

# TNV DI Series Industrial Diesel Engine



Image shown may not be actual engine

### **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 MP type fuel injector 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 Distributed By:

### 4TNV88-BDSA General Specification 47.4 HP (35.4 kW) @ 3000 rated rpm\*

Type• • • 4 Cylinder, 4-Cycle, Liquid Co	ooled Diesel Engine
Bore • • • • • • • • • • • • • • • • • • •	•••• 88 mm
Stroke • • • • • • • • • • • • • • • • • • •	•••• 90 mm
Displacement • • • • • • • • • • • •	•••• 2.190 L
Aspiration • • • • • • • • • • • • •	Naturally Aspirated
Combustion System • • • • • • •	Direct Injection
Rotation (from flywheel end) • • • •	Counterclockwise
Dry Weight • • • • • • • • • • •	• 374 lbs (169 kg)

## **Standard Engine Equipment**

#### General

Intake & Exhaust Manifold Exhaust Manifold Gasket (shipped loose)

#### Lubrication System

3.4 L Capacity Deep 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 Glow Plugs Preheat Relay (shipped loose) Preheat Timer, 15 second (shipped loose) Stop Solenoid Timer, 1 second (shipped loose)

### Fuel System

In-line MP2 Fuel Injection Pump 12V Electric Fuel Pump (shipped loose) Paper Element Fuel Filter Water Separator (shipped loose) Stop Solenoid, Integral to Fuel Injection Pump (shipped loose)

### **Cooling System**

Water Pump, Belt Driven 7-Blade, 380mm Cooling Fan—Puller Type 71° C (159.8° F) Thermostat Temperature Switch Fan Belt

### Power Take Off

Flywheel, SAE 7 1/2" Flywheel Housing, SAE #5 Aux Drive, 9-tooth w/SAE 2 bolt "A" Flange



Performance Data



4TNV88-BDSA

Industrial Diesel Engine

Dimensions



Length	28.5 in (726 mm)
Width	20.2 in (515 mm)
Height	25.5 in (649 mm)

Note: Dimensions depend on final specifications.

kW to Hp conversion used is expressed as: HP = (kW value) x 1.3
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Rated Speed (rpm)	Net rated kW	Net rated HP	Max. Torque (ft-lb)
3000	35.4	47.4	105.9 @ 1800 rpm

### **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 a vapor pressure of 1 kPa (.295 in. Hg), and 25°C (77°F).

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