The **Series RFC** provides reliable power to critical loads while converting the input frequency. Output voltage and frequency are maintained within specifications by internal control logic. Under normal operation, the **Series RFC** acts as a rotating filter and critical load power is protected from utility transients and brownouts. In general, it is 100% effective for outages less than approximately 100 m sec. The **Series RFC** is available with either Synchronous or Induction motors and can be built as a robust, common shaft 2 bearing M-G or a belt driven side by side unit. The **Series RFC** is designed to meet the rated kVA requirements at the output and a synchronous generator designed to yield the required frequency. A precision voltage regulator maintains the output voltage +/-5%. When operated at rated motor speed, the frequency of the generator is controlled by the RPM of the motor, thus the output frequency can be variable. The absence of brushes and slip rings in both motor and generator allows for virtually maintenance free operation.

### Standard Equipment Features

- Synchronous, brushless motor
- Push-button start-up
- Precision solid-state voltage regulator
- Analog metering and controls
- Input and output circuit breakers
- Synchronous, brushless generator
- NEMA-1 control cabinets, steel construction
- NEMA connection boxes, motor and generator
- Spring type vibration mounts
- Rigid steel base, welded construction
- Anti-friction bearings throughout
- Control and internal fault monitors
- Automatic shutdown on fault signals
- Bearing temperature detectors
- Continuous, full load operation
- Ideal for the testing and/or operation of European equipment of systems to be used in 50 Hz countries

### Optional Features

- Remote monitor (Status & Alarm)
- Sound enclosure
- Building interface
- Advanced metering package
- Special voltages
- Remote power off (REPO)
- NEMA 3R enclosure
- “Turn Key” Installation

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3206 Lanvale Avenue * Richmond, VA 23230 * (804) 355-2803 * Fax (804) 358-0498 * www.pscpower.com
## System Specifications

*Note: System performance shown is typical and is dependent upon M-G sizing, options desired, and loading of the system.*

### INPUT

<table>
<thead>
<tr>
<th>Nominal Voltage Available</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 60 Hz 208, 240, 480, 600</td>
<td>@ 60 Hz 208, 240, 480, 600</td>
</tr>
<tr>
<td>@ 50 Hz 380, 415</td>
<td>@ 50 Hz 380, 415</td>
</tr>
<tr>
<td>Phase 3 Phase + Ground</td>
<td>@ 400 Hz 208, 480</td>
</tr>
<tr>
<td>Frequency Tolerance</td>
<td>Phase 3 Phase 4 Wire + Ground</td>
</tr>
<tr>
<td>Magnitude Tolerance</td>
<td>Frequency Regulation</td>
</tr>
<tr>
<td>Continuous +10%, -20%</td>
<td>Adjustment +10%</td>
</tr>
<tr>
<td>Transient 1500v for 10 ms</td>
<td>Regulation</td>
</tr>
</tbody>
</table>

**Power Factor**

- Induction .8
- Synchronous .8 leading to 1.0
- Starting Inrush 3 x input kVa

**THD (Total Harmonic Distortion)**

- Single 2% Max
- Total 3% Max

**Phase Separation**

- Balanced Load 120° +/- 1°
- 25% Unbalance 120° +/- 3°

**Overload Capacity**

- 110% 2 Hours
- 125% 10 Minutes
- 150% 2 Minutes
- Power Factor 0.8

### OUTPUT

<table>
<thead>
<tr>
<th>Nominal Voltage Available</th>
<th>INPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 60 Hz 208, 240, 480, 600</td>
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</tr>
<tr>
<td>Frequency Tolerance</td>
<td>Frequency Regulation</td>
</tr>
<tr>
<td>Magnitude Tolerance</td>
<td>Input Dependent</td>
</tr>
<tr>
<td>Continuous +10%, -20%</td>
<td>Adjustment +10%</td>
</tr>
<tr>
<td>Transient 1500v for 10 ms</td>
<td>Regulation</td>
</tr>
<tr>
<td>Transients 50% Block Load +/-8%</td>
<td></td>
</tr>
<tr>
<td>Recovery Time 0.5 within 0.5 Seconds</td>
<td></td>
</tr>
<tr>
<td>Steady State +/-0.5% 90° F</td>
<td></td>
</tr>
</tbody>
</table>

**ENVIRONMENT**

- Temperature 0° -104° F (0° -40° C)
- MG 0° -120° F
- Console 32° -104° F
- Altitude 0 to 3000 meters (0 to 5000 ft)
- Humidity 0 to 95% non-condensing
- Noise Level Enclosed 65 dBa at 1.5 meters (5 ft)