

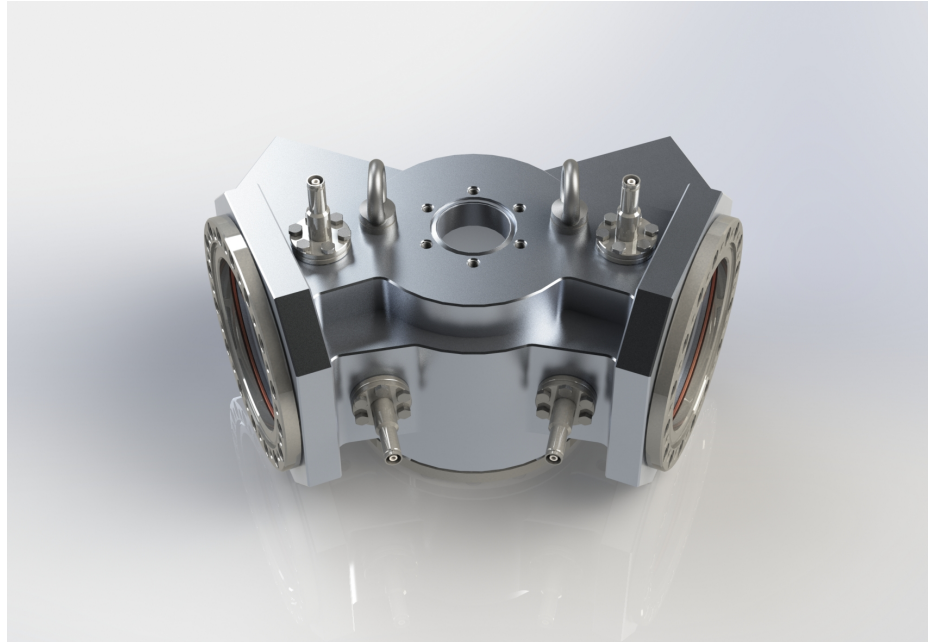
NEUTRAL PARTICLE FILTER CF100

934-S7-09-00001-A-01

Neutral particle filters are used for separating charged particle beams from fraction of neutral particles. With supplementing components, it can be used additionally to park the beam.

Charged particles can be guided by electrical and magnetical fields. Neutral particles are not affected by such fields. This can be used in a Neutral Particle Filter for separating neutral particles from charged particles.

The Neutral Particle Filter can be operated in a broad pressure range down to ultra-high vacuum conditions.



Neutral particle filter CF100.

further reading:

- <https://www.dis-eng.de/products/charged-particle-beam-diagnostics/>

Special Features:

- aluminum chamber with ConFlat (CF) flange adapter
- DN100 CF beamline interface flanges
- DN100 CF and 2 x DN40 CF accessory flanges (e.g. vacuum pump, view port, vacuum gauge, beam dump or Faraday cup installation)
- 2 pairs of vertical deflection plates
- superimposing lens system for refocusing purpose

Optional Supplementing Devices:

- power supply for the deflection voltage
- beam dump for neutral particle dumping or beam parking (deflector voltage off)
- Faraday cup for neutral particle dumping or beam parking and beam current measurement (deflector voltage off)
- view port or blank flange
- HV power supplies, HV cables and y-connectors

Please do not hesitate to contact us for additional support.

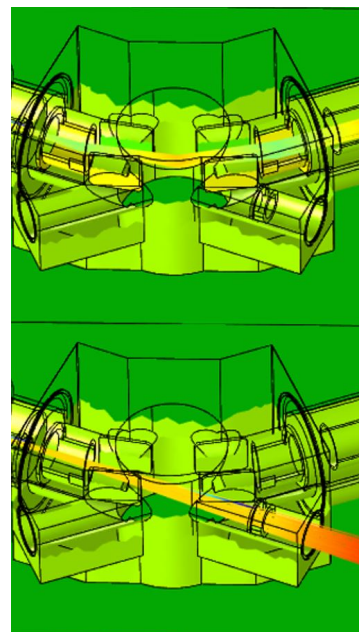
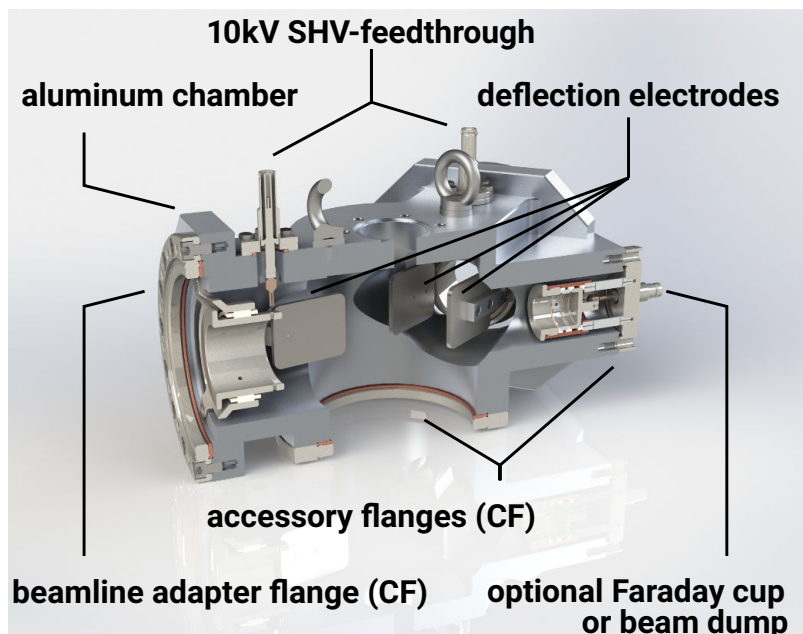
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Cross section of the neutral particle filter CF100 and simulation of charged particle trajectories with and without applied deflection voltage.

TECHNICAL DATA

deflection angle for charged particles	45°
maximum deflection voltage	±10 kV (for particle energy up to 30 kV/q)
pressure operating range	down to 1×10^{-10} mbar
beamline interface flange	2x DN100CF
accessory flanges	2x DN40CF, 1x DN100CF
connectors	4x 10 kV SHV connector
maximum beam width	40 mm
maximum bakeout temperature	150 °C
approx. box size (length x width x height)	280 mm x 280 mm x 180 mm

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