

Vacuum Segment



Vacuum-based steel degassing cuts costs and emissions

To obtain the high-quality steel needed for applications in the automotive and aviation industries, steel is subjected to a range of finishing and refining processes. One such process is vacuum-based degassing, where unwanted elements such as carbon, hydrogen, sulfur and phosphorus are reduced. This increase in quality can be achieved with a cost-effective and low-emission approach by means of mechanical vacuum pumps. Compared to conventional systems, where a vacuum is generated using steam jets, mechanical vacuum pump technology can result in energy savings of up to 90%. In 2014, several systems were sold, including one to Siemens for an end customer in Mexico. With a pumping speed of almost 600 000 m³/h, it is the biggest vacuum system that Oerlikon Leybold Vacuum has built in its over 160-year history.



Launched in 2014, the new generation of TURBOVAC i/iX pumps for analytics, R&D and the process industry achieved Best-in-Class performance level, 60% above that of comparable products.

Thanks to the internationalization of manufacturing capacities, the restructuring of the service organization and network and other measures implemented in 2014, operating efficiency improved as planned and in line with the goal of achieving 44% efficiency gains by 2017.

A large order was won in 2014 for the construction of the world's biggest cryopumps in China. These sophisticated high-vacuum pumps will be applied to simulate on earth the atmospheric conditions in space and used in the complex field of research and testing of space components and equipment.

Key figures

| in CHF million | 2014 | 2013 | Δ% |
|-----------------------------------|------------|------------|---------------|
| Order intake | 381 | 404 | -5.7% |
| Order backlog | 72 | 79 | -8.9% |
| Sales (third parties) | 390 | 396 | -1.5% |
| EBITDA | 41 | 54 | -24.1% |
| - as % of sales | 10.3% | 13.5% | - |
| EBIT | 27 | 41 | -34.1% |
| - as % of sales | 6.8% | 10.3% | - |
| Research and development expenses | 26 | 21 | 23.8% |

Best-in-Class

Atlas Copco: 18.2% operating profit margin (2014).

Profile

Under the Oerlikon Leybold Vacuum brand, the Vacuum Segment offers a broad range of fore- and high-vacuum pumps and related accessories. In addition to single vacuum pumps, the core competencies of the Segment range from delivering standardized vacuum systems through to the engineering of tailor-made vacuum solutions for industrial applications with complex performance parameters. The product portfolio is rounded off by vacuum technology accessories and measuring instruments, as well as the vacuum technology expertise, which is also passed on at the Leybold Academy. With three production locations of its own, over 30 branches, an international after-sales management team and more than 80 dealers and representatives spread globally, the Segment offers its customers one of the densest distribution and service networks in the industry.

Markets

Vacuum pumps and vacuum systems from Oerlikon Leybold Vacuum are in use all over the world, creating the necessary clean production conditions for the manufacture of semiconductors, displays, coated architectural glass and solar cells for a wide range of customers. Vacuum systems are also used for refining steel and for the processing and packaging of food. Notable customers in the area of R&D include CERN in Geneva, ETH Zurich and the Karlsruhe Institute of Technology (KIT), which is home to the world's largest vacuum chamber. The overall market for vacuum technology amounts to a total of CHF 6 billion worldwide, within which the Vacuum Segment addresses a market of around CHF 2.7 billion today. Based on sales recorded in 2014, the Segment has a market share of around 11%. Average annual market growth is forecasted at 3% globally. The Segment is extending its expertise in the food industry and also looking at developing new applications for adjacent growth markets to increase its sales and profitability.

Business performance

The Vacuum Segment posted sales of CHF 390 million in 2014, which corresponds to a slight decline of 1.5% compared to the previous year (2013: CHF 396 million). Order intake totaled CHF 381 million, versus CHF 404 million for 2013. This decline was attributable primarily to the postponements in large-scale projects in the energy sector as well as industrial and glass coating applications. EBITDA amounted to CHF 41 million (2013: CHF 54 million), corresponding to an EBITDA margin of 10.3% (2013: 13.5%), while the EBIT of CHF 27 million resulted in an EBIT margin of 6.8% (2013: CHF 41 million; 10.3%). The Segment's profitability was mainly impacted by investments in organizational and operational effectiveness as well as in the optimization of footprint and logistics.

Key developments

The most important market launch in 2014 involved the new pump generation TURBOVAC i/iX, which offers extremely high pumping capacity. The pumping speed of the TURBOVAC i/iX models for light gases is 60% faster than those of comparable products. The new pumps were developed specifically for applications in analytics, R&D and the process industry. Oerlikon Leybold Vacuum's modular pump concept for vacuum technology in steel degassing systems has proven to be successful with the sale of several systems in 2014. These customizable solutions can be adapted to the required production volume.

For a customer in China, the Segment has built the world's largest high-vacuum pumps of the COOLVAC series. These cryopumps are built to evacuate the air, including all molecules, from very large vacuum chambers, within a short time and to an extremely low pressure. The vacuum chambers will be used to facilitate research and testing in the area of aero- and astronautics, whereby rocket elements, satellites, space shuttles and parts of space stations will be studied in these huge simulation chambers.

A further highlight for the Segment was winning the Red Dot Award in 2014 for its intelligently and innovatively designed leak detector, the PHOENIX L500i. This detector offers a symbiosis of design and functionality thanks to ease of use and the user-friendly visualization via a high-resolution color retina display. Notably, the integrated data storage and the production of test reports help to ensure that the documentation is efficient and reproducible and of a high quality.

As part of the Oerlikon operational excellence program, the Segment restructured its service organization and improved its distribution and service network to establish smaller, more customer-oriented units, thereby creating a basis for stronger after-sales businesses. Cost management was also strengthened by diverse means, including systematic procurement in "best-cost countries", optimization of production processes and value analysis. The opening of the new logistics center in Cologne in January 2014 entailed the comprehensive restructuring of operating processes, in view of the building's role as the logistics hub for production supplies and the flow of goods from the Segment to customers and subsidiaries worldwide.