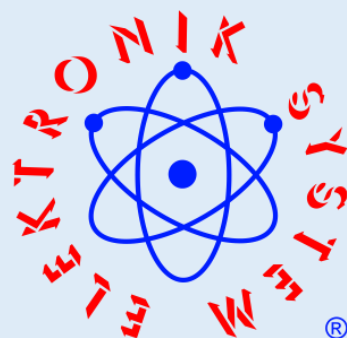


# X-RAY SCANNER ELEKTRON-SXRFB-2080-II WITH AUTOMATIC SEPARATOR



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## PRINCIPLE OF OPERATION

### Purpose.

**ELEKTRON-SXAFB-2080-II** is designed for accurate testing of high products packed in plastic, PET, PE packaging, with and without metallization, aluminum and glass packaging, bottles, jars with metal caps, metal tall cans.

### How it works?

Popularly known as X-Ray, it works by sending a beam of ionizing radiation X-Ray, which is captured by the receiver. The inspected product moves between the lamp and the receiver. Detection is based on the principle of comparing the image of the reference product that the X-Ray Scanner has learned, the system detects the difference in density caused by the foreign body in relation to the image of the learned product. The easiest way to explain the principle of operation of the X-Ray Scanner - this technology is based on the detection of all foreign bodies, the density and specific gravity of which is higher than that of water (each body that immediately sink into water). Such foreign bodies include, first of all, metals, stones, glass, bones and hard plastic.

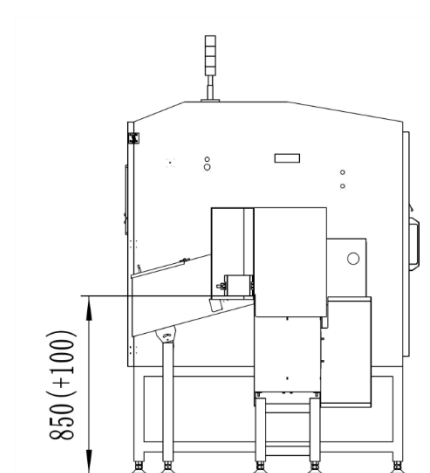
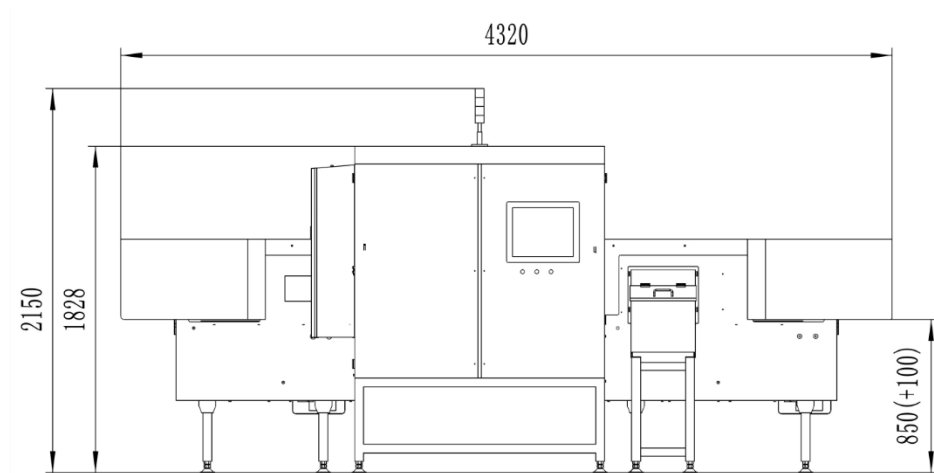
### Detection range.

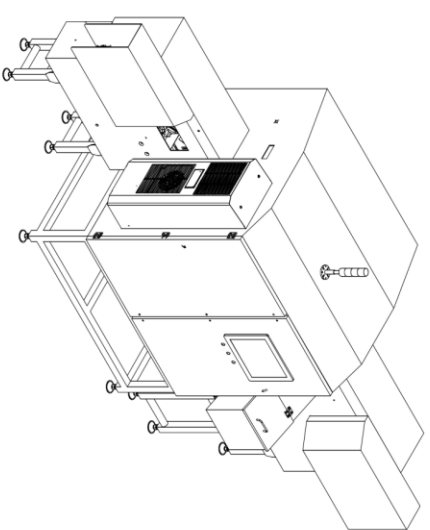
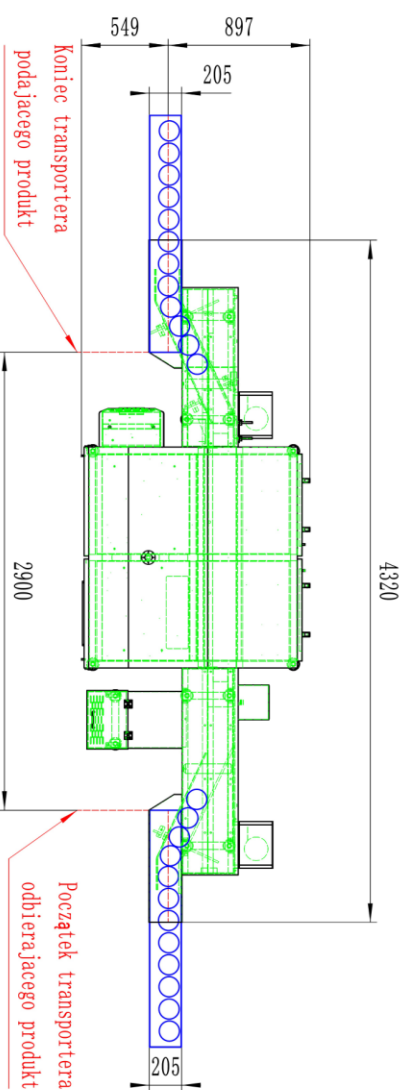
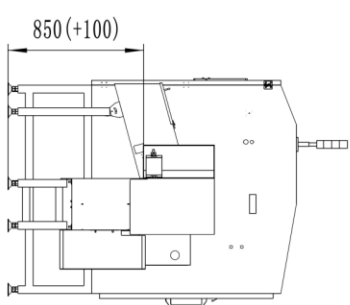
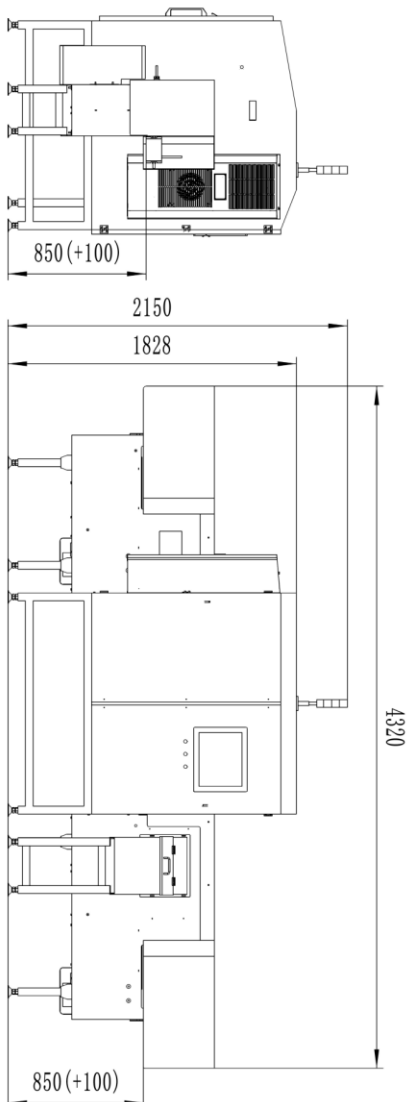
The X-Ray scanner is distinguished by high sensitivity and stability of work - the highest possible to achieve, with the highest penetration of X-rays, by the product and its packaging: SUS -  $\varnothing$  0.5 mm, wire 0.3x2mm, glass -  $\varnothing$  1.5 mm, ceramics -  $\varnothing$  1.5 mm, stone -  $\varnothing$  1.5 mm when using a high-power lamp and LED receiver - 0.4 mm.

## „FROST” SYSTEM

The X-Ray scanner can be equipped with the "FROST" system, rare in other devices, with a built-in intelligent heating and thermostat system, inside the control panel, which protects the internal electronics against moisture and cold. It is the only protection against sudden temperature changes during washing and prevents the absorption of moisture inside (for example, a cold machine washed with hot water).

## TECHNICAL DRAWINGS

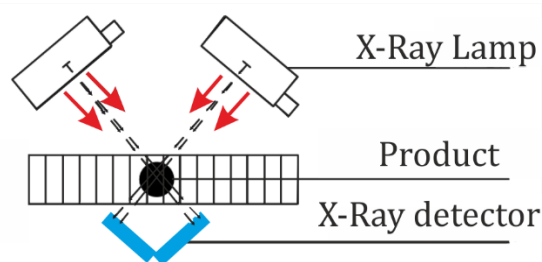




Wykonał:	Ing. i inż. Marcin Wętkowski	Data:	17.04.2020	Podpis:	0	Montaż:
Sprawił:	Piotr Cieśliński	Data:	17.04.2020	Podpis:	A2	Podziałka:
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ELEKTRONIK SYSTEM Piotr Cieśliński			ELEKTRON-SXRF-B-2080II			



## LAMP SETTING SCHEME



The technological connection of two beams examining the product ensures the highest level of detection.

## MAIN FEATURES

- **Permit by the President of the National Atomic Energy Agency No. D-17869.**
- Dual-beam product scanning technology using two lamps directed at an angle.
- High level of detection and stability of operation during scanning of products fed linearly and, which is unusual, entering drifting.
- Detection of glass in glass (jars, bottles) and metals in metal packaging (cans).
- Detection of defective products with or without the product being damaged in the package.
- Smooth management of each detection zone increasing the level and quality of scanning.
- Unique, full-range, multi-layer product control system.
- Easy-to-use intuitive menu.
- Service support and supervision over LAN.
- Automatic system diagnostics.
- High level of security.
- Fast pneumatic separator.

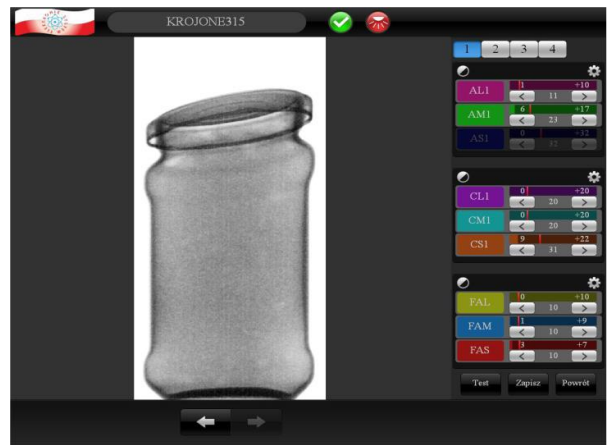
## PARAMETERS

Model	ELEKTRON-SXRFB
Two X-Ray lamps	MAX. 480W/120kV, 80mA
Maximum width of the test product	160 mm
Maximum height of the test product	280 mm
Smallest detectable testers possible	Steel ball from 0,5 mm Steel wire from 0,3*2mm Glass/Ceramic ball from 1,5 mm
Transporter speed	10-60 m/min
Operating system	Windows 7
Radiation protection	Protective tunnel
External radiation	< 0,5 $\mu$ Sv/h
Tightness temperature	IP65
Working temperature	From -10 to +40 $^{\circ}$ C
Working humidity	30 ~ 90 %
Cooling	Industrial air conditioner
Type of rejection	Pusher
Air pressure	0,8 Mpa
Power	3,5 kW
Main material	Stainless steel

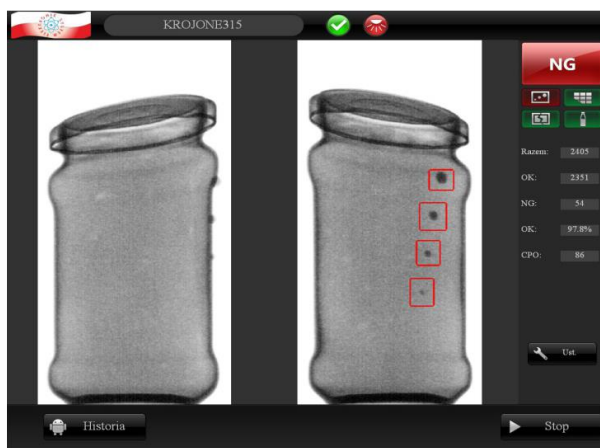
## SYSTEM FUNCTION



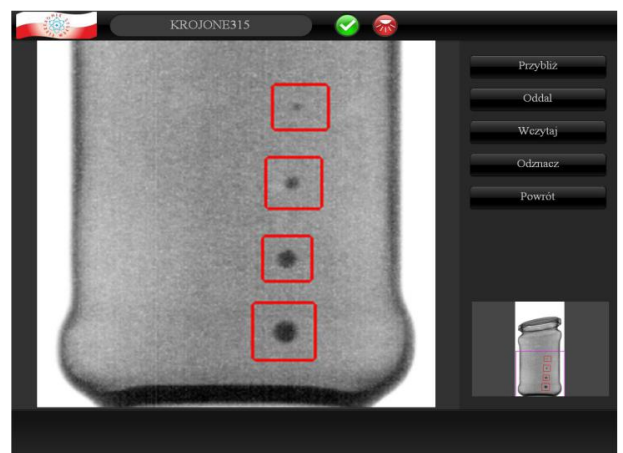
Password protected system levels.



Ability to change manual settings.



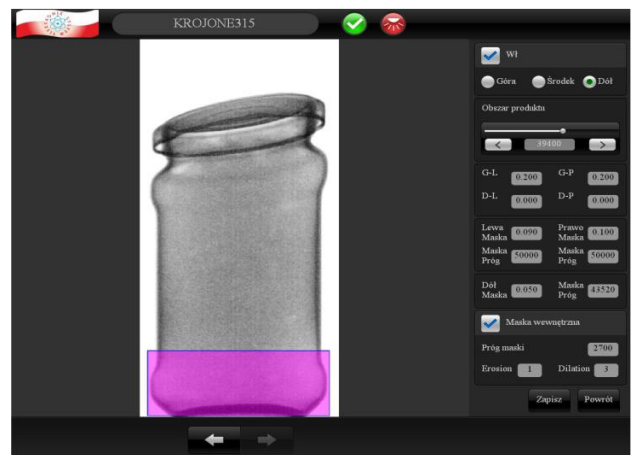
Foreign body contamination detection in products.



Possibility of seven times zoom of the image.



History of detection.



Elimination of blind spots after applying the mask on the edges of the jar - increasing the sensitivity of detection.

## SYSTEM ADVANTAGES



- Thanks to the X-Ray of the product from two different angles, the system eliminates blind spots that occur on irregular edges of the packaging, e.g. a glass jar.
- An advanced analysis system using two image sources ensures a high level of detection in the area of the tested product.
- Possibility to create several independent detection areas for selected product zones (e.g. top, center or bottom of the product).
- At the client's request, we provide remote support by ELEKTRONIK SYSTEM specialists during the warranty period and after its completion.

## LIST OF COMPONENTS

FUNCTION	NAME	MANUFACTURER
X-Ray source	X-Ray generator	VJ USA
X-Ray receiver	X-Ray detector	DT FINLANDIA
Device management	17" touch display	iEi
Data processing	Industrial computer	TANK 820
Temperature and humidity control	Air conditioner	PFANNENBERG
Conveyor belt drive	Gear motor	ORIENTAL MOTOR
Speed regulation	Inverter	YASKAWA/OMRON
Electric protection	Switches overcurrent	SCHNEIDER ELECTRIC /ABB
Connection between devices	Military connectors	PLT
Safety management	Limit switches	OMRON
Automation management	PLC drivers	OMRON
Warning information	Optical-acoustic indicator	SCHNEIDER ELECTRIC