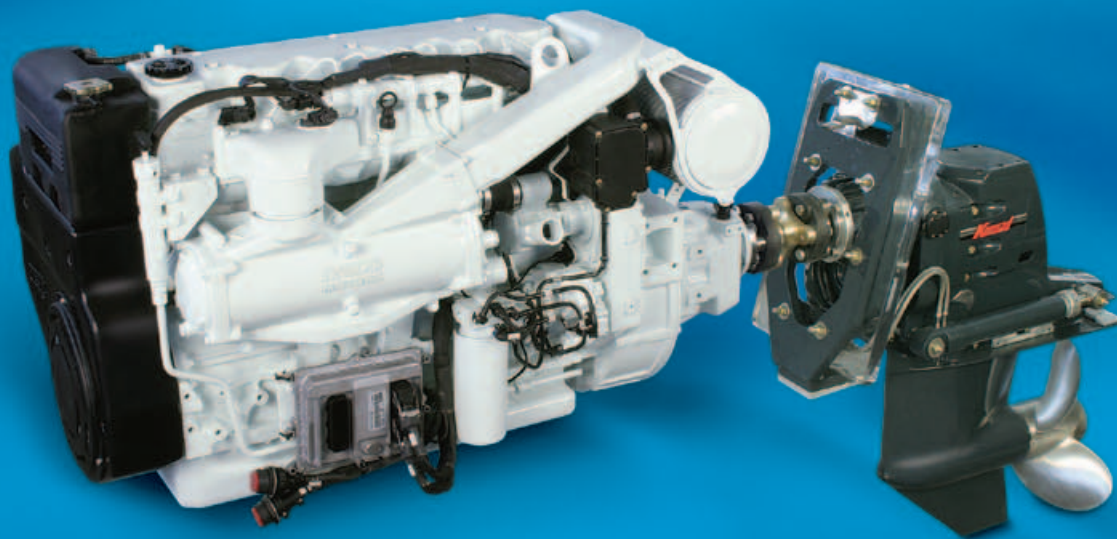


# NEF 400 SD-37

N60 ENT M40SD

**FOR MARINE APPLICATIONS**  
6 CYLINDERS IN LINE - DIESEL CYCLE  
272 kW (370 CV) @ 3000 rpm (A1)  
243 kW (330 CV) @ 3000 rpm (B)



T E C H N O L O G I C A L E X C E L L E N C E

**IVECO  
MOTORS**

a brand of

**FPT**  
POWERTRAIN TECHNOLOGIES

## N60 ENT M40SD FOR MARINE APPLICATIONS

|  |                  |                        |
|--|------------------|------------------------|
| Thermodynamic cycle                                |                  | Diesel 4 stroke - C.R. |
| Air intake   |                  | TAA                    |
| Arrangement  |                  | 6L                     |
| Bore x Stroke                                      | mm               | 102 X 120              |
| Total displacement                                 | l                | 5.9                    |
| Valves per cylinder                                |                  | 4                      |
| Cooling  |                  | liquid                 |
| Direction of rotation (viewed facing flywheel)     |                  | CCW                    |
| Compression ratio                                  |                  | 17.5 : 1               |
| Rotation mass moment of inertia (without flywheel) | kgm <sup>2</sup> | 0.31                   |
| Standard flywheel inertia                          | kgm <sup>2</sup> | 0.71                   |

### Air induction

|   |                          |             |
|---|--------------------------|-------------|
| Max suggested intake restriction with clean air filter                        | kPa(bar)                 | 3.5 (0.035) |
| Max allowable restriction with dirty air filter                               | kPa(bar)                 | 6.5 (0.065) |
| Air requirement for combustion at 100% load/rated speed (comb. + ventilation) | kg/h (m <sup>3</sup> /h) | 6700 (5750) |
| Turbocharging pressure at full load/rated speed                               | kPa(bar)                 | 200 (2)     |
| Turbocharging air max temperature (engine inlet)                              | °C                       | 45          |

### Exhaust system

|  |          |          |
|--|----------|----------|
| Max allowable backpressure               | kPa(bar) | 10 (0.1) |
| Max exhaust temperature at maximum power | °C       | 640      |
| Exhaust flow at max output               | kg/h     | 1560     |

### Lubrication system

|  |          |          |
|--|----------|----------|
| Minimum oil pressure at idle (at 100°C)                                    | kPa(bar) | 70 (0.7) |
| Max oil temperature at full load/rated speed                               | °C       | 120      |
| Engine angularity limits continuous operation: max front up and front down | 0/360    | 18°      |
| max left hand and right hand   | 0/360    | 22° 30'  |
| Total system capacity including pipes, filters etc.                        | liters   | 16.5     |

### Sea water cooling system (open circuit)

|                                    |                   |                 |
|------------------------------------|-------------------|-----------------|
| Max intake restriction             | kPa(bar)          | 20 (0.2)        |
| Sea water pump flow                | m <sup>3</sup> /h | 12              |
| Heat rejected (total) at max power | kJ/s(kcal/h)      | 212.3 (182,000) |
| Sacrificial zinc anodes            | n°                | 2               |

### Cooling system (closed circuit)

|  |                   |                |
|--|-------------------|----------------|
| Coolant capacity (engine only)                                   | liters            | 24.5           |
| Water pump flow at rated speed                                   | m <sup>3</sup> /h | 15             |
| Thermostat (modulating range)                                    | °C                | 72 ÷ 82        |
| Cooling liquid max temperature                                   | °C                | 103            |
| Min/max inner pressure in the cooling circuit (for keel cooling) | kPa(bar)          | 10/100 (0.1/1) |
| External cooling system max pressure drop (for keel cooling)     | kPa(bar)          | 35 (0.35)      |

### Fuel system

|                                |          |             |
|--------------------------------|----------|-------------|
| Injection system               |          | Common Rail |
| Gas oil max intake restriction | kPa(bar) | 35 (0.35)   |
| Gas oil max intake temperature | °C       | 70          |
| Max fuel backpressure to tank  | kPa(bar) | 20 (0.2)    |

### Electrical system

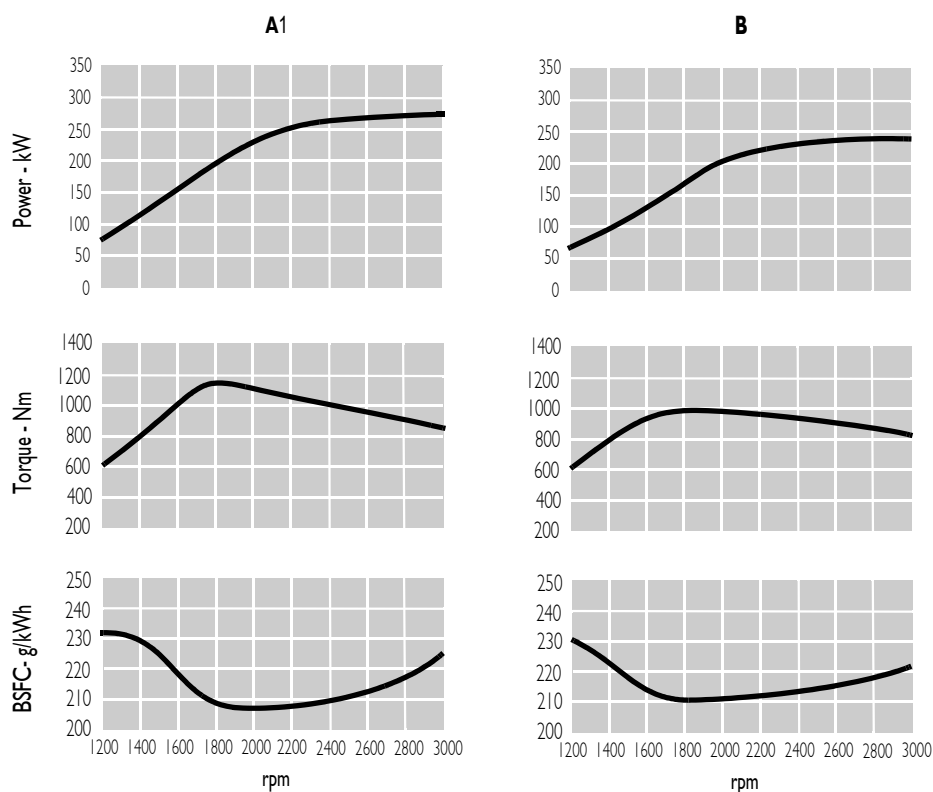
|         |   |    |
|---------|---|----|
| Voltage | V | 12 |
|---------|---|----|

# N60 ENT M40SD FOR MARINE APPLICATIONS

| Rating type   |                         | A1        | B          |
|---|-------------------------|-----------|------------|
| Maximum power *   | kW(CV)                  | 272 (370) | 243 (330)  |
| At speed  | rpm                     | 3000      | 3000       |
| Maximum no load governed speed at max rating            | rpm                     |           | 3150       |
| Minimum idling speed                                    | rpm                     |           | 600        |
| Mean piston speed at rated speed                        | m/s                     |           | 12.0       |
| BMEP at max torque                                      | kg/cm <sup>2</sup>      | 23.0      | 21.8       |
| Specific fuel consumption at full load (best value)     | g/kWh @ rpm             |           | 207 @ 2000 |
| Oil consumption at max rating                           | (% of fuel consumption) |           | ≤ 0.2      |
| Minimum starting temperature without auxiliaries        | °C                      |           | - 10       |
| Oil and oil filter maintenance interval for replacement | hours                   |           | 600        |
| Dry weight (without marine gear)                        | kg                      |           | 595        |

\* **Net Power** at flywheel according to ISO 3046/1, after 50 hours running, fuel Diesel EN 590. Power tolerance 5%

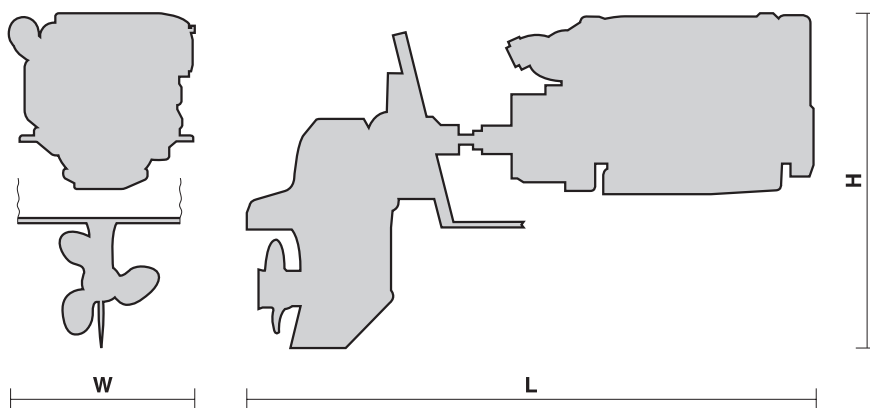
**Test conditions** : ISO 3046/1, 25 °C air temperature, 100 kPa atmospheric pressure, 30 % relative humidity.



**A1** = High performance crafts.  
Full throttle operation restricted within 10% of total use period.  
Cruising speed at engine rpm < 90% of rated speed setting - Maximum useage 300 hours per year.

**B** = Light duty.  
Full throttle operation restricted within 10% of total use period.  
Cruising speed at engine rpm < 90% of rated speed setting - Maximum useage 1500 hours per year.

L = 2514 mm  
W = 805 mm  
H = 1438 mm



## N60 ENT M40SD FOR MARINE APPLICATIONS

### Standard configuration

|                             |        |                                      |
|-----------------------------|--------|--------------------------------------|
| Flywheel housing            | SAE    | 3                                    |
| Flywheel size               | inch   | 11.5                                 |
| Air filter                  |        | rear side                            |
| Turbocharger                |        | cooled                               |
| Heat exchanger              |        | tube type                            |
| Exhaust cooled elbow        |        | -                                    |
| Water charge tank           |        | included                             |
| Fuel filter                 | n°     | 1 - left side                        |
| Fuel prefilter              |        | included (loose)                     |
| Fuel pump                   |        | included                             |
| Oil filter                  | n°     | 1 - right side                       |
| Oil sump                    |        | aluminium                            |
| Oil vapours blow-by circuit |        | rear                                 |
| Oil heat exchanger          |        | built in the crankcase               |
| Oil filler                  |        | on timing cover frontward            |
| Starting motor              |        | 12 V - 3 kW                          |
| Alternator                  |        | 12 V - 90 A                          |
| Engine stop device          |        | by electronic central unit           |
| Wiring harness              |        | with EDC (Electronic Diesel Control) |
| Painting                    | colour | white "ICE"                          |

### Not included in the standard configuration

|  |  |        |
|--|--|--------|
| Battery - minimum capacity recommended               |  | 120 Ah |
| Battery - minimum cold cranking capacity recommended |  | 900 A  |

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