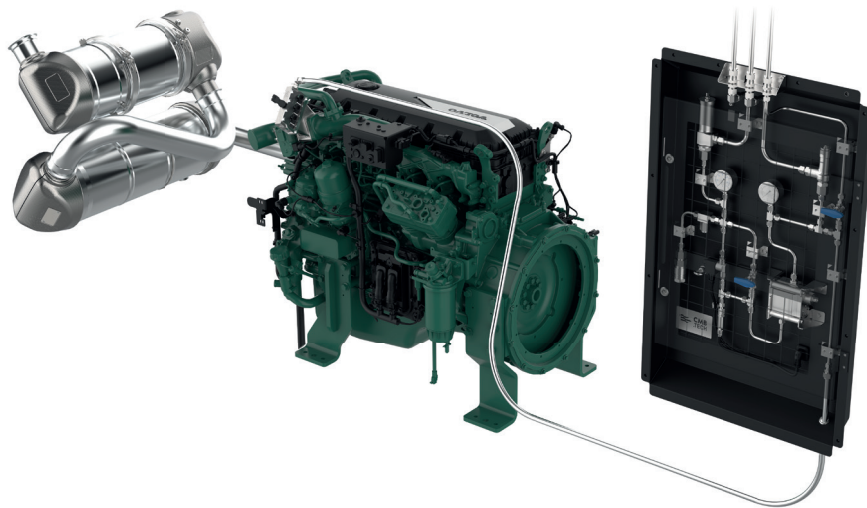


TADH880-882GE

7.7 liter, in-line 6 cylinder



The TADH880-882GE is a dual-fuel-ready engine that's able to run on a fuel mix of diesel/HVO and hydrogen after being fitted with a CMB.TECH hydrogen kit.

Benefits of hydrogen dual-fuel engines

A hydrogen dual-fuel engine can offer a cost-effective path toward decarbonization, leveraging proven combustion technology and its reliability and familiarity. By displacing a large share of diesel with hydrogen, it significantly reduces CO₂ emissions, while other exhaust emissions remain similar or lower than conventional diesel engines.

Performance and uptime

Performance remains uncompromised, delivering the same power and torque curves operators expect from a standard diesel unit. Installation requirements for OEMs are minimal, ensuring swift integration without major design overhauls. With full diesel backup capability, uptime remains maximized—providing both sustainability and operational security in one solution.

Low exhaust emission

Combined with optimized DPF/SCR technology, the TADH880-882GE complies with EU Stage V emissions. After being fitted with CMB.TECH's hydrogen kit, and depending on load and performance, this engine can see up to an 80% reduction in CO₂ emissions while still meeting Stage V emissions regulations.

Service and maintenance

The engine includes accessible service points, with optional remotely mounted filters and components. Standard engine maintenance and is handled by Volvo Penta's service network, with support from CMB.TECH for the hydrogen kit.

- Proven and straight-forward design - built on Volvo Group technology
- Compact, simple installation and easy to service
- Continues to meet emission standards
- Full diesel back up to ensure high uptime

50 Hz / 1500 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
TADH880GE	97	90	113	129	120	150	142	132	165	113	105	132	151	140	175	166	154	193
TADH881GE	129	120	150	172	160	200	189	176	220	149	138	173	198	184	230	218	203	253
TADH882GE	161	150	188	215	200	250	237	220	276	164	152	190	218	203	254	240	223	279

60 Hz / 1800 rpm

Data Center Power	>300h running per year or non-reliable utility power in the country			≤300h running per year and reliable utility power in the country			>300h running per year or non-reliable utility power in the country			≤300h running per year and reliable utility power in the country		
	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA	kWm	kWe	kVA
TADH880GE	129	120	150	142	132	165	151	140	175	166	154	193
TADH881GE	172	160	200	189	176	220	198	184	230	218	203	253
TADH882GE	215	200	250	237	220	276	218	203	254	240	223	279

Generator efficiency (typical): TADH880GE/TADH881GE/TADH882GE 93%

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

TADH880-882GE

7.7 liter, in-line 6 cylinder

Technical data

Configuration and no. of cylinders in-line 6
 Displacement, l (in³) 7.7 (470)
 Method of operation 4-stroke
 Bore, mm (in.) 110 (4.33)
 Stroke, mm (in.) 135 (5.31)
 Wet weight ^{*}, engine only, kg (lb) 723 (1594)
 Compression ratio 17.2:1
 Direction of rotation (viewed towards flywheel) counterclockwise
^{*} The engine is weighed with components that consist of the minimum running weight including standard flywheel and excluding cooling package, hoses and air filters.

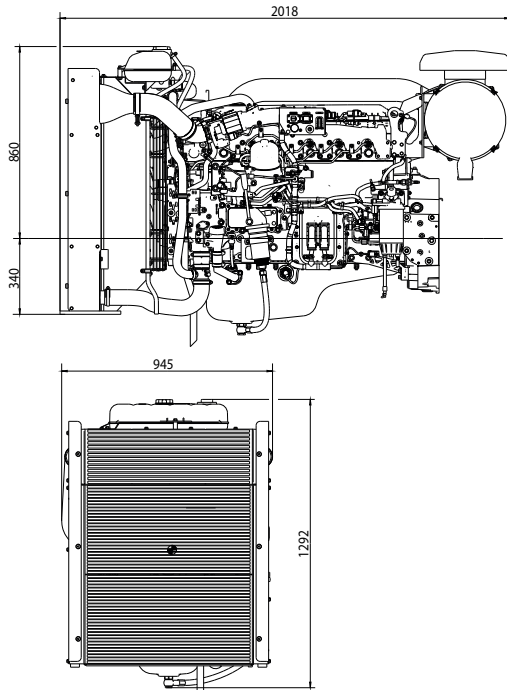
Fuel consumption

Prime Power, g/kWh (lb/hph)

	TADH880GE		TADH881GE		TADH882GE	
	1500 rpm	1800 rpm	1500 rpm	1800 rpm	1500 rpm	1800 rpm
25%	237 (0.384)	247 (0.400)	221 (0.358)	239 (0.387)	212 (0.344)	234 (0.379)
50%	206 (0.334)	213 (0.345)	199 (0.323)	206 (0.334)	196 (0.318)	205 (0.332)
75%	197 (0.319)	203 (0.329)	195 (0.316)	200 (0.325)	195 (0.316)	199 (0.323)
100%	195 (0.316)	200 (0.323)	195 (0.316)	198 (0.320)	198 (0.321)	198 (0.321)

Dimensions

Not for installation. Dimensions in mm.



Technical description

Engine and block

- Cast iron cylinder block
- Replaceable valve guides and valve seats
- Overhead camshaft and four valves per cylinder
- Flywheel housing with connection according to SAE 2

Lubrication system

- Full flow cartridge insert filter
- Gear type lubrication oil pump, gear driven

Fuel system

- Electronically controlled common rail injectors
- Gear driven fuel feed pump
- Fuel pre filter with water separator and water-in-fuel indicator/alarm
- Manual feed pump on pre filter

Cooling system

- Belt driven coolant pump with high degree of efficiency

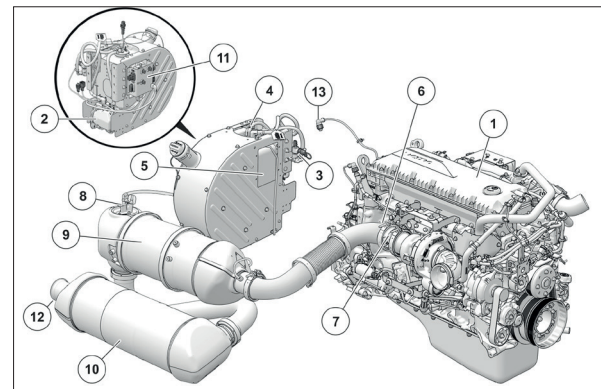
Electrical system

- Engine Management System (EMS), includes advanced facilities for diagnostics and fault tracing.
- The instruments and controls connect to the engine via the CAN SAE J1939 interface. Options available for engine control equipment.
- Software ready for dual fuel use

Exhaust after treatment system

- SCR, DPF+ DOC and uncooled EGR
- Airless urea injection
- Wide range of options available, including different sized AUS/DEF tanks (also possible for OEM to design own tank).
- AUS/DEF Quality Level Temperature Sensor
- NOx sensor ready for dual fuel use

Main components



1. Engine with common rail fuel injection
2. AdBlue Pump Unit
3. Solenoid Valve, heating
4. Tank armature with sensors and heater
5. AdBlue tank, heated
6. NOx Sensor
7. Electrical Exhaust Pressure Governor
8. Dosage Valve
9. Diesel particulate filter
10. Muffler with Catalytic Converter
11. After treatment Control Module (ACM)
12. NOx Sensor
13. Air inlet Temperature Sensor and pressure sensor

All necessary components are available in various lengths and sizes, cables, heated hoses and tanks. A complete system.

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. A 10 % 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.

DATA CENTRE POWER is defined as being the maximum power which a generating set is capable of delivering while supplying a variable or continuous electrical load and during unlimited run hours. Depending on the sites to supply and the availability of reliable utility, the generating set manufacturer is responsible to define what power level he is able to supply to fulfil that requirement including hardware or software or maintenance plan adaptation.

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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