



LAC 200

The largest serial produced standard air oil cooler in the class.



The Olaer Group is a global player specialising in innovative, efficient system solutions for temperature optimisation and energy storage.

All over the world, our products are working in the most diverse environments and applications, e.g. the aircraft, engineering, steel and mining industries, as well as in sectors such as oil and gas, contracting and transport, farming and forestry, renewable energy, etc.

LAC 200 – BIG NEWS

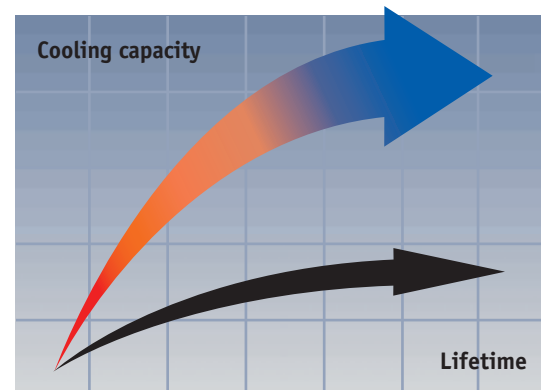
Now standard coolers up to 300 kW

Olaer have added to their wide range of standard products the huge LAC 200 air oil cooler with cooling capacity 300 kW.

In the world of off-road vehicles such as trucks and other materials-handling vehicles, the stress is on more, i.e. more generated power, more excavating strength, more carrying capacity and more break-out force. The systems, which operate to allow this increase in power are put under more strain. As engines are designed to produce more power and to endure more stress, the amount of heat generated increases. Olaer's design engineers are constantly facing the challenge of keeping operating temperatures under control.

Olaer's huge AC motor driven LAC 200 air oil cooler with cooling capacity 300 kW has been designed taking into consideration the particular requirements of strength, power and durability required for hydraulic drive systems in industrial heavy duty applications. These efficient and reliable drive systems are operating in industries such as mining, oil and gas, pulp and paper, offshore, marine and off-road construction equipment, etc.

Applications, to which we supply cooling solutions, are frequently working in tough and stressful environments. In spite of dust, dirt and mud, extreme heat or cold, corrosive and humid environment, long-term operation and during other forms of stress, optimal cooling must always



be present to ensure a reliable operation of the system. Furthermore the working environment should be safe and pleasant. All this is taken into consideration from the very beginning in our calculations and design.

LAC 200 air oil coolers are a result of extensive research, development and testing in our own laboratory. The coolers have shown excellent performance and durability during field testing, confirming that the design will provide the kind of strength and durability required for heavy duty applications. No product will be approved for delivery until meeting our exacting requirements.

Performance guarantee = greater confidence!

Olaer's standard air oil coolers are provided with documented tests for cooling capacity, noise level, pressure drop, fatigue, leaks and they are all CE-marked.

Clever design and the right choice of materials and components provide a long useful life, high availability and low service and maintenance costs.

Compact design and low weight.

Easy to maintain and easy to retrofit in many applications.



Quiet fan and fan motor.

AC motor single-phase for smaller and three-phase for larger cooler sizes.

Cooler matrix with low pressure drop and high cooling capacity.

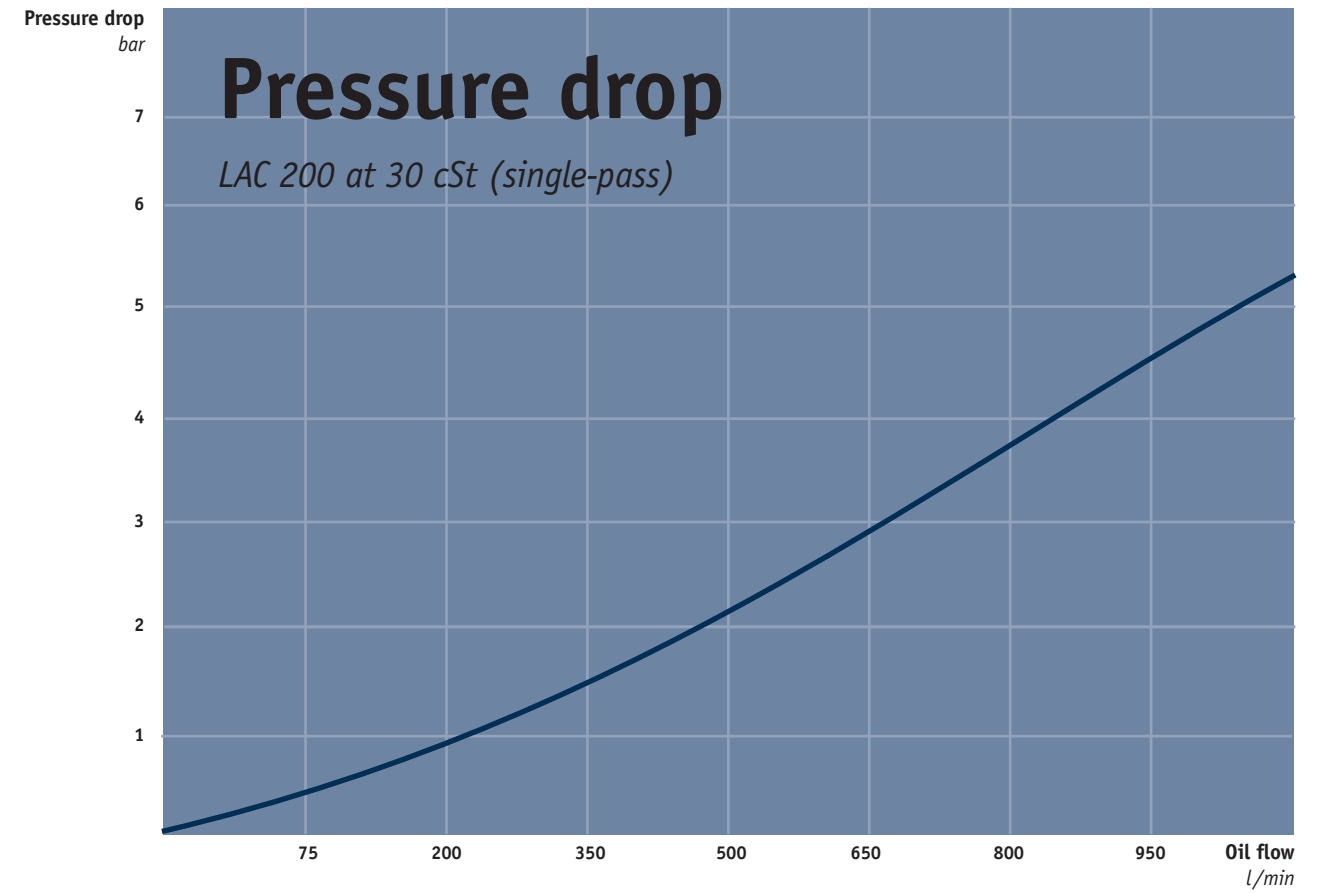
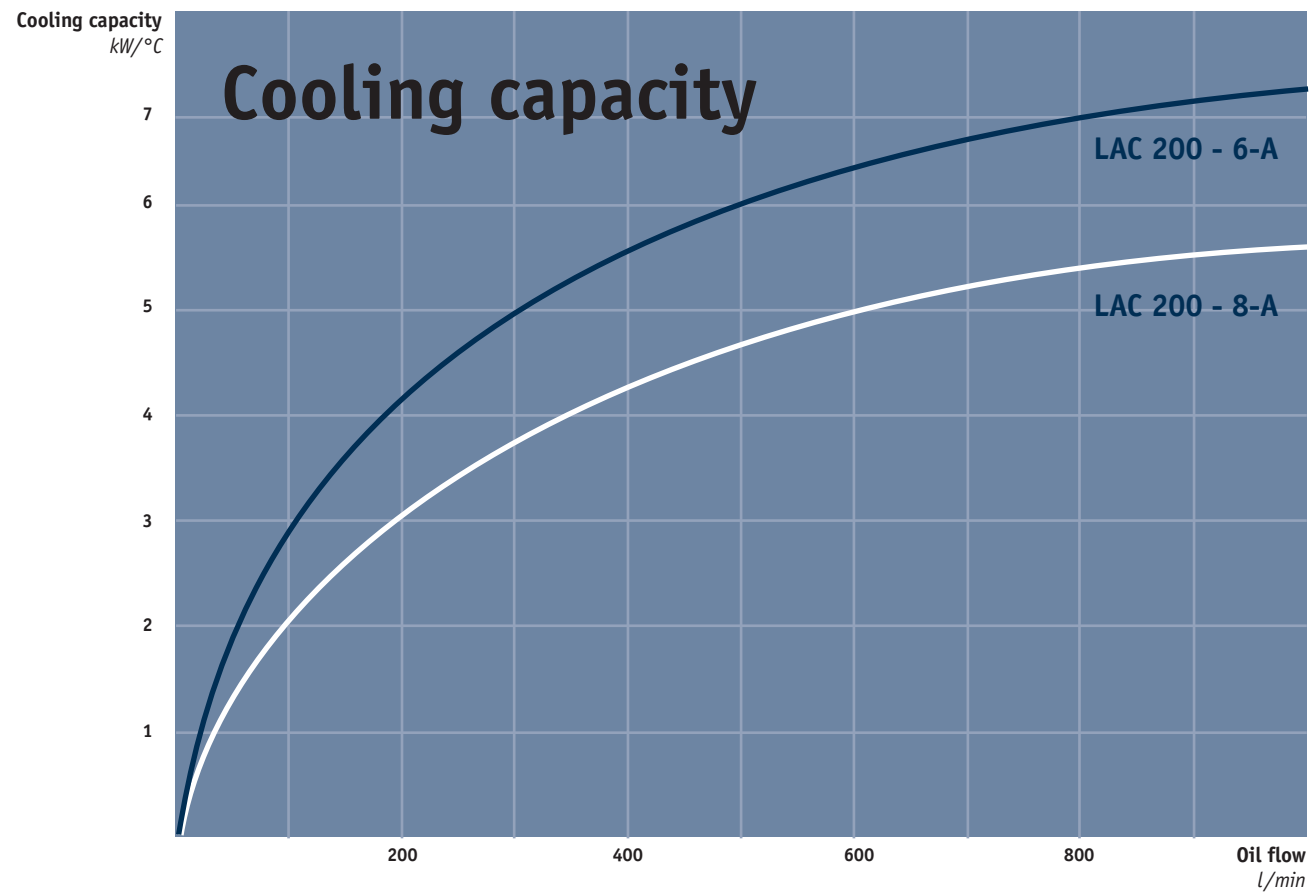
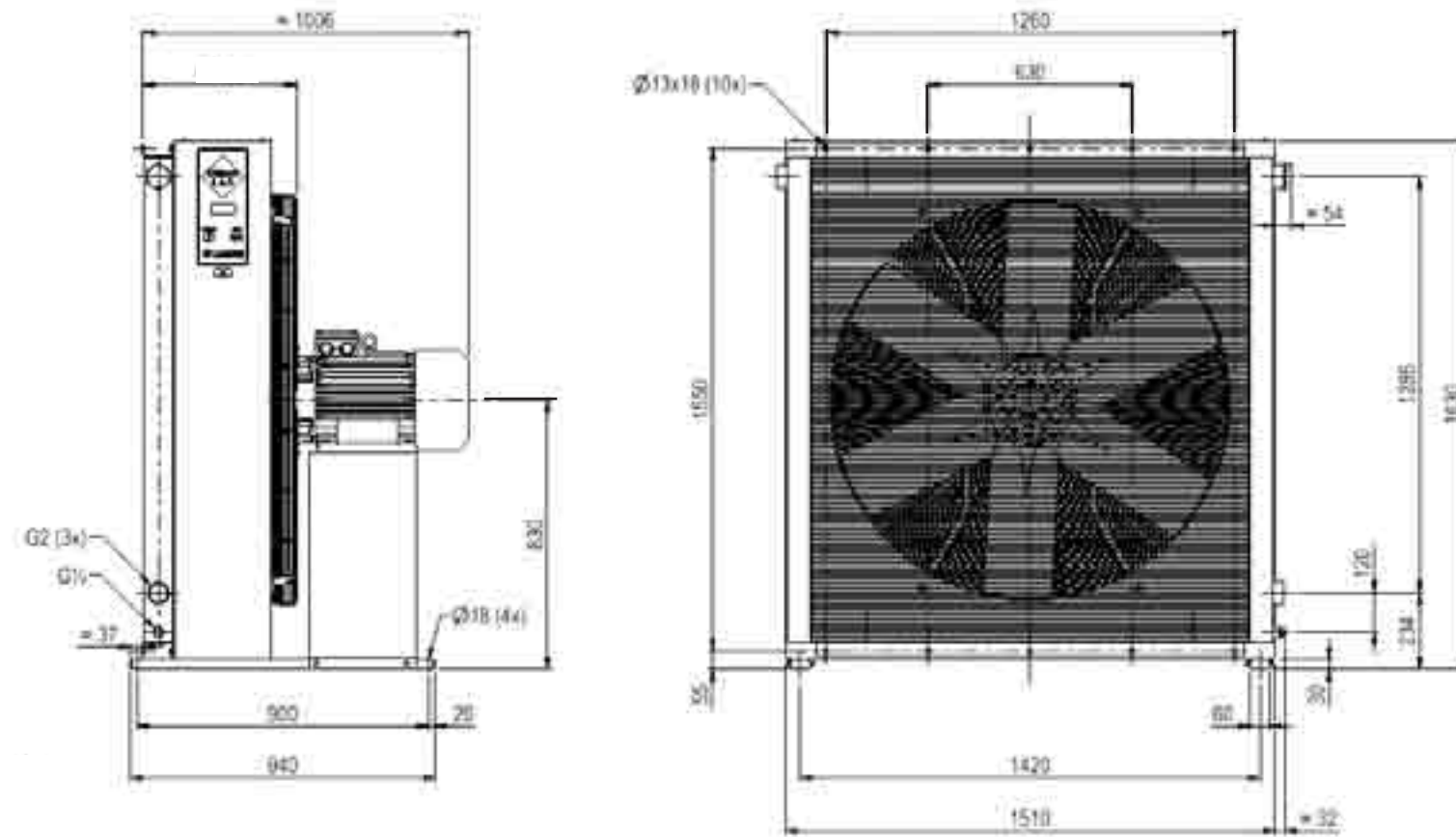
LAC-M and LAC-X. LAC air oil coolers are also available in two special versions, LAC-X (ATEX version), approved for applications where there may be an explosive environment above ground, and LAC-M, optimized to deal with corrosion attacks, for example in marine environments.



The cooling capacity curves are based on the inlet oil temperature and the ambient air temperature. An oil temperature of 60 °C and an air temperature of 20 °C provide a temperature difference of 40 °C. Multiply by kW/°C for total cooling capacity.

TYPE	Acoustic pressure level <i>L_{pA}</i> dB(A) 1m*	No. of poles/ Capacity kW	Weight kg (approx)
LAC 200-6	92	6-11.0	405
LAC 200-8	86	8-4.0	365

* = Noise level tolerance ± 3 dB(A)



Key for LAC and LAC2 air oil coolers

All positions must be filled in when ordering.

EXAMPLE:

LAC2 - 016 - 6 - A - 50 - T20 - D - 0
1 2 3 4 5 6 7 8

1. AIR OIL COOLER

WITH AC MOTOR = LAC / LAC2

2. COOLER SIZE

002, 003, 004, 007, 011, 016, 023, 033, 044, 056, 058, 076, 078, 110, 112, 113 and 200.

3. NUMBER OF POLES, MOTOR

2-pole	= 2
4-pole	= 4
6-pole	= 6
8-pole	= 8

4. VOLTAGE AND FREQUENCY

No motor	= 0
Three-phase 220-240/380-420 V 50 Hz*	= A
Three-phase 440-480 V 60 Hz*	= B
Single-phase 230 V 50/60 Hz**	= C
Three-phase 220-240/380-420 V 50 Hz 440/480 V 60 Hz*** = D	= D
Three-phase 500 V 50 Hz	= E
Three-phase 400/690 V 50 Hz 440-480 V 60 Hz	= F
Three-phase 525 V 50 Hz	= G
Motor for special voltage (stated in plain language)	= X

* = for LAC 033 to LAC 113, ** = contact Olaer for frequency 60 Hz

*** = for LAC 007 to LAC 023

5. THERMO CONTACT

No thermo contact	= 00
40 °C	= 40
50 °C	= 50
60 °C	= 60
70 °C	= 70
80 °C	= 80
90 °C	= 90

6. COOLER MATRIX

Standard	= 000
Two-pass	= T00
Built-in, pressure-controlled bypass, single-pass	
2 bar	= S20
5 bar	= S50
8 bar	= S80
Built-in, pressure-controlled bypass, two-pass*	
2 bar	= T20
5 bar	= T50
8 bar	= T80
Built-in temperature and pressure-controlled bypass, single-pass	
50 °C, 2.2 bar	= S25
60 °C, 2.2 bar	= S26
70 °C, 2.2 bar	= S27
90 °C, 2.2 bar	= S29
Built-in temperature and pressure-controlled bypass, two-pass*	
50 °C, 2.2 bar	= T25
60 °C, 2.2 bar	= T26
70 °C, 2.2 bar	= T27
90 °C, 2.2 bar	= T29

* = not for LAC 002 - LAC 004

7. MATRIX GUARD

No guard	= 0
Stone guard	= S
Dust guard	= D
Dust and stone guard	= P

8. STANDARD/SPECIAL

Standard	= 0
Special	= Z

Technical specification

FLUID COMBINATIONS

Mineral oil	HL/HLP in accordance with DIN 51524
Oil/water emulsion	HFA, HFB in accordance with CETOP RP 77H
Water glycol	HFC in accordance with CETOP RP 77H
Phosphate ester	HFD-R in accordance with CETOP RP 77H

MATERIAL

Cooler matrix	Aluminum
Fan blades/hub	Glass fibre reinforced polypropylene/ Aluminum
Fan housing	Steel
Fan guard	Steel
Other parts	Steel
Surface treatment	Electrostatically powder-coated

TECHNICAL DATA, COOLER MATRIX

Maximum static operating pressure	21 bar
Dynamic operating pressure	14 bar*
Heat transfer limit	±6 %
Maximum oil inlet temperature	120 °C

* Tested in accordance with ISO/DIS 10771-1

TECHNICAL DATA FOR 3-PHASE MOTOR

3-phase asynchronous motors in accordance with IEC 34-1 and IEC 72 in accordance with DIN 57530/VDE 0530	
Insulation class	F
Rise of temperature	B
Protection class	IP 55

TECHNICAL DATA FOR 1-PHASE MOTOR

Insulation class	B
Rise of temperature	B
Protection class	IP 44

TECHNICAL DATA FOR 3-PHASE MOTOR LAC 004

Rated voltage	230/400V 50/60 Hz
Insulation class	B
Rise of temperature	B
Protection class	IP 44

COOLING CAPACITY CURVES

The cooling capacity curves in this technical data sheet are based on tests in accordance with EN 1048 and have been produced using oil type ISO VG 46 at 60 °C.

CONTACT OLAER FOR ADVICE ON

Oil temperatures > 120 °C
Oil viscosity > 100 cSt
Aggressive environments
Ambient air rich in particles
High-altitude locations

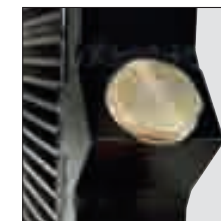


With our specialist expertise, industry knowledge and advanced technology, we can offer a range of different solutions for coolers and accessories to meet your requirements.

Take the next step

– choose the right accessories

Supplementing a hydraulic system with a cooler, cooler accessories and an accumulator gives you increased availability and a longer useful life, as well as lower service and repair costs. All applications and operating environments are unique. A well-planned choice of the following accessories can thus further improve your hydraulic system. Please contact Olaer for guidance and information.



Pressure-controlled bypass valve *Integrated*

Allows the oil to bypass the cooler matrix if the pressure drop is too high. Reduces the risk of the cooler bursting, e.g. in connection with cold starts and temporary peaks in pressure or flow.



Stone guard/Dust guard

Protects components and systems from tough conditions.



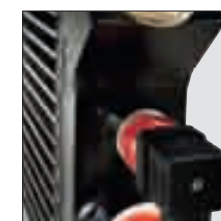
Temperature-controlled bypass valve *Integrated*

Same function as the pressure-controlled bypass valve, but with a temperature-controlled opening pressure - the hotter the oil, the higher the opening pressure.



Lifting eyes

For simple installation and relocation.



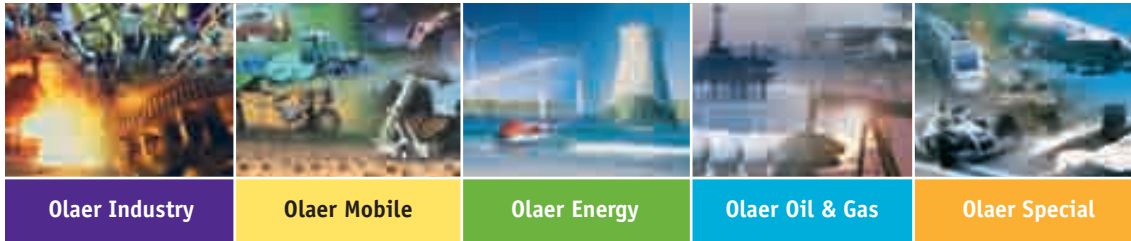
Thermo contact

Temperature switch with fixed set point. For temperature warnings, and for more cost-efficient operation and better environmental consideration through the automatic switching on and off of the fan motor.



Temperature-controlled 3-way valve *External*

Same function as the temperature-controlled bypass valve, but positioned externally. Note: must be ordered separately.



The Olaer Group develops, manufactures and markets products and systems in five business areas.

Global perspective

and local entrepreneurial flair



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The Group develops, manufactures and markets products and systems for a number of different sectors, e.g. the aircraft, engineering, steel and mining industries, as well as for sectors such as oil and gas, contracting and transport, farming and forestry, renewable energy, etc.

All over the world, our products operate in the most diverse environments and applications. One constantly

repeated demand in the market is for optimal energy storage and temperature optimisation.

We work at a local level with the whole world as our workplace – local entrepreneurial flair and a global perspective go hand in hand.

Our local presence, long experience and a wealth of knowledge combine with our cutting-edge expertise to give you the best possible reasons for making a professional choice.