

Pressofiltro[®] Filter Dryer Containment Systems



Pressofiltro[®] agitated Nutsche filters / filter dryers with containment systems.

- Containment systems (glove boxes) are designed to allow contamination free sampling, product discharge, heel removal and product pack-off into suitable containers.
- Containment systems are available as passive, active, single chamber, two chamber and multiple chamber designs, all in compliance with cGMP and FDA guidelines.
- Active isolator units are equipped with air handling systems and HEPA inlet and exhaust filters for containment levels down to **10 ng/m³ TWA**
- The isolator design permits sampling, product discharge, pack-off, heel removal and filter cloth disposal in a single unit.
- Sample and small items transfer using optional RTP's (Rapid Transfer Ports / alpha-beta ports), split butterfly valves, bag-out ports.
- Product is discharged into suitable containers using continuous liners, split butterfly valves or docking stations.
- Standard ancillary items include a WIP (Washing in Place) gun, a telescopic rake for heel removal, a glove port barrier interlocked with filter dryer agitator.
- Optional items include zone rated lighting, mock-ups to verify ergonomic isolator design, continuous liner systems, Lactose test to verify isolator tightness, mills for product sizing, balances for product weighing inside isolator, Oxygen analyzers to monitor and alarm the Oxygen content in the isolator exhaust, etc.
- Other design criteria as per the pharmaceutical design Pressofiltro[®] agitated Nutsche filters or filter dryers.

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Applications for Pressofiltro[®] Nutsche filter dryers with containment systems

Pressofiltro[®] agitated Nutsche filters or filter dryers with containment systems provide protection of the operators against hazardous materials and equally provide product or process safety against possible contamination from external particles.

COMBER **Pressofiltro**[®] agitated Nutsche filter dryers equipped with isolators are increasingly being used for biotechnological and pharmaceutical filtration and drying tasks in contained environments.

Isolators provide optimum operator and product protection in production lines for **API's, intermediates** and fine chemicals for products classified up to category **OEL 5** level, i.e. extremely toxic and/or with extremely high pharmacological activity.

Typical design parameters for Pressofiltro[®] Nutsche filter dryers with containment system

Filter area:	0.03 bis 2 m ²
Slurry volume:	8 – 20.000 liters
Operating temperature:	–10 to 151°C (15 to 300°F) or per requirements
Operating pressure:	–1 to +4 bar (g) (FV to 60 psig) or per requirements
Product wetted materials:	Stainless steels, Nickel based alloys such as Hastelloy C 22 or Alloy 59, Titanium, etc., Sealing materials: PTFE gaskets, O-Rings in FFKM or FEP encapsulated
Area classification:	EC type examination certificate 03ATEX0245X per the 94/9/EC directive, or with electrical components UL approved for operation in a Class I, Division 1 or 2, Groups C&D environment
Heated areas:	All product wetted components, including agitator
Accessories:	Dust filter with automatic back cleaning, sampling valve, CIP system, sight glass with vessel light, vacuum system with condenser, heating and cooling unit etc.
Controls:	Control cabinet with PLC, HMI with touch screen, MCC, interface for DCS

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