Circulation chillers for professional use in research, technology and production at temperatures down to **-30 °C**

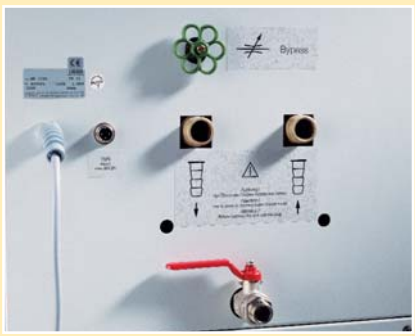
LAUDA WK class: Advantages | Control unit | Devices | Accessories

Circulation chillers for professional use in research, technology and production at temperatures down to -30 °C

Reliable cooling without water wastage

Back-distillation of solvents with a rotary evaporator

Cooling of several rotary evaporators - sound-proofed, directly in the laboratory



Pump connections with bypass function

Compared to cooling using mains water, the LAUDA circulation chillers of the WK class offer a consistent temperature, independent of the season and pressure fluctuations. A cooling temperature of down to -30 °C can be reached, this is not possible with mains water. And all that at ambient temperatures up to 40 °C. Saving water further protects the environment and reduces operating costs. The reliability during continuous operation, high degree of mobility and user-friendliness of the WK range are convincing arguments for their use.
Fields of application: analytical devices such as electron microscopes, X-ray equipment, refractometers, distilling systems and AAS equipment · rotary evaporators and Soxhlet evaporators · vacuum technology · X-ray control systems, such as at airports, and semi-conductor systems · supply of cooling traps, e.g. for drying gases · central coolant supply for complete laboratories.

Compact and highly flexible
The modular design is space saving. If required, several devices can be arranged next to or even on top of, each other. Especially practical: the WK range even fits underneath the lab bench. The filler neck on the front side of the device is easily accessible. Special variants with 1-bar pumps are available for the safe, low-noise operation with sensitive glass apparatus.

Built-in safety
The easily-visible level display and the safety elements for refrigerant pressure and coil temperature ensure a high level of safety. The devices with a cooling capacity from 1 kW also have a flow pressure display. The seal-less immersion pump ensures that LAUDA WK circulation chillers have a long service life and are low maintenance.

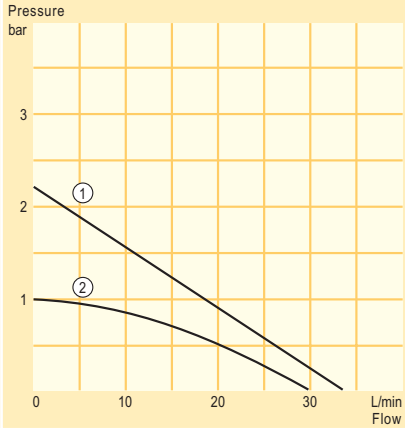
LAUDA circulation chillers of the WK class are used wherever process heat must be extracted quickly and reliably during chemical production processes or from technical equipment – and that although they are subject to the toughest continuous operation conditions.The compact LAUDA WKL high-performance coolers are designed for temperatures down to -30 °C. The robust LAUDA refrigeration technology efficiently reduces operating costs.

LAUDA WK: reliable, constant temperature for continuous operation

LAUDA WK circulation chillers are robust bundles of energy for high heat loads in process and industrial engineering. They can even be reliably used during continuous operation at an ambient temperature of up to 40 °C. The cooling temperature is controlled via a compressor switch or, with the more powerful variants, via a solenoid valve control. This achieves excellent stability of the operating temperature to the tune of 0.5 to 1 °C. The control unit is easy to operate. The displays for the pressure and the temperature are easily visible.

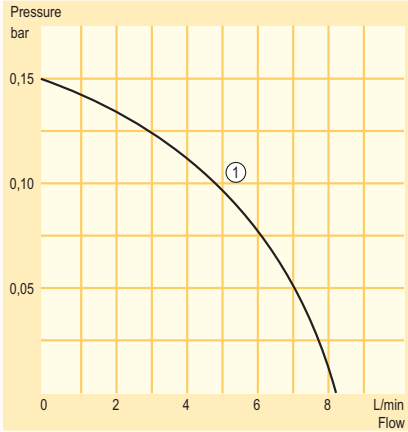
- Precision controller for the temperature range between 40 and -30 °C
- Large LED temperature display, between -10...40 °C, display resolution 0.1 °C, below -10 °C resolution 1 °C
- Selectable temperature for alarm contact
- Adjustable bypass to limit the pressure of the more powerful devices
- Available with RS 232/485 interface as optional extra
- Through-flow monitor available as optional extra
- With high-power pump as optional extra

WK circulation chillers down to 0 °C



Pump characteristics
measured with Kryo 30

① WK 502
② WK 500
WK 1400 WK...
WK 2400 W



Pump characteristic
measured with Kryo 30

① WK 300 · WKL 230

Standard accessories

Nipples · screw caps

Options (only WK 500/502):

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

Recommended accessories

Fibre-strengthened rubber tubing ½" · insulation for rubber tubing ½" · 4-port manifold
For further accessories please request the comprehensive LAUDA accessories brochure.

WK 300 and WK 500

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

Circulation chiller WK 500

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**
Cat. No. 230 V; 60 Hz		**–**	**LWG 232**	**–**
Cat. No. 115 V; 60 Hz		**LWM 717**	**LWG 732**	**–**

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

Same look, different capacities

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 environment.

Circulation chiller WK 1200

Pump characteristics
measured with Kryo 30

WK 1200, WK 1200 W,
WK 2200, WK 2200 W

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

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

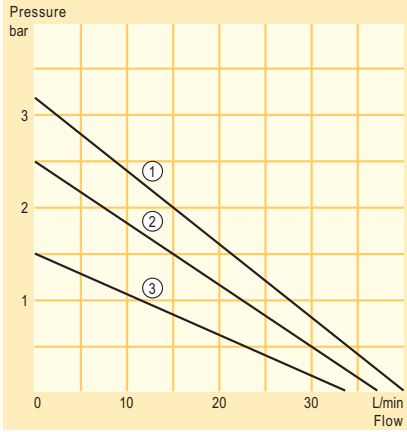
Recommended accessories

Fibre-strengthened rubber tubing 3/4" · insulation for rubber tubing 3/4" · 4-port manifold · fibre-strengthened rubber tubing 1/2" · insulation for rubber tubing 1/2"
For further accessories please request the comprehensive LAUDA accessories brochure.

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**
Cat. No. 230 V; 60 Hz		**LWG 233**	**LWG 261**	**LWG 237**	**LWG 262**
Cat. No. 115 V; 60 Hz		**LWG 733**	**LWG 761**	**LWG 737**	**LWG 762**

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**
Cat. No. 230 V; 60 Hz		**LWG 234**	**LWG 263**	**LWG 238**	**LWG 264**

WK circulation chillers down to -25 °C



Pump characteristics
measured with Kryo 30

WK 3200 to
WK 10000 W

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

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

Fibre-strengthened rubber tubing 3/4" · insulation for rubber tubing 3/4" · 4-port manifold · fibre-strengthened rubber tubing 1/2" · insulation for rubber tubing 1/2"
For further accessories please request the comprehensive LAUDA accessories brochure.

Powerhouse with high capacity

The different cooling and pump capacities are prominent in unit selection. The WK class circulation chillers from 1 kW cooling capacity upwards are also available as a water-cooled model (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 we recommend the use of water/glycole mixtures as bath liquid.

Circulation chiller WK 7000

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**
Cat. No. 230 V; 3/PE; 60 Hz		**LWG 135**	**LWG 165**	**LWG 136**	**LWG 158**
Cat. No. 208-220 V; 60 Hz		**LWG 839**			
Cat. No. 230 V; 60 Hz		**LWG 139**			

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**
Cat. No. 440...480 V; 3~/PE; 60 Hz		**LWG 645**	**LWG 647**	**LWG 649**	**LWG 651**

The LAUDA circulation chillers WK are available with different options, e.g. RS 232/485 interface and various pumps. The difference between circulation chillers of the WKL class to the WK class is that they also cover the temperature range below 0 °C.

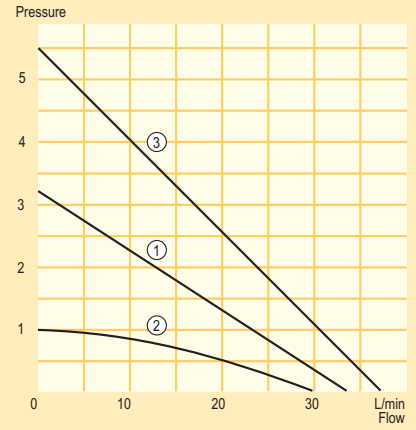
With the suitable cooling capacity down into the sub-zero range

The WKL 230 circulation chiller was especially designed for simple thermostating tasks also 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 °C. The mobile circulation chillers WKL 600 to 1000 have different pumps and differ in their cooling performance.

Pump characteristics
measured with 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. 86



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

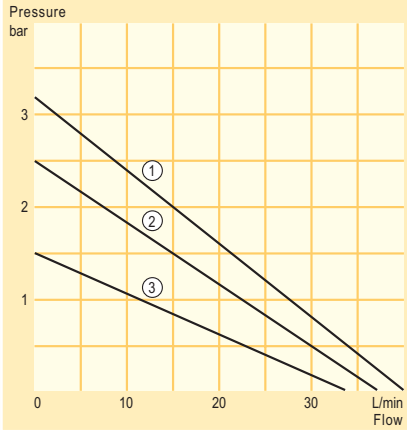
EPDM-tube (only WKL 230) · fibre-strengthened rubber tubing ½" · insulation for rubber tubing ½" · 4-port manifold · adjustable bypass and pressure indication (WKL 603 and 903)
For further accessories please request the comprehensive LAUDA accessories brochure.

Circulation chiller WKL 230

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**	**LWG 141**	**LWG 142**
Cat. No. 230 V; 60 Hz		**LWM 016**	**LWG 241**	**LWG 242**
Cat. No. 115 V; 60 Hz		**LWM 716**	**LWG 741**	**LWG 742**

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**
Cat. No. 230 V; 60 Hz		**LWG 859**	**LWG 860**	**–**
Cat. No. 115 V; 60 Hz		**LWG 759**	**LWG 760**	**LWG 473**

Circulation chillers WKL down to -30 °C



Pump characteristics
measured with Kryo 30

WKL 1200, WKL 1200 W,
WKL 2200, WKL 2200 W,
WKL 3200, WKL 3200 W,
WKL 4600, WKL 4600 W

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

Standard accessories

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

Options

Digital interface RS 232/485 (LWZ 033) · enlarged temperature range down to -25 °C (LWZ 030) · flow control instrument (LWZ 035) · low-pressure pump 1 bar (30 L/min), WKL 1200...2200 W (LWZ 041) · high-power pump 5,5 bar, WKL 1200...2200 W (LWZ 031), WKL 3200...4600 W (LZW 032)

Recommended accessories

Fibre-strengthened rubber tubing 3/4" · insulation for rubber tubing 3/4" · 4-port manifold · fibre-strengthened rubber tubing 1/2" · insulation for rubber tubing 1/2"
For further accessories please request the comprehensive LAUDA accessories brochure.

The formula is:
Bigger, stronger, colder

The WKL 1200 to WKL 4600 W circulation chillers differ in their cooling capacity and attain temperatures down to -10 °C or with enlarged temperature range down to -25 °C. Also available as water-cooled models (W).

Circulation chiller WKL 4600

Technical features		WKL 1200	WKL 1200 W	WKL 2200	WKL 2200 W
Working temperature range	°C	-10...40	-10...40	-10...40	-10...40
Temperature stability	± °C	0.5	0.5	1.0	1.0
Cooling output at 20 °C	kW	1.2	1.6	2.2	2.7
Pump pressure max.	bar	3.2	3.2	3.2	3.2
Pump flow max.	L/min	40	40	40	40
Cat. No.	230 V; 50 Hz	**LWG 153**	**LWG 166**	**LWG 154**	**LWG 167**
Cat. No.	208...230 V; 60 Hz	**LWG 853**	**LWG 866**	**LWG 854**	**LWG 867**

Technical features		WKL 3200	WKL 3200 W	WKL 4600	WKL 4600 W
Working temperature range	°C	-10...40	-10...40	-10...40	-10...40
Temperature stability	±K	1.0	1.0	0.5	0.5
Cooling output at 20 °C	kW	3.5	4.2	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 255**	**LWG 268**	**LWG 256**	**LWG 257**
Cat. No. 208...230 V; 3/PE; 60 Hz		**LWG 755**	**LWG 768**	**LWG 756**	**LWG 757**
Cat. No. 208...220 V; 60 Hz		**LWG 874**			

The powerful WKL 1200 to WKL 10000 W circulation chillers can reach temperatures down to -30 °C without any problems, and can be used e.g. for recondensation of solvent recycling or for cold traps.

The powerful variants up to 13 kW

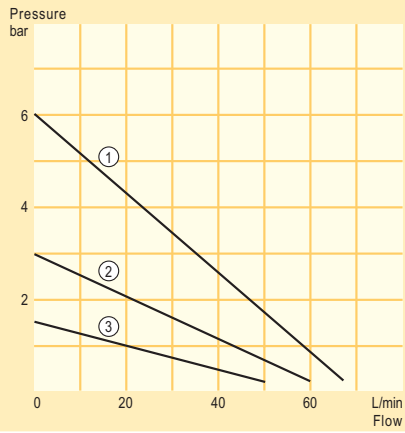
The WKL 7000 to WKL 10000 W circulation chillers differ in their cooling capacity and attain temperatures down to -30 °C. The powerful WKL 7000 and WKL 10000 are also available as water-cooled models (W) to reduce ambient heating considerably. For these units we recommend the use of water/glycole mixtures as bath liquid.

Circulation chiller WKL 7000

Pump characteristics
measured with Kryo 30

WKL 7000, WKL 7000 W,
WKL 10000, WKL 10000 W

① Bypass closed
② Bypass max. 3.0 bar
③ Bypass max. 1.5 bar



Standard accessories

Nipples · screw caps · water tubing – only WKL 7000 W and WKL 10000 W

Options

Digital interface RS 232/485 (LWZ 033) · flow control instrument (LWZ 036)

Recommended accessories WKL 7000...WKL 10000 W

Fibre-strengthened rubber tubing 1" · insulation for rubber tubing 1" · 4-port manifold · fibre-strengthened rubber tubing 3/4" · insulation for rubber tubing 3/4"

For further accessories please request the comprehensive LAUDA accessories brochure.

Technical features		WKL 7000	WKL 7000 W	WKL 10000	WKL 10000 W
Working temperature range	°C	-30...40	-30...40	-30...40	-30...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	6.0	6.0	6.0	6.0
Pump flow max.	L/min	60	60	60	60
Cat. No. 400 V; 3~/N/PE; 50 Hz		**LWG 246**	**LWG 248**	**LWG 250**	**LWG 252**
Cat. No. 208 V; 3/PE; 60 Hz		**LWG 746**	**LWG 348**		
Cat. No. 440...480 V; 3~/PE; 60 Hz				**LWG 650**	**LWG 652**

This page offers you a selection of important accessories for the **LAUDA WK class.** Please see the LAUDA accessories brochure for further accessories.

Polymere tubing
reinforced

Special Polymere tubings for high pressure, to be used with circulation chillers WK und WKL

Cat.-No.:	Designation	Temp. Range °C
RKJ 031	Polymere tube 1/2“, fibre strengthened	-40...80
RKJ 103	Polymere tube 1/2“, with textile insert	-40...120
RKJ 032	Polymere tube 3/4“, fibre strengthened	-40...80
RKJ 104	Polymere tube 3/4“, with textile insert	-40...120
RKJ 033	Polymere tube 1“, fibre strengthened	-40...80
RKJ 105	Polymere tube 1“, with textile insert	-40...120

Insulation tubing
for adding insulation

Cat.-No.:	suitable for
RKJ 009	RKJ 031, RKJ 103
RKJ 013	RKJ 032, RKJ 104
RKJ 017	RKJ 033, RKJ 105

Manifold connectors
not suitable for silicone oil

Manifold connectors for joining multiple external systems to a LAUDA WK class

Cat.-No.:	Designation	Connection	Male thread	Maximal Temp.
LWZ 010	Four-port manifold	G 3/4“	4 x 3/4“	120 °C
LWZ 022	Four-port manifold	G 3/4“	4 x 1/2“	120 °C
LWZ 039	Four-port manifold	G 3/4“	4 x 10 mm	120 °C
LWZ 024	Four-port manifold	G 1 1/4“	4 x 3/4“	120 °C

Available options:

WK circulation chiller 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.	LWZ 031	–	–	–	●	●	–	–	●	●	–	–	–	–	–	–	–	–	–	–
(see pump characteristics on p. 91)	LWZ 032	–	–	–	–	–	–	–	–	–	–	–	●	●	●	●	●	●	●	●

WKL circulation chiller 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	LWZ 041	–	–	–	–	–	–	●	●	●	●	–	–	–	–	–	–	–	–
(see pump characteristics on p. 88 above)																			
High-power pump 5.5 bar, 40 L/min.	LWZ 031	–	–	–	–	–	–	●	●	●	●	–	–	–	–	–	–	–	–
(see pump characteristics on p. 91)	LWZ 032	–	–	–	–	–	–	–	–	–	–	●	●	●	●	–	–	–	–

* W = water-cooled version

Request your free copy of the comprehensive LAUDA accessories brochure.