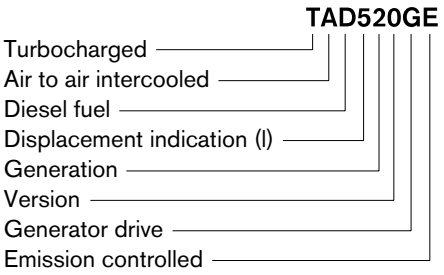
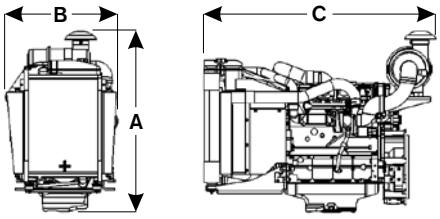
VOLVO PENTA GENSET ENGINE

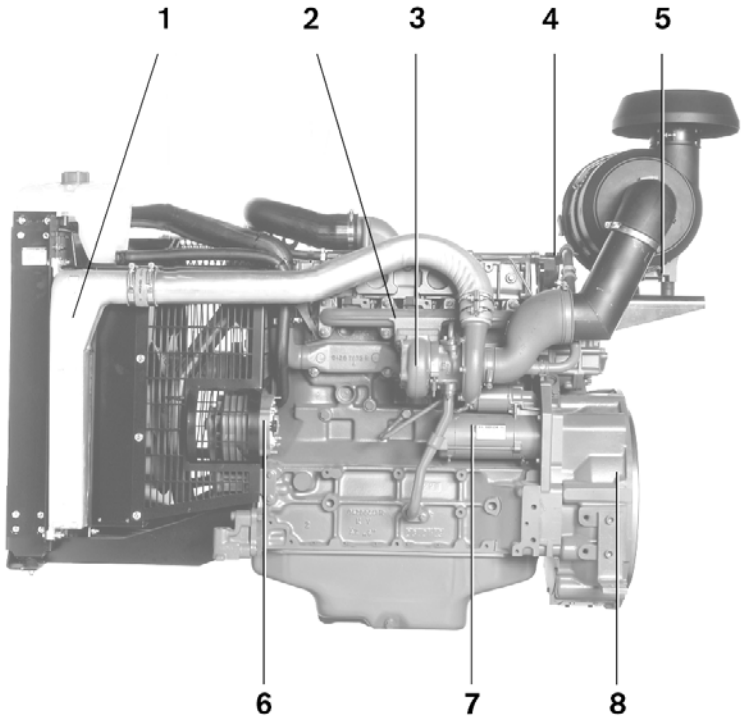
TAD520GE

1500 rpm, 102 kW (139 hp) – 1800 rpm 110 kW (150 hp)

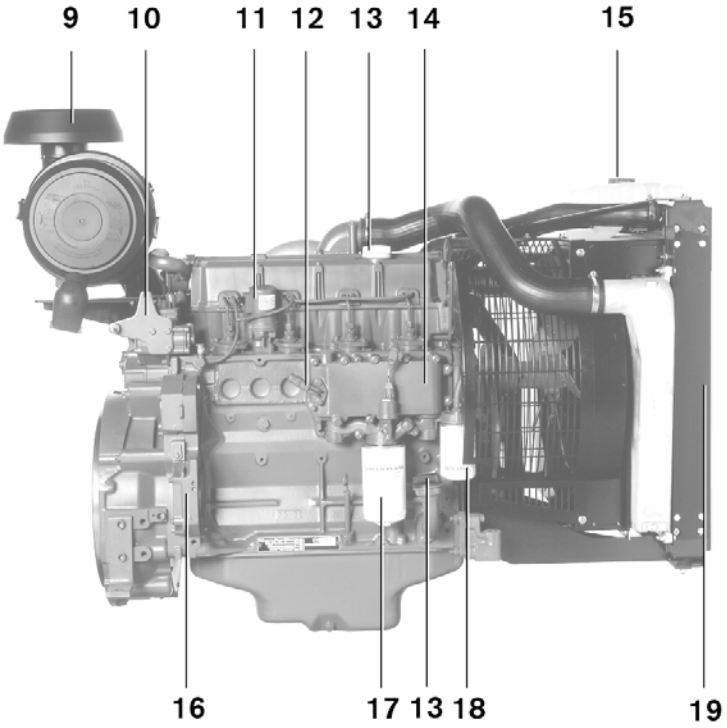




mm / in
A = 1171 / 46.1
B = 732 / 28.8
C = 1514 / 59.6



1. Charged air to cooler
2. Exhaust manifold
3. Turbocharger
4. Closed loop crank case breather system
5. Air restriction indicator
6. Alternator
7. Starter motor
8. Flywheel housing SAE 3 at 1500 rpm (SAE 2 at 1800 rpm)
9. Air filter
10. Speed governor
11. Stop solenoid
12. Coolant heater (option)
13. Oil filling
14. Oil cooler
15. Exp. tank with filler cap
16. Engine transmission with PTO
17. Oil filter
18. Fuel filter
19. Radiator



VOLVO PENTA

TAD520GE

Volvo Penta reserves the right to make changes at any time, without notice, as to technical data, prices, materials, standard equipment,specifications and models, and to discontinue models. The engine illustrated may not be entirely identical to production standard engines.

Technical Data

General

In-line four-stroke diesel engine with direct injection
Turbocharged and air to air intercooled
Rotation direction, anti-clockwise viewed towards flywheel

Dry weight, kg / lb	Engine incl. cooling system	575 / 1268 SAE 3 (1500 rpm)
Wet weight, kg / lb	Engine incl. cooling system	606 / 1336 SAE 3 (1500 rpm)
Extra weight, kg / lb	With SAE 2 (1800 rpm)	36 / 80

Number of cylinders	4
Displacement, total	4.76 liter / 290 in^3
Firing order	1-3-4-2
Bore	108 mm / 4.25 in
Stroke	130 mm / 5.12 in
Compression ratio	17.5:1

TAD520GE	Speed, rpm	1500	1800
Performance			
Prime Power without fan	kW / hp	94.0 / 127.8	101.0 / 137.3
Standby Power without fan	kW / hp	102.0 / 139.0	110.0 / 150.0
Fan power consumption			
Standard cooling system	kW / hp	4.2 / 5.7	7.3 / 9.9
Tropical cooling system	kW / hp	6.4 / 8.7	8.8 / 12.0
Mean piston speed	m/s / ft/sec	6.5 / 21.3	7.8 / 25.6
Effective mean pressure at Standby Power	MPa / psi	1.7 / 246	1.5 / 218
Max combustion pressure at Prime Power	MPa / psi	12.9 / 1871	12.8 / 1856
Total mass moment of inertia, J (mR^2)	kgm / $lbft^2$	1.43 / 33.8	
Lubrication system			
Lubricating oil consumption at Standby Power	liter/h / US gal/h	0.08 / 0.02	0.08 / 0.02
Approx 0.3% of fuel consumption			
Oil system capacity including filters	liter / US gal	13 / 3.4	
Fuel system			
Specific fuel consumption at			
50% of Prime Power	g/kWh / lb/hph	212 / 0.343	215 / 0.348
75% of Prime Power	g/kWh / lb/hph	206 / 0.334	205 / 0.332
100% of Prime Power	g/kWh / lb/hph	206 / 0.334	205 / 0.332
Intake and exhaust system			
Air consumption at Standby Power (at 25 °C)	m^3/h / cu.ft./h	346 / 12219	436 / 15397
Max allowable air intake restriction	kPa / In wc	3 / 12	
Heat rejection to exhaust at Standby Power	kW / BTU/min	72.7 / 4134	81.7 / 4646
Exhaust gas temperature after turbine at Standby Power	°C / °F	520 / 968	448 / 838
Max allowable back-pressure in exhaust line	kPa / In wc	5 / 20	7 / 28
Exhaust gas flow at Standby Power	m^3/min / CFm	16.2 / 572	19.8 / 699
Cooling system			
Heat rejection radiation from engine			
at Standby Power	kW / BTU/min	12.2 / 694	13.2 / 751
Heat rejection to coolant			
at Standby Power	kW / BTU/min	51.4 / 2923	56.8 / 3230
Fan power consumption			
standard cooling system	kW / hp	4.2 / 5.7	7.3 / 9.9
tropical cooling system	kW / hp	6.4 / 8.7	8.8 / 12.0

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)

Exhaust emissions.
The engine exhaust emissions complies with EPA, CARB and TA-luft 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. A10 % overload capability 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.

VOLVO PENTA

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