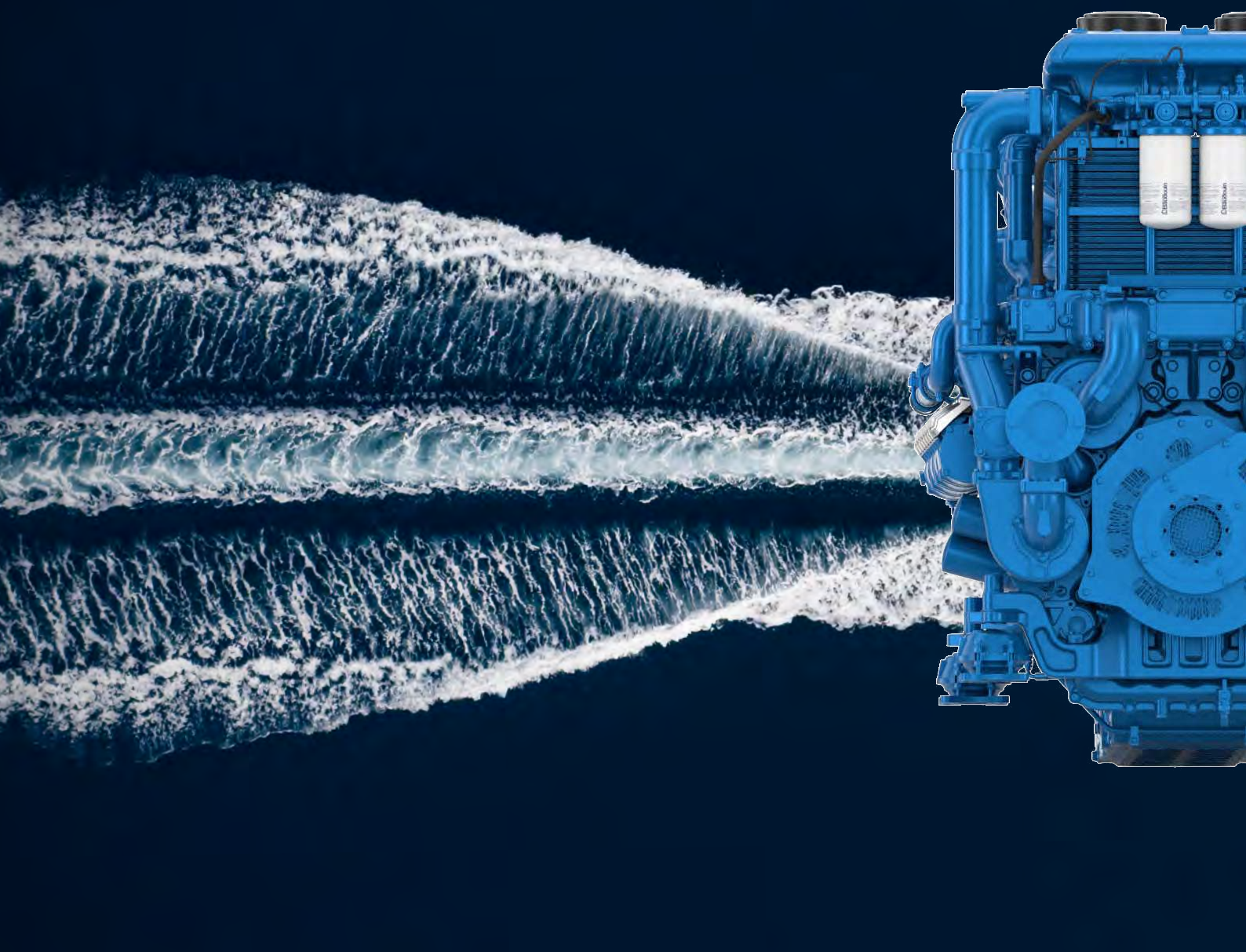
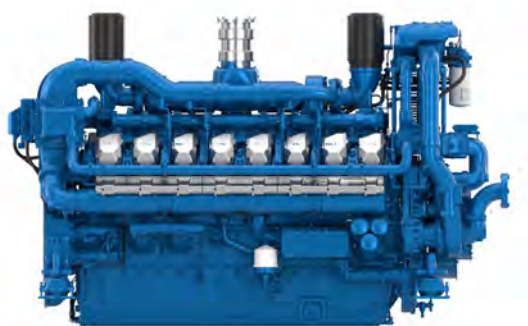




16M33.3

Marine propulsion engine





Number of cylinders	V16
Bore and stroke (mm)	150 x 185
Displacement (L)	52.3
Engine rotation	Counterclockwise
Idle speed (rpm)	650
Flywheel housing	21"
Flywheel	SAE 00

Rated power - Fuel consumption

Rating	kW	rpm	HP	Fuel consumption			IMO
				Optimum value	Rated power		
				g/kWh	g/kWh	l/h	
P1	1287	1600	1750	204	218	334	II
P1	1434	1800	1950	209	216	370	II
P2	1361	1600	1850	203	218	354	II
P2	1545	1800	2100	207	217	402	II

P1 - CONTINUOUS DUTY - Severe continuous application with little or no engine speed / load variations.
Displacement hull:

- Engine mean load factor: 100%.
- Annual duration of use: Unrestricted.
- Use under full load: unlimited (100%).

Application examples: Deep Sea vessels and shrimp trawlers, high sea or river tugboats, towboats, cargos, cargo boats, dredgers, ferries.

P2 - HEAVY DUTY - Continuous application with frequent variations in engine speed and load.
Displacement or semi-displacement hull:

- Engine mean load factor: 80%.
- Annual duration of use: 5,000 hours.
- Use under full load: 8 hours in a 12-hours period (66%).

Application examples: Annual passenger vessels, harbour tugs, self-propellers, coasters, fast fishing boats such as tuna boats, seiners, pot vessels or liners, buoying vessels, oceanographic research vessels.

P3 - INTERMITTENT DUTY - Intermittent application with significant variations in engine speed and load.
Planning or semi-planning hull:

- Engine mean load factor: 70%.
- Annual duration of use: 3,000 hours.
- Use under full load: 2 hours in a 12-hours period (16%).
- Cruising speed is less than 90% of nominal engine speed.

Application examples: Seasonal passenger vessels, fishing launches, pilot boats, pump boats, displacement sailboats, trawlers, bow thrusters.

P4 - LIGHT DUTY - Light application with significant variations in engine speed and load.
Planning hull:

- Engine mean load factor: 90%.
- Annual duration of use: less than 1,500 hours.
- Use under full load: 1 hour in a 12-hours period (8%).
- Cruising speed is less than 80% of nominal engine speed.

Application examples: Survey or rescue fast vessels, military fast vessels, patrol boats, commercial pleasure craft.

P5 - HIGH PERFORMANCE DUTY - High performance application with significant variations in engine speed and load:

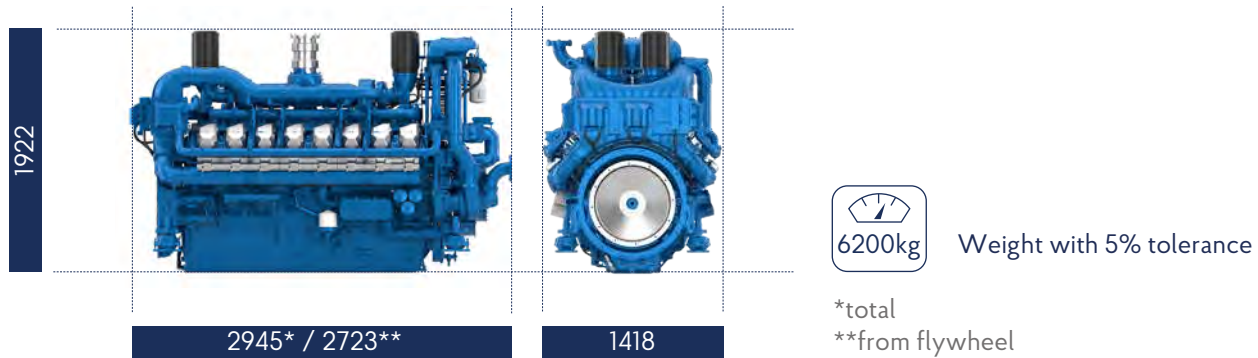
- Engine mean load factor : 60%.
- Annual duration for use: 500 hours.
- Use under full load: 1 hour in a 12-hours period (8%).

Application examples: Private pleasure boats, multi-hull pleasure boats.

WARRANTY DISCLAIMER

Warranty does not apply whenever the engine operation conditions differ from the initial duty class - P1, P2, P3, P4 and P5 - operational conditions. The operator must therefore modify the duty class accordingly, to benefit from SIMB warranty coverage.

Dimensions and dry weight (mm/kg)



Standard equipment

Cooling System

Three-stage cooling circuit with integrated HT thermostatic valve
High efficiency heat exchanger (Plate Type) with integrated fresh water expansion tank
Gear-driven self-priming raw water pump with bronze impeller
Gear-driven centrifugal freshwater pump

Lubrication System

Duplex full-flow spin-on lube oil filters
Freshwater-cooled lube oil cooler
Electric pre-lubrication and oil drain pump

Fuel System

Electronically controlled common-rail fuel injection system
Double-wall fuel injection pipe with leakage detection system
Duplex fuel filters, replaceable while engine is running
Duplex fuel prefilter with water separator
Electric fuel priming pump

Intake Air and Exhaust System

Fresh water cooled exhaust gas manifold
High efficiency dry-type turbocharger with heat insulation
Fresh water cooled charge air cooler

Electrical System

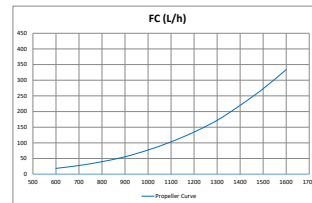
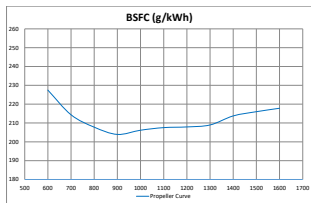
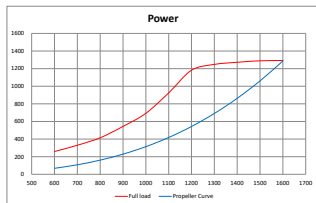
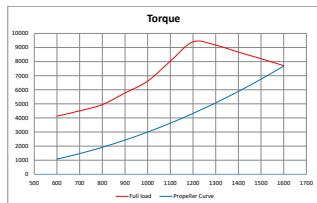
24V DC system, Insulated
Electrical Starter
Battery Charger 200A

Optional Equipment

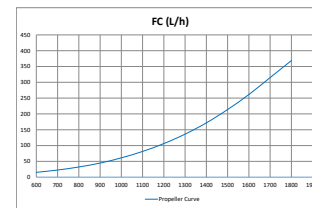
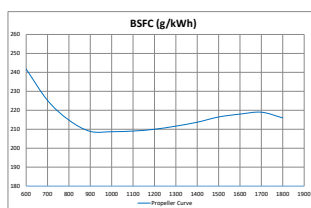
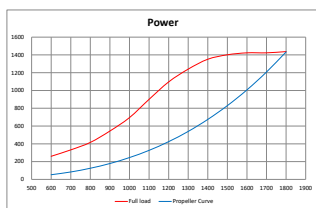
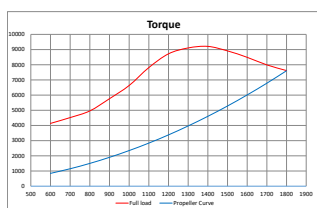
Keel Cooling configuration	Air starter - Fresh water pre-heater
1400N.m front PTO with elastic coupling	Cabin heating connections
High Torque PTO Interface	Full class compliant engine on demand
Elastic mounting	Master BMS for full class engines
Closed circuit blow by filtration	Additional displays

Performance

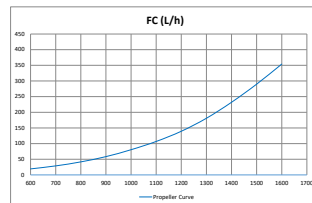
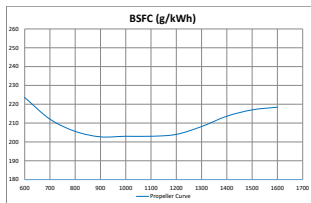
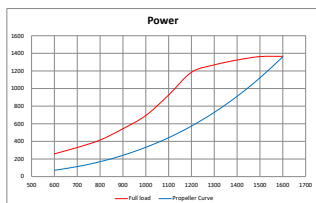
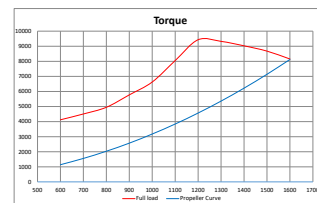
P1 - 1287 kW - 1600 rpm



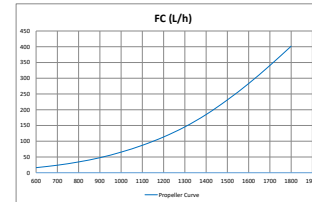
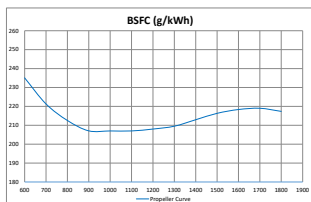
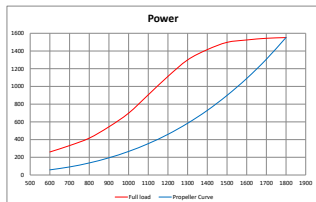
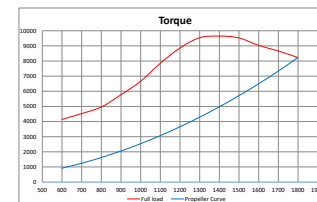
P1 - 1434 kW - 1800 rpm



P2 - 1361 kW - 1600 rpm



P2 - 1545 kW - 1800 rpm



Power definition

(Standard ISO 3046/1 - 2002)

Reference conditions

Ambient temperature	25°C / 77°F
Barometric pressure	100 kPa
Relative humidity	30%R
Raw water temperature	25°C / 77°F

Fuel oil

Relative density	0,840 ± 0,005
Lower calorific power	42 700 kJ/kg
Consumption tolerances	+ 5%
	(DIN ISO 3046-1)
Inlet limit temperature	35°C / 95°F

Our ratings also comply with classification societies maximum temperature definition without power derating.

Ambient temperature	45°C / 113°F
Raw water temperature	32°C / 90°F