

Toprecision: 14 Years of Precision Fastening

Amid the wave of transformation toward high-end and precision manufacturing in the fastener industry, there stands a company that has remained dedicated for 14 years. Forging quality with craftsmanship and breaking boundaries with technology, it has grown from a single-parts processor into a comprehensive precision component solution provider covering all processes and application scenarios. This company is Shenzhen Toprecision Technology Co., Ltd. As operators of a fastener website with years of industry experience, we have witnessed the growth and evolution of Toprecision. Today, we invite you to explore this enterprise and unlock its core product advantages and industry value.

Founded on October 20, 2011, Toprecision established the core philosophy of "precision manufacturing and relentless pursuit of excellence" from its inception. Focusing on the precision components sector and cultivating expertise for 14 years, it has gradually grown into a professional enterprise integrating precision component design, manufacturing, and technical solutions. The company has established a comprehensive business chain covering R&D, production, and import/export. With solid technical accumulation, a complete production system, and stringent quality control, it has won widespread recognition both inside and outside the industry. It has been awarded the Tax Credit A-Level qualification for consecutive years, becoming one of the benchmark enterprises in high-end manufacturing within the fastener industry.

Relying on a modern production factory spanning over 40,000 square meters, Toprecision is equipped with more than 1,000 high-precision automated production and testing machines. The company has assembled professional teams for product design and development, mold and fixture R&D, and mature production management. This enables fully autonomous production across the entire process, from product design and mold R&D to manufacturing and quality inspection, ensuring product reliability and timely delivery, and providing customers with an efficient, convenient, and one-stop service experience.

As the core business of Toprecision, the ultra-precision fastening ecosystem has run through the company's development. With advantages of high precision and high reliability, it is widely applied in core terminal fields such as smartphones, cameras, aerospace engineering, and new energy vehicles, serving as the "precision joints" connecting high-end equipment across industries. In the consumer electronics sector, adapting to the trend of slim and miniaturized smartphones and cameras, Toprecision's micro-precision fasteners achieve micron-level precision, perfectly fitting the precise assembly within device bodies while balancing connection strength and lightweight requirements,

thereby facilitating performance upgrades for consumer electronics. In the aerospace sector, strictly adhering to high-end manufacturing standards, the company develops high-performance fasteners with high-temperature resistance, corrosion resistance, and impact resistance. These components can adapt to the complex working conditions of aerospace equipment, providing reliable component support for national aerospace endeavors.

In the new energy vehicle sector, focusing on the demands for lightweight and high-efficiency development, Toprecision's precision fasteners are widely used in core parts such as battery packs, engines, and body structures. Through optimized process design, they effectively reduce component weight while ensuring connection strength, helping new energy vehicles lower energy consumption and extend driving range, aligning with the industry's green development trend. Today, Toprecision's ultra-precision fastening products have become the preferred choice for numerous leading enterprises, demonstrating the core value of the "rice of industry" with its strength.

Process is the core of precision manufacturing. Toprecision integrates multiple core manufacturing processes to meet component demands across different industries and scenarios, forming differentiated product competitiveness. Among them, precision cold forging, composite machining, CNC machining, and stamping primarily serve the optical, medical, and automotive industries. Winning high recognition from downstream customers with their efficiency, precision, and energy-saving advantages, these processes stand out significantly.

As one of Toprecision's core advantageous processes, precision cold forging achieves material densification and strength enhancement through the plastic deformation of metals at room temperature. Compared to traditional cutting processes, material utilization can be increased to 70%-90%, significantly reducing raw material waste while shortening subsequent processing cycles and lowering production costs. Combined with composite machining technology, multiple processes can be completed in one go, accurately machining irregular and complex structural parts. This perfectly adapts to precision components for medical devices, high-strength connectors for automotive engines, and core positioning parts for optical instruments, balancing product performance and production precision while helping customers reduce costs and increase efficiency.

CNC machining relies on high-precision CNC machining centers to achieve customized processing from standard parts to complex non-standard parts. With a positioning accuracy of $\pm 0.01\text{mm}$ and a repeat positioning accuracy of $\leq \pm 0.005\text{mm}$, it can accurately reproduce design drawings and ensure part consistency during mass production. Whether for automotive parts with strict tolerance requirements or optical equipment components with complex

structures, Toprecision's CNC machining team leverages extensive experience to optimize machining paths and improve production efficiency while strictly controlling product precision, providing customers with customized precision machining solutions.

The stamping process focuses on the demand for large-scale, high-precision mass production. Through high-precision molds, metal sheets undergo plastic forming to quickly process various standard fasteners and irregular stamped parts. The processing efficiency per process is improved by more than 50% compared to traditional processes, adapting to the large-scale supply needs in fields such as automotive components and electronic accessories. Relying on mature stamping mold R&D technology, Toprecision can customize exclusive molds according to customer needs. While ensuring production efficiency, it strictly controls dimensional precision and surface quality, ensuring every product meets industry standards.

For scenarios with extremely high requirements for product details, surface quality, and special properties, such as the aerospace communications industry and automation fields, Toprecision has created a cutting-edge process combination of ultra-precision turning, grinding, and etching. This breaks through the precision limits of traditional processing and provides core component support for high-end fields. The ultra-precision turning process achieves ultimate processing for micro and rotary parts with micron-level precision, adapting to micro-components for automation equipment and precision connectors for aerospace communication devices. The grinding process further optimizes product surface roughness, enhancing wear resistance and sealing to ensure long-term stable operation of components. The etching process achieves precise processing of micro-structures and precision markings, adapting to core components of high-end automation equipment and special functional parts in the aerospace field, comprehensively meeting the stringent demands of high-end scenarios.

Over 14 years of deep cultivation, Toprecision has always adhered to its original aspiration for quality, strictly following industry standards. From raw material procurement to finished product delivery, every process undergoes multi-layer inspection to ensure a product qualification rate of over 99.8%. Relying on a comprehensive quality control system, diverse core processes, and efficient delivery capabilities, the company has gradually expanded its market. Covering multiple provinces and cities domestically and deploying import/export businesses, its products are exported to numerous countries and regions, making it one of the important global suppliers in the precision components field.

In the optical industry, Toprecision's precision components, with their high precision and high stability, adapt to the assembly needs of various optical

instruments, helping optical equipment achieve dual improvements in imaging quality and operational stability. In the medical industry, strictly adhering to medical industry standards, the developed precision components are burr-free and impurity-free, adapting to products such as minimally invasive medical equipment and monitors to ensure the safety and reliability of medical devices. In the automation field, relying on ultra-precision machining processes, it provides core components for automated production lines and industrial robots, assisting the manufacturing industry's transformation toward intelligence and high efficiency.

As operators of a fastener website, we deeply understand that in today's era of rapid high-end manufacturing development, the importance of precision components is increasingly prominent. Toprecision's 14 years of deep cultivation and precipitation are the best interpretation of "relentless pursuit of excellence." From single processes to comprehensive multi-process coverage, and from single products to full-scenario solutions, Toprecision has always been customer-demand oriented, continuously increasing R&D and process upgrades, constantly expanding application scenarios, and enhancing product competitiveness.

In the future, Toprecision will continue to adhere to its original aspiration for precision manufacturing, focusing on the construction of an ultra-precision fastening ecosystem. The company will continuously optimize machining processes, improve product precision and performance, and deeply cultivate core fields such as aerospace, new energy, consumer electronics, and medical sectors. It will continuously expand domestic and international markets, providing global customers with higher-quality, more precise, and more efficient precision component design and manufacturing solutions. Meanwhile, Toprecision will actively embrace industry changes, relying on intelligent and digital technologies to promote production model upgrades, assisting the fastener industry's development toward high-end, precision, and green manufacturing, and building a solid foundation of precision for major national manufacturing with craftsmanship.