

VOLVO PENTA GENSET ENGINE

TAD530GE

1500 rpm, 89 kW (121 hp) – 1800 rpm 95 kW (129 hp)

The TAD530GE is a powerful, reliable and economical Generating Set Diesel Engine.

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 TAD530GE is certified for EU Stage 2 exhaust emission regulations.

Easy service & maintenance

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

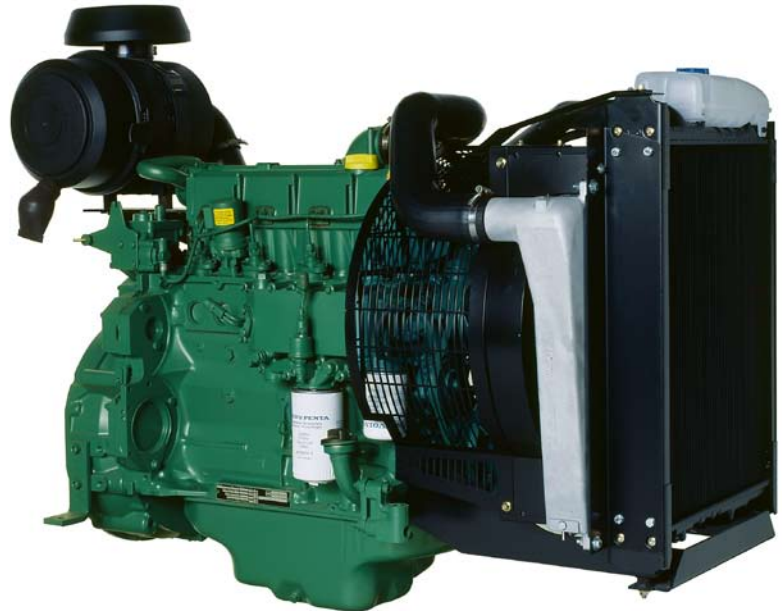
Technical description

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 big-end 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
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted



Features

- Mechanical or electronic governor with 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

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
- 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
- Fan hub
- Fan on separate bracket 292mm above crankshaft

Electrical system

- 12 V electrical system
- Alternator 1x55A / 12V, low left
- Starter motor, 3.1 kW / 12 V, single pole
- 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

**VOLVO
PENTA**

TAD530GE

Technical Data

General

Engine designation	TAD530GE	
No. of cylinders and configuration.....	in-line 4	
Method of operation	4-stroke	
Bore, mm (in.).....	108 (4.25)	
Stroke, mm (in.).....	130 (5.12)	
Displacement, l (in ³).....	4.76 (290)	
Compression ratio.....	18:1	
Dry weight, kg (lb).....	575 (1268)	
Wet weight, kg (lb).....	606 (1336)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	74 (101)	75 (102)
Standby Power	83 (113)	85 (115)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.08 (0.021)
Standby Power	0.08 (0.021)	0.08 (0.021)
Oil system capacity incl filters, liter	13	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	276 (0.447)	302 (0.490)
50 %	231 (0.374)	240 (0.389)
75 %	219 (0.355)	223 (0.361)
100 %	217 (0.352)	219 (0.355)
Standby Power, g/kWh (lb/hph)		
25 %	263 (0.426)	286 (0.464)
50 %	226 (0.366)	235 (0.381)
75 %	218 (0.353)	222 (0.360)
100 %	218 (0.353)	219 (0.355)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	5.12 (181)	6.5 (230)
Standby Power	5.54 (196)	7.0 (247)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	66 (3753)	69 (3924)
Standby Power	75 (4265)	75 (4265)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	527 (981)	484 (903)
Standby Power	540 (1004)	496 (925)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	14.9 (524)	17.4 (615)
Standby Power	16.3 (575)	19.2 (678)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	8 (455)	9 (512)
Standby Power	9 (512)	10 (569)
Heat rejection to coolant kW (BTU/min)		
Prime Power	43 (5445)	48 (2730)
Standby Power	48 (2730)	52 (2957)
Fan power consumption, kW (hp)	5.9 (8)	10.2 (14)

Standard equipment

Engine

Automatic belt tensioner •

Lift eyelets •

Flywheel

Flywheel housing SAE 3 •

Flywheel 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

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 •

Cooling system

Tropical radiator incl intercooler –1)

Gear driven coolant pump •

Fan hub •

Pusher fan –1)

Fan guard –1)

Belt guard –1)

Control system

Engine Diesel Control 4 (EDC4) with CAN-bus interface SAE J1939 and stand alone interface –

Alternator

Alternator 55 A / 12 V •

Starting system

Starter motor, 3.1kW, 12 V •

Instruments and senders

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

Engine Packing

Plastic wrapping •

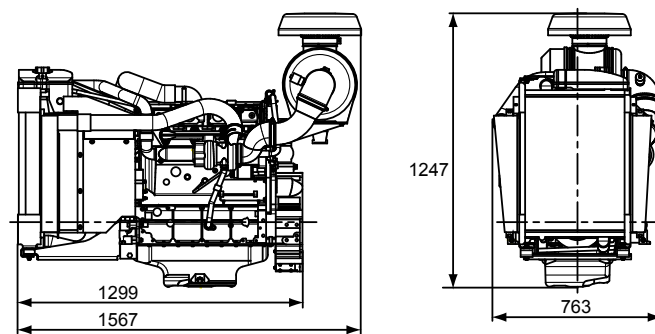
1) must be ordered, see order specification

– optional equipment or not applicable

• included in standard specification

Dimensions TAD530GE

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% at 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 2 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta

SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA GENSET ENGINE

TAD531GE

NEW!

1500 rpm, 102 kW (139 hp) – 1800 rpm 111 kW (151 hp)

The TAD531GE is a powerful, reliable and economical Generating Set Diesel Engine.

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 TAD531GE is certified for EU Stage 2 exhaust emission regulations.

Easy service & maintenance

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

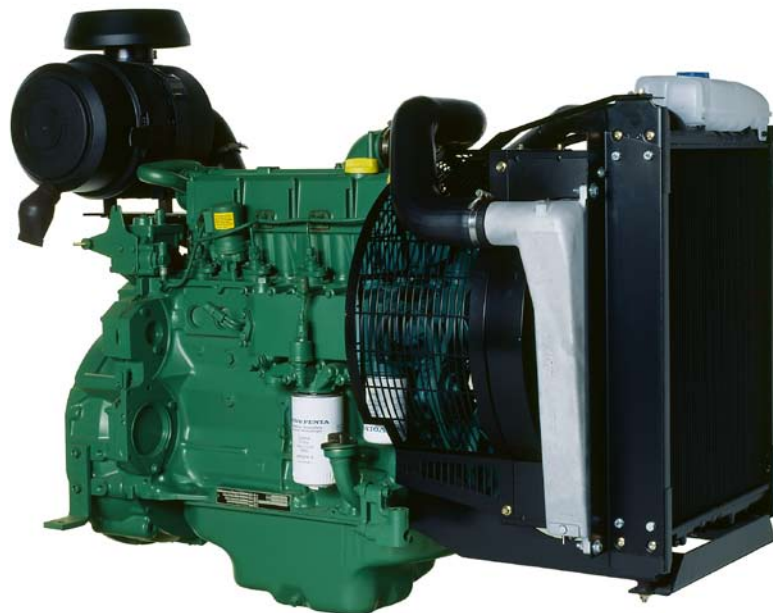
Technical description

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 big-end 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
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted



Features

- Mechanical or electronic governor with 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

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
- 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
- Fan hub
- Fan on separate bracket 292mm above crankshaft

Electrical system

- 12 V electrical system
- Alternator 1x55A / 12V, low left
- Starter motor, 3.1kW / 12 V, single pole
- 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

**VOLVO
PENTA**

TAD531GE

Technical Data

General

Engine designation	TAD531GE	
No. of cylinders and configuration	in-line 4	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	4.76 (290)	
Compression ratio	18:1	
Dry weight, kg (lb)	575 (1268)	
Wet weight, kg (lb)	606 (1336)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	86 (117)	90 (122)
Standby Power	96 (131)	101 (137)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.08 (0.021)
Standby Power	0.08 (0.021)	0.08 (0.021)
Oil system capacity incl filters, liter	13	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	259 (0.419)	277 (0.449)
50 %	225 (0.365)	232 (0.376)
75 %	218 (0.353)	221 (0.358)
100 %	218 (0.353)	218 (0.353)
Standby Power, g/kWh (lb/hph)		
25 %	244 (0.396)	259 (0.420)
50 %	221 (0.358)	226 (0.366)
75 %	217 (0.351)	219 (0.355)
100 %	219 (0.355)	218 (0.353)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	5.7 (201)	7.24 (256)
Standby Power	6.09 (215)	7.75 (274)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	78 (4436)	83 (4720)
Standby Power	88 (5004)	92 (5232)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	544 (1011)	518 (964)
Standby Power	557 (1035)	516 (961)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	16.7 (589)	19.9 (704)
Standby Power	18.4 (650)	22.1 (781)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	9 (522)	10 (568)
Standby Power	10 (580)	11 (631)
Heat rejection to coolant kW (BTU/min)		
Prime Power	47.4 (2696)	48.0 (2730)
Standby Power	52.5 (2986)	53.3 (3031)
Fan power consumption, kW (hp)	5.9 (8)	10.2 (14)

Standard equipment

Engine

- Automatic belt tensioner •
- Lift eyelets •

Flywheel

- Flywheel housing SAE 3 •
- Flywheel 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

- 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 •

Cooling system

- Tropical radiator incl intercooler -1)
- Gear driven coolant pump •
- Fan hub •
- Pusher fan -1)
- Fan guard -1)
- Belt guard -1)

Control system

- Engine Diesel Control 4 (EDC4) with CAN-bus interface SAE J1939 and stand alone interface -

Alternator

- Alternator 55 A / 12 V •

Starting system

- Starter motor, 3.1kW, 12 V •
- Connection facility for extra starter motor •

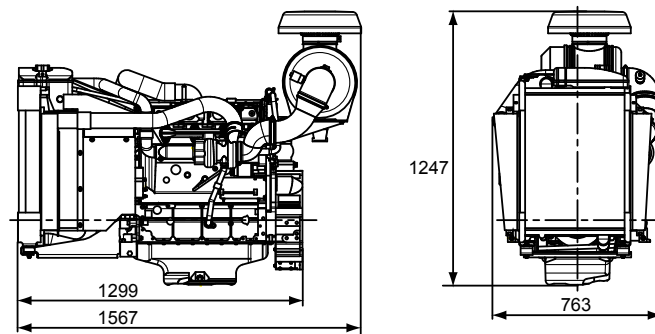
Instruments and senders

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

Engine Packing

- Plastic wrapping •

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 - optional equipment or not applicable
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Power Standards

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

Exhaust emissions

The engine complies with Tier 2 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. A10 % 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

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VOLVO PENTA GENSET ENGINE

TAD532GE

NEW!

1500 rpm, 127 kW (172 hp) – 1800 rpm 132 kW (179 hp)

The TAD532GE is a powerful, reliable and economical Generating Set Diesel Engine.

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.

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The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

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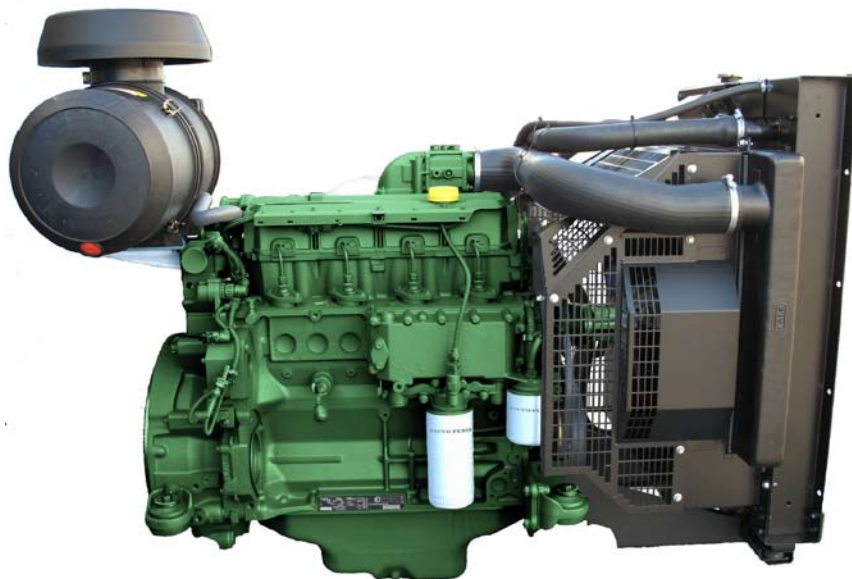
Technical description

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 big-end 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
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted



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

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
- 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
- Fan hub
- Cooling package

Electrical system

- 12 V electrical system
- Alternator 55A / 12V, low left
- Starter motor, 3.1 kW / 12V, single pole
- 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

**VOLVO
PENTA**

TAD532GE

Technical Data

General

Engine designation	TAD532GE	
No. of cylinders and configuration	in-line 4	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	4.76 (290)	
Compression ratio	17.5:1	
Dry weight, kg (lb)	575 (1268)	
Wet weight, kg (lb)	606 (1336)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	114 (154)	118 (161)
Standby Power	127 (172)	132 (179)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.08 (0.021)
Standby Power	0.08 (0.021)	0.08 (0.021)
Oil system capacity incl filters, liter	13	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	239 (0.388)	261 (0.423)
50 %	213 (0.345)	224 (0.364)
75 %	210 (0.340)	218 (0.353)
100 %	214 (0.346)	222 (0.359)
Standby Power, g/kWh (lb/hph)		
25 %	228 (0.370)	243 (0.393)
50 %	210 (0.340)	218 (0.354)
75 %	209 (0.339)	218 (0.354)
100 %	216 (0.350)	225 (0.365)

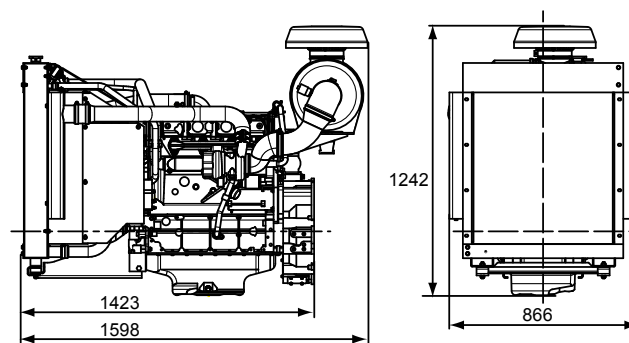
Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	7.55 (267)	9.0 (318)
Standby Power	8.03 (284)	9.6 (339)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	90 (5118)	99 (5630)
Standby Power	104 (5914)	116 (6597)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	507 (945)	484 (904)
Standby Power	532 (990)	528 (983)
Max allowable back-pressure in exhaust line, kPa (In wc) at:		
Prime power	5 (20.1)	7 (28.1)
Standby Power	3 (12.0)	3 (12.0)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	21.2 (749)	24.3 (857)
Standby Power	23.2 (818)	27.6 (973)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	12 (683)	13 (739)
Standby Power	13 (739)	14 (797)
Heat rejection to coolant kW (BTU/min)		
Prime Power	56 (3207)	61 (3475)
Standby Power	63 (3566)	68 (3873)
Fan power consumption, kW (hp)	3.8 (5)	6.6 (9)

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	
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	•
Cooling system	
Tropical 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 55A / 12 V	•
Starting system	
Starter motor, 3.1 kW, 12 V	•
Connection facility for extra starter motor	•
Instruments and senders	
Temp.- and oil pressure for automatic stop/alarm 103°C	•
Engine Packing	
Plastic wrapping	•

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

Exhaust emissions

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

Rating Guidelines

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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

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VOLVO PENTA

AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD730GE

124 kW (169 hp) at 1500 rpm, 127 kW (173 hp) at 1800 rpm

NEW!

The TAD730GE 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 TAD730GE 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.

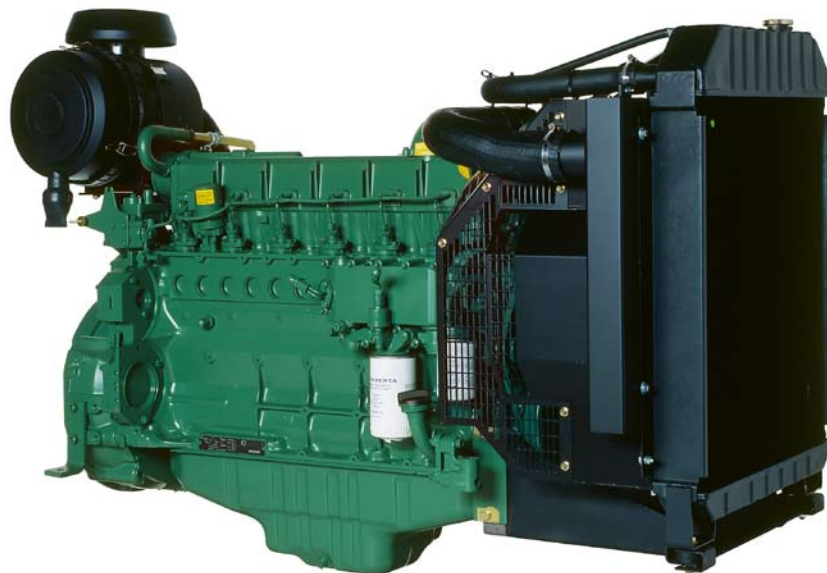
Technical description

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 big-end 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

- Mechanical or electronic governor with 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
- 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 con-

trol 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
- Suction fan Ø 600 mm

Electrical system

- 12 V electrical system
- Alternator 1x55A / 12 V, low left
- Starter motor, 3.1 kW / 12V, single pole
- 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

**VOLVO
PENTA**

TAD730GE

Technical Data

General

Engine designation	TAD730GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436)	
Compression ratio	18:1	
Dry weight, kg (lb)	760 (1676)	
Wet weight, kg (lb)	804 (1773)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	111 (151)	113 (154)
Standby Power	124 (169)	127 (173)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.10 (0.026)	0.10 (0.026)
Max Standby Power	0.10 (0.026)	0.10 (0.026)
Oil system capacity incl filters, liter	20	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	280 (0.454)	310 (0.502)
50 %	231 (0.374)	242 (0.392)
75 %	218 (0.354)	223 (0.361)
100 %	215 (0.348)	218 (0.353)
Standby Power, g/kWh (lb/hph)		
25 %	268 (0.434)	293 (0.474)
50 %	227 (0.368)	236 (0.383)
75 %	217 (0.352)	221 (0.358)
100 %	215 (0.348)	217 (0.352)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	8.7 (307)	10.85 (383)
Standby Power	9.4 (332)	11.64 (411)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	99 (5630)	100 (5687)
Standby Power	111 (6312)	112 (6369)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	497 (927)	448 (839)
Standby Power	510 (950)	461 (861)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	23.5 (830)	26.9 (949)
Standby Power	25.6 (905)	29.3 (1034)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	13 (740)	14 (797)
Standby Power	13 (740)	14 (797)
Heat rejection to coolant kW (BTU/min)		
Prime Power	53 (3003)	58 (3270)
Max Standby Power	59 (3338)	64 (3634)
Fan power consumption, kW (hp)	5 (7)	8.7 (12)

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

- 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 •
- Cooling system**
- Tropical radiator incl intercooler -1)
- Gear driven coolant pump •
- Fan hub •
- Thrust 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 55 A / 12 V •

Starting system

- Starter motor, 3.1 kW, 12 V •
- Connection facility for extra starter motor •

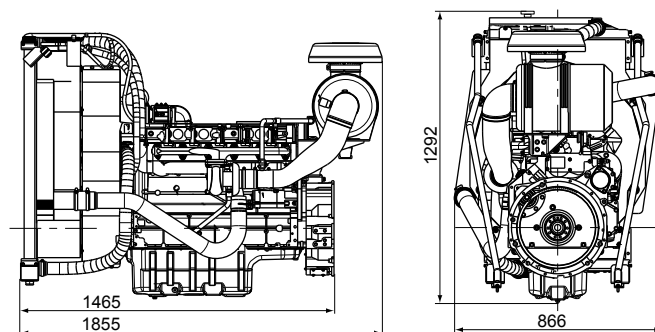
Instruments and senders

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

Engine Packing

- Plastic wrapping •

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



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% at 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 2 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. A10 % 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.



AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD731GE

148 kW (201 hp) at 1500 rpm, 154 kW (210 hp) at 1800 rpm

NEW!

The TAD731GE 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 TAD731GE 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 big-end 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

- 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
- Heater flange in charge air inlet (without power relay)

Cooling system

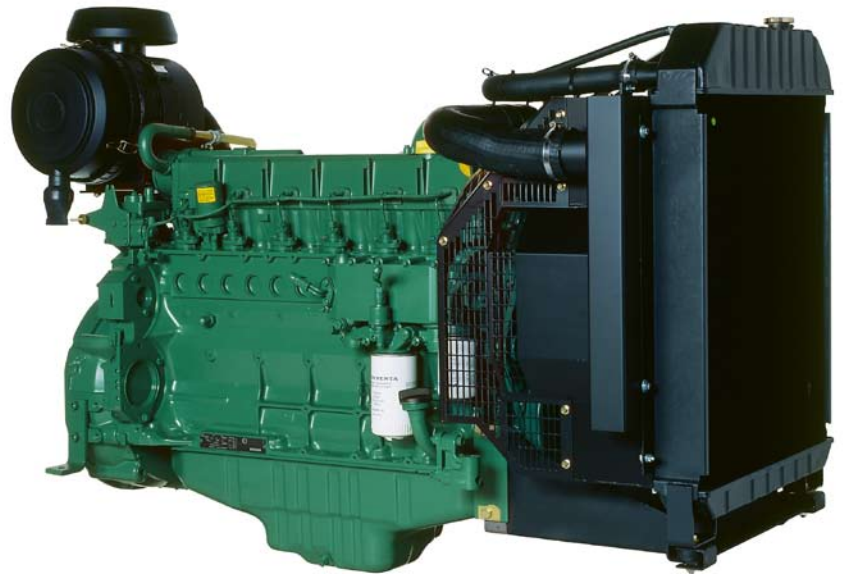
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant con-

trol 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
- Suction fan Ø 600 mm

Electrical system

- 12 V electrical system
- Alternator 1x55A / 12 V, low left
- Starter motor, 3.1 kW / 12V, single pole
- 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



Features

- Mechanical or electronic governor with 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

**VOLVO
PENTA**

TAD731GE

Technical Data

General

Engine designation	TAD731GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436)	
Compression ratio	18:1	
Dry weight, kg (lb)	760 (1676)	
Wet weight, kg (lb)	804 (1773)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	133 (180)	138 (188)
Standby Power	148 (201)	154 (210)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.10 (0.026)	0.10 (0.026)
Max Standby Power	0.10 (0.026)	0.10 (0.026)
Oil system capacity incl filters, liter	20	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	259 (0.42)	279 (0.45)
50 %	224 (0.36)	231 (0.37)
75 %	216 (0.35)	220 (0.36)
100 %	215 (0.35)	217 (0.35)
Standby Power, g/kWh (lb/hph)		
25 %	244 (0.40)	259 (0.42)
50 %	219 (0.36)	224 (0.36)
75 %	215 (0.35)	218 (0.35)
100 %	215 (0.35)	217 (0.35)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	9.86 (348)	12.26 (433)
Standby Power	10.65 (376)	13.33 (471)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	117 (6654)	121 (6881)
Standby Power	131 (7450)	135 (7677)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	520 (968)	471 (879)
Standby Power	540 (1004)	480 (896)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	27.5 (971)	31.3 (1105)
Standby Power	30.2 (1065)	34.2 (1208)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	14 (796)	15 (853)
Standby Power	15 (853)	16 (910)
Heat rejection to coolant kW (BTU/min)		
Prime Power	62 (3509)	66 (3770)
Max Standby Power	68 (3890)	74 (4180)
Fan power consumption, kW (hp)	5 (7)	8.7 (12)

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

- 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 •
- Cooling system
- Tropical radiator incl intercooler -1)
- Gear driven coolant pump •
- Fan hub •
- Thrust 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 55 A / 12 V •

Starting system

- Starter motor, 3.1 kW, 12 V •
- Connection facility for extra starter motor •

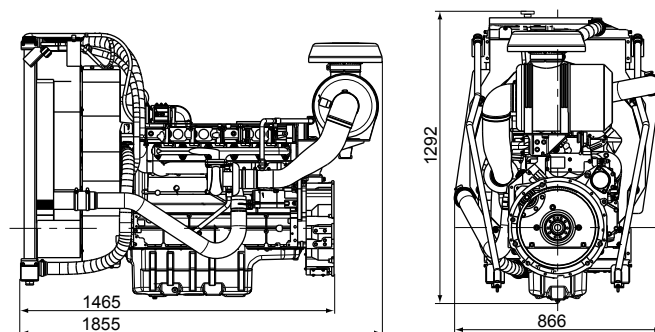
Instruments and senders

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

Engine Packing

- Plastic wrapping •

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



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% at 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 2 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD732GE

179 kW (243 hp) at 1500 rpm, 197 kW (268 hp) at 1800 rpm

NEW!

The TAD732GE 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 TAD732GE 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 big-end 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

- 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
- 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 con-

trol 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 1x55A / 24V, low left
- Starter motor, Melco, 5.5kW / 24V, single pole
- 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



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

**VOLVO
PENTA**

TAD732GE

Technical Data

General

Engine designation	TAD732GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436.3)	
Compression ratio	18:1	
Dry weight, with cooling package, kg (lb)	785 (1731)	
Wet weight, with cooling package, kg (lb)	826 (1821)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	160 (218)	176 (240)
Max Standby Power	179 (243)	197 (268)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.09 (0.024)
Max Standby Power	0.09 (0.024)	0.11 (0.029)
Oil system capacity incl filters, liter	34	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	270 (0.438)	260 (0.422)
50 %	219 (0.354)	225 (0.364)
75 %	213 (0.345)	217 (0.352)
100 %	213 (0.345)	218 (0.354)
Max Standby Power, g/kWh (lb/hph)		
25 %	234 (0.379)	244 (0.395)
50 %	215 (0.348)	220 (0.356)
75 %	212 (0.344)	216 (0.350)
100 %	214 (0.347)	220 (0.356)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	11.4 (403)	14.42 (509)
Max Standby Power	12.4 (438)	14.42 (509)
Max allowable air intake restriction, kPa (In wc)	3.5 (14.1)	3.5 (14.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	140 (7945)	161 (9173)
Max Standby Power	156 (8872)	181 (10310)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	529 (984)	495 (923)
Max Standby Power	542 (1008)	515 (959)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	31.9 (1125)	38.3 (1353)
Max Standby Power	35.1 (1240)	41.8 (1476)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	17 (972)	20 (1109)
Max Standby Power	19 (1086)	22 (1245)
Heat rejection to coolant kW (BTU/min)		
Prime Power	70 (3981)	76 (4316)
Max Standby Power	76 (4328)	84 (4749)
Fan power consumption, kW (hp)	4.4 (6)	7.4 (10)

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

- 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

- Tropical radiator incl intercooler -1)
- Gear driven coolant pump
- Fan hub
- Thrust 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 60A / 24 V

Starting system

- Starter motor, 5.5kW, 24 V
- Connection facility for extra starter motor

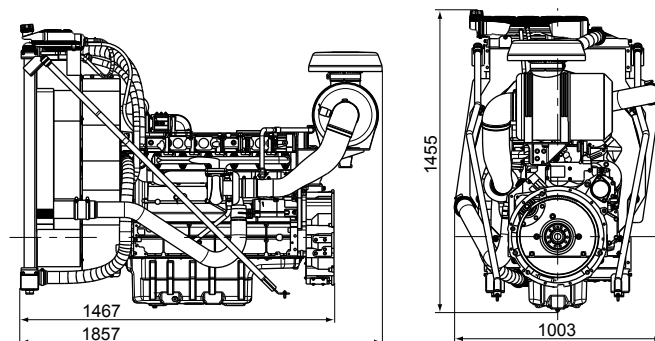
Instruments and senders

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

Engine Packing

- Plastic wrapping

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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

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 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.

VOLVO PENTA

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 SE-405 08 Göteborg, Sweden
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VOLVO PENTA INDUSTRIAL DIESEL

TAD733GE

197 kW (268 hp) at 1500 rpm, 218 kW (296 hp) at 1800 rpm

NEW!

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 big-end 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

- 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
- 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 con-

trol 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 1x55A / 24V, low left
- Starter motor, Melco, 5.5kW / 24V, single pole
- 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



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

**VOLVO
PENTA**

TAD733GE

Technical Data

General

Engine designation	TAD733GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436.3)	
Compression ratio	18.1:1	
Dry weight, with cooling package, kg (lb)	785 (1731)	
Wet weight, with cooling package, kg (lb)	826 (1821)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	177 (240)	195 (265)
Max Standby Power	197 (267)	218 (296)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.09 (0.024)
Max Standby Power	0.09 (0.024)	0.11 (0.029)
Oil system capacity incl filters, liter	34	

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)
Max 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, m ³ /min (cfm):		
Prime Power	11.5 (406)	14.2 (501)
Max Standby Power	12.43 (439)	15.76 (557)
Max allowable air intake restriction, kPa (In wc)	2.5 (10)	2.5 (10)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	136 (7734)	165 (9383)
Max Standby Power	155 (8786)	193 (10976)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	510 (950)	509 (948)
Max Standby Power	530 (986)	530 (986)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	31.8 (1123)	40.4 (1428)
Max 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)
Max Standby Power	21 (1206)	25 (1422)
Heat rejection to coolant kW (BTU/min)		
Prime Power	97 (5516)	100 (5687)
Max Standby Power	76 (4328)	119 (6739)
Fan power consumption, kW (hp)	4.4 (6)	7.4 (10)

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

- 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**
- Tropical radiator incl intercooler -1)
- Gear driven coolant pump •
- Fan hub •
- Thrust 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 60A / 24 V •

Starting system

- Starter motor, 5.5kW, 24 V •
- Connection facility for extra starter motor •

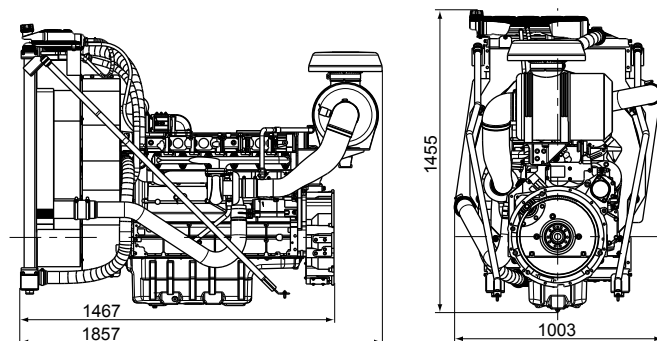
Instruments and senders

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

Engine Packing

- Plastic wrapping •

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



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% at 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 EU stage 2 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. A10 % 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.



AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD733GE

197 kW (268 hp) at 1500 rpm, 218 kW (296 hp) at 1800 rpm

NEW!

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 big-end 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

- 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
- 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 con-

trol 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
- Suction fan Ø 600 mm

Electrical system

- 24V electrical system
- Alternator 1x55A / 24V, low left
- Starter motor, Melco, 5.5kW / 24V, single pole
- 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



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

**VOLVO
PENTA**

TAD733GE

Technical Data

General

Engine designation	TAD733GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436.3)	
Compression ratio	18.1:1	
Dry weight, with cooling package, kg (lb)	785 (1731)	
Wet weight, with cooling package, kg (lb)	826 (1821)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	177 (240)	195 (265)
Max Standby Power	197 (267)	218 (296)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.09 (0.024)
Max Standby Power	0.09 (0.024)	0.11 (0.029)
Oil system capacity incl filters, liter	34	

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)
Max 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, m ³ /min (cfm):		
Prime Power	11.5 (406)	14.2 (501)
Max Standby Power	12.43 (439)	15.76 (557)
Max allowable air intake restriction, kPa (In wc)	2.5 (10)	2.5 (10)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	136 (7734)	165 (9383)
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Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	510 (950)	509 (948)
Max Standby Power	530 (986)	530 (986)
Max allowable back-pressure in exhaust line, kPa (In wc)	5 (20.1)	7 (28.1)
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Prime power	31.8 (1123)	40.4 (1428)
Max Standby Power	37.2 (1314)	44.4 (1569)

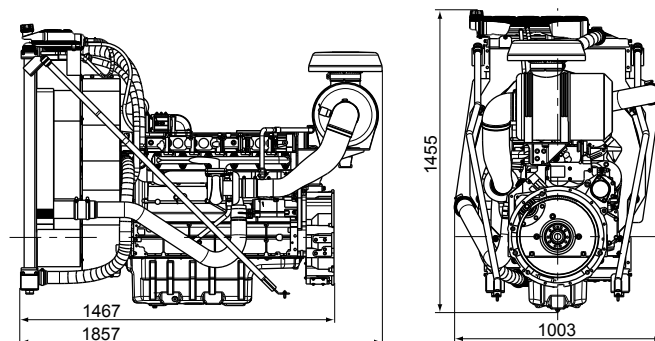
Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	19 (1081)	22 (1251)
Max Standby Power	21 (1206)	25 (1422)
Heat rejection to coolant kW (BTU/min)		
Prime Power	97 (5516)	100 (5687)
Max Standby Power	76 (4328)	119 (6739)
Fan power consumption, kW (hp)	4.4 (6)	7.4 (10)

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**
- 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**
- Tropical radiator incl intercooler -1)
- Gear driven coolant pump
- Fan hub
- Thrust 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 60A / 24 V
- Starting system**
- Starter motor, 5.5kW, 24 V
- Connection facility for extra starter motor
- Instruments and senders**
- Temp.- and oil pressure for automatic stop/alarm 103°C
- Engine Packing**
- Plastic wrapping

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



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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% at 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 EU stage 2 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD734GE

250kW (340 hp) at 1500 rpm, 263 kW (358 hp) at 1800 rpm

NEW!

The TAD734GE 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 TAD734GE complies with EU Stage 2 exhaust emission regulations.

Easy service & maintenance

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

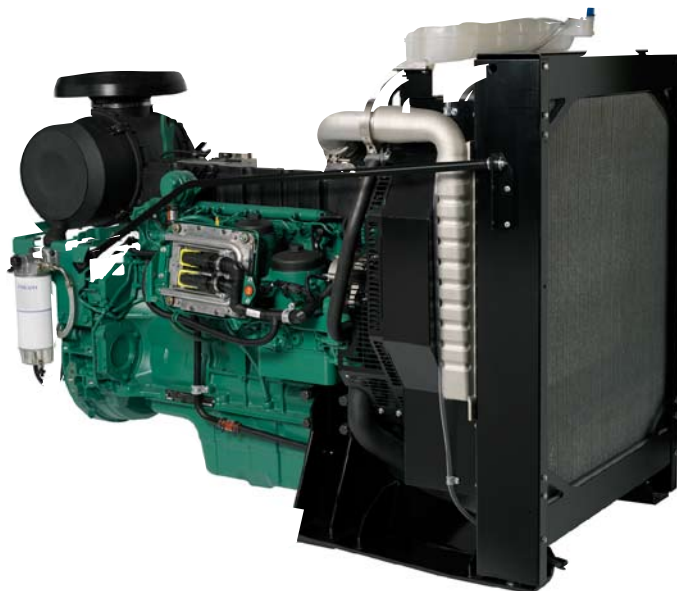
Technical description

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 big-end 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 flexplate
- Fixed integrated radiator front engine suspension
- Transport brackets, rear

Lubrication system

- Full flow cartridge insert filter
- Rotary displacement oil pump driven by the crankshaft
- Deep front oil sump
- Oil filler on top
- Oil dipstick, short in front
- Integrated full flow oil cooler, side-mounted



Features

- Electronic governing, EMS2
- CAN bus communication
- Compact design for the power class
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- Dual speed

Fuel system

- Common rail
- Gear driven fuel feed pump
- Six hole fuel injection nozzles
- Electronic governor
- Fuel prefilter with water separator
- Fine fuel filter of cartridge insert type

Intake and exhaust system

- Connection flange for exhaust line
- Waste gate turbo charger, centre low with exhaust flange
- Two-stage air filter, with cyclon
- Heater flange in charge air inlet (with 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

- Pusher fan

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 Display 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, boost pressure, boost temp, exhaust temp, coolant temp, water in fuel, fuel pressure and two speed sensors.

**VOLVO
PENTA**

TAD734GE

Technical Data

General

Engine designation	TAD734GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	108 (4.25)	
Stroke, mm (in.)	130 (5.12)	
Displacement, l (in ³)	7.15 (436.0)	
Compression ratio	17:1	
Dry weight, excl. cooling system, kg (lb)	764 (1684)	
Wet weight, excl. cooling system, kg (lb)	788 (1737)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	216 (293)	220 (299)
Max Standby Power	241 (327)	247 (336)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.01 (0.003)	0.01 (0.003)
Max Standby Power	0.01 (0.003)	0.01 (0.003)
Oil system capacity incl filters, liter	29	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	244 (0.396)	257 (0.417)
50 %	233 (0.378)	237 (0.384)
75 %	217 (0.352)	222 (0.360)
100 %	204 (0.331)	205 (0.332)
Max Standby Power, g/kWh (lb/hph)		
25 %	247 (0.400)	259 (0.420)
50 %	235 (0.381)	239 (0.387)
75 %	217 (0.352)	225 (0.365)
100 %	205 (0.332)	207 (0.336)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption at 27°C, m ³ /min (cfm):		
Prime Power	16.1 (569)	18.3 (646)
Max Standby Power	16.3 (576)	18.9 (667)
Max allowable air intake restriction, kPa (In wc)	3.0 (12.0)	3.0 (12.0)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	160 (9099)	174 (9895)
Max Standby Power	177 (10066)	189 (10748)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	495 (923)	475 (887)
Max Standby Power	550 (1022)	510 (950)
Max allowable back-pressure in exhaust line, kPa (In wc)	10 (40.2)	10 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	33.0 (1165)	36.7 (1296)
Max Standby Power	33.4 (1180)	37.9 (1338)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min)		
Prime Power	24 (1365)	25 (1422)
Max Standby Power	26 (1479)	28 (1592)
Heat rejection to coolant kW (BTU/min)		
Prime Power	111 (6312)	118 (6711)
Max Standby Power	122 (6955)	130 (7393)
Fan power consumption, kW (hp)	9.2 (13)	15.8 (21)

Standard equipment

Engine

- Automatic belt tensioner
- Lift eyelets

Flywheel

- Flywheel housing with conn. acc. to SAE 2
- Flywheel 10" and 11.5" disc
- Vibration damper

Engine suspension

- Fixed integrated radiator front engine suspension

Lubrication system

- Oil dipstick
- Full-flow oil filter of cartridge type
- Oil cooler, side mounted

Fuel system

- Common rail
- Fuel filters of cartridge type
- Pre-filter with water separator

Intake and exhaust system

- Two-stage air filter with cyclon
- Connecting flange for exhaust pipe
- Turbo charger, low left side

Cooling system

- Tropical radiator incl intercooler
- Belt driven coolant pump
- Fan hub
- Pusher fan
- Fan guard
- Belt guard

Control system

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

Alternator

- Alternator 80A / 24 V

Starting system

- Starter motor, 5.0kW, 24 V
- Connection facility for extra starter motor

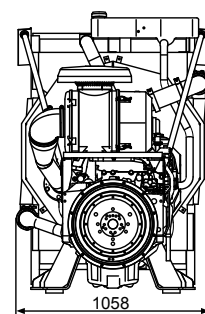
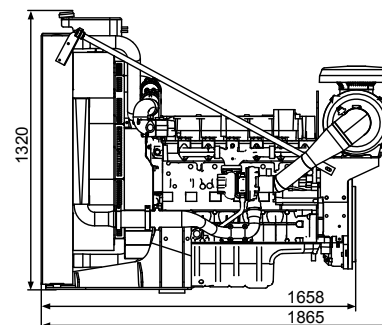
Instruments and senders

- Temp.- and oil pressure for automatic stop/alarm

Engine Packing

- Plastic wrapping

- ¹⁾ must be ordered, see order specification
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Engine speed governing in accordance with ISO 3046/IV, class A1 and ISO 8528-5 class G3

Exhaust emissions

The engine complies with Tier 2 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD940GE

265 kW (355 bhp) at 1500 rpm, 273 kW (366 bhp) at 1800 rpm, acc. to ISO 3046

The TAD940GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo 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, featured with high torque.

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.

Operational economy and Low exhaust emission

The state of the art, high-tech injection and air charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD940GE 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 without the block being unnecessary heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low thermal load on pistons and reduced ring temperature
- Tapered connecting rods to reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven main bearings for moderate load on main and big-end bearings
- Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder equipped with camshaft damper to reduce noise and vibrations.

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filters, for extra high filtration
- The lubricating oil level can be measured during operation (Standard dipstick only)
- Gear type lubricating oil pump, gear driven by the transmission

Fuel system

- Non-return fuel valve
- Electronic Unit Injectors
- Fuel pre-filter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fuel pressure switch
- Self de-aerating system. When replacing filters all fuel stays in the engine.

Turbo charger

- Efficient and reliable turbo charger
- Extra oil filter for the turbo charger

Cooling system

- Air to air intercooler
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Coolant filter as standard
- Fan hub

- Fan & belt guard
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Tropical radiator
- Radiator guard
- Pusher type fan

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 connects to the engine via the CAN SAE J1939 interface and the Control Interface Unit (CIU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors. Crank case pressure, oil level and air filter pressure droop sensors
- Alternator 24V / 80A



**VOLVO
PENTA**

TAD940GE

Technical Data

General

Engine designation	TAD940GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	120 (4.72)	
Stroke, mm (in.)	138 (5.43)	
Displacement, l (in ³)	9.36 (571)	
Compression ratio	20.2:1	
Dry weight, kg (lb)	1015 (2238)	
Dry weight with Gen Pac, kg (lb)	1354 (2986)	
Wet weight, kg (lb)	1065 (2348)	
Wet weight with Gen Pac, kg (lb)	1404 (3096)	

Performance	1500 rpm	1800 rpm
with fan, kW (bhp) at:		
Prime Power	240 (322)	246 (330)
Max Standby Power	265 (355)	273 (366)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, l/h (US gal/h) at:		
Prime Power	0.05 (0.012)	0.05 (0.013)
Max Standby Power	0.05 (0.013)	0.05 (0.014)
Oil system capacity incl filters, liter (US gal)	33 (8.7)	

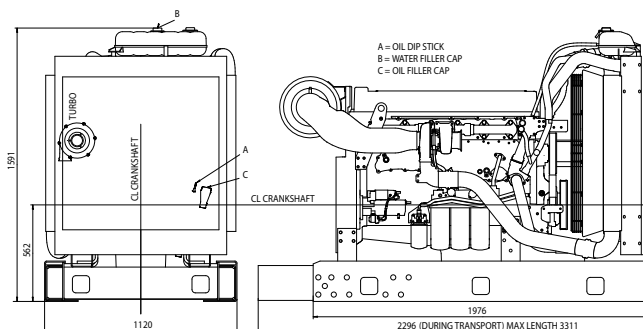
Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25%	230 (0.373)	242 (0.392)
50%	206 (0.334)	214 (0.347)
75%	197 (0.319)	203 (0.329)
100%	201 (0.326)	205 (0.332)
Max Standby Power, g/kWh (lb/hph)		
25%	227 (0.368)	239 (0.388)
50%	203 (0.329)	210 (0.341)
75%	197 (0.319)	202 (0.328)
100%	204 (0.330)	204 (0.330)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	18.1 (638)	21.7 (765)
Max Standby Power	20.0 (705)	23.2 (820)
Max allowable air intake restriction,		
kPa (In wc):	5 (20.1)	5 (20.1)
Heat rejection to exhaust,		
kW (BTU/min)	216 (12284)	223 (12682)
Exhaust gas temperature after turbine,		
°C (°F)	488 (910)	429 (804)
Max allowable back-pressure in exhaust line,		
kPa (In wc)	10.0 (40.2)	10.0 (40.2)
Exhaust gas flow, m ³ /min (cfm)	49.6 (1750)	

Standard Equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
Vibration dampers	•	•
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	•	•
Low noise oil sump	•	•
Fuel system		
Fuel filters of disposable type	•	•
Electronic unit injectors	•	•
Pre-filter with water separator and water-in-fuel indicator/alarm	•	•
Intake and exhaust system		
Air filter without rain cover	•	•
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, high right side	•	•
Cooling system		
Tropical radiator incl intercooler	–	•
Belt driven coolant pump	•	•
Fan hub	–	•
Thrust fan	–	•
Fan guard	–	•
Belt guard	–	•
Control system		
Engine Management System 2 (EMS 2) with CAN-bus interface SAE J1939	•	•
Alternator		
Alternator 80A / 24V	•	•
Starting system		
Starter motor, 5.5kW, 24V	•	•
Connection facility for extra starter motor	•	•
Instruments and senders		
Temp. and oil pressure for automatic stop/alarm	•	•
Engine Packing		
Plastic wrapping	•	•

- optional equipment or not applicable
- included in standard specification



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/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Exhaust emissions

The engine complies with EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with 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. A10 % 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 bhp = 1 kW x 1.341

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA INDUSTRIAL DIESEL

TAD941GE

308 kW (413 bhp) at 1500 rpm, 326 kW (437 bhp) at 1800 rpm, acc. to ISO 3046

The TAD941GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo 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, featured with high torque.

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.

Operational economy and Low exhaust emission

The state of the art, high-tech injection and air charging system with low internal losses contributes to excellent combustion and low fuel consumption.

The TAD941GE 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 without the block being unnecessary heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low thermal load on pistons and reduced ring temperature
- Tapered connecting rods to reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven main bearings for moderate load on main and big-end bearings
- Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder equipped with camshaft damper to reduce noise and vibrations.

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filters, for extra high filtration
- The lubricating oil level can be measured during operation (Standard dipstick only)
- Gear type lubricating oil pump, gear driven by the transmission

Fuel system

- Non-return fuel valve
- Electronic Unit Injectors
- Fuel pre-filter with water separator and water-in-fuel indicator / alarm
- Gear driven low-pressure fuel pump
- Fuel pressure switch
- Self de-aerating system. When replacing filters all fuel stays in the engine.

Turbo charger

- Efficient and reliable turbo charger
- Extra oil filter for the turbo charger

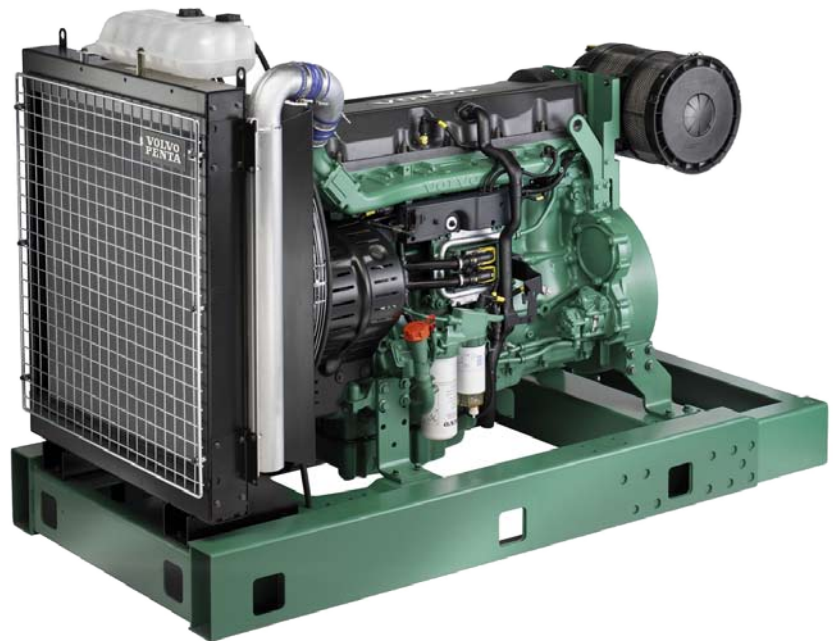
Cooling system

- Air to air intercooler
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Coolant filter as standard

- Fan hub
- Fan & belt guard
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block. Reliable sleeve thermostat with minimum pressure drop
- Tropical radiator
- Radiator guard
- Pusher type fan

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 connects to the engine via the CAN SAE J1939 interface and the Control Interface Unit (CIU). The CIU converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors. Crank case pressure, oil level and air filter pressure droop sensors
- Alternator 24V / 80A



**VOLVO
PENTA**

TAD941GE

Technical Data

General

Engine designation	TAD941GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	120 (4.72)	
Stroke, mm (in.)	138 (5.43)	
Displacement, l (in ³)	9.36 (571)	
Compression ratio	17.4:1	
Dry weight, kg (lb)	1015 (2238)	
Dry weight with Gen Pac, kg (lb)	1354 (2986)	
Wet weight, kg (lb)	1065 (2348)	
Wet weight with Gen Pac, kg (lb)	1404 (3096)	

Performance	1500 rpm	1800 rpm
with fan, kW (bhp) at:		
Prime Power	279 (374)	294 (394)
Max Standby Power	308 (413)	326 (437)

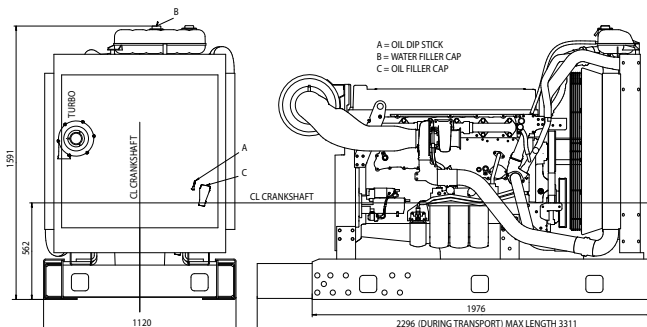
Lubrication system	1500 rpm	1800 rpm
Oil consumption, l/h (US gal/h) at:		
Prime Power	0.05 (0.014)	0.06 (0.015)
Max Standby Power	0.06 (0.015)	0.06 (0.016)
Oil system capacity incl filters, liter (US gal)	33 (8.7)	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25%	230 (0.373)	242 (0.392)
50%	208 (0.337)	214 (0.347)
75%	200 (0.324)	204 (0.331)
100%	202 (0.327)	205 (0.332)
Max Standby Power, g/kWh (lb/hph)		
25%	226 (0.366)	238 (0.386)
50%	205 (0.332)	210 (0.340)
75%	200 (0.324)	203 (0.329)
100%	204 (0.331)	207 (0.336)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	17.7 (625)	22.0 (777)
Max Standby Power	19.6 (692)	23.8 (840)
Max allowable air intake restriction, kPa (In wc):	5 (20.1)	5 (20.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	224 (12739)	230 (13080)
Max Standby Power	239 (13592)	260 (14786)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	519 (966)	467 (873)
Max Standby Power	539 (1002)	494 (921)
Max allowable back-pressure in exhaust line, kPa (In wc)	10.0 (40.2)	10.0 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime Power	46.5 (1642)	53.1 (1875)
Max Standby Power	52.2 (1843)	59.2 (2091)

Standard Equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
Vibration dampers	•	•
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	•	•
Low noise oil sump	•	•
Fuel system		
Fuel filters of disposable type	•	•
Electronic unit injectors	•	•
Pre-filter with water separator and water-in-fuel indicator/alarm	•	•
Intake and exhaust system		
Air filter without rain cover	•	•
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, high right side	•	•
Cooling system		
Tropical radiator incl intercooler	–	•
Belt driven coolant pump	•	•
Fan hub	–	•
Thrust fan	–	•
Fan guard	–	•
Belt guard	–	•
Control system		
Engine Management System 2 (EMS 2) with CAN-bus interface SAE J1939	•	•
Alternator		
Alternator 80A / 24V	•	•
Starting system		
Starter motor, 5.5kW, 24V	•	•
Connection facility for extra starter motor	•	•
Instruments and senders		
Temp. and oil pressure for automatic stop/alarm	•	•
Engine Packing		
Plastic wrapping	•	•
– optional equipment or not applicable		
• included in standard specification		



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/litre (7.01 lb/US gal, 8.42 lb/Imp gal), also where this involves a deviation from the standards.

Exhaust emissions

The engine complies with EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with 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. A10 % 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 bhp = 1 kW x 1.341

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden
www.volvopenta.com

VOLVO PENTA GENSET ENGINE

TAD1241GE

1500 rpm, 354 kW (481 hp) – 1800 rpm, 387 kW (526 hp)

The TAD1241GE 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 TAD1241GE complies with Tier 2 and TA-Luft -50% 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
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- 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

- Non-return fuel valve
- Electronic 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
- Fuel shut-off valve, electrically operated

Cooling system

- Air to air intercooler
- Coolant filter as standard
- 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

Turbo charger

- Efficient and reliable turbo charger
- Extra oil filter for the turbo charger

Electrical system

- Electronically Diesel Control III (EDCIII), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing
- Three different ways for the customer to connect his controls and instrument to the engine. CAN SAE J1939 interface, CIU (Control interface unit) and Stand alone connections.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.



Features

- Maintained performance, air temp 40°C
- Tropical cooling system (55°C)
- Fully electronic with Volvo Penta EDC III
- Dual frequency switch (between 1500 rpm and 1800 rpm)
- High power density
- Emission compliant
- Low noise levels
- Gen Pac configuration

**VOLVO
PENTA**

TAD1241GE

Technical Data

General

Engine designation	TAD1241GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	131 (5.16)	
Stroke, mm (in.)	150 (5.91)	
Displacement, l (in ³)	12.13 (740.2)	
Compression ratio	17.5:1	
Dry weight, kg (lb)	1380 (3036)	
With Gen Pac, kg (lb)	1645 (3627)	
Wet weight, kg (lb)	1455 (3201)	
With Gen Pac, kg (lb)	1720 (3792)	

Performance

with fan, kW (hp)	1500 rpm	1800 rpm
Prime Power	323 (439)	352 (479)
Max Standby Power	354 (481)	387 (526)

Lubrication system

Oil consumption, liter/h (US gal/h)	1500 rpm	1800 rpm
Prime Power	0.11 (0.029)	0.12 (0.032)
Max Standby Power	0.12 (0.032)	0.13 (0.034)
Oil system capacity incl filters, liter	35	
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 %	216 (0.350)	231 (0.374)
50 %	199 (0.323)	208 (0.330)
75 %	195 (0.316)	200 (0.324)
100 %	198 (0.321)	202 (0.327)
Max Standby Power, g/kWh (lb/hph)	1500 rpm	1800 rpm
25 %	211 (0.347)	225 (0.365)
50 %	197 (0.319)	203 (0.329)
75 %	195 (0.316)	200 (0.324)
100 %	199 (0.323)	203 (0.329)

Intake and exhaust system

Air consumption at 27°C, m ³ /min (cfm)	1500 rpm	1800 rpm
Prime Power	23.5 (830)	28.0 (989)
Max Standby Power	25.0 (883)	29.0 (1024)
Max allowable air intake restriction, kPa (In wc)	5 (20.1)	
Heat rejection to exhaust, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	250 (14217)	272 (15468)
Max Standby power	276 (15696)	306 (17402)
Exhaust gas temperature after turbine, °C (°F)	1500 rpm	1800 rpm
Prime Power	490 (914)	465 (869)
Max Standby Power	505 (941)	490 (914)
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	58 (2048)	66 (2331)
Max Standby Power	63 (2225)	72 (2543)

Cooling system

Heat rejection radiation from engine, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	17 (967)	18 (1024)
Max Standby Power	18 (1024)	20 (1137)
Heat rejection to coolant kW (BTU/min)		
Prime Power	123 (6995)	139 (7905)
Max Standby Power	125 (7109)	143 (8132)
Fan power consumption, kW (hp)	9 (12)	15 (20)

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 2 and TA-luft -50% 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. A10 % 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

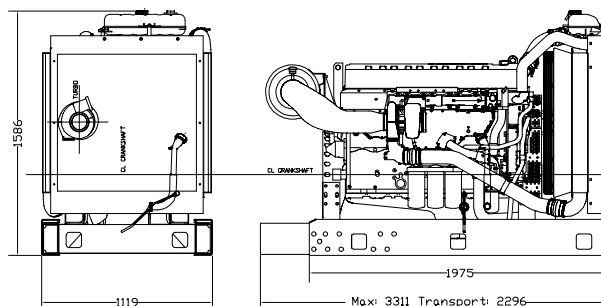
Information

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

Standard equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel		
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
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		
Air filter without rain cover	•	•
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	•	•
Cooling system		
Tropical radiator incl intercooler	• ¹⁾	•
Gear driven coolant pump	•	•
Fan hub	•	•
Thrust fan	—	•
Fan guard	—	•
Belt guard	—	•
Control system		
Engine Management System (EMS) with CAN-bus interface SAE J1939 and stand alone interface	•	•
Alternator		
Alternator 60A / 24 V	•	•
Starting system		
Starter motor, 6.0kW, 24 V	•	•
Connection facility for extra starter motor	•	•
Instruments and senders		
Temp.- and oil pressure for automatic stop/alarm 103°C	•	•
Other equipment		
Expandable base frame	—	•
Engine Packing		
Plastic warpping	•	•

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



VOLVO PENTA

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 www.volvopenta.com

VOLVO PENTA GENSET ENGINE

TAD1242GE

1500 rpm, 387 kW (526 hp) – 1800 rpm, 430 kW (585 hp)

The TAD1242GE 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 TAD1242GE complies with EU Stage 2 and TA-Luft -50% 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
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- 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

- Non-return fuel valve
- Electronic 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
- Fuel shut-off valve, electrically operated

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
- Coolant filter as standard

Turbo charger

- Efficient and reliable turbo charger
- Extra oil filter for the turbo charger

Electrical system

- Electronical Diesel Control III (EDCIII), an electronically controlled processing system which optimizes engine performance. It also includes advanced facilities for diagnostics and fault tracing
- Three different ways for the customer to connect his controls and instrument to the engine. CAN SAE J1939 interface, CIU (Control interface unit) and Stand alone connections.
- Sensors for oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.



Features

- Maintained performance, air temp 40°C
- Tropical cooling system (55°C)
- Fully electronic with Volvo Penta EDC III
- Dual frequency switch (between 1500 rpm and 1800 rpm)
- High power density
- Emission compliant
- Low noise levels
- Gen Pac configuration

**VOLVO
PENTA**

TAD1242GE

Technical Data

General

Engine designation	TAD1242GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	131 (5.16)	
Stroke, mm (in.)	150 (5.91)	
Displacement, l (in ³)	12.13 (740.2)	
Compression ratio	17.5:1	
Dry weight, kg (lb)	1380 (3036)	
With Gen Pac, kg (lb)	1645 (3627)	
Wet weight, kg (lb)	1455 (3201)	
With Gen Pac, kg (lb)	1720 (3792)	

Performance

kW (hp)	1500 rpm	1800 rpm
Prime Power	352 (479)	391 (532)
Max Standby Power	387 (526)	430 (585)

Lubrication system

Oil consumption, liter/h (US gal/h)	1500 rpm	1800 rpm
Prime Power	0.12 (0.032)	0.14 (0.037)
Max Standby Power	0.14 (0.037)	0.15 (0.040)
Oil system capacity incl filters, liter	35	
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 %	216 (0.350)	231 (0.374)
50 %	199 (0.323)	208 (0.330)
75 %	195 (0.316)	200 (0.324)
100 %	198 (0.321)	202 (0.327)
Max Standby Power, g/kWh (lb/hph)	1500 rpm	1800 rpm
25 %	211 (0.347)	225 (0.365)
50 %	197 (0.319)	203 (0.329)
75 %	195 (0.316)	200 (0.324)
100 %	199 (0.323)	203 (0.329)

Intake and exhaust system

Air consumption at 27°C, m ³ /min (cfm)	1500 rpm	1800 rpm
Prime Power	23.5 (830)	28.0 (989)
Max Standby Power	25.0 (883)	29.0 (1024)
Max allowable air intake restriction, kPa (In wc)	5 (20.1)	
Heat rejection to exhaust, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	250 (14217)	272(15468)
Max Standby Power	276 (15696)	306 (17402)
Exhaust gas temperature after turbine, °C (°F)	1500 rpm	1800 rpm
Prime Power	490 (914)	465 (869)
Max Standby Power	505 (941)	490 (914)
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	58 (2048)	66 (2331)
Max Standby Power	63 (2225)	72 (2543)

Cooling system

Heat rejection radiation from engine, kW (BTU/min)	1500 rpm	1800 rpm
Prime Power	17 (967)	18 (1024)
Max Standby Power	18 (1024)	20 (1137)
Heat rejection to coolant kW (BTU/min)		
Prime Power	123 (6995)	139 (7905)
Max Standby Power	125 (7109)	143 (8132)
Fan power consumption, kW (hp)	9 (12)	15 (20)

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% at 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 EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with TA-luft -50% 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. A10 % 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 1

Flywheel for 14" flex. plate and flexible coupling

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

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

Cooling system

Tropical radiator incl intercooler

Gear driven coolant pump

Fan hub

Thrust fan

Fan guard

Belt guard

Control system

Engine Management System (EMS) with

CAN-bus interface SAE J1939 and stand alone interface

Alternator

Alternator 60A / 24 V

Starting system

Starter motor, 6.0kW, 24 V

Connection facility for extra starter motor

Instruments and senders

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

Other equipment

Expandable base frame

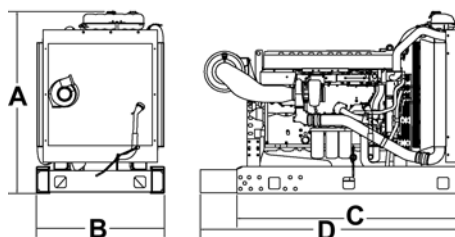
Engine Packing

Plastic warpping

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

- optional equipment or not applicable

• included in standard specification



A* = 1587 mm / 62.5 in

B* = 1120 mm / 44.1 in

C* = 1976 mm / 77.8 in

D = 2296 mm / 90.5 in (During transport)

D = Max 3311 mm / 130.5 in

* Including radiator and intercooler

VOLVO PENTA

AB Volvo Penta

SE-405 08 Göteborg, Sweden
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VOLVO PENTA GENSET ENGINE

TAD1641GE

473kW (643 hp) at 1500 rpm, 546 kW (743 hp) at 1800 rpm, acc. to ISO 3046

The TAD1641GE 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 TAD1641GE complies with EU Stage 2 exhaust emission regulations.

Easy service & maintenance

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

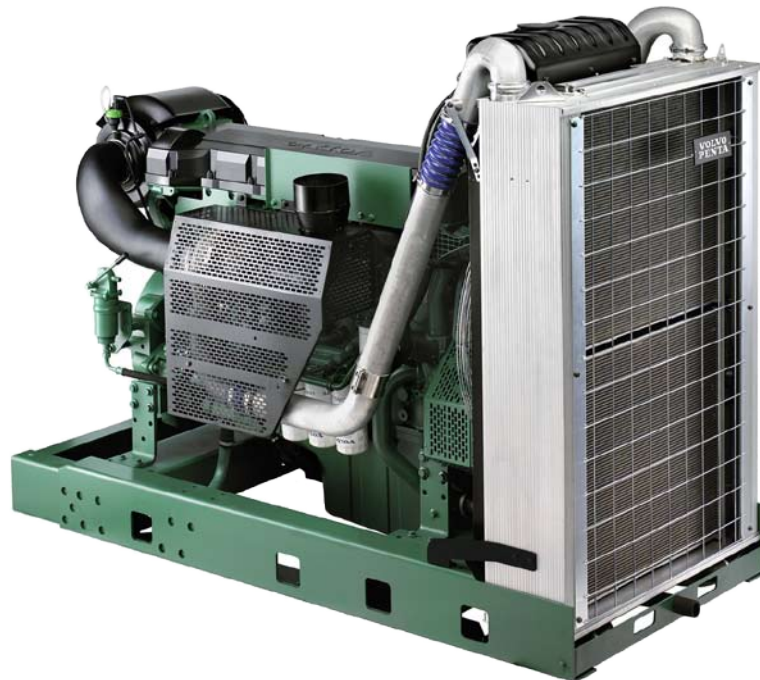
Technical description

Engine and block

- Optimized cast iron cylinder block with optimum distribution of forces without the block being unnecessary heavy.
- Wet, replaceable cylinder liners
- Piston cooling for low thermal load on pistons and reduced ring temperature
- Tapered connecting rods to reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven main bearings for moderate load on main and big-end bearings
- Nitrocarburized transmission gears for heavy duty operation
- Keystone top compression rings for long service life
- Viscous type crankshaft vibration damper
- Replaceable valve guides and valve seats
- Over head camshaft and four valves per cylinder equipped with camshaft damper to reduce noise and vibrations.

Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filters, for extra high filtration
- The lubricating oil level can be measured during operation (Standard dipstick only)
- Gear type lubricating oil pump, gear driven by the transmission



Features

- Maintained performance, air temp 40°C
- Tropical cooling system (55°C)
- Fully electronic with Volvo Penta EMS 2
- Dual frequency switch (between 1500 rpm and 1800 rpm)
- High power density
- Emission compliant
- Low noise levels
- Gen Pac configuration

Fuel system

- Self de-aerating system. When replacing filters all fuel stays in the engine.
- Non-return fuel valve
- Electronic 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
- Fuel shut-off valve, electrically operated

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, maintenance-free coolant pump with high degree of efficiency
- Coolant filter as standard

Turbo charger

- Efficient and reliable turbo charger
- 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. Crank case pressure, piston cooling pressure, oil level and air filter pressure drop sensors.
- Alternator 24V / 80A

**VOLVO
PENTA**

TAD1641GE

Technical Data

General

Engine designation	TAD1641GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	144 (5.67)	
Stroke, mm (in.)	165 (6.50)	
Displacement, l (in ³)	16.12 (983.7)	
Compression ratio	16.5:1	
Dry weight, kg (lb)	1480 (3263)	
Dry weight with Gen Pac, kg (lb)	1910 (4211)	
Wet weight, kg (lb)	1550 (3417)	
Wet weight with Gen Pac, kg (lb)	2020 (4453)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	430 (585)	485 (660)
Max Standby Power	473 (643)	546 (743)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.10 (0.026)	0.11 (0.029)
Max Standby Power	0.10 (0.026)	0.12 (0.032)
Oil system capacity incl filters, liter	42	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	223 (0.361)	232 (0.376)
50 %	201 (0.326)	202 (0.327)
75 %	196 (0.318)	197 (0.319)
100 %	198 (0.321)	200 (0.324)
Max Standby Power, g/kWh (lb/hph)		
25 %	218 (0.353)	228 (0.370)
50 %	199 (0.323)	201 (0.326)
75 %	195 (0.316)	197 (0.319)
100 %	198 (0.321)	205 (0.332)

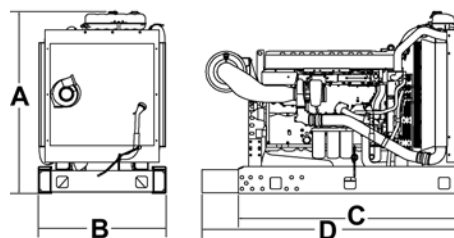
Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	32 (1130)	42 (1483)
Max Standby Power	35 (1236)	45 (1589)
Max allowable air intake restriction,		
kPa (In wc)	5 (20.1)	5 (20.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	326 (18539)	373 (21212)
Max Standby Power	356 (20245)	442 (25136)
Exhaust gas temperature after turbine,		
°C (°F) at:		
Prime Power	475 (887)	435 (815)
Max Standby Power	490 (914)	470 (878)
Max allowable back-pressure in exhaust line,		
kPa (In wc)	10 (40.2)	10 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	79.0 (2790)	97.0 (3426)
Max Standby Power	84.9 (2998)	106.6 (3765)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine,		
kW (BTU/min) at:		
Prime Power	30 (1706)	32 (1820)
Max Standby Power	34 (1934)	33 (1877)
Heat rejection to coolant kW (BTU/min) at:		
Prime Power	172 (9781)	185 (10521)
Max Standby Power	176 (10009)	199 (11317)
Fan power consumption, kW (hp)	11 (15)	19 (26)

Standard equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel		
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
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		
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	•	•
Cooling system		
Tropical radiator incl intercooler	• ¹⁾	•
Belt driven coolant pump	•	•
Fan hub	•	•
Thrust fan	• ¹⁾	•
Fan guard	—	•
Belt guard	—	•
Control system		
Engine Management System (EMS) with CAN-bus interface SAE J1939	•	•
CIU, Control Interface Unit	—	—
Alternator		
Alternator 80A / 24V	•	•
Starting system		
Starter motor, 7.0kW, 24V	•	•
Connection facility for extra starter motor	•	•
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 or not applicable
 • included in standard specification



A* = 1587 mm / 62.5 in
 B* = 1120 mm / 44.1 in
 C* = 1976 mm / 77.8 in
 D = 2296 mm / 90.5 in (During transport)
 D = Max 3311 mm / 130.5 in
 * Including radiator and intercooler

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% at 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 EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with TA-luft -50% 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA GENSET ENGINE

TAD1642GE

536 kW (729 hp) at 1500 rpm, 585 kW (796 hp) at 1800 rpm, acc. ISO 3046

The TAD1642GE 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 TAD1642GE complies with EU Stage 2 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
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- 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

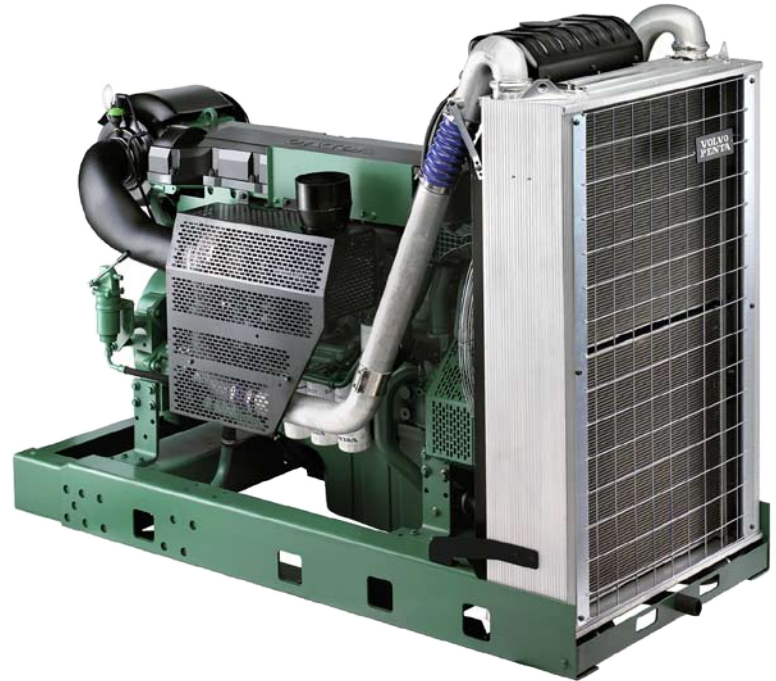
- Full flow disposable spin-on oil filter, for extra high filtration
- The lubricating oil level can be measured during operation
- Gear type lubricating oil pump, gear driven by the transmission

Fuel system

- Non-return fuel valve
- Electronic 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
- Fuel shut-off valve, electrically operated

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
- Coolant filter as standard



Features

- Maintained performance, air temp 40°C
- Tropical cooling system (55°C)
- Fully electronic with Volvo Penta EMS 2
- Dual frequency switch (between 1500 rpm and 1800 rpm)
- High power density
- Emission compliant
- Low noise levels
- Gen Pac configuration

Turbo charger

- Efficient and reliable turbo charger
- 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.

**VOLVO
PENTA**

TAD1642GE

Technical Data

General

Engine designation	TAD1642GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	144 (5.67)	
Stroke, mm (in.)	165 (6.50)	
Displacement, l (in ³)	16.12 (983.7)	
Compression ratio	16.5:1	
Dry weight, kg (lb)	1480 (3263)	
Dry weight with Gen Pac, kg (lb)	1910 (4211)	
Wet weight, kg (lb)	1550 (3417)	
Wet weight with Gen Pac, kg (lb)	2020 (4453)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	485 (660)	532 (724)
Max Standby Power	536 (729)	585 (796)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.10 (0.026)	0.11 (0.029)
Max Standby Power	0.11 (0.029)	0.12 (0.032)
Oil system capacity incl filters, liter	42	

Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	218 (0.353)	229 (0.371)
50 %	201 (0.326)	202 (0.327)
75 %	195 (0.316)	197 (0.319)
100 %	200 (0.324)	206 (0.334)
Max Standby Power, g/kWh (lb/hph)		
25 %	213 (0.345)	222 (0.360)
50 %	197 (0.319)	200 (0.324)
75 %	195 (0.316)	198 (0.321)
100 %	202 (0.327)	210 (0.340)

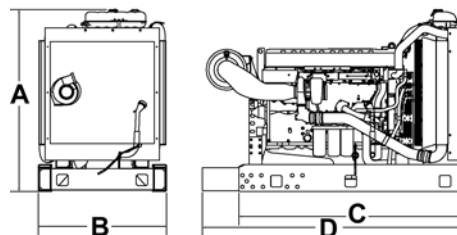
Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	37 (1307)	44 (1554)
Max Standby Power	39 (1377)	46 (1624)
Max allowable air intake restriction, kPa (In wc)	5 (20.1)	5 (20.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	375 (21326)	439 (24965)
Max Standby Power	426 (24226)	500 (28435)
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	480 (896)	455 (851)
Max Standby Power	500 (932)	505 (941)
Max allowable back-pressure in exhaust line, kPa (In wc)	10 (40.2)	10 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	90.0 (3178)	105 (3708)
Max Standby Power	98.0 (3461)	115 (4061)

Cooling system	1500 rpm	1800 rpm
Heat rejection radiation from engine, kW (BTU/min) at:		
Prime Power	31 (1763)	33 (1877)
Max Standby Power	32 (1820)	34 (1934)
Heat rejection to coolant kW (BTU/min) at:		
Prime Power	184 (10464)	199 (11317)
Max Standby Power	190 (10805)	214 (12170)
Fan power consumption, kW (hp)	11 (15)	19 (26)

Standard equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel		
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
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		
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	•	•
Cooling system		
Tropical radiator incl intercooler	• ¹⁾	•
Gear driven coolant pump	•	•
Fan hub	•	•
Thrust fan	• ¹⁾	•
Fan guard	—	•
Belt guard	—	•
Control system		
Engine Management System (EMS) with CAN-bus interface SAE J1939	•	•
CIU, Control Interface Unit	—	—
Alternator		
Alternator 60A / 24 V	•	•
Starting system		
Starter motor, 7.0kW, 24 V	•	•
Connection facility for extra starter motor	•	•
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 or not applicable
 • included in standard specification



A* = 1587 mm / 62.5 in
 B* = 1120 mm / 44.1 in
 C* = 1976 mm / 77.8 in
 D = 2296 mm / 90.5 in (During transport)
 D = Max 3311 mm / 130.5 in
 * Including radiator and intercooler

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% at 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 EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EEC. The engine also complies with TA-luft -50% 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. A10 % 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.

VOLVO PENTA

AB Volvo Penta
 SE-405 08 Göteborg, Sweden
 www.volvopenta.com

VOLVO PENTA GENSET ENGINE

TWD1643GE

NEW!

613 kW (834 hp) at 1500 rpm, 674 kW (917 hp) at 1800 rpm

The TWD1643GE 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 TWD1643GE is certified for EPA Tier 2. An additional feature is that TWD1643GE fulfils EU Stage 2 exhaust emission levels.

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
- Piston cooling for low piston temperature and reduced ring temperature
- Tapered connecting rods for reduce risk of piston cracking
- Crankshaft induction hardened bearing surfaces and fillets with seven bearings for moderate load on main and high-end bearings
- 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

- Non-return fuel valve
- Electronic 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
- Fuel shut-off valve

Cooling system

- New TWD-cooling system with optimized priority and cold start valves
- Two water cooled charge air coolers
- 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
- Coolant filter as standard

Turbo charger

- Efficient and reliable dual stage turbo chargers

- Intermediate charge air coolers for both turbo chargers
- Waste gate system for the high pressure 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 Display 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, exhaust temp, coolant temp, fuel temp, water in fuel, fuel pressure and two speed sensors.



Features

- Tropical cooling system (55°C)
- Fully electronic with Volvo Penta EMS 2
- Dual frequency switch (between 1500 rpm and 1800 rpm)
- High power density
- Emission compliant
- Low noise levels
- Low fuel consumption
- Gen Pac configuration
- Compact design for the power class

**VOLVO
PENTA**

TWD1643GE

Technical Data

General

Engine designation	TWD1643GE	
No. of cylinders and configuration	in-line 6	
Method of operation	4-stroke	
Bore, mm (in.)	144 (5.67)	
Stroke, mm (in.)	165 (6.50)	
Displacement, l (in ³)	16.12 (983.7)	
Compression ratio	16.5:1	
Dry weight, kg (lb)	1700 (3748)	
Dry weight with Gen Pac, kg (lb)	2200 (4850)	
Wet weight, kg (lb)	1770 (3902)	
Wet weight with Gen Pac, kg (lb)	2370 (5225)	

Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	536 (729)	585 (796)
Max Standby Power	596 (811)	644 (876)

Lubrication system	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.10 (0.026)	0.10 (0.029)
Max Standby Power	0.11 (0.029)	0.11 (0.032)
Oil system capacity incl filters, liter	48	

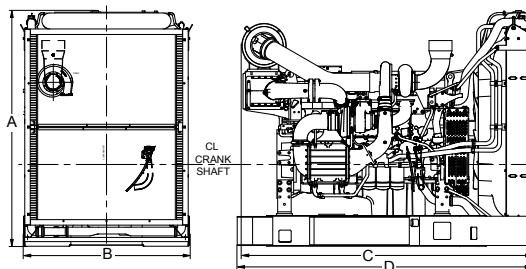
Fuel system	1500 rpm	1800 rpm
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	215 (0.349)	224 (0.363)
50 %	196 (0.318)	201 (0.326)
75 %	196 (0.318)	197 (0.319)
100 %	199 (0.323)	202 (0.327)
Max Standby Power, g/kWh (lb/hph)		
25 %	210 (0.340)	220 (0.357)
50 %	195 (0.316)	200 (0.324)
75 %	196 (0.318)	198 (0.321)
100 %	200 (0.324)	204 (0.331)

Intake and exhaust system	1500 rpm	1800 rpm
Air consumption, m ³ /min (cfm) at:		
Prime Power	44 (1541)	53 (1874)
Max Standby Power	47 (1658)	55 (1937)
Max allowable air intake restriction, kPa (In wc)	5 (20.1)	5 (20.1)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	415 (23601)	472 (26842)
Max Standby Power	463 (26330)	540 (30709)
Exhaust gas temperature after low pressure turbine, °C (°F) at:		
Prime Power	450 (842)	422 (792)
Max Standby Power	463 (865)	461 (862)
Max allowable back-pressure in exhaust line, kPa (In wc)	10 (40.2)	10 (40.2)
Exhaust gas flow, m ³ /min (cfm) at:		
Prime power	101.6 (3586)	119 (4201)
Max Standby Power	111.8 (3949)	130.1 (4593)

Standard equipment

	Engine	Gen Pac
Engine		
Automatic belt tensioner	•	•
Lift eyelets	•	•
Flywheel		
Flywheel housing with conn. acc. to SAE 1	•	•
Flywheel for 14" flex. plate and flexible coupling	•	•
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 spin-on type	•	•
Electronic unit injectors	•	•
Pre-filter with water separator	•	•
Intake and exhaust system		
Air filter without rain cover	•	•
Air restriction indicator	•	•
Air cooled exhaust manifold	•	•
Connecting flange for exhaust pipe	•	•
Exhaust flange with v-clamp	•	•
Turbo chargers, dual stage, right side	•	•
Cooling system		
TWD-cooling system, tropical	•	•
Gear driven coolant pump	•	•
Fan hub	•	•
Pusher fan	•	•
Fan guard	•	•
Belt guard	•	•
Control system		
Engine Management System (EMS) with CAN-bus interface SAE J1939	•	•
CIU, Control Interface Unit	—	—
DCU, Display Control Unit	—	—
Alternator		
Alternator 80A / 24 V	•	•
Starting system		
Starter motor, 7.0kW, 24 V	•	•
Connection facility for extra starter motor	•	•
Instruments and senders		
Temp. and pressure for automatic stop/alarm	•	•
Other equipment		
Expandable base frame	—	•
Engine Packing		
Plastic wrapping	•	•

— optional equipment or not applicable
 • included in standard specification



A* = 1930 mm / 76 in
 B* = 1350 mm / 53.1 in
 C = 2362 mm / 93 in
 D = 2399 mm / 94.5 in (During transport)
 D = Max 3255 mm / 128.2 in
 * Including radiator and intercooler

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

Exhaust emissions

The TWD1643GE is certified for EPA Tier 2. An additional feature is that TWD1643GE fulfils EU Stage 2 exhaust emission levels.

Rating Guidelines

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