

Containment POTENT



 **FPS**
never stops!

FPS never

always

Values



Experience

Over the years we grew as one of the largest manufacturers in micronization and containment equipment.

This growth is the result of our ability to listen and understand in depth your process and your needs.

Reliability

You can trust the advice and the assistance of our experts: serving you is our mantra.

Challenges



Flexibility

In a high quality and fast changing industry, we remain flexible during project execution, to respond to new requests from our customers.

Efficiency

Cost and time management is of paramount importance for projects, allowing for fast project execution.

Innovation



Performance

Our performance is the satisfaction our customers have when running our systems at the highest level, day in and day out. We live for that.

Technology

The solutions we supply are driven by our relentless efforts to deeply understand the needs of our customers and their pharmaceutical environment.

Our numbers: **+1500** Installations **+40** Countries

stops!

at your side

Processes

High Containment

Rigid isolator systems for sterile or HPAPI processing are fully integrated with the process to be protected. Well proven solutions are combined with innovative ones, maintaining safety as our first priority.



Micronization

Fluid energy mills are more and more chosen for size reduction of new or established molecules. Derived from optimized experience and specific energy calculation, our jet mills are cutting-edge solutions for pharmaceutical needs.

Hybrid tech

Our processes can be combined together or with other machineries, giving end users the integration required for each specific application.

Customer support

Spare parts

FPS is at the side of its customers even after installation and validation. We offer them a specific service for spare parts. Thanks to the expertise of our team, we are able to provide customized spare parts lists to plan the periodic replacement of wear parts, managing the entire life cycle of the spare parts. FPS strongly suggests to anticipate the purchase of spare parts and avoid that a small issue becomes a big problem.

Service

After sales

Fps supports his customers during all the life cycle of their equipment. We offer tailor-made assistance packages designed to constantly support our customers to get the maximum performance of their systems. FPS firmly believes in Preventative Maintenance Programs and works closely with each customer to customize the final scope. These packages also include priority for on-site maintenance visits and a special discount for spare parts.

served **+350** Customers **+20** Years presence

Isolators for HPAPI Production



Production and handling of HPAPI or toxic products (in gas, liquid or powder form) need the complete product separation from the environment to protect the operators. A negative pressure regime is maintained within the internal volume of the isolator. Turbulent airflow is generally adopted. The operator accesses to the inside of the isolator via glove ports or half-suit. Containment level from 10 ug/m³ down to the low nanogram level are guaranteed with adequate designs and configurations.

FPS is the trusted containment partner of many leading OEMs. This requires a long collaboration and gives FPS a complete understanding of the process. The result for the customer is a bundle solution where both the process equipment and the isolator work seamlessly as one unit.

Isolators for HPAPI Production are available for many applications: Laboratory, Synthesis, Filtration & Drying, Production Reactor Charging, Process vessel discharging, Pilot Milling & Micronization, Production Milling & Micronization, Dispensing,...



Quantity handled	Dustiness Potential		Low		Medium		High	
	EP0	EP1	EP1	EP0	EP2	EP1	EP3	EP2
Micro (<10g)	EP0	EP0	EP1	EP0	EP2	EP0	EP2	EP0
Small (<10.000g)	EP1	EP1	EP2	EP1	EP3	EP2	EP3	EP2
Medium (<100 kg)	EP2	EP1	EP3	EP2	EP4	EP3	EP4	EP3
Large (>100 kg)	EP3	EP2	EP4	EP3	EP4	EP3	EP4	EP3
Task duration	Short		Long					

Filtration & Drying

Synthesis

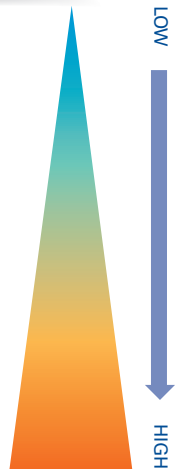
Milling & Micronization Pilot Size





High Containment Isolator for Micronization

Hazard group	Exposure limit	OEB (solids)	EP0	EP1	EP2	EP3	EP4
A	1,000 - 10,000 µg/m ³ dust	OEB1	1	1	1	1	2
B	100 - 1,000 µg/m ³ dust	OEB2	1	1	2	2	3
C	10 - 100 µg/m ³ dust	OEB3	2	2	3	3	4
D	1 - 10 µg/m ³ dust	OEB4	2	3	3	4	4
E	0.01 - 1 µg/m ³ dust	OEB5	3	4	4	4	4
F	<0.01 µg/m ³ dust	N/A	4	5	5	5	5



Process vessel charging

Process vessel discharging



Milling & Micronization Production Size



Isolators for HPAPI Formulation and Packaging



The containment of the formulation activities of HPAPI Oral Solid Dosage Form requires high integration with the process machines without affecting their functionalities and performances. The goal is to guarantee to the operator the best use of the process equipment while assuring high containment. FPS has collaborated with leading OEMs for many years and providing the newest technologies for their processes.

The process is kept separated from the environment by means of closed rigid walls around the formulation machines. Suitable air barriers are provided when continuous operations are requested. Dedusting machines and powder suction units can be integrated inside the isolators to provide a higher containment.

Negative pressure regime with turbulent airflows is typically used. Isolators are generally supplied with glove ports. We can guarantee a Containment Performance Target down to the low nanogram level.

Typical applications are spray dryers, granulators, extruders, mixers, powder screens, tablet presses, capsules filling, pan coating machines and blistering machines.

OSD Isolators are also used to contain the following processing: dispensing, In Process Quality Control (IPQC) and HPLC analysis.

Formulation

Dispensing units / Large quantities



Dispensing units / Small quantities



Tablet press, complete with metal checker and de-dusters



Containment system for blister machine

Multi-chamber isolator with fully integrated blistering machine to process batches of capsules/tablets.



FPS is proud to introduce the first isolator with integrated vocal commands. This technology, developed in partnership with SIEMENS, is applicable to all types of isolators.

Capsule filling

Pan coating

Laboratory

IPQC Laboratory





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