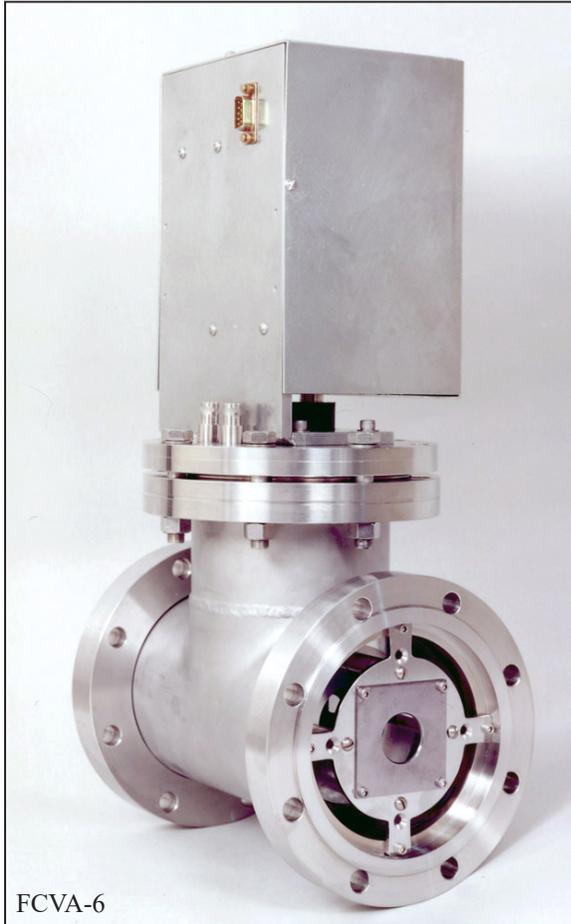


Variable Aperture Assembly Model FCVA-6



APPLICATIONS

An NEC Variable Aperture assembly and Faraday cup (FCVA-6) is designed for applications where the ion beam needs to be focused through an aperture. As the beam is focused through the aperture, the beam current on the insulated vane assembly decreases.

In addition, this assembly is available with one vane missing for full open applications or one vane can be completely closed, i.e., no aperture, to allow the assembly to function as a suppressed Faraday cup.

DESIGN

The FCVA-6 has a stainless steel vacuum chamber with ceramic insulators for complete compatibility with ultra-high vacuum operation. This model utilizes magnetic coupling for aperture selection or Faraday cup placement. There are no moving vacuum seals. The FCVA-6 is equipped with electron suppression designed for accurate beam current measurements and all electrical connections use MHV vacuum feedthroughs (other feedthroughs available).

This model consists of four 15/16" (2.4 cm) square vanes, three with apertures of various sizes and usually one solid vane for total beam current measurement. This assembly is rotated by a magnetically coupled Geneva mechanism cycling through a 90° rotation at the vanes upon application of a temporary 115 VAC signal. It is housed in a stainless steel vacuum chamber approximately six inches (15.2 cm) long, with NEC 6" O.D. flanges. Other flanges, such as ConFlat and Dependex, are available.

ACCESSORIES

NEC manufactures logarithmic preamplifiers to be located on the beam line at the FCVA-6 for accurate beam current reading at a remote site. Mating connectors are provided to bias the suppressor and read cup current.

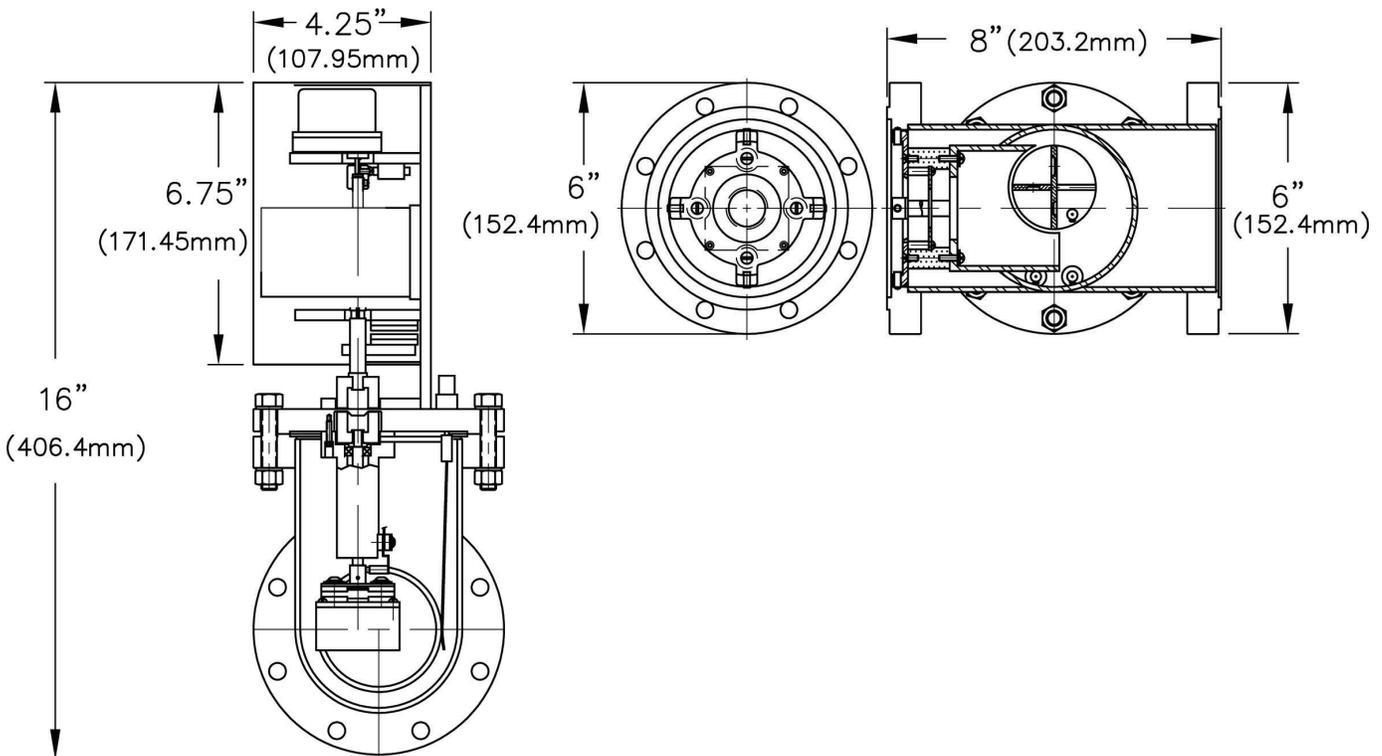
[FCVA v1]

Variable Aperture Assembly Model FCVA-6

SPECIFICATIONS

Power Dissipation*	50 Watts
Cooling	Radiation
Leakage Resistance (Measured at 500V)	>10 M Ω
Collector Material	Tantalum
Beam Clearance	7/8" (22.225 mm) (Fixed Entrance Aperture)

* For ion beam diameter greater than 3 mm.



ORDERING INFORMATION

Catalog No. 2EA003140 on 6" O.D. NEC flanges

Shipping weight: 20lbs

F.O.B. Middleton, Wisconsin, U.S.A.

 **National
NEC
Electrostatics
Corp.**

[FCVA v1]

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