

Success Story

Industry Segment: **Automotive**

Plating Line Water Quality Management in Rinse Tanks



The Customer

Our customer is among the largest two-wheeler manufacturers in India and one among the top ten in the world, with annual turnover of more than USD 1 billion in 2006-2007.

The Application: Plating line water quality management in rinse tanks

This particular application is in the area of silencer chromium plating. Chromium plating is adopted for 3 reasons: better looks, easy maintenance and better temperature withstanding capability.

In the process of plating, for better finish, silencers go through a series of chemical pre-treatment processes like pickling, descaling, anodising, ... After every chemical treatment process, the product is washed in water tanks, which will have chemical dragout from the process. The water in turn loses its original properties, which need to be recovered for the subsequent production line. In order to do this, we replenish the water levels by draining the contaminated water and replenishing the same with fresh water. Earlier these cycles were done on time basis, which was not a very accurate method. It used to result either in wastage or poor quality of water.

Automated water replenishment was the solution. And FCS was chosen as the solution partner.

Since the test rig is part of an online assembly, its success was important.

The Challenge

For FCS, the domain of precision hydraulic testing was a first time. While for the customer, the critical issue was to make it happen in India to replicate the automated performance testing standards as in Japan. Since the test rig is part of an online assembly, its success was important. A mutual sharing of competencies could make it happen. And that is what this success is all about. About the customer having trust in the solution provider and the latter taking ownership of the solution. FCS' engineers dedicated considerable time on-site to acquire domain expertise. The solution design reflects this intense involvement.

The Solution

Automated water replenishment was done by measuring chemical properties of water, i.e., TDS and hardness which had direct relation to the conductivity for a given pH. These two parameters were monitored online and water is added/drained by maintaining level in the tank as required for the process to go on. Non-contact level sensors are used to measure the water level in the tank.

The solution included design and execution of:

- PLC
- Local HMIs
- Conductivity/pH transmitters
- Pneumatically operated valves
- Polycarbonate enclosure control panel, to cope with chemically aggressive environment

The Benefits

- Considerable saving in water
- Better quality of plating
- Safety for working
- More quantifiable means of cost saving in the defined area

We also offer the following:

- Soft Starters
- Variable Speed Drives (VFD)
- Switch Mode Power Supplies (SMPS)
- Pressure Switches
- LCD Touchscreen Displays
- PLC and SCADA Software
- Complete Application Solutions
- Control Panels

For more information on any or all of these products, or to speak to our technical representatives regarding your specific application, please call or write to us at the address given below.