

PRODUCT DATA SHEET

Published: 2025-10-19

LAUDA Universa U 890 M

Cooling thermostat 200-240 V; 50/60 Hz

Part Number: L003781

Features

- Bath circulation thermostat with advanced electronics ensures precise control accuracy
- Future-proof thanks to modularity: LAUDA Universa with interchangeable control head and heating/cooling base allows flexible adaptation to current and future requirements.
- Clear overview, intuitive operation: The 5-inch colour TFT display simultaneously shows temperature values with a progression graph, offers clear menu navigation in six languages and clear operating status icons - easily controlled via cursor and soft keys.
- Focus on safety: The dedicated Tmax button provides convenient access to the essential overtemperature protection setting during commissioning.
- Versatile pressure-suction pump: The LAUDA Varioflex pump, a powerful pressure-suction pump, offers eight selectable performance levels, adjustable flow rate distribution for internal/external circulation for optimal volume flow and pressure
- Ball bearing pump for extreme requirements: Guarantees safe operation with highly viscous and dense heat transfer fluids as well as with impurities in the temperature control bath.
- Easily accessible front switch on the control head allows the pump output to be adjusted during operation.
- Highly efficient refrigeration technology: Combination of speed-controlled inverter compressor and capacity control by means of electronic expansion valves and speed-controlled fans - for improved energy efficiency and reduced operating costs, - increased service life by avoiding frequent switch-on and switch-off cycles, - dynamic approach to the set temperature and - quieter operation.
- Environmentally friendly refrigerants: Use of natural refrigerants for sustainable and environmentally conscious cooling.
- Adaptive bath edge ventilation (patent application): - Prevents icing and condensation - Stops water entering the bath - Blocks vapors to protect electronics. To increase operational safety and extend service life.
- Extensive functionality with programmer, safe mode, calibration options, controller self-adaptation and weekly planner for precise and flexible process control.
- Intelligent remote control and monitoring: Integrated web server allows flexible remote control in the company network via the LAUDA Command app or browser-based, secured by PKI and 2-factor authentication. The connection to LAUDA.LIVE enables global, cloud-based data analysis and remote maintenance.
- Maximum networking: Comprehensive connectivity for almost any application thanks to standard Ethernet, USB and interface for an external Pt100 as well as eleven optional interface modules.



Reserve technical changes

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- Wireless communication: Integrated WLAN enables effortless connection with PC, tablet and smartphone.
- Comprehensive safety functions: - Effective over- and under-level protection - Adjustable overtemperature protection with acoustic alarm - Automatic system diagnostics at start-up with alarm and error message display - Smart temperature control media management with automatic limit value adjustment. For reliable operation and improved safety of your valuable samples.

Options included

- Integrated Wi-Fi communication: The device may only be imported and used in certified countries and regions: United States of America, Canada, EU including the UK and Switzerland, and India.



Working temperature min.
-90 °C



Working temperature max.
200 °C

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Technical Features

Working temperature range	-90 ... 200 °C
Operating temperature range	-90 ... 200 °C
Ambient temperature range	5 ... 40 °C
Temperature stability	0.01 ± K
Heating capacity range	2.8 ... 3.7 kW
Current max.	16 A
Size of bath (W x D x H)	150 x 150 x 200 mm
Bath opening (WxT)	150 x 150 mm
Bath volume min. / max.	5.0 / 8.0 L
Pump Pressure max.	0,7 bar
Pump suction max.	0,4 bar
Pump flow rate max. (pressure)	25 L/min
Pump Flow rate max. (suction)	23 L/min
In / Outlet connection thread (outside)	M16 x 1
In / Outlet Ø olives	13 mm
Overall dimensions (WxDxH)	525 x 615 x 787 mm
Weight	77 kg
Refrigerant stage 1	R-1270 (GWP 3); 0.060 kg; 0.0 t CO ₂ -eq
Refrigerant stage 2	R-170 (GWP 6); 0.035 kg; 0.0 t CO ₂ -eq
Power supply	200-240 V, 50/60 Hz
Power plug	Power cord with plug (NEMA 6-20P)

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Power cord with plug (NEMA 6-20P)

Temperature	Pump stage	Heat transfer liquid	Cooling Capacity 50 Hz	Cooling Capacity 60 Hz
200 °C	8	Thermal oil	0.8 kW	0.8 kW
100 °C	8	Thermal oil	0.8 kW	0.8 kW
20 °C	8	Ethanol	0.8 kW	0.8 kW
10 °C	8	Ethanol	0.78 kW	0.78 kW
0 °C	8	Ethanol	0.74 kW	0.74 kW
-10 °C	8	Ethanol	0.72 kW	0.72 kW
-20 °C	4	Ethanol	0.72 kW	0.72 kW
-30 °C	4	Ethanol	0.68 kW	0.68 kW
-40 °C	4	Ethanol	0.64 kW	0.64 kW
-50 °C	4	Ethanol	0.6 kW	0.6 kW
-60 °C	4	Ethanol	0.46 kW	0.46 kW
-70 °C	4	Ethanol	0.28 kW	0.28 kW
-80 °C	4	Ethanol	0.12 kW	0.12 kW
-90 °C	4	Ethanol	0.02 kW	0.02 kW

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Standard accessories

- 1 Bath cover
- Pump connection set with M16x1 stainless steel connections
- 2 screw caps, 2 closing plugs
- 2 nipples 13 mm for pump connectors

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COOLING PERFORMANCE Heat transfer liquid: Ethanol, bath closed

Bath temperature °C



- 1 U 845 M
- 2 U 2040 M
- 3 U 4230 M
- 4 U 855 M
- 5 U 1645 M
- 6 U 890 M

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PUMP CHARACTERISTIC Heat transfer liquid: Water

Pressure bar



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

Suction

Flow rate L/min

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