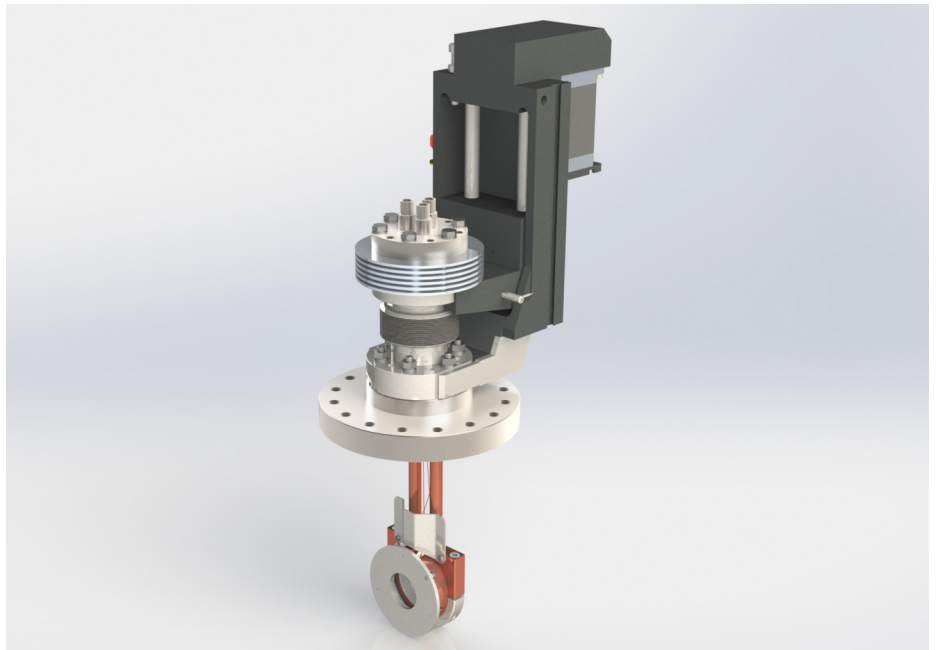


# FARADAY CUP

Faraday cups are used for measuring electrical currents of charged particle beams in real time in broad pressure ranges, down to ultra-high vacuum conditions.

The Faraday cup is equipped with a suppressor electrode for compensation of secondary electron emission.

It can be used for currents of fA up to mA at beam power loads of up to 30W.



*Faraday cup option with motorized linear feedthrough.*

further reading and related products:  
[https://en.wikipedia.org/wiki/Faraday\\_cup](https://en.wikipedia.org/wiki/Faraday_cup)

### Special Features:

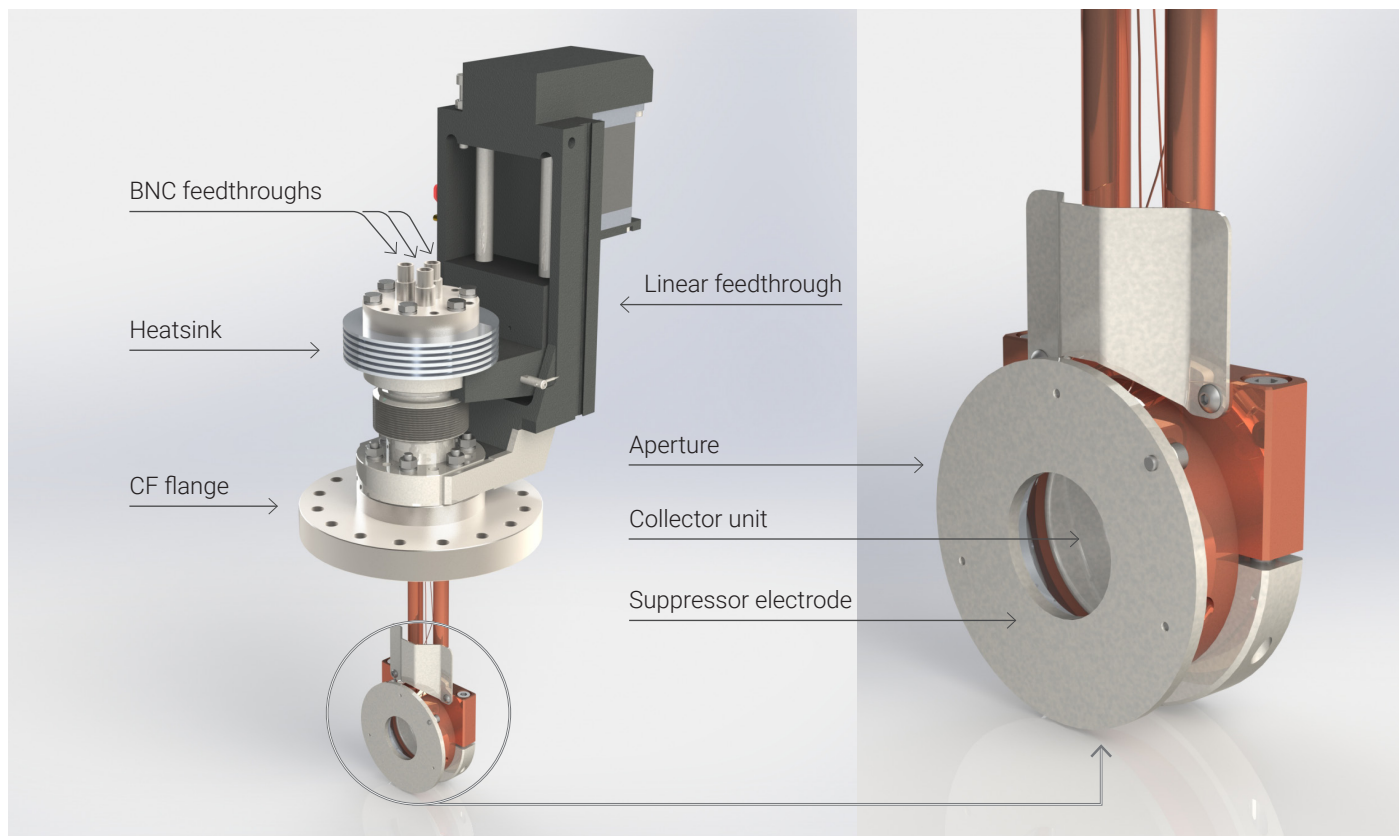
- fixed installation or solutions with a linear feedthrough featuring manual or motorized positioning systems
- apertures with different diameters (standard up to 30mm or upon customer request)
- all beam-stressed Faraday cup parts (i.e. aperture, detector etc.) can be made of highly sputter resistant materials (e.g. tungsten, molybdenum) for use with heavy or highly energetic ions
- electrical feedthroughs for all signals and voltages (standard BNC connectors, alternative electric feedthroughs are possible)
- control and measurement software

### Optional Supplementing Devices:

- power supply for the suppressor voltage
- current measurement device for ion beam currents of fA up to mA
- active cooling system for higher thermal loads
- further customization possible

Please do not hesitate to contact us to find a solution suitable for your special application.

## FARADAY CUP



Labeled Faraday cup option with motorized linear feedthrough. Manual or fixed solutions are possible as well.

### TECHNICAL DATA

category	charged particle beam diagnostics
measured quantity	charged particle beam charge/current
maximum beam power	up to 30W with passive cooling; higher beam power possible with active cooling
current measurement range	fA up to mA
pressure operating range	down to $1 \cdot 10^{-10}$ mbar
mounting flange	fixed: DN63CF or larger, other flanges on request; movable: DN40CF or larger, other flanges on request
connections	BNC connector
aperture dimensions	1 mm up to 30 mm
maximum bakeout temperature	150 °C
approx. box size (length x width x height)	260 mm x 152 mm x 460 mm (DN100CF flange)