

# Application Case Study



LIQUID PROCESS FILTERS GRAVER TECHNOLOGIES 1-888-353-0303

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ACS-008

## Citric Acid Plant Condensate Water

<b>Application:</b>	Condensate Water in a Citric Acid Plant
<b>Competitive Product Used:</b>	Parker Fulflo Stringwound Filters
<b>Graver Product:</b>	Graver Technologies GFP 1-30P7E

### Customer Background:

The customer, based in Europe, is one of the world's leading producers of natural, biodegradable ingredients, such as citric acid, gluconates, lactics, special salts and sweeteners for the food, beverage, pharmaceutical, cosmetic, and other industrial applications. The products are manufactured utilizing fermentation technology, a natural process. The Group operates manufacturing plants in Austria, Canada, France and Germany.

### Problem:

The customer was having issues with rust and dirt in their condensate water lines where they had 4 Parker housings (5x30" Code 7) equipped with Parker Fulflo M13R30S-SFE installed (FDA PP string wound, 30 micron, 30" on 316 SS core, code 7). Usage was approximately 200pcs per year in this one application. The customer asked for a quote for an additional 2 housings to allow an increase in the flow rate from 60 to 72m<sup>3</sup>/h (from 264 to 317 GPM).

The distributor's goal was to find a better solution for the customer and also to secure the cartridge filter business. However, the application temperature of 90 to 98°C (194 to 208°F) precluded the use of many commonly available products. Upon review of the Graver product catalog they noted the GFP filter's capabilities to withstand high temperatures and made a proposal to the customer to try GFP in the current housings and forego the investment in additional housings.

The customer agreed to test Graver GFP 1-30P7E filters on one line. Note that this involved a dramatic change in filter technology - From 30 micron string wound with stainless steel core to 1 micron pleated microfiberglass with polyester hardware. The goal was to achieve the cleanliness level the customer was never able to achieve with the string wound filters, while saving money in capital investments in housings. The GFP was selected due to the high surface area pleated construction that would allow higher flows with the same number of filters, higher dirt holding capacity and longer on-stream life.

**Results:**

- Service life with the Graver GFP filters was 3-4 times longer than the service life of Parker string wound filters. Specifically the Parker filters lasted 3-4 weeks max and Graver GFP lasted 3 months! Note that filters were removed for analysis prior to full plugging, so in fact life is expected to be even longer on ongoing basis.
- The production manager took daily samples from the filtrate and lab analysis showed excellent cleanliness levels throughout the filter's service life.
- The customer was able to forego additional investment in housings.
- Examination of the used GFP filter showed a high level of dirt loading showing full utilization of the filtration media.
- The customer has now also trialed Graver GFP series in citric acid production and found similarly good results.
- They are very pleased with the conversion from low end string wound filters to high performing Graver GFP, pleated microfiberglass filters.

*Remember to always look for alternative/better solutions for the customer, rather than simply replace like for like.*