

# Technical Data D6-310 Inboard

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 <sup>3</sup>	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
Compression pressure at 240 rpm	MPa	
	psi	
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 reverse gear: HS63AE	kg	656
	lb	1446
Dry weight with reverse gear: HS80AE	kg	677
	lb	1493
Dry weight with reverse gear: HS80VE	kg	721
	lb	1590

Performance	Rating	r/min	1500 2000 2500 3000 3500								
			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) For HS80AE (At full load)	4	kW	87,93	151,4	190,5	217,9	222,8				
			hp	119,6	206	259,1	296,3	302,9			
Propellershaft power at prop.load x <sup>2,5</sup> For HS80AE	4	kW	27	55	96	152	223				
			hp	36	75	131	206	303			
Propellershaft power at prop.load x <sup>3</sup> For HS80AE	4	kW	18	48	81	140	223				
			hp	24	65	110	190	303			
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			

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 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						

## Fuel system

	Rating	r/min	1500	2000	2500	3000	3500					
Specific fuel consumption 2)	4	g/kWh	228,6	212	207	219	235					
		lb/hph	0,37	0,343	0,335	0,355	0,381					
Fuel consumption at prop. load x <sup>2,5</sup>	4	l/h	7,1	14,8	24,7	40,3	63,5					
		US gal/h	1,9	3,9	6,5	10,6	16,8					
Fuel consumption at prop. load x <sup>3</sup>	4	l/h	5,5	11,2	21,5	37,8	63,5					
		US gal/h	1,5	3,0	5,7	10,0	16,8					
Fuel consumption at full load	4	l/h	24,41	38,98	47,88	57,93	63,5					
		US gal/h	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	235	296	310	314	380						
		°F	455	565	590	597	716						
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa						Max	30				
		psi							4,4				
		kPa						Min	10				
		psi							1,5				
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%.	4	m³/min					21,3						
		cu.ft./min					752,2						
Turbo charge pressure. At prop. load exp. 2,5	4	kPa	10	28	70	130	184						
		psi	1,5	4,1	10,2	18,9	26,7						
Exhaust gas flow	4	m³/min					37						
		cu.ft./min					1307						

## Cooling system

	Rating	r/min	1500	2000	2500	3000	3500					
Sea water pump flow.		m³/h					12,9					
		foot³/h					456					
Coolant content engine, incl. heat exchangers and air cooler		litres	16									
		U.S. gal.	4,23									
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 <sup>2,5</sup>	4	BSU	0,2	0,1	0,1	0,2	0,5					
Smoke at prop. load x <sup>3</sup>	4	BSU	0,2	0,1	0,1	0,2	0,5					

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