

FLUIDNATEK[®]

by Biolnacia

TOOLS FOR INDUSTRY

HIGH THROUGHPUT

FLUIDNATEK™ eStretching Tools for Industry (eSpin/eSpray/co-eStretching) are designed to scale from lab through pilot line to industrial volume production.

FLUIDNATEK's experienced engineers and scientists have a long track record in the production of sub-micron size-controlled materials. Their know-how and the highly flexible equipment design allows us to offer the best solution to the particular specifications and requirements of your application.



CUSTOMER-DRIVEN

FLUIDNATEK™ tools for industry offer unique flexibility and adaptability to product & process requirements. Nanoparticle production from most dissolutions is feasible.

FLUIDNATEK™ equipment is designed to meet the safety and cleanliness standards of industrial production. Specifically, FLUIDNATEK™ equipment is certifiable for biotech, food and pharmaceutical applications (GMP).

Production throughput scales linearly with the number of emission heads.

FLUIDNATEK 's team follows this protocol to up-scale the results successfully obtained at the laboratory:

- ▶ Collection of customer specifications (materials, productivity, format, working conditions, etcetera).
- ▶ Development of the optimum emitter layout.
- ▶ Adaptation of the basic design (only if needed).
- ▶ Tune-up and preliminary tests.
- ▶ Installation and setup at customer facilities.

KEY BENEFITS

▶ FLEXIBILITY

Adaptable to any scale: from **pre-series** to **pilot** and **industrial** production.

Applicable for an **exceptionally wide range of materials and solvents**.

Modular configuration. Additional modules can be simply coupled to increase overall productivity.

Different output format of products.

▶ PRODUCTIVITY

Minimized time of installation and maintenance.

Very short **start-up time** (15 min).

High throughput. Exceptionally high density of the emitters.

Highly automated, minimizing the need for operator intervention.

Ready for **continuous operation** (24/7).

▶ QUALITY

Needle based configurations ensure a **very good control** on the process, enabling a **tight particle size distribution** and high product **homogeneity**. Ideal for very high value added products.

▶ FUNCTIONALITY

Able to up-scale all the eStretching processes (including **coaxial** and **multiaxial**).

Touch screen controlled.

The tools can be **remotely operated**.

▶ ROBUSTNESS and SAFETY

Extensively **peer tested** by our worldwide customers.

FLUIDNATEK™ is **compliant** with the required **regional and industrial standards**.

Proper solvent exhaust system removes the risk of fire and explosion.

TECHINCAL DATA

▶ THROUGHPUT

Each individual module can produce **from tens of grams/h to several kilograms per day** (strongly depends on the material to be processed). The individual modules are ideal for the fabrication of demonstration **pre-series**, prior to fully industrial scale implementation. Modularity enables the scaling to volume production at both **pilot and industrial scales**.

▶ OUTPUT FORMAT

Rolls (with and without substrate).

Adjustable collecting substrate velocity.

From few centimeters up to 3 meters width.

Coating of custom substrate geometries is feasible.

▶ SOLVENT RECOVERY SYSTEMS

Solvent consumption is significant in industrial production environments. Recovering the solvent evaporated during the process is important to **increase the return on investment** and to **optimize the cost** of your products.

▶ EXHAUST ABATEMENT SYSTEMS

Provide proper safety in the handling of hazardous gases and emissions.

▶ CABINET CONDITIONING

Humidity and Temperature control. From 5% to 95% RH and from 5°C to 50°C.

Specially designed for **biotechnology** productions. **Oxygen-free, aseptic, sterile** and **biological safety cabinets** are available. **GMP compliance**.

▶ OTHER TECHNICAL DATA

Power supply: 120-230V, 50/60 Hz

Compressed air connection: 6-8 bar

Power consumption: <5kW (depending on accessories)

Working temperature: 20-40°C

Working humidity: 30-85% RH

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