



Leon Waller
Sales Company The Netherlands

Plastics in Electroplating

Plastics are ideally suited to convey aggressive chemical liquids in the electroplating industry. The Dutch firm, MEFIAG, specializes in the manufacture of filters for this industry sector and uses Georg Fischer products to this purpose.

Since nearly 50 years Mefiag (the name is composed of the words **ME**tallic **FI**lter **AG**gregate) has independently developed and manufactured filters and pumps for the electroplating industry. The company which is located in Heerenveen employs 34 persons and belongs to the corporate group of the American multinational firm, Met-Pro Corporation. Among the other companies belonging to Met-Pro, which are active on the European market, are Fybroc and Sethco.

Filters to prevent contamination

Whether galvanizing, nickel plating or chromium plating – filters are essential for a flawless electroplating process. The filters prevent impurities from reaching the products to be electroplated – impurities, which would otherwise be electroplated along with the product and result in undesirable consequences. One of these consequences is rough surfaces, which in turn can impair dimensional accuracy, negatively affect chemical resistance, etc. Which filter is used depends on the type of electrolyte (nickel bath, copper bath, zinc bath and so forth).

Filter types

There are three main types of filters: plate or leaf filters, «candle» or cartridge filters, and bag filters. These standard filter types are available in a large number of different versions, e.g. with different capacities, different area surfaces and made of different materials.

The required capacity of a filter depends on the amount of electrolytes to be pumped through it. Using a specific calculation, it can be determined which pump needs to be used.

The filter capacity ranges from 400 up to 90,000 liters per hour. The surface area of the filter is proportional to the pump capacity and in direct relation to the calculated flow. For example, the plate filters vary between 0.02 m² to



16.5 m² surface area. Finally, there is a huge selection of **materials**. Anything is possible, from polypropylene to seamless steel, coated with soft PVC-C. In addition to the standard filters, Mefiag also develops special filters for degreasing baths, sealing baths, and ion exchangers, not to mention electrolysis units for the recovery of metals from the used electrolyte.

Filters, pumps, and plastics

The electroplating industry obviously works with aggressive, chemical liquids. Due to their high chemical resistance, plastics are the only type of material which is perfectly suited for use in the electroplating process. Depending on the application and after consulting the customer, it is possible to construct filters and pumps from standard parts and still completely satisfy the customer



Mefiag develops and produces filters and pumps for the electroplating industry.

APPLICATION

Filter units such as these are constructed in a modular design and made into complete systems.



Prefabricated components for a filter plant in the electroplating industry.



wishes. For the piping system, Georg Fischer ball valves and diaphragm valves are used to warrant an optimal end result. If so desired, it is also possible to expand the installation with various measurement and control products, such as, for example, flow sensors or actuated valves for monitoring purposes.

The relationship between Mefiag and Georg Fischer

The Mefiag filters stand apart from other filters because of their excellent quality. This is largely due to the clever design and 50 years of experience in filter technology. The careful selection of materials, however, also contributes to their success.

The orange-colored Georg Fischer valves, which can be spotted from afar, are a distinctive feature of the filters.

The reliability of Georg Fischer materials is another convincing sales argument, which carries a great deal of weight with the customer.

For this reason, these advantages are clearly pointed out in the Mefiag tenders and product documentation.

The decision to use Georg Fischer is based, of course, on the quality which has proven itself over the course of many years, as well as the service and the flexibility which is in keeping with the Mefiag business policy.



Georg Fischer ball valves and diaphragm valves are easily identifiable in the filter units.