



BEAM HANDLING COMPONENTS

National Electrostatics Corp.

Magnetic Ion Beam Steerer

APPLICATIONS

The NEC magnetic ion beam steerer is used routinely with the Pelletron® accelerators to provide modest deflection of proton and helium beams with energies in the 1MeV to 5MeV range.

This very simple, compact steerer is ideal for adding ion beam directional control to existing 2" or 4" O.D. beamlines.

DESIGN

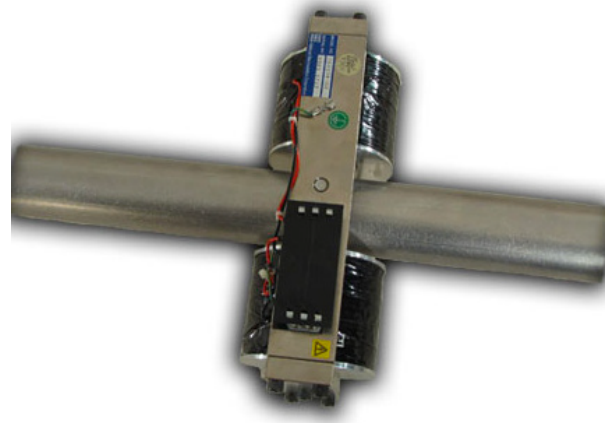
Each unit can be used individually to provide control in one direction. Two units are needed for X-Y steering. The magnetic pole separation is sufficient for clearance over nominal 2" or 4" stainless steel tubing.

The magnetic beam steerer can easily be moved along the beamline for repositioning the steerer without breaking vacuum. In addition, screws are provided to firmly attach the magnetic steerer to the beamline.

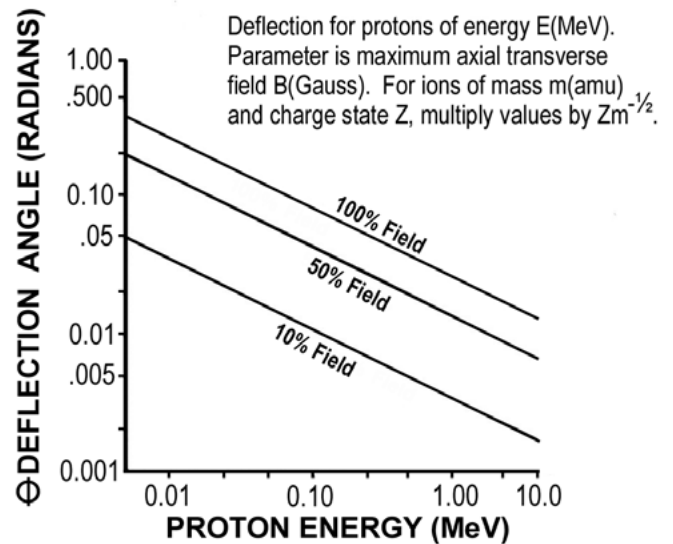
The magnetic steerer is typically used with a regulated bipolar power supply. The magnetic field versus current is linear over the entire range.

ACCESSORIES

NEC can provide suitable power supplies for use with the steerers.



The NEC magnetic ion beam steerer for use on stainless steel beam tube.

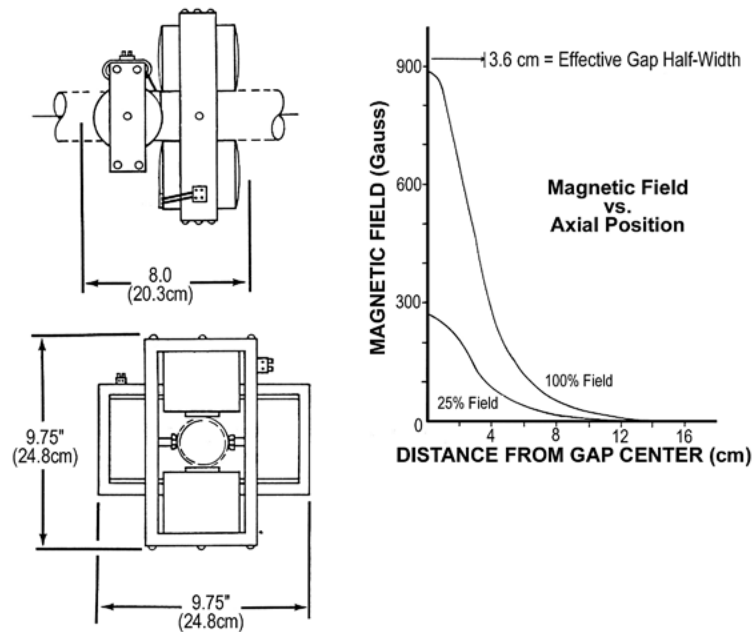


SPECIFICATIONS

	2" Steerer	4" Steerer
Catalog Number:	2EA038100	2EA032940
Overall Length:	8.0" (20.3cm) along beamline (for X-Y set)	12.0" (30.5cm) along beamline (for X-Y set)
Pole Separation:	2.0" (5.08cm)	4.2" (10.7cm)
Pole Diameter:	1.5" (3.81cm)	N/A
Residual Field:	45 to 75G*	45 to 73G*
Maximum Field:	880G at 265mA (center of pole) 676G (pole edge)	365G at 2.0A (center of pole)
Deflection for 3MeV He ⁺⁺ : (per 100cm drift)	0.78" (2.0cm), 1.15° deflection	0.74" (1.88cm), 1.075° deflection
Coil Rating:	0.25A at 100 VDC; wired in parallel for a 0.5A, 100 VDC current regulated supply each axis	2.0A at 25 VDC; wired in series for a 2.0A, 50 VDC current regulated supply each axis

* Reducible to 5G by hysteresis reduction.

2 INCH VERSION SHOWN



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