

TAD840GE-B / TAD841-843GE

7.7 liter, in-line 6 cylinder



The TAD840GE-B and TAD841-843GE 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 TAD840GE-B and TAD841-843GE complies with EU Stage II exhaust emission regulations.

Easy service & maintenance

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

- Electronic governing EMS
- CAN bus communication
- Compact design for the power class
- High power to weight ratio
- Emission compliant acc. to EU Stage II
- Noise optimized engine design
- RoHS2 Compliant
- Dual speed

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
TAD840GE-B	130	120	150	177	163	203	194	178	223	141	130	162	194	178	223	213	196	245
TAD841 GE	165	152	190	220	202	253	242	223	278	169	156	194	225	207	259	248	228	285
TAD842GE	196	182	228	261	243	303	287	267	334	196	182	227	261	243	303	287	267	334
TAD843GE	210	195	245	280	260	326	308	286	359	205	191	239	274	254	318	301	280	350

60 Hz / 1800 rpm

50 Hz / 1500 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
TAD840GE-B	177	163	203	194	178	223	194	178	223	213	196	245
TAD841 GE	220	202	253	242	223	278	225	207	259	248	228	285
TAD842GE	261	243	303	287	267	334	261	243	303	287	267	334
TAD843GE	280	260	326	308	286	359	274	254	318	301	280	350

Generator efficiency (typical): TAD840GE-B/TAD841 GE 92%, TAD842GE/TAD843GE 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

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Technical Data

Configuration and no. of cylinders	in-line 6
Displacement, l (in ³)	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).....	737 (1625)

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
- Lift eyelets
- Flywheel housing with connection acc. to SAE1/SAE2
- 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 dipstick, short in front
- Integrated full flow oil cooler, side-mounted

Fuel system

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

Intake and exhaust system

- Connection flange for exhaust line
- Turbo charger, centre low with exhaust flange
- Two-stage air filter, with cyclon
- Heater flange in charge air inlet (with relay)

Cooling system

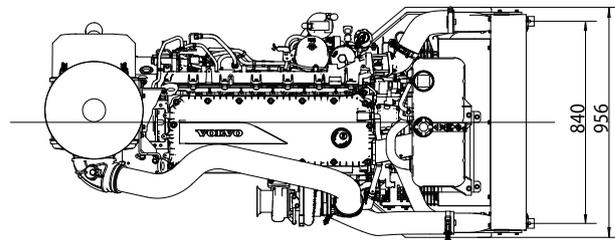
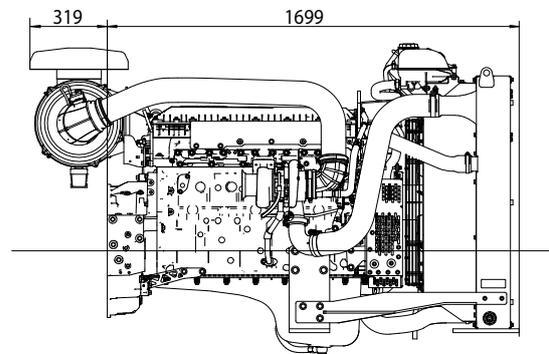
- Belt driven, maintenance-free coolant pump with high degree of efficiency
- Efficient cooling with accurate coolant control through a water distribution duct in the cylinder block
- Reliable thermostat with minimum pressure drop
- Pusher fan
- Visco fan or fixed fan

Electrical system

- Engine Management System (EMS), 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 Module (CIM). The CIM converts the digital CAN bus signal to an analog signal, making it possible to connect a variety of instruments. The CIM is a control panel with display, engine control, monitoring, alarm, parameter setting and diagnostic functions. The CIM 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.

Target dimensions

Not for installation. Dimensions in mm.



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.



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