Liquid to Air Heat Exchanger LA5000
MFG Part Number: 387009381

WL Series Liquid Cooling System

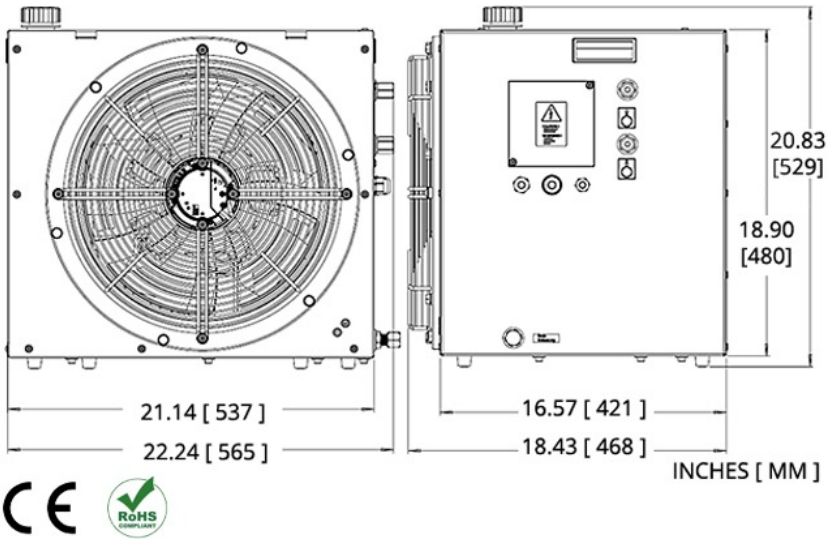
The LA5000 is a recirculating liquid to air heat exchanger that offers dependable, compact performance by removing large amounts of heat from a liquid circuit. The coolant is re-circulated using a high-pressure pump to assure maximum flow rate. Heat from coolant is absorbed by a radiant heat exchanger and dissipated into the ambient environment using brand name fan. Manual adjustments can be made to control flow switch. Customized features are available, however, MOQ applies.

Features

- Cooling to ambient
- High heat pumping capacity
- Compact form factor
- Long life operation

Applications

- Cooling Particle Accelerators: Linear Accelerators and Cyclotrons
- Semiconductor Fabrication Equipment Cooling
- X-ray Cooling in Industrial Scanners



FLUID OPERATING POINTS

100% Water

Cooling Power (Qc) = 5000 Watts
Thermal Conductance = 474.5 W/°C
ΔT (Ambient-Coolant)* = 10.5 °C
ΔT (Outlet-Inlet)** @ 8.3 L/min = 9.6 °C

70/30 Water-Glycol

Cooling Power (Qc) = 5000 Watts
Thermal Conductance = 441.5 W/°C
ΔT (Ambient-Coolant)* = 11.3 °C
ΔT (Outlet-Inlet)** @ 8.3 L/min = 10.1 °C

60/40 Water-Glycol

Cooling Power (Qc) = 5000 Watts
Thermal Conductance = 400.4 W/°C
ΔT (Ambient-Coolant)* = 12.5 °C
ΔT (Outlet-Inlet)** @ 8.3 L/min = 10.5 °C

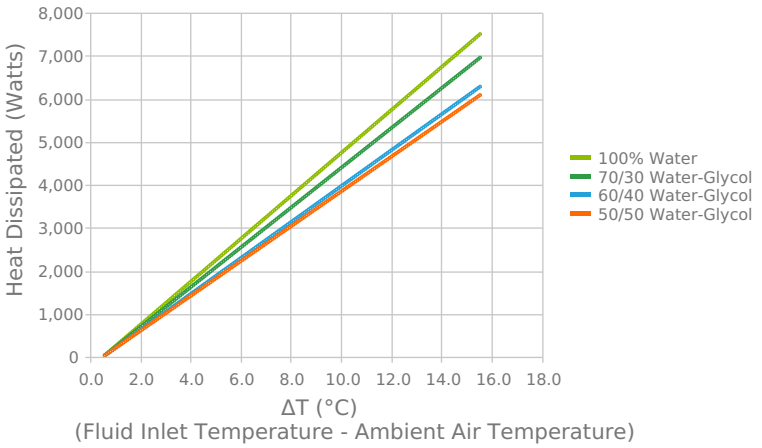
50/50 Water-Glycol

Cooling Power (Qc) = 5000 Watts
Thermal Conductance = 388.4 W/°C
ΔT (Ambient-Coolant)* = 12.9°C
ΔT (Outlet-Inlet)** @ 8.3 L/min = 11.1 °C

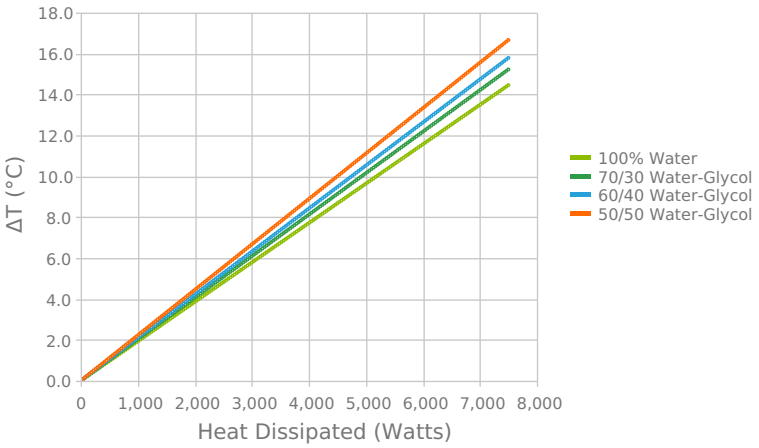
* ΔT (Ambient-Coolant) is the temperature difference between the ambient temperature and the coolant temperature that is at the outlet of the heat exchanger during steady-state operation. This temperature difference would initially be 0 and increase to the steady state value under load. This would also be the temperature at the inlet to the application.

** ΔT (Outlet-Inlet) is the temperature difference between the inlet temperature and the outlet temperature of the application at the nominal coolant flow. More flow (application pressure drop less than nominal) would necessarily mean a smaller ΔT.

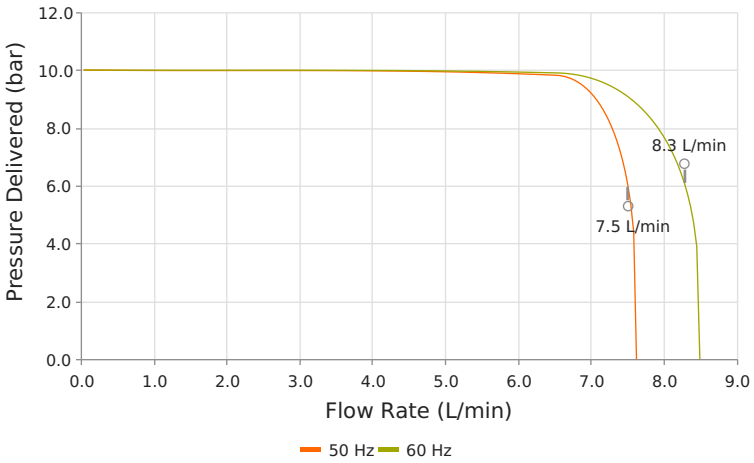
LA5000 Heat Dissipation
5000 Watt Requirement



LA5000 Fluid Inlet/Outlet Temperature Difference (ΔT)
@ Nominal Flow 7.47 L/min



LA5000 - Pump Curve



TECHNICAL SPECIFICATIONS

Performance

Nominal Cooling Capacity	5,000 W
Nominal Operating Flowrate (60 Hz)	8.3 L/min @ 6.0 Bar
Nominal Operating Flowrate (50 Hz)	7.5 L/min @ 6.0 Bar

Operation

Coolant	Water or Water/Glycol
Operating Temperature	5°C to 40°C
Storage temperature range (w/o coolant)	-25°C to 70°C
Humidity range	20% to 80%
Storage Humidity range	5% to 95%, non-condensing
Input Voltage	200 - 240 VAC
Frequency	50/60 Hz
Current	< 3.3 Amps
Flow Switch Open	≤ 4 L/min
Maximum Forward Pressure	10 Bar
Compliance	ANSI / UL / CSA / IEC EN 61010-1 Edition 3

Physical

Height	529 mm
Length	565 mm
Width	468 mm
Weight	40 kg
Coolant Capacity	6.2 Liters
Couplings	G 3/8 in

Features	Applications
Cooling to ambient	Cooling Particle Accelerators: Linear Accelerators and Cyclotrons
High heat pumping capacity	Semiconductor Fabrication Equipment Cooling
Compact form factor	X-ray Cooling in Industrial Scanners
Long life operation	

NOTES

1. Check coolant level regularly. For optimal cooling performance, coolant level should always be above radiator fins.
2. Hose selection should be of material and thickness to support pressure resistance and coolant type.
3. Manual adjustments can be made to control pressure and flow rate.
4. Check pump filter and dust on heat exchanger periodically for cleaning.

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