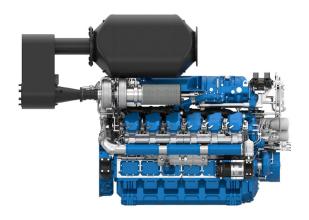


Propulsion Diesel Engine



Propulsion Diesel Engine



Number of cylinders 12V @ 90 Bore and stroke (mm) 150 X 150 Total displacement (L) 31.8 Compression ratio 15/1

Engine rotation counter clockwise

Idle speed 650
Flywheel SAE 0
Flywheel housing SAE 18"

Customer benefits

Most advanced Common Rail technology and high-end injection system (2200 bar), key to achieve strict emissions regulations and competitive performances.

Highly efficient turbochargers optimized to operate with high performance keeping fuel consumption under control. **Individual cylinder heads** allowing easy maintenance.

Key components made of highly reliable materials.

Rated power - Fuel consumption

				Fuel consumption						
Duty	kW	HP	RPM	Optimum value	Rated power		IMO	EPA	CCNR	CE97/68
				g/kWh	g/kWh	l/h				
P1	883	1200	1800	200	202	209	/	3/4	II	III A
P2	1030	1400	2100	201	210	254	/	3/4	II	III A
P2	1103	1500	2200	200	210	275	/	3/4	II	
Р3	1214	1650	2300	201	209	311	/	3/4	-	-

	P1	P2	P3	
Application	Unrestricted Continuous	Continuous	Intermittent	
Engine load variations	Very Little To None	Continuous	Important	
Average Engine load factor	80-100%	30-80%	50%	
Annual working time	More Than 5000 H	3000 -5000 H	1000 - 3000 H	
Time at full load	Unlimited	8h Each 12h	2h Each 12h	

P1 Continuous Duty

- · Deep sea trawlers
- Shrimps trawlers
- · Sea going tug boats
- River tug boats
- · Push boats
- FreightersDredges
- · LCT
- Ferries

P2 Heavy Duty

- Deep sea trawlers
- Shrimps trawlers
- · Sea going tug boats
- River tug boats
- · Push boats
- Freighters
- DredgesLCT
- Ferries

P3 Intermittent Duty

- Seasonal passenger vessels
- Fishing boats
- Pilot boats
- Commercial pleasure boats
- · Pump boats
- Displacement sailboats
- Trawlers
- Bow thrusters

P4 Light Duty

- Private pleasure boats
- Multi-hull pleasure boats
- Survey or rescue fast vessels
- Military fast vessels.

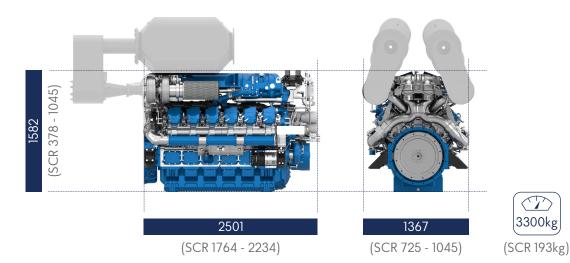
P5 High performance Duty

- · Private pleasure boats
- Multi-hull pleasure boats



Propulsion Diesel Engine

Dimensions and dry weight (mm/kg)



Standard equipment

Cooling SystemTwo - stage cooling circuit with built - in HT thermostatic valve

Integrated fresh water expansion tank High efficiency tubular heat exchanger Gear driven centrifugal raw water pump

Self priming raw water pump with bronze impeller

Lubrication System Full flow lube oil filters duplex type

Fresh water cooled lube oil heat exchanger

Fuel System Common-rail electronic injection

High pressure pump with shielded high pressure injection rail and pipes

Fuel oil filter duplex type

External fuel pre-filter with water separator

Intake Air and Exhaust System Double flow raw water cooled intake air heat exchanger module

High efficiency dry turbocharger with ball bearing technology

Two Stage Turbocharging system

Electrical System Voltage: 24V DC insulated

Electrical starter

190A battery alternator

Optional Equipment Wet exhaust

PTO elastic coupling Additional pulley Electric drain system

Standard PTO for hydraulic pump

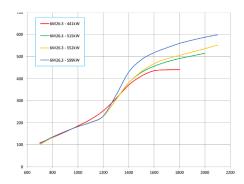
Different alternators possible - inlcuding 12V

Electrical rotary actuator

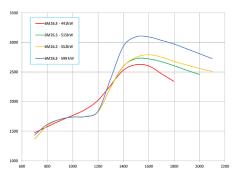


Propulsion Diesel Engine

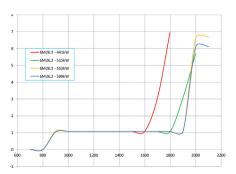
Power Curves



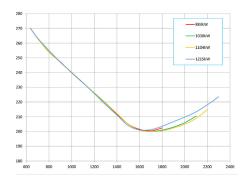
Torque Curves



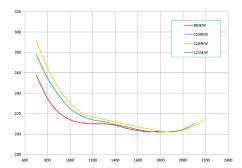
Cons. Urea - Full Curve



Full Load



Prop Curves



Power definition

(Standard ISO 3046/1 - 1995 (F))

Reference conditions

Ambient temperature $25^{\circ}\text{C} / 77^{\circ}\text{F}$ Barometric pressure 100 kPaRelative humidity 30°R Raw water temperature $25^{\circ}\text{C} / 77^{\circ}\text{F}$

Fuel oil

Relative density Lower calorific power Consumption tolerances

Inlet limit temperature

0,840 ± 0,005 42 700 kJ/kg + 5%

(DIN ISO 3046-1) 35°C /95°F Our ratings also comply with classification societies maximum temperature definition without power derating.

Ambient temperature $45^{\circ}\text{C} / 113^{\circ}\text{F}$ Raw water temperature $32^{\circ}\text{C} / 90^{\circ}\text{F}$