LAUDA Calibration thermostats

Calibration and adjustment with LAUDA calibration thermostats at temperatures from -40 up to 300 °C









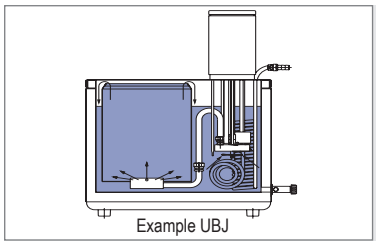
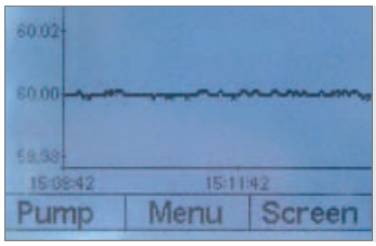
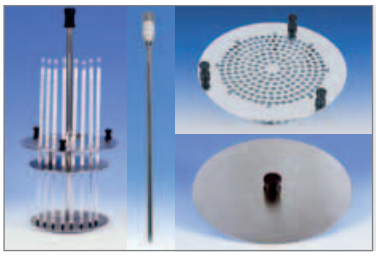
Application examples

- Industrial production
- Testing institutes
- Calibration of thermometers
- Quality assurance in the production of temperature probes

High temperature stability, variable sample vessels, extensive range of devices and accessories

LAUDA calibration thermostats are the first choice when it comes to temperature stability, greatest reliability, and homogeneity during calibration and adjustment. The high performance complete solutions for individual requirements are available in the Ecoline Staredition, Proline, and Ultra models. They differ in terms of size, bath-opening, and usable depth. Thermostats, in particular, are superior to heating cabinets and metal block thermostats as the heat transfer into the heat transfer liquid is 40 to 60 times better than through the air.

Your advantages at a glance

	The Calibration thermostats advantages	Your benefits
	• Calibration thermostats available from three different product lines	• The ideal solution for any calibration task
 Example UBJ	• Specifically constructed internal calibration chamber based on the overflow principle	• Outstanding spatial temperature distribution • High temperature stability • Consistent immersion depths
	• Temperature stability of ±0.005 K	• Allows reliable and accurate calibration of temperature measuring instruments
	• Specially insulated low-temperature thermostats available • Temperatures down to -40 °C achievable in conjunction with LAUDA cooling units • Intelligent control of the cooling system with the calibration thermostat	• Operation at low temperatures without formation of condensation on the outside of the devices • Operate reliably even at high ambient temperatures • Optimised adaptation to the application can be achieved by selection of the appropriate cooling unit • Problem-free operation across the entire temperature range
	• Extensive range of accessories available	• Reproducible submersion and calibration of the broadest range of test samples

LAUDA Calibration thermostats

Calibration thermostats Ecoline Staredition and Proline

The calibration thermostats of the LAUDA Ecoline Staredition range offer you temperature stabilities to ±0.01 K at temperatures down to -30 °C. The RE 212 J model with its two-line display, digital interface and basic programmer is convincing. The even more user-friendly RE 312 J offers the possibility of external control for even better accuracy and the PC software LAUDA Wintherm Plus. In the heating range, the compact Proline PJ 12/PJ 12 C models reach maximum temperatures up to 300 °C. The PJL 12/PJL 12 C were designed especially for operation with the LAUDA DLK 45 through-flow cooler and reach temperatures down to -40 °C.

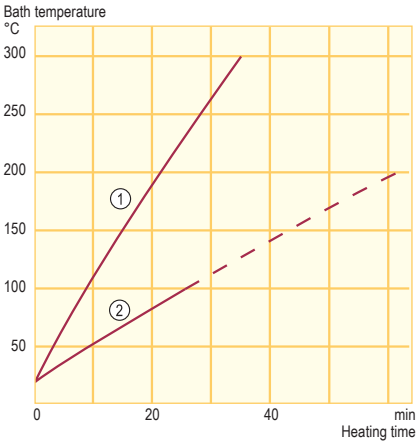


Ecoline Staredition RE 312 J



Proline PJ 12 C

Heating curves Heat transfer liquid: Ultra 300, bath closed



① PJ 12/PJ 12 C (to 300 °C)
PJL 12/PJL 12 C (to 200 °C)
② RE 212 J
RE 312 J

Temperature range
-40...300 °C

Included accessories
Nipples · screw caps · pump link (only RE 212 J and RE 312 J)

Additional accessories
Bath cover · calibration racks

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

Technical features		RE 212 J	RE 312 J
Working temperature range*	°C	-30...200	-30...200
Temperature stability	±K	0.01	0.01
Resolution of indication	°C	0.05	0.05/0.01
Heater power	kW	1.3	1.3
Cooling output at 20 °C	kW	0.30	0.30
Pump pressure max.	bar	0.40	0.40
Pump flow (pressure) max.	L/min	17	17
Bath volume	L	9...12	9...12
Bath opening/usable depth	mm	Ø 150/180	Ø 150/180
Cat. No. 115 V; 60 Hz		LCK 4879	LCK 4880

Technical features		PJ 12	PJ 12 C	PJL 12	PJL 12 C
Working temperature range	°C	30...300	30...300	30...200	30...200
Operating temperature range	°C	0…300	0…300	-40**…200	-40**…200
Temperature stability	±K	0.01	0.01	0.01	0.01
Resolution of indication	°C	0.1	0.1/0.01/0.001	0.1	0.1/0.01/0.001
Heater power 115 V/208-220 V	kW	1.8/3.5	1.8/3.5	1.8/3.5	1.8/3.5
Pump pressure max.	bar	0.8	0.8	0.8	0.8
Pump flow (pressure) max.	L/min	25	25	25	25
Bath volume	L	8.5...13.5	8.5...13.5	8.5...13.5	8.5...13.5
Bath opening/depth	mm	Ø 120/320	Ø 120/320	Ø 120/320	Ø 120/320
Usable depth	mm	300	300	300	300
Cat. No. 115 V; 60 Hz		LCB 4720	LCB 4721	LCB 4718	LCB 4719
Cat. No. 208-220 V; 60 Hz		LCB 8720	LCB 8721	LCB 8718	LCB 8719

*Working temperature range is equal to the ACC range.

**At -40 °C in conjunction with LAUDA through-flow cooler DLK 45 (see page 94)

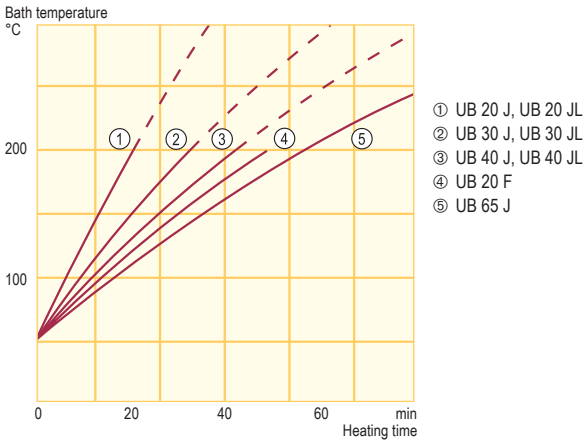
Calibration thermostats Ultra UB

LAUDA Ultra calibration thermostats offer excellent temperature stability and distribution values across a wide temperature range in the test chamber. The overflow principle ensures constant immersion depths here as well. The height of the liquid's surface can be changed to adjust completely immersed thermometers or other test objects. Thanks to its special insulation, the UB-JL range can be used with the LAUDA DLK 45 through-flow cooler down to -40 °C.



Ultra UB 30 J

Heating curves Heat transfer liquid: Ultra 300, bath closed



Temperature range
-40...300 °C

Included accessories
Nipples · screw caps

Additional accessories
Bath cover · calibration racks

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

Technical features		UB 20 J	UB 30 J	UB 40 J	UB 65 J
Working temperature range	°C	45*...300	45*...300	45*...300	80**...300
Temperature stability	±K	0.005…0.01	0.005…0.01	0.005…0.01	0.005…0.01
Resolution of indication	°C	0.01/0.001	0.01/0.001	0.01/0.001	0.01/0.001
Heater power	kW	3.0	3.0	3.0	3.0
Pump flow max.	bar	0.30	0.30	0.30	0.30
Pump flow (pressure) max.	L/min	15	15	15	15
Bath volume	L	15...18	22.5...30	32.5...40	48...54
Bath opening/depth	mm	Ø 195/195	Ø 195/320	Ø 195/450	Ø 215/690
Usable depth	mm	175	300	430	650
Cat. No. 230 V; 60 Hz		LTB 236	LTB 237	LTB 238	LTB 242

Technical features		UB 20 F	UB 20 JL	UB 30 JL	UB 40 JL
Working temperature range	°C	35*...200	45*...200	45*...200	45*...200
Operating temperature range	°C	0…200	-40***…200	-40***…200	-35***…200
Temperature stability	±K	0.005	0.005...0.01	0.005...0.01	0.005...0.01
Resolution of indication	°C	0.01/0.001	0.01/0.001	0.01/0.001	0.01/0.001
Heater power	kW	1.2	3.0	3.0	3.0
Pump flow max.	bar	0.20	0.30	0.30	0.30
Pump flow (pressure) max.	L/min	12	15	15	15
Bath volume	L	15...18	15...18	22.5…30	32.5…40
Bath opening/depth	mm	Ø 195/195	Ø 195/195	Ø 195/320	Ø 195/450
Usable depth	mm	175	175	300	430
Cat. No. 230 V; 60 Hz		LTB 239	LTB 243	LTB 244	LTB 245

*With open bath **80 °C only with water; with open bath ***At -40 or -35 °C in conjunction with LAUDA through-flow cooler DLK 45 (see page 94)

LAUDA Calibration thermostats

Calibration thermostats accessories

Calibration rack

Cat. No.	Qty. samples	Ø mm	Suitable for
UG 092	180	6,5	UB 20 F, UB 20 J



UG 092

Rotoracks

For thermometers or temperature probes for calibration purposes, all racks made from stainless steel, rotating and height adjustable

Cat. No.	Qty. samples	Ø mm	Height adjustable	Suitable for
UG 093	20	10	✓	UB 20 F, UB 20 J
UG 099	20	10	✓	UB 30 J
UG 100	20	10	✓	UB 40 J
UG 110	18	11	✓	RE 212 J, RE 312 J
UG 111	20	10	✓	RE 212 J, RE 312 J
UG 112	15	12	✓	PJ 12 (C), PJL 12 (C)



UG 099

Bath cover stainless steel

Cat. No.	Description	Suitable for
LTZ 032	Bath cover, circular with handle	UB 20 F, J, UB 30 J, UB 40 J UB 65 J



LTZ 032

Platinum resistance thermometers

For use on Pt100 inputs, stainless steel version to DIN EN 60751 (for connecting cables except for Pt100-94), with Lemo connection socket, accuracy class A



ETP 009

LAUDA Digital thermometers

Technical features		DigiCal DCM 2	DigiCal DCS 2
Measuring range	°C	-200...450	
Resolution	°C	-200...200: 0.01 > 200: 0.1	
Temperature probe		Pt100 Kl. B1/3 DIN sheath resistance probe in 4-conductor	
Digital output as standard		RS 232, electrically isolated, on 8-pole DIN socket	RS 232, electrically isolated, with 9-pole Sub D socket on the rear
Cat. No.:		**LMD 917**	**LMD 818** (90-260 V; 50/60 Hz)



DigiCal DCM 2



DigiCal DCS 2



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-brinkmann.com**