




# THS/FFV21 SERIES

## Quality Control at its finest



**FREE-FALL INTEGRATED SYSTEM WITH METAL DETECTOR AND EJECTION VALVE**

### FEATURES

- State-of-the Art Quality Control of powder and granular products
- Detection and ejection of magnetic, non-magnetic and stainless steel metal contaminants
- Fast detection and rejection speed
- Fail-Safe Operations
- Structure and components in AISI 316L Stainless Steel and food-compatible plastics [EU, FDA compliant]
- Very compact size
- ATEX version available 



THS/FFV21

Very high sensitivity.  
Multi-Spectrum technology available.



**HEAT AND CONTROL**

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Heat and Control reserves the right to make changes, at any moment and without notice, to the models, their accessories and options, to the prices and conditions of sale.



**CEIA THS/FFV21 Integrated System** is especially designed for the inspection of granular and powder products and the elimination of any contaminating metals, whether magnetic, non-magnetic or stainless-steel.

**INTEGRATED SYSTEM FOR GRAVITY FEED**

The carefully selected materials used in construction of the THS/FFV21 Integrated System do not interact with food products, and thus do not modify or alter their composition. The design of the system incorporates a fast reject valve drive response time to detect and reject the contaminant without slowing down the product flow.

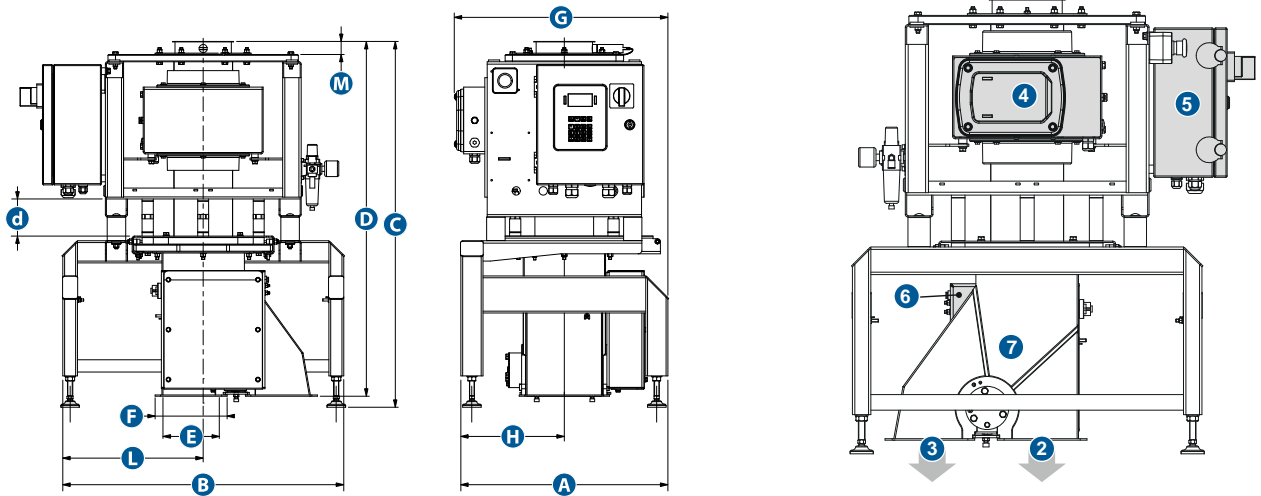
The construction guarantees quick, easy cleaning of the components that are in contact with the product. The technological choices made by CEIA allow the parts in contact with the product to be disassembled and maintained in a short time. The system operates in fail-safe mode, thus avoiding the risk of contaminants passing through even when the system is deactivated or when the electrical power supply is interrupted.

**MULTI-SPECTRUM TECHNOLOGY**

Exclusively developed by CEIA, this is a unique metal detection technology that both optimizes sensitivity to all metal contaminants and minimizes product effect in a very wide range of possible products. By recognizing the different frequency response of conductive products and metals, this innovative technology cancels product effect and maintains high performance levels for all types of metal contaminants, both magnetic and non-magnetic.

The autolearn function used by CEIA Multi-Spectrum metal detectors equates to the repetition of hundreds of conventional transits. It explores the whole spectrum of available frequencies in order to determine the best operating conditions resulting in unique detection performance.

**THS/FFV21ES and THS/FFV21S models**



MODEL		A	B	C	D	d	E	F	G	H	M
THS/FFV21xS-75	Standard	19.9"	26"	33.7" to 35.7"	32.5"	4"	2.9" x 4.6"	4.2" x 6"	21"	10.8"	1.3"
	With Reduction Kit			30.2" to 22.9"	29"	0.4"					
THS/FFV21xS-100	Standard	19.9"	26"	33.4" to 35.4"	32.2"	4"	2.9" x 4.6"	4.2" x 6"	21"	10.8"	1"
	With Reduction Kit			29.9" to 33.2"	28.7"	0.4"					
THS/FFV21xS-150	Standard	22"	30"	39" to 40.5"	37.8"	4"	6.1" x 8"	7.7" x 9.6"	22.8"	15"	1.4"
	With Reduction Kit			35.4" to 38.4"	34.3"	0.4"					
THS/FFV21xS-200	Standard	22"	30"	40.5" to 42.1"	39.4"	4"	6.1" x 8"	7.7" x 9.6"	24.4"	15"	1.4"
	With Reduction Kit			37" to 40"	35.8"	0.4"					

1	Product to be inspected	
2	Uncontaminated product	On request, the two output exits can be provided rotated by 180°
3	Contaminated product	
4	Metal Detector Probe	
5	Power Supply box with Control Panel	
6	Ejection valve activation system	
7	Ejection valve	

## THS/FFV21 ATEX series



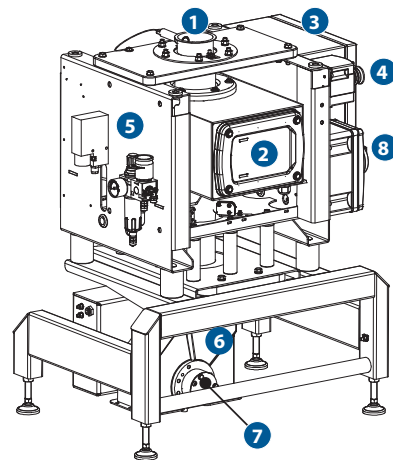
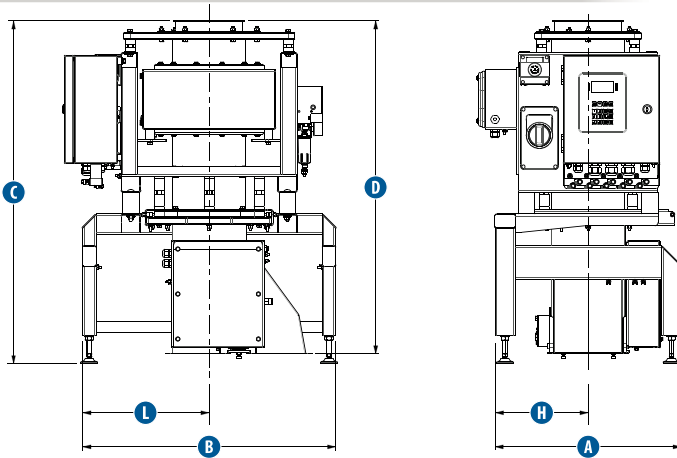
### THS/FFV21 ATEX COMPLIANCE

- Compliant with ATEX Directive 2014/34/UE “on equipment and protective systems intended for use in potentially explosive atmospheres”
- IP66/69K protection rating (control power box and detector)
- Classified as Group II, Category 1/2D equipment

LOCAL AND ADVANCED CONNECTIVITY (optional)



### THS/FFV21-ATEX model



MODEL	A	B	C	D	H	L
THS/FFV21-75S-ATEX	19.9"	26"	33.7" to 35.7"	32.5"	10.8"	13"
THS/FFVMS21-75S-ATEX						
THS/FFV21-100S-ATEX						
THS/FFVMS21-100S-ATEX	22"	30"	33.4" to 35.4"	32.2"	11"	15"
THS/FFV21-150S-ATEX						
THS/FFVMS21-150S-ATEX						
THS/FFV21-200S-ATEX	20.7"	27"	39" to 42"	37.8"	11"	15"
THS/FFVMS21-200S-ATEX			40.5" to 43.5"			
THS/FFV21-100x40S-ATEX	20.7"	27"	31.4" to 34.8"	30.2"	11.3"	13.5"

It is available, on request, a compact version that reduce the C and D dimensions by 3.6"

1	Infeed flange for material to be inspected
2	Metal Detector probe
3	Power supply and control unit
4	Emergency pushbutton
5	Compressed air group
6	Ejection valve (deviator)
7	Valve actioning group
8	Main switch

## THS/FFV21 SERIES SPECIFICATIONS



### SPECIAL FEATURES

	THS/FFV21E	THS/FFV21	THS/FFV21-ATEX
Detection sensitivity	High	Ultra High	
Immunity to environmental interference	High	High	
Data display type	Alphanumeric OLED 4x20 characters	High-contrast graphical OLED 128x64 pixels	
Local programming	4 keys, 3 with double function	16 keys, 3 with double function	
Construction compliant with 21 CFR Parts 210 and 211			
Inspected/contaminated product counter			
Autolearn and automatic tracking of the product effect			
ISO 9001 certified manufacturer			

### DATA MANAGEMENT

Management of electronic production data and electronic signatures as per CFR 21, Part 11	Data security
	Data integrity
	Data traceability

### I/O INTERFACES

RS232, Auxiliary RS232, Bluetooth, Ethernet interface (on request), WI-FI and USB (on request)
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### SIGNALLING

Acoustic	Via internal buzzer
Optical	Graphic display with bar-graph indication
	Light indicators on control unit: RED: Alarm or Fault / GREEN: Power on

### PROGRAMMING

LOCAL: built-in keyboard and high-contrast display
REMOTE: through computer connected via Bluetooth, RS232, Ethernet or WiFi and managed with CEIA MD Scope software, THS Production Plus software or any other terminal emulation program or through Web Server (with optional IXC card)

### SAFETY AND SECURITY

Protection degree	THS/FFV21E	IP65
	THS/FFV21	IP66 – IP69K (control power box)
		IP65 (all other components)
	THS/FFV21-ATEX	IP66 – IP69K (control power box and detector)
		IP65 (all other components)
Electrical insulation	Galvanic isolation of the mains voltage	
	Compliant with international standards for safety and radio interference	
Pollution degree (IEC61010-1)	Class 2	
Installation category (IEC61010-1)	Category II	

### SUPPLY

Control Power Box	Main voltage	100-240 VAC
	Frequency and phase	50/60 Hz - single phase
	Full load current (FLA)	2.2 A
Compressed air	Pressure	0,6 ÷ 1 Mpa
		THS/FFV21-ATEX: 0,6 ÷ 0,8 Mpa
	Flow	100 l/min
		THS/FFV21-ATEX: 600 l/min

### ENVIRONMENTAL CONDITIONS

Temperature	Operating	14°F to 131°F (-10 to +55 °C)
		THS/FFV21-ATEX: 32°F to 104°F (0 to +40 °C)
	Storage	-40°F to 158°F (-40 to +70 °C)
		THS/FFV21-ATEX: -13°F to 58°F (-25 to +70 °C)
Relative humidity	Operating / Storage	5 – 90 %, non-condensing

### PRODUCT CONDITIONS

Maximum temperature	Product in transit	158°F (70°C)
		THS/FFV21-ATEX: 104°F (40 °C)
Maximum allowed pressure	Internal pressure	The ejection valve is suitable for plants with differences in pressure of 0.1 bar maximum respect to the external pressure or the other internal sections



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