

Engineered Solutions



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Product Line MarSolution

Based on Millimar Programm



Typical Measurement Tasks



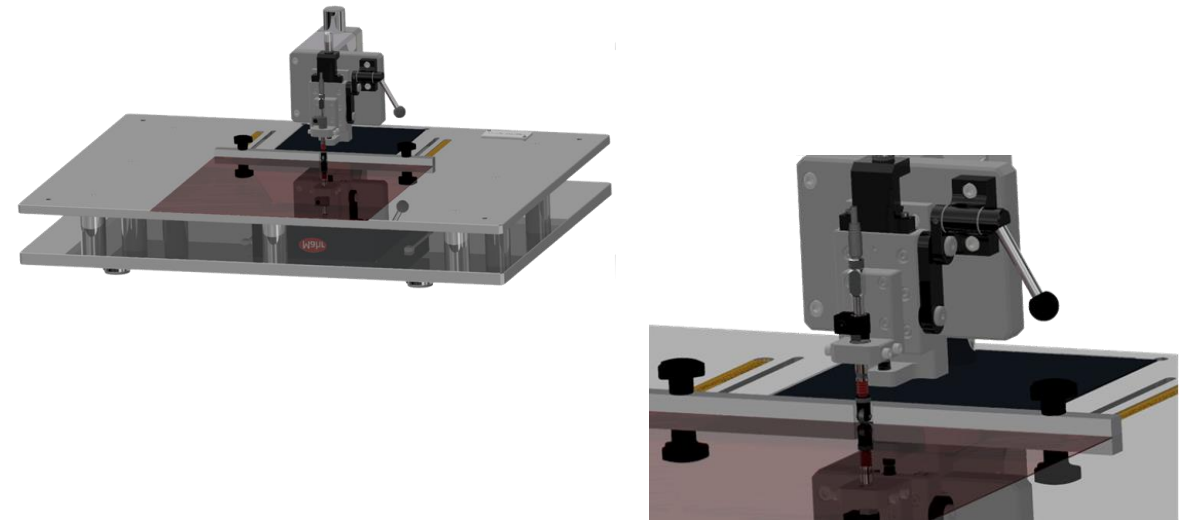
Measuring Device for Battery Cell Film Thickness

Measurement Task

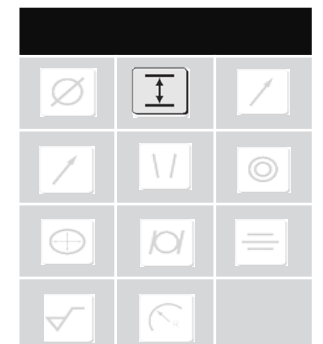
- Measurement of film thickness of $0.245\text{mm} \pm 0.003$
- Dimension of the film is $360\text{mm} \times 360\text{mm}$

The Solution

Manual measuring station for measuring various thicknesses of coated foils, which are used, for example, for batteries in electric vehicles. The position for measuring the film thickness can be changed flexibly in just a few simple steps. A measuring probe moves to the workpiece by operating a lever on the measuring head. The measurement of the film is used to test coating on the actual film. In order to achieve the best possible accuracy, measurements are made on a granite slab that is sunk into the device. The measurement data are recorded by the compact length measuring device Millimar C1200.



Automation:	manual
Main application:	battery, e-mobility
Reference No:	78



Shaft / Commutator / Armature Measuring Gauge

Measurement Task

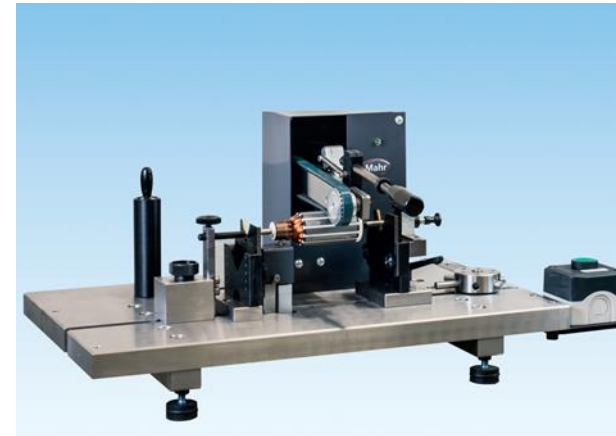
- Shaft Diameter
- Runout
- Roundness
- Bar-to-Bar Height (commutator)
- Segment gap
- Segment pitch
- Segment form deviation etc

The Solution

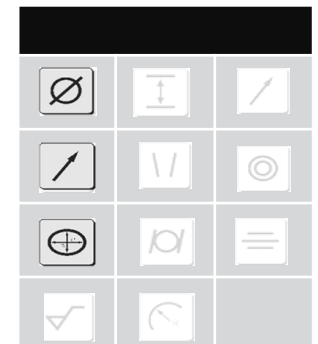
This measuring device is designed for the measurement of typical dimensional parameters on shafts.

The workpiece is inserted and then clamped between centres by actuating a lever. To enable dynamic measurements, a drive is applied to rotate the shaft.

The standard version is designed for shaft lengths from 130 mm to 300 mm and diameters from 25 mm to 80 mm. Special versions are available on request.



Automation:	semi-automatic
Main application:	shaft; e-mobility; turbo-charger
Reference No:	90



Inline Shaft Measurement

Measurement Task

- Diameter on bearing carrier
- Axial runout on shaft

The Solution

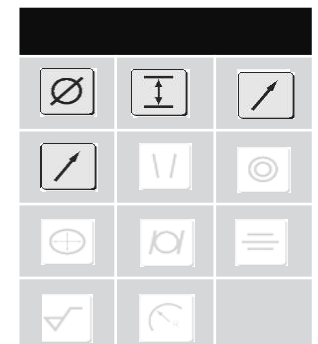
This measurement station is designed for both manual and automatic loading by applying a robot.

After loading the workpiece a housing will close the station automatically. Center tips will close to fix the workpiece. Static and dynamic measurements are being performed fully automatic.

Afterwards results being displayed and transferred to QS-Data-Base of the customer and housing is opened for unloading and loading of next workpiece.



Automation:	full-automatic
Main application:	shaft; gear
Reference No:	66



Measurement of Diameters on Gear-Shaft

Measurement Task

Measurement of different diameters on different sections statically.

Cycle time realized is 30 sec..

The Solution

This automatic gage is for 100% measurement of diameter of gear secondary axis. The station is integrated in the production line. The procedure of measurement is:

- Auto loading
- Part type detection (data-matrix-camera)
- Removal on Vé + referencing
- Includes pneumatic measurement
- Auto unloading

The machine is design to measure different type of parts (flex plant approach). The adjustment of probes to serve the different geometries is done automatically depending on the information of data matrix information.



Automation:	inline
Main application:	shaft, gear
Reference No:	47



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Product Line MarSurf Engineered

Based on MarSurf Sensors



Typical Measurement Tasks



Fully Automatic Measuring Station for Gear Boxes - Series 2200

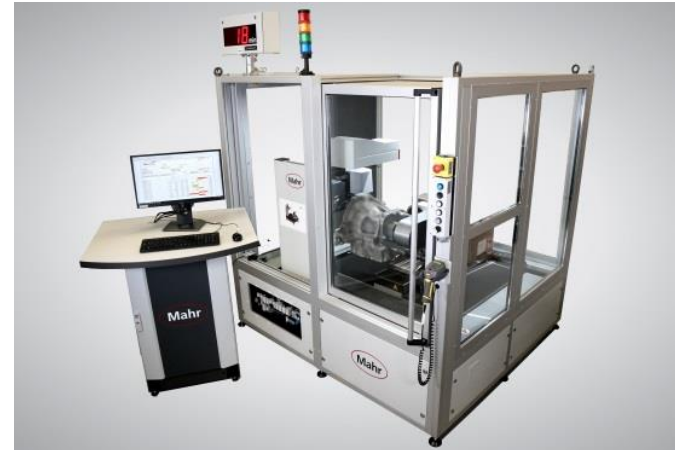
Measurement Task

- Full automatic roughness and contour measurement based on drive unit LD260
- Typically, high numbers of features and/or complex measurement tasks

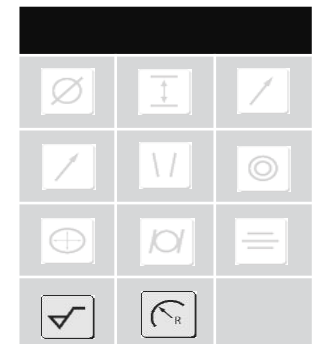
The Solution

This measuring station is designed to handle large components and measure contour and roughnesses on those fully automatically. High flexibility is granted due to six full automatic axis positioning the workpiece to the required position. Thanks to the user-friendly CNCplus software, the operator can operate the measuring station after only a brief introduction to the system.

The safety concept enables fast positioning and short testing times. Thanks to the active vibration damping system, the CNC measuring station can also be integrated directly into the production area. Thus, short distances and fast test results are achieved.



Automation:	full-automatic
Main application:	gear, motorblock, steering
Reference No:	49



Flexible Roughness and Contour on Medium Sized Workpieces

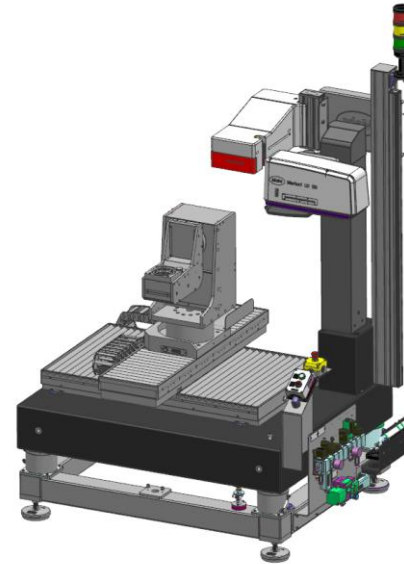
Measurement Task

Measurement of roughness and contour on shafts and for e drive shafts, complex workpiece geometries such as pump housings, etc. up to Ø 300mmx225mm and 15 kg.

Optionally family program "Gear" is available for high accuracy measurement of surface roughness. This allows measurement on the most complex gear geometries without special programming knowledge.

The Solution

This roughness and contour measuring station with LD130 is characterized by 6 axes of motion and an automatic probearm changer. This allows a very flexible and fully automatic measuring of workpieces. Due to the 3 linear and 3 rotary axes, the workpieces can even be measured from all 6 sides depending on the clamping. The system was designed for the measurement of drive shafts of electric drives, but can be used universally for workpieces of medium size. The machine is protected by a two-sided housing and is operated from the front side.



Automation:	full-automatic
Main application:	gear
Reference No:	87

