

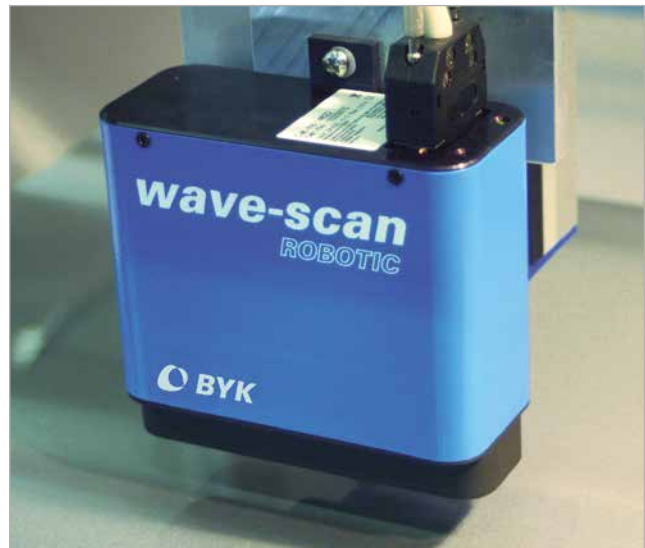
# wave-scan ROBOTIC

## Automatic appearance control of topcoat finish at the line

A stable running process is the key for uniform and consistent quality. Therefore, orange peel and DOI need to be measured on a routine basis in the production process and the measurement results shared with add-on suppliers. The new wave-scan ROBOTIC allows automated appearance control as it is mounted on a robotic arm. The robotic system ensures measurement on the same area and a high number of measured car bodies.

## Non-contact measurement

- Distance to surface  $15 \pm 2$  mm
- Angle to perpendicular  $\pm 2^\circ$
- Curvature  $> 500$  mm radius
- Scan speed 50 to 150 mm/sec.
- Small and light weight



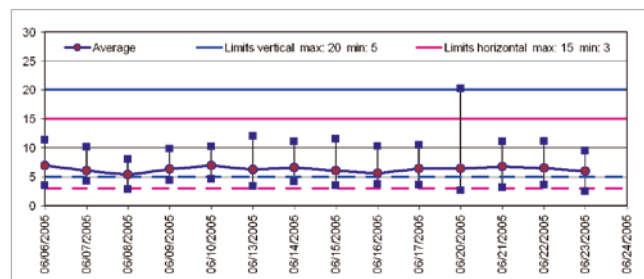
## Objective and reliable appearance data

Excellent correlation to wave-scan DOI, the appearance standard in the automotive industry

- Structure spectrum gives detailed information about the surface quality
- Cause of appearance changes can be analyzed
- Orange Peel, DOI and customer specific scales available

## Stable process means consistent quality

- Automated appearance control provides complete and representative data for statistical process control
- wave-scan ROBOTIC builds up a valuable database for systematic process analysis and optimization



## Training for wave-scan ROBOTIC

BYK-Gardner offers you more than just an instrument, we assist you in operating the wave-scan system. Therefore, the orange peel meter comes with a two day training course including:

- Orange Peel & DOI: Theory and data interpretation.
- Support in integrating wave-scan ROBOTIC sensor into automated measurement system
- Data analysis using standard QC-reports including SPC-charts



## Ordering Information

Cat. No.	Description
4822	wave-scan ROBOTIC
4850	wave-scan dual ROBOTIC

### Comes complete with:

Orange peel meter,  
Reference tile with certificate,  
auto-chart software on CD,  
Communication software on CD,  
Installation kit,  
Operating manual,  
Carrying case,  
Training

**Extended Warranty:** see pages about Technical Service

**Free** 1x preventive maintenance service during warranty period Training

### Hardware requirements:

Operating system 32-bit: Windows® XP SP3,  
Vista SP2 or Windows 7 SP1,  
Excel® version 32-bit: 2003, 2007 or 2010, incl. VBA,  
Memory: 512 MB RAM  
Hard-disk space: min. 100 MB  
Monitor resolution: 1280 x 1024 pixel or higher  
Disk drive: CD-ROM or DVD drive  
Interface: RS-422



## Technical Specifications

<b>Application</b>	
<b>High Gloss Surfaces</b>	du < 40, linear range
<b>High to Semi Gloss</b>	du < 65, linear range
<b>Structure Spectrum</b>	du: < 0.1 mm Wa: 0.1 to 0.3 mm Wb: 0.3 to 1 mm Wc: 1 to 3 mm Wd: 3 to 10 mm We: 10 to 30 mm
<b>Repeatability<sup>1</sup></b>	du < 40: 4% or > 0.4 du > 40: 6% or > 0.6
<b>Reproducibility<sup>1</sup></b>	du < 40: 6% or > 0.6 du > 40: 8% or > 0.8
<b>Resolution</b>	375 points/cm
<b>Distance to Surface</b>	15 ± 2 mm
<b>Angle to Surface</b>	perpendicular ± 2°
<b>Object Curvature</b>	radius > 500 mm
<b>Min. Sample Size</b>	35 mm x 150 mm
<b>Scan Length</b>	5 / 10 / 20 cm
<b>Scan Speed</b>	50 to 150 mm/sec
<b>Memory</b>	100 readings
<b>Light Source</b>	Laser diode, LED
<b>Laser Energy</b>	< 1 mW (Laser class 2)
<b>Dimensions</b>	112 x 115 x 60 mm (4.4 x 4.5 x 2.4 in)
<b>Weight</b>	520 g (1.2 lbs)
<b>Power Supply</b>	external power supply 24 V DC, max. 0.5 A
<b>Interface</b>	RS-422
<b>Robotic requirements</b>	Vibration-free operation
<b>Temperature Range</b>	operation: +10°C to 40°C (+50°F to 104°F) storage: 0°C to 60°C (+32°F to 140°F)
<b>Rel. Humidity</b>	up to 85% at 35°C (95°F) non-condensing

<sup>1</sup> Standard deviation

## Ordering Information

Cat. No.	Description
4833	Checking Tile, for 4822
4851	Checking Tile, for 4850
4809	BYKWARE auto-chart

## Accessories

To check performance of the orange peel meter, with certificate  
To check performance of the orange peel meter, with certificate  
Software for analysis and professional documentation in Excel®