



Electron Device
Business

High-power, High-frequency

Linac Products

COAXIAL MAGNETRONS

VMX3095
VMX3045

POWER SUPPLY MODULATORS
VZX3555



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Coaxial Magnetrons

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 cargo screening 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.

1.7 MW X-Band Coaxial Pulsed Magnetrons VMX3095

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



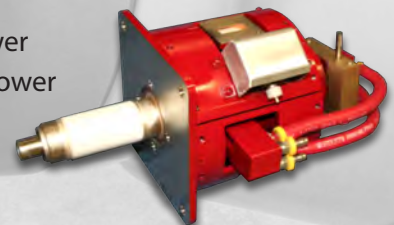
400 kW X-Band Coaxial Pulsed Magnetrons VMX3045

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



1.5 MW X-Band Coaxial Pulsed Magnetrons VMX3100HP

- High frequency stability
- Tunable ± 30 MHz
- 1.50 MW peak output power
- 2.70 kW average output power
- 0.0018 duty cycle
- Liquid-cooled anode
- Long life (>5,000 hours)



2.5 MW C-Band Coaxial Pulsed Magnetrons VMC3109

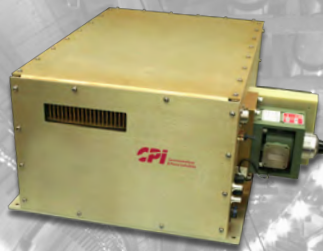
- High frequency stability
- Tunable ± 10 MHz
- 2.50 MW peak output power
- 2.50 kW average output power
- Liquid-cooled anode
- Long life (>20,000 hours)



Power Supply Modulators

Power Supply Modulators VZX3555

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



Linac Applications:

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

For more on
CPI EDB Linac products
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Linac Products

Linac Coaxial Magnetrons

	VMX3095	VMX3045	VMX3100HP	VMC3109
Frequency	9.3 GHz, \pm 20MHz	9.3 GHz, \pm 30MHz	9.3 GHz, \pm 30MHz	5.7 GHz, \pm 10MHz
Peak Power Output	1.70 MW	400 kW	1.50 MW	2.50 MW
Average Power Output	1.70 kW	400 W	2.70 kW	2.50 kW
Pulse Voltage	34 - 37 kV	27 - 29.5 kV	34 - 37 kV	45 - 50 kV
Peak Anode Current	90 A	28 A	90 A	110 A
Average Anode Current	85 to 95 mA	28 mA	162 mA	110 mA
Pulse Width	4.5 Ms, \pm 0.5 mS	3.5 Ms, \pm 0.25 mS	3.5 mS, \pm 1.0 mS	4.0 mS, \pm 0.5 mS
Duty Cycle	0.001	0.001	0.0018	0.001
Maximum Filament Voltage	10 V	15 V	20 V	18 V
Maximum Filament Current	15 A	3.6 A	20 A	15 A
Minimum Warm -Up Time	300 S	150 S	300 S	300 S
Maximum Load VSWR	1.1:1	1.1:1	1.1:1	1.10:1
Weight	40 lbs. (18.14 kg)	11 lbs. (4.99 kg)	40 lbs. (18.14 kg)	35 lbs. (15.88 kg)