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PRESSURE & VACUUM
SOLUTIONS

CASE STUDY

MODERNIZATION BECOMES SOUND DECISION FOR PAPER PRODUCER

DUTCH PAPER MILL UPGRADES TO SMALLER, MORE POWERFUL, AND QUIETER DEWATERING PUMPS

HIBON VACUUM PUMPS BRING SIGNIFICANT IMPROVEMENTS TO A DRYING PROCESS IN A SPECIALTY PAPER MILL

OVERVIEW

Leading Paper

Location Netherlands

Solution Ingersoll Rand Hibon two **DW 90** vacuum pumps (Dewatering packages)

Application Paper Dewatering

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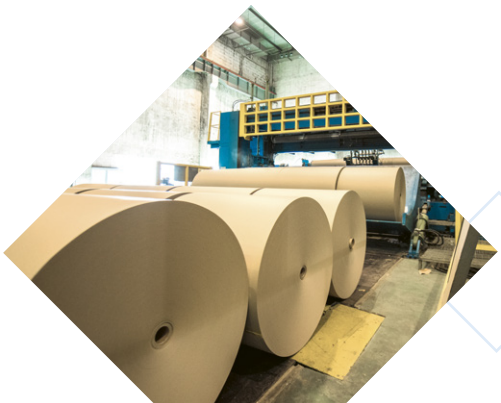
Hibon is a brand of Ingersoll Rand that specializes in **manufacturing industrial blowers and compressors**. With a history dating back to 1898, Hibon has established a **reputation for innovation**, **quality**, and **reliability** across various industries. Our product range includes a wide variety of rotary screw compressors, centrifugal compressors, and positive displacement blowers, designed for use in diverse industrial applications such as wastewater treatment, mining, pneumatic conveying, and more. With a global presence and a commitment to sustainability, Hibon continues to deliver advanced solutions that help customers enhance their productivity, efficiency, and profitability.

An independent family business since its founding in 1661, Neenah Coldenhove is a state-of-the-art paper mill based 60 km (38 miles) east of Utrecht in Eerbeek, Netherlands. With global customers and innovative advanced solutions such as digital transfer and medical sterilization papers, they are a leading company in the paper industry worldwide. They are committed to a sustainable future, only purchasing wood fibers from responsibly managed forests that are certified with the prestigious FSC label, among other green initiatives.

Neenah Coldenhove first started their relationship with Hibon 20 years ago with their purchase of HHLV Series twin lobe positive displacement blowers, as well as liquid ring pumps. As time has passed and significant technological improvements have been made, Neenah Coldenhove made the decision to modernize their vacuum system.

UPGRADES ARE ABOUT MORE THAN JUST EFFICIENCY

A significant factor in this decision was an effort to **reduce the amount of noise produced by the equipment** considering the location of their plant near the city center. Their previous installation had a noise level of 102 dB, which is equivalent to being next to a motorcycle or jackhammer. The initial consideration for a replacement was a new version of the same HHLV Series pumps, which would have provided half as much noise at 92 dB (equivalent to a motorcycle from 25 feet away, or less than 8 m).



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While this would have certainly been an improvement, the same pump models would provide neither the efficiency gains nor the significant reduction in noise that the customer was also looking for. Also, the lead time for production of these large pumps was estimated to be approximately 10 months. The customer desired a more timely and exacting solution that a simple replacement would provide.

After consulting with our expert engineers to best fit the exact needs of the customer, it was decided to install **two packages DW 90 blowers equipped with SNH890 IE bare shaft blowers and three lobes**. In addition to being smaller in size to the previous HHLV pumps, the new units provided an **increase of maximum flow to 288 m³/min vs 203 m³/min**, while providing the same level of vacuum and a **decrease in power consumption to 83 kW from 220 kW**. And these smaller units only required a **maximum lead time of 8 weeks**, allowing for a much quicker upgrade installation.

UP TO 60% LESS ENERGY

NEW PUMPS BRING SIGNIFICANT IMPROVEMENTS

Thanks to being equipped with three lobes rather than two, these new units allowed for better control of the noise level being produced. With the integration of additional accessories to the install, **the total noise level was lowered to between 60 and 65 dB**. This amount of noise is equivalent to that of ambient conversation in a crowded room, and is 1/16th the amount of noise that the original units produced. With such remarkably quiet operation, it was certainly the ideal solution for the customer's plant located within an urban setting not far from residences.

Moreover, the increased flow capabilities of each unit would allow Neenah Coldenhove to reduce operation to only a single unit for some type of paper that it produces. While the operation of both units together already provided a **significant energy and cost savings**, the ability to frequently cut that cost in half was an important incentive in choosing the DW 90 package to **modernize their paper dewatering process**.

UP TO 40% MORE AIR FLOW

HOW OUR ENGINEERS MADE IT WORK

The key to finding the right solution for the customer was understanding their process and specific needs. Our expert engineers were able to **exceed the customer's expectations for available flow, power consumption, and noise levels** through careful consideration of the wide variety of products offered by Hibon. Along with choosing the right equipment, we were able to adapt it to a variable frequency drive (VFD) for precision vacuum output during different production needs. A complete **plug and play skid driven by the VFD** was installed alongside the pressure transmitter.

Whether your needs are based on simple efficiency and output increases, or they include more nuanced changes such as decreasing the operational noise level, Hibon is the perfect partner. Let our expert engineers work with you to outfit your production with **the ideal 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.

INGERSOLL RAND AIR SOLUTIONS HIBON®
2 avenue Jean-Paul Sartre,
59290 WASQUEHAL
France
T : +33 (0)3 20 45 39 39
E : hibon@irco.com
www.ingersollrand.com
www.hibon.com