VOLVO PENTA GENSET ENGINE

TD710G

1500 rpm, 156 kW (212 hp)
1800 rpm, 168 kW (229 hp)

Reliable & powerful

The TD710G is a powerful, reliable and economical Generating Set diesel built on the dependable in-line six design.

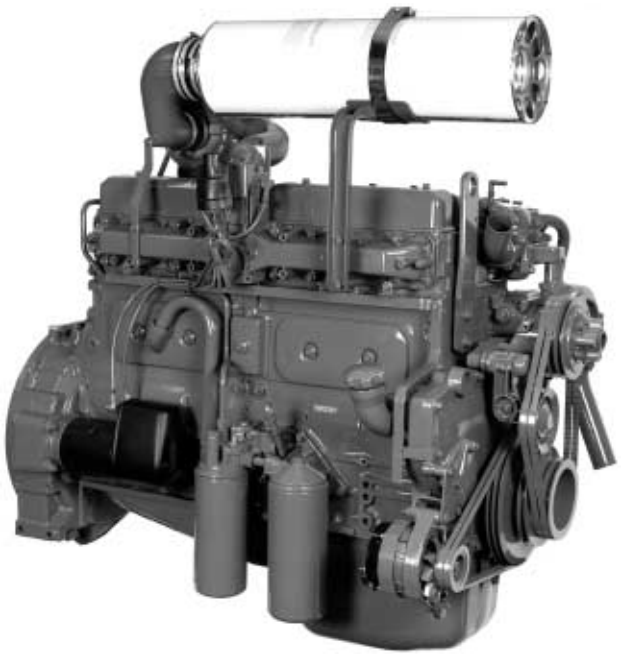
Durability & low noise

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

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.

Easy service & maintenance

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



Features

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

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.
- Nitrocarburized crankshaft with seven bearings for moderate load on main bearings.
- Nitrocarburized transmission gears for heavy duty operation.
- Viscous type crankshaft vibration damper to withstand single bearing alternator torsional vibrations.
- Piston cooling for low piston temperature and reduced ring temperature.
- Keystone top compression rings for long service life.
- Replaceable valve guides and valve seats.
- Tapered connecting rods to reduce risk of piston cracking.

Lubrication system

- Full flow disposable spin-on oil filter, for extra high filtration.
- The lubricating oil level can be measured during operation.
- Full flow oil cooler.
- Gear type lubricating oil pump, gear driven by the transmission.

Fuel system

- Twin fuel filters of disposable type.
- Bosch fuel injection system including mechanical governor with accurate characteristics.

Turbo charger

- Efficient and reliable turbo charger

Cooling system

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

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Technical Data

General

Engine designation	TD710G
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke
Bore, mm (in.)	104.77 (4.12)
Stroke, mm (in.)	130 (5.12)
Displacement, l (in^3)	6.73 (411)
Compression ratio	14.5:1
Dry weight, kg (lb)	785 (1731)
With Gen Pac, kg (lb)	1085 (2392)
Wet weight, kg (lb)	827 (1824)
With Gen Pac, kg (lb)	1149 (2534)

Performance

with fan, kW (hp)	**1500 rpm**	**1800 rpm**
Prime Power	142 (193)	140 (190)
Maximum Standby Power	156 (212)	168 (229)

Lubrication system

Oil consumption at liter/h (US gal/h)	**1500 rpm**	**1800 rpm**
Prime Power	0.18 (0.048)	0.19 (0.050)
Maximum Standby Power	0.21 (0.055)	0.23 (0.061)

Oil system capacity incl filters, liter	29
Oil change intervals at specification	
VDS-2, h	600
VDS, ACEA E3, h	400
ACEA E1, E2, API CD, CF, CF-4, CG-4, h	200

Fuel system

Specific fuel consumption at Prime Power, g/kWh (lb/hph)

	1500 rpm	**1800 rpm**
25 %	250 (0.405)	276 (0.447)
50 %	215 (0.349)	229 (0.371)
75 %	212 (0.344)	217 (0.352)
100 %	214 (0.347)	216 (0.350)

Specific fuel consumption at Maximum Standby Power, g/kWh (lb/hph)

	1500 rpm	**1800 rpm**
25 %	244 (0.395)	260 (0.421)
50 %	216 (0.350)	221 (0.358)
75 %	211 (0.342)	216 (0.350)
100 %	216 (0.350)	218 (0.353)

Intake and exhaust system

Air consumption at 27°C, m^3/min (cfm)

	1500 rpm	**1800 rpm**
Prime Power	8.8 (311)	10.1 (358)
Standby Power	9.3 (330)	11.3 (400)

Max allowable air intake restriction, kPa (In wc)	5 (20.1)

Heat rejection to exhaust, kW (BTU/min)

	1500 rpm	**1800 rpm**
Prime Power	118 (6710)	120 (6820)
Maximum Standby power	140 (7960)	148 (8420)

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

	1500 rpm	**1800 rpm**
Prime Power	575 (1065)	525 (975)
Standby Power	605 (1120)	575 (1070)

Max allowable back-pressure in exhaust line, kPa (In wc)	**1500 rpm** 5 (20.1)	**1800 rpm** 7 (28.1)
Exhaust gas flow, m^3/min (cfm)	**1500 rpm**	**1800 rpm**
Prime power	26.1 (722)	27.5 (971)
Maximum Standby Power	28.5 (1006)	32.5 (1148)

Cooling system

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

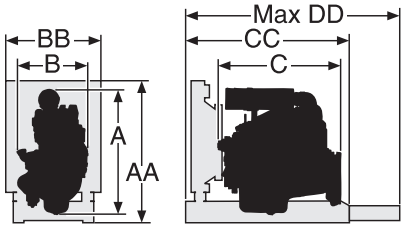
	1500 rpm	**1800 rpm**
Prime Power	10 (569)	11 (626)
Standby Power	13 (739)	14 (796)

Heat rejection to coolant kW (BTU/min)

	1500 rpm	**1800 rpm**
Prime Power	93 (5290)	95 (5400)
Maximum Standby Power	106 (6030)	112 (6370)

Fan power consumption	
kW (hp) 1500 rpm	2 (3)
kW (hp) 1800 rpm	3 (4)

Standard equipment	**Engine**	**Gen Pac**
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 and rear 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	–	•
Injection pump, Bosch, with RSV centrifugal governor	•	•
Pump coupling guard	•	•
Intake and exhaust system		
Air filter of disposable type	•	•
Air restriction indicator	•	•
Air cooled exhaust manifold	•	•
Connecting flange for exhaust line	•	•
Turbo charger	•	•
Crankcase ventilation	•	•
Cooling system		
Tropical radiator	–	•
Radiator guard	–	•
Gear driven coolant pump	•	•
Fan hub	•	•
Thrust fan	–	•
Fan guard	–	•
Belt guard	–	•
Control system		
Manual speed control	•	•
Electrical stop, energized to run	•	•
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 switches for automatic stop/alarm 103°C	–	•
Other equipment		
Expandable base frame	–	•
Engine Packing		
Plastic wrapping	•	•



mm / in

A = 1292 / 50.9	AA = 1410 / 55.5
B = 760 / 29.9	BB = 1001 / 39.4
C = 1265 / 49.8	CC = 1632 / 64.3
	DD = 2616 / 103.0

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 (G3 with electronic speed governor)

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. A10 % overload capability for govering 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.

Information

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

VOLVO PENTA

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