



## Linac Products

### Coaxial Magnetrons

VMX3095  
VMX3045  
VMX3100HP  
VMC3109

### Power Supply Modulators

VZX3555

- Solid State Power Amplifiers • Integrated Microwave Assemblies • Receiver Protectors
- Control Components • Transmitters • Amplifiers • Modulators • Magnetrons
- Crossed Field Amplifiers • Ring Loop Traveling Wave Tubes • Power Couplers



## Coaxial Magnetrons

### General Overview

A magnetron is a high power microwave oscillator in which the potential energy of an electron cloud near the cathode is converted into RF energy in a series of cavity resonators. Linac magnetrons can be used in medical linear accelerators to accelerate electrons to create X-rays used in radiation therapy and in cargo screening security systems.

The Linac magnetron produces pulsed high-frequency electromagnetic waves to accelerate electrons to high energies through a linear accelerator to create X-rays in targeting cancer cells or efficiently scanning freight for various security irregularities.

For more coaxial magnetrons products:  
[www.cpii.com/bmd](http://www.cpii.com/bmd)

### VMX3095 1.7 MW X - Band Coaxial Pulsed Magnetrons

- High frequency stability
- Tunable  $\pm 20$  MHz
- 1.70 MW peak output power
- 1.70 kW average output power
- .001 duty cycle
- Liquid cooled anode
- Long life (>5,000 hours)



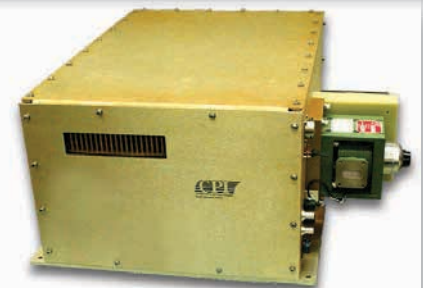
### VMX3045 400 kW X - Band Coaxial Pulsed Magnetrons

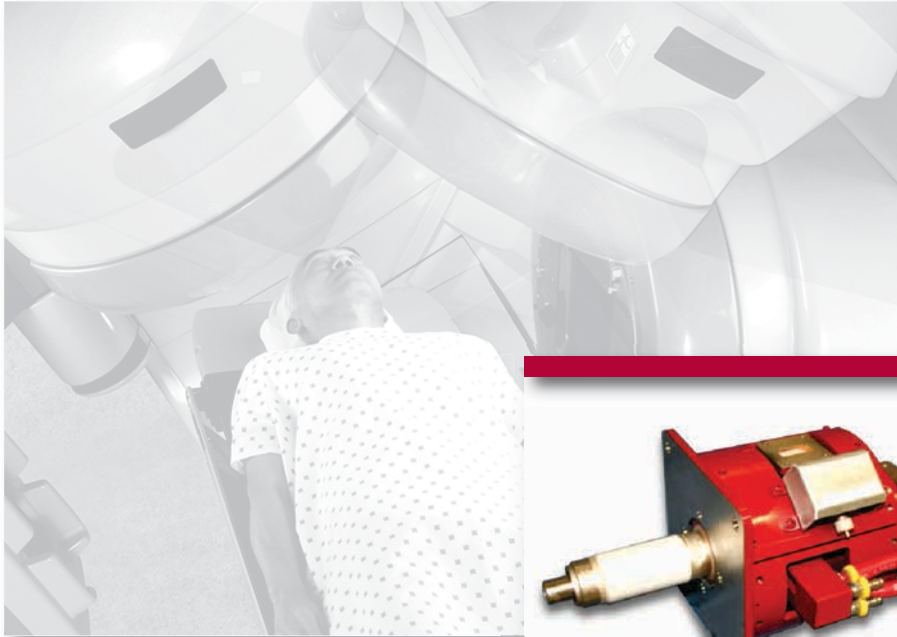
- High frequency stability
- Tunable  $\pm 30$  MHz
- 400 kW peak output power
- 400 W average output power
- Long life (>2,000 hours)



### VZX3555 Power Supply Modulators

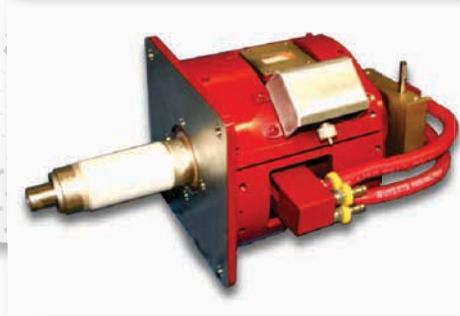
- Uses the CPI VMX3045 magnetron as the RF output device
- 400kW peak / 400 W average output power
- Excellent frequency stability
- Compact power supply design with excellent reliability
- Safe operation in any orientation
- Air cooled





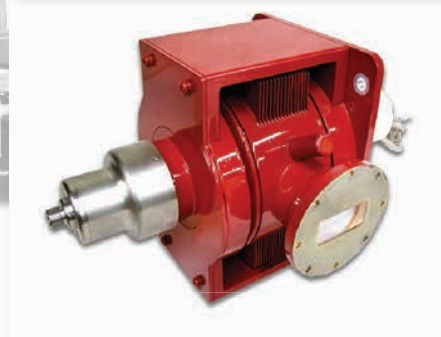
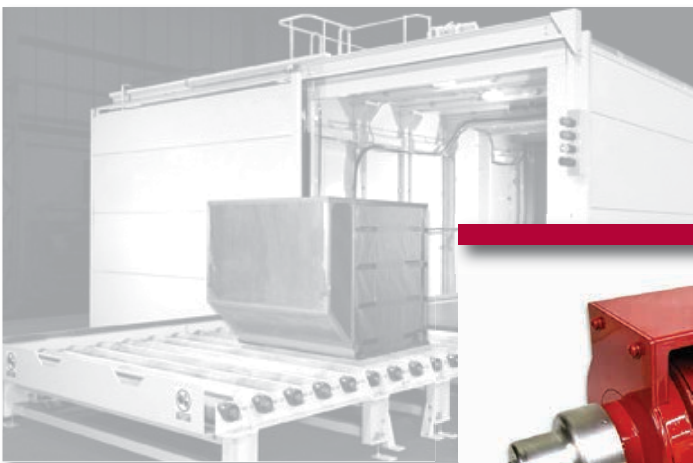
**Applications:**

- **Cargo screening / security**
- **Medical linear accelerators**



**VMX3100HP 1.5 MW X - Band Coaxial Pulsed Magnetrons**

- High frequency stability
- Tunable  $\pm 30$  MHz
- 1.50 MW peak output power
- 2.70 kW average output power
- .0018 duty cycle
- Liquid cooled anode
- Long life (>5,000 hours)



**VMC3109 2.5 MW C - Band Coaxial Pulsed Magnetrons**

- High frequency stability
- Tunable  $\pm 10$  MHz
- 2.50 MW peak output power
- 2.50 kW average output power
- Liquid cooled anode
- Long life (>20,000 hours)

## Linac Coaxial Magnetrons

### Typical Operating Parameters

	<b>VMX3095</b>	<b>VMX3045</b>	<b>VMX3100HP</b>	<b>VMC3109</b>
<b>Frequency</b>	9.3 GHz± 20MHz	9.3 GHz± 30MHz	9.3 GHz± 30MHz	5.7 GHz± 10MHz
<b>Peak Power Output</b>	1.70 MW	400 kW	1.50 MW	2.50 MW
<b>Average Power Output</b>	1.70 kW	400 W	2.70 kW	2.50 kW
<b>Pulse Voltage</b>	34-37 kV	27-29.5 kV	34-37 kV	45-50 kV
<b>Peak Anode Current</b>	90 A	28 A	90 A	110 A
<b>Average Anode Current</b>	85 to 95 mA	28 mA	162 mA	110 mA
<b>Pulse Width</b>	4.5 μS,± 0.5 μS	3.5 μS,± 0.25 μS	3.5 μS,± 1.0 μS	4.0 μS,± 0.5 μS
<b>Duty Cycle</b>	0.001	0.001	0.0018	0.001
<b>Maximum Filament Voltage</b>	10 V	15 V	20 V	18 V
<b>Maximum Filament Current</b>	15 A	3.6 A	20 A	15 A
<b>Minimum Warm-Up Time</b>	300 S	150 S	300 S	300 S
<b>Maximum Load VSWR</b>	1.1:1	1.1:1	1.1:1	1.1:1
<b>Weight</b>	40 lbs.	11 lbs.	40 lbs.	35 lbs.

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The values listed above represent specified limits for the product and are subject to change. The data should be used for basic information only. Formal, controlled specifications may be obtained from CPI for use in equipment design.

For information on this and other CPI products visit our web page at [www.cpii.com/bmd](http://www.cpii.com/bmd), or contact: