



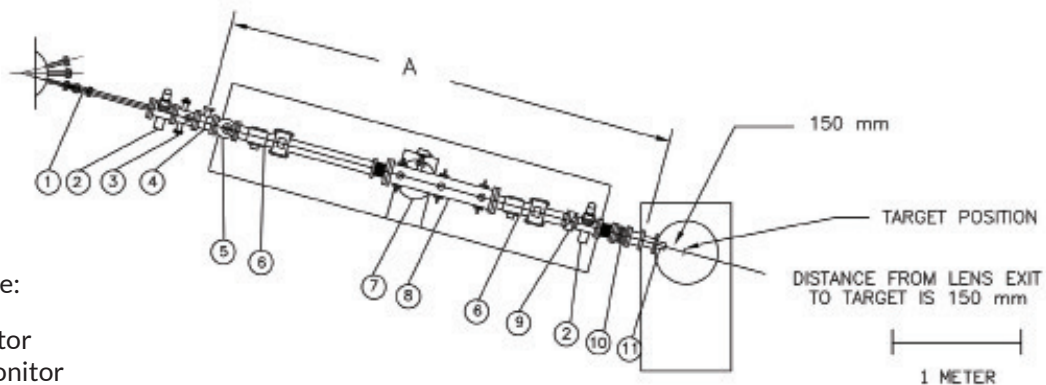
BEAM HANDLING COMPONENTS

National Electrostatics Corp.

Microprobe Beamline Extension

This beamline will provide beam diameters from 20 microns to 2 mm in an RBS target chamber. The principal components of the beamline are a double slit, an object aperture box with four apertures ranging in size from 200 microns to 6 mm in diameter, an electrostatic quadrupole triplet lens and analysis system and an electrostatic quadrupole quadruplet lens. The quadrupole quadruplet lens gives a 10 to 1 demagnification at the target for an object distance of 4.22 meters and an image distance of 150 mm beyond the lens.

The system will be operated in three different modes to cover the beam diameter range specified. From 20 microns to about 200 microns diameter, the aperture box and the quadruplet lens will be used. From about 200 microns to about 0.6 mm diameter, the double slit, the triplet, and the quadruplet are all used to define and focus the beam. Above 0.6 mm diameter, the double slit and the quadrupole triplet are needed.



Microprobe Beamline:

1. Beamline Insulator
2. Beam Profile Monitor
3. Double Slit
4. Aperture Set
5. Faraday Cup
6. Magnetic X-Y Steerer
7. Turbo Molecular Pump Station with Isolation Valve
8. Electrostatic Quadrupole Triplet Lens
9. Gate Valve
10. Insulator
11. Electrostatic Quadrupole Quadruplet Lens

Distance A	Guaranteed Beam Spot size at Target	Target Beam Current (2MeVHe+)
4.2m	20um	3nA
3.1m	25um	3nA

Contact NEC

www.pelletron.com

+1 (608) 831-7600

nec@pelletron.com

7540 Graber Rd, Middleton, WI 53562-0310 USA