

## PRODUCT DATA SHEET

Standing: 2023-02-15

LAUDA Integral IN 590 XTW Process thermostat  
 400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz  
 Part Number: L002687

### Features

- Process thermostat with integrated cooling system for dynamic temperature control within external circuits
- Coloured TFT display for simultaneous indication of actual & set values and graphic illustration of the temperature profile
- Clear text menu navigation, six selectable languages DE, EN, FR, ES, IT, RU
- Management of heat transfer liquids with stored properties
- Easy input via cursor and soft keys. Additional Tmax key for overtemperature protection
- SelfCheck Assistant for system diagnosis
- Fully electronic continuous controller with PID action for internal & external control
- Self adapt function for determination of control parameters
- PowerAdapt system for the use of the maximum possible amount of heat permitted by the power supply system
- Low-level and adjustable over-temperature protection with acoustic alarm for use with flammable and non-flammable liquids
- Powerful LAUDA Variopump (pressure pump) with 8 selectable output levels or control of outflow pressure
- USB and Ethernet interface equipped as standard
- Port for external Pt100 integrated, second external Pt100 feasible via interface module
- Remote fault indication through floating contact
- Option for upgrading up to 2 additional interfaces (RS 232/485, Profibus, analogue, contact or EtherCAT module)
- Integrated and adjustable bypass
- Programmer with 150 temperature/time segments that can be separated into 5 programs
- Digital display of pump pressure
- Very small internal volume and big non-thermostated expansion vessel (cold fluid layer system)
- Integrated web server for browser based operation in local area networks via PC, tablet or smart phone, secure data transfer due to authentication procedure and encryption
- SmartCool system for energy-saving digital cooling management including compressor on-off control
- Condenser cooling Water



Reserve technical changes

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 WEEE - Reg.-Nr.: DE 66 42 40 57

Kommanditgesellschaft: Sitz Lauda-Königshofen  
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Persönlich haftende Gesellschafterin:  
 LAUDA DR. R. WOBSEY Verwaltungs-GmbH  
 Sitz Lauda-Königshofen  
 Registergericht Mannheim • HRB 560226

Geschäftsführer:  
 Dr. Gunther Wobser (Vors.), Dr. Mario Englert,  
 Dr. Ralf Hermann, Dr. Marc Stricker  
 Beirat: Dr. Gerhard Wobser

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### Features

- Utilises traditional refrigerants (HFCs) in accordance with European legislation to control F-gases (EU) 517/2014



Working temperature min.  
-90 °C



Working temperature max.  
220 °C

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### Technical Features (according to DIN 12876)

Working temperature range	-90 ... 220 °C
Ambient temperature range	5 ... 40 °C
Temperature stability	0.05 ± K
Heater power max.	8 kW
Power consumption max.	11 kW
Current max.	16 A
Pump Pressure max.	3,1 bar
Pump flow rate max. (pressure)	65 L/min
In / Outlet connection thread (outside)	M30 x 1,5
Inlet/outlet hose size	3/4"
Filling volume min.	8 L
Filling volume max.	28.6 L
Water cooling connection thread (outside)	3/4 "
Recommended cooling water temperature	15 °C
Cooling water flow rate	15.8 L/min
Recommended pressure difference cooling water	3 bar
Pressure difference cooling water min.	0.8 bar
Max. pressure difference cooling water	10 bar
Maximal pressure cooling water	10 bar
Overall dimensions (WxDxH)	760 x 650 x 1605 mm
Weight	279 kg
Noise level	64 dB(A)
Refrigerant stage 1	R-449A (GWP 1397); 1.500 kg; 2.1 t CO <sub>2</sub> -eq
Refrigerant stage 2	R-508B (GWP 13400); 1.200 kg; 16.1 t CO <sub>2</sub> -eq
Power supply	400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz
Power plug	Power cord with plug (IEC 60309, 5-pol, CEE, red, 16 A)

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Temperature	Pump stage	Heat transfer liquid	Cooling Capacity 50 Hz	Cooling Capacity 60 Hz
200 °C	8	Thermal oil	4.5 kW	4.5 kW
100 °C	8	Thermal oil	4.5 kW	4.5 kW
20 °C	8	Ethanol	4.5 kW	4.5 kW
10 °C	8	Ethanol	4.45 kW	4.45 kW
0 °C	8	Ethanol	4.4 kW	4.4 kW
-10 °C	8	Ethanol	4.4 kW	4.4 kW
-20 °C	4	Ethanol	4.6 kW	4.6 kW
-30 °C	4	Ethanol	4.6 kW	4.6 kW
-40 °C	4	Ethanol	4.5 kW	4.5 kW
-50 °C	4	Ethanol	4.2 kW	4.2 kW
-60 °C	4	Ethanol	2.7 kW	2.7 kW
-70 °C	4	Ethanol	1.4 kW	1.4 kW
-80 °C	4	Ethanol	0.6 kW	0.6 kW
-90 °C	2	Ethanol	0.2 kW	0.2 kW

Reserve technical changes

### Standard accessories

- 2 nipples 1/2" with screw cap G3/4 for cooling water

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