

POWDERICS ROTOcone VACUUM DRYER



For many applications, it is useful to combine drying with motion. Also, products can be heat sensitive and easily oxidized. For these special purpose applications, RCVD (Roto Cone Vacuum Dryer) from Powderics (PPT) is most suitable candidate. It is dual cone jacketed design under rotation during process equipped with suction vent inside which can extract solvent vapor under vacuum and even recover it using solvent recovery system. This also means it is used as low temperature vacuum extractor for suitable products.



Specification:

- Easiness of internal cleaning and washing,
- total absence of sharp corners in the drying chamber
- Agitator profile designed to limit mechanical and thermal stress on the product and reduce to a minimum the formation of agglomerates
- Very easy internal accessibility to the chamber for inspection and “swab” test thanks to the front port lid and the possibility of dismantling the agitator in different parts
- Very high final vacuum values
- Further reduced drying times
- Homogeneity and uniformity of dried batch thanks to the complete stirring of the product
- Simple Dust free drum loading and unloading is possible
- Very easy external cleaning thanks to: a. watertight cladding of the entire machine b. absence of support frames in the clean room c. possibility of installation in clean room with separation between clean room and technical room (Particle Free Configuration)
- Total system automation capable of guaranteeing process reproducibility for all batches

Constructive details

For the parts that are in contact with the product Powderics Process Technologies is built in AISI 316L stainless steel, but other weldable materials are also available if requested by customer, for instance ALLOY C-22 and AISI 904L.

The Internal surfaces are mirror polished or electropolished in order to optimize resistance to corrosion, reduce friction on the product and simplify cleaning operations.

The shaft is equipped with a double mechanical seal system, conceived to guarantee perfect vacuum tightness and absolute purity of the dried batch, avoiding any risk of product contamination. The mechanical seal can be pressurized through liquid or inert gas



Heating & Cooling System

Powderics Process Technology has very unique feature for Heating & Cooling System for our RCVD.

The two-circuit heating/cooling system ensures quick and precise regulation of the water temperature. Efficient circulation of heating and cooling media ensure that cumbersome RCVD drying process happens in short time saving daily manufacturing cost for our customers.



Benefits

- Vacuum condensation group for reduction of drying time and recovery of extracted solvents
- The RCVD is equipped with a very efficient recovery system that can recover up to more than 99% of the used solvent
- External safety filtering unit for powders containment
- Heating and cooling System for system thermoregulation
- Control panels with PLC for complete plant management, provided with software that is certifiable according to CFR 21 – Part 11 regulations, and that guarantees reproducibility of the dried batches and communication with centralized supervision systems.

Technical Data	Bowl Working Volume in Litre	Impeller HP	Chopper HP	Compressed Air Consumption @6 Bar	Cleaning Water Consumption 3 @ 3bar g
PPT-RCVD-100	60	3	0.5	26 Nm ³ /h	2 m ³ /h
PPT-RCVD-300	180	3	1.5	28 Nm ³ /h	2 m ³ /h
PPT-RCVD-500	300	5	1.5	30 Nm ³ /h	2.5 m ³ /h
PPT-RCVD-800	480	5	2	35 Nm ³ /h	3 m ³ /h
PPT-RCVD-1000	600	7.5	2	40 Nm ³ /h	4 m ³ /h
PPT-RCVD-1500	900	10	3	50 Nm ³ /h	5 m ³ /h
PPT-RCVD-2000	1200	12	3	60 Nm ³ /h	6 m ³ /h
PPT-RCVD-3000	1800	15	5	70 Nm ³ /h	6 m ³ /h
PPT-RCVD-5000	3000	20	5	80 Nm ³ /h	6 m ³ /h