VOLVO PENTA INDUSTRIAL DIESEL

TAD733GE

195 kW (265 hp) at 1500 rpm, 214 kW (292 hp) at 1800 rpm

The TAD733GE 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 TAD733GE complies with EU Stage 2 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
- Piston cooling for low piston temperature and reduced ring temperature
- Drop forged steel connecting rods
- Crankshaft hardened bearing surfaces and fillets for moderate load on main and bigend bearings
- Keystone top compression rings for long service life
- Replaceable valve guides and valve seats
- Three PTO positions at flywheel end
- Lift eyelets
- Flywheel housing with connection acc. to SAE 2
- Flywheel for flexible coupling and friction clutch
- Transport brackets

Lubrication system

- Full flow disposable spin-on oil filter, for extra high filtration
- Rotary displacement oil pump driven by the crankshaft
- Deep centre oil sump, 30° inclination
- Oil filler on top



Features

- Electronic governing, EDC 4
- CAN bus communication
- Compact design
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- A wide selection of optional equipment and power settings
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted

Fuel system

- Six hole fuel injection nozzles
- Direct injection unit pumps
- Electronic governor with smoke limiter function
- Washable fuel prefilter with water separator
- Rotary low-pressure fuel pump
- Fine fuel filter of disposable type

Intake and exhaust system

- Connection flange for exhaust line
- Turbo charger, centre low with exhaust flange
- Closed crankcase ventilation
- Two stage air filter
- Heater flange in charge air inlet (without power relay)

Cooling system

 Belt 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 thermostat with minimum pressure drop
- Cooling water pipe, inlet and outlet
- Belt driven coolant pump, ratio 1.0:1
- Fan hub
- Fan on separate bracket 292mm above crankshaft
- Pusher fan Ø 600 mm

Electrical system

- 24V electrical system
- Alternator 1x35A / 24V, low left
- Starter motor, Melco, 5.5kW / 24V, single
- ECU (without high altitude sensor) control and monitoring of oil pressure, coolant temperature, coolant level, charge air pressure, engine rpm and fuel temperature compensation
- Engine wiring



TAD733GE

Technical Data

Technical Data			
General Engine designation		TAD733GE	
No. of cylinders and configuration		in-line 6	
Method of operationBore, mm (in.)		4-stroke	
Stroke, mm (in.)		108 (4.25) 130 (5.12)	
Displacement, I (in ³)		7.15 (436.3)	
Compression ratio		18.1:1	
Dry weight, with cooling package, kee Wet weight, with cooling package, k	g (lb) g (lb)	968 (2134)	
Performance with fan, kW (hp) at:	1500 rpm	1800 rpm	
Prime Power	175 (238)	192 (260)	
Standby Power	195 (265)	214 (292)	
Lubrication system	1500 mm	1900	
Lubrication system Oil consumption, liter/h (US gal/h) a	1500 rpm t:	1800 rpm	
Prime Power	0.08 (0.021)	0.09 (0.024)	
Standby Power	0.09 (0.024)	0.11 (0.029)	
Oil system capacity incl filters, liter (JS gai)	34 (9.0)	
Fuel system	1500 rpm	1800 rpm	
Specific fuel consumption at:			
Prime Power, g/kWh (lb/hph) 25 %	228 (0.369)	245 (0.397)	
50 %	217 (0.352)	222 (0.361)	
75 %	214 (0.347)	220 (0.357)	
100 %	216 (0.351)	222 (0.361)	
Standby Power, g/kWh (lb/hph) 25 %	228 (0.370)	238 (0.386)	
50 %	216 (0.350)	221 (0.359)	
75 %	215 (0.348)	220 (0.357)	
100 %	219 (0.355)	228 (0.369)	
Intake and exhaust system 1500 rpm 1800 rpm			
Air consumption at 27°C, m³/min (ci		1.10 (501)	
Prime Power Standby Power	11.5 (406) 12.4 (439)	14.2 (501) 15.8 (557)	
Max allowable air intake restriction,	12.4 (409)	10.0 (007)	
kPa (In wc)	3.5 (14.1)	3.5 (14.1)	
Heat rejection to exhaust, kW (BTU/min) at:			
Prime Power	142 (8075)	168 (9554)	
Standby Power	165 (9383)	202 (11488)	
Exhaust gas temperature			
after turbine, °C (°F) at: Prime Power	510 (950)	509 (948)	
Standby Power	530 (986)	530 (986)	
Max allowable back-pressure in			
exhaust line, kPa (In wc) Prime Power	5 (20.1)	7.5 (30.1)	
Standby Power	3 (12.0)	5 (20.1)	
Exhaust gas flow, m³/min (cfm) at:			
Prime power	31.8 (1123)	40.4 (1428)	
Standby Power	37.2 (1314)	44.4 (1569)	
Cooling system	1500 rpm	1800 rpm	
Heat rejection radiation from engine,			
kW (BTU/min) Prime Power	19 (1081)	22 (1251)	
Standby Power	20 (1137)	23 (1308)	
Heat rejection to coolant kW (BTU/n		00 (5007)	
Prime Power Standby Power	87 (4919) 96 (5465)	99 (5607) 110 (6244)	
Fan power consumption, kW (hp)	6.1 (8)	10.5 (14)	

Standard equipment

Standard equipment	
Engine	
Automatic belt tensioner	•
Lift eyelets	•
Flywheel	
Flywheel housing with conn. acc. to SAE 2	•
Flywheel 10" and 11.5" disc	•
Vibration dampers	•
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	•
Two stage air filter with replaceable paper insert	
Air restriction indicator	•
Air cooled exhaust manifold	
Connecting flange for exhaust pipe	•
Exhaust flange with v-clamp	•
Turbo charger, low right side	•
Crankcase ventilation, open	•
Cooling system	
Radiator incl intercooler	_ ¹)
Gear driven coolant pump	•
Fan hub	•
Pusher fan	_ ¹)
Fan guard	_ ¹)
Belt guard	_1)
Control system	
Engine Management System (EMS) with CAN-bus	
interface SAE J1939 and stand alone interface	•
Alternator	
Alternator 35 A / 24 V	•
Starting system	
Starter motor, 5.5 kW, 24 V	•
Instruments and senders	
Temp and oil pressure for automatic	
stop/alarm	•

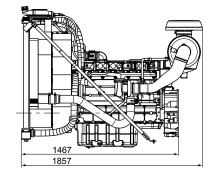
- 1) must be ordered, se order specification
- optional equipment

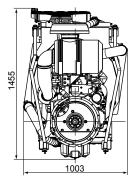
Engine Packing Plastic wrapping

• included in standard specification

Dimensions TAD733GE

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% att rated ambient conditions at delivery. Ratings are based on

Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

Exhaust emissions

The engine complies with EU stage 2 and TA-luft exhaust emission regulations.

Rating Guidelines

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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 govering purpose 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 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

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



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