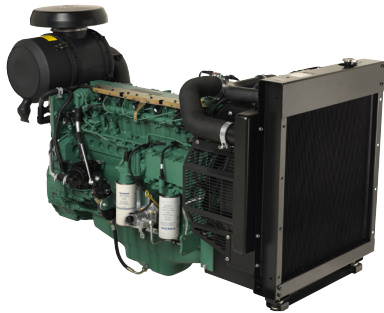


## Power Generation

### 5 LITRE SERIES



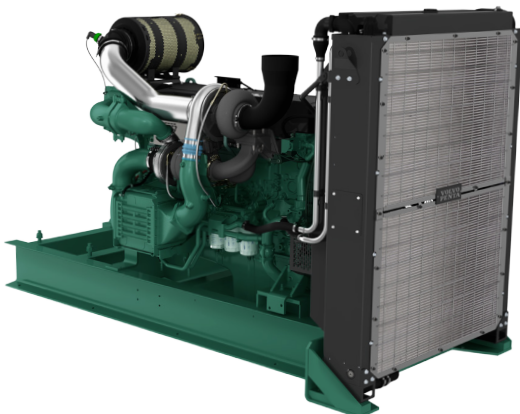
### 7 LITRE SERIES



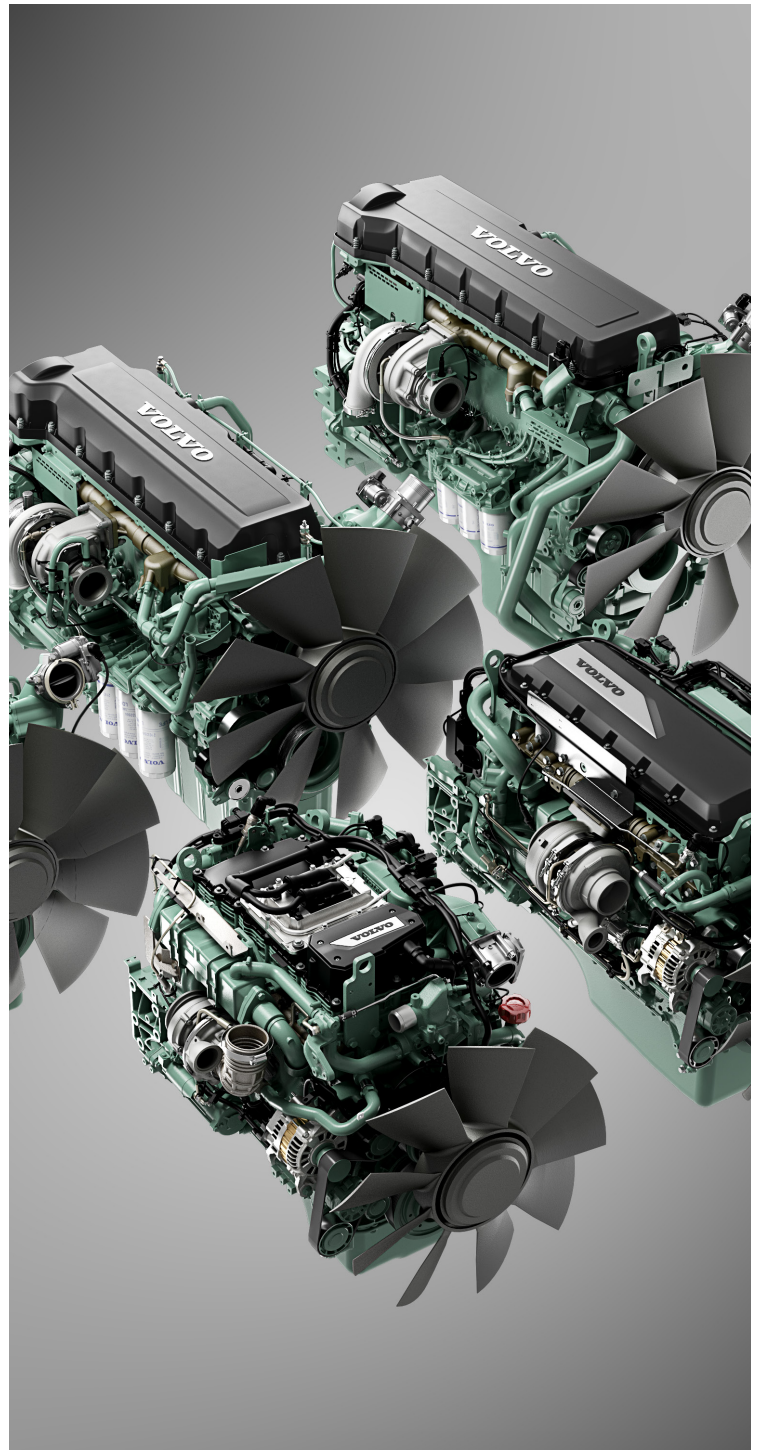
### 13 LITRE SERIES



### 16 LITRE SERIES

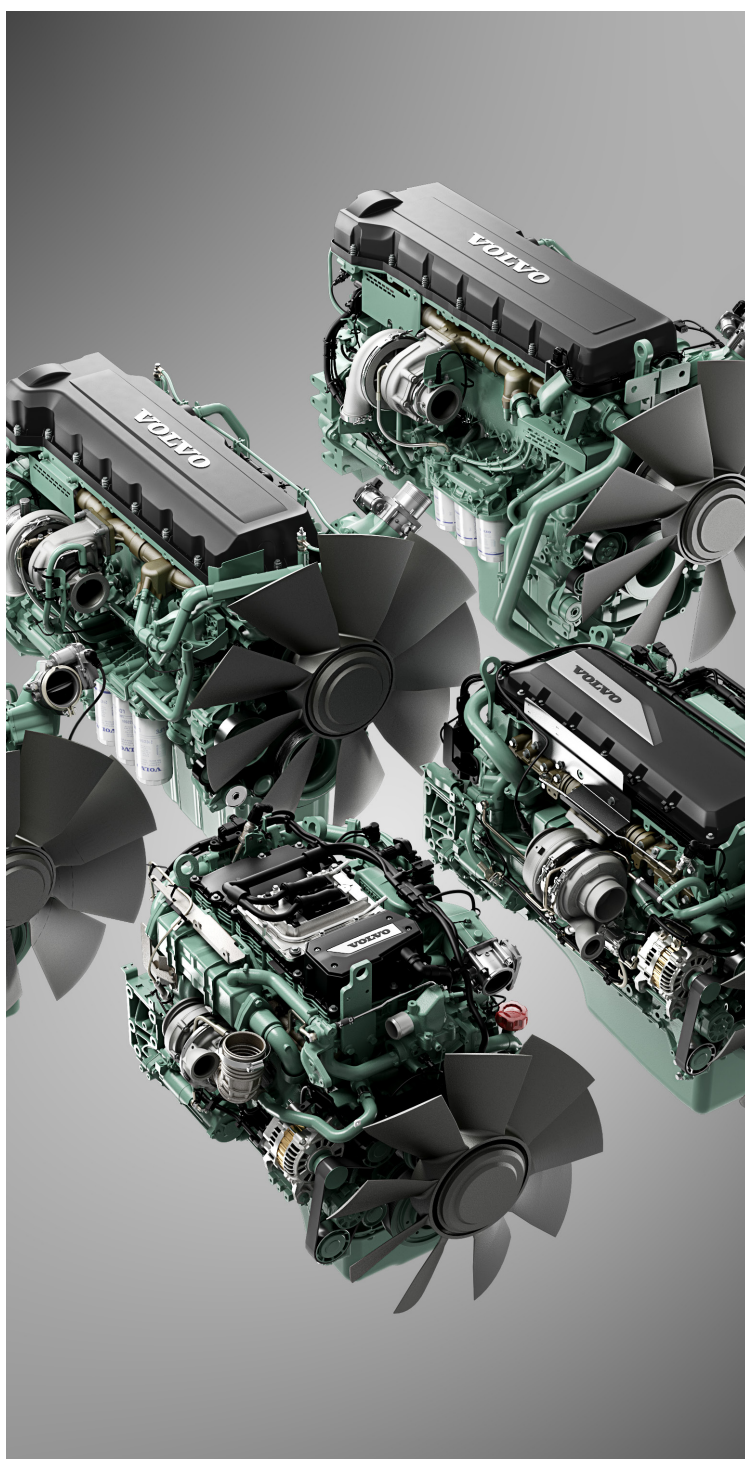


## ENGINE RANGE



Off-road and stationary

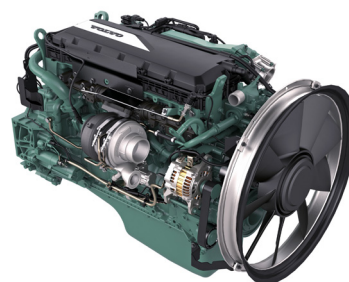
## ENGINE RANGE



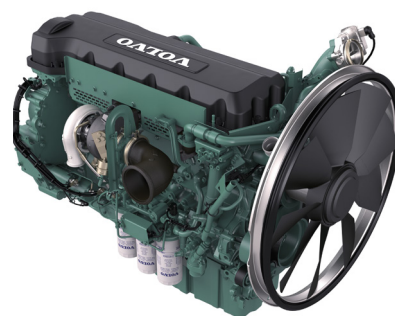
**5 LITRE SERIES**



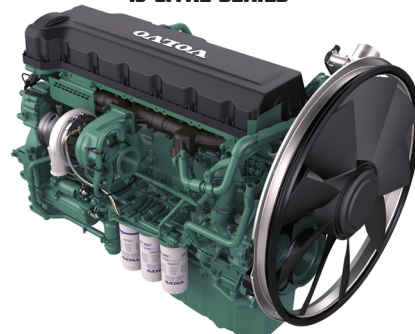
**8 LITRE SERIES**



**11 LITRE SERIES**



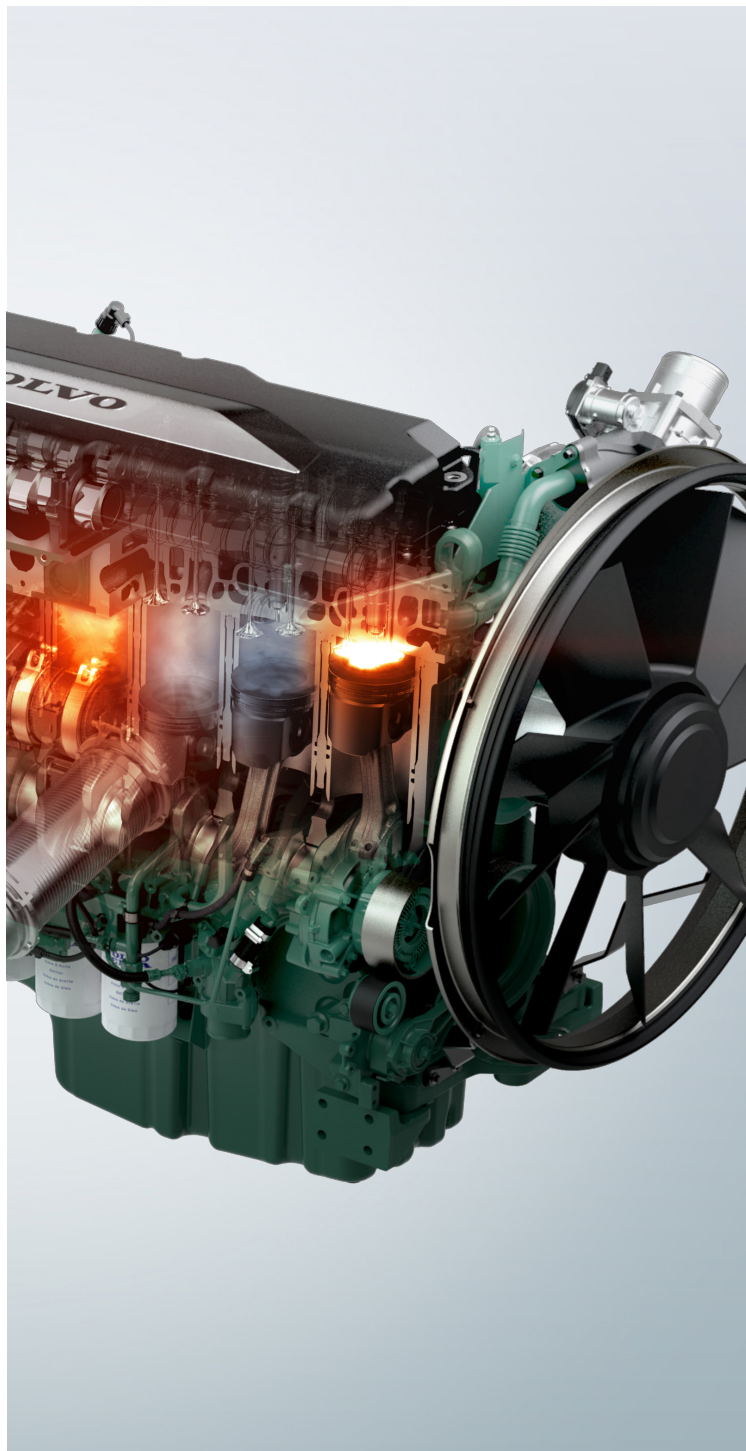
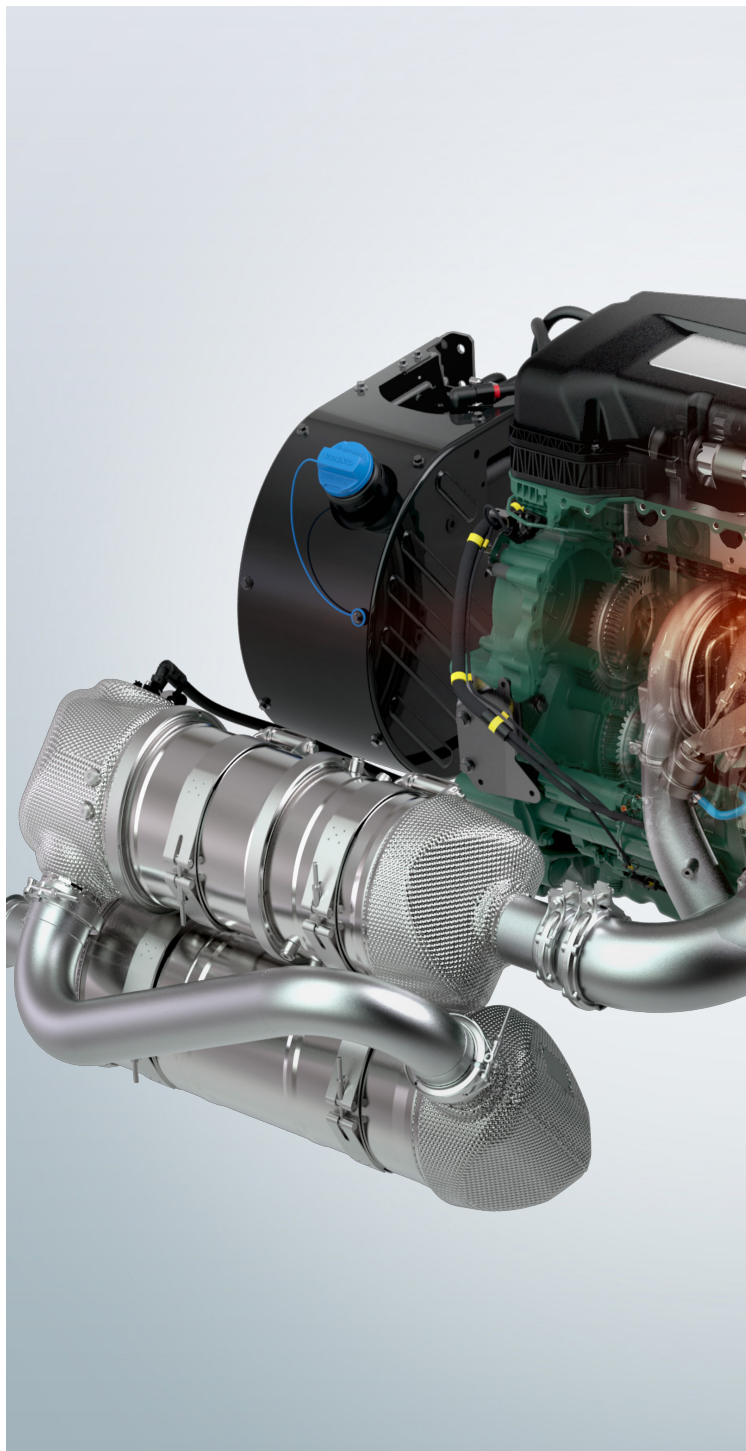
**13 LITRE SERIES**

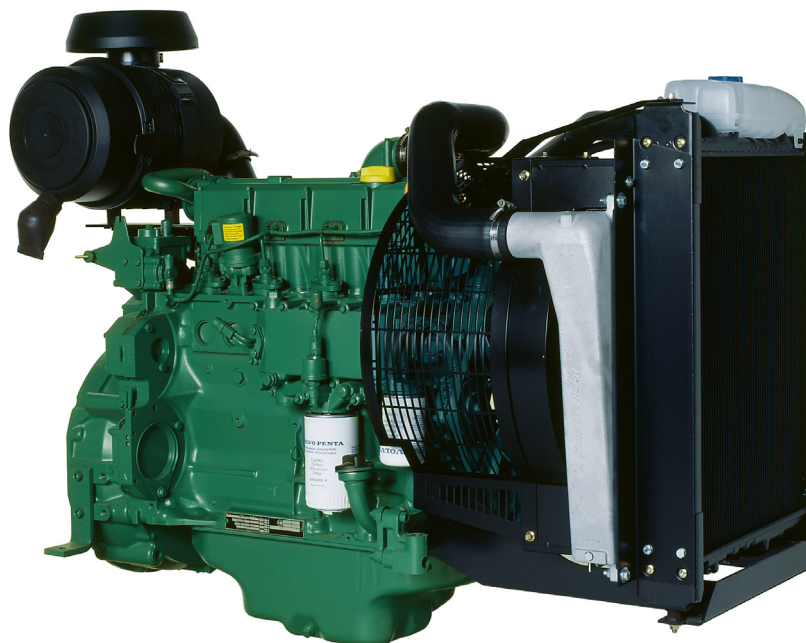


**16 LITRE SERIES**









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.

- 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

### 50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
75	68	85	83	76	94

### 60 Hz/1800 rpm

Prime power			Standby power			Gen. eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
76	70	88	85	77	97	91

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8  
1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data



# TAD530GE

4.76 liter, in-line 4 cylinder

## VOLVO PENTA GENSET ENGINE

### 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 <sup>3</sup> ).....	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	75 (102)	76 (104)
Standby Power	83 (113)	85 (115)

#### Lubrication system

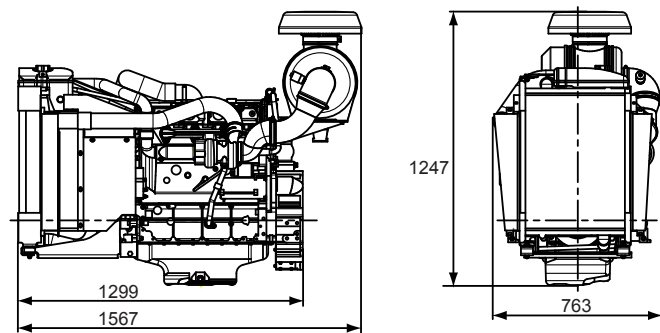
	1500 rpm	1800 rpm
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.08 (0.021)	0.08 (0.021)
Standby Power	0.08 (0.021)	0.08 (0.021)
Oil system capacity incl filters, liter .....	13	

#### 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)

### Dimensions TAD530GE

Not for installation



### 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 and SAE 3
- 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
- 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

### 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.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.



AB Volvo Penta

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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 8528-5 G3.

Please contact your local Volvo Penta dealer for further information. Please note that products illustrated may differ from production models. Not all models and accessories are available in all markets, and standard equipment may vary between different markets. Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

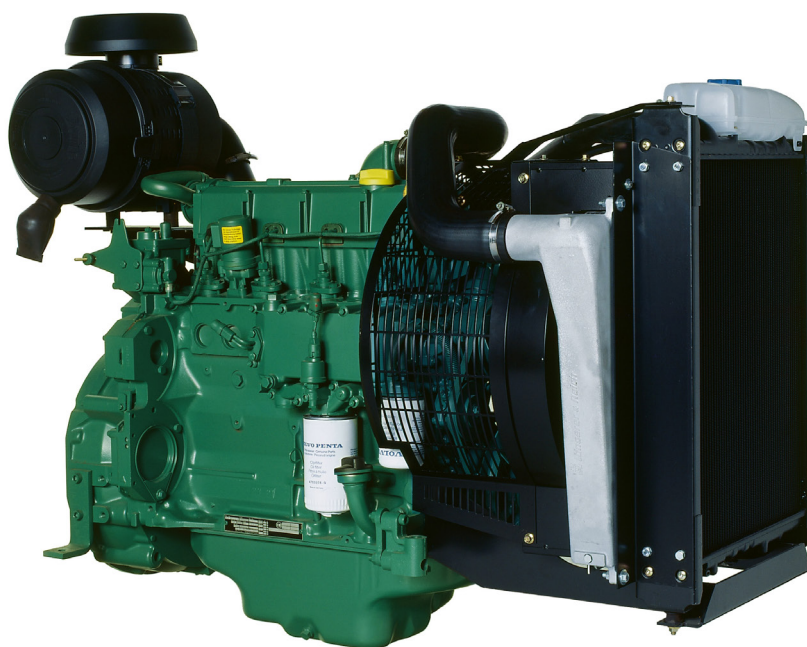
# VOLVO PENTA GENSET ENGINE

## TAD531GE

4.76 liter, in-line 4 cylinder

# VOLVO PENTA

**FAMCO**  
هایپر صنعت



**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.

- 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

### 50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
88	80	100	97	87	109

### 60 Hz/1800 rpm

Prime power			Standby power			Gen.eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
91	84	105	101	92	115	91

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data

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تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲



# TAD531GE

4.76 liter, in-line 4 cylinder

## VOLVO PENTA GENSET ENGINE

### 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 <sup>3</sup> ).....	4.76 (290)
Compression ratio .....	18:1
Dry weight, kg (lb).....	575 (1268)
Wet weight, kg (lb).....	606 (1336)

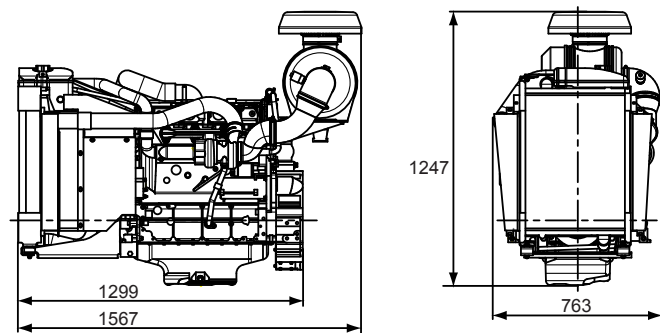
Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	88 (119)	91 (123)
Standby Power	97 (132)	101 (137)

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)

### Dimensions TAD531GE

Not for installation



### 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 and SAE 3
- 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
- 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

### 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.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.

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**PENTA**

**AB Volvo Penta**

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[www.volvopenta.com](http://www.volvopenta.com)

### 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 8528-5 G3.

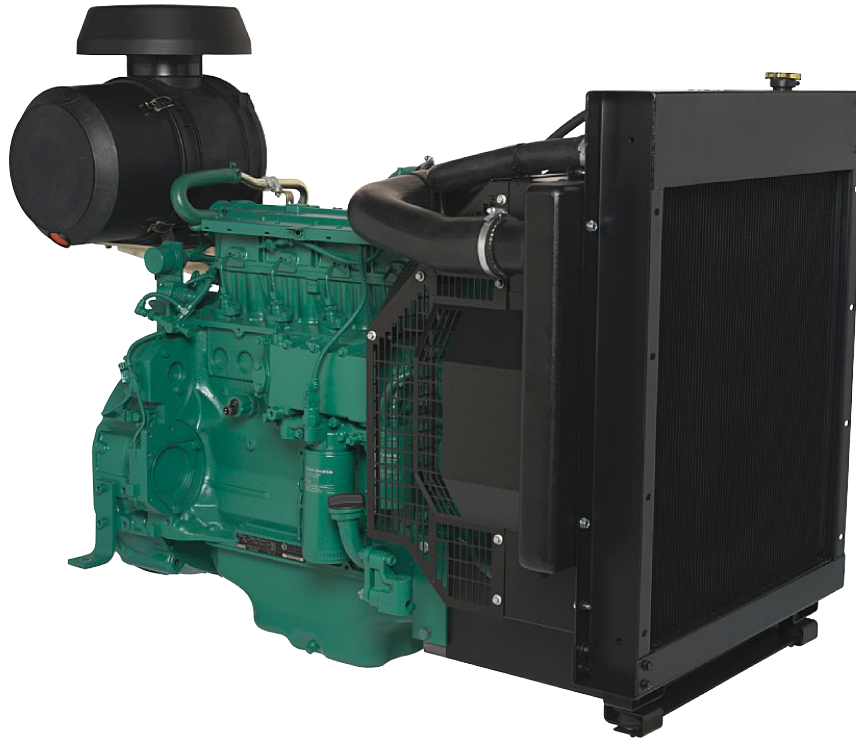
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# VOLVO PENTA GENSET ENGINE

## TAD532GE

4.76 liter, in-line 4 cylinder

**VOLVO  
PENTA**



**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.

### 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 TAD532GE 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.

- Electronic governing, EDC4
- 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

### 50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
113	104	130	125	114	142

### 60 Hz/1800 rpm

Prime power			Standby power			Gen.eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
114	106	132	126	117	146	92

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data



# TAD532GE

4.76 liter, in-line 4 cylinder

**VOLVO PENTA GENSET ENGINE**

## 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 <sup>3</sup> ) .....	4.76 (290)
Compression ratio .....	17.5:1
Dry weight, kg (lb) .....	575 (1268)
Wet weight, kg (lb) .....	606 (1336)

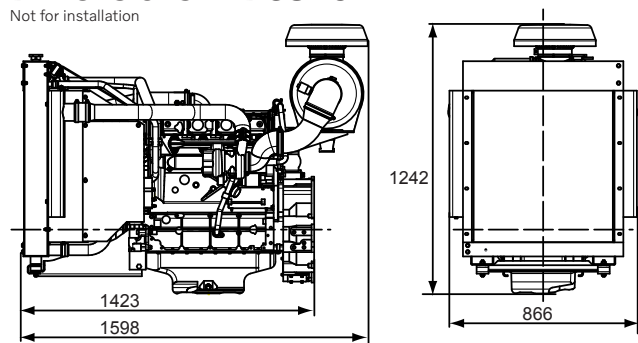
Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	113 (153)	114 (155)
Standby Power	125 (169)	126 (172)

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)

## Dimensions TAD532GE

Not for installation



## 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
- 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

### 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.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.

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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 8528-5 G3.

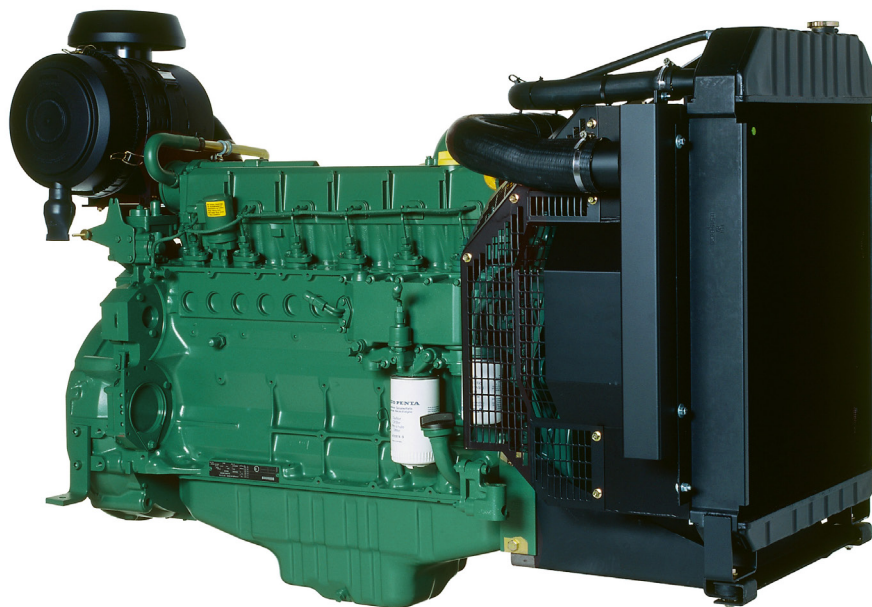
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## VOLVO PENTA GENSET ENGINE

# TAD731GE

7.15 liter, in-line 6 cylinder

**VOLVO  
PENTA**



**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.

- **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**

### 50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
134	121	152	148	133	167

### 60 Hz/1800 rpm

Prime power			Standby power			Gen.eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
139	129	161	153	142	177	92

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data

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روبروی پالایشگاه نفت پارس، پلاک ۱۲



# TAD731GE

7.15 liter, in-line 6 cylinder

## VOLVO PENTA GENSET ENGINE

### 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 <sup>3</sup> ).....	7.15 (436)
Compression ratio.....	18:1
Dry weight, kg (lb).....	760 (1676)
Wet weight, kg (lb).....	804 (1773)

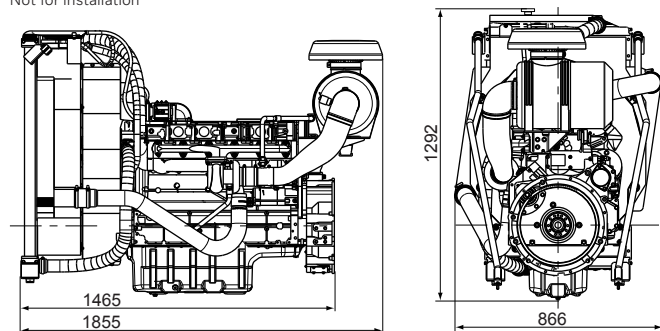
Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	134 (182)	139 (188)
Standby Power	148 (201)	153 (209)

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)

### Dimensions TAD731GE

Not for installation



### 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
- Two stage air filter
- Heater flange in charge air inlet (without power relay)

#### Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block
- Reliable thermostat with minimum pressure drop
- Cooling water pipe, inlet and outlet
- Belt driven coolant pump, ratio 1.0:1
- Fan hub
- Fan on separate bracket 292mm above crankshaft
- Pusher fan Ø 600 mm

#### Electrical system

- 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

#### 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.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.

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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 8528-5 G3.

Please contact your local Volvo Penta dealer for further information. Please note that products illustrated may differ from production models. Not all models and accessories are available in all markets, and standard equipment may vary between different markets. Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

# TAD732GE

**VOLVO  
PENTA**

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

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



## Features

- Electronic governing, EDC 4
- CAN bus communication
- Compact design
- High power to weight ratio
- Emission compliant
- Noise optimized engine design
- A wide selection of optional equipment and power settings

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

### Fuel system

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

### Intake and exhaust system

- Connection flange for exhaust line
- Turbo charger, centre low with exhaust flange
- Closed crankcase ventilation
- 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

# 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 <sup>3</sup> ) .....	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 <sup>3</sup> /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 <sup>3</sup> /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

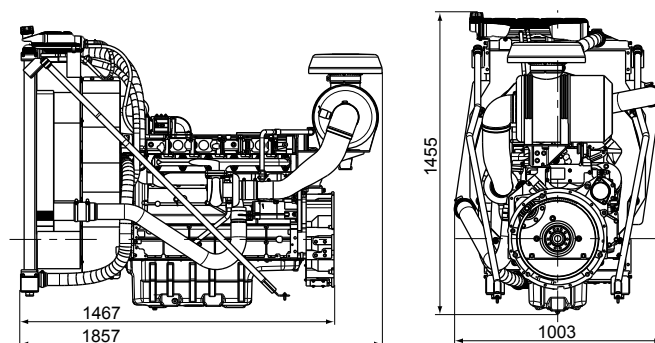
### Instruments and senders

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

### Engine Packing

- Plastic wrapping

- 1), must be ordered, se 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% 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 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.

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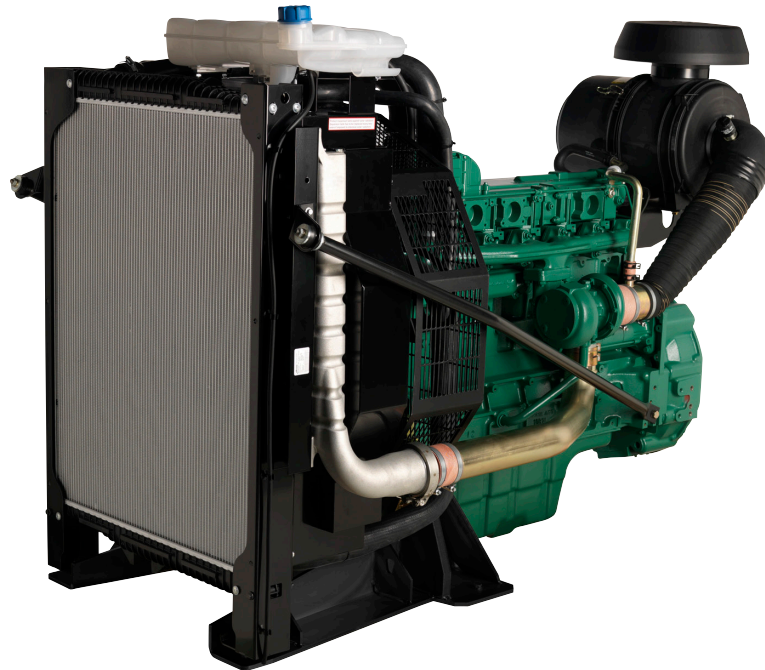


# VOLVO PENTA GENSET ENGINE

## TAD733GE

7.15 liter, in-line 6 cylinder

**VOLVO  
PENTA**



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.

- Electronic governing, EDC4
- 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

### 50 Hz/1500 rpm

Prime power			Standby power		
kWm	kWe	kVa	kWm	kWe	kVa
176	161	201	194	179	224

### 60 Hz/1800 rpm

Prime power			Standby power			Gen.eff.
kWm	kWe	kVa	kWm	kWe	kVa	%
192	177	221	213	197	246	92

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVa = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

# TAD733GE

7.15 liter, in-line 6 cylinder

## VOLVO PENTA GENSET ENGINE

### 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 <sup>3</sup> ).....	7.15 (436.3)
Compression ratio.....	18.1:1
Dry weight, with cooling package, kg (lb).....	900 (1984)
Wet weight, with cooling package, kg (lb).....	968 (2134)

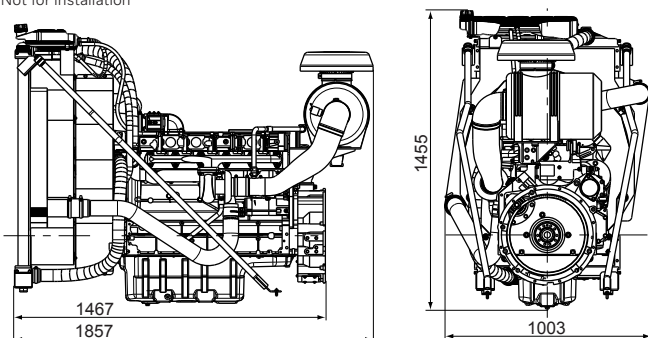
Performance	1500 rpm	1800 rpm
with fan, kW (hp) at:		
Prime Power	176 (239)	192 (261)
Standby Power	194 (264)	213 (289)

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

### Dimensions TAD733GE

Not for installation



### 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
- Two stage air filter
- Heater flange in charge air inlet (without power relay)

#### Cooling system

- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block
- Reliable thermostat with minimum pressure drop
- Cooling water pipe, inlet and outlet
- Belt driven coolant pump, ratio 1.0:1
- Fan hub
- Fan on separate bracket 292mm above crankshaft
- Pusher fan Ø 600 mm

#### Electrical system

- 24V electrical system
- Alternator 1x35A / 24V, low left
- Starter motor, Melco, 5.5kW / 24V, single 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

#### 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.

STAND-BY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.

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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 8528-5 G3.

Please contact your local Volvo Penta dealer for further information. Please note that products illustrated may differ from production models. Not all models and accessories are available in all markets, and standard equipment may vary between different markets. Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

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.

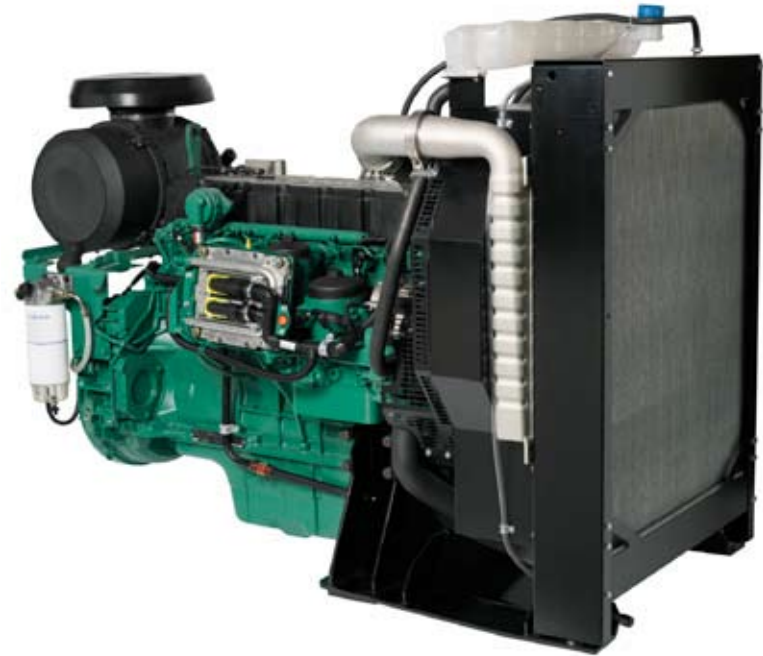
### Technical description

#### 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.



# 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 <sup>3</sup> ).....	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)

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	213 (290)	216 (294)
Max Standby Power	238 (324)	243 (330)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.03 (0.008)	0.03 (0.008)
Max Standby Power	0.03 (0.008)	0.03 (0.008)
Oil system capacity incl filters, liter .....	29	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
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)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption at 27°C, m <sup>3</sup> /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 <sup>3</sup> /min (cfm) at:		
Prime power	33.0 (1165)	36.7 (1296)
Max Standby Power	33.4 (1180)	37.9 (1338)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
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	117 (6654)	124 (7052)
Max Standby Power	128 (7279)	137 (7791)
Fan power consumption, kW (hp)	11.6 (16)	20.0 (27)

## 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 100A / 24 V

### Starting system

- Starter motor, 5.0kW, 24 V

### Instruments and senders

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

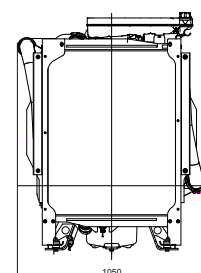
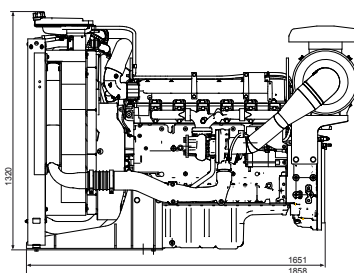
### Engine Packing

- Plastic wrapping

- <sup>1)</sup> must be ordered, se order specification  
– optional equipment or not applicable  
• included in standard specification

## Dimensions TAD734GE

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 EU stage 2 emission legislation according to the Non Road Directive EU 97/68/EC.

### 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.

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

**AB Volvo Penta**

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

The TAD1341GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

### Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 & noise emission

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

The TAD1341GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

### Easy service & maintenance

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

### Technical description

#### Engine and block

- 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 increased piston lifetime
- 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



### Features

- Excellent load acceptance
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

#### 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

- Electronic high pressure 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

#### 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 coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).
- Coolant filter as standard

#### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- 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.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- 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.

# TAD1341GE

## Technical Data

### General

Engine designation .....	TAD1341GE	
No. of cylinders and configuration .....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.) .....	131 (5.16)	
Stroke, mm (in.) .....	158 (6.22)	
Displacement, l (in <sup>3</sup> ) .....	12.78 (780)	
Compression ratio .....	18.1:1	
Wet weight, engine only, kg (lb) .....	1325 (2921)	
Wet weight with Gen Pac, kg (lb) .....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	271 (369)	287 (390)
Standby Power	298 (405)	317 (431)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	230 (0.373)	237 (0.384)
50 %	202 (0.327)	211 (0.342)
75 %	195 (0.316)	202 (0.327)
100 %	191 (0.310)	200 (0.324)
Standby Power, g/kWh (lb/hph)		
25 %	226 (0.366)	242 (0.392)
50 %	200 (0.324)	209 (0.339)
75 %	194 (0.314)	201 (0.326)
100 %	191 (0.310)	200 (0.324)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	22.7 (802)	26.4 (932)
Standby Power	24.1 (849)	29.0 (1023)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	392 (738)	369 (696)
Standby Power	398 (748)	390 (734)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	49.0 (1732)	58.0 (2047)
Standby Power	52.0 (1839)	61.6 (2175)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.7 (237)	8.2 (290)
AOT at max cooling air flow, °C (°F):		
Prime Power	69 (156)	68 (154)
Standby Power	66 (151)	65 (149)

## 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

### 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
- Turbo charger, low right side

### Cooling system

- Radiator incl intercooler
- Coolant pump
- Fan hub
- Thrust fan
- Fan guard
- Belt guard

### Control system

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

### Alternator

- Alternator 80 A

### Starting system

- Starter motor
- Connection facility for extra starter motor

### Instruments and senders

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

### Other equipment

- Expandable base frame

### Engine Packing

- Plastic wrapping

1) must be ordered, se order specification

2) Available later

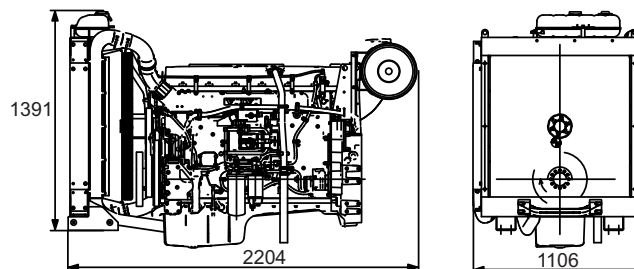
– optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1341GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries.

All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% att rated ambient conditions at delivery. Ratings are based on 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.

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

**FAMCO**  
هایپر صنعت

**VOLVO  
PENTA**

AB Volvo Penta

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



The TAD1342GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

### Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 & noise emission

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

The TAD1342GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

### Easy service & maintenance

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

### Technical description

#### Engine and block

- 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 increased piston lifetime
- 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



### Features

- Excellent load acceptance
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

#### 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

- Electronic high pressure 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

#### 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 coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).

#### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- 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.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- 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.

# TAD1342GE

## Technical Data

### General

Engine designation .....	TAD1342GE	
No. of cylinders and configuration.....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.).....	131 (5.16)	
Stroke, mm (in.).....	158 (6.22)	
Displacement, l (in <sup>3</sup> ).....	12.78 (780)	
Compression ratio.....	18.1:1	
Wet weight, engine only, kg (lb).....	1325 (2921)	
Wet weight with Gen Pac, kg (lb).....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	303 (412)	345 (469)
Standby Power	333 (453)	377 (513)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	224 (0.363)	237 (0.384)
50 %	201 (0.326)	207 (0.336)
75 %	193 (0.313)	200 (0.324)
100 %	191 (0.310)	201 (0.326)
Standby Power, g/kWh (lb/hph)		
25 %	220 (0.357)	231 (0.374)
50 %	198 (0.321)	205 (0.332)
75 %	193 (0.313)	200 (0.324)
100 %	191 (0.310)	201 (0.326)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	24.6 (869)	28.7 (1014)
Standby Power	25.9 (915)	28.7 (1014)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	395 (743)	423 (793)
Standby Power	408 (766)	481 (898)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	53.5 (1889)	65.0 (2295)
Standby Power	57.0 (2013)	69.5 (2454)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
AOT at max cooling air flow, °C (°F):		
Prime Power	68 (154)	66 (151)
Standby Power	65 (149)	61 (142)
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.7 (237)	8.2 (290)

## 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

### 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

Turbo charger, low right side

### Cooling system

Radiator incl intercooler

Coolant pump

Fan hub

Pusher fan

Fan guard

Belt guard

### Control system

Engine Management System (EMS) with

CAN-bus interface SAE J1939

### Alternator

Alternator 80 A

### Starting system

Starter motor

Connection facility for extra starter motor

### Instruments and senders

Temp.- and oil pressure for automatic

stop/alarm

### Other equipment

Expandable base frame

### Engine Packing

Plastic wrapping

1) must be ordered, see order specification

2) Available later

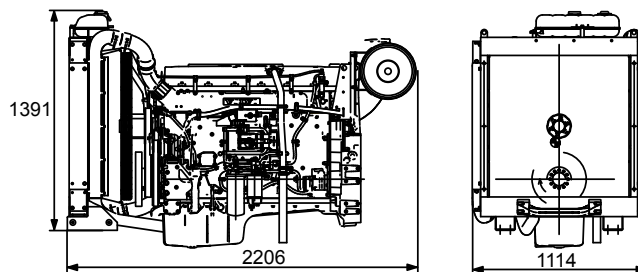
– optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1342GE

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 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.

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

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

AB Volvo Penta

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

The TAD1343GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

### Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 & noise emission

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

The TAD1343GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

### Easy service & maintenance

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

### Technical description

#### Engine and block

- 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 increased piston lifetime
- 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



### Features

- Excellent load acceptance
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

#### 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

- Electronic high pressure 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

#### 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 coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).

#### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- 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.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- 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.



# TAD1343GE

## Technical Data

### General

Engine designation .....	TAD1343GE	
No. of cylinders and configuration.....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.).....	131 (5.16)	
Stroke, mm (in.).....	158 (6.22)	
Displacement, l (in <sup>3</sup> ).....	12.78 (780)	
Compression ratio.....	18.1:1	
Wet weight, engine only, kg (lb).....	1325 (2921)	
Wet weight with Gen Pac, kg (lb).....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	325 (442)	353 (480)
Standby Power	356 (484)	388 (528)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	222 (0.360)	236 (0.383)
50 %	200 (0.324)	206 (0.334)
75 %	193 (0.313)	200 (0.324)
100 %	192 (0.311)	200 (0.324)
Standby Power, g/kWh (lb/hph)		
25 %	218 (0.353)	230 (0.373)
50 %	198 (0.321)	204 (0.331)
75 %	192 (0.311)	200 (0.324)
100 %	194 (0.314)	201 (0.326)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	26 (918)	28 (989)
Standby Power	27 (954)	28 (989)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	400 (752)	446 (835)
Standby Power	420 (788)	498 (928)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	56 (1978)	66 (2331)
Standby Power	60 (2119)	71 (2507)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
AOT at max cooling air flow, °C (°F):		
Prime Power	65 (149)	66 (151)
Standby Power	61 (142)	63 (145)
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.8 (240)	8.3 (293)

## 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

### 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  
Turbo charger, low right side

### Cooling system

Radiator incl intercooler  
Coolant pump  
Fan hub  
Pusher fan  
Fan guard  
Belt guard

### Control system

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

### Alternator

Alternator 80 A

### Starting system

Starter motor  
Connection facility for extra starter motor

### Instruments and senders

Temp.- and oil pressure for automatic  
stop/alarm

### Other equipment

Expandable base frame

### Engine Packing

Plastic wrapping

1) must be ordered, se order specification

2) Available later

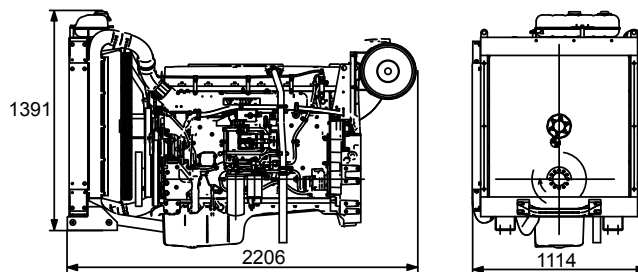
– optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1343GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries.

All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% att rated ambient conditions at delivery. Ratings are based on 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.

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

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

AB Volvo Penta

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

The TAD1344GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

### Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 & noise emission

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

The TAD1344GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

### Easy service & maintenance

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

### Technical description

#### Engine and block

- 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 increased piston lifetime
- 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



### Features

- Excellent load acceptance
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

#### 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

- Electronic high pressure 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

#### 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 coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).

#### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- 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.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- 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.

# TAD1344GE

## Technical Data

### General

Engine designation .....	TAD1344GE	
No. of cylinders and configuration.....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.).....	131 (5.16)	
Stroke, mm (in.).....	158 (6.22)	
Displacement, l (in <sup>3</sup> ).....	12.78 (780)	
Compression ratio.....	18.1:1	
Wet weight, engine only, kg (lb).....	1325 (2921)	
Wet weight with Gen Pac, kg (lb).....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	354 (481)	392 (533)
Standby Power	389 (529)	431 (586)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	219 (0.355)	229 (0.371)
50 %	200 (0.324)	205 (0.332)
75 %	197 (0.319)	200 (0.324)
100 %	194 (0.314)	201 (0.326)
Standby Power, g/kWh (lb/hph)		
25 %	215 (0.349)	225 (0.365)
50 %	199 (0.323)	204 (0.331)
75 %	198 (0.321)	201 (0.326)
100 %	195 (0.316)	202 (0.327)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	27 (954)	33 (1165)
Standby Power	28 (989)	33 (1165)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	440 (824)	440 (824)
Standby Power	465 (869)	490 (914)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	63.5 (2243)	77.0 (2719)
Standby Power	67.5 (2384)	82.0 (2896)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
AOT at max cooling air flow, °C (°F):		
Prime Power	63 (145)	63 (145)
Standby Power	59 (138)	60 (140)
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.5 (230)	8.1 (286)

## 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

### 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
- Turbo charger, low right side

### Cooling system

- Radiator incl intercooler
- Coolant pump
- Fan hub
- Pusher fan
- Fan guard
- Belt guard

### Control system

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

### Alternator

- Alternator 80 A

### Starting system

- Starter motor
- Connection facility for extra starter motor

### Instruments and senders

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

### Other equipment

- Expandable base frame

### Engine Packing

- Plastic wrapping

1) must be ordered, se order specification

2) Available later

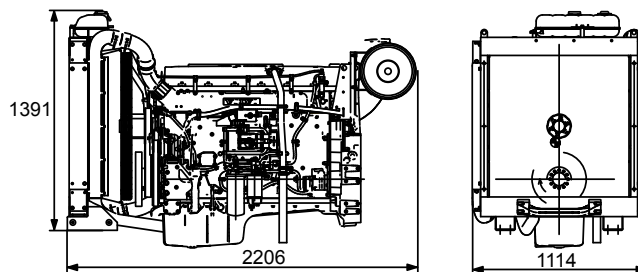
– optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1344GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries.

All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% att rated ambient conditions at delivery. Ratings are based on 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.

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

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

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



The TAD1345GE is a powerful, reliable and economical Generating Set Diesel Engine built on the dependable Volvo in-line six concept.

### Durability & low noise

Designed for easy, fast and economical installation. Field tested to ensure highest standard of durability and long life. 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 & noise emission

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

The TAD1345GE is EU Stage 2 emission certified. An electronically controlled viscous fan drive is available giving substantially lower noise and fuel consumption.

### Easy service & maintenance

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

### Technical description

#### Engine and block

- 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 increased piston lifetime
- 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



### Features

- High power density
- Highly efficient cooling system
- Dual Speed 1500 / 1800 rpm
- EMS 2
- EU Stage 2 emission certified
- Wide range of optional equipment including visco fan.

#### 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

- Electronic high pressure 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

#### 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 coolant pump with high degree of efficiency
- Electronically controlled viscous fan drive provides lower noise and fuel consumption (optional).

#### Turbo charger

- Efficient and reliable turbo charger
- Electronically controlled Waste-gate
- 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.
- Possibility to perform a start battery test according to the NCPA requirements via CAN bus signals.
- 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.

# TAD1345GE

## Technical Data

### General

Engine designation .....	TAD1345GE	
No. of cylinders and configuration.....	in-line 6	
Method of operation .....	4-stroke	
Bore, mm (in.).....	131 (5.16)	
Stroke, mm (in.).....	158 (6.22)	
Displacement, l (in <sup>3</sup> ).....	12.78 (780)	
Compression ratio.....	18.1:1	
Wet weight, engine only, kg (lb).....	1325 (2921)	
Wet weight with Gen Pac, kg (lb).....	1790 (3946)	

<b>Performance</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
with fan, kW (hp) at:		
Prime Power	388 (528)	392 (533)
Standby Power	431 (586)	431 (586)

<b>Lubrication system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Oil consumption, liter/h (US gal/h) at:		
Prime Power	0.04 (0.011)	0.05 (0.013)
Standby Power	0.04 (0.011)	0.05 (0.013)
Oil system capacity incl filters, liter .....	36	

<b>Fuel system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Specific fuel consumption at:		
Prime Power, g/kWh (lb/hph)		
25 %	217 (0.352)	229 (0.371)
50 %	199 (0.323)	205 (0.332)
75 %	197 (0.319)	200 (0.324)
100 %	196 (0.318)	201 (0.326)
Standby Power, g/kWh (lb/hph)		
25 %	211 (0.342)	225 (0.365)
50 %	198 (0.321)	204 (0.331)
75 %	197 (0.319)	201 (0.326)
100 %	196 (0.318)	202 (0.327)

<b>Intake and exhaust system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption, m <sup>3</sup> /min (cfm) at:		
Prime Power	26.8 (946)	33.0 (1165)
Standby Power	27.6 (975)	33.0 (1165)
Max allowable air intake restriction, kPa (PSI) .....	5 (0.7)	
Exhaust gas temperature after turbine, °C (°F) at:		
Prime Power	475 (887)	440 (824)
Standby Power	570 (1058)	490 (914)
Max allowable back-pressure in exhaust line, kPa (PSI) .....	10 (1.5)	
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	56.8 (2006)	77.0 (2719)
Standby Power	58.3 (2059)	82.0 (2896)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
Fan power consumption, std ratio, kW (hp) 10 (14)		18 (24)

<b>Cooling system</b>	<b>1500 rpm</b>	<b>1800 rpm</b>
AOT at max cooling air flow, °C (°F):		
Prime Power	60 (140)	63 (145)
Standby Power	56 (133)	60 (140)
Max cooling air flow, m <sup>3</sup> /s (cfs)	6.7 (237)	8.2 (290)

## 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

### 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
- Turbo charger, low right side

### Cooling system

- Radiator incl intercooler
- Coolant pump
- Fan hub
- Pusher fan
- Fan guard
- Belt guard

### Control system

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

### Alternator

- Alternator 80 A

### Starting system

- Starter motor
- Connection facility for extra starter motor

### Instruments and senders

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

### Other equipment

- Expandable base frame

### Engine Packing

- Plastic wrapping

1) must be ordered, se order specification

2) Available later

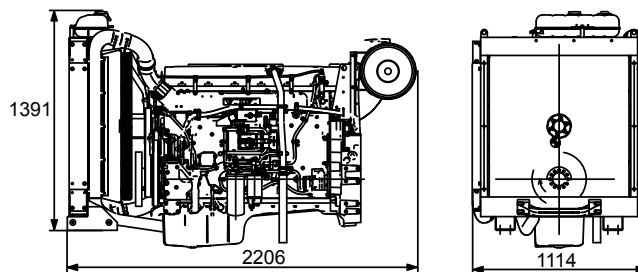
– optional equipment or not applicable

• included in standard specification

For our wide range of optional equipment, please see Order specification.

## Dimensions TAD1345GE

Not for installation



Note! Not all models, standard equipment and accessories are available in all countries.

All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/liter (7.01 lb/US gal), also where this involves a deviation from the standards. Power output guaranteed within 0 to +2% att rated ambient conditions at delivery. Ratings are based on 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.

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

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

AB Volvo Penta

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

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



# 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 <sup>3</sup> ) .....	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 <sup>3</sup> /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 <sup>3</sup> /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

- 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
- Belt driven coolant pump
- Fan hub
- Thrust fan
- 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

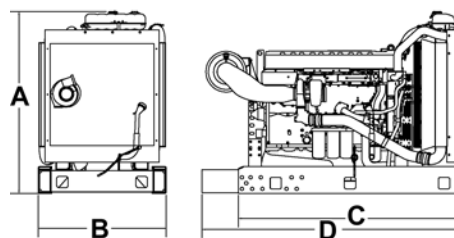
### Other equipment

- Expandable base frame

### Engine Packing

- Plastic wrapping

- <sup>1)</sup> 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% 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 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.

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

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

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

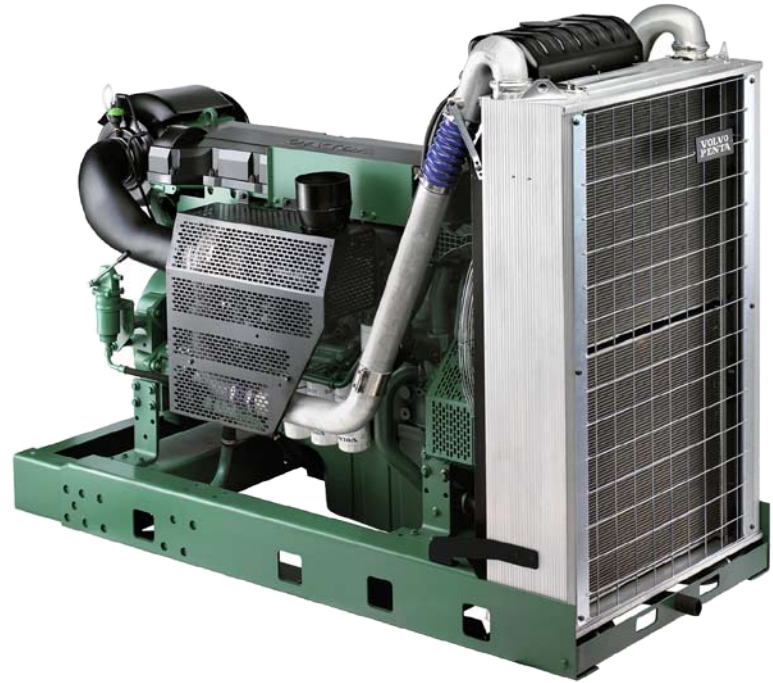
- Full flow disposable spin-on oil filter, for extra high filtration
- The lubricating oil level can be measured during operation
- Gear type lubricating oil pump, gear driven by the transmission

#### 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.

# 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 <sup>3</sup> ) .....	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 <sup>3</sup> /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 <sup>3</sup> /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

- 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
- Gear driven coolant pump
- Fan hub
- Thrust fan
- 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

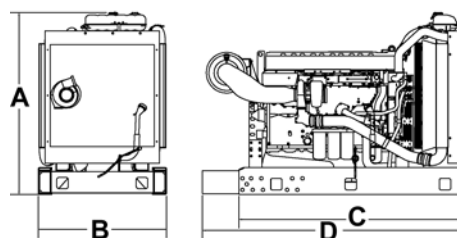
### Other equipment

- Expandable base frame

### Engine Packing

- Plastic warpping

- <sup>1)</sup> must be ordered, se 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% 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 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.

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

**AB Volvo Penta**

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



613 kW (834 hp) at 1500 rpm, 674 kW (917 hp) at 1800 rpm, acc. to ISO 3046

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

- 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
- Belt driven, maintenance-free coolant pump with high degree of efficiency

#### 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

- 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

# 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 <sup>3</sup> ).....	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 (0.026)
Max Standby Power	0.11 (0.029)	0.11 (0.039)
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 <sup>3</sup> /min (cfm) at:		
Prime Power	44 (1541)	53 (1874)
Max Standby Power	47 (1658)	55 (1937)
Max allowable air intake restriction, kPa (PSI)	5 (0.7)	5 (0.7)
Heat rejection to exhaust, kW (BTU/min) at:		
Prime Power	415 (23601)	472 (26842)
Max Standby Power	463 (26330)	530 (30141)
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 (PSI)	10 (1.5)	10 (1.5)
Exhaust gas flow, m <sup>3</sup> /min (cfm) at:		
Prime power	101.6 (3586)	119 (4201)
Max Standby Power	111.8 (3949)	130.1 (4593)

## 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 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

Belt driven 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

### Instruments and senders

Temp. and pressure for automatic stop/alarm

### Other equipment

Expandable base frame

### Engine Packing

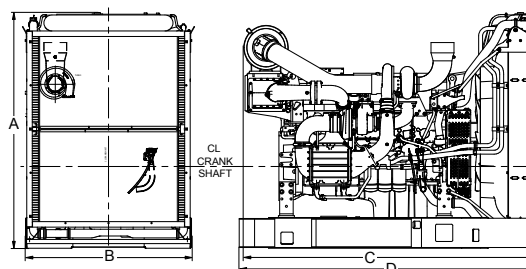
Plastic wrapping

– optional equipment or not applicable

• included in standard specification

## Dimensions TWD1643GE

Not for installation



A\* = 1925 mm / 76 in

B\* = 1350 mm / 53.1 in (max width 1401 mm / 55.2 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

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

### 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 Generator Set Engines Sales Guide.

**FAMCO**  
هایپر صنعت

**VOLVO**  
**PENTA**

AB Volvo Penta

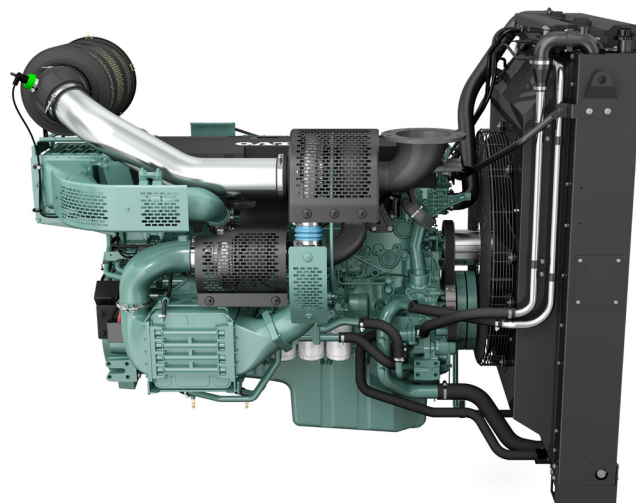
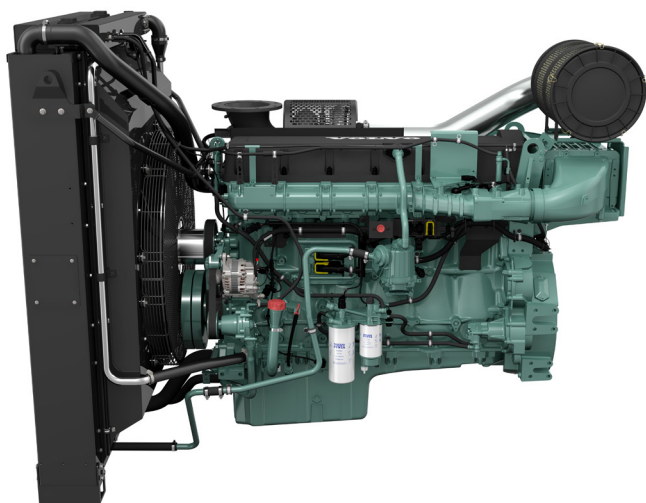
SE-405 08 Göteborg, Sweden  
www.volvopenta.com

## VOLVO PENTA GENSET ENGINE

# TWD1644GE

16 liter, in-line 6 cylinder

**VOLVO  
PENTA**



TWD1644GE is a reliable, powerful and compact in-line 6 cylinder diesel engine. It's designed to power a wide range of stand-by and prime power generator sets.

This 16 liter diesel engine utilizes dual-stage turbochargers and heavy-duty steel pistons to provide excellent power density. It features a proven combustion technology with high-pressure unit injectors, resulting in high fuel efficiency and low exhaust emission levels.

The engine also features a compact and low weight design that is well-balanced, providing smooth operation with low noise and vibration. It's designed for easily accessible service points.

A wide range of options is available, including a heavy-duty frame, cooling package and air-filter that will suit a variety of installations.

- High power density
- High fuel efficiency
- Low exhaust emissions - equal to EU stage II
- Compact and low weight design
- Switchable between 1500/1800 rpm
- Suitable for a wide range of applications

	50 Hz / 1500 rpm									60 Hz / 1800 rpm								
	Continuous power			Prime power			Standby power			Continuous power			Prime power			Standby power		
	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA
TWD1644GE	416	391	489	554	521	652	609	573	717	437	410	513	582	547	684	640	602	752

Generator efficiency (typical): 94%

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVA = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data



# TWD1644GE

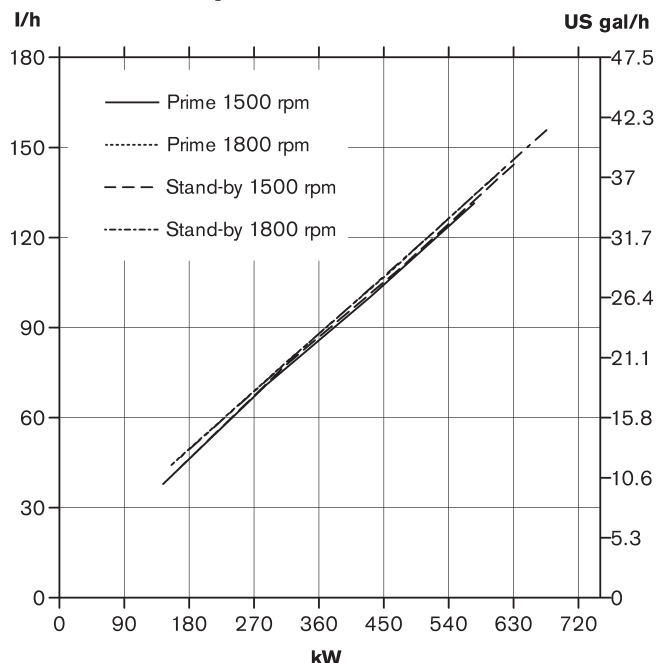
16 liter, in-line 6 cylinder

**VOLVO PENTA GENSET ENGINE**

## Technical Data

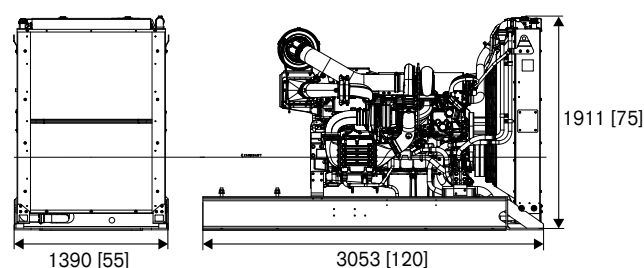
Configuration and no. of cylinders .....	in-line 6
Displacement, l (in <sup>3</sup> ) .....	16.12 (983.9)
Method of operation .....	4-stroke
Bore, mm (in.) .....	144 (5.67)
Stroke, mm (in.) .....	165 (6.50)
Compression ratio .....	16.8:1
Wet weight, engine only, kg (lb) .....	1810 (3390)
Wet weight, engine incl. cooling system, air filtration system and frame kg (lb) .....	2767(6100)

## Fuel consumption



## Dimensions

Not for installation. Dimensions in mm [inch].



## Rating guidelines

**CONTINUOUS POWER** is defined as being the maximum power which the generating set is capable of delivering continuously while supplying a constant electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer.

**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.

**STAND-BY POWER** rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying stand-by 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.

## Technical description

### Engine and block

- Wet, replaceable cylinder liners
- Steel pistons for high durability
- Crankshaft induction hardened bearing surfaces and fillets with seven main bearings
- Case hardened and Nitrocarburized transmission gears for heavy duty operation
- Viscous type crankshaft vibration dampers to withstand single bearing alternator torsional vibrations
- Replaceable valve guides and valve seats
- Overhead camshaft and 4 valves per cylinder

### Lubrication system

- Full flow oil cooler
- Full flow disposable spin-on oil filter
- Bypass filter with extra high filtration

### Fuel system

- Electronic high pressure unit injectors
- Fuel prefilter with water separator and water-in-fuel indicator / alarm
- Fine fuel filter with manual feed pump and fuel pressure sensor

### Cooling system

- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block.
- Dual-circuit
- Belt driven coolant pumps with high degree of efficiency
- Water-cooled charge air coolers

### Turbo charger

- Efficient and reliable dual stage turbo chargers
- Dual charge air coolers
- Waste gate system for the high pressure turbo charger

### Electrical system

- Engine Management System 2.3 (EMS 2.3), 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.
- Sensors for inputs such as: oil pressure, oil temp, boost pressure, boost temp, coolant temp, fuel temp, air filter pressure, water in fuel, fuel pressure and two speed sensors.

### Control and monitoring

- The optional DCU2 control panel features engine control, monitoring, alarm, parameter settings and diagnostic functions. It also presents error codes in clear text.

### Frame

- Optional heavy duty frames for minimized noise and vibration.

## 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 8528-5 G3.

Please contact your local Volvo Penta dealer for further information. Please note that products illustrated may differ from production models. Not all models and accessories are available in all markets, and standard equipment may vary between different markets. Every effort has been made to ensure that facts and figures are correct at the time of publication. However, Volvo Penta reserves the right to make changes without prior notice at any time.

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هایپر صنعت

**VOLVO  
PENTA**

**AB Volvo Penta**

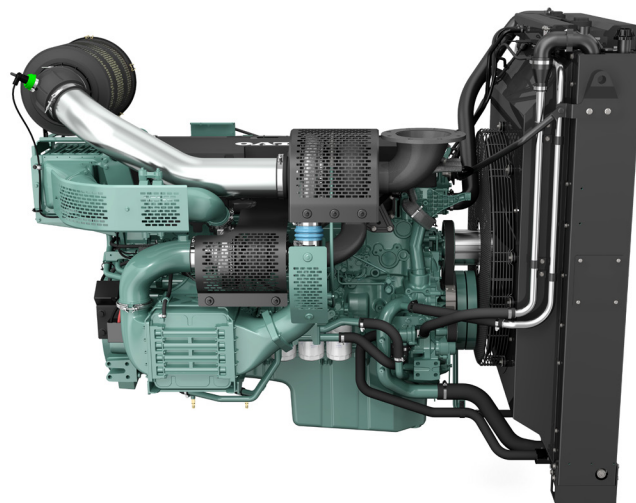
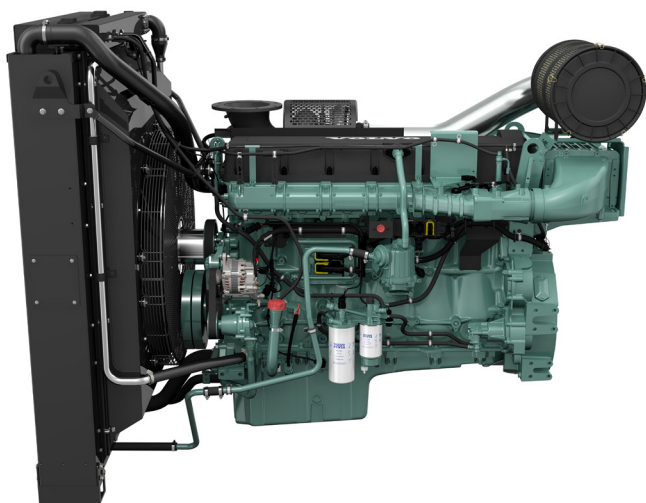
SE-405 08 Göteborg, Sweden  
www.volvopenta.com

## VOLVO PENTA GENSET ENGINE

# TWD1645GE

16.12 liter, in-line 6 cylinder

**VOLVO  
PENTA**



TWD1645GE is a reliable, powerful and compact in-line 6 cylinder diesel engine. It's designed to power a wide range of stand-by and prime power generator sets.

This 16 liter diesel engine utilizes dual-stage turbochargers and heavy-duty steel pistons to provide excellent power density.

It features a proven combustion technology with high-pressure unit injectors, resulting in high fuel efficiency and low exhaust emission levels.

The engine also features a compact and low weight design that is well-balanced, providing smooth operation with low noise and vibration. It's designed for easily accessible service points.

A wide range of options is available, including a heavy-duty frame, cooling package and air-filter that will suit a variety of installations.

- High power density
- High fuel efficiency
- Low exhaust emissions - fulfills UNECE REG 96 Stage (equal to EU stage II)
- Compact and low weight design
- Switchable between 1500/1800 rpm
- Suitable for a wide range of applications

### 50 Hz / 1500 rpm

### 60 Hz / 1800 rpm

	Continuous power			Prime power			Standby power			Continuous power			Prime power			Standby power		
	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA
TWD1645GE	446	420	525	595	560	700	654	616	770	464	437	545	619	582	727	681	640	800

Generator efficiency (typical): 94%

kWm = kiloWatt mechanical, net with fan\*; kWe = kiloWatt electrical = kWm x Generator eff.; kVA = kiloVoltAmpere calculations based on a 0.8 power factor = kWe / 0.8

1 kW = 1 hp x 1.36; 1 hp = 1 kW x 0.7355

\*) According to technical data

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تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

# TWD1645GE

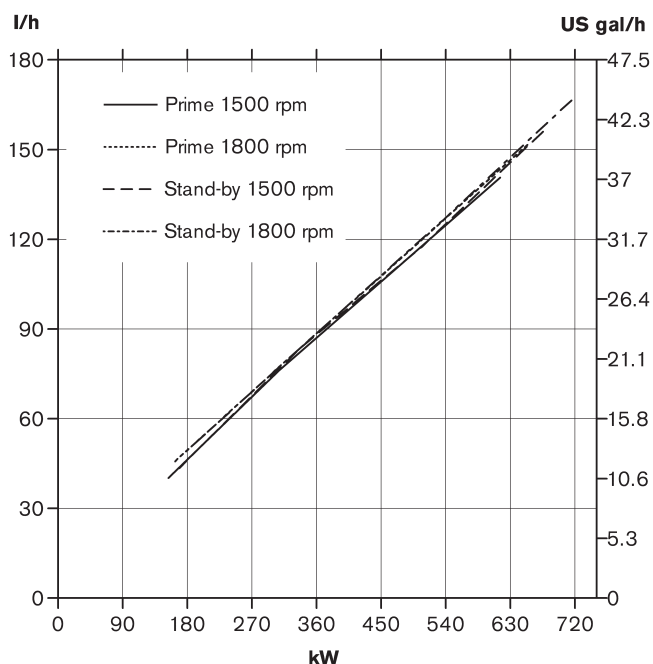
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## VOLVO PENTA GENSET ENGINE

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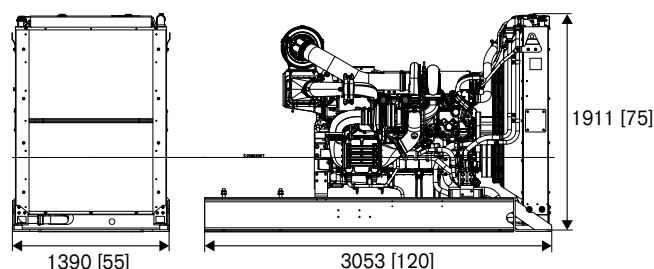
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