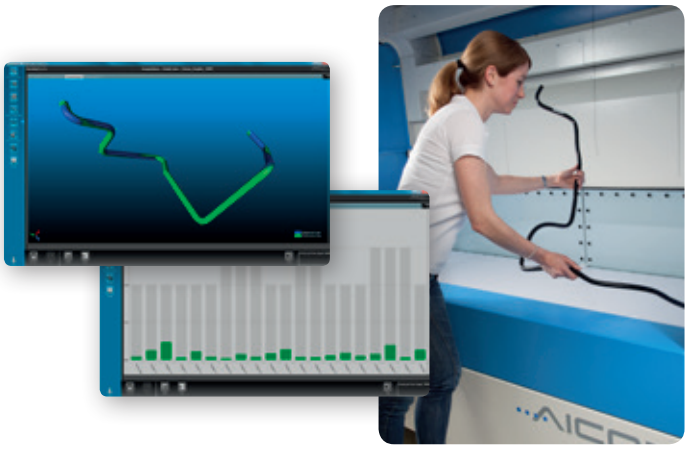
TubeInspect P16

The **new benchmark** in 3D **tube and wire** measurement

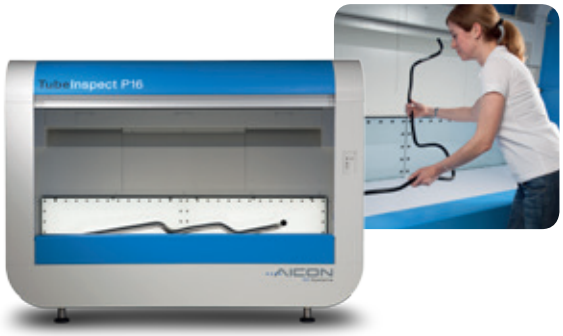
For 20 years, AICON's optical tube measurement systems have been standing for efficient quality control of bent tubes and wires. Highly precise and fast measurement, programmable optical gauges, automated setup and correction of bending machines, reverse engineering of sample tubes, initial sample testing, automatic 100 % inspection – these are only some of the various applications of this renowned technology.

The new TubeInspect P is the consistent further development of this successful concept. It is the answer to the constantly rising demand for tube measurement technology in manufacturing and to higher customer requirements regarding inspection of increasingly smaller tolerances. The successful introduction of TubeInspect P8 is followed by a new P model: TubeInspect P16. As a successor of the proven TubeInspect basic model, it sets new standards especially in the measurement of medium-length and long tubes and wires.



A large measurement area **for all tube lengths**

Equipped with 16 high-resolution cameras and a large measurement area, TubeInspect P16 is suitable for tubes and wires of up to 2,600 mm length. Measuring results are provided in less than 10 seconds. Tubes of up to 7 m length can be measured by repositioning in several steps. The measurement sections are linked automatically. In open position, the lateral doors serve as support desk.



TubeInspect P16 considerably optimizes manufacturing processes, e.g. the setup of bending machines, and significantly reduces costs through shortened setup times. Combined with the software platform BendingStudio, the system offers various application-oriented functionalities.

When measuring large objects, e.g. long thin metal or plastic pipes, BendingStudio compensates deflections occurring due to the own weight of the pipe. Furthermore, holders and attachment parts can be measured with adapters. TubeInspect P16 replaces expensive mechanical gauges.

HEXAGON
MANUFACTURING INTELLIGENCE

AICON
3D Systems

Latest technology for highest requirements

Thanks to state-of-the-art technology, TubeInspect P16 fulfills highest requirements regarding accuracy and speed. The long-life and low-maintenance LED technology guarantees a particularly smooth illumination of the entire measuring field, and enables a reliable measurement of tubes and wires of all materials. High-resolution cameras with latest GigE technology synchronically capture the measuring object within milliseconds. Complex bends are captured even more detailed which improves repeat accuracy.
The panel of the reference field is supplemented with additional glass elements as beams for the low-maintenance reference points. The measurement accuracy for the determination of the sheath tolerance could now be increased to up to 0.085 mm.

Innovative design for demanding manufacturing conditions

Due to its construction and quality, TubeInspect P16 is applicable in production environment and insensitive to vibrations. Despite smaller external dimensions, a slightly enlarged measurement area could be realized due to its compact design. Additionally, the new narrow front edge allows for an ergonomically optimized insertion of measuring objects into the measuring cell.

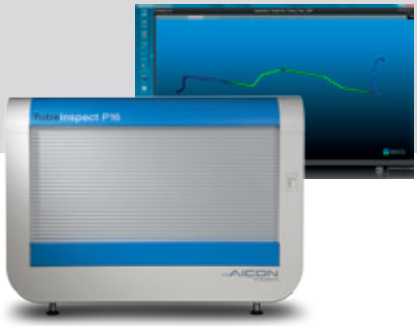
TubeInspect P16

YOUR ADVANTAGES AT A GLANCE:

- High-resolution digital cameras with latest GigE technology
- Optimized camera positions for better capturing of piping geometries
- Resistant, long-life and low-maintenance LED illumination technology
- Highly precise and long-term stable 3D reference of glass components
- Measuring system analysis with DKD-calibrated master tube
- Applicable as optical gauge – saves costs for mechanical gauges
- Industrial-suited construction, applicable in production
- Lateral doors applicable as support desk
- Ergonomically optimized handling
- Suitable for all materials
- Compact design

Technical specifications

Measurement area	2,600 mm x 1,250 mm x 700 mm
Cameras	16 high-resolution digital cameras with GigE technology
Tube diameter	3.0 mm - 200 mm
Bending angle	1° - 340 °
Minimum push between two bends	Bend in bend and free-form possible
Software	BendingStudio
Reference field	Three-dimensional glass reference
Dimensions	2,980 mm x 1,640 mm x 2,300 mm
Weight	Approx. 1,300 kg
Accuracy	0.085 mm sheath tolerance (1σ)



AREAS OF APPLICATION:

- Setup and correction of bending machines
- Control of serial production
- Production of free-form geometries
- Reverse engineering
- Replacement of gauges

HEXAGON
MANUFACTURING INTELLIGENCE

AICON 3D Systems

AICON 3D Systems GmbH
Biberweg 30 C
D-38114 Braunschweig, Germany
tel. +49 (0)531 58 000 58
info@aicon.de
aicon3d.com | tubeinspect.com