

Diesel Engine Series 2000 M90

for Fast Vessels

with Low Load Factors (1DS)



Typical applications:

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

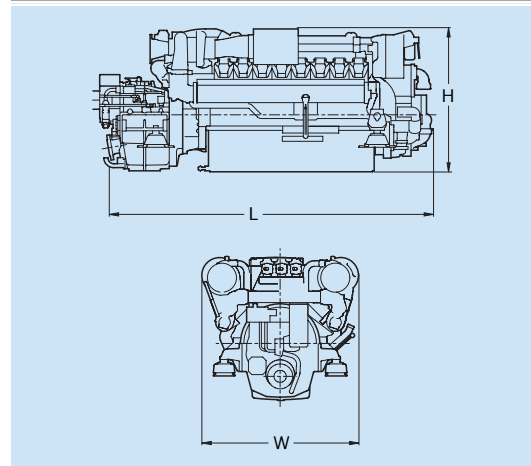
Engine Model		8V 2000 M90	12V 2000 M90	16V 2000 M90
Rated power ICFN	kW (bhp)	672 (900)	1007 (1350)	1343 (1800)
Speed (speed margin)	rpm	2300 (+50)	2300 (+50)	2300 (+50)
Fuel consumption				
at rated power	g/kWh	225	218	220
	l/h (gal/h)	182.2 (48.1)	264.5 (69.9)	356.0 (94.0)
at optimum	g/kWh	206	198	202
Fuel specification		EN 590, ISO 8217, DMX-DMA		
Gearbox model		ZF 350 A	ZF 2050 A	ZF 2555
Transmission ratio		1.3 – 2.6	1.2 – 2.5	1.5 – 2.7
Dimensions and masses (incl. gearbox)				
Lenght (L)	mm (in)	1920 (75.6)	2305 (90.7)	2920 (115.0)
Width (W)	mm (in)	1280 (50.4)	1400 (55.1)	1400 (55.1)
Height (H)	mm (in)	1160 (45.7)	1230 (48.4)	1290 (50.8)
Mass (dry)	kg (lbs)	2155 (4751)	3110 (6856)	3870 (8532)
Mass (wet)	kg (lbs)	2300 (5071)	3350 (7385)	4170 (9193)
Engine main data				
No. of cylinders		8	12	16
Bore/stroke		mm (in)	130/150 (5.1/5.9)	130/150 (5.1/5.9)
Displacement, total		l (cu in)	15.9 (970)	23.9 (1458)
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)
Engine Management System	In compliance with Classification Society Regulations (ECU + EMU)
Monitoring / Control System	Blue Line, MCS-5, RCS-5
Gearbox Options	Trolling mode for dead-slow propulsion. Auxiliary PTOs.
Classification for M90	All ratings are classified

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: 1.5%
 Power rating classifiable and IMO certified

DaimlerChrysler Off-Highway

MTU Friedrichshafen GmbH
 88040 Friedrichshafen
 Germany
 Phone +49 7541 90 28 98
 Fax +49 7541 90 39 46
 marine@mtu-online.com
 www.mtu-online.com

Detroit Diesel Corporation
 13400 Outer Drive, West
 Detroit, Michigan 48239-4001, USA
 Phone +1 313 592 51 24
 Fax +1 313 592 51 37
 marine@detroitdiesel.com
 www.detroitdiesel.com

Your Contact: