



High-powered solutions for RF and microwave applications

SERIES PB RF GENERATOR WITH INTEGRATED MATCHING NETWORK

A Complete, Economical RF System for Continuous Gas Plasma Applications

The PB3 RF generator series represents an economical solution for generating RF for the price sensitive lab, R&D markets as well as low cost process systems. OEM users will find this model's reliability to cost ratio to be the benchmark of the industry.

Many plasma systems require a low power RF power system including an integrated impedance matching network. The Model PB3 will easily satisfy these users. Two power levels are offered: the PB3-100 (rated @ 100 watts RF output) and the PB3-300 (rated @ 300 watts).

The PB3 series may also be used with an automatic impedance matching network as the RF generator's output is routed through the back panel to the manual match with a patch cable. This makes bypassing the internal manual matching network easy.

Various models include both basic features in addition to advanced features such as digital metering and DC bias leveling.



Model PB3



Model PB3-MD

Series PB Specifications

<u>RF Generator</u>	<u>Matching Network</u>
<ul style="list-style-type: none"> • Forced air cooling 110 CFM • Up to 40% maximum reflected power tolerance • 187-240 VAC 50/60 Hz AC mains input • Body size - 14.25" W x 7" H x 16" D • "MD" models have a 19" wide X 7" high rack panel for electronics rack mounting • Weight 22 lbs. • 13.56 MHz output frequency • Analog control interface • Maximum RF output - 100 Watts or 300 Watts 	<ul style="list-style-type: none"> • L-C topology using two air variable HV capacitors and a tapped/fixed inductor • Forced air cooling • Type HN RF output (to plasma) • Type BNC (RF generator to match) • 13 – 45 MHz operational frequency

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PB Series Information

The RF Generator and manual impedance matching network are housed in a single compact enclosure making it ideal for R&D laboratory work, university plasma laboratory work where compactness and ease of use would be important. The RF generator allow precise power and process control from its front panel or via a real panel analog interface. Metering is provided for indicating forward and reverse power levels.

The manual controlled impedance matching network provides the user with a broad tuning range. The network includes a series inductor with a field changeable tap and optional additional fixed shunt capacitors, enabling it to match a wide range of electrode impedances.

Optional common exciter input enables the PB-3 to be used in multiple cathode and substrate bias applications where frequency and or phase coherence is a must such as multiple power supplies powering multiple plasma loads in the same chamber.

External user control interface on the back of the PB-3 allows the unit to be controlled by the user's programmable controller or computer.

Safety and functional interlocks are provided, as well as over temperature protection circuitry.

The PB-3MD is a full featured model, which makes it attractive as an OEM model. Its design and compact footprint makes it a natural for low power plasma etching, cleaning sources, sputtering and CVD applications where more than one RF supply is needed. The compact design makes it very attractive to integrate into any system. The controllability is the same as the PB-3.

All models of the PB series incorporate high efficiency switch mode power supplies and solid-state technology. They are very robust and can accept up to 40%-reflected power before they operate in power fold back mode.

Series	Model	Frequency	Output Power (Watts)	Input Power	Order #
PB3 RF Power Systems					
	PB3-100	13.35 MHz	100	187-240 VAC	00001783
	PB3-100M	13.35 MHz	100	187-240 VAC	00001782
	PB3-100MD	13.56 MHz	100	187-240 VAC	04-140087-01
	PB3-300	13.35 MHz	300	187-240 VAC	04-140031-07
	PB3-300M	13.35 MHz	300	187-240 VAC	04-140031-01
	PB3-300MD	13.35 MHz	300	187-240 VAC	04-140087-00

*Technical specifications are subject to change without prior notice.
See our web site or contact us directly for the latest specifications.
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