

The Glue Of The Operation

AIR-OPERATED DOUBLE-DIAPHRAGM (AODD) PUMPS FROM WILDEN® ARE THE PERFECT CHOICE FOR SABA DINXPERLO B.V.'S ADHESIVE- AND SEALANT-MANUFACTURING OPERATIONS



It was 25 years ago that Gerrit Klaassen, left, Commercial Director of Holland Air Pumps, recommended Wilden® Air-Operated Double-Diaphragm (AODD) Pumps to Henk Blom, right, SABA Dinxperlo B.V.'s Manager Technical Service, for the company's sealant-manufacturing operation. Since then, neither Blom nor Tonny Zaarbelink, center, Technical Manager Foam Bonding at SABA, have had any reason to regret the decision to choose Wilden.

As a high-volume manufacturer of adhesives and sealants, SABA Dinxperlo B.V. has, it goes without saying, encountered some “sticky” situations over the years. Founded in 1933 in the Dutch municipality of Wateringen, with relocation across the country to the German border town of Dinxperlo in 1935, where its operations remain today, SABA has grown into a leading independent producer of high-quality adhesives and sealants for industrial and building applications.

Over its 85 years of operation, SABA has been at the forefront of the industry while building a reputation as an innovator. For example, the company was the first in the world to manufacture a water-based adhesive that stuck immediately. This was quite the revelation for the foam-processing industry and, thanks to that innovation, SABA remains a global leader in manufacturing and supplying a wide range of adhesives for the foam-converting, mattress and furniture industries.

SABA's Business Unit Industry-Adhesives is tasked with producing and supplying adhesive systems that are used around the world in the foam-processing and PVC markets. In the end, though, SABA has used its eight decades of experience to confidently identify the challenges inherent in the adhesive- and sealant-manufacturing business and taken great pride in developing the best and safest process systems.

“SABA is proud to say that we are the top supplier of adhesive systems to the bedding and furniture market, and we are very focused on safety and quality for the industry,” said Tonny Zaarbelink, Technical Manager Foam Bonding for SABA. “We produce our adhesives in the most safe way possible and transfer that safety to our customers.”

Prioritizing Safety

Safety in the production process has had to be a main consideration for SABA because the raw materials that are



Manufacturing adhesives and sealants requires working among hazardous raw materials. Wilden® pumps offer the operational advantages necessary to handle these substances in the safest way possible for the environment and SABA's manufacturing personnel.

used to make adhesives and sealants need to be handled carefully.

The typical adhesive-production chain at SABA's manufacturing facility sees the raw materials delivered by truck and then transferred into holding tanks. From there, a computerized system dictates how much of the raw material will be needed to make a specific adhesive. For example, if four tons of adhesive need to be produced, the computer lets the system know how much of each raw material must be transferred into the mixing and blending tanks. After the new adhesive is created, it can be held in a storage tank or transferred into individual containers, 210-liter (55-gallon) barrels or 1,250-liter (330-gallon) IBCs before being shipped to the end-user.

Finding The Perfect Pump

In terms of operation, the pumps that are used to transfer both raw materials and finished products cannot leak, as this not only results in lost revenue from product waste and increased maintenance and cleanup expenses, but is

also a safety hazard for plant personnel. The pumps must also offer low-shear operation as the adhesives and sealants can be damaged during their production if subjected to excessive agitation.

After experimenting with many different types of pumps through the years, including centrifugal and gear styles, and trying out numerous brands of air-operated double-diaphragm (AODD) pumps, 25 years ago SABA identified the perfect solution in AODD pumps from Wilden® Pump & Engineering, Grand Terrace, CA, USA.

Since 1955, Wilden has been a premium manufacturer and supplier of AODD pumps for a wide range of industries, including those that require no-leak, low-shear product handling and the capability to be reliably used in potentially explosive manufacturing atmospheres.

Recommending the Wilden pumps to SABA was Gerrit Klaassen, Commercial Director of Holland Air Pumps, Oirschot, The Netherlands, a dedicated supplier of Wilden pumps in The Netherlands.

"SABA needed a pump that performed well in pumping sticky materials and they were having leakage issues with gear pumps," explained Klaassen. "We solved those problems by suggesting they use Wilden pneumatic pumps 25 years ago."

"We made a good choice with these Wilden pumps, they are still going very strong," said Henk Blom, Manager Technical Service for SABA, who was actually the person who made the final decision to stake SABA's lot with Wilden pumps. "It is important for water-based adhesives that these pumps have less shear than a centrifugal or a gear pump, so it's very good for us to use Wilden pumps with these kinds of materials."

The unique characteristics and requirements of the raw materials that SABA uses and the finalized products it produces also means that stainless-steel pumps with PTFE diaphragms, elastomers and check balls are required. Wilden delivers that to SABA with its clamped metal PS4 and PS8 and bolted metal PS400 and PS800 AODD pumps.



SABA Dinxperlo B.V. has grown into one of the world's largest independent producers of adhesives and sealants by identifying the challenges in product manufacture and handling, and choosing the technology that makes the process as safe as possible. Wilden® AODD pumps help optimize the process, from raw-material transfer to the packaging of finished end-products.

For all its operational advantages, AODD pump technology has always had to fight the battle of optimizing air usage. Wilden has made many breakthroughs in this area over the years, including the development of its innovative Pro-Flo® SHIFT Air Distribution System (ADS), which uses a design featuring an air control spool to reduce air loss due to over-charging of the air chamber.

"We don't have any problems with the ADS, it never stops," Blom said. "We've turned to Pro-Flo products from Wilden to maximize our efficiency and air consumption."

Wilden's Bolted and Clamped Metal AODD Pumps can also be outfitted with the new Chem-Fuse Integral Piston Diaphragm (IPD). The design of the Chem-Fuse IPD integrates the pump's piston into the diaphragm itself. This eliminates a notorious leak point in diaphragm operation that leads to optimized product containment, which is a crucial concern for companies like SABA.

In total, SABA has upwards of 30 Wilden AODD pumps in operation, including several T8 (51 mm) models that have been operating faithfully for more than 25 years.

"Over the years, we've had a lot of different brands of air-driven pumps in the factory and we were always looking for a pump that we could use everywhere and had the special features that we needed," said Blom. "With other brands, it was hard to get PTFE membranes and we are able to do that with Wilden, and the price of the pumps is good considering the quality we get. With Holland Air Pumps, we also have a partner that can deliver all the spare parts we need, and if we need a new pump, in a few days we have a new pump because they have all of the parts in store."

Rarely, if ever, are any spare parts needed because the Wilden pumps are truly leak-free, which means that not only are costly cleanups avoided, but so are the ancillary manpower costs that go with them.

"With other types of pumps we had to clean them every week, which took 1.5 to two man-hours and with the Wilden pumps we are cleaning them every three months or so, which is a huge savings in man-hours per week," said Zaarbelink. "We also found that most of the competitive pumps after a certain time will have an internal leakage that means the raw material will get into the pump's air engine. We find that with Wilden the diaphragms really stand up to aggressive materials for a really long time."

The Perfect Partner

While air-operated double-diaphragm (AODD) pumps from Wilden® make up the bulk of the pumps that SABA Dinxperlo B.V. uses in its adhesive-manufacturing systems, the company has found additional success with the products from another member of the Dover Corporation PSG®. Almatec®, Kamp-Lintfort, Germany, is a premium manufacturer of AODD pumps that have a solid-body design, are dry-run and self-priming capable, offer gentle product displacement, can handle solids and feature the patented PERSWING P® air control system.

Specifically, SABA utilizes several CHEMICOR Series pumps in its production processes, which have been supplied by Holland Air Pumps, an exclusive distributor of Wilden and Almatec pumping technologies in The Netherlands. CHEMICOR pumps offer a compact, solid design that feature product chambers with soft contours that result in smooth flow channels and no dead spaces in chemical-processing applications.

"We have incorporated some Almatec CHEMICOR Series pumps where appropriate into our operations and they are ideal because they produce less noise and are so easy to use," said Tonny Zaarbelink, Technical Manager Foam Bonding for SABA. "Their solid construction also makes them perfect for use in handling the specific raw materials that are required in adhesive manufacturing."



CHEMICOR Series AODD Pumps from Almatec® also play a prominent role in helping SABA Dinxperlo B.V. optimize its adhesive-manufacturing operations.



Several of the Wilden® T8 model pumps, inset, that Henk Blom chose two decades ago are still in operation today, while newer PX pumps have helped SABA reduce its air-consumption costs.

Conclusion

SABA has recognized the potential pitfalls in manufacturing adhesives and sealants, and has worked for 85 years to remain innovative and create products that satisfy the needs of many industries, including bedding and furniture. Side-by-side with SABA for the past 25 years, Wilden's stainless-steel AODD pumps have provided the reliability and operational excellence that SABA demands.

"Twenty-five years ago we switched to Wilden pumps and we have stayed with them ever since," said Zaarbelink. "After 25 years we have found that they are very reliable. The ongoing maintenance costs are very low, so we are very happy with the Wilden pumps."

About the Author:

Based in Grand Terrace, CA, USA, Wilden is a leader in air-operated double-diaphragm (AODD) pumps and a product brand of PSG®, a Dover company, Oakbrook Terrace, IL, USA. PSG is comprised of several leading pump companies, including Abaque™, All-Flo, Almatec®, Blackmer®, Ebsray®, EnviroGear®, Griswold®, Mouvex®, Neptune™, Quattroflow™ and Wilden®. You can find more information on Wilden at wildenpump.com and on PSG at psgdover.com.

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