

### ON-AXIS COUPLING

Very mechanically tough for industrial applications and easy shipping logistics

No fragile side-coupling cavities to be damaged by rough handling.

Easy shielding geometry for reducing leakage.

Reduces the mass of shielding.

### SHUNT IMPEDANCE

Shunt impedance is optimized for the application. The highest shunt impedance is not always the best shunt impedance.

### HIGH FIELD TOLERANCE

Cavity geometry resists arcing.

RF conditioned to run unloaded.

### MODULAR DESIGN

Scalable manufacturing.

No-touch cavity manufacturing.

Easily customizable.

# Component: Compact S-Band linac

## Model: MB6-X-M

The Mevex MB6-X-M is a magnetron-powered, compact accelerator.

Quick description:

- S-band (2998 MHz)
- Standing wave
- On-axis-coupled
- Optional primary collimation and leakage shielding

This design can be scaled for all typical accelerator operating frequencies:

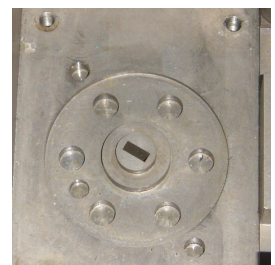
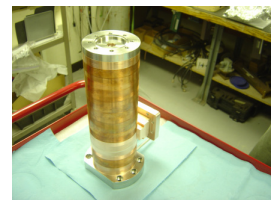
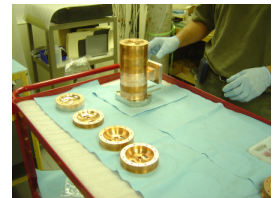
- S-Band: 2797, 2856, 2998 MHz
- L-Band: 805, 915, 1300 MHz
- C-Band: 5000 MHz
- X-band: 9300 MHz

The triode electron gun allows for a wide range of operating voltages, beam currents, and tunable spot sizes.

Re-buildable with de-mountable electron gun, RF window, and electron window.

Can be powered by a wide range of commercially available magnetrons:

- MG5193 or equivalent (e2V or L3)



Electron Energy (MeV)	RF Input Power (MW)	Pulse Current (mA)	Average Current (uA)	Un-flattened Dose Rate (RMM)
1	0.3	150	180	5
2	1.2	150	180	50
3	2.2	200	240	200
4	2.4	300	360	600
5	2.5	250	300	1000
6	2.5	150	180	1000
7	2.5	50	60	500

## OEM Plus<sup>+</sup>

### INTEGRATION INTO YOUR PRODUCT...

Mevex can provide detailed product specifications and interfaces for your project. You can do it yourself if you want.

If accelerators are new for your company or application then Mevex can provide systems integration support.

Just tell us how far you want to go...

- Complete radiation sources
- RF systems
- Interface electronics
- Control systems
- Software
- Component validation
- Systems validation
- Cooling systems
- Targets
- Collimators
- Flatteners
- Beam monitoring
- Leakage shielding

Accelerators for *your* applications...accelerators made easy.

# Specification Summary

S-Band, 2998 MHz, MG5193 magnetron

Pulse Current (mA)	Minimum Spot Size FWHM (mm)	Typical Spot Size FWHM (mm)	Maximum Spot Size FWHM (mm)
50	1	2	4
100	1.2	2	4
150	2	2.5	4
200	2.2	2.5	4
250	2.5	3	4
300	3	3.5	4

Examples of some sub-systems and accessories used for integration of the MB6-X-M for inspection, security, and cancer therapy applications.

e2V MG5193 Magnetron



e2V Solid State Modulator

