

COMPLETE SOLUTION PROVIDER FOR METAL SURFACE TREATMENT



ELECTRO-CHEMICAL SURFACE PROCESSING EQUIPMENT

电化学表面加工设备 | English Edition |

Electropolishing | Electrolytic Abrasive Polishing | Anodizing |
Micro-Arc Oxidation (MAO) | Electrochemical Cleaning





ELECTROLYTIC ABRASIVE POLISHING Equipment

电化学复合研磨设备

Electrolytic Abrasive Polishing is an electro-chemical surface processing technique that combines electro-chemical polishing with mechanical polishing. Under the same surface quality requirements, its processing efficiency is higher than that of mechanical polishing. It is suitable for materials such as stainless steel, aluminum alloy, titanium alloy, nickel alloy, magnesium alloy, Hastelloy, copper alloy, carbon steel, bearing steel, and mold steel.

Due to the highly corrosive nature of the chemical solutions used in this process, the equipment must meet stringent corrosion resistance requirements, which involves considerable manufacturing challenges. Additionally, as precision grinding machinery, this equipment requires high dimensional accuracy, exceptional operational stability, and the suitability for batch production.





ELECTRO-CHEMICAL POLISHING

Automated Production Lines

电化学抛光生产线

This equipment is primarily designed for electropolishing austenitic stainless steel. With the expansion of high-end applications, electropolishing process is increasingly applied to martensitic stainless steel, aluminum alloys, pure nickel, nickel-based alloys, Hastelloy, Monel alloys, titanium alloys, copper alloys, tungsten alloys, and other specialty materials.

We design and manufacture manual lines, fully automated lines, and custom non-standard electro-chemical polishing equipment according to materials, product designs, and polishing quality requirements.

Typical Process Flow of Electro-Chemical Polishing :

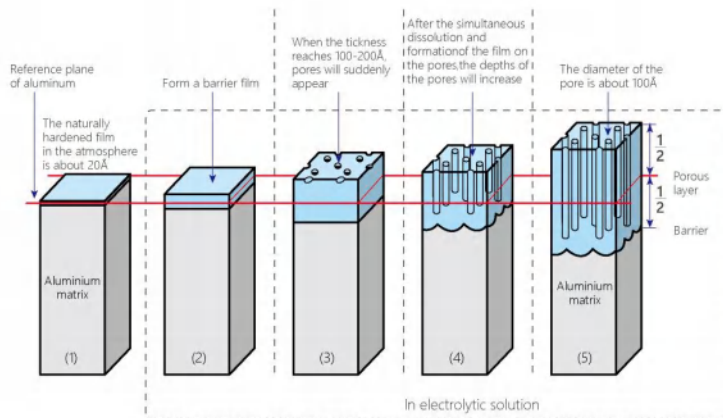




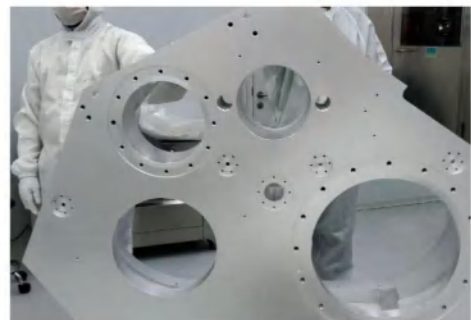
ANODIZING Production Line Of For Aluminum , Titanium , Magnesium

铝合金 / 钛合金 / 镁合金阳极氧化生产线

This production line is designed for anodizing processing of aluminum, magnesium, titanium and other alloy products, primarily utilizing an overhead crane system. The processing parameters for the entire production sequence can be operated, saved, and retrieved via a touchscreen interface for convenient program management. It can be integrated with MES management systems to achieve digitalized control. Both manual and fully automated lines are available, and custom non-standard equipment can be provided based on specific product requirements.



The growth process model of anodizing film



Standard Anodizing Process of Aluminum Alloy:





MICRO-ARC Oxidation Equipment

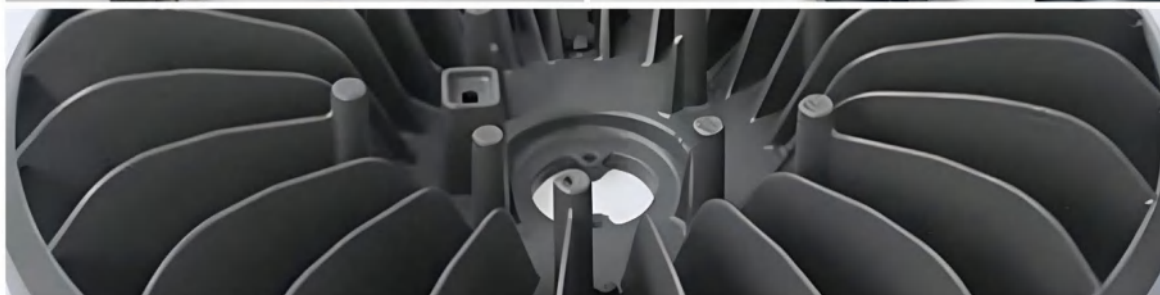
微弧氧化生产线

Micro-Arc Oxidation (MAO), as a special anodizing processing, has its unique advantages: simple operation, fast film formation, high hardness, thick film layer, etc. The film-forming surface features high wear resistance, high insulation and high corrosion resistance, and is widely used in aerospace, military industry, medical devices, 3C and other fields.

While sharing some similarities with conventional anodizing production lines, MAO production lines are distinct in their requirement for high voltage, high current, and short-duration high heat generation, which are the primary features of the micro-arc oxidation process. Therefore, the design and manufacturing of such production lines have specific requirements. With ensured safety protections and through precise design calculations, we help customers achieve optimal cost-effectiveness.

To guarantee the uniformity of film layer growth on complex workpieces, we also provide value-added services including electro-chemical 3D simulation modeling.

Standard Process of Micro-Arc Anodizing:





ELECTRO-CHEMICAL Cleaning Equipment

电化学清洗生产线

Compared with traditional chemical cleaning methods, electro-chemical cleaning offers superior cleaning effectiveness and higher efficiency. It removes 3-5 μ m of material and penetrates contaminants that are difficult to clean through chemical methods.

Specific chemical reagents and processing methods are employed depending on the material, including cathodic degreasing, anodic degreasing, and electro-chemical derusting. For different product configurations, customized fixtures and tooling can be designed and manufactured.

Both manual and fully automated production lines are available, and we provide custom non-standard equipment for irregularly shaped products.

Electro-Chemical Cleaning Production Process:



- © Can be equipped with waste water treatment systems and pure water preparation equipment;
- © Provides related chemical reagents for the equipment and comprehensive technical support for production processes;
- © For more detailed information, please contact our sales representatives or visit our company website or official account.



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