

DilutionIQ™

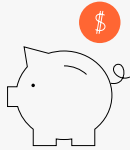
Chem Trend CASE STUDY - DIE CAST

State-of-the-art technology helps drive results under pressure.

REDUCTION IN TOTAL SCRAP



SAVINGS ON MATERIAL COSTS



WHAT WE ACHIEVED.

A die casting supplier of automotive parts was lacking a consistent and reliable dilution system for their production. The systems that were in place failed to deliver stable spray pressure and a consistent mixture of water and die lube to the spray heads — common and frustrating issues for die casters attempting to maintain proper proportions of concentrate and water. Further complicating their challenges was the lack of an automated means of collecting and storing data for their operation. All this amounted to product waste and compromised productivity and quality.

Enter DilutionIQ™ — a state-of-the-art system created by Chem-Trend engineers to monitor dilution rates and ensure optimal ratios are achieved, maintained, and delivered to die cast cells. After developing an approach that would meet the volume and pressure requirements for the operation, with DilutionIQ™ on the job, the die lube spray coverage outperformed projections by 20%, plus providing operators the benefits of continuous dilution monitoring and peace of mind knowing that their proportions were correct.

HOW WE GOT THERE.

In collaboration with the customer, an in-depth trial using DilutionIQ™ was conducted. Solder buildup was studied as well as downtime resulting from stuck pieces, and an analysis undertaken of volume and pressure requirements based on distance between

machines, cycle times, and spray times. This discovery process led to the development of a prototype system designed to meet their needs. The new DilutionIQ™ system was employed on a single row of the customer's die cast machines to compare results that were being achieved with the incumbent system. Performance exceeded expectations thanks to the system being uniquely engineered to:

- Provide greater accuracy by eliminating false readings and the need for expensive instruments and hard-to-interpret calibration charts
- Measure die lube dilution ratios for current and previous batches
- Increase spray capacity to ensure consistent product volumes and pressures to all DCMs
- Eliminate delay in identifying dilution ratio
- Measure total water flow and total concentrate flow
- Collect and maintain data for historic dilution and product usage studies

OUR SOLUTION.

Results from the extensive trial transformed the customer's operations so greatly, they adopted the new DilutionIQ™ technology for all their machines. Following this success, the trial also resulted in the die caster's eventual conversion to exclusive use of Chem-Trend products for even greater performance.



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HANDPRINT IMPACT.

At Chem-Trend, we pride ourselves on our long history of sustainability efforts. However, it is our effect on our customers' processes that provides the greatest impact. It goes beyond our global Footprint; it is our even wider Handprint.

Here, we achieved the following:

- Less product used due to more accurate dilution ratios through DilutionIQ™ data reporting
- Less waste and energy use due to reduction of scrap rate and shut-down frequency
- Reduction in water consumption due to more efficient dilution ratios and measurement of total water flow

