

## Vacuum spraying unit NIKA-145



Vacuum spraying unit Nika-2012.145 is designed for double-sided deposition of thin layers of metals - gold (Au) (0.1-0.5) microns with a sublayer of chromium (Cr) (0.010-0.015) microns (100-150 A °) on products (substrates) made of quartz glass KU-1 with a diameter of 15.6 mm and a thickness of 0.6 mm in one technological cycle with control of the thickness of the obtained gold membrane using a quartz thickness meter (KI).

The vacuum chamber of the installation is equipped with;-

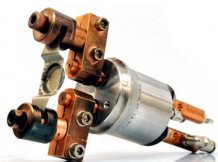
- - RPG-128 (RPG) - radio frequency plasma generator
- - two magnetrons-100K;
- - thermal evaporator;
- - quartz gauge of the thickness of the deposition of membranes;
- - a shutter for dusting TI and magnetron targets;
- - carousel with media rotation with substrates for processing on both sides and with a temperature sensor;
- - three viewing windows.

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## Layout and characteristics



**RPG-128 (RPG) -  
radio frequency  
plasma generator**  
- 2 pcs.



**Thermal  
evaporator - 1 pc.**

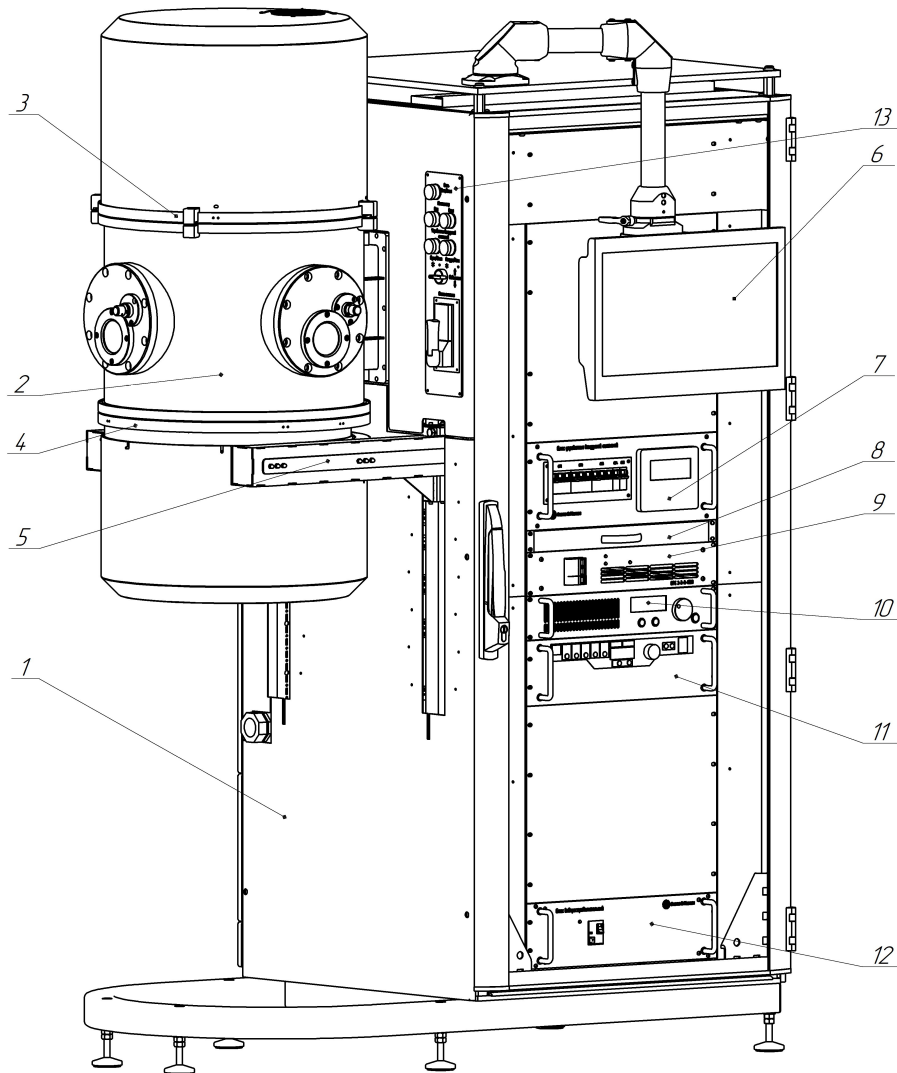


**Magnetron-100K**  
- 2 pcs.

Power	15 kW
Maximum power consumption	no more than 8 kW
Supply voltage	380 V (+ 10-15)%
Power connection	TN-S
Maximum current consumption on phases	32A
Weight (excluding OWL, foreline pump and compressor unit of cryogenic pump)	no more than 600 kg
Ultimate vacuum	no more than 3 10 <sup>-4</sup> Pa
Time to reach ultimate vacuum (from the moment the shutter is opened)	no more than 120 min
Maximum working temperature	Heat treatment of substrates after spraying 260 ° C
Holding time during heat treatment	120 min
Working gases	argon, oxygen
Number of gas injection channels	2
Coolant (recommended)	distilled water, 20% ethyl alcohol solution in distilled water in accordance with GOST 6709-72
Coolant volume	15 l
Cooling liquid consumption	no more than 15 l / min

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## Components



- 1 - frame;
- 2 - vacuum chamber;
- 3 - upper flange;
- 4 - bottom flange;
- 5 - lifting frame;
- 6 - monitor;
- 7 - vacuum system control unit;
- 8 - shelf with keyboard and mouse;
- 9 - power supply unit for heater and thermal evaporator;
- 10 - HF generator GA-13.1-A7;
- 11 - power source of the magnetron "APEL-M-1,5PDC-650-2";
- 12 - water distribution unit .
- 13 - control panel.

