

LAUDA WK class

Circulation chillers with closed cooler circuit for continuous nonstop work in research, technology and production at temperatures from -30 up to 40 °C



Application examples

- Analytical devices such as electron microscopes, X-ray units, refractometers, distilling systems or AAS units
- Rotary evaporators and Soxhlet systems
- X-ray control systems e.g. at airports and semiconductor systems
- Control of cooling traps e.g. in the drying of gases
- Central cooling water supplies for complete laboratories to replace cooling with tap water

Reliable, large selection of models, compact construction

LAUDA WK class circulation chillers are used where operating heat has to be discharged reliably and quickly in chemical production processes or from technical systems – in harsh constant use environments. Unlike cooling with

tap water, they provide a constant temperature irrespective of the time of year and pressure fluctuations. The water saving also protects the environment and significantly reduces operating costs.

Your advantages at a glance

+

The WK class advantages

Your benefits



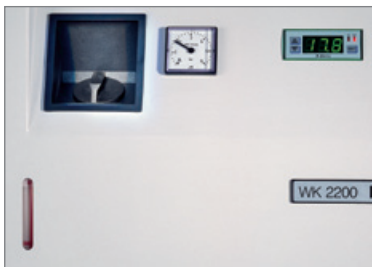
- 37 different models
- Cooling capacity from 230 W to 13 kW
- Independent cooling-water system instead of central cooling-water supply

- The right solution for all requirements
- Cooling-water temperature and pressure always constant
- Avoids the leakage of substances that are hazardous to the environment



- LED display and 3-button operation

- Easy operation



- Easily visible level display and discharge pressure display from WK 1200
- All devices with submersible pump

- Important operating parameters visible at a glance
- No seal problems at the pump shaft



- Below the bench height of 79 cm on units up to WK 2400
- Small footprint

- Fits under the standard laboratory bench top
- Saves valuable laboratory space

LAUDA WK class

WK class WK circulation chillers up to 600 W

The circulation chillers of the WK class are available with different cooling and pump configurations. The temperature range for all the units is from 0 up to 40 °C.

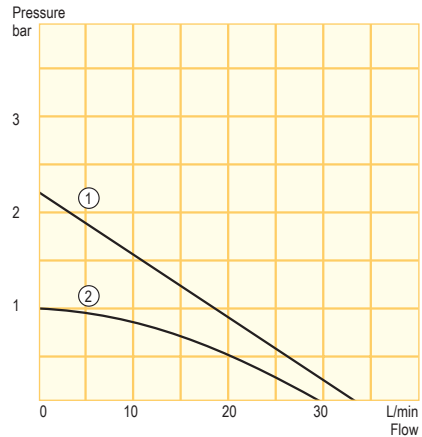
The LAUDA WK 300 was especially designed for simple cooling tasks down to 0 °C and is ideally suited for the use on the laboratory bench due to its compact size. The circulation chillers WK 500 and WK 502 differ in their cooling and pump output. The WK 502 was especially designed for the connection to atomic absorption spectrometers (ASS). Unlike the WK 500, it has an appropriately upgraded cooling unit and pump.



Circulation chiller WK 500

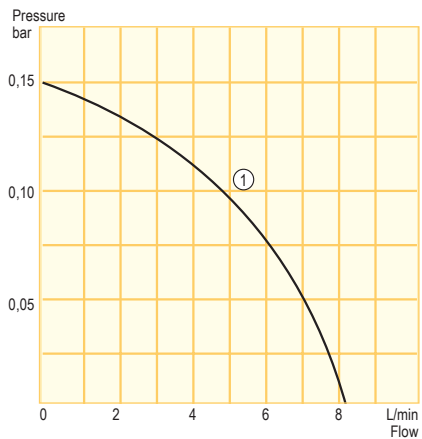


Pump characteristics Heat transfer liquid: Kryo 30



- ① WK 502
- ② WK 500, WK 1400
WK 1400 W, WK 2400
WK 2400 W
T 1200...T 2200 W
(1-bar pump)

Pump characteristics Heat transfer liquid: Kryo 30



- ① WK 300, WKL 230

Temperature range

0...40 °C

Standard accessories

Nipples · screw caps

Options (only WK 500, WK 502)

Digital interface RS 232/485, (LWZ 033) ·
flow control instrument (LWZ 034)

Recommended accessories

Fiber-reinforced rubber tubing 1/2" · insulation for
rubber tubing 1/2" · 4-port manifold



All technical data from page 98
Other power supply variants on page 103

Technical features		WK 300	WK 500	WK 502
Working temperature range	°C	0...40	0...40	0...40
Temperature stability	±K	0.5	0.5	0.5
Cooling output at 20 °C	kW	0.31	0.50	0.60
Pump pressure max.	bar	0.15	1.0	2.2
Pump flow max.	L/min	8	30	33
Cat. No 230 V; 50 Hz		LWM 117	LWG 132	LWG 140

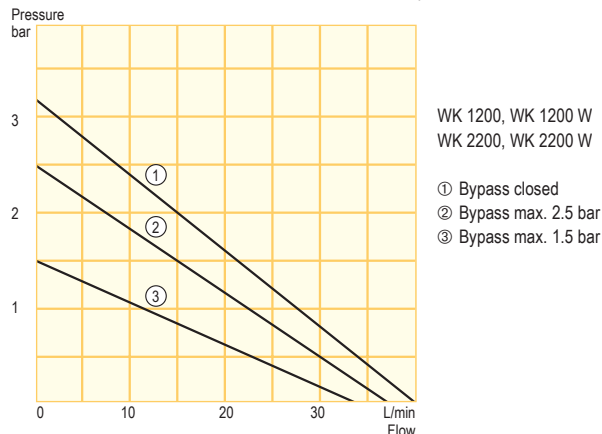
WK class WK circulation chillers up to 2.8 kW

The differences between the individual units are the effective cooling and pump outputs and the dimensions. All units can be supplied with water cooling (W). This enables greater cooling performance without heating of the surrounding laboratory environment.



Circulation chiller WK 1200

Pump characteristics Heat transfer liquid: Kryo 30



Temperature range

0...40 °C

Standard accessories

Nipples · screw caps · Water tubing – only WK 1200 W, WK 1400 W, WK 2200 W, WK 2400 W

Options

Digital interface RS 232/485 (LWZ 033) · flow control instrument (LWZ 035) · high-power pump 5.5 bar (LWZ 031) – only WK 1200, WK 1200 W, WK 2200, WK 2200 W

Recommended accessories

Fiber-reinforced rubber tubing ³/₄" · insulation for rubber tubing ³/₄" · 4-port manifold · fiber-reinforced rubber tubing ¹/₂" · insulation for rubber tubing ¹/₂"



All technical data from page 98
Other power supply variants on page 103

Technical features		WK 1200	WK 1200 W	WK 1400	WK 1400 W
Working temperature range	°C	0...40	0...40	0...40	0...40
Temperature stability	±K	0.5	0.5	0.5	0.5
Cooling output at 20 °C	kW	1.2	1.5	1.4	1.7
Pump pressure max.	bar	3.2	3.2	1*	1*
Pump flow max.	L/min	40	40	30	30
Cat. No. 230 V; 50 Hz		LWG 133	LWG 161	LWG 137	LWG 162

Technical features		WK 2200	WK 2200 W	WK 2400	WK 2400 W
Working temperature range	°C	0...40	0...40	0...40	0...40
Temperature stability	±K	1	1	1	1
Cooling output at 20 °C	kW	2.2	2.6	2.4	2.8
Pump pressure max.	bar	3.2	3.2	1*	1*
Pump flow max.	L/min	40	40	30	30
Cat. No. 230 V; 50 Hz		LWG 134	LWG 163	LWG 138	LWG 164

* Pump characteristics p. 70

LAUDA WK class

WK class WK circulation chillers up to 13 kW



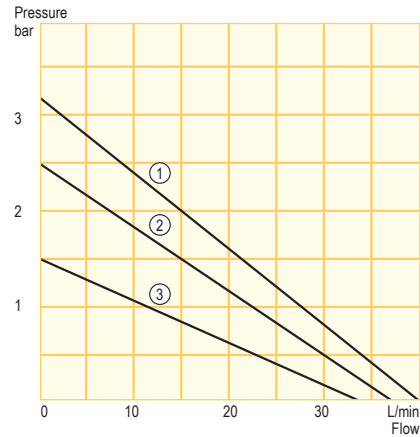
The different cooling capacities are critical when selecting a unit. The WK class circulation chillers from 1 kW cooling capacity upwards are also available with water-cooling (W). In the more powerful WK 7000 to WK 10000 W circulation chillers, a second pump provides the internal circulation in addition to the pump for the external circuit. Thus the cooling capacity and temperature stability do not depend on the flow characteristics in the external circuit. These units can be supplied on request with water cooling (W). For these units, the use of water/glycol mixtures as heat transfer liquid is compulsory.

The LAUDA WK circulation chillers are available with different options, e.g. RS 232/485 interface and enhanced pumping systems.



Circulation chiller WK 7000

Pump characteristics Heat transfer liquid: Kryo 30



WK 3200 to
WK 10000 W

- ① Bypass closed
- ② Bypass max. 2.5 bar
- ③ Bypass max. 1.5 bar

Temperature range

0...40 °C

Standard accessories

- Nipples · screw caps ·
- Water tubing – only WK 3200 W, WK 4600 W

Options

- High-power pump 5.5 bar (LWZ 032) ·
- digital interface RS 232/485 (LWZ 033) ·
- flow control instrument (LWZ 035)

Recommended accessories

- Fiber-reinforced rubber tubing $\frac{3}{4}$ " · insulation for rubber tubing $\frac{3}{4}$ " ·
- 4-port manifold · fiber-reinforced rubber tubing $\frac{1}{2}$ " · insulation for rubber tubing $\frac{1}{2}$ "



All technical data from page 98
Other power supply variants on page 103

Technical features		WK 3200	WK 3200 W	WK 4600	WK 4600 W
Working temperature range	°C	0...40	0...40	0...40	0...40
Temperature stability	±K	1	1	0.5	0.5
Cooling output at 20 °C	kW	3.5	4.0	4.6	5.3
Pump pressure max.	bar	3.2	3.2	3.2	3.2
Pump flow max.	L/min	40	40	40	40
Cat. No. 400 V; 3/N/PE; 50 Hz		LWG 235	LWG 265	LWG 236	LWG 258

Technical features		WK 7000	WK 7000 W	WK 10000	WK 10000 W
Working temperature range	°C	0...40	0...40	0...40	0...40
Temperature stability	±K	0.5	0.5	0.5	0.5
Cooling output at 20 °C	kW	7.0	8.5	10.0	13.0
Pump pressure max.	bar	3.2	3.2	3.2	3.2
Pump flow max.	L/min	40	40	40	40
Cat. No. 400 V; 3/N/PE; 50 Hz		LWG 245	LWG 247	LWG 249	LWG 251

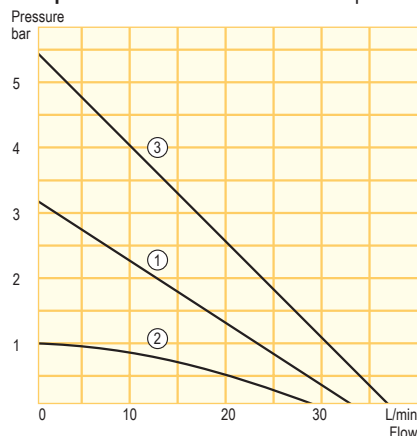
WK class WKL circulation chillers up to 1 kW

The WKL 230 circulation chiller was especially designed for simple thermostating tasks below 0 °C. Thanks to its extremely compact construction and small footprint it fits anywhere. The temperature range of the WKL 230 is from -10 °C up to 40 °C with a temperature stability of ±0.5 K. The compact circulation chillers WKL 600 to WKL 1000 have different pumps and cooling performance.



Circulation chiller WKL 230

Pump characteristics Heat transfer liquid: Kryo 30



- ① WKL 603, WKL 903
- ② WKL 600, WKL 900
WKL 1000
- ③ Option
pump 5.5 bar

Pump characteristics
WKL 230 and WK 300
p. 70

Temperature range

-25...40 °C

Standard accessories

Nipples · screw caps · bath cover (WKL 230)

Options (WKL 600...1000)

Digital interface RS 232/485 (LWZ 033) ·
flow control instrument (LWZ 034)

Additional accessories WKL 230...1000

EPDM-tube (only WKL 230) · fiber-reinforced rubber tubing 1/2" ·
insulation for rubber tubing 1/2" · 4-port manifold · adjustable
bypass and pressure indication (WKL 603 and WKL 903)



All technical data from page 98
Other power supply variants on page 103

Technical features		WKL 230	WKL 600	WKL 603
Working temperature range*	°C	-10...40	-25...40	-20...40
Temperature stability	±K	0.5	1.0	1.0
Cooling output at 20 °C	kW	0.23	0.65	0.52
Pump pressure max.	bar	0.15	1.0	3.2
Pump flow max.	L/min	8	30	33
Cat. No. 230 V; 50 Hz		LWM 016 (230 V; 50/60 Hz)	LWG 141	LWG 142

Technical features		WKL 900	WKL 903	WKL 1000
Working temperature range*	°C	-20...40	-15...40	-10...40
Temperature stability	±K	1.0	1.0	0.5
Cooling output at 20 °C	kW	0.95	0.8	1.0
Pump pressure max.	bar	1.0	3.2	1.0
Pump flow max.	L/min	30	33	30
Cat. No. 230 V; 50 Hz		LWG 159	LWG 160	LWG 173

* Working temperature range is equal to ACC range

LAUDA WK class

WK class WKL circulation chillers up to 13 kW

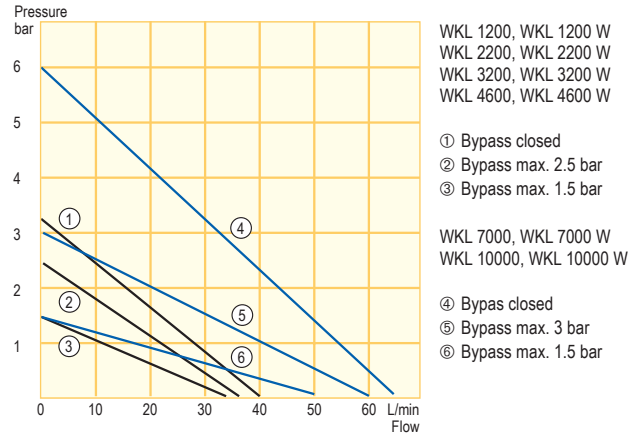


The WKL circulation chillers differ in terms of their cooling capacities and achieve temperatures of -10 °C (WKL 1200 to WKL 4600 W) or -30 °C (WKL 7000 to WKL 10000 W). All units are also available in the water-cooled design (W). With these units, the use of water/glycol mixtures as the heat transfer liquid is compulsory.



Circulation chiller WKL 7000

Pump characteristics Heat transfer liquid: Kryo 30



Temperature range

-30...40 °C

Standard accessories

Nipples · screw caps · Water tubing – only WKL 1200 W, WKL 2200 W, WKL 3200 W, WKL 4600 W, WKL 7000 W and WKL 10000 W

Options

Enlarged temperature range down to -25 °C to WKL 4600 (W) · RS 232/485 digital interface · flow control instrument · low-pressure pump 1 bar (30 L/min)*** · high-power pump 5.5 bar



All technical data from page 98
Other power supply variants on page 103

Technical features		WKL 1200	WKL 1200 W	WKL 2200	WKL 2200 W	WKL 3200	WKL 3200 W
Working temperature range*	°C	-10...40	-10...40	-10...40	-10...40	-10...40	-10...40
Temperature stability	±K	0.5	0.5	1.0	1.0	1.0	1.0
Cooling output at 20 °C	kW	1.2	1.6	2.2	2.7	3.5	4.2
Pump pressure max.	bar	3.2	3.2	3.2	3.2	3.2	3.2
Pump flow max.	L/min	40	40	40	40	40	40
Cat. No. 230 V; 50 Hz		LWG 153	LWG 166	LWG 154	LWG 167	LWG 255**	LWG 268**

Technical features		WKL 4600	WKL 4600 W	WKL 7000	WKL 7000 W	WKL 10000	WKL 10000 W
Working temperature range*	°C	-10...40	-10...40	-30...40	-30...40	-30...40	-30...40
Temperature stability	±K	0.5	0.5	0.5	0.5	0.5	0.5
Cooling output at 20 °C	kW	4.6	5.3	7.0	8.5	10.0	13.0
Pump pressure max.	bar	3.2	3.2	6.0	6.0	6.0	6.0
Pump flow max.	L/min	40	40	60	60	60	60
Cat. No. 400 V; 3/N/PE; 50 Hz		LWG 256	LWG 257	LWG 246	LWG 248	LWG 250	LWG 252

* Working temperature range is equal to ACC range

** 400 V; 3/N/PE; 50 Hz

*** Pump characteristics p. 70

WK class accessories

Reinforced polymer tubing

Special polymer tubing (EPDM) for high pressures

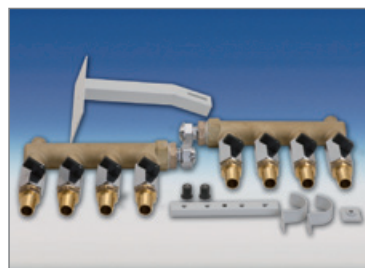
Cat.-No.	Description	Temp.-range °C	Max. pressure in bar
RKJ 031	Polymer tube 1/2" fiber-reinforced	-40...100	20
RKJ 032	Polymer tube 3/4" fiber-reinforced	-40...100	20
RKJ 033	Polymer tube 1" fiber-reinforced	-40...100	20



Manifold connectors

For joining multiple external systems (for water/glycol, not suitable for silicone oil)

Cat.-No.	Description	Connection	Male thread	Temp.-range °C
LWZ 010	Four-port manifold	G 3/4"	4 x 3/4"	-10...100
LWZ 022	Four-port manifold	G 3/4"	4 x 1/2"	-10...100
LWZ 039	Four-port manifold	G 3/4"	4 x 10 mm	-10...100
LWZ 024	Four-port manifold	G 1 1/4"	4 x 3/4"	-10...100
LWZ 038	Four-port manifold	M16 x 1	4 x 10 mm	-10...100
LWZ 009	Four-port manifold	M16 x 1	4 x 1/2"	-10...100



Options ex works: WK circulation chillers up to 0 °C

Cat.-No.	WK 300	WK 500	WK 502	WK 1200	WK 1200 W*	WK 1400	WK 1400 W*	WK 2200	WK 2200 W*	WK 2400	WK 2400 W*	WK 3200	WK 3200 W*	WK 4600	WK 4600 W*	WK 7000	WK 7000 W*	WK 10000	WK 10000 W*
RS 232/485 digital interface	LWZ 033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Flow control instrument	LWZ 034 LWZ 035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High-power pump 5.5 bar, 40 L/min. 50-Hz version (see pump characteristics on p. 73)	LWZ 031-1 LWZ 032-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Options ex works: WK circulation chillers down to -30 °C

Cat.-No.	WKL 230	WKL 600	WKL 603	WKL 900	WKL 903	WKL 1000	WKL 1200	WKL 1200 W*	WKL 2200	WKL 2200 W*	WKL 3200	WKL 3200 W*	WKL 4600	WKL 4600 W*	WKL 7000	WKL 7000 W*	WKL 10000	WKL 10000 W*
Enlarged temperature range down to -25 °C	LWZ 030	-	-	-	-	-	•	•	•	•	•	•	•	•	-	-	-	-
RS 232/485 digital interface	LWZ 033	-	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flow control instrument	LWZ 034 LWZ 035 LWZ 036	-	•	•	•	•	-	-	-	-	-	-	-	-	-	-	-	-
Low-pressure pump 1 bar, 30 L/min. 50-Hz version (see pump characteristics on p. 70 above)	LWZ 041-1	-	-	-	-	-	•	•	•	•	-	-	-	-	-	-	-	-
High-power pump 5.5 bar, 40 L/min. 50-Hz version (see pump characteristics on p. 73)	LWZ 031-1 LWZ 032-1	-	-	-	-	-	•	•	•	•	-	-	-	-	-	-	-	-

* W = water-cooled version



Order the detailed LAUDA accessories brochure and the heat transfer liquids brochure free of charge. These and additional product information can also be found at www.lauda.de