



宝鸡志普有色金属加工有限公司
Baoji Zhi Pu non-ferrous metals processing Co., Ltd.



公司介绍

Company introduction

宝鸡志普有色金属加工有限公司成立于2003年初，致力于难熔金属行业深加工领域，十三年来一直紧密围绕国内真空应用行业，尤其针对高温真空炉、高温气氛炉以及高温炉内钨、钼、钽各类配件、部件提供精加工产品，在技术研发方面、炉型改造方面、国内外真空炉结构技术交流方面以及难熔金属深加工技术探索方面都具备了相当的经验和技术积累，现已成为国内高温真空炉材料和加热室主要供应商和配套商。目前，志普公司被授予高新技术企业，陕西省知名商标企业，并通过世界权威第三方真实性认证公司——德国莱茵公司的真实性认证。现已形成了总资产9300万元，从业人数117人，其中高级工程技术人员8名，中级技术人才36名，大专及以上学历人数占到职工总人数的63%的职工队伍。

近几年，公司根据新市场的变化和需求，与相关国内大学、研究院所合作，建立了“技术研发中心”，针对光伏装备设备、人造蓝宝石装备设备进行研发和难熔金属的炉内配套生产。产品现已形成四大系列分支：各类高温真空炉钨、钼、钽材料配套产品；“提拉法”生长各类半导体晶体“软轴”——钨丝绳系列产品；钨、钼、钽、铌难溶材料轧制板材（片材）系列产品；各类膜片及电极系列产品。公司现已形成专利20项，部分技术和产品填补国内空白。

产品具体名录：

- 一、各类高温真空炉内钨钼钽配件及加热室产品系列；
- 二、光伏行业各类长晶炉钨钼配套产品系列；
- 三、蓝宝石行业各类单晶炉热场、钨钼配件产品系列；
- 四、各类仪器仪表膜片及电极产品系列。

Baoji Zhipu non-ferrous metals processing co., ltd was established in 2003 and specialized in deep processing of refractory metals field. In 13 years' time, we have been focusing on tungsten, molybdenum and tantalum finish machining parts in vacuum application industry, especially on vacuum furnace, atmosphere furnace and high temperature furnace. We have accumulated quite experience and technology in technology research and development, furnace transformation, vacuum furnace structure technical exchange and refractory metals'deep processing technological exploration and have been to main supplier of vacuum furnace material and heating room. Now, Zhipu Company is awarded to high-tech enterprise, Shaanxi well-known trademark enterprise and is authorized by the world third party company---- TUV Rhineland Germany. So far, our total assets have 93 million Yuan and 117 employees, among of them, 8 senior engineering and technical employees, 36 intermediate technical employees and more than 63% employees above college education degree.

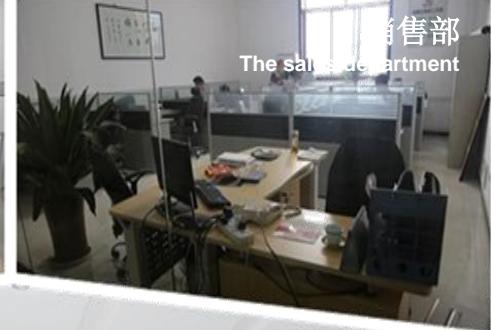
In recent years, according to change and demand of new market, company have cooperated with domestic university and research institute and established technology research and development center, aiming at in research of photovoltaic equipment, synthetic sapphire equipment and refractory metals' furnace parts. Our products have four series branch: tungsten, molybdenum and tantalum parts in all kinds of high temperature furnace; tungsten wire rope and other series products for pulling method of all kinds of semiconductor crystal growth; tungsten, molybdenum, tantalum and niobium refractory metals' plates, bars, wires, tubes; various diaphragms and electrodes. Now, we have 20 patents and some of technologies and products are filled of domestic blank.

Products lists:

1. Tungsten, molybdenum and tantalum parts and heating room series products in all kinds of high temperature furnace;
2. Tungsten, molybdenum products in crystal furnace of PV industry;
3. Various single crystal furnaces thermal field tungsten and molybdenum products in sapphire industry;
4. Diaphragms and electrodes products in various instruments.

公司环境

Company environment



荣誉证书

Honorary certificate



专利证书

Letters patent



符志椿

西南政法大学涉外经济法律专业，清华大学工商管理MBA硕士；
宝鸡志普有色金属有限公司创始人；
宝鸡志普有色金属加工有限公司法人代表；
民革党员、陈仓区政协委员；
1993年宝鸡市渭滨区第十三届人民代表大会人民陪审员；
1995年—1997年，担任中美合资西部影视公司办公室主任；
1997年—2000年，担任宝鸡华普稀有金属加工有限公司办公室主任兼营销部部长；
2000年—2002年，担任宝鸡市科迪普金属加工有限公司常务副总经理；
2003年创建宝鸡志普有色金属加工有限公司，担任董事长兼总经理。

座右铭：天行健，君子以自强不息；地势坤，君子以厚德载物。



Fu zhichun

Southwest university of political science and law in foreign-related economic laws major, tsinghua university MBA;
The founder of Baoji zhipu non-ferrous metal processing co .,ltd;
The legal representative of Baoji zhipu non-ferrous metal processing co .,ltd;
The party member, CPPCC member in chencang district ;
In 1993 Baoji weibin district the thirteenth session of the National People's Congress of people's juror;
In 1995-1997, a sino-us joint venture, director of the office of the western film and television company;
In 1997-2000, served as Baoji huapu metal processing co., LTD., director of the office and secretary of Marketing Department;
In 2000-2002, served as Baoji kedipu metal processing co., LTD., deputy general manager;
In 2003,found Baoji non-ferrous metal processing co., LTD., chairman and general manager.

Motto: day line, the gentleman with unyielding; Of topography, the gentleman to hold world with virtue.

技术研发团队

Technology research and development team



武开明
高级工程师
从事难熔技术研发38年，擅长车间生产管理与生产组织。

座右铭：不要质量就是放弃生命。

Wu kaiming
Senior engineer
Working on refractory metals technical research 38 years, and good at management workshop production and organization.
Motto: give up quality means giving up life.

姚小龙
高级技术工程师
从事技术操作管理35年，擅长技术攻关与生产难题的攻克。

座右铭：没有攻克不了的难题，只有不愿攻克的人。

Yao xiaolong
Senior technical engineer
Working on technical operation 35 years and skilled in solve technical breakthrough.
Motto: There is no problem, master only people who do not want to conquer.

李侠
高级工程师
从事难熔生产技术工艺27年，擅长产品设计、工艺编制及优化。

座右铭：细节决定成败。

Li xia
Senior engineer
Working on refractory metals technology 27 years and skilled in production design and process plan.
Motto:
Details determine success or failure .

团队风采

Team's mien



公司生产设备

The company production equipment



冷轧机设备
Cold rolling machine



无尘净化车间
Dust-free purification workshop



数控加工设备
Numerical control processing equipment



无尘净化车间
Dust-free purification workshop



热轧机设备
Hot rolling machine



无尘净化车间
Dust-free purification workshop

公司生产设备

The company production equipment



液压闸式剪板机
Hydraulic brake type shearing machine



理化实验室
Physics and chemistry lab



真空氩弧焊
Vacuum argon arc welding



深加工车间
Fabrication department



四柱式油压机
Four-column type hydraulic press



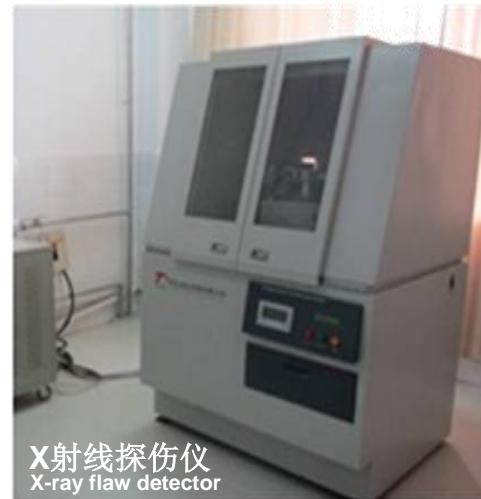
等静压设备
Isostatic equipment

公司生产设备

The company production equipment



水切割机
Waterjet cutting machine



X射线探伤仪
X-ray flaw detector



卷板机
Veneer reeling machine



磨床
Grinding machine



数控机床
Numerically controlled machine



铆接机
Riveting machine



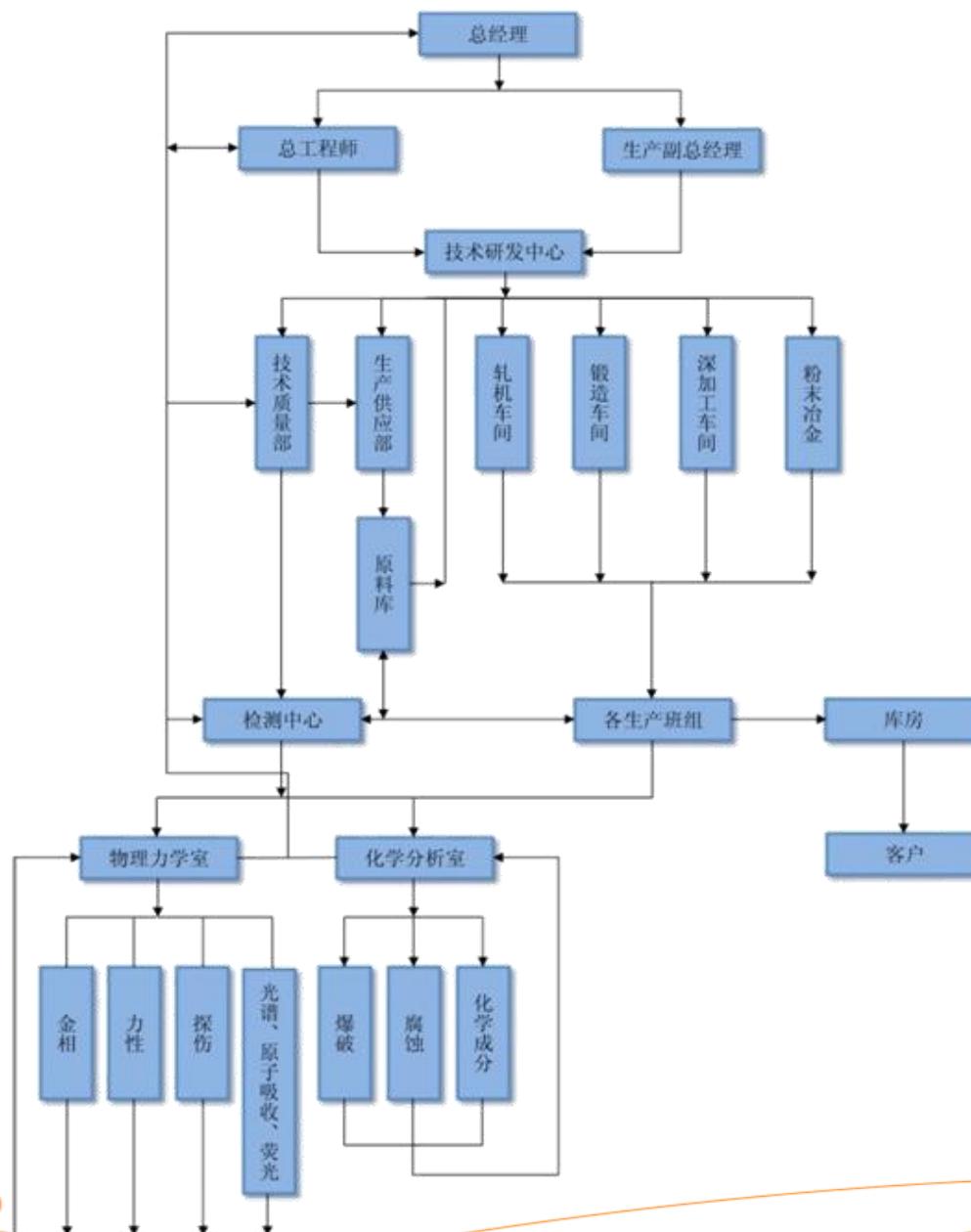
钻孔机
Drilling machine



液压机
Hydraulic machine

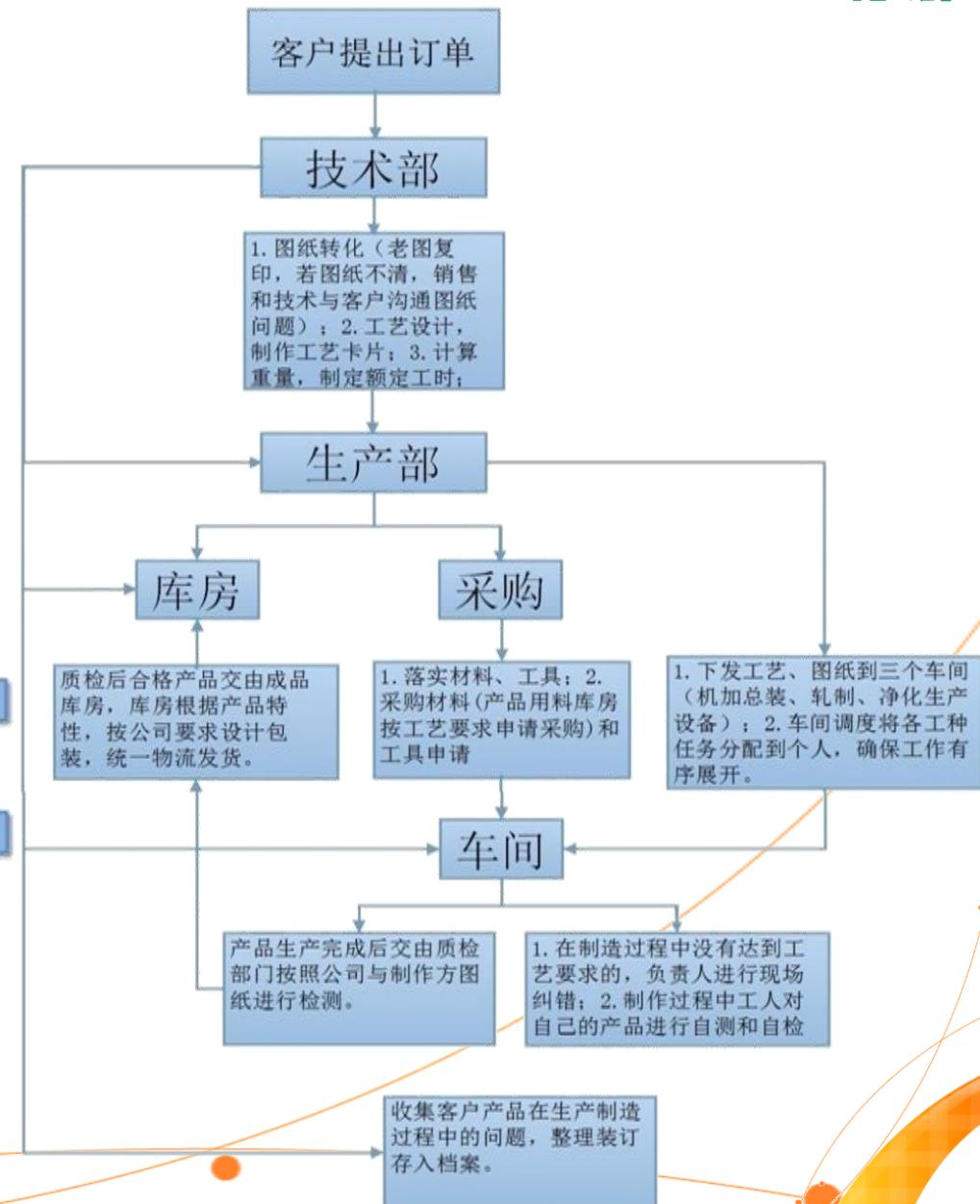
质量管理体系

The quality management system



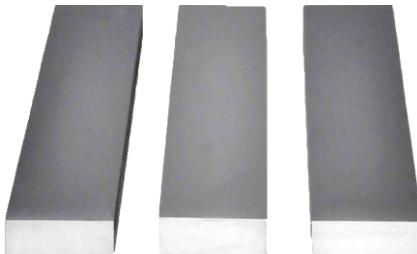
质量控制体系

The quality control system

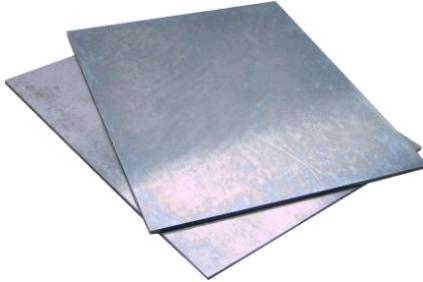


钨及钨合金加工制品

Tungsten and tungsten alloy products processing



钨板
Tungsten plate



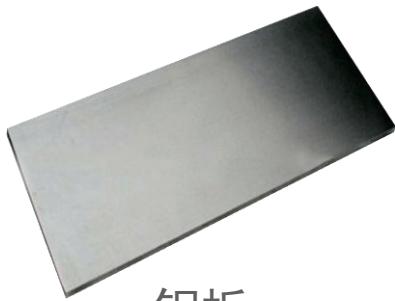
钨片
Tungsten sheet



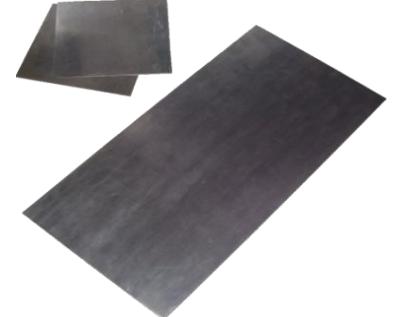
钨箔
Tungsten foil

志普公司钨板规格及技术参数													(单位: mm)						
片板厚度	材质	加工状态		尺寸		加工状态					尺寸		压冲性能						
一般允许差 ±10%	纯W _u ≥ 99.96%	热轧退 火态+ 碱洗	机械 加工	最大 宽度	最大 长度	喷砂	机械加 工+喷 砂	机械加 工+高 温热处 理	喷砂	机械加 工+喷 砂	机械加 工+高 温热处 理	最大 宽度	最大 长度	硬度 (HV)	平面度 (%)	冲压强 度 (mm)	抗拉强 度 (MPa)	延伸率 (%)	
0.10-0.15	○			350	1000									267-434	≤4.5	≥2.5	686- 980	0.37- 8.4	
0.16-0.19	○			350	1000											≥2.8			
0.20-0.29	○			750	2000											≥3.1			
0.30-0.39	○			750	2000											≥3.4			
0.40-0.49	○			750	2000											≥3.7			
0.50-0.59	○			750	2000											≥4.1			
0.60-0.69	○			750	2000											≥4.5			
0.70-0.79	○			750	2000				○	○		750	2000						
0.80-0.89	○			750	2000				○	○		750	2000						
0.90-0.99	○			750	2000				○	○		750	2000						
1.0-1.4	○	○	○	750	2000	○	○		○	○	○	750	2000		≤3.5			248- 410	0.37- 8.4
1.5-1.9	○	○	○	600	1500	○	○	○	○	○	○	600	1500						
2.0-2.4	○	○	○	600	1500	○	○	○	○	○	○	600	1500						
2.5-2.9	○	○	○	600	1500	○	○	○	○	○	○	600	1500						
3.0-3.4	○	○	○	600	1500	○	○	○	○	○	○	600	1500						
3.5-3.9	○	○	○	600	1200	○	○	○				600	1200						
4.0-4.9	○	○	○	600	1200	○	○	○				600	1200						
5.0-5.9	○	○	○	500	1200	○	○	○				500	1200						
6.0-6.9	○	○	○	500	1000	○	○	○				500	1000						
7.0-9.9	○	○	○	500	1000	○	○	○				500	1000						
10.0-11.9	○	○	○	500	1000	○	○	○				500	1000		248- 410			0.37- 8.4	
12.0-14.9	○	○	○	500	500	○	○	○				500	500						
15.0-19.9	○	○	○	500	500	○	○	○				500	500						
20.0-25.0	○	○	○	500	500	○	○	○				500	500						

钼及钼合金加工制品
Molybdenum and molybdenum alloy products processing



钼板
Molybdenum plate

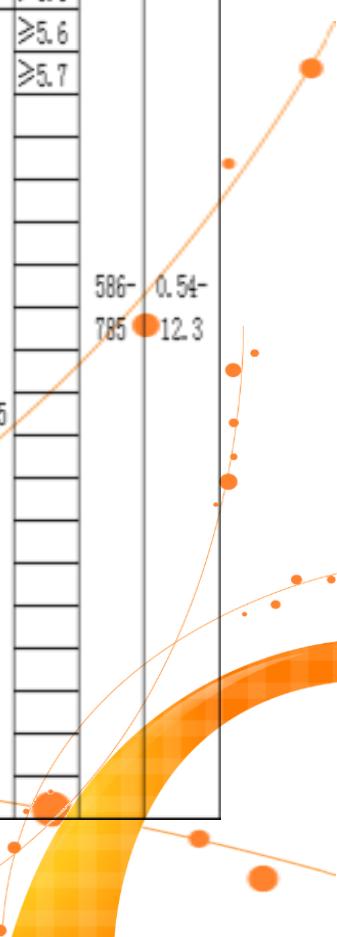


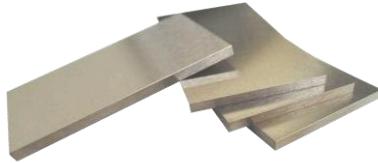
钼片
Molybdenum sheet



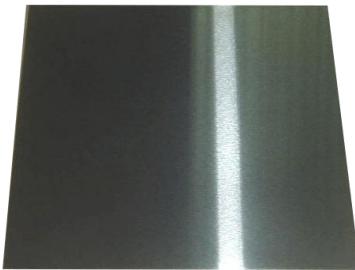
钼箔
Molybdenum foil

片板厚度	材质					加工状态			尺寸			加工状态			尺寸			冲压性能							
	一般允许差±10%	纯Mo≥99.98%	添加La	添加钼	添加AlSiK	热轧硬态	热轧退火态+碱洗	机械加工	冷轧硬态	冷轧退火态+酸洗	机械加工	最大宽度	最大长度	喷砂	机械加工+喷砂	机械加工+温热处	机械加工+喷砂	机械加工+温热处	最大宽度	最大长度	硬度(HR)	平面度(%)	冲压强度(Nm)	抗拉强度(MPa)	延伸率(%)
0.10-0.15	0	0	0	0	0	0	0	0	450	1000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥3.0	≥3.7	≥4.0
0.16-0.19	0	0	0	0	0	0	0	0	450	1000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥4.0	≥4.9	≥5.3
0.20-0.29	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.30-0.39	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.40-0.49	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.50-0.59	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.60-0.69	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.70-0.79	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.80-0.89	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
0.90-0.99	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
1.0-1.4	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
1.5-1.9	0	0	0	0	0	0	0	0	750	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
2.0-2.4	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
2.5-2.9	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
3.0-3.4	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
3.5-3.9	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
4.0-4.9	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
5.0-5.9	0	0	0	0	0	0	0	0	600	2000	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
6.0-6.9	0	0	0	0	0	0	0	0	600	1500	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
7.0-9.9	0	0	0	0	0	0	0	0	600	1500	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
10.0-11.9	0	0	0	0	0	0	0	0	600	1500	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
12.0-14.9	0	0	0	0	0	0	0	0	600	600	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
15.0-19.9	0	0	0	0	0	0	0	0	600	600	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8
20.0-25.0	0	0	0	0	0	0	0	0	600	600	0	0	0	0	0	0	0	0	0	0	240-330	≤4.5	≥5.6	≥5.7	≥5.8





钽板
Tantalum plate



钽片
Tantalum sheet

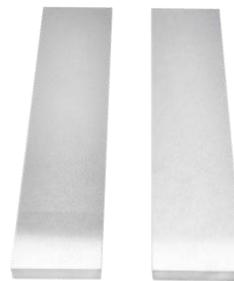


钽箔
Tantalum foil

片板厚度	材质	加工状态		尺寸		压冲性能						
		冷轧硬态	冷轧退火态+酸洗	机械加工	最大宽度	最大长度	硬度(HV)	平面度(%)	冲压强度杯突值(mm)	抗拉强度(MPa)	屈服强度(MPa)	延伸率(%)
一般允许差±10%	纯Ta≥99.95%	≤5	115-135	≤4.5	0.10-0.15	O	O	O	450	1000	≥12	207-481
0.16-0.19	O	O	O		450	1000			≥12			
0.20-0.29	O	O	O		750	2000			≥12			
0.30-0.39	O	O	O		750	2000			≥12			
0.40-0.49	O	O	O		750	2000			≥15			
0.50-0.59	O	O	O		750	2000			≥15			
0.60-0.69	O	O	O		750	2000			≥15			
0.70-0.79	O	O	O	O	750	2000			≥15			
0.80-0.89	O	O	O	O	750	2000			≥15			
0.90-0.99	O	O	O	O	750	2000			≥15			
1.0-1.4	O	O	O	O	750	2000			≥18			
1.5-1.9	O	O	O	O	750	2000			≥18			
2.0-2.4	O	O	O	O	700	2000			≥18			
2.5-2.9	O	O	O	O	700	2000			≥18			
3.0-3.4	O	O	O	O	700	2000			≥18			
3.5-3.9	O	O	O	O	700	2000			≥20			
4.0-4.9	O	O	O	O	700	2000			≥20			
5.0-5.9	O	O	O	O	700	2000			≥20			
6.0-6.9	O	O	O	O	700	2000			≥20			
7.0-9.9	O	O	O	O	700	2000			≥20			
10.0-11.9	O	O	O	O	700	2000			≥20			
12.0-14.9	O	O	O	O	700	2000			≥20			
15.0-19.9	O	O	O	O	700	2000			≥20			
20.0-25.0	O	O	O	O	700	2000			≥20			

铌及铌合金加工制品

Niobium and Niobium alloy products processing



铌板
Niobium plate



铌片
Niobium sheet



铌箔
Niobium foil

片板厚度	材质	加工状态		尺寸		布氏硬度	平面度 (%)	压冲性能			延伸率 (%)
		冷轧硬态	冷轧退火态+酸洗	机械加工	最大宽度			冲压强度 杯突值 (mm)	抗拉强度 (MPa)	屈服强度 (MPa)	
一般允许差±10%	纯Nb≥99.96%	冷轧硬态	冷轧退火态+酸洗	机械加工	最大宽度	最大长度	布氏硬度	平面度 (%)	冲压强度 杯突值 (mm)	抗拉强度 (MPa)	屈服强度 (MPa)
0.10-0.15	○	○	○		450	1000	≤5	≥20	125-195	85-125	20-25
0.16-0.19	○	○	○		450	1000		≥20			
0.20-0.29	○	○	○		750	2000		≥20			
0.30-0.39	○	○	○		750	2000		≥20			
0.40-0.49	○	○	○		750	2000		≥21			
0.50-0.59	○	○	○		750	2000	5.6-6.0	≥21			
0.60-0.69	○	○	○		750	2000		≥21			
0.70-0.79	○	○	○	○	750	2000		≥21			
0.80-0.89	○	○	○	○	750	2000		≥21			
0.90-0.99	○	○	○	○	750	2000		≥21			
1.0-1.4	○	○	○	○	750	2000		≥23			
1.5-1.9	○	○	○	○	750	2000		≥23			
2.0-2.4	○	○	○	○	750	2000		≥23			
2.5-2.9	○	○	○	○	750	2000		≥23			
3.0-3.4	○	○	○	○	750	2000		≥23			
3.5-3.9	○	○	○	○	750	2000		≥25			
4.0-4.9	○	○	○	○	750	2000		≥25			
5.0-5.9	○	○	○	○	750	2000		≥25			
6.0-6.9	○	○	○	○	750	2000		≥25			
7.0-9.9	○	○	○	○	750	2000		≥25			
10.0-11.9	○	○	○	○	750	2000		≥25			
12.0-14.9	○	○	○	○	750	2000		≥25			
15.0-19.9	○	○	○	○	750	2000		≥25			
20.0-25.0	○	○	○	○	750	2000		≥25			

钨、钼、钽、铌、及合金加工棒杆丝

Tungsten, molybdenum, tantalum, niobium, and alloy wire rod rod



牌号: M01、M02、MoW20、
TZM、ZPM、W1、W2、
Ta1、Ta2、Nb1、Nb2、
Zr1、Zr2、WAL1、WAL2

技术条件: 符合GB4186-84
GB/T14841-93
GB41988-84

供货状态: 烧结态或者锻造加工态

加工方法: 锻造、车光磨光

规格: $\varphi 2$ - $\varphi 120$ mm



Designation: M01、M02、MoW20、
TZM、ZPM、W1、W2、
Ta1、Ta2、Nb1、Nb2、
Zr1、Zr2、WAL1、WAL2

Technical requirements: Up to the
standard GB4186-84、GB/T14841-93、
GB41988-84

Supply condition: sintered or forged

Processing method: forged or polished

Size: $\varphi 2$ - $\varphi 120$ mm

真空炉加热室钨钼配件

Vacuum furnace heating chamber tungsten molybdenum parts



志普公司针对真空炉市场的需求，专业生产供应加热室高温金属配件：发热体、隔热屏、料盘、料架、料舟、料盒、及炉用标准加工件。承接各种非标真空炉的设计与制造。

ZHIPU company according to vacuum furnace demands of markets, Specialized in producing and supplying high temperature metals accessories for heating room.such as Heating element, heat shield, tray, rack, boat, material box, and using standard mechanical parts.And we also design and produce various non-standard parts of vacuum furnace.



材质：钨、钼

纯度： $W \geq 99.95\%$

种类：焊接隔热屏、铆接隔热屏

产品分类：圆筒形的侧热屏和圆台形的端热屏（上热屏、下热屏）

产品规格：根据客户要求加工订制各种形状规格尺寸的真空炉整机

真空炉加热室主要用于真空烧结炉、真空退火炉、真空淬火炉、真空熔炼炉等。真空炉内温度一般在 1100°C — 2100°C 。整体加热室主要由不锈钢、钨、钼以及钽材料构成。

Material:Tungsten、Molybdenum

Purity: $W \geq 99.95\%$

Categories: welding heat insulation screen, riveted panel

Products category: the side heat shield and frustum of a cone shape of the end of the cylindrical heat screen

Specification:processing various sizes vacuum furnace machine according to customers' requirements

Vacuum furnace heating room is mainly used for vacuum sintering furnace, vacuum annealing furnace, vacuum quenching furnace, vacuum melting furnace, etc. Usually in the vacuum furnace temperature of 1100°C to 2100°C . Overall heating chamber is mainly made up of stainless steel, tungsten, molybdenum and tantalum material.

单晶炉钨钼配件

Single crystal furnace tungsten molybdenum parts



根据客户需求提供各种炉型的钨钼配件：钼材料重锤，钼材料籽晶夹头，钼材料导流筒，钼吊钩，钼丝，钨丝绳，高硬度合金榔头，钼材料二次进料系统。

We can provide various tungsten,molybdenum accessories parts according to customers' requirements.such as molybdenum heavy hammer,molybdenum seed crystal clip,molybdenum diversion tube,molybdenum alloy hook,molybdenum wire,tungsten wire rope,high hardness alloy hammer,molybdenum secondary feeder.



钨丝绳 (钨软轴)

Tungsten wire rope



钨丝绳是单晶炉提拉系统的关键部位，随着客户对单晶炉要求的不断的提高，公司针对钨丝绳两端头承载力处理的技术课题，经过反复试验各类材料、尝试多种工艺的摸索，得到的良好的解决方法，并就此向中国专利局申请发明专利。结合国外高科技钨丝绳产品与本企业专有的技术，服务国内外光伏、IC行业。

Tungsten wire rope is the key parts of single crystal furnace lift system. As the requirement of the customer to single crystal furnace continuous improvement, the company for two end bearing capacity of processing technology of tungsten wire rope subjects, after repeated experiments of all kinds of material, try a variety of craft, obtained a good solution, and to apply for a patent for invention of the Chinese Patent Office. Combined with foreign high-tech tungsten wire rope products and the company's proprietary technology, Photovoltaic, IC industry at home and abroad services.



钨丝绳软轴的特点:

耐高温、无磁性、超柔软、耐磨损、抗腐蚀、不延伸、不缠绕、强度大

材料: W1, WA1

纯度: W≥99.95%

应用: 单晶炉配件

结构: 7*7*7、19*7、4*19*7、7*7*19

规格: Φ2.5*L、Φ2.0*L、Φ1.8*L、Φ3.0*L

参数:

Φ2.5切断负荷 (N) : 6700.00 高温负荷 (N) : 2820.00

Φ2.0切断负荷 (N) : 4010.20 高温负荷 (N) : 1800.00

Φ1.8切断负荷 (N) : 3700.00 高温负荷 (N) : 1570.00

The features of tungsten wire rope:

High temperature resistance, nonmagnetic, super soft, wear resistance, corrosion resistance, no stretch, no entangled, good strength.

Material: W1, WA1

Purity: W≥99.95%

Application: single crystal furnace accessories

Construction: 7*7*7、19*7、4*19*7、7*7*19

Specification: Φ2.5*L、Φ2.0*L、Φ1.8*L、Φ3.0*L

Parameters:

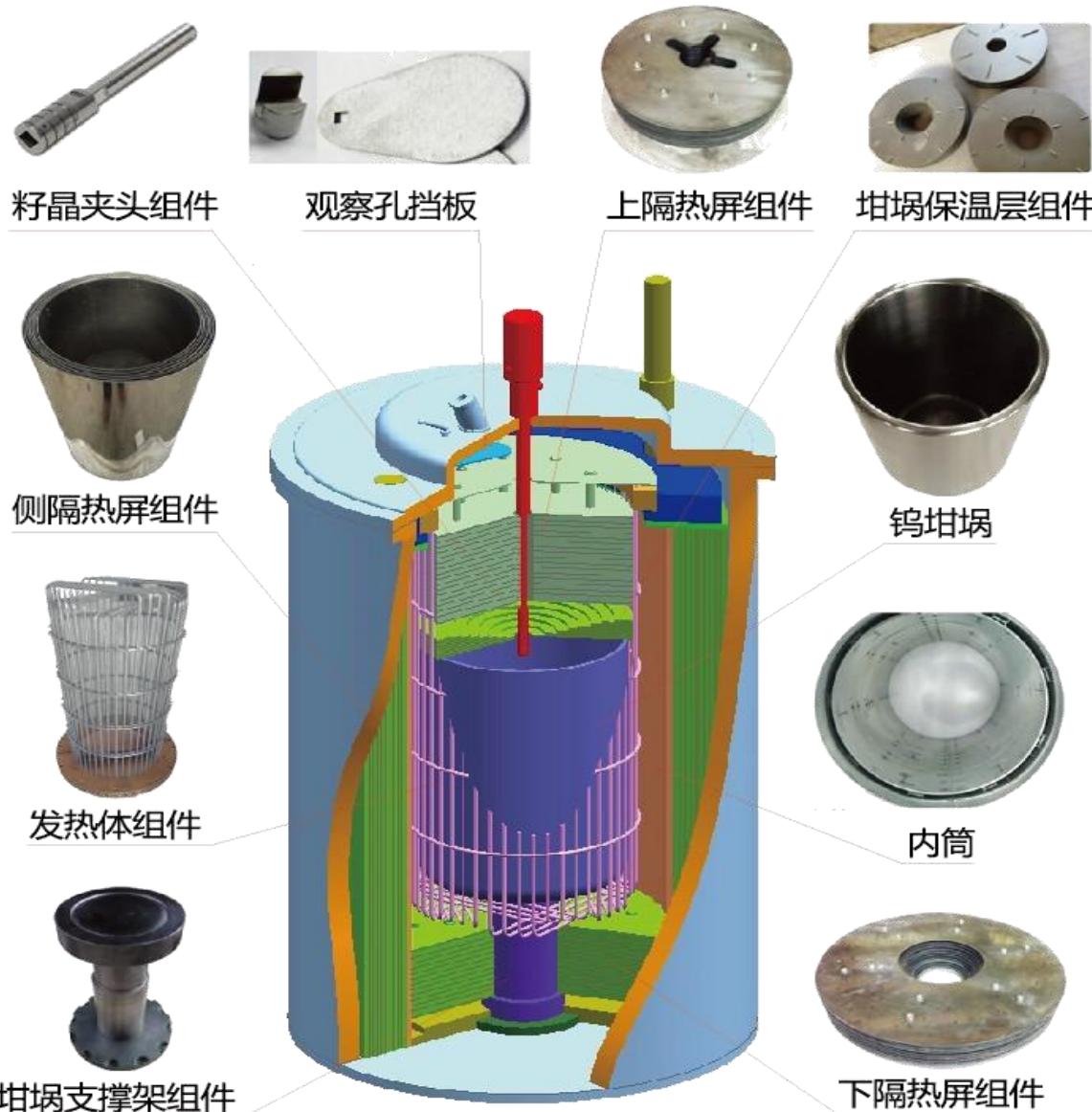
Φ2.5Cut off the load(N):6700.00,high temperature load (N): 2820.00

Φ2.0Cut off the load(N):4010.20,high temperature load (N): 1800.00

Φ1.8Cut off the load(N):3700.00,high temperature load (N): 1570.00

蓝宝石长晶炉热场钨钼配件

W and Mo parts in sapphire crystal furnace thermal field



KY法蓝宝石长晶炉热场钨钼制品示意图

志普公司针对蓝宝石长晶炉“热场”部分，集国内传统工艺、结构和近几年国外先进炉型，陆续向市场推出蓝宝石长晶炉专用钨网发热体、鸟笼结构钨发热体、钨坩埚/钼坩埚、发热体、钨筒、隔热屏、支撑、底座、籽晶杆、坩埚盖等蓝宝石长晶炉的热场部件。并可为客户提供优质的30Kg、60Kg、90Kg、120Kg全套蓝宝石长晶炉热场及热场中的钨钼部件。

ZHIPU company specialized in Sapphire crystal growth furnace "thermal field " parts. Set the domestic traditional process, structure, and in recent years the foreign advanced type furnace, Continue to market the sapphire crystal furnace tungsten meshes for heating element, long cage structure tungsten heater, the tungsten crucible/molybdenum crucible, heating element, tungsten tube, heat insulation screen, support and base, seed rod, crucible cover etc. sapphire crystal growth furnace thermal field components. And we can provide customers with high-quality 30 kg, 60 kg, 90 kg, 120 kg full set of sapphire crystal growth furnace tungsten,molybdenum parts of thermal field and thermal field.

蓝宝石长晶炉热场钨钼配件

W and Mo parts in sapphire crystal furnace thermal field



钨杆发热体：

纯度: W≥99.95%;

密度: ≥19.1g/cm³;

应用温度环境: ≤2400°C;

铜基座: 纯度Cu≥99.95%;

密度: ≥8.8%;

应用温度环境: ≤1000°C;

Tungsten heating elements :

Purity: 99.95%

Density: 19.1g/cm³

Application temperature environment: ≤2400°C

Cooper base: Cu≥99.95%

Denisity: ≥8.8%

Application temperature environment: ≤1000°C



钨 杆 发 热 体	钨杆 直径	直径 公差	发热体 宽度	宽度 公差	发热体 高度	高度 公差	底部形状及弯曲半径设计 根据客户要求定制
	3.0	±0.1	≤650	±1	≤1200	±1	
4.0	±0.1	≤600	±1	≤1150	±1		
5.0	±0.1	≤550	±1	≤1100	±1		
6.0	±0.2	≤550	±1	≤1050	±1		
7.0	±0.2	≤500	±1	≤1000	±1		
8.0	±0.2	≤500	±1	≤950	±1		
9.0	±0.2	≤450	±1	≤900	±1		

铜 基 座	根据客户要求定制，采用数控机床加工。						
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钨 杆 发 热 体	序号	生产工艺	生产设备	质量检验点
	1	钨杆		1、理化性能； 2、长度、直线度、直径、椭圆度； 3、表面质量
	2	清洁		
	3	检验		
	4	弯折或者冲压	折弯机	1、长宽尺寸； 2、圆弧半径； 3、表面质量
	5	校正	校正模具	
	6	检验		
	7	线切割	线切割	1、表面质量； 2、外型尺寸、圆弧半径、按图公差； 3、出示质量证明书
	8	清洁		
	9	检验		
	10	包装		

蓝宝石长晶炉热场钨钼配件

W and Mo parts in sapphire crystal furnace thermal field



钨发热体组件做为蓝宝石晶体生长炉内的热源，对钨坩埚内的熔液形成湍流、产生径向温度梯度具有决定性的作用。因此，具有高纯度、高密度、制作精良、设计合理的钨发热体组件对蓝宝石晶体的质量控制，节约能源以及使用寿命具有重要意义。



产品名称: 钨网发热体

材质牌号: W1

执行标准: GB3875-83

产品规格: Φ0.3-Φ4

钨丝的表面: 光亮表面

钨丝网是由钨丝编制而成，用于超高温
真空退火炉。

Product name: tungsten net heating element

Material grades: W1

Execution standard: GB3875-83

Product specifications: Φ0.3-Φ4

The surface of the tungsten wire: bright surface
Tungsten wire mesh is composed of tungsten
preparation for ultra high temperature vacuum
annealing furnace.

蓝宝石长晶炉热场钨钼配件

W and Mo parts in sapphire crystal furnace thermal field



钨、钼坩埚

Tungsten、molybdenum crucible

生产工艺流程：

钨、钼粉—压制—烧结—锻锤—技术加工—成品检验—包装—发货

Technological process:

W、Mo powder—pressed—sintered—forged—technological processing—finished products inspected—packaged—delivered

产品	钨钼坩埚
表面	车光，磨光，烧结坩埚
纯度	99.95%
密度	≥10.1g/cm ³
规格	Φ30-450mm (外径最大Φ450mm, 内径最大Φ430mm) 高度30-800mm
执行标准	美标B386 B387和国标

杂质含量报告 (%)					
Fe	Ni	C	Al	O	N
0.004	0.0006	0.001	0.0005	0.0048	0.002
Si	Ca	Mg	Cd	Sb	Sn
0.0013	0.001	0.0005	<0.001	<0.0005	<0.0005
P	Cu	Pb	Bi	Mo	
<0.001	<0.0005	<0.0005	<0.0005	>99.95%	

直径 (mm)	公差 (mm)
<6	±0.1
6--30	±0.2
30-120	±0.3
120-400	±0.5
400-1000	±0.8



Seed crystal clip

A、Physical and chemical properties:

- 1、Purity: Mo≥99.95%、W≥99.95%;
- 2、Denisity: Mo≥10.2g/cm³、W≥19.2g/cm³;
- 3、Temperature environment: ≤2300°C;
- 4、Thermal expansivity(0—1600C):Mo:6×10-6、W:4.98×10-6
- 5、Yield strength: Mo(1600°C):50MPa、W(2080°C):25MPa;
- 6、Perfect recrystallization temperature:W 2050°C、Mo 1050°C.

B、Product dimensions and tolerances: seed crystal rod custom processing specific dimensions and tolerances according to customer's drawings. More than long sapphire crystal furnace tungsten molybdenum parts according to the drawings of the technical requirements for the design and manufacture, meet the requirements of customers, implement GB/T1804-200, GB1801-79, GB3875-83, GB8918-2006 and the company internal control standard—inspection—packaging—delivery technology processing.

籽晶夹头

一、产品物理、化学性能：

- 1、纯度: Mo≥99.95%、W≥99.95%;
- 2、密度: Mo材质≥10.2g/cm³、W材质≥19.2g/cm³;
- 3、应用温度环境: ≤2300°C;
- 4、热膨胀系数 (0—1600°C) : Mo: 6×10⁻⁶、W: 4.98×10⁻⁶;
- 5、屈服强度: Mo (1600°C) : 50MPa、W (2080°C) : 25MPa;
- 6、完全再结晶温度: W约2050°C、Mo约1050°C。

二、产品尺寸和公差: 粒晶杆具体尺寸和公差按客户图纸定制加工。

以上蓝宝石长晶炉钨钼配件按照图纸的技术要求进行设计制造，满足客户的要求，执行GB/T1804-200, GB1801-79, GB3875-83, GB8918-2006及志普公司内控标准。技术加工—成品检验—包装—发货。

离子源钨钼配件

Ion source of tungsten and molybdenum parts

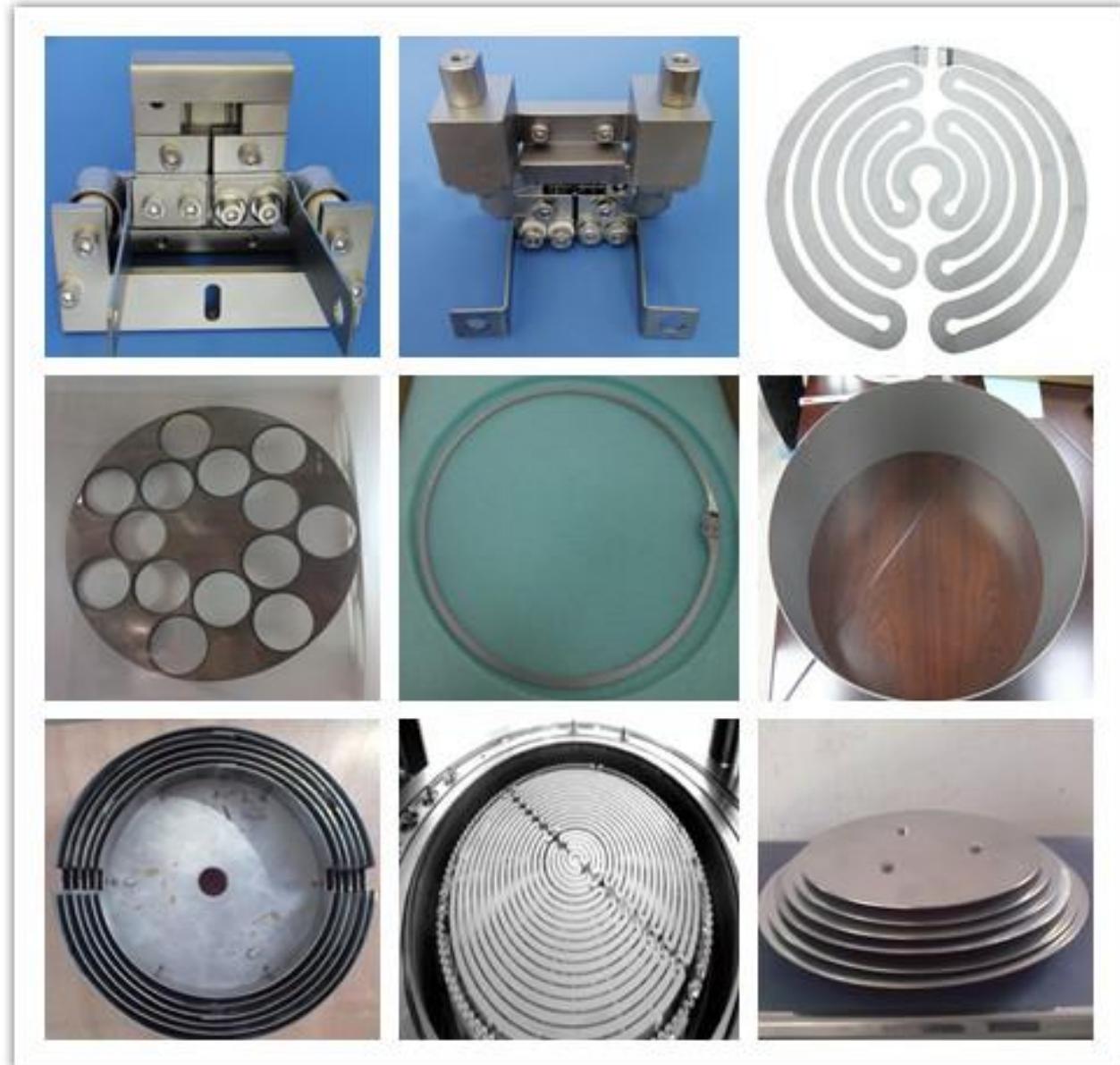


离子源是使中性原子或分子电离，并从中引出离子束流的装置。它是各种类型的离子加速器、质谱仪、电磁同位素分离器、离子注入机、离子束刻蚀装置、离子推进器以及受控聚变装置中的中性束注入器等设备的不可缺少的部件。

Ionization ion source is the neutral atoms or molecules, and to extract ion beam device. It is various kinds of ion accelerator, mass spectrometer, electromagnetic isotope separator, ion implantation, ion beam etching device, ion thruster and controlled fusion device in the neutral beam injector equipment such as indispensable components.

MOCVD外延设备及半导体钨、钼配件

Tungsten, molybdenum parts of MOCVD epitaxy equipment and semiconductor



半导体晶体外延设备难熔钨钼配件：

GaN-MOCVD设备集精密机械、电子、光学、化学、计算多学科为一体，是一种自动化程度高、价格昂贵、技术集成度高的尖端光电子专用设备，用于GaN系半导体材料的外延生长和发光二极管（LED）芯片的制造。MOCVD设备专用钨、钼配件：上下隔热片、钨中段加热器、中电极板、百叶阀隔热环、冷却隔热板等深加工产品。

Semiconductor epitaxy equipment refractory tungsten molybdenum parts: GaN - MOCVD equipment set precision machinery, electronics, optics, chemistry, computing the multidisciplinary is an organic whole, is a high degree of automation, the price is expensive, high technology integration of cutting-edge optoelectronic specialized equipment, used for GaN epitaxial growth of semiconductor materials and the manufacture of light-emitting diode (LED) chip. MOCVD equipment dedicated tungsten, molybdenum parts: upper and lower heat insulation piece, tungsten heater in middle, CLP plate, shutter valve insulation, cooling and heat insulation board such as deep processing products.



公司针对仪器仪表行业中特种隔膜压力表和电磁流量计的重要耐腐蚀配件-膜片、法兰、电极、接地环等自身的材料优势，精确的加工工艺，为客户提供钽、钛、镍、哈B、哈C、蒙乃尔、316L等不同材质的产品，其性能执行GB3629-83、GB3628-1995标准
注：可根据客户的需求，生产、加工各种规格的膜片、法兰、电极、接电环等配件。

Company for instrument and meter industry special diaphragm pressure gauge and the importance of electromagnetic flowmeter in corrosion resistant parts - diaphragm, flange, electrode, their material advantages, such as the ground ring precision processing technology, providing customers with tantalum, titanium, nickel, B, C, monel, 316 I, such as different material products, its performance, GB3628 GB3629-83-83 standard

Note: according to customer demand, production, processing all kinds of diaphragm, flanges, fittings such as electrode, electric ring.

公司的售后服务体系及保障能力

The company's after-sales service system and support capability



1、公司售后服务承诺：严格履行保修义务，对产品及服务质量实行跟踪服务，让客户“全程无忧”，成立了以总经理挂帅的售后服务团队，24小时为客户提供服务，并承诺省内24小时、全国三天内到达维修现场。“沟通、及时、有效”是我们开展售后服务工作准则。

1、Company after-service commitment: we strictly carry out follow-up service and provide 24 hours' service. We promise to arrive at maintenance site within 24 hours Shaanxi province, within 3 days in nationwide. "Communication, timely, effective" is our after-service working rules.

2、售后服务体系：

2、After-sales service system:



3、售后服务保障能力情况说明：公司建立了总经理领导下的售后服务体系：授权质量负责人全面开展工作，专职售后服务人员，最大限度保障公司产品的正常使用。

我们对本公司提供的产品以质量为本，顾客满意为原则，一切质量隐患制止在厂内为目的，让我们的售后服务人员出勤率达到100%，顾客满意率争达到100%为目标。我公司认为一切问题都是质量达不到要求而引起的，所以我公司把产品质量当成我公司的生命来抓，为保证产品质量，我们分一下几步层层把关：

第一步，原材料把关。每批原材料入库之前都必须经专职检验人员按照“材料确认控制程序”进行验收，检验合格后才能入库，所有原材料必须按照检验规程的要求检验。

第二步，在生产过程中严格按照国家规范、设计要求ISO9001强制性认证法规及生产工艺要求等生产，所有工人都是经过严格培训合格后上岗，定期由公司技术部门的工程师对一线员工进行知识辅导和实践操作辅导，提高了员工的技术技能水平，使我公司员工成为本行业精英。

3、Company established after-service system under leadership of general manager: to authorize QA head to carry out work comprehensively and full-time after-service personnel to guarantee normal use of products.

We based on quality, customer satisfaction as principle. All the hidden quality be controlled within factory. So, our after-service personnel attendance rate reach to 100%, satisfaction rate reach to nearly 100%. We think all the questions be caused by quality problems. So, we think our products quality as our life. In order to products quality, we do as below:

First step: raw material control. Every batch raw material is inspected by special inspector according to material control procedures before entering into warehouse.

Second step: In processing, we produce according to national regulation and ISO9001. All the employees worked after strict training and were coached by technical department at regular intervals. By this way, we improved employees' technical level and made our employees become industry elites.

销售网络分布图

Sales distribution network



——“面向全国，开拓国际市场，构筑志普品牌营销大网络”为满足市场不断变化的新需求，宝鸡志普团队力求不断的自我完善，提升售后服务水平，及时为客户提供全方位的咨询与解决方案，搭建志普品牌与用户零距离的沟通平台。

——“Facing the whole country, expand international market, build zhipu’ brand marketing network” to meet market change demand. We are strive to improve after-sales service, self-improvement and provide all-around consulting service and solution and zero distance communication platform.

为谋求更大发展，2015年宝鸡志普有色金属加工有限公司迁至宝鸡市陈仓科技工业园区，在占地30余亩，办公及生产车间面积13900多平米的新公司开始了二次创业。

“乘风破浪会有时，直挂云帆济沧海”，我们志普人必将披荆斩棘，紧抓历史机遇，团结一心，积极进取以科技创新来实业报国。

To seek greater development, we moved to chencang science and technology industrial park in 2015 and started our second development in our new company with 13900 square meters.

“Braving the will sometimes, straight to the sea and the sea in full sail”, we will overcome difficulties and unite together to serve society with technological innovation.



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