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Fully automatic system for complex inspection tasks

Many types of rubber seals as well as precision parts made of metal or plastic, which are used in the highly sensitive areas of the automobile and aerospace industries, have to meet exceptional quality standards. With the TAVI.02 NELA offers an extremely powerful inspection system that features 2 glass tables, which allows for a highly precise examination of the parts from all sides. In addition to this, the TAVI.02 features an automatic part orientation identification which guarantees an efficient inspection of parts with asymmetrical sides. Its high defect resolution and its throughput of up to 36,000 parts per hour, paired with a user friendly interface make the TAVI.02 an indispensable part of your quality control.

Your benefits:

- ◆ Process and production safety through 100% nondestructive inspection
- ◆ Real-time statistic process control allows early detection of problems in your manufacturing process
- ◆ Automatic identification of part orientation for examination of parts with asymmetrical sides
- ◆ High-performance processors for large throughput
- ◆ A large selection of sensor types allows for adjustment of the inspection system to your specific requirements
- ◆ Automatic sorting of parts according to the criteria good, bad, undefined; sorting parameters are individually adjustable



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Quality is Everything



A Range of Raw Materials

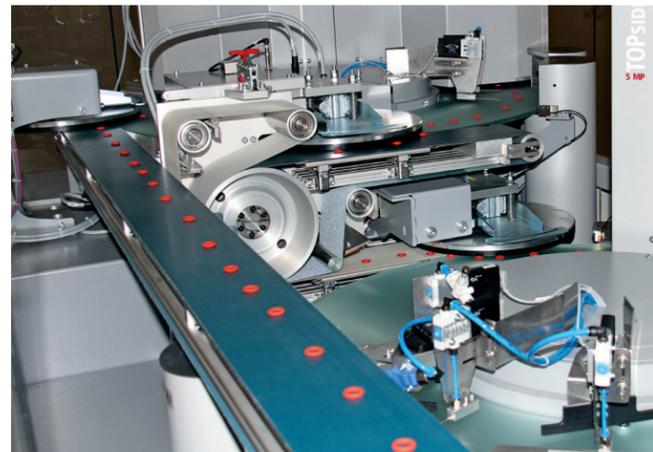
As different materials have different characteristics, the defects also vary greatly. To cater to these differences TAVI.02 is made to optically analyze a range of different raw materials including metal, plastics, rubber, ceramics and sintered parts.



Unbridled Quality Control

With sensors distributed between two tables, TAVI.02 is the ultimate solution when a highly precise inspection of both sides of the part is important. The specially designed turning station ensures that the part is carefully turned over without damaging or in any way deforming it.

The inspection of the second side of the part is performed with the same accuracy as the first and ensures no defects go unnoticed.



Differing Products—Definitive Perfection

No matter if it's rubber seals or fine-blanked parts made of metal, TAVI.02 provides an impeccable inspection with special care taken to all of the known problem-areas of each part.

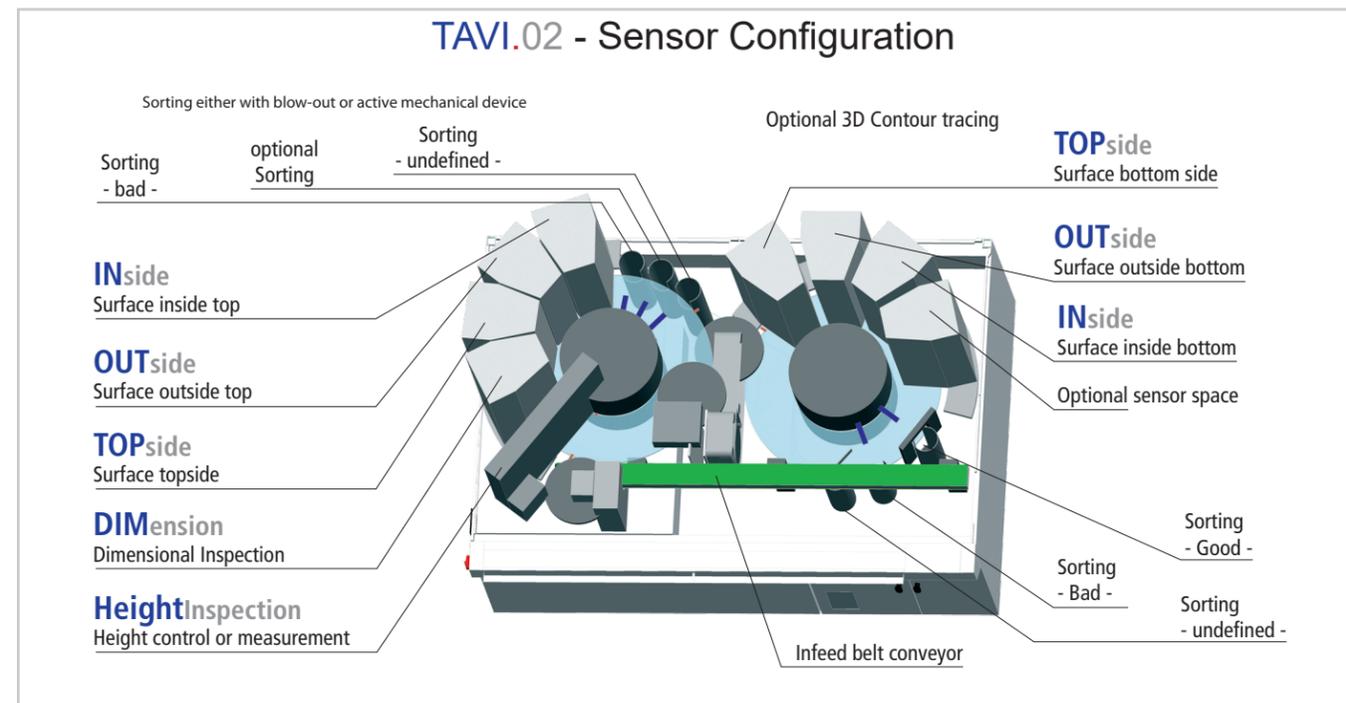
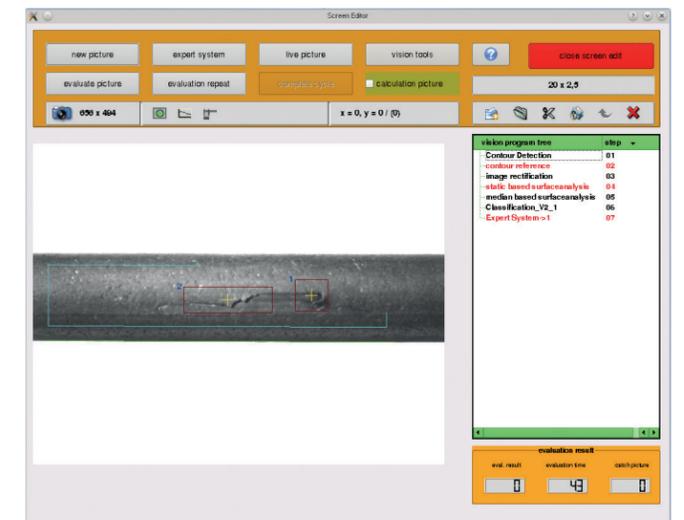


Inspection Speeds

High inspection-speed means high throughput and increased productivity. With a speed of up to 36,000 parts per hour TAVI.02 ensures that no time is wasted and gives you control over your production.

VISIONCHECK—With the user in mind

All of our Inspection Systems comes 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.



Sensor Specification

TAVI.02 can be equipped with a variety of different sensors, all with the accuracy of 1µm:

- ◆ **DIMension** uses transmitted light in combination with a telecentric lens to inspect the parts dimensions
- ◆ **TOPside** detects defects with an adjustable illumination customized to fit the inspected part
- ◆ **IN/OUTside** sensors have up to 8 cameras each positioned to allow for a complete inspection
- ◆ **Heightinspection** measures the exact height of the part with a telecentric lens
- ◆ **3Dconcheck** measures the contour of the part with 40,000 lasers-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.02 System Summary

The TAVI.02 Vision Inspection System offers you the most complete quality control available in the market today. The two tables make it possible to give both sides of the part an unparalleled inspection which is not possible in a one table system. TAVI.02 is designed to inspect products which are geometrically difficult to inspect or are subject to stringent quality standards, for example sealing rings with high quality requirements.

TAVI.02 can detect several different defects such as pores, holes, breaches, impurities, flow marks, 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 even the smallest of defects. It's optimal for inspection of parts sizes of OD 3mm - 80mm.

The speed of 36,000 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.02 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.02 at a glance

- Double glass-table inspection system
- Defect inspection of top, bottom, inside, outside, & geometry
- Throughput of up to 36,000 parts per hour
- Can inspect a part range of OD 3mm – OD 80mm
- Measurement accuracy of $\pm 1\mu\text{m}$
- Dimensions approx. 2400 x 1600 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 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 the future, worldwide.



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