optimum temperature distribution in deep baths. Testing temperatures are accurately maintained in the entire system: this is important for the calibration of sensitive temperature probes, for example. The Varioflex pump is extremely effective. It offers an enormous advantage in the testing or development laboratory in particular: an extremely low noise level.

Fields of application: R&D, materials testing, quality control, process engineering

Dynamic, safe heating: the Proline PowerAdapt system

With the PowerAdapt System, the heating capacity can be individually adjusted. Depending on the requirements, up to 3.5 kW maximum, even for cooling thermostats. Heating-up times are considerably reduced – this is an essential cost factor in the case of extensive test cycles. The patented LAUDA heater control with the most up-to-date safety technology even guarantees precisely-measured capacities during sensitive thermostating processes.

Valuable energy savings: the Proline SmartCool system

The intelligent cooling management system of the LAUDA Proline fits the cooling, in accordance with the current operating state, saving up to 75 per cent of energy. The SmartCool system aids effective working in programmer mode, especially at fast temperature changes, such as for the materials testing of cables. The controlled ventilator minimises noise emission.



Heating of stirred glass reactors



Cooling of reactors for examination of the formation of gas hydrates

LAUDA Proline thermostats are the technical superlative for high-performance, reliable thermostating tasks. With an extreme temperature range of -90 to 300 °C, they fulfil the most demanding requirements for tough use in industrial materials testing,

research, technology and quality control. With their excellent functionality and high level of user-friendliness, the Proline thermostats set the technological standard at international level.

Utmost functionality for external thermostating

LAUDA Proline thermostats come equipped with additional connections for two external systems – one on the side, and one at the back. This is particularly practical for the thermostating of fermenters, reactors and autoclaves. The integrated bypass is easy to use, and optimises the bath circulation. The heating thermostats come equipped with a cooling coil for cold water or brine operation.

The safety guarantee of all temperatures:

Varioflex pump and SelfCheck Assistant

The LAUDA Varioflex pump is made from a special, high-tech, high-temperature resistant plastic. This offers the ultimate in reliability for continuous operation at both high and low temperatures. The device automatically cuts out in the event of overload or a too-low bath level. The SelfCheck Assistant emits an acoustic alarm and indicates it in the display. The separate float offers twice the safety. This continuously controls the bath level, including in the critical over-level area.

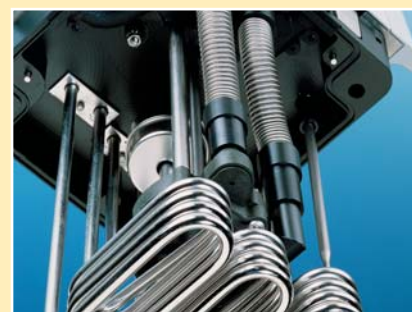
Simply practical: the LAUDA Proline EasyUse concept

LAUDA Proline cooling thermostats down to -90 °C come with heated bridges as standard, to prevent condensation of the air humidity. This enables comfortable working even at cryogenic temperatures. This is an option for thermostats down to -50 °C. All cooling devices in the Proline range have comfy castors and handles. The bath is quickly and easily emptied via the draining cock. It is located behind the easy-to-open door grille on the cooling units. This also makes the condenser easier to clean when the automatic soiling indicator requests it.

Rear and lateral pump connections as standard



Double safety: low-level and over-level protection



Alarm message for malfunction



Quick emptying of the bath and easy cleaning of the condenser



Heating and cooling thermostats at temperatures from -90 up to 300 °C
for professional use in research, application engineering and production

The choice is yours: Master or Command

With the LAUDA Proline range, you can choose the degree of user-friendliness you need. Both versions offer the complete scope and all safety functions. Whereas the Master version does not go for the comprehensive programming comfort, the Command version offers state-of-the-art display and operation

technology. The ultimate highlight: the most modern LiBus technology allows you to up-grade from the Master version to the Command version easily, at any time. Both controllers can be easily programmed from the PC by means of the LAUDA Wintherm Plus software.

- ❖ Easy-to-read green LED display
- ❖ Comfortable settings for set-temperature and Varioflex pump via three operation buttons
- ❖ Indicator lights for heating, cooling, external control and alarm
- ❖ Resolution of indication 0.01 °C, setting resolution selectable 0.1 or 0.01 °C
- ❖ Selectable limitation of setting range and additional button for overtemperature entry
- ❖ Cascade controller for optimized external heating
- ❖ Optical and acoustical alarm function
- ❖ Simple temperature probe calibration
- ❖ Integrated mains network safety device
- ❖ Start mode adjustable (automatic or manual)
- ❖ Two slots for LiBus modules
- ❖ Connection for LAUDA Wintherm Plus control software via RS 232/485 interface (optional)



LAUDA Proline Master:

For professional standard applications

The Proline Master devices are designed for all applications from -90 up to 300 °C with high thermostating accuracy and reliability whose parameters are not modified so frequently. They have all the basic and safety functions required for professional thermostating during continuous use. A modular structure and bus technology enable the individual extension of the range of functions and performance.

Up-gradable: a safe investment in the future

Should your tasks occasionally require a more extensive functionality or should you simply require more comfort – no problem. The LAUDA Proline grows in line with your requirements. Simply connect the console of the Command control head. The thermostat recognises and controls all newly-installed components automatically.

The LAUDA Proline Master control heads are suitable for all professional applications. Their extremely durable and user-friendly design makes them indispensable where the highest demands are placed on permanent thermostating. The econo-

mically-equipped basic version can be expanded by adding the most up-to-date module and bus technology. The thermostats are suitable for operation with flammable liquids (safety class III, FL).

The right connections

There is the right connection for every peripheral unit. This enables the economical optimisation of the device to comply with your very own requirements. The Master control head is equipped for two interface modules to be plugged into the back. The following modules are available:

RS 232/485 interface

Decoupled with optocouplers, 9-pin SUB D-socket. With the LAUDA instruction set, widely compatible with the LAUDA Ecoline and Integral T and Integral XT.

Profibus module

For inclusion of up to 126 devices into a Profibus network. Connection with 9-pin SUB D-socket, transfer rates up to 12 Mbaud, integrated LED for the display of connection errors.

Analogue module

With two inputs and outputs on 6-pin DIN socket. Independently adjustable as 0(4)...20 mA or 0...10 V interface. The following values can be specified:

- ❖ Input: set temperature, external actual temperature, pumping capacity
- ❖ Output: set temperature, actual temperature (bath or external, from Pt 100), actual temperature external from analogue input, adjustable variable, pump capacity and revolutions

Interfaces are freely scalable according to function, e.g. B.: 0 mA for 0 °C, 20 mA for 100 °C. Output available with 24 V (DC) continuous voltage.

Contact module SUB-D socket

15-pin SUB-D socket, with three binary inputs for control via external, potential-free contacts and three relay contact outputs (change-over contact, max. 30 V/0.2A). The following functions are possible:

- ❖ Input: setting of malfunction or stand-by, programmer control, simplex operation (two different set temperatures) or types of control (internalexternal)
- ❖ Output: report of error states, stand-by or top up bath medium, output of the window discriminator status (within/outside of a temperature window) or of the programmer status

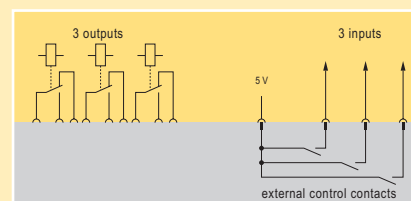
NAMUR contact module

Contact module with plug-type connector according to NAMUR NE28, functionality as above, but with only one input and output each on two DIN sockets.

Easy replacement of interface modules



Functions scheme contact module SUB-D



Exchangeable interface modules



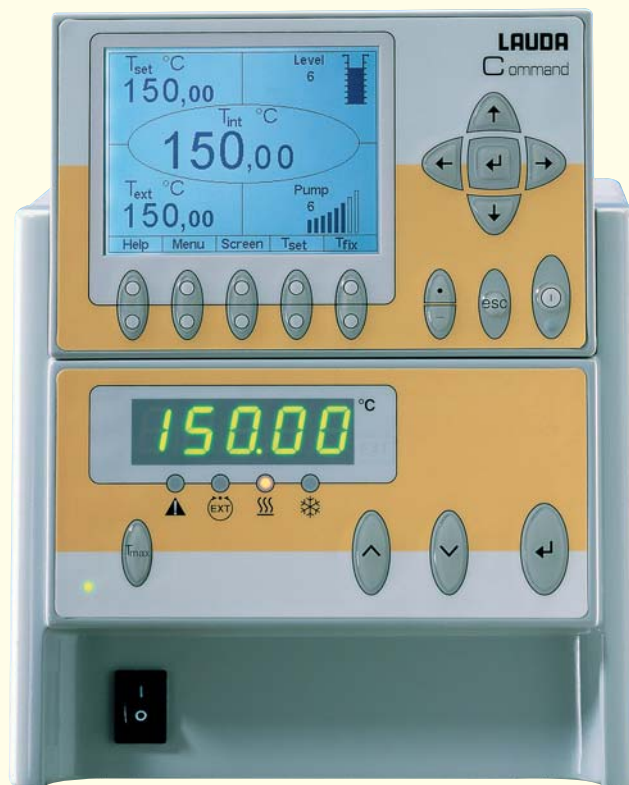
Heating and cooling thermostats at temperatures from -90 up to 300 °C
for professional use in research, application engineering and production

LAUDA Proline Command: for professional use with programming function and graphic display

The Command control heads are the top models of the LAUDA Proline. The highly-efficient programmer fulfils all the requirements made by complex thermostating processes – with real-time function. It offers the utmost in user-friendliness and optimum functionality, e.g. for the industrial testing lab. The simple

menu-driven operation and the easy editing of test programs come up trumps for changing thermostating tasks in particular. The Command console is removable and can easily be used as a remote control. Comprehensive basic equipment as with the Proline Master range, plus:

- ❖ Detachable Command console as remote control (up to 50 m)
- ❖ Programmer with real-time clock, 150 temperature/time segments, dividable into 5 programs, editable segments with loop and tolerance band function
- ❖ High resolution, back-lit, graphic LCD-display with various display possibilities
- ❖ Eight freely selectable fixed temperatures with memory function
- ❖ Resolution of actual value display up to 0.001 °C
- ❖ RS 232/485 interface for LAUDA Wintherm Plus software
- ❖ Menu guidance in German, English, French and Spanish



Detachable Command console

Enjoy full thermostating pleasure and ease of operation

An opto-decoupled RS 232/485 interface is integrated in the LAUDA Proline removable console as standard.

This means that your LAUDA Proline remains flexible enough to face new challenges. The Command console immediately recognises the type of device and current status upon connection, and offers further special functions.

The Proline Command control heads offer the utmost in user-friendliness and programming options. The intuitive menu-driven operation makes it easier to edit programs with frequently chan-

ging, complex temperature variations. The Command range is perfect for the demanding environment of industrial research and wherever utmost efficiency and reliability are important.

Digital connections come as standard with the Command

An opto-decoupled RS 232/485 interface is integrated in the LAUDA Proline Command console as standard. This means that your LAUDA Proline remains flexible enough to face new challenges.

Depict your processes the way you want them

The multi-functional graphic display offers a multitude of individual forms of depicting all the relevant information. The display can be divided into three, five or seven functional areas. The important parameters are always under your control. Programming is via arrow keys, soft keys and numerical input. Pop-up menus make setting easy: instructions are more or less superfluous to requirements.

The LAUDA Proline addresses you in plain language

The Proline Command screen offers you complete information – in clear text. This has proven its worth particularly in critical situations. A comprehensible diagnosis appears in the event of an alarm. This enables the easy, fast rectification of a malfunction. All operation states are displayed in one of four possible languages.

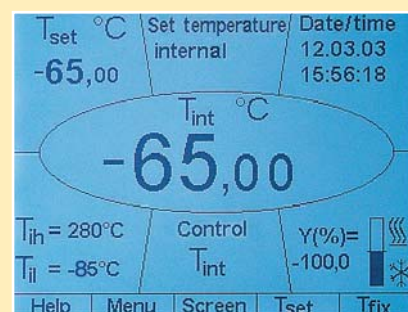
Graphic display for utmost clarity

The graphic function offers you a complete overview of the temperature and the associated process parameters. All the essential details are visible at a glance. This saves valuable time and guarantees additional safety, especially for demanding applications.

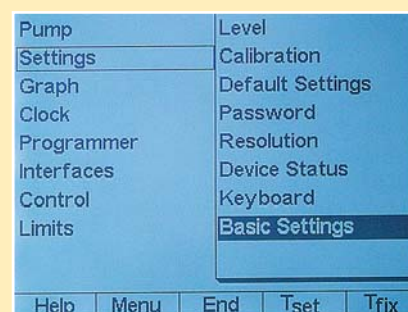
An opto-decoupled RS 232/485 interface is integrated as standard



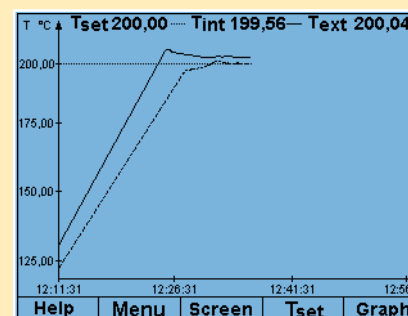
Most important data for seven function elements



Pop-up menus make settings easy

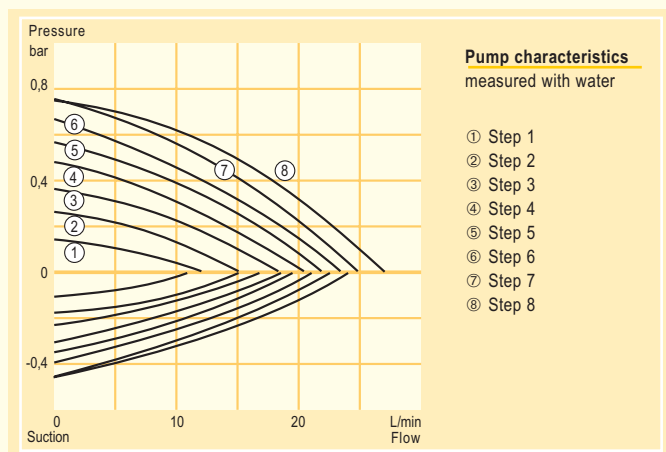


Graphic display of temperature values



 Heating thermostats with control head Master or Command

Easily controlled conditions: LAUDA Heating thermostats with control head Master



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · 2 nipples for cooling coil

Recommended accessories

Constant level device · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water)
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

The heating thermostats of the LAUDA Proline with control head Master do not only shine because of their compact construction. The high heater power of 3.5 kW, two interfaces for various modules, a cooling coil fitted as standard, and an integrated external control – these features make them particularly useful for users who require flexible thermostating operations while only rarely needing to adjust the settings.



Heating thermostat P 18



Technical features		P 5	P 8	P 12	P 18
Working temperature range	°C	35...300	35...300	30...300	30...300
Temperature stability	±K	0.01	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.7	0.7	1.1*	0.7
Pump suction max.	bar	0.4	0.4	–	0.4
Pump flow (pressure) max.	L/min	25	25	32*	25
Pump flow (suction) max.	L/min	23	23	–	23
Bath volume	L	3.5...5.5	5.5...8	6.5...13.5	12.5...19
Bath opening/Bath depth	mm	150x50/200	150x150/200	150x150/320	300x200/200
Cat. No. 230 V; 50/60 Hz		LCB 0708	LCB 0710	LCB 0716	LCB 0712
Cat. No. 115 V; 60 Hz		LCB 4708	LCB 4710	LCB 4716	LCB 4712

* Pressure pump, pump characteristics see page 44.

The LAUDA Proline P 26, P 40 and P 50 heating thermostats are distinguished by particularly large temperature baths. All the above models are equipped with a Varioflex pump and cover the temperature range from 30 to 300 °C.

When space is not a problem

The P 26, P 40 and P 50 models all have particularly large-volume baths. These stainless steel baths are ideally suited to direct thermostating in the bath. The P 40 is particularly suitable for thermostating applications needing a large submersion depth. The P 26 and P 50 models with their wide baths, allow long or cumbersome test pieces to be placed in the bath or even enable a number of test pieces to be positioned alongside each other. The powerful Varioflex pump and, in the case of the P 40 and P 50, an injection pipe provide excellent mixing in the bath, thus guaranteeing minimum temperature variation.

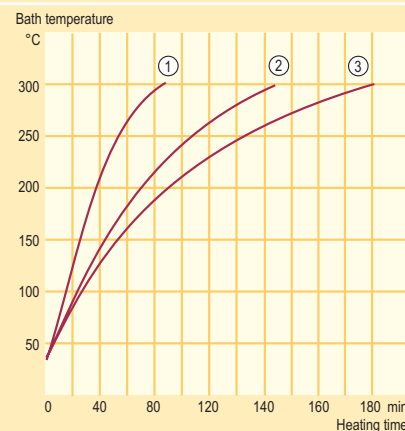


Heating thermostat P 50

Heating curves (only 230 V version)

Bath liquid: Ultra 300
Bath closed

- ① P 26
- ② P 40
- ③ P 50



Standard accessories

Bath cover (except of P 40/P 50) · 2 nipples and 4 closing plugs for pump connections · 2 nipples for cooling coil

Recommended accessories

Constant level device · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water) · Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.



NEW



NEW



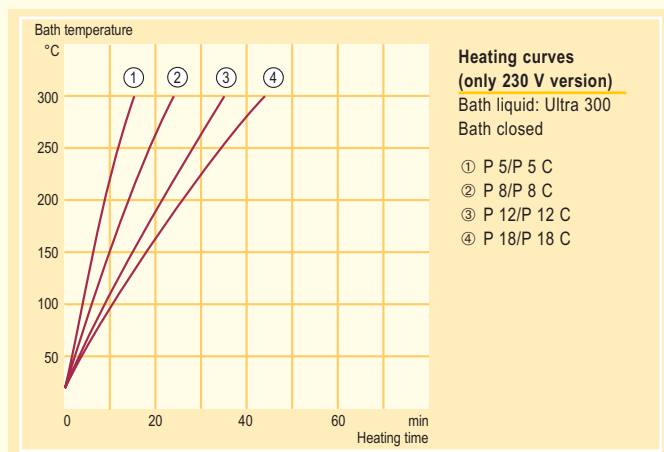
Technical features		P 26	P 40	P 50
Working temperature range	°C	30...300	30...300*	30...300*
Temperature stability	±K	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4
Pump flow (pressure) max.	L/min	25	25	25
Pump flow (suction) max.	L/min	23	23	23
Bath volume	L	18...27	30...37	35...53
Bath opening/Bath depth	mm	300x350/200	250x250/450	300x750/200
Cat. No. 230 V; 50/60 Hz		LCB 0714	LCB 0728	LCB 0730
Cat. No. 115 V; 60 Hz		LCB 4714	LCB 4728	LCB 4730

* Max. temperature only with bath cover

 Heating thermostats with control head Master or Command

Thermostating with a cool head:

LAUDA Heating thermostats with control head Command



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · 2 nipples for cooling coil

Recommended accessories

Constant level device · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water)
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

The Proline heating thermostats with control head Command (C) impress through an expanded scope of functions. Alongside a graphic LCD display, which enables current values to be displayed up to 0.001 °C resolution, an easily editable and comfortable programmer with storage possibilities is available. The standard RS 232/485 interface enables communication with a computer. Work flexibly with Command: The console of the Command control head can be comfortably detached from the thermostat.



Heating thermostat P 18 C



Technical features		P 5 C	P 8 C	P 12 C	P 18 C
Working temperature range	°C	35...300	35...300	30...300	30...300
Temperature stability	±K	0.01	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.7	0.7	1.1*	0.7
Pump suction max.	bar	0.4	0.4	—	0.4
Pump flow (pressure) max.	L/min	25	25	32	25
Pump flow (suction) max.	L/min	23	23	—	23
Bath volume	L	3.5...5.5	5.5...8	6.5...13.5	12.5...19
Bath opening/Bath depth	mm	150x50/200	150x150/200	150x150/320	300x200/200
Cat. No. 230 V; 50/60 Hz		LCB 0709	LCB 0711	LCB 0717	LCB 0713
Cat. No. 115 V; 60 Hz		LCB 4709	LCB 4711	LCB 4717	LCB 4713

* Pressure pump, pump characteristics see page 44.

All LAUDA Proline heating thermostats have a high heater power of 3.5 kW, and offer a temperature range up to 300 °C. Along with this, a ventilator in the Master control head protects the electronics from overheating. They also have the high-power Varioflex pump, and the EasyUse operation in common. The

LAUDA heating thermostats are differentiated in their bath size and depth. Contrary to all other thermostats, the P 12 and P 12 C types have a Varioflex pump as a pure pressure pump in a more powerful version.

Command version heating thermostats

In order to enhance ease of use even further, P 26 C, P 40 C and P 50 C heating thermostats with large baths are now available with the Command control head which allows complex thermostating functions, particularly those with internal thermostating processes, to be easily mastered with the aid of an intuitive operation guidance system and the ability to edit programs rapidly.

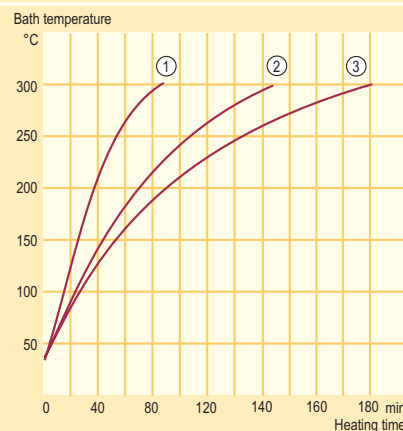


Heating thermostat P 40 C

Heating curves (only 230 V version)

Bath liquid: Ultra 300
Bath closed

- ① P 26 C
- ② P 40 C
- ③ P 50 C



Standard accessories

Bath cover (except of P 40 C/P 50 C) ·
2 nipples and 4 closing plugs for pump
connections · 2 nipples for cooling coil

Recommended accessories

Constant level device · automatic filling device ·
through-flow cooler · reverse flow protection ·
tubes · solenoid valve for cooling water control ·
high-temperature cooler (water) ·
Optional modules: RS 232/485, analogue,
SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request
the comprehensive LAUDA accessories brochure.



NEW

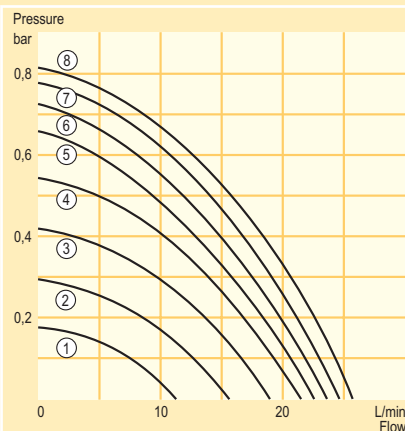


NEW

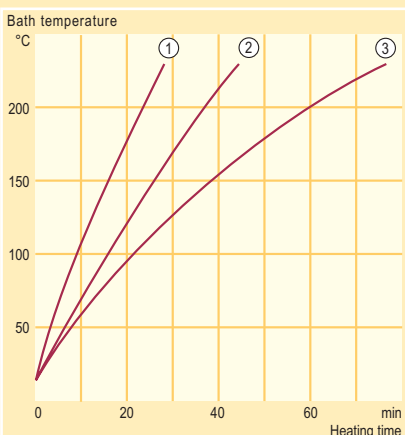


Technical features		P 26 C	P 40 C	P 50 C
Working temperature range	°C	30...300	30...300*	30...300*
Temperature stability	±K	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4
Pump flow (pressure) max.	L/min	25	25	25
Pump flow (suction) max.	L/min	23	23	23
Bath volume	L	18...27	30...37	35...53
Bath opening/Bath depth	mm	300x350/200	250x250/450	300x750/200
Cat. No. 230 V; 50/60 Hz		LCB 0715	LCB 0729	LCB 0731
Cat. No. 115 V; 60 Hz		LCB 4715	LCB 4729	LCB 4731

* Max. temperature only with bath cover

 Clear-view and bridge thermostats with control head Master or Command

Pump characteristics
measured with water

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


Heating curves
(only 230 V version)

 Bath liquid: Therm 240
Bath closed

- ① PV 15 (up to 230 °C)
PVL 15 (up to 100 °C)
- ② PV 24 (up to 230 °C)
PVL 24 (up to 100 °C)
- ③ PV 36

Standard accessories
 2 nipples and 4 closing plugs for pump
connections · 2 nipples for cooling coil
Recommended accessories

Window heating system

Constant clear view of the object: LAUDA Clear-view thermostats

LAUDA Clear-view thermostats for the direct observation of the objects: the PVL models come equipped with five layers of insulating glass and are suitable for low temperatures up to -60 °C. This makes them ideal for the use with the fully-automatic LAUDA PVS viscosity-measuring system. The two-chamber principle in the measuring area ensures a constant level, irrespective of the loading and the temperature. The connection of a through-flow cooler or Proline RP 890 enables low temperature measurements down to -40 °C/-60 °C.



Clear-view thermostat PV 24 C

Technical features		PV 15/PV 15 C	PV 24/PV 24 C	PV 36/PV 36 C	PVL 15/PVL 15 C	PVL 24/PVL 24 C
Working temperature range	°C	30...230	30...230	30...230	30...100	30...100
Operating temperature range	°C	0*...230	0*...230	0*...230	-60*...100	-60*...100
Temperature stability	±K	0.01	0.01	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.8	0.8	0.8	0.8	0.8
Pump suction max.	bar	—	—	—	—	—
Pump flow (pressure) max.	L/min	25	25	25	25	25
Pump flow (suction) max.	L/min	—	—	—	—	—
Bath volume	L	11...15	19...24	28...36	11...15	19...24
Bath opening/Bath depth	mm	230x135/320	405x135/320	585x135/320	230x135/320	405x135/320
Size of glass panel	mm	149x230	326x230	506x230	149x230	326x230
Cat. No. Master 230 V; 50/60 Hz		LCD 0276	LCD 0278	LCD 0280	LCD 0282	LCD 0284
Cat. No. Master 115 V; 60 Hz		LCD 4276	LCD 4278	LCD 4280	LCD 4282	LCD 4284
Cat. No. Command 230 V; 50/60 Hz		LCD 0277	LCD 0279	LCD 0281	LCD 0283	LCD 0285
Cat. No. Command 115 V; 60 Hz		LCD 4277	LCD 4279	LCD 4281	LCD 4283	LCD 4285

* Only achievable with LAUDA add-on cooler.

LAUDA clear-view and bridge thermostats are available in various bath sizes and for various bath depths, as Master or Command version. All clear-view and bridge thermostats are fitted with a Varioflex pump. The bigger cooling coils, fitted as standard for the clear-view thermostats, are especially designed

according to the bath sizes to offer more effective cooling performance for large baths. An easily accessible drain tap on the side of the thermostats and carrying handles simplify the mobility of the clear-view thermostats.

Simply attach: LAUDA bridge thermostats

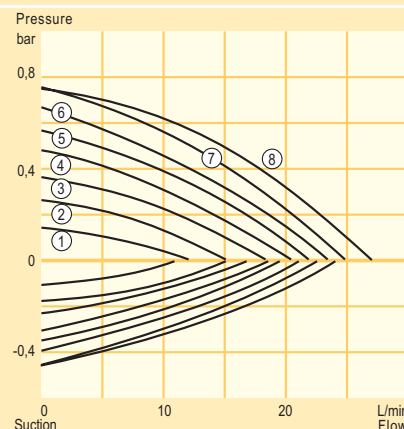
LAUDA bridge thermostats are available in two versions with different pump models and immersion depths. The PB models have a pressure/suction pump and require a bath depth of 200 mm, whilst the PBD models have a more powerful pressure pump (D) and thermostat baths of a depth from 320 mm. In addition, both series of models differ in the selected control head: Master or Command (C). Through variably extendable telescopic rods, all models can be attached without problem to baths with a width of 310 mm up to 550 mm.



Bridge thermostat PBD C
– Bath not included in scope of delivery –

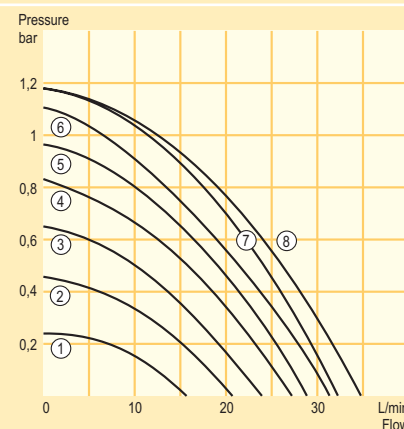
**Pump characteristics
for PB and PBC**
measured with water

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



**Pump characteristics
for PBD and PBD C
P 12 and P 12 C**
measured with water

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



Standard accessories

2 nipples and 4 closing plugs for pump connections · telescopic rods

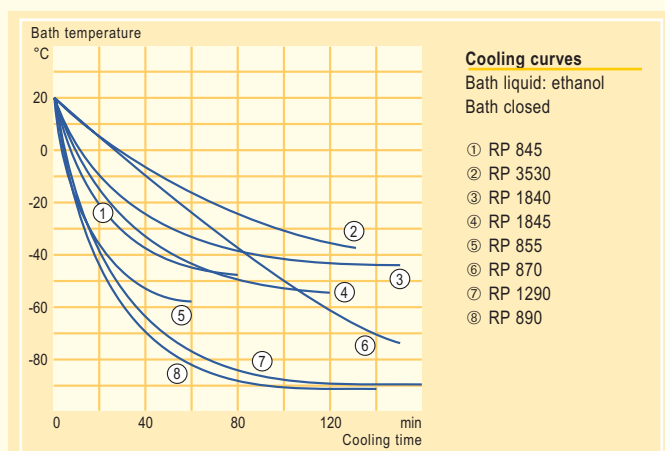
Recommended accessories

Through-flow cooler · automatic filling device · water bath
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

Technical features		PB	PBD	PB C	PBD C
Working temperature range	°C	30...300	30...300	30...300	30...300
Temperature stability	±K	0.01	0.01	0.01	0.01
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Pump pressure max.	bar	0.7	1.1	0.7	1.1
Pump suction max.	bar	0.4	–	0.4	–
Pump flow (pressure) max.	L/min	25	32	25	32
Pump flow (suction) max.	L/min	23	–	23	–
Bath volume up to approx.	L	80	80	80	80
Bath opening	mm	telescopic rods can be extended for bath widths 310...550			
Bath depth min.	mm	200	320	200	320
Cat. No. 230 V; 50/60 Hz		LCG 0090	LCG 0092	LCG 0091	LCG 0093
Cat. No. 115 V; 60 Hz		LCG 4090	LCG 4092	LCG 4091	LCG 4093

❄ Cooling thermostats at temperatures from -90 up to 200 °C with Master control head

Compact devices for icy depths



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections

Recommended accessories

Constant level device · reverse flow protection · automatic filling device · tubes
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

The RP 845 functions up to -45 °C and has a filling volume of 8 litres. The RP 890 low-temperature device enables you to reach temperatures down to -90 °C. A bath bridge heating integrated as standard prevents the icing-over of the top of the bath of devices with a temperature range down to -90 °C.



Cooling thermostat RP 845



Technical features		RP 845	RP 855	RP 870	RP 890
Working temperature range*	°C	-45...200	-55...200	-70...200	-90...200
Temperature stability	±K	0.01	0.01	0.02	0.02
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Cooling output at 20 °C	kW	0.8	1.6	0.38	1.1
Pump pressure max.	bar	0.7	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4	0.4
Pump flow (pressure) max.	L/min	25	25	25	25
Pump flow (suction) max.	L/min	23	23	23	23
Bath volume	L	5.5...8	5.5...8	5.5...8	7.5...8.5
Bath opening/depth	mm	150x150/200	150x150/200	150x150/200	150x150/200
Cat. No. 230 V; 50 Hz		LCK 1885	LCK 1893	LCK 1895	LCK 1897
Cat. No. 208...220 V; 60 Hz		LCK 8885	LCK 8893	LCK 8895	LCK 8897
Cat. No. 115 V; 60 Hz		LCK 4885	—	—	—

* Working temperature range is equal to ACC range.

All cooling thermostats of the LAUDA Proline range are equipped with the SmartCool system. The thermostats are equipped for various temperature ranges and filling volumes. Thanks to its

interchangeable interface modules, the Proline adapts to meet your requirements.

Cooling thermostats of the Master version

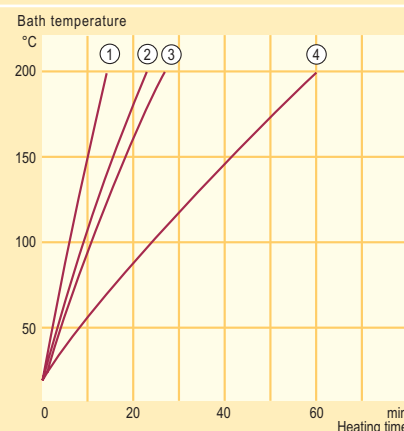
The RP 1840 and RP 1845 have different cooling capacities and working temperature ranges. The RP 3530 offers an exceptionally large bath volume up to 35 litres.



Cooling thermostat RP 1845

**Heating curves
(only 230 V version)**
Bath liquid: Ultra 300
Bath closed

- ① RP 855
RP 845
RP 870
RP 890
- ② RP 1290
- ③ RP 1840
RP 1845
- ④ RP 3530



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · bath bridge heating for RP 890 and RP 1290

Recommended accessories

Constant level device · reverse flow protection · automatic filling device · tubes
Option: bath bridge heating for RP 855 and RP 870 · set of castors for RP 890 and RP 1290
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

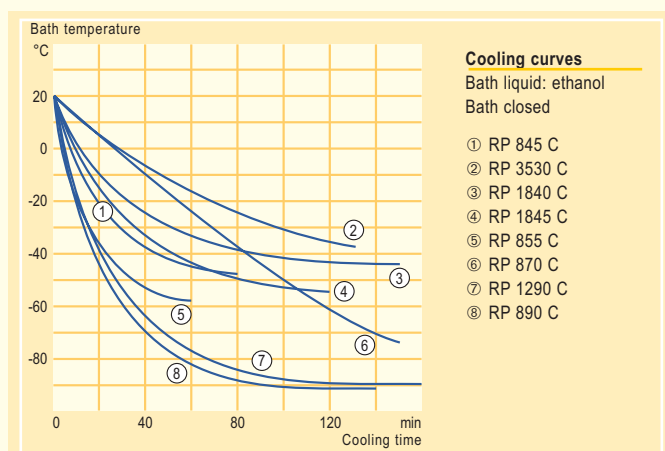


Technical features		RP 1290	RP 1840	RP 1845	RP 3530
Working temperature range*	°C	-88...200	-40...200	-50...200	-35...200
Temperature stability	±K	0.02	0.01	0.01	0.02
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Cooling output at 20 °C	kW	1.1	0.9	1.6	0.9
Pump pressure max.	bar	0.7	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4	0.4
Pump flow (pressure) max	L/min	25	25	25	25
Pump flow (suction) max.	L/min	23	23	23	23
Bath volume	L	15...17.5	12.5...19	12.5...19	23...35
Bath opening/depth	mm	300x150/200	300x200/200	300x200/200	300x350/250
Cat. No. 230 V; 50 Hz		LCK 1899	LCK 1887	LCK 1891	LCK 1889
Cat. No. 208...220 V; 60 Hz		LCK 8899	LCK 8887	LCK 8891	LCK 8889
Cat. No. 115 V; 60 Hz		–	LCK 4887	–	LCK 4889

* Working temperature range is equal to ACC range.

❄ Cooling thermostats at temperatures from -90 up to 200 °C with Command control head

The cool, calm, collected approach to every program



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections

Recommended accessories

Constant level device · reverse flow protection · automatic filling device · tubes
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

The Proline cooling thermostats with the Command control head (C) have a convincing extended range of functions. The RP 890 C and RP 1290 C have been especially designed for particularly low temperatures. They have different bath volumes and come with a bath bridge heating as standard.



Cooling thermostat RP 845 C



Technical features		RP 845 C	RP 855 C	RP 870 C	RP 890 C
Working temperature range*	°C	-45...200	-55...200	-70...200	-90...200
Temperature stability	±K	0.01	0.01	0.02	0.02
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Cooling output at 20 °C	kW	0.8	1.6	0.38	1.1
Pump pressure max.	bar	0.7	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4	0.4
Pump flow (pressure) max.	L/min	25	25	25	25
Pump flow (suction) max.	L/min	23	23	23	23
Bath volume	L	5.5...8	5.5...8	5.5...8	7.5...8.5
Bath opening/depth	mm	150x150/200	150x150/200	150x150/200	150x150/200
Cat. No. 230 V; 50 Hz		LCK 1886	LCK 1894	LCK 1896	LCK 1898
Cat. No. 208...220 V; 60 Hz		LCK 8886	LCK 8894	LCK 8896	LCK 8898
Cat. No. 115 V; 60 Hz		LCK 4886	—	—	—

* Working temperature range is equal to ACC range.

The SmartCool system – the energy-saving, digital cooling management system – ensures that every temperature is run with the correct cooling capacity. It increases or reduces the

cooling according to each required operating state. The advantages are particularly effective for programmer operation and temperature change-overs.

Cooling thermostats of the Command version

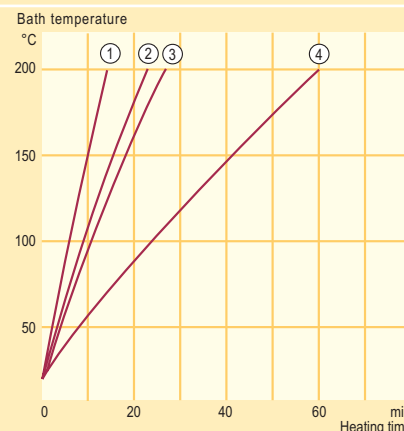
Thanks to their various capacity ranges and filling volumes, the Proline cooling thermostats which make up the Command range skilfully adapt to your requirements. The RP 1845 works at a temperature range between -50 °C and 200 °C and, at 20 °C, has a cooling capacity of 1.6 kW. The RP 3530 C has a particularly large bath for direct thermostating.



Cooling thermostat RP 1840 C

Heating curves
(only 230 V version)
Bath liquid: Ultra 300
Bath closed

- ① RP 855 C
RP 845 C
RP 870 C
RP 890 C
- ② RP 1290 C
- ③ RP 1840 C
RP 1845 C
- ④ RP 3530 C



Standard accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · bath bridge heating for RP 890 C and RP 1290 C

Recommended accessories

Constant level device · reverse flow protection · automatic filling device · tubes
Option: bath bridge heating for RP 855 and RP 870 · set of castors for RP 890 and RP 1290
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

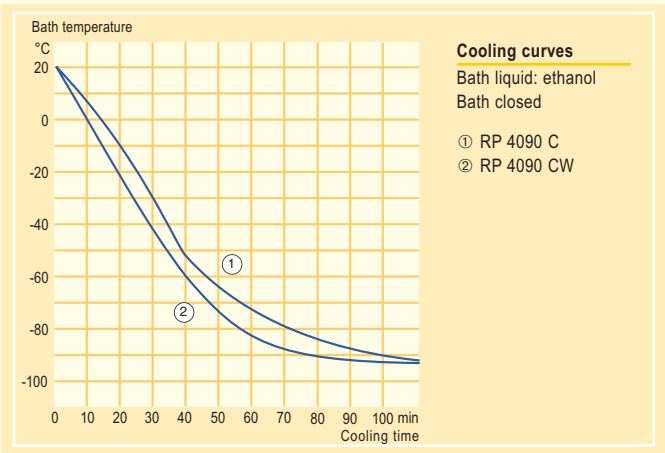


Technical features		RP 1290 C	RP 1840 C	RP 1845 C	RP 3530 C
Working temperature range*	°C	-88...200	-40...200	-50...200	-35...200
Temperature stability	±K	0.02	0.01	0.01	0.02
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7	3.5/1.7	3.5/1.7
Cooling output at 20 °C	kW	1.1	0.9	1.6	0.9
Pump pressure max.	bar	0.7	0.7	0.7	0.7
Pump suction max.	bar	0.4	0.4	0.4	0.4
Pump flow (pressure) max.	L/min	25	25	25	25
Pump flow (suction) max.	L/min	23	23	23	23
Bath volume	L	15...17.5	12.5...19	12.5...19	23...35
Bath opening/depth	mm	300x150/200	300x200/200	300x200/200	300x350/250
Cat. No. 230 V; 50 Hz		LCK 1900	LCK 1888	LCK 1892	LCK 1890
Cat. No. 208...220 V; 60 Hz		LCK 8900	LCK 8888	LCK 8892	LCK 8890
Cat. No. 115 V; 60 Hz		–	LCK 4888	–	LCK 4890

* Working temperature range is equal to ACC range.

Cooling thermostats from -90 up to 200 °C with Command control head

Low temperatures and large baths: the new Proline Kryomat units



Standard accessories:

bath cover · 4 sealing plugs for connecting a pump · G 3/4" lock-nut with 1/2" hose clip for the RP 4090 CW water-cooling hose.

Recommended accessories

Tubing for cooling water ·
Optional modules: RS 232/485, analogue, SUB-D or NAMUR, Profibus (details page 37)
For further accessories please request the comprehensive LAUDA accessories brochure.

Proline series Kryomats are fitted with the Command control head. With their bath volumes of up to 40 litres, this range of equipment is particularly suitable for internal applications. All models can be supplied either in air or water-cooled versions with a powerful 4-stage Variopump. In the water-cooled versions, an electronic cooling water management system ensures minimum water consumption. The electronically-controlled bath edge heating prevents moisture in the atmosphere from condensing and freezing at low temperatures. The Proline Kryomats never fail to impress through their compact design and high cooling capacity, especially at low temperatures.



Kryomat RP 4090 CW

NEW



NEW



Technical features		RP 4090 C	RP 4090 CW
Working temperature range*	°C	-90...200	-90...200
Temperature stability	±K	0.05	0.05
Heater power 230 V/115 V	kW	3.5/1.7	3.5/1.7
Cooling output at 20 °C	kW	2.5	3.1
Pump pressure max.	bar	0.5	0.5
Pump flow (pressure) max.	L/min	19	19
Bath volume	L	40	40
Bath opening/depth	mm	350x350/250	350x350/250
Cat. No.	400 V; 3~/N/PE; 50 Hz **	LUK 247	LUK 248

* Working temperature range is equal to ACC range. **400 V; 3~/PE; 50 Hz option on request

The LAUDA Proline Kryomats are floor-standing, compact cooling thermostats and replace the devices of the LAUDA Ultra-Kryomats of the RUK series. They stand out from others by their high cooling capacity and large baths.

Command control head supplied as standard

The LAUDA Proline Kryomate units are equipped with the detachable Command control unit as standard. Operation of the cooling thermostats is easy and intuitive thanks to the menu-driven system and the graphical LCD screen.

Rapid temperature changes even at low temperatures

The sophisticated cooling units deliver extremely powerful cooling performance and are highly efficient even at low temperatures. This results in efficient cooling performance even when temperatures are reduced to a minimum.

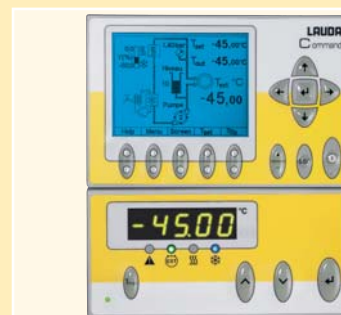
Proline SmartCool system

With its energy-saving digital cooling management function, the SmartCool system ensures that each mode of operation is run with the cooling performance it requires, rather than simply at maximum power. This saves up to 75 per cent of energy requirements by virtually ruling out the need to employ heating to balance out temperatures and by significantly reducing the heat lost to the surroundings.

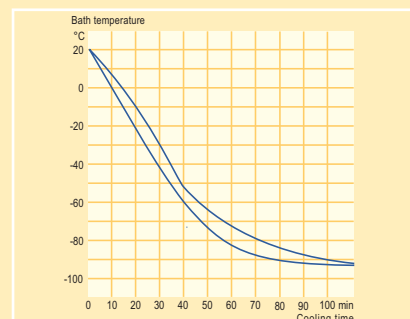
Compact yet high-capacity design

With generous bath volumes of up to 40 litres, these devices are particularly suitable for internal applications and can easily handle large quantities of samples. The thermostats are nevertheless designed to be extremely compact in order to save valuable lab space.

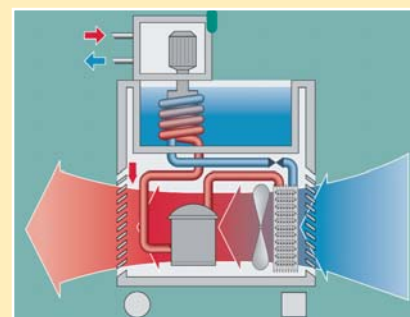
Command control head supplied as standard



Rapid temperature changes



SmartCool system – intelligent cooling management



Large bath volumes with a small footprint



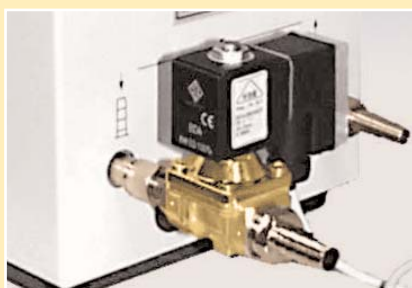
This page offers you a selection of important accessories for the thermostats of the **LAUDA Proline**. Please see the LAUDA accessories brochure for further accessories.



**Shut down valve/
Reverse flow protection**

Reverse flow protection when thermostating external systems, to avoid draining of consumer when pump stops, for retrofitting with LiBus. Temperature range - 40...140 °C.

Cat.-No.:	Designation
LCZ 9673	Shut down valve reverse flow protection with LiBus
Suitable for all Proline devices	



Solenoid valve

Water-saving cooling on heating thermostats for cooling water control. Controlled cooling operation for exothermal reactions or controlled cooling with programmer. Automatic connection of cooling water for Proline up to 155 °C bath temperature.

Cat.-No.:	Designation	Temperature range
LCZ 9662	Solenoid valve with LiBus-connector	-10...155 °C
Suitable for all heating and clear-view thermostats		



Constant level device

Necessary for the constant liquid level when thermostating open external baths. For wall thickness of bath vessel between 0 to 30 mm, with opening for thermometers 4 mm or 1.9 mm Ø and clamping gland HX 077 and HX 078.

Cat.-No.:	Designation	suitable for
LCZ 0660	Level controller, mechanical	P 8 (C), RP 845 (C) RP 855 (C)
LCZ 0679	Connection set for external inlet and outlet	LCZ 0660



Automatic filling device

For automatic replacement of liquid losses in thermostat bath, for example evaporation. Also from vessels with max. 1 m suction height.

Cat.-No.:	Designation
LCZ 9661	Automatic filling device with LiBus
Suitable for devices with Varioflex pump (not for P 12 (C)/PV (C) and Proline Kryomats	

Bath edge and window heating systems for clear-view thermostats

only ex-works

Additional heating systems to avoid condensation of air humidity at operating temperatures below -30 °C.

Cat.-No.:	Designation	optional for
LCZ 9670	Bath edge heating system, only ex-works	RP 870 (C), RP 855 (C)
LCZ 9681	Window heating system	PVL 15 (C)
LCZ 9682	Window heating system	PVL 24 (C)

LAUDA Viscosity measuring systems can be found in the brochure „Viscosity measuring system PVS“ which can be requested for free.

For LAUDA through-flow coolers see page 96.