



Drying

AVA - the fast way of API Drying

AVA dryers for pharmaceutical substances meet and exceed International standards GMP and FDA, also for HP APIs. AVA dryers are customized units, made of high-quality steel (e.g. hastelloy). They can be equipped with fully automatic containment solutions or manual glove boxes to ensure maximum of industrial safety measures.



AVA API Dryer

Clamped flange joints and CIP/WIP nozzles make AVA dryers extremely easy to clean. By using the AVA hydraulic lifting column the dryer's upper and lower parts can automatically be separated to gain access to the interior of the dryer. The original AVA helical agitator is driven and single-sealed from top. Shaft seals and bearings do not leak into the product, what minimizes the contamination risk. AVA offers a variety of gas lubricated lipring seals and mechanical seals, lump breaking choppers, sight glasses, samplers.

API Drying Process

The product as a wet cake pours into the AVA dryer from top, discharging the upstream centrifuge or nutsche. After filling the dryer's top valve is closed. During drying the product is moved by the AVA helical mixing tool. Product is pushed upwards the vessel, absorbing heat energy from the heated jacketed wall. From up there the product flows back into the centre to the bottom of the vessel, gets lifted up again and so on. It scrolls through a continuous vortex-motion many times per minute, homogenizing very quickly in terms of temperature and humidity.



Dryer with containment system

Up to 70% time saving with AVA technology

Vacuum lowers the steam pressure and the solvents quickly evaporate at low temperatures. For boosting AVA drying rates the dryer's shaft and agitator also are heated to provide additional surface for even higher heat transfer rate. By these measures AVA drying time shortens up to 70% compared to traditional conical dryer systems.



A pneumatically controlled ball segment valve with an inflatable seal is situated in the lowest point of the dryer to discharge the dry goods as a powder. There is no dead space.

AVA dryers for APIs are available from pilot size to production size.

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AVA process technology

Mixing
Drying
Reacting
Granulating

Sterilizing
Evaporating
Humidifying
Homogenizing

100%

Designed &

Made in Germany

