

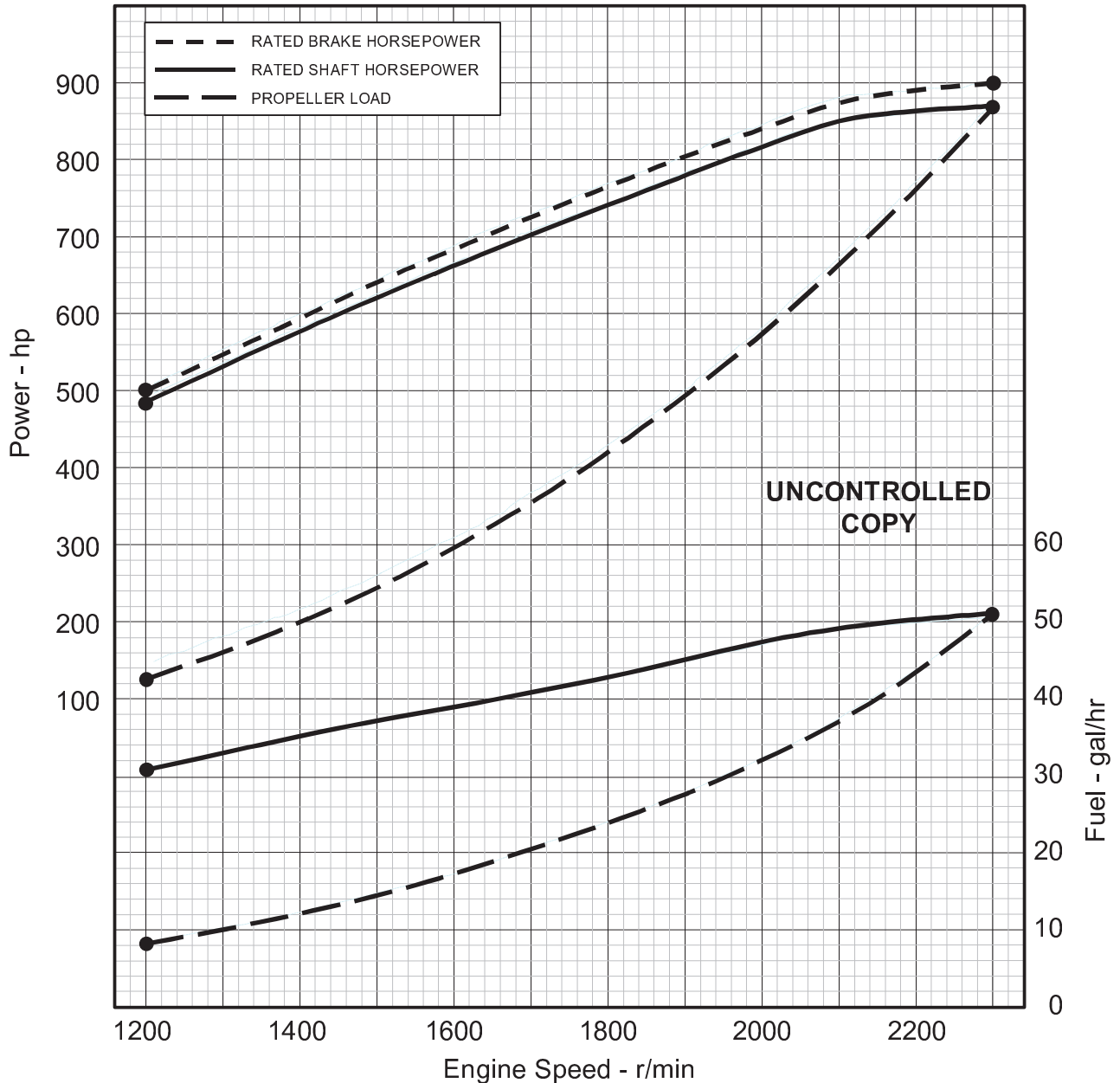


Marine Power

Model: 12V-71TA DDEC®

Rating: 900 bhp (671 kW) @ 2300 r/min
870 shp (649 kW) @ 2300 r/min

Marine
Maximum
Net Power



<p>Power output guaranteed within 5% SAE J1228 conditions: 77°F (25°C) air inlet temperature; 29.31 in. Hg (99kPa) dry barometer; 100°F (38°C) fuel inlet temperature; .853 specific gravity at 60°F. Power rated in accordance with NMMA Procedure Air intake restriction: 10 in. H₂O (2.5 kPa) Exhaust Back Pressure: 15 in. H₂O (3.7 kPa)</p>	<p><i>Conversion Factors:</i> Power: kW = bhp x 0.746 Fuel: kg/kW · hr = lb/bhp · hr x 0.608 Torque: N · m = lb · ft x 1.356</p>	<p>Turbo: TW7302 (1.03 A/R) Injector: 5235530 Accessories: DD232EV Gear Alternator: 24V, 65A Raw Water Pump: Included</p>
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Certified by: *JR Hebringer*

Performance Curve

Curve No. E4-7122-32-11
Rev. / Date: 1 / 12-16-97
Sheet No. 1 of 2

MARINE SPECIFICATION SHEET

General Data

Model	7122-7K00
Number of Cylinders	12
Bore and Stroke – in. x in. (mm x mm)	4.25 x 5.00 (108 x 127)
Displacement – in. ³ (L)	852 (13.97)
Compression Ratio	17.0:1
Piston Speed – ft/min (m/min)	2083 (635)
Exhaust Valves	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE – 2 Cycle
Aspiration	TURBOCHARGED

Configuration

Injection Device	MUI
Turbocharger	TW7302 (1.03 A/R)
Charge Air Cooling System	JWAC with Boost Cooler
Blower Type	100% Bypass
Blower Drive Ratio	2.05:1
Low Idle Speed – r/min	550
Maximum No Load Speed – r/min	2250
Engine Crankcase Vent System	OPEN

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm)	77.53 (1972)	57.06 (1449)
Width – in. (mm)	49.68 (1262)	49.68 (1262)
Height – in. (mm)	49.91 (1268)	49.91 (1268)
Weight, dry – lb (kg)	4931 (2237)	4270 (1937)
Weight, wet – lb (kg)	5270 (2390)	4609 (2091)
Center of Gravity Distance:		
From R.F.O. Flange/Blk. (x axis) – in. (mm)	39.74 (997)	16.94 (430)
Above Output Shaft (y axis) – in. (mm)	19.82 (503)	13.76 (350)
Right of Output Shaft (z axis) – in. (mm)	0.41 (10.4)	0.84 (21.3)
Installation Drawing	23506125	

Mechanical Data

E4-7000-31-1

Marine Gear

Type	DD-232EV
Reduction Ratio	1.76:1
Lube Oil Capacity– qt (L)	14.7 (13.9)
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg)	661 (300)
Center of Gravity Distance:	
From R.F.O. Flange (x axis) – in. (mm)	10.55 (268)
Above Output Shaft (y axis) – in. (mm)	5.51 (140)
Right of Output Shaft (z axis) – in. (mm)	-2.36 (-59.9)

Fuel System

Fuel Injector/Timing	5235530 /1.460
Fuel Consumption – lb/hr (kg/hr)	340.2 (154.3)
Fuel Spill Rate gal/hr (L/hr)	108.0 (408.8)
Total Fuel Flow gal/hr (L/hr)	156.7 (593)
Maximum Fuel Inlet Temperature – °F (°C)	140 (60)
Maximum Fuel Pump Suction:	
Clean System – in. Hg (kPa)	6 (20.3)
Dirty System – in. Hg (kPa)	12 (41)
Fuel Filter Size, Primary – microns	30
Fuel Filter Size, Secondary – microns	12
Recommended Supply Line I.D. – in.(mm)	0.5 (12.7)

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa)	49-70 (338-483)
Oil Pressure at Low Idle – lb/in. ² (kPa)	5.0 (34)
In Pan Oil Temperature – °F (°C)	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min)	64 (242)
Oil Pan Capacity – at Installation Angle	0° 13°
High Limit – qt (L)	41.0 (39.0) 41.0 (39.0)
Low Limit – qt (L)	34.0 (32.0) 34.0 (32.0)
Total Engine Oil Capacity with Filters – qt (L)	45.0 (43.0) 45.0 (43.0)
Maximum Installation Angle – Degrees	13.0

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32°	1900
12 Volt System, Below 32°	2500
24 Volt System, Above 32°	950
24 Volt System, Below 32°	1250
Maximum Resistance of Starting Circuit:	
12 Volt System – ohms	0.0012
24 Volt System – ohms	0.002

Cooling System

Engine Heat Rejection – Btu/min (kW)	37790 (664.5)
Boost Cooler Heat Rejection – Btu/min (kW)	10595 (186.3)
Engine Radiated Heat – Btu/min (kW)	1630 (28.7)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min)	315 (1192)
Raw Water Flow – gal/min (L/min)	142 (538)
Maximum Water Pump:	Fresh Water Raw Water
Inlet Restriction – in. Hq (kPa)	3.0 (10.2) 5.0 (17.0)
Fresh Water Capacity – qt (L)	120 (454)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa)	17 (117)
Maximum Raw Water Pump Pressure – lb/in. ² (kPa)	14 (97)
Maximum Top Tank Temperature – °F (°C)	210 (99)
Recommended Raw Water Pipe I.D.	
Inlet – in. (mm)	4.0 (152)
Outlet – in. (mm)	3.0 (76)
Recommended Sea Strainer Size:	
(Max. Screen Opening – 2.0 mm)	
Simplex – in.(mm)	3.0 (76)
Duplex – in.(mm)	4.0 (102)

Air System

Maximum Temperature Rise	
(Ambient Air to Engine Inlet) – °F (°C)	30 (16.7)
Maximum Air Intake Restriction:	
Clean Air Cleaner – in. H ₂ O (kPa)	10 (2.5)
Dirty Air Cleaner – in. H ₂ O (kPa)	15 (3.7)
Engine Air Flow – ft ³ /min (m ³ /min)	2320 (65.7)
Air Box Pressure – in. Hq (kPa)	66.0 (223)
Recommended Intake Pipe Dia. – in.(mm)	6.0 (152)
Minimum Net Engine Room Vent Area, – in. ² (cm ²)	218 (1407)
Maximum Crankcase Pressure – in. H ₂ O (kPa)	3.5 (0.87)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min)	4750 (134.5)
Exhaust Temperature – °F (°C)	640 (338)
Maximum Back Pressure – in. Hq (kPa)	2.5 (8.4)
Recommended Exhaust Pipe Diameter:	Dry Wet
Single – in. (mm)	8.0 (203) 10 (254)
Dual – in. (mm)	5.0 (127) 8.0 (203)

Performance Data

BMEP – lb/in. ² (kPa)	182.0 (1255)
Friction Power– fhp (kW)	136 (101)

Engine Speed	Brake Power	Shaft Power	Rated Fuel Usage	Rated BSFC
r/min	bhp (kW)	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
2300	900 (671)	870 (649)	50.9 (192.6)	0.395 (240)
2100	880 (656)	851 (635)	49.4 (186.9)	0.392 (238)
1950	825 (615)	798 (595)	46.2 (174.8)	0.391 (238)
1800	767 (572)	741 (553)	43.1 (163.1)	0.392 (239)
1500	641 (478)	619 (462)	37.4 (141.4)	0.407 (248)
1200	500 (373)	482 (359)	31.3 (118.6)	0.438 (266)

Engine Speed	Prop Load	Prop Fuel Usage	Prop BSFC
r/min	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
2300	870 (649)	50.9 (192.6)	0.395 (240)
2100	662 (494)	37.4 (141.4)	0.380 (231)
1950	530 (396)	30.0 (113.5)	0.381 (232)
1800	417 (311)	24.0 (90.7)	0.386 (235)
1500	241 (180)	14.7 (55.5)	0.405 (246)
1200	124 (92)	8.3 (31.3)	0.438 (267)

Emissions Data

Smoke, Rated Speed – Bosch Number	1.4
Noise – dB(A) @ 1	106.6
Additional Noise Data	Not Available
NO _x – g/hr	7045
CO – g/hr	4440
HC – gh/r	99
SO ₂ – g/hr	1540

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All values are at rated speed and power at SAE J1228 with standard engine hardware, unless otherwise noted.

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All information subject to change without notice.

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