

# RANGER 2

## CAMERA CHECK DETECTION



WE ARE GLASS PEOPLE

# HISHIELD RANGER 2

## HIGH SCALABILITY IN CHECK DETECTION



Check detection is one of the most important quality inspections during the production of glass containers. The HiSHIELD Ranger 2 has been developed to give you the opportunity to fulfill the quality expectations of your customers.

### FULLY MODULAR AND SCALABLE SYSTEM

A Ranger 2 system consists of one camera, collecting five images simultaneously via five lenses and fiber optic light guides, the illumination unit and the control unit with the software for image processing, including the decision "container okay or not okay".

Based on your budget and needs, you can start with one system and add any number of parallel systems whenever you want. A typical and recommended configuration would be four parallel systems, each dedicated to and optimized for one of the following types of checks:

- horizontal
- vertical
- shoulder
- bottom

Each system runs independently and does not need to be synchronized with the others. So there is no influence or need to compromise between the systems. This allows an individual optimization of all settings (illumination etc.) for the respective type of check. If one system is not available or not adjusted optimally, the others are still fully operational.

### INTELLIGENT CLOUD MASKING

Every container produced must be regarded as a unique object and any check detection concept has to respect this. For this reason each Ranger 2 system is using our Intelligent Cloud Masking.

Bearing in mind that each article is distinctive, the Ranger 2 system is designed to investigate each one independently. Accordingly, each container serves as a reference for itself but, moreover, the inspection zones are dynamic in nature. The Ranger 2 system is therefore able to detect different variations of checks as well as to recognize new variations of them during production.

The SmartLine's data interface controls all the major parameter settings of the job. Six output channels give the operator detailed feedback on the inspection results. The user-friendly operator interface, combined with powerful software support, makes the set up quick and easy. An image recorder allows analysis of the inspection results during operation and background calculation shows the operator the influence of any adjusted parameters.

### ADVANTAGES

Developed for high performance and safe quality inspection the Ranger 2 has following advantages:

- Full modularity and scalability
- Fibre optics for flexibility and perfect adjustment
- Each Ranger 2 system independent from the others
- Better pinpointing of defects and boundary effects
- Traceability on detected defects
- Analysis of large areas
- Reliable identification of light reflection
- Easy and quick setup
- Automatic adjustment of the sensor bar
- Storage and recall of set-ups
- Powerful software tools to assist the operator
- Highest level of repeatability and reliability
- High speed (per system: up to 400 images/article, for example: 1600 images by a configuration of 4 parallel systems, no limits beyond that)



### SCOPE OF DELIVERY

(Number of systems according to your configuration)

- Sensor bars for finish/shoulder/neck or bottom checks
- Drives for sensor bar
- Interface board to SmartLine
- Ranger 2 control unit with user interface (touch screen)
- One camera with 5 lenses, 5 fiber optic light guides and 1 image processing unit per system
- Number of illumination units according to your configuration
- Power supply for illumination units

### TECHNICAL DATA

- Power consumption: 1 kW
- Container height: 100 mm–400 mm
- Container diameter: 30 mm–121 mm
- Finish diameter: 15 mm–110 mm

(other diameters on request)

### RANGE OF INSPECTIONS (depending on configuration)

	Finish inspection	Shoulder inspection	Bottom inspection
Horizontal checks	■	■	
Vertical checks	■		
Curved checks	■	■	
Heel checks			■
Bottom checks			■

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