

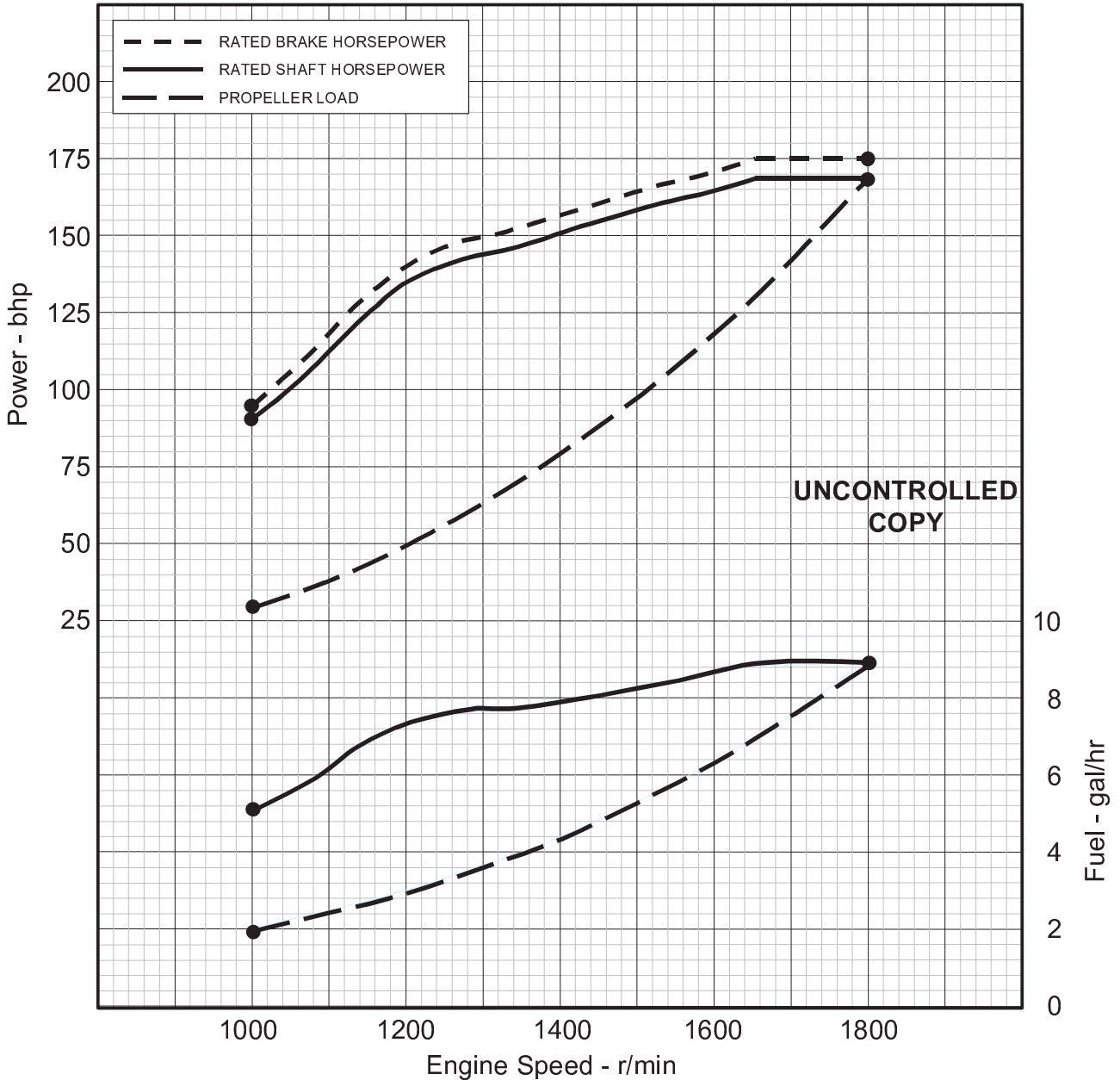


Marine Power

Model: 4-71TI DDEC®

Rating: 175 bhp (149 kW) @ 1800 r/min
168 shp (125 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. H₂O (2.5 kPa) Exhaust Back Pressure: 15 in. H₂O (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>Turbo: TV6501 (0.84 A/R) Injector: 5234770 Accessories: DD-5050V Gear Alternator: 24V, 40A Raw Water Pump: Included</p>
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Certified by: *JR Schringer*

Curve No. E4-1042-32-6
Rev. / Date: 1 / 12-1-97
Sheet No. 1 of 2

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model.....	1042-5K22, -7K22
Number of Cylinders.....	4
Bore and Stroke – in. x in. (mm x mm).....	4.25 x 5.00 (108 x 127)
Displacement – in. ³ (L).....	284 (4.65)
Compression Ratio.....	17.0:1
Piston Speed – ft/min (m/min).....	1750 (533)
Exhaust Valves.....	4
Combustion System.....	Direct Injection
Engine Type.....	Inline 2 Cycle
Aspiration.....	Turbocharged

Configuration

Injection Device.....	EUI
Turbocharger.....	TV6501 (0.84 A/R)
Charge Air Cooling System.....	RWIC
Blower Type.....	Bypass
Blower Drive Ratio.....	2.05:1
Low Idle Speed – r/min.....	600
Maximum No Load Speed – r/min.....	2200
Engine Crankcase Vent System.....	CLOSED

Physical Data

Size:	WITH GEAR	WITHOUT GEAR
Length – in. (mm).....	60.39 (1534)	57.49 (1460)
Width – in. (mm).....	30.83 (783)	30.83 (783)
Height – in. (mm).....	41.26 (1048)	41.26 (1048)
Weight, dry – lb (kg).....	Not Available	Not Available
Weight, wet – lb (kg).....	Not Available	Not Available
Center of Gravity Distance:		
From R.F.O.B. (x axis) – in. (mm).....	Not Available	Not Available
Above Crankshaft (y axis) – in. (mm).....	Not Available	Not Available
Right of Crankshaft (z axis) – in. (mm).....	Not Available	Not Available
Installation Drawing.....	L00-2004	

Mechanical Data

E4-1000-32-1

Marine Gear

Type.....	DD507-1
Reduction Ratio.....	1.51:1
Lube Oil Capacity – qt (L).....	6.4 (6.1)
(marine gear must use straight viscosity oil)	
Gear Weight, dry – lb (kg).....	350 (159)
Center of Gravity Distance:	
From Mounting Face (x axis) – in. (mm).....	6.68 (170)
Above Output Shaft (y axis) – in. (mm).....	1.50 (38)
Right of Output Shaft (z axis) – in. (mm).....	1.08 (27.4)

Fuel System

Fuel Injector-Part Number.....	5234770
Injection Timing Height – in.	1.520
Fuel Consumption – lb/hr (kg/hr).....	81.3 (36.9)
Fuel Spill Rate gal/hr (L/hr).....	80.0 (302.8)
Total Fuel Flow gal/hr (L/hr).....	91.6 (346.9)
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. ² (kPa).....	40-60 (276-414)
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).....	27 (102)
Oil Pan Capacity at Installation Angle	0° 7°
High Limit – qt (L).....	18.0 (17.0) 18.0 (19.0)
Low Limit – qt (L).....	15.0 (14.2) 15.0 (14.2)
Total Engine Oil Capacity with Filters – qt (L).....	20.0 (18.9) 20.0 (18.9)
Maximum Installation Angle – Degrees.....	7.0

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32°.....	950
12 Volt System, Below 32°.....	1250
24 Volt System, Above 32°.....	475
24 Volt System, Below 32°.....	625
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).....	6750 (118.7)
Engine Radiated Heat – Btu/min (kW).....	500 (8.8)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	115 (435)
Raw Water Flow – gal/min (L/min).....	67 (254)
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).....	40 (37.9)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	40 (275.8)
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).....	1.0 (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).....	10 (2.5)
Dirty Air Cleaner – in. H ₂ O (kPa).....	15 (3.7)
Engine Air Flow – ft ³ /min (m ³ /min).....	750 (21.2)
Air Box Pressure – in. Hg (kPa).....	51.5 (173.9)
Recommended Intake Pipe Dia.-in.(mm).....	5.0 (127)
Minimum Net Engine Room Vent Area, – in. ² (cm ²).....	72 (465)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	3.0 (0.80)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	1540 (43.6)
Exhaust Temperature – °F (°C).....	625 (329)
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. ² (kPa).....	132.9 (917)
Friction Power – fhp (kW).....	39 (29)

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/kWhr)
1800	175 (131)	168 (125)	8.9 (33.8)	0.357 (217)
1600	171 (128)	164 (122)	8.7 (32.8)	0.354 (215)
1400	157 (117)	150 (112)	7.9 (30.0)	0.354 (215)
1200	140 (104)	134 (100)	7.4 (27.9)	0.368 (224)
1000	95 (71)	90 (67)	5.2 (19.6)	0.380 (231)

Engine Speed r/min	Prop Load shp (kW)	Prop Fuel Usage gal/hr (L/hr)	Prop BSFC lb/bhp-hr (g/kWhr)
1800	168 (125)	8.9 (33.8)	0.357 (217)
1600	118 (88)	6.4 (24.4)	0.356 (217)
1400	79 (59)	4.4 (16.6)	0.363 (221)
1200	50 (37)	2.9 (11.1)	0.380 (231)
1000	29 (21)	1.9 (7.3)	0.422 (257)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.5
Noise – dB(A) @ 1.....	100
Additional Noise Data.....	Not Available
NO _x – g/hr.....	1770
CO – g/hr.....	460
HC – gh/r.....	46
SO ₂ – g/hr.....	283

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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.

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