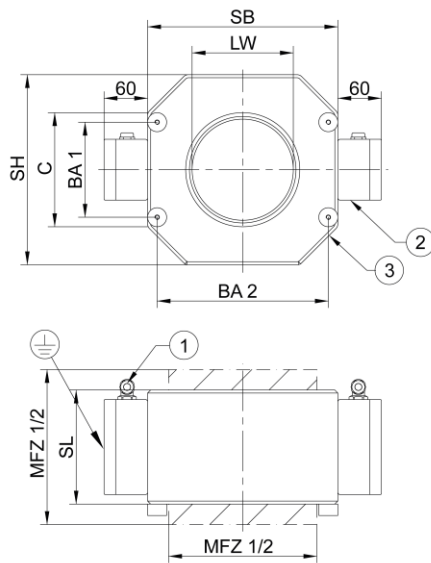
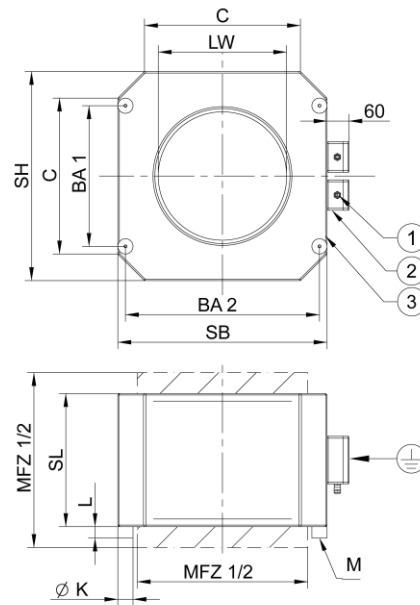


Dimensions – Vertical version


DN 55 – DN 150

DN 170 – DN 430

1. Connecting line
2. Terminal box
3. Detector

LW	SH = SB	C	SL	BA 1	BA 2	L	ØK	M	MFZ 1**	MFZ 2**	Weight, aluminium m [kg]*
55	150	90	125	125	175	15	25	4 x M6 – 7 deep	180	235	5
85	200	140	150	125	225	15	25	4 x M6 – 7 deep	235	320	9
100	200	140	150	125	225	15	25	4 x M6 – 7 deep	250	350	8
115	250	150	150	120	275	15	25	4 x M6 – 7 deep	260	370	11
130	250	150	150	120	275	15	25	4 x M6 – 7 deep	280	410	11
150	250	150	200	120	275	15	25	4 x M6 – 7 deep	350	500	13
170	300	200	200	175	325	15	25	4 x M6 – 7 deep	370	540	20
210	350	210	200	170	390	30	40	4 x M6 – 7 deep	410	620	23
235	400	260	250	220	440	30	40	4 x M8 – 7 deep	485	720	37
265	450	310	250	270	490	30	40	4 x M8 – 7 deep	515	780	46
300	500	360	300	320	540	30	40	4 x M8 – 7 deep	600	900	67
335	550	410	350	370	590	30	40	4 x M8 – 7 deep	685	1020	101
380	600	460	400	420	640	30	40	4 x M8 – 7 deep	780	1160	120
430	650	500	450	460	690	30	40	4 x M8 – 7 deep	880	1310	150

All dimensions in [mm]

* Weight without packaging (specified weight refers to aluminium version including standard equipment, the weight can vary depending on the material version)

** MFZ 1: Metal-free zone for non-moving metals = SL + LW; MFZ 2: Metal-free zone for moving metals = SL + 2xLW

Note: The area around the metal detector, the metal-free zone (MFZ), must be free of any metallic components. Detailed information can be found in the operating instructions under the chapter "Assembly guidelines".

Note: All earthing points, and in particular those indicated, must fall within the same earthing potential. Potential differences are not permitted.

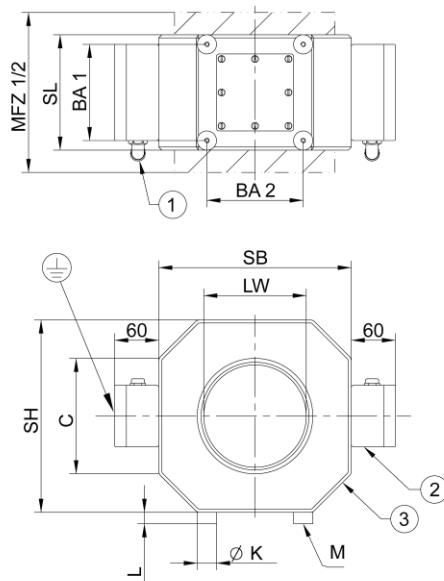
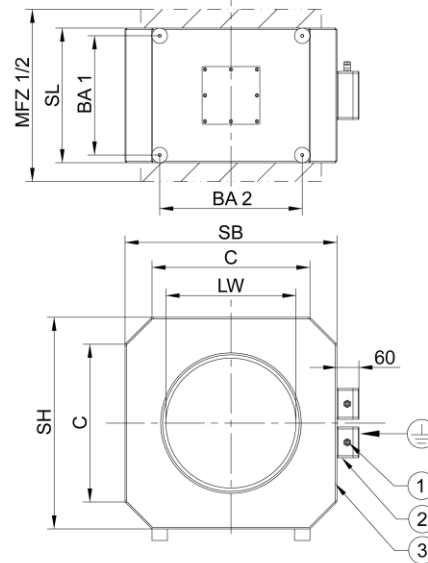
Version 001-01

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Dimensions


DN 55 – DN 150

DN 170 – DN 430

1. Connecting line
2. Terminal box
3. Detector

LW	SH = SB	C	SL	BA 1	BA 2	L	ØK	M	MFZ 1**	MFZ 2**	Weight, aluminium [kg]*
55	150	90	125	100	65	15	25	4 x M6 – 7 deep	180	235	5
85	200	140	150	125	115	15	25	4 x M6 – 7 deep	235	320	9
100	200	140	150	125	115	15	25	4 x M6 – 7 deep	250	350	8
115	250	150	150	125	125	15	25	4 x M6 – 7 deep	260	370	11
130	250	150	150	125	125	15	25	4 x M6 – 7 deep	280	410	11
150	250	150	200	175	125	15	25	4 x M6 – 7 deep	350	500	13
170	300	200	200	175	175	15	25	4 x M6 – 7 deep	370	540	20
210	350	210	200	160	170	30	40	4 x M6 – 7 deep	410	620	23
235	400	260	250	210	220	30	40	4 x M8 – 7 deep	485	720	37
265	450	310	250	210	270	30	40	4 x M8 – 7 deep	515	780	46
300	500	360	300	260	320	30	40	4 x M8 – 7 deep	600	900	67
335	550	410	350	310	370	30	40	4 x M8 – 7 deep	685	1020	101
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430	650	500	450	410	460	30	40	4 x M8 – 7 deep	880	1310	150

All dimensions in [mm]

* Weight without packaging (specified weight refers to aluminium version including standard equipment, the weight can vary depending on the material version)

** MFZ 1: Metal-free zone for non-moving metals = SL + LW; MFZ 2: Metal-free zone for moving metals = SL + 2xLW

Note: The area around the metal detector, the metal-free zone (MFZ), must be free of any metallic components. Detailed information can be found in the operating instructions under the chapter "Assembly guidelines".

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Product description

The **METRON CR** has been designed in accordance with the applicable explosion protection directives for use in areas with a risk of explosion with dust and/or gas atmospheres. The system facilitates safe and reliable metal separation in free-fall applications.

The device has been designed in accordance with the respective zone classification in the product contact area (inside) and the surrounding area (outside). In doing so, the required device categories for dust, e.g. Zone 20 (1D), Zone 21 (2D), or Zone 22 (3D) as well as, depending on the application, for gas, e.g. Zone 2 (3G), have been taken into account.

The following information applies to the European ATEX version. Country-specific versions and approvals, e.g. in accordance with IECEx or NEC/CEC, must be coordinated with MESUTRONIC.

Areas of application

The METRON CR is designed for applications in the **food** and **industrial** sectors.

Food	Suitable for applications in the food industry.
Industrial	For applications in the plastics, chemical, pharmaceutical and recycling industries, as well as in other industrial sectors with comparable products and requirements.
Hygienic requirement	The sensing tube must be provided by the customer. The customer must ensure that the sensing tube meets the technical production and hygiene requirements.

Bulk material classification

Product shape	Powder, fine-grained bulk materials, granulate, flakes, etc.
Grain size max. in mm	Depending on the nominal width of the sensing tube
Properties of the bulk material	Dry, moist, possible product effect (Intrinsic conductivity of the product) can be compensated for
Flowability	Good, medium, bad
Type of material flow	- Free-fall applications - Vertical installation - Pneumatic conveying lines - Vertical and horizontal installation - Pump lines - Vertical and horizontal installation
Ignition energy of the product	> 3 mJ
Maximum media temperature	+ 60°C

Ambient conditions

Installation type	Vertical and horizontal installation
Ambient temperature	-10°C to +50°C
Storage / transport conditions	-10°C to +60°C
Relative humidity	0% to 95% (without condensation)
Dust deposits	> 5 mm not permitted

Equipment & specifications

Electronics version	AMD 05: Zone 21 (2D) Zone 22 (3D) Zone 2 (3G)
Operator interface	Graphic display with membrane keypad, keypad - Zone 2 (3G) non-standard version
Operating unit - Assembly type	Separated (min. 2m)
Detector coil	Stainless steel (AISI 304), sandblasted
Electronics housing	Stainless steel (AISI 304), sandblasted <i>Optional: Painted steel (RAL 3027) – outside EX</i>
Protection class of coil housing	IP 65
Parts in contact with the product	The customer must ensure that the sensing tube meets the production criteria.
Device connection	The device connections must be made by the customer.

Detection accuracy

NWØ	FE Ø	Non-FE Ø	AISI 304 Ø
55	0.40	0.40	0.60
85	0.50	0.50	0.80
100	0.60	0.60	1.00
115	0.70	0.64	1.00
130	0.70	0.64	1.00
150	0.70	0.80	1.00
170	0.80	0.80	1.20
210	1.00	1.00	1.50
235	1.00	1.20	1.50
265	1.20	1.50	1.50
300	1.20	1.50	1.75
335	1.50	1.50	1.75
380	1.75	1.75	2.00
430	1.75	2.00	2.50

All dimensions in [mm]

The specified sensitivities (ball Ø in mm) are based on factory settings and were determined under simulated production conditions in the centre of the passage opening. They refer to typical products according to the bulk materials classification and serve as a guide. The actual detection performance depends on the selected frequency as well as on product properties such as shape, conductivity and flow properties. An individual assessment is required for deviating product or process conditions.

Explosion protection

The following overview shows the available combinations of ATEX zones and equipment markings.

Dust EX

Combination	Description	Marking*
Zone 20 / 21	Zone 20 inside (product area, inside) Zone 21 outside (surrounding area, outside)	II 1 D Ex h IIIC T135°C Da II 2 D Ex tb IIIC T135°C Db IP65**
Zone 20 / 22	Zone 20 inside (product area, inside) Zone 22 outside (product area, outside)	II 1 D Ex h IIIC T135°C Da II 3 D Ex tc IIIC T135°C Dc IP65
Zone 21 / 21	Zone 21 inside (product area, inside) Zone 21 outside (product area, outside)	II 2 D Ex h IIIC T135°C Db II 2 D Ex tb IIIC T135°C Db IP65**
Zone 21 / 22	Zone 21 inside (product area, inside) Zone 22 outside (product area, outside)	II 2 D Ex h IIIC T135°C Db II 3 D Ex tc IIIC T135°C Dc IP65
Zone 22 / 22	Zone 22 inside (product area, inside) Zone 22 outside (product area, outside)	II 3 D Ex h IIIC T135°C Dc II 3 D Ex tc IIIC T135°C Dc IP65

Gas EX

Combination	Description	Marking*
Zone 2	Zone 2	II 3 G Ex nA IIB T4 Gc

* The marking describes the zone classification for the product contact area (inside) and the surrounding area (outside) in accordance with the ATEX Directive, as well as the device's constructive safety measures

** The maximum surface temperature can vary depending on the electronics used.

For versions designed for Zone 21 (outside), the respective marking on the rating plate is authoritative.

Technical notes:

General requirements:

- The device may only be used for its intended purpose.
- The operating manual and the specified servicing and maintenance conditions must be observed.
- Operation is only permissible within the specified Ex zones and usage conditions.
- The device is to be protected against non-permissible dust deposits, mechanical damage and direct UV radiation.
- All metallic components must be incorporated into the equipotential bonding system.
- Permissible temperature, voltage and ambient conditions.

Non-permissible applications:

- Modifications or conversions to the unit without manufacturer approval.
- Operation while bypassing or disabling safety devices.
- Operation outside the specified explosion protection, temperature or ambient conditions.
- Operation with damaged housings, components or protective devices.
- Use with non-approved products or applications

Note: Further safety-relevant requirements as well as detailed information on operation, installation, and maintenance can be found in the associated operating manual.

Standard scope of delivery

Metal detector and evaluation electronics

Operating manual with spare parts list

EU Declaration of Conformity:

- 2014/35/EU (Low Voltage Directive)
- 2014/30/EU (EMC Directive)
- 2011/65/EU (RoHS Directive)
- Delegated Directive (EU) 2015/863 (extension of the RoHS Directive)
- 2014/34/EU (ATEX Directive)

Conformity

Optionally available:

- Regulation (EC) No. 1935/2004 + FDA (Food and Drug Administration)
- NRTL certification (61010-1)
- IEC certification (61010-1)
- Test piece certificate
- ATEX Certificate of Conformity

Options

- Sampling tube made of plastic: Funnels, flanges - *customised*
- Detector mounting frame - regardless of zone

Accessories

- Test piece (FE Ø, Non-FE Ø, AISI 304 Ø) – regardless of zone
- mesuINSERT (test piece insertion station) – regardless of zone
- Signal combination for error status warning – outside the EX range
- mesuEXPORT (automatic protocol export) – outside the EX range
- mesuREMOTE (remote maintenance kit) – regardless of zone
- mesuLINK (networking software) – regardless of zone

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Note:

If you require further product information that goes beyond the content of this technical data sheet and in particular concerns a specific use and the application of this product, please contact us.