INSTALLATION FOR VACUUM DEPOSITION OF COATINGS

Description
A plant for vacuum ion-plasma deposition of hardening, wear-resistant, protective, decorative and other coatings on the working surface of machine parts, tool parts, etc. is designed. Coatings are deposited by condensation with ion bombardment and condensation in the mode of ion-beam assisting.

Technical specifications
- Deposition rate: 5–15 nm/s
- Ion-beam energy: up to 20 keV
- Ion-beam current: up to 20 mA
- Ion-beam cross-section diameter: 200 mm
- Vacuum chamber volume: $\phi$ 1000 x 500 mm
- Supply voltage: 3 x 380 V : 50Hz
- Power consumption: less than 25 kW
- Overall dimensions:
  - Vacuum chamber with the control desk and pump units, arc evaporators and ion source: 2400 x 2900 x 2300 mm
  - Control rack and power frame: 560 x 560 x 1750 mm

Technical appraisal and economic benefits
In comparison with the analogues the installation offers higher adhesion of coatings to the working surface at lower deposition temperatures.

Application areas
Machine building, aircraft building, tool industry.

Development stage
Experimental-industrial production.
**Patent situation**
The installation is protected by the Russian Federation patents (1993, 1994).

**Commercial offers**
Turnkey projects on production and supply of the plant, transfer of the deposition technologies, personnel training.

**Estimated cost**
To be negotiated.

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