

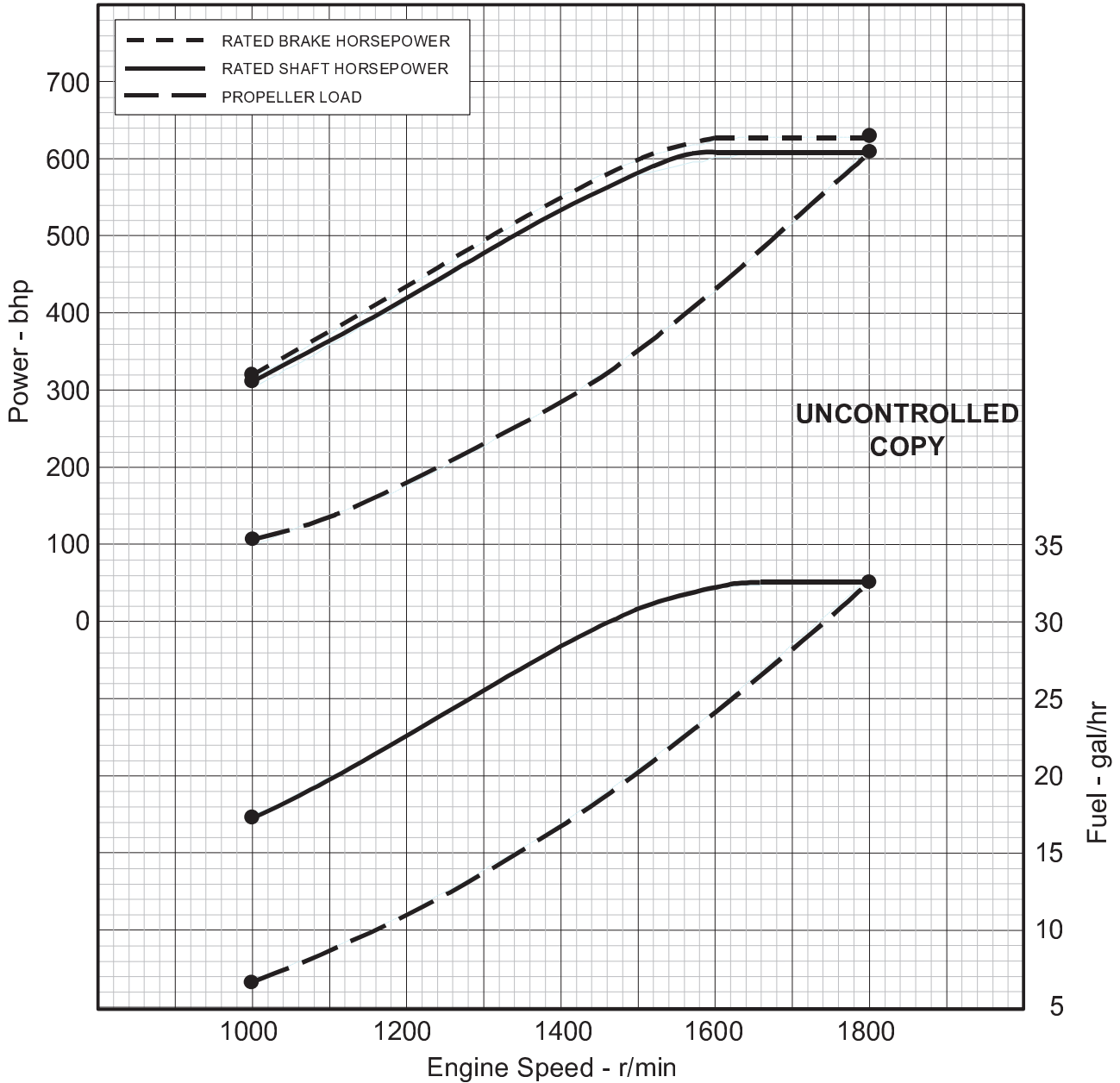


## Marine Power

**Model:** 8V-149TI DDEC®

**Rating:** 630 bhp (470 kW) @ 1800 r/min  
608 shp (454 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. 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 = hp x 0.746 Fuel: L/hr = gal/hr x 3.785</p>	<p><b>Turbo:</b> TV8403 (1.23 A/R) <b>Injector:</b> 5234920 <b>Accessories:</b> Gear - 3% <b>Alternator:</b> 24V, 70A <b>Raw Water Pump:</b> Included</p>
--	--	---

Certified by: Caley Edgerly

**Curve No.** E4-9082-32-8  
**Rev. / Date:** 2 / 12-23-97  
**Sheet No.** 1 of 2

### Performance Curve

# MARINE SPECIFICATION SHEET

## General Data

Model	9082-7K20, -7K21
Number of Cylinders	8
Bore and Stroke – in. x in. (mm x mm)	5.75 x 5.75 (146 x 146)
Displacement – in. <sup>3</sup> (L)	1194 (19.57)
Compression Ratio	14.0:1
Piston Speed – ft/min (m/min)	1725 (526)
Exhaust Valves	4
Combustion System	DIRECT INJECTION
Engine Type	63.5° VEE – 2 Cycle
Aspiration	TURBOCHARGED

## Configuration

Injection Device	EUI
Turbocharger	TV8403 (1.23 A/R)
Charge Air Cooling System	JWIC
Blower Type	Standard (Ext. Bypass)
Blower Drive Ratio	2.26:1
Low Idle Speed – r/min	650
Maximum No Load Speed – r/min	1810
Engine Crankcase Vent System	Closed

## Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm)	64.0 (1625)	64.0 (1625)
Width – in. (mm)	64.0 (1625)	64.0 (1625)
Height – in. (mm)	68.0 (1727)	68.0 (1727)
Weight, dry – lb (kg)	6000 (2727)	6400 (2909)
Weight, wet – lb (kg)	6400 (2909)	6400 (2909)
Center of Gravity Distance:		
From R.F.O.B. (x axis) – in. (mm)	18.7 (475.5)	18.7 (475.5)
Above Crankshaft (y axis) – in. (mm)	14.5 (367.3)	14.5 (367.3)
Right of Crankshaft (z axis) – in. (mm)	0.9 (22.9)	0.9 (22.9)
Installation Drawing	23502703 Ref.	

## Mechanical Data

E4-9000-32-2

## Marine Gear

Type	Not Available
Reduction Ratio	Not Available
Lube Oil Capacity – qt (L)	Not Available
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg)	Not Available
Center of Gravity Distance:	
From Mounting Face (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

## Fuel System

Fuel Injector Part Number	5234920
Injector Timing – in.	2.524
Fuel Consumption – lb/hr (kg/hr)	228.0 (103.4)
Fuel Spill Rate gal/hr (L/hr)	317.3 (1201.1)
Total Fuel Flow gal/hr (L/hr)	350.4 (1326)
Maximum Fuel Inlet Temperature – °F (°C)	140 (60)
Maximum Fuel Pump Suction:	
Clean System – in. Hq (kPa)	6 (20.3)
Dirty System – in. Hq (kPa)	12 (41)
Fuel Filter Size, Primary – microns	30
Fuel Filter Size, Secondary – microns	5
Recommended Supply Line I.D. – in.(mm)	1.0 (25.4)

## Lubrication System

Oil Pressure at Rated Speed – lb/in. <sup>2</sup> (kPa)	65-85 (448-586)
Oil Pressure at Low Idle – lb/in. <sup>2</sup> (kPa)	10 (69)
In Pan Oil Temperature – °F (°C)	200 – 250 (93 – 121)
Oil Flow – gal/min (L/min)	121 (458)
Oil Pan Capacity at Installation Angle	0° 8°
High Limit – qt (L)	104 (98.4) 104 (98.4)
Low Limit – qt (L)	87 (82.3) 87 (82.3)
Total Engine Oil Capacity with Filters – qt (L)	124 (117.3) 124 (117.3)
Maximum Installation Angle – Degrees	10.0

## Electrical System

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

## Cooling System

Engine Heat Rejection – Btu/min (kW)	21950 (386)
Engine Radiated Heat – Btu/min (kW)	2480 (43)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min)	265 (1003)
Raw Water Flow – gal/min (L/min)	200 (757)
Maximum Water Pump:	<b>Fresh Water</b> <b>Raw Water</b>
Inlet Restriction – in.Hq (kPa)	3.0 (10.2) 5.0 (17.0)
Fresh Water Capacity – qt (L)	91 (283.9)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. <sup>2</sup> (kPa)	25 (172.4)
Maximum Raw Water Pump Pressure – lb/in. <sup>2</sup> (kPa)	10 (69)
Maximum Top Tank Temperature – °F (°C)	200 (93)
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)	15 (3.75)
Engine Air Flow – ft <sup>3</sup> /min (m <sup>3</sup> /min)	2250 (64)
Air Box Pressure – in. Hq (kPa)	40.0 (135.1)
Recommended Intake Pipe Dia. – in.(mm)	10.0 (254)
Minimum Net Engine Room Vent Area, – in. <sup>2</sup> (cm <sup>2</sup> )	216 (1393)
Maximum Crankcase Pressure – in. H <sub>2</sub> O (kPa)	2.5 (0.62)

## Exhaust System

Exhaust Flow – ft <sup>3</sup> /min (m <sup>3</sup> /min)	4780 (135)
Exhaust Temperature – °F (°C)	680 (360)
Maximum Back Pressure – in. Hq (kPa)	2.5 (8.5)
Recommended Exhaust Pipe Diameter:	<b>Dry</b> <b>Wet</b>
Single – in. (mm)	12 (305) 14 (356)
Dual – in. (mm)	8.0 (203) 10 (25.4)

## Performance Data

BMEP – lb/in. <sup>2</sup> (kPa)	116 (800)
Friction Power – fhp (kW)	180 (134)

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)
1800	630 (470)	608 (454)	32.7 (123.7)	0.362 (220)
1600	624 (466)	603 (449)	32.2 (121.8)	0.360 (219)
1400	552 (412)	533 (398)	28.3 (107.3)	0.359 (218)
1200	435 (325)	420 (313)	22.5 (85.3)	0.362 (220)
1000	320 (239)	309 (230)	17.3 (65.3)	0.377 (229)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr.(L/hr)	Prop BSFC lb/bhp-hr (g/kW-hr)
1800	608 (454)	32.7 (123.7)	0.362 (220)
1600	427 (319)	24.1 (91.2)	0.380 (231)
1400	286 (213)	16.7 (63.3)	0.393 (239)
1200	180 (134)	10.9 (41.3)	0.406 (247)
1000	104 (78)	6.6 (24.9)	0.421 (256)

## Emissions Data

Smoke, Rated Speed – Bosch Number	0.2
Noise – dB(A) @ 1	104.5
Additional Noise Data	Not Available
NO <sub>x</sub> – g/hr	10400
CO – g/hr	280
HC – gh/r	300
SO <sub>2</sub> – g/hr	1030

**UNCONTROLLED  
COPY**

Curve No. E4-9082-32-8  
Rev. / Date: 2 / 12-23-97  
Sheet No. 2 of 2

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

All information subject to change without notice.  
Detroit Diesel® and MTU are registered trademarks.  
©1997 DETROIT DIESEL CORPORATION