



Axcelis NV6200A

# **Ion Implantation Equipment FOR SALE**



## **Equipement Implanter Medium Curent Implantation EATON 6200 A**

*I Beam* **Semi-Conducteur**  
INTERNATIONAL BUSINESS EQUIPMENT AND MAINTENANCE

HARO François-Xavier

**Equipment: Axcelis NV6200A**  
**S/N 763**

Year of fabrication: 1990-95

**Historic Equipment:**

This Equipment was designed and produced by one of the large American semiconductor equipment manufacturers: EATON / AXCELIS.

This manufacturer established in the United States with more than 45 years of existence remains a leader in its field with innovations.

Produced in Texas in the 1990s, the 6200A model offers an automated and reliable version.

This equipment is part of the latest versions offering the maximum upgrade for better reliability and better performances.

The model for sale is in exceptional conditions since it has only been used a little in an R&D factory. This equipment has never been used in continue on semiconductor factory where all machine are working 24 h per day 7 days a week and where the maintenance is made bay many people.

Its maintenance has always been carried out by engineers from the Axcelis Company in compliance with the rules and in accordance with the procedures and specifications.

Purchased in 2017 by the company IBEAMSC, it was stored and used as a test and demonstration machine for training

**This equipment is widely acclaimed by research centers and small production units for its price ease of use, large dose range versatility (5 to 200 KV installation), and precision and low maintenance costs.**

## Features:

- Available in 6 inch version
- Gas box 3 lines ( for LBX bottle , 0.4 l) with Mass Flow Option
- External gas box 2 lines
- High Reliability End Station ( new design of arms , sensors ect.. for better transfer wafer reliability )
- Mass Filter PS
- See Specification sheet

Equipment price:

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**Please contact us for quote**

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FOB sales conditions

Not included on price

- Disassembly costs
- Decontamination and reconditioning ( Options )
- Crating packaging
- Transport / insurance
- installation on customer site

Possibility to come and visit the equipment near Toulouse (France)

**Availability: Q2/Q3 - 2024**

For more information:

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**Tel:** +33 679 940 582

## **SALES OPTIONS - SALES OPTIONS - SALES OPTIONS**

### **1. Decommissioning/dismantling**

The first Option proposed is the conditioning of the equipment. Be in situ it will be easier for our company to prepare the shipping. The all equipment will be conditioned for an easy loading in the truck in minimum time. ( 4 hours maximum )

IBEAMSC will load the entire machine into the customer truck. Securing the goods will be the responsibility of the carrier, once the goods have been loaded.

I suggest taking in charge the all decommissioning regarding this schedule:

#### ■ Equipment Purge

- a. Gas box
- b. Water lines

#### ■ Dismantling all fragile parts

- a. Source Area
- b. Beam Shutter Assy
- c. Accel Colum Assy
- d. Focus Assy
- e. Scanner Assy
- f. Suppression box
- g. All powers Supply on Terminal Modules

#### ■ Modules separation and Conditioning

- Terminal option # 1 ( Europe Destination carrying by the truck)
  - Magnet stay in place with the big secure of the terminal ( wood blocks and straps )
- Terminal option # 2 ( over sea shipping )
  - Magnet Removed and putted in the separate box
- Modules protection ( Terminal / Beam line / End Station / Terminal roof / Flow hood End station) 8 bulky modules
  - All modules will covered by bubble wrap and plastic film

■ Material used

- Lines and tube secure
  - Plugs Taps VCR / Fitting Swagelook ¼ - 3/8
  - Plugs Taps KF 25 / KF 40
  - Plugs Plastic
  - plugs for vacuum parts
- Terminal safety
  - Piece of wood cut to right size
  - 4 Strong straps
- Fragile parts storage
  - 2 Wood crates
  - Cardboard boxes
- Modules
  - bubble wrap
  - plastic film
  - adhesive tape
  - stretch film

■ Handling tools used

- lifting jack / rolling bar / crowbar
- forklift
- lifting platform

■ Personal involved

- 1 Engineer project leader ( HARO François-Xavier )
- 1 Specialized Technician
- 3 day - Dismantling and packaging
- ½ day - Loading into the truck

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**9000 € HT (average price for all)**

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## **2. Vacuum System fully refurbished**

- a. Diffusion pump refurbished ( cleaning / new heat resistor/HT wiring/ new oil)
- b. 3 Cryogenic pump refurbished
- c. Mp1 (chemical pump) refurbished
- d. Mp2 refurbished
- e. Root pump refurbished
- f. Mp3 refurbished
- g. New TC / new Ion Gauge
- h. All roughing lines ( D40 & D 25 ) cleaned / all O-ring changed

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**25 000 € HT (average price for all)**

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## **3. refurbished Parts**

### **a. Terminal**

- Source / Source Housing / feed thru /
- Magnet Liners ( new graphite )
- Beam shutter Assy ( new graphite )
- Pumping Colum refurbished
- Tee source refurbished
- New graphite new ceramics news O-ring
- Accelerator Tube refurbished
- Source Tee
- Pumping colum
- HHV1 refurbished

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**10 500 € HT (average price for all)**

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### **b. Beam Line**

- Focus Assy
- Scanner Assy
- Beam line tube refurbished
- All feed thru
- HVV2 / HVV3 / Isolation Valve

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**10 000 € HT (average price for all)**

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**c. End Station**

- Suppression Box
- Chamber suppression
- New graphite new ceramics news O-ring
- Clamp 1&2
- New TC New Ion gauge
- Tune Target ( new graphite)
- Bells & Load & Unload locks

## **4. Upgrade**

### **DI circuit**

- New DI pump ( stainless still )
- New reservoir ( stainless still )
- New Heat Exchanger (stainless still )
- New pipe 3/8 - XXXX( Teflon / stainless still )
- New sensors
- New gauge
- Resistivity measure option

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**8 000 € HT (average price for all)**

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## **5. Spare Parts**

### **Terminal**

- 1 Source – 1 Source Housing – 1 feed thru – 1 Magnet Liners set - Beam shutter
- Pumping colum
- Consumables

### **Beam Line**

- Focus Assy
- Scanner Assy

- feed thru
- Consumables

### **End Station**

- Suppression Box
- Chamber suppression
- Consumables

### **Electronics Boards**

- Data-link Source
- Data-link Magnet

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**To define**

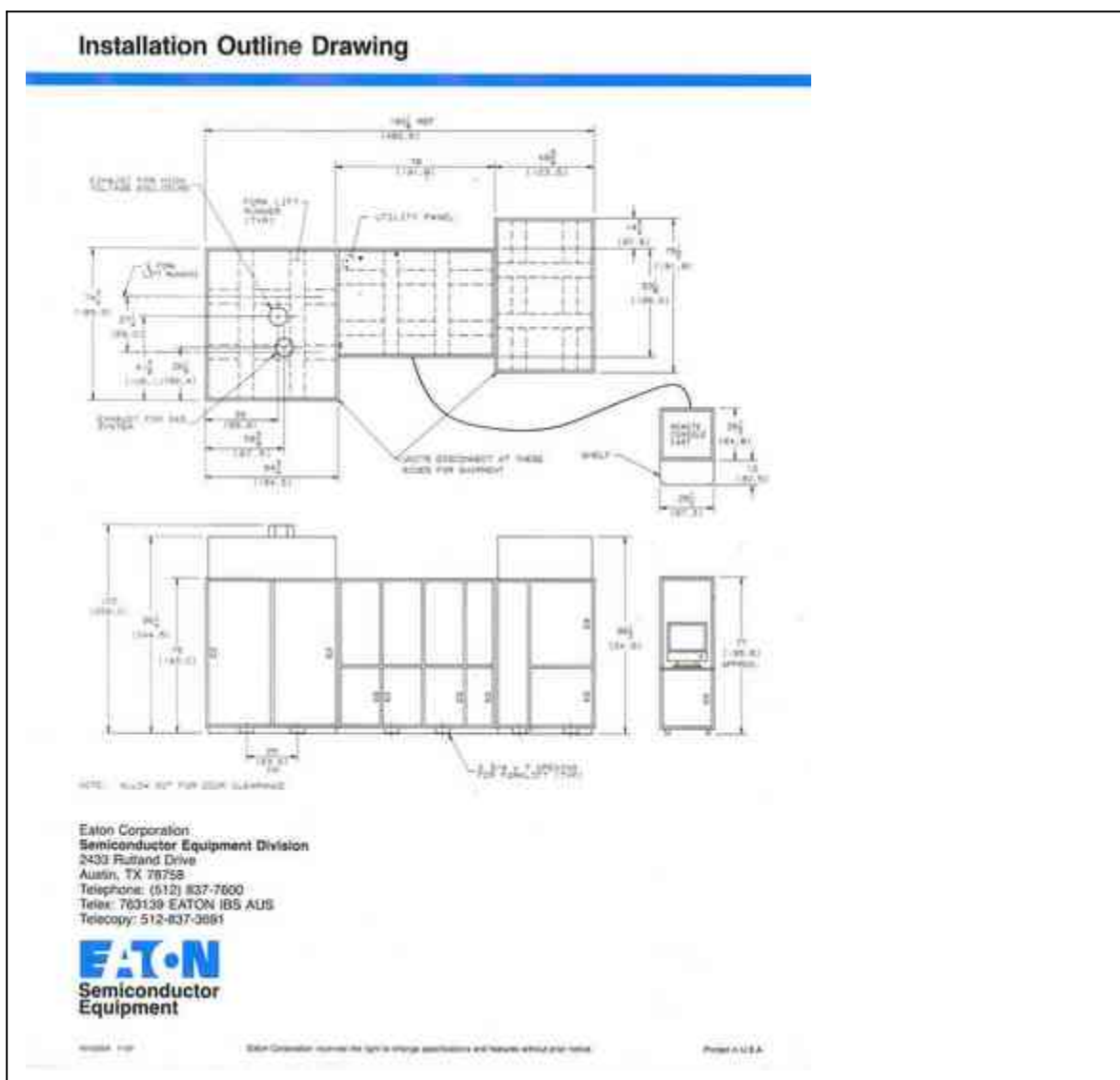
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## **5. Appendices**

1. Installation Outline Drawing
2. Specification summary
3. Pictures
  - General View
  - Terminal
  - Beam Line
  - End Station

# Installation Outline Drawing



# 6200A Specification Summary

## NV-6200A

### SPECIFICATION SUMMARY

**Beam Energy Range:**  
5 to 200 KeV

**Maximum Scanned Beam**

Species	Beam Currents (microamperes)
B <sup>+</sup>	700
P <sup>+</sup>	1700
As <sup>+</sup>	1400

The optional SKM Ion Source delivers the following superior boron and doubly charged beam currents:

Species	Beam Currents (microamperes)
B <sup>+</sup>	1000
B <sup>++</sup>	25
P <sup>++</sup>	300
As <sup>++</sup>	300

**Dose Characteristics at 0 to 10 Degree Implant Angles:**

**Dose Uniformity Over One Wafer:**  
1 $\sigma$   $\leq$  0.5%, with or without wafer cooling.

**Dose Repeatability:**  
Wafer to Wafer and Day to Day,  
1 $\sigma$   $\leq$  0.5%.

**Analyzing Magnet Range:**  
Up to mass 125 at standard extraction voltage.

**Wafer Handling System:**

**Type:**  
Dual platen, continuous throughput, cassette to cassette, fully automatic, pick and place.  
**Throughput:**  
Greater than 250 wafers/hr. for 10 second implants.

**Wafer Tilt:**  
Variable, programmable 0 to 10 degrees.

**Wafer Orientation:**  
Variable, programmable 0 to 360 degrees.

**Wafer Sizes:**  
2 inch through 150 mm.

**Wafer Breakage:**  
Less than 1 wafer out of every 20,000.

**Particulates:**  
The wafer handling system will add no more than 0.1 particles/cm<sup>2</sup>, of size 0.5 microns or larger, or .05 particles/cm<sup>2</sup>, of size one micron or larger.

**Facility Requirements:**

**Electrical Power:**  
24 kVA, 208 V,  $\pm$  5%, 3 phase, 5 wire, wye connected, 50/60 Hz.

**Cooling Water:**  
3 gpm minimum at 80 degrees F max. input temperature; 30-60 psi; 30 psi minimum differential.

**Compressed Air:**  
90-125 psi.

**Dry Nitrogen:**  
60-70 psi.

**Heat Dissipation:**  
To Air: 16,750 BTU/hr.  
To Water: 49,000 BTU/hr.

**Exhaust Air Volume:**  
Gas Box: 300 cfm minimum.  
H.V. Terminal: 300 cfm minimum.

**Approx. Size:**  
190" (493 cm) L  $\times$  75" (190 cm)W  
 $\times$  96.5" (245 cm)H.

**Weight:**  
Approximately 12,100 lbs.  
(5,500 kg).

# General View

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General View



# Terminal



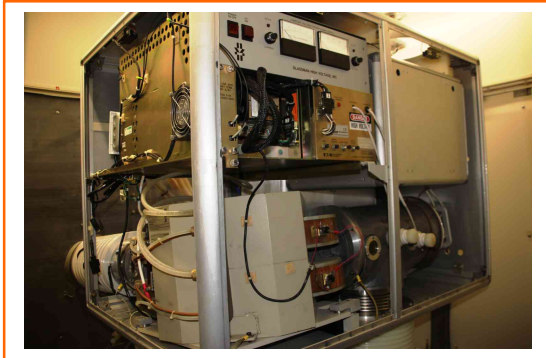
Isol Transformer / Accel



Source / Gaz Box



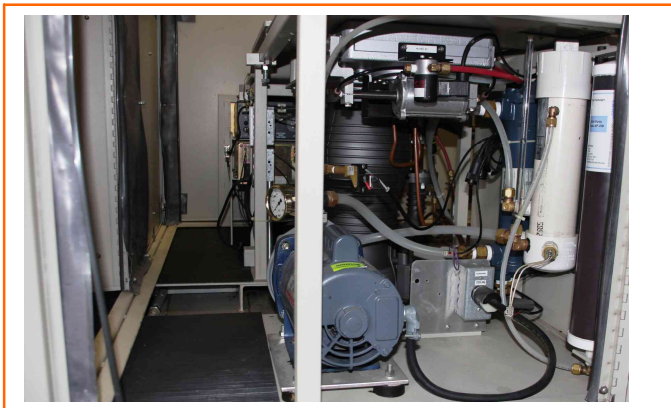
Gaz Box



Magnet / Power Supply



Diff Pump / DI pump



DI Circuit



Aux Gaz Box

# Beam Line

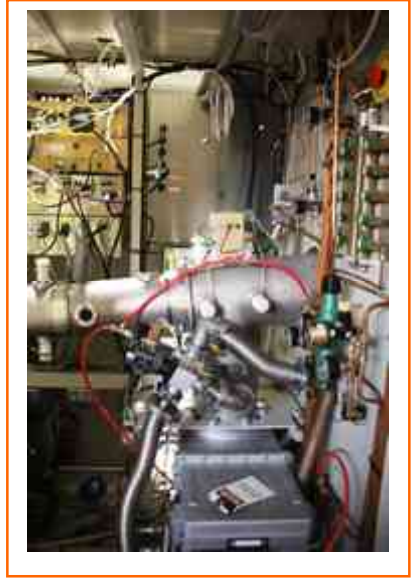
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Suppression box Area



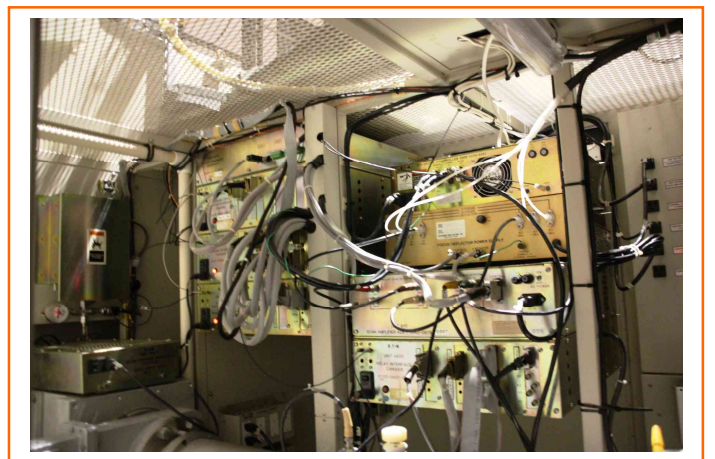
MP2/Root Pump Area



Beam Line Focus Area



Suppression Box / sacnner



Beam Line PS Rack

# End Station



External View



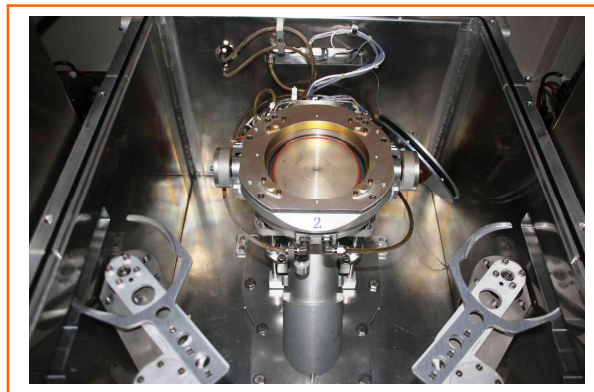
Load Station



Unload Station



Chamber



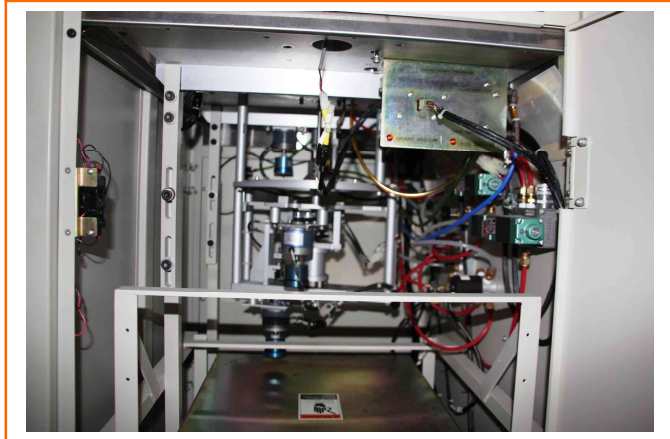
Chamber Chucks & Arms



Chamber Bottom Mechanism

# End Station

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**Load Station Bottom Mechanism**



**Unload Station Bottom Mechanism & Controller**