



User Report

»venturion«

ZOLLER
expect great measures

Korin Iron Works Co., Ltd.

»venturion« Increases Accuracy and Process-Reliability

Remarkable Time Savings mean More Efficiency





ZOLLER »venturion« with
the technical adviser,
Mr. Yonezawa (on the left)

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Korin Iron Works, based in the Hokuriku region, specializes in manufacturing high-value parts on state-of-the-art machining centers, including turbine blades for the aerospace industry and power generation equipment. In response to intensifying market competition and increasing quality

demands from customers, Korin considered a fundamental reform of their production processes. Specifically, there was an urgent need to improve various stages of the production process, including further enhancing and stabilizing processing quality, preventing unexpected quality is-

sues, significantly reducing tool setup time, and improving workability by reducing operator burden. To comprehensively address these challenges, Korin decided to implement ZOLLER's latest tool measuring machine, the »venturion«.

Defect Reduction

With the introduction of the »venturion« presetter, processing accuracy improved dramatically, successfully reducing the number of defective products from several per month to zero. This improvement not only decreased the number of defects but also led to the reduction of various hidden costs, including additional material costs for rework, overtime pay for workers, and disposal costs for defective products. Specifically, cost reductions exceeding 20 thousand Euro (EUR 20,000) per month on average have been achieved and maintained for about a year. This result directly contributes to improved production efficiency and cost reduction, significantly enhancing customer satisfaction and substantially strengthening Korin's market competitiveness.

Precision Improvement

Even in an environment with unavoidable temperature fluctuations within the factory, the »venturion« enabled measurements with extremely small variations of 5 microns in the axial direction. This high-precision measurement made it possible to achieve single-pass machining precision, which was previously difficult. This has led to the prospect of significantly reducing the finishing process that was necessary before, resulting in shorter processing times and reduced material waste.

Productivity Enhancement

The realization of single-pass machining is expected to reduce setup time by 20–30%. Although this has not been fully achieved at

present, recent trial efforts have sufficiently confirmed its possibility. In the near future, when this single-pass machining is fully implemented, it will eliminate the need for the conventional "rough machining" and subsequent "finishing machining" processes, leading to a significant increase in productivity. This is a crucial improvement that directly leads to shorter production lead times and expanded production capacity.

Time Savings

The change in tool measurement time after the introduction of ZOLLER's »venturion« premium presetter has been remarkable. Currently, about 150 tools are measured monthly, and the tool setup time has been successfully reduced by about 70% compared to before implementation. Furthermore, there is strong confidence that as operational proficiency increases, the current work time can be further halved in the coming fiscal year. This significant time reduction directly contributes to the efficiency of the production line, clearly demonstrating the high efficiency and investment effect of the »venturion« from ZOLLER.

Versatility

The introduction of »venturion« has made it possible to simultaneously measure not only the length and diameter of tools but also angles and corner radii for tools with complex shapes. This versatility has enabled effective prevention of unexpected quality issues in the manufacturing process. In particular, the ability to accurately measure precision tools such as reamers and boring bars has significantly reduced unnecessary machine downtime. Additionally, the setup time for milling cutters has been greatly reduced, as measurements can be made easily, quickly, and with high precision using the »venturion«. By leveraging this versatility, both productivity improvement and quality stabilization have been achieved simultaneously.

Quality Assurance

As a specific example, there was an issue where defects occurred and quality could not be ensured when the mounting angle of an octagonal chip used in an indexable milling cutter was 44.7 degrees instead of the required 45 degrees. Such minute angle discrepancies, which are difficult to detect with the human eye, can now be accurately measured using venturion, contributing significantly to improved processing quality. The visualization of quality through quantification has enabled objective quality control that doesn't rely on workers' experience or intuition, successfully reducing the risk of processing defects substantially.

Newly built factory of
Korin Iron Works



Improved Operability

In Korin's manufacturing site, both BT-type and HSK-type tool holders are used. By introducing »venturion«-specific adapters, it became possible to seamlessly exchange and measure these different types of tools. This improvement has significantly reduced the burden on operators, allowing quick and accurate measurements regardless of the tool type. This has not only improved work efficiency but also contributed to stress reduction for operators, leading to an improved work environment.

Korin Iron Works

Conclusion: Overall Assessment

The implementation of ZOLLER »venturion« at Korin has brought about significant improvements across – within an implementation period of approximately 1 year (including preparation period). the entire production process. Notable points include the complete elimination of defective products, substantial reduction in tool setup time, consistent quality maintenance through high-precision measurement, and marked improvement in operability. These improvements have not only contributed to increased productivity and cost reduction but have also enhanced customer trust in Korin's product quality, greatly strengthening their market competitiveness.

Even after one year since implementation, ZOLLER »venturion « continues to contribute to solving daily challenges in the manufacturing site as Korin's reliable partner. Furthermore, based on this successful experience, Korin is now looking towards the challenge of even more advanced manufacturing technology, aiming for complete single-pass machining of precision parts. The introduction of venturion has become more than just an equipment investment for Korin; it represents an innovation in their manufacturing process and an investment in the future.



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More speed, higher quality, safe processes – with ZOLLER, you increase the efficiency of your production. ZOLLER offers you outstandingly precise devices for adjusting, measuring and testing cutting tools, software, interfaces, cloud services and solutions for the automation of tool processes. You can combine all of this to create your individual system solution – on your way to the smart factory.

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