

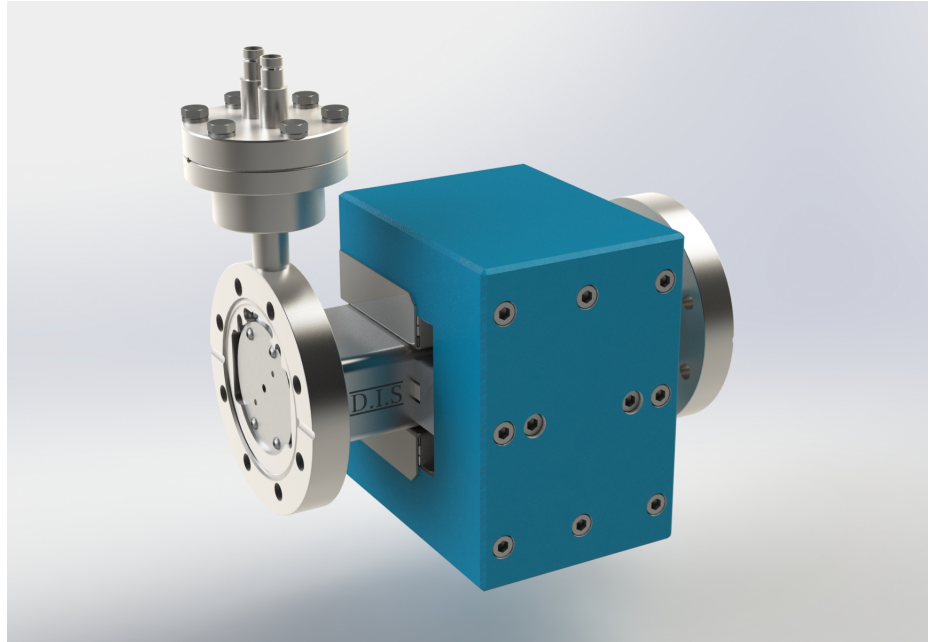
## WIEN FILTER

933-S7-09-00016-B-01

Generally, Wien filters are used for separating charged particle beams by velocity using orthogonally superimposed magnetic and electric fields.

The Wien filter features different entry and exit apertures for defining mass and charge state resolution and for collimating the beam.

It can be used for beam power loads of up to 30 W in broad pressure ranges, down to ultrahigh vacuum conditions.



Exemplary view of the Wien filter.

*further reading and related products:*

M. Schmidt, H. Peng, G. Zschornack, and S. Sykora, „A compact electron beam ion source with integrated wien filter providing mass and charge state separated beams of highly charged ions“, *Review of Scientific Instruments*, vol. 80, no. 6, p. 063301, 2009

### Special Features:

- suitable design for operation with single charged low energy ions (e.g.  $\text{H}_3\text{O}^+$ ,  $\text{Ag}^+$ ,  $\text{K}^+$ ,  $\text{Cl}^-$ )
- 5 mm diameter entry and exit apertures
- beam-stressed parts (e.g. electrodes, collimator, apertures) are made of sputter resistant materials
- electrodes, magnetic yoke and magnetic flux are optimized to fit customer needs regarding beam energy and beam diameter
- SHV 10 kV electrical feedthrough on single DN40 CF flange

### Optional Supplementing Devices:

- additional entry apertures (1 mm to 14 mm)
- additional exit apertures (1 mm to 14 mm)
- high voltage power supply for electrodes, high voltage cable

Please do not hesitate to contact us for additional support.

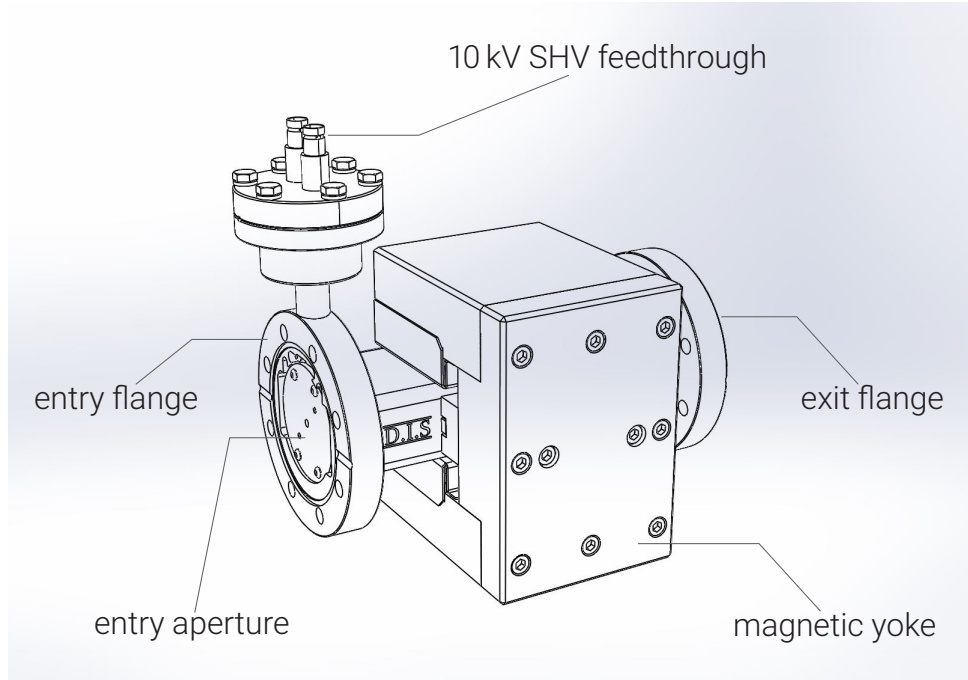
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**TECHNICAL DATA**

maximum beam power	30 W with passive cooling
applicable beam current	100 $\mu$ A
entry and exit mounting flange	DN63 CF
electrical connections	SHV 10 kV on DN40 CF flange
effective filter length	110 mm
electrode distance	16 mm
collimator diameter	14 mm
aperture diameter	5 mm
maximum voltage per electrode	$\pm 8000$ V
maximum bakeout temperature	100 °C
peak magnetic field along beam axis: yoke high (snr. 933-S7-09-00014): yoke low (snr. 933-S7-09-00015):	$\approx 460$ mT $\approx 215$ mT
weight	20 kg
box size (length x width x height)	250 mm x 165 mm x 246 mm

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