Components and spare parts for ion implantation.

Ion implantation is an important process during the manufacture of semiconductors. Implanters dope wafers with "foreign atoms" in order to modify material properties such as conductivity or crystal structure. The heart of an implanter system is the beam path. Here, the ions are generated, concentrated, accelerated dramatically and guided at high speed to the wafer.

One of our 2000 spare parts for ion implanters.
Temperatures of up to 1400 °C, strong electromagnetic fields, aggressive process gases and powerful mechanical forces cause problems for conventional materials. But not for our products. Our heat-resistant components made from molybdenum, tungsten, graphite or ceramics excel due their ideal combination of corrosion resistance, material strength, high thermal conductivity and absolute purity. 100 or more Plansee components are at work in every beam path. They ensure that the ions are generated efficiently and guided precisely and free from impurities along the beam path to the wafer.

Accurate to a thousandth of a millimeter and with more than 30 years of experience in the semiconductor industry, we produce components that conform precisely to the OEM standard or further develop these components at our production sites in Japan and the USA. Because, for our customers in the semiconductor industry, Plansee spare parts are increasingly becoming more than just spares. Taking the equipment manufacturer's original spare parts as our starting point, we optimize the geometries and material compositions. The benefits to you:
- Simplified component installation and removal
- Longer service lives
- Lower cleaning costs
- Reduced maintenance work
- Reduced downtimes

We know how important reproducible quality is for your process. Which is why we make sure that our quality is exceptional. Every single time. How do we do it? We have been manufacturing high-performance materials since 1921 and handle every stage of the production process ourselves – from the metal powder through to the finished product. Only implanter components that pass our rigorous quality controls are allowed to leave our factory.

Our products.

- Chambers (graphite, tungsten, molybdenum and alloys)
- Filaments (tungsten and tungsten alloys)
- Arc slits (graphite, tungsten, molybdenum and alloys)
- Holders (tungsten, molybdenum and alloys)
- Cathodes (tungsten, molybdenum and alloys)
- End station (graphite)
- Analyzer components (graphite)
- Insulators (ceramics)
- Spare parts (graphite, tungsten, molybdenum and alloys, ceramics, steel)

More than 100 implanter systems. One specialist for replacement parts.

It doesn't matter if you operate an older model or a brand-new system, or if it runs on medium or high current: We have the perfect replacement parts and upgrade systems for you. Get the most out of your ion implantation tool. Talk to us. Even if your ion implanter is not on the list yet.
AIBT: istar

Applied Materials: 9000, 9200, 9200xR, 9500, 9500xR, Quantum, Quantum I, Quantum II, Quantum III, Quantum X, Quantum X+, Quantum xR, xR, xR/Leap, xR120, xR200, xR80

Varian Semiconductor Equipment (now Applied Materials): VIISta Trident, PLAD, VIISta HCS, VIISta HCP +/-, VIISta 80, E1000, VIIStion 200, VIIStion 200+, VIIStion 80+, VIISta HC, 120-10, 120XP, 160XP, 180XP, 80XP, VIISta 3000, Genus, Kestrel, VIISta 810 XE/XER, VIISta 900 XPT, VIIStion, E220, E500, VIISta 810, VIISta 810 XE, VIISta 900, VIISta 900XP, 300D, 300XP, 350D


Nissin: NH80, PR80, Exceed 3000, CLARIS, EXCEED2000A/2000AH, EXCEED2300AV, EXCEED3000AH, EXCEED9600A, NH20, NH45


Ulvac: IH-860, IDZ-7000, IDZ-8001, IDZ-9001, IM-200, IW-630

Online product catalogue.
Check out our online product catalogue with implanter spare parts in OEM quality as well as components with our improved Plansee design for longer lifetime and easier handling: ionimplant.plansee.com.

For existing customers our catalogue offers further features: recall your order, delivery status and invoice. Just contact us at ionimplantation(at)plansee.com to get your personal login.

**An example? Cutting costs with Plansee MRS vanes.**

Wherever we see the potential to improve standards and save our customers time and money, we offer Advanced Standard Solutions. Taking the equipment manufacturer's original spare parts as our starting point, we optimize the geometries and material compositions. Would you like to put us to the test? We'll be happy to oblige. You get improved spare parts to try out at a very economical price. So that you can be completely certain.

MRS plate in compliance with the OEM standard

Improved design for a longer service life
In the IIP process, the MRS vane filters out the ions which do not have the correct charge or mass. Only the ions that pass through the mass resolution slot continue on their path to the wafer. The MRS vane is exposed to abrasion caused by the collision of the ion beam. An angle at the side facet minimizes this abrasion. However, the IIP process also involves chemical reactions and wear that are all the greater, the more acute the angles at the relevant surfaces are. By way of a compromise, an angle of 92 °C is used in the OEM standard part.

But we are not content to make compromises and have further improved the original part: To do this, we construct the area where the ion beam impacts with the greatest force almost as a right angle. In contrast, the areas at the edge - which are primarily affected by chemical and thermal reactions - are produced with only shallow angles.

To make sure that our customers are supplied with the perfect product, we are also very fussy about the materials we use. Conventional graphite is extremely coarse-grained and can cause high levels of particle formation during the process. For manufacturers of electrical components involving particularly small-scale structures, this type of impurity can cause major problems. We offer our customers a particularly hard, robust graphite. This is significantly less vulnerable to abrasion and consequently reduces the formation of particles during the process.

And the improvements we make at Plansee bring great benefits for our customers. Advanced Standard MRS vanes last up to three times longer than conventional OEM models.

Interested? We are here.

An idea is only as good as the way it is put into practice. Tell us what challenge you are facing. Our IIP specialists are active worldwide. You need us directly on site? That's not a problem. We'll be there in less than 48 hours. Guaranteed!