

A photograph showing a long row of industrial double diaphragm pumps in a chemical dosing room. The pumps are arranged in a line, with various pipes and hoses connected to them. The room has white tiled walls and a metal structure. The pumps are made of stainless steel and have a cylindrical filter on top. The overall scene is a clean, industrial environment.

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Pumps in Chemical Applications

These air-operated double diaphragm pumps are operating in the chemical dosing room in NTC Tankcleaning's Port of Rotterdam facility. The facility offers 14 distinct tanker-cleaning positions, which are outfitted with systems supplied by Gröninger Cleaning Systems. The AODD Pumps offer leak-free operation and accurate dosing that help optimize chemical use.
Photo courtesy of NTC Tankcleaning Services B.V.; Gröninger Cleaning Systems B.V.; & Wilden, part of Pump Solutions Group



AODD Pumps Provide Solutions for Chemical, Energy & Hygienic Industries

On the European Pump Tour, the *Pumps & Systems* team learned how a company that began with one man's vision three decades ago has grown into a global pump manufacturer.

By Michelle Segrest
Photography by Terri Jackson

KAMP-LINTFORT, Germany (June 7, 2013) – Almatec was founded in 1984 by Dirk Budde, an industrial engineer who was working for another pump company when he decided to branch out and create his own pneumatic pump product line.

Bernhard Dicks, senior vice president of Pump Solutions Group's (PSG) European Operations, provided insight into the company's interesting development. "The company started from scratch in rented rooms in a small town not far from Kamp-Lintfort and now produces an annual revenue of \$40 million USD. It has been quite an impressive journey in the past 30 years. It started with one person, and now there are about 70 employees at this facility. Budde was always focused on quality and premium designs."

From its humble beginnings nearly three decades ago, Almatec has produced 150,000 air-operated double-diaphragm (AODD) pumps and delivered them throughout the world. Today, Almatec is still recognized as one of the largest producer's of AODD pumps for use in industrial applications.

Three core values drive Almatec's operation and its employees strongly believe in them, while the company's operators and executives discuss and apply them daily. The first is operational excellence, which focuses on safety. The second is product leadership and innovation. Finally, customer intimacy is at the heart of Almatec.

After gaining a foothold in the AODD pump market, the company moved to the Kamp-Lintfort facility in 1992

(about 25 miles northwest of Dusseldorf), where the distributor of Wilden products continues to manufacture the Almatec and Quattroflow brands of diaphragm pumps for the chemical, energy and hygienic industries. The Almatec facility features a clean room that allows all of its pumps and equipment to be prepared hygienically so they can be used in hygienic manufacturing applications. In 2004, Almatec was acquired by Dover Corporation and in 2008 became one of six founding members of Dover's newly formed PSG.

"Dover's involvement has allowed us to globalize," Dicks said. "Now, we have a worldwide network in the U.S., China and wherever we want to sell our products."

Almatec's philosophy is to invest in intellectual capital and increase product quality while respecting and protecting the environment. Almatec develops new



One of Almatec's operators tests a pump prior to shipment.

concepts, uses new materials and formulates smart fluid-transfer solutions as part of its commitment to innovation.

AODD pumps meet the fluid-handling needs of diverse industries because their design allows them to provide operational advantages—such as protection against dry running and overloading, self-priming, easy startup, no rotating parts in the product stream, solids-handling capability and gentle product displacement with low shear. Almatec’s pneumatic diaphragm pumps are used in chemical, paint and coating, and paper and printing applications. They conform to the ATEX directive, making them suitable for pumping paints and varnishes in potentially explosive atmospheres.

“Every pump produced at Almatec is tested to the highest-quality German standards,” Managing Director Roger Klein said. “The E-Series includes safety-tight tolerances and can handle the most abrasive materials, even though it is made of plastic. In some cases, this plastic is 1.6 times more durable than steel.”

Almatec plastic pumps feature a solid-body construction made out of virgin-grade PE or PTFE materials that support the forces generated within a reciprocating pump. The high-static mass leads to maximum process fluid containment and eliminates external metal parts that would otherwise be used. The mechanical machining of a solid plastic block is economical because of modern CNC technology, which enables tight tolerances and maximum value.

One feature of Almatec’s solid AODD design is the PERSWING P, which is a precision control air distribution system (ADS). This metal-free ADS ensures accurate reversal of the main piston and is characterized by low noise

levels, minimal maintenance and lubrication-free operation.

Almatec also offers diaphragms designed to simplify assembly, reduce air consumption and optimize performance. They provide a smooth profile that is uninterrupted by seals. Almatec’s diaphragms also feature an integrated metal core and do not require the incorporation of additional diaphragm discs.

The E-Series pumps, produced in Kamp-Lintfort, have housing parts that are tightened to each other by housing bolts. Instead of single bolts pressing against the housing, all the bolts are tightened against a diaphragm-sized containment ring on each side. This structure results in a more even distribution of the housing-bolt force and increased permissible bolt torque. The flow resistance is reduced via an optimized flow pattern to increase the efficiency of the pump.

Almatec’s solid-plastic-block construction increases the pump’s strength and life cycle. The E-Series pump’s CNC-machined solid block of PTFE or PE allows it to handle harsh fluids and environments. The CNC technology enables tight tolerances, less risk of leakage, and greater stability and durability. **P&S**

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A clean room is used to hygienically prepare all the pumps and equipment for clean-room applications.



Almatec pumps move along the assembly line.



Roger Klein, managing director for Almatec, explains the benefits of the E-Series AODD pumps.