

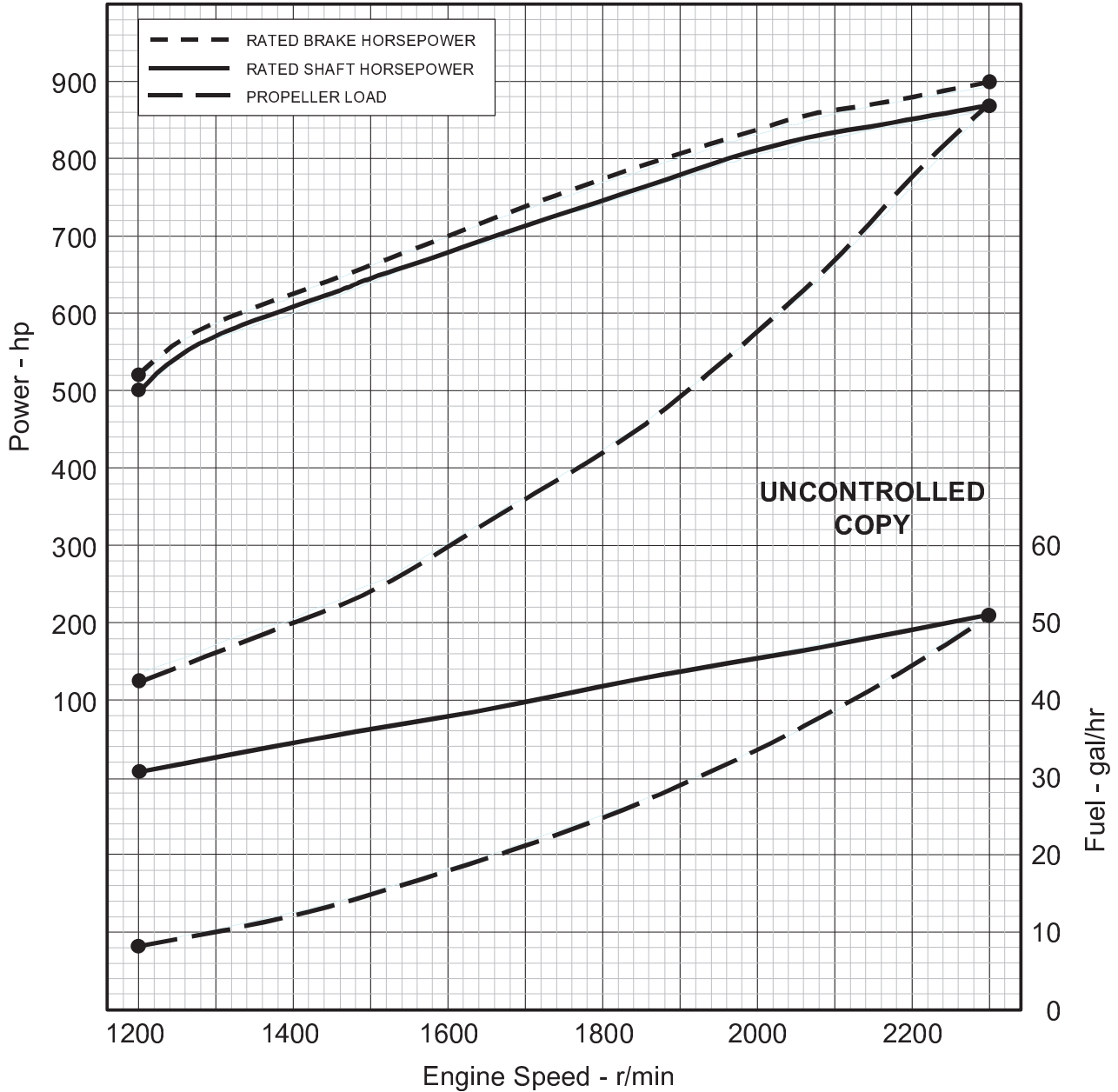
DETROIT DIESEL



Marine Power

Model: 12V-92T
Rating: 900 bhp (671 kW) @ 2300 r/min
 870 shp (649 kW) @ 2300 r/min

Intermittent
 Maximum
 Net Power



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. H ₂ O (2.5 kPa) Exhaust Back Pressure: 15 in. H ₂ O (3.7 kPa)	Conversion Factors: Power: kW = bhp x 0.746 Fuel: kg/kW · hr = lb/bhp · hr x 0.608 Torque: N · m = lb · ft x 1.356	Turbo: TW83 (1.19 A/R) Injector: 7245 Accessories: DD232EV Gear Alternator: 24V, 65A Raw Water Pump: Included
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Certified by: JR Hebringer

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

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model.....	8122-7400
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).....	1917 (584)
Exhaust Valves.....	4
Combustion System.....	DIRECT INJECTION
Engine Type.....	63.5° VEE – 2 Cycle
Aspiration.....	TURBOCHARGED

Configuration

Injection Device.....	MUI
Turbocharger.....	TW83 (1.19 A/R)
Charge Air Cooling System.....	JWAC with Boost Cooler
Blower Type.....	100% Bypass
Blower Drive Ratio.....	2.60:1
Low Idle Speed – r/min.....	500
Maximum No Load Speed – r/min.....	2500
Engine Crankcase Vent System.....	Closed

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	83.6 (2123)	73.16 (1858)
Width – in. (mm).....	49.7 (1263)	49.7 (1263)
Height – in. (mm).....	53.6 (1361)	53.6 (1361)
Weight, dry – lb (kg).....	5391 (2445)	4730 (2146)
Weight, wet – lb (kg).....	5822 (2641)	5137 (2330)
Center of Gravity Distance:		
From R.F.O.Flg/Blk. (x axis) – in. (mm).....	43.1 (1095)	19.93 (506)
Above Output Shaft (y axis) – in. (mm).....	15.0 (1273)	7.95 (201.9)
Right of Output Shaft (z axis) – in. (mm).....	0.59 (15.0)	0.37 (9.0)
Installation Drawing.....	23517805	

Mechanical Data

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

Type.....	DD232-EV
Reduction Ratio.....	1.76:1
Lube Oil Capacity– qt (L).....	12.7 (12.0)
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg).....	661 (300)
Center of Gravity Distance:	
From Mounting Face (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 – Part Number.....	7245
Injection Timing Height – in.	1.508
Fuel Consumption – lb/hr (kg/hr).....	354.9 (161.0)
Fuel Spill Rate gal/hr (L/hr).....	136.0 (518.4)
Total Fuel Flow gal/hr (L/hr).....	186.8 (707.0)
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.....	Mod. – 0.454

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° 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).....	35115 (617.5)
Boost Cooler Heat Rejection – Btu/min (kW).....	10145 (178.4)
Engine Radiated Heat – Btu/min (kW).....	1510 (26.6)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	440 (1666)
Raw Water Flow – gal/min (L/min).....	143 (541)
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).....	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).....	12 (3.0)
Dirty Air Cleaner – in. H ₂ O (kPa).....	20 (5.0)
Engine Air Flow – ft ³ /min (m ³ /min).....	2510 (71.1)
Air Box Pressure – in. Hg (kPa).....	49.0 (165.5)
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).....	241 (1555)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	3.5 (0.87)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	4960 (140.5)
Exhaust Temperature – °F (°C).....	580 (304)
Maximum Back Pressure – in. Hg (kPa).....	2.5 (8.4)
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).....	140.4 (968)
Friction Power – fhp (kW).....	188 (140)

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)	50.8 (192.3)	0.394 (240)
2100	863 (644)	834 (622)	47.2 (178.6)	0.382 (232)
1950	822 (613)	795 (593)	44.4 (168.2)	0.378 (230)
1800	773 (577)	747 (557)	41.6 (157.6)	0.376 (229)
1500	665 (496)	642 (479)	36.1 (136.7)	0.380 (231)
1200	520 (388)	501 (374)	30.6 (115.9)	0.411 (250)

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)	50.8 (192.3)	0.394 (240)
2100	662 (494)	38.1 (144.1)	0.388 (236)
1950	530 (396)	31.1 (117.6)	0.394 (240)
1800	417 (311)	24.9 (94.3)	0.401 (244)
1500	241 (180)	15.1 (57.3)	0.417 (254)
1200	124 (92)	8.2 (31.0)	0.434 (264)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.8
Noise – dB(A) @ 1.....	104.0
Additional Noise Data.....	Not Available
NO _x – g/hr.....	6660
CO – g/hr.....	5590
HC – gh/r.....	213
SO ₂ – g/hr.....	1495

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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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