BOLLARD™ MG22
22kW Marine Generator Specifications

Features and Benefits

Unsurpassed Quality & Reliability
BOLLARD™ Generators are designed and built in the USA specifically for the rugged conditions of commercial use. The expected time between overhauls on the BOLLARD™ packaged generator set is 20 to 50 thousand hours.

1: High Efficiency Generators
Heavy Duty windings engineered for 80 deg. C rise of 40 deg. C ambient yield extended insulation service life, high electrical efficiency for maximum fuel economy, and superior motor starting at all voltages. PMG dedicated excitation is optional, resulting in even higher motor starting together with 300% sustained short circuit capacity along with VFD and paralleling compatibility.

Emissions
BOLLARD™ MG-20-28 Gen-Sets are EPA certified Tier 3 Marine, CARB, EU, and MOC. They meet the lowest emissions levels available on the market today without exhaust after-treatment resulting in reduced maintenance and operating costs while preserving our clean air and water quality.

Keel Cooling, Heat Exchange, or Radiator Compatibility
Premium Marine Grade Protection
BOLLARD™ generators feature Imron™ 2 part marine epoxy overcoats on the engine, generator, and base frame. Accessory brackets are powder coated and fasteners are primarily stainless steel to protect your investment from the harsh marine environment.

2: Heavy Duty Structural Steel Base Frame & Reduced Noise
For ease of installation, structural integrity, safety and durability. Superior vibration and noise dampening with a high mass flywheel, polyurethane vibration isolators, mass loaded & stiffened base frame, and de-noised engine.

3: Water Jacketed Exhaust Manifold and Expansion Tank
Provides low engine room temperatures and greatly reduces fire hazard

4: Heavy Duty Air Intake Filtration & Silencing
For increased performance, extended engine life, and quiet operation.

5: Controls, Gauges & Instrumentation
Standard enclosed pre-wired digital auto start control panel with push button start/stop. Safety shutdowns are programmed for high water temp, low oil pressure, and over-speed. Included are LED readout of oil pressure, engine hours, DC system voltage, water temperature, engine speed in RPM, Generator Voltage and Frequency. Custom panels offer, auto-start/stop function for inverter or paralleling interface, load sharing, digital generator KW output LEDs and full function electrical distribution switchboards.

7: Optional SCOR™ Sea Change Oil Regeneration System
1µ bypass oil filter. Safely extends oil drain intervals and engine life.

General Specifications

<table>
<thead>
<tr>
<th>Engine Model</th>
<th>V2403-M-E3B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Type</td>
<td>In-Line</td>
</tr>
<tr>
<td>Displacement - L (cu.in)</td>
<td>2,434 (148.5)</td>
</tr>
<tr>
<td>Bore x Stroke - mm (in)</td>
<td>87 (3.43) x 102 (4.03)</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Naturally Aspirated</td>
</tr>
<tr>
<td>Oil Sump Capacity - qts (L)</td>
<td>10 (9.5)</td>
</tr>
<tr>
<td>Emission Regulation</td>
<td>US EPA Tier 3 Marine Certified</td>
</tr>
<tr>
<td>Prime - 60Hz, 1800RPM (HP)</td>
<td>22 kW (29.48)</td>
</tr>
<tr>
<td>Standby - 60Hz, 1800RPM (HP)</td>
<td>24 kW (32.16)</td>
</tr>
<tr>
<td>Motor Starting Range - HP</td>
<td>6.4 - 22 (Code G Motor @ 208VAC)</td>
</tr>
<tr>
<td>Voltage Regulation</td>
<td>+/-1%</td>
</tr>
<tr>
<td>Starter</td>
<td>12v</td>
</tr>
<tr>
<td>Alternator</td>
<td>12v</td>
</tr>
<tr>
<td>Operating Angle</td>
<td>20° (Constant)</td>
</tr>
<tr>
<td>Dry Weight - lbs</td>
<td>865lbs (engine, 283 gen, skid, manifold)</td>
</tr>
<tr>
<td>Length x Width x Height - inches</td>
<td>36.5-48.5” x 21.5” x 29.0” (Details on Back)</td>
</tr>
</tbody>
</table>

Fuel Performance
Dimensions

Alternate Dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>C - Length - In</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>283-1507</td>
<td>20.8&quot; (25.4&quot; w/ PMG)</td>
<td>275</td>
</tr>
<tr>
<td>284-1508</td>
<td>22.8&quot; (27.4&quot; w/ PMG)</td>
<td>350</td>
</tr>
<tr>
<td>PI144H</td>
<td>25.43&quot; (28.83&quot; w/ EBS)</td>
<td>380</td>
</tr>
<tr>
<td>PI144K</td>
<td>27.20&quot; (30.4&quot; w/ EBS)</td>
<td>425</td>
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</tbody>
</table>

* Drawings or pictures may show non-standard equipment
* Dimensions are subject to change without notice and or with the use of alternate generators and cooling systems.
* Please confirm exact configuration if dimensions are critical.

Load Performance

<table>
<thead>
<tr>
<th>Load in kW</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
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<tbody>
<tr>
<td>Pounds Per Hour</td>
<td>5.5</td>
<td>11</td>
<td>16.5</td>
<td>22</td>
</tr>
<tr>
<td>Gallons Per Hour</td>
<td>2.93</td>
<td>5.85</td>
<td>8.78</td>
<td>11.7</td>
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<tr>
<td>kW Per Gallons Per Hour</td>
<td>12.15</td>
<td>12.28</td>
<td>12.28</td>
<td>12.15</td>
</tr>
<tr>
<td>Pounds Per Gallon</td>
<td>7.1</td>
<td>7.1</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Continuous kW Output</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Horsepower At Load</td>
<td>7.6</td>
<td>15.2</td>
<td>22.8</td>
<td>30.4</td>
</tr>
<tr>
<td>Horsepower Continuous</td>
<td>30.4</td>
<td>30.4</td>
<td>30.4</td>
<td>30.4</td>
</tr>
<tr>
<td>Pounds Per Horsepower Per Hour</td>
<td>0.385</td>
<td>0.385</td>
<td>0.385</td>
<td>0.385</td>
</tr>
</tbody>
</table>

Customizable Options and Accessories

**Engine**

- Single Circuit Keel Cooling Package
- Single Circuit Heat Exchange Package
- Single Circuit Marine Radiator Package

**Motor Starting Upgrade Options**

- (Code G Motor @ 208VAC)
  - Up to 1:1 HP per kW

**Air Intake & Filtration**

- K&N Air Filters
- Donaldson Air Silencer
- Closed Crank Case Vent Loop

**Controls & Instrumentation**

- Control Panel
- Custom Harness Length
- Auxiliary Start Panel
- Auto Start/Stop
- Pre-Alarm Senders
- AC Meter Panel
- Low Coolant Level Shutdown
- High Water Temp. Shutdown
- Low Oil Pressure Shutdown
- Low Oil Level Gauge/Shutdown
- Overspeed Shutdown
- Parallel & Load Share
- Over-Voltage Alarm
- Over-Current Alarm
- Under-Current Alarm

**DC Electrical System**

- Battery: 12v | 24v
- Battery Rack & Cables
- Battery Isolation Switch
- SCOR™ Oil Regeneration System
- Oil Drain Extension W/ Valve
- Oil Drain Pump To Engine
- Move Dipstick To Opposite Side
- High/Low Oil Level Shut Down
- Custom Oil Drain Hose Length
- Single Side Service
- Lube Oil Drip Pan

**Exhaust**

- SS Wet Exhaust Mixing Elbow
- Dry Exhaust Matching Flange
- SUPERFLEX™ Exhaust Bellows
- Cowl & EM Exhaust Silencers
- Heat Recovery Silencer

**Power Take Off**

- SEADRIVE™ Clutched Front PTO
- SEADRIVE™ Direct Drive Front PTO
- Clutch: Air | Oil | Electric
- Racor Fuel Water Separator

**Additional Options**

- Sea Trial Start Up
- MER Site Start-Up w/ Load Bank
- Custom Frame / Skid
- Crank Vent Filtration Kit
- Dual Vibration Isolation Mounts
- Custom Sound Enclosure
- Galvanized or Powder Coated
- Skids & Accessories
- Racor Fuel Water Separator

**Customizable Options and Accessories**

- MER Site Start-Up w/ Load Bank
- Single Side Service
- Lube Oil Drip Pan
- Over-Current Alarm
- Under-Current Alarm

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