



# Plasma Solutions<sup>INC</sup>

[www.PlasmaSolutionsInc.com](http://www.PlasmaSolutionsInc.com)

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## Emerald Three :

*"The BMW of Plasma Laboratory equipment".*

*We are sure you will find Emerald Three the very best on the market, to give you trouble free accurate performance for reliable output in your lab.*

### System Dimensions

*40"H X 24"W X 35" D (with vac valve attached and light tower above)*

### Reactor Chamber

*Unimpeded work volume: 8"X 8" Quartz or 4 each 4X5 inches*

*Front-loading door DF & UV -shielded view port*

*Dielectric isolation of electrodes (prevent interaction/chamber walls)*

### Vacuum Pump Package

*18 cfm pump package standard pump lubricated with inert oil*

*External filtration with pressure gauge*

*and mist filter integrated to system optional.*

### Control System

*PLC stores 15 recipes in nonvolatile memory,*

*each capable of up to 15 steps. Touch panel*

*input&display of all parameters Key switch selects*

*AUTOMATIC & MANUAL Programming modes Error*

*messages instantly displays & stores in nonvolatile*

*memory.*

*Out to tolerance places the system in HOLD awaiting operator interface*

*One Mass Flow Controllers standard (up to three optional)*

### RF Generator Automatic Impedance Matching Network

*0-300 watt (0-600 optional) 13.56MHz, solid state generator/Automatic Impedance Matching*

*Network/manual controller standard*

### Power Distribution module

*Distributes power to all components including vacuum pump*

*(If purchased through Plasma Solutions)*

*EMO (Emergency Off) shuts power off to all components including vacuum pump*

*(except PLC to allow error capture)*

*Key required to recover from EMO shut down prevents unauthorized use*

*Key override of interlocks (except EMO) for ease of maintenance*

### Emerald Three Requirements:

*Dedicated 208/220 VAC 3P 30A 50/60 Hz (if powering vacuum pump from system)*

*Compressed Air 1/4 compression fitting regulated dry air with an inlet pressure greater than 60 psi (to be supplied by user)*

*Adequately rated sealed exhaust line at line at 23 cfm connected to the pump with a minimum 1" line (negative pressure preferred)*

*5-15psi Gas (supplied by user with 1/4 swage input)*

