

RAPID PAYBACK THROUGH ENERGY COST SAVINGS
FOR ONE OF THE WORLD'S LARGEST PRODUCERS OF

ALUMINUM CANS FOR THE BEVERAGE INDUSTRY WITH NEW HIBON VACUUM SYSTEM



**HIBON PUMPS HELP LEADING
PACKAGING MANUFACTURER
IMPROVE PICK & PLACE
PROCESSES**

OVERVIEW

Leading Packaging Manufacturer

Location France

Solution Ingersoll Rand Hibon two **DW 43**
vacuum pumps (Dewatering
packages)

Application Pick & Place Processes



Process air is one of the primary utilities used in manufacturing applications. It drives multiple tools and machines, enabling and speeding up a large number of crucial operations.

Access to the highest-quality air pressure and vacuum solutions helps producers optimize their production processes by **reducing operational costs and minimizing downtime**. Reliance on a proven expert in flow technologies, able to offer durable and cost-efficient pump, compressor or blower equipment, allows them to make sure that all of their process air needs are covered.

Hibon, a business of Ingersoll Rand and a leading provider of pressure and vacuum for numerous sectors, has recently collaborated with one of the **world's largest producers of aluminum cans for the beverage industry**, on improving the performance of vacuum stations at one of the company's manufacturing plants in Europe. As a result of the cooperation, the factory now features a new vacuum system that is much better suited to the customer's production needs and is bringing the manufacturer **significant energy savings**.

Vacuum plays an important role in the manufacturing of metal packaging. It supports a range of **pick and place applications** by helping to hold cans firmly in place during the various production steps and is thus commonly utilized in the canning industry. The vacuum solutions used in this sector need to be defined by dependability and **ease of maintenance** resulting in **maximized productivity**. They should also allow for the system capacity to be easily adapted to the current output requirements so that unnecessary flow and power waste can be avoided.

When the global aluminum can producer approached Hibon, they were facing a serious problem related to the abnormal power consumption of their European factory's vacuum system. The problem was exacerbated by the fact that the company had just expanded the plant's production capabilities by adding a third production line, which made its power demand go up even further.

The customer turned to our experts to find the reason for the system's inefficiency and **identify potential ways of solving the issue**.

SIGNIFICANT ENERGY SAVINGS



PICKING THE RIGHT PACKAGE

The metal packaging manufacturer was at that time using a central vacuum system featuring three liquid ring pumps, whose total power consumption amounted to 330 kW. The system offered a maximum flow capacity of 6,500 m³/h and an operating pressure of 320 mbar abs. Having analyzed the system's operation, Hibon engineers quickly came to the conclusion that the employed liquid ring technology and the lack of proper flow regulation were to blame for the **excessive energy use** at the company's plant.

The liquid ring pumps were constantly providing maximum flow, even though every day there were periodic variations in production activity as lines were stopped to change the product type. Having prepared a **detailed report with all the needed performance calculations and technology comparisons**, our experts suggested the replacement of the existing vacuum system with a new one consisting of **two DW 43 vacuum pumps** (Dewatering packages) with a **frequency converter and filtration equipment**.

Hibon's DW packages, which include a roots vacuum pump with water-cooling technology, are a **powerful plug & play solution for maximizing performance and efficiency**. They use up to **30% less water** and up to **50% less energy** compared to alternative liquid ring pump technologies. The frequency converter enables them to **adapt the flow to specific production needs**. The completely oil-free packages feature heavy-duty construction designed for continuous industrial use and have minimal maintenance requirements.

The two DW 43 packages installed at the can producer's factory offer greater maximum flow and higher operating pressure, of **9,000 m³/h** and **373 mbar abs** to be aligned with end user real need respectively, than the previous system while their energy consumption amounts to only 190 kW. They are also able to provide some overpressure in the system during maintenance, facilitating leak detection.

UP TO
30%
LESS WATER

UP TO
50%
LESS ENERGY

RESULTS

- Significant energy savings: 30% less water and up to 50% less energy compared to alternative liquid ring pump technologies
- Ease of maintenance
- Maximized productivity
- Plug & play solution
- Flexible and economical solution

Demonstrating its extensive flow technology know-how, Hibon has provided the company with a **flexible and economical solution** that best matches its unique process requirements.

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