Physical Specifications

Size	4.9" (H) x 7" (W) x 15" (D) (12.45 cm x 17.8 cm x 38.1 cm)
Weight	26 lb (11.79 kg)
Connectors	
Output	Type HN female
Input Power	6' 4-wire cord with a Hubbell #2721 connector (NEMA number L15-30P equivalent)
User	15-pin Subminiature-D female
Coolant	0.25 " female NPT
CEX Input	Type SMA female
CEX Output	Type SMA female
Mounting	Tapped 8-32 holes are provided in the sides for system mounting. (For more information refer to to the drawing at the end of chapter 2.)

Electrical Specifications

Input Power	208 V ac; three-phase, four-wire with ground; 50 to 60 Hz; 5 kW maximum at full-rated output power; 13 A per phase at 2.75 kW; 4580 W at full rated RF output power (AC to RF efficiency, 60%)
Overcurrent Protection	20 A circuit breaker
Output Power	2.75 kW minimum into a 50 Ω non-reactive load
Frequency	13.56 MHz ± 0.005%
Frequency Stability	Unconditionally stable into any VSWR
Range	25 to 2750 W.
Harmonics	At full rated output, all harmonics, spurious signals, and noise are greater than 55 dB below the fundamental output frequency when operated into a 50 Ω, non-reactive load impedance.
Regulation	± 1% of setpoint or ±3 W, whichever is greater into a 50 Ω load.
Transient Response	At full rated output, a 10% change in ac line voltage produces less than a 0.1% change in output power.
Reflected Power	Automatic foldback occurs when reflected power at the generator output exceeds 500 W.
Load Mismatch	The generator operates continuously into any load mismatch without failure.
Impedance	50 Ω for maximum power transfer. See Figure 1-6 for power derating into non-50 Ω loads.
Response Time	< 20 Ms rise and fall time from 10% to 90% of full power with < 5% overshoot

Warm-up Time Delay	Approximately 500 μs from AC on to RF On
Spurious Signals	Non-harmonic spurious and noise signals are ≤ -55 dBc (below the RF output signal) when operated into a 50 Ω, non-reactive load.
Repeatability	< 0.5% over time for the same generator, ± 1% generator to generator
Demonstrated Open Loop Power	5400 W into a 50 Ω load
Power Margin	96.36%
CEX	
Input	Amplitude: -1dBm minimum; +10 dBm maximum Frequency: 13.56 MHz ± 0.005% Impedance: 50 Ω ± 2 Ω
Output	Amplitude: 3 dBm minimum; 7 dBm maximum Impedance: 50 Ω ± 2 Ω

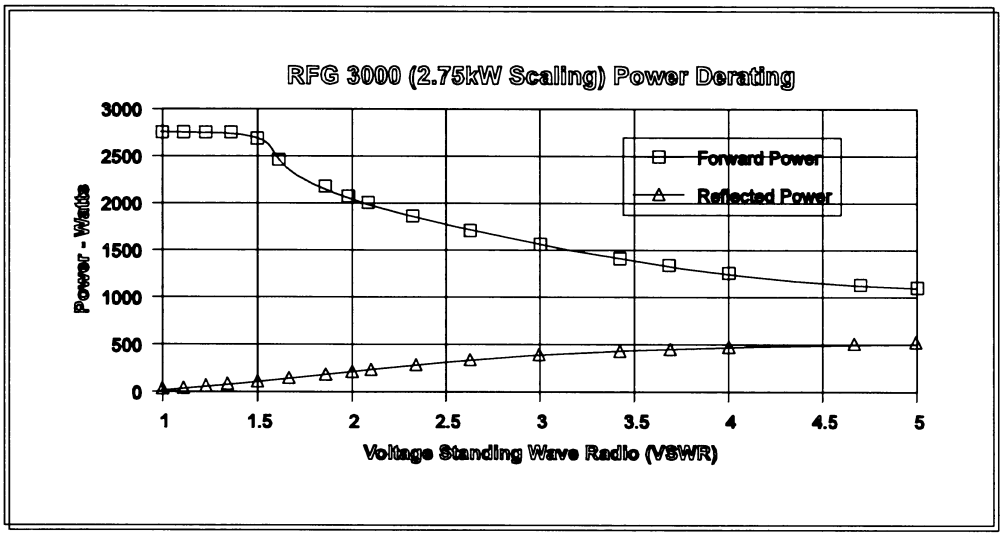

Figure 1-6. Power Derating Curve

Environmental Specifications

Ambient Temperature:

Operating	5°C to 40°C (+41°F to +104°F) (Maximum value, when averaged over a 24-hour period, must not exceed +35°C (+95°F).)
Storage	-25°C to 55°C (-13°F to +131°F)
Transportation	-25°C to 55°C (-13°F to +131°F) (The unit may be subjected to a maximum temperature of 70°C (158°F) if the exposure time does not exceed 24 hours).

Humidity 15 to 85% relative humidity; non-condensing.

Atmospheric Pressure:

Operating	> 745 mbar (≤ 2500 m (8,203') equivalent altitude)
Storage	> 585 mbar (≤ 4000 m (13,124') equivalent altitude)
Transportation	> 480 mbar (≤ 5000 m (16,405') equivalent altitude)

Coolant Requirements:

Heat Removal	6246 BTU/HR (1830 W) at full rated RF output power.
Temperature	5°C to 27°C (+41°F to+81°F) inlet temperature
Volume	2 gallons (7.57 liters) per minute minimum
Pressure	100 psi (6.9 bars) maximum inlet pressure

Contamination

Water used as a coolant medium should meet the following specifications:

- pH between 7 and 9
- total chlorine <20 ppm
- total nitrate < 10 ppm
- total sulfate < 100 ppm
- total dissolved solids < 250 ppm
- total hardness expressed as calcium carbonate equivalent < 250 ppm
- specific resistivity of 2500 Ω per centimeter of higher at 25°C
- total dissolved solids < 250 ppm

As a rule of thumb, total dissolved solids (TDS) can be estimated from:

$$TDS = \frac{640{,}000}{\textit{specific resistivity (in ohms per centimeter)}}$$