



# Power-Dense Electric Motors (PDEM)

## Operational features and benefits

- High power-density
- Offers significant space and weight saving opportunities
- Ease of integration
- Proven induction motor technology
- Rugged construction, suitable for harsh environments
- Designed to withstand high magnetic field, temperature and shock
- PWM inverter compatibility
- Wide speed range
- Low maintenance
- ATEX certified for hazardous areas

Ultra Electronics PMES is an established supplier of power conversion and control systems for naval and energy applications worldwide.

The trend towards increasing electrification, particularly for naval vessels, demands the replacement of hydraulic, pneumatic and mechanical systems with their electric, software-controlled, equivalents. To meet this growing need, PMES provides Power Dense Electric Motors for these demanding applications.

PMES's capability covers the design and manufacture of innovative power dense electric motor solutions for a variety of naval and energy applications where space, weight, performance and environmental factors such as shock, vibration and wide temperature extremes are important factors.



Power dense motor

**Applications**

- Industrial and marine gas turbine electric start systems
- Electric propulsion for ships and submarines
- Ships’ shaft line generator systems
- Replacement of hydraulic or pneumatic systems
- Pumps, compressors and actuators
- Applications where minimal size and weight are essential

**Design benefits**

- Power Dense Electric Motors occupy much less space and considerably lower weight than conventional motors



- Low maintenance is afforded by the absence of magnets and brush-gear. Proven reliable and rugged induction motor technology, together with the high quality bearings utilised, delivers long service life and minimal maintenance
- The motor is also capable of operating as a generator when driven by an external source

**Typical system specification**

Rated power	100kW to 2MW
Supply voltage	Up to 690V rms
Speed range	Up to 15,000rpm
Cooling	oil and water
Enclosure	IP56
Flange or foot mounted	



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