

Diesel Engine Series 12V/16V 2000 M93

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 M93	16V 2000 M93
Rated power ICFN kW (bhp)	1340 (1800)	1790 (2400)
Speed (speed margin) rpm	2450 (+50)	2450 (+50)
No. of cylinders	12	16
Bore/stroke mm (in)	135/156 (5.4/6.1)	135/156 (5.4/6.1)
Displacement, total l (cu in)	26.8 (1635)	35.7 (2179)
Flywheel housing	SAE 0	SAE 0
Gearbox model	ZF 2060 A i = 1.2 – 2.5	ZF 3060 A i = 1.3 – 3.0

Fuel Consumption ¹⁾	12V 2000 M93	16V 2000 M93
At rated power g/kWh	211	210
l/h	340.7	452.9
gal/h	90.0	119.6

¹⁾ Tolerance +5% per ISO 3046, Diesel fuel to DIN EN 590 with a min L.H.V. of 42800kJ/kg (18390 BTU/lb)



Standard Equipment

Starting System	Electric starter motor 24 V
Auxiliary PTO	Charging generator, 80A, 28V, 2 pole
Oil System	Gear driven lube oil pump, lube-oil duplex filter with diverter valve, lube-oil heat exchanger, handpump for oil extraction
Fuel System	Fuel feed pump, fuel hand pump, fuel pre-filter, fuel main filter with diverter valve, on-engine fuel oil cooler, HP fuel pump, jacketed HP fuel lines, injection nozzles (CR system), flame proof hose lines, leak-off fuel tank level monitored
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 3 water-cooled exhaust-gas turbochargers, on-engine set of combustion-air filters
Exhaust System	Triple-walled, liquid-cooled, on-engine exhaust manifolds, single centrally located exhaust outlet, 1 exhaust bellows vertical discharge
Mounting System	Resilient mounts at free end
Engine Management System	Engine and gearbox control and monitoring system (ADEC)

Optional Equipment

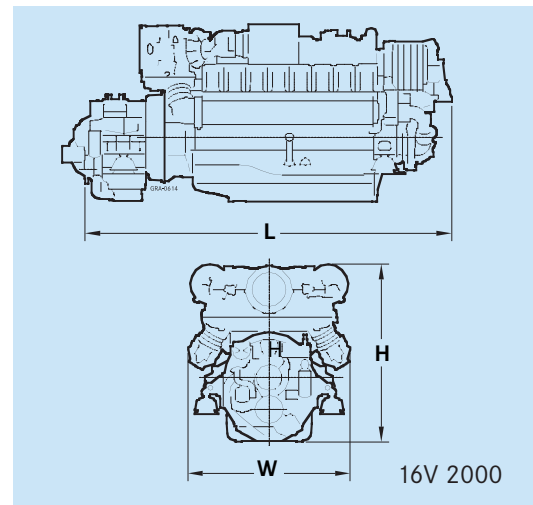
Auxiliary PTO	Charging generator, 140A, 28V, 2 pole, bilgepump, on-engine PTOs
Fuel System	Duplex fuel pre-filter
Cooling System	Coolant preheating system, integr. seawater gearbox piping
Exhaust System	1 exhaust bellows horizontal discharge
Mounting System	Resilient mounts at driving end
Monitoring / Control System	smartline* , blueline (* available from August 2005 on)
Power Transmission	Torsionally resilient coupling
Gearbox Options	Reverse reduction gearbox, el. actuated, gearbox mounts, trolling mode for dead-slow propulsion, free auxiliary PTO, hydraulic pump drives

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: none
 All engines fulfil IMO emission regulation, certificate on request
 All engines EPA Tier 2 certified

Dimensions and Masses (incl. gearbox)

Engine Model	12V2000	16V2000
Length [L] mm (in)	2380 (93.7)	2890 (113.8)
Width [W] mm (in)	1295 (51.0)	1295 (51.0)
Height [H] mm (in)	1350 (53.1)	1425 (56.1)
Mass [dry] kg (lbs)	3280 (7231)	4010 (8840)

Specifications are subject to change without notice.
 All dimensions are approximate, for complete information refer to installation drawing.
 For further information consult your MTU or Detroit Diesel distributor/dealer or any other authorized DaimlerChrysler representative.



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