



## Condry® Agitated Vacuum Dryer



**Condry® conical bottom agitated vacuum dryer, left in Titanium Grade 7, right in Hastelloy C 22**

- **Excellent product discharge performance** with negligible product hold-up due to the conical vessel bottom, very close agitator to wall / bottom clearances and a unique agitator design.
- The agitator 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.
- 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.
- 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**.



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### Applications for the Condry® conical bottom agitated vacuum dryer

The **Condry®** conical bottom agitated vacuum dryer was developed to process a wide variety of products. The machines 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.

The conical bottom allows for full product discharge characteristics. Designed for frequent product changes with excellent cleanability using CIP systems, simple validation.

The conical vessel bottom, narrow agitator to wall clearances, a special agitator blade design and the option for microwave heating makes this dryer the most versatile and efficient with a the best possible drying performance.

### Typical design parameters for Condry® agitated vacuum dryers

<b>Product volume:</b>	8 - 20000 liters
<b>Operating temperature:</b>	-10 to 151 °C ( 15 to 300°F ) or per requirements
<b>Operating pressure:</b>	-1 to +0.45 barg ( FV to 6.5 psig ), -1 to +6 barg ( FV to 90 psig ) in pressure proof version or per requirements
<b>Product wetted materials:</b>	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
<b>Area classification:</b>	EC type examination certificate 03ATEX0245X 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
<b>Heated areas:</b>	All product wetted components, including agitator shaft, arms and blades
<b>Accessories:</b>	Dust filter with automatic back cleaning, sampling valve, CIP system, sight glass with vessel light, vacuum system with condenser, heating and cooling unit etc.
<b>Controls:</b>	Control cabinet with PLC, HMI with touch screen, MCC, interface for DCS

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