

Rectangular tunnel metal detector with integrated evaluation electronics for installation in conveyor belts

Technical data sheet

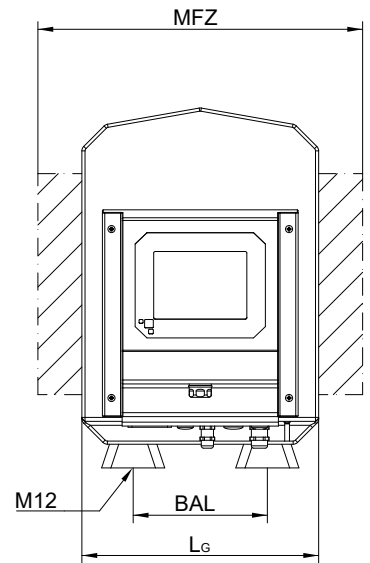
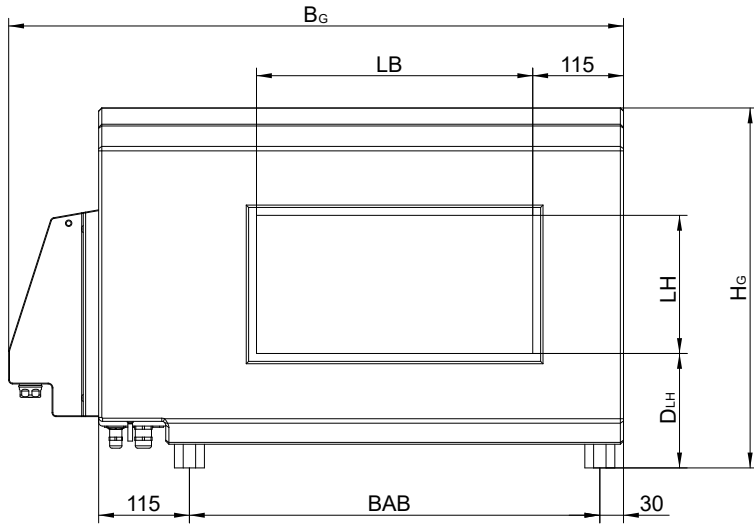
Version 12/22



DIMENSIONS

LB Opening width
 LH Opening height
 B_G Total coil width
 H_G Total coil height
 L_G Total coil length
 D_{LH} Distance of tunnel level to fastening level

ABB Number of mounting holes
 BAL Mounting distance in length
 BAB Mounting distance in width
 MFZ 1 Metal-free zone for non-moving metals
 MFZ 2 Metal-free zone for moving metals



All dimensions in mm

LB	LH	B _G	H _G	L _G	D _{LH}	ABB ¹⁾	BAL	BAB	MFZ ₁	MFZ ₂	Weight ²⁾ [kg]
200	125	629	385	260	145	4	130	370	390	700	60
250	100	679	360	260	145	4	130	420	360	610	62
250	150	679	410	260	145	4	130	420	410	790	68
250	200	679	460	300	145	4	170	420	500	1,000	85
300	150	729	410	260	145	4	130	470	410	790	75
300	200	729	460	300	145	4	170	470	500	1,000	87
350	125	779	385	260	145	4	130	520	390	700	80
350	150	779	410	260	145	4	130	520	410	790	85
350	175	779	435	300	145	4	170	520	480	910	95
350	200	779	460	300	145	4	170	520	500	1,000	98
350	250	779	510	350	145	6	220	520	600	1230	115
400	150	829	410	260	145	4	130	570	410	790	90
400	200	829	460	300	145	4	170	570	500	1,000	100
400	250	829	510	350	145	6	220	570	600	1230	120
450	150	879	410	260	145	4	130	620	410	790	92
450	200	879	460	300	145	4	170	620	500	1,000	110
500	200	929	460	300	145	4	170	670	500	1,000	116
500	250	929	510	350	145	6	220	670	600	1230	145
500	300	929	560	400	145	6	230	670	700	1450	165
550	300	979	560	400	145	6	230	720	700	1450	180
550	350	979	610	450	145	6	280	720	800	1680	187
600	300	1029	560	400	145	6	230	770	700	1450	185
700	250	1129	510	350	145	6	220	870	600	1230	170
700	300	1129	560	400	145	6	230	870	700	1450	200

¹⁾ Total number of mounting holes

²⁾ The information may vary depending on the version and options

Further sizes available upon demand

METAL-FREE ZONES (MFZ)

The metal detector must be positioned centrally within the MFZ.

Important: The determined MFZ only serves as a guide!

Non-moving metals (MFZ1, static):

are, for example, conveyor belt frames or mounting elements.

Moving metals (MFZ2, dynamic):

are deflection and drive rollers, cross bars parallel to the detector width or, for example, the axis of a separating pusher system. Swivel arms, machines or machine parts which change their distance from the metal detector or move in the area of the tunnel opening also belong to this group.

Formulae for determining the metal-free zones:

$$\text{MFZ 1} = L_G + L_H$$

$$\text{MFZ 2} = L_G + 3.5 L_H$$

DETECTION ACCURACY

The sensitivity depends on the opening size of the metal detector, physical properties and variants of your product as well as climatic and mechanical environmental conditions such as temperature, humidity, air movement and vibrations.

We are happy to determine the actual product sensitivities in our in-house technical center taking these factors into account. In addition, our equipment enables the adaptation of your production-relevant conveying speed to produce conditions that are as practical as possible.

We deliver the reproducible and achievable sensitivities for your product (spherical diameter in mm) in the form of a sensitivity protocol.

Furthermore, we will inform you personally about further effects in metal detection.

Please contact our sales department sales@mesutronic.de

TECHNICAL SPECIFICATIONS

Device type	METRON 07 CI	
Housing material:	Stainless steel 1.4301 (AISI 304), sandblasted	
Sensor surface material:	Polypropylen (PP) for explosion-protection version: HPL	
Protection class:	IP 66 for explosion-protection version: IP 65	
Ambient temperature:	- 10 °C to + 50 °C	
Storage temperature:	- 10 °C to + 60 °C	
Relative humidity range:	0 to 95% (without water condensation) at specified ambient temperature	
Operating voltage:	100 to 240 V AC, 50 to 60 Hz	
Device fuse protection:	1.25 A (slow-blow), 5 x 20 mm according to DIN	
Power consumption:	max. 75 W	
Power connection:	approx. 1.8 m cable with safety plug for explosion-protection version: clampable	
Conveying speed:	adjustable from 0.02 to 30 m/s	
Switching duration:	adjustable from 0.1 to 30 s	
Weight:	Variable depending on device dimensions	
Interfaces		
Ethernet	RJ45, TCP/IP, 100 Mbps e.g. for machine networking with Modbus TCP, WS Food, XML and much more.	
WLAN ¹⁾	802.11 b/g/n 2.4 GHz ISM, max. Transmission power < 100 mW	
USB interface	USB 2.0 type A (socket) e.g. for import / export of data backups or diagnostic information	
I/O ports	Standard version	Version CON ²⁾
Digital inputs <i>E.g. for entrance light barrier, ejection monitoring, pressure monitoring and much more.</i>	8x 24V DC	10x 24V DC
Digital outputs <i>E.g. for operating status, separation unit, conveyor control, detector test and much more.</i>	4x 24V DC max. 300mA ³⁾ ; 2x potential-free relay output max. 250V AC / 3A	6x 24V DC max. 300mA ³⁾ ; 2x potential-free relay changer max. 250V AC / 3A; 1x potential-free relay changer 24V AC / 32V DC / 1.5A
Analog output ¹⁾ <i>E.g. for continuously variable adjustment of the conveying speed.</i>	0-10V DC	

¹⁾ optionally available

²⁾ when ordering with autoTEST system/ retailer kit or on request

³⁾ Maximum current load of the outputs in total

STANDARD SCOPE OF DELIVERY

- Metal detector with integrated evaluation electronics and complex evaluation methods for different product types (basic phase, super phase and image phase) as well as self-monitoring functions
- Operating manual
- EU Declaration of Conformity
- Signal verification test specimen

VERSION

- Protection class IP 69K
- Explosion-protection version
- High Temperature version for high product temperatures
- HSD version (High sense dry) with tunnel extension, optimized for dry products (e.g. bag application)
- HSC version (High sense conductive) with protection class IP69K, optimized for conductive products (e.g. meat, sausage, sauces)

OPTIONS

- MultiMode 3F The use of three selectable detection frequencies allows the system to adjust autonomously to highly differentiating products with best detection performance.
- MultiMode WIDE The use of two selectable detection frequencies allows the user to adjust autonomously to highly differentiating products with best detection performance.
- autoTEST System Fully autonomous control system for performance validation of metal detection systems. Installed in a separate cabinet, including connection cable.
- Detached operating panel Operating panel and/or control unit is mountable in a separate housing (the length of the connection cable is selectable).
- WLAN module Wireless Ethernet access via access point integrated in the metal detector / separator.
- Stainless steel class A4 (AISI 316L)
- Housing colour Lacquering of the housing with a desired RAL colour.
- Supply voltage: 24 VDC
- UL/CSA certificate UL/CSA Compliance Certificate

ACCESSORIES

- Optical and acoustic signalling equipment Indicator light, alarm horn, flashing warning light with siren.
- External reset Hardware button or key switch for resetting the system after a metal or error message.
- Tunnel Extension Adapter Additional shielding in case of strong electromagnetic interference fields.
- Protective cover for display Use to protect the touch display from mechanical damage.
- Metal detector test specimen Test body for the validation of the detection power in conjunction with the Product, optionally with certificate.
- Automatic log export Software function for the automatic transfer of log files in CSV and/or PDF format via Ethernet TCP/IP on a network drive at defined time intervals.
- mesuREMOTE Maintenance Kit Remote maintenance solution for metal detectors and separators. Communication via Ethernet encrypted via Internet access server (2F authentication).
- mesuNET software For networking and central management of multiple devices.

