



40TH ANNIVERSARY

1984 - 2024

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About



Since 1984, *A Resource for Semiconductor Manufacturers*
Glemco is one of the **original** second source manufacturers
for the **semiconductor industry**.

Glemco designs, manufactures and distributes products and services custom tailored to our customers requirements. Founded in Leander, Texas, in 1984, our extensive experience in the industry has led to the development of cutting-edge product and service solutions that reflect the evolution of semiconductor manufacturing technology. We support a global customer base with products and services that **increase production efficiency, simplify maintenance, and reduce operational costs** for semiconductor manufacturing equipment.



Product Portfolio



A wide range of consumables, spares, maintenance and repair **products for front end process equipment:**

- **Axcelis®**
 - 3204, 3206, 6200, 6200A
 - NV10 / 10-80 / NV10-160
 - NV20A
 - 8200P, 8250
 - GSD Classic, 80, 160, 200, 200E, 200E2
 - GSD HE / HE3 / VHE
 - GSD III / Ultra / HC3
 - Purion
 - Paradigm
- **Applied Materials®**
 - 9000 / 9200
 - 9500
 - Quantum
 - XR-80
 - XR-LEAP
 - VIIsta 900XP
 - VIIsta HCP, HCS
 - Trident
 - **Aviza® W/J®**
 - 998, 999, 1000
- **TEL®**
 - ACT12
 - Lithius – PRO – PRO V
 - **Varian®**
 - 80-10 / 120-10
 - 80XP, 160XP, 180XP
 - CF/DF, 3000, 350D, 300XP
 - E-220 / E-500
 - VIIsion 80 / 200
 - VIIsta 810
- **Delatech®**
 - 858/859
 - DNS®
 - AS-2000
 - **LAM / Novellus®**
 - Concept 1
 - Concept 2 – Altus
 - Concept 2 – Sequel
 - Concept 2 – Speed



Capabilities Customer Support



As the **manufacturer**, Glemco is **responsive and reactive** to customer concerns. And we **control** the manufacturing process, so we can ensure you get only the highest **quality** in **materials** and **workmanship**.

High purity graphite - Refractory metals - High performance plastics

Welded or brazed precision assemblies - Ceramic Insulators - Wire and cable harnesses

Refurbishment and Repair of high value assemblies

Precision and vented fasteners - Fittings - O-rings - Vacuum gauges

Electrical feed-throughs - Motors and potentiometers - Pneumatic actuators -

Large Inventory of consumables and spares

On site inventory management - Custom kitting and labeling

Custom Solutions Provider

Experienced technical support - The BEST customer service experience.



Specialty Materials Refractory Metals



Glemco manufactures **Tungsten, Lanthanum-Tungsten, Molybdenum** and **Tantalum** products for all ion implanter equipment.

Glemco is a high precision CNC shop handling complex parts and materials.

Milling Machinery:

Positional and dynamic 5 axis machining centers, up to $x=60''$ $y=26''$ $z=24''$, High speed drilling and tapping centers, up to $x=24''$ $y=15.75''$ $z=24''$, Vertical machining centers, up to $x=24''$ $y=12''$ $z=12''$

Turning Machinery:

2 axis max diameter 9" max thru spindle diameter 2", max length 22"; 4 axis with live tooling, max diameter 14", max thru spindle diameter 3", max length 24"; 5 axis with live tooling, max diameter 9", max thru spindle diameter 2.6", max length 4.7"

Wire Electrical Discharge Machinery:

Max part size $x=41''$ $y=32.25''$ $z=11.75''$; Max cutting capacity $x=23.5''$ $y=15.5''$ $z=12''$



Specialty Materials Graphite



Glemco manufacturers **high-performance graphite solutions** for all ion implanter equipment.



Material Grades Offered	Bulk Density (Mg/m ³)	Shore Hardness (HSD)	Electrical Resistivity ($\mu\Omega^*m$)	Bending Strength (Mpa)	Compressive Strength (Mpa)	Thermal Conductivity (W/(m-k))	Avg. Grain Size (μm)
HP Graphite	1.81	91	18	113.00	210.00	72	2
STD Graphite	1.81	64	13	61.70	n/a	104	7

Super Purified to less than 5ppm impurities
VGI Coating for particle management
Enhanced Designs for Improved Performance
Customer Specific Designs for Critical Processes



Material Support **Solution**



Glemco maintains an extensive inventory of **critical parts and materials** to support our customers.



Nickel
Inconel
Boron Nitride
Hastelloy
Aluminum Oxide
PEEK
Titanium
Copper
Aluminum

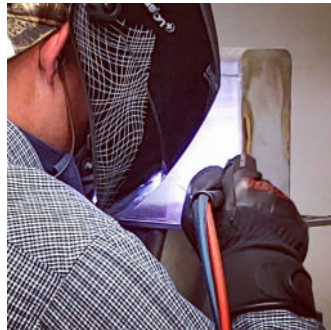
Silver
Stainless steel
Vespel ®
Torlon ®
Delrin ®
Teflon ®
Nylon ®
UHMW
ESD (conductive plastics)



Specialty Processes



Glemco has **expertise** in a broad range of **manufacturing processes**.



- Dip Brazing
- Soldering
- Vapor Degreasing
- Ceramic to Metal Sealing
- Electropolishing
- Production Leak Testing
- Pressure Testing
- Part Marking

- Heat Treating
- Arc Welding
- Plating
- Coatings and Paints
- Surface Finish
- Passivation
- Brazing
- Epoxies and Resins
- Vacuum Brazing

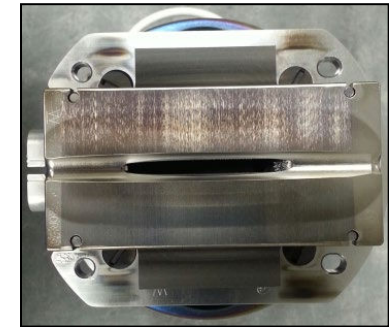
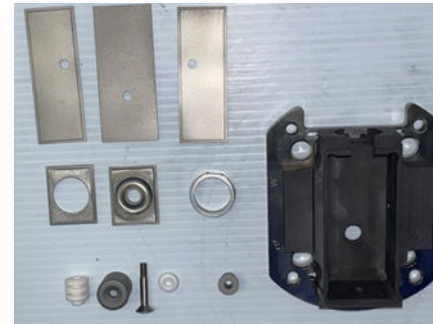
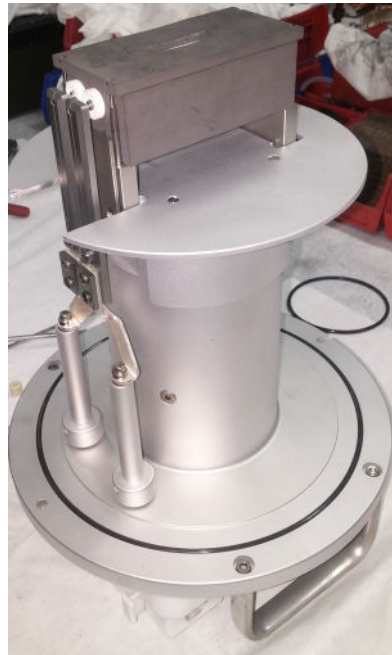
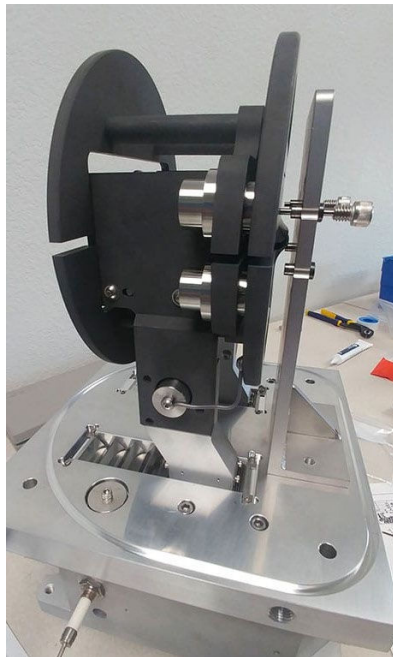


Trusted Customer Specific Solutions



Glemco partners with customers to develop unique solutions that increase productivity.

Glemco designs and manufactures customer specific ion implanter components and assemblies for specialty implants, such as Aluminum, Antimony, ++ & +++ charge, Gold, Indium and more.

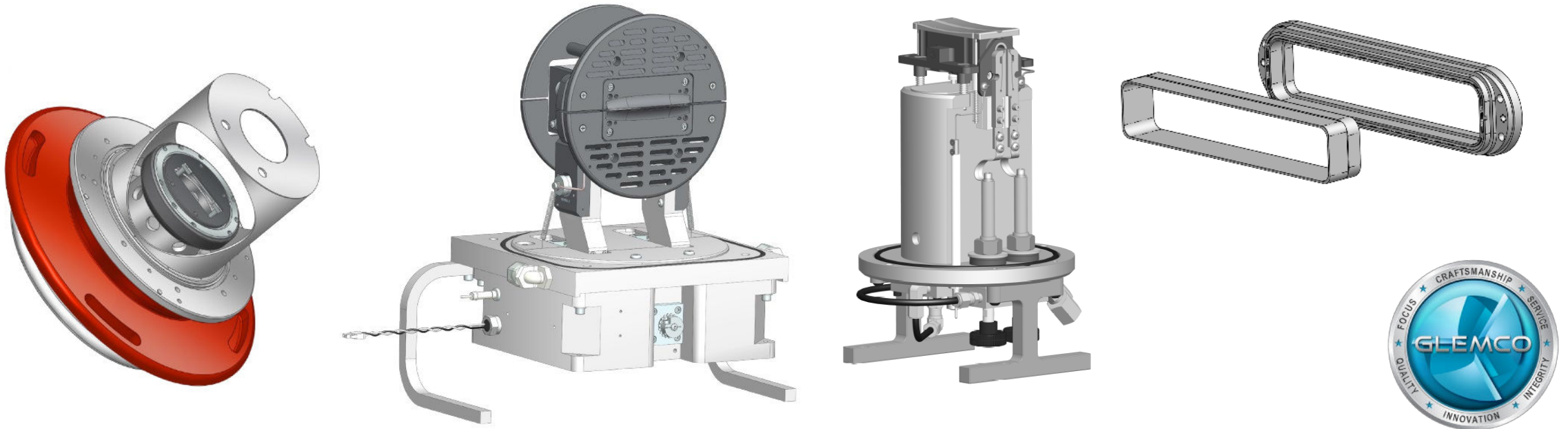


Complete Support **Assemblies and Upgrades**



Glemco manufactures **standard, enhanced and customer specific** equipment upgrades and assemblies.

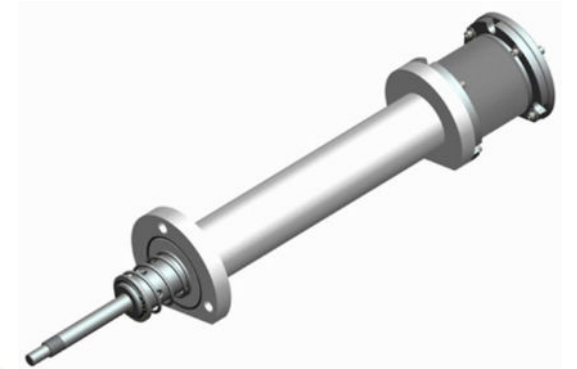
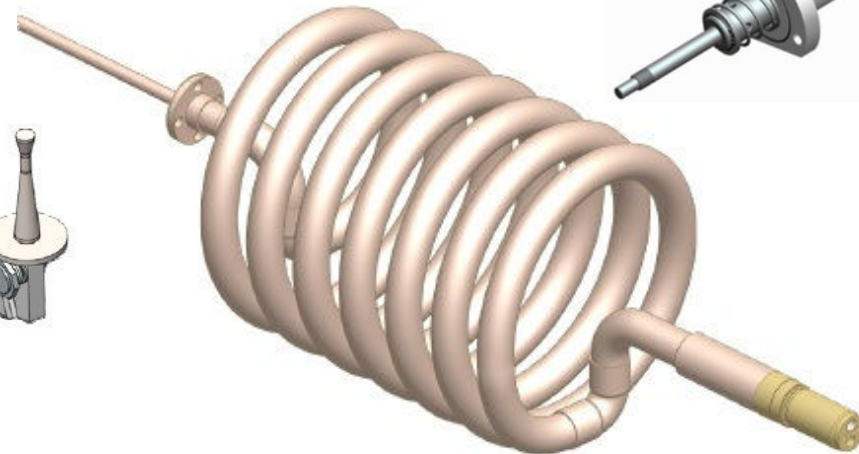
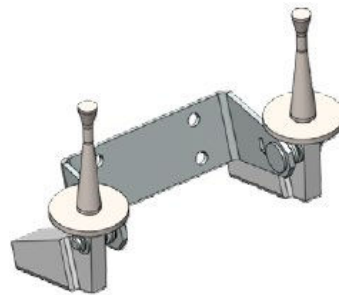
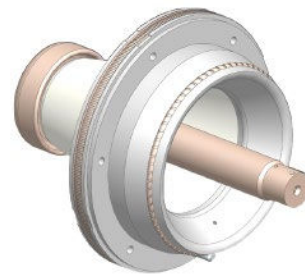
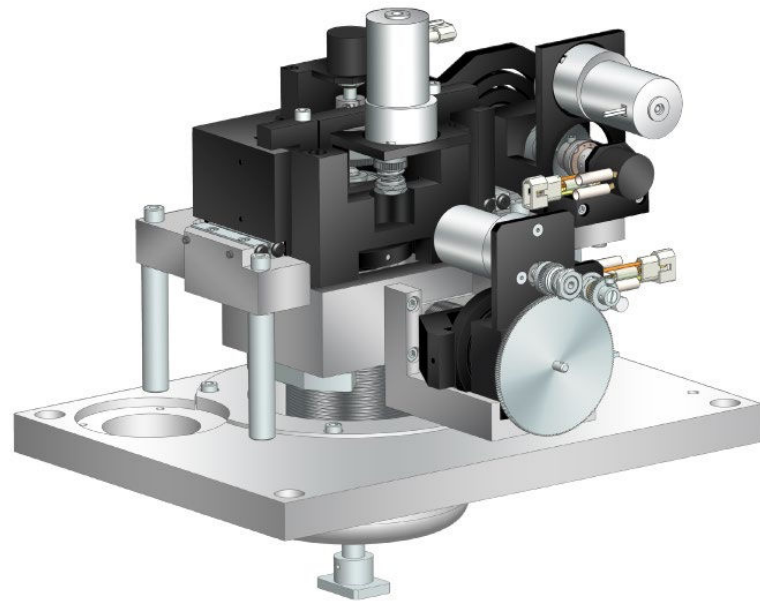
Glemco manufactures complete assemblies, customized to customer requirements, including ion sources, source flanges, extraction heads and analyzer magnet chambers and more.



High Quality Services **Extending Value**



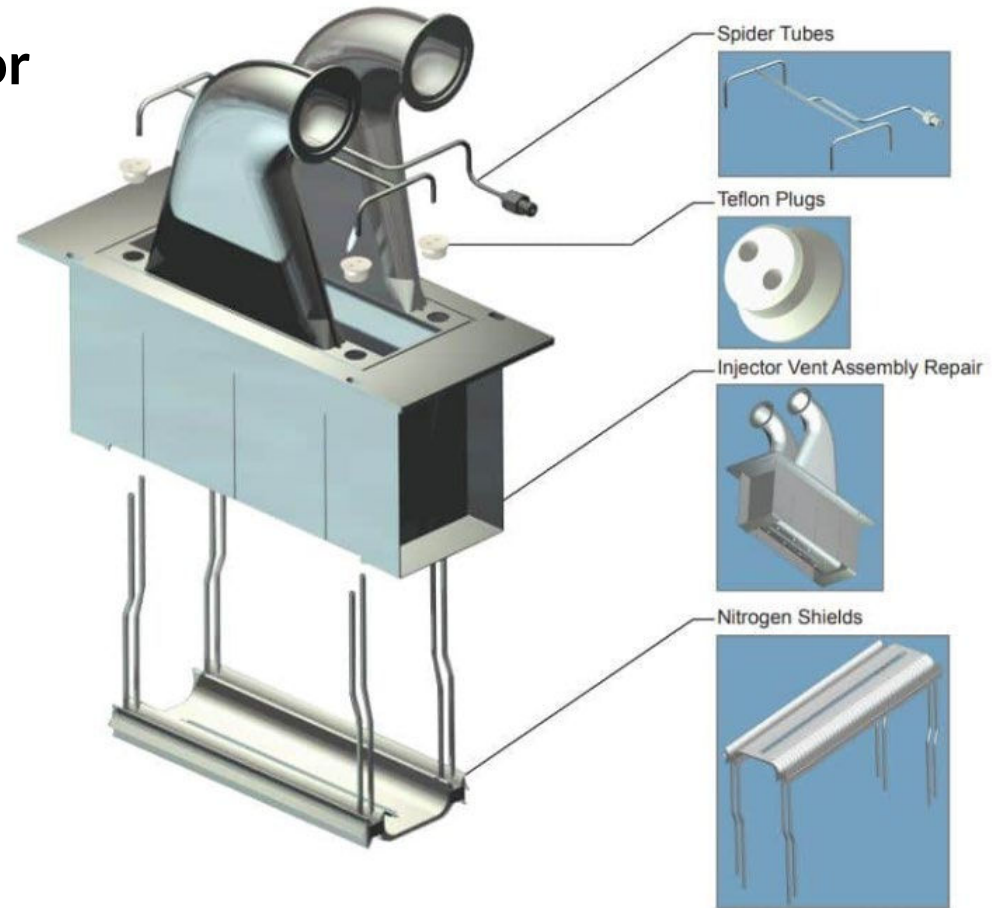
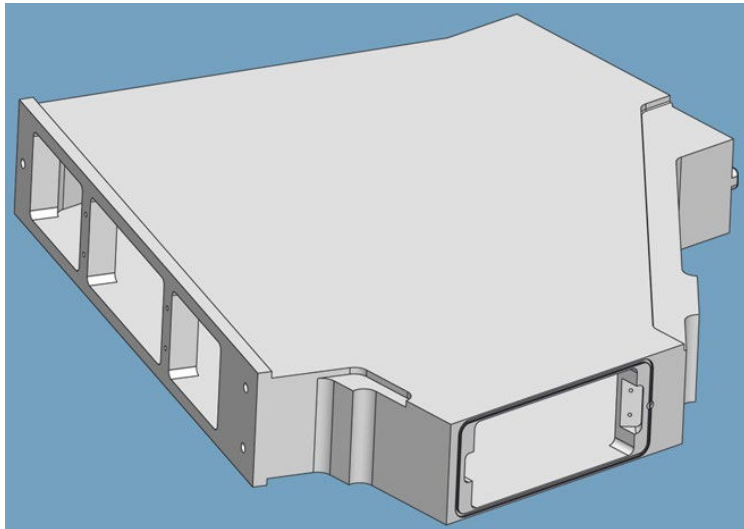
Glemco provides **overhaul, refurbishment and repair** of parts and assemblies used in semiconductor equipment.



Legacy Support Parts and Services for a wide range of Equipment



Assemblies, Consumables, Refurbishment and Repair for customer specific equipment



Torroidal Orifice Rebuild Kits



Air Knives



INNOVATION By Design



Glemco **works with customers** to provide innovative solutions for specific process conditions.

Universal Heavy Process EMER Upgrade Kit – Redesigned Insulating Washers Provide Extended Surface Area to Prolong Coating and Eliminate Shorting ♦ Threaded Caps for Easier Service Access ♦ Elimination of Teflon, Tin, and Copper from the Assembly ♦ Solid Tantalum Buss Wire Delivers 5Kv to the Inner Electrode Ceramic Power Feedthroughs Provide Strong Vacuum Seal ♦ Feedthroughs Protected from Process Material

Source Alignment and Extraction Upgrades for E500 – Precision Alignment Interface Between Source Body and Flange ♦ Dowel Pin Interfaces Ensure Optimum Beam Optics ♦ Improved Shielding from Process ♦ Shroud Incorporates Easy Access Door ♦ Customized Vaporizers

V3 Bellows Liner– Liner Flange Marked to Guide Orientation during Installation to Reduce Shorting ♦ Disposable Shield Liner Protects Bellows Convolutions from Contamination ♦ Extends Time Between PMs

Shielded Source and Liner Flange Upgrades – Built-in Protection from Process Coating for Fixed and Floating Clamp Rings ♦ Water Cooled and Non Water Cooled Designs

Electrode Assembly – High Density Graphite ♦ Precision Alignment Fixtures ♦ Improved Isolation ♦ Even Distribution of Vacuum Pressure ♦ Reduced Vacuum Leaks ♦ Arm Servicing without Realignment

Manipulator Refurbishment – Replace Hardware, Orings, Gears, Drive screws, Clutches, Slide/roller bearings, Bellows, Shafts ♦ Roll Pins Replaced with Opposing Lock Screws ♦ Potentiometers Upgraded to Quick Connect ♦ Electrode Alignment ♦ Vacuum and Load Testing

Moving Clips – High Performance Plastic Pins ♦ Upgraded Bearings and Spacers ♦ Refurbishments replace Pins, Springs, Bushings, Spacers

2X Dual Vaporizer Assembly – Increased Antimony Capacity ♦ Clog Resistant Quad Port Nozzle ♦ Improved Thermal Shielding ♦ Spring Loaded Thermocouples

HDP Gas Trench Covers –Dual/Split Nozzle Injectors ♦ Oring Shield Blocks Plasma from Attacking Oring ♦ Integrated Jack Screws Simplifies Removal



GLEMCO: A Differentiated Customer Experience

dif·fer·en·ti·ate

/ˌdɪfəˈren(t)ʃhēˌɑːt/

1. Different and distinct in character.
2. Different in the process of growth or development.

Evolve, modify, alter, adapt.

Random
Experience

Consistent
Experience

- Functional
- Intentional
 - Consistent

Differentiated
Experience

Emotional & Functional

- Differentiated
- Invaluable
- Intentional
- Consistent



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