

Powercity®

Marine Power Train System

Efficient • Reliable • intelligent



PPS-420D

Marine Engine

The E series diesel engine is jointly designed by SDEC and AVL (Austria). The E series is a brand new engine platform developed by referring to the internationally advanced engine application technology and made according to the SAIC MOTOR manufacturing standards with world-class equipment. The E series is safe, reliable and powerful. And Its fuel economy is superior to that of the similar products with the same power. The E series diesel engine is applicable to propulsion power for fishing boat, cargo boats, yachts, traffic boats, working boats, etc.

Product Features

- Four valves per cylinder, overhead camshaft, high-strength cylinder block with bedplate and rear gear train provide a maximum allowable explosion pressure of 190 bar, which contains advanced technology.
- Automatic production lines of MAG of the world-class brand and MES system control, as well as Volkswagen's engine manufacturing quality control system provide high product quality and good consistency.
- Service life (B10) of engine mechanical part exceeds 15,000 working hours. The engine reliability and durability on test bench has accumulated over 20,000 hours, and engine validation by customer over 10,000 hours, demonstrating high reliability.
- Single overhead camshaft combined with roller rocker arm doubles the interval for valve clearance adjustment. Centrifugal oil filtration, multiple oil/fuel filtration makes maintenance easier, and filter replace interval could extend to 500h.
- The engine can operate properly at an ambient temperature of 50°C. Without an air intake heating aid, its cold start temperature is as low as at -15°C, providing strong environmental adaptability.
- The E series installed with water-cooled exhaust pipe, double-walled fuel pipe and leakage alarm system, which will ensure the marine engine operation safer.



ISO9001:2015 system certification
ISO/TS16949:2002 System Certification
ISO9001:2008 system certification
Quality System Certification
Environmental System Certification
Occupational Health Certification
CCS ship inspection certificate
IMO: Emissions Certification
LL-C system certification

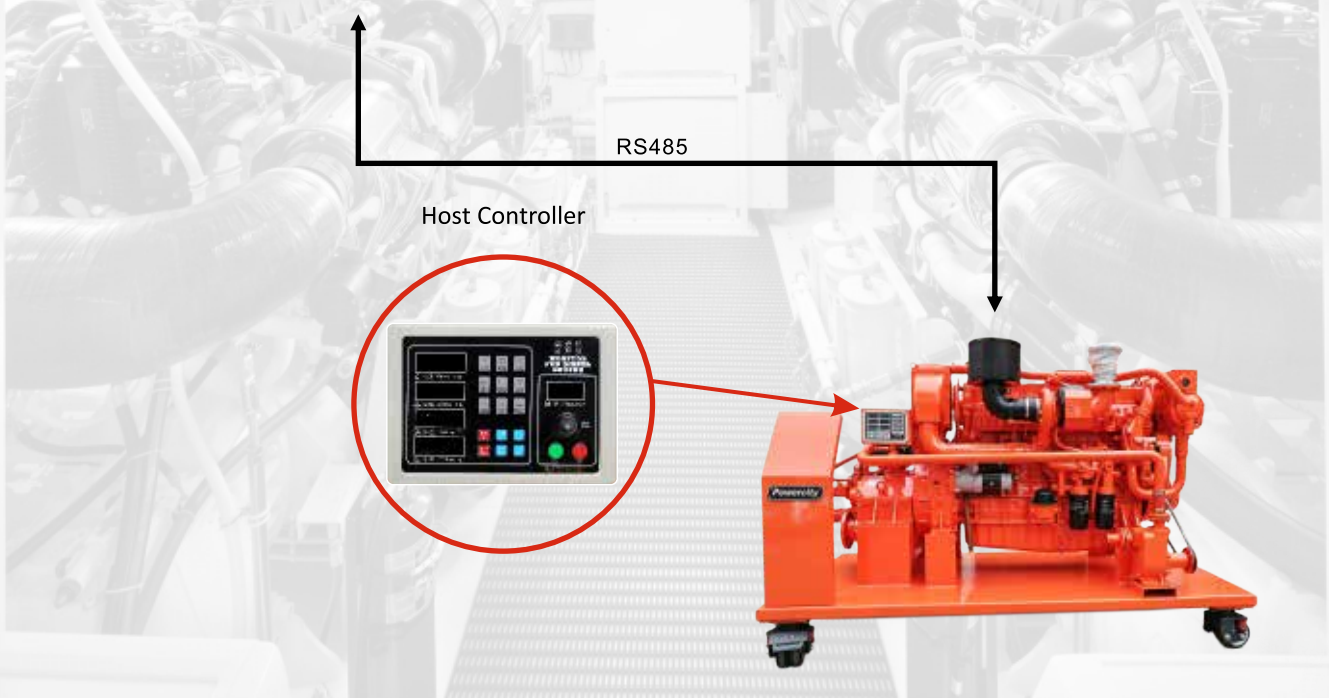
Marine Gearbox

Compatible with high-speed main engines ranging from 230 kW to 575 kW with multiple reduction ratios available, rated propeller thrust capacity up to 40 KN. The unit fully complies with industry standard CB/T 3003—2011 for marine medium-speed diesel engine gearboxes, certified by CCS (China Classification Society). Certifications from international classification societies including LR, BV, DNV-GL are available upon request. Constructed with thick cast iron housing and high-precision quenched helical gears, it achieves a transmission efficiency exceeding 96%. Hydraulic clutch ensures smooth shifting with low noise and low vibration, and multi-angle installation is supported. Ideal for patrol boats, fishing vessels, passenger transport boats and other craft. Modular design enables easy disassembly and maintenance. Hangchi provides a nationwide after-sales service network, delivering reliable long-term operation and superior fuel efficiency.





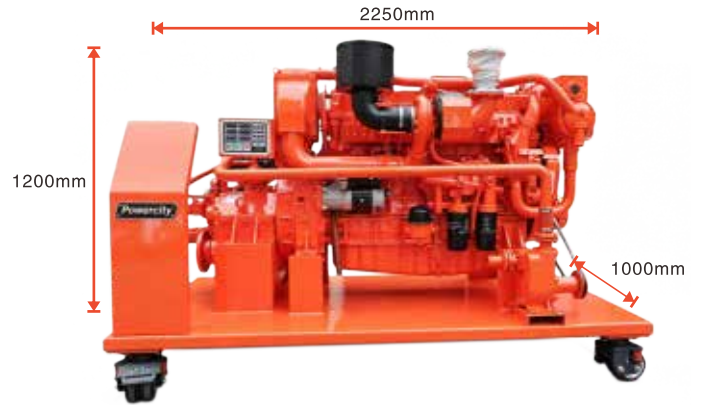
Remotely monitor and control from the Captain's bridge through Ed211 Remote Monitoring Module.



Specifications

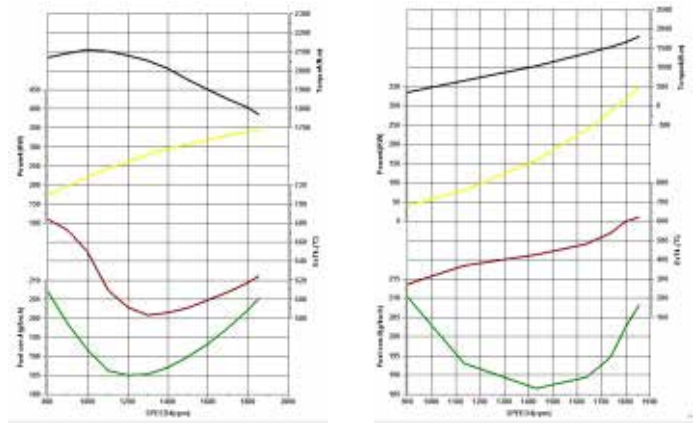


Model	PPS-420D
Engine Model	SC12E420.18CA1
Usage	Marine Propulsion
Type	Turbocharge and intercooling
Displacement	11.8L
Rated power/speed	308/1800 kW/r/min
Overload power/speed	339/1854 kW/r/min
Borex Stroke	128 x 153mm
Minimum fuel consumption rate	185g/kW.h
Starting method	Electric start
Noise	≤ 105dB(A)
Cylinder No.	6
Fuel system	Mechanical
Average piston speed	11.03m/s
Ignition Order	1-5-3-6-2-4
Max temp of inlet fuel	45°C
Max Fuel inlet flow	5.75°C
Max temp of return fuel	84°C
Max fuel return flow	3.85L/min
Air intake pressure	200kpa
Air intake flow	2037kg/h
Exhaust flow	2110kg/h
Exhaust temp	≤ 580
Open temp of thermostat	82°C
Full-open temp of thermostat	93°C
Crankshaft Rotation	Anticlockwise (Fro flywheel)
Max allowable air inlet restriction	6kpa
Max allowable air outlet restriction	10kpa
Oil pan capacity	36L
Marine Gearbox Model	HCQ300
Rated Input Speed	1000~2300RPM
Ratio	2.05
Rate	0.335hp/rpm
Options/Comments	Mechanical or electrical remote operation
Centre distance	203mm
Rated Propeller Thrust	40KN
Mechanical Efficiency	≥ 96%
Reversal Time	≤ 10s
Hydraulic Oil Pres.	1.4~1.6MPa
Max fuel return flow	3.85L/min
Oil Brand	SD/CC30 SD/CC40 or SAE30
Oil Capacity	~13L
Oil Temperature	≤ 80°C
Consumption of Cooling Water	≥ 3 t/h
Permissible Inclination	10° in longitudinal, 15° transversal
Overhaul	10000h

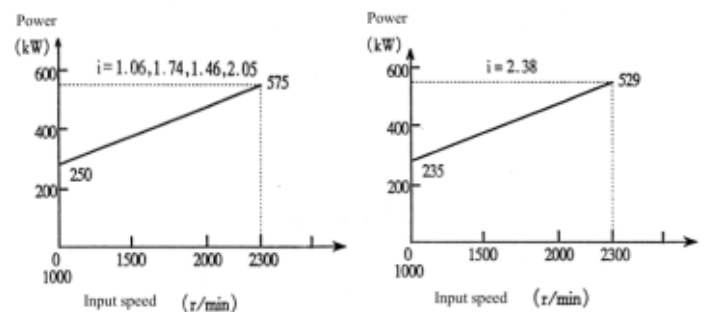


2250 X 1000 X1200mm
Net Weight:1750kg

▶ External characteristic curve Propelling characteristic curve



▶ Capacity Chart of Marine Gearbox Model HCQ300



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