

VOLVO PENTA GENSET ENGINE

TAD740GE

1500 rpm, 242kW (329 hp) – 1800 rpm, 251kW (341 hp)

The TAD740GE is a powerful, reliable and economical Generating Set diesel 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 TAD740GE complies with Tier 1 and TA-Luft 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 unnecessarily heavy.
- Wet, replaceable cylinder liners with flame barrier that protects the cylinder head gaskets against high temperatures.
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Nitrocarburized crankshaft with seven bearings for moderate load on main bearings
- 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

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

- Bosch fuel injection system including accurate electronic governor.
- Non-return fuel valve
- Twin fuel filters of disposable type.
- Gear type lubricating oil pump, gear driven by the transmission.
- Fine fuel filter with manual feed pump and fuel pressure switch

Turbo charger

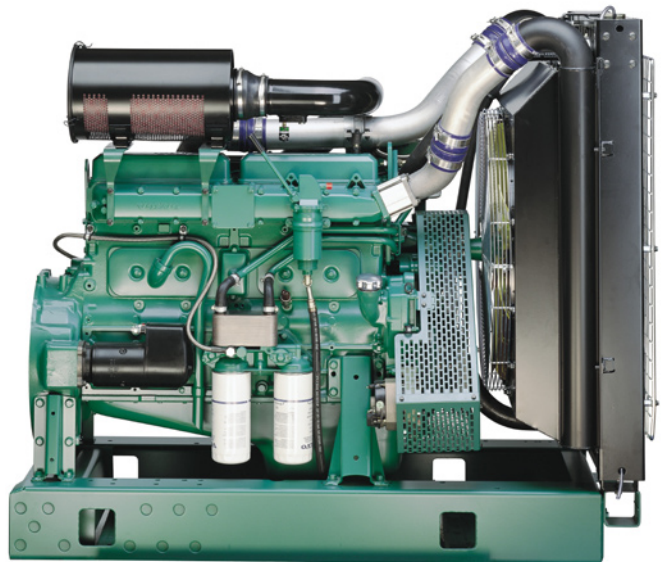
- Efficient and reliable turbo charger

Cooling system

- Air to air intercooler
- Gear driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Automatic fan drive belt tensioner.

Electrical system

- Electronic speed governor system controls the engine speed in droop or isochronous mode. The system includes a control unit, speed sender and electro-magnetic actuator (ACD175)



Features

- Maintained performance, air temp 40°C, altitude 1000m
- Tropical cooling system (55°C)
- Guaranteed power output 0 to +2%
- El. Governing (GAC-ACD175)
- Low exhaust emissions
- Low noise levels
- Gen Pac configuration

VOLVO
PENTA

TAD740GE

Technical Data

General

Engine designation	TAD740GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	107 (4.21)	
Stroke, mm (in.)	135 (5.31)	
Displacement, l (in ³)	7.28 (445)	
Compression ratio	17.2:1	
Dry weight, kg (lb)	901 (1987)	
With Gen Pac, kg (lb)	1128 (2487)	
Wet weight, kg (lb)	964 (2126)	
With Gen Pac, kg (lb)	1196 (2637)	

Performance

with fan, kW (hp)	1500 rpm	1800 rpm
Prime Power	220 (299)	228 (310)
Max Standby Power	242 (329)	251 (341)

Lubrication system

Oil consumption, liter/h (US gal/h)	1500 rpm	1800 rpm
Prime Power	0.04 (0.011)	0.05 (0.013)
Max Standby Power	0.05 (0.013)	0.06 (0.016)
Oil system capacity incl filters, liter (US gal)	29 (7.7)	

Fuel system

Spec. fuel consumption at		
Prime Power, g/kWh (lb/hph)	1500 rpm	1800 rpm
25 %	227 (0.368)	230 (0.373)
50 %	200 (0.324)	205 (0.330)
75 %	198 (0.321)	199 (0.323)
100 %	200 (0.324)	200 (0.324)
Max Standby Power, g/kWh (lb/hph)		
25 %	219 (0.355)	230 (0.373)
50 %	200 (0.324)	203 (0.329)
75 %	198 (0.321)	199 (0.323)
100 %	201 (0.326)	202 (0.328)

Intake and exhaust system

Air consumption at 27°C, m ³ /min (cfm)	1500 rpm	1800 rpm
Prime Power	14.7 (519)	17.6 (622)
Max Standby Power	15.6 (551)	18.6 (657)
Max allowable air intake restriction, kPa (In wc)	5 (20.1)	
Heat rejection to exhaust, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	160 (9099)	164 (9327)
Max Standby Power	180 (10237)	184 (10464)
Exhaust gas temperature after turbine, °C (°F)	1500 rpm	1800 rpm
Prime Power	525 (977)	470 (878)
Max Standby Power	540 (1004)	485 (905)
Max allowable back-pressure in exhaust line, kPa (In wc)	10 (40.2)	
Exhaust gas flow, m ³ /min (cfm)	1500 rpm	1800 rpm
Prime power	39.2 (1384)	43.0 (1519)
Max Standby Power	41.8 (1476)	46.3 (1635)

Cooling system

Heat rejection radiation from engine, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	13 (737)	13 (737)
Max Standby Power	15 (850)	15 (850)
Heat rejection to coolant, kW (BTU/min)		
Prime Power	99 (5630)	99 (5630)
Max Standby Power	106 (6028)	110 (6256)
Fan power consumption, kW (hp)	5 (7)	8 (11)

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% att 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 Tier 1 and TA-luft exhaust emission regulations.

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 purpose is available for this rating.
MAXIMUM STANDBY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with well 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

Information

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

Standard equipment

Engine

Automatic belt tensioner
Lift eyelets

Flywheel

Flywheel housing with conn. acc. to SAE 2
Flywheel for 11.5" flex. plate and flexible coupling

Vibration damper

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

Fuel system

Twin fuel filters of disposable type
Flexible fuel lines
Fuel injection pump, Bosch, with electronic actuator

Intake and exhaust system

Air filter with replaceable paper insert
Air restriction indicator
Air cooled exhaust manifold
Connecting flange for exhaust line
Turbo charger
Heat guard for exhaust pipe and turbo
Crankcase ventilation

Cooling system

Tropical radiator including intercooler
Radiator guard
Gear driven coolant pump
Fan hub
Thrust fan
Fan guard
Belt guard

Alternator

Alternator 60A / 24V low, right side

Starting system

Starter motor, Bosch 5.4kW / 24V
Electrical wiring
Cable iron

Instruments and senders

Temp.- and oil pressure for automatic stop/alarm 103°C

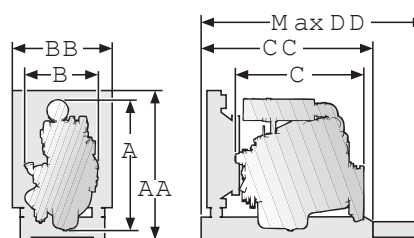
Other equipment

Expandable base frame

Engine Packing

Plastic wrapping

¹⁾ must be ordered, see order specification - optional equipment
- optional equipment or not applicable
• included in standard specification



A* = 1375 mm / 54.0 in
B* = 945 mm / 37.2 in
C* = 1697 mm / 66.8 in
*Incl. radiator & intercooler

AA = 1490.5 mm / 58.7 in
BB = 945 mm / 37.2 in
CC = 1732 mm / 68.2 in
DD = 2722 mm / 107.2 in

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