

Technical Data D6-310 I/O

Rating 4 310 hp (228 kW)

General

4-stroke direct injected, turbocharged and aftercooled diesel engine

Number of cylinders		6
No of valves		24
Displacement, total	litres	5,50
	in ³	335,6
Firing order		1-5-3-6-2-4
Rotational direction, viewed from the front		Clockwise
Bore	mm	103
	in	4,06
Stroke	mm	110
	in	4,33
Compression ratio		17,5:1
Maximum forward inclination installed:	°	0
Maximum backward inclination installed:	°	10
Max. intermittent forward inclination while running:	°	10
Max. intermittent backward inclination while running:	°	20
Max. intermittent side tilt while running:	°	30 for max 30 sec.
Idling speed	rpm	600 - 750
Rated speed	rpm	3500
Propeller selection range	rpm	3400-3600
Dry weight engine BT	kg	580
	lb	1279
Dry weight with DPH without PS	kg	746
	lb	1645
Dry weight with DPH with PS	kg	750
	lb	1653

Performance		Rating	r/min	1500	2000	2500	3000	3500				
Crankshaft power 1), 5)	4	kW		90	155	195	223	228				
			hp	122,4	210,8	265,2	303,3	310				
Propellershaft power 1) (At full load)	4	kW	For IPS	85,5	147,3	185,3	211,9	216				
			hp	116,3	200,3	251,9	288,1	293,8				

		Rating	r/min	0	1500	2000	2500	3000	3500	0	0	0	0
Propellershaft power at prop.load x ^{2,5} For	4	kW		26	53	93	147	216					
			hp	35	72	126	200	294					
Torque at crankshaft 2)	4	Nm		573	740,1	744,8	709,8	622,1					
			lbf ft	423	546	549	524	459					
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)	4	MPa		1,31	1,69	1,70	1,62	1,42					
			psi	189,9	245,3	246,9	235,3	206,2					
Max combustion pressure 2)	4	MPa		14,6	16	15,6	16,7	16,2					
			psi	2118	2321	2263	2422	2350					

Lubricating system

Specific lubricating oil consumption.		g/kWh	0,2
Max oil volume excl. filters at following inclination:	0°	litres	20
		US gal	5,28
Min oil volume excl. filters at following inclination:	0°	litres	16,5
		US gal	4,36

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)	4	g/kWh	lb/hph	228,6	212	207	219	235				
				0,37	0,343	0,335	0,355	0,381				
Fuel consumption at prop. load x ^{2,5}	4	l/h	US gal/h	7,1	14,8	24,7	40,3	63,5				
				1,9	3,9	6,5	10,6	16,8				
Fuel consumption at full load	4	l/h	US gal/h	24,41	38,98	47,88	57,93	63,5				
				6,4	10,3	12,6	15,3	16,8				

Intake and exhaust system		Rating	r/min	1500	2000	2500	3000	3500					
Exhaust temperature at the exhaust pipe connecting flange after the turbo charger. At prop. load exp. 2,5	4	°C	°F	235	296	310	314	380					
				455	565	590	597	716					
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa	psi						Max	30			
									Min	10			
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%.	4	m³/min	cu.ft./min					21,3					
								752,2					
Turbo charge pressure. At prop. load exp. 2,5	4	kPa	psi	10	28	70	130	184					
				1,5	4,1	10,2	18,9	26,7					
Exhaust gas flow	4	m³/min	cu.ft./min					37					
								1307					

Cooling system		Rating	r/min	1500	2000	2500	3000	3500					
Sea water pump flow.		m³/h	foot³/h					12,9					
								456					
Coolant content engine, incl. heat exchangers and air cooler		litres	U.S. gal.						16				
									4,23				
Thermostat, start open at		°C	°F						82				
									180				
Thermostat, fully open at		°C	°F						92				
									198				

Emissions		Rating	r/min	1500	2000	2500	3000	3500				
Smoke at prop. load x ^{2,5}	4	BSU		0,2	0,1	0,1	0,2	0,5				

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