

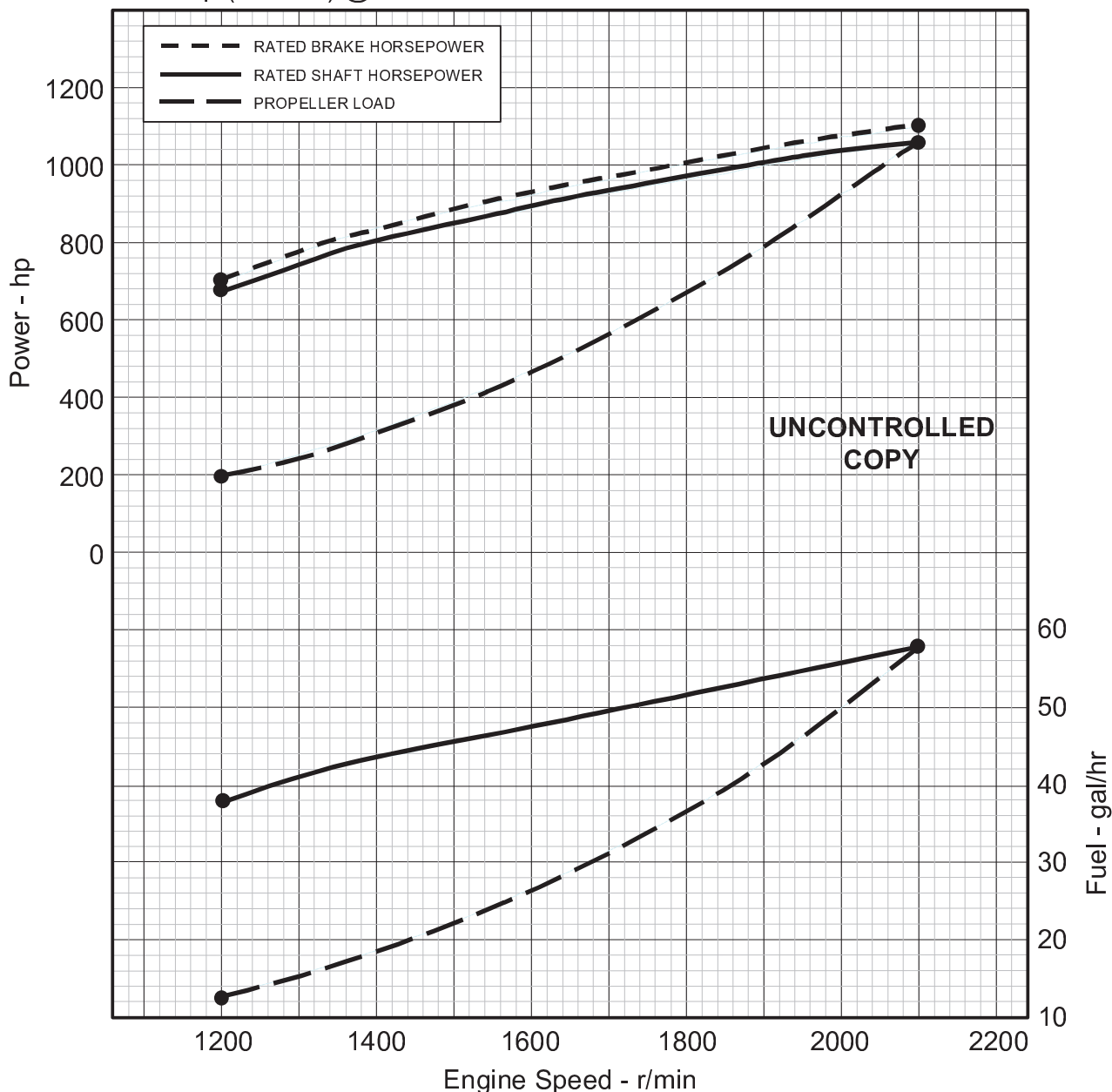


Marine Power

Model: 16V-92TA DDEC®

Rating: 1100 bhp (821 kW) @ 2100 r/min
1060 shp (791 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: TW8403 (1.19 A/R) Injector: 5234775 Accessories: DD273EV Gear Alternator: 24V, 65A Raw Water Pump: 2 Included</p>
--	--	--

Certified by: T.J. MOORE

Curve No. E4-8162-32-9
Rev. / Date: 4 / 6-26-98
Sheet No. 1 of 2

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model.....	8162-7K22
Number of Cylinders.....	16
Bore and Stroke – in. x in. (mm x mm).....	4.84 x 5.00 (123 x 127)
Displacement – in. ³ (L).....	1472 (24.14)
Compression Ratio.....	15.0:1
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.....	TW8403 (1.19 A/R)
Charge Air Cooling System.....	JWAC with Boost Cooler
Blower Type.....	100% Relieved Bypass
Blower Drive Ratio.....	2.605:1
Low Idle Speed – r/min.....	500
Maximum No Load Speed – r/min.....	2200
Engine Crankcase Vent System.....	CLOSED

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	109.1 (2771)	91.4 (2231)
Width – in. (mm).....	49.2 (1250)	49.2 (1250)
Height – in. (mm).....	54.0 (1372)	54.0 (1372)
Weight, Dry – lb (kg).....	6670 (3026)	5656 (2566)
Weight, Wet – lb (kg).....	7118 (3229)	6074 (2755)
Center of Gravity distance:		
From R.F.O.Fig/Blk. (x axis) – in. (mm).....	50.9 (1293)	28.1 (713)
Above Output Shaft (y axis) – in. (mm).....	15.7 (399)	8.78 (223)
Right of Output Shaft (z axis) – in. (mm).....	1.03 (26.0)	0.76 (19.2)
Installation Drawing.....	23503599 Ref.	

Mechanical Data

See E4-8000-32-1

Marine Gear

Type.....	DD-273EV
Reduction Ratio.....	2.55:1
Lube Oil Capacity– qt (L).....	15.9 (15.0)
(marine gear must use straight viscosity oil)	
Gear Weight, Dry – lb (kg).....	1014 (460)
Center of Gravity Distance:	
From Mounting Face (x axis) – in. (mm).....	13.39 (340)
Above Output Shaft (y axis) – in. (mm).....	5.91 (150)
Right of Output Shaft (z axis) – in. (mm).....	2.56 (65)

Fuel System

Fuel Injector – Part Number.....	5234775
Injection Timing Height – in.	1.520
Fuel Consumption – lb/hr (kg/hr).....	404.5 (183.5)
Fuel Spill Rate gal/hr (L/hr).....	270.0 (1022)
Total Fuel Flow gal/hr (L/hr).....	327.9 (1241)
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 (19.1)

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).....	81 (307)
Oil Pan Capacity at Installation Angle	0° 15°
High Limit – qt (L).....	65.0 (62.0) 65.0 (62.0)
Low Limit – qt (L).....	53.0 (50.0) 53.0 (50.0)
Total Engine Oil Capacity with Filters – qt (L).....	67.0 (64.0) 67.0 (64.0)
Maximum Installation Angle – Degrees.....	15.0

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

Cooling System

Engine Heat Rejection – Btu/min (kW):.....	41800 (735.0)
Boost Cooler Heat Rejection – Btu/min (kW):.....	8000 (140.7)
Engine Radiated Heat – Btu/min (kW).....	1860 (32.7)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	330 (1249)
Raw Water Flow – gal/min (L/min).....	127 (481)
Maximum Water Pump:	
Inlet Restriction – in. Hg (kPa).....	3.0 (10.2) 5.0 (17.0)
Fresh Water Capacity – qt (L).....	138 (130.6)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	17 (117)
Maximum Raw Water Pump Pressure – lb/in. ² (kPa).....	10 (69.0)
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).....	3075 (87.1)
Air Box Pressure – in. Hg (kPa).....	62.0 (209.4)
Recommended Intake Pipe Dia.	
Single – in. (mm).....	10.0 (254)
Double – in. (mm).....	8.0 (203)
Minimum Net Engine Room Vent Area, – in. ² (cm ²).....	295 (1905)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	3.0 (0.75)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	5930 (167.9)
Exhaust Temperature – °F (°C).....	555 (291)
Maximum Back Pressure – in. Hg (kPa).....	2.5 (8.4)
Recommended Exhaust Pipe Diameter:	
Single – in. (mm).....	10.0 (254) 12 (304)
Dual – in. (mm).....	8.0 (203) 10.0 (254)

Performance Data

BMEP – lb/in. ² (kPa).....	140.9 (972)
Friction Power– fhp (kW).....	211 (157)

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	1100 (821)	1060 (791)	57.9 (219.1)	0.368 (224)
1950	1054 (765)	1016 (758)	55.0 (208.2)	0.365 (222)
1800	1003 (748)	967 (721)	51.5 (195.1)	0.359 (218)
1500	883 (659)	851 (635)	45.6 (172.7)	0.361 (220)
1200	704 (525)	667 (505)	37.7 (142.9)	0.375 (228)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr (L/hr)	Prop BSFC lb/bhp-hr (g/kW-hr)
2100	1060 (791)	57.9 (219.1)	0.368 (224)
1950	849 (633)	46.2 (175.0)	0.366 (223)
1800	668 (498)	36.6 (138.4)	0.368 (224)
1500	386 (288)	22.1 (83.7)	0.382 (232)
1200	198 (148)	12.5 (47.1)	0.415 (252)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.4
Noise – dB(A) @ 1.....	107.0
Additional Noise Data.....	Not Available
NO _x – g/hr.....	10060
CO – g/hr.....	1035
HC – gh/r.....	123
SO ₂ – g/hr.....	1835

UNCONTROLLED
COPY

Curve No. E4-8162-32-9
Rev. / Date: 4 / 6-26-98
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 Spinning Arrows Design® are registered trademarks of Detroit Diesel Corporation.
© 1998 DETROIT DIESEL CORPORATION