

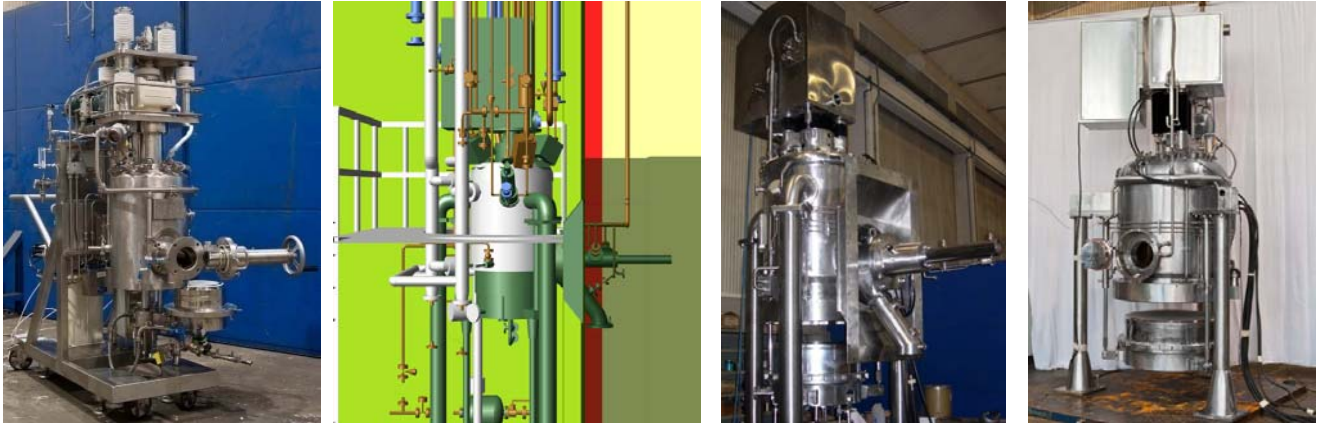
Pressofiltro® Steam Sterilizable Filter Dryer



Pressofiltro® agitated Nutsche filters / filter dryers in steam sterilizable design

- With Cleaning-In-Place (CIP) and Sterilization-In-Place (SIP) systems designed for the automatic cleaning and disinfecting of the equipment.
- The steam sterilizable filter dryer design assures **steam reaches all parts** of the filter dryer in contact with the product and **air is not trapped** in the unit during sterilization.
- In compliance with **cGMP and FDA** guidelines, with vessel interior and all associated piping designed to prevent product adherence and to facilitate cleanability, **fully drainable** for clearance of condensate during the heating process, with **aseptic design** for flanges, seals, valves etc.
- With steam traps, CIP waste discharge and temperature sensors for SIP endpoint detection located at the end of all drainage lines.
- Double mechanical seals, externally interchangeable, dry running with debris well, steam sterilizable.
- Ancillary items such as discharge valve, sampling valve, heel break up and heel removal systems all designed for steam sterilization.
- Additional temperature sensors to monitor the sterilization process located in areas difficult to reach for steam within the vessel and piping, assuring these areas are equally sterilized.
- Clean room exterior design with forced ventilation for drive unit enclosure.
- Other design criteria as per the pharmaceutical design Pressofiltro® agitated Nutsche filters or filter dryers.

Pressofiltro® Steam Sterilizable Filter Dryer



Applications for the Pressofiltro® steam sterilizable agitated Nutsche filter dryers

Steam sterilizable **Pressofiltro®** agitated Nutsche filter dryers are designed to **maintain full sterility during the entire process**, from inerting through slurry feeding through filtration, washing and drying until and including the discharging of the dry product.

CIP and SIP provide a very effective, safe and convenient form of sterilization, easy to automate and validate. **COMBER Pressofiltro®** steam sterilizable agitated Nutsche filter dryers are increasingly being used for biotechnological and pharmaceutical filtration and drying tasks in aseptic environments.

Steam sterilizable filter dryers allow for **full validated sterility** during the filtration and drying process in production lines for API's, intermediates and fine chemicals

Typical design parameters for Pressofiltro® steam sterilizable Nutsche filter dryers

Filter area:	0.03 to 6 m ²
Slurry volume:	8 - 6000 liters
Operating temperature:	-10 to 151 °C (15 to 300°F) or per requirements
Operating pressure:	-1 to +4 barg (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 03ATEX0246X per the 94/9/EC directive, or with electrical components UL approved for operation in a Class 1, Division 1 or 2, Groups C&D environment
Heated areas:	All product wetted components, including agitator
Accessories:	CIP / SIP system, dust filter with automatic back cleaning, sampling valve, 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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