



# Grundfos Saves 82,000 kWh

## by Transforming Engine Testing for a Global Automotive Leader

### About the Customer

The customer is a globally recognised leader in the automotive sector, known for its commitment to innovation, sustainability, and customer-centric solutions. The customer has a diverse portfolio spanning multiple industries and maintains a strong focus on quality and performance.

### The Situation

Engine testing, a critical phase in the manufacturing process post-engine assembly, requires precise infrastructure to ensure operational efficiency and reliability.

The customer operates 16 advanced test beds for this purpose, necessitating a consistent and uniform flow of cold water to dissipate heat from the engine after each ignition cycle. To meet this demand, the customer employs a robust setup of four pumps running continuously without VFD, effectively sustaining the pressure and flow requirements of the test beds.

### The Challenge

The 16 test beds operated with fluctuating loads ranging from 30% to 100%. The outdated setup lacked VFDs and control features, resulting in power losses and an uncontrolled system.

At 30% load, bypass process valves redirected cold water to cooling towers without utilisation leading to water hammering issues. Additionally, space constraints prevented any new flow setup, leaving the customer without a viable solution.

### The Solution

Grundfos conducted a comprehensive system audit and demonstrated to the customer the transformative advantages of a hydropneumatic system for managing fluctuating loads and demands.

Based on these insights, Grundfos proposed an optimised solution: the **HYDRO MPC E3 X CRE 64-2-2 IE5-60Hz-11KW**, designed to deliver unparalleled efficiency and performance tailored to their specific requirements.

### The Outcome

- **Power:** Achieving an impressive energy saving of 82,000 kWh per year, translating into an annual cost reduction of ₹6.5 lakhs.
- **Space:** The compact, skid-mounted Grundfos system, equipped with pre-installed headers, allowed seamless installation alongside the existing setup without requiring a system shutdown.
- **Control:** Transitioning from a fully manual process to advanced automation through the MPC controller, the customer now enjoys complete control over the system. This has enabled an unmanned utility operation, previously unattainable.
- **Ease of Operation:** The customer is delighted with the remarkable ease of operation and the exceptional performance of the product.

### Key Highlights



**Power Efficiency:**  
Annual savings of 82,000 kWh



**Cost Benefits:**  
INR 6.5 lakhs saved per annum