CONTACTS

Mikhail Volk

(director of marketing and find research)

Phone: +7 985 184 6762
RSS NANO
mvolk@nano-powder.ru
rss@nano-powder.ru
web: www.nano-poroshki.ru

Moscow, Usacheva 3. office 5
Saransk, ul. B. Khmelnitskogo 14

RSS NANO

NANOPARTICLES SYNTHESIS SYSTEM

ABOUT US

RCC Saransk is a rapidly developing innovative company that specializes in the implementation of effective solutions and new approaches in the field of nanopowder production.

We continuously conduct research and experimental development in order to increase the range and quality of our products.

Our company produces nanopowders of metals, alloys, and some chemical compounds (oxides and nitrides of metals).

We are both a manufacturer and supplier of our products.
Our company develops and manufactures high-quality laboratory, research and process equipment for the synthesis of nanopowders, using modern design methods, taking into account technical, technological, operational, aesthetic and other possible requirements and wishes.

All products and structures undergo a preliminary computer modeling, checking for compliance with current regulatory documents and existing standards, developing a set of technical documentation, and refining and clarifying manufacturing processes.
We produce nanopowders and installations on our own production base, allowing us to synthesize nanopowders and create designs under custom orders.

APPLICATION AREA OF NANOPOWDERS

Nanodispersed powders are increasingly widespread as a raw material in the production of ceramic and composite materials, superconductors, solar batteries, filters, getters, lubricant additives, coloring and magnetic pigments, components of low-temperature high-strength solders.

Nanopowders are just one of many nanomaterials available today.
Most of them, such as, for example, dendrimers, fullerene, nanotubes, nano-pads and nanopores, are made from a limited number of raw materials.
And nanopowders can be made from hundreds of different materials.
All nanomaterials currently manufactured are divided into four groups: metal oxides, complex oxides (consisting of two or more metals), powders of pure metals, and mixtures.

Metal oxides make up at least 80% of all powders produced.
Powders of pure metals constitute a significant and ever-increasing share of total production. Complex oxides and mixtures are available in limited quantities.
However, it is expected that their use will increase in the long term.
In the production, there is a number of general requirements that are characteristic of all methods of obtaining UDP and distinguish them from the methods of producing conventional powders:

high rate of formation of particle nucleation centers;
low particle growth rate;
maximum size of produced particles is not more than 100 nm;
narrow range of particle size distribution;
stability of producing particles of a given size range;
reproducibility of the chemical and phase composition of the particles.

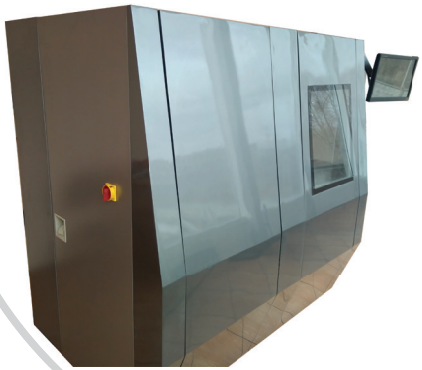
RSS NANO – NANOPARTICL

Powders are passivated and cured for a long term

Laminar method of producing nanopowders Versatility.

Versatility. From Ga to Mo inclusive in melting temperatures up to 2,500 ° C

Capability of producing bimetallic nanoparticles



Sizes from 5 nm by distribution center

Low cost of mass production of powders

ES SYNTHESIS TECHNOLOGIES

High performance

Uniformity of particle shapes

The technological process includes after-treatment of material
(heavy and light particles are cut off)

Capability of adjusting particle shapes and sizes

Applicable for catalysis and for ferrite production
(spheres with increased requirements to the quality of powders)

Powder synthesis from metals is implemented in 1 production cycle and does not require additional processing of raw materials

SPECIFICATIONS

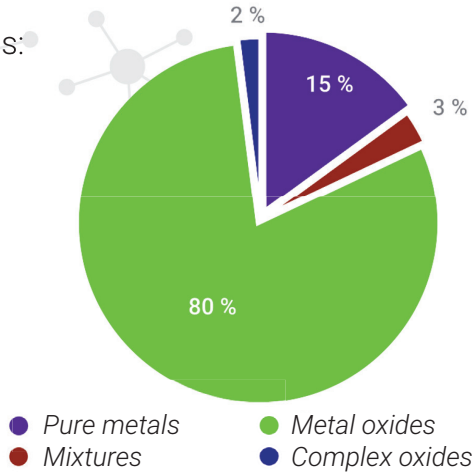
NAME	VALUE
OVERALL DIMENSIONS, M	2,5 X 1,5 X 2
MASS OF INSTALLATION, KG	750
POWER SUPPLY FOR ELECTRICAL CIRCUITS CURRENT TYPE VOLTAGE DEVIATIONS OF SUPPLY VOLTAGE,% POWER CONSUMPTION, KW, NOT MORE ALTERNATING CURRENT FREQUENCY, HZ	 ALTERNATING 220/380 +10 ÷ -15 20 50±1
DIAMETER OF BASE METAL, MM	0,2 - 1,0
AVERAGE PARTICLE SIZE OF METAL UDP, NM	20-300
OPERATING GAS PRESSURE INSIDE THE INSTALLATION, ATM	0,1-1
MAXIMUM TIME OF STEADY OPERATION, H	6-8

MARKET AND PRODUCED NANOPOWDERS

All nanomaterials currently manufactured are divided into four groups: metal oxides, complex oxides (consisting of two or more metals), powders of pure metals, and mixtures.

Metal oxides make up at least 80% of all powders produced. Powders of pure metals constitute a significant and ever-increasing share of total production.

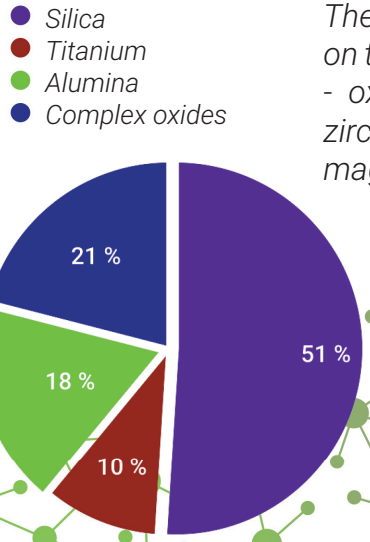
Complex oxides and mixtures are available in limited quantities. However, it is expected that their use will increase in the long term.



Metal oxides:

Three powders make up about 80% of all metal oxide powders.

The remaining 21% mainly fall on the following seven powders - oxides of iron, zinc, cerium, zirconium, yttrium, copper and magnesia.



Pure metal powders:

Five powders are leading in terms of production - powders of iron, aluminum, copper, nickel and titanium.

Worldwide production of pure metal powders: