

## THE CUSTOMER

A German manufacturer of ester-based lubricating oils no longer achieved the prescribed purity class of its lubricant with its previously conventional cleaning process followed by a filtration step. Laboratory tests showed that the particles are in the range of 5 to  $1\mu$ m (and even finer) and could no longer be sufficiently removed using the existing  $2\mu$ m filter.

## THE CHALLENGE

Global Filter suggested the use of special filter material made from microglass fiber (borosilicate glass) - the High Purity FG Pleated filter cartridge. This special filter material has an excellent fine-pored and therefore highly porous filter matrix for excellent dirt holding capacity while at the same time having a much smaller filter matrix thickness, especially compared to classic depth filter cartridges. The filter material can be excellently processed into so-called pleated (star-folded), cylindrical filter cartridges. The folding creates an optimally large filter surface in the cylindrical body while at the same time offering high stability and the lowest possible tendency to compaction. A slightly positive charge latently inherent in the microglass fiber has a further positive effect on retaining even the finest colloids. The FG Pleated filters are available in two efficiencies: nominal with 90% effectiveness and in absolute separation quality with 99.98% effectiveness, both down to 0.2µm retention rate.

The manufacturer decided to carry out initial tests with the special filter cartridges, initially on a semi-technical



Office Mas d'Auriac D237 84100 Orange, France scale with filter cartridges in a commercially available configuration and the corresponding filter housing. Depending on the size of the test filtration required (quantity/flow/process parameters), Global Filter offers both small housings for purchase directly, or there is the option of renting filters for the task or batch. These devices are then usually handed back to Global Filter at the end of the tests.

## THE SOLUTION

After initial minor difficulties due to the test equipment not being optimally adapted (flow/pressure), the results of the filtration tests after optimization showed that the required purity class was achieved in just one filter run (single-pass). This is of considerable importance for the economy and productivity of the cleaning step. The test results allow very good conclusions to be drawn regarding the quality, performance and service life of the filter elements for the design and dimensioning of the large system.

Based on the test results, an appropriate cartridge filter system was dimensioned and the manufacturer can optimally integrate it into its existing production in terms of planning. By solving the problem, the manufacturer, together with Global Filter, has succeeded in making the world safer, healthier and more productive again!

Global Filter's extensive knowledge of the lubricant industry enabled us to find a new solution to pass quality levels

For more information on this and other Global Filter customer success stories, please contact Georg Schmidt: georg.schmidt@filtrationgroup.com

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