



High-power, High-frequency

Linac Products

COAXIAL MAGNETRONS

VMX3095

VMX3100HP

VMX3045

VMC3109

KLYSTRONS

VKS-8262

POWER SUPPLY MODULATORS

VZX3555

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)



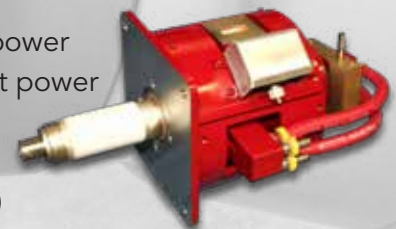
400 kW X-Band Coaxial Pulsed Magnetrons VMX3045

- 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)



Klystrons

CPI offers the VKS-8262 series of **klystrons for use in particle accelerators for scientific, medical, and industrial applications**. These klystrons provide up to 7.5 MW peak at 2.856 or 2.9985 GHz at various RF pulse lengths and duty. Versions are available with up to 72 kW at both operating frequencies.

Pulsed Klystrons VKS-8262

- Diode electron gun
- Water-cooled
- Electromagnet focusing
- WR-284 waveguide output
- Long life
- Proven reliability



Power Supply Modulators

Power Supply Modulators VZX3555

- Uses the CPI 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
contact us at:
ElectronDevices@cpil.com



Linac Products

Contact us at
ElectronDevices@cpii.com
or at call us at +1 978-922-6000

Linac Klystrons

Product type	Operating Frequency (GHz)	Peak Output (MW)	Avg. Power (kW)	Peak Drive (W)	Bandwidth (-3dB MHz)	Peak Beam Voltage (kV)	Peak Beam Current (A)	RF Pulse Length (µsec)	Duty
VKS-8262M	2.856	3.0	12.0	80	5	10	72	10	0.004
VKS-8262J	2.856	4.5	14.1	200	5	125	92	10	0.00314
VKS-8262F	2.856	5.0	36.0	200	4	125	91	16.3	0.0072
VKS-8262P1/P3	2.856	5.0	45.0	200	4	125	92	16.3	0.009
VKS-8262P2	2.856	5.0	72.0	200	4	135	99.2	16.3	0.0144
VKS-8262S	2.856	5.5	5.7	200	5	127	92	5.8	0.00104
VKS-8262R	2.856	7.5	7.5	200	5	160	110	4.5	0.00104
VKS-8262T	2.856	10.0	10.0	200	4	175	143	4.5	0.001
VKS-8262HS	2.9985	3.0	12.0	80	5	110	72	10	0.004
VKS-8262K	2.9985	5.0	36.0	200	4	125	88.4	16.3	0.0072
VKS-8262N	2.9985	5.0	72.0	200	4	125	88.4	16.3	0.0144
VKS-8262D	2.9985	5.5	5.5	200	5	139	93.7	5	0.001
VKS-8262E	2.9985	6.0	6.0	200	5	135	99.2	5	0.001
VKS-8262H	2.9985	6.0	15.3	135	5	135	99.2	8.5	0.00255
VKS-8262G	2.9985	7.5	7.5	200	5	160	128	4.5	0.001
VKS-8262U	2.9985	10.0	10.0	200	4	175	143	4.5	0.001

Linac Coaxial Magnetrons

	VMX3095	VMX3045	VMX3100HP	VMC3109
Frequency	9.3 GHz, ± 20MHz	9.3 GHz, ±30MHz	9.3 GHz, ±30MHz	5.7 GHz, ± 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, ± 0.5 mS	3.5 Ms, ± 0.25 mS	3.5 mS, ± 1.0 mS	4.0 mS, ± 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)



cpii.com



Beverly Microwave Division
150 Sohier Road
Beverly, MA 01915
USA

Microwave Power Products Division
811 Hansen Way
Palo Alto, CA 94304
USA

TMD Technologies Division
Swallowfield Way
Hayes, Middlesex
UK UB3 1DQ

For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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