HEXAGON

Data sheet

TubeInspect

Streamline your entire bending operation

TubeInspect is a non-contact optical measurement cell designed for accurate, reliable, and fast inspection of tubes and wires. Built to handle the demands and harsh environments of modern production, it helps you streamline processes for faster throughput.

Designed for production

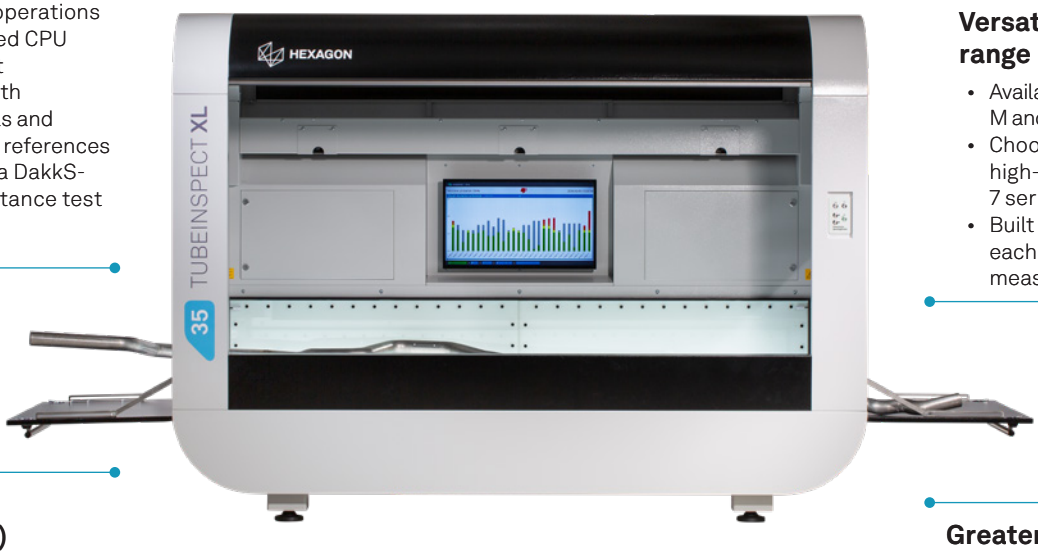
- Manual and automated functionality
- Robust construction suitable for shop floor placement
- Automation-ready
- Simple operation requires only 5 minutes training for defined part

Low lifetime costs

- Reduce energy consumption with power-saving LEDs and a standard 100-240V power supply
- Highly stable cell ensures long-term reliability
- Ecofriendly design minimises environmental impact
- No moving parts within the measurement system

Reliable accuracy

- Smooth operation in harsh conditions due to automatic temperature compensation
- Reduce downtime risks and ensures smooth operations with the embedded CPU
- User-independent measurements with automatic controls and high-quality glass references
- Each cell passes a DakkS-accredited acceptance test before delivery



Versatile TubeInspect range

- Available in two sizes: M and XL
- Choose standard or high-end resolution (5 or 7 series) for each size
- Built to meet each customer's measurement needs

Quick return of investment (ROI)

- Integrated TubeInspect screen centralises critical information within operators' view for faster workflows
- Gain more production time for benders as TubeInspect adapts to tube changes instantly
- Reduce material waste, and replace all bulky physical gauges, for a streamlined, cost-effective workflow

Bending machine connection

- Compatible with most worldwide bender makers
- Calculate values for bender correction
- Send data instantly to bending machine
- Minimise number of correction loops – correct all bends in one step

Countless tube measurement options

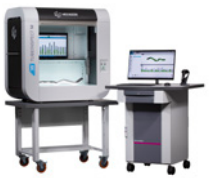
- Rotary draw bending parts (LRA)
- Bend-in-bend geometries
- Freeform bent parts
- Formed ends and fittings
- Flexible and long brake lines
- Branched parts
- Rectangular cross-section tubes

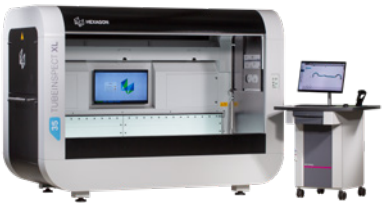
Greater flexibility

- Enable flexible production workflows with CAD import of circular and rectangular tubes
- Easy reverse engineering of existing tubes
- Extensive possibilities for transfer of existing tube databases to BendingStudio XT
- Measure complex ends and brackets with CAD ADAPTER

TubeInspect

Specifications





Solutions specifications

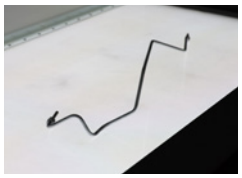
	35 M	37 M	35 XL	37 XL
Measurement technology	High-resolution camera array			
Measurable tube diameter	2-125 mm	0.8-125 mm	3-200 mm	1.5-200 mm
Measurable diagonal for rectangular tubes	8 -125 mm	2-125 mm	12-200 mm	8-200 mm
Measuring volume	1000 x 580 x 400 mm		2600 x 1250 x 700 mm	
Max. tube length	Unlimited (with repositioning)			
Bending angle	1-340°			
Min. straight between bends	Bend-in-bend and freeform possible			
Measurement accuracy (tube sheath deviation)	0.035 mm (1σ)		0.085 mm (1σ)	
MPE (E) [1]	80 µm + 20 µm * Length [m]		95 µm + 20 µm * Length [m]	
CAD Adapter	no	yes	no	yes
Tubes with rectangular cross section	yes			
Automation compatibility	no	yes	no	yes

Hardware specifications

	35 M	37 M	35 XL	37 XL
Measurement speed	> 3 sec/measurement			
Camera array	8 high-resolution digital cameras with GigE technology		16 high-resolution digital cameras with GigE technology	
Resolution	3 MP	12 MP	3 MP	12 MP
Reference field	Three-dimensional glass reference surface			
System dimensions (W x D x H)	1140 x 746 x 1140 mm		2980 x 1640 x 2300 mm	
Weight	260 kg		1250 kg	
Power requirement	100-240 V 50-60 Hz		100-240 V 50-60 Hz	
Max. AC Input	772 VA		1700 VA	
Operation AC	215 VA		690 VA	
Power saving mode	130 VA		265 VA	
Operating temperature	5-45°C			
Relative humidity	10-90% not condensing			
Marks of conformity	CE, UKCA			

[1] MPE (Maximum Permissible Error) – determination of the length measurement error E acc. VDI/VDE 2634 Part 1:2002, calibration certificate according to ISO 17025 accreditation from the German Accreditation Body (DAkkS).
[2] Image acquisition, ground-LED and screen activated.











Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB.

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