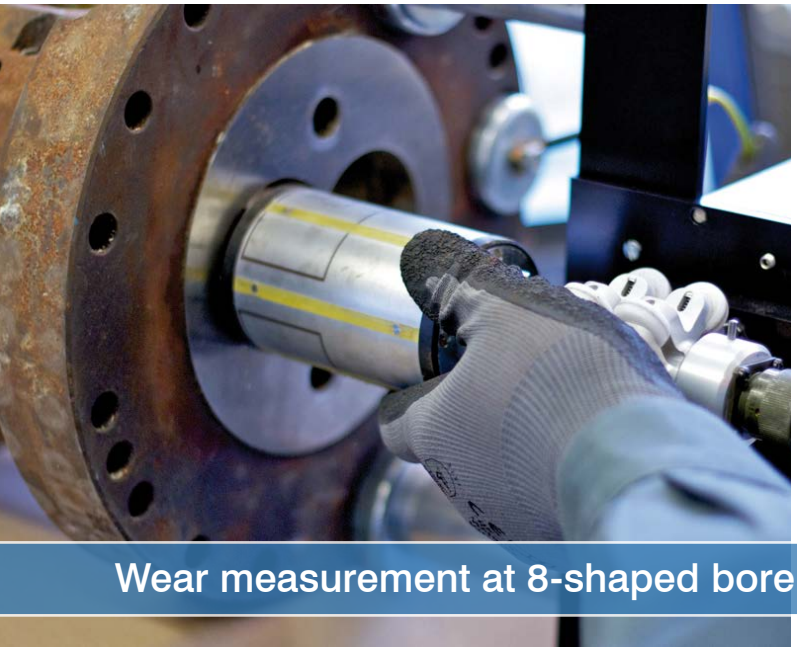
A055

Capacitive sensors
capaNCDT



Wear measurement at 8-shaped bore holes in extruder machines

The internal bore hole diameter measuring unit idiamCONTROL 801 detects the wear in the 8- shaped bore holes of extruder machines by measuring the internal diameter. For this purpose a measuring probe is pushed into the bore hole. An integrated capacitive double sensor measures the actual bore hole diameter. In addition the sensor position in the longitudinal axis of the bore hole is measured with a cable-length measuring system.

This means that every sensor position is assigned a diameter. Through a computer interface the measurement data are transferred to a PC, where they are evaluated. As a result the longitudinal bore hole profiles are available in 6 tracks with an axial resolution of 6 mm. Information about wear is obtained by comparing the diameter values at different.

Requirements for the measurement system

- Measuring range: 10mm or 20mm
- Accuracy: 0.1mm
- Resolution: 0.05mm
- Axial resolution: 5mm
- Max. speed: 5m/s

Ambient conditions

- Temperature: 5 - 60°C
- Medium: air
- Interference: IEC 1000-4-1

System design idiamCONTROL

- Double sensor capaNCDT with mechanical locating arrangement
- Control unit with computer-interface (RS232)

Reasons for choosing the system

- Two capaNCDT sensors measure in a non-contacting way and without wear
- capaNCDT sensors are calibrated for all metals they are independent of any material inhomogenities
- Due to the double sensor principle exact centreline guidance of the measuring probe is not necessary

Principle