



Neo-Mag Mag-Drive Plastic Pumps for Metal Finishing & Plating Process

PRODUCT TYPE AND ENVIRONMENT MUST BE CONSIDERED WHEN CHOOSING THE PROPER PUMP

Metal finishing and plating processes are acknowledged as being among the most challenging applications for pumps. This is often as a result of the environment in which the pumps are operating, along with the wide range of aggressive fluids used in many of these surface treatment and finishing processes.

The Neoflux range of **Neo-Mag** Plastic *Mag-Drive* Centrifugal pumps available, have been used successfully in some of the most demanding Metal Finishing and Coating applications.

Neoflux completes the design of their latest Magnetic Drive pump, the NMP Series, which featured engineered plastics and other specialized materials to ensure optimum corrosion resistance.

One of the processes involved concentrated nitric acid, used as a stripping agent to remove built-up plating materials on barrels and other items used in their plating processes. Nitric is an extremely aggressive highly oxidizing acid capable of dissolving most metals and has a severe effect on many other materials. Eventually, the nitric acid became saturated with the various plating products removed during the stripping process and engineers started to look at ways of reducing the use of nitric acid. This led to the installation of the NMP Series pump on a trial basis within a filtration system which was designed to recycle the nitric acid.

A *Neo-Mag* test pump was manufactured from extremely corrosion resistant materials including precision molded Carbon Fiber filled Polypropylene, PTFE bushing, High Purity Ceramic and powerful neodymium drive magnets encapsulated in pure Polypropylene. It was then installed in the nitric acid recycling system, a truly challenging application.

Once installed on the filtration system it is used to circulate approximately 680 liters of nitric acid through a series of filters with each filter removing progressively smaller particles. The goal is to re-circulate the tank about three times per hour until the nitric acid is clean enough for reuse. The pump is in regular operation for 6 months while the effectiveness of the filtration process is evaluated. Due to the excellent performance and reliability of the pump in that test, companies continue to use Neo-Mag pumps for handling corrosive and hazardous fluids.

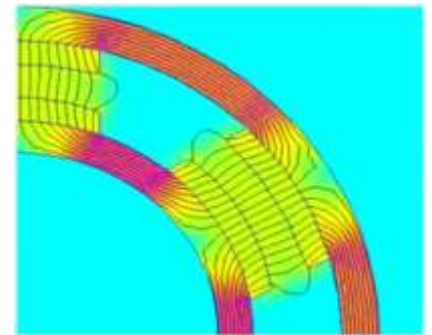
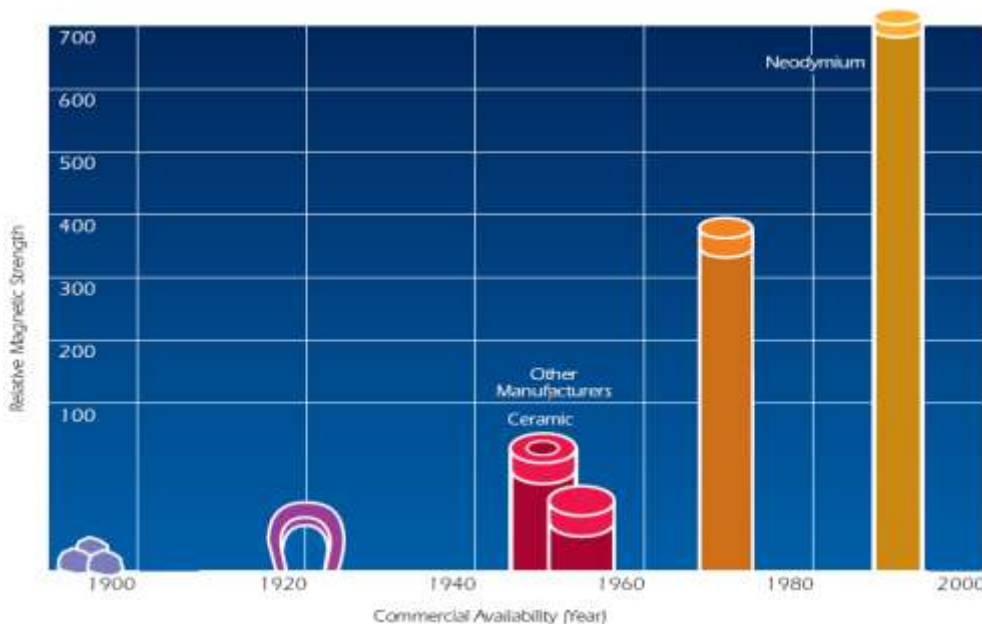
As a result of the non-metallic materials used for both the housing and all the key wetted components, Neo-Mag **NMP Series** pumps are ideal for transferring corrosive liquids in chemical manufacturing, metal plating, surface treatment, wastewater treatment, electronics manufacture or wherever hazardous liquids need to be pumped safely.

Neo-Mags are available in a close-coupled design configuration for optimum magnet alignment and provide extended dry-running capability when specified with a carbon bushing and are therefore protected from system upsets.



Other features and benefits include:

- High operating efficiency resulting in lower energy consumption
- Improved hydraulic coverage for both 50 and 60 Hz operation.
- They have evenly spaced impeller trims enabling duty points to be precisely met and a two-piece impeller design which allows the impeller or inner drive magnet to be individually replaced.
- Also, the **NMP Series** pumps offer high working pressure capability which means fluids with a high specific gravity can be easily pumped without the need for impeller trimming.
- The pumps are designed for either horizontal or vertical installation (vertical when equipped with an IEC motor)
- They have a maximum operating temperature of 180°F (82°C) for the polypropylene model.
- The Corrosion Proof Magnetic Capsule incorporated with Powerful Rear Earth Neodymium Magnets for high magnetic strength.



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