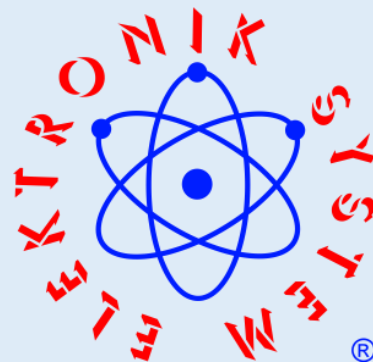


# INDUSTRIAL METAL DETECTOR **ELEKTRON-MD** TO SMALL PRODUCTS



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## APPLICATION

**ELEKTRON-MD** metal detectors are used in the food industry. These devices are dedicated to unpackaged products, as well as in packages made of materials, materials, cardboard or glass. Metal detectors are designed to test products such as:

- meat, cold cuts, fish, seafood - fresh and also frozen,
- dairy products - milk, cheese, cream, etc.,
- vegetables and fruits - fresh, frozen and processed,
- bakery and confectionery products - bread, rolls, cookies, etc.,
- ready-made products - ready-made dinner, e.g. pizza,
- pasta, oatmeal, rice, breakfast cereals, groats
- spices,
- coffee beans, ground coffee, instant coffee,
- bread crumbs, sugar, salt, semolina, flour
- teas, herbs, dried fruit,
- dried fruit and nuts - short, ready for the confectionery industry,
- and many others

## PRINCIPLE OF OPERATION

The metal detector is equipped with a transmitter coil and two receiver coils. Coil transmitter generates a constant frequency signal. On both sides of the transmitter coil the two receiver coils that receive the signal are evenly distributed. Detector metal measures the voltage difference between the coils and then the differential between them in a signal. Any electrically conductive objects moving between the coils the difference in tensions between them. Each item will produce a little difference, items. Make a much bigger difference by allowing them to be detected in products non-metallic. In this way, the industrial metal detector can distinguish the product not contaminated with metal contaminated product.

## MARKING

- H** - (hard work) detector dedicated to work in difficult conditions..
- F** - detector with built-in system „FROST”.
- S** - (separation) detector having a separator.
- G** - the metal detector tape has the so-called rubber gripper.

## YOUR BENEFITS

- Warranty and post-warranty service within 24 hours.
- Lifetime warranty on probes (without electronics).
- Technical support by phone or e-mail.
- Publicly available spare parts from well-known and reputable companies.
- Repair and modernization of SEK in accordance with the requirements and expectations of our customers.
- Reactivation and improvement of our detectives, even the oldest ones, for a generation.
- Consultation and training.
- Periodic inspections.
- Compliance with HACCP, CE, IFS and NEC standards.

## WHAT MAKES US STAND OUT?

The **ELEKTRON-MD** series of detectors has a system that is unique in other detectors contactless auto-learning. The self-learning system analyzes the tested product and saves detection parameters (e.g. product influence and background automatically). By controlling the conveyor, the detector automatically moves the product through the probe window detecting forward and backward until the completion of learning. The solution is to facilitate help with heavy products. As a result, learning is much more accurate without interruption a also the level of detection and stability of the metal detector operation.

Our metal detectors have an auto-calibration system, thanks equipment on non-service inspection decks. Detection system it oscillates precisely at the tested frequency, it adjusts the variables itself values. The management system is designed to withstand every shutdown the detector from the network automatically performed a test and calibration for about 15 minutes system after restarting the computer.

Our metal detectors can be equipped with unparalleled in other detectors, the **„FROST” system \*** with an integrated intelligent heating and thermostat system, inside controls, internal controls and electronic circuits against moisture chill. This is the only protection against extreme temperatures during installation and prevents the absorption of moisture inside (for example, cold washing machine, hot washing water). Machine operation in a cold store and with a frozen stand.

# Auto Nauka

# Nauka

**Uwaga: Aktualizacja ...**

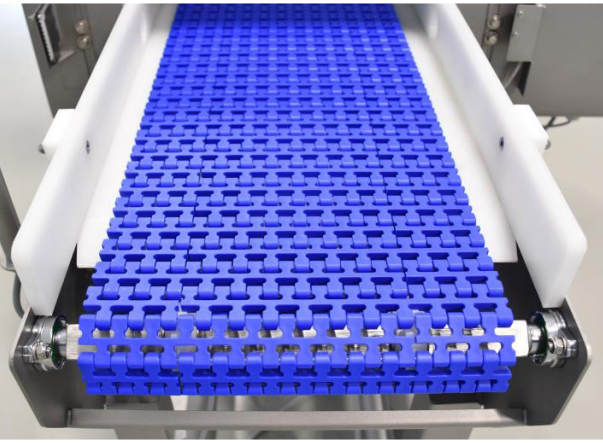
## COMPONENT PARTS



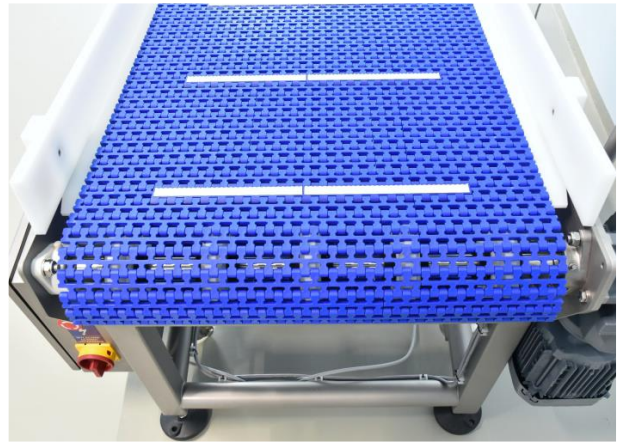
## MAIN FEATURES

- Clear, 7 "color touch screen.
- Transparent polycarbonate control panel cover.
- Menu in Polish and English (standard).
- Menu in German, Russian, Italian, French, Spanish, Turkish, Arabic and others (option on request).
- Intuitive menu and simple operation.
- History of tested products, date and time.
- USB port for data collection and transfer to portable.
- Memory function for testing 100 different products.
- Auto-learning system.
- Automatic system self-calibration.
- Password protected access levels.
- IP-69 probe tightness class, IP-54/65 conveyer drive.
- Voltage free output signals:
  - detection enabled
  - metal detection
  - start the transporter
  - NO / NC stop of another machine or conveyer belt
- Growth and increase in work compared to the detectors of the previous generation.

## MODULAR BELTS

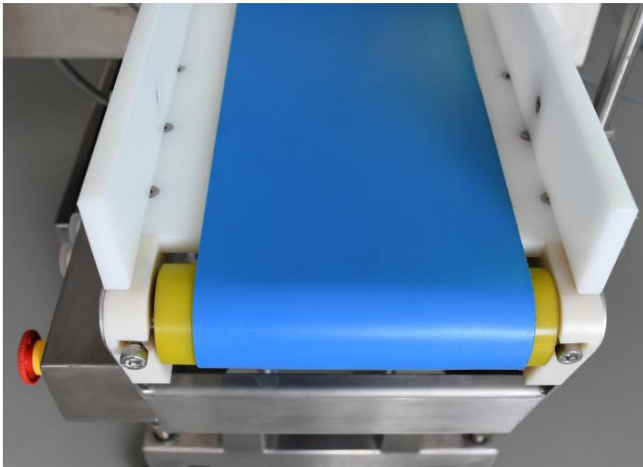


Standard modular belt



Belt with gripper

## POLYURETHANE BELTS

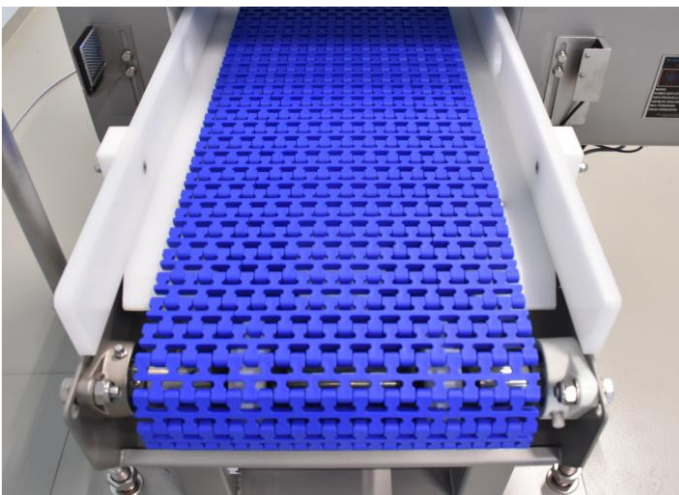


Standard polyurethane belt

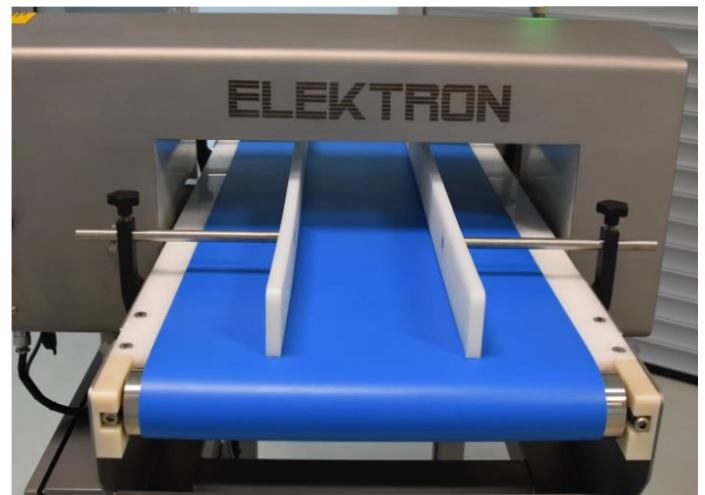


Polyurethane belt with wheel

## TYPES OF SIDE STOP



Permantent side stop



Adjustable side stop

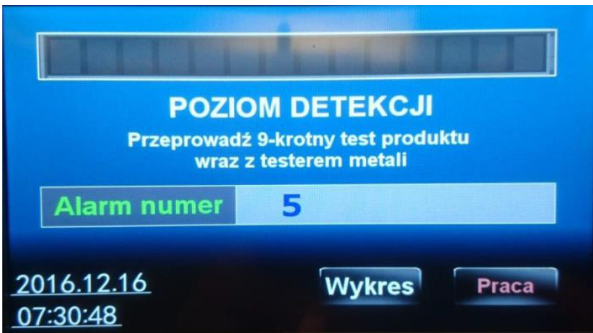
# SYSTEM FUNCTIONS



Autocalibration system



Self-learning system



Automatic detection enforcement system



Detection menu



Detection analysis graph



Clear parameter setting system

L.p.	Początek	Koniec	Nr. Prod.	Ilość Prod.
1	2020-04-15 11:52:31	2020-04-15 11:54:53	0	0

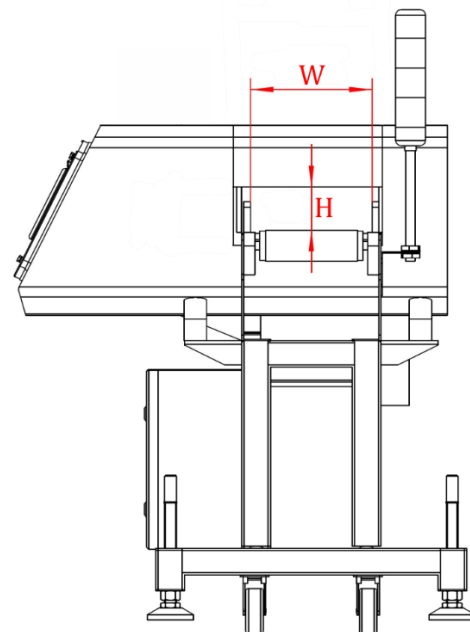
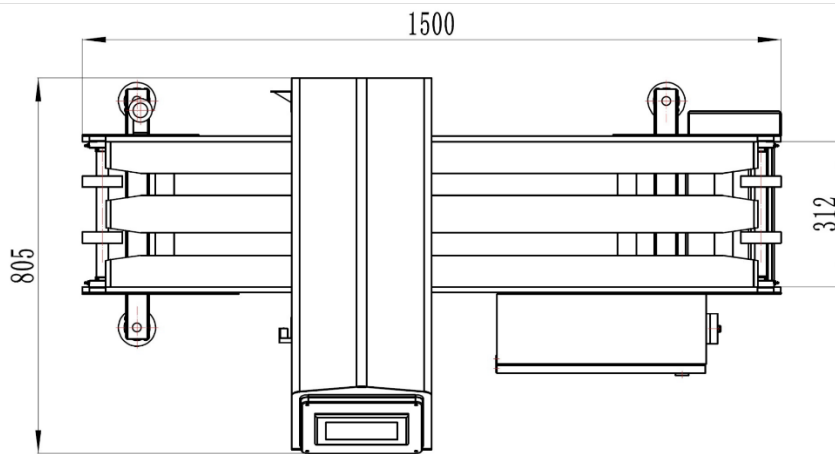
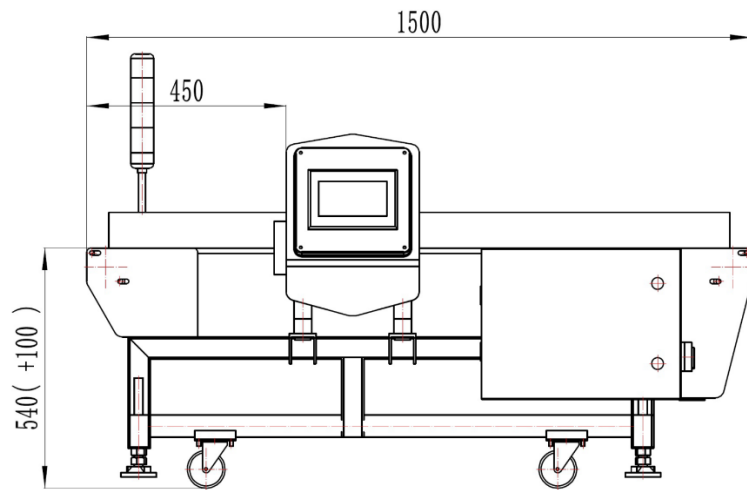
History of detection

Nr.	Data	Czas	Produkt
45	20/04/08	09:45:35	0
44	20/04/08	09:45:33	0
43	20/04/08	09:45:30	0
42	20/04/08	09:45:28	0
41	20/04/08	09:45:25	0
40	20/04/08	09:45:22	0

Alarm history



Series		ELEKTRON-MD
Detection level	Fe	from Ø 0,5 mm
	NoFe	from Ø 0,7 mm
	St/st	from Ø 0,8 mm
The width of the conveyor belt		160 mm
Maximum load		10 kg/m <sup>2</sup>
Standard transporter length		1500 mm (other lenght)
Standard transporter height		800+100 mm (optional diffrent height)
Operator panel		HMI touch screen (analogy delay)
Type of conveyor belt		Modular (optional polyurethane)
The direction of the transporter's work		Left to right (from right to left optional)
Type control panel covers		Polycarbonate (optional stainnles steel)
Side stop		Permament (optional adjustable)
Signaling of contamination detection		Optical and acoustic alarm and stopping the belt conveyor
Conveyor belt speed		Adjustable scope 0-35 m/min (optional permanent)
„FROST” system		Optional
Power		230 V, 50 Hz
Working temerature		0-45°C
Material		Glazed stainless steel

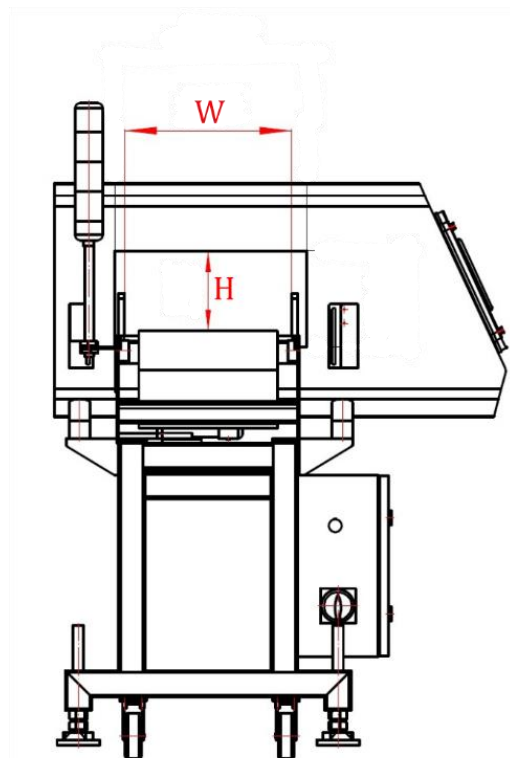
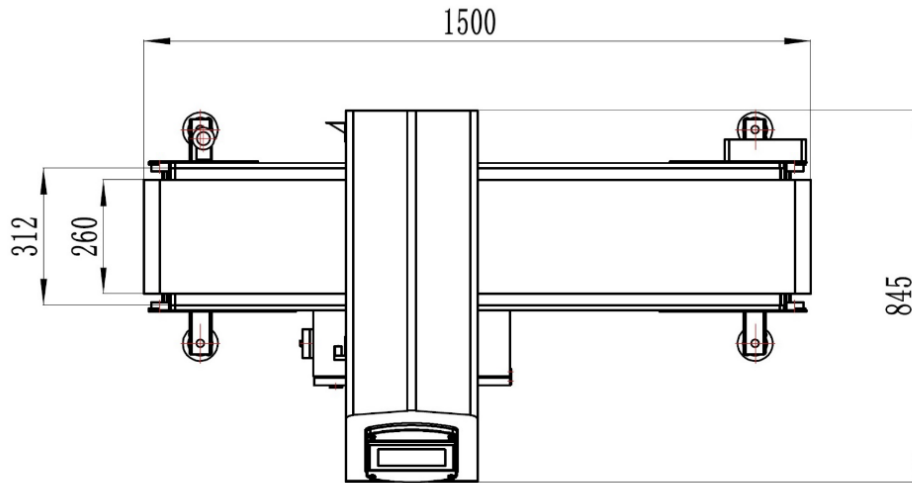
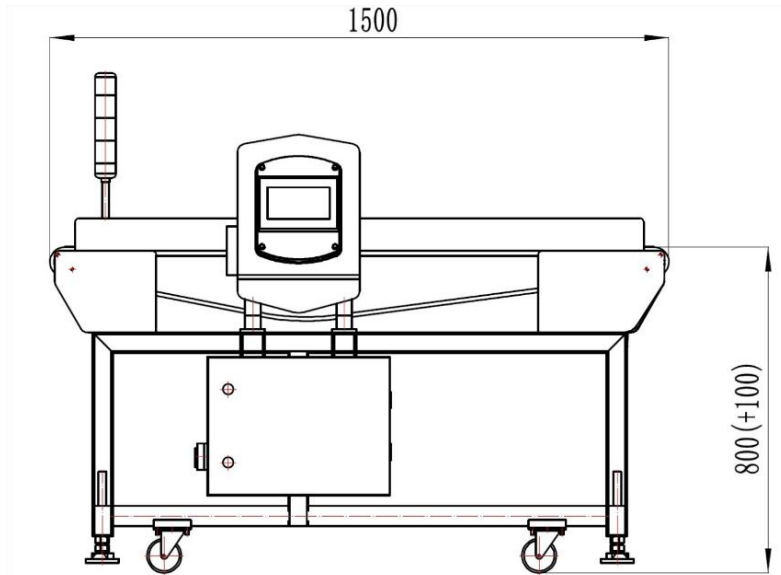


Type	Maximum height products <b>H</b>	Maximum width products <b>W</b>
<b>MD-2005</b>	50 mm	160 mm
<b>MD-2008</b>	80 mm	160 mm
<b>MD-2010</b>	100 mm	160 mm
<b>MD-2012</b>	120 mm	160 mm
<b>MD-2015</b>	150 mm	160 mm





Series		ELEKTRON-MD
Detection level	Fe	from Ø 0,6 mm
	NoFe	from Ø 0,8 mm
	St/st	from Ø 1,0 mm
The width of the conveyor belt		260 mm
Maximum load		15 kg/m <sup>2</sup>
Standard transporter length		1500 mm (optional other length)
Standard transporter height		800+100 mm (optional other height)
Operator panel		HMI touch screen (optional analog delay)
Type of conveyor belt		Modula (optional polyurethane)
The direction of the transporter's work		Left to right (from right to left optional)
Type control panel covers		Polycarbonate (optional stainless steel)
Side stop		Permanent (optional adjustable)
Signaling of contamination detection		Optical and acoustic alarm and stopping the belt conveyor
Conveyor belt speed		Adjustable 0-35 m/min (optional permanent)
„FROST” system		Optional
Power		230 V, 50 Hz
Working temperature		0-45°C
Material		Glazed stainless steel

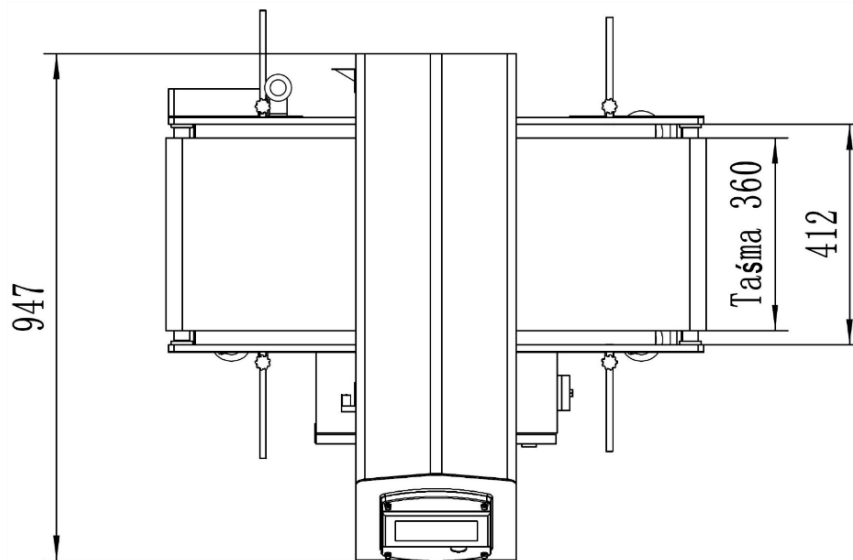
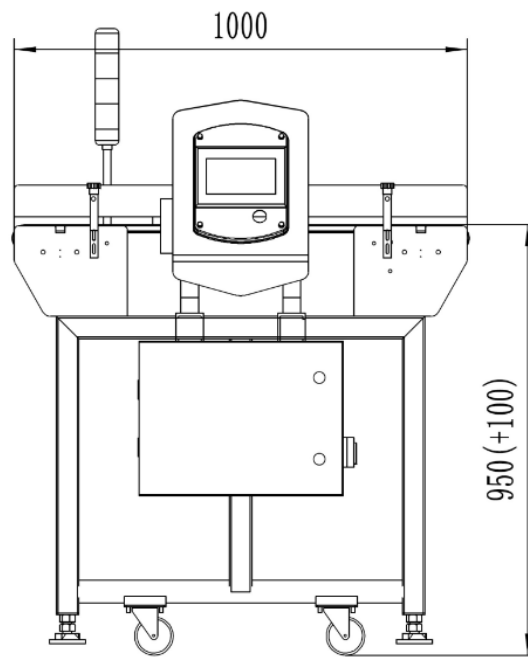


Type	Maximum height products <b>H</b>	Maximum width products <b>W</b>
<b>MD-3005</b>	50 mm	260 mm
<b>MD-3008</b>	80 mm	260 mm
<b>MD-3010</b>	100 mm	260 mm
<b>MD-3012</b>	120 mm	260 mm
<b>MD-3015</b>	150 mm	260 mm
<b>MD-3018</b>	180 mm	260 mm
<b>MD-3020</b>	200 mm	260 mm

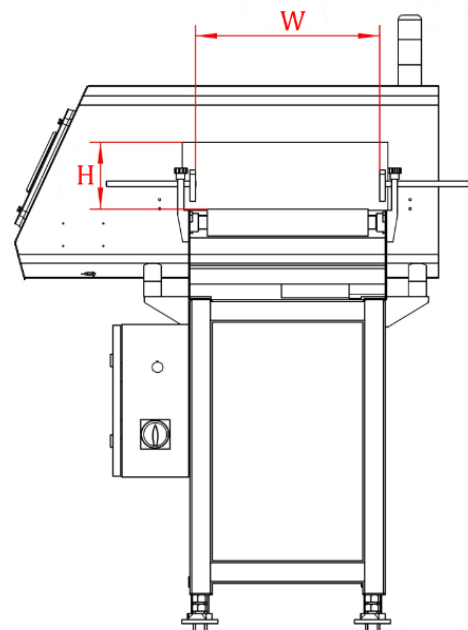


Series	ELEKTRON-MD	
Detection level	Fe	from Ø 0,8 mm
	NoFe	from Ø 1,0 mm
	St/st	from Ø 1,2 mm
The width of the conveyor belt	360 mm	
Maximum load	25 kg/m <sup>2</sup>	
Standard transporter length	1500 mm (other length)	
Standard transporter height	800+100 mm (optional different height)	
Operator panel	HMI touch screen (analogy delay)	
Type of conveyor belt	Modular (optional polyurethane)	
The direction of the transporter's work	Left to right (from right to left optional)	
Type control panel covers	Polycarbonate (optional stainless steel)	
Side stop	Permanent (optional adjustable)	
Signaling of contamination detection	Optical and acoustic alarm and stopping the belt conveyor	
Conveyor belt speed	Adjustable 0-35 m/min (optional permanent)	
„FROST” system	Optional	
Power	230 V, 50 Hz	
Working temperature	0-45°C	
Material	Glazed stainless steel	

# TECHNICAL DRAWINGS



Type	Maximum height products <b>H</b>	Maximum width products <b>W</b>
<b>MD-4005</b>	50 mm	360 mm
<b>MD-4008</b>	80 mm	360 mm
<b>MD-4010</b>	100 mm	360 mm
<b>MD-4012</b>	120 mm	360 mm
<b>MD-4015</b>	150 mm	360 mm
<b>MD-4018</b>	180 mm	360 mm
<b>MD-4020</b>	200 mm	360 mm
<b>MD-4025</b>	250 mm	360 mm
<b>MD-4030</b>	300 mm	360 mm



## COMPONENT PARTS



## MAIN FEATURES

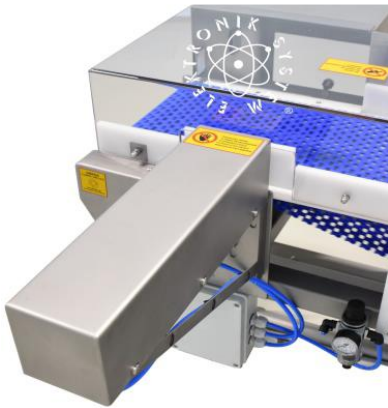
- Easy to read 7 "touch screen.
- Automatic pneumatic separator.
- Lockable container for rejected products.
- Recoil IR sensors and full fledged.
- Cover of the detection zone made of transparent polycarbonate.
- Transparent polycarbonate control panel cover.
- Menu in Polish and English (standard).
- Menu in German, Russian, Italian, French, Spanish, Turkish and Arabic (optional).
- Intuitive menu and simple operation.
- History of tested products, date and time.
- USB port for reading data to a flash drive.
- Memory function for testing 100 different products.
- Auto-learning system.
- Automatic system self-calibration.
- Password protected access levels.
- IP-69 probe tightness class, IP-54/65 conveyor drive.
- Voltage free output signals:
  - detection enabled
  - metal detection
  - start the transporter
  - stopping the machine or the conveyor belt
- Growth and increase in work compared to the detectors of the previous generation.

## TYPE OF REJECTOR SYSTEMS



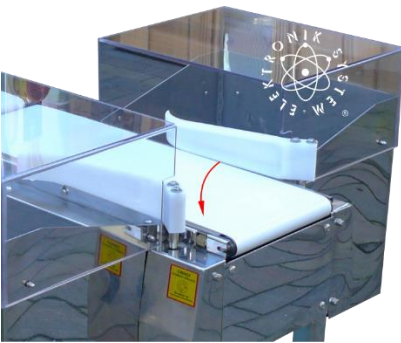
### **Blower (nozzle)**

A very efficient and effective system for light products.



### **Pusher**

Standard recoil system with adjustable height. Depending on the product - the possibility of using various flat tips with a width adapted to the product.



### **Scraper arm**

Fast recoil system to save installation space.



### **Trap**

The only reliable recoil system for bulk products.



### **A trapdoor in the form of a falling conveyor**

Recoil system designed for long products

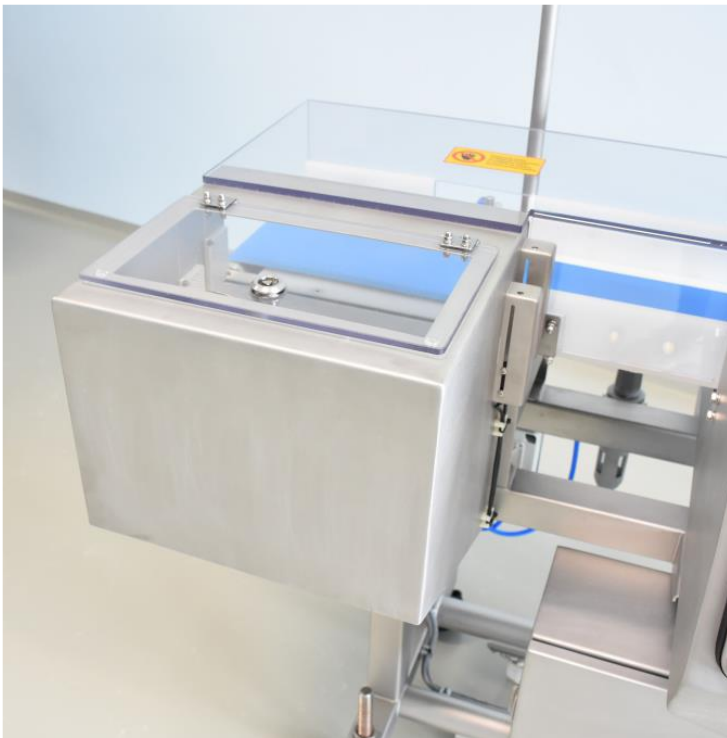
## TYPES OF REJECTED PRODUCT CONTAINERS



Hanging stainless steel container



Hanging polycarbonate container



Hanging stainless steel container with top opening



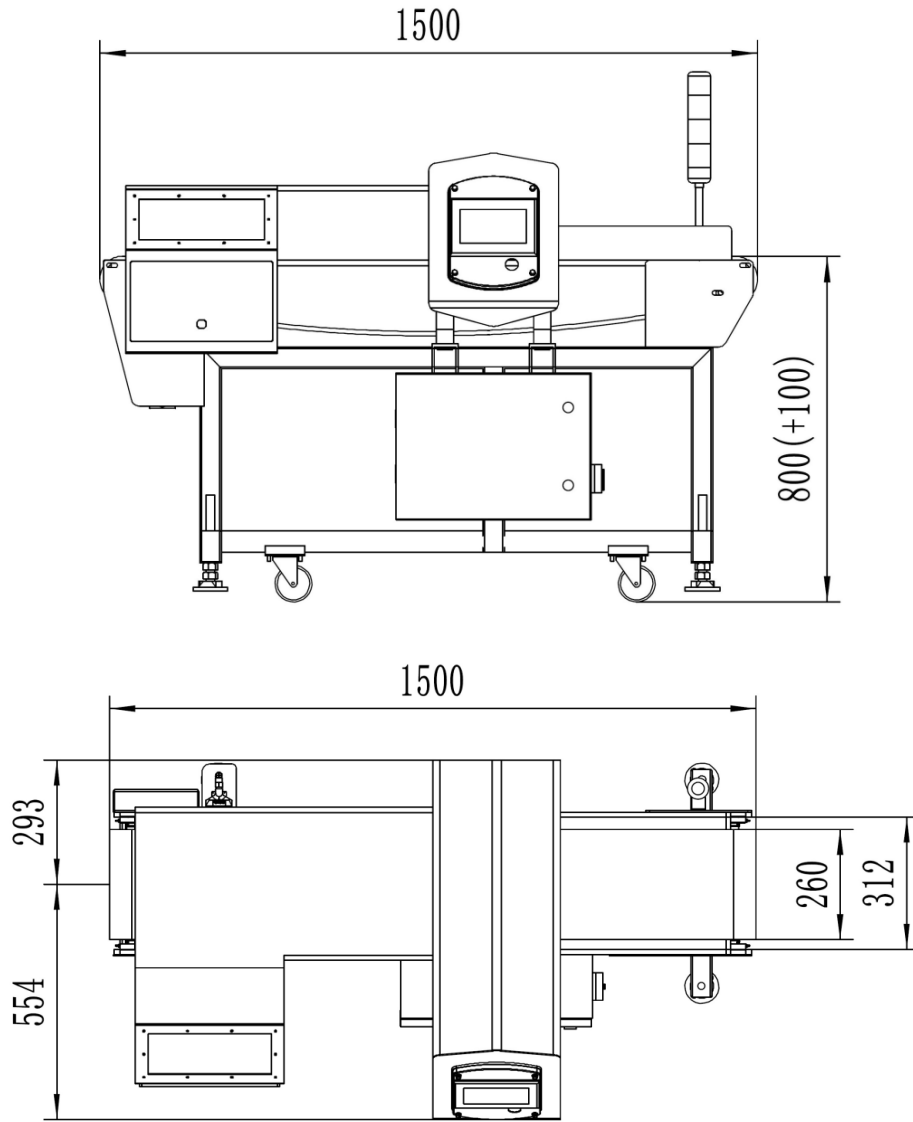
A standing container made of acid-resistant steel



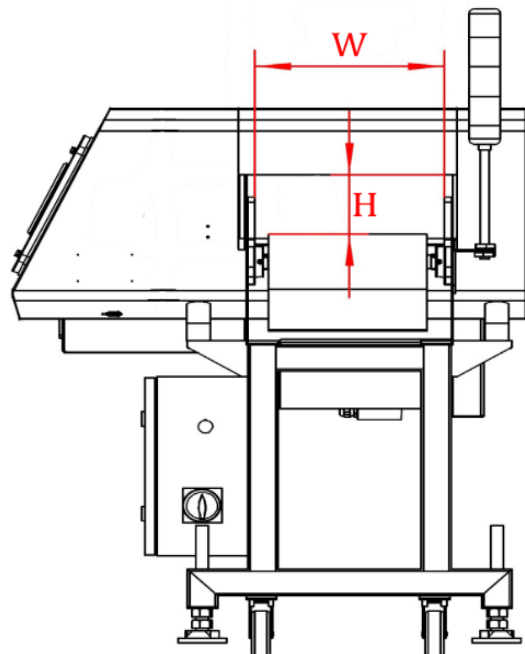
Series		ELEKTRON-MD
Detection level	Fe	from Ø 0,6 mm
	NoFe	from Ø 0,8 mm
	St/st	from Ø 1,0 mm
The width of the conveyor belt		260 mm
Max load		15 kg/m <sup>2</sup>
Standard transporter length		1500 mm (optional length other)
Standard transporter height		800+100 mm (optional other height)
Operator panel		HMI touch screen (optional buttons analogy)
Type conveyor belt		Modular (optional polyurethane)
The direction of the transporter		From left to right (from right to left optional)
Type control panel cover		Polycarbonate (optional stainless steel)
Protection zone cover		Polycarbonate optional
Side stop		Permanent (optional adjustable)
Signaling the detection of pollution		Optical and acoustic alarm and stopping the conveyor belt
Rejected product container		Stainless steel (optional polycarbonate)
Confirmation of the discharge of contaminated product		Optional
Signal of filled container		
Conveyor belt speed		Adjustable in scope 0-35 m/min (optional permanent)
„FROST” system		Optional
Power		230 V, 50 Hz
Working temperature		0-45°C
Material		Glazed stainless steel



# TECHNICAL DRAWINGS



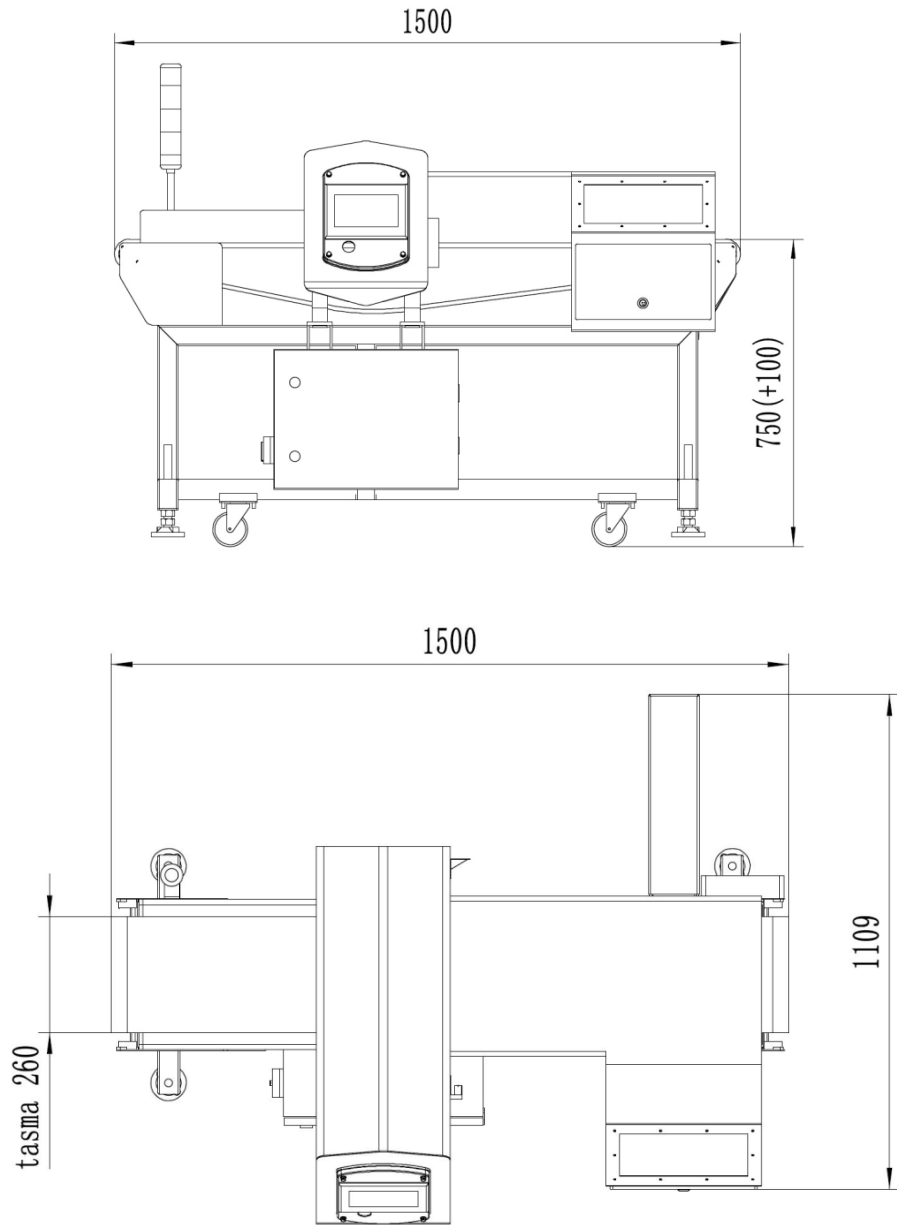
Type	Maximum height products <b>H</b>	Maximum width product <b>W</b>
<b>MD-3005</b>	50 mm	260 mm
<b>MD-3008</b>	80 mm	260 mm
<b>MD-3010</b>	100 mm	260 mm
<b>MD-3012</b>	120 mm	260 mm
<b>MD-3015</b>	150 mm	260 mm
<b>MD-3018</b>	180 mm	260 mm
<b>MD-3020</b>	200 mm	260 mm



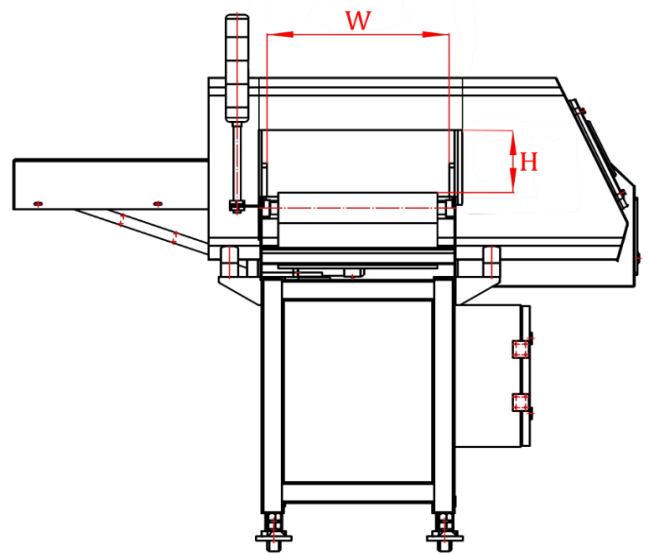


Series		ELEKTRON-MD
Detection level	Fe	from Ø 0,8 mm
	NoFe	from Ø 1,0 mm
	St/st	from Ø 1,2 mm
The width of the conveyor belt		360 mm
Max load		25 kg/m <sup>2</sup>
Standard transporter lenght		1500 mm (optional lenght other)
Standard transport height		800+100 mm (optional other height)
Operator panel		HMI touch screen (optional buttons analogy)
Type conveyor belt		Modular (optional polyurathane)
The direction of the transport		From left to right ( from right to left optional)
Type control panel cover		Polycarbonate (optional stainless steel)
Protection zone cover		Polycarbonate optional
Side stop		Permament (optional adjustable)
Signaling the detection of pollution		Optical and acoustic alarm and stopping the conveyor belt
Rejected product container		Stainless steel (optional polycarbonate)
Confirmation of the discharge of contaminated product		Optional
Signal of filled container		
Conveyor belt speed		Adjustable in scope 0-35 m/min (opctional permament)
„FROST” system		Optional
Power		230 V, 50 Hz
Working temerature		0-45°C
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# TECHNICAL DRAWINGS



Type	Maximum height products <b>H</b>	Maximum width products <b>W</b>
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<b>MD-4015</b>	150 mm	360 mm
<b>MD-4018</b>	180 mm	360 mm
<b>MD-4020</b>	200 mm	360 mm
<b>MD-4025</b>	250 mm	360 mm
<b>MD-4030</b>	300 mm	360 mm



## COMPONENTS METAL DETECTORS

Pictures	Name	Manufacturer
	Optical – acoustic indicator	Schneider Electric
	Inverter	Yaskawa 1000
	Engine	Oriental Motor
	Engine	SEW
	IR barriers	Telemecanique
	Buttons and lights	EMA
	Display	WE!NVIE W
	Conveyor belt	SYNCHROTECH

# OUR METAL DETECTORS IN THE PRODUCTION LINE

