XRAY SHARK® XS-GIG series

X-ray inspection system for glass in glass detection

- X-ray inspection for food or non-food products and liquids in bottles or jars
- Detects high density materials like metal, ceramic, stone, plastic and even glass particles in glass containers
- Easy operation with autocalibration and clearly arranged functions on 17“ touchscreen
- XIA software for instant analysis and detection with high accuracy and reliability
- High speed transversal pusher for glass jars included

- Real time detection with colored contamination analysis
- Masking functions to prevent false rejects
- Auto-storing of inspection data with time and date stamp
- USB and Ethernet for data transfer to PC or memory stick
- High speed reject system
- Easy maintenance and cleaning
- User-friendly menus for easy operation
- Built-in remote maintenance
- 24 hours non-stop operation
- TÜV-approved: reliable german safety standard (optional TÜV certificate)

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X-ray inspection system for glass in glass detection

A large touch screen and clear menus ensure easy handling in daily business.

Scope of Delivery:

- Xray Scanner with image processing software XIA
- Complete protection against radiation and PILZ safety circuit
- Certified test cards with soda lime glass, ceramics, steel spheres in various diameters

Accessories & Extras:

- Radiation counter
- 21 CFR Part 11 compliance
- BRC compliance kit

Applications:

Inspection of packaged food and non-food products in

- bottles
- jars

Industries:

- Food and non-food
- Pharma
- Hygiene and Cosmetics

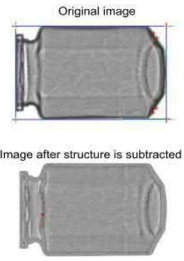
etc.

Function:

The XS GIG x-ray system is specially designed for the complicated detection of glass particles in glass or plastic containers. It also detects unwanted foreign objects such as metal, stones, ceramics or plastic with high density in the product.

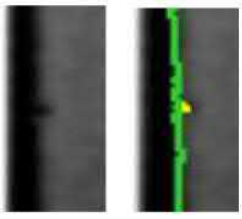
The hygienic design with protection type IP66 for the product tunnel makes the XS GIG products particularly suitable for all companies and industries that have to ensure high hygiene standards.

The masking feature excludes certain areas of the image from foreign object detection, e.g. the very dense jar bottom. This improves the detection performance in the remaining product.



The adaptive software learns the structures of thousands of jars. The software recognizes in milliseconds which taught structure fits best to the current image, and subtracts that structure. As a result, glass pieces are detected even in the lid area.

Cassel's unique AutoEdge function finds the edge between jar wall and product, even though the wall thickness varies due to production tolerances. As a result, glass pieces are detected even at the wall edge or bottom bulge.



The SuperContrast function enhances small dense (dark) structures in the image. This improves detection of small foreign bodies, which then become visible.

With and without SuperContrast

Specifications:

Model	XS25-L1-GIG	XS25-H1-GIG	XS26-H1-GIG	XS26-H2-GIG	XS37-H2-GIG	XSD26-H3-GIG	XS26-H4-GIG
(till 04-2020)	(XBD20 Side)	(XBD 40 side)	(XBD51 Side)	(XBD50 Side)	(XBD50+ Side)	(XBD60)	(XBD 70)
X-ray generator	Single beam, max. 60kV (50W)	Single beam, max. 80kV (480W)	Single beam, max. 80kV (480W)	Dual beam, max. 80kV (2 x 480W)	Dual beam, max. 80kV (2 x 480W)	Triple beam, max. 80kV (3 x 480W)	4-beam, max. 80kV (4 x 480W)
	variable in voltage + current						
Radiation leakage	1 µSv/h or less	3 µSv/h or less	3 µSv/h or less	3 µSv/h or less	3 µSv/h or less	3 µSv/h or less	3 µSv/h or less
	at 10 cm outside cabinet surfaces						
Safety	Special product tunnel, magnetic safety switches at cabinet doors and tunnel hatches, emergency stop push button, emergency stop in/out interfaces to safety circuits of production line, X-ray off key switch, PILZ safety circuit						
X-ray detector	low noise line scan CCD, diode pitch 0.8 mm or 0.4 mm (optional)						
	510 mm	510mm	510 mm	510 mm	612 mm	510 mm	510 mm
X-ray view	1x sideways (sideup)	1x sideways (sideup)	1x sideways (sideup)	2x sideways (sideup)	2x sideways (sideup)	2x sideways (sideup) & 1x top down	4x sideways (2x sideup & 2x sidedown)
Cooling	highly efficient, silent DC filter fans						
Housing finish	stainless steel grade AISI 304 / DIN EN 1.4301 (X5CrNi18-10)						
Degree of protection	IP54 (according to IEC 60529), including touch panel and fans; product tunnel itself IP66						
Conveyor type	Metal or plastic chain						
Belt width	114 mm	114 mm	152 mm	152mm	152 mm	152 mm	152 mm
Scanning height	250mm	250 mm	265 mm	265 mm	370mm	265mm	265mm
Conveyor speed	max. 0.5 m/sec	max. 0.5 m/sec	max. 1 m/sec	max. 1 m/sec	max. 1 m/sec	max. 1 m/sec	max. 1 m/sec
Max. product dimensions (diameter x height)	150 x 250 mm	150 x 250 mm	150 x 265 mm	150 x 265 mm	100 x 370 mm	155 x 265 mm or 190x 235 mm	155 x 265 mm or 190x 235 mm
Max. product weight	25 kg	25 kg	50 kg	50 kg	50 kg	25 kg	25 kg
Available reject method	High speed transversal pusher for glass jars						
Product memory	255 different product set-ups						
Display	17“ Color-TFT capacitive touchscreen						
Inspection features	Auto Calibration, Auto adaption to density distribution, Density, Hard Contrast, Soft Contrast, Masking Technology, SuperContrast, SizeFilter, AutoEdge masking, Images AutoSave/Load, Multi Segment Inspection, Metal can and Foil inspection, Fill Quantity, Generator Energy by Product, Password protection						
In-/Outputs	Programmable outputs (contamination, ready, emergency OFF) Programmable inputs (emergency OFF, wake up, optional control signals)						
Data transfer and reporting	Ethernet for remote support via internet, USB for external keyboard/ mouse/ memory stick						
Max. weight	0.85 t	0.9 t	1.5 t	1.5 t	1.7 t	2.0 t	2.2 t
Power supply	1ph, 230 VAC +/- 10%, 50/60 Hz		3ph, 400 VAC +/- 10%, 50/60 Hz				
	max. 1.5 kW	max. 2.5 kW	max. 3.0 kW	max. 3.0 kW	max. 3.0 kW	max. 4.0 kW	max. 6.0 kW
Compressed air supply	without reject system 0 MPa (0 bar/ 0 psi) with optional reject system minimum 0.4 MPa (4 bar / 58 psi)						
Environmental	0°C to +30°C / 32°F to 86°F, with relative humidity max 90%, non-condensing External cooling device:						
	optional	recommended/ needed	recommended/ needed	recommended/ needed	recommended/ needed	recommended/ needed	recommended/ needed
Conformity	CE, compliant to German x-ray regulations, specific adaptation for other countries						

All information is based on standard devices. There possibly will be differences depending on the application. Changes to be excepted.

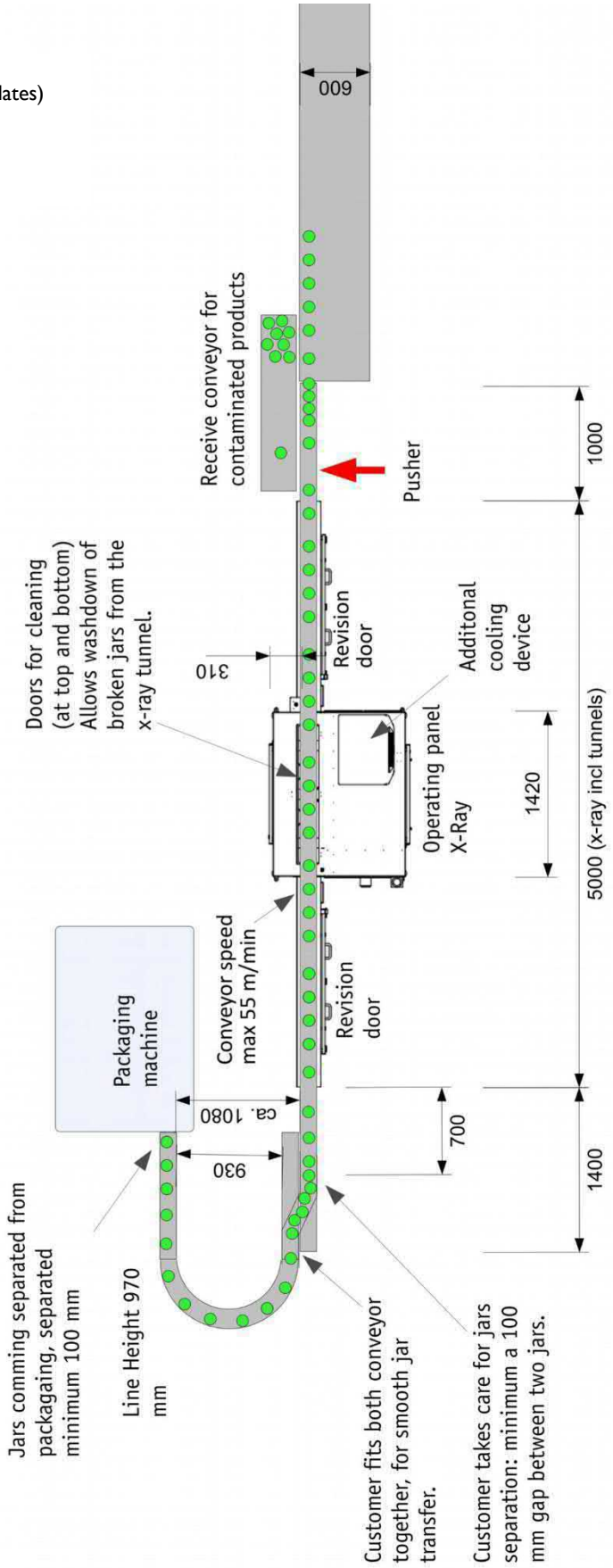
Example product flow concept:

CASSELs scope of supply in this example:

- Dual beam x-ray
- Jar conveyor through x-ray (modular belt, steel plates)
- Reject system

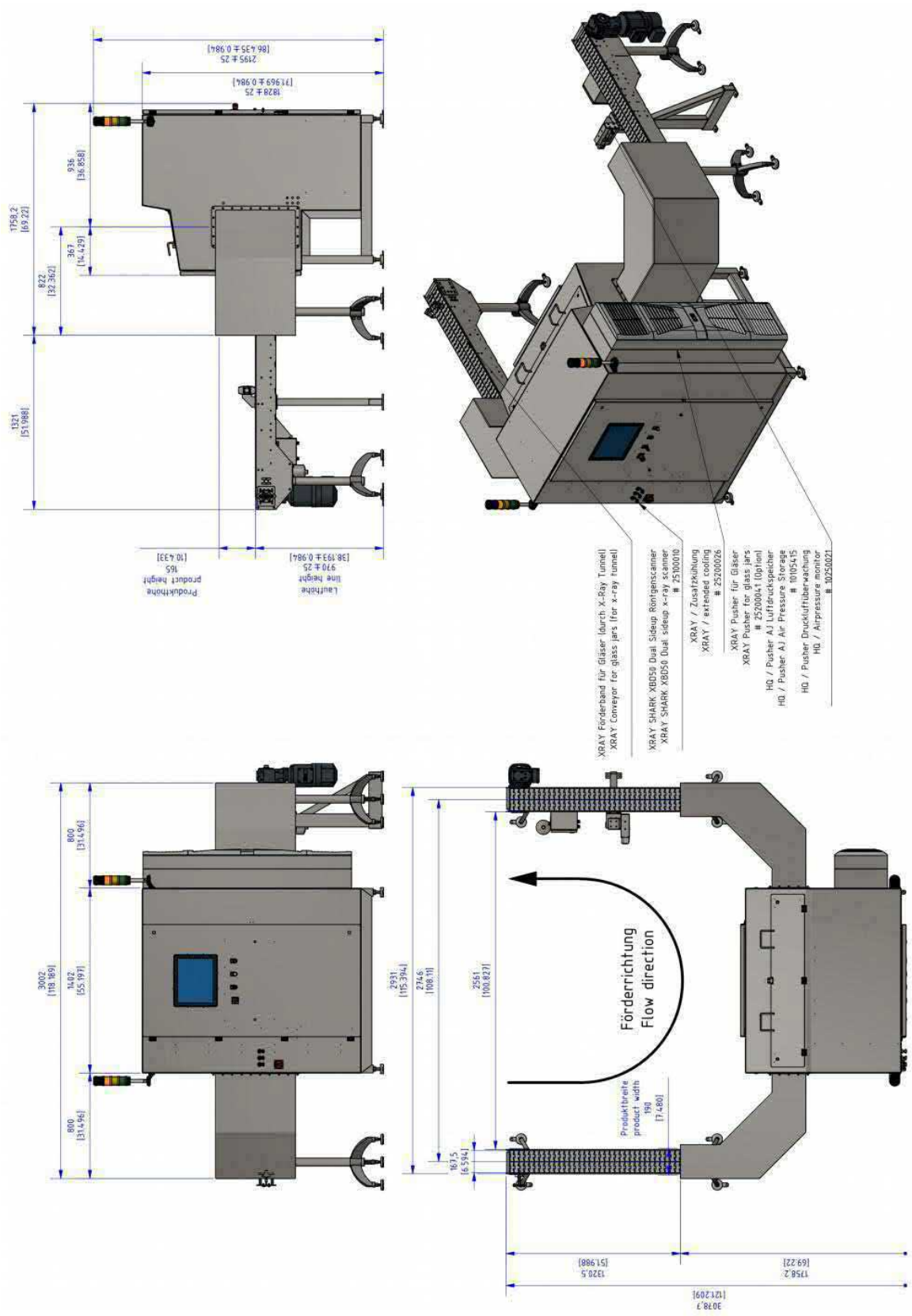
Customers scope:

- Separation of jars
- Receive conveyor for contaminated products
- Modification at existing production line



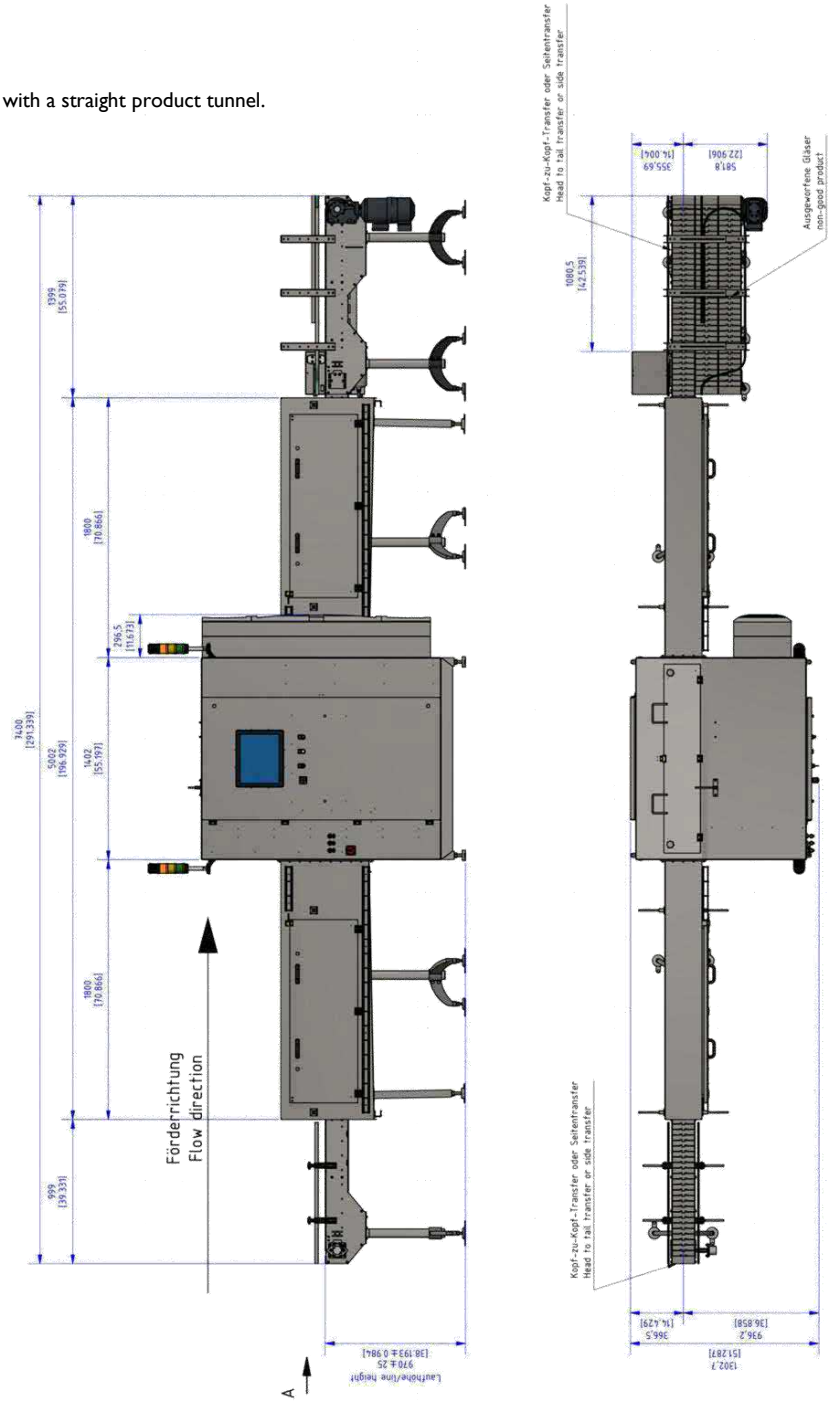
Dimensions:

Exemplary dimensions of a XS26-H1-GIG with a u-shaped product tunnel.



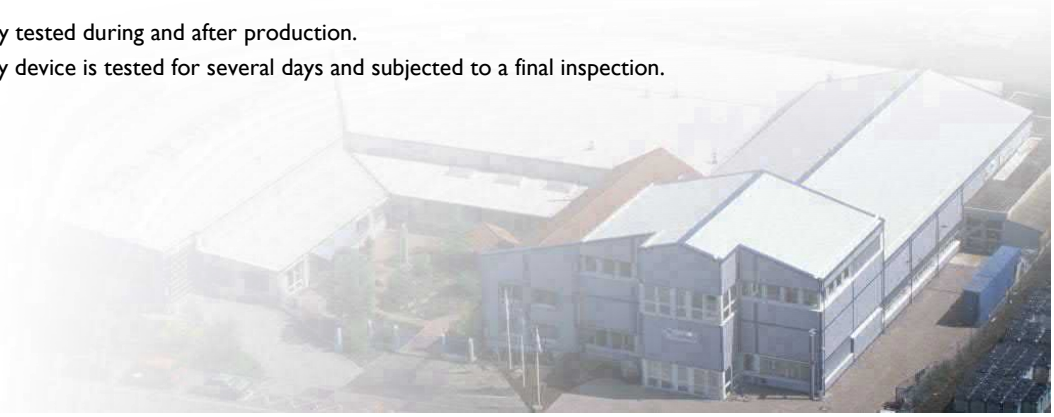
Dimensions:

Exemplary dimensions of a XS26-H1-GIG with a straight product tunnel.



CASSEL quality:

Every single device is thoroughly tested during and after production.
Before leaving the factory, every device is tested for several days and subjected to a final inspection.



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