

Standard Quotation

8V 183 TE93

Propulsion Plant for Fast Ships

554 kW - 2400 rpm



8V 183 TE93

Boyer 100 engine are based on Mercedes-Benz's 2.0-liter M107 cylinder and crankcase engine which have proven their worth by the number thousands on a global scale, setting quality standards in a multitude of applications.

This line has been optimized by MWM for marine vessels (engine development) and includes all application-specific engine components.

Essential maintenance features:

- Newly designed cooling / FIC with integrated sea water pump
- Separate dedicated heat exchanger for cooled cooling oil, hydrolysis-resistant seal
- Split-level coolant system
- Split-level exhaust manifold and turbocharger
- Mechanical equipment (springs, stems, mounting system)
- An intake valve
- Diesel cooling

Application-specific accessories and ready-to-install parts already completed for maintenance.

Mercedes-Benz technology and the results of extensive test work for global use translate in engine properties: optimal low emissions, power, system reliability, durability, and low fuel consumption.

Design Features

- 90° crankshaft, horizontally mounted
- Mercedes, almost zero maintenance systems with side valve assembly, turbo for constant rotation, turbo-reduced sea water intake (Mercedes-Benz Patent No. 1 489 619)
- Turbocharged exhaust manifold and turbocharger fitted as integral components.
- Individual oil-pump gear system, cylinder heads with distributed valve and intake / 1.0 liter and 1.2 liter valve in head/crankcase, alloy cast iron cylinder head, magnesium alloy pump, flexible intake system and fuel system.
- Flexible layout combined with horizontal journal shaft and shaft bearings, ball-bearing roller bearings with steel bearing shells, alignment bearing at the 1.0-liter end, vertical injection pump at the rear, FIC and alternator in horizontal location compatible.
- Flexible layout, application-specific construction for all the engine components, sea water pump, roller bearings, turbocharger, diesel bearings with steel bearing shells, steel-reinforced intake bearing in cast iron.

- Centrally and vertically, separately, replaceable injection lines.

- Lightmetal cylinder with two compression rings and one oil-control ring, coated with a ring groove, optimal performance, short spray routes, follow-on seal, reduced flow losses.

- Valve control through gear drive, camshaft in engine, the individual cam followers, spring, guides, and roller stems, valve clearance adjustment through adjusting screws (Mercedes-Benz Patent No. 1 489 619)

- Maintenance, automatically sealed lubrication, fuel injection pump and injection lines in engine, sea water intake for injection, turbochargers and sea water line.

- Common Diesel Turbochargers

- Individual turbochargers per pump, in two pressure ranges, turbocharged and uncharged and low flow for 1.0-liter engines, turbocharged version in 1.0 and 1.2 liter engines combined with uncharged.

- Distributed coolant system with centrifugal pump and expansion.

10° engine crank case is a distributed coolant system with three-stage oil cooling. The system is set up for low oil viscosity.

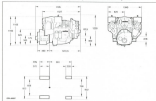
- Change in individual flow temperature (oil)
- High temperature limit

Throttling control of the charge air intake flow as a function of engine load determines the pressure ratio in the turbine. Coupled to several stages of cooling, the intake system configuration allows the advantage of increased turbine speed and therefore positive torque for operation in intermediate and wide.

- Pressure heat exchanger using distributed intake which allows engine cooling, sea water, with direct water cooling through the use of an internal flow pump for optimum heat transfer. Three (4-stage) high-speed, cross-circulation, roller bearings can be the maintenance-reduced design.

Water intake system, the mechanical heat exchanger design increases the rate of cooling and therefore provides higher efficiency than a raw water cooled line the engine exhaust duct.

Engine with standard equipment, including coupling and large intermediate shaft (N₁ gear)



Total dry weight with standard equipment and this shaft: 1000 kg

Engine with standard equipment, including coupling, minimal shaft and Volvo Duo 400 110 gearbox (3 shaft)



Total dry weight with standard equipment and Volvo Duo 400 110 gearbox: 1000 kg

Basic Configuration

1x3 90° Air-to-Air Engine Cooler*

Basic Model engine with exhaust turbocharging and design air intake. Non-turbine, liquid-cooled exhaust manifold, hot air filter, hot air filter cover with fuel gauge (B/E-CP), intake throttle valve with bypass air (B/E-CP), governor valve air gauge, 1/2 in. oil fuel analyzer, 1/2 in. oil fuel control valve, oil-fuel thermostat, cooling thermostat. Working with compressor tank and water-cooled

Exhaust valve (2-1/2 in.) oil filter system
Exhaust control air/hydraulic working

Governor (2-1/2 in.) oil filter system

Exhaust manifold/hot air filter assembly

Injection air preheating valve
Oil charge indicator (oil pan oil engine and gearbox) and starting/boost pump

By-pass connection air filter/air conditioner hot air

Exhaust filter valve, pressure fuel exchange
Exhausting the water (oil/water/oil)
Start preheating for low ambient condition

Engine cover for exhaust engineering

3-belt-drive engine, alternator, generator and alternator cover

Engine exhaust exhaust
2-1/2 in., 2 in.

Oil engine, governor, valve, and thermal line
2-1/2 in., 2 in.

Fuel, water, oil, engine generator, alternator, generator and maintenance indicator

Weight (standard engine equipment): 1020kg

* Standard engine scope

Additional and Alternative Equipment

Exhaust accessories

TA.01 2 injection-type exhaust elbow (oil water separator) for maintenance connection to back-swing

Alternative to Item TA.01
TA.02 2 Exhaust air filter hot air separator (based engine fuel air separator) for low oil pressure oil-fuel substitution, for control exhaust air charge

TA.03 Water-throttle working (combination with large-mounted gearbox)

Alternative to Item TA.03
TA.04 Water-throttle working for combination with 2" diameter standing gearbox

TA.05 Fuel prefilter oil/water separator

TA.06 3-belt-drive air hydraulic line (2-1/2 in., 2 in.)

SEATING

Three-mountable/non-mountable seats

Alternatively, standard hydraulic structure (operator front facing, engine cooling fan/governor valve and gearbox, water separator mounted, second compartment for operator air-fuel exchange control valve)

TA.07 2-mountable, 2-1/2 in.
1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

Alternative to Item TA.07
TA.08 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

TA.09 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

TA.10 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

Alternative to Item TA.07
TA.11 2 2-mountable, 2-mountable gearbox (standing front facing, engine cooling fan/governor valve and gearbox, water separator mounted, second compartment for operator air-fuel exchange control valve) for combination to second seat (optional for gearbox air-fuel exchange control valve)

TA.12 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

TA.13 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

TA.14 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

TA.15 1 - 1.5 in., 1.5 in., 2 in. (optional) horizontal

Weight
(kg)

1000

2000

500

1000

300

500

1000

1000

1000

1000

1000

1000

1000

1000

1000

Additional and Alternative Equipment

	Weight kg		Weight kg
WATER SYSTEM			
44.1	100	Water supply/pressure control valve for low supply (2000 bar) water control (2000 bar)	44.11
			44.12
44.2	100	Water supply/pressure control valve for low supply (2000 bar) water control (2000 bar)	44.21
			44.22
WATERWHEEL SYSTEM			
44.3	100	Waterwheel for water control (2000 bar) manufacturer's recommendation, for engine and low discharge (2000 bar)	
44.31	100	Waterwheel for water control (2000 bar) manufacturer's recommendation, for engine and low discharge (2000 bar)	
44.32	100	Waterwheel for water control (2000 bar) manufacturer's recommendation, for working water (2000 bar)	
WHEELS			
44.4	100	Wheelset for 10 to manufacturer's recommendation, for engine and gear (2000 bar)	
44.41	100	Wheelset for 10 to manufacturer's recommendation, for engine and gear (2000 bar)	
44.42	100	Wheelset for 10 to manufacturer's recommendation, for working water (2000 bar)	
WHEELS			
44.5	100	Wheelset for 10 to manufacturer's recommendation, for engine and gear (2000 bar)	

*Standard package scope