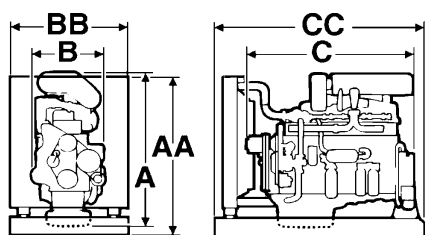
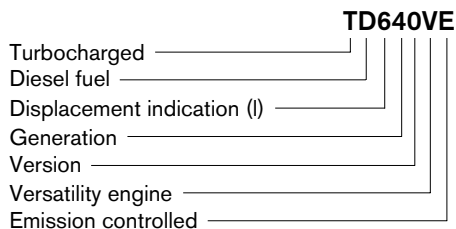


# VOLVO PENTA INDUSTRIAL DIESEL

# TD640VE

129 kW (175 hp) crankshaft power acc. to ISO 3046

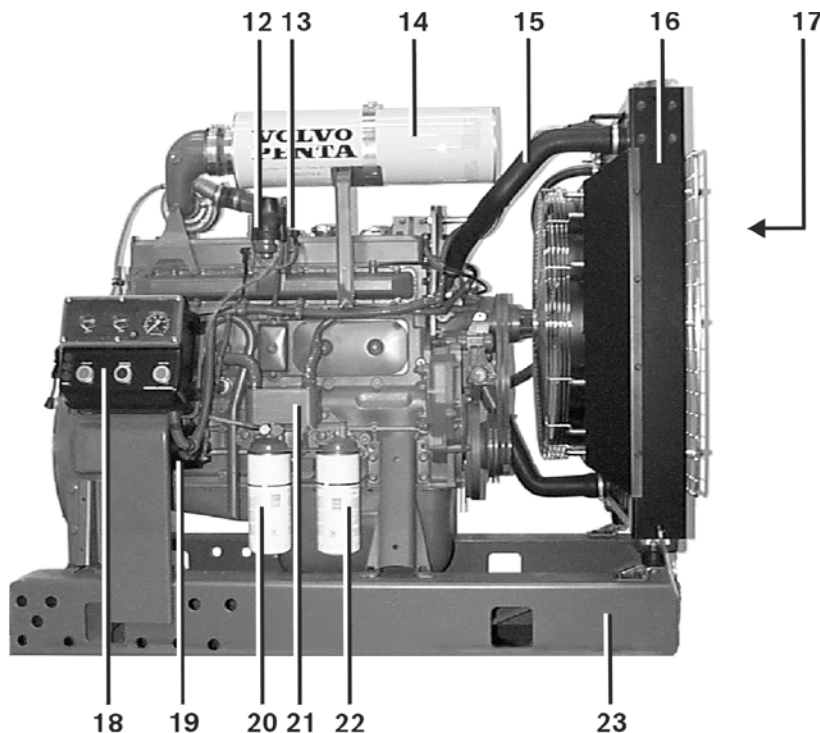
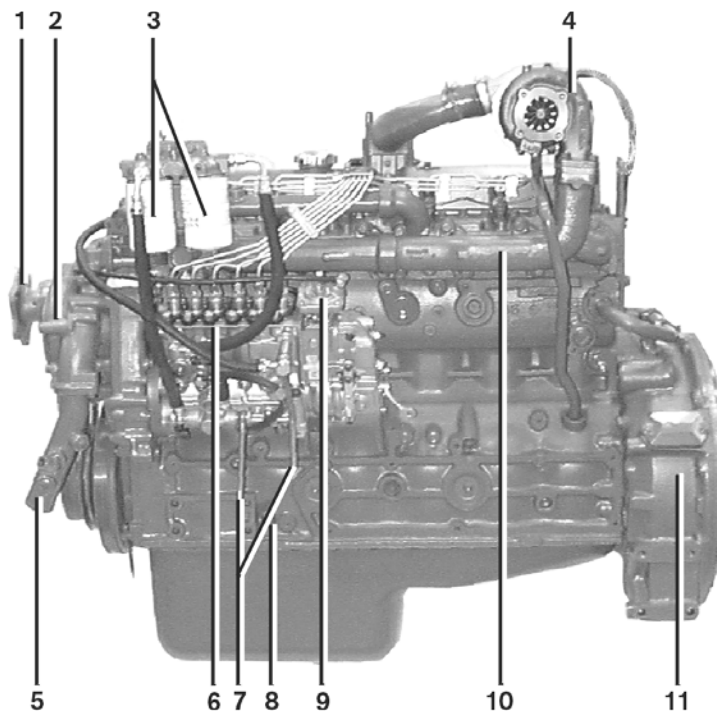


mm / in.

A = 1103 / 43.4	AA = 1372 / 54.0
B = 691 / 27.2	BB = 851 / 33.5
C = 1163 / 45.8	CC = 1626 / 64.0

- Based on Volvo's well proven, reliable 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 safety and service life.
- Exhaust gas emission controlled.
- Smoke control through effective smoke limiter.
- Low fuel consumption and low noise level.

1. Fan hub
2. Gear driven coolant pump
3. Twin fuel filters of disposable type
4. Turbocharger
5. Coolant pipe, inlet
6. Injection pump
7. Fuel pipes for tank connection
8. Oil dipstick
9. Smoke limiter
10. Air cooled exhaust manifold
11. Flywheel housing SAE 2
12. Relay for inlet manifold heater
13. Inlet manifold heater
14. Air filter
15. Coolant pipe, outlet
16. Radiator
17. Radiator guard
18. Instrument panel
19. Starter motor
20. Full-flow oil filter of spin-on type
21. Oil cooler
22. By-pass filter of spin-on type
23. Base frame



**VOLVO  
PENTA**

# TD640VE

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	Number of cylinders	6
Turbocharged	Displacement, total	5.48 liter / 335 in3
Rotation direction, anti-clockwise viewed towards flywheel	Firing order	1-5-3-6-2-4
	Bore	98.43 mm / 3.88 in
Dry weight, kg / lb Engine only 655 / 1444 Power pac 888 / 1958	Stroke	120 mm / 4.72 in
Wet weight, kg / lb Engine only 700 / 1543 Power Pac 954 / 2103	Compression ratio	19.0:1

TD640VE	Speed, rpm	1800	2000	2200	2400
<b>Performance</b>	Test no.	29001498			
IFN Power without fan	kW / hp	124 / 169	129 / 175	131 / 178	129 / 175
with fan	kW / hp	120 / 163	124 / 169	124 / 169	120 / 163
ICFN Power without fan	kW / hp	112 / 152	115 / 156	118 / 160	119 / 162
with fan	kW / hp	110 / 150	110 / 150	111 / 151	110 / 150
Torque at IFN Power	Nm / lbft	658 / 486	620 / 458	572 / 422	525 / 387
ICFN Power	Nm / lbft	597 / 440	556 / 410	518 / 382	476 / 351
Mean piston speed	m/s / ft/sec	7.2 / 23.6	8.0 / 26.2	8.8 / 28.9	9.6 / 31.5
Effective mean pressure at ICFN Power	MPa / psi	1.37 / 199	1.28 / 186	1.19 / 173	1.10 / 160
Max combustion pressure at ICFN Power	MPa / psi	13.4 / 1944	13.0 / 1886	13.5 / 1958	13.9 / 2016
Total mass moment of inertia, J (mR <sup>2</sup> )	kgm <sup>2</sup> / lbft <sup>2</sup>	1.50 / 35.6			
Degree of irregularity at IFN Power		1:144	1:239	1:392	1:673
Residual speed droop at load increase from 0 to 100% at IFN Power	%	5-8			
Friction Power	kW	17 / 23	20 / 27	23 / 31	26 / 35

### Lubrication system

Lubricating oil average consumption at ICFN power	liter/h / US gal/h	0.15 / 0.039			
Oil system capacity including filters	liter / US gal	24 / 6.3			
Specific fuel consumption at 25% of IFN Power	g/kWh / lb/hph	255 / 0.413	288 / 0.467	306 / 0.496	339 / 0.549
50% of IFN Power	g/kWh / lb/hph	222 / 0.360	232 / 0.376	244 / 0.390	261 / 0.423
75% of IFN Power	g/kWh / lb/hph	212 / 0.343	218 / 0.353	230 / 0.373	241 / 0.390
100% of IFN Power	g/kWh / lb/hph	213 / 0.345	218 / 0.353	228 / 0.369	240 / 0.389

### Intake and exhaust system

Air consumption at IFN Power	m <sup>3</sup> / min / cfm	8.1 / 286.0	9.4 / 332.0	10.6 / 374.3	11.6 / 409.6
Max allowable air intake restriction	kPa / In wc	5 / 20			
Heat rejection to exhaust at IFN Power	kW / BTU/min	101 / 5744	111 / 6313	121 / 6881	130 / 7393
Exhaust gas temperature after turbine at IFN Power	°C / °F	528 / 1008	513 / 981	503 / 963	500 / 958
Max allowable back-pressure in exhaust line	kPa / In wc	4 / 16	6 / 24	8 / 32	10 / 40
Exhaust gas flow at IFN Power	m <sup>3</sup> /min / cfm	22.4 / 791	24.9 / 879	27.2 / 961	29.0 / 1024
Exhaust gas smoke	Bosch units	0.5	0.4	0.4	0.5

### Cooling system

Heat rejection radiation from engine at IFN power	kW / BTU/min	7 / 398			
Heat rejection to coolant at IFN power	kW / BTU/min	82 / 4663	87 / 4948	95 / 5403	99 / 5630

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

### Rating Guidelines

IFN Power rating corresponds to ISO Overload Power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

ICXN Power rating corresponds to ISO Standard Power for continuous operation with 10% overload available. It is intended for constant load applications with uninterrupted service for extended periods of time. The ICXN power can be exceeded by 10% 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.

# VOLVO PENTA

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