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Glass Table System for the Automatic Inspection, Measurement and Sorting of Parts

In many industries, technical components have to meet highest quality standards, meaning that they have to be thoroughly inspected for dimensional and surface defects and sorted according to different aspects. **TAVI.01** is an extremely flexible inspection and sorting system, which is suited for a broad variety of materials and part geometries. It can also be easily integrated in your existing production lines. The measurement and inspection sensors are always adapted to your specific requirements, just as the infeed and sorting of your parts. With a capacity of up to 50.000 parts per hour, **TAVI.01** is equally suited for large production lots and for complex inspection requirements.

Your benefits:

- ◆ Increase in productivity through fully automatic optical inspection and sorting, eliminating manual handling
- ◆ Process and production safety through 100% nondestructive inspection
- ◆ 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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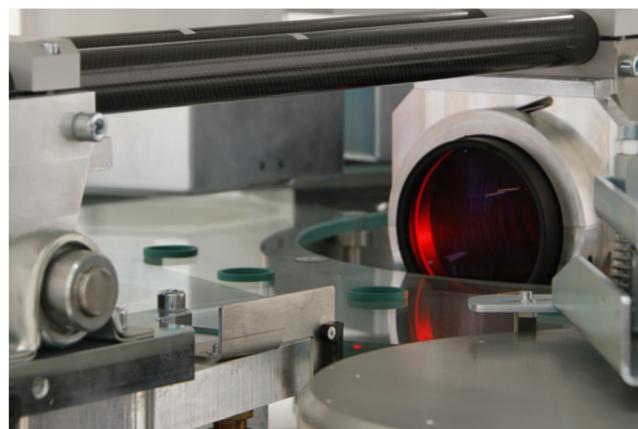
A Range Of Raw Materials

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



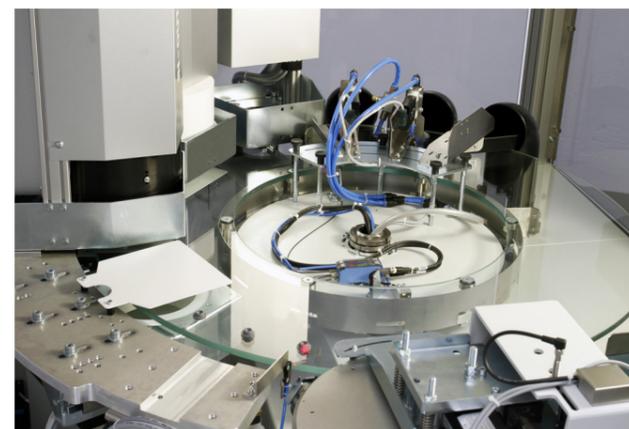
Flexibility and Precision

Thanks to its versatile configuration possibilities, **TAVI.01** is the perfect solution for many different inspection tasks. It ensures a comprehensive defect inspection and highly precise measurement of your parts, which for this purpose are inspected from all sides by sensor units that are tailored to the specific requirements.



Differing Products – Definitive Perfection

No matter if it's rubber stoppers or sintered metal parts, **TAVI.01** provides an impeccable inspection with special care taken to all of the known problem-areas of each part.

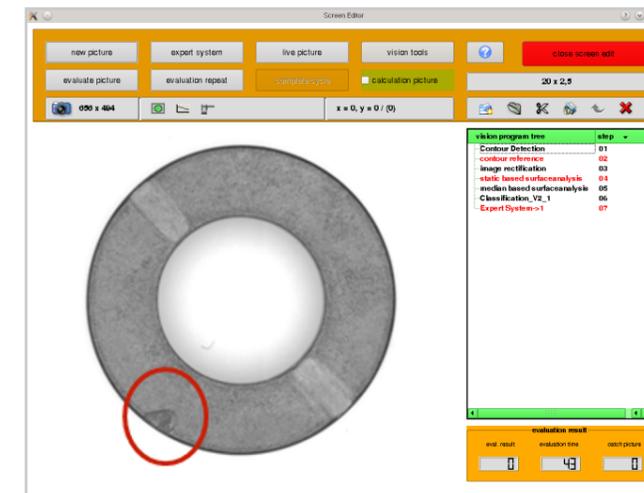


Inspection Speeds

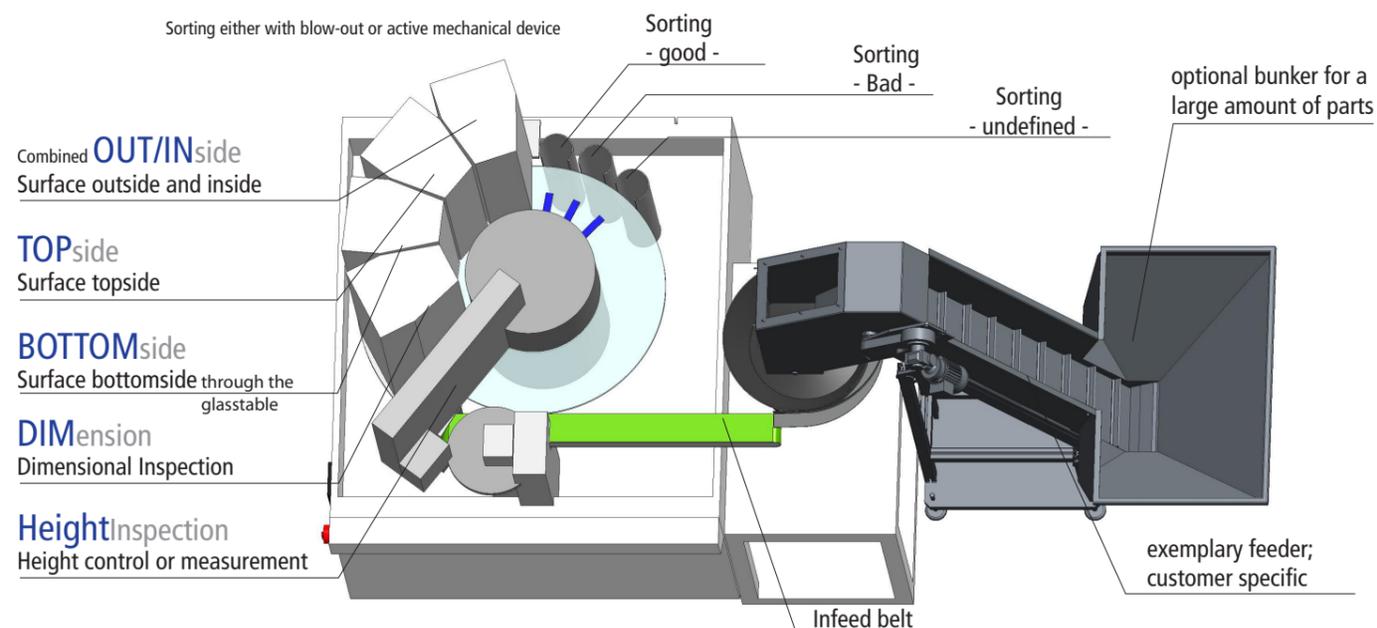
High inspection speed means high throughput and increased productivity. With a speed of up to 50.000 parts per hour, **TAVI.01** ensures that no time is wasted and gives you control over your production.

NELA 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.



TAVI.01 Sensor configuration



TAVI.01 Sensor specification

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

- **DIM**ension Inspection of the part's dimensions with a telecentric lens and transmitted light
- **TOP**side defect detection on the upper face side
- **BOTTOM**side defect detection on the lower face side through the glass table
- **IN/OUT**side multihead sensors for surface inspection on all lateral surfaces
- **HEIGHT**inspection Height measurement with transmitted light and telecentric lens
- **3D**concheck contour measurement
- **HARD/SOFT** checks whether the part is hardened through eddy currents

The NELA **TAVI.01** is an extremely flexible inspection system that can be used for versatile inspection tasks in many industries. Through individual sensor configuration it delivers a highly precise and comprehensive inspection of your parts, even for shapes and materials which would be difficult if not impossible to flip over.

TAVI.01 can detect several different defects such as pores, holes, breaches, impurities, corrosion, cracks, notches, burrs, chipping and scratches as well as geometrical irregularities. With a repeatability of measurement accuracy from $\pm 1\mu\text{m}$, about an eighth the width of a strand of spider web silk, it can detect even the smallest of defects. It's optimal for inspection of parts sizes of outer diameter 1mm - 80mm.

The speed of 50.000 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 NELA+ Service.

TAVI.01 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 at a glance

- Glass table inspection system
- Defect inspection of top, bottom, inside, outside, and geometry
- Throughput of up to 50.000 parts per hour
- Can inspect a part range of outer diameter 1mm – 80mm
- Repeatability of measurement accuracy from $\pm 1\mu\text{m}$
- Dimensions approx. 1400 x 1600 x 1950 mm
- Power supply 3/N/PE 400V/50 Hz
- Compressed air 6-10 bar



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 today also a leading system supplier for inspection equipment in the rubber, plastics, compound and sintered metal industry. With 200 employees, more than 5000 m² 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 future, worldwide.



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