Spindle solutions from the expert

Highest Quality
Excellent engineering combined with high-quality materials

LTI Motion and its subsidiary Heinz Fiege offer customized and thus tailor-made spindle technology of the highest standard. These spindle solutions supplement the precision-oriented drive and automation technology of LTI Motion to create the “Perfect fit” for our customers.

Our goal is set on optimizing your machine in a cooperative way. You, our customer, are the focus of attention and benefit from our many years of expertise in the field of spindle and automation technology.

Industry-optimized solutions

Grinding

Grinding and high-speed grinding processes require extremely precise and reliable solutions. LTI Motion offers various solutions for demanding customers which range from individual spindles, via coordinated packages with additional servo controllers to complete automation systems.

Laser processing

Safe, compact and energy-efficient automation systems with their own flexible CNC core provide maximum performance for your laser- and micro-processing machines. Best precision, even at high speeds, is guaranteed by our contour-synchronous laser control.

6D drilling – Vibrated-assisted drilling

Vibration-assisted 6D drilling with magnetic bearing spindles has brought about a completely new drilling process, resulting in shorter chips and fewer burrs as well as increased process speed and drill hole quality. The integrated sensor technology also enables intelligent process control with material detection.

Individual system solutions for machine tools

Our individual system solutions for the most diverse of industries satisfy the highest precision and dynamic standards. Thanks to the perfectly harmonized components of our modular system, we have everything you need to realize your customized and innovative machine.
For over 50 years, Heinz Fiege GmbH has specialised in application-oriented spindle technology at the highest level. Since the beginning of 2019, both companies – Heinz Fiege und LTI Motion – have been part of the internationally active automation specialist KEBA AG based in Linz, Austria.

**Spindle technology**

**Precision and performance for all our solutions**

- **High-performance spindles**
  - Externally driven spindles
  - Motor spindles
  - For all precision machines
  - Up to 120 kW and 50,000 rpm

- **Special spindles**
  - Tailored to your application
  - On basis of standard spindle to reduce costs
  - Integration of additional components on request
  - Condition Monitoring optional

- **Custom-engineered spindles**
  - Developed according to your wishes
  - To meet your special requirements e.g. stainless version
  - Integration of additional components on request
  - Condition Monitoring optional

- **6D drilling spindles**
  - Active magnetic bearing
  - Vibration assistance
  - Reverse deburring
  - Deep hole drilling
  - Shaft deflection freely programmable

- **Spindle sensors**
  - Temperature
  - Vibration
  - Bearing monitoring
  - ...

**Drive technology**

**System integration for additional performance**

- **ServoOne single-axis system**
  - Universal AC/AC servo controller from 0.4 - 250 kW
  - Fast: Motor output frequencies up to 1,600 Hz
  - Multi-motor interface for various motor and encoder types
  - Profile concuring fieldbuses and profiles, e.g. for EtherCAT, PROFINET, Sercos, PROFIBUS or CANopen
  - Versatile I/O for the evaluation of sensors and setpoints
  - CODESYS 3 programmable system and monitoring functions
  - Online/offline datalogger
  - Motion safety according to SIL3, PLe

- **ServoOne CM multi-axis system**
  - Environmentally friendly due to energy exchange and central power supply
  - Compact with three-, two- and one-axis modules
  - Wide range of performance from 0.75 - 120 kW (1.5 - 210 A)
  - Movement safety up to SIL3, PLe

- **SystemOne CM CNC automation system**
  - Scalable CODESYS 3 machine controls for up to 64 axes
  - PLC, motion, CNC and robot packages in one control only
  - Safety control FSM

- **Tools – IoT ready**
  - Intuitive graphical system commissioning and diagnostics
  - Condition Monitoring analysis and online evaluation of mechanical or electrical faults
  - Autotuning
Your benefits

- Custom-engineered or standard spindles specific to your needs or from our standard program
- Condition Monitoring and Predictive Maintenance by integrating sensors
- Integration of external systems such as Acoustic Emission sensors or automatic balancing systems
- Highest precision with maximum concentricity at tool holder < 0.002 mm
- Short delivery time despite customization
- Consultation and service at eye level and promptly
- Tuned drive technology with open interfaces and leading control performance

Condition Monitoring
Higher productivity and no unplanned downtime

- **Bearing monitoring**
  Improving your services – We monitor your bearing loads with the aid of temperature and acceleration sensors and document this load during the entire service life.

- **Acoustic Emission**
  Based on an optimal acoustic emission measurement, you can reduce your non-productive time and benefit from more accurate process monitoring and analysis as well as crash and wear monitoring.

- **Clamping state control**
  The sensor technology checks whether the tool sits safely and correctly in the holder before releasing the rotational movement.

- **PTC/KTY**
  Sensors protect the winding and the motor at high temperatures.

- **Crash monitoring**
  Vibration sensors record overload and crash situations.

- **Balancing systems**
  An integrated balancing system ensures an absolutely unbalanced-free run and thus a protection of the bearings. The balancing systems are available in an open-centre electromagnetic version and for automatic tool clamping systems.
Fit for the future through bundled competencies

KEBA AG is an internationally successful electronics company with headquarters in Linz/Austria and locations worldwide. For 50 years, KEBA has been developing and producing according to the claim „Automation by innovation“ innovative automation solutions of the highest quality for a wide variety of industries.

LTI Motion GmbH, a technologically leading German supplier of drive solutions, has been part of the KEBA Group since the end of 2018. Both companies have years of experience in the areas of control and safety technology as well as servo drive technology. The bundled competencies result in complete solutions from a single source - appropriate for the respective industries.

www.keba-lti.com