

mLC-KIT – Mini Liquid Cooling Kit

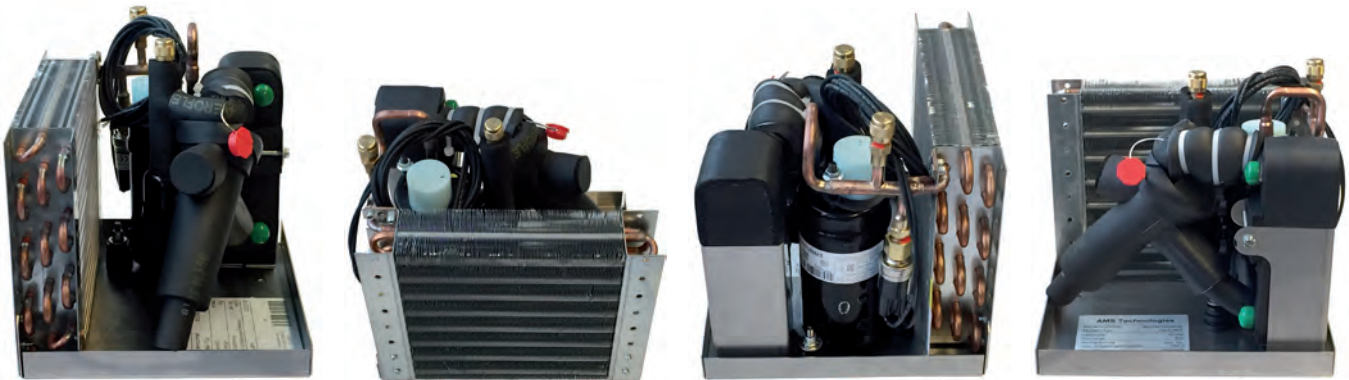
Compact Sealed Compressor System for Water Cooling

- Up to 500 W cooling capacity
- Speed control for ease of temperature control
- Low vibration, low noise
- Lightweight, compact
- Easy to integrate



THERMAL
MANAGEMENT

mLC-KIT – Compact Sealed Compressor System for Water Cooling



New possibilities with miniature compressors

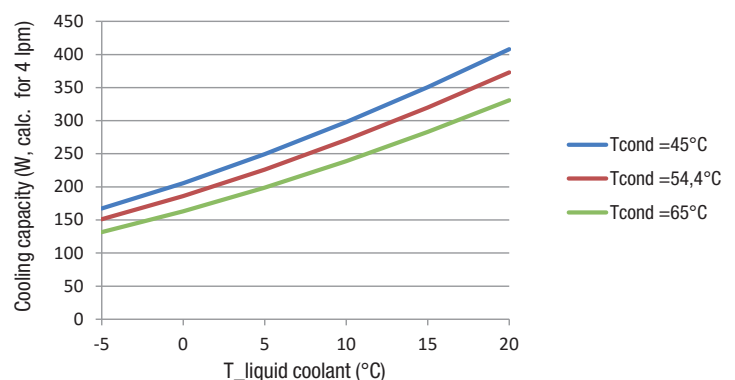
mLC-KIT is a sealed vapor compression circuit with a speed controlled miniature rotary BLDC compressor. The evaporator is a brazed plate heat exchanger, the interface to the customer liquid coolant circuit. The mLC-KIT comes with the separate 24VDC inverter board. The compressor speed can be set from the upper control system by frequency or analog signal. The condenser is an aluminum finned copper tube heat exchanger coil and must be cooled by forced convection, i.e. a 120x120 mm fan or equivalent. The heat exchanger stainless steel plates are nickel brazed suitable for a variety of coolant fluids, such as water, DI water and glycol-water mixtures. The plate heat exchanger has male R 1/4" connectors for the customer to connect its water circuit.

- ideal for compact laser cooling up to 500 W
- ideal for bio reagents cooling
- ideal for mobile applications

Key Features

- Kit to interface with OEM water circuit and electronics control
- Utilizes low vibration, low noise mini rotary compressor
- Components carefully designed to match each other

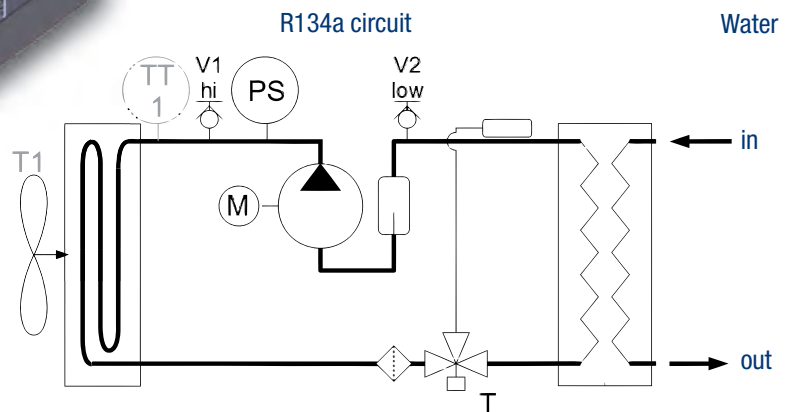
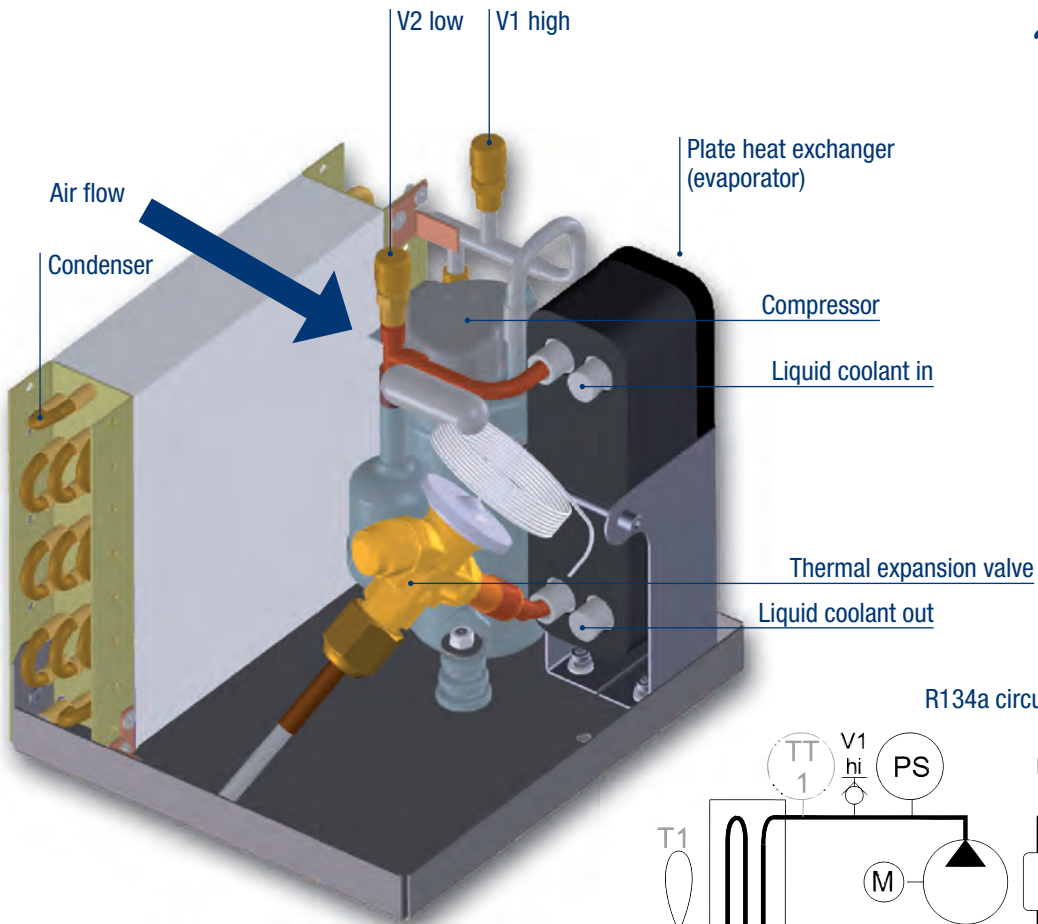
Cooling Capacity (nominal curves for 60rps)



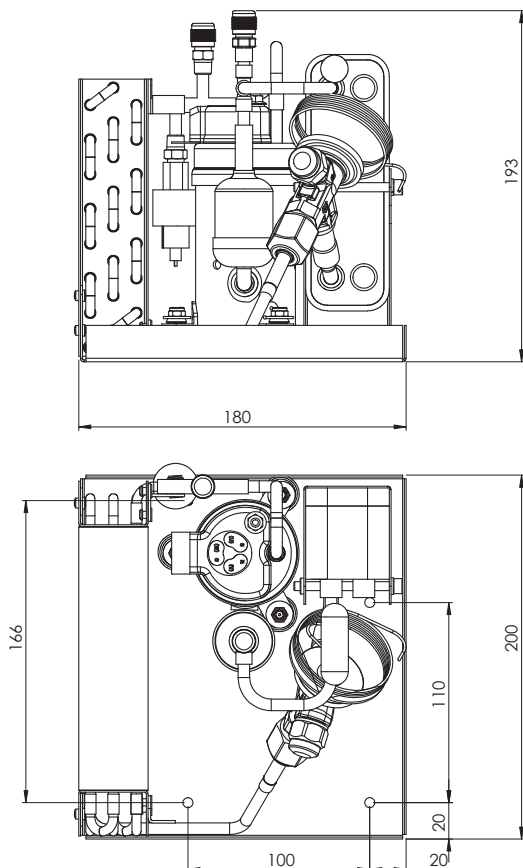
mLC-KIT – Specifications

| | |
|----------------------|---|
| Power supply | Consumption < 150 W (6A @ 24VDC, 80rps) |
| Cooling capacity | Approximately 420 W (at 80 rps, T _{water} = 25°C, T _{ambient} = 30°C) |
| Temperature range | Ambient operating -10°C .. +45°C |
| Hydraulic parameters | Recommended flow rate 1 .. 4 lpm |





Main dimensions



mLC-KIT – Process & instrumentation diagram

| | |
|-----|---|
| PS | Safety pressure switch on high pressure side, NC. |
| V1 | Schrader valve, high pressure port |
| V2 | Schrader valve, low pressure port |
| TT1 | (not scope of supply), suggested temperature sensor on high pressure pipe, may be used to control fan speed |

Unit main parameters

| | |
|-----------------------|---|
| Weight | 3,4 kg |
| Dimensions | 200 x 193 x 180 mm ³ (WxHxD) |
| Electrical connection | 24 VDC |
| Frame | Stainless steel |
| Control | Inverter board |

Controller DC model

| | |
|-----------------|--|
| Rated Voltage | 24V |
| Max Current | 12A |
| Max Input Power | 250W |
| Operating range | 20-100rps |
| Speed command | Square wave pulse frequency: 40Hz ~ 200Hz Variable resistor input: 2k Ω ~ 10k Ω |





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Optical, Power and Thermal Management Technologies

■ GERMANY

AMS Technologies AG
Fraunhoferstr. 22
82152 Martinsried, Germany
Phone +49 (0)89 895 77 0

■ FRANCE

AMS Technologies S.A.R.L.
1, ave. de l'Atlantique Courtaboeuf
91976 Les Ulis, France
Phone +33 (0)1 64 86 46 00

■ ITALY

AMS Technologies S.r.l.
Corso Sempione, 215/B
20025 Legnano (MI), Italy
Phone +39 0331 596 693

■ POLAND

AMS Technologies Sp. z o.o.
Mogilska 69 St, Floor 2
31-545 Krakow, Poland
Phone +48 (0)12 346 24 16

■ SPAIN

AMS Technologies S.L.
C/Muntaner, 200 Atico, 4a
08036 Barcelona, Spain
Phone +34 (0) 93 380 84 20

■ SWEDEN

AMS Technologies Nordic
Azpect Photonics AB
Aminogatan 34
43153 Mölndal, Sweden
Phone +46 (0)8 55 44 24 80

■ UNITED KINGDOM

AMS Technologies Ltd.
Unit 11, St Johns Business Park
Lutterworth
Leicestershire LE17 4HB, UK
Phone +44 (0)1455 556360



info@amstechnologies.com
www.amstechnologies.com