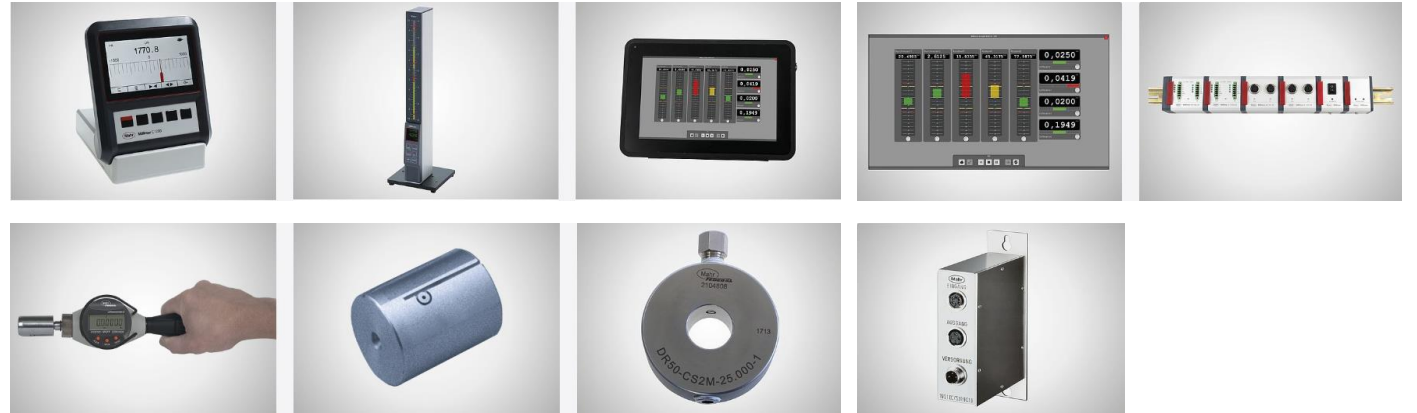


# Engineered Solutions

Engineered Solutions

# Product Line MarSolution

Based on Millimar Programm



Typical Measurement Tasks



# Diamar nk - Universal Measuring Unit for Shop Floor

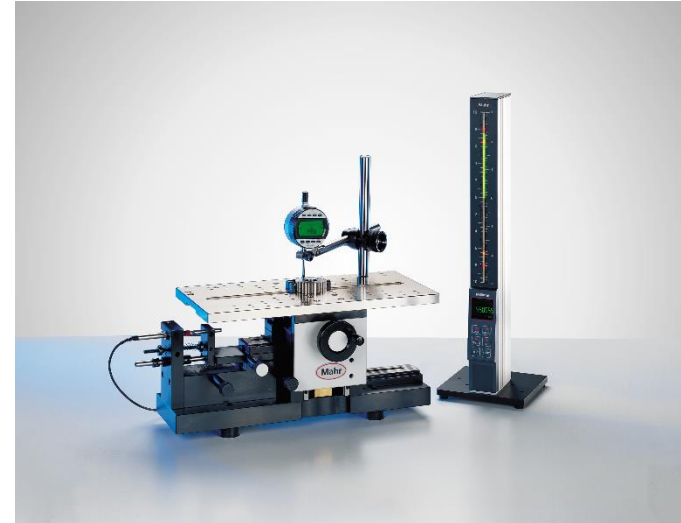
## Measurement Task

- Outside and inner diameters
- Testing the dimension over balls on internal and external gears
- Heights

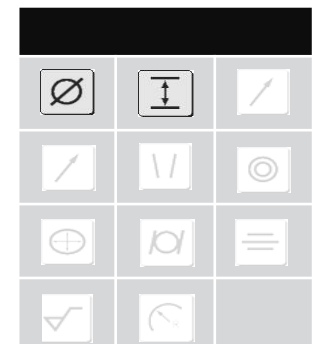
## The Solution

- Base with table top 350 mm x 180 mm (13.78 in x 7.09 in) and location holes for mounting accessories
- 1 mounting device for holding the fixed probe arm
- 1 spring-loaded retraction unit for holding the moveable probe arm
- Retraction range 25 mm (.9843 in), can be limited
- 1 probe holder/dial indicator holder
- 1 height adjustment facility for the table top, adjustment range 50 mm (1.969 in)

Part-specific accessories, such as stop rail, support plate, locating pin, measuring systems, etc., are available on request. Suitable evaluation units are all Millimar instruments with probes, also indicators and test indicators.



Automation:	manual
Main application:	gear, ring
Reference No:	54



# Diamar 280 - Universal Measuring Unit for Shop Floor

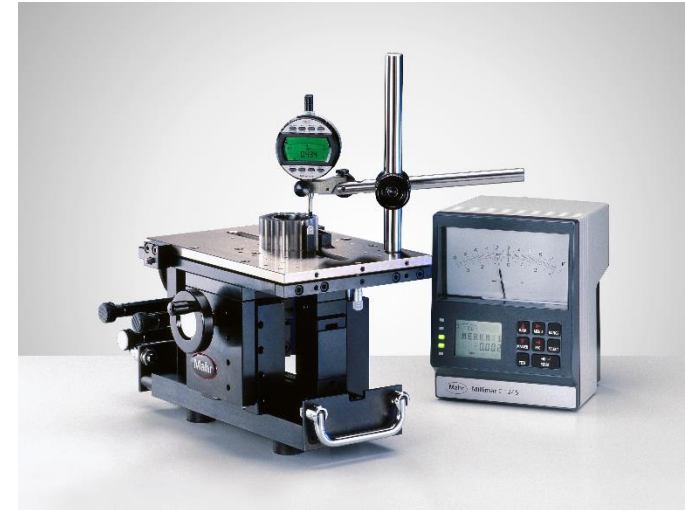
## Measurement Task

- Outside and inner diameters
- Testing the dimension over balls on internal and external gears
- Heights

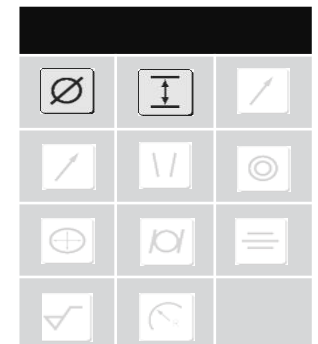
## The Solution

- Base with table top 255 mm x 180 mm (10 in x 7.1 in) and location holes for mounting accessories
- 1 mounting device for holding the fixed probe arm
- 1 spring-loaded retraction unit for holding the moveable probe arm
- Retraction range 20 mm (.8 in), can be limited at will
- 1 probe holder/dial indicator holder
- 1 height adjustment facility for the table top, adjustment range 45 mm (1.77 in)
- Adjustable inclination of the table

Part-specific accessories, such as stop rail, support plate, locating pin, measuring systems, etc., are available on request. Suitable evaluation units are all Millimar instruments with probes, also indicators and test indicators.



Automation:	manual
Main application:	gear, bearing, rings
Reference No:	55



# Runout and Height Measurement of Wheel Bearing

## Measurement Task

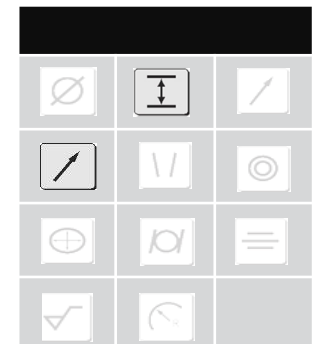
- Workpiece: Wheel bearing assembly including mounted bearing
- Runout of housing in respect to the center axis of assembly
- Height / position of bearing

## The Solution

Workpiece is loaded manually. Clamping occurs by means of toothing of the inner carrier. Measurement head will be pulled down. Probes will be attached automatically and measurement is performed while turning the workpiece manually.



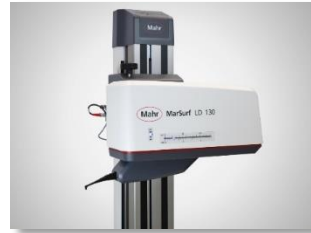
Automation:	manual
Main application:	bearing
Reference No:	64



Engineered Solutions

# Product Line MarSurf Engineered

Based on MarSurf Sensors



Typical Measurement Tasks



# Measurement on Large Bearing-Rings

## Measurement Task

- Contour measurement of the gothic arch geometry within the bearing-ring
- Roughness on outer and inner diameter of the ring

## The Solution

This measurement station is based on a MarSurf LD system complemented by a universal flexible workpiece fixture dedicated to (bearing-) rings. The fixture includes an TX axis with 800mm of adjustment and TY axis with +/-25mm of adjustment.

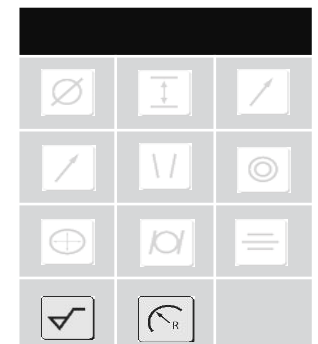
Additionally, there are two rotary axis for part positioning: TC axis (180 degrees) and a TB axis (110 degrees) for part positioning/movement. Those axis are coming with a digital protractor angle position indicator.

The fixture is designed to hold parts ranging in diameter from 25,5mm (1") through 455mm (18").

Positioning system is designed to be applied as upgrade to a standard Mahr surface measurement system.



Automation:	manual
Main application:	bearing
Reference No:	11



# Measuring Station with Aircushioned Positioning Table

## Measurement Task

- Roughness and contour measurement
- Depending on the measuring task, all drive units from the Mahr can be applied
- Combination of several different drive units are possible
- Workpiece weight up to 250 kg

## The Solution

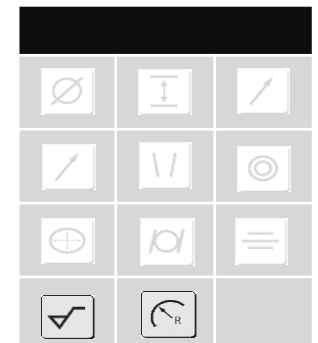
Measuring station with air-bearing positioning table for comfortable and precise positioning of large workpieces.

The guided axes allow positioning of the workpieces in TX, TY and TC direction. Each axis can be adjusted separately by simple and fast pre-positioning and subsequent fine adjustment. Each axis can be locked separately with a parking brake.

The mounting plate (Ø 600 mm) has a hole pattern with M6 threads at 50 mm intervals (Witte system). This allows the user to flexibly realise workpiece supports on site.



Automation:	manual
Main application:	motorblock; crankshaft; gearbox
Reference No:	23





# Roughness and Contour on Medium Sized Bearing Rings

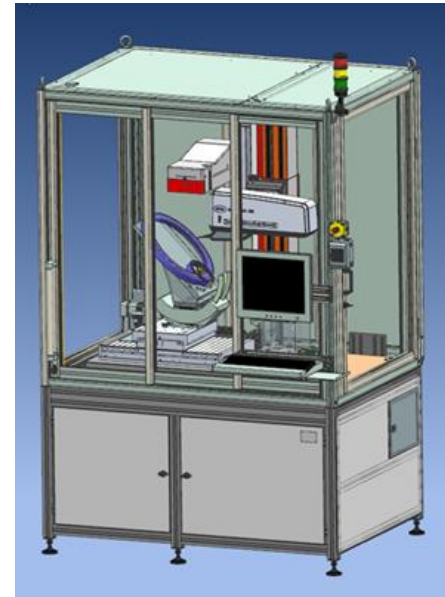
## Measurement Task

- Roughness and contour on bearing rings
- Outer and inner rings
- Roughness, chamfers and straightness of the contact and bearing surfaces

## The Solution

This roughness and contour measuring station with LD260 is specialized to measure bearing rings. Two linear axis and a special rotary axis with external pivot point allows flexible positioning, tilting and measuring of all kinds of bearing rings. The rotary axis is to swivel the bearing ring centrically. This reduces efforts in axes movement in order to save time. The X-Y linear axis positioning the workpiece in the zenith or moves it to the measuring or loading position. The probearm exchange unit ensures a full autonomic operation.

A universal fixture clamps the bearing rings by means of a magnet or clamping element onto a V fixture and a prism. To ensure an reproducibly clamping of the workpiece the loading position is at 45°. The station is designed to fit work piece dimensions up to Ø 450mm and up to 225 mm in thickness as well as a maximum weight of the work piece of 15 kg.



Automation:	full-automatic
Main application:	bearing
Reference No:	88

