

## Model : IB303XP



Custom multiple output power supply for FIB ion source.

## Application

- Focused ion beam lithography

### Product specifications

#### Input voltage

90V~240VAC single phase 1.5A(50,60HZ)

#### Accelerator supply (Referenced to GND)

Output voltage: +1k~ +30kV  
 Absolute voltage accuracy: Less than 0.1%  
 Set ability: 16bit (0.5V LSB)  
 Output current: 500  $\mu$  A  
 Ripple noise: Less than 60mVp-p  
 Stability: 20ppm/1hr after 1hour warm up  
 temperature coefficients: 10ppm/ $^{\circ}$ C

#### Filament supply (Referenced to Accelerator)

Output voltage: 0~5V  
 Set ability: 16bit (1mA LSB)  
 Output current: 0~4A  
 Ripple noise: Less than 10mA p-p @3A  
 Absolute current accuracy:  $\pm$ 0.01A  
 Stability: 25ppm/1hour @ 3.0A  
 temperature coefficients: 15ppm/ $^{\circ}$ C

#### Suppressor supply (Referenced to Accelerator)

Output voltage: -0.05kV~ -1.5kV  
 Absolute voltage accuracy: Less than 0.1% @300V  
 Set ability: 14bit (0.11V LSB)  
 Output current: 110  $\mu$  A max  
 Ripple noise: Less than 20mVp-p  
 Stability: 50ppm/1hr after 1hour warm up  
 temperature coefficients: 25ppm/ $^{\circ}$ C

#### Extractor supply (Referenced to Accelerator)

Output voltage: -0.6kV~ -12kV  
 Absolute voltage accuracy: Less than 0.1% @7.0kV  
 Set ability: 16bit (0.2V LSB)  
 Output current: 500  $\mu$  A  
 Ripple noise: Less than 30mVp-p @4.0kV  
 Stability: 20ppm/1hr after 1hour warm up  
 temperature coefficients: 10ppm/ $^{\circ}$ C

#### Electric static lens supply (Referenced to Accelerator)

Output voltage: -0.3k~-15kV  
 Absolute voltage accuracy: Less than 0.1%  
 Set ability: 16bit (0.1V LSB)  
 Output current: 100  $\mu$  A max  
 Ripple noise: Less than 100mVp-p  
 Stability: 50ppm/1hr after 1hour warm up  
 temperature coefficient: 25ppm/ $^{\circ}$ C

#### Electric static lens supply (Referenced to GND)

Output voltage: 1.0k~30kV  
 Absolute voltage accuracy: Less than 0.1%  
 Set ability: 14bit (2.0V LSB)  
 Output current: 100  $\mu$  A max  
 Ripple noise: Less than 150mVp-p  
 Stability: 50ppm/1hr after 1hr warm up  
 temperature coefficient: 25ppm/ $^{\circ}$ C

#### The other specifications

All the outputs provide with the over voltage protection and the over current protection.

External control: Optical isolated RS232C

Interlock: vacuum, thermo, HV-connection

HV connector: Customer specification

Output monitor: Accelerating voltage, Lens voltage

Storage temp range: -5 $^{\circ}$ C~ +40 $^{\circ}$ C

Operating temperature

Limit: +10 $^{\circ}$ C~ +40 $^{\circ}$ C

Humidity: 80% or less

Insulation method: Air insulation (one molding)

Externals size: 480mm(W)  $\times$  450(D)  $\times$  249 (H)

Weight: 33kg

The model "IB303XP" is an integrated multiple output high voltage power supply specifically developed for focused ion beam source.

- \* Please ask details.  
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Update: Jun,18, 2012