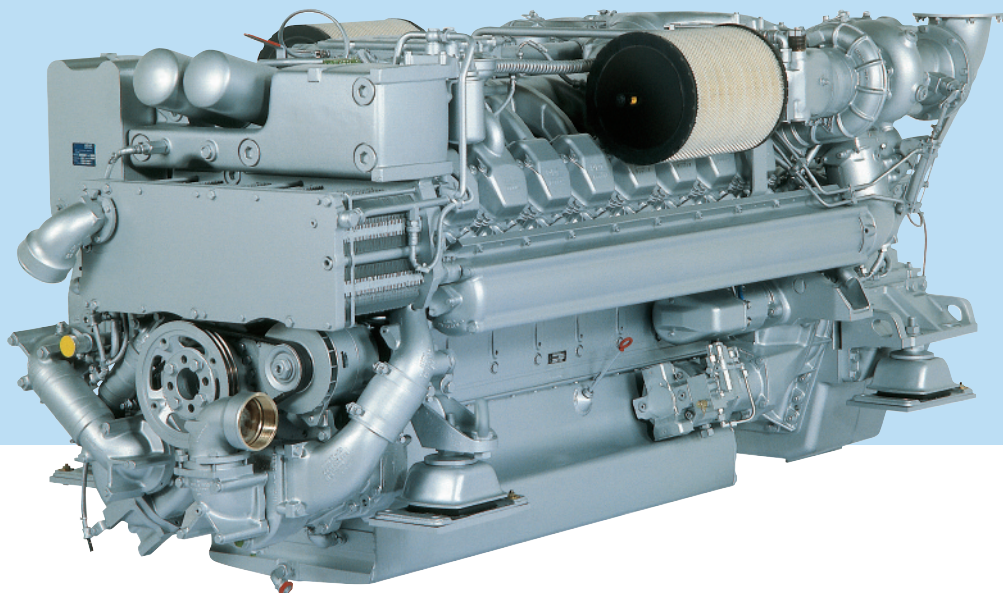


# Diesel Engines 12V/16V 2000 M90

for Fast Vessels

with Low Load Factors (1DS)



## Typical applications:

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

| Engine Model        |           | 12V 2000 M90               | 16V 2000 M90             |
|---------------------|-----------|----------------------------|--------------------------|
| Rated power ICFN    | kW (bhp)  | 1007 (1350)                | 1343 (1800)              |
| Speed               | rpm       | 2300                       | 2300                     |
| 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)                | 31.8 (1943)              |
| Flywheel housing    |           | SAE 1                      | SAE 0                    |
| Gearbox model       |           | ZF 2050 A<br>i = 1.2 – 2.5 | ZF 3055<br>i = 1.5 – 2.7 |

| Performance and Fuel Consumption <sup>1)</sup>    |       | 12V 2000 M90 |       |      | 16V 2000 M90 |       |      |
|---|-------|--------------|-------|------|--------------|-------|------|
| Speed   | rpm   | 2300         | 1800  | 1200 | 2300         | 1800  | 1200 |
| Maximum power                                     | kW    | 1007         | 940   | 500  | 1343         | 1245  | 790  |
|   | bhp   | 1350         | 1267  | 671  | 1800         | 1670  | 1187 |
| Power on propeller curve <sup>2)</sup>            | kW    | 1007         | 480   | 145  | 1343         | 625   | 190  |
|   | bhp   | 1350         | 664   | 194  | 1800         | 865   | 255  |
| Fuel consumption on propeller curve <sup>2)</sup> | g/kWh | 218          | 207   | 220  | 217          | 207   | 213  |
|   | l/h   | 264.5        | 119.7 | 38.4 | 351.1        | 155.9 | 48.8 |
|   | gal/h | 69.9         | 31.6  | 10.2 | 92.8         | 41.2  | 12.9 |

<sup>1)</sup> Tolerance +5% per ISO 3046, Diesel fuel to DIN EN 590 with a min L.H.V. of 42800kJ/kg (18390 BTU/lb) <sup>2)</sup> 3.0 exponent



## Standard Equipment

|                          |   |
|--------------------------|---|
| Starting System          | Electric starter motor 24 V   |
| Auxiliary PTO            | Charging generator, 140A, 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, individual HP injection pumps, jacketed HP fuel lines, injection nozzles (PLN 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 2 water-cooled exhaust-gas turbochargers, on-engine set of combustion-air filters   |
| Exhaust System           | Triple-walled, liquid-cooled, on-engine exhaust manifolds, 2 exhaust bellows vertical discharge   |
| Mounting System          | Resilient mounts at free end  |
| Engine Management System | Engine and gearbox control and monitoring system (MDEC)   |

## Optional Equipment

|                             |  |
|-----------------------------|--|
| Auxiliary PTO               | Bilgepump, on-engine PTOs  |
| Oil System                  | Centrifugal oil filter, oil replenishment system   |
| Fuel System                 | Duplex fuel pre-filter   |
| Cooling System              | Coolant preheating system, integr. seawater gearbox piping   |
| Exhaust System              | 2 exhaust bellows horizontal discharge   |
| Mounting System             | Resilient mounts at driving end  |
| Engine Management System    | In compliance with Classification Society Regulations (EMU + GMU)  |
| Monitoring / Control System | blueline, MCS-5, RCS-5   |
| 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 |
| Classification              | ABS, BV, CCS, DNV, GL, KR, JG, LR, NK, RINA  |

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

## Dimensions and Masses (incl. gearbox)

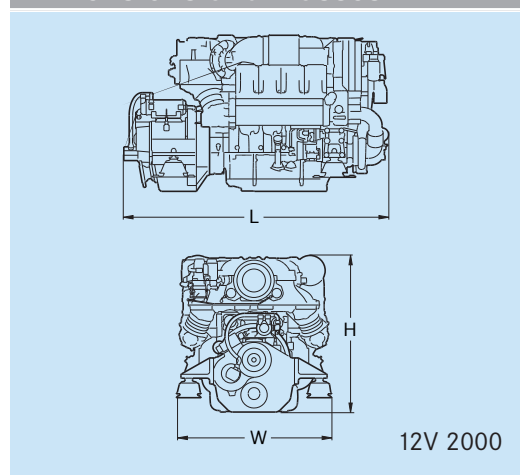
| Engine Model |          | 12V 2000 M90 | 16V 2000 M90 |
|--------------|----------|--------------|--------------|
| Length [L]   | mm (in)  | 2600 (102.4) | 3075 (121.1) |
| Width [W]    | mm (in)  | 1890 ( 74.4) | 1400 ( 55.1) |
| Height [H]   | mm (in)  | 1290 ( 50.8) | 1290 ( 50.8) |
| Mass [dry]   | kg (lbs) | 3480 (7672)  | 4300 (9480)  |

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 MTU Detroit Diesel distributor/dealer.

## Dimensions and Masses



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