SKF solutions for CNC turning centres

Increasing machine performance and reducing machine development costs
Meet your challenges with a partner that shares them

SKF has been an engaged supplier to the machine tool industry for decades and an operator of CNC turning machines in our own manufacturing facilities. That expertise, along with more than a century of SKF knowledge, helped us develop the basis for our many CNC turning centre solutions.

These solutions reflect SKF competence in bearings, seals, lubrication systems, linear motion, condition monitoring and application engineering. Applying them to your CNC machine design and development can cut total ownership costs for your machines and help them stand out in an increasingly competitive market.

**Extend machine service life**
Featuring high system rigidity, low noise and vibration, SKF super-precision bearings support longer machine lifecycles. Our machined seals, available in hydrolysis resistant and/or self-lubricated polyurethanes, fluoro-carbon-rubbers and PTFE compounds, provide exceptional wear resistance.

**Increase machining speed and accuracy**
SKF super-precision bearings enable higher speeds, accuracy and rigidity, and help reduce heat, noise and vibration. By minimizing the amount of lubricant applied to the workpiece, SKF LubriLean Minimal Quantity Lubrication systems support a more precise cutting process and better product surface quality.

**Improve machine availability and reliability**
The SKF Machine Tool Observer MTx on-line condition monitoring system continuously monitors, records and observes spindle performance. Designed to control spindle quality after its assembly and installation in the machine tool, the SKF Spindle Assessment kit can help quality control professionals validate several performance indicators. These include vibration, thermal behavior, running accuracy, natural frequency and more.

**Reduce environmental impact**
SKF can help machine shops boost CNC energy efficiency and sustainability with solutions that reduce CO₂ emissions, waste and lubricant usage. These include Minimum Quantity Lubrication (MQL) systems that can substantially cut energy consumption while significantly reducing water and lubricant usage as compared with high-pressure cooling pumps. SKF hybrid bearings feature high performance ceramic rolling elements that control friction and heat at the highest rotational speeds.

**Minimize heat and friction**
SKF automatic lubrication systems supply the right lubricant in the right amount at the right time. In addition, when these systems have compact lubricant pumps, they also save space while controlling component operating temperatures.

**Optimize machine design**
SKF engineering and application experts can collaborate with your designers to address challenges during product development. Using SKF Spindle Simulator calculation software prior to prototyping, SKF can help your team analyze the effects of operating speeds, loads and temperatures on spindle shafts and bearings.
Optimizing machine performance

Facing increasing global competition and rising energy costs, machine tool operations are taking a close look at the most competitively priced CNC turning centres. Using such turning centres, which might be of lower quality, can result in higher long-term maintenance and operating expenses.

To trim expenses and boost profitability, operators don’t need machines that cost less, they need turning centres that can machine more workpieces in less time, with less maintenance, using less energy. To deliver such centres at a competitive price, OEMs need solutions that can streamline design and development. SKF solutions for CNC turning centres can help.
SKF solutions for
CNC turning centres

- **Super-precision bearings**
  - Double direction angular contact thrust ball bearings
  - Double row cylindrical roller bearings
  - Angular contact ball bearings
  - Precision lock nuts for spindle bearing mounting

- **Sealing solutions**
  - Machined seals
  - Customized seals

- **Lubrication systems**
  1. SKF Oil + Air lubrication system
  2. SKF MonoFlex single-line centralized lubrication system
  3. SKF ProFlex progressive centralized lubrication system
     - Compact Greaser

- **Lubrication for machining process**
  1. SKF LubriLean Minimal Quantity Lubrication (MQL) system
  2. Coolant pumps

- **Condition monitoring**
  1. SKF Machine Tool Observer MTx
     - SKF Spindle Assessment Kit

- **Mechatronics**
  1. Profile rail guides, with balls or rollers
  - Precision linear guides

- **Maintenance products**
  - Hydraulic and mechanical bearing mounting/dismounting tools
  - Alignment tools
  - Gauges

- **Application engineering**
  - SKF Spindle Simulator

- **Spindle Services**
  - More than 20 spindle service centres around the world
The listing of SKF offerings to the left is color coordinated with the illustration above.
The Power of Knowledge Engineering
Combining products, people, and application-specific knowledge, SKF delivers innovative solutions to equipment manufacturers and production facilities in every major industry worldwide. Having expertise in multiple competence areas supports SKF Life Cycle Management, a proven approach to improving equipment reliability, optimizing operational and energy efficiency and reducing total cost of ownership.

These competence areas include bearings and units, seals, lubrication systems, mechatronics, and a wide range of services, from 3-D computer modelling to cloud-based condition monitoring and asset management services.

SKF’s global footprint provides SKF customers with uniform quality standards and worldwide product availability. Our local presence provides direct access to the experience, knowledge and ingenuity of SKF people.

For a list of SKF spindle service centres, scan the QR code to the right.