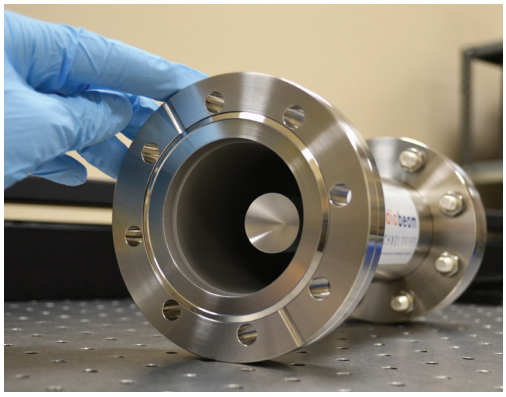
Faraday Cups

FEATURES

- Impedance matched to 50 Ω
- Standard BNC connector
- Standard size designed for use in photoinjector and other low-power facilities
- Conical entrance to reduce secondary electron emission
- Includes matching spoolpiece with rotatable flange
- Metric option available



RadiaBeam Technologies offers four standard Faraday Cups for electron energies up to 140 MeV. These diagnostics are used to measure the charge of a pulsed beam. Each Faraday Cup is 50 Ω impendence-matched to allow bunch-to-bunch measurements.

Charge is measured by connecting to a 50 Ω impendence matched integrating oscilloscope and using the relation

$$Q = \frac{V \cdot t}{50\ \Omega}$$

Available enhancements to our standard Faraday Cups include different sizes, secondary emission suppression, higher power handling, metric flange bolts, and input imaging screens. Units with graphite - rather than metallic - beam stops are available for minimizing X-ray production.

Model	FARC-02	FARC-05	FARC-06	FARC-04
Cup diameter	1.51 cm	2.6 cm	1.51cm	2.61 cm
Cup length	7.5 cm	7.5 cm	7.5 cm	14.5 cm
Stopper material	Aluminum	Aluminum	Copper	Aluminum
Maximum power	10 W	10 W	10 W	10 W
Maximum energy	35 MeV	35 MeV	80 MeV	135 MeV
Impedance	50 Ω	50 Ω	50 Ω	50 Ω
Mounting flange	2.75”CF	4.5”CF	2.75”CF	2.75”CF

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