



*The Professional Choice*

# ULAC

*With AC motor*



OLAER ULAC | optimized for industrial use  
[www.comoso.com](http://www.comoso.com)



Olaer is a global player specializing in innovative, efficient system solutions for temperature optimization and energy storage.

All over the world, our products are working in the most diverse environments and applications.

# ULAC Oil Coolers

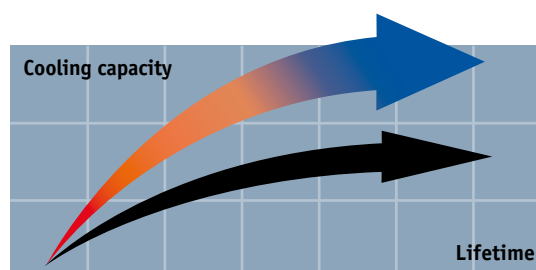
*For industrial use – maximum cooling capacity 400 HP*

The ULAC oil cooler with AC motor is optimized for use in the industrial sector. Together with a wide range of accessories, the ULAC cooler is suitable for installation in most applications and environments. Choosing the right cooler requires precise system sizing. The most reliable way to size a cooler is with the aid of our calculation program. This program, together with precise evaluations from our experienced, skilled engineers, gives you the opportunity for more cooling per \$ invested.



## Overheating - an expensive problem

An under estimated cooling capacity produces a temperature that is too high. The consequences are poor lubricating properties, higher internal leakage, a higher risk of cavitation, damaged components, etc. Overheating leads to a significant drop in efficiency which can be detrimental to our environment.



## Temperature optimization - a basic prerequisite for cost-efficient operation

Temperature balance in a hydraulic system occurs when the cooler can cool down the energy input that the system does not consume - the system's lost energy ( $P_{loss} = P_{cool} = P_{in} - P_{used}$ ).

Temperature optimization occurs at the temperature at which the oil viscosity is maintained at recommended values. The correct working temperature produces a number of economic and environmental benefits:

- The hydraulic system's useful life is extended.
- The oil's useful life is extended.
- The hydraulic system's availability increases – more operating time and fewer shutdowns.
- Service and repair costs are reduced.
- High efficiency level maintained in continuous operation – the system's efficiency falls if the temperature exceeds the ideal working temperature.



**Optimized design** with right choice of materials and components ensures reliable and long lasting cooler with low service and maintenance costs.

**Compact design** resulting in lighter weight unit yet with higher cooling capacity and lower pressure drop.

**Easy to maintain** and easy to retrofit into many applications.



#### **Quiet Fan Design**

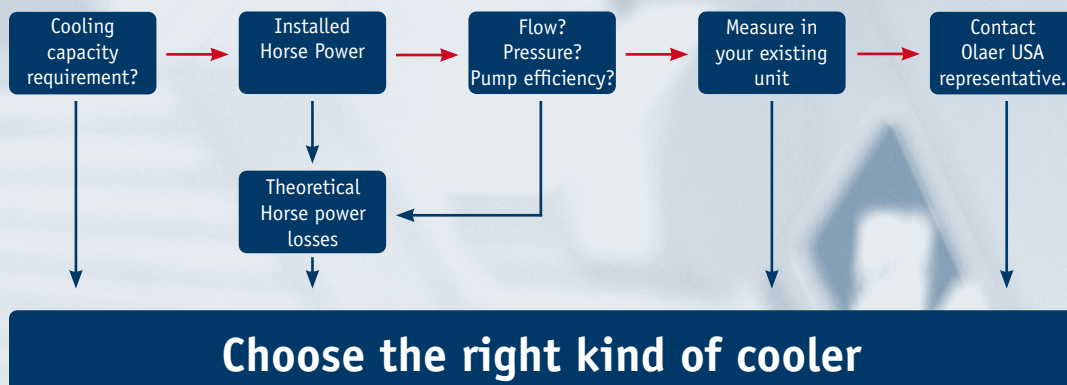
Due to optimization of material and blade design.

**AC motor** - Standard 3 phase premium efficiency motor dual rated for 50 and 60 HZ. Single phase option available on smaller size coolers.

#### **Cooler matrix**

with low pressure drop and high cooling capacity.

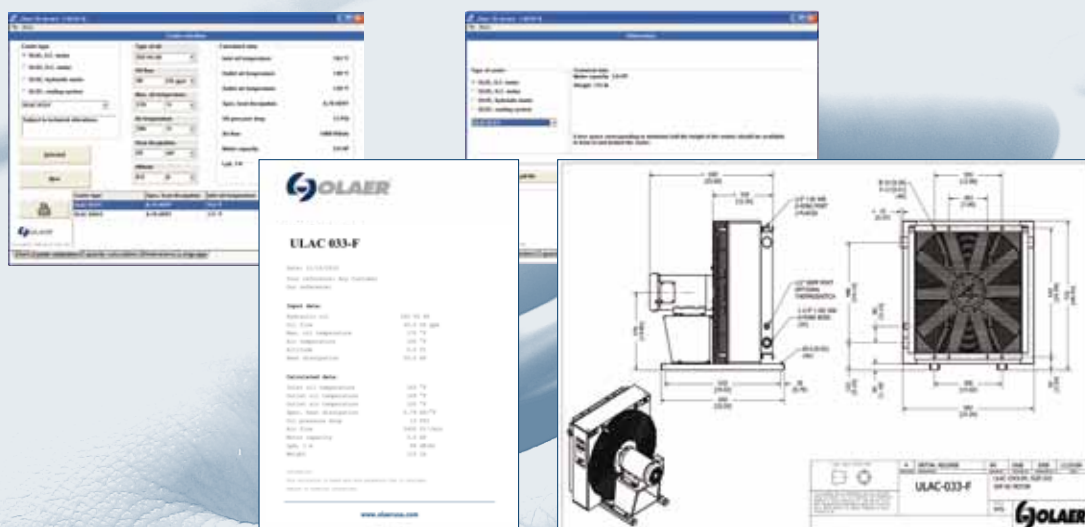
# Calculate the cooling capacity requirement



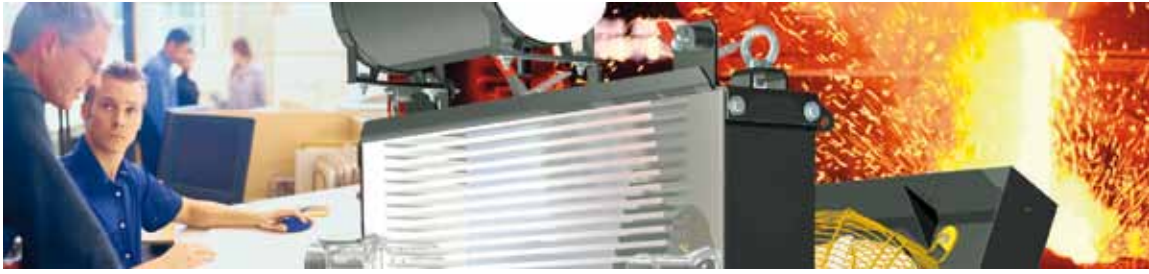
Download the sizing software:  
[www.olaerusa.com](http://www.olaerusa.com)



Enter your values ....



... suggested solution



Better energy consumption means not only less environmental impact, but also reduces operating costs, i.e. more cooling per \$ invested.

# More cooling per \$

*with precise calculations and our engineers' support*

## Optimal sizing produces efficient cooling.

Correct sizing requires knowledge and experience. Our calculation program, combined with our engineers' support, gives you access to this very knowledge and experience. The result is more cooling per \$ invested.

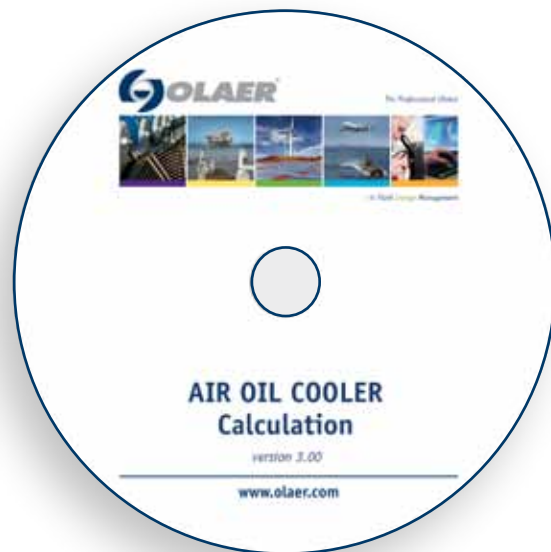
**The user-friendly calculation program can be downloaded from [www.olaerusa.com](http://www.olaerusa.com)**

## In depth system review as an added value

A more wide-ranging review of the hydraulic system is often a natural element of cooling calculations. Other potential system improvements can then be discussed – e.g. filtering, offline or online cooling, etc. Contact us for further guidance and information.

## OLAER'S quality and performance guarantee assures you of maximum system performance and reliability.

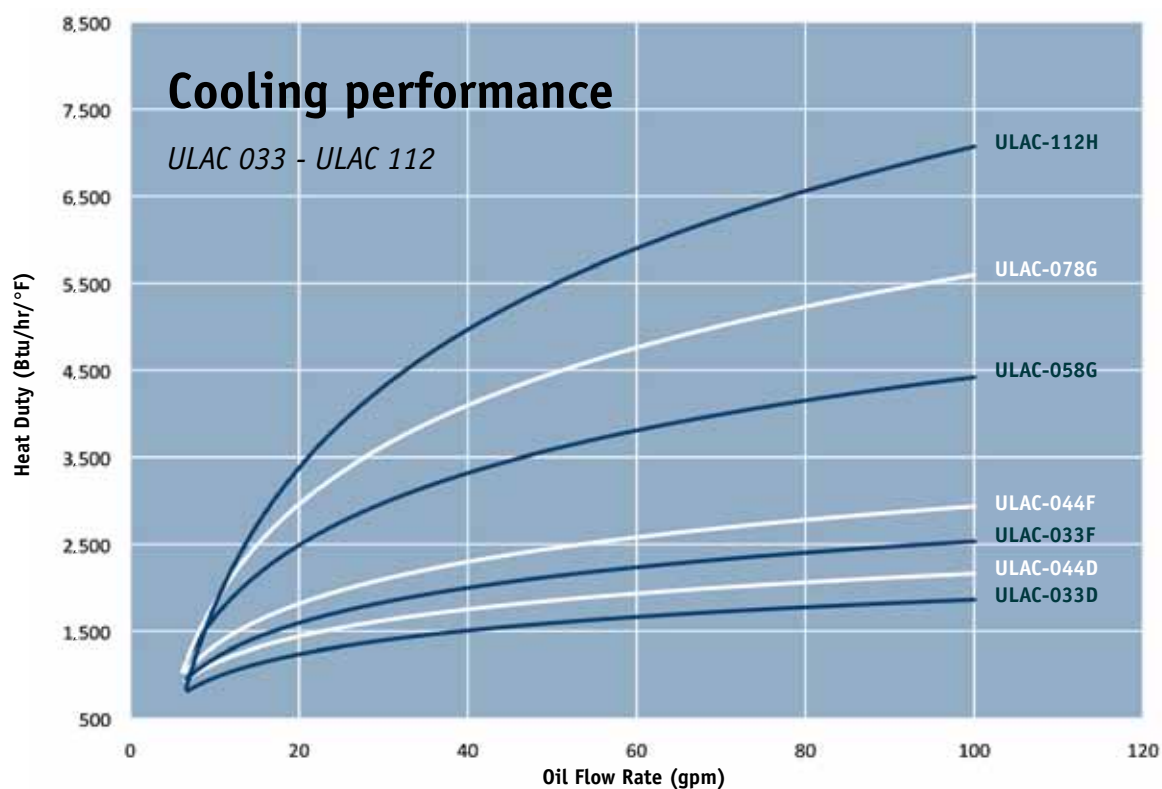
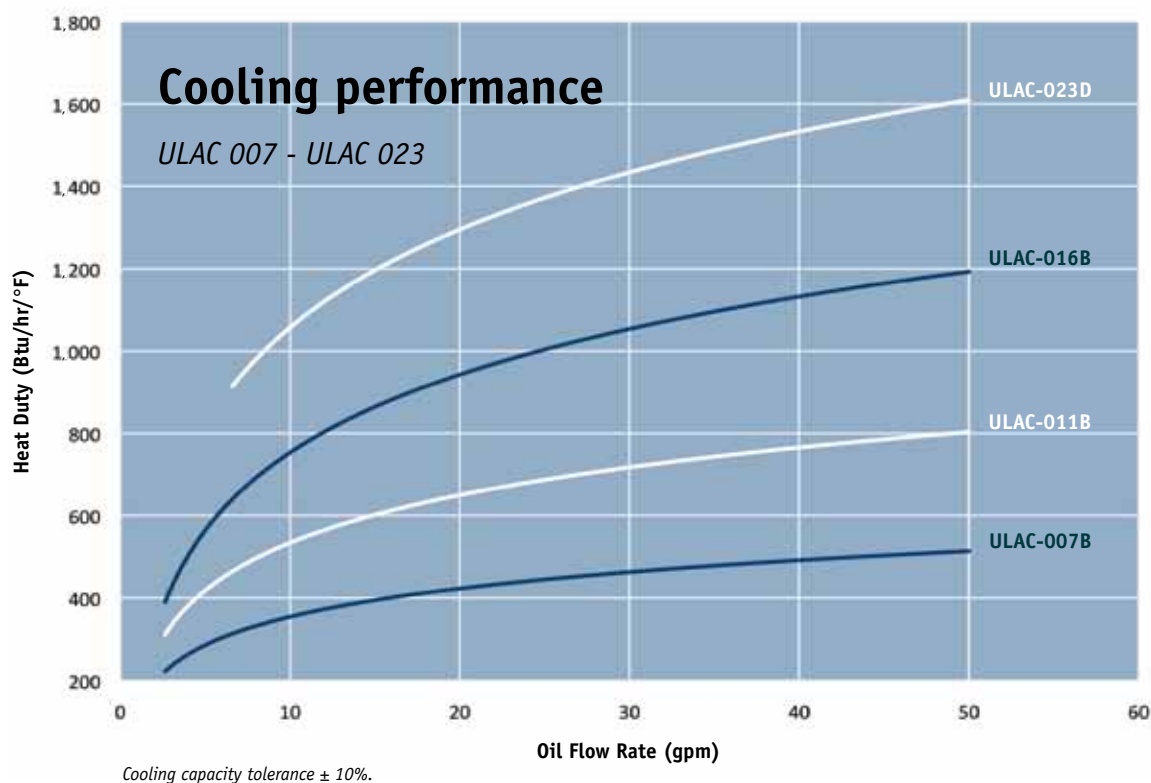
A continual desire for more cost efficient and environmentally friendly hydraulic systems requires continuous development. Areas where we are continuously seeking to improve performance include cooling capacity, noise level, pressure drop and fatigue.

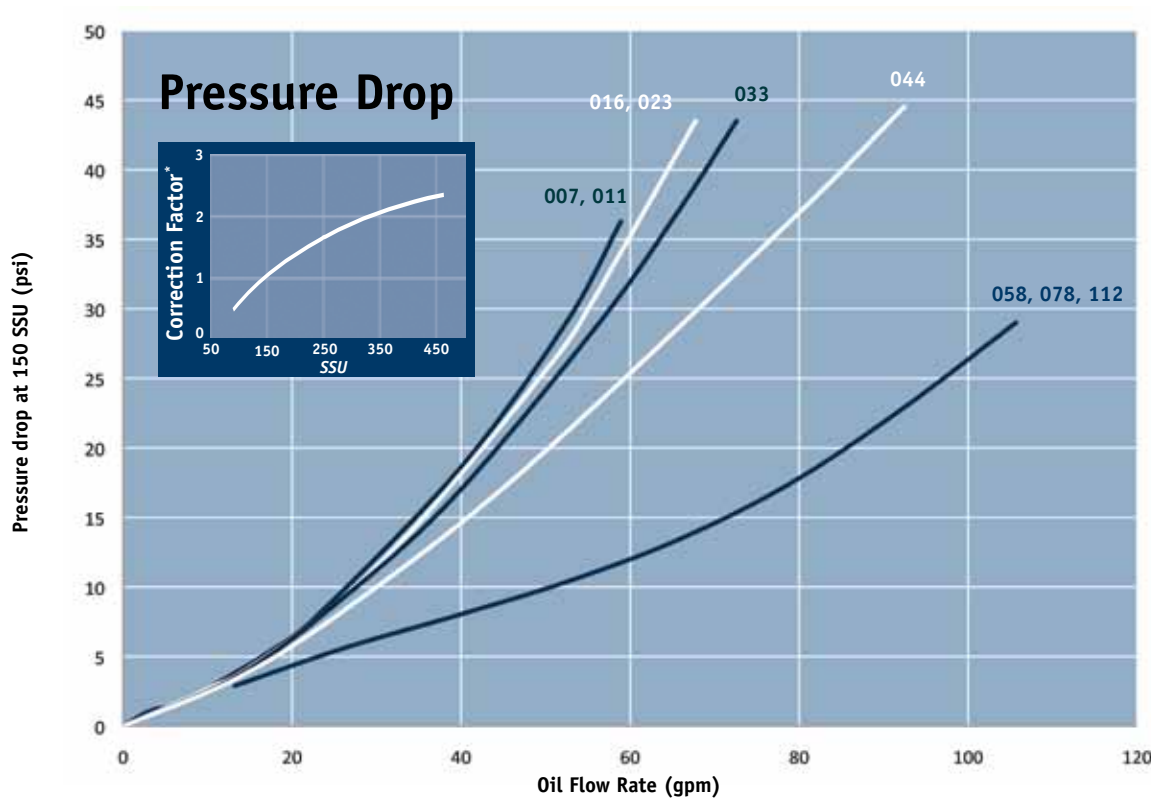
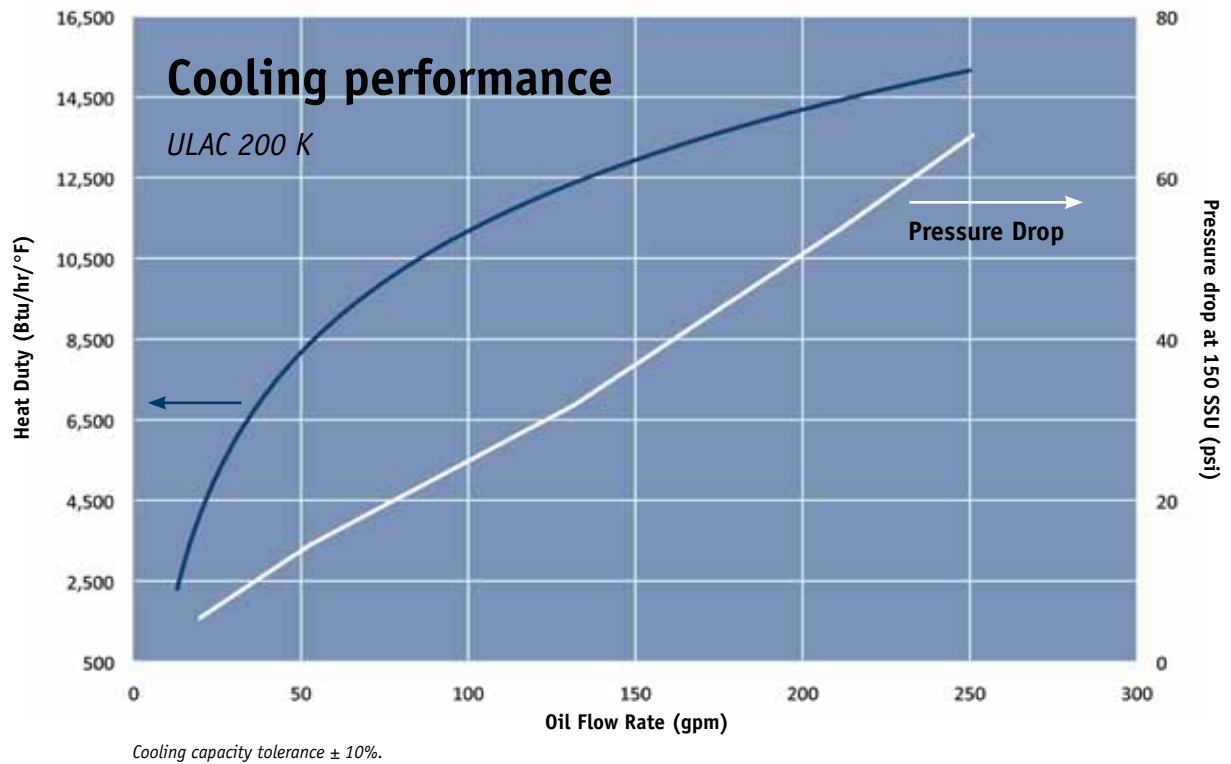


Meticulous quality and performance tests are conducted in our laboratory. All tests and measurements take place in accordance with standardized methods - cooling capacity in accordance with EN1048, noise level ISO 3743, pressure drop EN 1048 and fatigue ISO 10771-1. For more information about our standardized tests, ask for "OLAER's blue book – a manual for more reliable cooler purchasing".

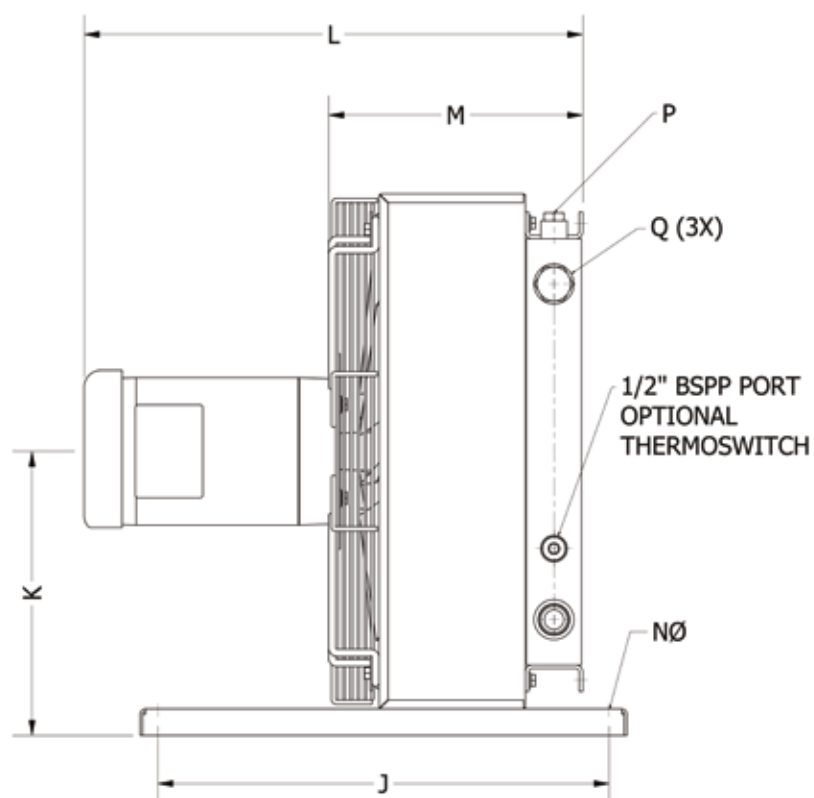


The cooling capacity curves are based on an ETD (Entering Temperature Difference) of 1 °F.  
 An oil temperature of 140 °F and air temperature of 70 °F produce a temperature difference of 70 °F.  
 Multiply by Btu/hr/°F for total cooling capacity.





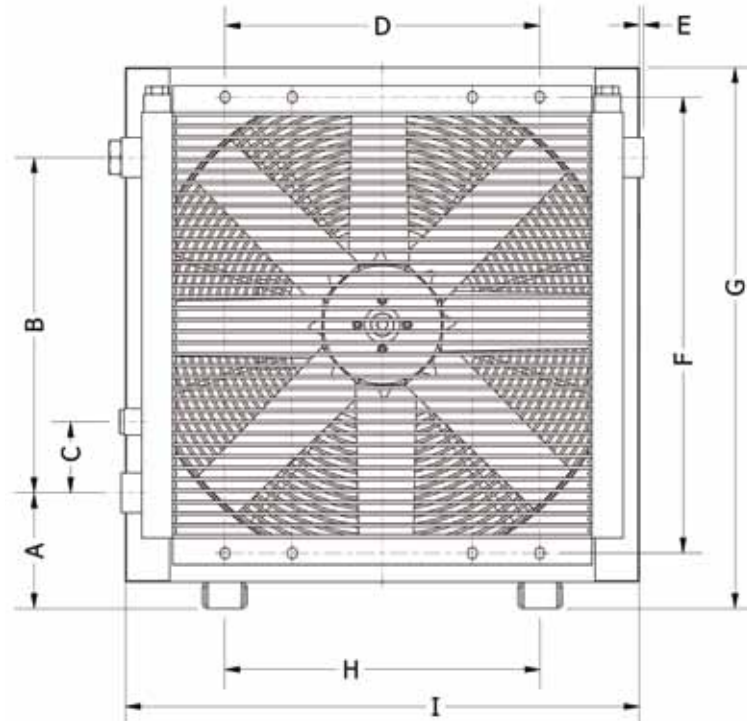
\* Pressure Drop Correction Factor for other viscosities.



TYPE	Acoustic pressure level <i>L<sub>pA</sub> dB(A) 3 ft.*</i>	No. of poles/ Capacity <i>HP</i>	Weight <i>Lbs. (Approx.)</i>	P <i>SAE O-ring</i>	Q <i>SAE O-ring Boss</i>
ULAC 007B	69	4/0.5	33	1/2" (#8)	1" (#16)
ULAC 011B	71	4/0.5	44	1/2" (#8)	1" (#16)
ULAC 016B	74	4/0.5	53	1/2" (#8)	1" (#16)
ULAC 023D	81	4/1	79	1/2" (#8)	1" (#16)
ULAC 033D	82	4/1	115	1/2" (#8)	1 1/4" (#20)
ULAC 033F	86	4/3	170	1/2" (#8)	1 1/4" (#20)
ULAC 044D	83	4/1	143	1/2" (#8)	1 1/4" (#20)
ULAC 044F	87	4/3	197	1/2" (#8)	1 1/4" (#20)
ULAC 058G	90	4/5	264	3/4" (#12)	1 1/2" (#24)
ULAC 078G	92	4/5	434	3/4" (#12)	1 1/2" (#24)
ULAC 112H	96	4/7.5	542	3/4" (#12)	1 1/2" (#24)
ULAC 200K	93	6/15	1,030	NA	CODE 61 SAE 2" FLANGE

\* = Noise level tolerance  $\pm 3$  dB(A)





TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	Nø
ULAC 007B	5.2	6.3	3.2	8.0	0.24	11.7	15.6	8.0	14.4	20.1	8.4	19.8	8.8	0.35
ULAC 011B	5.4	9.0	3.2	8.0	0.12	14.3	18.5	8.0	17.3	20.1	9.8	20.8	9.8	0.35
ULAC 016B	5.2	11.7	3.2	8.0	0.28	17.0	20.7	8.0	19.5	20.1	10.9	21.6	10.7	0.35
ULAC 023D	5.2	14.9	3.2	14.0	0.20	20.2	24.0	14.0	22.8	20.1	12.6	22.2	11.3	0.35
ULAC 033D	5.2	19.1	3.2	14.0	NA	24.5	28.4	14.0	27.2	20.1	14.8	23.1	12.5	0.35
ULAC 033F	5.2	19.1	3.2	14.0	NA	24.5	28.4	14.0	27.2	24.0	14.8	25.6	12.5	0.55
ULAC 044D	4.6	26.1	3.2	14.0	NA	31.5	34.1	14.0	27.2	20.1	17.6	24.1	13.3	0.35
ULAC 044F	4.6	26.1	3.2	14.0	NA	31.5	34.1	14.0	27.2	24.0	18.3	26.6	13.5	0.55
ULAC 058G	5.2	26.1	3.2	20.0	NA	31.5	35.4	20.0	34.2	24.0	18.3	29.9	15.2	0.55
ULAC 078G	5.2	32.3	3.9	26.8	NA	38.9	41.4	20.4	40.2	35.4	21.1	30.9	16.2	0.55
ULAC 112H	5.1	38.8	3.9	31.1	0.14	45.4	47.8	23.6	46.7	35.4	24.4	31.9	17.2	0.55
ULAC 200K	7.2	50.9	5.0	49.6	1.2	61.0	64.2	55.9	59.4	35.4	32.7	41.5	18.7	0.71

All dimensions listed above are in inches.

# Order key for ULAC Oil Coolers

All positions must be filled in when ordering.

## EXAMPLE:

**ULAC - 007B - M - 100 - SA**

Series	Model	Motor type	Thermoswitch	Core Bypass
1	2	3	4	5

## 1. OIL COOLER SERIES WITH AC MOTOR; ULAC

## 2. COOLER SIZE/MODEL

007B, 011B, 016B, 023D, 033F, 033D, 044F, 044D, 058G, 078G, 112H and 200K.

## 3. MOTOR TYPE

No motor	= W
Three-phase 190/380V 50 Hz, 208-230/460V 60 Hz	= M
Three-phase 208-230/460V 60 Hz	= N
Three-phase 230/460V 60 Hz	= P
Three-phase 575V 60 Hz	= Q
Three-phase 115/230V 60 Hz	= R
Three-phase 230 V 60 Hz	= S
Explosion proof, Division 1, Class 1 Group D,	
Class II Group F & G, T3C	= X
Not listed, consult Olaer USA	= Z

\* = The M-motor is our standard motor. The performance at 50 Hz will be reduced by approximately 10%

## 4. THERMOSWITCH

No thermoswitch	= 000
100 °F	= 100
120 °F	= 120
140 °F	= 140
160 °F	= 160
175 °F	= 175
195 °F	= 195
Not listed, consult Olaer USA	= ZZZ

## 5. CORE BYPASS\*

No Bypass	= SW
20 psi External Hose Bypass (standard option)	= SA
65 psi External Hose Bypass (standard option)	= SB
30 psi External Tube Bypass	= SG
75 psi External Tube Bypass	= SH
20 psi External Tube Bypass	= SJ
120 °F External Thermo-Bypass	= SM
140 °F External Thermo-Bypass	= SN
160 °F External Thermo-Bypass	= SP
195 °F External Thermo-Bypass	= SQ
Full Flow External Bypass	= SF

\* The standard cores are single pass. Two pass cores and other options available upon request, please consult Olaer USA.

# Technical specification

## FLUID COMBINATIONS

Mineral oil  
Oil/water emulsion  
Water glycol  
Phosphate ester

## MATERIAL

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

## COOLER CORE

Maximum static working pressure	300 psi
Dynamic working pressure	200 psi*
Heat transfer tolerance	± 6 %
Maximum oil inlet temperature	250 °F

\* Tested in accordance with ISO/DIS 10771-1

## COOLING CAPACITY CURVES

The cooling capacity curves in this catalog are being created using oil type ISO VG 46 at 140 °F.

## CONTACT OLAER FOR ADVICE ON

Oil temperatures > 250 °F  
Oil viscosity > 100 cSt / 500 SSU  
Aggressive environments  
Environments with heavy airborne particulates  
High-altitude locations



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



With our specialists' 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 and proper accessories or an accumulator gives you increased system up time and a longer expected 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 USA 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.



## Stone guard/Dust guard

Protects components and systems from tough conditions.



## Temperature-controlled bypass valve *Integrated*

Same function as the pressure-controlled by-pass valve, but with a temperature-controlled opening pressure - the hotter the oil, the higher the opening pressure. Available for single-pass or two-pass matrix design.



## Lifting eyes

For simple installation and relocation.



## Thermo contact

Sensor with fixed set point for temperature warnings and cost efficient operation with automatic switching on and off of the fan motor thereby reducing the energy usage.



## Temperature-controlled 3-way valve *External*

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





*- in Fluid **Energy** Management*

# Global perspective

*and local entrepreneurial flair*



Olaer is a global player specializing in innovative, efficient system solutions for temperature optimization and energy storage. Olaer 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 optimization. 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 combined with our cutting-edge expertise to give you the best possible conditions for making a professional choice.