

LAUDA Proline

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



Proline

Application examples

- Temperature control for chemical synthesis
- Tests on electronic components at different temperatures
- Temperature control of measuring structures in process technology
- Heating and cooling of glass reactors

Proline Kryomats

Application examples

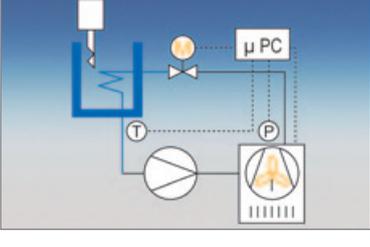
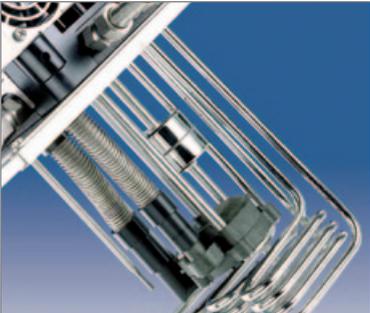
- Constant temperatures in the notch bending test and drop test
- Changing temperatures when determining the pour point, Brookfield test of lubricants and test of slide bearings

Intuitive operation, ultra high and low temperatures

LAUDA Proline thermostats are our solution for high performance and reliable temperature regulation. With their broad temperature range they fulfill high requirements. LAUDA Proline thermostats are available in two versions: in the basic version with the Master control head, and as a Command version with a removable

control unit for enhanced ease of operation. Master version devices can be retrofitted with the Command remote control, which are simply connected to the control head. The thermostat automatically recognises and controls all newly installed moduls.

Your advantages at a glance

	The Proline advantages	Your benefits
	<ul style="list-style-type: none"> • Master or Command version • 52 different devices • Simple retrofitting from Master to Command version 	<ul style="list-style-type: none"> • The right solution for every application • Subsequent extension or adaptation to changing application requirements
	<ul style="list-style-type: none"> • Graphical user guidance • Adaptive control on cooling thermostats 	<ul style="list-style-type: none"> • Easy and intuitive operation • Saves time-consuming calculation of control parameters
	<ul style="list-style-type: none"> • Patented SmartCool system • PowerAdapt system for adjustment of the power consumption 	<ul style="list-style-type: none"> • Up to 75 percent energy saving with digital cooling management • Use of the maximum available output from the power supply system
	<ul style="list-style-type: none"> • Two insert ports can be combined with five different interface modules • Easy distribution of the pump flow by means of bypass valve • Pump connections on the side and rear 	<ul style="list-style-type: none"> • High level of flexibility for the user allowing for broad range of system integration • Simultaneous connection of two external applications • Flexible connection of external applications from different sides
	<ul style="list-style-type: none"> • High-performance pressure-suction pump (Varioflex pump) with eight pump levels • Up to 3.5 kW (230 V) heating power – even on all cooling thermostats via SmartCool system 	<ul style="list-style-type: none"> • Suitable for internal and external applications • Adaptation of the pump power to the respective application • Rapid heating achieved

LAUDA Proline

Proline Master control head

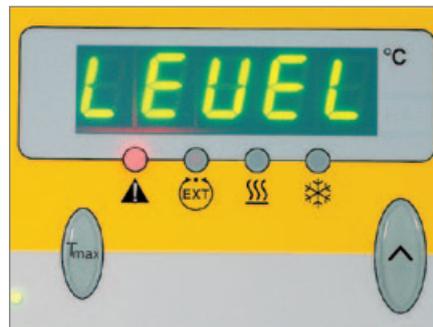
The Proline Master devices are designed with high thermostating accuracy and reliability for all applications from -90 up to 300 °C where operating parameters are not changed or modified frequently. They have all the basic features and safety functions required for professional thermostating during continuous use. A modular structure and bus technology have created an instrument capable of extending its function and performance as the application requires.



- Easy-to-read green LED display
- Convenient setting of 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 operating temperature range and additional button for overtemperature protection setting
- External temperature control via Pt100
- Optical and audible alarm function
- Simple temperature probe calibration
- Integrated mains network safety device
- Start mode control (automatic or manual)
- Two slots for interface modules
- LAUDA Wintherm Plus control software via RS 232/485 interface (optional)



Easy replacement of interface modules



Alarm message for malfunction



Upgradable to Command version

Proline Command control head

The Command control heads are the top models of the LAUDA Proline. The highly-efficient programmer fulfills all the requirements of complex thermostating processes – with real-time function. It offers the utmost in user-friendliness and optimum functionality, e.g. for an industrial testing lab. The simple menu-driven operation and the easy editing of test programs allow for quickly changing thermostating tasks. The Command remote control is removable and can easily be used with cable up to 50 m. Comprehensive basic equipment as with the Proline Master range.

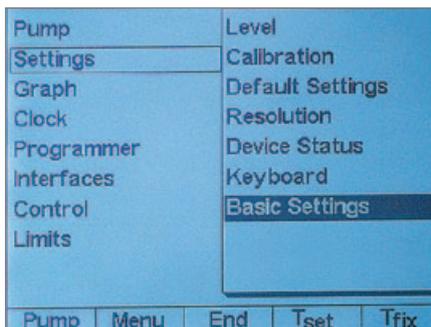


Basic equipment as Proline Master, plus:

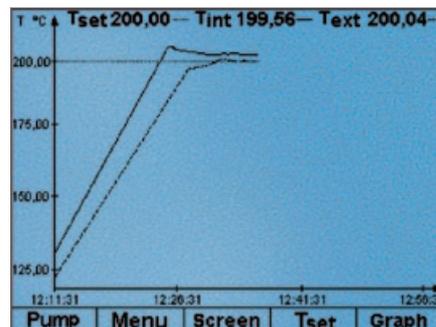
- 10-key console for setpoint adjustment of temperature
- Programmer with real-time clock, 150 temperature/time segments, for use in up to 5 programs, editable segments with loop and tolerance band function
- High resolution, back-lit, graphic LCD display with various display possibilities
- Detachable Command remote control for use with cable up to 50 m
- 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



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



Drop-down menus make settings easy. Available in four languages.



Graphic display of temperature values

LAUDA Proline

Proline Heating thermostats with Master control head up to 19 liters

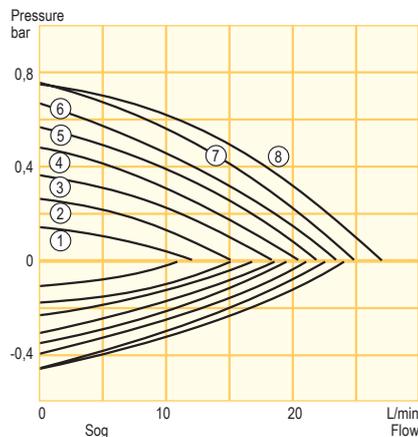
The heating thermostats of the LAUDA Proline with Master control head do not only convince because of their compact construction. The high heater power of 3.5 kW (230 V), two interfaces for various modules, a cooling coil fitted as a standard feature, and an integrated external control – these features make them particularly useful for users who require flexible thermostating operations while only rarely needing to adjust the settings.



Heating thermostat P 18



Pump characteristics Heat transfer liquid: 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

Temperature range

30...300 °C

Included accessories

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

Additional accessories

Constant level device (for P 8) · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water) · Interface modules: analog, RS 232/485, contact, Profibus module



All technical data on page 92 and following
Other power supply variants on page 103



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	kW	3.5	3.5	3.5	3.5
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

* Working temperature range with water cooling 20...300 °C

** Pressure pump only, pump characteristics see page 42

*** Instead of pressure and suction pump equipped with increased output

Proline Heating thermostats with Master control head up to 53 liters

The LAUDA Proline P 26, P 40 and P 50 heating thermostats are distinguished by particularly large-volume baths. All the below models are equipped with a Varioflex pump and cover the temperature range from 30 up to 300 °C. These stainless steel baths are ideally suited to direct thermostating inside 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 bulky test pieces to be placed in the bath or even enable a number of test pieces to be positioned alongside each other, for simultaneous testing.

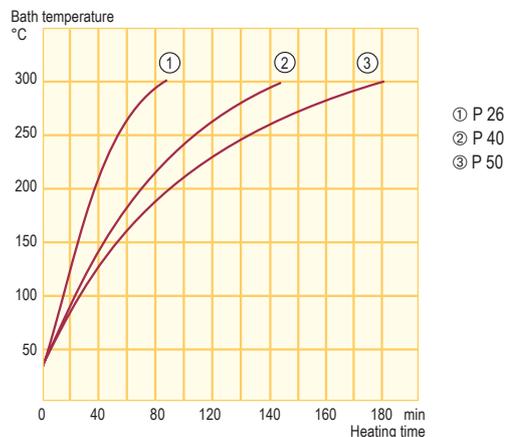
A circulation chamber on the P 40 and P 50 ensures good mixing in the bath and thus guarantees good temperature homogeneity, despite the large bath vessel.



Heating thermostat P 50



Heating curves Heat transfer liquid: Ultra 300, bath closed



Temperature range

30...300 °C

Included accessories

Bath cover (only P 26) · 2 nipples and 4 closing plugs for pump connections · 2 nipples for cooling coil

Additional accessories

Bath cover · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water) · rising platform · Interface modules: analog, RS 232/485, contact, Profibus module



All technical data on page 92 and following
Other power supply variants on page 103



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	kW	3.5	3.5	3.5
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	250x270/450	300x750/200
Cat. No. 230 V; 50/60 Hz		LCB 0714	LCB 0728	LCB 0730

* Working temperature range with water cooling 20...300 °C ** Max. temperature only achieved with closed bath cover

LAUDA Proline

Proline Heating thermostats with Command control head up to 19 liters

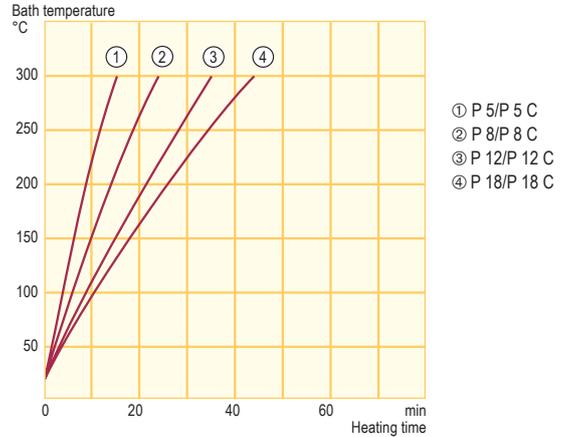
The Proline heating thermostats with Command control head (C) impress through an expanded scope of functions. Alongside a graphic LCD display, which enables current values to be displayed up to 0.001 °C resolution, an easily editable and convenient programmer with storage possibilities is available.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



Heating thermostat P 18 C



Heating curves Heat transfer liquid: Ultra 300, bath closed



Temperature range
30...300 °C

Included accessories

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

Additional accessories

Constant level device (for P 8 C) · automatic filling device · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water) · Interface modules: analog, RS 232/485, contact, Profibus module



All technical data on page 92 and following
Other power supply variants on page 103



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	kW	3.5	3.5	3.5	3.5
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

* Working temperature range with water cooling 20...300 °C

** Pressure pump only, pump characteristics see page 42

*** Instead of pressure and suction pump equipped with increased output

Proline Heating thermostats with Command control head up to 53 liters

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 also 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.

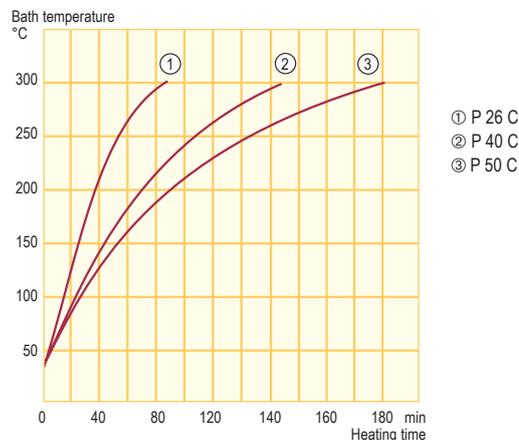
A circulation chamber on the P 40 and P 50 ensures good mixing in the bath and thus guarantees good temperature homogeneity, despite the large bath vessel.



Heating thermostat P 40 C



Heating curves Heat transfer liquid: Ultra 300, bath closed



Temperature range

30...300 °C

Included accessories

Bath cover (only P 26 C) · 2 nipples and 4 closing plugs for pump connections · 2 nipples for cooling coil

Additional accessories

Automatic filling device · bath cover · through-flow cooler · reverse flow protection · tubes · solenoid valve for cooling water control · high-temperature cooler (water) · rising platform · Interface modules: analog, RS 232/485, contact, Profibus module



All technical data on page 92 and following
Other power supply variants on page 103



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	kW	3.5	3.5	3.5
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	250x270/450	300x750/200
Cat. No. 230 V; 50/60 Hz		LCB 0715	LCB 0729	LCB 0731

* Working temperature range with water cooling 20...300 °C ** Max. temperature achieved only with closed bath cover

LAUDA Proline

Proline Viscothermostats

LAUDA viscothermostats are optimized for directly observing inserted objects. The temporal and spatial temperature stability required for precisely determining the viscosity is guaranteed for the full temperature range. As such, they are ideal for use with the fully automated LAUDA PVS or iVisc viscometers. Thanks to the double-chamber principle, a constant liquid level in the measuring room is guaranteed regardless of the rate and temperature. The PVL models are equipped with five layers of insulating glass and by connecting a DLK 45 through-flow cooler or Proline RP 890 cooling thermostat are suited to low-temperature measurements down to -40 or -60 °C.



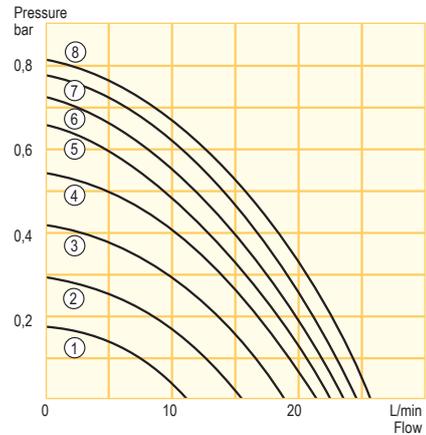
Viscothermostat PV 24 C



All technical data on page 92 and following
Other power supply variants on page 103

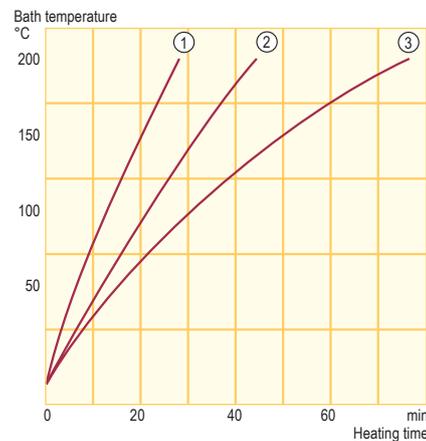


Pump characteristics Heat transfer liquid: Water



- 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 Heat transfer 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

Temperature range

30...230 °C

Included accessories

- 2 nipples and 4 closing plugs for pump connections
- 2 nipples for cooling coil

Additional accessories

- Window heating system – PVL 15 (C), PVL 24 (C) only
- solenoid valve for cooling water
- additional cooler
- Command remote control

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
Temperature stability	±K	0.01	0.01	0.01	0.01	0.01
Heater power	kW	3.5	3.5	3.5	3.5	3.5
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
Glass pane size	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. Command 230 V; 50/60 Hz		LCD 0277	LCD 0279	LCD 0281	LCD 0283	LCD 0285

Proline Bridge thermostats

LAUDA Proline 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, while the PBD models have a more powerful pressure pump (D) and require a bath with a depth of 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 from 310 mm up to 550 mm.



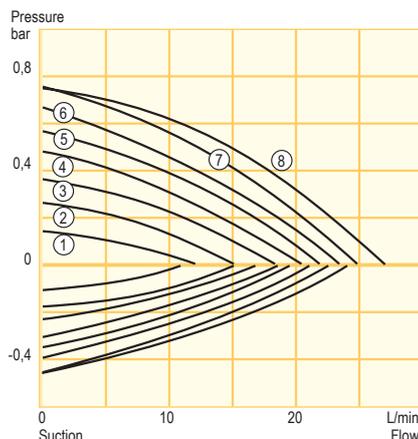
Bridge thermostat PBD C
– Bath not included in scope of delivery –



All technical data on page 92 and following
Other power supply variants on page 103

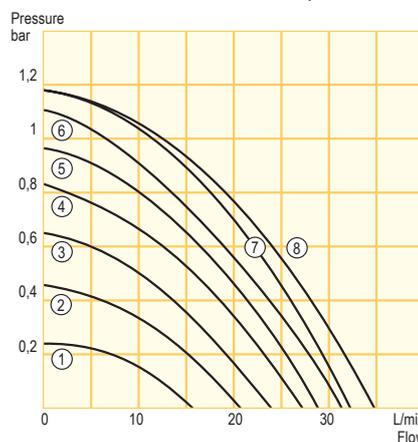


Pump characteristics for PB and PBC,
Heat transfer liquid: Water



- 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, Heat transfer liquid: 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

Temperature range
30...300 °C

Included accessories

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

Additional accessories

Automatic filling device · water bath
Interface modules: analog, RS 232/485, contact, Profibus module

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

* Only achievable with LAUDA through-flow cooler

LAUDA Proline

Proline Cooling thermostats with Master control head up to 8 liters

The Proline RP 845, RP 855, RP 870 and RP 890 cooling thermostats stand out above all for their compact dimensions and small footprint. With a cooling capacity of 1.6 kW at 20 °C, the RP 855 has a particularly high-performance design. The RP 890 low-temperature device enables you to reach temperatures down to -90 °C. The standard integrated electrical-heated bath cover set prevents icing as a result of condensation and humidity on all Proline cooling thermostats with a temperature range down to -90 °C.

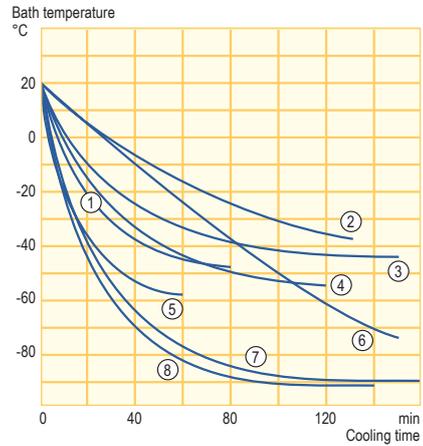


Cooling thermostat RP 845

All types (except RP 870)



Cooling curves Heat transfer liquid: Ethanol, bath closed



- ① RP 845
- ② RP 3530
- ③ RP 1840
- ④ RP 1845
- ⑤ RP 855
- ⑥ RP 870
- ⑦ RP 1290
- ⑧ RP 890

Temperature range

-90...200 °C

Included accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · electrical-heated bath cover set for RP 890

Additional accessories

Constant level device for RP 845 and RP 855 · reverse flow protection · automatic filling device · tubes · electrical-heated bath cover set for RP 855 and RP 870 (only ex works) · Interface modules: analog, RS 232/485, contact, Profibus module · set of castors (RP 855 to RP 890)



All technical data on page 96 and following
Other power supply variants on page 104



688 mm



770 mm



735 mm



735 mm

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	kW	3.5	3.5	3.5	3.5
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	5.5...8
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

* Working temperature range is equal to ACC range

Proline Cooling thermostats with Master control head up to 35 liters

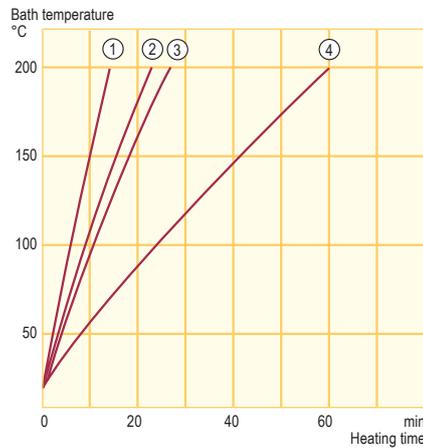
The Proline RP 1290, RP 1840, RP 1845 and RP 3530 cooling thermostats differ in terms of bath volume, achievable cooling capacity, and working temperature range. With bath capacities up to 35 liters, the RP 3530 provides a particularly large bath volume and the RP 1845 provides a particularly high cooling capacity of 1.6 kW. To prevent icing the RP 1290 is equipped with an electrical-heated bath cover set.



Cooling thermostat RP 1845



Heating curves Heat transfer 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

Temperature range

-88...200 °C

Included accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · electrical-heated bath cover set for RP 1290

Additional accessories

Reverse flow protection · automatic filling device · tubes · Interface modules: analog, RS 232/485, contact, Profibus module · set of castors (RP 1290 to RP 1845)



All technical data on page 96 and following
Other power supply variants on page 104

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	kW	3.5	3.5	3.5	3.5
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	8...13.5	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

* Working temperature range is equal to ACC range

LAUDA Proline

Proline Cooling thermostats with Command control head up to 8 liters

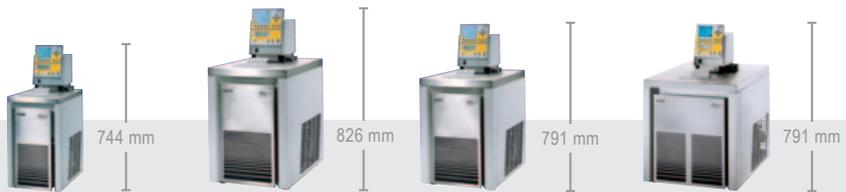
The SmartCool system – an energy-saving, digital cooling management system – ensures that every temperature is run with the correct cooling capacity. It increases or reduces the cooling according to application requirements. The advantages are particularly effective for programmer operation and temperature ramping.

The Proline cooling thermostats with the Command control head (C) have a convincing extended range of functions. At 20 °C, RP 855 C has a particularly high cooling capacity of 1.6 kW. RP 890 C and RP 1290 C are designed for especially low temperatures. They differ in terms of bath volume and have an electrical-heated bath cover set as a standard feature.



All types (except RP 870 C)

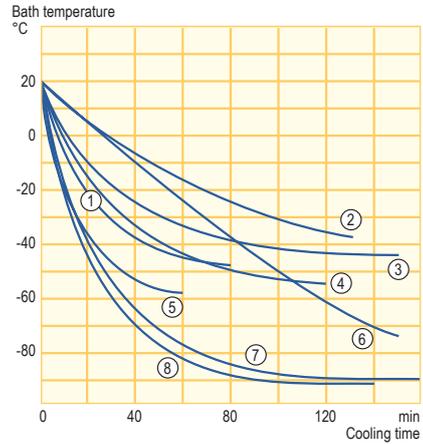
Cooling thermostat RP 845 C



All technical data on page 96 and following
Other power supply variants on page 104



Cooling curves Heat transfer liquid: Ethanol, bath closed



- ① RP 845 C
- ② RP 3530 C
- ③ RP 1840 C
- ④ RP 1845 C
- ⑤ RP 855 C
- ⑥ RP 870 C
- ⑦ RP 1290 C
- ⑧ RP 890 C

Temperature range

-90...200 °C

Included accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · electrical-heated bath cover set for RP 890 C

Additional accessories

Constant level device for RP 845 C und RP 855 C · reverse flow protection · automatic filling device · tubes · electrical-heated bath cover set for RP 855 C and RP 870 C (only ex works) · Interface modules: analog, RS 232/485, contact, Profibus module · set of castors (RP 855 C to RP 890 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	kW	3.5	3.5	3.5	3.5
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	5.5...8
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

* Working temperature range is equal to ACC range

Proline Cooling thermostats with Command control head up to 35 liters

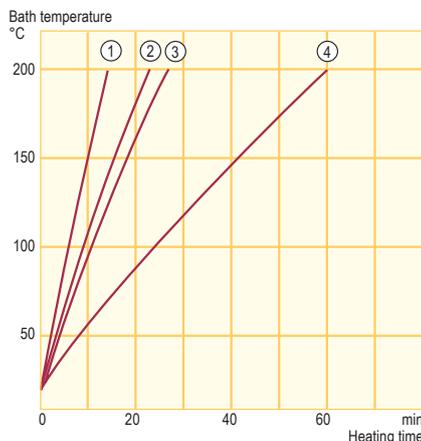
Thanks to their various capacity ranges and filling volumes, the Proline cooling thermostats which make up the Command range skilfully adapt to your requirements. The RP 1845 C works at a temperature range between -50 and 200 °C and, at 20 °C, has a cooling capacity of 1.6 kW. The RP 3530 C has a particularly large bath for internal sample thermostating. The RP 1290 C comes with an integrated electrical-heated bath cover set as standard.



Cooling thermostat RP 1840 C



Heating curves Heat transfer 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

Temperature range

-88...200 °C

Included accessories

Bath cover · 2 nipples and 4 closing plugs for pump connections · electrical-heated bath cover set for RP 1290 C

Additional accessories

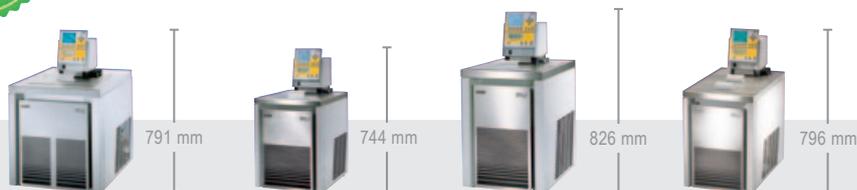
Reverse flow protection · automatic filling device · tubes · Interface modules: analog, RS 232/485, contact, Profibus module · set of castors (RP 1290 C to RP 1845 C)



All types



All technical data on page 96 and following
Other power supply variants on page 104



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	kW	3.5	3.5	3.5	3.5
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	8...13.5	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

* Working temperature range is equal to ACC range

LAUDA Proline Kryomats

Extra powerful cooling thermostats for bath applications from -90 up to 200 °C
LAUDA Proline Kryomats



Application examples

Constant temperatures

- Notch bending test
- Drop test

Changing temperatures

- Determination of pour point
- Brookfield test of lubricants
- Test of slide bearings

The **Proline Kryomats** are floor-standing, low temperature thermostats suitable for a wide variety of applications. They never fail to impress through their compact design and high cooling capacities, especially at low temperatures. All Proline Kryomats are fitted with the Command remote control for easy and user-friendly operation. The units are equipped with a pressure pump optimized for internal

circulation adjustable from performance level five to eight. To prevent moisture in the atmosphere from condensing at low temperatures, bath bridge and bath edge heating are integrated into the design. Proline Kryomats stand out for having the latest technologies and an excellent price-performance ratio.

Your advantages at a glance



The Proline Kryomats advantages

Your benefits



- Removable Command remote control with graphic LCD
- Automatic adjustment of the control parameters via integrated software for adaptive control

- Easy and intuitive operation. Quick setting changes
- Saves time-consuming calculation of control parameters



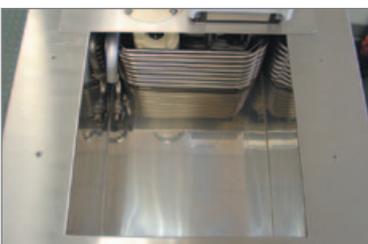
- Offset control head
- Integrated bath edge and bath bridge heating
- Use of innovative cooling technology

- Allows installation of optional supplementary pumps for external applications
- Avoids condensation and ice build-up
- High cooling capacity and low operating temperatures with very small footprint



- Updated, adjustable pump nozzle

- Optimum circulation and temperature distribution throughout the entire bath



- Spacious baths with large bath openings
- Thread sleeves as standard on the edge of the bath

- Accommodates various sample shapes and sizes with efficient flow
- Allow for the fixing of testing equipment without further conversion measures



- Intelligent cooling fan control
- Optimised cooling airflow
- Internal release valve

- Optimum heat discharge while reducing noise emission
- Bath drain at front of unit
- No protruding release valve

LAUDA Proline Kryomats

Proline Kryomats Air-cooled cooling thermostats

The air-cooled Proline Kryomats have a working temperature range from -50 and -90 up to 200 °C. The models are available with bath volumes of 30 and 40 liters. The Proline SmartCool system, with its energy-saving digital cooling management, ensures that the cooling output is run in accordance with the application needs. That saves up to 75 percent of energy compared to standard cooling methods. Two different booster pumps are available as options (ex works) especially for external applications that require a considerable increase in volume flow/ discharge pressure.

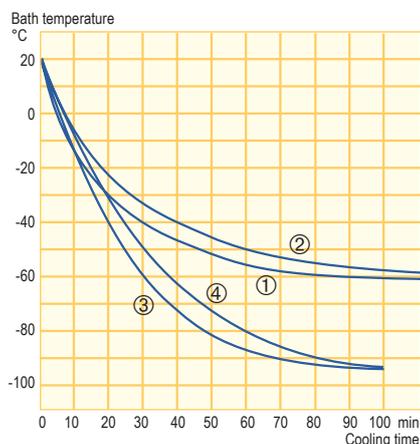


Cooling thermostat RP 4050 C

All types



Cooling curves Heat transfer liquid: Ethanol, bath closed



- ① RP 3050 C
- ② RP 4050 C
- ③ RP 3090 C
- ④ RP 4090 C

Temperature range

-90...200 °C

Included accessories

Bath cover · 4 closing plugs for pump connections ·
2 connectors 13 mm

Additional accessories

Interface modules: analog, RS 232/485, contact, Profibus module

Options

Booster pumps



All technical data on page 96 and following
Other power supply variants on page 105



Technical features		RP 3050 C	RP 4050 C	RP 3090 C	RP 4090 C
Working temperature range*	°C	-50...200	-50...200	-90...200	-90...200
Temperature stability	±K	0.05	0.05	0.05	0.05
Heater power	kW	3.5	3.5	3.5	3.5
Cooling output at 20 °C	kW	5.0	5.0	3.0	3.0
Pump pressure max.	bar	0.5	0.5	0.5	0.5
Pump flow (pressure) max.	L/min	19	19	19	19
Bath volume	L	23...31	32...44	23...31	32...44
Bath opening/depth	mm	350x200/250	350x350/250	350x200/250	350x350/250
Cat. No. 400 V; 3/N/PE; 50 Hz		LUK 239	LUK 241	LUK 245	LUK 247

* Working temperature range is equal to ACC range

Proline Kryomats

Water-cooled cooling thermostats

In the case of the water-cooled Proline Kryomats, the process heat is dissipated with the use of facility cooling water. This largely prevents unnecessary heating of the surrounding environment. As a result of this type of cooling, even higher cooling capacities are achieved than with the air-cooled units. The electronic cooling water management minimizes water consumption. The booster pumps, available as options (ex works), are particularly recommended for external applications where increased volume flow or greater pressures are required.

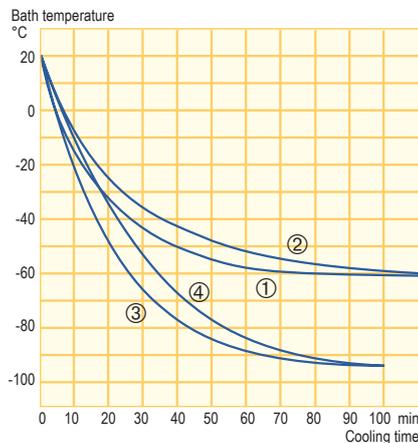


Cooling thermostat RP 4090 CW

All types



Cooling curves Heat transfer liquid: Ethanol, bath closed



- ① RP 3050 CW
- ② RP 4050 CW
- ③ RP 3090 CW
- ④ RP 4090 CW

Temperature range

-90...200 °C

Included accessories

Bath cover · 4 closing plugs for pump connections · G 3/4" lock-nut with 1/2" hose clip · 2 connectors 13 mm

Additional accessories

Tubing for cooling water · Interface modules: analog, RS 232/485, contact, Profibus module

Options

Booster pumps



All technical data on page 96 and following
Other power supply variants on page 105



Technical features		RP 3050 CW	RP 4050 CW	RP 3090 CW	RP 4090 CW
Working temperature range*	°C	-50...200	-50...200	-90...200	-90...200
Temperature stability	±K	0.05	0.05	0.05	0.05
Heater power	kW	3.5	3.5	3.5	3.5
Cooling output at 20 °C	kW	6.0	6.0	4.0	4.0
Pump pressure max.	bar	0.5	0.5	0.5	0.5
Pump flow (pressure) max.	L/min	19	19	19	19
Bath volume	L	23...31	32...44	23...31	32...44
Bath opening/depth	mm	350x200/250	350x350/250	350x200/250	350x350/250
Cat. No.		LUK 240	LUK 242	LUK 246	LUK 248

* Working temperature range is equal to ACC range

Proline accessories

Shut down valve/Reverse flow protection

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

Cat. No.	Description
LCZ 9673	Shut down valve reverse flow protection with LiBus
Suitable for	All Proline devices



LCZ 9673

Solenoid valve

Water-conscious cooling on heating thermostats for cooling water control. Controlled cooling operation for exothermal reactions or controlled cooling with programmer. Up to 155 °C bath temperature.

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



LCZ 9662

Baskets

For notch bending test

Cat. No.	Suitable for
LCZ 0658	RP 870, RP 870 C, RP 890, RP 890 C
LCZ 0694	RP 1290, RP 1290 C



LCZ 0694

Constant level device

Necessary for the constant liquid level when thermostating open external baths. Connection set: 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.	Description	Suitable for
LCZ 0660	Level controller, mechanical	P 8 (C), RP 845 (C) RP 855 (C)*, RP 870 (C)*
LCZ 0679	Connection set for external inlet and outlet	LCZ 0660

* Not with option bath cover including bath edge heating (LCZ 9670)



LCZ 0660



LCZ 0679

Automatic filling device

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

Cat. No.	Description
LCZ 9661	Automatic filling device with LiBus



LCZ 9661

Controlled high-temperature chiller HTC with LiBus

For controlled cooling of thermostats in the operating temperature range up to 300 °C without formation of vapors, to be connected to external water cooling source.

Cat. No.	Description
LCZ 9663	Controlled high-temperature chiller HTC

Proline Kryomats accessories

Interface modules

An RS 232/485 interface is integrated as a standard feature. The control head is equipped for two interface modules to be plugged into the rear of the unit.

Cat. No.	Description
LRZ 912	Analog module, 2 x In, 2 x Out, 0(4)...20 mA or 0...10 V
LRZ 913	RS 232/485 interface, electrically isolated, 9-pin SUB-D socket
LRZ 914	Contact module NAMUR, 1 x In, 1 x Out, NE 28, 2 DIN socket
LRZ 915	Contact module SUB-D, 3 x In, 3 x Out, 15-pin SUB-D
LRZ 917	Profibus module, electrically isolated, 9-pin SUB-D socket



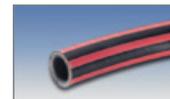
LRZ 912 LRZ 913 LRZ 914 LRZ 915 LRZ 917

Suitable hoses/tubing for heat transfer liquids and cooling water

Available upon request.



LZM 081



RKJ 031

Booster pumps (only ex works)

For higher flow rates and pressure for external systems, connections M30 x 1.5 O

Cat. No.	Temperature range	Pressure max.	Pump flow max.
LWZ 080	-100...150 °C	0.9 bar	90 L/min
LWZ 086	-40...150 °C	3.2 bar	40 L/min

(O = outer thread)



LWZ 080

Baskets

For notch bending test

Cat. No.	Suitable for
LUZ 008	RP 3050 C, RP 3050 CW, RP 3090 C, RP 3090 CW
LUZ 009	RP 4050 C, RP 4050 CW, RP 4090 C, RP 4090 CW



LUZ 008

Pour point determination

Bath cover accommodates up to 16 metal beakers

Cat. No.	Suitable for
UP 065	RP 4050 C, RP 4050 CW, RP 4090 C, RP 4090 CW



UP 065



Order the detailed LAUDA accessories brochure and the heat transfer liquids brochure free of charge. These and additional product information can also be found at www.lauda.de