



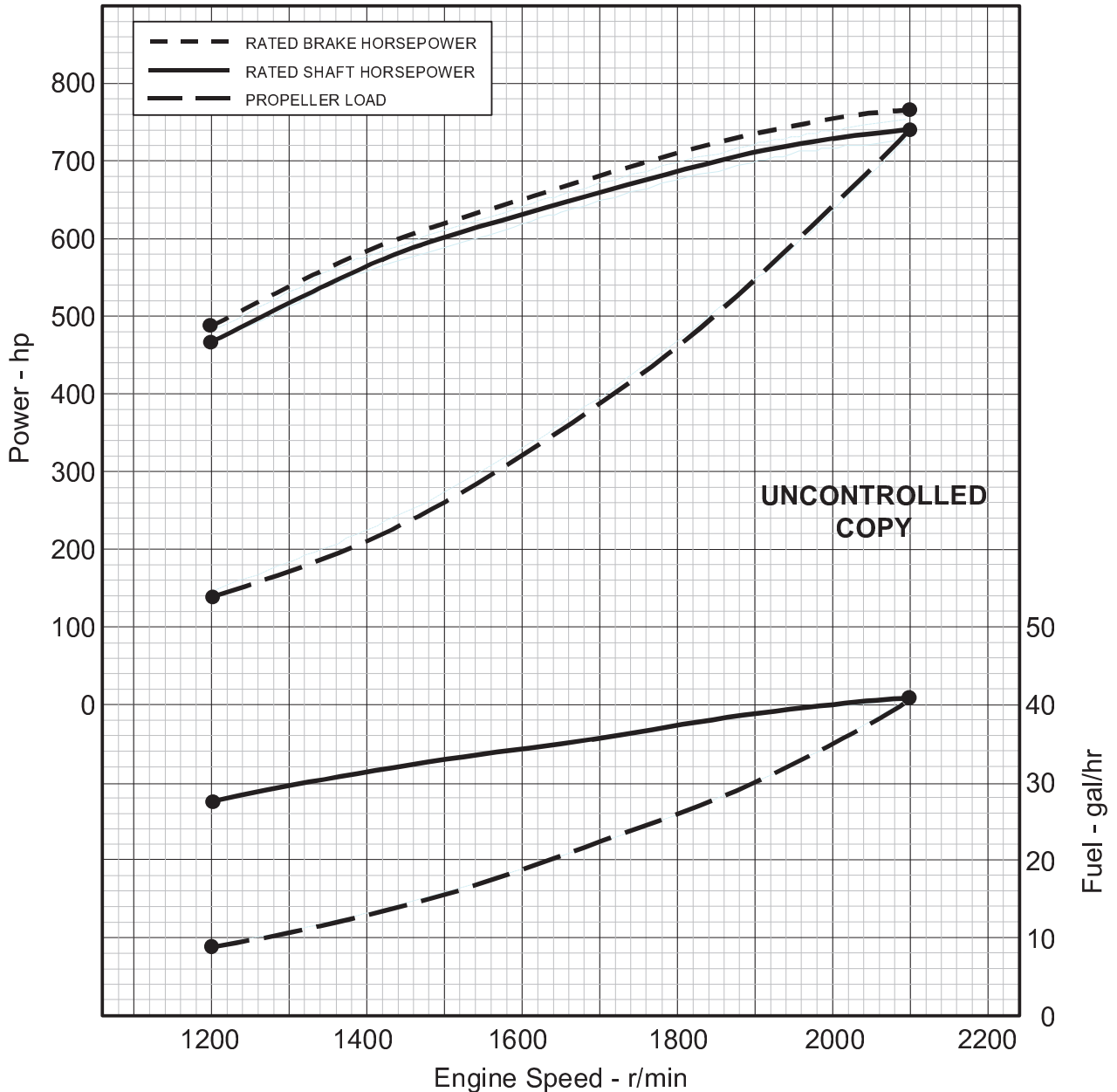
Marine Power

Model: 12V-92TA DDEC®

Rating: 765 bhp (571 kW) @ 2100 r/min

740 shp (552 kW) @ 2100 r/min

Intermittent
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: 5234775 Accessories: DD520-1V Gear Alternator: 24V, 65A Raw Water Pump: Included</p>
--	--	---

Certified by: *JR Hebringer*

Curve No. E4-8122-32-10
Rev./Date: 2 / 12-23-97
Sheet No. 1 of 2

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model	8122-7K24, -7K25
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)	1750 (533)
Exhaust Valves	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE 2 Cycle
Aspiration	TURBOCHARGED

Configuration

Injection Device	EUI
Turbocharger	TW7302 (1.03 A/R)
Charge Air Cooling System	JWAC
Blower Type	100% Bypass
Blower Drive Ratio	2.05:1
Low Idle Speed – r/min	500
Maximum No Load Speed – r/min	2250
Engine Crankcase Vent System	Closed

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm)	106.0 (2692)	80.0 (2032)
Width – in. (mm)	49.7 (1263)	49.7 (1263)
Height – in. (mm)	56.7 (1441)	64.0 (1625)
Weight, dry – lb (kg)	7900 (3583)	4900 (2223)
Weight, wet – lb (kg)	8406 (3813)	5307 (2407)

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 23503564 Ref.

Mechanical Data

E4-8000-32-1

Marine Gear

Type	DD520-1V
Reduction Ratio	4.0:1
Lube Oil Capacity – qt (L)	52.8 (50.0)
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg)	3000 (1361)
Center of Gravity Distance:	
From Mounting Face (x axis) – in. (mm)	14.02 (356)
Above Output Shaft (y axis) – in. (mm)	5.27 (134)
Right of Output Shaft (z axis) – in. (mm)	1.98 (50.3)

Fuel System

Fuel Injector – Part Number	5234775
Injection Timing Height – in.	1.520
Fuel Consumption – lb/hr (kg/hr)	284.9 (129.2)
Fuel Spill Rate gal/hr (L/hr)	280.0 (1060)
Total Fuel Flow gal/hr (L/hr)	320.8 (1214)
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)

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)
Engine Radiated Heat – Btu/min (kW)	1310 (23.0)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min)	395 (1495)
Raw Water Flow – gal/min (L/min)	100 (379)
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 (96.5)
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)	2070 (58.6)
Air Box Pressure – in. Hg (kPa)	53.0 (17901)
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)	195 (1257)
Maximum Crankcase Pressure – in. H ₂ O (kPa)	3.0 (0.75)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min)	4040 (114.4)
Exhaust Temperature – °F (°C)	565 (296)
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)	130.7 (960)
Friction Power – fhp (kW)	158 (118)

Engine Speed r/min	Brake Power bhp (kW)	Shaft Power shp (kW)	Rated Fuel Usage gal/hr (L/hr)	Rated BSFC lb/bhp-hr (g/kW-hr)
2100	765 (571)	740 (552)	40.8 (154.4)	0.372 (227)
1950	743 (554)	719 (536)	39.4 (149.0)	0.370 (225)
1800	707 (527)	684 (510)	37.4 (141.4)	0.369 (225)
1600	650 (485)	628 (469)	34.3 (129.9)	0.369 (224)
1400	583 (435)	563 (420)	31.3 (118.4)	0.375 (228)
1200	488 (364)	471 (351)	27.5 (104.1)	0.394 (240)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr (L/hr)	Prop BSFC lb/bhp-hr (g/kW-hr)
2100	740 (552)	40.8 (154.4)	0.372 (227)
1950	592 (442)	32.3 (122.3)	0.368 (224)
1800	466 (348)	25.8 (97.7)	0.373 (227)
1600	327 (244)	18.8 (71.3)	0.386 (235)
1400	219 (164)	13.1 (49.5)	0.397 (241)
1200	138 (103)	8.8 (33.4)	0.420 (256)

Emissions Data

Smoke, Rated Speed – Bosch Number	2.0
Noise – dB(A) @ 1	102.5
Additional Noise Data	Not Available
NO _x – g/hr	5800
CO – g/hr	3000
HC – g/hr	135
SO ₂ – g/hr	1292

UNCONTROLLED COPY

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

Curve No. E4-8122-32-10
Rev. / Date: 2 / 12-23-97
Sheet No. 2 of 2

All information subject to change without notice.
Detroit Diesel and Spinning Arrows Design® are registered trademarks of Detroit Diesel Corporation.
© 1998 DETROIT DIESEL CORPORATION