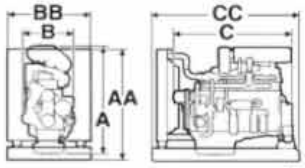
TAD1630V

Engine for industrial applications

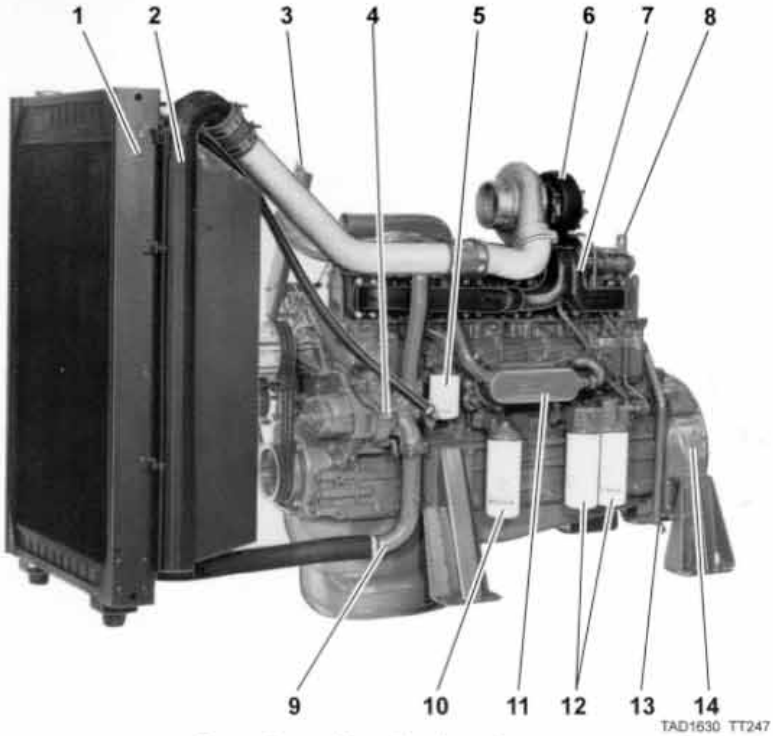
TAD 1630 V

- Turbocharged
- Air to air intercooled
- Diesel fuel
- Displacement indication (l)
- Generation
- Version
- Verstility engine



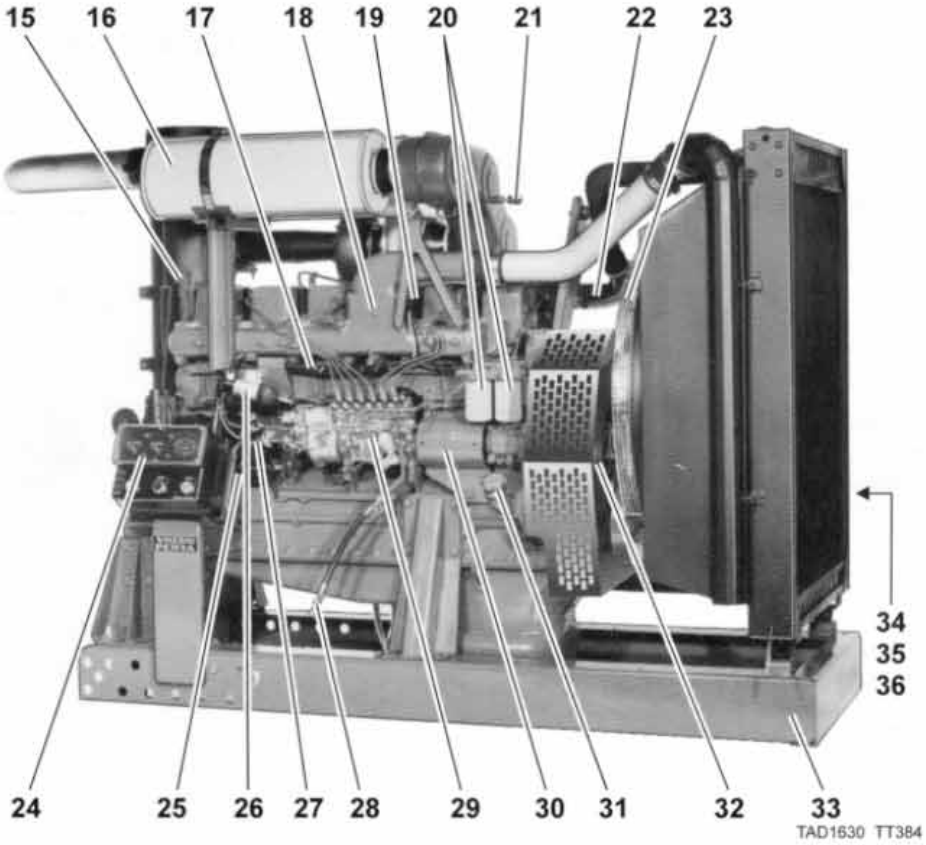
A = 1430 / 56.3 AA = 1830 / 72.0 mm / in.
B = 795 / 31.3 BB = 1089 / 42.9 mm / in.
C = 1677 / 66.0 CC = 2957 / 116.4 mm / in.

- Based on Volvo's well proven, dependable six-in-line turbocharged engine.
- Built with a high degree of precision to withstand high outputs and at the same time correspond to high demands on operational reliability and service life.
- Low fuel consumption and low noise level.



Power Pac with optional equipment

1. Tropical radiator
2. Intercooler
3. Radiator support
4. Gear-driven coolant pump
5. Coolant filter
6. Turbocharger
7. Air-cooled exhaust manifold
8. Lift eyelet
9. Coolant pipe, inlet
10. By-pass oil filter of spin-on type
11. Oil cooler
12. Full-flow oil filters of spin-on type
13. Crankcase ventilation
14. Flywheel housing SAE 1
15. Silencer
16. Air filter
17. Cable iron
18. Inlet manifold filter
19. Relay for inlet manifold heater
20. Twin fuel filters of throw-away type
21. Air restriction indicator
22. Coolant pipe, outlet
23. Fan guard
24. Instrument panel
25. Starter motor
26. Stop solenoid
27. Speed control
28. Fuel pipes for tank connection
29. Injection pump
30. Pump coupling guard
31. Oil filler
32. Automatic belt tensioner
33. Base frame
34. Alternator, left hand side
35. Oil drain pump, left hand side
36. Battery box, left hand side



Power Pac with optional equipment

VOLVO PENTA

TAD1630V

Volvo Penta reserves the right to make changes at any time, without notice, as to technical data, prices, materials, standard equipment, specifications and models, and to discontinue models.

Technical Data

General

In-line four-stroke diesel engine with direct injection
Turbocharged and air to air intercooled

Number of cylinders	6	Bore	144.0 mm / 5.67 in
Displacement, total	16.12 liter / 984 in^3	Stroke	165 mm / 6.50 in
Firing order	1–5–3–6–2–4	Compression ratio	15.0:1

Rotation direction, anti–clockwise viewed towards flywheel

Dry weight kg/lb Power Pac 1721/3794 Engine only 1515/3340*
Wet weight kg/lb Power Pac 1838/4052 Engine only 1627/3587*
*) Including radiator and intercooler.

TAD 1630 V	Speed, rpm	1200	1500	1600	1800
Performance	Test no.		22004122		
ICFN Power without fan	kW / hp	335 / 456	386/ 525	398 / 541	415 / 565
with fan	kW / hp	330 / 449	377 / 513	388 / 528	400 / 545
Torque at ICFN Power	Nm / lbft	2666 / 1966	2458 / 1813	2376 / 1752	2209 / 1629
Mean piston speed	m/s / ft/sec	6.6 / 21.6	8.3 / 27.2	8.8 / 28.9	9.9 / 32.5
Effective mean pressure	MPa / psi	2.08 / 302	1.92 / 278	1.85 / 268	1.72 / 249
Max combustion pressure	MPa / psi	16.6 / 2407	16.3 / 2364	16.2 / 2350	15.4 / 2233
Total mass moment of inertia, J (mR^2)	kgm^2 / $lbft^2$		4.09 / 97.06		
Degree of irregularity		1:29	1:63	1:84	1:152
Residual speed droop					
at load increase from 0 to 100%	%	36	20	18	11
Friction Power	kW	27	40	44	54
Lubrication system					
Lubricating oil consumption					
at ICFN Power	liter/h / US gal/h		0.17 / 0.045 at 1800 rpm		
Oil system capacity including filters	liter / US gal		64 / 16.9		
Oil change interval VDS-2 oil quality	h		600		
VDS oil quality	h		400		
CCMC D5 oil quality	h		200		
Fuel system					
Specific fuel consumption at					
25% of ICFN Power	g/kWh / lb/hph	230 / 0.373	242 / 0.392	249 / 0.404	258 / 0.418
50% of ICFN Power	g/kWh / lb/hph	210 / 0.340	214 / 0.347	221 / 0.358	225 / 0.365
75% of ICFN Power	g/kWh / lb/hph	205 / 0.332	208 / 0.337	213 / 0.345	215 / 0.349
100% of ICFN Power	g/kWh / lb/hph	205 / 0.332	210 / 0.340	210 / 0.340	219 / 0.355
Intake and exhaust system					
Air consumption	m^3/ min / cfm	21.9 / 770	29.7 / 1050	32.0 / 1130	35.8 / 1260
Max allowable air intake restriction	kPa / In wc		5 / 20		
Heat rejection to exhaust	kW / BTU/min	251 / 14270	297 / 16890	317 / 18030	366 / 20810
Exhaust gas temperature after turbine	°C / °F	545 / 1015	490 / 910	480 / 895	475 / 890
Max allowable back-pressure in exhaust line	kPa / In wc	5.3 / 21.3	8.3 / 33.3	9.5 / 38.2	12.0 / 48.2
Exhaust gas flow	m^3/min / cfm	57.5 / 2030	71.8 / 2540	75.9 / 2680	83.2 / 2940
Exhaust gas smoke	Bosch units	0.9	0.9	0.8	0.8
Cooling system					
Heat rejection radiation from engine	kW / BTU/min	20 / 1140	23 / 1310	24 / 1365	25 / 1420
Heat rejection to coolant	kW / BTU/min	172 / 9780	186 / 10580	197 / 11200	204 / 11600

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

Rating Guideline

ICFN power rating corresponds to ISO Standard Fuel Stop Power for continuous operation at variable speed. It is intended for constant load applications with uninterrupted service at full load for extended periods of time. No overload capability is available with this rating.

Derating

The engine may be operated up to 1000 m altitude and 50 °C ambient air temperature without derating. For operation at higher altitudes and temperatures the power should be derated according to the following factors:

Altitude derating factor <3000 m.	4% / 500 m.
Altitude derating factor >3000 m.	6% / 500 m.
Ambient temperature derating factor	1.5% / 5 °C.
Humidity	No derating

VOLVO PENTA

AB Volvo Penta
SE-405 08 Göteborg, Sweden