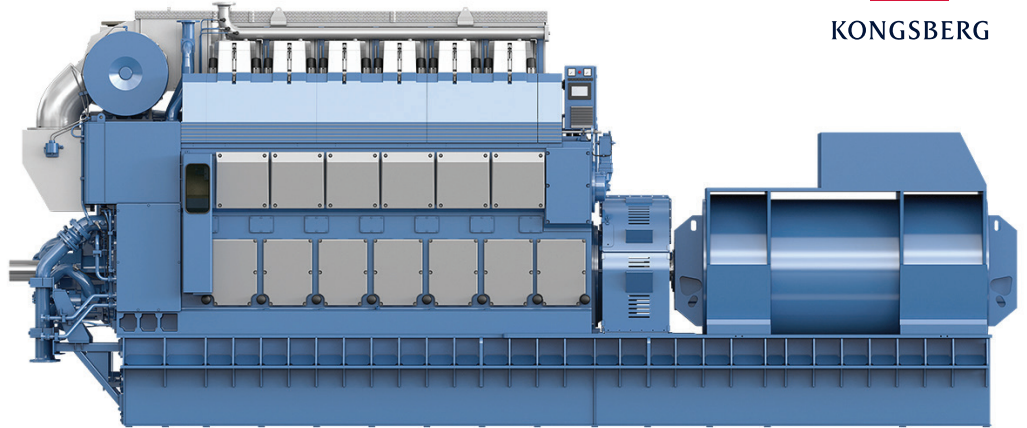


ROLLS-ROYCE BERGEN ENGINES

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



KONGSBERG



MARINE DIESEL ENGINES

Bergen B33:45L 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
- New resilient mounting (no need of welding brackets)
- Aligned piping at pump-end for easy connection
- Flexible exhaust routing (and air ducting if applicable): 15 degree rotation of connection points to turbocharger available

Main benefits for ship owners:

- Reliable power
- IMO Tier II compliant without use of SCR
- IMO Tier III compliant with use of SCR
- Proven low life cycle costs
- Dynamic service intervals with 25.000 hrs between main services when operating within a defined load window
- Full equipment health monitoring
- Fast load response
- Low vibration/structural noise level
- 24/7 support by global service network
- Compact and modular design with a low weight construction
- Possible conversion from diesel to gas and vice versa
- New flexible mounts without welded brackets
- Aligned piping at pump end for ease of connection
- Flexible exhaust routing – 15 degree rotation of connections to turbocharger
- Full power can be taken from either end of crankshaft up to and including V12 version

TYPICAL APPLICATIONS:

- Subsea construction vessel
- Pipe layer / heavy lift ships
- Seismic survey vessels
- Anchor-handler tug supply vessels
- Fishing vessels
- RoPax
- Ferry
- Cargo ships
- Cruise vessels

ENGINE TYPE		B33:45L6A	B33:45L8A	B33:45L9A
Number of cylinders		6	8	9
Engine speed	r/min	720/750	720/750	720/750
Mean piston speed	m/s	11.25	11.25	11.25
Max.cont rating (MCR*)	kW	3600	4800	5400
Max. continuous rating altern, (h=0.97)	kW	3492	4656	5238
Max. continuous rating altern, (Cosf=0.8)	kVA	4365	5820	6548
Mean effective pressure (BMEP)	bar	26/25	26/25	26/25
Specific fuel oil consumption (SFOC)	g/kWh*	from 173	from 174	from 171
SFOC with engine driven pumps	g/kWh	from 175	from 176	from 173
Specific lubricating oil consumption	g/kWh	0.5	0.5	0.5
Cooling water temp. engine outlet	°C	90	90	90

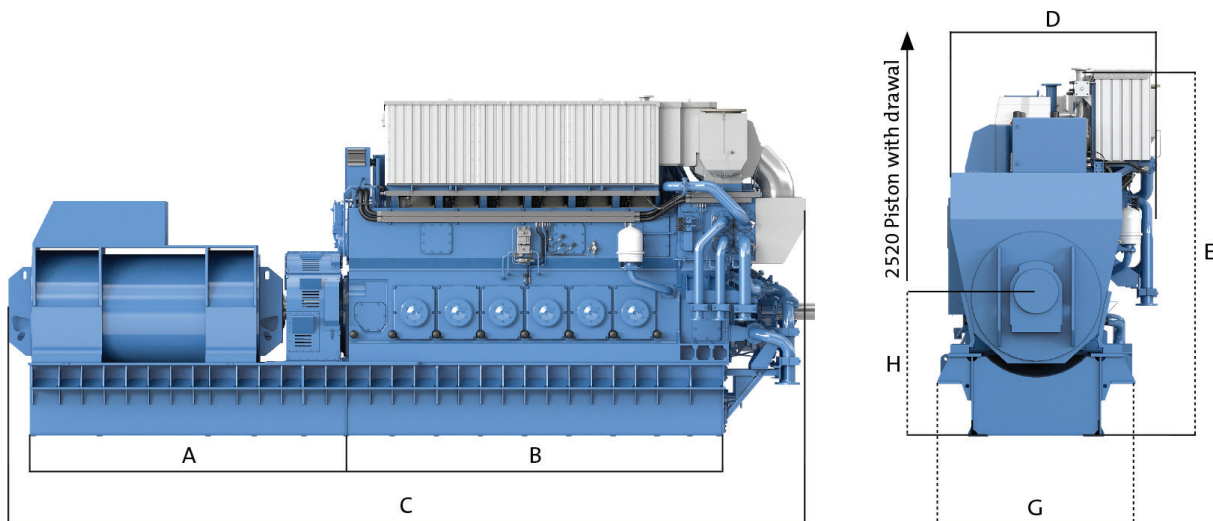
Engine ratings are according to ISO 3046/1. The above figures are based on conditions at maximum 45°C ambient air temperature and maximum 32°C sea water temperature.

*SFOC is based on MDO with a net calorific value of 42.7 MJ/kg and no engine driven pumps.

Heavy fuel operation: The engines are designed for operations on Heavy fuel with viscosity up to 700 cSt at 50°C ISO 8217 RMH77. Ratings will be specified subject to type of application.

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.

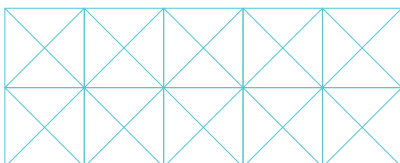


Principal dimensions

All dimensions in mm.

ENGINE TYPE	A	B	C	D	E	G	H	WEIGHT DRY ENGINE	WEIGHT GENERATOR
B33:45L6A	3890	4995	9800	2405	4100	2616	1560	48300 kg	17000 kg
B33:45L8A	3840	6070	10820	2690	4370	2616	1560	60600 kg	20700 kg
B33:45L9A	3941	6095	10995	2486	4159	2138	1470	62400 kg	21600 kg

Weight dry engine excludes generator.



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