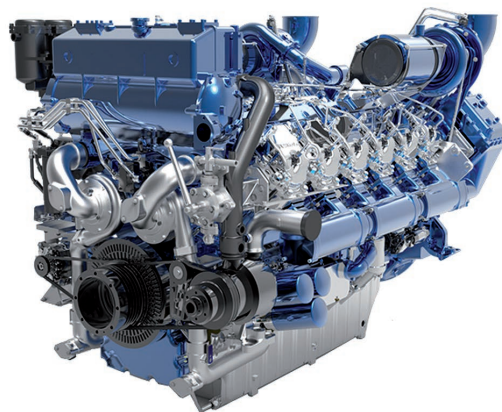


## Marine Engines

# 12 M33.2

### 4 Stroke diesel engine, direct injection

Bore and stroke	150 x 185 mm
Number of cylinders	12V@ 90°
Total displacement	39,2 litres
Compression ratio	15/1
Engine rotation (ISO 1204 standard)	counterclockwise
Idle speed	650 rpm
Flywheel housing	SAE 0
Flywheel	SAE 18"



### Customer benefits

**Continuous compact power** with reference torque performance in its category

**Global environment care** with low exhaust emissions and controlled fuel consumption at any running cycle

**Simple technology with mechanical injection**

**Life cycle cost efficiency** with extended mean time between overhauls (MBTO)

### Rated power - Fuel consumption

Duty	kW	hp	rpm	Fuel consumption g/kWh	Peak torque / speed (N.m / rpm)	IMO
P1	956	1300	1800	215	6900 / 1100	II
P1	1029	1400	1800	218	7360 / 1200	II
P2	1103	1500	1800	219	8196 / 1200	II

	P2 duty	P2 duty
Application	unrestricted continuous	continuous
Engine load variations	very little or none	Numerous
Average engine load factor	80 to 100 %	30 to 80 %
Annual working time	5000 hr +	3000 to 5000 h
Time at full load	unlimited	8 h each 12 h

### Power definition

Standard ISO 3046/1

#### 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	0 ± 5%
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



## Standard equipment

### Cooling system

Fresh / raw water heat exchanger with integrated thermostatic valves and expansion tank  
Cast iron centrifugal fresh water pump, mechanically driven  
Bronze self-priming raw water pump, mechanically driven

### Lubrication system

Full flow screwable oil filters  
Fresh water cooled lube oil cooler  
Lube oil purifier with replaceable cartridge  
Manual prelubricating oil pump

### Fuel system

In-line injection pump with flanged mechanical governor  
Double wall injection bundle with leakage collector  
Duplex fuel filters replaceable while engine running

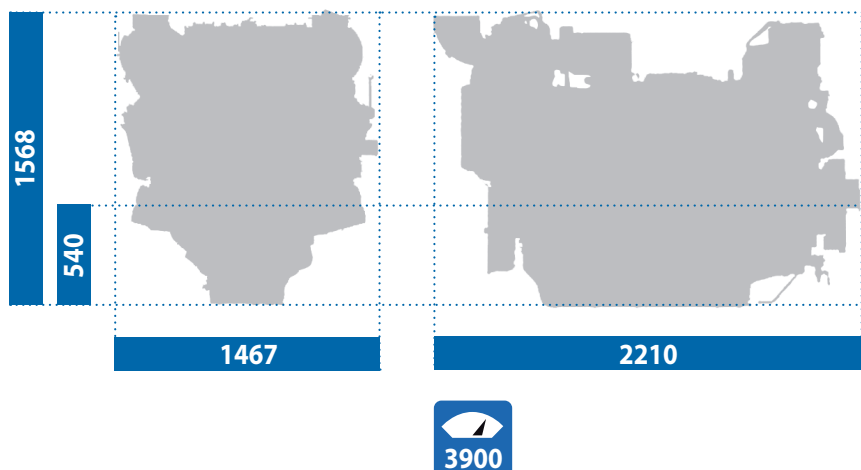
### Intake air and exhaust system

Fresh water cooled turbo blower  
Fresh water cooled exhaust gas manifold

### Electrical system

Voltage: 24V DC  
Electrical starter on flywheel crown  
175A battery charger  
Engine room and bridge panels

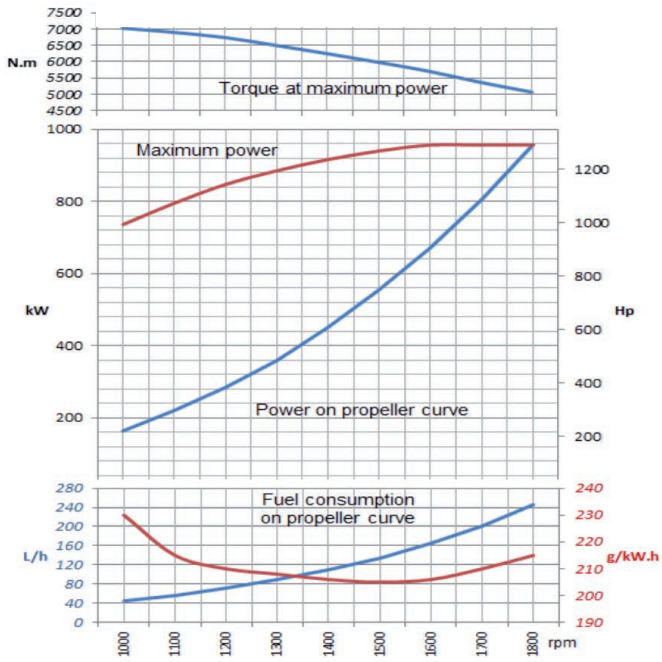
## Dimensions and dry weight (mm / kg)



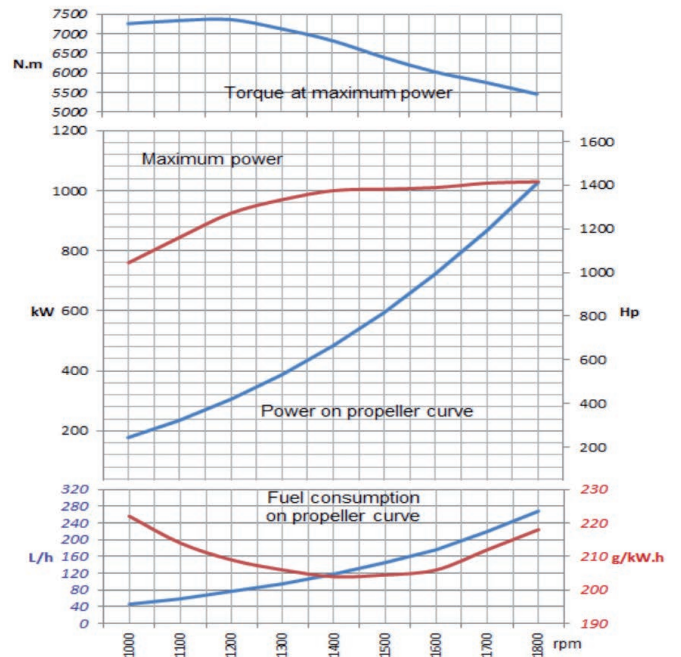


**Performance**

**P1 - 956 kW - 1300 hp @1800 rpm**



**P1 - 1029 kW - 1400 hp @1800 rpm**



**P2 - 1103 kW - 1500 hp @1800 rpm**

