

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 new **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 control unit with graphic LCD display
- 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



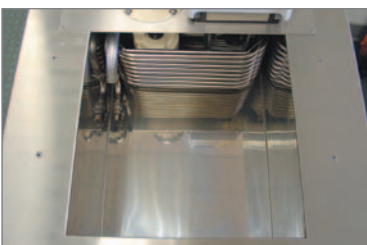
- Offset control head
- Integrated electrically heated cover plate and bath bridge heating
- Use of innovative cooling technology

- 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.

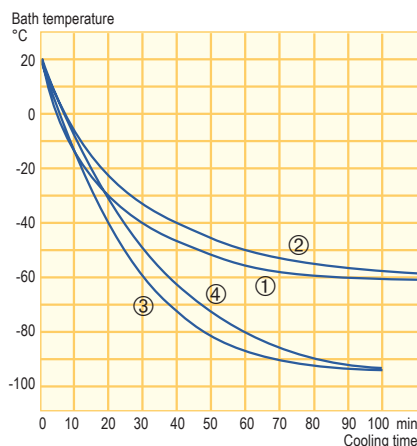
Two different booster pumps are available as accessories especially for external applications that require a considerable increase in volume flow/discharge pressure.



Cooling thermostat RP 4050 C



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

Standard accessories

Bath cover · 4 closing plugs for pump connections

Recommended accessories

Optional modules: analogue, RS 232/485, contact, Profibus module



All technical data from page 94
Other power supply variants on page 100



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

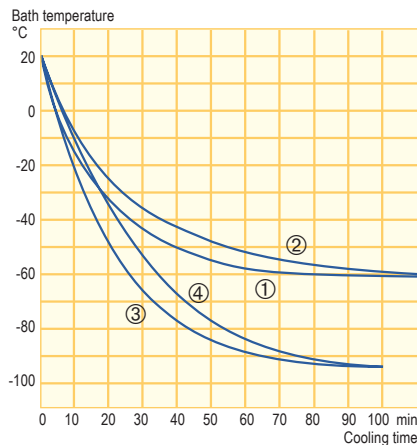
In the case of the water-cooled Proline Kryomats, the process heat is dissipated with the use of facility cooling water. This largely prevents unnecessary heating of the surrounding environment. As a result of this type of cooling, even higher cooling capacities are achieved than with the air-cooled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



Cooling thermostat RP 4090 CW



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

Standard accessories

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

Recommended accessories

Tubing for cooling water · Optional modules: analogue, RS 232/485, contact, Profibus module



All technical data from page 94
Other power supply variants on page 100

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. 400 V; 3/N/PE; 50 Hz		LUK 240	LUK 242	LUK 246	LUK 248

* Working temperature range is equal to ACC range

LAUDA Proline

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

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	

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

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)
LCZ 0679	Connection set for external inlet and outlet	LCZ 0660

Automatic filling device

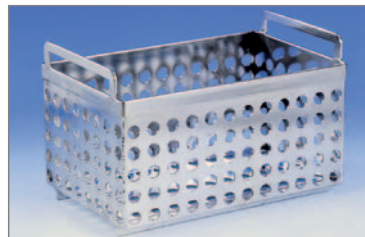
For automatic replacement of liquid losses in thermostat bath, for example by evaporation. Also from vessels with max. 1 m suction height

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

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

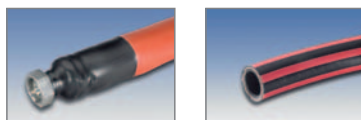


Proline Kryomats accessories

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	Description
LRZ 913	RS 232/485 interface	Electrically isolated, 9-pin SUB-D socket
LRZ 912	Analogue module	2 x In, 2 x Out, 0(4)...20 mA or 0...10 V
LRZ 915	Contact module SUB-D	3 x In, 3 x Out, 15-pin SUB-D
LRZ 914	Contact module NAMUR	1 x In, 1 x Out, NE 28, 2 DIN socket
LRZ 917	Profibus module	Electrically isolated, 9-pin SUB-D socket



Suitable tubings for heat transfer liquids and cooling water

Available upon request.

Booster pumps

For higher flow rates and pressure for external systems, connections M 30 x 1.5 O

Cat. No.	Description	Temperature range	Pressure max.	Pump flow max.
LWZ 080	EMP 174	-100...150 °C	0,9 bar	90 L/min
LWZ 086	EMP 081	-40...150 °C	3,2 bar	40 L/min

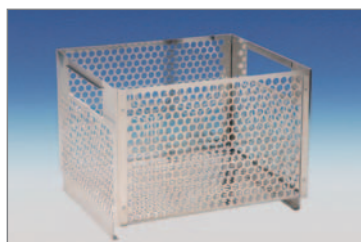
(O = outer thread)



Baskets

For notch bending test

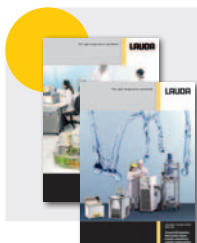
Cat. No.	Suitable for
LUZ 008	RP 3050 C, RP 3050 CW, RP 3090 C, RP 3090 CW
LUZ 009	RP 4050 C, RP 4050 CW, RP 4090 C, RP 4090 CW



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



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