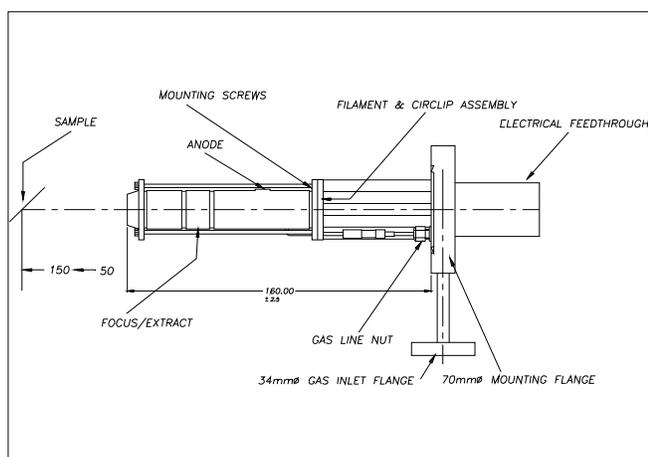
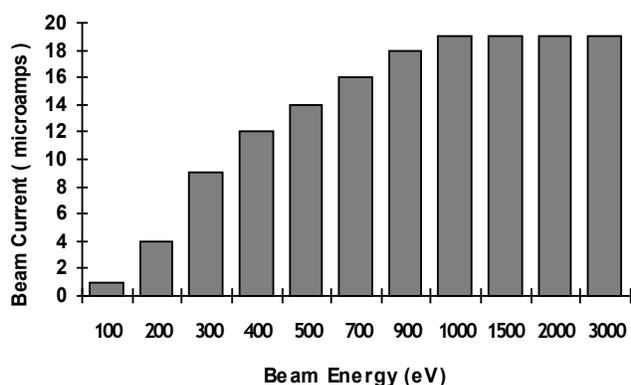




- ◆ A UHV compatible, high beam current, variable energy ion source for cleaning of sample surfaces under UHV.
- ◆ Variable energy 100 – 3000eV suitable for all types of samples.
- ◆ Lower beam energies are used to minimize damage to delicate sample surfaces such as single crystals.
- ◆ Higher beam energies are used for rapid etching of oxides and semiconductors.
- ◆ High beam currents available even at low energy.
- ◆ Used with argon gas, which is leaked directly into the discharge chamber, no differential pumping required.
- ◆ Broad 10mm spot, no raster unit required to clean large area.
- ◆ Long working distance to avoid conflict with other instrumentation.
- ◆ Cost effective solution for sample cleaning under UHV.

Typical ISIS3000 Beam Current vs Beam Energy



How does it work? The ISIS3000 is an oscillating electron discharge source with electrostatic extraction and focusing lens. Argon gas is leaked directly into the discharge chamber where ions are formed at a selected energy of between 100 and 3000eV. The ions are extracted and focused into a spot of approximately 10mm diameter at the sample surface where the impact of the energetic ions physically removes surface material.

What is supplied?

ISIS3000 ion source, electronic control unit, sample current meter, cabling, operating manual and a spare filament assembly.

Optional extras:

UHV compatible leak valve.
Second source, any number of sources may be supplied for individual use with one control unit.

Source: The source is UHV compatible and bakeable under vacuum to 200C.

Mounting Flange: 70mm OD CF port facing the sample with a sample to flange distance of up to 310mm. A spacer collar is provided to give the correct working distance of 50 to 150mm (100mm optimum).

Gas Inlet Flange: 34mm OD CF, a suitable leak valve is required.

Operating Pressure: Typically 5×10^{-6} mbar of argon gas. This is dependent on the pumping speed in the vacuum chamber. Pumps should be compatible with noble gas.

Beam Current: Typically >15 micro Amps (See chart at top of page)

Filaments: Tungsten/Thoria twin filament assembly.

Electronic Control Unit:

Enclosure measures 483mm wide by 3U (133mm) height suitable for mounting in a standard 19-inch rack or free standing.

Front panel controls:

- Ion energy variable 0 to 3000eV
- Ion Energy meter
- Focus Potential 0 to 100%
- Filament Current 0-4A
- Filament 1, 2 or OFF switch.
- Filament \ Discharge current meter
- Anode (Discharge) Potential 0-100%
- Power ON/OFF illuminated switch

Rear panel:

- Fused IEC Mains input:
- 100 to 240VAC selectable (50/60Hz)
- Single multiway cable to source electrical feedthrough.

For further information contact

RBD Instruments, Inc.
2437 NE Twin Knolls Dr
Suite 2
Bend, OR 97702

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Web: www.rbdinstruments.com

email: sales@rbdinstruments.com