

Press Release

CONTROL NEWS – Hall 4, booth 4426

LineCal®

Fully automatic volumetric compensation of coordinate measurement machines and machine tools

Braunschweig/Germany, April 20, 2017 – Etalon AG will launch its new interferometer based measurement system LineCal® during the Control show. The LineCal® system is addressed to manufacturers of compact multi-sensor measurement systems, coordinate measurement machines and machine tools who want to calibrate their machines fast and very precisely prior to the delivery to their customer.

In one setup LineCal® records all systematic geometry deviations (deviation in position, straightness, pitch, yaw, and roll of all three axes and squareness) based on the laser wavelength and generates the volumetric compensation data directly in the specific format of the machine controller. Intelligent routines make the setup easy; the measurement routine for the complete volumetric compensation is being carried out automatically in 40 to 60 minutes. The effort for the calibration is reduced considerably.

At the same time, the Etalon system reaches extraordinary high precision in the error determination: even deviation parameters which are very difficult to measure, i.e. the roll of the axis, can be determined extremely precisely with this patented principle of measurement.

Several firmly fixed measurement channels are replacing the motoric tracking

LineCal[®] is based on the approved interferometric principle of measurement of which Etalon is already making use of in its other measurement systems. In order to save space and weight, Etalon abandoned the tracking of the measuring beams. A simple but specially tailored fixture with a large number of pre-installed interferometric measurement lines is being used instead for each machine type.

Geometric image of the machine

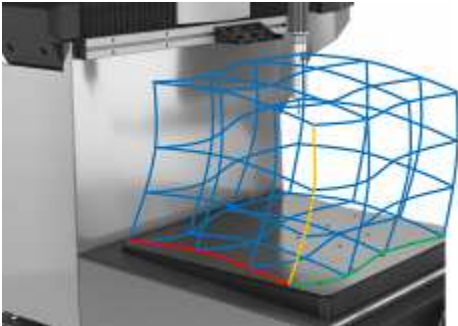
The LineCal[®] measuring lines are arranged in that way that the automatic measurement reflects a highly precise geometric image of the machine. The results of the analysis can be used directly for the error compensation. “A lot of development work has been spent on the configuration of the static measurement lines and the mathematical methods,” reports Dr. Schwenke, CEO of Etalon AG. “Together with our multi-channel-laser interferometer we can realize ideal configurations for almost all machine types.”

To carry out a measurement, a tailor-made construction is placed on the machine. The adjustment of the machine positions is supported by the software. During the measurements, the machine follows automatically and sequentially the pre-installed measurement lines and records the deviations between the measurement system of the machine and the interferometric measurement channels. From this data, the Etalon software calculates the deviations of all machine axis.

“LineCal[®] mainly pays off if the same machine type has to be calibrated several times. This makes the system especially useful for equipment manufacturers. The demand in this segment is high because calibration is a significant cost factor in the production of precision machines,” adds Dr. Schwenke. “LineCal[®] profits from Etalon’s knowhow in the field of laser measurement technology, calibration and machine interfaces. It increases the application of our base technology for a new class of machines and drastically decreases the time compared to other existing methods.”

Picture and caption

[photo:KMG mit Volumetrischen Abweichungen.png]



High-precision machines demand for volumetric compensation in order to ensure high accuracy in the working space of the machine. With LineCal[®] Etalon presents an efficient tool for this application.

About Etalon AG:

Etalon offers complete solutions for high-accurate and comprehensive geometrical analysis, control and increase of accuracy of machines and structures. A number of innovative technologies are making Etalon products efficient and easy to handle. The continuous high accuracy is the key advantage in a demanding environment. Etalon's customers are from the mechanical engineering, industrial metrology, automotive manufacturing, aerospace engineering and research.

Further information you will get under www.etalon-ag.com

Press contact

Contact ETALON AG:

Etalon AG
Uta Röstermundt
Hinter dem Turme 20
D-38114 Braunschweig
Phone: +49 (0)531 / 70 2228-00
Fax: +49 (0)531 / 70 2228-99
Email: info@etalon-ag.com
www.etalon-ag.com

PR-Agency:

frische denke
Jutta Thiel
Jasperallee 71
D-38102 Braunschweig
Phone: +49 (0)531 / 47 21 52 60

Email: jutta@frischedenke.de
www.frischedenke.de

Etalon North America Inc.

11234 NE 68th St #6
Kirkland, WA 98033
Phone +01-425-985-5223