The right temperature worldwide

LAUDA

Chapter Proline

LAUDA – the big one

Thermostats, Circulation chillers, Water baths

Overall Brochure 2016/2017

LAUDA Proline Kryomats

Cooling thermostats for professional use in process engineering and material testing from -90 up to 200 °C

Application examples

Constant temperatures

- Notch bending test
- Drop test

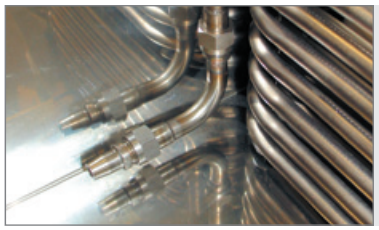
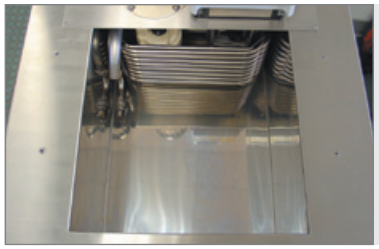
Changing temperatures

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

High cooling output, compact size, large baths, up to 40 liters

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
	• 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	• Accomodates 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

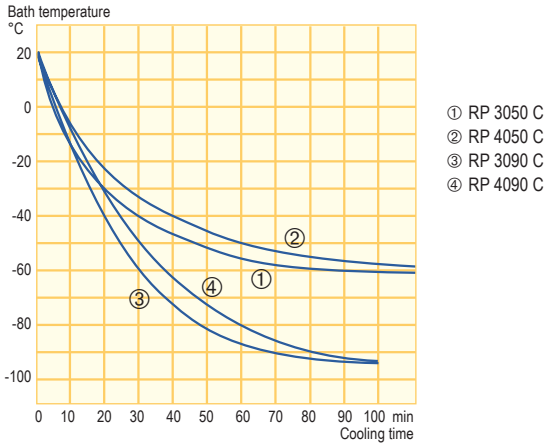
LAUDA Proline Kryomats

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

Cooling curves Heat transfer liquid: Ethanol, bath closed



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, Ethernet, EtherCAT module

Options
Booster pumps

All technical data on page 102 and following
Other power supply variants on page 113

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

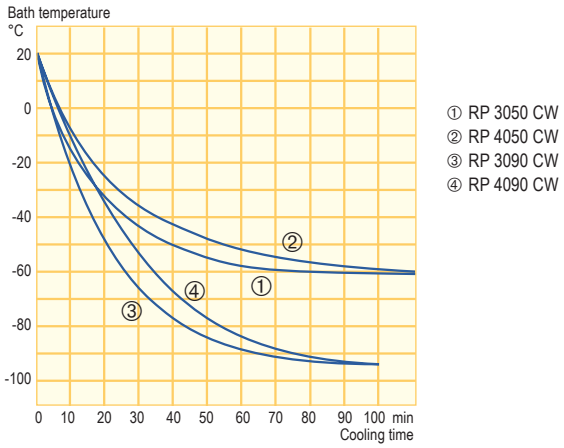
* Working temperature range is equal to ACC range

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

Cooling curves Heat transfer liquid: Ethanol, bath closed



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, Ethernet, EtherCAT module

Options
Booster pumps

All technical data on page 102 and following
Other power supply variants on page 113

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

Proline Kryomats accessories (excerpt)

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 921	Ethernet module
LRZ 922	EtherCAT module with M8 connection
LRZ 923	EtherCAT module with RJ45 connection
LCZ 9729	Module box with LiBus for 2 modules

LRZ 912 LRZ 913 LRZ 914 LRZ 915 LRZ 917

LRZ 921 LRZ 922 LRZ 923

LCZ 9727

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

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

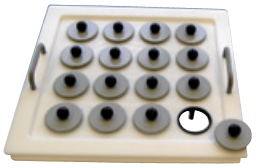
LUZ 008

Proline Kryomats accessories (excerpt)

Pour point determination

Bath cover accomodates 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

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

Cooling water tubes

Not suitable for Ultra 350 and mineral oil

Cat. No.	Designation	d_i (mm)	d_e (mm)	Temp.-range °C	Pressure range
RKJ 031	PDM tube, with textile inlay	13	19	-40...100	max. 10 bar
RKJ 032	PDM tube, with textile inlay	19	27	-40...100	max. 10 bar

d_i = internal diameter ; d_e = external diameter

RKJ 031

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**

Temperature solutions:

Thermostats · Circulation chillers · Water baths
Process cooling systems · Heat transfer systems · Secondary circuit systems

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