Beams & Plasmas
Laboratory of vacuum technologies plus, LLC

NIKA-137 unit

The small-sized unit of the NIKA 12-500 series is designed for the deposition by resistive evaporation of thin layers of metals up to 3 microns thick with direct control of the thickness at the time of layer deposition.

The chamber is water-cooled, equipped with three viewing windows.

Oil-free vacuum pumping system:

- cryopump NVK-160;
- foreline pump NVSp-12.

Thin layers of metals are made by the method of resistive evaporation with preliminary plasma cleaning and heating of the substrates.

Set of technological devices:

- radio frequency plasma generator (RPG-128) for cleaning the surface of substrates;
- three resistive evaporators;
- heater.

On the lower (working) flange are located :

- substrate rotation and positioning system;
- positionable process damper.

On the upper flange of the chamber, there are three quartz sensors for monitoring the thickness of the deposited layers. On the upper flange of the chamber, there are three quartz sensors for monitoring the thickness of the deposited layers.

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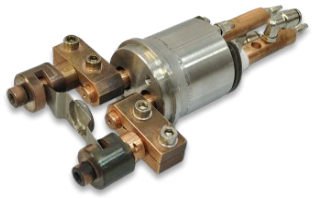
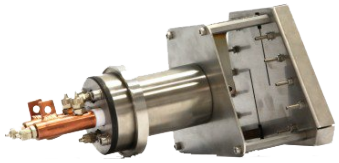
Layout and characteristics

Plasma source RFPG -128

SURA Automatic load balancer



Thermal Evaporator – 3 pcs.



Resistive heater sector-shaped – 1pc.

Parameters	
Power	22,5 kW
Supply voltage	380V +10-15 %
Maximum current consumption by phase	32 A
Ultimate vacuum	no more than 3×10^{-4} Pa
Working gases	2×10^{-3} Pa
Time to reach ultimate vacuum	no more than 2 h.
Time to reach working vacuum	no more than 15 min.
Working gases	Ar
Number of gas injection channels	1
Mass	no more than 550 kg
Service area	2190 x 2380 mm (length x width x height)
Overall dimensions	(length x width x height) 1428 x 1010 x 1533 mm

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