CONCERN
NANOINDUSTRY

38, B. Tatarskaya, Moscow, 113184, Russia
Tel. (095) 953-5394, Fax (095) 953-5382, E-mail: nanotech@mail.magelan.ru, http://www.nanotech.ru

GENERAL-PURPOSE "NANOCONSTRUCTOR"

"Nanoconstructor" model with the gas medium control unit (casing is open) **and video system**

Field of application

"Nanoconstructor" represents the hardware and software basis designed to develop nanotechnological systems of different classes and types. "Nanoconstructor" enables to expand field of application of the equipment, which the user has available, and to perform on its basis almost all kinds of physical-chemical and medical-biological experiments using nanoscale objects. The system can be used to carry out studies and to develop a wide range of nanotechnologies, nanomaterials and nanoobjects in the electronics, high-precision mechanics, micro- and nanorobotics, optics, medicine, genetic engineering and other fields of science and industry.

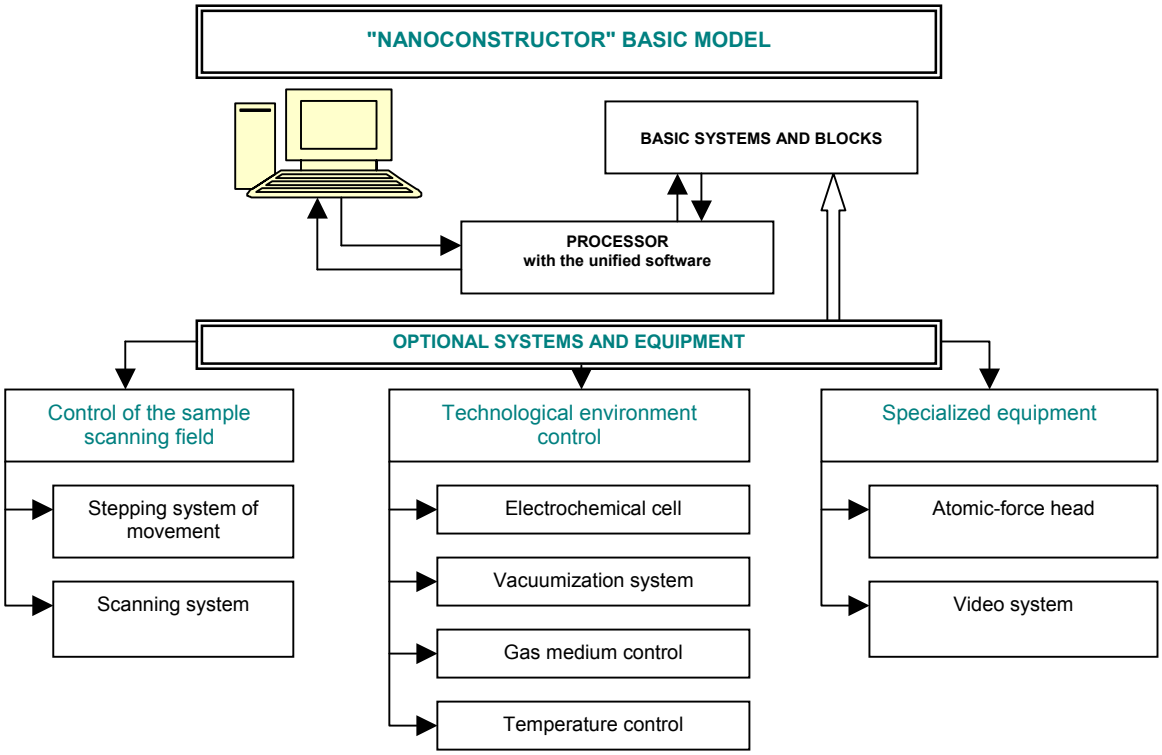
Description

Building-block approach supports rapid assembly and adjustment of the equipment and control system based on the requirements that are set by the nanoscale operations, and enables to complete "Nanoconstructor" with the unified as well as specialized systems and blocks.

"Nanoconstructor" basic model consists of:

Control system	System operation is based on the 32-bit DSP. The software allows to attach a system of program modules the user has available.
System for sample positioning by the axis perpendicular to its plane	The system can be used to assemble replaceable unified blocks that move a sample or special sample holders. Piezoelectric ceramic engines support movement process and ensure high accuracy of sample positioning. Parameters of the positioning system: - range of the movement: not lower than 5mm; - min step: 0.01 μm; - max step: 0.15 μm; - max movement speed: up to 2 mm/min.; - weight of the equipment blocks to be moved: up to 1 kg
Vibroprotection system	Vibroprotection is supported by the spring suspension of novel design that enables to vary the system rigidity within a wide range.
Block for accurate sample scanning	The block consists of: - scanner (range of scanning: units of Å to 7 μm); - tunneling current amplifier (1pA to 10 nA)

⇒



State of the product

"Nanoconstructor" has been developed by a group of scientists and specialists – developers of the nanotechnological machines of the "Looch" and "LitScan" type. At the moment, a pilot lot of the system is planned for production.

Basic features

The "Nanoconstructor" advantages are as follows:

- building-block approach that enables to modify the "Nanoconstructor" configuration and characteristics;
- open software architecture that enables a user to attach his own program blocks;
- support of operation in the multiprocessor mode;
- reliability;
- low cost;
- high professional skills are not required.

Cost of the product

Cost of the "Nanoconstructor" basic model makes $ 30 000 US. Cost of the system with the optional blocks and equipment is dependent on the configuration.

Possible form of cooperation

Development and delivery of the "Nanoconstructor" models depending on the characteristics set by a customer.