

Turbodry[®] Agitated Vacuum Pan Dryer



Turbodry[®] agitated vacuum pan dryers.



- Shortest possible drying times, suitable for the drying of sensitive, pasty, sticky and other “difficult” products such as those turning highly viscous during the drying process.
- Simultaneous axial and radial agitator movements permits uniform mixing of the entire product mass, without the formation of lumps or balls. Therefore **no chopper is needed**. The slow rotation of the agitator minimizes the shear forces applied to the product, thus **limiting mechanical and thermal product degradation**, maintaining the products original crystal structure.
- In compliance with **cGMP** and **FDA** guidelines, also in **aseptic / steam sterilizable** versions:
- Agitator supported by the top head, with the seal in contact with the vapors only.
- Entirely welded agitator design, without any bolts, without pockets and with all edges rounded for good cleanability.
- Excellent cleanability using CIP Systems, with simple validation process.
- Double mechanical seal, dry running contacting or non contacting lift-off or liquid lubricated, externally interchangeable.
- Calculation, design and manufacture to **Pressure Equipment Directive 97/23/EC (PED)** and/or **ASME** pressure vessel code, Section VIII, with **U-Stamp**.
- Good emptying characteristics due to narrow agitator to wall/bottom clearances and a unique agitator blade design.
- The surface area for heat transfer is maximized for optimum performance and cycle times. Supplemental microwave heating is available as an option for the best possible drying performance.

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Applications for the Turbodry[®] agitated vacuum pan dryer

The **Turbodry[®]** agitated vacuum pan dryer has proven to be excellent for the drying of sensitive, pasty and other “difficult” products that pass through a highly viscous stage during the drying process. The dryers have proven to be particularly suited for the drying of heat sensitive products and product with fragile crystal structure and thus sensitive to shear forces. Excellent product discharge and shortest cycle times.

Designed for frequent product changes with excellent cleanability using CIP systems, simple validation. Suitable for use with microwaves for optimum drying performance.

Ideally suited for the installation of isolator systems for contained discharge, sampling and heel removal.

Typical design parameters for Turbodry[®] agitated vacuum pan dryers

Product volume:	8 – 10.000 liters
Operating temperature:	–10 to 151°C (15 to 300°F) or per requirements
Operating pressure:	–1 to +0.45 bar (g) (FV to 6.5 psig), –1 to +6 bar (g) (FV to 90 psig) in pressure proof version 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 I or 2, Groups C&D environment
Heated areas:	All product wetted components, including agitator shaft, arms and blades
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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