

Self-cleaning coarse filter

In-line filtration of coating colours and starch size



Designed to remove coarse contaminants from coater return line, ABB self-cleaning coarse filter is automatically cleaned in place during a paper break, without any manual operation.

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ABB In-line coarse filter with cleaning in place function

Solution

- In-line filtration of coating color or sizing starch on coater return line.
- Removal of paper particles and coarse contaminants.
- Square mesh grid screening at 5000 microns.
- Cleaning in place through built-in high-pressure spraying nozzles.
- Automatic drainage of contaminants.
- Housing, filtering grid and product contact parts are in stainless steel.

Benefits

- Pre-filter for finer filtration.
- Protect other process equipment, avoiding pollution of finer filters and coaters.
- Improve the cleanliness of coating colour or sizing starch, as well as the quality of the end product.
- Clean in place: automatic cleaning operation, requiring neither dismantling nor opening.
- Sturdy construction.
- Very low maintenance.

Operation

The product returning from coating heads, i.e. coating colour or starch size, enters the inlet and is filtered through the grid surface. The flow is longitudinal. Large paper particles or coarse contaminants are trapped on the surface of the grid. The filtered product exits through the outlet.

Cleaning

The coarse filter is cleaned in place and requires neither manual nor dismantling operation. The self-cleaning is achieved during a paper break, through efficient spray nozzles cleaning the whole surface of the filtering grid with high pressure water at 18 bars. At the same time, a counter cleaning of the grid is ensured by spraying nozzles located at the back of the grid to perfectly clean the filtering surface (see picture below).



After the cleaning, the drainage of the filter is triggered by the opening of an automatic valve at the bottom of the filter. Accumulated solids and contaminants flow out the bottom drain nozzle to the sewer. A tangential water inlet nozzle helps to flush the solids remaining on the bottom surface in order to completely clean the filter.



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01 Coarse filter with opened flipping cover

02 Coarse filter with product inlet on the right side, outlet on the left side and flush water inlet on the front side.



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Maintenance

The filter's internal parts are easily accessible by a flipping bolted cover, allowing an easy maintenance.

Range

Different coarse filter models are available according to the maximal product flowrate.

Process data

Product	Diltued sizing starch	Coating colour
Viscosity, cPs	30-70	1000-3000
Temperature °C	50-70	30-40
Solid contents	8-16%	60-70%

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