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Swiss Rotary Table Technology

## NEWSLETTER

# Integrated rotary axes for measuring device manufacturers

MQ measurement technology:  
EA-511 M-Line



The TF-507510 two-axis rotary table of the M-Line is suitable for workpieces weighing up to 40 kg. The ultra-compact angular measuring system achieves positioning accuracies of up to  $\pm 2.5''$ .

Images: pL LEHMANN

## Mounted on anti-friction bearings, CNC rotary tables from pL LEHMANN offer the utmost precision.

pL LEHMANN has developed a rotary table program optimized for measurement technology – the MQ series. The Swiss manufacturer offers two distinctly different models, the «Q-Line» and the «M-Line». While the «Q-Line» can be retrofitted to almost any measuring device at any time and automated if required, the «M-Line» is available from the measuring machine manufacturer (OEM) as a fully integrated model.

These M-Line rotary tables are equipped with special, high-precision antifriction bearing technology that resolves the known drawbacks of rotary axes with air bearings: usage is not limited to just the vertical axis position, and the M-Line makes easy work of eccentric loads too. The unpopular influences from rotary tables with air bearings, such as tempera-



The installation length of the ultra-compact angular measuring system for the M-Line – here on an EA-510 single-axis rotary table – measures just 30 mm. It achieves positioning accuracies of up to  $\pm 2.5''$ .

ture fluctuations and air humidity for example, are also largely resolved.

With the pL M-Line, backlash-free preloaded high-precision rolling bearings ensure maximum repeatability and extremely high rigidity. The PGD gear unit, which is also preloaded backlash-free, stands for excellent synchronization characteristics. A thermal brake specially developed for measurement technology minimizes thermally induced displacements and inaccuracies. In addition, pL LEHMANN provides ultra-compact and high-precision angular measurement systems as well as DC servomotors specifically required in measurement technology.

M-Line rotary tables operated in such an environment achieve very high accuracies (FR, FT, FA) according to ISO 10 360 – both in vertical and horizontal axis positions, with centric or eccentric loads. For example, measurement tasks can also be performed on CMMs that were previously reserved for special measurement devices.

All rotary tables are also equipped for Industry 4.0. They contain a pL-iBox with extensive sensor technology to detect, register, and output – depending on the version – speed, internal pressure, temperature, humidity, shock and impact. This helps to increase productivity and availability, reduce downtime and maintenance costs, and enable rapid fault localization and preventive maintenance.



Thanks to the ultra-compact angular measuring system, just 180mm are required in the vertical axis position.

## CNC rotary tables with Swiss quality

Founded in 1960 strictly as a contract manufacturer, pL LEHMANN has been developing and producing CNC rotary tables for over 40 years. With innovations and Swiss quality, the family-owned company in the Swiss town of Bärau (Emmental) succeeded in opening up new opportunities for its customers and developing lean machining solutions characterized by high productivity through use of additional NC axes. One of the highlights of the company's history is the powerful and flexible Series 500 – developed in 2009 – which is ideal for the most demanding tasks thanks to its modular design. With the backlash-free, preloaded PGD gear unit – developed in 2014 – pL LEHMANN reached another milestone. In 2017, the company introduced, among other things, the new pL-iBox generation, making their rotary tables ready for Industry 4.0 and digital production. This was followed in 2019 by the introduction of the Series 900 DD (Direct Drive) rotary tables with speeds of up to 5,450 rpm. As an additional new product, the AM-LOCK system, a special zero-point clamping system for 3-D printing, including preprocessing and postprocessing, was presented in 2019.

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