ABB FRANCE - INDUSTRIAL AUTOMATION DIVISION - CELLIER ACTIVITY

Continuous Coating Colour Preparation

High-shear mixer with on-line quality control

The continuous coating colour mixer is a fully-assembled skid equipment combining in a continuous process the dosing of chemicals, high-shear mixing and on-line quality control for an optimised production of coated papers.

Applicable for all types of coating colours, it is an accurate system following the machine requests, ensuring stable process conditions and low operating costs.

The continuous coating colour preparation process consists in the continuous dosing and high-shear mixing of raw materials and chemicals, while observing the necessary and optimum retention time in order to obtain a homogeneous and high quality product.

Associated with an on-line quality control system, this process guarantees with accuracy the required characteristics of coating colours, such as solid content, viscosity, pH and temperature.

Application
Preparation of monotype or pigmented coating colours for the manufacturing of coated papers, particularly LWC, art papers, specialty papers, coated boards. Requirements:

- Solid content up to 70%;
- Viscosity up to 2,500 cPs.

Benefits

Fast Return On Investmenent due to:

Lower initial capital investment
- Reduced equipment cost (less equipment)
- Reduced installation cost (fully assembled)

Lower operating costs
- Reduced production time
- Minimised coating colour losses and waste
- Reduced power requirements (25-35% energy savings)
- Reduced waste treatment costs (reduced effluents)

Consistent product quality
- Optimised process control
- On-line adjustment of coating colour formulae
- High levels of accuracy and repeatability

Lower maintenance
- Less equipment and smaller plant
- Lower spare parts costs

Features and performance

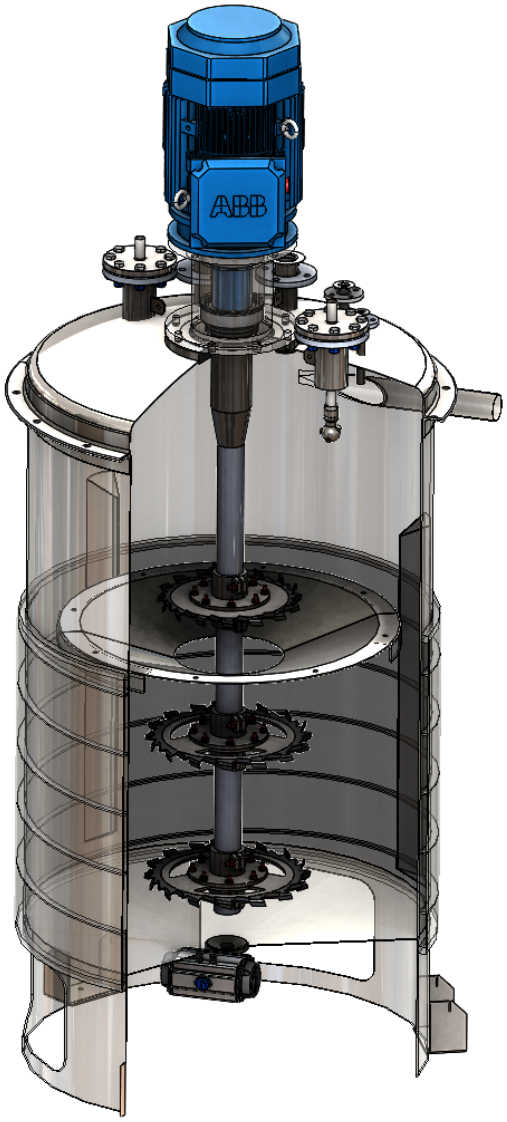
Process description

- Dosing of raw materials and chemicals into the continuous high-shear mixer through flowmeters.
- On-line mixing with an intermediate stage (conical baffle) to intensify the shearing effect of turbines while limitating the mixing volume.
- Coating colour «maturation» controlled by cooling jacket for colour development and swelling (maturation time: 10-15 minutes of maximum production time).

Quality control

Preparation of monotype or pigmented coating

- On-line solid content control through flowmeter.
- On-line colour quality control through quality loop (viscosity, pH, temperature measurements).
- Accuracy control of flowmeters using mixer load cells (daily, weekly or monthly automatic accuracy control).



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