

# LAUDA Viscothermostats

Thermostating in viscometry from -60 to 230 °C



## Application examples

- Standard-compliant thermostating of different models of glass capillary viscometers
- Thermostating of automatic viscometers as all-around systems
- Manufacture of dilution series with magnetic stirrers

## Precise, economical, flexible

LAUDA viscothermostats are the solution to thermostating all glass capillary viscometers. With their wide temperature range, the control heads of Proline and ECO meet the high requirements of viscosity measurement (ASTM D445, ISO 3105, and DIN 51562). High degree of transparency and homogeneous lighting guarantee good inspection of the measurement processes. Numerous advancement options (e.g. magnetic stirrer, additional cooler, tempe-

perature sensors, and software) optimize the range of applications possible. The new Viscocool and Viscotemp viscothermostats are sensible add-ons to the Proline PV and ECO ET. The Viscotemp models supplement the robust stainless steel thermostats with a very good price-performance ratio. The new Viscocool 6 is equipped with integrated Peltier cooling which enables thermostating at up to 15 °C below room temperature in compliance with standards.

## Your advantages at a glance

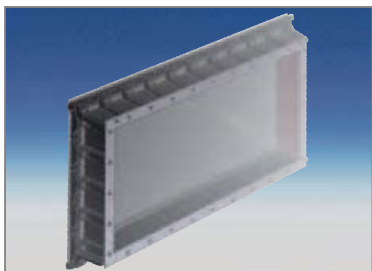


### The viscothermostats advantages Your benefits



- Numerous add-on options
- Automatic dilution series with automatic dispensers
- Stirrer integration for the „in-situ“ dissolving of polymer samples
- Temperature monitoring and Wintherm software
- Solid basis for VAS viscosity auto-sampler systems

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	<b>www.deltalabo.fr</b>



- Optimized insulation at high temperature
- Very wide temperature range from -60 (PVL) to 230 °C (PV)
- Minimal heat loss
- Heatable five-fold glazing in the Proline PVL versions
- No fogging up of the glass panes at low temperatures

# LAUDA Proline



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## Proline Viscothermostats

LAUDA viscothermostats are optimized for directly observing inserted objects. The temporal and spatial temperature stability required for precisely determining the viscosity is guaranteed for the full temperature range. As such, they are ideal for use with the fully automated LAUDA PVS or iVisc viscometers. Thanks to the double-chamber principle, a constant liquid level in the measuring room is guaranteed regardless of the rate and temperature. The PVL models are equipped with five layers of insulating glass and by connecting a DLK 45 through-flow cooler or Proline RP 890 cooling thermostat are suited to low-temperature measurements down to -40 or -60 °C.



Viscothermostat PV 24 C



### Special features

- Corrosion-resistant stainless steel bath with 15, 24 or 36 liter bath volumes
- Double-chamber system for constant liquid level in the measuring chamber of bath
- Cover plates for up to six automatic or nine stop watch (manual) measuring stations
- Multi-glazing with optional heating avoids fogged up glass panes
- Integrated heat exchanger for counter-cooling
- Can be combined with LAUDA flow coolers
- High control precision thanks to adaptive PID regulation
- Optional external sensor controls the temperature at the measuring location
- Integration of magnetic stirrers and combination with VAS systems possible

Temperature range  
 -60\*\*...230 °C

### Included accessories

2 hose nipples and 4 plugs for pump connection · 2 hose nipples for cooling coil

### Additional accessories

Heatable window frame – only for PVL 15 C, PVL 24 C · solenoid valve for cooling water, additional cooler

Technical features		PV 15/PV 15 C	PV 24/PV 24 C	PV 36/PV 36 C	PVL 15/PVL 15 C	PVL 24/PVL 24 C
Temperature range	°C	0*...230	0*...230	0*...230	-60**...100	-60**...100
Temperature stability	±K	0.01	0.01	0.01	0.01	0.01
Heater power 230 V (115 V/208-220 V)	kW	3.5 (1.8/-)	3.5 (-/3.5)	3.5 (-/3.5)	3.5 (1.8/-)	3.5 (1.8/-)
Pump pressure max.	bar	0.8	0.8	0.8	0.8	0.8
Pump suction max.	bar	–	–	–	–	–
Pump flow pressure max.	L/min	25	25	25	25	25
Pump flow suction max.	L/min	–	–	–	–	–
Bath volume	L	11...15	19...24	28...36	11...15	19...24
Bath opening/depth	mm	230x135/320	405x135/320	585x135/320	230x135/320	405x135/320
Glass pane size	mm	149x230	326x230	506x230	149x230	326x230
Dimensions	mm	506x282x590	740x282x590	1040x282x590	506x282x590	740x282x590
Cat. No. Master 230 V; 50/60 Hz		LCD 0276	LCD 0278	LCD 0280	LCD 0282	LCD 0284
Cat. No. Master 115 V; 60 Hz/208-220 V; 60 Hz		LCD 4276/-	LSO 4312/LCD 8778	-/LCD 8280	LCD 4282/-	LCD 4284/-
Cat. No. Command 230 V; 50/60 Hz		LCD 0277	LCD 0279	LCD 0281	LCD 0283	LCD 0285
Cat. No. Command 115 V; 60 Hz/208-220 V; 60 Hz		LCD 4277/-	-/LCD 8779	-/LCD 8281	LCD 4283/-	LCD 4285/-

\* Possible with LAUDA additional cooler

\*\* Possible with LAUDA Proline RP 890

## Proline accessories

### **NEW** Background lighting

Cat. No.	Description	Suitable for
LCZ 9738	BL 15	PV 15, PVL 15
LCZ 9739	BL 24	PV 24, PVL 24
LCZ 9740	BL 36	PV 36
EKS 097	Cable BL PVS	PV15, PVL 15, PV 24, PVL 24



LCZ 9738, LCZ 9739, LCZ 9740

### Cover plates

Cat. No.	Description
LTZ 045	Cover plate PV 15 V (for 2 measuring stands)
LTZ 048	Cover plate PV 15 VK (for 1 measuring stand/2 thermostating positions)
LTZ 017	Cover plate PV 15 K (for 3 manual measuring stations)
LTZ 046	Cover plate PV 24 V (for 4 measuring stands)
LTZ 049	Cover plate PV 24 VK (for 3 measuring stands/3 thermostating positions)
LTZ 019	Cover plate PV 24 K (for 5 manual measuring stations)
LTZ 023	Cover plate PV 24 7K (for 7 manual measuring stations)
LTZ 047	Cover plate PV 36 V (for 6 measuring stands)
LTZ 021	Cover plate PV 36 K (for 9 manual measuring stations)
LTZ 052	Insert for manual measurements



LTZ 045



LTZ 046



LMVZ 967

### Magnetic stirrer sets

Only factory mounted

Cat. No.	Description
LMVZ 967	2 stirring positions
LMVZ 968	4 stirring positions

### Through-flow cooler

Cat. No.	Description
LFD 111	DLK 45 LiBus, 230 V; 50 Hz
LFD 811	DLK 45 LiBus, 208-220 V; 60 Hz



LFD 111

### Additional cooler

Cat. No.	Description
LCK 1897	Proline RP 890 (down to -60 °C), 230 V; 50 Hz
LCK 8897	Proline RP 890 (down to -60 °C), 208-220 V; 60 Hz



LCK 1897



Further through-flow cooler and other accessories, see page 17

## Additional Viscocool, Viscotemp and Proline accessories

### Tubing

To connect thermostat and DLK

Cat. No.	Description
LZS 001	Silicone tubing, 8 mm I.D. (9 mm insulated)
LZS 007	Silicone tubing, 11 mm I.D. (9 mm insulated)
LZS 018	Viton tubing, 11 mm I.D. (9 mm insulated), when using silicone oils (Therm 180, 200, 240, Kryo 20)
EZS 012	Tubing clamps

### Temperature probes

For external temperature regulation

Cat. No.	Description
ETP 059	Pt100-94 Temperature probe for external control
LRZ 918	Pt100/LiBus module

### Through-flow cooler

Cat. No.	Description
LFD 010	DLK 10, 230 V; 50 Hz
LFD 710	DLK 10, 100 V; 50 Hz/115 V; 60 Hz
LFD 108	DLK 25, 230 V; 50 Hz
LFD 708	DLK 25, 100 V; 50 Hz/115 V; 60 Hz
UK 263	Control cable for Proline and ECO

### Interfaces

For temperature controlling via PC (TEMP-DLL)

Cat. No.	Description
LRZ 913	RS-232-/485 Interface
EKS 089	USB 2.0 cable: Mini USB

### Heat transfer liquids

For operation between 25 and 100 °C

Cat. No.	Description
LZB 114	Therm 180, 5-L canister
LZB 214	Therm 180, 10-L canister
LZB 314	Therm 180, 20-L canister

### Water stabilizer

Cat. No.	Description
LZB 923	AquaStab, algicide for viscothermostats, 100 ml



LZS 018



ETP 059



LFD 010



LRZ 913



LZB 923