

Ballrechten-Dottingen, April 22 2020

How to process powders efficiently

The pharmaceutical industry has the highest requirements for the production process – Technology by ystral is the answer to this

Ballrechten-Dottingen. *Many pharmaceutical products are manufactured on the basis of powders, or are finished with them. Whether gels, creams or suspensions, coatings on tablets or in the manufacture of granulates. Powder and powder mixtures of all kinds are used here. The most important thing for the processors: Not only the quality has to be right, the results have to be reliably reproducible as well and has to be subordinated to the often minutely coordinated requirements of the process chain. The strengths of the ystral technology are used here.*

For manufacturing companies from the pharmaceutical and chemical industry, it is often important that the largest possible bandwidth of batch sizes can be produced on a single plant. Off-the-peg machines and plants are the wrong approach here. "Our plants are precisely tailored to our customers' requirements," explains Denis Hunn, process and application engineer at ystral. This means: the system has to have a variety of configurations and to be very good to clean. Pharmaceutical cleaning processes (CIP, WIP, SIP) are the most challenging in the industry.

Traditional agitators conceal risks

This is where conventional technology quickly reaches its limits. Dissolvers or traditional agitators cannot achieve a consistent wetting of powdery fillers without forming agglomerates or air pockets.

The solution is a system that achieves the complete wetting and optimum dispersion of powder particles both in liquid and viscous media. The Conti-TDS by ystral does this. It is used, for example, in the manufacture of all solvent-based and watery coating suspensions. The powder is added via a suction hose from bags or directly from containers. The powder only comes into contact with the liquid in the dispersion zone. The dispersion takes place under a massive shearing action and vacuum.

The Conti-TDS generates its suction effect directly in the liquid. This means: Contact between the operator and the materials is completely avoided. The powder inlet is closed after the powder is added. The Conti-TDS can then be used as an inline dispersion machine or for further

degassing. It can be installed both on existing vessels and in complete systems.

Less effort, better results

With the Conti-TDS, it is possible to manufacture dispersions and emulsions with particle or drop sizes in the nanometre range. Because the formation of agglomerates is avoided, a higher product quality is achieved. In addition, wetting and dispersion take place at considerably lower temperatures than with conventional technology. This advantage is often a benefit for downstream process steps.

The suspensions produced with the Conti-TDS have a 90-percent higher storage stability as a result. This makes the coating process possible hours or even days after manufacture, even without a separate agitator in the storage tank. Energy consumption is almost two-thirds lower than when using conventional technology – with higher quality. Better handling compared to conventional technology is another bonus.

More information about YSTRAL Conti-TDS is available at www.ystral.de.

ystral is a fast-growing, owner-managed family company active in mechanical and industrial engineering, which achieves with its around 270 employees a revenue of 42 million euros. With dedication and commitment, the company from Ballrechten-Dottingen, near Freiburg, projects, designs and manufactures clever mixing, dispersing and powder wetting machines and process systems. ystral technologies are used around the globe in the pharmaceutical, chemical, food, home and personal care industries.

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Caption

Image 1



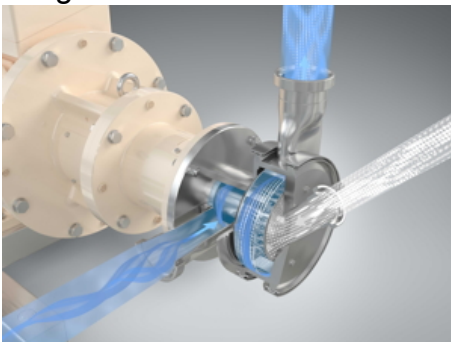
YSTRAL process plant for the production of a water-based paint and polishing solution

Image 2



Mobile YSTRAL process plant for the production of tablet coating

Image 3



Separation of the powder particles by vacuum in the dispersion zone

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