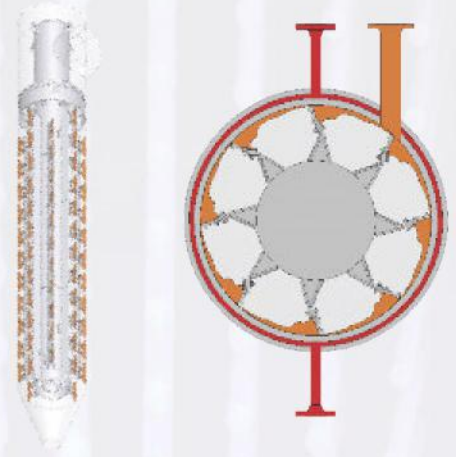


# Vertical Thin Film Dryers



Thin film dryers are characterised by a mechanically agitated thin product layer. The film thickness is normally in the range of less than one up to a few millimetres.

In vertical thin film dryers the wet feed is distributed over the heated wall by a distributing ring and evenly applied to it in a thin film by hinged pendulum blades. Running downward the pro-

duct passes typically through an evaporation zone, then a slurry or crystallisation zone and finally a powder zone. Most of the liquid is removed in the evaporation and slurry zone while in the powder zone the surface moisture from the solid particles and some of the internal moisture is driven off.

The volatile components driven out of the product by heat, pass upward through the dryer counter-current to the product flow and are then condensed in an external condenser. The powder obtained at the bottom is discharged continuously via a suitable gaslock system. The total residence time of the product is between 30 and 60 seconds.



Assembly of CP dryer



Manufacturing of CP rotor

## Applications

- Agrochemicals (Atroazine etc.)
- Waste water and spent liquors
- Chlorides, bromides, sulfates
- Silane recovery
- Benzosulfonic acid
- Chemical intermediates
- Solvent recovery from waste
- Carbonates, phosphates
- Silicon, silicon carbide
- Xanthates
- Dyes and pigments
- Glycerine
- Sodium formiate
- Baron carbide, baron nitride
- Caffeine, condiments

## Process Features

- Continuous processing of liquid and pumpable products to get dry solids in one step
- Gentle treatment of products thanks to short residence time and – if necessary – operation under vacuum
- Fully enclosed design to treat explosive, toxic and hazardous substances
- Complete recovery of solvents
- Contact drying to ensure optimal energy utilization
- Self-cleaning of heat exchange surface, hence a constant high heat transfer