

RR4500

A ship service generator designed for the 21st century

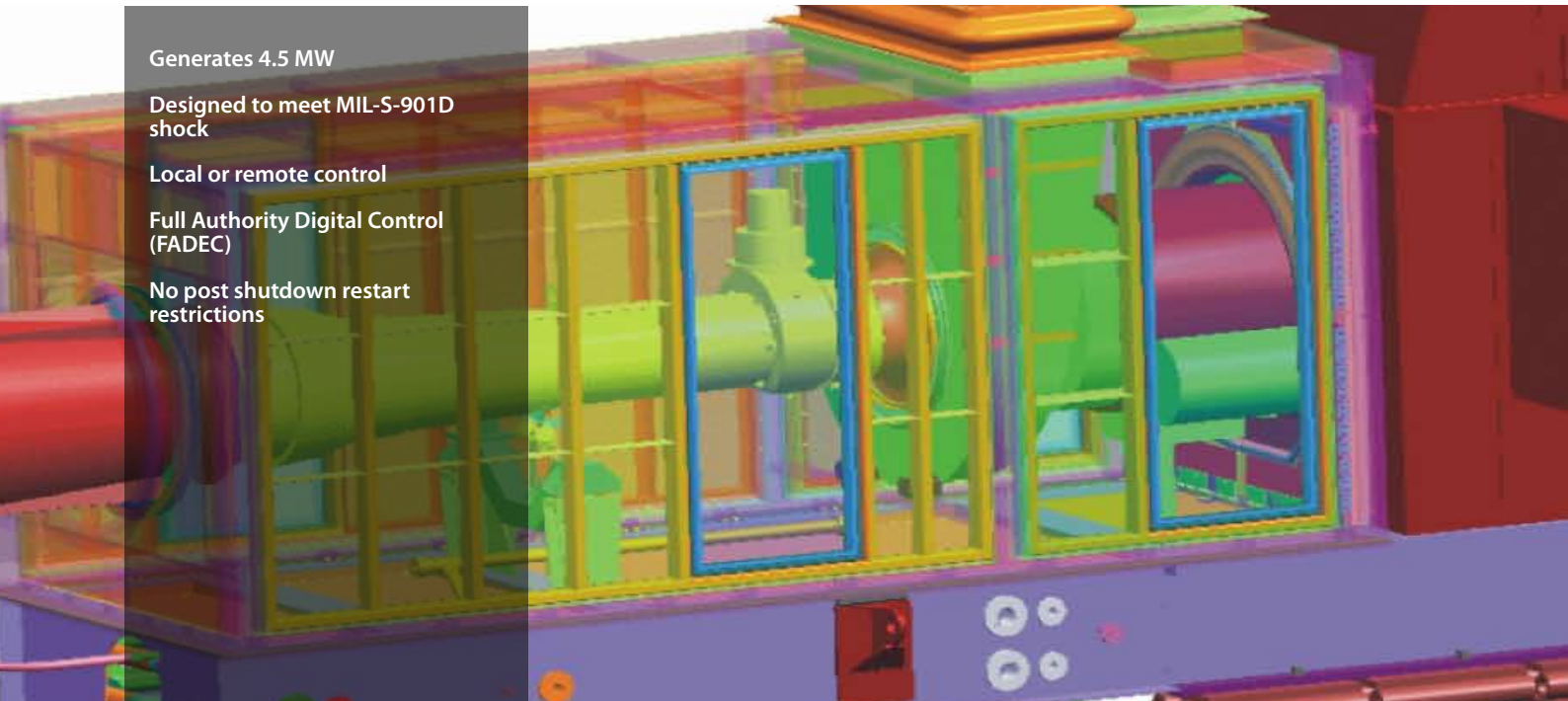
Generates 4.5 MW

Designed to meet MIL-S-901D shock

Local or remote control

Full Authority Digital Control (FADEC)

No post shutdown restart restrictions



Description

The RR4500 ship service generator set harnesses proven industrial and aero-engine technology to deliver 4.5 MW at its continuous rating. Taking its pedigree from the same engine family that produced the highly successful industrial and marine 501 engines that have amassed over 50 million hours in service, the RR4500 is designed for naval applications for operations under the most arduous condition.

Selected as one of the units that will power the engineering development model for the U.S. Navy's DD(X) advanced future surface combatant, the RR4500 is designed to meet all U.S. Navy requirements for DD(X), its associated transformational technologies, and stands at the core of U.S. Navy capabilities and missions for the 21st century.

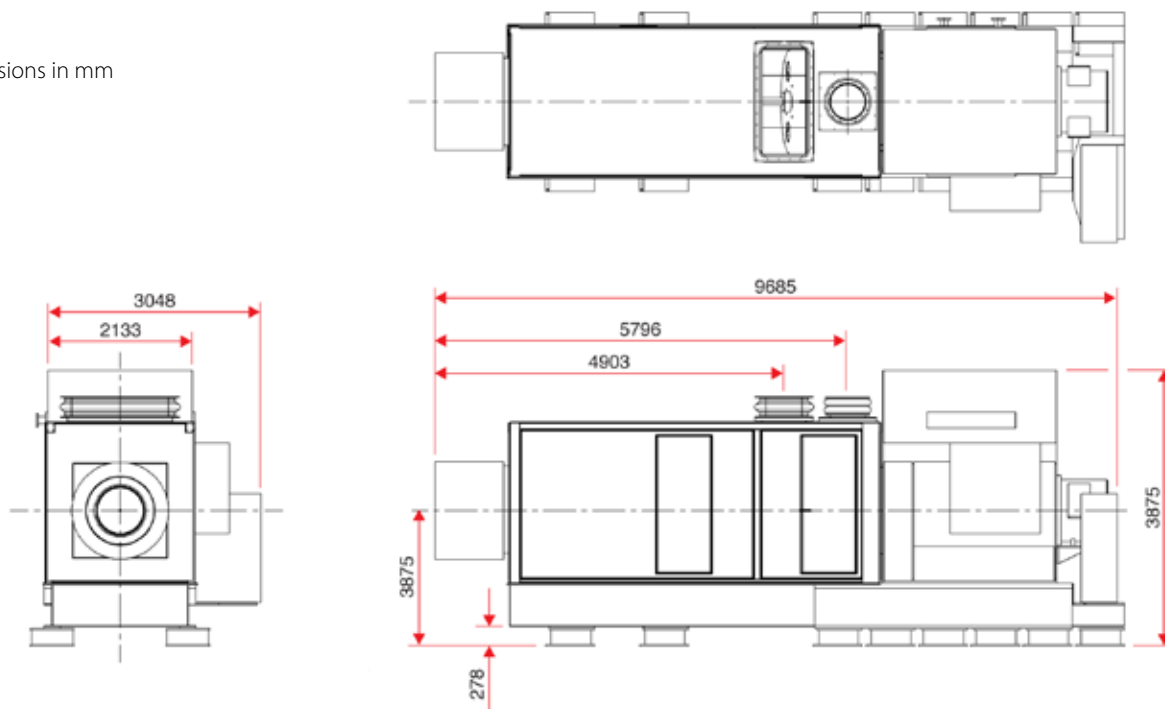
Advanced design

The RR4500 core is a single shaft, high-pressure ratio gas turbine engine with a fourteen-stage axial compressor and boost compressor module. A four-stage turbine is supported on a roller bearing structure for optimum reliability. Key engine components are coated for protection in the marine environment to reduce maintenance and deliver long service life. The combustor is similar to the aero parent design ensuring the RR4500 has an exceptionally low emissions signature. All prime auxiliary systems are driven from the on-engine gearbox.



RR4500 generator dimensions

All dimensions in mm



RR4500 performance (ratings at sea level with 4" and 8" exhaust losses, 40% relative humidity, and generator and gearbox losses)

Power (max continuous)	4.5 MW @59°F 3.9 MW @100°F
Exhaust mass flow	40.3 lb/sec
Exhaust temperature	1016°F
Specifications	
Generator speed	1800 rpm
Terminal voltage	13.8 kV
Length	31.8 ft
Width	10.0 ft
Height	12.7 ft
Weight	106,750 lbs (dry)