

Vacuum treatment complex NIKA-151-MFK



The Nika-151 vacuum spraying complex is designed for coating workpieces made of heat-resistant and titanium alloys.

Components and devices of the NIKA-151 complex:

- cooled vacuum chamber with 2 doors;
- powerful fast pumping system: cryopump, root vacuum pump, foreline pump;
- built-in water cooling system;
- quadrupole sputtering system;

2 sets of replaceable magnetrons: magnetrons-787 and-479 - 4 pcs.;

ion cleaning system ion source IBS-700 - 1 pc.;

plasma processing system - plasma generator RPG-250 - 1 pc.;

- heaters - 4 pcs.;

- planetary carousel;

- temperature sensors;

- the system of supplying the displacement potential;

- infrared pyrometer.

The kit allows you to process parts with dimensions: - length up to 600 mm; width (diameter) up to 65 mm; weighing up to 3 kg.

The main differences and advantages of the NIKA-151-MFK complex:

Quick readiness -30 minutes after the start of pumping no more than $5 \cdot 10^{-3}$ Pa.

The working temperature for heating the workpieces is 600 °C.

Wide range of coatings: Functional coatings: Ag, Au, Ni, etc. ; Reinforcing coatings:

AlTiN, AlCrN, AlSiTiN, AlSiCrN; Multiphase coatings nc-TiN / nc-AlN, nc-TiAlN / a-

Si₃N₄, nc-CrAlN / a-Si₃N₄, nc-TiN / a-CrB₂, nc-Cr₂O₃ / ns-Al₂O₃, ns-TiO₂ / nc-Al₂O₃;

Heat-resistant and heat-resistant coatings (SDP 1, 2, 3, VSDP 11, 20). Ion-plasma low-

temperature nitriding of surfaces - surface hardness according to AISI 316 L - not less than 1200 Hv. Blanks - blades, trunnions, hob cutters, casting molds.

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Layout and characteristics



IBS 700 – Ion Beam Source- 1 pc.

Supply voltage 380 V
Mains connection TN-S
Maximum power consumption 100 kW
Number of gas injection channels

Weight

Coolant volume 5

Coolant Ultimate vacuum no more than 2300 kg

Working gases no more than 15 liters



RFPG-250 – 1 pc.

distilled water

dimensions not more than 6 10⁻⁴ Pa

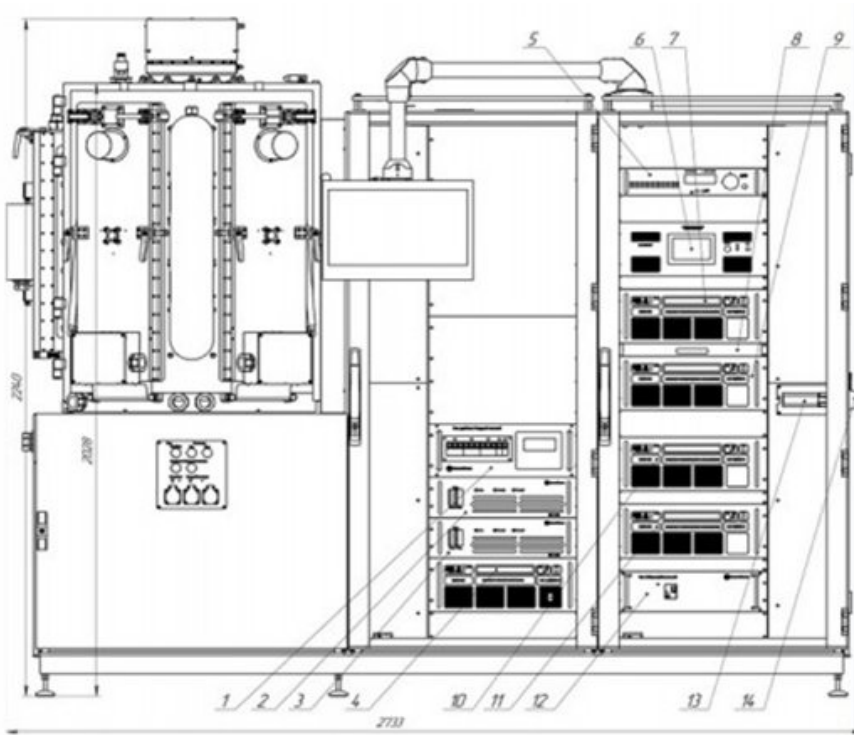
argon, nitrogen, hydrogen, air no more (2800x1230x2260) mm (length x width x height).



Heater - 4 шт.



Vacuum treatment complex NIKA-151-MFK Components



- 1- vacuum system control unit;
- 2, 3 - power supplies for heaters BP-343
- 4 - power supply unit of the ion source
- 5 - HF generator GL-13.3-A7;
- 6 - ELB-20 / 1200S bias potential power inverter
- 7, 9, 10, 11 - ELM-36/600-R magnetron atomizer inverters
- 8 - shelf with keyboard;
- 12 - water distribution block
- 13 - switch-disconnector, switch IO160G04P 160A 4P;
- 14 - external switch handle.