The TAD1353GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo inline six concept.

**Durability & low noise**
Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 highly efficient charge air system with low internal losses contributes to excellent combustion and low fuel consumption.
The TAD1353GE is EPA/CARB Tier 3 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.

**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
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- 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**
- 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

**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
TAD1353GE

Technical Data

General

Engine designation .......................................................... TAD1353GE

Technical Data TAD1353GE

Displacement, l (in³) .......................................................... 12.78 (780)

Stroke, mm (in.) ...................................................................... 158 (6.22)

Bore, mm (in.) ......................................................................... 131 (5.16)

Method of operation .................................................................. 4-stroke

No. of cylinders and configuration ........................................ in-line 6

Compression ratio ................................................................. 18.1:1

Dry weight, kg (lb) ................................................................. 1299 (2855)

Dry weight with Gen Pac, kg (lb) .............................................. 1325 (2921)

Wet weight ith Gen Pac, kg (lb) ................................................ 1790 (3946)

Performance

with fan, kW (hp) at:

Prime Power ....................................................................... 391 (532)

Standby Power ...................................................................... 430 (585)

Lubrication system

1800 rpm

Oil consumption, liter/h (US gal/h) at:

Prime Power .......................................................................... 0.04 (0.011)

Standby Power ...................................................................... 0.05 (0.013)

Fuel system

1800 rpm

Specific fuel consumption at:

Prime Power, g/kWh (lb/whp) .................................................. 250 (0.405)

50 % .................................................................................. 219 (0.355)

75 % .................................................................................. 210 (0.340)

100 % .............................................................................. 201 (0.326)

Standby Power, g/kWh (lb/whp) .............................................. 247 (0.400)

25 % .................................................................................. 215 (0.349)

75 % .................................................................................. 209 (0.339)

100 % .............................................................................. 200 (0.324)

Intake and exhaust system

1800 rpm

Air consumption, m³/min (cfm) at:

Prime Power .......................................................................... 29 (1038)

Standby Power ...................................................................... 31 (1102)

Max allowable air intake restriction, kPa (PSI) .... 5 (0.7)

Heat rejection to exhaust, kW (BTU/min) at:

Prime Power ............................................................................ 306 (17402)

Standby Power ................................................................... 338 (19222)

Exhaust gas temperature after turbine, °C (°F) at:

Prime Power .......................................................................... 485 (905)

Standby Power ...................................................................... 495 (923)

Max allowable back-pressure in exhaust line, kPa (PSI) ............. 10 (1.5)

Exhaust gas flow, m³/min (cfm) at:

Prime power .......................................................................... 74.0 (2613)

Standby power ...................................................................... 79.0 (2790)

Cooling system

1800 rpm

Heat rejection radiation from engine, kW (BTU/min) at:

Prime Power .......................................................................... 10 (569)

Standby Power ...................................................................... 11 (626)

Heat rejection to coolant kW (BTU/min) at:

Prime Power .......................................................................... 165 (9383)

Standby Power ...................................................................... 178 (10123)

Fan power consumption, kW (hp) ........................................... 19 (26)

Standard equipment

Engine

Automatic belt tensioner

Lift eyelets

Flywheel

Flywheel housing with conn. acc. to SAE 1

Flywheel for 14” flex. plate and flexible coupling

Engine suspension

Fixed front suspension

Lubrication system

Oil dipstick

Full-flow oil filter of spin-on type

By-pass oil filter of spin-on type

Oil cooler, side mounted

Low noise oil sump

Fuel system

Fuel filters of disposable type

Electronic unit injectors

Pre-filter with water separator

Intake and exhaust system

Air filter with replaceable paper insert

Air restriction indicator

Air cooled exhaust manifold

Connecting flange for exhaust pipe

Exhaust flange

Turbo charger, low right side

Cooling system

Radiator incl intercooler

Coolant pump

Fan hub

Thrust fan

Fan guard

Belt guard

Control system

Engine Management System (EMS) with CAN-bus interface SAE J1939

Alternator

Alternator 80 A

Starting system

Starter motor

Connection facility for extra starter motor

Instruments and senders

Temp.- and oil pressure for automatic stop/alarm

Other equipment

Expandable base frame

Engine Packing

Plastic wrapping

¹) Must be ordered, see order specification – optional equipment or not applicable

For our wide range of optional equipment, please see Order specification.

Dimensions TAD1353GE

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.

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. A 10% overload capability for governing purposes is available for this rating.

STANDBY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

1 hp = 1 kW x 1.36