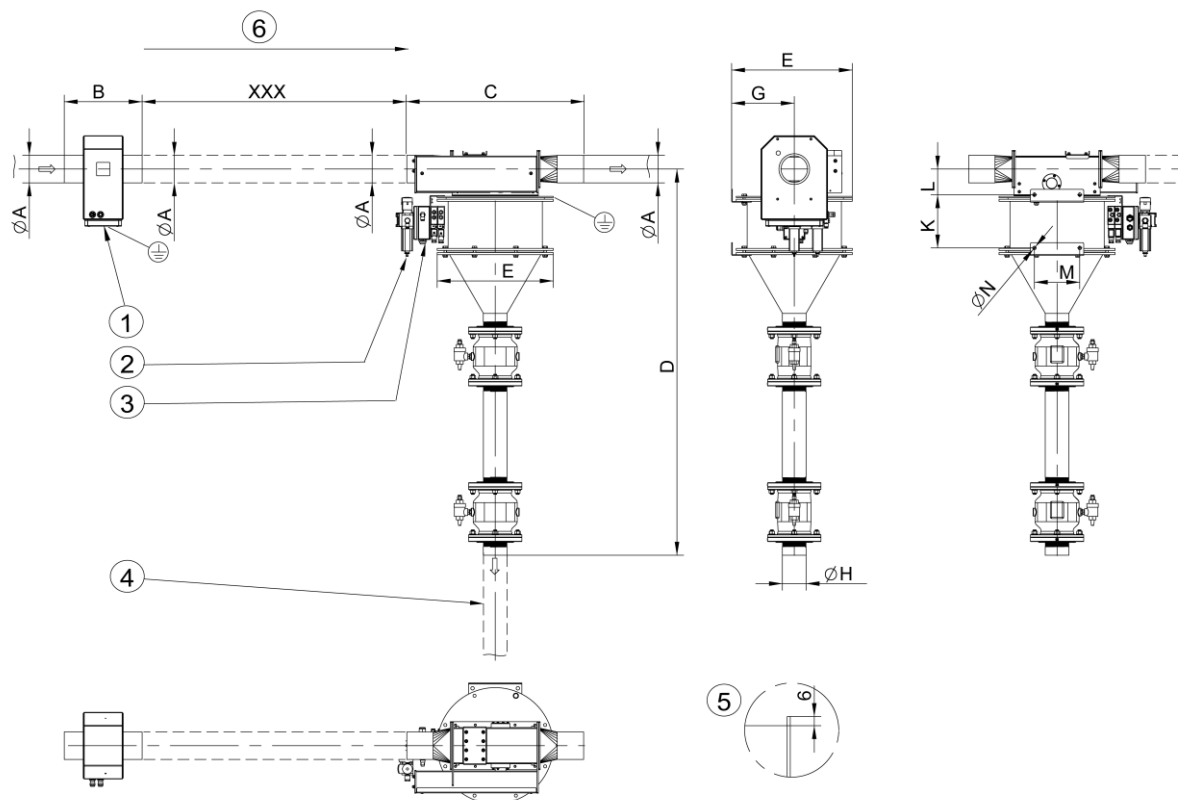


Dimensions



XXX: Distance [m] = conveying speed [m/s] x 0.05 [s]; (use multiplier 0.07 [s] from pipe diameter size 3)

- | | | | |
|---|------------|---|--|
| 1 | Detector | 4 | Rejects outlet |
| 2 | Pneumatics | 5 | Jacob system (with $\varnothing A$: 100, 120, 150 and 200 mm) |
| 3 | Monitoring | 6 | Conveying direction |

	$\varnothing A$	B	C	D	E	G	H	K	L	M	$\varnothing N$	Weight [kg]*
Size 1	38, 45, 50, 55, 60, 65	398	340	1286	350	175	60	187	90	160	11.5	70
Size 2	70, 75, 80, 89	480	430	1410	350	175	89	187	98	160	11.5	75
Size 3	100**120**	660/296/310	669	1447	453	235	89	200	96	170	13	100
Size 4	150**200**	380/450	1055/915	3040	690	345	200**	250	340	350	13	260

All dimensions in [mm]

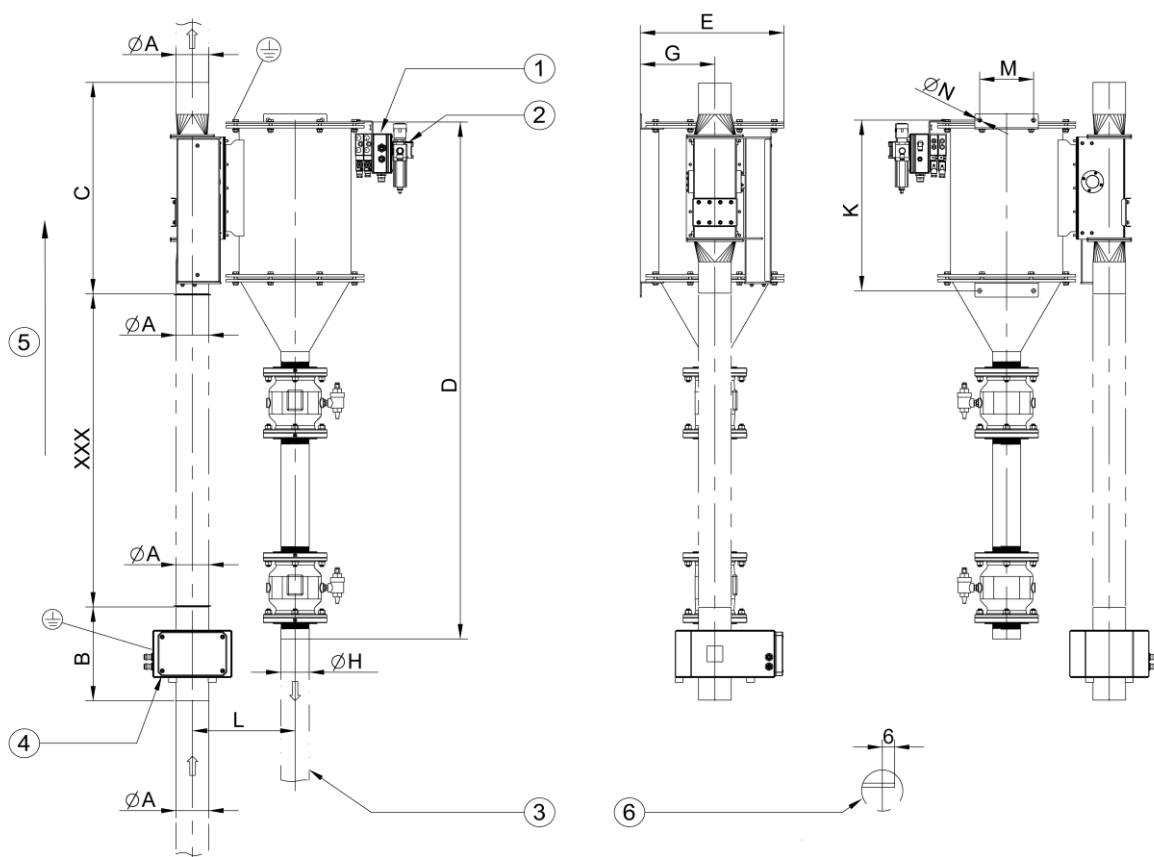
* Weight without packaging (the weight may vary depending on the material version)

** with Jacob system

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.

Dimensions – Vertical version (UP)



XXX: Distance [m] = conveying speed [m/s] x 0.05 [s]; (use multiplier 0.07 [s] from pipe diameter size 3)

- | | |
|-------------------|--|
| 1. Monitoring | 4. Detector |
| 2. Pneumatics | 5. Conveying direction |
| 3. Rejects outlet | 6. Jacob system (with Ø A: 100, 120, 150 and 200 mm) |

	Ø A	B	C	D	E	G	H	K	L	M	ØN	Weight [kg]*
Size 1	38, 45, 50, 55, 60, 65	398	340	1500	350	175	60	473	246	160	11.5	70
Size 2	70, 75, 80, 85	480	430	1620	350	175	89	473	250	160	11.5	75
Size 3	100**120**	660/296/310	669	1630	453	235	89	538	324	170	13	100
Size 4	150**200**	380/450	1055/915	2873	690	345	200**	250	520	350	13	260

All dimensions in [mm]

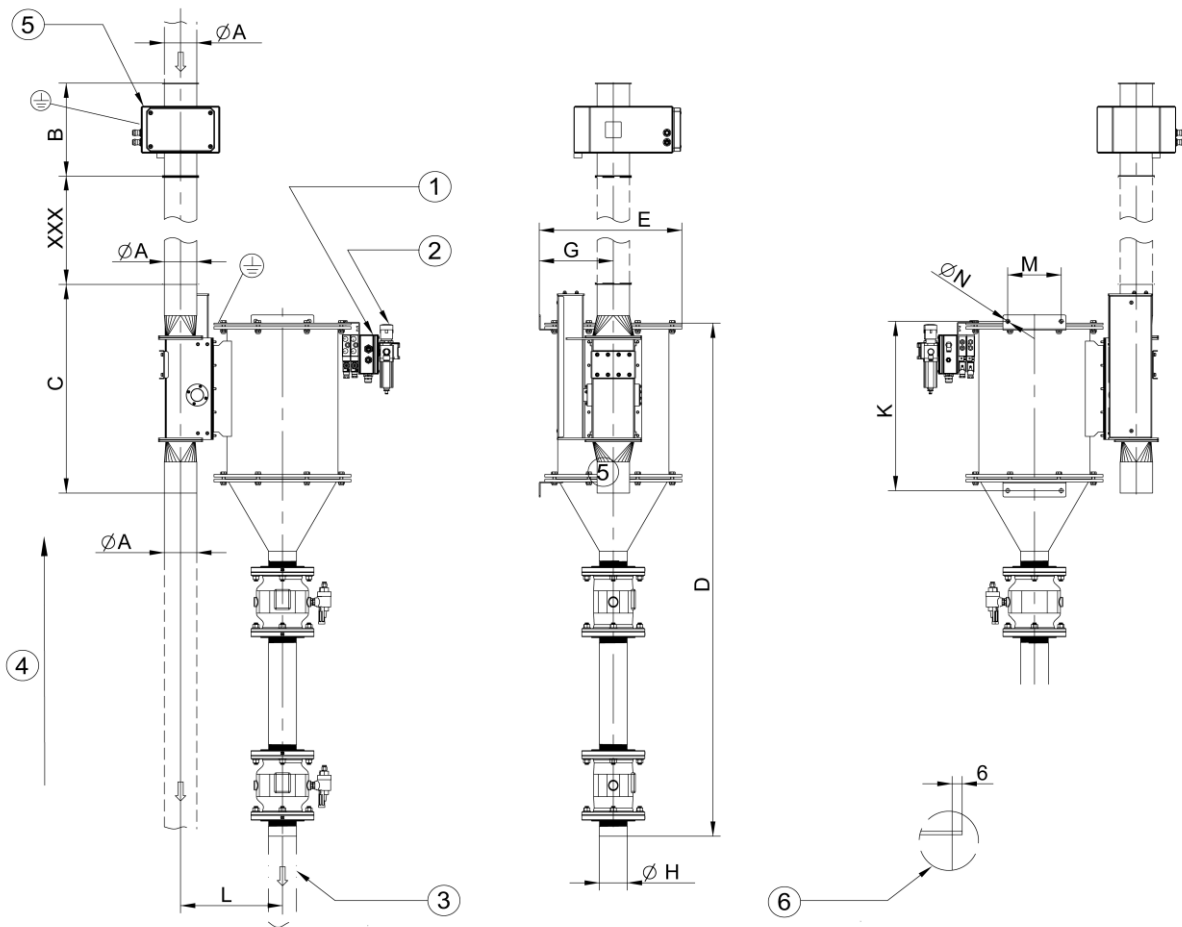
* Weight without packaging (the weight may vary depending on the material version)

** with Jacob system

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.

Dimensions – Vertical version (DOWN)



XXX: Distance [m] = conveying speed [m/s] x 0.05 [s]; (use multiplier 0.07 [s] from pipe diameter size 3)

- | | |
|-------------------|--|
| 1. Monitoring | 4. Conveying direction |
| 2. Pneumatics | 5. Detector |
| 3. Rejects outlet | 6. Jacob system (with Ø A: 100, 120, 150 and 200 mm) |

	Ø A	B	C	D	E	G	H	K	L	M	ØN	Weight [kg]*
Size 1	38, 45, 50, 55, 60, 65	398	340	1500	350	175	60	473	246	160	11.5	70
Size 2	70, 75, 80, 89	480	430	1620	350	175	89	473	250	160	11.5	75
Size 3	100**120**	660/296/310	669	1630	453	235	89	538	324	170	13	100
Size 4	150**200**	380/450	1055/915	2873	690	345	200**	250	520	350	13	260

All dimensions in [mm]

* Weight without packaging (the weight may vary depending on the material version)

** with Jacob system

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.

Product description

The **P-TRON GM PW EX** 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).

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 P-TRON GM PW is suitable for **food** and **non-food** applications.

Food

For applications in the food industry, e.g. for powder (P-version), ground spices, oat flakes, semolina, various types of grain and other products with comparable properties and requirements.

Non-food

For applications in the plastics, recycling and chemical industries, e.g. granulate, ground materials and powders, as well as in other industrial sectors with comparable products and requirements.

Hygienic requirements

Suitable for low to medium hygienic requirements.

Bulk material classification

Product shape	Granulate, round materials
(Optional) - Product shape P-version	Powder
Grain size	0.5 mm to 10 mm - <i>different specifications on request</i>
(Optional) - Product shape P-version	0 mm to 2 mm
Properties of the bulk material	Dry - <i>Different specifications on request</i>
Flowability	Good (not bridging)
Type of material flow	Discontinuous or continuous suction / pressure conveying (Air conveying)
Max. conveying speed	10 m/s to 30 m/s
Ignition energy of the product	> 5 mJ
Maximum media temperature	+60°C
Weight of the impact partner	max. 128 g

Ambient conditions

Installation type	Horizontal installation (Version-H): left/right right/left Vertical installation (Version-V): bottom/top top/bottom
Storage / transport conditions	-10°C to +60°C
Relative humidity	0% to 95% (without condensation)
Permissible pressure in the conveying line	Max. +/- 0.5 bar (relative pressure)
Dust deposits	> 5 mm not permitted

Equipment & specifications

Electronics version	AMD 05: Zone 21 (2D) Zone 22 (3D) AMD 07: Zone 21 (2D) Zone 22 (3D)
Operator interface	AMD 05: Graphic display with membrane keypad, keypad AMD 07: 5.7" Touch display
Operating unit - Assembly type	Separated (min. 2m)
Installation	-NW38 to NW120 without connecting pipe between detector coil and separation mechanism -NW150 to NW200 incl. connecting pipe between detector coil and separation mechanism – <i>mounting frame is recommended</i>
Detector coil	Stainless steel (AISI 304), sandblasted
Protection class of overall device	IP 65
Parts in contact with the product	Detector coil: Stainless steel (AISI 304), sandblasted Separation system: Stainless steel (AISI 304), sandblasted Sealing material: EPDM-EL (ethylene propylene diene rubber) Sensing tube material: PE-EL (polyethylene, electrically conductive) Pinch valve: -NW38 to NW65 POM-C-EL, natural rubber -NW70 to NW120 aluminium/stainless steel (AISI 316) L Rotary actuator with shut-off damper: -NWØ150 to NWØ200 stainless steel
Advanced system monitoring	Compressed air and separation mechanism – Zone 21 (2D) Zone 22 (3D)
Compressed air connection	Compressed air supply: min. 6 bar – max. 10 bar Compressed air maintenance unit incl. hose with plug nipple (7.2 mm)
Noise level	Max. 95 dB (A) during switching operation

Detection accuracy

NW Ø	FE Ø	Non-FE Ø	AISI 304 Ø
38 – 60 (PW 60)	0.4	0.4	0.8
65 – 80 (PW 80)	0.5	0.5	0.8
85 – 120 (PW 100)	0.6	0.6	1.2
85 – 120 (PW 120)	0.7	0.8	1.2
150 – 200 (PW 150)	0.9	1.0	1.5
150 – 200 (PW 200)	1.2	1.2	1.75

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

* 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.

Pneumatic components:

- Escaping exhaust air or leakages can stir up deposited dust and create potentially explosive atmospheres.
- The device must only be operated with compressed air.
- Compressed air must not be extracted from potentially explosive areas.
- To prevent electrostatic charges and potential differences, all metallic components must be incorporated into the equipotential bonding system.

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 separator (metal detector, separation unit, separation mechanism, evaluation electronics, connection and connection cable)

Separation mechanism with attached collecting container and pinch valves

Operating manual with spare parts list and wiring diagram

EU Declaration of Conformity:

- 2006/42/EC (Machinery 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)

Versions

- Version-P: Powder applications

Conformity

Optionally available:

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

Options

Optionally available for AMD 07:

- autoTEST System E (electrical) – suitable for dust zones 21 and Zone 22
- autoTEST System P (pneumatic) – suitable for dust zone 22

Accessories

- Test button (mounted on the electronics housing) – outside the EX range
- Signal combination for error status warning – outside the EX range
- mesuEXPORT (automatic protocol export) – regardless of zone
- 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.

Version: 001-01

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