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TMEIC Corporation

TMEIC Delivers Next-Gen Self-Starting Motors with Ultra-Low Starting Current for Superior Efficiency

TMEIC Corporation (President & CEO: Akira Kawaguchi; hereinafter, “TMEIC” or “the Company”) has introduced a self-starting 4-pole synchronous motor with minimized starting current*1 to ensure successful startup and operation where power and water are limited. By July 2024, TMEIC has shipped 20 units in capacities of 10MW, 14MW and 16MW.

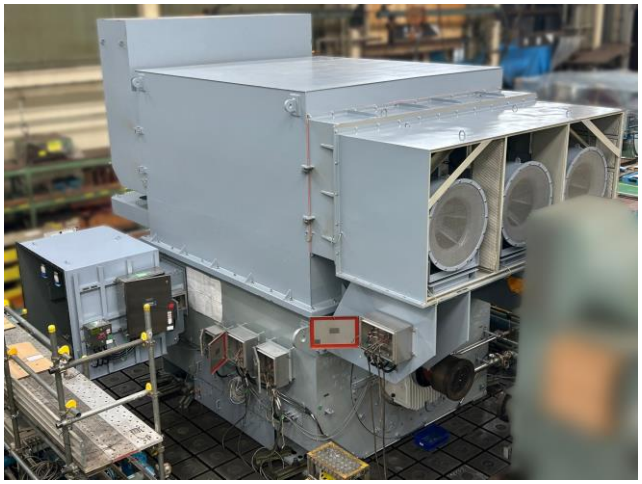
The self-starting, low-current synchronous motor primarily serves the oil and industrial gas industries. It is compact and not heavier than traditional frames but possesses a robust structure that ensures integrity, facilitates handling, uses less space and lowers installation costs.

Key Benefits

1. Enhanced plant stability with digitized excitation control and ultra-low starting current
   By digitizing excitation*2 control and optimizing the timing for the motor to reach full operating speed, TMEIC’s advanced design minimizes starting current, voltage drops and vibrations. Developed using high-precision analysis and cutting-edge 3D modeling technology, this ensures smoother startups, reduced system strain and superior stability for continuous plant operations.

2. Improve space utilization and reduce costs
   The compact design that is 15% smaller and 9% lighter than traditional models optimizes space usage and cuts installation and maintenance costs. A smaller footprint than conventional frames allows for more flexible plant layouts and lower operational expenses.

3. Versatile cooling solutions for any environment
   In addition to its air-water-cooled models, TMEIC is now introducing the IC616 air-air-cooled design, eliminating the need for cooling water, which makes it ideal for dry or remote locations such as oil & gas facilities. The air-air cooling system enhances flexibility, simplifies maintenance and reduces the need for utility resources, thereby offering efficient, low-maintenance operation across diverse installation scenarios.



Air-air cooled 4-pole synchronous motor with low starting current at TMEIC's testing facility

[Product range]

- Totally enclosed air-air cooled (IC616): Up to 22.35 MW
- Totally enclosed air-water (IC81W): Up to 27.5 MW

This versatile motor range delivers high performance and reliability, setting new standards in efficiency and adaptability in oil and industrial gas production.

Comments by TMEIC Vice President Hideki Iwanaga, Rotating Machinery Systems Division:
"Our new motor delivers smooth startup with minimal vibration thanks to advanced digital control and electromagnetic field analysis. TMEIC remains committed to furthering technological innovations that ensure stable plant operations for our customers."

*1 The initial surge of electrical current needed to start a motor

*2 Supplying current to a motor's rotor to create the magnetic field needed for operation

Media inquiries:

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In order to respond to the needs of manufacturing sites that serve as a foundation for supporting society, TMEIC always sets its eyes on the future of industry, society and the environment as an industrial systems integrator striking a balance between the development of society and a beautiful global environment. TMEIC will contribute to manufacturing and environmental management through leading-edge technologies based on its core technologies of rotating machinery, power electronics and engineering.