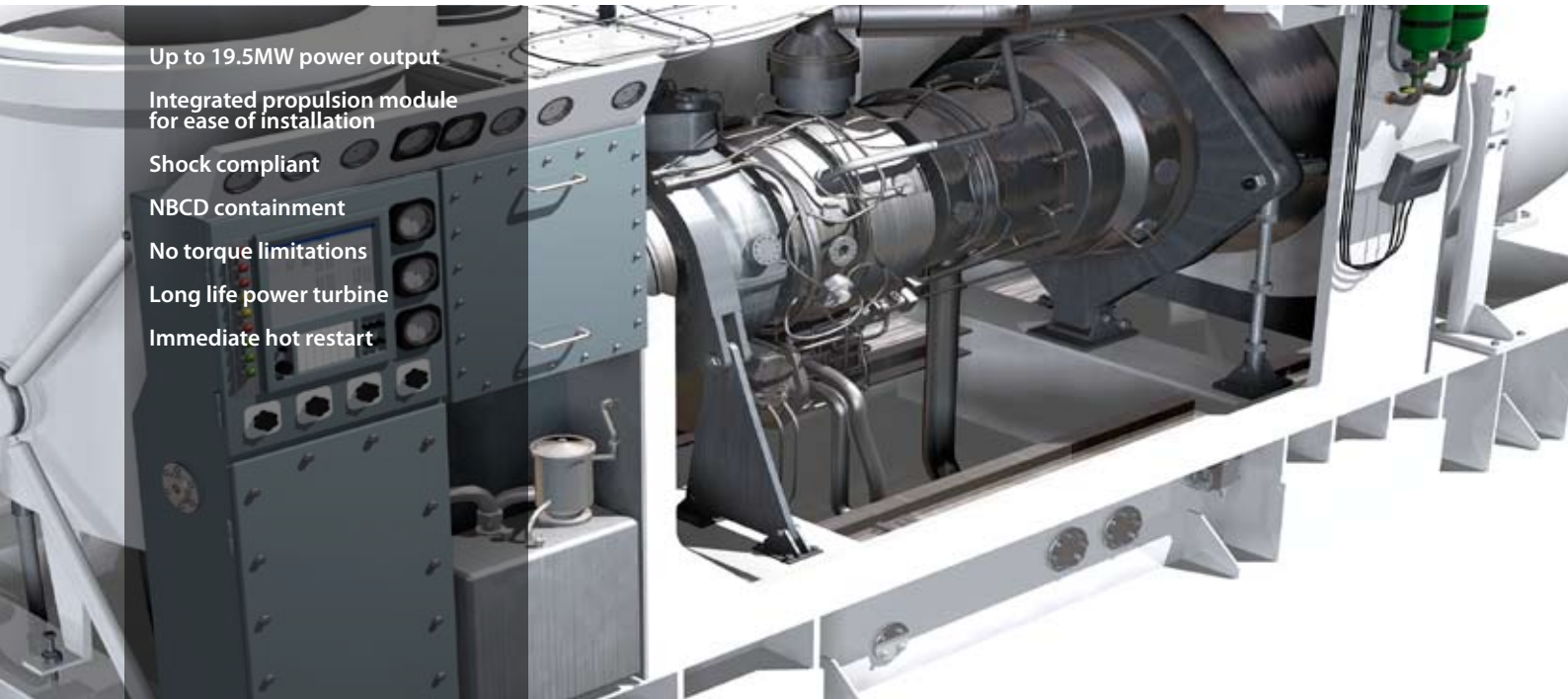


Spey marine gas turbine

For naval applications



Up to 19.5MW power output

Integrated propulsion module for ease of installation

Shock compliant

NBCD containment

No torque limitations

Long life power turbine

Immediate hot restart

The spey propulsion module

The marine Spey is a complete propulsion package suitable for a wide range of naval surface ships that require a compact and powerful prime mover. Delivering up to 19.5MW, the marine Spey is derived from the successful TF41 military aero engine, which has accumulated over 4.5 million hours in service.

Of twin spool, modular design, the Spey incorporates the latest technological developments from the commercial Tay and RB211 engine programmes, combining improved reliability and operational flexibility with outstanding economy and performance. Originally designed and developed for the UK Royal Navy, the Spey is suitable for both main and cruise propulsion.

A packaged module

The Spey brings substantial benefits to operators and shipbuilders alike. The module includes the Spey gas generator, power turbine, ancillary systems and fire protection systems all mounted on a fabricated steel base.

This allows simple installation with the principle interfaces limited to the intake and uptake flanges, the hull mountings and the output shaft flange. The fully insulated enclosure reduces airborne sound/heat levels and provides NBCD containment. The unit has its own local digital controller as well as interfaces for remote control and surveillance from the ship control centre.

Proven performance

In service around the world in nine ship classes with over 500,000 hours operational experience in three navies, the Spey is a rugged and reliable marine propulsion package. The modular design inherited from its aero parent ensures ease of maintenance and a reduction in through-life costs.

Minimal maintenance

The Spey is designed for optimum maintainability. Scheduled weekly maintenance is limited to just 40 minutes, with an additional 40 minutes each month. This reflects a change in prime mover maintenance philosophy, from planned to condition based maintenance, as maximum running hours and cyclic lives are progressively extended.

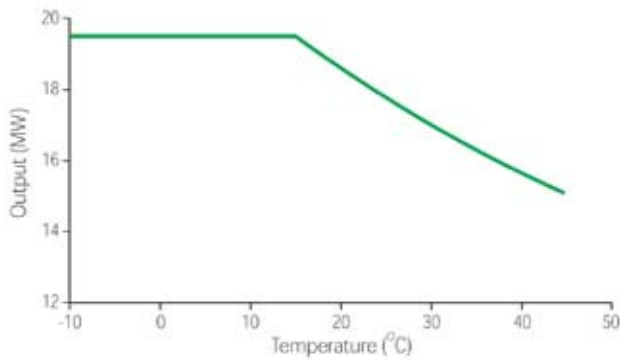


The engine exploits the latest digital control technology

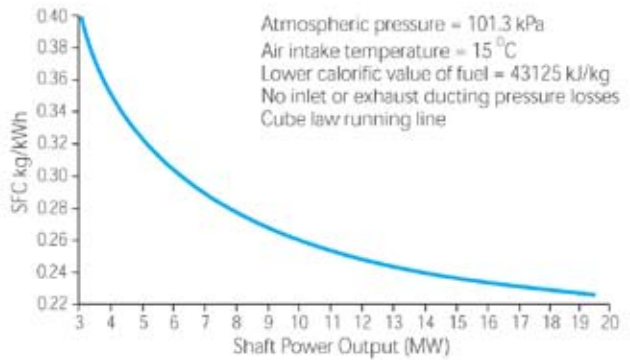


Spey propulsion module

Variation of power turbine output with air intake temperature



Variation of specific fuel consumption with shaft power



Performance (ISO conditions, no loss)

Power	(MW)	19.5
	(bhp)	26150
Intake mass flow	(kg/sec)	65.7
Exhaust mass flow	(kg/sec)	66.9
Exhaust temperature	(°C)	490

Compressor stages	LP	5
	HP	11
Turbine stages	LP	2
	HP	2
	PT	2
Shaft speed (rpm)	LP	8000
	HP	12070
	PT	5500
Combustion system	Cannular	10 combustors
Number of shafts	2 plus free power turbine	

Propulsion Unit Weight

Packaged Module	(kg)	25,700
GTCU	(kg)	1800 (dry weight)

Propulsion unit (dimensions in mm)

