

# Technical Data D5A TA

Rating 2, rated speed 1900 rpm

## General

In-line four stroke diesel engine with direct injection.

Number of cylinders		4
No of valves		2
Displacement, total	litres in <sup>3</sup>	4,76 290,7
Firing order		1-3-4-2
Rotational direction, viewed towards flywheel		Anti-clockwise
Bore	mm in	108 4,25
Stroke	mm in	130 5,12
Compression ratio		17,6
Compression pressure at 240 rpm	MPa	
Maximum forward inclination:	°	
Max. intermittent backward tilt while running:	°	
Max. intermittent side tilt while running:	°	
Idling speed	rpm	775 ± 25
Rated speed	rpm	1900
Propeller selection range	rpm	1875-1925

Performance	Rating	r/min	1000	1200	1500	1800	1900						
Crankshaft power 1), 5)	2	kW	45	57	91	100	103						
		hp	61	78	124	136	140						
Propellershaft power 1) (At full load)	2	kW	44	55	88	97	100						
		hp	59	75	120	132	136						
Propellershaft power at prop.load x <sup>2,5</sup>	2	kW	20	32	48	75	86						
		hp	27	44	65	102	117						
Propellershaft power at prop.load x <sup>3</sup>	2	kW	15	25	42	73	86						
		hp	20	34	57	99	117						
Torque at crankshaft 2)	2	Nm	429,7	453,6	579,3	530,5	517,7						
		lbf ft	317	335	427	391	382						
Mean piston speed		m/s	4,3	5,2	6,5	7,8	8,2						
		ft/s	14,2	17,1	21,3	25,6	27,0						
Effective mean pressure 2)	2	MPa	1,13	1,20	1,53	1,40	1,37						
		psi	164,4	173,5	221,7	203,0	198,1						
Max combustion pressure 2)	2	MPa											
		psi											

## Lubricating system

Specific lubricating oil consumption.		g/kWh	
Max oil volume excl. filters at following inclination:	°	litres	
Min oil volume excl. filters at following inclination:	°	litres	
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Fuel system	Rating	r/min	1000	1200	1500	1800	1900						
Specific fuel consumption 2)	2	g/kWh	225	215	205	202	202						
		lb/hph	0,365	0,348	0,332	0,327	0,327						
Fuel consumption at prop. load x <sup>2,5</sup>	2	l/h	5	8	12	18	21						
		US gal/h	1,4	2,2	3,1	4,8	5,5						
Fuel consumption at prop. load x <sup>3</sup>	2	l/h	4	6	10	18	21						
		US gal/h	1,1	1,7	2,7	4,6	5,5						
Fuel consumption at full load	2	l/h	12	15	22	24	25						
		US gal/h	3,2	3,9	5,9	6,4	6,5						

## Intake and exhaust system

Rating r/min 1000 1200 1500 1800 1900

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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Specific exhaust heating effect in percent of crankshaft power	2												
	2												
Exhaust temperature (at the exhaust pipe connecting flange after the turbo charger?)	2	°C	430	440	450	390	380						
		°F	806	824	842	734	716						
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa								Max	5,7		
		psi								Min	0,8		
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%	2	m³/min			6	6,8	7,5						
		cu.ft./min			211,9	240,1	264,9						
Turbo charge pressure.	2	kPa											
		psi											
Exhaust gas flow (behind turbine)	2	m³/min			15	19,33	20,33						
		cu.ft./min			529,7	682,6	717,9						

## Cooling system

	Rating	r/min	1000	1200	1500	1800	1900						
Radiated heat in percent of crankshaft power.	2	%											
Heat rejection to after cooler in percent of crankshaft power.	2	%			23	25	28						
Cooling water heating effect incl. oil cooler in percent of crankshaft power 3).	2	%			73	83	82						
Total pumphead freshwater circulation pump.		kPa ln H <sub>2</sub> O											
Highest permissible pressure drop in outer circuit at keel cooling.		kPa ln H <sub>2</sub> O						50					
								201					
Sea water pump flow.		m³/h			110,0	130,0	135,0						
		foot³/h			3885	4591	4767						
Cooling water circulation pump flow		m³/h			120,0	140,0	145,0						
		foot³/h			4238	4944	5121						
Max permissible temperature on fresh water circulation outlet from the engine		°C						105					
		°F						221					
Coolant volyme in engine with raw water.		litres						21					
		U.S. gal.						5,55					
Thermostat, start open at		°C						87					
		°F						189					
Thermostat, fully open at		°C						102					
		°F						216					

## Emissions

	Rating	r/min	1000	1200	1500	1800	1900						
Smoke at prop. load x <sup>2,5</sup>	2	BSU											
Smoke at prop. load x <sup>3</sup>	2	BSU											
Noise at prop. load x <sup>2,5</sup> . 4)	2	dBA											
Noise at prop. load x <sup>3</sup> . 4)	2	dBA											

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