

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	148 kW [201 hp]	37	74	111	148	162,8
Torque	785 Nm [580 lbf. ft]	189	383	581	785	868
Mean piston speed	7,8 m/s [25,6 ft/sec]					
Effective mean pressure	1,38 MPa [200 psi]	0,3	0,7	1,0	1,4	1,5
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

Lubrication system

Lubricating oil consumption at ISO Standard Power	liter/h [US Gal/h]	0,08
Lubricating oil system capacity including filters	liters [US Gal]	20

Fuel system

Specific fuel consumption	g/kWh [lb/hph]	258	220	212	213	214
Total fuel flow	liter/h [US Gal/h]				450	
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]	6,85	8,5	10,3	12,2	13,0
Max permissible air intake restriction	kPa [in H2 O]				2,5	

VOLVO PENTA

D7 version B Marine Genset
D7A-TA KC-1.5 1800

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Exhaust system

Heat rejection to exhaust	kW [BTU/min]	29	50	67	97	108
Exhaust gas temperature after turbine	oC [oF]	210	285	325	360	375
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]	11,4	16,5	21,7	27,8	29,8

Heat rejection the surrounding

Heat rej. from engine to surrounding	kW [BTU/min]	2	4	6	8	9
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Engine cooling water circuit

Heat rejection to water	kW	48	73	99	132	146
Maximum permissible water temp to engine	(36)38 oC [oF]					
Maximum temperature increase across circuit of engine	oC [oF]	6(7,6)	7(9,5)	8(12,7)	11(16)	12(17,7)
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	(7,5)7,8 m3/h [275 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]					

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.