

## PRODUCT DATA SHEET

Published: 2026-07-22

LAUDA Integral IN 1590 XTW Process thermostat  
400 V; 3/PE; 50 Hz & 460 V; 3/PE; 60 Hz  
Part Number: L002898

### 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  
Registergericht Mannheim • HRA 560069

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. 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) 573/2024



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.                             | 12 kW                                                    |
| Power consumption max.                        | 19 kW                                                    |
| Current max.                                  | 30 A                                                     |
| Pump Pressure max.                            | 3,1 bar                                                  |
| Pump flow rate max. (pressure)                | 65 L/min                                                 |
| In / Outlet connection thread (outside)       | M38 x 1,5                                                |
| Inlet/outlet hose size                        | 1"                                                       |
| Filling volume min.                           | 10 L                                                     |
| Filling volume max.                           | 30.6 L                                                   |
| Water cooling connection thread (outside)     | 3/4 "                                                    |
| Recommended cooling water temperature         | 15 °C                                                    |
| Cooling water temperature max.                | 30 °C                                                    |
| Cooling water consumption                     | 26 L/min                                                 |
| Recommended pressure difference cooling water | 3 bar                                                    |
| Pressure difference cooling water min.        | 0.8 bar                                                  |
| Max. pressure difference cooling water        | 10 bar                                                   |
| Maximum pressure cooling water                | 10 bar                                                   |
| Overall dimensions (WxDxH)                    | 760 x 650 x 1605 mm                                      |
| Weight                                        | 366 kg                                                   |
| Noise level                                   | 65 dB(A)                                                 |
| Refrigerant stage 1                           | R-449A (GWP 1397); 3.400 kg; 4.7 t CO <sub>2</sub> -eq   |
| Refrigerant stage 2                           | R-508B (GWP 13400); 1.800 kg; 24.1 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 (NEMA L16-30P twist lock; 30 A)     |

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### Technical Features (according to DIN 12876)

Certification

NRTL according to UL 1995:2018, CSA C22.2 no. 236-15 Ed.5th



Power cord with plug (NEMA L16-30P twist lock; 30 A)

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| Temperature | Pump stage | Heat transfer liquid | Cooling Capacity 50 Hz | Cooling Capacity 60 Hz |
|-------------|------------|----------------------|------------------------|------------------------|
| 200 °C      | 8          | Thermal oil          | 18.5 kW                | 18.5 kW                |
| 100 °C      | 8          | Thermal oil          | 18.5 kW                | 18.5 kW                |
| 20 °C       | 8          | Ethanol              | 18.5 kW                | 18.5 kW                |
| 10 °C       | 8          | Ethanol              | 15 kW                  | 16 kW                  |
| 0 °C        | 8          | Ethanol              | 11.5 kW                | 12.2 kW                |
| -10 °C      | 8          | Ethanol              | 8.7 kW                 | 9 kW                   |
| -20 °C      | 4          | Ethanol              | 8.5 kW                 | 9 kW                   |
| -30 °C      | 4          | Ethanol              | 8.5 kW                 | 9 kW                   |
| -40 °C      | 4          | Ethanol              | 7.5 kW                 | 8.5 kW                 |
| -50 °C      | 4          | Ethanol              | 6 kW                   | 7 kW                   |
| -60 °C      | 4          | Ethanol              | 4 kW                   | 5.2 kW                 |
| -70 °C      | 4          | Ethanol              | 2.2 kW                 | 3.4 kW                 |
| -80 °C      | 4          | Ethanol              | 0.9 kW                 | 1.5 kW                 |
| -90 °C      | 2          | Ethanol              | 0.35 kW                | 0.5 kW                 |

Reserve technical changes

### Standard accessories

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

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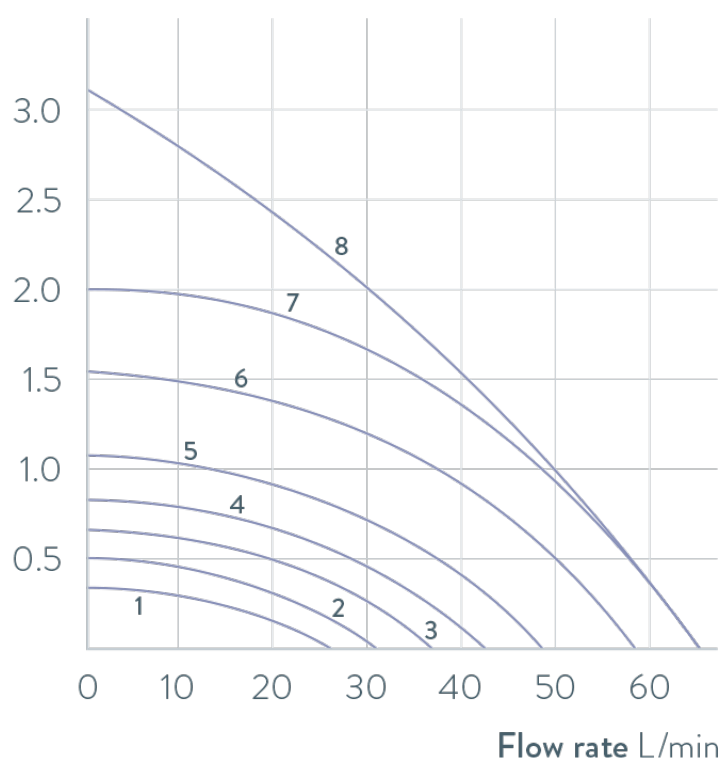
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### PUMP CHARACTERISTICS Heat transfer liquid: Water

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

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