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## **VACUUM TECHNOLOGY FOR INCREASED EFFICIENCY, DURABILITY AND HIGHER RESOURCE EFFECTIVITY IN THE FOOD INDUSTRY**

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**Abstract.** At the leading trade fair Anuga FoodTec in Cologne, Leybold presents its vacuum technologies for the food processing and packaging industry from. The efficient solutions of the vacuum supplier are used worldwide. In a wide variety of applications, the pumps, systems and measuring devices of this long-established company make a significant contribution to sustainable and competitive products and processes in the food and beverage industry. Key words: vacuum components, food industry, Leybold.

**Introduction.** Vacuum pump help to accelerate packaging processes At one of Italy's largest producers of meat products near Parma, the installation of a Leybold system has reduced packaging time by around 20 percent. In addition to high vacuum performance, the meat product specialist attaches particular importance to an energy-efficient production process with low service and maintenance costs. The system based on the DRYVAC dry screw pump has been running reliably and without interruption for years, so that the customer was able to devote himself to the core tasks.

**Research objects.** Global supply chains require more durability in shelf life Efficient, hygienic food processing under vacuum is also becoming increasingly important for other reasons: In the age of global supply chains, the demands on shelf life are increasing. In view of this trend, customized vacuum solutions are essential for the economic efficiency of companies. For decades, Leybold has been manufacturing the technologies for the quality control of packaging. For example, leak tightness is increasingly tested under vacuum because only leak detectors such as the PHOENIX series meet the highest testing standards. Mass spectrom-

eters used in food analysis also make use of the performance of modern, noise-reduced pumps such as the ECODRY plus.

### **Vacuum improves in-house logistics**

For the delivery of raw materials in processing and packaging plants, vacuum is required to handle internal conveying processes. These systems assist in sorting and facilitate the removal of specific risk materials and slaughterhouse by-products for prevention purposes. In this way, the hygienic standards can be effectively ensured. For these applications, too, the system solutions must be energy-efficient, easy to maintain and space-saving. The VACUBE central vacuum system meets these requirements by providing a demand-oriented vacuum for the application process through special speed adjustments. In addition, the Leybold products comply with all guidelines for plant and occupational safety.

### **Innovative processes in food processing**

Vacuum baking offers advantages for plant manufacturers, producers, bakeries and consumers alike: Customers can enjoy fresh bakery products with optimum qualities in appearance and presentation almost around the clock; significant savings are possible in sales and production. Energy consumption and logistics costs are also reduced, supported by the optimized efficiency of the pumps used in these applications, such as the SOGEVAC or DRYVAC. Depending on the design of the plant, process savings of up to 50 percent can be achieved also due to shortest cooling times, significant reductions in storing space, resulting in a clear advantage on food safety.

### **Benefits for all parties involved**

All in all, Leybold's modern vacuum technology opens up an increase in quality and productivity - vacuum pumps such as the CLAWAC offer special product properties especially in the rough vacuum range. The extremely robust design of these pumps allows them to be used in demanding applications; process gases contaminated with dust and vapors can also be handled.

Innovative vacuum technology exploits the potential for improvement in terms of production, infrastructure, staffing, logistics costs and energy consumption. Variable combination options, such as the oil-sealed SOGEVAC and RUVAC pumps with the modern oil-free, dry-compressing DRYVAC pumps offer proven reliability. Appropriate technical concepts that guarantee optimized process stability round off Leybold's product range.

Modern vacuum pumps for Food Packaging and Processing

### **About Leybold**

Leybold is a part of the Atlas Copco's Vacuum Technique Business Area and offers a broad range of advanced vacuum solutions for use in manufacturing and analytical processes, as well as for research purposes. The core capabilities center on the development of application- and customer-specific systems for the creation of vacuums and extraction of processing gases. Fields of application are secondary metallurgy, heat treatment, automotive industry, coating technologies, solar and thin films such as displays, research & development, analytical instruments, as well as classic industrial processes.

### **About Atlas Copco**

Atlas Copco is a world-leading provider of sustainable productivity solutions. The Group serves customers with innovative compressors, vacuum technique and air treatment systems, construction and mining equipment, power tools and assembly systems. Atlas Copco develops products and services focused on productivity, energy efficiency, safety and ergonomics. The company was founded in 1873, is based in Stockholm, Sweden, and has a global reach spanning more than 180 countries. In 2016, Atlas Copco had revenues of 11 Billion Euros and more than 45 000 employees.



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### **ВАКУУМНАЯ ТЕХНОЛОГИЯ ДЛЯ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ, НАДЕЖНОСТИ И РЕСУРСНОЭФФЕКТИВНОСТИ В ПИЩЕВОЙ ПРОМЫШЛЕННОСТИ**

**Аннотация.** На ведущей выставке Anuga FoodTec в Кельне компания Leybold представляет свои вакуумные технологии для пищевой и упаковочной промышленности. Эффективные решения поставщика вакуума используются во всем мире. В самых разных областях применения насосы, системы и измерительные приборы этой компании с многолетним опытом работы вносят значительный вклад в создание устойчивых и конкурентоспособных продуктов и процессов в пищевой промышленности и производстве напитков.

**Ключевые слова:** вакуумные компоненты, пищевая промышленность, Лейболд.

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### **ТАҒАМ ӨНДІРІСІНДЕГІ ТИІМДІЛІКТІ, СЕНІМДІЛІКТІ ЖӘНЕ РЕСУРС ТИІМДІЛІГІН АРТТЫРУ ҮШІН ВАКУМДЫҚ ТЕХНОЛОГИЯ**

**Түйіндеме.** Кельндегі Anuga FoodTec жетекші сауда-саттық жәрмеңкесінде Leybold тамақ және орау өнеркәсібіне арналған вакуумдық технологиясын ұсынады. Вакуум жеткізушінің тиімді шешімдері бүкіл әлемде қолданылады. Қолданулардың кең ауқымында компанияның ондаған жылдық тәжірибесі бар сорғылар, жүйелер мен өлшеу құралдары тамақ және сусындар өнеркәсібіндегі тұрақты және бәсекеге қабілетті өнімдер мен процестерге елеулі үлес қосады.

**Түйіндеме сөздер:** вакуумдық компоненттер, тамақ өнеркәсібі, Лейболд.

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