Flexible Press Solution Boosts Efficiency and Process Reliability at ABNOX AG

ABNOX AG, based in Cham, Switzerland, is modernizing its production facilities and has chosen the compact TOX® FlexPress Compact servo press. The goal was to replace existing equipment that no longer met current requirements for safety, flexibility, and process monitoring. With the new solution, the company was able to significantly optimize its production processes, drastically reduce setup times, and replace multiple machines with a single solution.

Initial Situation: Increasing Demands for Flexibility and Safety

As part of the modernization of its machinery, ABNOX identified a need for optimization, particularly in the production of grease nipples. The existing equipment was technologically outdated and could no longer meet the increased demands for flexibility and safety.

As Assembly Manager and Production Planner Christian Iten explains, the increasing variety of product variants was the primary factor leading to greater complexity in the processes. At the same time, there was a lack of capabilities for continuous process monitoring and the systematic evaluation of production data.

The Solution: A System for Flexible and Future-Proof Production

Against this backdrop, ABNOX opted for the TOX® FlexPress Compact. The decisive factor was the ability to handle different applications on a single machine while ensuring high process stability.

The system has been in operation since August 2025 and was implemented within a few months—from the order in December 2024 through delivery in April 2025 to commissioning.

In production, the FlexPress Compact covers a pressing force range from 1.5 kN to 60 kN. This allows a wide variety of applications to be carried out economically on a single system; previously, three systems were required. Processes can be precisely tailored to the respective components.

A key advantage lies in the ability to customize settings: pressing force, speed, and other parameters can be precisely adjusted, while all process data is simultaneously recorded and analyzed. This transparency represents a significant improvement over the previous solution.

Through integration into the company network, the data is also available for analysis and optimization purposes and forms the foundation for data-driven manufacturing.

Collaboration as a Key Success Factor: ABNOX, ACD Engineering AG, and TOX®

In addition to the technology, close collaboration among all project participants was a decisive factor in the project's success. ABNOX defined the practical requirements, TOX® provided the press technology, and ACD Engineering AG, as the sales and technology partner in Switzerland, developed the appropriate tool holders.

As the project progressed, it became clear that close coordination among the partners contributed significantly to the rapid and targeted implementation. Challenges could be addressed early on, and solutions implemented efficiently.

ABNOX describes the collaboration as constructive and solution-oriented; it forms the basis for further joint projects and simultaneously serves as a reference for comparable applications.

Greater Transparency Through Data-Driven Process Monitoring

A key benefit of the new solution lies in the comprehensive collection and analysis of process data. Every pressing operation is documented and can be analyzed in detail.

For ABNOX, this means significantly improved control over manufacturing processes. Deviations can be detected early and corrected in a targeted manner, which has a direct impact on process reliability.

"The evaluation of press data allows us to analyze our processes with much greater precision. We detect deviations early and can take targeted corrective action," explains Christian Iten.

Increased Efficiency Through Flexibility and Reduced Setup Times

In addition to greater transparency, the benefits of the new solution are particularly evident in the increase in efficiency.

Thanks to optimized tool holders and simplified program setup, changeover times have been reduced by approximately 75%. At the same time, the FlexPress Compact replaces several machines previously in use.

This allows different applications to be consolidated in one place, which simplifies internal processes and sustainably shortens lead times.

Reduced workload for employees and higher process quality

Automated data collection reduces the effort required for manual inspections and eases the workload on employees in their day-to-day operations. At the same time, the press's high repeatability ensures consistently high quality in the manufactured components.

From a production perspective, this leads to more stable processes and better traceability—a crucial factor for quality assurance.

Conclusion: A practical solution with measurable added value

With the TOX® FlexPress Compact, ABNOX has implemented a solution that sustainably improves both efficiency and process quality. The combination of flexibility, precise process control, and integrated data collection enables cost-effective production even with a high variety of product variants.

The user report demonstrates that the use of a flexibly configurable pressing system pays off, particularly when dealing with changing requirements and varying pressing forces.

At the same time, the project underscores the importance of close collaboration between the user, technology provider, and engineering partner. TOX® thus positions itself as a reliable partner for practical and future-proof manufacturing solutions in the industrial sector.

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Service for editorial offices:

Meta title: ABNOX Boosts Efficiency with the TOX® FlexPress Compact Press System

Meta description: With the TOX® FlexPress Compact, ABNOX is optimizing its manufacturing: shorter setup times, high process reliability, and data-driven production in grease nipple manufacturing.

Keywords: TOX PRESSOTECHNIK; ABNOX; FlexPress Compact; servo press; press system; process monitoring; data-driven manufacturing; assembly processes; press-fitting; manufacturing optimization; reduced setup time; Industry 4.0; process reliability; machine modernization; variant production; ACD Engineering AG

Image captions:

Image 1: TOX® FlexPress Compact with height-adjustable base for ergonomic operation and customization


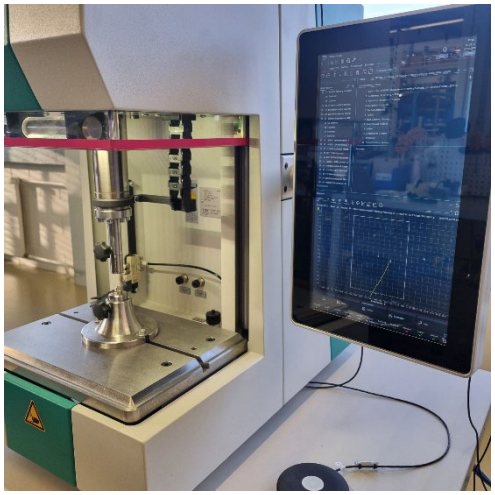

Image 2: Round-head brass grease nipple, operation: flanging with stroke and force measurement

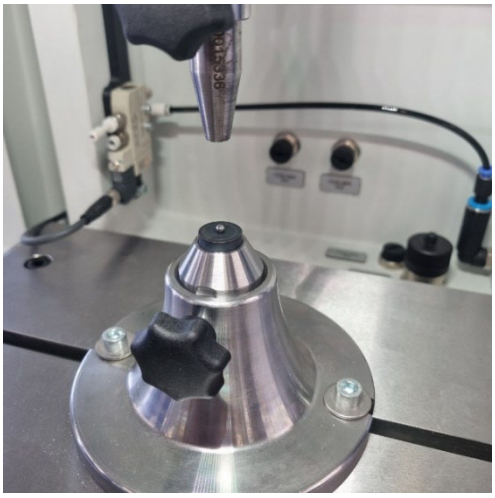
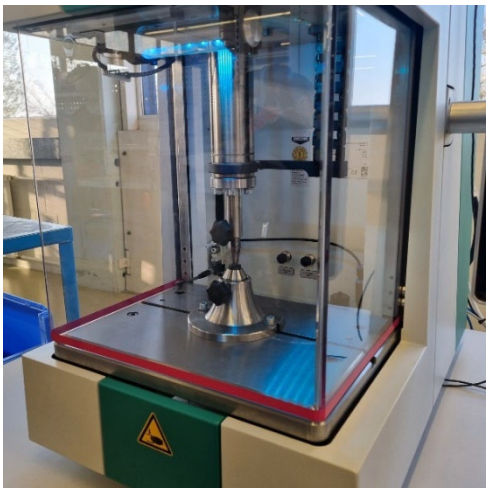

Image 3: Valve seat N1, operation: valve seat with force measurement

Images: TOX® PRESSOTECHNIK SE & Co. KG / ABNOX AG

About the company:

TOX® is a supplier of presses, systems as well as components for sheet metal joining and assembly technology. Since its foundation in 1978, the family business has become a global player with more than 1500 employees worldwide, over 500 of which are based at the headquarters in Weingarten near Ravensburg, Germany. The success story started with one pneumohydraulic drive – the TOX® Powerpackage. The “Components” division now includes pneumohydraulic and electromechanical drives as well as controls, sensors and software for process monitoring and quality assurance. In addition to a large range of presses, the system range comprises manual, machine and robot tongs. Another mainstay are modern sheet metal joining procedures, also incorporating the TOX® Clinching Technology, which makes the company today’s market leader.

Drives, processes and systems from TOX® can be found at automotive manufacturers and their suppliers as well as at industrial businesses for household appliances, electronic components, furniture and much more. Special versions of the TOX® Drives are also approved for the food industry.

TOX® is represented worldwide: 17 subsidiaries, amongst others in the USA and South America, Europe and South Africa, India, China and the entire Pacific Region. 18 representatives in many other markets support and advise local customers.

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