VOLVO PENTA

D7A-A T KC 1500 rpm

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21939977	**02**

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	17,6:1					
Performance		25% load	50% load	75% load	100% load	**Overload 110% load**
ISO Standard Power	116 kW [158hp]	29	58	87	116	127,6
Torque	739 Nm [546 lbf. ft]	178	360	547	739	816
Mean piston speed	6,5 m/s [21,3 ft/sec]					
Effective mean pressure	1,3 Mpa [189 psi]	0,31	0,63	0,96	1,3	1,44
Max combustion pressure	Mpa [psi]	7,1	8,1	9,4	10,7	11,2
Engine noise emission						
Measured sound power Lw at no load	86,5 dB(A)					
Measured sound power Lw	dB(A)				90	
Unsilenced exhaust noise emission						
Data calculated as sound pressure Lp. Assumed microphone distance 1m.	dB(A)				109,5	
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]	245	215	215	219	223
Total fuel flow	liter/h [US Gal/h]				375	
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]	5,55	6,05	6,75	7,65	8,1
Max permissible air intake restriction	kPa [in H2 O]				2,5	

Exhaust system						
Heat rejection to exhaust	kW [BTU/min]	22	37,4	55,5	80	87,6
Exhaust gas temperature after turbine	oC [oF]	220	315	405	475	500
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]	10,1	13,3	17,3	21,8	23,4
Heat rejection the surrounding						
Heat rej. from engine to surrounding	kW [BTU/min]	3,4	4,9	6,2	8,5	9,5
Cooling water circuit						
Heat rejection to water	kW [BTU/min]	30,3	48,2	74,0	98,0	114,1
Maximum permissible water temp to engine	65 oC [141 oF]					
Maximum temperature increase across circuit of engine	oC [oF]	4	6	9	11	13
Thermostat, start to open	83 oC [154 oF]					
Thermostat, fully open	95 oC [176 oF]					
Maximum permissible test pressure	kPa [in H2 O]					
Cooling water flow at fully open thermostat	m3/h [cu.ft/h]				10,5	
Highest permissible pressure drop over external cooling water circuit	90 kPa [361 in H2 O]					
Cooling water capacity	14 liters [3,7 US gal]					

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