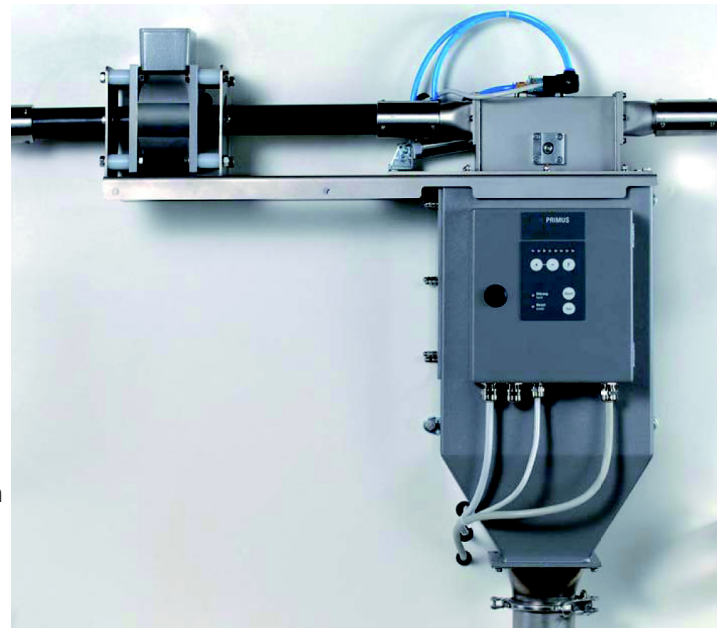


- Detects and separates magnetic and non magnetic metal contamination, even when enclosed in product
- Reduces costly tool and machinery damage and prevents machinery downtimes
- Ensures product quality
- Prevents customer complaints
- Breaks even within a short period of time
- Highest sensitivity for all metals with high noise immunity against vibrations and electric interface
- Separates metallic contaminants without disrupting production flow or reducing conveying speed
- Shuttle valve prevents leak of air in pipeline
- Assembling frame guarantees quick and easy installation; mounting position (vertical, horizontal)
- Stainless steel separation mechanics, junctions and separation flaps (1.4301)
- All units are pre-assembled for easy installation; Space-saving and compact design
- Minimal loss of good material through "Quick Flap" separation unit
- Easy operation of the control unit through pre-set parameters
- Product compensation with auto-teach function or manual setting. Product compensation can thus be individually matched to the product (in conventional systems this setting cannot be changed or can only be changed with great difficulties).



Function

Small metal particles in the plastic melting process often result in costly breakdowns of injection moulders, extruders and blow moulders. The quantity of such metal contaminants increases throughout the processing of regranulates and grinding stock. As a result, clogged nozzles, filters and hot channel systems can lead to production downtime and delayed delivery.

The metal separator PC PRIMUS is used in vacuum and pressure pipelines to protect injection moulders and converting machines.

It detects all magnetic and non-magnetic metal contaminants (steel, stainless steel, aluminium, etc.) – even when they are enclosed in the product. Metal contaminants are ejected via the "Quick-Flap" separation unit.

Scope of Delivery

- Metal separator PC PRIMUS with detection- and separation unit
- Collecting tray for reject material
- Control Unit PRIMUS

Accessories/Options

- Optical and audible signal
- Digital incident counter
- Air pressure monitoring
- Design for bulk material temperature of up to 140° C
- Adapter plate system
- UL/CSA Certificate

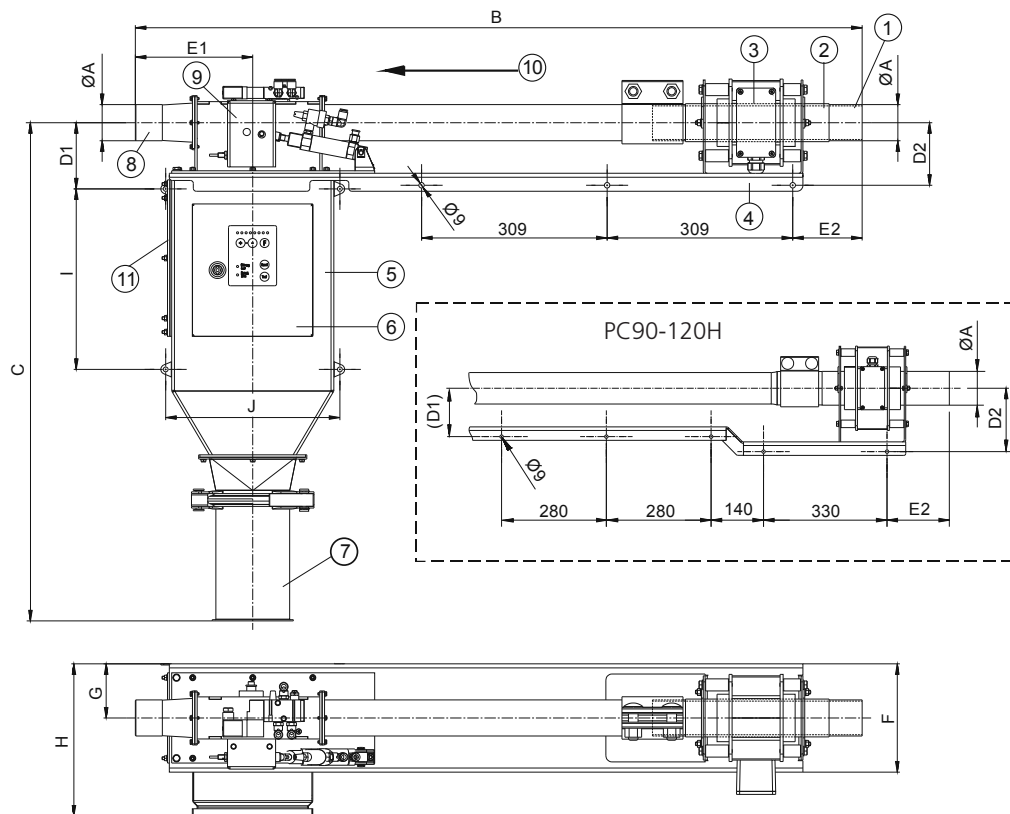
Application

- Tool and machinery protection for extruders, injection moulders and blow moulders

Typical Application Areas

- Plastics industry

PC40-120/H horizontal installation



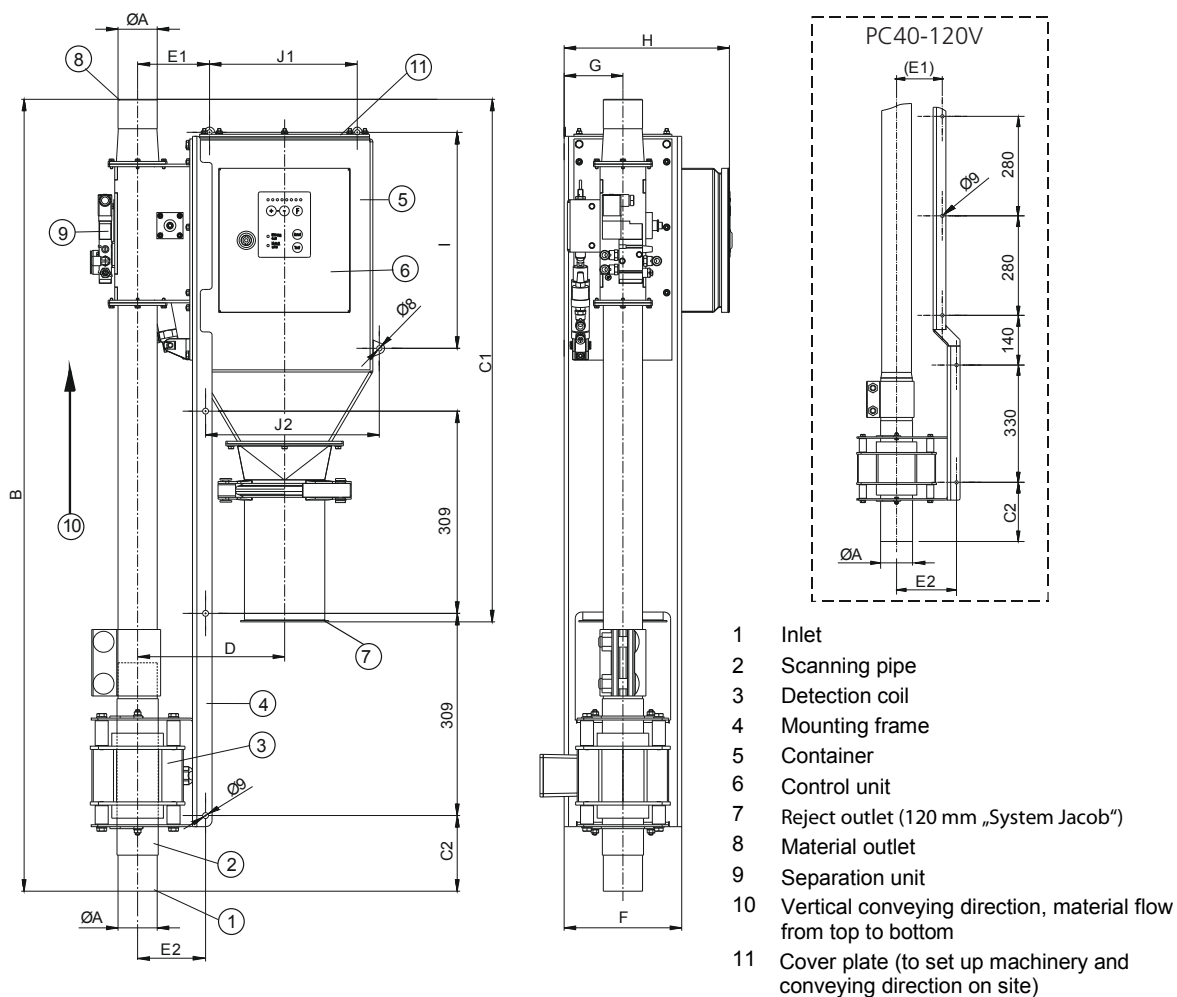
- | | |
|------------------|--|
| 1 Inlet | 7 Reject outlet (120 mm „System Jacob“) |
| 2 Scanning pipe | 8 Material outlet |
| 3 Detection coil | 9 Separation unit |
| 4 Mounting frame | 10 Conveying direction horizontal |
| 5 Container | 11 Cover plate (to set up machinery and conveying direction on site) |
| 6 Control unit | |

Type	PC40/H	PC50/H	PC60/H	PC70/H	PC90/H	PC100/H	PC120/H
Inlet and outlet pipe diameter Ø A	40 x 3.7	50 x 4.6	60 x 2.1	70 x 1.8	90 x 5	100 x 2	120 x 2
Effective ID of inlet pipe	32.6	40.8	55.8	66.4	80.0	96	100
B	1156	1196	1210	1266	1880	2200	2084
C	818	823	828	831	1153	1185.5	1185.5
D1/ D2	100 / 100	105 / 105	110 / 110	113 / 113	129 / 169	161.5 / 201.5	161.5 / 201.5
E1/ E2	187.5 / 69.5	195.5 / 101.5	195.5 / 115.5	227.5 / 139.5	282.5 / 166.5	384 / 285	384 / 219
F	180	180	180	180	256	256	256
G	90	90	90	90	128	128	128
H	253	253	253	253	329	329	329
I/J	300 / 290	300 / 290	300 / 290	300 / 290	530 / 530	530 / 530	530 / 530
Maximum scanning sensitivity¹⁾ Ø Fe-ball:							
at V = 10 m/sec	0.50	0.50	0.62	0.70	0.88	1.12	1.19
at V = 20 m/sec	0.61	0.61	0.77	0.86	1.09	1.38	1.46
Weight (kg)	26.5	26.5	26.5	27.5	34.0	36.5	43.0

¹⁾ The stated detection sensitivity (ferrous ball Ø in mm) applies for non-conductive products at the standard operation frequency and refers to the centre of the detection aperture (most disadvantageous position). Products that show intrinsic conductivity due to moisture content, electrolytes or other conductive contents may reduce the sensitivity as well as variations of product temperature, environmental effects (mechanical shocks and vibrations, electromagnetic pollution) or the set product angle. The detectable size of metal particles depends on their nature, shape and position while passing the metal detector.

All dimensions in mm unless stated

PC40-120/V vertical installation

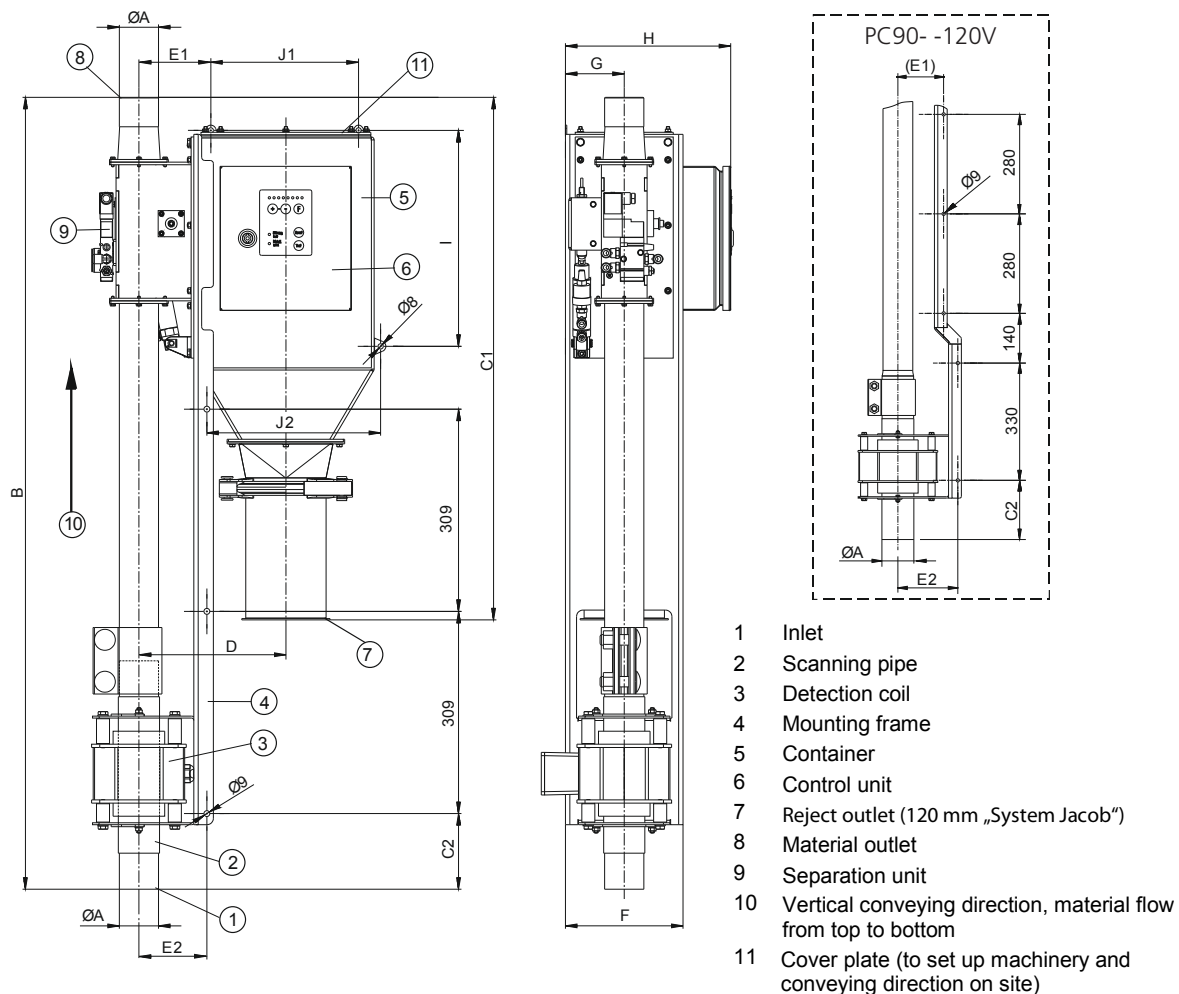


Type	PC40/V	PC50/V	PC60/V	PC70/V	PC90/V	PC100/V	PC120/V
Inlet and outlet pipe diameter \varnothing A	40 x 3.7	50 x 4.6	60 x 2.1	70 x 1.8	90 x 5	100 x 2	120 x 2
Effective ID of inlet pipe	32.6	40.8	55.8	66.4	80.0	96	100
B	1156	1196	1210	1266	1880	2200	2084
C1 / C2	415.5 / 69.5	407.5 / 101.5	407.5 / 115.5	375.5 / 139.5	505.5 / 166.5	405 / 285	405 / 219
D1/ D2	215 / 418	220 / 418	225 / 418	228 / 418	364 / 494	396.5 / 494	396.5 / 494
E1/ E2	100 / 100	105 / 105	110 / 110	113 / 113	129 / 169	161.5 / 201.5	161.5 / 201.5
F	180	180	180	180	256	256	256
G	90	90	90	90	128	128	128
H	253	253	253	253	329	329	329
I	330	330	330	330	560	560	560
J1/ J2	300 / 290	230 / 290	230 / 290	230 / 290	470 / 530	470 / 530	470 / 530
Maximum scanning sensitivity¹⁾ \varnothing Fe-ball:							
at V = 10 m/sec	0.50	0.50	0.62	0.70	0.88	1.12	1.19
at V = 20 m/sec	0.61	0.61	0.77	0.86	1.09	1.38	1.46
Weight (kg)	26.5	26.5	26.5	27.5	34.0	36.5	43.0

¹⁾ The stated detection sensitivity (ferrous ball \varnothing in mm) applies for non-conductive products at the standard operation frequency and refers to the centre of the detection aperture (most disadvantageous position). Products that show intrinsic conductivity due to moisture content, electrolytes or other conductive contents may reduce the sensitivity as well as variations of product temperature, environmental effects (mechanical shocks and vibrations, electromagnetic pollution) or the set product angle. The detectable size of metal particles depends on their nature, shape and position while passing the metal detector.

All dimensions in mm unless stated

PC40-120/V vertical installation

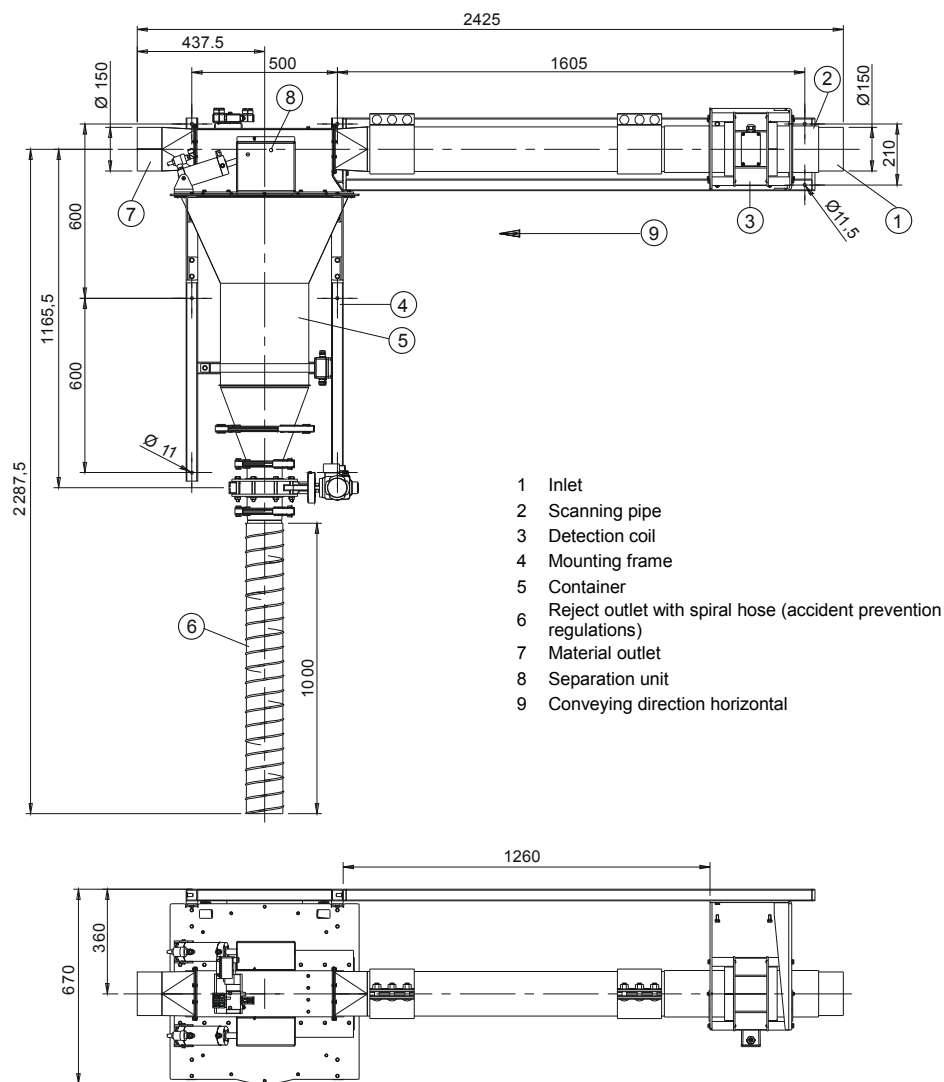


Type	PC40/V	PC50/V	PC60/V	PC70/V	PC90/V	PC100/V	PC120/V
Inlet and outlet pipe diameter $\varnothing A$	40 x 3.7	50 x 4.6	60 x 2.1	70 x 1.8	90 x 5	100 x 2	120 x 2
Effective ID of inlet pipe	32.6	40.8	55.8	66.4	80.0	96	100
B	1156	1196	1210	1266	1880	2200	2084
C1/ C2	790.5 / 69.5	798.5 / 101.5	798.5 / 115.5	830.5 / 139.5	1070.5 / 166.5	1173 / 285	1173 / 219
D	215	220	225	228	364	396.5	396.5
E1/ E2	100 / 100	105 / 105	110 / 110	113 / 113	129 / 169	161.5 / 201.5	161.5 / 201.5
F	180	180	180	180	256	256	256
G	90	90	90	90	128	128	128
H	253	253	253	253	329	329	329
I	330	330	330	330	560	560	560
J1 / J2	230 / 260	230 / 260	230 / 260	230 / 260	470 / 500	470 / 500	470 / 500
Maximum scanning sensitivity¹⁾ \varnothing Fe-ball:							
at V = 10 m/sec	0.50	0.50	0.62	0.70	0.88	1.12	1.19
at V = 20 m/sec	0.61	0.61	0.77	0.86	1.09	1.38	1.46
Weight (kg)	26.5	26.5	26.5	27.5	34.0	36.5	43.0

All dimensions in mm unless stated

¹⁾ The stated detection sensitivity (ferrous ball \varnothing in mm) applies for non-conductive products at the standard operation frequency and refers to the centre of the detection aperture (most disadvantageous position). Products that show intrinsic conductivity due to moisture content, electrolytes or other conductive contents may reduce the sensitivity as well as variations of product temperature, environmental effects (mechanical shocks and vibrations, electromagnetic pollution) or the set product angle. The detectable size of metal particles depends on their nature, shape and position while passing the metal detector.

PC150/H horizontal installation

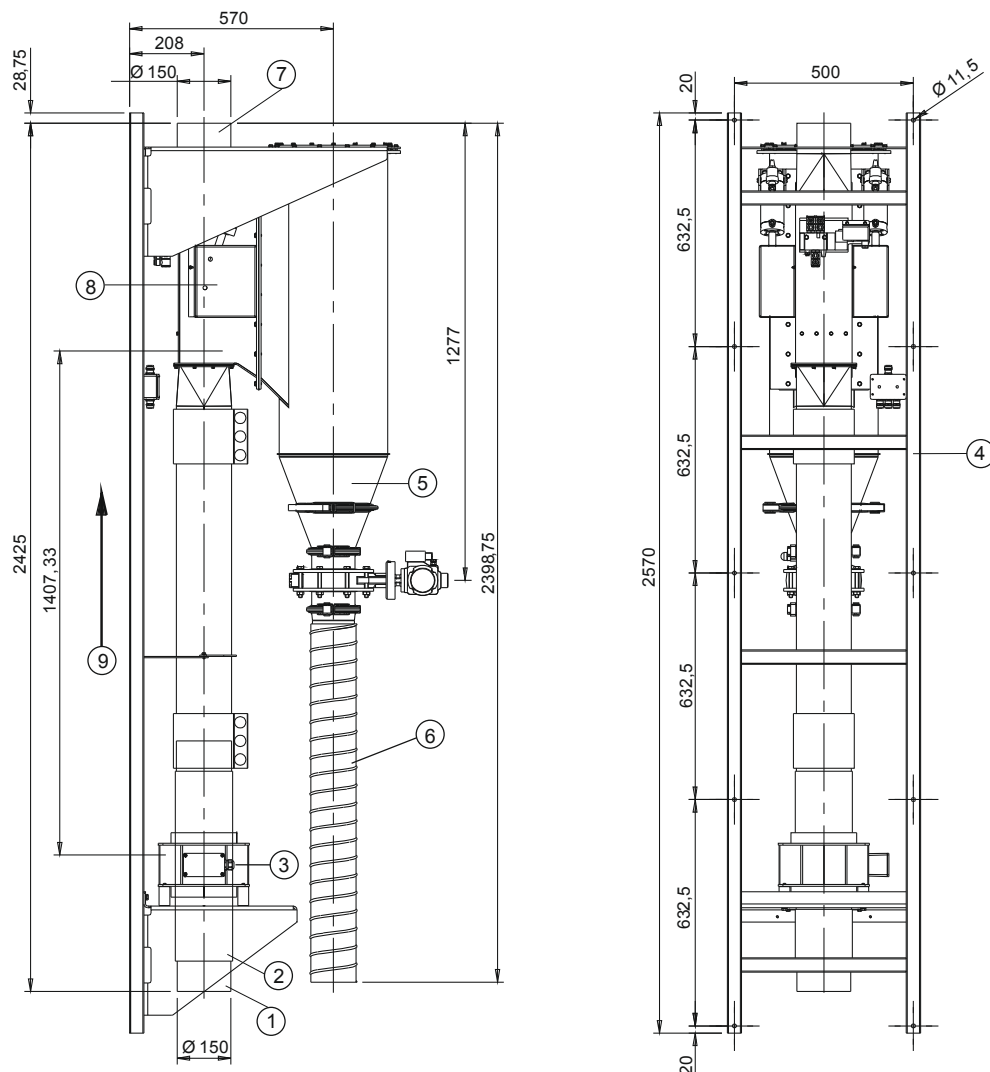


Type	PC150/H
Inlet and outlet pipe diameter \varnothing A	150 x 2
Effective ID of inlet pipe	141.8
Maximum scanning sensitivity ¹⁾ \varnothing Fe-ball:	
at V = 10 m/sec	1.81
at V = 20 m/sec	2.23
Weight (kg)	120

All dimensions in mm unless stated

¹⁾ The stated detection sensitivity (ferrous ball \varnothing in mm) applies for non-conductive products at the standard operation frequency and refers to the centre of the detection aperture (most disadvantageous position). Products that show intrinsic conductivity due to moisture content, electrolytes or other conductive contents may reduce the sensitivity as well as variations of product temperature, environmental effects (mechanical shocks and vibrations, electromagnetic pollution) or the set product angle. The detectable size of metal particles depends on their nature, shape and position while passing the metal detector.

PC 150 vertical installation



Type	PC150
Inlet and outlet pipe diameter \varnothing A	150 x 2
Effective ID of inlet pipe	141.8
Maximum scanning sensitivity¹⁾ \varnothing Fe-ball:	
at V = 10 m/sec	1.81
at V = 20 m/sec	2.23
Weight (kg)	120

All dimensions in mm unless stated

¹⁾ The stated detection sensitivity (ferrous ball \varnothing in mm) applies for non-conductive products at the standard operation frequency and refers to the centre of the detection aperture (most disadvantageous position). Products that show intrinsic conductivity due to moisture content, electrolytes or other conductive contents may reduce the sensitivity as well as variations of product temperature, environmental effects (mechanical shocks and vibrations, electromagnetic pollution) or the set product angle. The detectable size of metal particles depends on their nature, shape and position while passing the metal detector.

1. Inlet
2. Scanning pipe
3. Detection coil
4. Mounting frame
5. Container
6. Reject outlet with spiral hose (accident prevention regulations)
7. Material outlet
8. Separation unit
9. Vertical conveying direction, material flow from top to bottom

Conditions of use

Use:	In the plastics industry, for the inspection of granulate, regenerated material, or ground material in a discontinuous vacuum conveyor pipe, and also in other industry sectors with similar applications and with low hygienic demands.
Bulk material classification:	
Grain shape:	Granulates, regrind, grist, flakes
Max. grain size:	Ball shape $\varnothing < 8\text{mm}$
Pourability:	Good, medium
Attributes:	Dry, damp, not abrasive, product effects (conductivity) can potentially be compensated
Material flow:	Pneumatic air conveying, discontinuous vacuum conveying max. speed of conveyed material 20 m/sec Optional equipment version for continuous vacuum conveying, and continuous or discontinuous pressure conveying.
Max. permissible under pressure in the vacuum conveyor pipe:	-0.5 bar
Max. permissible overpressure in the pressure conveyor pipe:	0.5 bar
Bulk material temperature:	Maximum +80° C
Ambient conditions:	-10° C to +50° C, 25% to 85% rH, no condensation
Storage and shipping conditions:	-10° C to +50° C, 25% to 85% rH, no condensation

Scope of delivery / Design / Connections

Scope of delivery:	Metal separator with detection and separation unit, collecting container for reject material, spiral hose and separated PRIMUS control unit. All the components are pre-assembled for easy installation. Inlet and material outlet connection by way of pipe couplings, reject outlet connection with Jacob pipe connection.	
Mechanical design:	Mounting frame, junctions:	Stainless steel 1.4301 (AISI 304), glass bead blasted
	Control enclosure and collection container:	Sheet steel, varnished, aluminium grey (RAL 9007)
	Scanning pipe:	PE-EL
	Parts in touch with material:	Stainless steel 1.4301 (AISI 304), PE-EL, Teflon, EPDM
	Compressed air connection:	5-8 bar, 6/8 mm tube connection
	Compressed air consumption:	0.8 litre / switch operation
Electrical design	Control unit:	Attached
	Operating voltage:	100-240 VAC ($\pm 10\%$) 50/60 Hz
	Current consumption:	App. 160 mA / 115 V, app. 80 mA / 230 V
	Mains cable:	1.8 m with plug
	Type of protection:	IP 65
	Eject duration (metal impulse):	Adjustable from 0.05 to 29 sec
	Self monitoring:	Detection coil and outputs
	Scanning sensitivity:	Selectable with 8 adjustments
	Operation:	See technical data sheet for control unit PRIMUS

Accessories

- | | | |
|---|---|--|
| <input type="checkbox"/> Visual alarm | <input type="checkbox"/> Combination alarm (visual alarm and audible alarm) | <input type="checkbox"/> Push button for functional test in a separate housing |
| <input type="checkbox"/> Failure indication | <input type="checkbox"/> Failure indication | <input type="checkbox"/> Level indicator for reject box for waste material |
| <input type="checkbox"/> Failure and metal indication | <input type="checkbox"/> Failure and metal indication | <input type="checkbox"/> PU spiral tube DN 120 for reject outlet, length 1m with adaptor and clamping ring |
| <input type="checkbox"/> Audible alarm | <input type="checkbox"/> Filter control valve | <input type="checkbox"/> UL/CSA certificate |
| <input type="checkbox"/> Failure indication | <input type="checkbox"/> Counter (Detection counter) in a separate housing | <input type="checkbox"/> Test samples |
| <input type="checkbox"/> Failure and metal indication | <input type="checkbox"/> Push button for manual rejection in a separate housing | |

Options

- | | | |
|---|--|--|
| <input type="checkbox"/> Compressed-air monitor | <input type="checkbox"/> SENSITY control unit for higher sensitivity | <input type="checkbox"/> Cable set for remote control unit: 3m, 6m, 10m, 15m |
| <input type="checkbox"/> Monitor system for separation unit | | <input type="checkbox"/> US-power cable (in exchange) |

Special versions / Supplementary systems

- | | | |
|--|---|--|
| <input type="checkbox"/> Special varnishes | <input type="checkbox"/> Design for bulk material temperatures of up to 140° C when used for plastics | <input type="checkbox"/> Cycle sluice with two squeeze valves or pivot flap valves DN 120 for continuous vacuum conveying and for continuous or discontinuous pressure conveying |
| <input type="checkbox"/> Special supply voltages | <input type="checkbox"/> Model with improved wear protection in use range plastics | |
| <input type="checkbox"/> Adaptor pieces for material conveyor pipe on customer request | <input type="checkbox"/> Magnet systems for pre-removal of ferrous metals | |

If you have any more questions, require technical assistance or would like a quotation, please contact us.

www.eclipsemagnetics.com

Eclipse Magnetics Ltd, Atlas Way, Sheffield, S4 7QQ, England

T +44 (0)114 225 0600 **F** +44 (0)114 225 0610 **E** info@eclipsemagnetics.com **W** www.eclipsemagnetics.com

While every effort has been made to ensure the accuracy of the information in this publication please note that specifications may change without notice.



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