

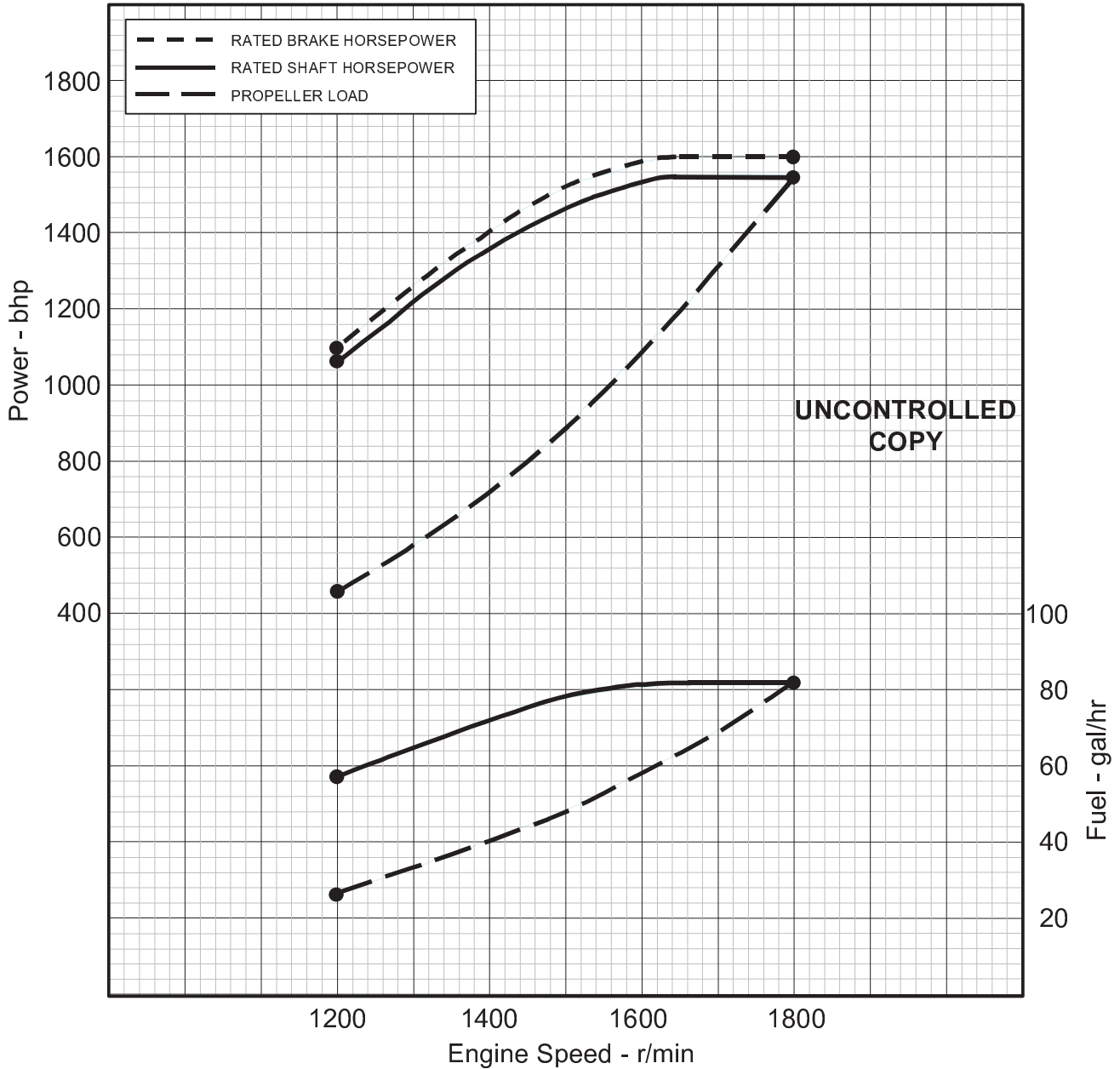


Marine Power

Model: 16V-149TI DDEC®

Rating: 1600 bhp (1194 kW) @ 1800 r/min
1550 shp (1156 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: TV8405 (1.23 A/R) Injector: 5234920 Accessories: Gear 3% loss Alternator: 24V, 100A Raw Water Pump: keel cooled</p>
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Certified by: *Caley Edgerly*

Curve No. E4-9162-32-39
Rev. / Date: 1 / 12-15-97
Sheet No. 1 of 2

Performance Curve

MARINE SPECIFICATION SHEET

General Data

Model.....	9162-7K22, 7K23
Number of Cylinders.....	16
Bore and Stroke – in. x in. (mm x mm).....	5.75 x 5.75 (146 x 146)
Displacement – in. ³ (L).....	2389 (39.15)
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.....	TV8405 (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).....	†	106.0 (2692)
Width – in. (mm).....	†	64.0 (1626)
Height – in. (mm).....	†	68.0 (1727)
Weight, dry – lb (kg).....	†	11950 (5421)
Weight, wet – lb (kg).....	†	13020 (5906)
Center of Gravity Distance:		
From R.F.O.B. (x axis) – in. (mm).....	†	37.4 (950)
Above Crankshaft (y axis) – in. (mm).....	†	14.5 (368)
Right of Crankshaft (z axis) – in. (mm).....	†	0.9 (23)
Installation Drawing.....	SK-10701	

Mechanical Data

E4-9000-00-1

Marine Gear

Type.....	Customer Supplied
Reduction Ratio.....	†
Lube Oil Capacity – qt (L).....	†
(marine gear must use straight viscosity oil)	
Gear Weight, Dry – lb (kg).....	†
Center of Gravity Distance:	
From Mounting Face (x axis) – in.(mm).....	†
Above Output Shaft (y axis) – in.(mm).....	†
Right of Output Shaft (z axis) – in.(mm).....	†

Fuel System

Fuel Injector Part Number.....	5234920
Injection Timing Height – in.	2.524
Fuel Consumption – lb/hr (kg/hr).....	576.9 (261.7)
Fuel Spill Rate gal/hr (L/hr).....	255 (965.3)
Total Fuel Flow gal/hr (L/hr).....	337.5 (1277.7)
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.....	12
Recommended Supply Line I.D. – in.(mm).....	1.0 (25.4)

Lubrication System

Oil Pressure at Rated Speed – lb/in. ² (kPa).....	48-70 (338-483)
Oil Pressure at Low Idle – lb/in. ² (kPa).....	20 (138)
In Pan Oil Temperature – °F (°C).....	230 (108)
Oil Flow – gal/min (L/min).....	147 (556)
Oil Pan Capacity at Installation Angle	0° 12°
High Limit – qt (L).....	160 (151.4) 160 (151.4)
Low Limit – qt (L).....	114 (107.9) 114 (107.9)
Total Engine Oil Capacity with Filters – qt (L).....	200 (189.3) 200 (189.3)
Maximum Installation Angle – Degrees.....	12.0

Electrical System

Recommended Battery Capacity (CCA @ 0°F):	
12 Volt System, Above 32°.....	950*
12 Volt System, Below 32°.....	Not Applicable
24 Volt System, Above 32°.....	Not Applicable
24 Volt System, Below 32°.....	Not Applicable
Maximum Resistance of Starting Circuit:	
12 Volt System – ohms.....	Not Applicable
24 Volt System – ohms.....	Not Applicable

* DDEC System Only

† Values will vary depending on customer selection.
All values are at rated speed and power and with

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

Cooling System

Engine Heat Rejection – Btu/min (kW):.....	46600 (819.4)
Engine Radiated Heat – Btu/min (kW).....	6180 (108.7)
Coolant Flow:	
Fresh Water Flow – gal/min (L/min).....	489 (1851)
Raw Water Flow – gal/min (L/min).....	230 (871)
Maximum Water Pump:	Fresh Water Raw Water
Inlet Restriction – in.Hq (kPa).....	3.0 (10.2) 5.0 (17.0)
Fresh Water Capacity – qt (L).....	340 (321.8)
Maximum Coolant Pressure	
(Exclusive of Pressure Cap) – lb/in. ² (kPa).....	25 (172.4)
Maximum Raw Water Pump Pressure – lb/in. ² (kPa).....	10 (69)
Maximum Top Tank Temperature – °F (°C).....	195 (91)
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).....	4.0 (102)
Duplex – in.(mm).....	3.0 (76)

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).....	4880 (138.2)
Air Box Pressure – in. Hq (kPa).....	52.0 (175.6)
Recommended Intake Pipe Outer Diameter.	
Single – in.(mm).....	14 (355.6)
Double – in.(mm).....	10 (254)
Minimum Net Engine Room Vent Area,	
Depression at 0.2 in. H ₂ O – in ² (cm ²).....	469 (3023)
Maximum Crankcase Pressure – in. H ₂ O (kPa).....	1.5 (0.37)

Exhaust System

Exhaust Flow – ft ³ /min (m ³ /min).....	10810 (306.1)
Exhaust Temperature – °F (°C).....	710 (377)
Maximum Back Pressure – in. Hq (kPa).....	2.0 (6.8)
Recommended Exhaust Pipe Diameter:	Dry Wet
Single – in. (mm).....	14 (356) 16 (406)
Dual – in. (mm).....	10 (254) 12 (305)

Performance Data

BMEP – lb/in. ² (kPa).....	147.3 (1016)
Friction Power – fhp (kW).....	350 (261)

Engine Speed	Brake Power	Shaft Power	Rated Fuel Usage	Rated BSFC
r/min	bhp (kW)	shp (kW)	gal/hr (L/hr)	lb/bsp-hr (g/kW-hr)
1800	1600 (1194)	1550 (1156)	82.6 (312.5)	0.361 (219)
1650	1600 (1194)	1550 (156)	82.6 (312.5)	0.361 (219)
1500	1520 (1134)	1472 (1098)	78.7 (297.8)	0.362 (220)
1350	1330 (992)	1288 (961)	68.9 (260.7)	0.362 (220)
1200	1100 (821)	1065 (794)	57.3 (216.8)	0.364 (221)

Engine Speed	Prop Load	Prop Fuel Usage	Prop BSFC
r/min	shp (kW)	gal/hr (L/hr)	lb/bhp-hr (g/kW-hr)
1800	1550 (1156)	82.6 (312.5)	0.361 (219)
1650	1194 (891)	64.0 (242.2)	0.363 (221)
1500	897 (669)	48.8 (184.6)	0.368 (224)
1350	654 (488)	37.0 (140.1)	0.382 (232)
1200	459 (343)	26.5 (100.2)	0.388 (236)

Emissions Data

Smoke, Rated Speed – Bosch Number.....	0.2
Noise – dB(A) @ 1.....	107.4
Additional Noise Data.....	Not Available
NO _x – g/hr.....	29055
CO – g/hr.....	3620
HC – gh/r.....	810
SO ₂ – g/hr.....	2617

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