

IR SmartVision

Hot End solutions

xparvision.com

xpar¹vision

Smarter Inspection. Superior Quality.

IR SmartVision is a next-generation inspection and process control system for glass container manufacturers. It combines intelligent defect detection, real-time process insights, and user-friendly operation to help you deliver consistent quality, reduce waste, and optimize production. Whatever type of glass container you produce, IR SmartVision ensures every container meets your highest standards with minimal setup and maximum reliability.

Operating Principle

IR SmartVision uses infrared imaging, measuring bottles from multiple sides, allowing for a full 360 degree° inspection of the container. The images are analyzed by powerful software combining several smart algorithms.

For example, SmartDetection, which inspects containers for defects from finish to bottom. It adapts to round and non-round shapes, works across all glass colors, and even handles containers with engravings or embossments. This self-learning algorithm learns new product profiles in minutes, without human assistance, minimizing downtime and maximizing productivity. Providing a quick and easy setup of defect inspection with minimal effort.

Our SmartAdvices uses advanced statistical process control methods and machine learning (AI) to convert abstract measurement data into actionable insights. SmartAdvices provide real-time feedback on forming process issues.

All the results are presented on our newly designed SmartScreen. SmartScreen provides an easy-to-use touch screen user interface with all the relevant information presented on a single screen.

Reject images can be inspected in full detail on a separate screen, also providing a magnifying glass to see the smallest details in our crystal-clear images.

Finally, configuring settings via SmartScreen is very straightforward. The new SmartDetection algorithm only requires two easily configurable settings, threshold and size.



Smarter detection

With advanced algorithms



Faster setup

and product learning



Real-time process insights

to reduce waste



Compact and scalable hardware

With full container coverage



Future-ready

with multi-camera support and defect classification



Capabilities

SmartDetection

SmartDetection is a self-learning defect detection algorithm that builds a profile of what a “normal” container looks like—without needing pre-labeled training data or human assistance. It uses infrared intensity to learn product-specific features on the fly and flags deviations in real time.

Key features

- Full-body inspection of round and non-round containers
- Works with all glass colors and embossed surfaces
- Minimal impact from container orientation
- Detects: Inclusions, blisters, thin spots, choked necks, birdswings, overpressed areas, scratches, circumferential distribution issues, previously excluded embossed areas

SmartAdvices

SmartAdvices transform complex infrared data into actionable insights. The system monitors the forming process in real time and alerts operators to issues such as gob loading problems or excessive rejections. Operators can explore these insights via the SmartScreen interface, helping them make informed decisions quickly.

Supported Process Insights

- Verticality (thermal & mechanical)
- Conveyor belt and ware spacing variations
- Gob weight and glass composition inconsistencies
- Excessive IS/IR rejects
- Section-specific ware spacing
- Trapped baffles, stuck vacuum valves, and more

Customer benefits

Fewer false rejects
on complex containers

Faster product changeovers
with quick learning

Improved detection accuracy
across all container types

Effortless setup
with minimal configuration

Customer benefits

Real-time feedback
on forming process issues

Faster troubleshooting
and reduced downtime

Improved yield and consistency
with quick learning

Operator empowerment
through guided decision-making

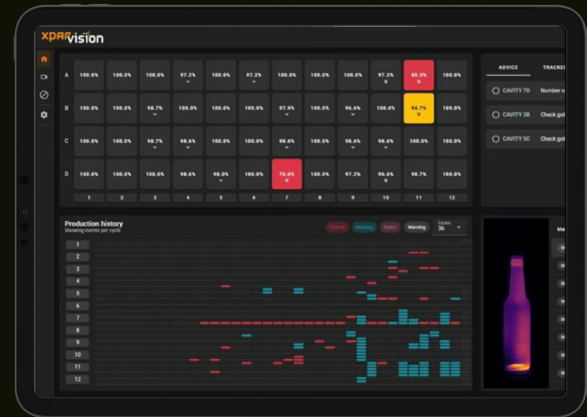


Functions

SmartScreen

Touchscreen-compatible interface with crystal-clear visuals for easier monitoring and control.

- Easy intuitive User Interface based on latest web technology
- Modern look and feel with crystal-clear container images
- The new home screen provides quick insights into the historical production and best and worst performing cavity information (actionable data)
- SmartAdvices provides operator advices based on trends in the process data.
- The new and improved reject overview gives the operator easy filtering and inspection tooling



Smartview

Supports more than two cameras, enabling:

- Enhanced bottle coverage, up to 360°
- Better detection of fins, blisters, cracks, stones, thin spots, birdswing, spikes
- Improved monitoring of glass distribution

SmartCooling

Compact camera stand with thermoelectric cooling—reduces footprint and improves system stability.

- Thermoelectrically cooled (no chiller)
- Minimal to no maintenance required
- Small footprint for easy installation (230 x 500 mm)
- Adjustable in height from 700 – 1200 mm

Special functions

SmartSettings

Quick and intuitive setup for faster deployment and less operator training.

SmartScreen

Touchscreen-compatible interface with crystal-clear visuals for easier monitoring and control.

SmartClassification (Coming Q3 2026)

Automated defect classification for faster decision-making and reduced manual inspection.



Heading for perfection

Reach out to us

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