

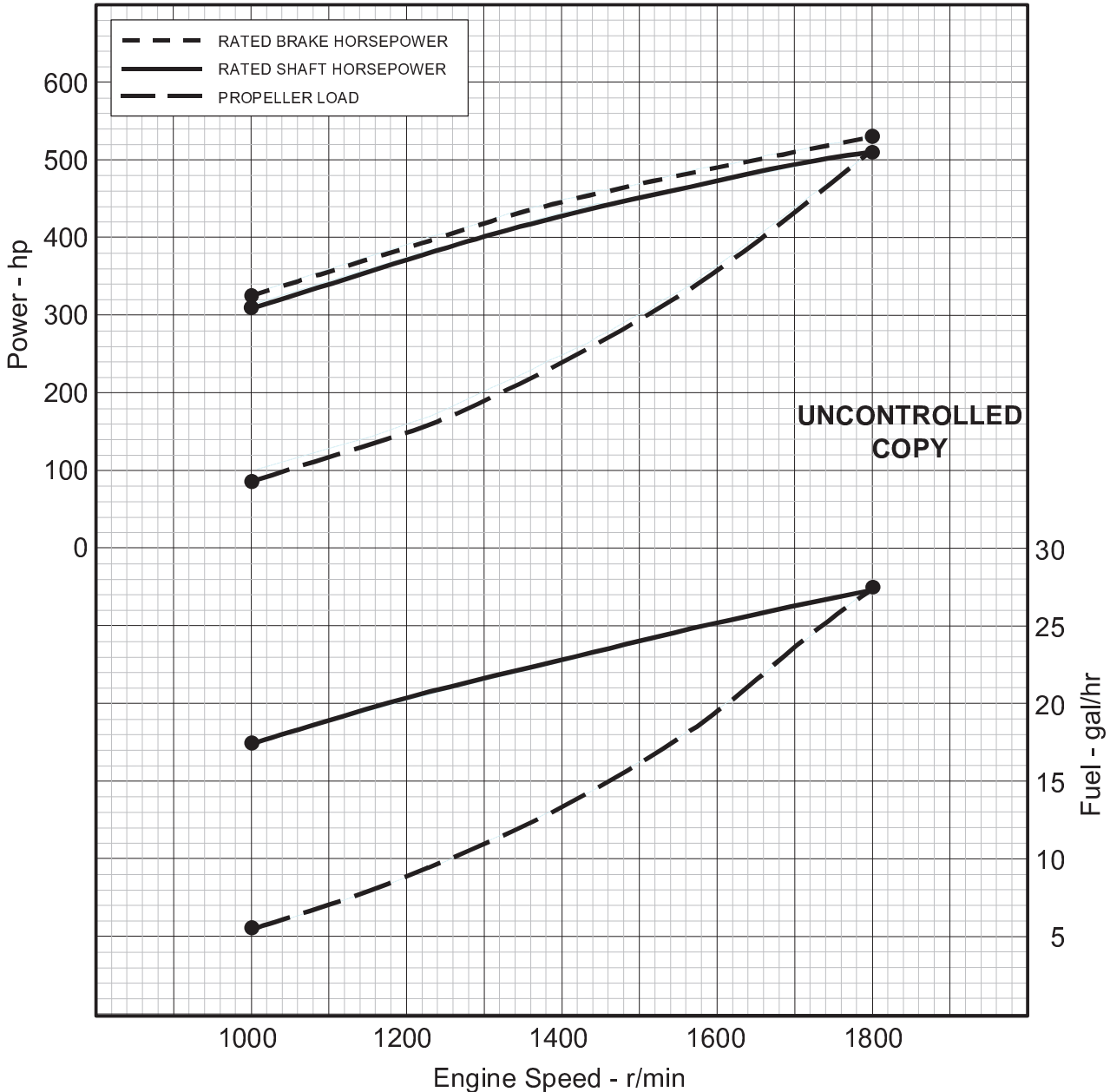


Marine Power

Model: 12V-92TA

Rating: 530 bhp (395 kW) @ 1800 r/min
510 shp (380 kW) @ 1800 r/min

Continuous
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: TW7502 (1.03 A/R) Injector: 9E80 Accessories: DD-518 Gear Alternator: 24V, 65A Raw Water Pump: Not Included</p>
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Certified by: *JR Hebringer*

Performance Curve

Curve No. E4-8122-32-4
Rev. / Date: 6 / 12-23-97
Sheet No. 1 of 2

MARINE SPECIFICATION SHEET

General Data

Model.....	8122-7402
Number of Cylinders.....	12
Bore and Stroke – in. x in. (mm x mm).....	4.84 x 5.00 (123 x 127)
Displacement – in. ³ (L).....	1104 (18.09)
Compression Ratio.....	17.0:1
Piston Speed – ft/min (m/min).....	1500 (457)
Exhaust Valves.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE – 2 Cycle
Aspiration.....	TURBOCHARGED

Configuration

Injection Device.....	MUI
Turbocharger.....	TW7502 (1.03 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	100% Bypass
Blower Drive Ratio.....	2.05:1
Low Idle Speed – r/min.....	550
Maximum No Load Speed – r/min.....	2000
Engine Crankcase Vent System.....	Closed

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	114.7 (2913)	74.8 (1899)
Width – in. (mm).....	49.7 (1263)	49.7 (1263)
Height – in. (mm).....	64.0 (1625)	64.0 (1625)
Weight, dry – lb (kg).....	8020 (3638)	5545 (2515)
Weight, wet – lb (kg).....	8524 (3867)	5952 (2700)
Center of Gravity Distance:		
From R.F.O.Flg/Blk. (x axis) – in. (mm).....	Not Available	
Above Output Shaft (y axis) – in. (mm).....	Not Available	
Right of Output Shaft (z axis) – in. (mm).....	Not Available	
Installation Drawing.....	23503563	

Mechanical Data

.....	E4-8000-32-1
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Marine Gear

Type.....	DD518V
Reduction Ratio.....	6.0:1
Lube Oil Capacity– qt (L).....	52 (49.2)
(marine gear must use straight viscosity oil)	
Gear Weight, Dry – lb (kg).....	2475 (1123)
Center of Gravity Distance:	
From Mounting Face (x axis) – in. (mm).....	11.4 (290)
Above Output Shaft (y axis) – in. (mm).....	6.54 (166)
Right of Output Shaft (z axis) – in. (mm).....	1.77 (45.0)

Fuel System

Fuel Injector – Part Number.....	9E80
Injection Timing Height – in.	1.470
Fuel Consumption – lb/hr (kg/hr).....	191.5 (86.9)
Fuel Spill Rate gal/hr (L/hr).....	108.0 (408.8)
Total Fuel Flow gal/hr (L/hr).....	135.4 (512.5)
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).....	0.75 (19.05)
Smoke Control Device/Setting.....	TD. – 0.570

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).....	53 (201)
Oil Pan Capacity at Installation Angle	0° 15°
High Limit – qt (L).....	42.0 (39.7) 42.0 (39.7)
Low Limit – qt (L).....	34.0 (32.2) 34.0 (32.2)
Total Engine Oil Capacity with Filters – qt (L).....	53.0 (50.2) 53.0 (50.2)
Maximum Installation Angle – Degrees.....	15.0

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).....	23165 (407.3)
Engine Radiated Heat – Btu/min (kW).....	880 (15.5)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	325 (1230)
Raw Water Flow – gal/min (L/min).....	83 (314)
Maximum Water Pump:	Fresh Water Raw Water
Inlet Restriction – in. Hg (kPa).....	3.0 (10.2) 5.0 (17.0)
Fresh Water Capacity – qt (L).....	145 (137.2)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	17 (117.2)
Maximum Raw Water Pump Pressure – lb/in. ² (kPa).....	10 (6.9)
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).....	12 (3.0)
Dirty Air Cleaner – in. H ₂ O (kPa).....	20 (5.0)
Engine Air Flow – ft ³ /min (m ³ /min).....	1490 (42.2)
Air Box Pressure – in. Hg (kPa).....	33.2 (112.1)
Recommended Intake Pipe Outer Diameter:	
Single – in. (mm).....	8.0 (203)
Dual – in. (mm).....	6.0 (152)
Minimum Net Engine Room Vent Area, – in. ² (cm ²).....	143 (923)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	2.8 (0.70)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	2770 (78.4)
Exhaust Temperature – °F (°C).....	520 (271)
Maximum Back Pressure – in. Hg (kPa).....	1.8 (6.1)
Recommended Exhaust Pipe Diameter:	Dry Wet
Single – in. (mm).....	10.0 (254) 12.0 (305)
Dual – in. (mm).....	8.0 (203) 10.0 (254)

Performance Data

BMEP – lb/in. ² (kPa).....	105.6 (728)
Friction Power – fhp (kW).....	116 (87)

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)
1800	530 (395)	510 (380)	27.4 (103.8)	0.361 (220)
1600	491 (366)	472 (352)	25.2 (95.5)	0.359 (218)
1400	446 (333)	429 (320)	22.8 (86.5)	0.358 (218)
1200	388 (289)	372 (278)	20.3 (76.7)	0.365 (222)
1000	323 (241)	309 (231)	17.4 (65.7)	0.376 (228)

Engine Speed	Prop Load	Prop Fuel Usage	Prop BSFC
r/min	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
1800	510 (380)	27.4 (103.8)	0.361 (220)
1600	358 (267)	19.5 (73.7)	0.364 (221)
1400	240 (179)	13.4 (50.8)	0.373 (227)
1200	151 (113)	8.9 (33.5)	0.388 (236)
1000	87 (65)	5.5 (21.0)	0.411 (250)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.3
Noise – dB(A) @ 1.....	103.0
Additional Noise Data.....	Not Available
NO _x – g/hr.....	2880
CO – g/hr.....	3090
HC – gh/r.....	135
SO ₂ – g/hr.....	869

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

Curve No. E4-8122-32-4
Rev. / Date: 6 / 12-23-97
Sheet No. 2 of 2

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