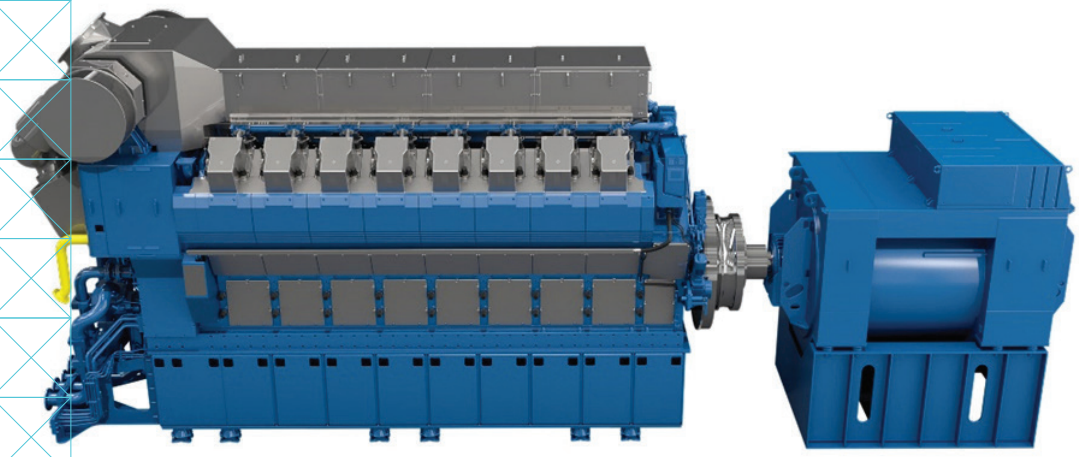
ROLLS-ROYCE
BERGEN ENGINES

Kongsberg Maritime is the exclusive distributor of Rolls-Royce medium speed engines for commercial marine applications

KONGSBERG



MARINE GAS ENGINE

Bergen B36:45V generating set

Choose Rolls-Royce Bergen engines for cost-effective operation

The Bergen B-series is based on a modular design, which gives a flexible platform and at the same time carries forward the Bergen traditional values as a robust and reliable engine. The selection of technology was done after consulting a broad range of operators, designers and shipbuilders, to establish the qualities they prize in an engine. This engine series was first introduced to the market in 2014 as a diesel engine, and the gas version followed in 2018. It is available in several in-line or Vee cylinder variants for both diesel and gas, and is equally suitable for mechanical transmission or as a marine generating set.

Main benefits for ship yards:

- Easy installation
- Aligned piping at pump-end for easy connection
- New resilient mounting (no need of welding brackets)

Main benefits for ship owners:

- IMO Tier III compliant without SCR
- Single fuel = single bunkering
- No lubricating oil separator needed
- Fast load response
- Cleaner engine room and no smoke emission
- Extremely low methane slip at all engine loads
- Cylinder Pressure Monitoring (CPM) for improved load control, and possibility for diagnostics per cylinder
- Exceptionally low emissions of NOx, CO2, SOx and particulate
- No “switch over” problems - ref ECA or port regulations
- Long-term compliance with local port regulations and potential benefits from taxation/green port dues
- VVT – Variable Valve Timing for optimum response and load increase
- Gas safe (double wall piping)
- Possible conversion from gas to diesel and vice versa
- Wastegate turbocharger to ensure optimized fuel/air ratio at varying ambient conditions for lean-burn operation

MOST TYPICAL APPLICATIONS

- Cargo vessel
- Cruise
- RoPax
- Ferry
- LNG tanker
- Fish feed vessel
- Offshore

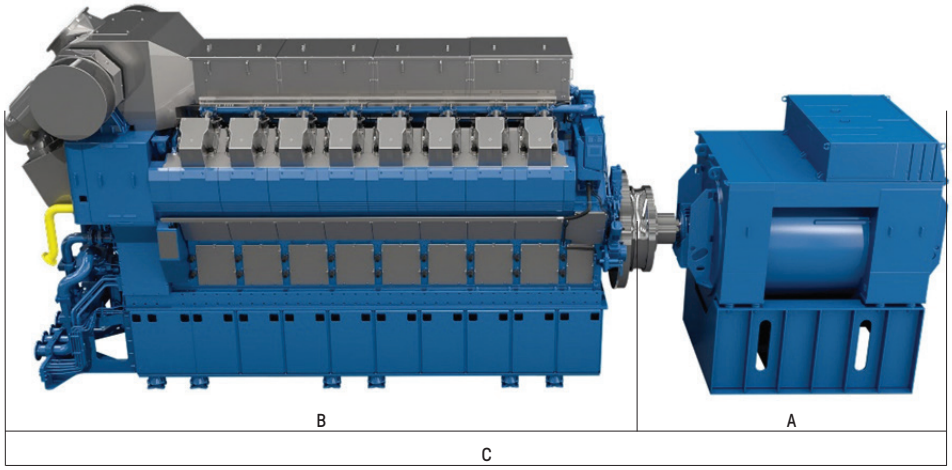
TECHNICAL DATA

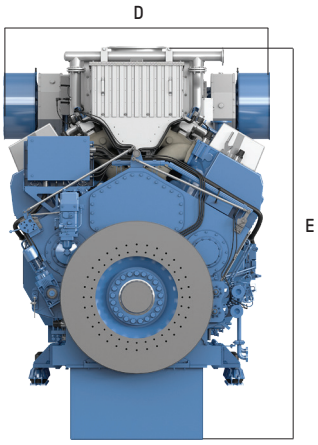
ENGINE TYPE		B36:45V12A	B36:45V16A
Number of cylinders		12	16
Engine speed	r/min	720/750	720/750
Mean piston speed	m/s	10.8/11.2	10.8/11.2
Max.cont rating (MCR)	kW	6900/7200	9200/9600
Max.cont rating altern, (h=0.97)	kWel	6693/6984	8924/9312
Max.cont rating altern, (Cos f=0.8)	kVa	8366/8730	11155/11640
Max.cont rating altern, (Cos f=0.9)	kVa	7437/7760	9916/10347
Mean effective pressure (BMEP)	bar	20,9/21	20,9/21
Specific energy consumption	kJ/kWh	7420	7420
Specific lubricating oil consumption	g/kWh	0.4	0.4
Cooling water temp. engine outlet	°C	90	90

The performance data is based on: Marine gas engine ratings are according to ISO 3046-1, at maximum 45°C ambient air temperature and maximum 32°C sea water temperature. Specific fuel gas consumption given at 100% load and no engine driven pumps, running on natural gas with Methane number above 70 and net calorific value of 36 MJ/nm3. To include 3 engine driven pumps, add 1.3%. Gas feed temperature is 20-40°C. Minimum gas feed pressure to Gas Regulating Unit to be 5,5 barg.

Waste heat recovery: Necessary data for arranging waste heat recovery plants (exhaust gas and cooling water) are available upon request.

Note: Due to continuous development, some data may be changed without notice.





ENGINE TYPE	A	B	C	D	E	WEIGHT DRY ENGINE	WEIGHT GENERATOR
B36:45V12A	3900	6900	10800	3140	4540	74400 kg	25000 kg
B36:45V16A	4500	8400	12900	3660	5010	99700 kg	31000 kg

Weight dry engine excludes generator, foundation and transport foundation.

Kongsberg Maritime
P.O.Box 483, NO-3601
Kongsberg, Norway

Switchboard: +47 815 73 700
Global support 24/7: +47 33 03 24 07
E-mail sales: km.sales@km.kongsberg.com
E-mail support: km.support@km.kongsberg.com