

Unit NanoARC^{master}850 for application of coatings

Application

NanoARC^{master}850 unit is designed for vacuum arc application of high hardness (TiN, AlTiN, TiAlN, CrN, CrC, TiCN and others) protection and tribotechnical coatings on cutting tools and equipment parts used in machine building, power engineering, aerospace and nuclear sectors.

High-hardness coatings are intended for protection of heavy loaded machinery parts operating under conditions of intensive wear-out and cyclically varying load, high temperatures and aggressive media (shutoff and control valves, molds for pressing, blades of aero and steam turbines) and cutting tools (milling tools, drilling bits, tooth cutting and rolling tools).

Advantages

High quality of coatings. The unit makes it possible to increase wear-resistance of cutting tools and equipment parts and accordingly extend their service life at a reasonable cost of the unit.

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 50	
Coating hardness, N/mm^2	20000-38000	
Chamber inner dimensions, $L \times W \times H$, mm	650×650×900	Chamber shape- vertical hexagon
No. of sputter guns, pcs.	2-4	Unbalanced magnet systems
Sizes of sputtering targets $L \times W \times H$, mm	700×130×10	
Sputter gun supply power, KW	18	Current, voltage, capacity stabilization. Possibility to work in pulse mode
Bias feeder, V/A	1200/18	
Ultimate vacuum, Pa	1.33×10^{-3}	
Vacuum pumping to ultimate vacuum speed, min	30	
No. of gas puffing channels, pcs.	2	3 as option
Heater power, KW	24	
Control/ visualization	Automatic / LCD touch screen monitor 19"	
Visualization	Video camera	Displaying the image on the monitor
Installed power requirement, KW	90	3ph. ×380V+N, 50/60Hz
Hot/cold water flow rate, l/min	25/40	
Thermostated water flow rate, l/min	25	
Compressed air, MPa	0.4-0.6	

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