

VOLVO PENTA

D7 version B Marine Genset

D7A-TA KC-1.5 1500

Document No

21378468

Issue Index

01**General**

Number of cylinders	6
Displacement, total	7,15 liters [437 cu. in]
Firing order	1-5-3-6-2-4
Bore	108 mm [4,25 in]
Stroke mm	130 [5,12 in]
Compression ratio	19

Performance

	25% load	50% load	75% load	100% load	Overload 110% load	
ISO Standard Power	139 kW [189 hp]	34,8	69,5	104,3	139	152,9
Torque	885 Nm [654 lbf. ft]	213	431,7	656	885	978
Mean piston speed	6,5 m/s [21,3 ft/sec]					
Effective mean pressure	1,55 MPa [189 psi]	0,4	0,8	1,2	1,6	1,7
Max combustion pressure	MPa [psi]					

Engine noise emission

Measured sound power Lw at no load	91 dB(A)	
Measured sound power Lw	dB(A)	94

Unsilenced exhaust noise emission

Data calculated as sound pressure Lp. Assumed microphone distance 1m.	dB(A)	112,5
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Lubrication system

Lubricating oil consumption at ISO Standard Power	liter/h [US Gal/h]	0,07
Lubricating oil system capacity including filters	liters [US Gal]	20

Fuel system

Specific fuel consumption	g/kWh [lb/hph]	242	213	208,5	208,5	210
Total fuel flow	liter/h [US Gal/h]				375	
Maximum return flow	liter/h [US Gal/h]					
Feed pump pressure	kPa [in H2 O]				500	
Feed pump max suction head	m				1	
Max allowable back pressure in fuel return line	kPa [H2 O]				50	

Intake system

Air consumption, (at 27oC)	m3/min [cu.ft/min]	5,6	6,5	8,0	9,83	10,5
Max permissible air intake restriction	kPa [in H2 O]				2,5	

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01**Exhaust system**

Heat rejection to exhaust	kW [BTU/min]	24	43	65	89	98
Exhaust gas temperature after turbine	oC [oF]	225	315	375	405	420
Max allowable back pressure in exhaust line	kPa [H2 O]				3	
Exhaust gas flow at Exhaust gas temperature after turbine	m3/min [cu.ft/min]	9,4	13,4	18,2	19,1	25,8

Heat rejection the surrounding

Heat rej. from engine to surrounding	kW [BTU/min]	2	4	5	7	8
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Engine cooling water circuit

Heat rejection to water	kW	43	65	92	120	132
Maximum permissible water temp to engine	(36)38 oC [oF]					
Maximum temperature increase across circuit of engine	oC [oF]	5 (7,2)	7 (9,9)	9 (13,5)	13 (17,6)	14 (19,7)
Maximum permissible test pressure	(150) 100 kPa [in H2 O]					
Thermostat, start to open	83 oC [154 oF]					
Thermostat, fully open	95 oC [176 oF]					
Cooling water flow	6,6 m3/h [233 cu.ft/h]					
Maximum pressure head	100 kPa [402 in H2 O]					
Highest permissible suction head	20 kPa [80,4 in H2 O]					
Highest permissible pressure drop over external cooling water circuit	(50)90 kPa [361 in H2 O]					
Cooling water capacity	(26)29 liters [3,7 US gal]					
Highest permissible pressure drop over external coolant circuit	?					

Power take off

Look in technical data for propulsion

Power Standards

The engine performance corresponds to ISO 3046, BS 5514, DIN 6271 and in general SAE J 1349. The technical data applies to an engine operation on a fuel with calorific value of 42,7 MJ/ kg (18360 BTU/ lb) and a density of 0,84 kg/ liters (7,01 lb/ US gal, 8,42 lb/Imp gal), also where this involves a deviation from the standards.

Engine speed governor in accordance with ISO 3046/IV, class A1 and ISO 8528-5 G2 (G3 with electronic speed governor).

Rating Guidelines

ISO Standard Power for continuous operation with 10% overload capability for 1 hour of 12.