



ELEKTRONIK SYSTEM

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DUAL ENERGY X-RAY SCANNER ELEKTRON-SXRF-4080DE

DUAL ENERGY supported by ARTIFICIAL INTELLIGENCE



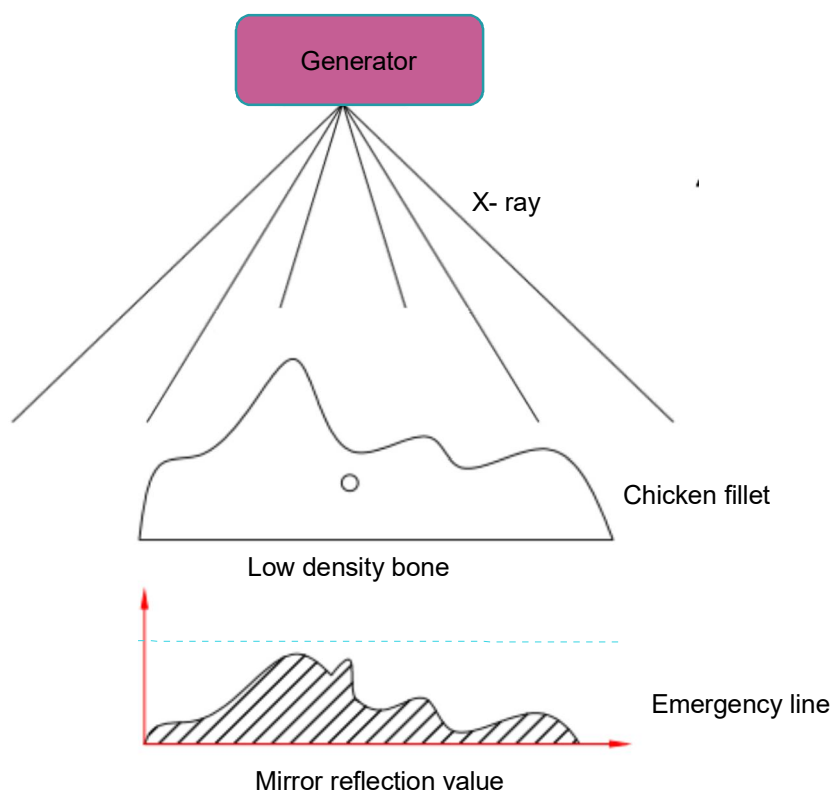
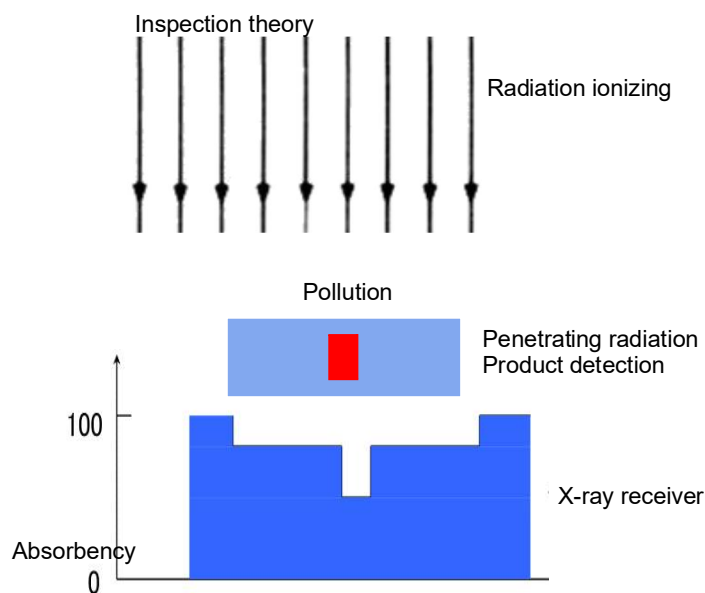
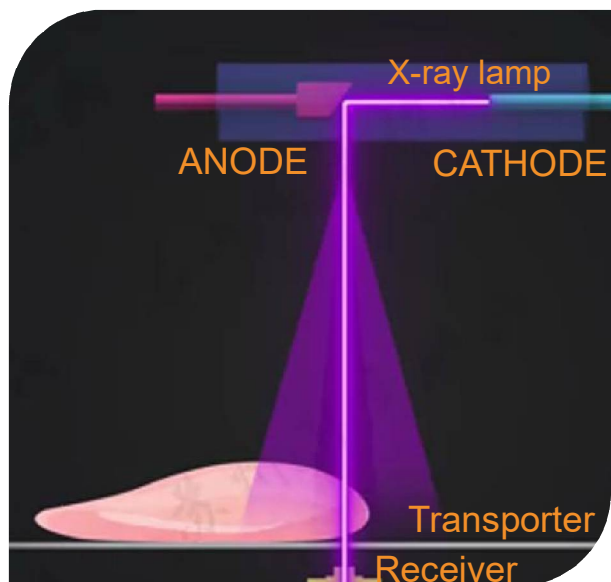
This X-Ray scanner has the highest detection level among X-Ray scanners, especially for the elimination of bones and bones as well as other foreign bodies such as glass, rubber, plastic. This is due to the latest technology **DUAL ENERGY**.

We are the only company in Poland to use the latest system in the ELEKTRON-SXRF-4080DE scanner - the ARTIFICIAL INTELLIGENCE, which currently provides the highest level of detection in the world.

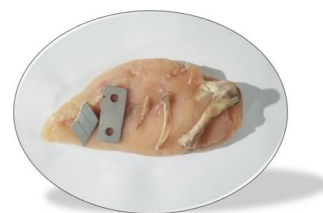
Model	ELEKTRON-SXRF
Specification	4080DE
Maximum height of the test product	100 mm
Maximum width of the test product	400 mm
X-ray lamp	MAX. 80 kV, 350W
The smallest possible detectable testers	St/st ball from 0.3 mm, wire from 0.2x2 mm Glass/Ceramic ball from 1.0 mm
Tape speed	Adjustable in the range of 0-40 m/min
display	17" touch screen
Cooling	PFANNENBERG industrial air conditioner
Recoil type	Pneumatic separator
Radiation protection	Protective tunnel and security system
External radiation	< 0.5μSu/h
Working temperature	from -10°C to 40°C
Working humidity	30-90% non-condensing water vapor
Supply voltage	230VAC
Power consumption	1200W
Tightness class	IP67
Air pressure	0.8Mpa
Housing material	Glass-blasted stainless steel

STANDARD X-RAY SCANNER

Standard single-lamp scanners have the ability to adjust the ionizing radiation beam to a given product in one scope. Depending on the density of the product, to the same extent radiation is absorbed, which often makes it impossible to find very fine particles impurities, especially bones and bones. In other industries, however, it checks perfectly fine.

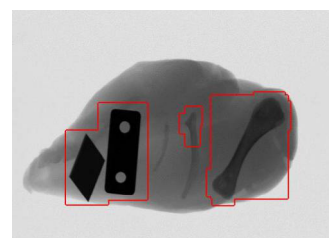


Dangerous products



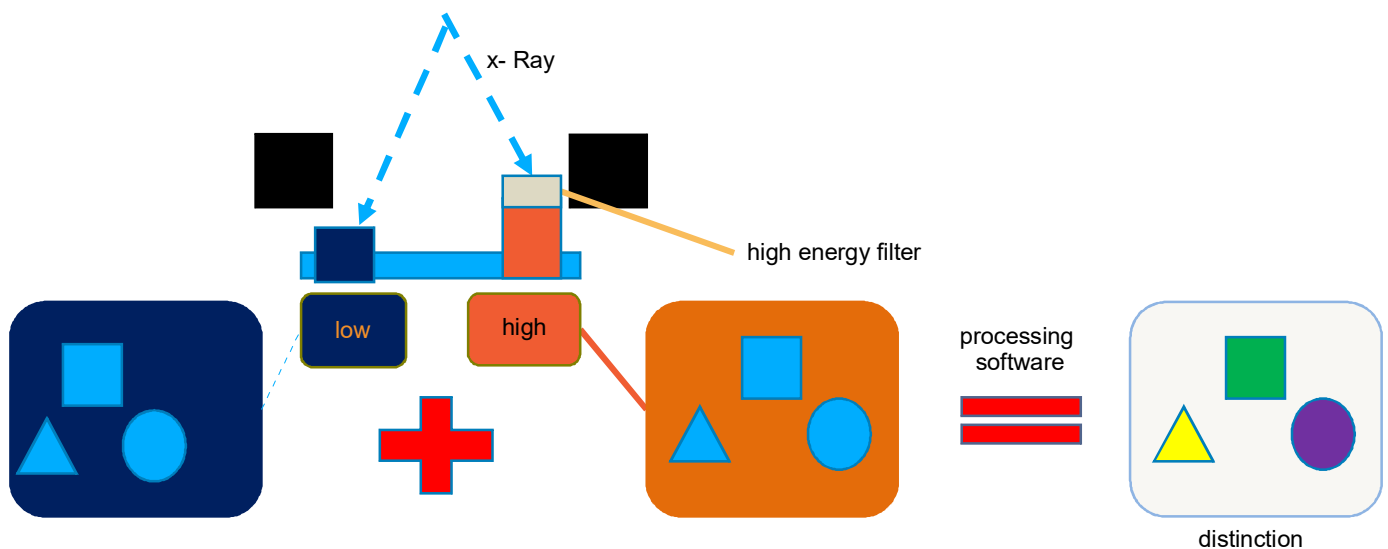
Contaminants are easy to find metal, hard bones.

The bones of the ribs and sternum are hard to see due to its very low density



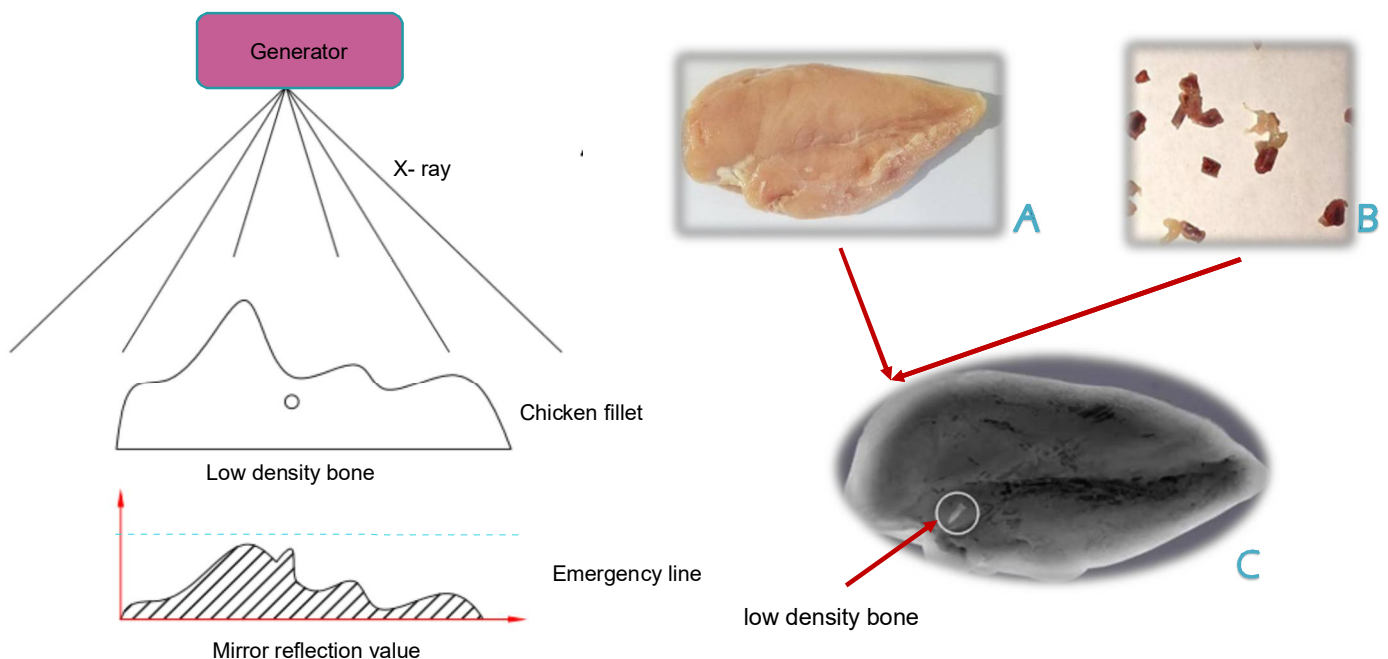
X-RAY SCANNER WITH DOUBLE ENERGY

The ELEKTRON-SXRF-4080DE X-Ray scanner uses two-energy beams different levels. The first beam of ionizing radiation goes to the damping receiver. This effect occurs when the beam is filtered on part of the receiving circuit. Then the scanner generating second high-energy beam to the second part of the receiver, analyzes the scanned object and image comparison. The high and low energy signals obtained by the dual energy system are sent to the computer, which are calculated on the basis of the processed data and associated values with the equivalent atomic number of the substance. The software automatically compares the images about high and low energy, analyzes whether there is a difference in the atomic number of the stored pattern and the body alien using a hierarchical algorithm.



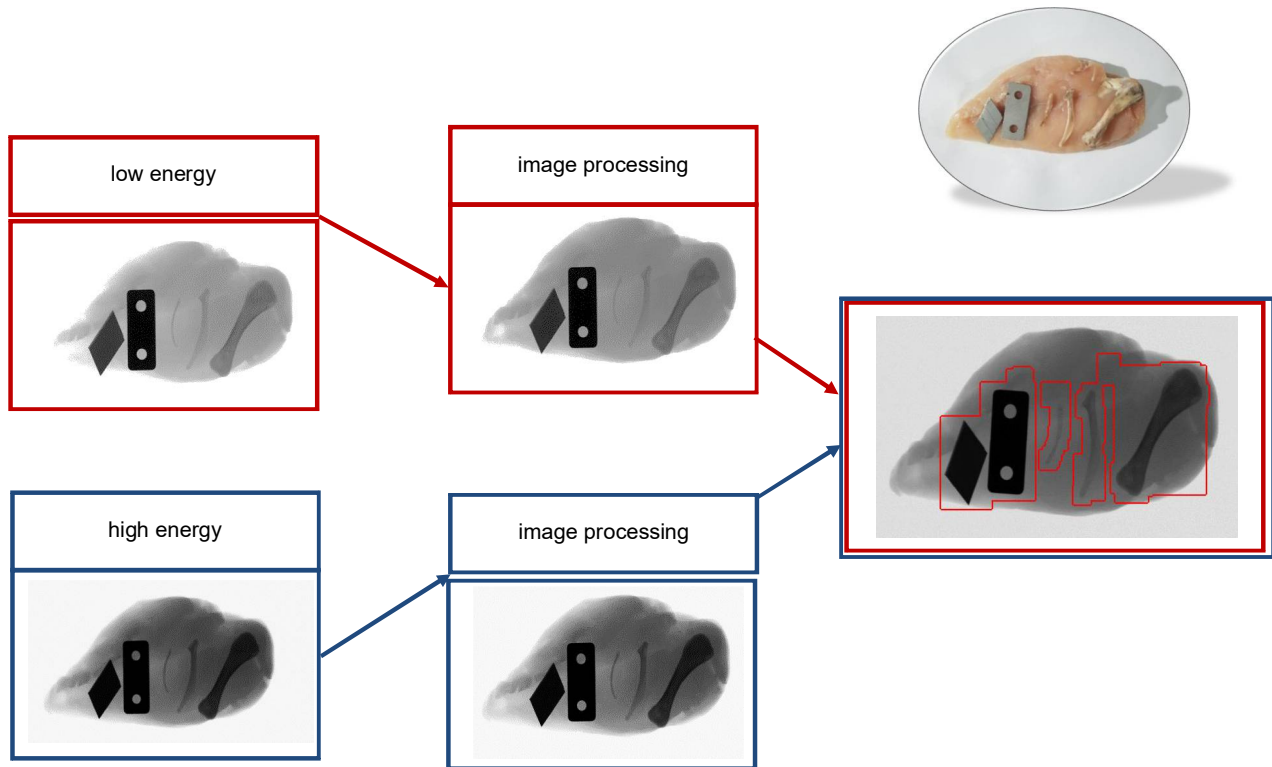
X-Ray scanner with a double energy receiver

- ▶ slight differences between the impurity density and the product can be detected
- ▶ multiple algorithms can be used to separate contaminants



X-Ray scanner with new receiver + intelligent algorithm = best performance

The dual energy system enables easier detection of low-density bone debris, e.g. in chicken fillet



MAIN FEATURES

- Easy-to-clean design (to the maximum extent devoid of nooks and crannies, which prevents the growth of bacteria),
- High-quality detection imaging system,
- High level of detection provides multi-level **DE** receiver with 0.4mm automatic filter,
- TDI technology (TDI transforms multiline matrix image into a single-line linear image matrix by signal accumulation, increased detector exposure level used 8-level receiver. That means on this one same dose of X-rays the TDI detector can get 8 times higher exposure than a standard array detector linear.
- The intelligent algorithm is responsible for:
 - ✓ Self-organizations of all components,
 - ✓ Self-adaptation,
 - ✓ Automatic signal synchronization between the radiation lamp ionizing device and the receiver,
 - ✓ Auto learning for continuous supervision over the reliability of the scanner operation.

SYSTEM „FROST”

The X-Ray scanner can be equipped with an unprecedented **system "FROST"** with built-in intelligent heating system and thermostat, inside the panel which protects the internal electronics from moisture and cold. It is the only protection against rapid temperature changes during washing and protects against inward absorption of moisture (e.g. a cold machine being washed with hot water).

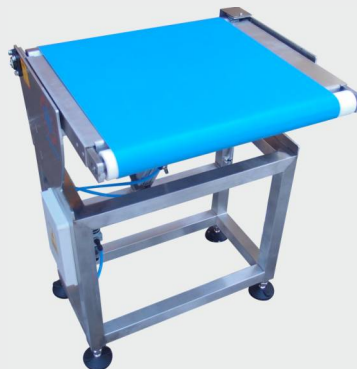
LIST OF COMPONENTS

FUNCTION	NAME	PRODUCER
X-Ray source	X-Ray generator	VJ USA
X-Ray receiver	X-Ray detector	DT FINLANDIA
Device management	17" touch monitor	iEi
Data processing	Industrial computer	DFI
Temperature and wetness control	Air conditioner	PFANNENBERG
Conveyor belt drive	Engine with gear	ORIENTAL MOTOR
Speed regulation	Engine controller	ORIENTAL MOTOR
Electric protection	Miniature circuit breakers	SCHNEIDER ELECTRIC / ABB
Connection between devices	Military connectors	PLT
Safety management	Limit switches	OMRON
Automation management	PLC driver	SCHNEIDER ELECTRIC
Warning information	Optical-acoustic signaller	WERMA

TYPES OF SEPARATORS

Single separator

Movable separator
trapdoor to reject products
served loose in one
row.



Double separator

Separator in the form of two
movable recoil trapdoors
products served in
two rows independently.



TYPES OF SEPARATORS

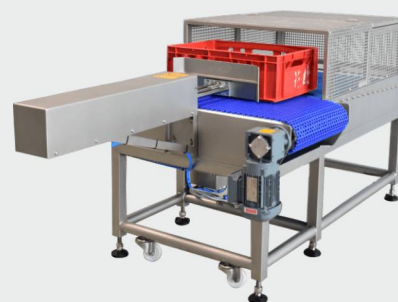
Separator in the form of falling conveyor

Falling separator reject conveyor bulk products in one row, with an enclosed area and closed container key.



Pusher

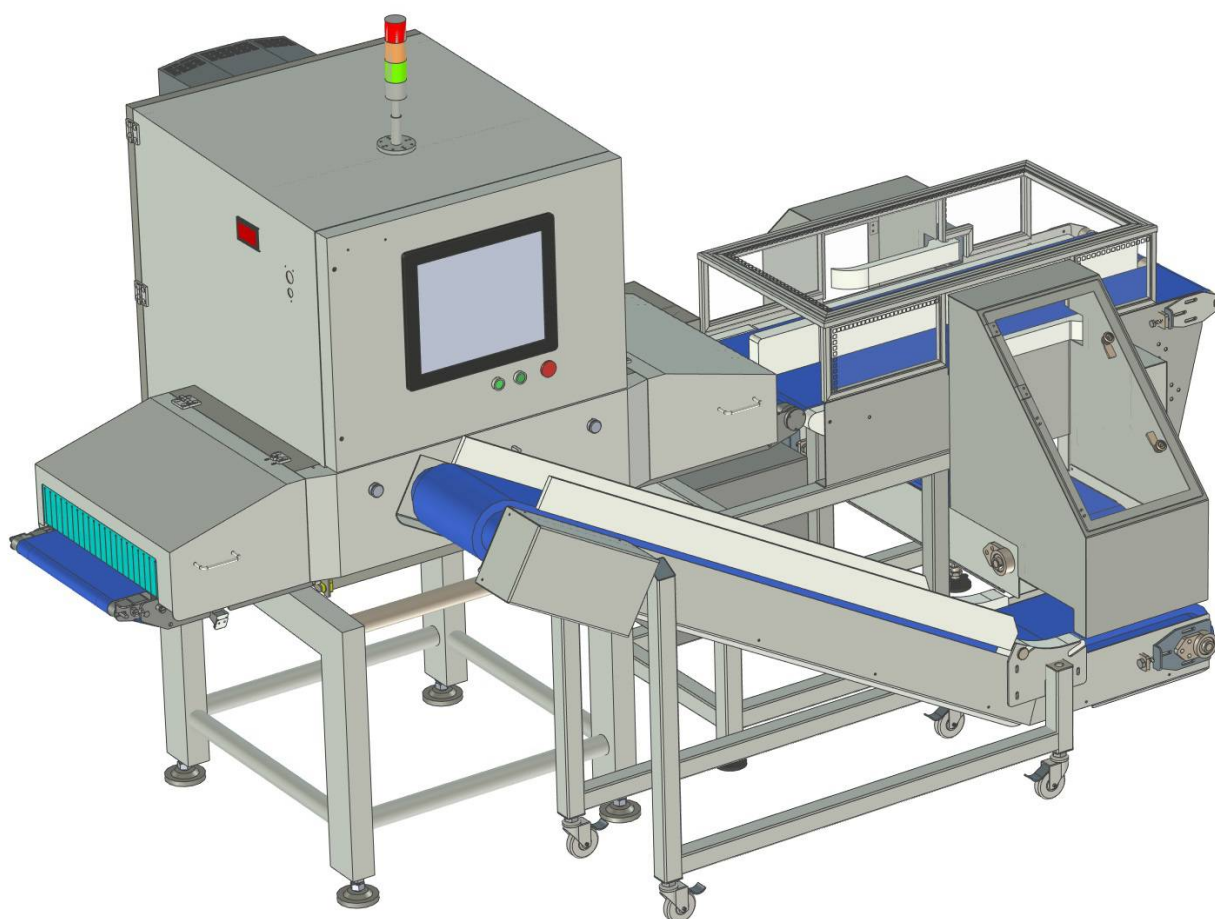
Separator in the form of a pusher for the rejection of E1, E2 boxes and large and heavy bags and cartons.



REVIEW PICTURE OF THE RETURN SYSTEM



VISUALIZATION OF THE RETURN SYSTEM WITH THE ELEKTRON-SXRF-4080DE SCANNER



TECHNICAL DRAWING OF THE SYSTEM RETURN WITH ELEKTRON-SXRF-4080DE SCANNER

