MICRO-EPSILON
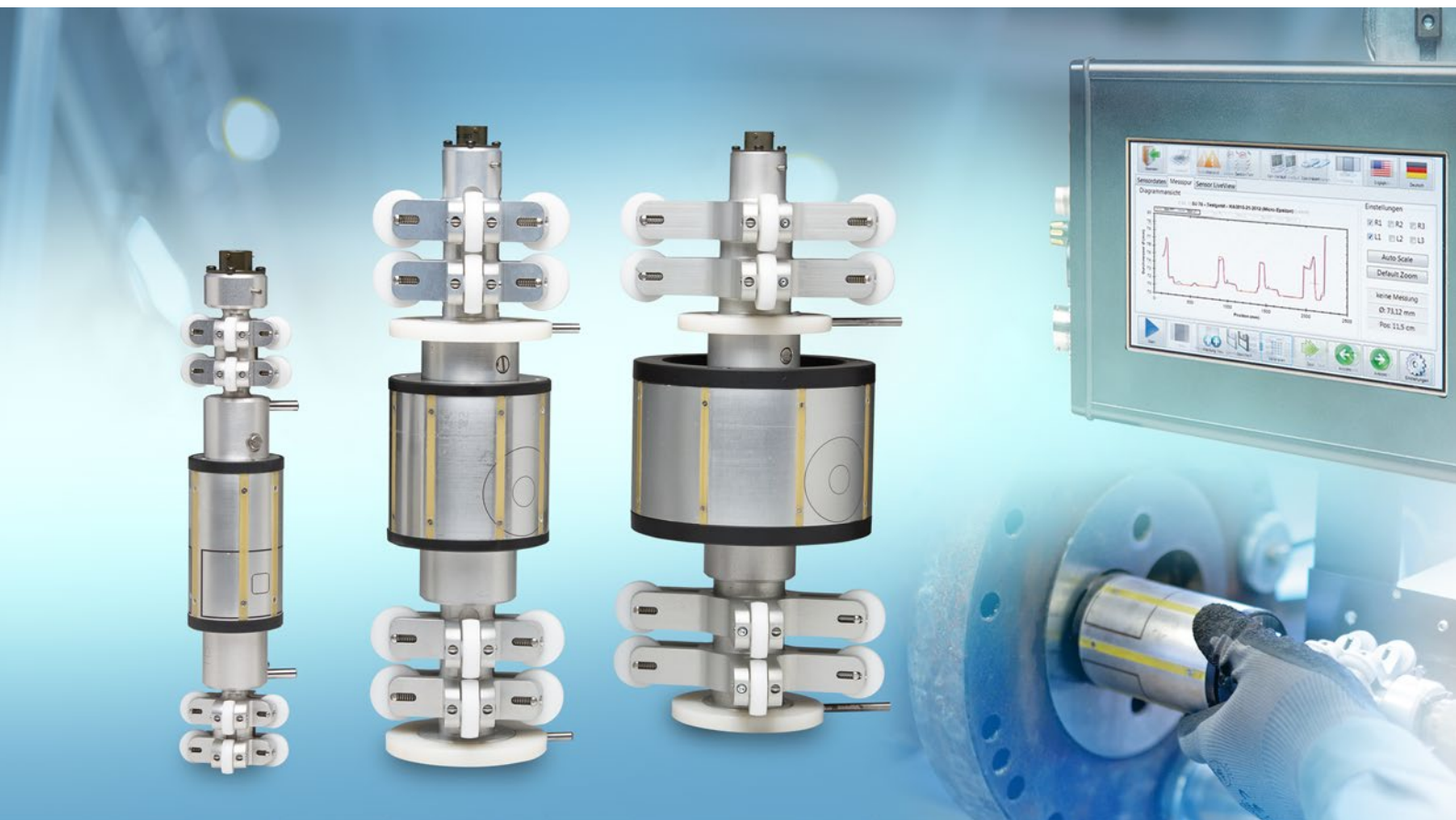
More Precision

idiamCONTROL // Inspecting the inner diameter of extruder barrels

Wear inspection of the inner diameter of extruder barrels
idiamCONTROL
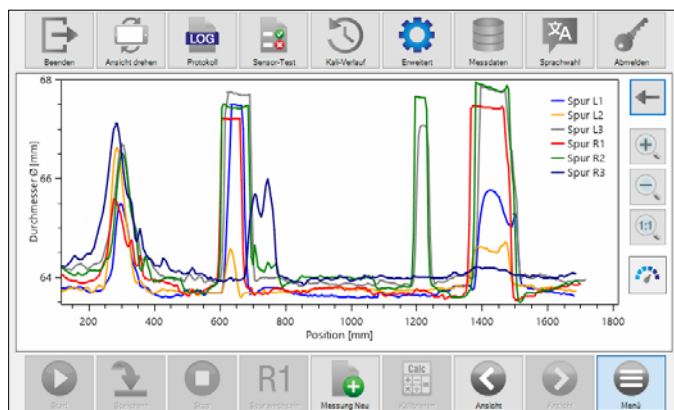
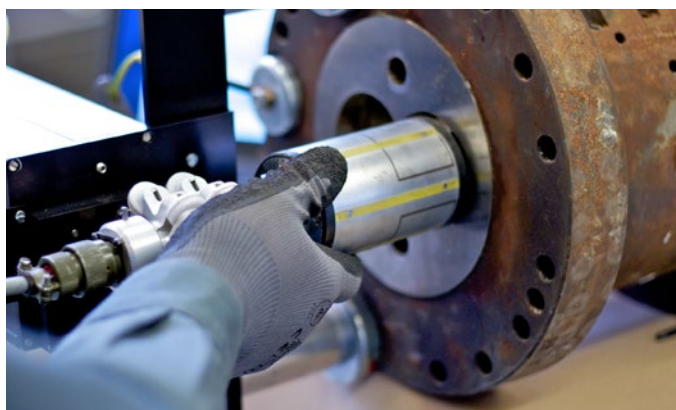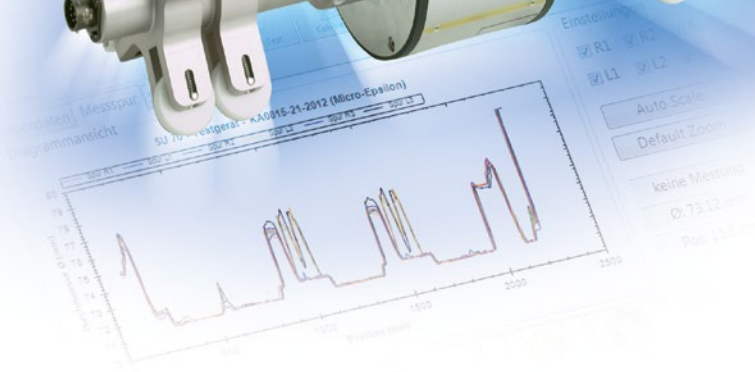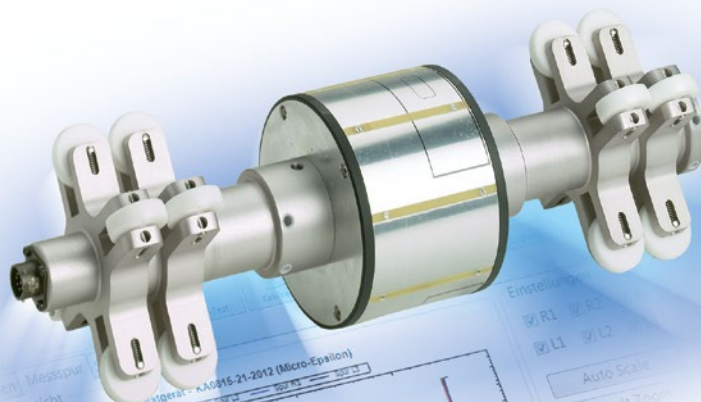Suitable for extruder barrels from 32 to 180 mm diameter

Factory calibration enables measurement on metals

Touchscreen for fast on-site evaluation

Direct guidance via reinforced cable and special plug

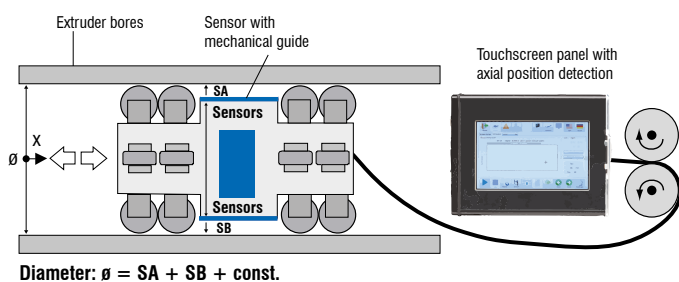Reduced service time

Targeted inspection for replacement of defective segments

Precise determination of the inner diameter of pipes

The idiamCONTROL sensor system precisely measures the inner diameter of bore holes such as in extruders in order to determine the wear. As the sensor measures a total of 6 tracks, the readings provide more accurate and meaningful measurement results. For reliable guidance, the sensor system is centered at both ends by spring-loaded rollers. By rotating each cross roller through 40 degrees, the barrel bore can be measured in 6 tracks. The measurement itself is contactless.
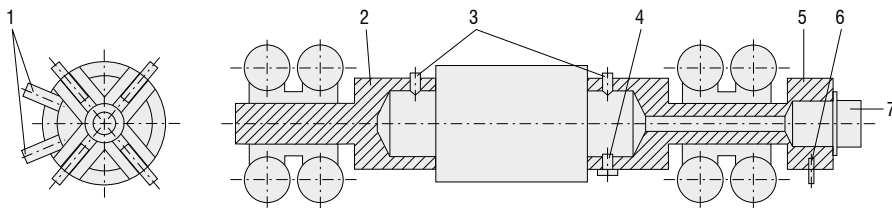
On-site evaluation via touchscreen

The measurement results are displayed on a compact touchscreen. The measurement signal represents the diameter over the complete bore length and any tolerance deviations are immediately displayed. For data output the device is equipped with a USB port. A calibration control system checks the functionality of the measuring system.

Functional principle

The measuring system uses two capacitive displacement sensors arranged opposite each other to determine the diameter of the barrel bore. For the measurement, the sensor is pushed to the end of the extruder barrel and pulled out while measuring the bore hole. The reinforced cable is attached to the sensor with a special plug. The diameter values of several test cycles can be saved. The results of the measured tracks are then offset against each other to determine the wear.
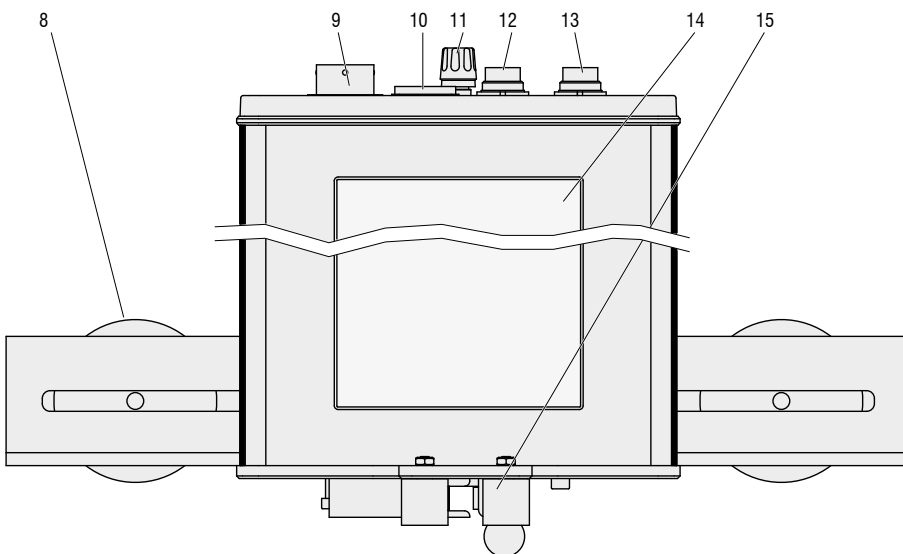

Diameter: ø = SA + SB + const.

Model	IDC803E / IDC801-SUxx
Measuring range	8 / 18 mm
Accuracy	±0.02 mm
Resolution	16 bits (1 μm)
Spatial resolution (longitudinal position)	1 mm (max. speed: 100 mm/s)
Interface	USB
Temperature	+5 ... +60°C
Humidity	5 - 95% (non-condensing)

Protection class	Sensor	IP40
	Controller	IP40
	Power supply	IP20

IDC801-SUxx

IDC803E

1 Guide pins

2 Front cross roller

3 Locking mechanism for measurement variants

4 Anti-rotation lock

5 Rear cross roller

6 Locking mechanism for connection piece

7 Sensor cable connection

8 Positioning system with magnetic holder

9 Sensor cable connection

10 USB connection

11 Grounding cable connection

12 Sensor cable connection (compatibility)

13 Power supply connection

14 Touchscreen

15 Cable length measuring system

Scope of supply:

▪ Sensor with front and rear cross rollers
▪ Calibration tray
▪ Cleaner
▪ Evaluation unit with positioning system
▪ Sensor cable
▪ Grounding cable
▪ Power supply
▪ Connection piece for rod assembly

Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for metal strips, plastics and rubber

Optical micrometers and fiber optics, measuring and test amplifiers

Color recognition sensors, LED analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection

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