



## Genset

Model	JHV-500GF
Voltage	400/480V
Frequency&Speed	50/60HZ
Prime Power	520kW/650kVA
Standby Power	574kW/718kVA

## General Engine Data

No.of Cylinders:	6	Displacement:	16.12L
Bore:	144mm	Lube oil:	48L
Stroke:	165mm	Consumption:	199g/kw.h

### Advantades:

#### 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 engine is EPA/CARB Tier 3 & EU Stage 3A emission certified. These regulations are met by using V-ACT™ (Volvo Advanced Combustion technology). V-ACT includes a flexible high pressure fuel injection system, an air management system including an internal exhaust gas recirculation device and an enhanced electronic controller.

#### Easy service & maintenance

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

- **Engine: Volvo TWD1653GE**
- **Alternator: Stamford/Leroy Somer /Hengsheng**
- **Controller: DeepSea/SmartGen /DEIF/ComAp**

### Technical description:

#### Engine and block

- ✓ 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 increased piston lifetime
- ✓ 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 4 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 at start-up
- ✓ Gear type lubricating oil pump, gear driven by the transmission

### Fuel system

- ✓ Electronic high pressure 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

### Cooling system

- ✓ Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- ✓ Belt driven coolant pump with high degree of efficiency

### Turbo charger

- ✓ Efficient and reliable turbo charger
- ✓ Electronically controlled Waste-gate
- ✓ Extra oil filter for the turbo charger

### Features

- Volvo Penta Electronic management system
- Certified for US/EPA Tier 3 and EU Stage 3A
- High efficient cooling system
- Compact design
- Base engines as well as Gen Pac configurations
- Switchable between 1500/1800 rpm
- Excellent step load performance acc. to ISO 8528-5 G3 governing class
- Low operating cost

### 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 Digital 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 in clear text.
- ✓ Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.

### Alternator

Pole No.	4-Pole
Exciter Type	Single bearing, Brushless, Self-excited
Power factor	0.8
Voltage adjust range	$\pm 5\%$
Insulation Grade	H
Protection Grade	IP23/22
Phase / wire	3 phase 4 wires

- ✧ NEMAMG1.JIANGHAO, and ANSI standards compliance for temperature rise and motor starting.
- ✧ Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- ✧ Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the generator field.
- ✧ Self-ventilated and drip-proof construction.
- ✧ Superior voltage waveform from two-thirds Pitch windings and skewed stator.
- ✧ Digital solid-state volts-per-hertz voltage Regulator with +1% no-load to full-load regulation.

## Control Panel



**The control module gives digital readouts of:**

Generator voltage;  
Output frequency;  
Engine speed;  
Battery voltage;  
Engine hours run.



Dimension:3500\*1480\*2200mm

Weight:4100kg



Dimension:4700\*2100\*2400mm

Weight:6900kg

Fuel Tank Capacity:1000L

The **control panel** is an Digital Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the module will display warnings, shutdown and engine status information on the back-lit LCD screen and illuminated LEDs.

**The control module has indicators for failure information:**

Over speed/Low speed,  
Emergency stop  
Low oil pressure;  
High water temperature  
Failure to start  
Battery charger failure

**Automatic shutdown occurs under:**

Low engine oil pressure;  
High engine water temperature;  
Over speed/Low speed;  
Failure to start after three attempts.

## Electrical system

- Maintenance-free and anti-explosion battery
- Standard breaker
- ABB breaker (optional)
- ATS (optional)
- Battery charger (optional)
- GMS monitoring (optional)

## Packing

- Wrapping film packaging
- Tray packaging
- plywood box packaging

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