



PCB STATOR TECHNOLOGY



East West

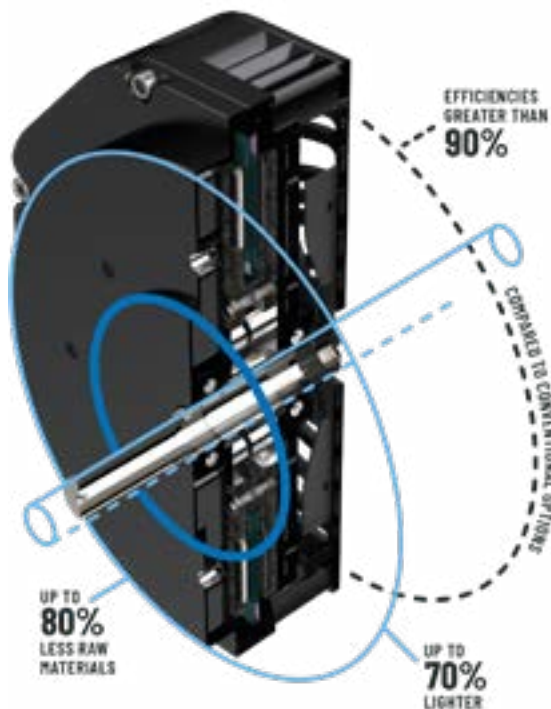


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STATOR
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Our East West Motors business unit has strategically partnered with ECM PCB Stator Tech to leverage ECM's award-winning PrintStator Motor CAD optimization platform. PCB Stator technology eliminates the need for copper windings used in conventional machines, creating a new type of axial flux electric motor for the next 100 years of electrification.

PCB Stator Technology Innovations

PCB Stator technology innovations allow for the optimization of copper geometries and winding patterns that ensures high efficiency with minimal environmental impact. PCB Stator motors designed via PrintStator are up to 70% lighter than conventional options while achieving efficiencies in the excess of 90% and requiring just 20% of the raw materials. PCB Stator motors can achieve power of up to 20kW, speeds up to 30,000 RPM, and torque ratings of up to 100Nm.



The advantage of PCB Stator Technology is vast. Key PCB Stator motor features include: .

- **High Efficiency** – PCB Stator technology achieves efficiencies exceeding 90%; this integration results in reduced operating costs, extending battery life and lowering carbon footprint
- **Streamlined Motor Design** – ECM's PrintStator software streamlines motor design by rapidly generating prototype-ready designs so engineers can move quickly from concept to testing
- **Increased Durability** – PCB Stator's continuous coil design and fully encapsulated windings prevent common failures found in traditional motors, boosting overall durability (rigorous HALT testing validates their reliability)
- **Superior Quality of Motion** – PCB Stator motors offer unparalleled motion quality, free from cogging while delivering smooth torque, and eradicating cogging through their innovative air core design and utilization of iron-free PCB Stators
- **High Torque Density** – Powered by PrintStator software, efficient copper utilization yields torque-dense machines that enable high-power density with minimal axial length and weight (multiple PCB motors can be stacked on a single shaft)
- **Low Noise & EMI** – The encapsulation of PCB Stator coils within a composite structure effectively eliminates acoustic noise and reliability issues caused by vibration and other forces affecting traditional stator windings (results are up to 30dB quieter)
- **Increased Thermal Performance** – PCB Stator motors feature patented thermal management for safe continuous operation; using a continuous copper path, heat is conducted from the stator's center to the case's edge and then dissipates into the environment
- **Sustainable** – Through meticulous optimization of magnet and steel mass, plus the use of PCB Stators requiring less copper, these motors set a new standard for resource efficiency (PCB Stator motors reduce material usage by up to 80%)