



## APPLICATION NOTE: Mag Meter Assists in Heating Process for Metal Plating Operation

Metal plating provides numerous benefits to products made from metal and other materials and is used in many industries such as aerospace, automotive, hardware, and decorative household materials. It makes products and parts more resistant to corrosion, enhances paint adhesion, increases strength, reduces friction, and improves appearance.

The plating process applies a thin layer of metal to coat a substrate and involves using various solvents, acids and chemicals to clean, treat and rinse plating material. During the initial cleaning process vats full of cleaning solvents are heated to a specified temperature. It is important to maintain the fluid temperature in the vats to properly clean and prepare the substrate.



*Plating tank with automatic part dipping system*

The vat has two operating modes: “Heat up” which brings the system up to temperature on the night prior to production starting, and normal operating mode. During the heat up mode the circulating/booster pump(s) will be running full speed, but during normal operating mode, the system can “relax.” The heaters will go to a low fire mode, and the circulating pump(s) speed will be controlled with a VFD controller using the output signal from the flow meter as the control parameter. The customer will find the “sweet spot” for operating the system and be able to dial in the appropriate set point for the flow rate to the system.

Flow Technology’s EL2200 electromagnetic flow meter and MC608 electromagnetic transmitter were selected due to high accuracy and low maintenance design. The customer is utilizing the remote-mounted transmitter to mount in a more convenient location and cooler environment. The 4-20mA output is used to control pump speed.

### HIGHLIGHTS

**Industry:** Metal Plating

**Service:** Flow rate

**Fluid:** Hot water

#### **Application**

Control flow of hot water to heating panels in plating bath to maintain proper chemical, solvent and acid temperature

#### **Problem**

- Temperature of metal plating baths need to be brought up quickly and maintained throughout the work day
- Need an accurate meter to provide feedback to control pump speed

#### **Solution**

- EL2200 Electromagnetic Flow Meter
- MC608 A/B Electromagnetic Flow Transmitter

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