

General

In-line four stroke diesel engine with direct injection.

Number of cylinders		4
No of valves		2
Displacement, total	litres in ³	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
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 ^{2,5}	2	kW	20	32	48	75	86						
		hp	27	44	65	102	117						
Propellershaft power at prop.load x ³	2	kW	15	25	42	73	86						
		hp	20	34	57	99	117						
Torque at crankshaft 2)	2	Nm	430	454	579	531	518						
		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						

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

Fuel system	Rating	r/min	1000	1200	1500	1800	1900					
Specific fuel consumption 2)	2	g/kWh	225	215	205	202	202					
		lb/hph	0,36	0,35	0,33	0,33	0,33					
Fuel consumption at prop. load x ^{2,5}	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 ³	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						
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	m ³ /min			6	6,8	7,5						
		cu.ft./min			212	240	265						
Exhaust gas flow (behind turbine)	2	m ³ /min			15	19,3	20,3						
		cu.ft./min			530	683	718						

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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 In H ₂ O											
Highest permissible pressure drop in outer circuit at keel cooling.		kPa In H ₂ O	50 201										
Sea water pump flow.		l/min cu.ft/min			110,0 3,9	130,0 4,6	135,0 4,8						
Cooling water circulation pump flow		l/min cu.ft/min			120,0 4,2	140,0 4,9	145,0 5,1						
Max permissible temperature on fresh water circulation outlet from the engine		°C °F	105 221										
Coolant volyme in engine with raw water.		litres U.S. gal.	21 5,55										
Thermostat, start open at		°C °F	87 189										
Thermostat, fully open at		°C °F	102 216										

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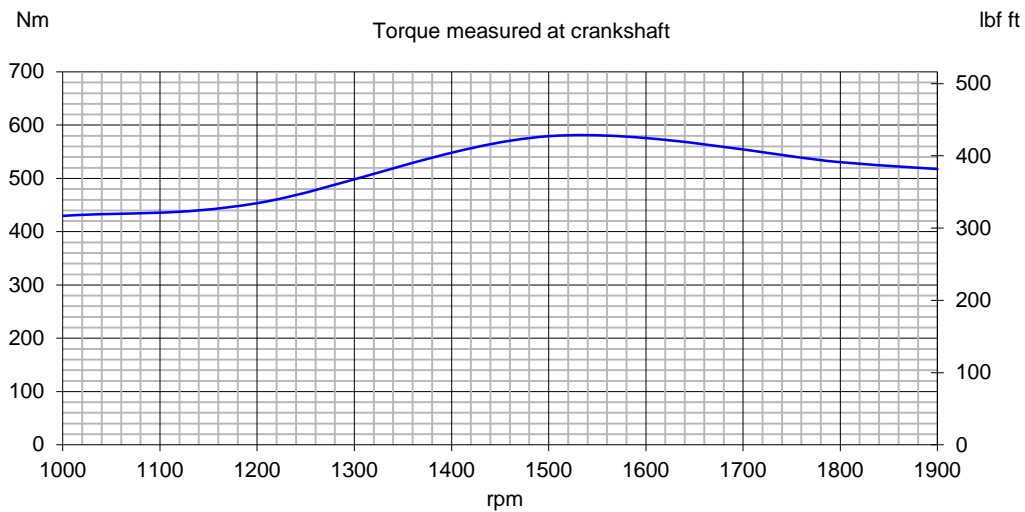
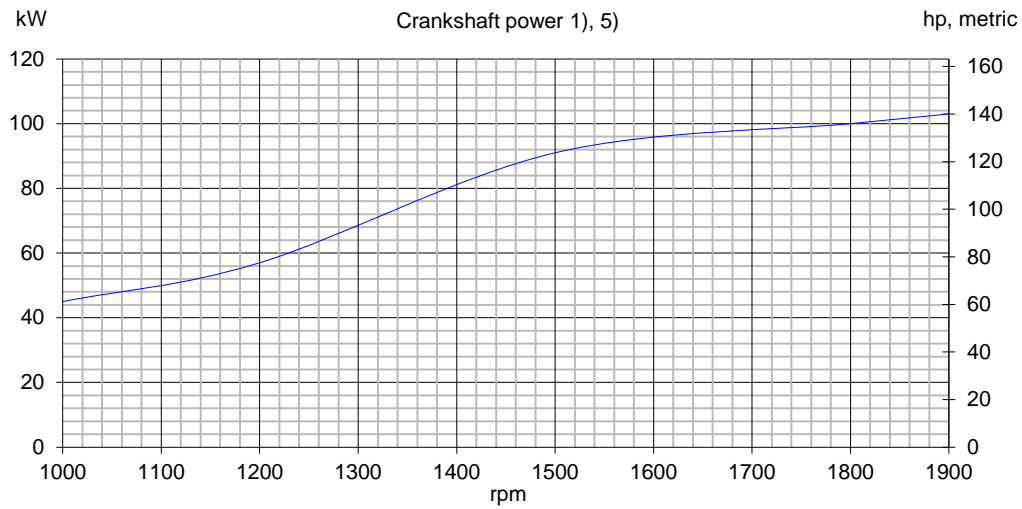
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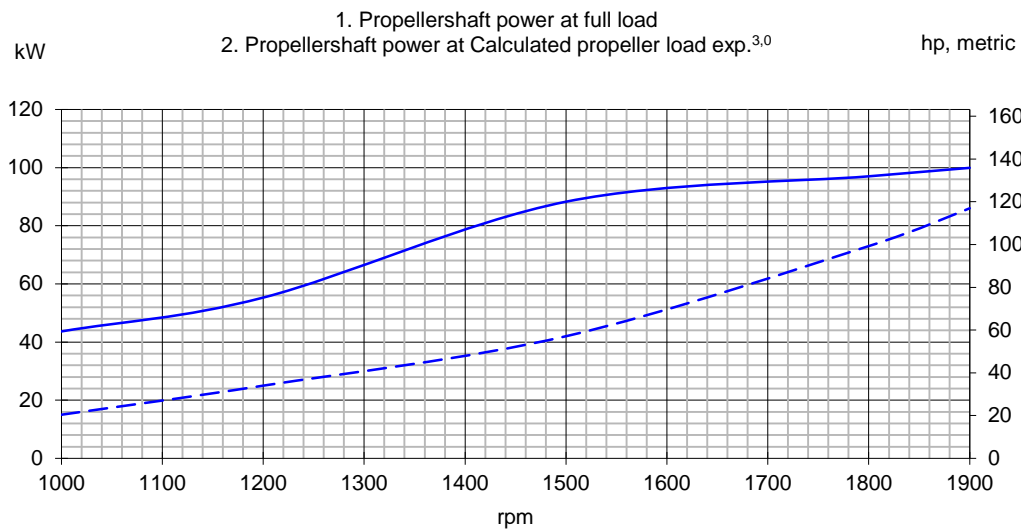
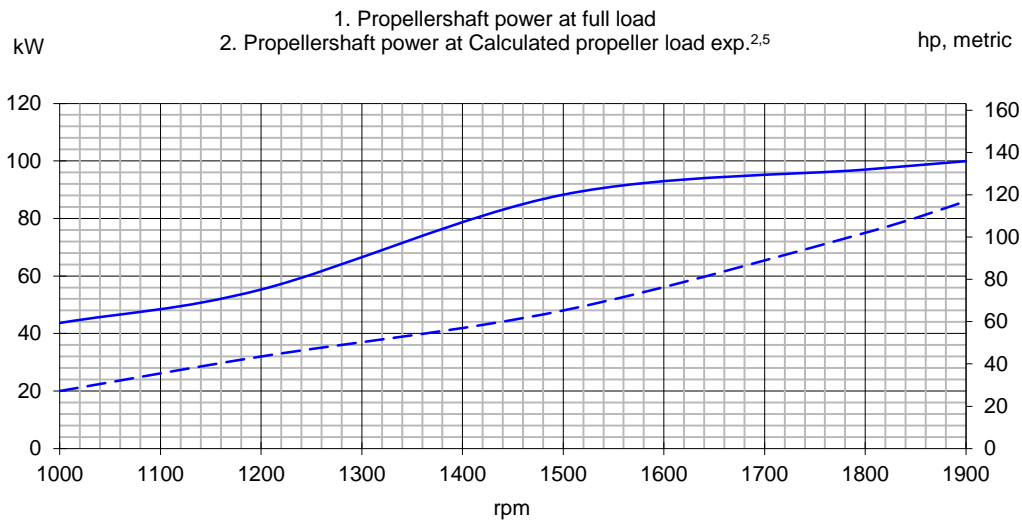
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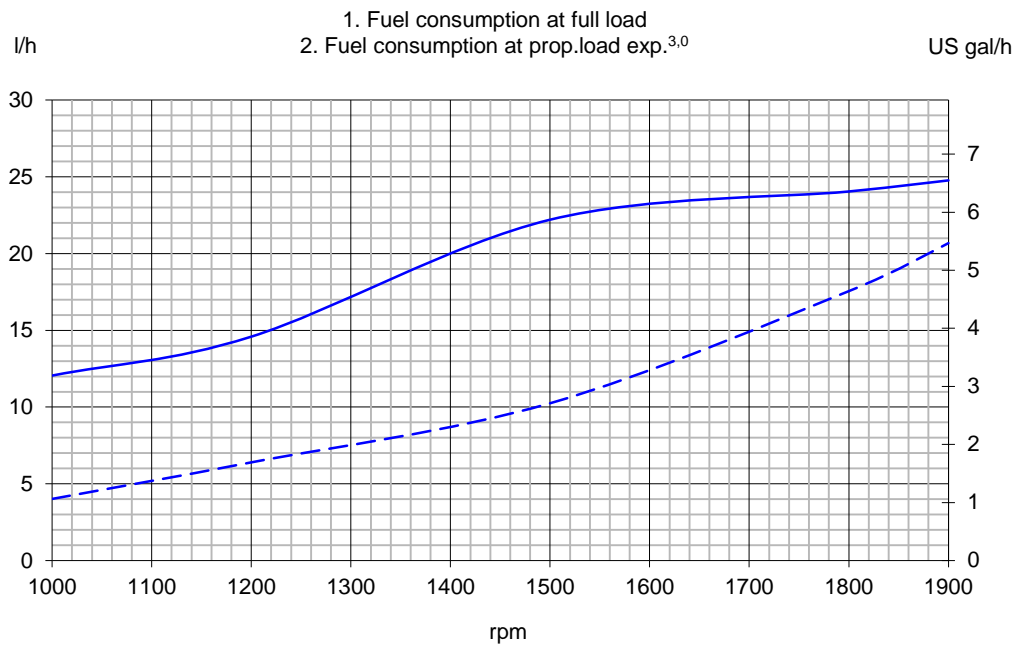
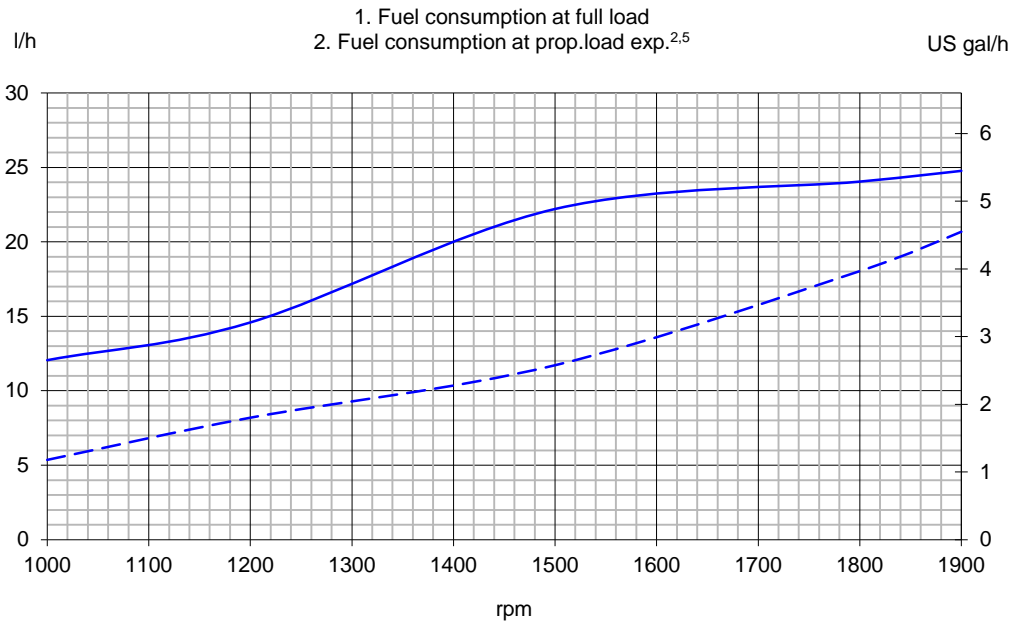
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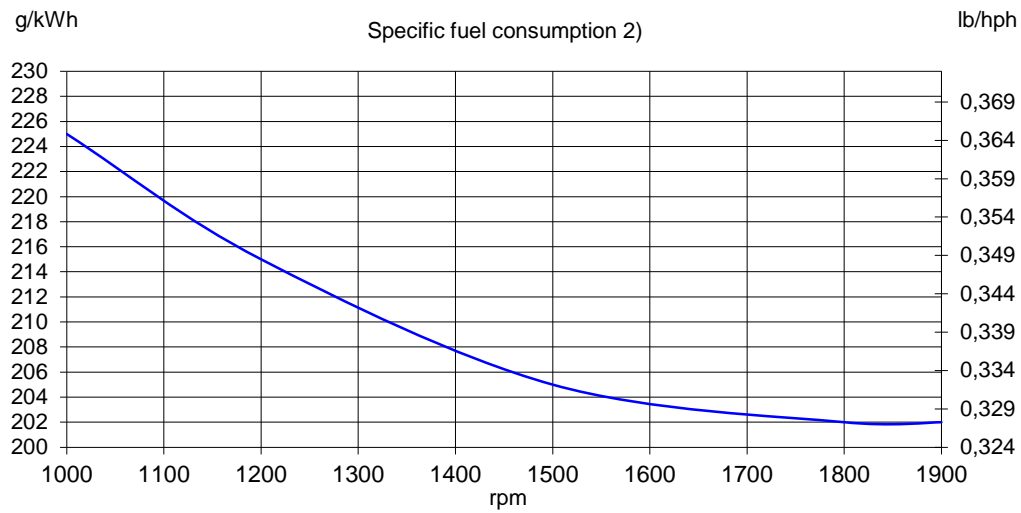
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