



# How Grundfos Enabled 201.24 MW

## Annual Savings and Enhanced HVAC Performance for a Global Pharma Leader

### About the Customer

The customer is a globally recognised pharmaceutical company that operates in over 100 markets worldwide. With a diversified portfolio spanning complex generics, active pharmaceutical ingredients (APIs), and branded formulations, the organisation is dedicated to advancing healthcare outcomes across various therapeutic areas, including neurology, cardiology, dermatology, and oncology.

### The Situation

Grundfos' Energy Audit identified a significant savings potential of 2,675 TR from the perspective of pump operations at the site in question. Further investigation revealed that by adopting a consultative, system-specific approach, we could unlock substantial power savings. This not only enhances operational efficiency but also reduces average carbon emissions by an impressive 170 MT annually.

### The Challenge

- Minimise lkw/TR to maximise energy savings without compromising performance.
- Offer a one-stop solution by upgrading from a primary-secondary (hot well/cold well) setup to a variable primary system—optimising pumps, chillers, and cooling tower fans for peak efficiency.
- Execute as a phased project with step-by-step planning to ensure minimal shutdown and disruption.

### The Solution

The solution proposed was the Grundfos System Manager and Optimiser (SMO). Using insights from the Energy Audit, Horizontal Long coupled end suction (Model NK and LF pumps) was strategically proposed, and extensive power consumption data was analysed. To ensure precision, an external piping and design consultant was engaged, leading to a transition from a primary-secondary system to a variable primary pumping scheme.

Team Grundfos collaborated closely with engineers, proposing the SMO to control the working of primary pumps, condenser pumps, chillers, cooling tower fans, differential pressure transmitters, bypass valves, and isolation valves, along with supplying the combined panel with VFDs. While chillers and accessories were existing and supplied by a third-party vendor, Grundfos oversaw installation and integration with support from an authorised distributor, delivering an efficient and tailored solution.

### The Outcome

HVAC plant: Total power savings

- Previous value: 1.02 ikW/TR
- Value with SMO: 0.6 to 0.75 ikW/TR
- Previous value: 2727 kW/day
- Present value: 2168 kW/ day
- Energy savings: 20.5%
- Annual savings: 201.24 MW
- Average CO2 savings annually: - 170 MT (Considering 1 KWH = 0.85 Kg of Co2)