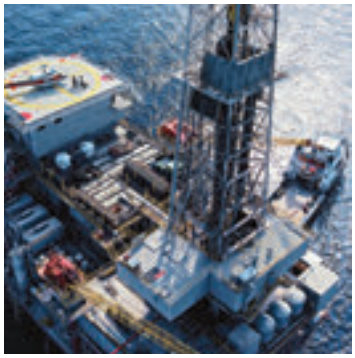


aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Air Oil Cooler

LAC 200 with AC Motor for Industrial Use

Parker

ENGINEERING YOUR SUCCESS.

The Olaer Group is part of Parker Hannifin since July 1st, 2012. With manufacturing and sales in 14 countries in North America, Asia and Europe, the Olaer Group expands Parker's presence in geographic growth areas and offers expertise in hydraulic accumulator and cooling systems for target growth markets such as oil and gas, power generation and renewable energy.

LAC 200

Now standard coolers up to 300 kW

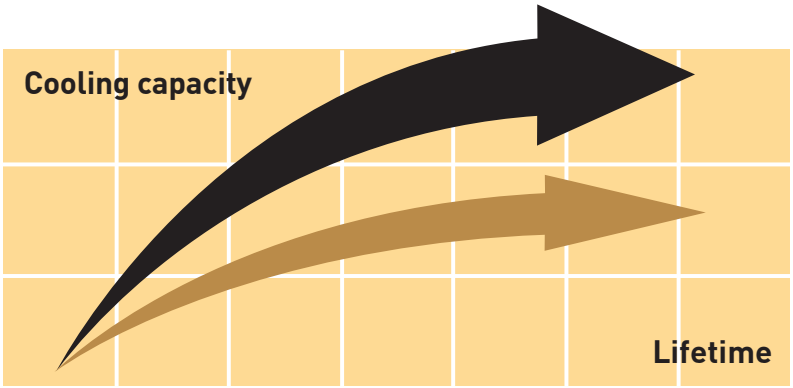
Olaer have added to their wide range of standard products the huge LAC 200 air oil cooler with cooling capacity 300 kW.

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.

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.

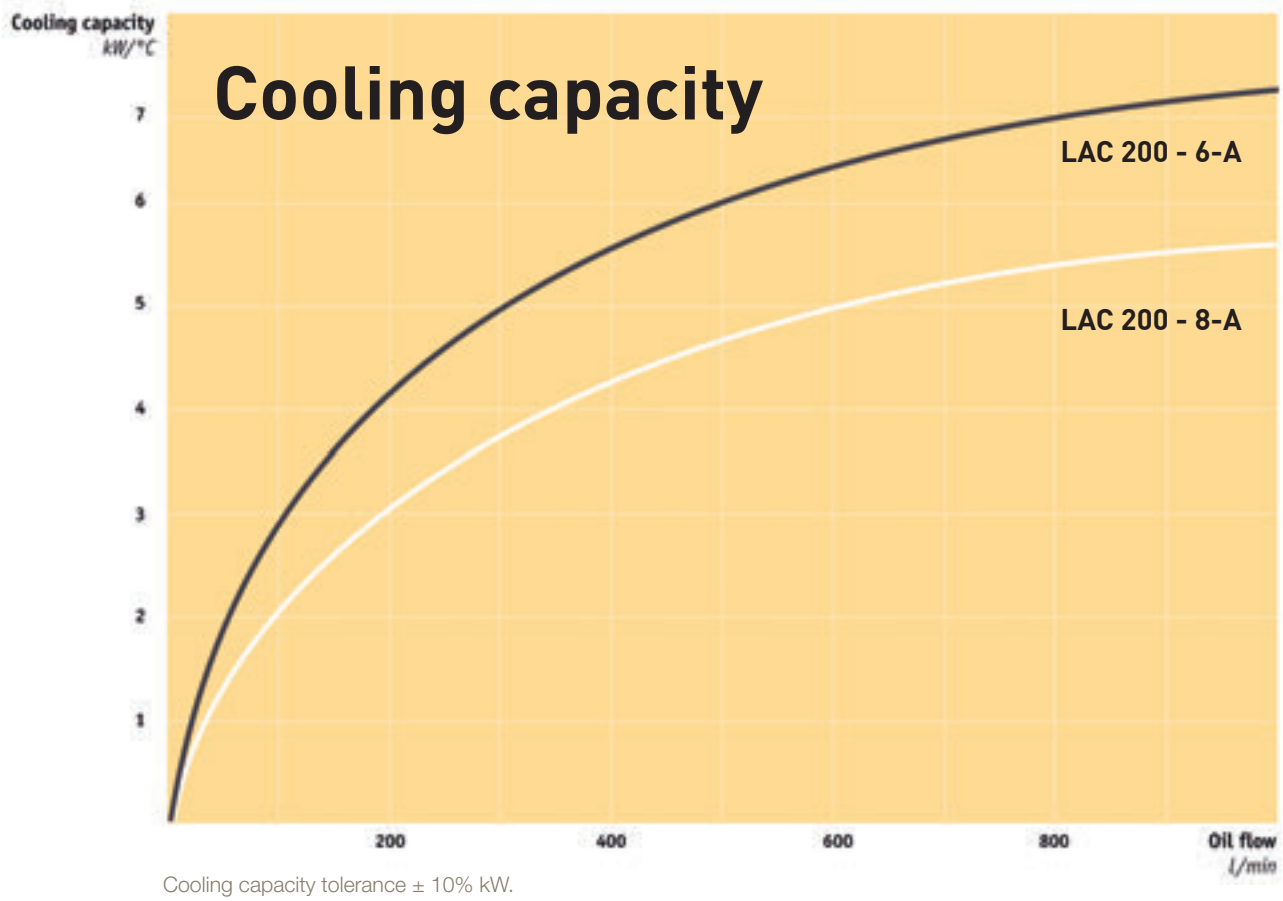
LAC-M and LAC-X.

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.

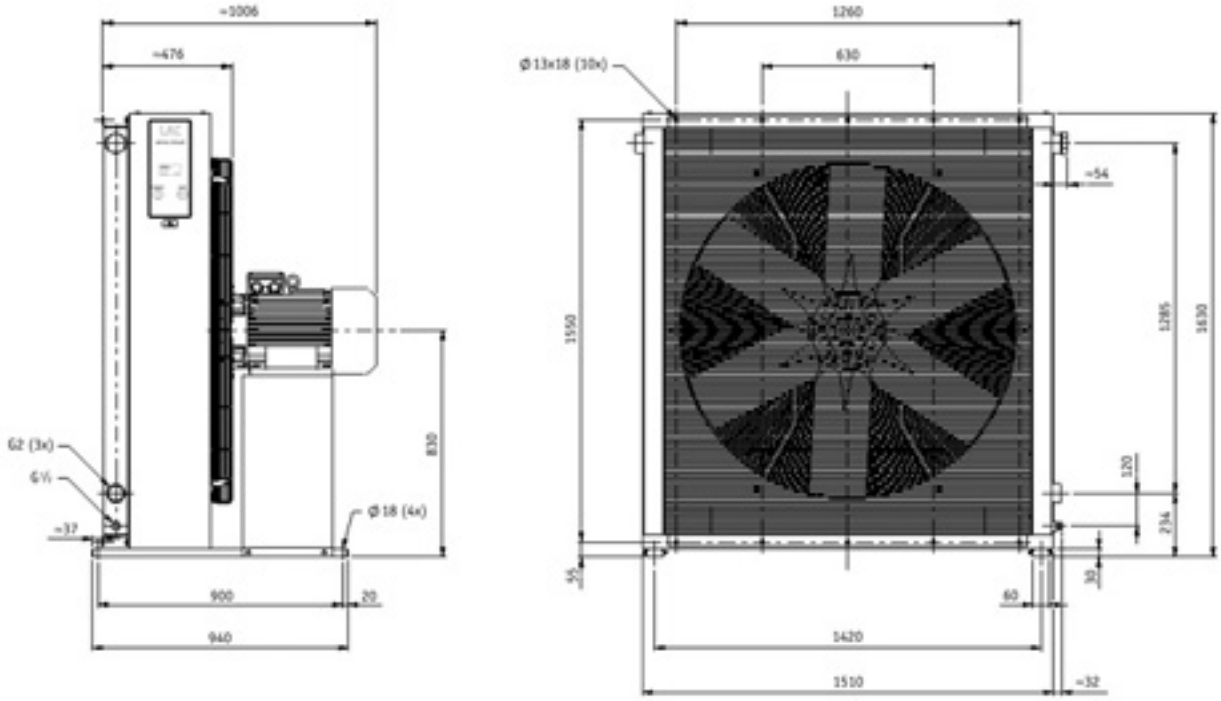
The cooling capacity curves are based on the inlet oil temperature and the ambient air temperature. An oil temperature of 60 °C and an air temperature of 20 °C provide a temperature difference of 40 °C. Multiply by kW/°C for total cooling capacity.

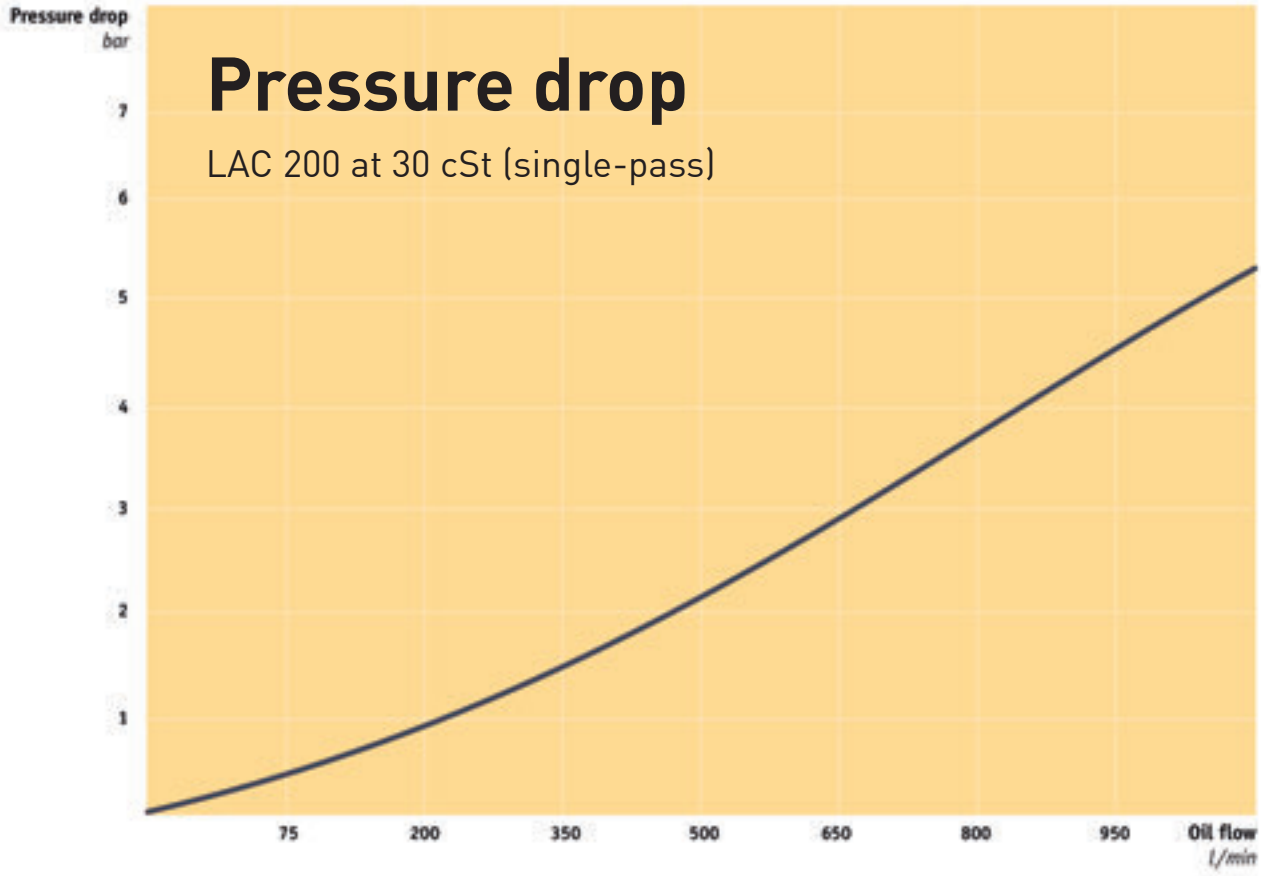
Type	Acoustics pressure level Lp^A dB(A) 1m*	No. of poles/ Capacity kW	Weight kg (approx)
LAC 200-6	92	6-11.0	405
LAC 200-8	86	8-4.0	365

* = Noise level tolerance ± 3 dB(A)



Cooling capacity tolerance ± 10% kW.





Pressure drop

LAC 200 at 30 cSt (single-pass)

Key for LAC/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 (IE2 GUARANTEED AT 50HZ)

No motor	= 0
230/400V 50Hz[1)]	= A
460V alt 480V 60Hz[1)]	= B
Single-phase 230V 50Hz (not IE2)	= C
230/400V 50Hz 460 alt 480V 60Hz[2)]	= D
500V 50Hz (not standard)	= E
400/690V 50Hz 460 alt 480V 60Hz	= F
525V 50Hz, 575V 60Hz	= G
Motor for special voltage or frequency (stated in plain language)[3)]	= X

1) for LAC 033 to LAC 113
2) For LAC2 007 to LAC2 023
3) For other options contact Parker for assistance. All motors apply to IEC 60034, IEC 60072 and EN 50347

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 LAC2 002 - LAC2 004

7. MATRIX GUARD

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

8. STANDARD/SPECIAL

Standard	= O
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 LAC2 004

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

COOLING CAPACITY CURVE

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 PARKER HANNIFIN FOR ADVICE ON

Oil temperatures	> 120 °C
Oil viscosity	> 100 cSt

Aggressive environments
Ambient air rich in particles
High-altitude locations

The information in this brochure is subject to change without prior notice.

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 Parker Hannifin 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. Available for single-pass or two-pass matrix design.

Thermo contact
Sensor with fixed set point, for temperature warnings. Can be used for more cost-efficient operation and better environmental consideration through the automatic control of the fan motor, either on or off.

Temperature-controlled bypass valve *Integrated*
Allows the oil to bypass the cooler matrix if the pressure drop is higher than 2,2 bar or less than the chosen temperature. The bypass closes when the oil temperature increases. Different closing temperatures available. Available for singlepass or two-pass matrix design

Lifting eyes
For simple installation and relocation.

Temperature-controlled 3-way valve *External*
Same function as the temperature-controlled bypass valve, but positioned externally.
Note: must be ordered separately.

Stone guard/Dust guard
Protects components and systems from tough conditions.

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