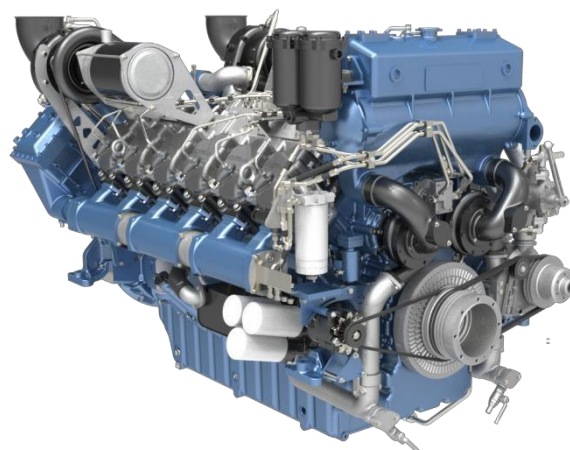


## Marine Engine- 12M33 Series

### General Specifications

Bore & Stroke	150x185 mm
Displacement	39.2 L
Cylinder Number	12V
Compression ratio	15:1
Fuel System	Mechanical Pump
Aspiration	TA
Emission Standard	IMO Tier II



Duty	Model	PS	kW	RPM
P1	12M33C900-15	900	662	1500
P1	12M33C1000-15	1000	735	1500
P1	12M33C1100-15	1100	809	1500
P1	12M33C1200-15	1200	882	1500
P1	12M33C1300-15	1300	956	1500

Duty	Model	PS	kW	RPM
P1	12M33C1200-18	1200	882	1800
P1	12M33C1300-18	1300	956	1800
P1	12M33C1400-18	1401	1030	1800
P1	12M33C1500-18	1496	1100	1800

### Standard Equipments

#### Engine and block

- Cast iron gantry type structure block
- One-piece casting crankshaft
- Separate cast iron cylinder heads and wet liners
- Aluminium alloy pistons with gallery oil cooling

#### Cooling system

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

#### Lubrication system

- Filter with metal element, washable
- Fresh water cooled lube oil cooler

### Optional Equipments

- Air starter with storage bottles
- Different harness length of remote monitor
- Free end PTO

#### Fuel system

- P-type in-line injection pump
- Dual-skinned fuel pipe with alarm and leakage collector
- Duplex fuel filters replaceable engine running

#### Intake air and exhaust system

- Washable air filter
- Turbocharger optimized for marine application
- Water jacket exhaust manifold and exhaust expansion joint

#### Electrical system

- 24V electric starter motor and battery charging alternator
- Voyage safeguard monitor and 5m harness

#### Certification

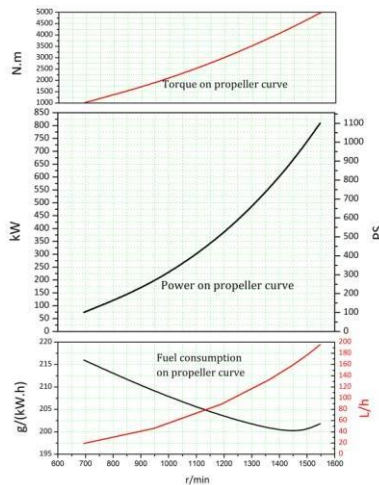
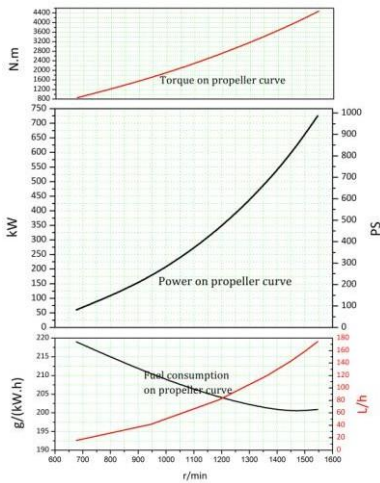
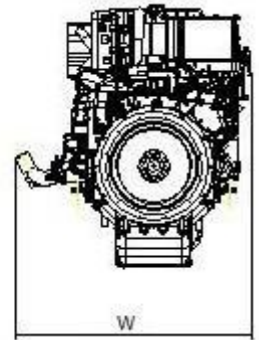
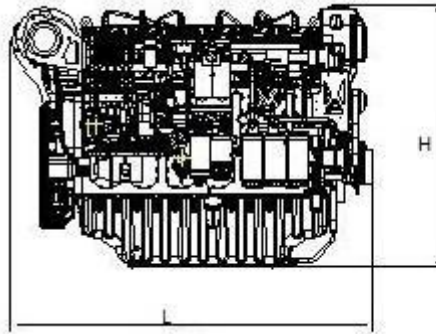
- CCS and EIAPP

- Equipment and factory trial according to Major Classification Societies rules

	P1 Duty	P2 Duty	P3 Duty	P4 Duty
Application	Unrestricted continuous	continuous	intermittent	high performance
Engine load variations	Very little or none	continuous	important	very important
Mean engine load factor	80 to 100%	30 to 80%	50%	30%
Annual working time	More than 5000 h	3000 to 5000 h	1000 to 3000h	less than 1000 h
Time at full load	unlimited	8 h each 12 h	2 h each 12 h	1 h each 12 h

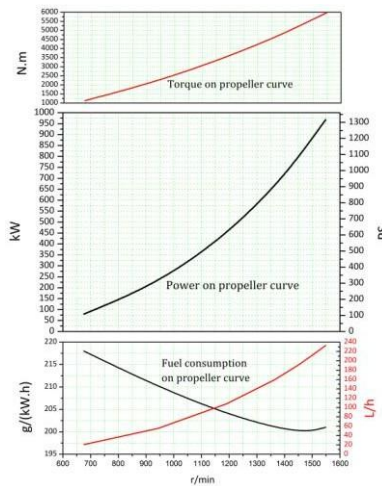
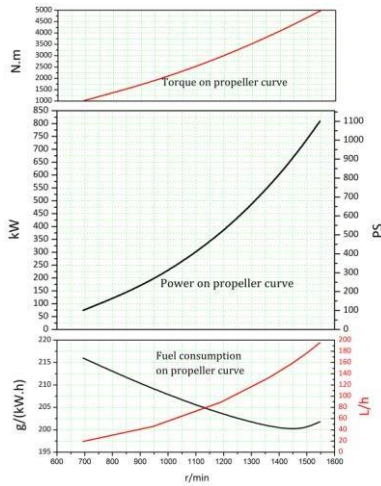
## Dimensions and Weight

Length	2350 mm
Width	1466 mm
Height	1720 mm
Dry Weight	4500 kg



12M33C900-15

12M33C1000-15



12M33C1100-15

12M33C1200-15

### Power definition

Standard ISO 3046/1 -1995(F)

### Reference conditions

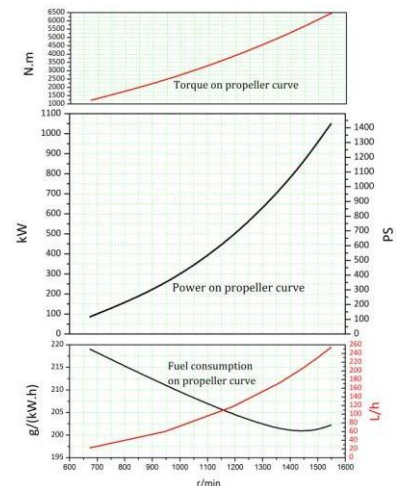
Ambiant temperature	25 °C
Barometric pressure	100 kPa
Relative humidity	30%
Raw water temperature	25 °C

### Fuel

Relative density	0,840 ± 0,005
Lower calorific power	42 700 kJ/kg
Consumption tolerances	± 5 %

### Lube oil

Recommend grade	CD 15W/40
-----------------	-----------



12M33C1300-15



PT.JARUM MAS INDONESIA

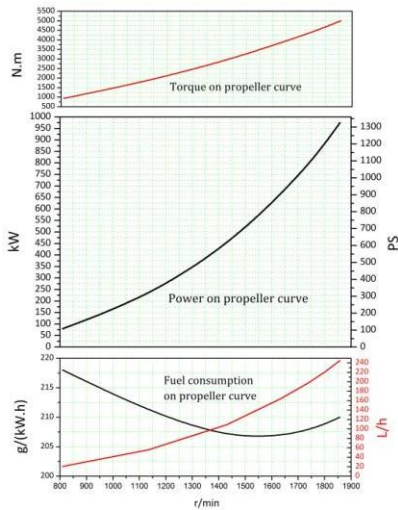
Jl. Pantai Indah Selatan

Komplek Sentra Industri Terpadu Tahap III Blok F20-21

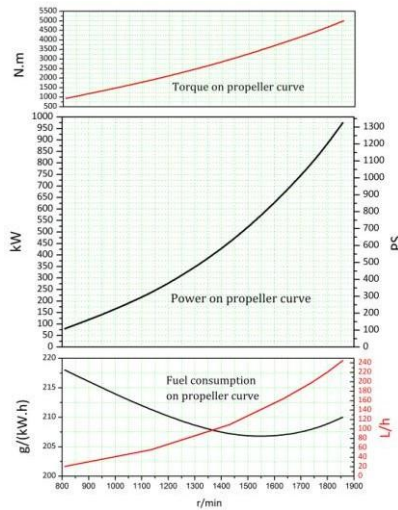
Pantai Indah Kapuk, Jakarta Utara 14470

Telp. (021) 5698 2888 Fax. (021) 5698 3188

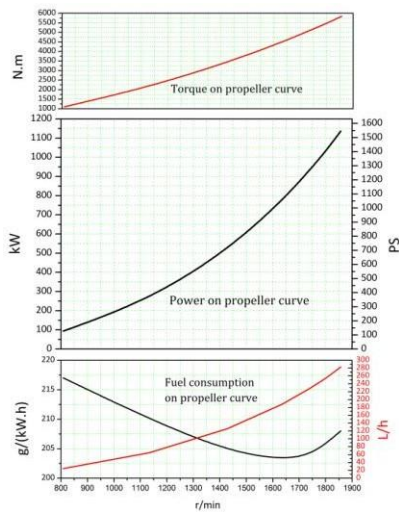
www.jarummas.com



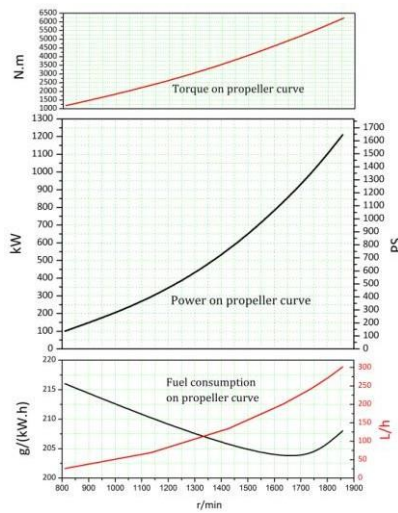
12M33C1200-18



12M33C1300-18



12M33C1400-18



12M33C1500-18



PT.JARUM MAS INDONESIA

Jl. Pantai Indah Selatan

Komplek Sentra Industri Terpadu Tahap III Blok F20-21

Pantai Indah Kapuk, Jakarta Utara 14470

Telp. (021) 5698 2888 Fax. (021) 5698 3188

[www.jarummas.com](http://www.jarummas.com)