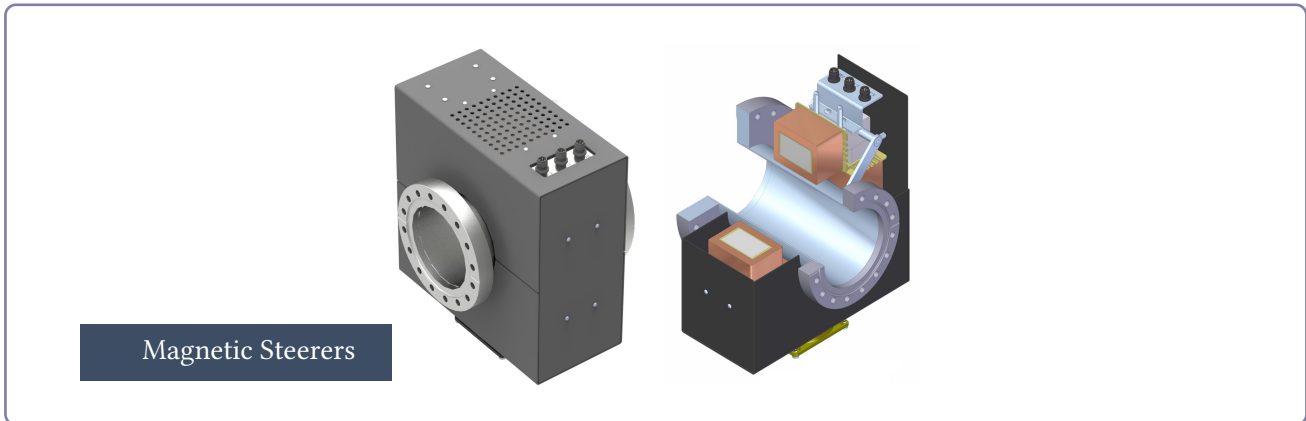


MAGNETIC STEERERS

- ELEMENTS FOR MAGNETIC CHARGED PARTICLE BEAM DEFLECTION -



Magnetic Steerers are ion optical devices suitable for high-current applications. The operation principle is based on the deflection of charged particles in a magnetic field. Four solenoid coils are arranged outside the beamline and connected via a soft iron yoke. The setup is completed by a housing surrounding the equipment outside the vacuum including a fan to keep the coils at room temperature when operated under full power.

Standard DREEBIT Magnetic Steerers allow for simultaneous deflection of charged particles in horizontal and vertical direction. They feature a very compact design and can easily be integrated into existing beamline setups. The steerers were originally designed for the deflection of Ar^+ ions with an energy of 30 keV by an angle of $\pm 10^\circ$, customer-specific solutions for other deflection angles are possible.

The steerers include a built-in fan for air cooling. Power supplies and cables are optionally available.

MAGNETIC STEERER PARAMETERS

max. electrical current per coil	3 A
max. magnetic induction B at beamline center	13.5 mT
deviation ΔB within $r < 20$ mm	4 %
effective magnetic length	224 mm
dimensions (length x width x height)	200 mm x 265 mm x 300 mm
beamline attachment flange	DN 100 CF
weight	25 kg (55 lbs)
bake-out temperature	450 °C (beamline element with unmounted steerers)
vacuum conditions during operation	from $1 \cdot 10^{-10}$ mbar up to atmospheric pressure
cooling	air-cooled by built-in fan
max. power consumption	200 W

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