



Communications & Power Industries Linac Products

COAXIAL MAGNETRONS

VMX3095
VMX3045
VMX3100HP
VMC3109

KLYSTRONS

VKS-8262

POWER SUPPLY MODULATORS

VZX3555

Communications & Power Industries Coaxial Magnetrons

VMX3095 1.7 MW X - Band Coaxial Pulsed Magnetrons

- High frequency stability
- Tunable ± 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)



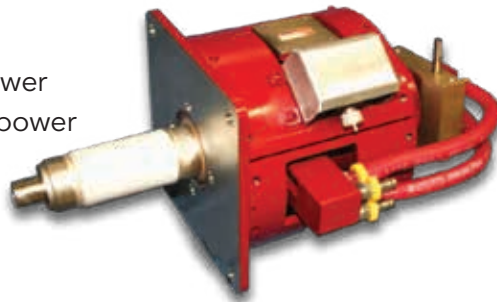
VMX3045 400 kW X - Band Coaxial Pulsed Magnetrons

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



VMX3100HP 1.5 MW X - Band Coaxial Pulsed Magnetrons

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



COAXIAL MAGNETRONS 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.

Applications:

- Cargo screening / security
- Medical linear accelerators

Communications & Power Industries Klystrons



VKS-8262 Klystron

- Diode Electron Gun
- Water Cooled
- Electromagnet Focusing
- WR-284 Waveguide Output
- Long Life
- Proven Reliability

KLYSTRON OVERVIEW

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 72kW at both operating frequencies.

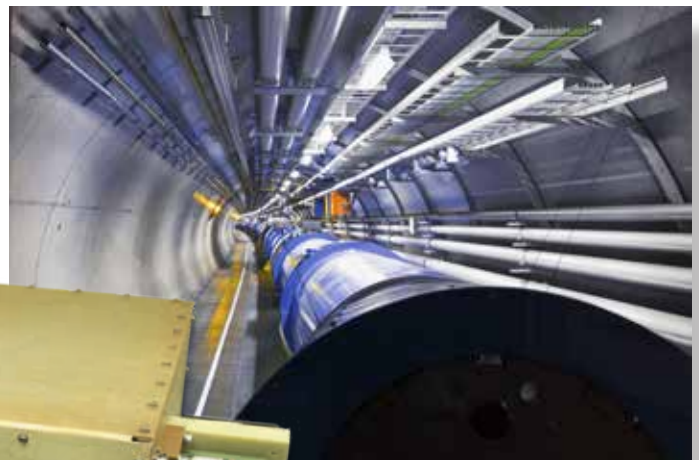
Applications:

- Cargo screening / security
- Medical linear accelerators

CPI Power Supply Modulators

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



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

Typical Operating Parameters

	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)



Beverly Microwave Division
150 Sohler Road
Beverly, Massachusetts
USA 01915
www.cpii.com

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

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.
©2020 Communications & Power Industries LLC. Company proprietary: use and reproduction is strictly prohibited without written authorization from CPI.
2/20