

Diesel Engine Series 2000 M91

for Fast Vessels

with Low Load Factors (1DS)



Typical applications:

Fast Yachts, Fast Patrol Boats,
Police Craft and Fire-Fighting
Vessels

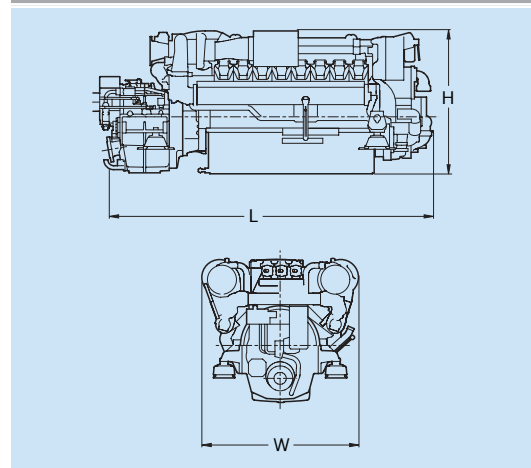
Engine Model		12V 2000 M91	16V 2000 M91
Rated power ICFN	kW (bhp)	1119 (1500)	1492 (2000)
Speed (speed margin)	rpm	2350 (+50)	2350 (+50)
Fuel consumption			
at rated power	g/kWh	222	223
	l/h (gal/h)	299.3 (79.1)	401.0 (106.0)
at optimum	g/kWh	198	202
Fuel specification		EN 590, ISO 8217, DMX-DMA	
Gearbox model		ZF 2050 A	ZF 2555
Transmission ratio		1.2 – 2.5	1.5 – 2.7
Dimensions and masses (incl. gearbox)			
Lenght (L)	mm (in)	2305 (90.7)	2940 (115.7)
Width (W)	mm (in)	1400 (55.1)	1400 (55.1)
Height (H)	mm (in)	1230 (48.4)	1290 (50.8)
Mass (dry)	kg (lbs)	3120 (6878)	3880 (8554)
Mass (wet)	kg (lbs)	3360 (7407)	4180 (9215)
Engine main data			
No. of cylinders		12	16
Bore/stroke	mm (in)	130/150 (5.1/5.9)	130/150 (5.1/5.9)
Displacement, total	l (cu in)	23.9 (1458)	31.9 (1947)
Flywheel housing	SAE	1	0



Standard Equipment	
Basic Engine	Liquid-cooled four-stroke diesel engine, crankcase, flywheel housing SAE, individual 4 valves cylinder heads, wet and replaceable cylinder liners, aluminium piston with cooling via oil spray nozzles
Starting System	Electric Starter 24 V
Auxiliary Power Supply System	Generator, 140A, 28V, 2 pole
Lube Oil System	Gear driven lube oil pump, lube oil duplex filter with diverter valve, lube oil heat exchanger, extraction handpump
Fuel System	Direct injection, PLN system, fuel delivery pump, fuel hand pump, fuel duplex filter with diverter valve, fuel prefilter with water separator, on-engine fuel oil cooler, fuel system safety equipment
Cooling System	Coolant-to-raw water plate core heat exchanger, self priming centrifugal raw water pump, gear driven coolant circulation pump
Combustion Air System	Sequential turbocharging with internal engine coolant temperature-controlled intercooling, on-engine intake air filters
Exhaust System	Tripple-walled, liquid-cooled, on-engine exhaust manifolds
Mounting System	Resilient mounts at free end (KGS)
Engine Management System	Electronic engine/gearbox control and monitoring system (ECU)
Coupling	Torsionally resilient coupling
Gearbox	Reverse reduction gearbox, el. actuated, gearbox mounts. Flange-mounted PTO 10° inclined, Flange-mounted PTO axial, Free-standing V-Drive

Optional Equipment	
Lube Oil System	Centrifugal oil filter, engine mounted
Fuel System	Duplex prefilter
Cooling System	Coolant preheating system, integrated seawater gearbox piping
Mounting System	Resilient mounts at driving end (KS)
Monitoring / Control System	Blue Line, MCS-5, RCS-5
Gearbox Options	Trolling mode for dead-slow propulsion. Auxiliary PTOs.
Classification for M91	On request

Dimensions and Masses



Power definition according ISO 3046
 Intake air temperature 25°C / Sea water temperature 25°C
 Intake air depression 15 mbar / Exhaust back pressure 30 mbar
 Barometric pressure 1000 mbar
 Power reduction at 45°C/32°C: 4.0%
 IMO certified

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