Unit NanoARC^{master}950 for application of coatings

Application

NanoARC^{master}950R unit is designed for application of protection and tribotechnical coatings, research in the field of ion plating technologies using balanced, unbalanced and dual magnetron sputtering systems, as well as vacuum-arc evaporators with controlled and uncontrolled arc.

Advantages

High quality of coatings. The unit makes it possible to increase wear-resistance of treated surfaces and, accordingly, extend the service life at a reasonable cost of the unit, as well as carry out research in the field of ion plating technologies.

Forms of cooperation

Supply of a standard ready-made product, design, manufacturing and supply of a customized product.

Vacuum coatings are widely applied in different spheres of life, for example: medicine (coatings on titanium implants), petrochemical sector (various stop valves), aircraft engineering (heat-resistant coating of turbine blades), shipbuilding (anti-cavitation coating of propellers), military equipment, instrumentation engineering etc. Depending on the requirements to a particular item and operation conditions we can apply any protective coating.

Main parameters*

Parameter	Value	Note
Thickness of applied coating, µm	Up to 20	Increase of thickness to be agreed
Coating hardness, N/mm^2	20000-38000	
Chamber inner dimensions, L×W×H, mm	950×950×600	Chamber shape- vertical octagon
No. of vacuum-arc multi-cathode evaporators, pcs.	2-4	
Number of end vacuum-arc sources in a vacuum-arc multi-cathode evaporator, pcs.	2	Vacuum-arc evaporators with controlled and/or uncontrolled arc
Total multi-cathode vacuum-arc evaporator current, A	200-240	2×100-120
Cathode sizes, Diameter ×thickness, mm	130×26	
No.of sputter guns, pcs.	2-4	Unbalanced magnet systems
Sizes of sputtering targets L×W×H, mm	400×130×10	
Sputter gun supply power, KW	12	Current, voltage, capacity stabilization. Possibility to work in pulse mode
Ion source, type	Closed loop electron drift device, Radical)	
Output operating characteristics of power supply of ion source, V/A	2000/1	
Bias feeder, V/A	1200/10	
Heater power, KW	12	
Ultimate vacuum, Pa	1.33×10^{-3}	
Vacuum pumping to ultimate vacuum speed, min	30	
No. of gas puffing channels, pcs.	3	
Control/ visualization	Automatic	LCD touch screen monitor 19”
Installed power requirement, KW	70	3ph. ×380V+N, 50/60Hz
Hot/cold water flow rate, l/min	25/40	
Compressed air, MPa	0.4-0.6	

* The manufacturer may make the equipment design adjustment that does not impair the operational and service properties.