OA Series- Industrial Air Cooled Aluminum Fins

Maintenance-

To ensure the cooler operates at maximum efficiency, please perform regular maintenance.
Use high-pressure air to periodically clean the external cooling fins. If a cleaning solution is needed, use a neutral detergent, and make sure the cooler is dry before starting operation.

Installation Notes-

Air-cooled coolers must be installed in a clean and well-ventilated environment to ensure optimal heat dissipation.

General Information-

Material: Aluminum alloy
Manufacturing: 100% made in Taiwan
Maximum working pressure: 20 KGf/cm^2
Test pressure: 1.5 times the design pressure, tested with nitrogen
Suitable for fluids that will not cause corrosion or chemical reactions with aluminum alloy materials.

HOW TO ORDER I

*The Tech Sheet is applicable to OA153~OA383

Example Model to order: OA383-6T6A2ULO

Model	Core		Threads	Fan Size	Voltages	Cables	Air Flow	J Box	Filter	Core Paint
OA	383	-	6T	6	A2	UL	O	*Remark upon order		
	153 217S				A1: AC 110V A2: AC 230V A3: AC 380V A400: AC 400V A415: AC 415V A440: AC 440V A460: AC 460V A480: AC 480V D1: DC 12V D2: DC 24C	N/A		N/A		
OA	225 225E 217 217H 217S 285 388 282 383		3T: 3/8"PT 4T: 1/2"PT 6T: 3/4" PT 3N: 3/8" NPT 4N: 1/2" NPT 6N: 3/4" NPT	4: 4 Inch 6: 6 Inch		L: Left UL: Up Left DL: Bot. Left R: Right UR: Up Right DR: Bot. Right M: Mid UM: Up Mid DM: Bot. Mid.	O: Suction I: Blowing (Default)	IP65 IP67 (Default)	Up (Optional)	Silver Black

HOW TO ORDER II

*The Tech Sheet is applicable to OA400~OA780H

Example Model to order: OA540L-10T16P1A3O

Model	Core		Threads	Fan Size	Phase	Cables	Air Flow		J Box	Filter	Core Paint
OA	**540L**	**-**	**10T**	**16**	**P1**	**A3**	**O**		*Remark upon order		
OA	400 485 540 540C 540L 540LB 540LC 540LD OA460H OA460HL OA600H		8T: 1"PT 10T: 1"-1/4" PT 12T: 1"-1/2" PT 8N: 1" NPT 10N: 1"-1/4" NPT 12N: 1"-1/2" NPT	10: 10 Inch 12: 12 Inch 14: 14 Inch 16: 16 Inch	P1 P3	A1: AC 110V A2: AC 230V A3: AC 380V A400: AC 400V A415: AC 415V A440: AC 440V A460: AC 460V A480: AC 480V	O: Suction I: Blowing (Default)		Available for: OA480/540C/540LC Single phase fan IP65 IP67 (Default)	UP (OA400) Side (Default)	Silver Black
	OA780H			Electric Motor	N/A	D1: DC 12V D2: DC 24C					

Selection Procedure

STEP 1 Determine the Heat Load

The formula for calculating heat generation is as follows: Q=Cp*p*V*Δt/h

Q: Heat load (Kcal/h) Cp: Oil specific heat capacity=0.47kcal/kg V: oil tank volume (liter)

p: Oil specific gravity= 0.876kg/ m^3 Δt: temperature   h: hour

Unit Conversion: 860Kcal/h=1 Kw   1Hp=635Kcal/h

STEP 2 Determine Approach Temperature

Desired oil leaving cooler °T – Ambient air temp. °T = Actual Approach

Estimated heat generation: Use 60% of the actual input horsepower as the operating heat generation. If a hydraulic motor or metering pump is used in the circuit, calculate it at 100%.

Calculation: Q=N*860*%

Q: Heat load (Kcal/h)   N: Input

STEP 3 Determine Curve Horsepower Heat Load

Enter the information from above: Horsepower heat load x 30 x Cv = Curve Horsepower Actual Approach

STEP 4 Enter curves at oil flow through cooler and curve horsepower

Any curve above the intersecting point will work.

STEP 5 Determine Oil Pressure Drop from Curves

Multiply pressure drop from curve by correction factor found in oil s P correction curve.

Desired Reservoir Temperature

Return Line Cooling: Desired temperature is the oil temperature leaving the cooler. This will be the same temperature that will be found in the reservoir.

Off-Line Recirculation Cooling Loop: Desired temperature is the oil temperature entering the cooler. In this case, the oil temperature change must be determined so that the actual oil leaving temperature can be found. Calculate the oil temperature change (oilΔ T) with this formula: OilΔ T = (Kcal/HR) / (LPM Oil Flow x 210). To calculate the oil leaving temperature from the cooler, use this formula: Oil Leaving Temp. = Oil Entering Temp – Oil ΔT. This formula may also be used in any application where the only temperature available is the entering oil temperature.

Oil Pressure Drop: Most systems can tolerate a pressure drop through the heat exchanger of 20 to 30 PSI. Excessive pressure drop should be avoided. Care should be taken to limit pressure drop to 5 PSI or less for case drain applications where high back pressure may damage the pump shaft seals.