The THK commitment: The Highest Quality Possible.

As the leading manufacturer of linear motion systems, THK has been delivering high-performance, high-precision products to a wide range of industries. With an ongoing quest for the highest quality possible, THK assures the highest level of quality at all stages: from technology development to production management through to product support.

Advancing technology further than ever before. Going higher, and then beyond.
THK Core Competence —
Rolling Technology for Linear Motion Components

Rolling rather than sliding linear motion components is a prominent technological innovation that makes all machines move smoothly. THK has developed the world’s first rolling linear motion components — components that have been considered difficult to create. In addition to linear motion applications, rolling technology has been applied to many other mechanical motions such as orthogonal, spiral, curve, oscillation and rotary motions. And the fields of application are continuing to expand.

Mechanical motion is generally categorized as linear, rotary and linear-rotary combined motions. Rolling rotary components were first commercialized as bearings more than 100 years ago, but rolling linear motion components were not achieved for many years, although the many merits were obvious, including reduced energy and power consumption. THK developed the world’s first Linear Motion System in 1979, and commercialized rolling linear motion components.

THK commercialized the world’s first rolling linear motion components.
THK Technology in Aircraft Development

Highly acclaimed THK products are in use as essential mechanical components in all industries. THK products also have enormous potential in the development of aircraft and are already being supplied to several aircraft component manufacturers. Our strength lies not merely in offering standardized components, but also in our flexible development and proposal for customized products that completely satisfy customer needs by meeting their special purposes and usage conditions.
3 Energies That Drive Our Manufacturing Activities

As the LM Guide pioneer, THK has supplied several hundred million products over the past 35 years. THK develops and manufactures new products that leverage the company’s accumulated expertise in quality, technology and reliability.

Quality System

The manufacture of aircraft components requires stringent quality control. THK operates and maintains a quality management system that is certified to ISO9001. THK’s production history and stock quality are verified and controlled by the TQM system for the entire manufacturing process. Each new material, component, process and assembly, and the relevant records are stored for a long period of time. To further enhance the quality of aircraft components, THK has established a system that has received AS9100 certification for its Aerospace Quality Management System in 2006.

Project Management Risk Management

- Purchase
- Inspection
- Feeding
- Arriving
- Accepting
- Shpping

Durability Evaluation Testing
- Environmental testing

Environmental Testing

- Temperature conditions between -40 and +70 °C
- THK carefully selects the products it manufactures using its own environmental testing. In particular, the raw materials used for manufacturing aircraft components are carefully selected using these factors,

Nondestructive Inspections

To ensure the reliability of aircraft components, very stringent inspections must be conducted without fail. As a part of quality assurance, THK employs nondestructive testing devices on its manufactured components using ultrasonic detection, magnetic particle testing and shear tests.

Reliability

ISO9001
JIS Q 9100

Quality

Technology

Linear Motion Technology Production Engineering

Tribology

Environmental Testing

- Rolling elemental technology

Technology Structuring

Design Technology

In the aircraft business, all components must satisfy a high level standard in every aspect—weight, reliability, operating environments (left to +70 °C) and durability. THK repeatedly performs design verification and tests for each item to ensure the quality of our technologies. THK continues to develop more lightweight products and enhances its design capability to lower aircraft component manufacturing technology to even higher levels.

Production Engineering

THK fully understands the importance of quality control in the manufacture of aircraft components. This is why THK has established and maintains a unique manufacturing system to maintain stable product quality. Using Failure Modes and Effects Analysis (FMEA) technology, THK is committed to continually improving its non-destructive testing, machining, infrastructure check verification, transport, design and other manufacturing processes.
Operating under a corporate policy of closely integrating its manufacturing and marketing efforts, THK carries out its business in locations throughout the world where demand exists.

With the belief that local production carried out directly in customer regions is the best method of production, THK has been reinforcing its production and marketing bases in four key areas: Japan, Europe, America and Asia.