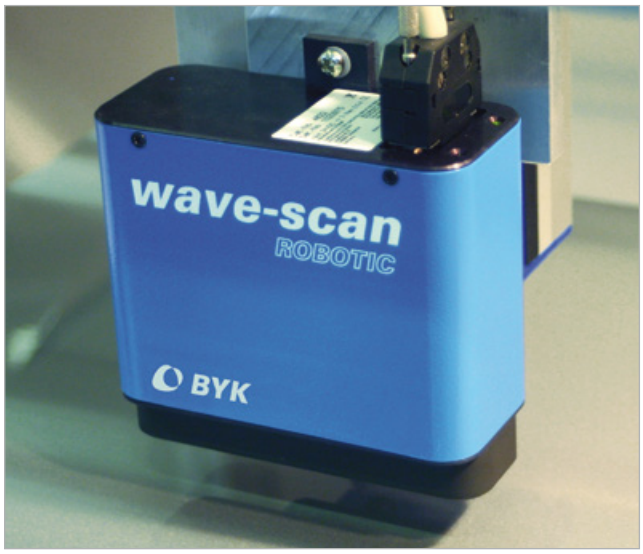
wave-scan ROBOTIC

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 ± 2 mm
- Angle to perpendicular ± 2°
- Curvature > 500 mm radius
- Scan speed 50 to 150 mm/sec.
- Small and light weight

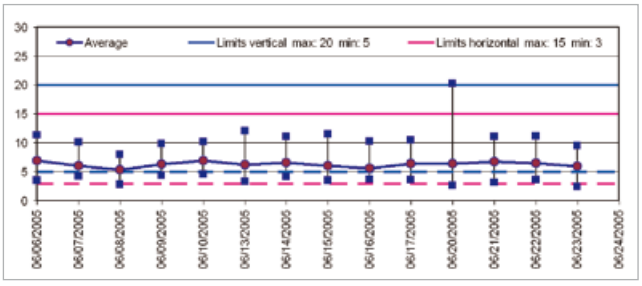
Objective and reliable appearance data

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:

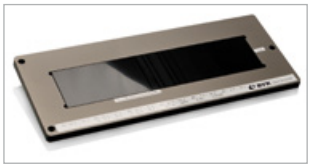
- Orange Peel & DOI: Theory and data interpretation.
- Support in integrating wave-scan ROBOTIC sensor into automated measurement system
- Data analysis using standard QC-reports including SPC-charts

Ordering Information

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

Comes complete with:
Orange peel meter,
Certificate,
Checking tile,
BYKWARE smart-chart software,
Communication software,
Installation kit,
Operating manual,
Carrying case,
Training
Extended Warranty: see pages about Technical Service

Hardware requirements:
Operating system: Windows 7 SP1 or 8.1
Microsoft® .NET Framework 4
Hardware: Core 2 Duo, 2.2 GHz; i7, 2.5 GHz recommended, or equivalent
Memory: 4 GB RAM, 8 GB recommended
Hard-disk capacity: min. 300 MB
Monitor resolution: 1280 x 1024 pixel or higher
Disk drive: CD-ROM or DVD drive



Technical Specifications

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

[1] Standard deviation

Ordering Information

Cat. No.	Description
4833	Checking Tile, for 4822
4851	Checking Tile, for 4850
4831	BYKWARE smart-process

Accessories

Replacement – please contact your local service department for replacement of your checking tile.
Replacement – please contact your local service department for replacement of your checking tile.
Process QC Software for wave-scan, cloud-runner, BYK-mac i