

Technical Data D4-300I

Rating 5. 300hp (221kW)

General

4-stroke direct injected, turbocharged and aftercooled diesel engine

Number of cylinders		4
No of valves		16
Displacement, total	litres	3,67
	in ³	223,7
Firing order		1-3-4-2
Rotational direction, viewed from the front		Clockwise
Bore	mm	103
	in	4,06
Stroke	mm	110
	in	4,33
Compression ratio		17,5:1
Max. static forward inclination:	°	0
Max. static backward inclination:	°	10
Max. intermittent forward inclination while running:	°	10
Max. intermittent backward inclination while running:	°	20
Max. intermittent side inclination while running:	°	30° for max 30 sec.
Idling speed	rpm	700-750
Rated speed	rpm	3500
Propeller selection range	rpm	3400-3600
Dry weight engine BT	kg	483
	lb	1065
Dry weight with HS 63AE	kg	559
	lb	1232
Dry weight with HS 63IVE	kg	595
	lb	1312
Dry weight with HS 80AE	kg	580
	lb	1279
Dry weight with HS 80IVE	kg	624
	lb	1376

Performance	Rating	r/min	1500 2000 2500 3000 3500								
Crankshaft power 1), 5)	5	kW	56	113	184	215	221				
			hp	76,16	153,7	250,2	292,4	300,6			
Propeller shaft power 1) (At full load)	5	kW	53,76	108,5	176,6	206,4	212,2				
			hp	73,11	147,5	240,2	280,7	288,5			
With reverse gear HS-63	5	kW	54,32	109,6	178,5	208,6	214,4				
			hp	73,88	149,1	242,7	283,6	291,5			
With reverse gear HS-80	5	kW	26	52	91	144	212				
			hp	35	71	124	196	289			
Propellershaft power at prop. load x ^{2,5}	5	kW	26	53	92	146	214				
			hp	35	72	126	198	292			
With reverse gear HS-80	5	kW	17	40	77	134	212				
			hp	23	54	105	182	289			
Propellershaft power at prop. load x ³	5	kW	17	40	78	135	214				
			hp	23	54	106	184	292			
Torque at crankshaft 2)	5	Nm	356,5	539,5	702,8	684,4	603				
			lbf ft	263	398	518	505	445			
Mean piston speed		m/s	5,5	7,3	9,2	11,0	12,8				
			ft/s	18,0	24,1	30,1	36,1	42,1			
Effective mean pressure 2)	5	MPa	1,22	1,85	2,41	2,35	2,07				
			psi	177,2	268,2	349,4	340,2	299,8			
Max combustion pressure 2)	5	MPa	12,3	17,3	18,7	18,8	18,1				
			psi	1784	2509	2712	2727	2625			

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure

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Lubricating system

Specific lubricating oil consumption.	g/kWh	0,2
Max. oil volume including filters for all allowed installation inclinations:	litres	15,5
	US gal	4,09
Min. oil volume excluding filters for all allowed installation inclinations:	litres	11
	US gal	2,91

Fuel system	Rating	r/min	1500	2000	2500	3000	3500
Specific fuel consumption 2)	5	g/kWh	243	231	206	205	218
		lb/hph	0,394	0,374	0,334	0,332	0,353
Fuel consumption at prop. load x ^{2,5}	5	l/h	7,029	13,97	24,07	37,24	57,66
		US gal/h	1,9	3,7	6,4	9,8	15,2
Fuel consumption at prop. load x ³	5	l/h	4,935	10,96	20,63	34,65	57,66
		US gal/h	1,3	2,9	5,4	9,2	15,2
Fuel consumption at full load	5	l/h	16,29	31,24	45,37	52,75	57,66
		US gal/h	4,3	8,3	12,0	13,9	15,2

Intake and exhaust system	Rating	r/min	1500	2000	2500	3000	3500		
Exhaust temperature at the exhaust pipe connecting flange after the turbo charger.	5	°C					395		
		°F					743		
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa						Max	30
		psi							4,4
		kPa						Min	40
		psi							5,8

Intake and exhaust system	Rating	r/min	1500	2000	2500	3000	3500
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%.	5	m³/min					16,9
		cu.ft./min					596,8
Turbo charge pressure. Propload x 2,5	5	kPa					215
		psi					31,2
Propload x 3	5	kPa					215
		psi					31,2
Exhaust gas flow Propload x 2,5	5	m³/min					32,2
		cu.ft./min					1137

Cooling system	Rating	r/min	1500	2000	2500	3000	3500	
Sea water pump flow.		l/min	82	108	132	155	172	
		cu.ft./min	2,9	3,8	4,7	5,5	6,1	
Coolant volume engine, including heat exchanger and charge air cooler		litres						13
		US gal.						3,43
Max. additional coolant for cabin heater etc. with std. Expansion tank		litres						5
		US gal.						1,32
Thermostat, start open at		°C						82
		°F						180
Thermostat, fully open at		°C						92
		°F						198

Emissions	Rating	r/min	1500	2000	2500	3000	3500
Smoke at prop. load x ^{2,5}	5	*BSU	0,3	0,2	0,2	0,1	0,6
Smoke at prop. load x ³	5	*BSU	0,4	0,6	0,3	0,1	0,6
Noise at prop. load x ^{2,5} . 4)	5	dBA	101,5	104,2	107	109,4	111

*NB.! BSU are calculated values. Measured values are acc. to ISO 10054 in FSN units

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