

## Marine Engine- WP4 Series



### General Specifications

Bore & Stroke	105x130 mm
Displacement	4.5 L
Cylinder Number	4
Compression Ratio	18:1
Fuel System	Mechanical Pump
Aspiration	T/TA
Emission Standard	IMO Tier II

Duty	Model	HP	kW	RPM
P1	WP4C82-15	82	60	1500
P1	WP4C95-18	95	70	1800
P1	WP4C102-21	102	75	2100
P1	WP4C120-18	120	88	1800

### Standard Equipments

#### Engine and block

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

#### Cooling system

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

#### Lubrication system

- Spin-on-full-flow lub oil filter
- Fresh water cooled lube and plate type oil cooler

#### Fuel system

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

#### Intake air and exhaust system

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

#### Electrical system

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

#### Flywheel and housing

- SAE1 flywheel housing and SAE 14 flywheel

#### Certification

- CCS

### Optional Equipments

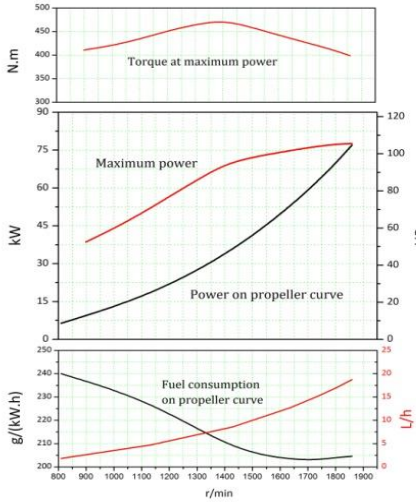
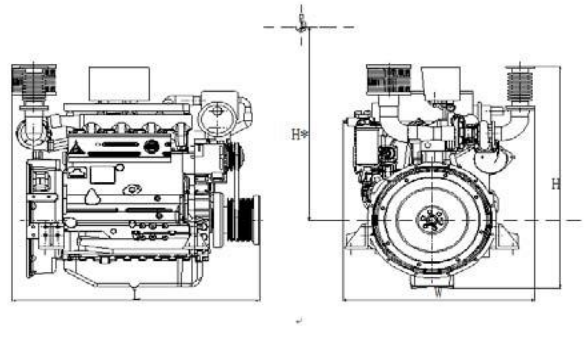
- Different harness length of remote monitor
- Free and PTO

- Equipment and factory trial according to Major Classification Societies rules

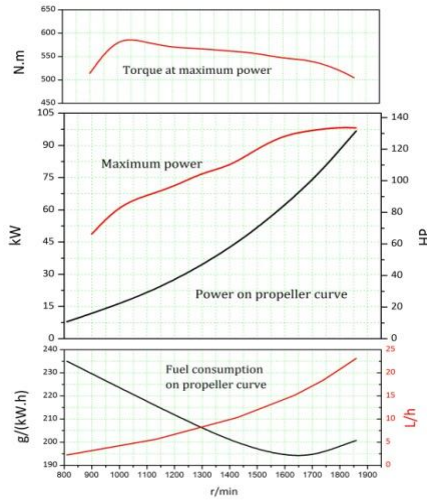
	P1 Duty	P2 Duty	P3 Duty	P4 Duty
Application	Unrestricted continuous	continuous	intermittent	high performance
Engine load variations	Very little or none	continuous	important	very important
Mean engine load factor	80 to 100%	30 to 80%	50%	30%
Annual working time	More than 5000 h	3000 to 5000 h	1000 to 3000 h	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

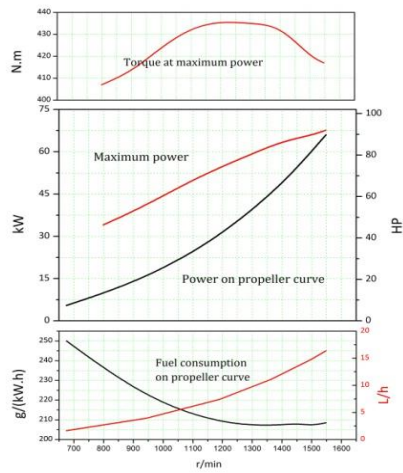
Length	1058 mm
Width	820 mm
Height	1061 mm
Dry Weight	600 kg



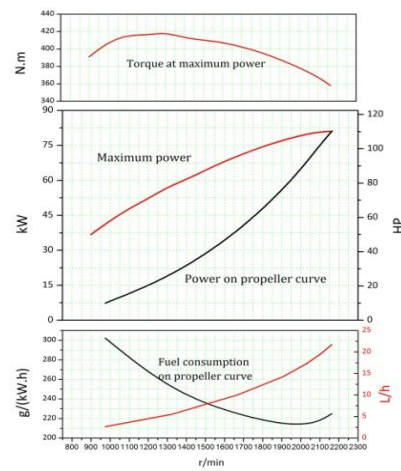
WP4C95-18



WP4C120-18



WP4C82-15



WP4C102-21

### 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 %

### Lub oil

Recommend grade	CF-4 15W/40
-----------------	-------------



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