

# DETROIT DIESEL

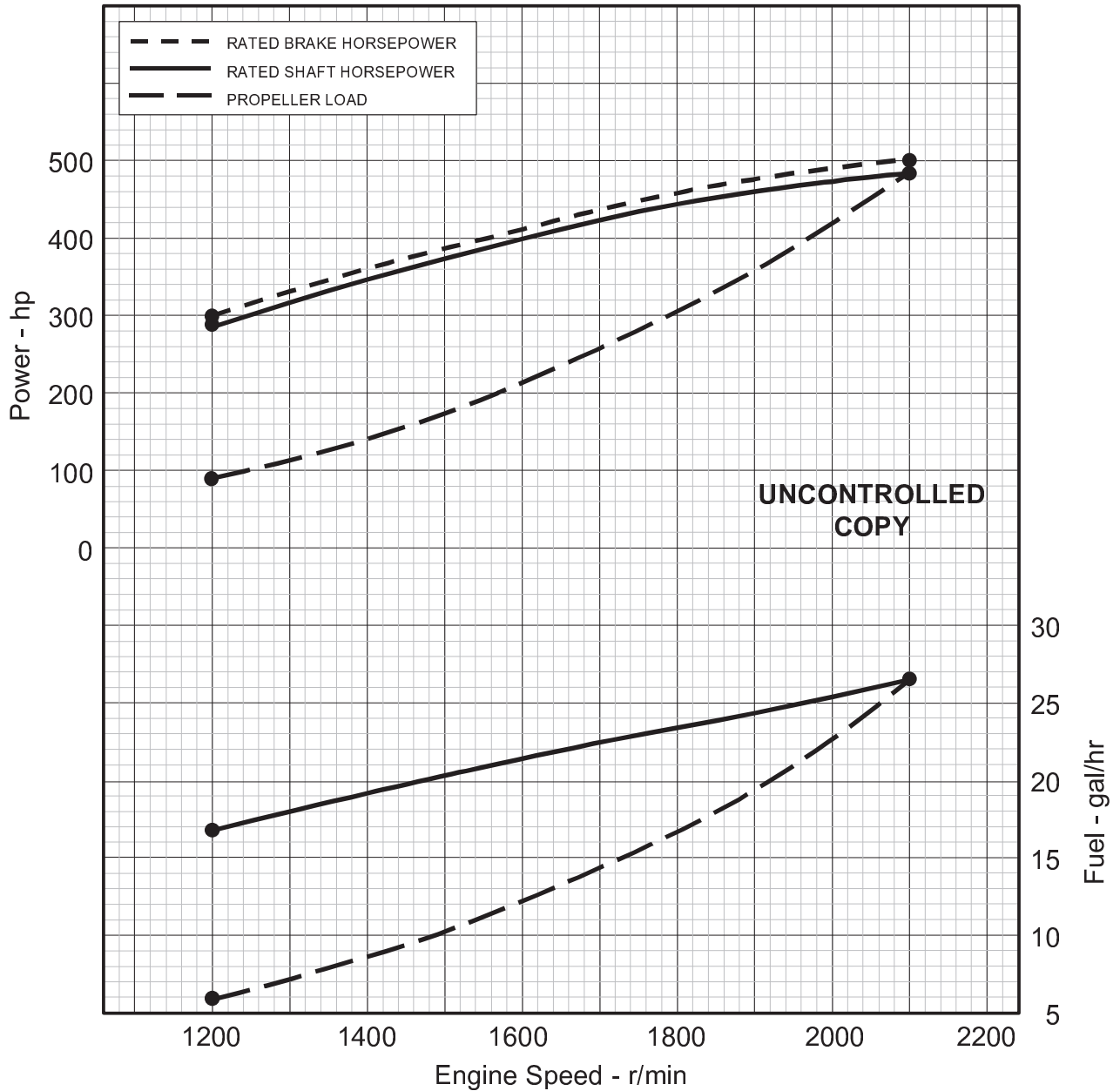


## Marine Power

**Model:** 8V-92TA

**Rating:** 500 bhp (373 kW) @ 2100 r/min  
482 shp (360 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. H<sub>2</sub>O (2.5 kPa) Exhaust Back Pressure: 15 in. H<sub>2</sub>O (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><b>Turbo:</b> TW8401 (1.19 A/R) <b>Injector:</b> 9A98 <b>Accessories:</b> 5111V Gear <b>Alternator:</b> 24V, 65A <b>Raw Water Pump:</b> Included</p>
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Certified by:  T.J. MOORE

**Curve No.** E4-8082-32-24  
**Rev. / Date:** 1 / 12-9-98  
**Sheet No.** 1 of 2

### Performance Curve

# MARINE SPECIFICATION SHEET

## General Data

Model.....	8082-7402, -3402
Number of Cylinders.....	8
Bore and Stroke – in. x in. (mm x mm).....	4.84 x 5.00 (123 x 127)
Displacement – in. <sup>3</sup> (L).....	736 (12.1)
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.....	MUI
Turbocharger.....	TW8401 (1.19 A/R)
Charge Air Cooling System.....	JWAC
Blower Type.....	100% Midi Relieved Clearance
Blower Drive Ratio.....	1.95:1
Low Idle Speed – r/min.....	550
Maximum No Load Speed – r/min.....	2300
Engine Crankcase Vent System.....	Open

## Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	73.2 (1858)	70.0 (1778)
Width – in. (mm).....	43.5 (1106)	43.5 (1106)
Height – in. (mm).....	49.5 (1256)	49.5 (1256)
Weight, Dry – lb (kg).....	4100 (1860)	3545 (1608)
Weight, Wet – lb (kg).....	4399 (1995)	3823 (1734)
Center of Gravity Distance:		
From R.F.O. Flange/Blk. (x axis) – in. (mm).....	35.3 (897)	13.54 (344)
Above Output Shaft (y axis) – in. (mm).....	20.4 (518)	15.47 (393)
Right of Output Shaft (z axis) – in. (mm).....	-0.17 (-4.3)	0.11 (2.8)
Installation Drawing.....	23504661	

## Mechanical Data

E4-8000-32-1

## Marine Gear

Type.....	DD-5111V
Reduction Ratio.....	2.04:1
Lube Oil Capacity – qt (L).....	11.2 (10.6)
(marine gear must use straight viscosity oil)	
Gear Weight, Dry – lb (kg).....	555 (252)
Center of Gravity Distance:	
From R.F.O. Flange (x axis) – in. (mm).....	9.97 (253)
Above Output Shaft (y axis) – in. (mm).....	4.18 (106)
Right of Output Shaft (z axis) – in. (mm).....	-1.97 (-50)

## Fuel System

Fuel Injector Part Number.....	9A98
Injector Timing Height – in. ....	1.470
Fuel Consumption – lb/hr (kg/hr).....	185.3 (84.1)
Fuel Spill Rate gal/hr (L/hr).....	108.0 (408.8)
Total Fuel Flow gal/hr (L/hr).....	134.1 (507.5)
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).....	0.5 (12.7)

## Lubrication System

Oil Pressure at Rated Speed – lb/in. <sup>2</sup> (kPa).....	49-70 (338-483)
Oil Pressure at Low Idle – lb/in. <sup>2</sup> (kPa).....	5.0 (34)
In Pan Oil Temperature – °F (°C).....	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min).....	37 (140)
Oil Pan Capacity at Installation Angle	0°
High Limit – qt (L).....	23 (22)
Low Limit – qt (L).....	17 (16)
Total Engine Oil Capacity with Filters – qt (L).....	26 (25)
Maximum Installation Angle – Degrees.....	15

## 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).....	21540 (378.8)
Engine Radiated Heat – Btu/min (kW).....	850 (15.0)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	187 (708)
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).....	108 (102)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. <sup>2</sup> (kPa).....	18 (124)
Maximum Raw Water Pump Pressure – lb/in. <sup>2</sup> (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 <sub>2</sub> O (kPa).....	12 (3.0)
Dirty Air Cleaner – in. H <sub>2</sub> O (kPa).....	20 (5.0)
Engine Air Flow – ft <sup>3</sup> /min (m <sup>3</sup> /min).....	1300 (36.8)
Air Box Pressure – in. Hg (kPa).....	45.0 (152)
Recommended Intake Pipe Dia. – in. (mm).....	6.0 (152)
Minimum Net Engine Room Vent Area. – in. <sup>2</sup> (cm <sup>2</sup> ).....	124.8 (805)
Maximum Crankcase Pressure – in. H <sub>2</sub> O (kPa).....	3.0 (0.75)

## Exhaust System

Exhaust Flow – ft <sup>3</sup> /min (m <sup>3</sup> /min).....	2970 (84.1)
Exhaust Temperature – °F (°C).....	590 (310)
Maximum Back Pressure – in. Hg (kPa).....	2.5 (8.4)
Recommended Exhaust Pipe Diameter:	Dry Wet
Single – in. (mm).....	5.0 (127) 6 (152)
Dual – in. (mm).....	Not Applicable

## Performance Data

BMEP – lb/in. <sup>2</sup> (kPa).....	128.1 (883)
Friction Power – fhp (kW).....	106 (79)

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	500 (373)	482 (360)	26.5 (100.4)	0.371 (225)
1950	482 (360)	465 (347)	24.9 (94.3)	0.361 (220)
1800	457 (341)	440 (329)	23.5 (88.9)	0.359 (218)
1600	412 (307)	397 (296)	21.4 (81.0)	0.363 (221)
1400	359 (268)	345 (258)	19.2 (72.8)	0.374 (228)
1200	300 (224)	288 (215)	16.8 (63.6)	0.391 (238)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr (L/hr)	Prop BSFC lb/bhp·hr (g/kW·hr)
2100	482 (360)	26.5 (100.4)	0.371 (225)
1950	386 (288)	21.0 (79.4)	0.365 (222)
1800	304 (226)	16.6 (63.0)	0.367 (224)
1600	213 (159)	12.2 (46.3)	0.382 (232)
1400	143 (107)	8.7 (32.8)	0.401 (244)
1200	90 (67)	5.9 (22.2)	0.423 (257)

## Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.8
Noise – dB(A) @ 1.....	101.0
Additional Noise Data.....	Not Available
NO <sub>x</sub> – g/hr.....	2720
CO – g/hr.....	2620
HC – g/hr.....	128
SO <sub>2</sub> – g/hr.....	840

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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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