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## **Finally, a Valve Seat Inspection System for the Complete Measurement of Cylinder Heads**

The VSM/SIKO Valve Seat Inspection System is ideal for use in automotive, small engine, off-road vehicle, motorcycle, and diesel engine applications. The VSM is a manual gage and uses mandrels armed with inductive built-in transducers. The mandrel is connected to a DC motor via a cardan coupling with clutch and a pair of gear wheels with stop cam. By turning 360°, the mandrel controls the difference between the seat and the shaft. The VSM consists of the mandrel, joint coupling, a hollow shaft and a driving component. Unlike a CMM it does not have a spatial frame of reference. The mandrel itself creates the reference between the geometry of the guide bushing and the valve seat. It centers in the lower end of the bushing and in the valve seat. Therefore, the dual valve of the measurement results in a value according to the run out of the bushing axis and the center of the valve seat. Ultimately, the mandrel develops a reference axis and measures the eccentricity of the bushing to this axis.

Measurement by the VSM is fast, taking only three seconds for a reading.

The SIKO consists of a measuring head adapted to the valve seat, a universal linear-slide and a measuring computer. When inserted in the cylinder head it lays on the seat like a valve. After initial

instruction the inductive built-in transducer (IET), with a diamond tip, scans into the seat. The IET slides over the valve seat, as well as over the fore and aft chamfers. The touching force is low, between 0.3 and 5.0 N. The travel of the slide is 5mm, with a deviation of 0.2m. After the measurement has been finished, the profile of the valve seat will be displayed on a monitor in a graphic and/or numerical format. The measurement by the SIKO is also fast, taking only eight seconds and resulting in a reliable reading.

In addition to measuring valve seat angle and valve seat width, the Siko measures valve seat straightness/crowning plus it charts surface roughness and gage line location. These features allow valve manufacturers to comply with today's rising performance standards for tolerances. When SIKO is inserted in the cylinder head, it lays on the seat like the valve. Then a built-in inductive transducer (IET) with a diamond tip slides over the valve seat and chamfers. After eight seconds the measurement is finished and the profile of the valve seat is displayed on the monitor.

A measuring head adapted to the valve seat, a universal usable single linear-slide and a measuring computer come standard on the system. Options include the Slide Scan, which is a variation of the SIKO gage offering dual slides resulting in no operator influence in the one-step measurement. Both gages are designed for shop floor use and can withstand rough conditions while maintaining reliable measurements.

Menomonee Falls, Wisconsin . . . Euro-Tech Corporation is the exclusive North American distributor of MyTec Hydraclamp products and will spotlight Knäbel products at IMTS 2014 being held at the McCormick Place North September 8-13. Euro-Tech Corporation is in **W-2453** which is located in the Tooling & Workholding Systems Pavilion in the West Building

**Euro-Tech Corporation**

Since 1993, Euro-Tech Corporation has represented unique European-made gages, tooling products such as arbors, chucks, drills, taps, measurement systems and accessories. Euro-Tech also offers the state-of-the-art PG 1000 Cutting Tool Inspection System and the Pinhead Flexible Fixturing Systems for CMMs. Both are manufactured in the U.S.

Euro-Tech offers custom and standard engineered products designed to increase production for manufacturers in the automotive, aerospace, small engine, medical and wind power industries. The company is headquartered in Menomonee Falls, Wisconsin where a highly skilled team is committed to the continuous development of state-of-the-art solutions.

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