More Precision

reflectCONTROL PSS 8005.D // Automated surface inspection
**Automated surface inspection**

**reflectCONTROL PSS 8005.D**

reflectCONTROL PSS 8005.D is a system for robot-based surface inspection tailored to the requirements of the automotive industry. It is used in paint shops for the overall inspection of the entire car body and ensures reliable paint defect recognition according to the specifications of leading automotive groups. Based on fully automatic defect marking, this cutting-edge system for paint defect inspection stands out due to comprehensive defect statistics of parts and zones. The PSS 8005.D inline measuring system is available in various configurations and can therefore be adapted to different customer cycle times.

**PSS 8005.D - Structure**

- **Paint defect inspection (PDI)**
- **Paint defect marking (PDM)**

**Application areas**

**Automotive**
- Primer (all shades)
- Base coat (all colors)
- Clear coat
- KTL (E-coat)

**Aviation**
- Surface coating materials

**Material parameters**

- Gloss > 60 GU (at 60°)

**Ambient conditions**

- Illuminance < 150 Lux

**Highlighted paint defects**

Automated defect detection for all colors. Optimized signal processing algorithms for paint defect detection.
Automated inspection vs. human inspection
To date, visual surface inspections and quality control processes have been carried out by auditors. However, only 65% of all defects can be detected by visual, human inspection processes. The more time invested, the higher the detection rate. Even under offline conditions, not more than 78% of all defects can be found.

Defect detection rate
100% inspection and defect marking in cycle time
- Color-independent 3D measurements
- Individual paint defect classification
- Full integration into existing process lines
- Robot-based measurement technology
- Reliable system design and storage of statistical data
- Human auditor vs. reflectCONTROL PSS 8005.D

Automated surface inspection
The reflectCONTROL PSS 8005.D inspection system for painted surfaces and defect marking recognizes almost 100% of all relevant defects. It is suitable for any paint color and adapted to the requirements of 24/7 operation.

<table>
<thead>
<tr>
<th>reflectCONTROL PSS 8005.D - Performance</th>
<th>reflectCONTROL - Defect classification</th>
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<tbody>
<tr>
<td>RC2M</td>
<td>RC3M</td>
</tr>
<tr>
<td>Net inspection time (sec.)</td>
<td>110</td>
</tr>
<tr>
<td>Cycle time (sec.)</td>
<td>128</td>
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<tr>
<td>Units* per hour</td>
<td>28</td>
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Paint defects
Most paint defects are inclusions in the base and clear coat. The reflectCONTROL surface inspection system detects any defect that causes anomalies in shape, reflectivity or contrast.

Defect classification
All defects are classified according to size and OEM standards. Depending on the customer’s demands, this evaluation takes into account car body parts and zones. The defect classification may vary depending on the respective zone. In the spot repair area, special marking stations highlight the relevant defects. The reflectCONTROL system also detects hair, craters, drops, polishing defects, runs, fat edges, contact points and many more.

Typical paint defects detected by reflectCONTROL
- Inclusion
- Inclusion in the base coat
- Hair
- Contaminations
- Craters
- Drops
Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for metal strips, plastics and rubber

Optical micrometers and fiber optics, measuring and test amplifiers

Color recognition sensors, LED analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection