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## **Marine Engines**



#### 4 Stroke diesel engine, direct injection

Bore and stroke	
Number of cylinders	
Total displacement	
Compression ratio	
Engine rotation (ISO 1204 standard)	
Idle speed	
Flywheel housing	
Flywheel	

150 x 150 mm 8 V @ 90° 21,20 litres 18/1 counterclockwise 700 rpm SAE 0 SAE 14″



#### **Customer benefits**

Genuine marine design with simple solutions, easy routine maintenance, engine block inspection hatches 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)

#### Duty kW **Fuel consumption** l/h IMO CCNR CE97/68 hp rpm g/kWh Ρ1 442 600 203 107 IIIA 1800 Ρ1 491 668 1800 209 122 IIIA Ρ2 733 220 539 1900 141 IIIA Ρ2 588 800 1950 233 163 \_ \_

	Rated	power - Fue	el consumption
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	P1 duty	P2 duty
Application	Unrestricted continuous	Continuous
Engine load variations	Very little / none	Numerous
Average engine load factor	80 - 100%	30 - 80%
Annual working time	more than 5000 h	3000 to 5000 h
Time at full load	Unlimited	8 hr every 12 hr

# Power definition

(Standard ISO 3046/1 - 1995 (F)

#### **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 Lower calorific power Consumption tolerances Inlet limit temperature 0,840 ± 0,005 42 700 kJ/kg 0 ± 5% 35 °C / 95 °F

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

Ambient temperature4Raw water temperature3

45 ℃ / 113 °F 32 ℃ / 90 °F

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Standard equipment Engine and block	Cast iron cylinder block One inspection door per cylinder for access to conrod cap Cast iron cylinder liners, wet type Separate cast iron cylinder heads equipped with 4 valves Replaceable valves guides and seats 8 cylinders head tightening bolts Hardened steel forged crankshaft with induction hardened journals, crankpins and radius Camshaft with polynomial cams profile Distribution with tempered, hardened and grinded helicoidal gears Chromium-Molibdenum steel conrods Lube oil cooled light alloy pistons with high performance piston rings
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 Lube oil purifier with replaceable cartridge Fresh water cooled lube oil cooler
Fuel system	In line injection pump with flanged mechanical governor Double wall injection bundle with leakage collector Duplex fuel filters replaceable engine running
Intake air and exhaust system	Fresh water cooled turbo blower Double flow raw water cooled intake air cooler
Electrical system	Voltage: 24Vcc Electrical starter on flywheel crown 175A battery charger

### **Optional equipment**

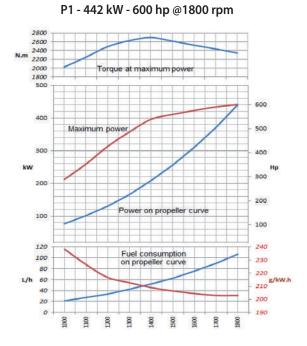
Cooling system adapted for box / keel cooling Connection for emergency raw water and lube oil circuits Bilge pump Air starter with storage bottles and compressor Free end PTO Resilient mounts under engine Equipment and factory trial according to Major Classification Societies rules \* contact us for further information regarding our options.

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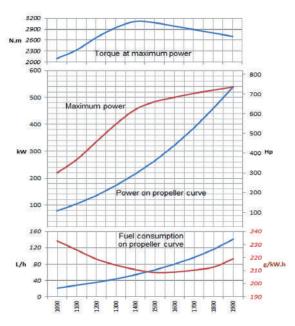
### Dimensions and dry weight (mm / kg)

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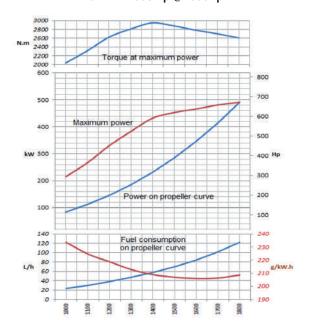
#### Performance







P1 - 491 kW - 668 hp @1800 rpm



P2 - 588 kW - 800 hp @1950 rpm

