Adhesive Bead Check perfectly tailored

VMT SpinTop 3D

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SpinTop 3D

VMT SpinTop 3D Adhesive Bead Check

The VMT SpinTop 3D revolutionizes current technical standards and is tailored to the demands of first-class adhesive bead checks. The optimum use of infrared laser technology in conjunction with robust analysis algorithms guarantees reliable quality checking for adhesive beads.

The sensor head, which rotates independently of the glue nozzle, allows the entire adhesive bead process to be measured. The transmission of power and data between the fixed and the rotating part of the sensor head is entirely non-contact and maintenance-free in order to eliminate wear and tear. Measurement distances can be selected on a flexible basis. Cumbersome parameterization and calibration procedures are not required. All measurement results can be documented specifically for each vehicle, and can be visualized on the VMT user interface in a clear and self-explanatory manner.

Highlights

- Direct and earliest possible detection of errors during the glue application process
- No reworking costs due to incorrect glue application in subsequent work steps
- Comprehensive operations checking allows for more precise control over bead volume
- Cycle time savings through inline measurements directly during the glue application
- Simple retrofitting of existing systems; existing system processes remain the same
- Optimum positioning of measurement technology, since the VMT SpinTop 3D is mounted „around“ the glue nozzle
- Minimum mechanical interferences due to the compact design
- Customer specific detailed logging - each individual result can be displayed
- Only turn-on and turn-off signals (triggers) must be added to existing robot programs

VMT SpinTop 3D
Robot-guided or permanently mounted

The VMT SpinTop 3D is mounted directly on the glue gun. The unit can then be guided along the work piece by a robot or it can be used as a stationary version.

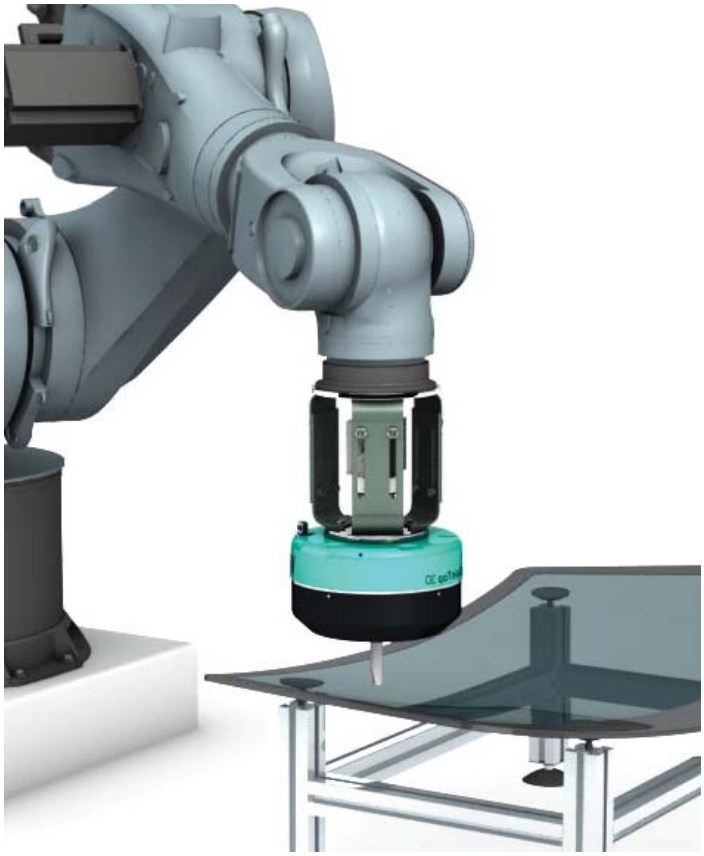
Installation on the robot wrist joint is risk-free due to non-contact data and energy transmission. Broken cables or wear and tear of friction rings can be excluded.

The VMT technology package installed in the robot guarantees the exact tracking of the adhesive beads.

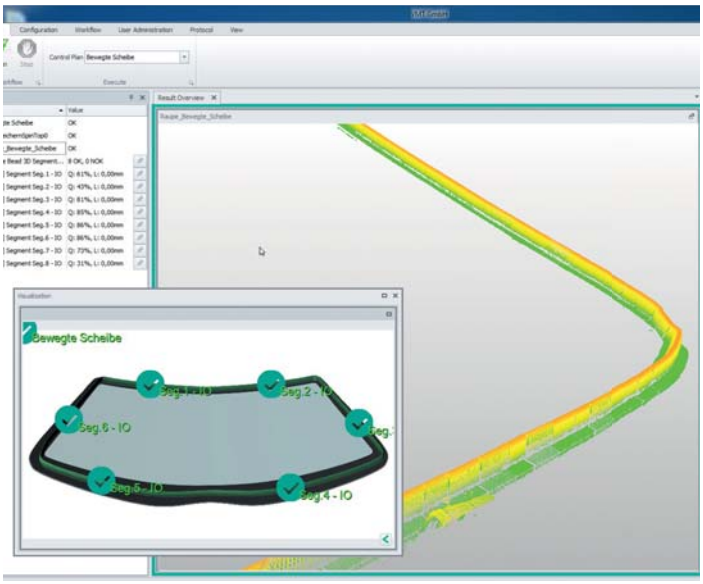
Exact path check of the glue beads is also possible with a VMT SpinTop 3D that is installed on an existing application unit thanks to the online connection to the robot.

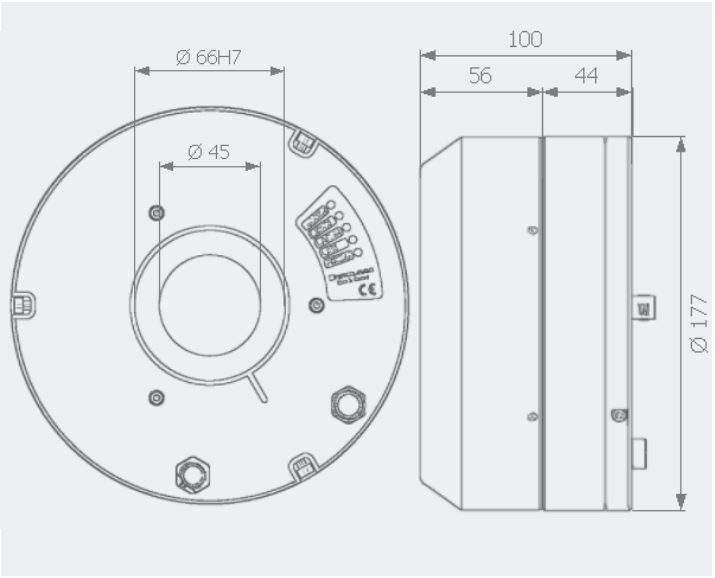
The robot moves the work piece underneath the glue unit. The freely programmable rotation of the sensor unit means that the measurement range can always actively follow the application path.

The rotation is controlled directly by the VMT system. No separate set-up of a measuring path is necessary.



Features and Technical Data





Features

- Full three-dimensional check of adhesive bead with regard to height, width, continuity and geometry
- Online detection is parallel to adhesive bead application
- Resistant to color changes, contrast changes, different surfaces and reflections
- Independent of the glue color (glue can be changed without new sensor parameterization)
- Flexible measurement distances can be set for the respective glue nozzle lengths
- Two user measurement units for optimum capture of 3D geometry
- Tolorances and parameter can be truely set to different sections of the glue bead
- Freely programmable and robot-independent rotation of sensor unit for direct inline measurements
- Separate rotation axis for direct inline measurements
- Non-contact, maintenance-free energy / data transmission
- Technology package for communication with robot
- Minimal set-up required since the rotation of the sensor does not have to be programmed

Technical Data

- Weight approx. 3 kg
- Diameter of installation opening 45 mm
- Measurement distance / Measurement range
  X_{min} = +/- 15 mm
  X_{max} = +/- 21,5 mm
  Z = 33 mm ...110 mm
- Infrared laser (class 1)
- Operating voltage 24 V DC,
  Power consumption max. 50 W
- Ambient temperature 0 ... 40 oC
- With heated application nozzle, max. heating temperature 60 oC
- Connections for supply voltage and data transmission per TCP/IP
- Protection type IP42
- Angle of rotation, endless
- Sampling rate $300s^{-1}$

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