

# TWD1653GE

564kW (767 hp) at 1500 rpm, acc. to ISO 3046

**NEW!**

The TWD1653GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable in-line six design.

## Durability & low noise

Designed for easiest, fastest and most economical installation. Well-balanced to produce smooth and vibration-free operation with low noise level.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

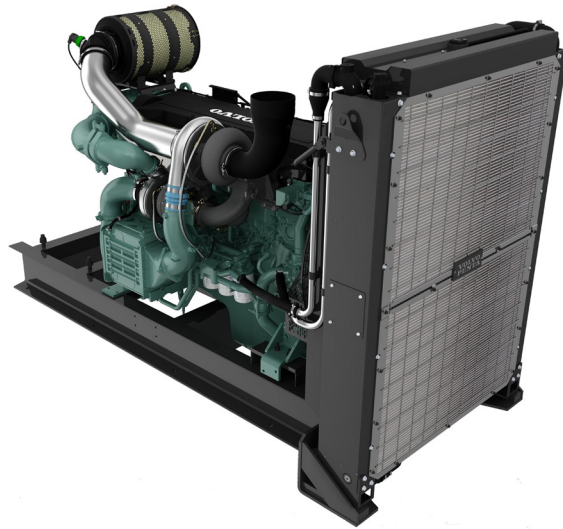
## Low exhaust emission

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TWD1653GE complies with Indian emission legislation CPCB Stage II (Similar to EU Stage IIIA).

## Easy service & maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.



## Features

- Volvo Penta Electronic management system
- Complies with CPCB Stage II at 1500 rpm
- High efficient cooling system
- Compact design
- Base engines as well as Gen Pac configurations
- Excellent step load performance acc. to ISO 8528-5 G3 governing class
- Low operating cost

## 50 Hz/1500 rpm

Prime power			Standby			Generator efficiency
kWm	kWe	kVa	kWm	kWe	kVa	(%)
547	520	650	603	573	716	95%

# TWD1653GE

## Technical Data

### General

Engine designation .....	TWD1653GE
No. of cylinders and configuration.....	in-line 6
Method of operation .....	4-stroke
Bore, mm (in.).....	144 (5.67)
Stroke, mm (in.).....	165 (6.50)
Displacement, l (in <sup>3</sup> ).....	16.12 (983.9)
Compression ratio.....	16.5:1
Wet weight, engine only, kg (lb).....	1780(3924)
Wet weight with Gen Pac, kg (lb).....	2650 (5842)

### Performance

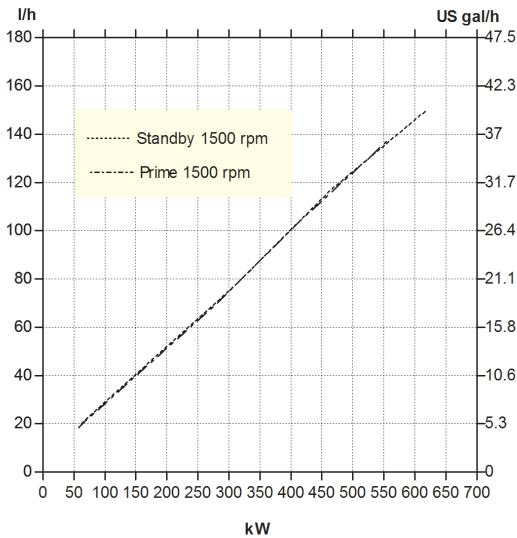
1500 rpm

with fan, kW (hp) at:

Prime Power 547 (744)

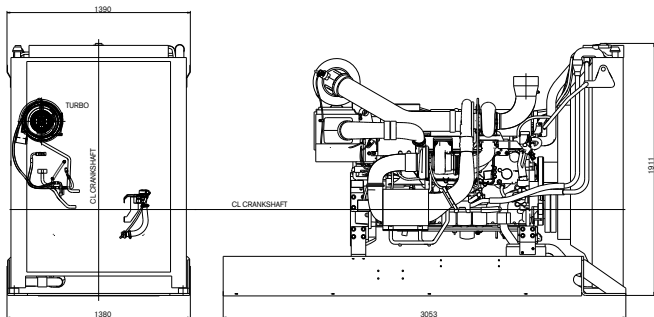
Max Standby Power 603 (808)

Fan power consumption, kW (hp) 17 (23)



## Dimensions TWD1653GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice. The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% at rated ambient conditions at delivery. Ratings are based on ISO 8528. Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

### Exhaust emissions

The engine complies with Indian emission legislation CPCB Stage II (Similar to EU Stage IIIA).

### Rating Guidelines

PRIME POWER rating corresponds to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load for an unlimited number of hours instead of commercially purchased power. A10 % overload capability for governing purpose is available for this rating.  
1 kW = 1.36 hp

### Information

For more technical data and information, please look in the Generating Set Engines Sales Guide.

## Technical description

### Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces without the block being unnecessarily heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- Case hardened and Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration dampers to withstand single bearing alternator torsional vibrations
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder

### Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filter, for extra high filtration
- The lubricating oil level can be measured during operation
- Gear type lubricating oil pump, gear driven by the transmission

### Fuel system

- Non-return fuel valve
- Electronic unit injectors
- Fuel prefilter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fine fuel filter with manual feed pump and fuel pressure switch
- Fuel shut-off valve (option)

### Cooling system

- Two water cooled charge air coolers
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Belt driven, maintenance-free coolant pump with high degree of efficiency

### Turbocharger

- Efficient and reliable dual stage turbo chargers
- Intermediate charge air coolers for both turbo chargers
- Waste gate system for the high pressure turbo charger

### Electrical system

- Engine Management System 2 (EMS 2), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing
- The instruments and controls connect to the engine via the CAN SAE J1939 interface, either through the Control Interface Unit (CIU) or the Display Control Unit (DCU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments. The DCU is a control panel with display, engine control, monitoring, alarm, parameter setting and diagnostic functions. The DCU also presents error codes.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, exhaust temp, coolant temp, water in fuel, fuel pressure and two speed sensors.

# VOLVO PENTA

AB Volvo Penta

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