THS/210®-MBH9

CUTTING-EDGE METAL DETECTION SYSTEM FOR HEAVY WASHDOWN FOOD-PROCESSING AREAS

HEAT AND CONTROL®

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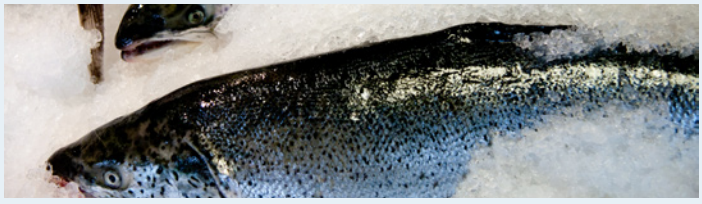
ISO 9001 CERTIFIED

Quality control at its finest

The CEIA THS/210®-MBH9 is a next-generation metal detection system developed to meet the rigorous demands of the **wet food industry, including meat, poultry, and seafood processing environments**. Built on advanced multi-spectrum technology and a **FULLY DIGITAL ARCHITECTURE**, this platform delivers high detection accuracy, fast startup, and long-term reliability, even under the most challenging washdown conditions. Designed for integration in **hygienic production zones**, the THS/210®-MBH9 features **IP69K-rated construction** and components, **AISI 316L stainless steel housing**, and **FDA-compliant materials**, ensuring resistance to high-pressure, high-temperature cleaning procedures. Its hygienic design facilitates easy, residue-free cleaning and supports compliance with international food safety standards. The system also offers robust connectivity options for integration with line automation, traceability systems, and CEIA's Production 4.0 software, enabling full process control and data integrity. With its combination of reliable performance, sanitary design, and smart connectivity, the THS/210®-MBH9 is an ideal solution for producers seeking consistent contaminant control and efficiency in wet food processing environments.

APPLICATIONS

- **MEAT PROCESSING** (beef, pork, lamb slaughterhouses, meat cutting and deboning plants, sausage and salami production, ground meat and burger patty lines, cooked meat slicing and packaging)
- **POULTRY PROCESSING** (chicken and turkey slaughtering, poultry deboning and cutting, breaded and marinated poultry lines, cooked poultry slicing and tray packing)
- **FISH AND SEAFOOD PROCESSING** (fresh and frozen fish filleting, shellfish processing (shrimp, mussels, clams), smoked fish and marinated seafood production, portioning and vacuum packaging of seafood
- **DAIRY INDUSTRY** (cheese production and cutting (soft, fresh cheeses), fresh milk and cream processing, butter and ricotta production lines)
- **READY MEALS AND COOKED FOODS** (cooked, chilled and frozen meal production, lasagna, soups, sauces processing, ready-to-eat salads and deli food lines, wet marinated products and cooked pasta)
- **FRUIT AND VEGETABLE PROCESSING** (fresh-cut fruits and vegetables (salads, slices), washed and packaged leafy greens, peeled, blanched or steamed produce)
- **EGG PROCESSING** (liquid egg and egg white production, boiled egg peeling and packaging, pasteurized egg product plants)
- **TOFU AND PLANT-BASED PROTEINS** (tofu and soy-based meat alternative processing, wet extrusion and shaping of plant proteins, cooking and marinating lines)



Supermarket Specifications Compliant

HIGHLIGHTS

- **EXCEPTIONAL METAL DETECTION PERFORMANCE**
  Detects ferrous, non-ferrous, and stainless-steel contaminants with high sensitivity—even in complex, wet products
- **RUGGED, INTUITIVE TOUCHSCREEN INTERFACE**
  Designed for ease of use in harsh environments
- **AUTO-LEARN AND SELF-CALIBRATION**
  Fast, accurate setup with automatic optimization across all metal types
- **BUILT-IN AUTO-QC FUNCTION**
  Automated calibration verification for daily process assurance without interrupting production
- **ADVANCED EJECTOR CONTROL**
  Precise reject timing and configuration for hygienic and reliable product separation
- **SMART CONNECTIVITY**
  Gigabit Ethernet, wireless support, and compatibility with major fieldbus protocols for seamless integration
- **THS PRODUCTION 4.0 READY**
  Full compatibility with CEIA software for real-time data integrity, traceability, and ERP/MES connectivity
- **ADVANCED EVENT LOGGING**
  Up to 500,000 events locally securely stored for audits, analysis, and full traceability. Unlimited events when networked with THS Production 4.0
- **21 CFR PART 11 COMPLIANCE**
  Meets FDA requirements for electronic records and signatures in regulated environments
- **INTEGRATED REMOTE DIAGNOSTICS & WEB SERVER**
  Enables remote monitoring, support, and system management from any connected device
- **FIRMWARE-BASED ELECTRONICS**
  Fast start-up, cybersecurity-ready, and designed for dependable operation in demanding lines
- **AISI 316L STAINLESS STEEL & FDA-COMPLIANT PLASTICS**
  Built to resist corrosion and support high-pressure, high-temperature cleaning protocols
- **HYGIENIC FRAME DESIGN**
  Smooth, crevice-free surfaces and tool-free access for fast, effective washdown and maintenance
- **IP69K-RATED CONSTRUCTION AND COMPONENTS**
  Withstands intensive cleaning cycles with high-pressure, high-temperature water jets
- **CERTIFIED CONVEYOR CONTROL**
  UL 508A and CSA C22.2 No. 286-listed conveyor control system available upon request
- **INTEGRATED SAFETY FUNCTIONS**
  Includes Safe Torque Off (STO) compliant with EN ISO 13849-1, and ejector de-energization up to PL c (PL d available on request)

CEIA solutions allows food producers to **minimize waste, reduce downtime, enhance detection accuracy, and streamline compliance, delivering consistent, traceable product quality.**

BUILT-IN AUTO- QC FUNCTION

Automated Calibration Check with Exceptional Accuracy.

The THS/210®-MBH9 features a **Built-In Auto-QC Function**, a factory-calibrated verification system that simulates the transit of test spheres (ferrous, non-ferrous, and stainless steel) through the detector aperture. This function allows food producers to **automatically verify the calibration** of the metal detector without interrupting production or requiring manual test passes.

Auto-QC is based on a high-precision, internally generated stimulus that reproduces the exact signals acquired during certified test transits at the centre of the detection aperture—where sensitivity is at its minimum. This signal simulation is validated across the full operating frequency range of the metal detector, ensuring **high repeatability** and **exceptional detection reliability**.

While not intended to replace third-party calibration audits, Auto-QC is designed to eliminate the need for daily manual verification tasks typically performed by Quality Assurance personnel. The result: **significant time savings, reduced labour costs, and improved process efficiency**.

In addition, users can define a **custom balance** between manual and automated calibration checks, allowing for tailored compliance procedures based on internal protocols and audit requirements.

With Auto-QC, even **minimal deviations in detection performance are identified in real time**, supporting the highest standards of food safety and production control.

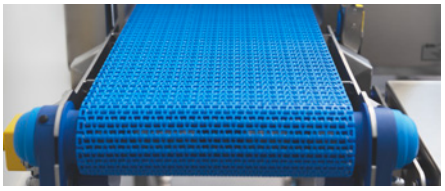
EXCLUSIVE **AUTO-LEARN SYSTEM**

Fast, High-Precision Setup for Maximum Metal Sensitivity

- The CEIA Multi- Spectrum **AUTO-LEARN** system for food products delivers **maximum sensitivity to all metal types**—ferrous, non-ferrous, and stainless steel—**starting from a single product transit**.
- Thanks to advanced signal processing and multi-spectrum analysis, the system automatically optimizes detection parameters with a level of **precision equivalent to hundreds of conventional learning cycles**. This results in an **unprecedented level of setup efficiency and calibration accuracy**, enabling faster line start-up and consistently high detection performance.

THS/210-MBH9 KEY COMPONENTS

MODULAR BELT ON REMOVABLE WEARSTRIPS



SYNCHRONIZATION PHOTOCELL*

EJECTOR (PUSHER OR AIR BLOW)

MULTICOLORS LAMP AND SOUNDER

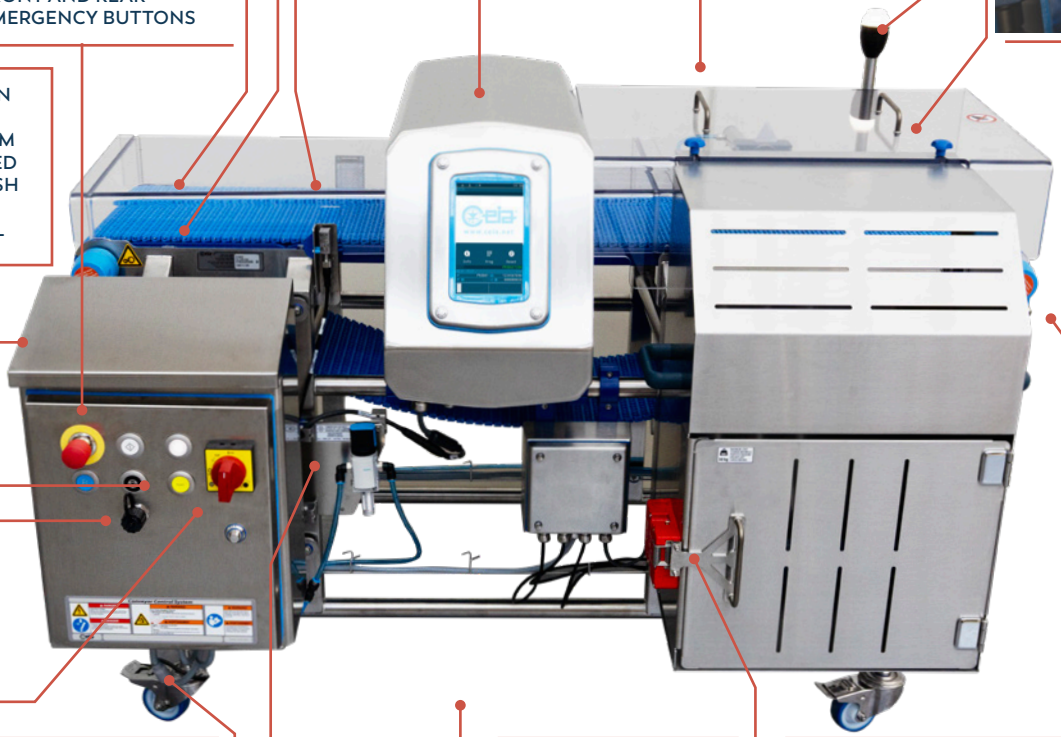
FAIL SAFE TEST SHUTTER (OPTIONAL)

THS/210 METAL DETECTOR

COMMAND BUTTONS

FRONT AND REAR EMERGENCY BUTTONS

HYGIENIC DESIGN CONVEYOR CONTROL SYSTEM WITH INTEGRATED EMERGENCY PUSH BUTTON AND STAINLESS STEEL CABLE GLANDS



USB PORT

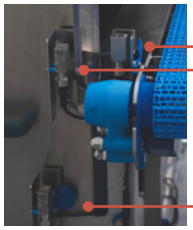
MAIN DISCONNECT SWITCH

HYGIENIC DESIGN LOCKABLE CASTORS (OPTIONAL)

ROUND FRAME CONSTRUCTION

REMOTE MANUAL CONTROL VALVE

IP 69K ELECTRIC BIN LOCK (OPTIONAL)



EJECTION CHECK PHOTOCELL*

EJECTION CONFIRMATION PHOTOCELL*

BIN FULL PHOTOCELL*

*Optionally equipped with fail-safe test shutter

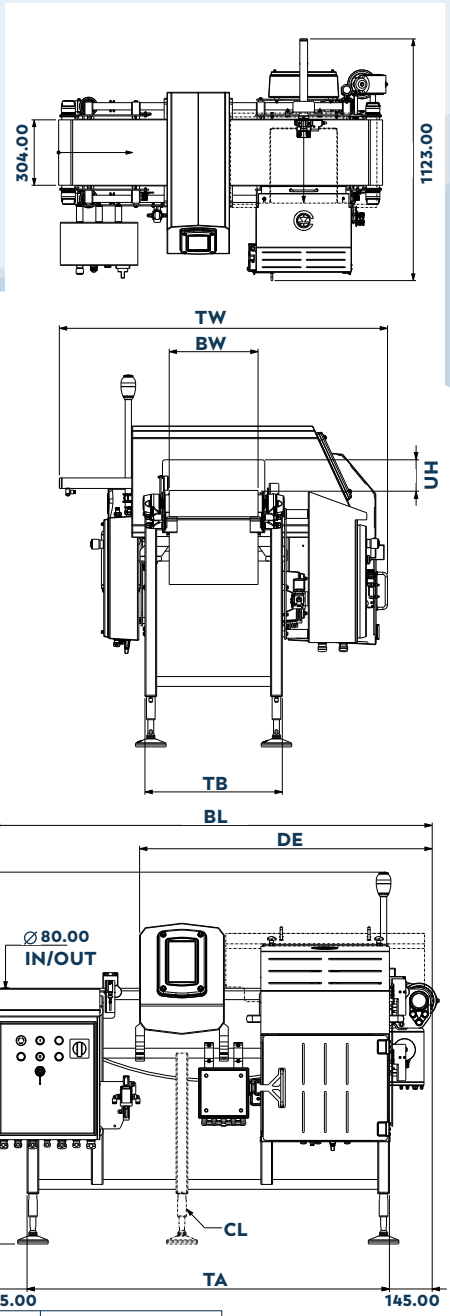
Choose your preferences and fill in the appropriate spaces to configure the device

MODEL	CONVEYOR LENGTH [mm]	BELT WIDTH [mm]	USEFUL TUNNEL HEIGHT [mm]	EJECTION TYPE	SYSTEM LAYOUT	ELECTRICAL STANDARD	CONVEYOR SUPPORTS	ENTRANCE COVER	PRODUCT GUIDES	ELECTRIC BIN LOCK	FAIL SAFE TEST SHUTTER
THS/210-MBH5 -	**15**: 1500	**30**: 300	**040**: 40	**B**: belt stop	**L1**: left-right; rear-front	**CE**: CE	**F**: feet	**0**: NO	**0**: NO	**0**: NO	**0**: NO
	18:1800	**45**: 450	**065**: 65	**P**: pusher *(4kg product weight max)*	**R1**: right-left; rear-front	**U1**: UL (115V)	**C**: castors	**1**: YES	**1**: YES	**1**: YES	**1**: YES
		60: 600	**090**: 90	**A**: air blow *(1kg product weight max)*	**L2**: left-right; front-rear	**U2**: UL (230V)					
			115: 115		**R2**: right-left; front-rear						
			140: 140								
			165: 165								
			190: 190								
			215: 215								
			240: 240								

Scan me to see your configuration

TECHNICAL SPECIFICATIONS

Metal Detector technology	Advanced Multi-Spectrum (highest Sensitivity for dry and wet product)
Human Machine Interface	7'' graphic color display with rugged touchscreen
Useful tunnel heights [mm]	40, 65, 90, 115, 140, 165, 190, 215 or 240
Conveyor lenghts [mm]	1500 or 1800
Conveyor belt width [mm]	300, 450 or 600
Conveyor height [mm]	875 ± 75
Ejection types	Belt stop, pusher or air blow
Conveyor supports	Feet or castors
Conveyor speed	14 ÷ 54 m/min (adjustable)
Safety functions	- Safe Torque Off (STO) with Performance level (PL*) d - Ejector de-energization with Performance level (PL*) c ** according to EN ISO 13849-1*
Outputs	7 solid state relays
Inputs	14 (3 opto-isolated)
Communication interfaces	- Gigabit ethernet; USB; Wifi; RS232; BT Wireless - Fieldbus interface (optional): EtherNet/IP; Profibus, Profinet; Modbus; OPC/UA; EtherCAT - Integrated tool Remote Assistance Service
Construction and materials	- Modular belt (blue color) and wearstrips (removable without tools) in FDA approved plastic - Round frame easy-clean design in AISI316L - Bearings in hygienic design housing - Reject bin fully in AISI316L - Motor, pusher and sensors in stainless steel hygienic design housing - Electric equipment enclosed in hygienic design enclosures - Pneumatic equipment enclosed in hygienic design enclosure - Adjustable supports in stainless steel hygienic design - Stainless steel cable trays
Product max. weight	Single pack: 1 kg (maximum weight with air blow ejector)* Single pack: 4 kg (maximum weight with pusher)* Total, packs distributed on belt: 40Kg* ** it may differ depending on product characteristics*
Product max. width and lenght	L: 350 mm W: 250 mm (with rigid packaging)
Operating temperature	-10°÷55° C (14°÷122° F)
Protection rating	IP69K. Conveyor Control System (UL version): Type 4X
Power Supply	100÷120 Vac or 200÷240 Vac (single phase, 50/60 Hz)
Certifications	CE; Conveyor Control System (UL version) listed according to UL508A and CSA22.2#286.



MODEL	BL	BW	BH		TA	TB	TW		DE	
			feet	castors			piston	air blow	UH≤140	UH≥165
THS/210-MBH9-15-30	1500	300	875±33	950±33	1240	470	1130	1010	1000	1050
THS/210-MBH9-15-45		450				620	1430	1160		
THS/210-MBH9-15-60		600				770	1730	1310		
THS/210-MBH9-18-30	1800	300	875±33	950±33	1540	470	1130	1010	1300	1350
THS/210-MBH9-18-45		450				620	1430	1160		
THS/210-MBH9-18-60		600				770	1730	1310		
Dimensions in mm										

(1) *Applicable only for lenght BL=1800 mm*

HEAT AND CONTROL, INC. - 21121 Cabot Blvd. Hayward, CA 94545
1 800 227 5980 • 1 510 259 0500 info@heatandcontrol.com
www.heatandcontrol.com