Features

Clean Emissions
Building off the proven TNE design, Yanmar has achieved superior exhaust emissions by improving the combustion chamber and fuel injection equipment design. Engines are compliant with 2008 EPA Tier 4 and EU stage III A exhaust emissions regulations.

Reliable and Durable
The TNV engines now proudly take up the running as Yanmar’s premium small industrial diesel. They offer even more enhanced durability due to better block cooling, a stiffer crank and pistons, finer tolerance in the journal, and more. CAE analysis has brought lower vibrations and higher strength to the mounting structure for even better reliability in heavy-duty jobs.

Fuel Delivery and Economy
A newly designed, in-line ML fuel injection pump is utilized to assure more precise fuel delivery and control. The result is reduced emissions, improved performance over a wide range of applications and good fuel economy which assures that Yanmar’s reputation for superior starting characteristics continues.

Noise Level Reduction
Yanmar’s original CAE techniques have optimized the stiffness, minimized transformation, and reduced radiant noise in the cylinder block. Gear noise reduction is achieved through an improved gear tooth profile resulting in less mechanical noise.

Additional Information
Yanmar America Corp
951 Corporate Grove Drive
Buffalo Grove, IL 60089
www.yanmar.com

Standard Engine Equipment

General
Intake & Exhaust Manifold
Muffler/Exhaust Pipe Gasket (shipped loose)

Lubrication System
2.8 L Capacity Shallow Oil Pan
Trochoid Oil Pump
Paper Element Oil Filter
Oil Pressure Switch
Crankcase Breather, Closed Type

Electrical System
12V, 40 Amp Alternator
12V Starter Motor
12V Super Quick Glow Plugs
Preheat Timer (shipped loose)
Stop Solenoid Timer (shipped loose)

Fuel System
In-line ML Fuel Injection Pump
Mechanical Fuel Feed Pump
Paper Element Fuel Filter
Water Separator (shipped loose)
Stop Solenoid, Integral to Fuel Injection Pump (shipped loose)

Cooling System
Water Pump, Belt Driven
5-Blade, 300 mm Cooling Fan—Puller Type
21°C (160°F) Thermostat
Temperature Switch
Fan Belt

Power Take Off
Flywheel, SAE 7 1/2"
Backplate
Aux Drive, for a 9-tooth w/SAE 2 bolt “A” Flange

3TNV70-ASA3 General Specification
21.9 HP (16.3 kW) @ 3600 rated rpm*

<table>
<thead>
<tr>
<th>Type</th>
<th>3 Cylinder, 4-Cycle, Liquid Cooled Diesel Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore</td>
<td>70 mm</td>
</tr>
<tr>
<td>Stroke</td>
<td>74 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td>0.854 L</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Naturally Aspirated</td>
</tr>
<tr>
<td>Combustion System</td>
<td>Indirect Injection</td>
</tr>
<tr>
<td>Rotation</td>
<td>Counterclockwise</td>
</tr>
<tr>
<td>Dry Weight</td>
<td>196 lbs (89kg)</td>
</tr>
</tbody>
</table>

* Rated rpm: 3600
**Performance Data**

<table>
<thead>
<tr>
<th>Rated Speed (rpm)</th>
<th>Net rated kW</th>
<th>Net rated HP</th>
<th>Max. Torque (ft-lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3600</td>
<td>16.3</td>
<td>21.9</td>
<td>37.6 @ 2600 rpm</td>
</tr>
</tbody>
</table>

**Dimensions**

- Length: 19.8 in (504 mm)
- Width: 16.7 in (426 mm)
- Height: 21.4 in (546 mm)

Note: Dimensions depend on final specifications.

**Ratings Definitions and Conditions**

*Rated power listed is NET engine output. The engine operating environment and driven machine conditions must be studied carefully when selecting an engine in order to ensure correct engine selection, maximize engine performance, extend engine service life and improve machine capacity.

Consult the TNV Application Manual for additional engine ratings and engine application information.

Application standards for Yanmar industrial engines: Inlet air standard conditions with a total barometric pressure of 100kPa (29.5 in. Hg), with 30% relative humidity, and 25°C (77°F).

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