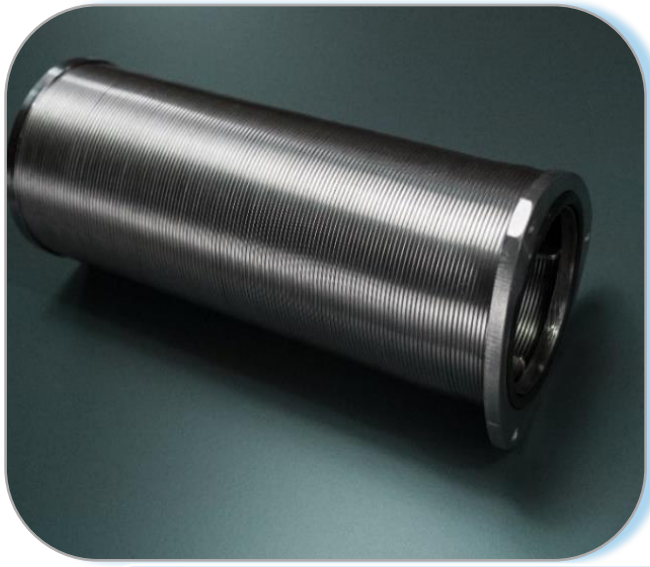
Implementation of ZGF Proprietary Spring Filter Technology Prevents Spray Nozzles from Plugging, Improves Process Reliability

The Most Advanced, Automatic, Non-Disposable Liquid Filtration System

ZERO GRAVITY FILTERS

Pulp and Paper



Each EC100 Pod has (1) proprietary ZGF Spring Filter element with a 50µ Absolute Gap

EZ Clean EC100, 3-Pod
Flowrate: 15 gpm
Process Temperature: 190°F

Customer Challenge:

A manufacturer of recycled paper installed an automatic type filter to protect a row of spray nozzles. The filter was unable to sufficiently clean itself, causing a loss of flow to the nozzles. The nozzles control the amount of moisture added to the rolled paper during the process. Insufficient moisture causes paper breaks. Manual filters are not an option because the mill cannot dedicate maintenance personnel to the constant changing of filters. The engineering team needed to find an automatic filter that was effective.

ZGF Solution:

ZGF installed an EZ Clean EC-100, 3-Pod automatic filter with proprietary ZGF Spring Filter elements.

The Spring Filter is a stainless-steel coil wound with a variable pitch that allows the filter element to open evenly from top to bottom ensuring that all contaminants are completely removed from the filter element with each backwash. The full opening of the Spring Filter allows lodged or wedged particles to be easily removed as the gap is increased. While in backwash, the fluid flowing in the reverse direction causes the coil to “shimmer” which further enhances the cleaning capability during the backwash process.

The system is configured so that in filter mode, all three filter elements are on-line. During backwash, each pod is cleaned sequentially by using an external clean water supply.

Results:

- Since installing the ZGF EZ Clean EC100, 3-Pod filter, the spray nozzles have remained clear and the manufacturer has noticed significantly fewer paper breaks.
- The ZGF EC100 filtration system has consistently returned to its clean differential pressure upon completion of each backwash with no downtime or maintenance.
- The ZGF system has improved process reliability and eliminated a maintenance burden.