TAD1170-1172VE
10.84 litre, in-line 6 cylinder - 235, 265 & 285 kW
EU Stage IV / US EPA Tier 4 Final

TAD1170-1172VE is a powerful, reliable and economical Off-road Diesel Engine range built on the Volvo Group in-line six concept.

**Low cost of ownership**
World class fuel efficiency combined with a reliable exhaust aftertreatment system gives high uptime as well as low cost of ownership. No downtime for regeneration or decreased service intervals.

**Compact & simple installation**
SCR technology selected by Volvo does not increase amount of cooling capacity needed. As optional equipment all material needed in order to install the engine can be ordered from Volvo Penta. Installation guidelines as well as drawings and CAD models are easy to access. The result is an engine and aftertreatment system that is easy to install.

**Durability & low noise**
Long experience with SCR systems in combination with base engine development reduces risk of downtime. Well-balanced to produce smooth operation with low noise.

**Power & torque**
Maximum power and torque available at low rpm. As a result noise as well as fuel consumption is very low. Useful engine speed for the TAD1170-1172VE is due to power and torque layout very flexible.

**Low exhaust emission**
Efficient injection as well as robust engine design in combination with optimised SCR technology and a light EGR contributes to excellent combustion and low fuel consumption.

**Easy service & maintenance**
Easily accessible service and maintenance points contribute to the ease of service of the engine. As optional equipment possible to remote mount filters and service points.

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**Technical description**

**Engine and block**
- Cast iron cylinder block
- Wet, replaceable cylinder liners
- Replaceable valve guides and valve seats
- Overhead camshaft and four valves per cylinder

**Lubrication system**
- Full flow disposable spin-on oil filter, for extra high filtration
- Gear type lubricating oil pump, gear driven by the transmission
- Oil level sensor at startup

**Fuel system**
- Electronic high pressure unit injectors
- Fuel prefiter 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**
- Available as Power pack or base engine.
- Belt driven coolant pump with high degree of efficiency

**Turbo charger**
- Electronically controlled Waste-gate

**Electrical system**
- Engine Management System 2 (EMS 2.3), an electronically controlled processing system which optimizes engine performance.
- The instruments and controls connect to the engine via the CAN SAE J1939 interface. Options available for engine control equipment.

**Exhaust aftertreatment system**
- SCR and light EGR only
- Airless urea injection
- Wide range of options available, including different sized AdBlue® / DEF tanks (also possible for OEM to design own tank).
- AdBlue/DEF Quality Level Temperature Sensor for US Market

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**Proven and straight-forward design - built on Volvo Group technology**
**Low cost of ownership and operation**
**High power and torque already at low engine speed**
**SCR and light EGR only - no DPF, DOC or regeneration**
**Compact, simple installation and easy to service**
**Similar engine footprint for all emission standards**
**Wide range of optional equipment**
### Technical data

- **Engine designation**: TAD1170-1172VE
- **Configuration and no. of cylinders**: in-line 6
- **Displacement, l (in³)**: 10.84 (661)
- **Method of operation**: 4-stroke
- **Direction of rotation (viewed towards flywheel)**: anti-clockwise
- **Bore, mm (in.)**: 123 (4.84)
- **Stroke, mm (in.)**: 152 (5.98)
- **Compression ratio**: 17.0:1
- **Dry weight, engine only, kg (lb)**: 1041 (2295)

<table>
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<th>Hp</th>
<th>rpm</th>
<th>Max Nm</th>
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### Main components, Principal layout

The illustration shows the main components of the aftertreatment system and its piping connections.

1. Engine
2. Pump Unit (PU)
3. Solenoid Valve, heating/cooling
4. AdBlue/DEF Level Temperature Sensor for EU Market
5. AdBlue/DEF Quality Level Temperature Sensor for US Market
6. NOx Sensor
7. Temperature Sensor Exhaust
8. Dosage Valve (DV)
9. Muffler with Catalytic Converter
10. Aftertreatment Control Module (ACM)
11. NOx Sensor
12. Temperature Sensor Air

### Dimensions

Not for installation. Dimensions in mm.

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ/kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/lmp gal), also where this involves a deviation from the standards.

### Additional information

For additional information, please contact your Volvo Penta representative or visit www.volvopenta.com.

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