# RPA Process Technologies

## Paint Manufacturer Replaces Vibrating Screen with DCF Filter to Solve Throughput Problems

### More Cost Effective
### Easier to Operate and Maintain
### Friendlier to Our Environment

Flex Bon Paints of Ft. Myers, Florida experienced overflow and noise problems with the vibrating screen on its paint fill lines. A new in-line filter, installed to replace the vibrating screen, had its own set of problems. After seeing an ad for Ronningen-Petter Mechanically-Cleaned DCF filters, Flex Bon engineers contacted RPA Process Technologies and got the help they needed. Flex Bon installed a Ronningen-Petter DCF-800 filter and forever solved the volume and noise problems on its paint fill lines.

### APPLICATION DATA

**Model:** DCF-800
**Type of liquid:** Latex architectural paint
**Flow rate:** Up to 80 gpm
**Viscosity:** 1200 cps
**Temperature:** Ambient
**Filtration Required:** 150 micron (100 mesh)
**Disc/Purge Control:** Electrical timer control
**Cleaning Disc Material:** UHMWPE
**Filter Location:** Paint fill area for 1 and 5 gallon cans
**Elastomers:** Buna-N

### SITUATION

Latex architectural paint manufacturer Flex Bon Paints used a vibrating screen for final filtering on its automatic and semi-automatic paint fill lines, prior to filling one and five gallon (4 and 19 liter) paint containers. The flow rates on the lines ran as high as 80 gallons/min[3] (18.2 m[3]h), but throughput on the vibrating screen was inadequate. The screen was too noisy, labor intensive and would overflow, because solids that collected on the screen had to be manually removed.

Flex Bon engineers decided to look for a quieter filtering system that could keep up with the fill lines and eliminate the overflow problems. The in-line filter they selected seemed to fit the bill — or so they thought. Soon after installation they began experiencing problems, including seals that did not properly seal.

Shep Beasley, director of purchasing and plant operations at Flex Bon Paints said, "We were looking for an answer. We saw an ad for Ronningen-Petter DCF filters and decided to get more information."

### RPA PROCESS TECHNOLOGIES SOLUTION

After consulting with RPA Process Technologies, Flex Bon installed a Ronningen-Petter Mechanically-Cleaned DCF-800 filter with an electrical timer control that purges the collected solids at timed intervals. The DCF-800 filter has a patented cleaning disc that moves up and down the filtering screen, scraping debris from the screen and collecting it in a chamber at the bottom of the filter. The debris is periodically purged from the collection chamber by a discharge valve in a process that takes less than 7/10 of a second — with no interruption in production.

### RESULTS

The Ronningen-Petter Mechanically-Cleaned DCF-800 filter has no moving seals, so the sealing problems Flex Bon was experiencing with the in-line filter were eliminated. Even better, the DCF-800 filter cleans and purges without halting production, resulting in a constant differential pressure and very high throughput levels on the paint fill line. Beasley said, "We haven't found the upper limits of flow rates yet with the DCF. We feed our one-gallon and five-gallon lines at the same time and can't starve them. It exceeded our expectations."

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