TR MARINE ENGINES
TR2, TR3 MARINE

Maximum power output: 25 kW; 34 bhp
Speed range: 1500—2500 r/min

AIR COOLED MARINE DIESEL ENGINES FOR LEISURE AND COMMERCIAL CRAFT

SUITABLE FOR:
- work boats
- pleasure boats
- propulsion and auxiliary applications

BASIC ENGINE CHARACTERISTICS
- 2 or 3 cylinders
- air cooled
- direct injection
- naturally aspirated
- durable, economical and reliable
- low fuel consumption and long service periods

DESIGN FEATURES AND EQUIPMENT
- integral flywheel fan air cooling
- electric or hand start (see options)
- engine mounted air cleaner
- fuel filter / agglomerator
- fuel lift pump and steel fuel lines
- high level dipstick
- operators’ handbook

OPTIONAL ITEMS
The range of options to enable your TR marine engine to be built to your exact needs includes:
- 12-volt starter motor (insulated earth return design) and 55 Amp marine alternator
- raised hand starting at gear end
- sump drain pump
- engine bearers
- range of gearboxes
- vibration isolating engine mounts

WARRANTY
- standard: two years from delivery
- optional five year limited warranty
  Conditions apply.
# POWER OUTPUTS TO ISO 3046

<table>
<thead>
<tr>
<th>Variable Speed</th>
<th>r/min</th>
<th>1500a</th>
<th>1800b</th>
<th>2000c</th>
<th>2500</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR2 Continuous Power</td>
<td>kW</td>
<td>11.0</td>
<td>13.1</td>
<td>14.5</td>
<td>17.3</td>
</tr>
<tr>
<td>TR2 Fuel Stop 2</td>
<td>bhp</td>
<td>14.8</td>
<td>17.6</td>
<td>19.4</td>
<td>23.2</td>
</tr>
<tr>
<td>TR3 Continuous Power</td>
<td>kW</td>
<td>12.1</td>
<td>14.4</td>
<td>16.0</td>
<td>19.0</td>
</tr>
<tr>
<td>TR3 Fuel Stop 2</td>
<td>bhp</td>
<td>16.2</td>
<td>19.3</td>
<td>21.5</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Notes: 1. The dimensions (mm) given are for guidance only and must not be used for installation purposes. 2. Power ratings (measured at the flywheel) and coolant temperatures apply to a fully-run-in engine. 3. The overload capability applies to a fully-run-in engine. 4. For fixed-speed engines, the power at these speeds is the same.

## RATING DEFINITIONS, TO ISO 3046

**ISO Standard Conditions**
- Barometric pressure: 100 kPa
- Relative humidity: 30%
- Ambient temperature at air inlet manifold: 25°C

1. **Fixed speed power: continuous power (ICN)**
   - The power in kW which the engine is capable of delivering continuously at the rated crankshaft speed, under ISO standard conditions, measured at the flywheel without power-absorbing accessories, provided that the engine is overhauled and maintained in good operating condition and that fuel is supplied to the engine at ISO No. 5000 (5000) to DIN 51670 (5000). The output is not to be reduced under BS EN 950 Class A1 or A2 and lubricating oils to the correct performance specification and viscosity classification as recommended by the engine manufacturer.

2. **Fixed speed power: overload power (ICOO)**
   - The maximum power in kW which the engine is capable of delivering intermittently at the rated crankshaft speed for a period not exceeding one hour in any period of twelve hours. Continuous running immediately after running on the continuous power, under ISO standard conditions and with the provisions specified in (1) above.

3. **Variable speed: fuel stop power, continuous power (IFH)**
   - The maximum power in kW which the engine is capable of delivering continuously at the rated crankshaft speed, under ISO standard conditions and with the provisions specified in (1) above, with the fuel limited so that the fuel stop power cannot be exceeded.

4. **Variable speed: fuel stop power, intermittent power (IFN)**
   - The maximum power in kW which the engine is capable of delivering intermittently at the rated crankshaft speed, for a period not exceeding one hour in any period of twelve hours. Continuous running with the fuel limited so that the fuel stop power cannot be exceeded, immediately after running at the rated speed, under ISO standard conditions and with the provisions specified in (1) above.

5. **De-rating**
   - For non-standard site conditions, reference should be made to relevant BS, ISO and DIN standards. The overload capability applies to a fully-run-in engine. This is normally attained after a running period of about 50 hours.

## TECHNICAL DATA

<table>
<thead>
<tr>
<th>parameter</th>
<th>TR2 Marine</th>
<th>TR3 Marine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinders</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bore x Stroke</td>
<td>98.4 x 101.6</td>
<td>103.6 x 101.6</td>
</tr>
<tr>
<td>Total cylinder capacity</td>
<td>1560</td>
<td>2320</td>
</tr>
<tr>
<td>Maximum power at flywheel at 2500 r/min (continuous)</td>
<td>23.2</td>
<td>34.1</td>
</tr>
<tr>
<td>Max torque at flywheel (with engine at 2500 r/min)</td>
<td>12.6</td>
<td>18.9</td>
</tr>
<tr>
<td>Oil leak seal speed</td>
<td>r/min</td>
<td>850</td>
</tr>
<tr>
<td>Fuel consumption (approx) at /5% load, 2000 r/min</td>
<td>litre/hr</td>
<td>3.2</td>
</tr>
<tr>
<td>Oil sump capacity</td>
<td>litre</td>
<td>4</td>
</tr>
<tr>
<td>Net weight (dry)</td>
<td>kg</td>
<td>185</td>
</tr>
<tr>
<td>Max installation angle (gearbox down)</td>
<td>15°</td>
<td>15°</td>
</tr>
<tr>
<td>Propeller rotation</td>
<td>Clockwise</td>
<td></td>
</tr>
</tbody>
</table>

## TORQUE TO ISO 3046

<table>
<thead>
<tr>
<th>Variable Speed</th>
<th>r/min</th>
<th>1500</th>
<th>1800</th>
<th>2000</th>
<th>2500</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR2 Fuel Stop 2</td>
<td>Nm</td>
<td>11/8</td>
<td>11/8</td>
<td>11/8</td>
<td>11/8</td>
</tr>
<tr>
<td>TR3 Fuel Stop 2</td>
<td>Nm</td>
<td>11/8</td>
<td>11/8</td>
<td>11/8</td>
<td>11/8</td>
</tr>
</tbody>
</table>

## APPROXIMATE DIMENSIONS

<table>
<thead>
<tr>
<th>A</th>
<th>TR2 Marine</th>
<th>TR3 Marine</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>897</td>
<td>1024</td>
</tr>
<tr>
<td>C</td>
<td>548</td>
<td>6/5</td>
</tr>
<tr>
<td>D</td>
<td>138</td>
<td>1/0</td>
</tr>
<tr>
<td>D</td>
<td>23</td>
<td>33</td>
</tr>
</tbody>
</table>

The illustrations show the raised hand start which is an optional accessory. D is the distance of gearbox output centre line below the underside of the engine mounts.

# DISTRIBUTOR'S ADDRESS

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