

VOLVO PENTA INDUSTRIAL DIESEL

TAD1641VE

420 kW (571 hp) crankshaft power acc. to ISO 3046

The TAD1641VE is a powerful, reliable and economical Versatile Diesel Engine built on the dependable Volvo in-line six design.

Durability & low noise

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

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.

Operational economy and Low exhaust emission

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

The TAD1641VE complies with EPA / CARB Tier 2 and EU stage II exhaust emission regulations.

Easy service & maintenance

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

Technical description:

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces without the block being unnecessary heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low thermal load on pistons and reduced ring temperature
- Tapered connecting rods to reduce risk of piston cracking
- Crankshaft has induction hardened bearing surfaces and fillets with seven main bearings for moderate load on main and big-end bearings
- Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper
- Replaceable valve guides and valve seats
- Overhead camshaft and four valves per cylinder equipped with camshaft damper to reduce noise and vibrations.

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filters

- The lubricating oil level can be measured during operation (Standard dipstick only)
- Gear type lubricating oil pump, gear driven by the transmission

Fuel system

- Self de-aerating system. When replacing filters all fuel stays in the engine.
- Non-return fuel valve
- Electronic Unit Injectors
- Fuel prefilter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fuel pressure switch

Turbocharger

- Efficient and reliable turbo charger

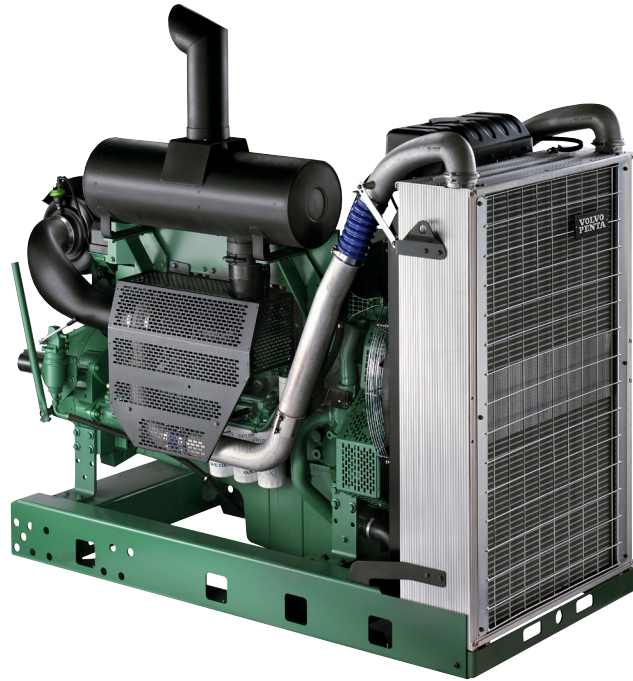
Cooling system

- Air to air intercooler
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Tropical radiator
- Radiator guard
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Fan hub

- Suction type fan, 890 mm
- Fan & belt guard

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 connects 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.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, water in fuel, fuel pressure and two speed sensors. Crank case pressure, piston cooling pressure, oil level and air filter pressure drop sensors.
- Alternator 24V / 80A



Features

- High torque
- Air to air intercooler
- Fully electronic with Volvo Penta EMS 2
- High power density
- EPA / CARB Tier II / EU stage II emission compliant
- Low noise levels

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