

Interview — Customer's voice —

Partnership with THK develops as market needs change over time.

Shinsuke Suhara

Executive Officer,
Electronics Assembly Equipment Division,
Machine Engineering Department,
Fuji Machine Mfg. Co., Ltd.

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Since its establishment in 1959, Fuji Machine Mfg. Co., a manufacturer of industrial machinery including electronic-component mounters and machine tools, has provided advanced technology and technical services to computer and mobile phone manufacturers and auto makers around the world. The company's Electronics Assembly Equipment Division handles production and sales of its electronic-component mounters, while the Machine Tools Division primarily handles production and sales of lathes designed for use by auto makers.



How did you happen to form a partnership with THK?

Some 28 years ago we launched an Engineering Division, the forerunner of our Electronics Assembly Equipment Division, and began selling the first “automatic mounters” ever used in the electronics industry. Back then we called them placers; they inserted components, with leads attached to the electrodes, into substrates. Those machines evolved into the present-day mounters, which place tiny electronic components on a substrate.

Mounters run at very high speeds compared to machine tools and placers, so rolling guides were absolutely necessary. THK's circular-arc design, with the balls making contact at only two points, has very low rolling resistance and is very stable, with a high tolerance for mounting errors. We decided to use THK products because they met our requirements, and that was the start of a long relationship.

What have you been most impressed with in your dealings with THK?

When I started designing products and trying to improve performance, I found conventional guides unsatisfactory. When we wanted to increase speed, iron and stainless steel guides were too heavy and not rigid enough. Ceramic was a promising material, so I contacted several makers about developing ceramic guides, including THK, and THK was more than willing to give it a try. They developed the world's first ceramic guide, and we were the first to use it. I recall it quite clearly. The machine incorporating ceramic



guides ran very fast, placing every chip in just 0.068 seconds. That machine was recognized within the industry as the world's fastest mounter at the time.

Once high-speed requirements were satisfied, the market need was flexibility, to enable makers to accommodate diverse production formats. We shifted to a modular design for our new NXT series, with each constituent device unitized for ease of replacement. The unit consists of a number of small machines, so the guides must also be very small. Ease of maintenance was important because many guides are used in each unit. The THK guides have retainers between the balls to prevent direct contact. With no balls colliding, the operation is very smooth. It's quiet, with a very long service life. In addition, there's a function provided that lubricates the rails automatically. These features make it possible to extend the maintenance-free operating period, which, as a machine maker, we appreciate very much.

Our partnership with THK has grown stronger as we've cooperated with one another in meeting the changing demands of the market.

What are you hoping for from THK in the future?

When we come up with an idea, THK's people respond quickly. We naturally talk with the sales people first, and the next time we meet they bring along technical people to explain their proposal. If there are difficulties, they explain just what the difficulties are, in plain language. The coordination between sales and the technical side at THK is wonderful, and I look forward to even better and smoother cooperation in the future.

From a technical perspective, extending the maintenance-free period is highly important for both of us. We would like them to develop units that require no maintenance at all for a period of, say, three to five years. Another problem is heat, a result of the emergence of machines that run at increasingly higher speeds. I expect THK to further improve their technology in relation to these two points.