

Making the case for Smart Controlled Thermal Management Systems

SPAL's leading range of brushless motors equips axial fans and centrifugal blowers for applications such as battery cooling, engine cooling, and HVAC in electric, hybrid and conventional engines.

As well as being durable, reliable and highly efficient, brushless technology is also smart, featuring electronic controls and on-board diagnostics, enabling the motor to be controlled via on-board computer.

The variable speed brushless fan has soft start capability and can be precisely controlled to produce the right air flow through the radiator no matter how tight the space.

The engine will be kept at optimum temperature when the vehicle is cruising along and when conditions change and the engine begins to heat up, the sensor kicks in to deliver more power and performance. This feature considerably enhances reliability of the engine.

Inside brushless technology



Featuring high-energy rare earth magnets and a patented sine wave sensorless drive, SPAL's brushless technology delivers outstanding performance at minimum electrical load, which adds up to fuel efficiency, reduced carbon emissions and long term cost savings.

Brushless motors are lightweight, completely sealed, IP68 and IP6K9K compliant, which means that they are fully waterproof, safer in operation and can function effectively and reliably for up to 30,000 hours (a significantly longer life than traditional motors) in the toughest operating environments – hot, humid, arid, dusty climates and in the presence of any aggressive or hazardous substance.

Advanced Features at a glance

With fewer moving parts within the motor as well as extending the life of the fan or blower, there are a number of other benefits which are further refined by virtue of being software driven:

- High efficiency and low power consumption
- Low noise, vibration and harshness
- Electronic controls with on-board diagnostics
- Motor with integrated electronics
- Battery compensation system
- Proprietary sine-wave sensorless drive
- Low inertia inner rotor design
- Low weight motor
- Higher ambient working temperature

