D.I.S Germany GmbH

Faraday Cup, CF63-250 Water cooled

931-S7-09-00015-B-01

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 an exchangeable aperture, a suppressor electrode for compensation of secondary electron emission, and a measurement electrode.

It can be used for currents of fA up to mA at beam power loads of several Watts delivered depending on the choosen cooling solution.

Faraday cup with fixed perpendicular mounting and water cooling.

further reading:

- *https://dis-germany.com/product-categories/faraday-cup/*

Special Features:

- linear feedthrough
- CF63 base flange
- aperture with a diameter of 25 mm
- designed for beam scanning application of ion beams
- also applicable for an electron beam energy of up to 8 MeV
- water cooling for thermal power loads up to 200 W (10 $\frac{W}{cm^2}$)
- retractable/positionable via linear feedthrough (motorized) with 250 mm stroke

Optional Supplementing Devices:

- power supply for the suppressor voltage
- current measurement device for beam currents of fA up to mA
- control device for motorized cup positioning
- additional apertures

Please do not hesitate to contact us for additional support.

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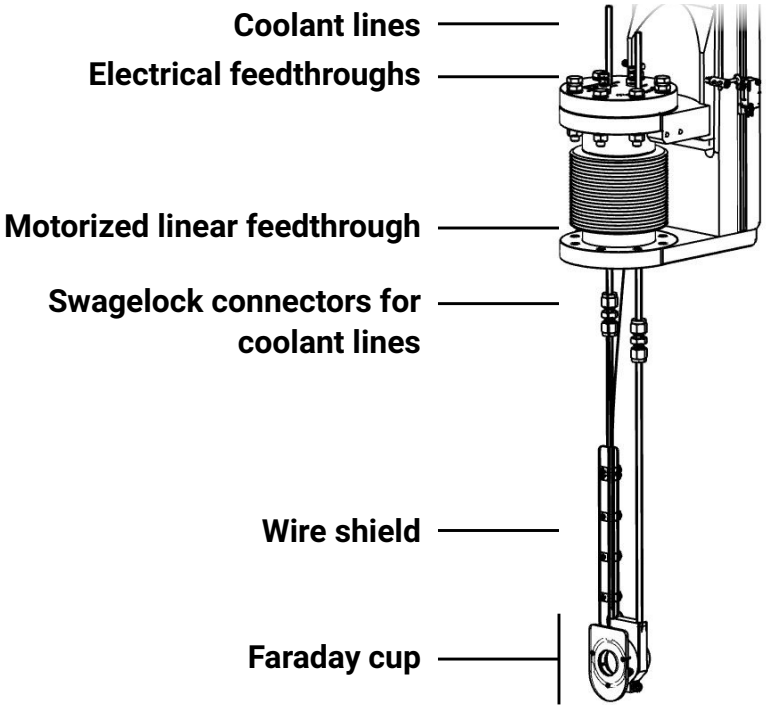

Sketch of the Faraday cup with labeled components.

TECHNICAL DATA

mounting flange	DN63 CF
mounting style	perpendicular, retractable
thermal power load	up to 200 W (10 $\frac{W}{cm^2}$)
current measurement range	fA up to mA
aperture dimensions	25 mm
electrical connectors	BNC connectors
coolant interface	stainless steel tube (OD x WT) 6 x 1 mm
vacuum pressure operating range	down to 1×10^{-10} mbar
maximum bakeout temperature	150 °C
approx. box size (length x width x height)	143 mm x 255 mm x 720 mm
Use case	power load in Faraday cup system: 200 W (10 $\frac{W}{cm^2}$) coolant inlet pressure: 4 bar coolant outlet pressure: 0 bar coolant temperature: 15 °C resulting Faraday cup temperature: ~200 °C

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