Atlas Copco vacuum drives high energy savings in thermoforming processes

Region: United Arab Emirates
Sector: Thermoforming
Benefit: 58% energy savings

As a leading plastics manufacturer in UAE, our customer has been an industry giant for over 80 years. The company develops an extensive range of quality compounds for different applications such as pipe fittings, cable insulation, sheathing etc. Its newest vision for the future was to enhance their thermoforming processes through energy-efficient, high-performing vacuum pumps.

Challenge:

From refrigerator liners to interior paneling, molding plastic into items for customer use is a central process for many industries. One way to do it is through thermoforming – where heated plastic sheets are given desired forms through vacuum. The overall product quality, perfection and aesthetics depended heavily on the efficiency of the vacuum system.

Thermoforming plays a lead role in creating most of our customer's home improvement division, which includes window profiles, door panels, PVC siding as well as fencing systems. However, the company's current vacuum installation consumed excess energy, was unable to adapt to the variable demand and was expensive to maintain and monitor.

Solution:

To combat these challenges, we introduced them to the Atlas Copco GHS VSD⁺ series. A range of new generation, oil-sealed rotary screw vacuum pumps with Variable Speed Drive (VSD). We installed two setups at the site - the GHS 1900 VSD⁺ and the GHS 1300 VSD⁺. Our screw vacuum pumps replaced 4 of their old liquid ring vacuum pumps that consumed a total of 44 KW of energy. Our installations only loaded 18.5 KW, effectively bringing about 58% energy savings.

The inbuilt VSD feature adjusted the speed of the pump according to the demand, ensuring more productivity and less energy consumption throughout the production period. The system is also air-cooled, which added an extra point to our customer's sustainability goals by cutting down the water consumption.

The enhanced HMI also provided better insights and control and the vacuum pump's intelligent design ensured limited and easy onsite maintenance.

GHS 1300 VSD⁺

GHS 1900 VSD⁺

Outcome:

Our customer's manufacturing legacy is built on the ability to adapt to changes and market expectations. Their search for a next-generation vacuum pump that was tough enough to handle their specific thermoforming needs and smart enough to lower operational costs led them to Atlas Copco. The GHS 1900 VSD⁺ and the GHS 1300 VSD⁺ have proven to be a true gamechangers for their production floor by enabling positive operational changes.

Overview of benefits:

- 58% energy savings
- No water wastage
- Limited maintenance
- Better monitoring and insights

Atlas Copco

atlascopco.com/vacuum

To know more about the Atlas Copco GHS VSD⁺ series, scan the QR code