

||||| Precise measuring instruments  
for viscosity and surface science

Product range 2022 / 2023

Version 2022-06-01

# Viscothermostats

Precise data. Constant values.

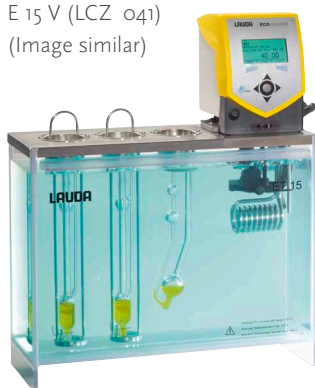
## Viscothermostats

LAUDA Scientific viscothermostats provide accurate tempering for all glass capillary viscometers. Various products are available to support different system configurations where international norm standards require a precise temperature stability (**ASTM 0445**, **ISO 3105** and **DIN 51562**).

### Viscocoool 6 S, Viscotemp 18 S, ET 15 S

#### ET 15 S

Incl. cover plate  
E 15 V (LCZ 041)  
(Image similar)



#### Viscocoool 6 S

With Peltier cool. unit,  
incl. cover plate  
(Image similar)



For R&D applications close to ambient temperature, the **Viscocoool 6** is the perfect selection. With a footprint of only 206x415 mm and an integrated thermoelectric unit it provides cooling without any additional devices.

The **ET 15 S** is a very economic bath made from polycarbonate where a maximum of three glass capillary viscometers for manual measurement using the stop watch or up to two automatic measuring stations for iVisc or S5 (PVS) can be used. If required, when using dilution viscometers for example, up to two magnetic stirrers can be added to the thermostat.

#### Viscotemp 18 S

Incl. cover plate  
18 5K (LCZ 0736)  
(Image similar)



The **Viscotemp 18 S** had been designed for temperatures around 100 °C, e.g. for operation with silicone oils and aggressive samples. Cover plates for either five manual measuring units or for one iVisc or S5 measuring stand plus one additional glass capillary viscometer can be provided.

Technical features	Viscocoool 6 S (L001104)	Viscotemp 18 S (L001106)	ET 15 S (L001098)
Material bath vessel	Polycarbonate	Glass	Polycarbonate
Working temperature range	15...90 °C	0 <sup>1)</sup> ...105 °C	20 <sup>1)</sup> ...100 °C
Temperature stability	± 0.01 K	± 0.01 K	± 0.01 K
Max. amount measuring stands	1	1	2
Max. amount manual thermost. positions	2	5	3
VRM mounting set available	✘	✘	✓
Heater power	1.3 kW	1.3 kW	1.3 kW
Bath volume	6.5 l	18.5 l	15 l
Voltage	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>
Dimensions (WxDxH)	206 x 415 x 530 mm	Ø310 x 510 mm	428 x 130 x 532 mm

<sup>1)</sup> Can be realized with external cooling

<sup>2)</sup> Other power supply variants on request

## Viscotemp 15 / 24 S

The Viscotemp 15 S / 24 S provides a high-quality stainless steel bath and glass window and can be used in the most common temperature range from 0 up to 105 °C. The well-arranged single-chamber system with optional background lighting allows a crystal-clear view and can be easily cleaned. Typical applications for that products are the determination of the viscosity index of motor oils or the solution viscosity of plastics.

The **Viscotemp 15 S** can be used with up to four manual measuring stations or two automatic measuring stands, iVisc or S5 (PVS). **Viscotemp 24 S** offers the capacity to work with maximum seven viscometers or up to four automatic measuring stands. On both versions the VRM 4 cleaning module can be installed. The corrosion-resistant thermostating bath allow the handling with aggressive samples, e.g. polyamides dissolved in sulfuric acid and is approved for the usage of suitable silicon oils (e.g. Therm 180) as heat transfer liquid.

### L001105 Viscotemp 15 S

Incl. cover plate  
15 2V (LCZ 0730)  
(Image similar)



### L001107 Viscotemp 24 S

Incl. cover plate 24 4V (LCZ 0733)  
(Image similar)



### Special Features:

- || Corrosion-resistant stainless steel bath with 19 to 27 liter bath volumes
- || For up to 4 automatic or 7 manual measuring stations
- || Clear design makes quick cleaning possible
- || Variopump with six pumping levels and pump flow distribution for perfect homogeneity
- || Display with standards-compliant resolution of 0.01 K, intuitive operation via cursor and soft-keys

Technical features	Visctemp 15 S (L001105)	Viscotemp 24 S (L001107)
Working temperature range	0 <sup>1)</sup> ...105 °C	0 <sup>1)</sup> ...105 °C
Temperature stability	± 0.01 K	± 0.01 K
Max. amount measuring stands	2	4
Max. amount of manual thermostating positions	4	7
VRM mounting set available	✓	✓
Heater power	1.3 kW	1.3 kW
Bath volume	19 l	27 l
Glass pane size (W x H)	152 x 233 mm	329 x 233 mm
Voltage	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>
Dimensions (W x D x H)	532 x 233 x 552 mm	708 x 233 x 552 mm

<sup>1)</sup> Can be realized with external cooling

<sup>2)</sup> Further power supply variants on request

## Proline PV(L) 15 / 24 / 36

LAUDA Scientific Proline PV(L) viscothermostats provide an outstanding temperature stability and homogeneity over the complete temperature range for all typical viscosity applications. As such, they are ideal for use with the fully automated PVS-S5 or iVisc viscometer and they are mandatory for the use with the VAS autosampler systems. Thanks to the double-chamber principle, a constant liquid level in the measuring room is guaranteed – even when changing the temperatures.

The special **PVL models** are equipped with five layers of insulating glass. By connecting a PRO circulation thermostat RP 250 or RP 290, they are suited for low-temperature measurements down to -40 or -60 °C.

**L001533**  
**Proline PV 24**  
(Image similar)



**L001532**  
**Proline PV 15**  
(Image similar)



(Image similar)

**L003010**  
**Proline PV 15**  
With ball bearing and  
silicon oil heat transfer liquid

### Special Features:

- || Corrosion-resistant stainless steel bath with 15, 24 or 36 liter bath volume
- || Double-chamber system for constant liquid level in the measuring chamber of bath
- || Multi-glazing with optional heating avoids fogged up glass panes
- || For up to 6 automatic or 9 manual measuring stations
- || Integrated heat exchanger for counter-cooling, can be combined with LAUDA circulation thermostats
- || 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

Technical features	PV 15 (L001532)	PV 24 (L001533)	PV 36 (L001534)	PVL 15 (L001538)	PVL 24 (L001539)
Working temperature range	0 <sup>1)</sup> ...230 °C	0 <sup>1)</sup> ...230 °C	0 <sup>1)</sup> ...230 °C	-60 <sup>3)</sup> ...100 °C	-60 <sup>3)</sup> ...100 °C
Temperature stability	± 0.01 K	± 0.01 K	± 0.01 K	± 0.01 K	± 0.01 K
Max. amount measuring stands	2	4	6	2	4
Max. amount manual positions	3	7	9	3	7
Heater power	3,5 kW	3,5 kW	3,5 kW	3,5 kW	3,5 kW
Bath volume	11...15 l	19...24 l	28...36 l	11...15 l	19...24 l
Glass pane size (W x H)	149 x 230 mm	326 x 230 mm	506 x 230 mm	149 x 230 mm	326 x 230 mm
Voltage	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>	230 V, 50/60 Hz <sup>2)</sup>
Dimensions (W x D x H)	506 x 282 x 590 mm	740 x 282 x 590 mm	1,040 x 282 x 590 mm	506 x 282 x 590 mm	740 x 282 x 590 mm

<sup>1)</sup> Can be realized with additional LAUDA cooler    <sup>2)</sup> Further power supply variants on request    <sup>3)</sup> Can be realized with LAUDA RP 290

## Cover plates for viscothermostats

### Viscotemp 18

**LCZ 0737** Cover plate 18 1V1K

For 1 measuring stand and 1 manual /thermostating position

**LCZ 0736** Cover plate 18 5K

For 5 manual /thermostating positions



LCZ 0737



LCZ 0736

### ET 15

**LCZ 041** Cover plate MD 15 V / E 15 V

For 2 measuring stands

**LCZ 040** Cover plate MD 15 VK / E 15 VK

For 1 measuring stand and 2 manual /thermostating positions

**LCZ 0685** Cover plate MD 15 K / E 15 K

For 3 manual /thermostating positions



LCZ 041

### Viscotemp 15

**LCZ 0730** Cover plate 15 2V

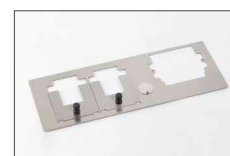
For 2 measuring stands

**LCZ 0731** Cover plate 15 1V2K

For 1 measuring stand and 2 manual /thermostating positions

**LCZ 0729** Cover plate 15 4K

For 4 manual /thermostating positions



LCZ 0730



LCZ 0731

### Viscotemp 24

**LCZ 0733** Cover plate 24 4V

For 4 measuring stands

**LCZ 0734** Cover plate 24 2V4K

For 2 measuring stands and 4 manual /thermostating positions

**LCZ 0732** Cover plate 24 7K

For 7 manual /thermostating positions



LCZ 0729



LCZ 0732

### Proline PV 15

**LTZ 045** Cover plate PV 15 V

For 2 measuring stands

**LTZ 048** Cover plate PV 15 VK

For 1 measuring stand and 2 manual /thermostating positions

**LTZ 017** Cover plate PV 15 K

For 3 manual /thermostating positions



LTZ 045

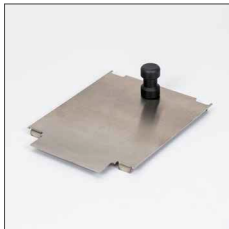
## Cover plates for viscothermostats



**LTZ 049**



**LTZ 052**



**HDQ 093**

### Proline PV 24

**LTZ 046 Cover plate PV 24 V**

For 4 measuring stands

**LTZ 049 Cover plate PV 24 VK**

For 3 measuring stands and 3 manual / thermostating positions

**LTZ 019 Cover plate PV 24 5K**

For 5 manual / thermostating positions

**LTZ 023 Cover plate PV 24 7K**

For 7 manual / thermostating positions

### Proline PV 36

**LTZ 047 Cover plate PV 36 V**

For 6 measuring stands

**LTZ 021 Cover plate PV 36 K**

For 9 manual / thermostating positions

### General

**LTZ 052 Retrofit kit for manual measurements**

For cover plates V / VK

**HDR 016 Lid (round)**

For use in K-cover plates

**HDQ 093 Closing lid**

For V-cover plates

## Accessories for viscothermostats



**LCZ 9738 | LCZ 9739 | LCZ 9740**

**LCZ 9681 Heatable window frame for Proline PVL 15**

Avoids fogged up glass panes, LiBus (optional, installing by factory)

**LCZ 9682 Heatable window frame for Proline PVL 24**

Avoids fogged up glass panes, LiBus (optional, installing by factory)

### Bath illumination

**LCZ 9738 Background lighting BL 15**

LED back-light panel for Viscotemp 15 and Proline PV(L) 15

**LCZ 9739 Background lighting BL 24**

LED back-light panel for Viscotemp 24 and Proline PV(L) 24

**LCZ 9740 Background lighting BL 36**

LED back-light panel for Proline PV 36

**EKS 068 Extension cable LiBus**

5 m, for Background lighting BL 36 (LCZ 9740)

## Accessories for viscothermostats

### LRZ 913 RS 232/485 Interface for PV(L) viscothermostats

Plug-in module upgrading a LAUDA PV(L) viscothermostat with a RS 232/485 interface, necessary for temperature control via PC with PVS software module TEMP-DLL (LDVM2023)

### ETP 059 External temperature probe PT100-94

For viscothermostats

### LRZ 918 Pt 100 LiBus module

Plug-in unit for use with external temperature probe PT100-94 (ETP 059)



LRZ 913

## Magnetic stirrer equipment for dilution viscometry

### LMZ 841 Single-place magnetic stirrer set

For ET 15 s (retrofitting possible)

### LMVZ967-1 Two-place magnetic stirrer set for PV15

With control unit, installing by factory

### LMVZ968-1 Four-place magnetic stirrer set for PV24

With control unit, installing by factory

### UD 1190 Spirit level

For viscometer alignment



UD 1190

## Add. external cooling equipment

### L001046 LAUDA Microcool MC 250 (230 V / 50 Hz)

Circulation chiller, working temp. range -10...+40 °C, temperature stability 0.5 ± K, other power supply variants on request, requires silicone tubing (LZS 007)

Use with Viscotemp and ET 15 S requires cooling coil set (LCZ 0719)

### LMVZ884 Cool.Fix

Heat exchanger for temperatures up to -50 °C, incl. 2x metal tubing MK 100 (LZM 053)

Requires external cooling-heating circulator (e.g. LAUDA PRO RP 290 E)

### L000022 LAUDA PRO RP 245 E (230 V / 50 Hz)

Compact circulation thermostats for use with Proline PVL thermostats, working temp. range -45...+200 °C, temperature stability 0.05 ± K, heater power max. 2.5 kW, cooling output (at 20 °C) 0.8 kW, (at -30 °C) 0.15 kW, other power supply variants on request

### L002502 LAUDA PRO RP 290 E (230 V / 50 Hz)

Compact circulation thermostats for use with Proline PVL thermostats, working temp. range -90...+200 °C, temperature stability 0.05 ± K, heater power max. 2.5 kW, cooling output (at 20 °C) 0.8 kW, (at -60 °C) 0.39 kW, other power supply variants on request



LAUDA Microcool MC 250



LMVZ884  
Cool.Fix

## Accessories for additional external cooling equipment



**LCZ 0719**  
Cooling coil set

### **LCZ 0719 Cooling coil set**

For use with circulating chillers and viscothermostats ET 15 S and Viscotemp series, also suitable for direct use with of tap water

### Tubings

For connecting circulation chillers with the cooling coil of viscothermostats

#### **LZS 001 Silicone tubing**

8 mm inner diameter (9 mm insulated), price per meter

#### **LZS 007 Silicone tubing**

11 mm inner diameter (9 mm insulated), price per meter

#### **LZM 053 Metal tubing MK 100**

M16X1, 100 cm, for temperatures -90...150 °C,  
2 pcs. needed per each thermostat

#### **LZM 055 Metal tubing MK 200**

M16X1, 200 cm, for temperatures -90...150 °C,  
2 pcs. needed per each thermostat

#### **LZS 018 Viton tubing**

12 mm inner diameter (10 mm insulated), price per meter  
for temperatures -20...150 °C

#### **HKA 068 Adapter**

M16X1 – M14X1,5

#### **EZS 012 Tubing clamp**

For silicon and viton tubings (LZS 001, LZS 007, LZS 018)



**LZS 007**

## Heat transfer liquids



**LZB 114 | LZB 214 | LZB 314**

### Silicon oil

Temperature ranges: 0...180 °C<sup>1)</sup> | **10...110 °C<sup>2)</sup>**

**LZB 114 Therm 180, 5 l**

**LZB 214 Therm 180, 10 l**

**LZB 314 Therm 180, 20 l**

Temperature ranges: 90...200 °C<sup>1)</sup> | **90...150 °C<sup>2)</sup>**

**LZB 122 Therm 250, 5 l**

**LZB 222 Therm 250, 10 l**

**LZB 322 Therm 250, 20 l**

Temperature ranges: -20...180 °C<sup>1)</sup> | **-20...100 °C<sup>2)</sup>**

**LZB 116 KRYO 20, 5 l**

**LZB 216 KRYO 20, 10 l**

**LZB 316 KRYO 20, 20 l**

Temperature ranges: -50...120 °C<sup>1)</sup> | **-40...50 °C<sup>2)</sup>**

**LZB 121 KRYO 51, 5 l**

**LZB 221 KRYO 51, 10 l**

**LZB 321 KRYO 51, 20 l**

<sup>1)</sup> Temperature range  
technically approved

<sup>2)</sup> Temperature range recommended  
for viscosity measurement



## Heat transfer liquids

### Silicon oil

Temperature ranges:  $-70...30^{\circ}\text{C}^{1)}$  |  $-60...30^{\circ}\text{C}^{2)}$

LZB 130 KRYO 95, 5l  
LZB 230 KRYO 95, 10l  
LZB 330 KRYO 95, 20l

LZB 929 Aqua Stab water stabilizer, 100 ml

Algicide for viscothermostats, not suitable for Viscocool 6 and ET 15



LZB 929  
Aqua Stab

## Omnicool 62 Plus

### Omnicool 62 Plus

The compact Omnicool 62 Plus thermoelectric thermostats contain control and regulation electronics as well as elements for heat dissipation. Users do not require any further devices. Vessels with diameters of up to 60 mm can be precisely heated and cooled thanks to the integrated temperature sensor.

#### Advantages and Benefits:

- || Temperature control based on the thermoelectric effect from 10 up to 80 °C, precision of  $\pm 0.05\text{ K}$
- || Stirring function for small sample volumes
- || Extremely low footprint, quick to set-up and easy to integrate



### LMP 8003 Omnicool 62 Plus

Incl. Sample beaker 150 ml, 60x80 mm (EG o82-1), PTFE magnetic stirrer bar (EZ 195), external temperature probe PT 1000 (ETP o88) and holder for temperature probe (LMZ o56)

#### EG o82 Sample beaker

50 ml, 60x80 mm, 10 pcs.

#### EZ 195 PTFE stirrer bar

magnetic, small (5x250 mm)

#### ETP o88 External temperature probe PT 1000

#### LMZ o56 Holder for temperature probe PT 1000



ETP o88



LMZ o56

Technical modifications, errors  
and omissions excepted.



[www.lauda-scientific.de/en](http://www.lauda-scientific.de/en)

**LAUDA Scientific GmbH**  
Laudaplatz 1  
97922 Lauda-Königshofen  
Germany

Phone: +49 (0) 9343 503-340  
Fax: +49 (0) 9343 503-222  
E-Mail: [info@lauda-scientific.de](mailto:info@lauda-scientific.de)

**LAUDA**  
  
**scientific**