Product datasheet

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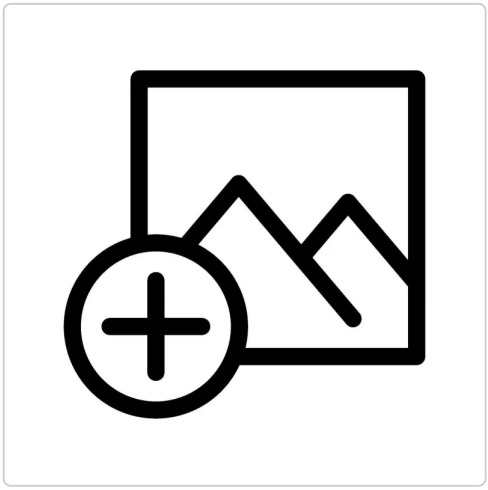
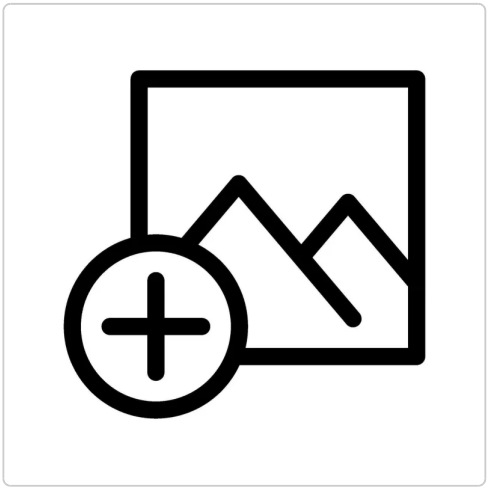
EVEA - GR-V4 - Radiator Unit for Liquid Cooling





Reference : EVE-GRPRADV4-40V-160V

Brand : EVEA

Options :

No variants

3D Model : Available

EAN-13 : 3762552427137

The EVEA V4 radiator unit is an integrated liquid cooling module designed for cooling electric motors and thermally loaded auxiliaries in electric traction, retrofit, and mobile machine architectures. Powered from 40 to 160 V, it combines a radiator, an integrated cooling pump, a cooling fan, an expansion tank, fuse protections, and control logic in a single assembly to simplify the implementation of a liquid cooling loop up to 35 kW.

This liquid cooling unit is intended for system integrators and engineering teams looking for a compact subassembly already structured for fast installation in an electric vehicle, hydraulic power unit, kart, special machine, or embedded industrial application. The value of the V4 goes beyond heat exchange alone: it reduces the number of separate interfaces to wire, mount, and maintain while keeping clear integration references on the hydraulic, electrical, and service sides.

V4 architecture

40-160 V liquid cooling module for electric motor applications

The V4 radiator unit operates as a complete liquid cooling module for electric motors. Its 40 to 160 V input range makes it compatible with low- and medium-voltage architectures commonly used in electric traction, while its target power up to 35 kW covers many conversion, light propulsion, mobile machine, and electrically driven auxiliary applications. In a well-designed integration, this type of unit avoids the dispersion of thermal components throughout the chassis and makes routing of the cooling loop, main harness, and fan control much easier.

Integrated 10 L/min pump and automatic fan at 35 °C

The assembly includes a cooling pump with automatic start-up as soon as the unit is powered, with a nominal flow rate of 10 L/min, and a fan that can operate in automatic or forced mode. The fan starts automatically at 35 °C, which keeps airflow management simple during normal operation while preserving the ability to force ventilation during testing,

thermal validation, or commissioning phases. This architecture is especially useful when the goal is to secure an electric motor cooling loop without multiplying remote components.

Key figures

Parameter	Value
Product type	Integrated liquid cooling unit
Version	V4
Main use	Liquid cooling for electric motor and auxiliaries
Target power	Up to 35 kW
Input voltage range	40 to 160 V
Integrated functions	Radiator, expansion tank, pump, fan, voltage converter, fuses
Recommended coolant	50% glycol
Nominal pump flow rate	10 L/min
Maximum circuit flow rate	15 L/min
Maximum circuit pressure	0.5 bar
Fitting type	Barbed fittings
Compatible hose diameter	19 mm
Fan mode	Automatic or forced
Automatic start threshold	35 °C
Fan airflow	1000 m3/h
Main connector	7-pin
Integrated fuses	10 A main, 1 A relay, 15 A fan, 5 A pump
Mounting points	8 x M6x10 mm
Overall dimensions	344.98 x 449 x 146 mm
Vertical mounting pitch	300 mm
Horizontal mounting pitch	90 mm

19 mm hydraulics

Liquid cooling circuit with barbed fittings for 19 mm hoses

On the hydraulic side, the radiator unit is designed for 50% glycol coolant, with a maximum flow rate of 15 L/min and a maximum pressure of 0.5 bar. The V4 version replaces quick couplings with barbed fittings for 19 mm hoses, clearly steering integration toward a conventional flexible setup that is robust and easy to maintain. This is important in design: thermal behavior depends not only on radiator exchange surface, but also on the actual hose selection, clamp choice, bend radius, vibration resistance of the circuit, and the pressure losses imposed on the pump.

Engineering fit

Integration with expansion tank, ventilated face, and fuse access

The value of the V4 is also mechanical and functional. The product combines the radiator, expansion tank, pump, fan, voltage converter, and fuses in one volume, with mounting points intended for direct installation on a bracket or panel. For engineering teams, this makes it possible to treat liquid cooling as an identifiable module from the early design phase, with a dedicated area for airflow, tank filling, fuse access, and harness continuity. In return, the unit must not be installed in a confined space or in an area that recirculates hot air, otherwise thermal repeatability drops quickly.

7-pin main connector and ATO protections for clean integration

The electrical interface is built around a 7-pin main connector and internal ATO fuse protection. The useful assignments remain simple for integration: positive and negative supply, shielding, and fan control. This organization reduces the need for peripheral components to control cooling, but it requires wiring discipline suited to an embedded environment: proper separation between power and control, shielding continuity, lockout before intervention, and validation of the fan logic on the full system. In an electric retrofit project, this simple interface is a real time saver provided the overall schematic is fixed early enough.

Traction & retrofit

Electric motor cooling for electric traction, retrofit, and mobile machinery

The real value of the V4 radiator unit appears when viewed at system level. For a liquid-cooled electric motor, final performance depends as much on overall loop consistency as on the radiator itself. It is therefore necessary to validate flow direction, reserve sufficient air volume in front of the ventilated face, avoid restrictions in the 19 mm hoses, limit height differences that work against priming, and verify thermal stability under continuous load. Used this way, the unit becomes a practical base for a liquid cooling circuit in electric traction assemblies, electrically driven hydraulic systems, light marine applications, or highly compact industrial machines.

In an electric traction chain, the V4 radiator unit centralizes the cooling of an electric motor and related auxiliaries in a single module. This approach reduces assembly time, lowers the number of separate components, and limits the risk of connection errors between pump, radiator, tank, and fan.

For an electric retrofit project, the product fits well where a liquid cooling system must be integrated into a limited space. The 40 to 160 V range makes connection possible across different conversion architectures without requiring a dedicated cooling assembly for each nominal voltage.

In mobile or industrial applications, the barbed fittings for 19 mm hoses are a practical advantage for creating a simple, serviceable cooling loop compatible with standard flexible piping components. This choice suits machines exposed to vibration, regular maintenance operations, and installations where accessibility remains important.

The product is relevant wherever a liquid cooling module with integrated pump and fan is required, already ready to be connected to a user circuit. It is particularly suitable for electric motors up to 35 kW, electrically driven hydraulic units, light electrified vehicles, karting or off-road electric systems, and technical machines requiring compact and controlled thermal management.

Field questions

What supply voltage does the V4 radiator unit accept?

The module operates from 40 to 160 V, making it usable across several electric traction and embedded integration architectures.

What hydraulic connection type should be planned?

The V4 version uses barbed fittings for 19 mm hoses. Compatible flexible hoses, suitable clamps, and a low-restriction loop must therefore be provided.

Does the fan operate automatically?

Yes. The fan can start automatically at 35 °C or be forced for testing and commissioning.

Which coolant should be used?

The circuit is designed for a 50% glycol mixture, with a maximum flow rate of 15 L/min and a maximum pressure of 0.5 bar.

Integration choice

The V4 radiator unit provides a coherent base for creating a liquid cooling circuit for electric motors that is already structured, compact, and easy to integrate. Its value lies in the functional integration of the radiator, pump, fan, and protections, but final performance still depends on the quality of the complete loop design, airflow path, hydraulic sizing, and the validation performed by the integrator on the actual system before commissioning.

Product sheet written by **Mathieu S.** and reviewed by the EVEA Distribution technical team — Last updated on 17/03/2026.