



Ion source

Linear and circular ion sources for a range of applications.

Genco offer ion sources in both linear and circular sizes, and suitable for a range of applications. Both the linear ion source and the compact IMC75 circular ion source can be matched with an associated power supply offering improved control and automatic gas regulation.

Linear ion source

Ion sources offer a robust and flexible means of modifying or pre-cleaning large area polymer and glass substrates prior to thin film deposition. Based on the inverted magnetron principle, the sources produce a collimated plasma beam that lightly etch the substrate, burning off hydrocarbons and activating the surface to promote adhesion of the deposited film.

Unlike conventional technology, Gencoa's ion sources are assembled with a graphite anode and cathode, protecting the substrate from contamination and preventing erosion of source. The sources are indirectly cooled, minimizing source maintenance and are available from 20-500cm in length.

Typical operation involves using DC power supply, with other power modes – such as pulsed DC – also suitable.

Circular ion source

Key features

- Long operation cycle in reactive and non-reactive environments
- No contamination – carbon anode and cathode
- Tilting head – ion angle control
- Self-neutralized ion beam
- Feedback control

Applications

- Nanotexturing
- Coating removal
- ITO & silver deposition crystallinity control
- Etching prior to deposition – avoid RF bias cleaning of dielectrics
- Ion beam deposition
- PACVD & DLC deposition

Other applications include etching and ion beam assisted deposition. The sources are designed to operate at standard sputtering pressures and may be used simultaneously with sputter sources during film deposition. The ion beam distribution can be easily set up for straight or focussed configuration.

Power supply package

To optimize the performance of the sources, Gencoa have developed a dedicated voltage regulated power supply with integral gas flow control. The gas adjustment feedback loop control maintains the same current at all times – ensuring no variation in beam output.

Gencoa's linear ion sources can be assembled with a different length and a variety of mounting options, and can be ordered with the associated IM3000 or IM300 power supply (right).

For the IMC75 circular ion source, the IM300 power supply can be ordered with the source, enabling automatic regulation of two gases.

