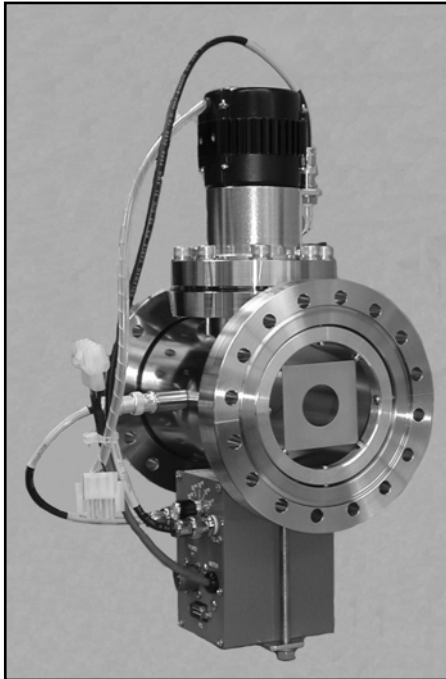


Beam Profile Monitor - Model BPM80



*Model BPM80
beam profile
monitor with
NEC flanges,
complete with
preamplifier.*

APPLICATIONS

The NEC beam profile monitor, Model BPM80, is our original beam profile monitor and our most popular configuration. It is ideal for instantaneous scope display of beam cross-sectional shape and position without significantly interrupting beam transmission. It is designed for beam diameters up to 1.0" (2.54cm). The Model BPM80 is in use worldwide on electrostatic, cyclotron and linear accelerator systems.

DESIGN

As with all NEC beam profile monitors, the Model BPM80 relies on the collection of secondary electrons from a grounded scanning wire. This patented design eliminates contact noise at the rotating scanning wire and allows a minimum detectable beam current density of 10 nA/cm².

The BPM80 is ultra high vacuum compatible. A magnetic coupling is used to transfer motion into the vacuum system for the rotating scanning wire. There are no sliding seals. The only (UHV compatible) organic material is in the lubricant in the stainless steel bearings. Under typical vacuum conditions, no pressure rise is seen when turning the scanning wire on in the 10⁻⁹ Torr range.

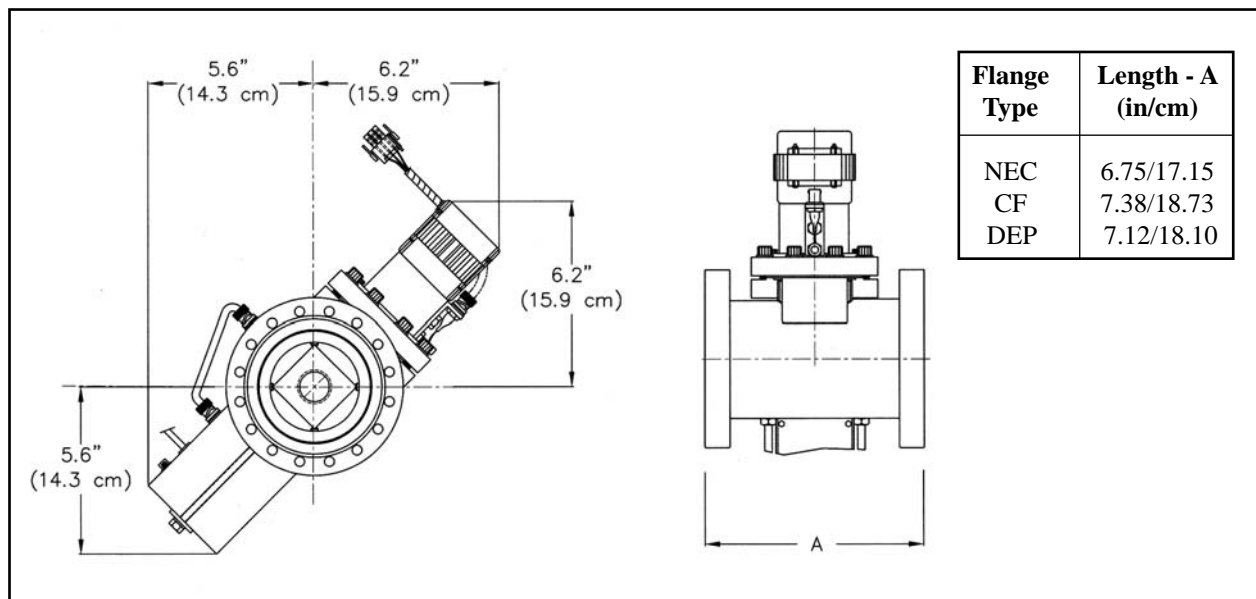
The BPM80 is complete with housing and preamplifier. The housing has a nominal diameter of 4.0" (10cm) with a 1.0" diameter (2.54cm) molybdenum beam entrance aperture. Standard flanges include 6.0" O.D. Conflat, 6.0" O.D. NEC and 4.0" Dependex compatible flanges.

For a complete beam profile monitor system, the Model BPM80 is connected to an NEC controller, Model FP3A, SS5A or SS6. In addition, a display oscilloscope is required.

Beam Profile Monitor - Model BPM80

SPECIFICATIONS

Overall Length:	Depends upon flange set-back, see chart
Flanges:	6.0" O.D. CF, 4.0" Dependex or NEC flanges standard
Housing:	4.0" (10.16cm) diameter (nominal)
Beam Aperture:	1.0" (2.54cm) diameter, molybdenum
Maximum Beam Power Density:	140 watts/mm ² (1kw with 3mm diameter)
Scanning Wire:	Molybdenum 0.020" (.5mm) diameter standard 0.040" (1.0mm) diameter optional
Minimum Detectable Beam Current/ Density:	1nA or 10 nA/cm ²
Preamplifier:	Local manual gain switch sets input sensitivity at decades between 10 ⁻³ A/V and 10 ⁻⁷ A/V.




ORDERING INFORMATION

Catalog No.: 2EA008252 (NEC flanges)

Catalog No.: 2EA008242 (CF)

Catalog No.: 2EA008262 (Dependex)

Shipping weight: 25 lbs. (11.3 kg)
F.O.B. Middleton, Wisconsin U.S.A.
U.S. Patent No.: 3,789,298

 National
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Corp.

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