**Technical data sheet**  Metro SC-45-60-70-1-TB-EN-V1.0.docx

**Metal separator Metro SC 45 / 50 / 60 / 65**

### Dimensions

![Diagram of metal separator Metro SC 45 / 50 / 60 / 65 with parts labeled 1 to 11.

**Technical data**

<table>
<thead>
<tr>
<th>Type</th>
<th>Metro SC 45</th>
<th>Metro SC 50</th>
<th>Metro SC 60</th>
<th>Metro SC 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet and outlet pipe diameter ØA</td>
<td>50 x 4.6</td>
<td>50 x 4.6</td>
<td>60 x 2.1</td>
<td>70 x 1.8</td>
</tr>
<tr>
<td>Effective ID of inlet pipe</td>
<td>40.8</td>
<td>40.8</td>
<td>55.8</td>
<td>66.4</td>
</tr>
<tr>
<td>Motan customized Inlet and outlet</td>
<td>45 x 1.5</td>
<td>50 x 1.5</td>
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</tr>
<tr>
<td>B</td>
<td>1196</td>
<td>1196</td>
<td>1210</td>
<td>1266</td>
</tr>
<tr>
<td>C</td>
<td>823</td>
<td>823</td>
<td>828</td>
<td>831</td>
</tr>
<tr>
<td>D</td>
<td>105</td>
<td>105</td>
<td>110</td>
<td>113</td>
</tr>
<tr>
<td>Maximum scanning sensitivity ¹) Ø Fe-ball: at V &lt; 20 m/sec</td>
<td>0.4</td>
<td>0.4</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>at V ≥ 20 m/sec</td>
<td>0.5</td>
<td>0.5</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>26.5</td>
<td>26.5</td>
<td>26.5</td>
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</tr>
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</table>

¹) The stated detection sensitivity (ferrous ball Ø in mm) applies for nonconductive 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.

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Subject to change without notice!  15-05-01
### Dimensions

**Vertical conveyance**

![Diagram of vertical conveyance]

1. Inlet
2. Scanning pipe
3. Detection coil
4. Mounting frame
5. Container
6. Control unit
7. Reject outlet (120 mm „System Jacob“)
8. Material outlet (customized for nominal Motan width)
9. Separation unit
10. Vertical conveying direction, material flow from top to bottom
11. Cover plate (to set up machinery and conveying direction on site)

### Technical data

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<td>407.5</td>
<td>407.5</td>
<td>407.5</td>
<td>375.5</td>
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<tr>
<td>D</td>
<td>220</td>
<td>220</td>
<td>225</td>
<td>228</td>
</tr>
<tr>
<td>E</td>
<td>105</td>
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</tr>
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</table>

Annotation: All dimensions in mm

\(^{1)} The stated detection sensitivity (ferrous ball \( \Phi \) in mm) applies for nonconductive 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.
## Dimensions

**Vertical conveyance**

1. Inlet
2. Scanning pipe
3. Detection coil
4. Mounting frame
5. Container
6. Control unit
7. Reject outlet (120 mm „System Jacob“)
8. Material outlet (customized for nominal Motan width)
9. Separation unit
10. Vertical conveying direction, material flow from bottom to top
11. Cover plate (to set up machinery and conveying direction on site)

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### Maximum scanning sensitivity

<table>
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<th>V</th>
<th>Ø Fe-ball</th>
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<td>&lt; 20 m/sec</td>
<td>0.4</td>
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<td>≥ 20 m/sec</td>
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**Weight [kg]**

|                | 26.5 | 26.5 | 26.5 | 27.5 |

**Annotation:**

1. The stated detection sensitivity (ferrous ball Ø in mm) applies for nonconductive 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
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, grit, flakes
- Max. grain size: Ball Ø < 8 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 underpressure 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, and MS+ Control 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: Metal separator with adaptors,
- Montage unit: stainless steel 1.4301 (AISI 304), glass bead blasted
- Pipe adaptors: aluminium, optional stainless steel 1.4301 (AISI 304),
- 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, aluminium
- Compressed-air connection: 5-8 bar, 6/8 mm tube connection
- Compressed-air consumption: 0.4 litre / switch operation,

Electrical design:
- Control unit: attached
- Operating voltage: 100-240 VAC (±10%) 50/60 Hz
- Current consumption: approx. 300 mA / 115 V, approx. 150 mA / 230 V
- Mains cable: 1.8 m with plug
- Type of protection: IP 65
- Eject duration (metal impulse): adjustable from 0.05 to 60 sec
- Self-monitoring: detection coil and outputs
- Scanning sensitivity: adjustable from 1% to 100%
- Operation: see technical data sheet for control unit MS+ Control

Accessories

- Visual alarm
- Failure indication
- Audible alarm
- Failure and metal indication
- Combination alarm (visual alarm and audible alarm)
- Failure indication
- Failure and metal indication
- Filter control valve
- Counter (Detection counter) in a separate housing
- Push button for manual rejection in a separate housing
- Push button for functional test in a separate housing
- Test samples
- Adaptor pieces for material conveyor pipe, stainless steel
- Level indicator for reject box for waste material
- PU spiral tube DN 120 for reject outlet, length 1m with adaptor and clamping ring

Options

- Compressed-air monitor
- Monitor system for separation unit
- Cable set for remote control unit: 3 m, 6 m, 10 m, 15 m
- US-power cable (in exchange)

Special versions / Supplementary systems

- Special varnishes
- Special supply voltages
- Adaptor pieces for material conveyor pipe on customer request
- Design for bulk material temperatures of up to 140° C when used for plastics
- Cyclic sluice with two pivot flap valves DN 120 for continuous vacuum conveying and for continuous or discontinuous pressure conveying
- Model with improved wear protection in use range plastics
- Equipment version for higher conveyed material speeds
- Magnet systems for pre-removal of ferrous metals