INDUSTRIAL SPARK-IGNITED GENERATOR SET

PRAMAC | Power Engineering Division

**Power Ratings**

<table>
<thead>
<tr>
<th></th>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGW100</td>
<td>100kVA/80kW</td>
<td>90kVA/72 kW</td>
</tr>
</tbody>
</table>

**Codes and Standards**

PRAMAC products are designed to the following standards:

- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

**ENGLISH GENERATION**

PRAMAC ensures superior quality and performance by managing all aspects of production: from design to manufacturing.

PRAMAC can trace its roots back to 1966; from then onwards it has been expanding its activity in the energy and material-handling sector, continuously growing globally with a wide and flexible product range.

In the field of power generation, PRAMAC offers solutions for every kind of power supply demand: portable and industrial generators for stand by and prime power applications and mobile and towable lighting for outdoor needs.

PRAMAC operates through a wide distribution network and provides global coverage even in the most demanding markets.
STANDARD FEATURES

ENGINE SYSTEM
- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Exhaust Silencer (Enclosed Only)

Fuel System
- Fuel Line - NPT Connection
- Primary and Secondary Fuel Shutoff

Cooling System
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze

Electrical System
- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM
- GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Amortisseur Winding
- Full Load Capacity Alternator

GENERATOR SET
- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping (Enclosed Only)
- Standard Factory Testing
- 1 Year Limited Warranty or 1,000 Hours
- Silencer Mounted in the Discharge Hood (Enclosed Only)

ENCLOSURE (If Selected)
- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM

Digital H Control Panel- Dual 4x20 Display

Program Functions
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- 3-Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)

- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display
- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level

- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Low Fuel Pressure Alarm
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)
**ENGINE SYSTEM**
- Engine Coolant Heater
- Air Filter Restriction Indicator
- Stone Guard (Open Set Only)
- Critical Exhaust Silencer (Open Set Only)

**ELECTRICAL SYSTEM**
- 10A Battery Charger

**ALTERNATOR SYSTEM**
- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

**CIRCUIT BREAKER OPTIONS**
- Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

**ENGINEERED OPTIONS**

**ENGINE SYSTEM**
- Coolant Heater Ball Valves
- Fluid Containment Pan

**ALTERNATOR SYSTEM**
- 3rd Breaker System

**CONTROL SYSTEM**
- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

**GENERATOR SET**
- GenLink Communications Software (English Only)
- Extended Factory Testing (3-Phase Only)
- Pad Vibration Isolators

**ENCLOSURE**
- Weather Protected Enclosure
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Level 2 Sound Attenuation with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 321 KMH Wind Load Rating*
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Switch

**CONTROL SYSTEM**
- 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Indicator with Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Modem
- 10A Run Relay

**ENGINEERED OPTIONS**

**ENGINE SYSTEM**
- Coolant Heater Ball Valves
- Fluid Containment Pan

**ALTERNATOR SYSTEM**
- 3rd Breaker System

**CONTROL SYSTEM**
- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

*Consult factory for availability*
### ENGINE SPECIFICATIONS

**General**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make</td>
<td>Generac</td>
</tr>
<tr>
<td>Cylinder #</td>
<td>8</td>
</tr>
<tr>
<td>Type</td>
<td>V</td>
</tr>
<tr>
<td>Displacement - L (Cu In)</td>
<td>8.9 (540)</td>
</tr>
<tr>
<td>Bore - mm (in)</td>
<td>114.23 (4.49)</td>
</tr>
<tr>
<td>Stroke - mm (in)</td>
<td>107.15 (4.25)</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>10.5:1</td>
</tr>
<tr>
<td>Intake Air Method</td>
<td>Naturally Aspirated</td>
</tr>
<tr>
<td>Number of Main Bearings</td>
<td>5</td>
</tr>
<tr>
<td>Connecting Rods</td>
<td>Forged Steel</td>
</tr>
<tr>
<td>Cylinder Head</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>Cylinder Liners</td>
<td>No</td>
</tr>
<tr>
<td>Ignition</td>
<td>High Energy</td>
</tr>
<tr>
<td>Piston Type</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>Crankshaft Type</td>
<td>Forged Steel</td>
</tr>
<tr>
<td>Lifter Type</td>
<td>Hydraulic Roller</td>
</tr>
<tr>
<td>Intake Valve Material</td>
<td>Steel Alloy</td>
</tr>
<tr>
<td>Exhaust Valve Material</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Hardened Valve Seats</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Engine Governing**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor</td>
<td>Electronic</td>
</tr>
<tr>
<td>Frequency Regulation (Steady State)</td>
<td>±0.25%</td>
</tr>
</tbody>
</table>

**Lubrication System**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Pump Type</td>
<td>Gear</td>
</tr>
<tr>
<td>Oil Filter Type</td>
<td>Full-Flow Spin-On Cartridge</td>
</tr>
<tr>
<td>Crankcase Capacity - L (qts)</td>
<td>8.5 (8.0)</td>
</tr>
</tbody>
</table>

### ALTERNATOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Model</td>
<td>Generac 390 mm</td>
</tr>
<tr>
<td>Poles</td>
<td>4</td>
</tr>
<tr>
<td>Field Type</td>
<td>Revolving</td>
</tr>
<tr>
<td>Insulation Class - Rotor</td>
<td>H</td>
</tr>
<tr>
<td>Insulation Class - Stator</td>
<td>H</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>&lt;5% (3-Phase)</td>
</tr>
<tr>
<td>Telephone Interference Factor (TIF)</td>
<td>&lt;50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Excitation</td>
<td>Synchronous Brushless</td>
</tr>
<tr>
<td>Bearings</td>
<td>Sealed Ball</td>
</tr>
<tr>
<td>Coupling</td>
<td>Direct Drive</td>
</tr>
<tr>
<td>Prototype Short Circuit Test</td>
<td>Yes</td>
</tr>
<tr>
<td>Voltage Regulator Type</td>
<td>Full Digital</td>
</tr>
<tr>
<td>Number of Sensed Phases</td>
<td>All</td>
</tr>
<tr>
<td>Regulation Accuracy (Steady State)</td>
<td>±0.25%</td>
</tr>
</tbody>
</table>
### OPERATING DATA

#### POWER RATINGS - NATURAL GAS/PROPANE VAPOR

<table>
<thead>
<tr>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Phase 231/400 VAC @0.8pf</td>
<td>100 kVA/80 kW</td>
</tr>
<tr>
<td>Amps: 144</td>
<td>Amps: 130</td>
</tr>
</tbody>
</table>

#### STARTING CAPABILITIES (sKVA)

**sKVA vs. Voltage Dip**

<table>
<thead>
<tr>
<th>231/400 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternator kW</td>
</tr>
<tr>
<td>Standard</td>
</tr>
<tr>
<td>Upsize 1</td>
</tr>
<tr>
<td>Prime</td>
</tr>
</tbody>
</table>

#### FUEL CONSUMPTION RATES*

<table>
<thead>
<tr>
<th>Natural Gas – m³/hr (ft³/hr)</th>
<th>Liquid Propane Vapor – m³/hr (ft³/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Load</td>
<td>Standby</td>
</tr>
<tr>
<td>25%</td>
<td>9.7 (342)</td>
</tr>
<tr>
<td>50%</td>
<td>16.6 (586)</td>
</tr>
<tr>
<td>75%</td>
<td>22.4 (792)</td>
</tr>
<tr>
<td>100%</td>
<td>27.7 (977)</td>
</tr>
</tbody>
</table>

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

#### COOLING

<table>
<thead>
<tr>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Flow (Inlet Air Combustion and Radiator) m³/min (ft³/min)</td>
<td>131.4 (4,638)</td>
</tr>
<tr>
<td>Coolant Flow gal/min</td>
<td>21.0 (79)</td>
</tr>
<tr>
<td>Coolant System Capacity l (gal)</td>
<td>22.7 (8.0)</td>
</tr>
<tr>
<td>Heat Rejection to Coolant BTU/hr (kW)</td>
<td>330,000 (97)</td>
</tr>
<tr>
<td>Maximum Operating Ambient Temperature °C (°F)</td>
<td>50 (122)</td>
</tr>
<tr>
<td>Maximum Radiator Backpressure in H₂O (kPa)</td>
<td>0.5 (0.12)</td>
</tr>
</tbody>
</table>

#### COMBUSTION AIR REQUIREMENTS

<table>
<thead>
<tr>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow at Rated Power m³/min (cfm)</td>
<td>6.1 (220)</td>
</tr>
</tbody>
</table>

#### ENGINE

<table>
<thead>
<tr>
<th>Standby</th>
<th>Prime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Engine Speed rpm</td>
<td>1,500</td>
</tr>
<tr>
<td>Horsepower at Rated kW** hp</td>
<td>119</td>
</tr>
<tr>
<td>Piston Speed m/min (ft/min)</td>
<td>324 (1,062)</td>
</tr>
<tr>
<td>BMEP psi</td>
<td>121</td>
</tr>
</tbody>
</table>

** Refer to “Emissions Data Sheet” for maximum bHP for EPA and SCAGMD permitting purposes.

Deration - See Bulletin No. 10000011319.
Standby - See Bulletin No. 10000018933.
Prime - See Bulletin No. 10000018926.
OPEN SET (Includes Exhaust Flex)

L x W x H mm (in)  2,394 (94.2) x 1,016 (40) x 1,206 (47.5)
Weight kg (lbs)  936.2 (2,064)

STANDARD ENCLOSURE

L x W x H mm (in)  2,839.5 (111.79) x 1,027.8 (40.46) x 1,427 (56.18)
Weight kg (lbs)  
Steel: 1,228 (2,708)
Aluminum: 1,094 (2,413)

LEVEL 1 ACOUSTIC ENCLOSURE

L x W x H mm (in)  3,287.2 (129.42) x 1,027.8 (40.46) x 1,427 (56.18)
Weight kg (lbs)  
Steel: 1,269.2 (2,798)
Aluminum: 1,068 (2,355)

LEVEL 2 ACOUSTIC ENCLOSURE

L x W x H mm (in)  2,840 (111.81) x 1,027.8 (40.46) x 1,742.8 (68.61)
Weight kg (lbs)  
Steel: 1,370.8 (3,022)
Aluminum: 1,103 (2,431)

* Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a PRAMAC Industrial Dealer for detailed installation drawings.