



Model IG35 IONEC

The IONEC will meet your requirements for high performance sputter ion gun while maintaining simplicity in its design and an unprecedented economy in its use of vacuum chamber space.

The IONEC, a miniature ion sputtering gun, is an instrument designed for cleaning sample surfaces and depth profiling for Auger Electron Spectroscopy. The gun produces a uniform, high density, inert gas ion beam with a beam diameter from 5 to 10 mm. The IONEC IG35 combines an enhanced ion source with an electrostatic lens configuration for accelerating and focusing the ion beam. The entire device is mounted on a mini CF flange. The gun has a port to admit gas directly into the ionization region and a port to differentially pump the lens region. This will maximize the pressure differential between the main chamber and the ion source.

Features:

- enhanced ion source for increased beam intensity
- mini CF flange mounting
- direct gas inlet to ion source
- port for differential pumping
- direct filament mounting on the mini CF flange feedthrough
- variable beam energy from 0 to 3 keV, digital panel meters, remote control of beam energy and computer programming

Specifications

Ion Gun (Model IG35)

Ion Source	Electron impact ionization in magnetic field
Ionization Cathode	Tungsten - Rhenium filament mounted directly on mini CF flange
Beam Size	Adjusted by focus voltage to 5 - 10 mm
Beam Current	16.5 μ A at 3 keV energy and 2.5×10^{-5} Torr of Ar ⁺
Beam Energy	Variable from 0 to 3000 eV
Mounting	1.33" (35mm) O.D. CF flange
Bakeability	Up to 220°C
Overall Sizes	12.7mm lens diameter, 153mm distance between mounting flange and filament feedthrough (220mm including), 100mm width and 40mm depth

Test Results

ION	Beam Energy	Ion Current	Chamber Gas Pressure	Ion Current	Chamber Gas Pressure
	keV	m A	Torr	m A	Torr
	0.1	0.15		0.12	
	0.2	0.6		0.5	
	0.5	2.5		1.5	
Ar+	1.0	7.5	5×10^{-6}	3.5	2.5×10^{-6}
	1.5	10.0		5.5	
	2.0	13.0		8.5	
	2.5	-		13.5	

3.0

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16.5

Power Supply (model IPS2 and IPS3)**Ordering Guide**

Outputs	Filament current: 1.5 - 4 A Grid voltage: +185 V Beam voltage: 0 - 3 kV Focus voltage: x 0.3 - 0.8 of beam voltage	IG35	Complete ion sputter gun with port for differential pumping
Monitoring	Beam Energy, Filament Current and Emission Current by digital panel meters (3 1/2 digit)	IPS2	Power supply with voltage range 0 – 2000V
Controls	10 turn potentiometers for Beam Energy and Filament Current, 12 position switch for Focus	IPS3	Power supply with voltage range 0 – 3000V
Remote Control (optional)	Remote control mini-box for beam voltage	RC	Remote control mini-box
Computer control	0 to 9 V (Model IPS2) 0 to 5.4 V (Model IPS3)	F007	Replacement filament
Protection	Short circuit and arc protection, self restoring	F007-FL	Replacement filament on mini CFF 4-pin feedthrough
Input	115 VAC, 60 Hz - standard International range: 100/120/220/230/240 VAC, 47 - 440 Hz	Outline Drawing	
Size	19" Rack mount		

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