

General

4-stroke direct injected, turbocharged and aftercooled diesel engine

Number of cylinders		6
No of valves		24
Displacement, total	litres in ³	9,36 571,4
Firing order		1-5-3-6-2-4
Rotational direction, viewed from the front		Clockwise
Bore	mm in	120 4,72
Stroke	mm in	138 5,43
Compression ratio		16,5 : 1
Max installed forward inclination:	°	0
Max installed backward inclination:	°	7
Max. intermittent forward tilt while running:	°	10
Max. intermittent backward tilt while running:	°	12
Max. intermittent side tilt while running:	°	22,5
Idling speed	rpm	550 (- 50 / + 200)
Rated speed	rpm	2500
Recommended WOT range	rpm	2300-2600
Dry weight engine BT	kg lb	1075 2370

Performance			Rating	r/min	900	1100	1300	1500	1700	1900	2100	2300	2500
Crankshaft power 1), 5)	5	kW	90	156	234	298	348	384	406	423	423		
		hp	122	212	318	405	473	522	552	575	575		
Propeller shaft power 1) (At full load)	5	kW	87,3	151	227	289	338	372	394	410	410		
		hp	119	206	309	393	459	507	536	558	558		
Propellershaft power at prop.load x ^{2,5}	5	kW	32	53	80	114	157	207	265	333	410		
		hp	43	72	109	156	213	281	361	453	558		
Torque at crankshaft 2)	5	Nm	955	1354	1719	1897	1955	1930	1846	1756	1616		
		lbf ft	704	999	1268	1399	1442	1423	1362	1295	1192		
Mean piston speed		m/s	4,1	5,1	6,0	6,9	7,8	8,7	9,7	10,6	11,5		
		ft/s	13,6	16,6	19,6	22,6	25,7	28,7	31,7	34,7	37,7		
Effective mean pressure 2)	5	MPa	1,28	1,82	2,31	2,55	2,62	2,59	2,48	2,36	2,17		
		psi	185,9	263,6	334,5	369,2	380,5	375,6	359,3	341,8	314,5		
Max combustion pressure 2)	5	MPa	13	16,2	18,4	19,9	19,8	20	20	20,1	20		
		psi	1885	2350	2669	2886	2872	2901	2901	2915	2901		

Lubricating system

Specific lubricating oil consumption.		g/kWh	0,1
Max oil volume incl. filters at following inclination:	0°	litres	38
		US gal	10,04
Max oil volume excl. filters at following inclination:	0°	litres	33
		US gal	8,72
Min oil volume excl. filters at following inclination:	0°	litres	29
		US gal	7,66
Max oil volume incl. filters at following inclination:	7°	litres	30
		US gal	7,93
Max oil volume excl. filters at following inclination:	7°	litres	25
		US gal	6,60
Min oil volume excl. filters at following inclination:	7°	litres	21
		US gal	5,55

Fuel system	Rating	r/min	900	1100	1300	1500	1700	1900	2100	2300	2500
Specific fuel consumption 2)	5	g/kWh lb/hph	256 0,41	239 0,39	217 0,35	204 0,33	198 0,32	201 0,32	205 0,33	208 0,34	213 0,34
Fuel consumption at prop. load x ^{2,5}	5	l/h US gal/h	9,56 2,5	14,8 3,9	21,7 5,7	30,5 8,0	40,1 10,6	52,4 13,9	67,3 17,8	85,6 22,6	107 28,4
Fuel consumption at full load	5	l/h US gal/h	27,5 7,3	44,6 11,8	60,7 16,0	72,5 19,2	82,4 21,8	92 24,3	99,3 26,2	105 27,8	107 28,4

Intake and exhaust system	Rating	r/min	900	1100	1300	1500	1700	1900	2100	2300	2500	
Specific exhaust heating effect in percent of crankshaft power	5	%	70	78	71	68	68	73	77	81	83	
Exhaust temperature at the exhaust pipe connecting flange after the turbo charger.	5	°C °F	521 970	627 1161	590 1094	534 993	491 916	487 909	498 928	511 952	507 945	
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa psi								Max	15 2,2	
		kPa psi								Min	0	
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPa and relative humidity 30%.	5	m ³ /min cu.ft./min	5,12 181	8,03 284	11,9 421	16,5 582	21,4 755	25,6 905	28 989	29,8 1051	30,9 1092	
Turbo charge pressure.	5	kPa psi	37 5,4	77 11,2	124 18,0	166 24,1	207 30,0	232 33,6	230 33,4	225 32,6	216 31,3	
Exhaust gas flow	5	m ³ /min cu.ft./min	15 530	26,6 941	36,9 1304	46,2 1632	54,5 1925	62,7 2215	67,8 2393	71,7 2531	73,3 2587	

Cooling system	Rating	r/min	900	1100	1300	1500	1700	1900	2100	2300	2500	
Sea water pump flow.		m ³ /h foot ³ /h	6,0 212	7,2 254	8,7 307	10,2 360	11,4 403	12,9 456	14,4 509	15,6 551	16,8 593	
Fresh water circulation pump flow		m ³ /h foot ³ /h	16,2 572	20,4 720	24,6 869	28,8 1017	32,7 1155	36,6 1293	40,8 1441	45,1 1591	48,5 1712	
Max permissible temperature on fresh water circulation outlet from the engine		°C °F								96 205		
Coolant content engine, incl. heat exchangers and air cooler		litres U.S. gal.								39 10,30		
Maximum additional coolant for cabin heater etc. with std expansion tank		litres U.S. gal.								40 10,57		
Thermostat, start open at		°C °F								82 180		
Thermostat, fully open at		°C °F								92 198		

Emissions	Rating	r/min	900	1100	1300	1500	1700	1900	2100	2300	2500
Smoke at prop. load x ^{2,5}	5	*BSU	0,1	0,2	0,3	0,7	0,5	0,5	0,4	0,5	0,7
Noise at prop. load x ^{2,5} . 4)	5	dB(A)	107	108	109	110	111	113	115	116	119

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