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# TAVI.01-XL

## High-Speed Glass Table System for the Automatic Inspection, Measurement and Sorting of Parts

TAVI.01-XL is the newest glass table based high-speed inspection and sorting system from NELA. It offers the highest performance with parts throughputs of up to 100,000 parts per hour and makes the bottle neck of quality control a thing of the past. The high-performance system provides space for a maximum of ten sensor units and guarantees a dimensional measurement and surface inspection on all sides of your parts with absolute precision. Through uninterrupted monitoring in the inspection sequence as well as a subsequent quality-based part sorting in up to 16 separate channels, the system ensures the highest level of reliability.

### Your benefits:

- ◆ Increase in productivity through fully automatic optical inspection and sorting, eliminating manual handling
- ◆ Process and production safety through 100% nondestructive inspection
- ◆ Highest inspection speeds guarantee maximum productivity for large production batches
- ◆ Detailed defect inspection and measurement thanks to almost limitless sensor configuration options
- ◆ Integration in your production line possible thanks to modular design
- ◆ Our experienced team is skilled in design and project planning, machine building and automation technology, as well as in development of our own image processing software



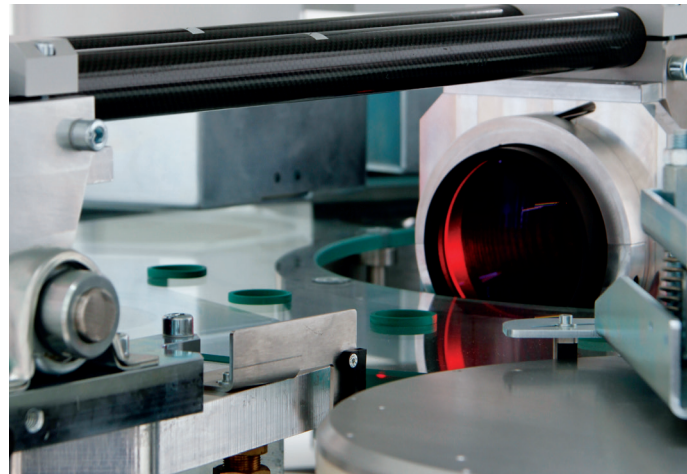
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# Quality is Everything



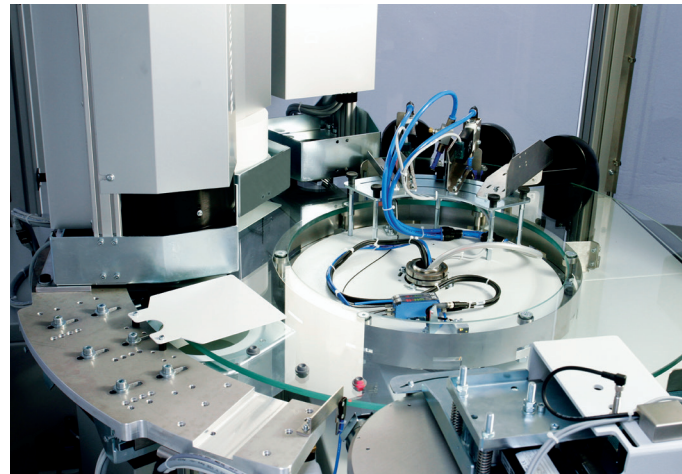
## A Range of Raw Materials

As different materials have different characteristics, the defects also vary greatly. To cater to these differences TAVI.01-XL is made to optically analyze a range of different raw materials including metal, plastics, rubber, ceramics and sintered parts.



## Differing Products-Definitive Perfection

No matter if it's fasteners or fine blanked metal parts, TAVI.01-XL provides an impeccable inspection with special care taken to all of the known problem-areas of each part. The possibility to process parts with up to 120mm OD makes this system a perfect choice for a broad range of components.

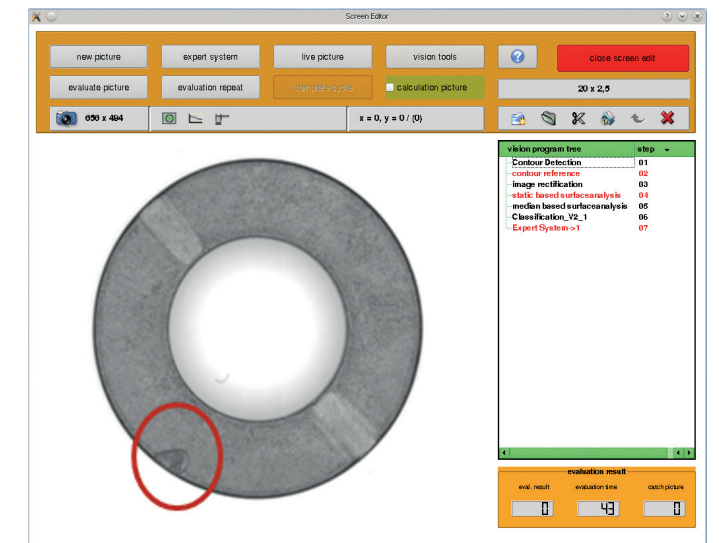


## Inspection Speeds

High inspection-speed means high throughput and increased productivity. With a speed of up to 100,000 parts per hour TAVI.01-XL ensures that no time is wasted and gives you control over your production.

## VISIONCHECK – With the user in mind

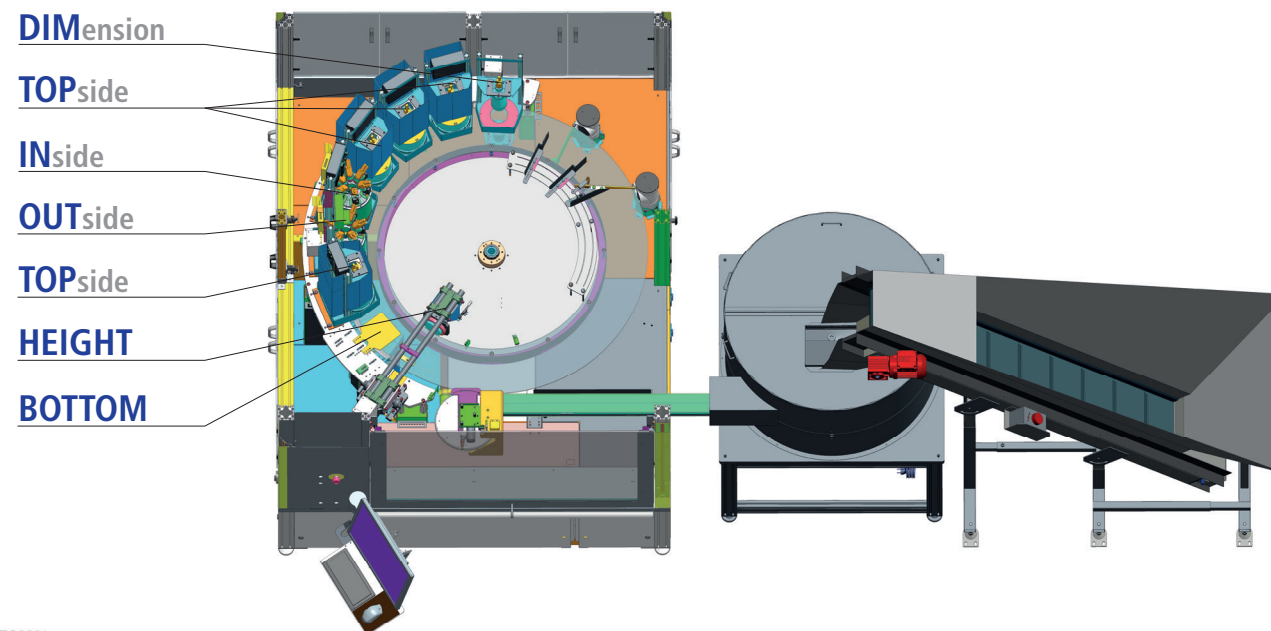
All of our inspection systems come with the advanced VISIONCHECK image processing and control software. As intuitive for the user as it is extensive for the engineer, it can be calibrated to detect a wide range of defects.



## Flexibility and Precision

TAVI.01-XL the extra large glass table not only provides higher capacity, it also offers almost limitless sensor configuration options. Even the most demanding inspection requirements can be realized. In addition to this, up to 16 sorting channels allow for many customer-specific sorting options.

## TAVI.01-XL - Sensor Configuration



and:XSEC0001

## Sensor Specification

TAVI.01-XL can be equipped with a variety of different sensors, all with the accuracy of  $\pm 1\mu\text{m}$ :

- ◆ DIMension uses transmitted light in combination with a telecentric lens to inspect the part dimensions
- ◆ TOPside defect detection on face sides and lateral surfaces
- ◆ BOTTOMside defect detection on face sides and lateral surfaces
- ◆ IN/OUTside multihead sensors for surface inspection
- ◆ Heightinspection measures the exact height of the part with a telecentric lens
- ◆ 3Dconcheck measures the contour of the part with 40,000 laser-scans per second which in combination with a telecentric lens detects any contour deviations
- ◆ HARD/SOFT checks whether the part is hardened through eddy currents



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## TAVI.01-XL System Summary

TAVI.01-XL is NELA's most flexible high-performance inspection system and it delivers maximum inspection speed and precision, meaning maximum productivity for large production batches.

TAVI.01-XL can detect several different defects such as pores, holes, breaches, impurities, corrosion, cracks, notches, burrs, chipping and scratches as well as geometrical irregularities. With an accuracy of  $\pm 1\mu\text{m}$ , about an eighth the width of a strand of spider web silk, it can detect evens the smallest of defects. It's optimal for inspection of parts sizes of [OD 1mm - 120mm](#).

The speed of [100,000 parts per hour](#) ensures that quality inspection will never be a bottleneck in your production. After inspection the parts are sorted after your request, from just perfect or defect to different classifications such as A-Class, B-Class, C-Class etc.

Aside from the inspection system itself, we offer numerous options such as environment control air filtration, different feeder options, or instant remote service over [NELAvpn+](#).

TAVI.01-XL is, like all our products, custom built to fit your exact needs. That way you have full control from start to finish. We pride ourselves in taking care of our customers and our support staff is just as helpful as our engineers are good at finding solutions. With NELA inspection systems your quality control will be accurate, fast and reliable.

### TAVI.01-XL at a glance

- Glass table inspection system
- Defect inspection of top, bottom, inside, outside, & geometry
- Throughput of up to 100,000 parts per hour
- Can inspect a part range of OD 1mm – OD 120mm
- Measurement accuracy of  $\pm 1\mu\text{m}$
- Dimensions approx. 2420 x 2015 x 1950 mm
- Power supply 3/N/PE 400V/50 Hz
- Compressed air 6-10 bar



#### About NELA:

With 75 years of tradition in high-precision machine manufacturing, originally as a supplier for the Graphic Arts industry, the family-owned company, Brüder Neumeister GmbH located in Lahr / Black Forest, is also a leading system supplier for inspection equipment in the rubber, plastics, compound and sintered metal industry. With 200 employees, more than 5000 m<sup>2</sup> of production area, an own, independent development department for industrial image processing software, as well as a high degree of vertical integration in manufacturing, NELA makes sure that your inspection requirements will be fulfilled - today and in the future, worldwide.



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