

Technical Data D4-300A

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 with DPH without PS	kg	661
	lb	1457
Dry weight with DPH with PS	kg	663
	lb	1462

Performance	Rating	r/min	1500 2000 2500 3000 3500								
Crankshaft power 1), 5)	5	kW	93	141	184	215	221				
			hp	126,5	191,8	250,2	292,4	300,6			
Propeller shaft power 1) (At full load) With drive DPH	5	kW	90,21	136,8	178,5	208,6	214,4				
			hp	122,7	186	242,7	283,6	291,5			
Propellershaft power at prop. load x ^{2,5} With drive DPH	5	kW	26	53	92	146	214				
			hp	35	72	126	198	292			
Propellershaft power at prop. load x ³ With drive DPH	5	kW	17	40	78	135	214				
			hp	23	54	106	184	292			
Torque at crankshaft 2)	5	Nm	592,1	673,2	702,8	684,4	603				
			lbf ft	437	497	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	2,03	2,31	2,41	2,35	2,07				
			psi	294,3	334,7	349,4	340,2	299,8			
Max combustion pressure 2)	5	MPa	18,4	18,7	18,7	18,8	18,1				
			psi	2669	2712	2712	2727	2625			

Lubricating system

Specific lubricating oil consumption.	g/kWh	0,2
Max. oil volume including filters for all allowed installation inclinations:	litres	12,5
	US gal	3,30
Max. oil volume excluding filters for all allowed installation inclinations:	litres	11
	US gal	2,91
Min. oil volume excluding filters for all allowed installation inclinations:	litres	9,5
	US gal	2,51

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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Fuel system	Rating	r/min	1500	2000	2500	3000	3500				
Specific fuel consumption 2)	5	g/kWh	224	218	206	205	218				
		lb/hph	0,363	0,353	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	24,93	36,79	45,37	52,75	57,66				
		US gal/h	6,6	9,7	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				
	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		
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%.	5	m ³ /min					16,9				
		cu.ft./min					596,8				
Turbo charge pressure. Proppload x 2,5	5	kPa	10	28	74	145	215				
		psi	1,5	4,1	10,7	21,0	31,2				
Proppload x 3	5	kPa	6	21	60	133	215				
		psi	0,9	3,0	8,7	19,3	31,2				
Exhaust gas flow Proppload x 2,5	5	m ³ /min	5,1	9,1	15,8	23,8	32,2				
		cu.ft./min	180,1	321,4	558	840,5	1137				
Proppload x 3	5	m ³ /min	4,3	8,1	14,2	22,6	32,2				
		cu.ft./min	151,9	286	501,5	798,1	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	dB(A)	102	104	107	109	111				

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

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