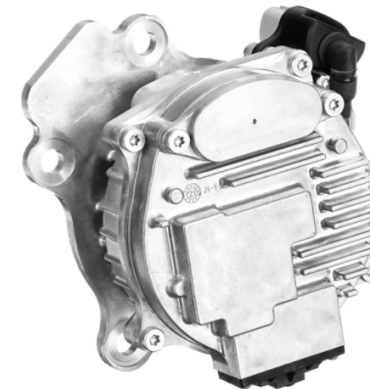


Gates ThermalPro™ Axial Flux water pumps have been specifically developed to optimise energy efficiency whilst delivering performance and reliability improvements for the systems they are used within.



| System Overview | |
|-------------------------|---|
| Model | 130 – 350W Platform |
| Motor type | Three-phase brushless Axial Flux |
| Motor Mass | >1.2Kg |
| Voltage range | 12V to 48V |
| Flow rate (l/min) | <120 |
| Maximum operating speed | <6000rpm |
| Control strategy | PWM, LIN, CAN |
| Coolant temp. (°C) | -40—120 |
| Ambient Temp (°C) | -40 -135 |
| IP rating | IP67 |



THREE PHASE **AXIAL FLUX PUMP DESIGN** KEY ADVANTAGES



Gates Axial Flux eWP Design:

Higher power density and more compact package over equivalent radial flux machines

Dry Rotor

Increased motor efficiency, durability, reliability & NVH (vs a standard radial flux)

Chassis or Direct Mounting

Flexibility to available packaging

Isolated Control Board

Protected from coolant exposure

Modular & Scalable

Creating “family” architecture adaptable for different application requirements



| Motor Design | | Standards | |
|-------------------------------|---|----------------------------------|---|
| Motor details | Up to 9 tooth 12 Poles | Functional Safety | ISO-26262 * |
| Motor Housing Material | ADC or Glass Reinforced Plastic | Safety of Intended Functionality | ISO 21448 |
| Volute Housing and Impeller | ADC or Glass Reinforced Plastic | Cyber Security | ISO 21434* |
| Winding Type | Non-Overlap concentrated | EMC | ISO 11451 / ISO 11452/ ISO 10605/ CISPR25 |
| Winding Material | Copper or Aluminum | Temperature Shock Test | DIN EN 60068-2-14 |
| Stator & Rotor Core Material: | SMC (Soft Magnetic Composite) | Dust Test | ISO 20653 |
| Permanent Magnet | Ferrous / Rare Earth | Thermal Cycle | IEC 60068-2-14 |
| Temperature Protection: | Over temperature | Vibration Test | ISO 16750-3 / DIN EN 60068-2-6/DIN 60068-2-64 |
| Voltage Protection: | Overvoltage, Undervoltage, short circuit | | |
| Load Protection: | no-load, overload, locked impeller, anti-reverse connection | | |
| Coolant Specification: | 50:50 Ethylene Glycol to water ratio | | |

* Subject to customer requirement specification