The People Mover System
Application in combination with suspension track system

in combination with skid tracks

in combination with floor conveyors
People Movers

- aluminium base frame
- min. 120 mm total height
- belt options available
- internal drive
- belt speed: 0 - 10 m/min
  
  **optional**
  - fire safety specification: B1 compliant version
  - electrostatic discharge: ESD compliant version

Interchangeable platform / Stage

- power supply (electricity, light, water)
- lights
- oil drip trays
- servicing and access points
- variable working heights
  
  **optional**
  - fire safety specification: B1 compliant version
  - electrostatic discharge: ESD compliant version

Project Integration Management

- project implementation
- delivery
- assembly and installation management

Symbols

- **Continuous operation**
- **Tandem drive**
Variable conveyor setup

The People Mover System

Variable working height

Conveyor setup with platform

Conveyor setup with height adjustable platform

Typical skid conveyor configuration

Height adjustment for conveyor and platform

Incline and decline (up to 7°) per platform
The People Mover System

Roller cover

Drive unit with spring loaded PVC clearing strips prevents collection of small parts

Dirt collection tray

easy cleaning from above

Electrical connection

connection terminal with C4A circuit breaker in each conveyor
various connections for subsequent and parallel units

Potentiometer

speed adjustment by potentiometer

Drive unit

maintenance free drive and idler unit, replaceable from above

PLC

external speed adjustment
The People Mover System

Conveyor

- People mover
  - Type 5721
  - Type 5722
  - Type 5723

Plastic link chain

- Belt type
  - Habasit M2420 Flat Top 1"
  - Habasit M2423 Non Slip 1"
  - Forbo Siegling S8-0 PLT
  - Uni-chains ONB-C
  - Uni-chains ONB-Rough
  - System Plast 2250 FT

Interchangeable platform / Stage

- Interchangeable platform
- Stage

Drive

- Drive
  - AC servo motor with servo drive ①
    - Type Minas A4
  - Planetary gear box ②
    - Type PLE 80/90

Control

- Control methods
  - servo drive inside the conveyor
    - speed adjustment via potentiometer
    - speed adjustment according to external index value
  - servo drive with external control panel
    - speed adjustment according to external index value
People mover
Type 5.721
height: 120 mm
- motor capacity 750 Watt
- internal drive
- stainless steel sliding surface
- 320 kg continuous load

Implementation
An integrated design (motor, control, drive shaft and bearings) housed within the conveyor frame creates a uniform exterior surface.
High stability and drive capacity combined with low overall height and weight allow for a variety of applications. Stainless steel surfaces cater to abrasive dust environments.

Technical data
- transported weight: 320 kg continuous load (4 people), 480 kg temporary maximum load (6 people)
- belt width: app. 600 - 1,540 mm
- total width: app. 650 - 1,600 mm
- total length: 1,500 - 10,000 mm
- base frame: aluminium extrusion, unanodized
- sliding surface: stainless steel sheet
- belt material: as required

- motor: AC servo motor with servo drive
- nominal power: PN 750 W
- torque: nominal 2.4 Nm, peak 7.1 Nm
- nominal RPM: 1,100 min⁻¹
- transmission: planetary gear box PLE 80/90
- ratio: i40 / i100
- torque: 110 - 120 Nm
- speed: 0 - 7 m/min (± 1.5%), acceleration time 2 - 3 sec.
- drive orientation: pulling in direction of travel
- control: servo drive inside the conveyor or external
- speed adjustment via potentiometer or according to external index value

AA = Axle distance
BG = Total width
LE = Installation dimension
LG = Total length
GB = Belt width

adjusting range 3 mm

patent No. 102007017628
People mover with plastic link chain

People mover
Type 5.722
height: 120 mm
- motor capacity 750 Watt
- internal drive
- PVC sliding surface
- 600 kg continuous load

Implementation
An integrated design (motor, control, drive shaft and bearings) housed within the conveyor frame creates a uniform exterior surface.

High stability and drive capacity combined with low overall height and weight allow for a variety of applications. The PVC sliding surface reduces the friction, which allows to transport high loads at a reduced drive power.

Technical data

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
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<td>transported weight:</td>
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<td>belt width:</td>
<td>app. 600 - 1,540 mm</td>
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<td>total length:</td>
<td>1,500 - 10,000 mm</td>
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<td>motor:</td>
<td>AC servo motor with servo drive</td>
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<td>nominal power:</td>
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<tr>
<td>torque:</td>
<td>nominal 2.4 Nm, peak 7.1 Nm</td>
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<td>nominal RPM:</td>
<td>1,100 min⁻¹</td>
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<tr>
<td>transmission:</td>
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<tr>
<td>ratio:</td>
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<td>torque:</td>
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<td>speed:</td>
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<td>drive orientation:</td>
<td>pulling in direction of travel</td>
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<td>control:</td>
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<tr>
<td></td>
<td>speed adjustment via potentiometer</td>
</tr>
<tr>
<td></td>
<td>or according to external index value</td>
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</table>

patent No. 102007017628
People mover
Type 5.723
height: 150 mm
- motor capacity $2 \times 750$ Watt
- internal drive
- tandem drive
- PVC sliding surface
- 1.200 kg continuous load

Implementation
An integrated design (motor, control, drive shaft and bearings) housed within the conveyor frame creates a uniform exterior surface. High stability and drive capacity combined with low overall height and weight allow for a variety of applications. The PVC sliding surface reduces the friction, which allows to transport high loads at a reduced drive power.

Technical data
- transported weight: 1,200 kg continuous load (15 people)
- 1,500 kg temporary maximum load
- belt width: app. $600 - 1,540$ mm
- total width: app. $650 - 1,600$ mm
- total length: 1,500 - 10,000 mm
- base frame: aluminium extrusion, unanodized
- sliding surface: PVC panel
- belt material: as required
- motor: $2 \times$ AC servo motor with servo drive
- nominal power: $2 \times$ PN 750 W = 1,500 W
- torque: nominal 4.8 Nm, peak 14 Nm
- nominal RPM: 1,100 min$^{-1}$
- transmission: $2 \times$ planetary gear box PLE 80/90
- ratio: $i_{40} / i_{100}$
- torque: 245 - 320 Nm
- speed: 0 - 7 m/min (± 1.5%), acceleration time 2 - 3 sec.
- drive orientation: pulling in direction of travel
- control: servo drive inside the conveyor or external
- speed adjustment via potentiometer or according to external index value

AA = Axle distance
BG = Total width
LE = Installation dimension
LG = Total length
PVC panel

adjusted range 3 mm
### Base frame

![Base frame image]

**Assembly**

MayTec custom extrusions provide high longitudinal and lateral stability.

### Height adjustibility

![Height adjustibility diagrams]

**Application**

Accessible from top with socket wrench

The system allows a fast and easy adjustment to the floor conditions.

### Side cover

![Side cover diagram]

① Adjustable cover strip

Side cover can be adjusted to compensate for uneveness of flooring.

### Functional lengths

![Functional lengths diagram]

- $\text{FL} = \text{functional length}$
- $\text{LG} = \text{total length}$
- $\text{UL} = \text{transmission length}$
## Servo drive
Type Minas A4
- RS232 interface cable
- PANATERM® software

## Error codes

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<thead>
<tr>
<th>#</th>
<th>Description</th>
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<tr>
<td>11</td>
<td>control undervoltage</td>
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<tr>
<td>12</td>
<td>overvoltage error</td>
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<td>13</td>
<td>mains undervoltage</td>
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<tr>
<td>14</td>
<td>* over current protection</td>
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<td>15</td>
<td>* temperatur exeedence</td>
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<td>16</td>
<td>* capacity overload</td>
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<tr>
<td>18</td>
<td>* overload on ballast resistor</td>
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<tr>
<td>21</td>
<td>* encoder communication error</td>
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<tr>
<td>23</td>
<td>* encoder data error</td>
</tr>
<tr>
<td>24</td>
<td>position discrepancy</td>
</tr>
<tr>
<td>25</td>
<td>* position discrepancy of external encoder</td>
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<td>26</td>
<td>RPM exceedence</td>
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<td>27</td>
<td>electronic gear box</td>
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<tr>
<td>28</td>
<td>* data error from external locator</td>
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<td>29</td>
<td>overflow of pulse error counter</td>
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<tr>
<td>34</td>
<td>software limitation</td>
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<tr>
<td>35</td>
<td>* data transfer error from external scale of length</td>
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<tr>
<td>36</td>
<td>* EEPROM parameter error</td>
</tr>
<tr>
<td>37</td>
<td>* EEPROM test code error</td>
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<tr>
<td>38</td>
<td>limit switch inputs</td>
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<td>39</td>
<td>discrepancy to index value</td>
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<tr>
<td>40</td>
<td>absolute value - system failure</td>
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<tr>
<td>41</td>
<td>* absolute value - overflow error</td>
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<td>42</td>
<td>absolute revolution speed exeeded</td>
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<td>* absolute revolution counter</td>
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<td>* absolute status error</td>
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<td>48</td>
<td>* encoder z-phase error</td>
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<tr>
<td>49</td>
<td>* encoder CS signal error</td>
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<tr>
<td>50</td>
<td>* external scale of length status error 0</td>
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<td>* external scale of length status error 5</td>
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<tr>
<td>66</td>
<td>torque limit for anti-clockwise rotation</td>
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<tr>
<td>95</td>
<td>automatic motor identification</td>
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</table>

### Comments
- The RS232 interface cable is integrated with the cable harness located at the conduit end of the drive. PANATERM® software is supplied on a data storage device.

### Setup CD for PANATERM® support
- software DV0P4460 in English / Japanese language

### RS232 interface cable DV0P1960
- integrated in CN X4

### Comments
- Error shutdowns marked with *, cannot be deleted by A-CLR.
- Switch off electricity, eliminate cause of failure, then switch electricity back on.

### The following error codes are not listed in the error log:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>11</td>
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<td>38</td>
<td>limit switch inputs</td>
</tr>
<tr>
<td>95</td>
<td>automatic motor identification</td>
</tr>
</tbody>
</table>
Plastic link chain basics

Advantages

1. Non-slip traction created by pinion drive
2. Chain tensioning set at minimal levels
3. Trouble free and low maintenance plastic link chain belt ensures tracking
4. Plastic chain links can be used through a wide temperature range
5. No special tools required for assembly of endless plastic chain link belts
6. Damaged plastic links are quickly and easily replaced
7. Minimal spare parts inventory. Plastic links generally replaced in short pieces
8. High lateral stability
9. Easy cleaning
10. Good sliding value with low friction
11. Scuff and scratch resistant materials
12. Fire safety specification: B1 compliant version
13. ESD: Electrostatic discharge compliant version
<table>
<thead>
<tr>
<th>Producer</th>
<th>Belt surface</th>
<th>Anti-slip specification class</th>
<th>&lt; R9</th>
<th>R9</th>
<th>R10</th>
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<td>Habasit</td>
<td>Type</td>
<td>smooth</td>
<td>M2420 Flat Top 1&quot;</td>
<td>R9 12</td>
<td>plate with lug pattern</td>
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<td>Forbo Siegling</td>
<td>Belt surface</td>
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<td>S8-0 FLT</td>
<td>R9 14</td>
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<tr>
<td>uni-chains</td>
<td>Belt surface</td>
<td>smooth</td>
<td>QNB-C</td>
<td>R9 15</td>
<td>rough surface</td>
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<tr>
<td>Forbo Siegling</td>
<td>Belt surface</td>
<td>smooth</td>
<td>2250 FT</td>
<td>R9 17</td>
<td></td>
</tr>
</tbody>
</table>
Habasit
Type M2420 Flat Top 1"
- smooth plastic link chain surface

Chain module

Technical data
- chain pitch: 1" (25.4 mm)
- chain thickness: 8.7 mm
- plastic link chain surface: closed, smooth
- anti-slip property: R9 according DIN 51130
- standard widths: 18 - 19

Sprocket

Technical data
- number of teeth: 12 Z
- pitch circle Ø: 99.5 mm
- hub width: 14 mm
- suitable for plastic link chain: Type M2420 Flat Top 1"
- chain pitch: 1" (25.4 mm)
- material: PA (Polyacetal) natural

Habasit product range
Type M2420 Flat Top 1"

<table>
<thead>
<tr>
<th>Fire safety specification</th>
<th>Electrical conductivity</th>
<th>Material</th>
<th>Colour</th>
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</table>
Habasit
Type M2423 Non Slip 1"

- plastic link chain surface with lug pattern

Chain module

Technical data
- Chain pitch: 1" (25.4 mm)
- Chain thickness: 8.7 + 1.2 mm
- Plastic link chain surface: closed, with lug pattern
- Anti-slip property: R10 according DIN 51130
- Standard widths: 18 - 19

Sprocket

Technical data
- Number of teeth: 12 Z
- Pitch circle Ø: 99.5 mm
- Hub width: 14 mm
- Suitable for plastic link chain: Type M2423 Non Slip 1"
- Chain pitch: 1" (25.4 mm)
- Material: PA (Polyacetal) natural

Habasit product range
Type M2423 Non Slip 1"

Fire safety specification

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<table>
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Forbo Siegling
Type S8-0 FLT
• smooth plastic link chain surface

Chain module

Technical data
chain pitch: 1" (25.4 mm)
chain thickness: 10.5 mm
plastic link chain surface: closed, smooth
anti-slip property: standard widths: 18 - 19

Sprocket

Technical data
number of teeth: 12 Z
pitch circle Ø: 99.7 mm
hub width: 14 mm
suitable for plastic link chain: Type S8-0 FLT
chain pitch: 1" (25.4 mm)
material: PA (Polyacetal) natural

Forbo Siegling product range
Type S8-0 FLT

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uni-chains
Type QNB-C
• smooth plastic link chain surface

Technical data
chain pitch: 1" (25.4 mm)
chain thickness: 8.8 mm
plastic link chain surface: closed, smooth
anti-slip property: R9 according DIN 51130
standard widths: 18 - 19

Sprocket

Technical data
number of teeth: 12 Z
pitch circle Ø: 98.1 mm
hub width: 14 mm
suitable for plastic link chain: Type QNB-C
chain pitch: 1" (25.4 mm)
material: PA (Polyacetal) natural

uni-chains product range
Type QNB-C

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<td>dark grey</td>
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uni-chains
Type QNB-Rough
- plastic link chain surface with rough surface

Chain module

Technical data
- chain pitch: 1\(^*\) (25.4 mm)
- chain thickness: 9.6 mm
- plastic link chain surface: closed, with rough surface
- anti-slip property: R10 according DIN 51130
- standard widths: 18 - 19

Sprocket

Technical data
- number of teeth: 12 Z
- pitch circle Ø: 98.1 mm
- hub width: 14 mm
- suitable for plastic link chain: Type QNB-Rough
- chain pitch: 1\(^*\) (25.4 mm)
- material: PA (Polyacetal) natural

uni-chains product range
Type QNB-Rough

<table>
<thead>
<tr>
<th>Fire safety specification</th>
<th>Electrical conductivity</th>
<th>Material</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>old</td>
<td>new</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B₁ - s1</td>
<td>C₁ - s1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>min. 25% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>min. 33% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>100% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>B₂</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>min. 25% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>min. 33% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
<tr>
<td>100% ESD</td>
<td>PP</td>
<td>POM</td>
<td>x</td>
</tr>
</tbody>
</table>
System Plast
Type 2250 FT
- smooth plastic link chain surface

Chain module

Technical data
- chain pitch: 1" (25.4 mm)
- chain thickness: 8.7 mm
- plastic link chain surface: closed, smooth
- anti-slip property: standard widths: 18 - 19

Sprocket

Technical data
- number of teeth: 12 Z
- pitch circle Ø: 98.14 mm
- hub width: 14 mm
- suitable for plastic link chain: Type 2253 FT
- chain pitch: 1" (25.4 mm)
- material: PA (Polyacetal) natural

System Plast product range
Type 2250 FT

<table>
<thead>
<tr>
<th>Fire safety specification</th>
<th>Electrical conductivity</th>
<th>Material</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>old B₁ - s₁, new C₁ - s₁</td>
<td>0% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>min. 25% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>min. 33% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>old B₂</td>
<td>0% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>min. 25% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>min. 33% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100% ESD PP POM</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
### Conveyor width for plastic link chain type

<table>
<thead>
<tr>
<th>ESD</th>
<th>w/o</th>
<th>with</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Habasit</th>
<th>Forbo Siegling</th>
<th>uni-chains</th>
<th>System Plast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M2420 Flat Top 1&quot;</td>
<td>S8-0 FLT</td>
<td>QNB-C</td>
<td>2250 FT</td>
</tr>
<tr>
<td></td>
<td>M2423 Non Slip 1&quot;</td>
<td>QNB-Rough</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Width (mm)</strong></td>
<td><strong>Belt</strong></td>
<td><strong>Conveyor 1)</strong></td>
<td><strong>Belt</strong></td>
<td><strong>Conveyor 1)</strong></td>
</tr>
<tr>
<td>595</td>
<td>649</td>
<td>610</td>
<td>664</td>
<td>607</td>
</tr>
<tr>
<td>680</td>
<td>734</td>
<td>686</td>
<td>740</td>
<td>683</td>
</tr>
<tr>
<td>765</td>
<td>819</td>
<td>762</td>
<td>816</td>
<td>759</td>
</tr>
<tr>
<td>850</td>
<td>904</td>
<td>838</td>
<td>892</td>
<td>835</td>
</tr>
<tr>
<td>935</td>
<td>989</td>
<td>914</td>
<td>968</td>
<td>911</td>
</tr>
<tr>
<td>1,020</td>
<td>1,074</td>
<td>991</td>
<td>1,045</td>
<td>988</td>
</tr>
<tr>
<td>1,105</td>
<td>1,159</td>
<td>1,067</td>
<td>1,121</td>
<td>1,064</td>
</tr>
<tr>
<td>1,190</td>
<td>1,244</td>
<td>1,143</td>
<td>1,197</td>
<td>1,140</td>
</tr>
<tr>
<td>1,275</td>
<td>1,329</td>
<td>1,219</td>
<td>1,273</td>
<td>1,216</td>
</tr>
<tr>
<td>1,360</td>
<td>1,414</td>
<td>1,295</td>
<td>1,349</td>
<td>1,292</td>
</tr>
<tr>
<td>1,445</td>
<td>1,499</td>
<td>1,371</td>
<td>1,425</td>
<td>1,368</td>
</tr>
<tr>
<td>1,530</td>
<td>1,584</td>
<td>1,447</td>
<td>1,501</td>
<td>1,444</td>
</tr>
</tbody>
</table>

1) conveyor width = belt width + 54 mm

### Width of chain module

<table>
<thead>
<tr>
<th>Module Type</th>
<th>85 mm</th>
<th>114.3 mm</th>
<th>76.2 mm</th>
<th>85 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short Chain Module</strong></td>
<td>170 mm</td>
<td>228.6 mm</td>
<td>152.4 mm</td>
<td>170 mm</td>
</tr>
<tr>
<td><strong>Long Chain Module</strong></td>
<td>17 mm</td>
<td>12.66 mm</td>
<td>12.66 mm</td>
<td>17 mm</td>
</tr>
</tbody>
</table>
### Anti-slip specification class

According DIN 51130 there are five different anti-slip specification classes R9 to R13. Higher classes represent higher anti-slip property. Slip classes are specified by mounting the material to the face of a ramp, oil is then poured over the surface and a subject walks up the ramp. The incline is gradually increased until slipping occurs. The table below determines the anti-slip class.

<table>
<thead>
<tr>
<th>Anti-slip specification class</th>
<th>Coefficient of friction</th>
<th>Angle of incline</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>R9</td>
<td>low coefficient of friction</td>
<td>&gt; 6° - 10°</td>
<td><img src="image" alt="R9" /></td>
</tr>
<tr>
<td>R10</td>
<td>normal coefficient of friction</td>
<td>&gt; 10° - 19°</td>
<td><img src="image" alt="R10" /></td>
</tr>
<tr>
<td>R11</td>
<td>increased coefficient of friction</td>
<td>&gt; 19° - 27°</td>
<td><img src="image" alt="R11" /></td>
</tr>
<tr>
<td>R12</td>
<td>high coefficient of friction</td>
<td>&gt; 27° - 35°</td>
<td><img src="image" alt="R12" /></td>
</tr>
<tr>
<td>R13</td>
<td>very high coefficient of friction</td>
<td>&gt; 35°</td>
<td><img src="image" alt="R13" /></td>
</tr>
</tbody>
</table>

Note: 1) conveyor width = belt width + 54 mm
Fire safety classes according DIN 4102-1

Fire safety class A
Materials of fire safety class A must be non-combustible.
Materials like: concrete, brickwork, soil (sand, gravel, etc.) cement, mortar, stone, architectural ceramics, glass, foam glass, cast iron, steel and aluminium belong to fire safety class A.

Fire safety class B
Flammable

- Fire safety class B1
  Flame resistant materials belong to fire safety class B1.
  Materials such as flame retardant wood and rigid foam plastic belong to this fire safety class.
  Fire must extinguish once the fire source has been removed

- Fire safety class B2
  Normally flammable materials belong to fire safety class B2.
  Materials like wooden parts and reconstituted timber products with a thickness > 2 mm.

- Fire safety class B3
  Easily flammable materials belong to fire safety class B3.
  Materials like wooden parts and reconstituted timber products with a thickness < 2 mm.
  Cardboard, straw or paper may not be used.

Requirements for automotive applications

Fire safety class B1
In order to comply with fire safety class B1, plastic link chain modules are manufactured from flame resistant materials.
The plastic link chains are assembled from injection molded modules secured by either plastic or metal rods.

Fire safety class "new" according DIN EN 13501-1 for floorings

<table>
<thead>
<tr>
<th>naming by construction supervision</th>
<th>Fire safety class &quot;old&quot; DIN 4102-1</th>
<th>Fire safety class &quot;new&quot; DIN EN 13501-1</th>
<th>critical thermal flow kW/m²</th>
<th>no smoke</th>
</tr>
</thead>
<tbody>
<tr>
<td>flame resistant floorings</td>
<td>B1</td>
<td>B1 - s1</td>
<td>&gt; 8</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1 - s1</td>
<td>4.5 to 7.9</td>
<td>x</td>
</tr>
<tr>
<td>normally flammable floorings</td>
<td>B2</td>
<td>A2 - s2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B2 - s2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2 - s2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D2 - s1</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D2 - s2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>easily flammable floorings</td>
<td>B3</td>
<td>F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ESD version

What is ESD?

Electro Static Discharge

Transition of electrical charges between bodies with different electrostatic potentials. Typically caused by direct contact or induced by an electrostatic field.

How is ESD created?

Almost all equipment, machines and vehicles are designed using electronic components, switches and control elements. The micro electronic components which make up these systems are sensitive to electronic spikes and unexpected voltages.

An electrical charge is created when differing materials rub against, or come in contact with each other. For example, if a person wearing clothing made from different types of materials walks along an electrically isolated surface, a charge will develop on the surface of their body. If this charged surface (the persons skin in this case) is then earthed, a discharge will occur from the person to the earthed surface.

Electronic components can be easily damaged by such a discharge as high voltages are created.

Plastic module patterns

Alternate pattern with ESD modules (colour white)

Assembly in section patterns

Ratio of the ESD modules 25% to 100% depending on the assembly pattern

Example: pattern for chain width 1,020 mm
ESD version
Measuring method according to:
DIN EN 61340

1. Electrical grounding resistance
target value: \( < 1 \times 10^9 \) Ohm

![Electrical grounding resistance diagram]

measuring method with analyser Metriso 2000 with electrode model 850

Engineering standards
DIN EN 61340-4-1
DIN EN 61340-5-1
DIN EN 61340-2-3

analyser electrode model 850
dimensions:
Ø contact rubber 63.5 mm / height 120 mm

2. Systematic resistance
person - shoe - flooring
target value:
\( 7.5 \times 10^5 \) Ohm to \( 3.5 \times 10^7 \) Ohm

![Systematic resistance diagram]

measuring method with analyser Metriso 2000 with manual electrode model 45

Engineering standards
DIN EN 61340-4-5
DIN EN 61340-5-1

manual electrode model 45
dimensions:
Ø 25 mm / length 120 mm

3. Persons charging - walking test
target value: \( < 100 \) V

![Persons charging diagram]
Interchangeable platform
placeholder for people mover
- 500 kg/m² maximum load

Technical data
max. load: 500 kg/m²
height:
  type 1: min. 120 to max. 170 mm adjustable
  type 2: min. 150 to max. 220 mm adjustable
total width (BG): 500 - 1,600 mm
total length (LG): 100 - 7,000 mm
base frame: aluminium extrusion, unanodized

BG = total width
LG = total length
Stage

- 500 kg/m² maximum load

**Technical data**

- max. load: 500 kg/m²
- height:
  - type 1: min. 120 to max. 170 mm adjustable
  - type 2: min. 150 to max. 220 mm adjustable
- total width (BG):
- total length (LG):
- base frame: aluminium extrusion, unanodized

**Diagrams**

- View AA

**Abbreviations**

- BG = total width
- LG = total length
Base frame

Assembly
MayTec custom extrusions provide high longitudinal and lateral stability

Height adjustibility

Application
Accessible from top with socket wrench
The system allows a fast and easy adjustment to the floor conditions.

Side cover

① adjustable cover strip
② adjustable cover strip
side cover can be adjusted to compensate for uneveness of flooring
Plastic sheet

type RESOPAL® HPL plate

Technical data
- sheet thicknesses: 10, 12, 13, 14, 16, 18, 20, 22, 24, 25, 26 mm
- sheet size: 2,180 × 915, 1,320 mm
- surface: HPL (high pressure laminate) - special coating paper with Melamin Formaldehyde resin
- colour: decor at discretion
- anti-slip coefficient: R9 according DIN 51130/BGR 181, step safety according Schuster
- core material: paper with Melamin Formaldehyde resin
- back side: HPL lamination (same as front side)
- electrical conductivity: ESD $10^9$ - $10^{11}$ Ω
- edges: 2 × 45° chamfer
- silicon free: yes

Surface HPL coating

<table>
<thead>
<tr>
<th>Type</th>
<th>Fire safety class</th>
<th>Electrical conductivity</th>
<th>Surface</th>
<th>Abrasion resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resopal Solid F</td>
<td>B1</td>
<td>0</td>
<td>Resopal HPL</td>
<td>AC 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ESD</td>
<td></td>
</tr>
<tr>
<td>Resopal Solid</td>
<td>B2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ESD</td>
<td></td>
</tr>
</tbody>
</table>

The chart shows typical values of electrical resistance of the conductive RESOPAL multi layer panel

<table>
<thead>
<tr>
<th>test method</th>
<th>value</th>
</tr>
</thead>
<tbody>
<tr>
<td>electrical resistance (in reference to a grounded point)</td>
<td>$10^7$ Ω to $10^8$ Ω</td>
</tr>
<tr>
<td>surface resistance (antistatic)</td>
<td>$10^8$ Ω to $10^{11}$ Ω</td>
</tr>
<tr>
<td>other properties</td>
<td>refer to PDB HPL</td>
</tr>
</tbody>
</table>

The measurements are performed with a measurement voltage of 100 V and a 2.5 kg electrode DIN EN 61340-5-1 and DIN EN 61340-4-1 Ed.2 with conductive rubber.
The electrical resistance is tested between the top surface of the material and a grounded conductive inside layer of the HPL sheet.
The electrical resistance of the surface is tested with two 2.5 kg electrodes connected to the panel surface.
Environmental conditions: standard climate with 18 - 25°C, relative humidity 50 - 65%
Plastic sheet

type DELIGNIT® industrial flooring

Technical data
sheet thicknesses: 20, 25, 30, 40 mm
sheet size: 2,500 x 1,000, 1,300, 1,500 mm
core material: construction plywood according EN 636-2 as supporting construction material for interior zones according CE 0765-CPD-0415 Blomberger Holzindustrie
B. Hausmann GmbH & Co. KG
04 EN 13986, EN 636-2 E3
wood type: beech, Brinell hardness HB = 34 N/mm²
back side: white resin coating or ESH painting
edges: 2 x 45° chamfer, transparent coating for splash guard
glueing: according EN 314-2 (class 2) adequate for most areas and protected outside areas
silicon free: yes

Surface painted

<table>
<thead>
<tr>
<th>Type</th>
<th>Fire safety class</th>
<th>Electrical conductivity</th>
<th>Surface</th>
<th>Abrasion resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional L</td>
<td>B1</td>
<td>ESD</td>
<td>paint-ESH-ESD</td>
<td>10.000 Taber</td>
</tr>
<tr>
<td>Professional B</td>
<td></td>
<td>DIF</td>
<td>lamination DIF</td>
<td>750 Taber</td>
</tr>
<tr>
<td>Basic L</td>
<td></td>
<td>ASF</td>
<td>paint ESH</td>
<td>10.000 Taber</td>
</tr>
<tr>
<td>Eco F</td>
<td>B2</td>
<td></td>
<td>film coating</td>
<td>750 Taber</td>
</tr>
<tr>
<td>Eco L</td>
<td></td>
<td></td>
<td>paint</td>
<td></td>
</tr>
</tbody>
</table>

Technical data
surface: painting or coating
colours: RAL 7008, 7035, 7045, 8000, transparent
anti-slip coefficient: R9 according DIN 51130/BGR 181 step safety according Schuster
electrical conductivity:
  DIF $1 \times 10^6 \ \Omega$ to $1 \times 10^9 \ \Omega$
  ESD $7.5 \times 10^5 \ \Omega$ to $3.5 \times 10^7 \ \Omega$

Surface HPL coating

<table>
<thead>
<tr>
<th>Type</th>
<th>Fire safety class</th>
<th>Electrical conductivity</th>
<th>Surface</th>
<th>Abrasion resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic HPL B1</td>
<td>B₉ - s1</td>
<td>ESD</td>
<td>Resopal HPL</td>
<td>AC 5</td>
</tr>
<tr>
<td>Basic HPL</td>
<td>D₉ - s1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical data
surface: HPL (high pressure laminate) - special coating
colour: beech decor
anti-slip coefficient: R9 according DIN 51130/BGR 181 step safety according Schuster
electrical conductivity: $10^9 \ \Omega$ to $10^{11} \ \Omega$
Combination possibilities

Variable working height

typical skid conveyor configuration

Combination possibilities

Belt

Stage

Interchangeable platform

120–220 mm

Belt

Stage

200–500 mm

Belt

Interchangeable platform

200–500 mm
AC servo motor with servo drive
type Minas A4

Technical data
- Motor speed: 3,000 RPM
- Voltage of connection: 230 V
- Control voltage: 230 V
- Voltage deviation: +10% -15%

Description | Weight | Product-No.
-------------|--------|-------------
Minas A4 400 W | 1.2 kg | 5MPAN.MSMD042P1C
Minas A4 750 W | 2.3 kg | 5MPAN.MSMD082P1C

Planetary gear box
type PLE 80/90

Technical data
- Operating noise: 60 db(A)
- Durability: 30,000 h
- Protection: IP 54

Description | Product-No.
-------------|-------------
PLE 80/90 i40 | SPNEU.PLE80/90-040
PLE 80/90 i100 | SPNEU.PLE80/90-100

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Reduction stages</th>
<th>Efficiency</th>
<th>Maximum torque Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:40</td>
<td>2</td>
<td>94 %</td>
<td>110</td>
</tr>
<tr>
<td>1:100</td>
<td>3</td>
<td>90 %</td>
<td>120</td>
</tr>
</tbody>
</table>
E-plug connections

Conveyor layout

Cable input

Cable output
Servo drive inside the conveyor speed adjustment with potentiometer

Optional Analysis output for servo drive integrated in conduit of each conveyor

Sensor cable for monitoring of motor speed at drive shaft integrated in conduit of each conveyor

Electrical connection
- each conveyor can be specified as master or slave and can be installed in a parallel or serial layout (up to 10 conveyors)
- mains supply 16 A with circuit breaker type C (1NPE 230 V / 50 Hz / 16 A)
- input wire 230 V (plug with connector housing Harting HAN-3A-M, 4-pin)
- input wire motor speed pre-selection plug M12, 4-pin
- 1 × output wire 230 V for parallel layout (socket Harting HAN-3A-M, 4-pin integrated in base frame)
- 1 × output wire 230 V for serial layout (socket Harting HAN-3A-M, 4-pin integrated in base frame)
- output wire motor speed pre-selection with status for servo drive plug M12, 4-pin
- each conveyor is protected with C4A circuit breaker
- protection IP 40
- potentiometer with socket M12, 4-pin (not included in scope of delivery)
- power supply to conveyor 1 (master) with Harting HAN-3A-M, 4-pin

Analysis output for servo drive integrated in conduit of each conveyor

Sensor cable for monitoring of motor speed at drive shaft integrated in conduit of each conveyor
Servo drive inside the conveyor speed adjustment according external index value

optional Analysis output for servo drive integrated in conduit of each conveyor

Sensor cable for monitoring of motor speed at drive shaft integrated in conduit of each conveyor

Electrical connection
- each conveyor can be specified as master or slave and can be installed in a parallel or serial layout (up to 10 conveyors)
- mains supply 16 A with circuit breaker type C (1NPE 230 V / 50 Hz / 16 A)
- input wire 230 V (plug with connector housing Harting HAN-3A-M, 4-pin)
- input wire motor speed pre-selection plug M12, 4-pin
- 1 × output wire 230 V for parallel layout (socket Harting HAN-3A-M, 4-pin integrated in base frame)
- 1 × output wire 230 V for serial layout (socket Harting HAN-3A-M, 4-pin integrated in base frame)
- output wire motor speed pre-selection with status for servo drive plug M12, 4-pin
- each conveyor is protected with C4A circuit breaker
- protection IP 40
- input socket for external index value M12, 4-pin
- power supply to conveyor 1 (master) with Harting HAN-3A-M, 4-pin
Servo drive with external control cabinet
speed adjustment according external index value

**Electrical connection**
- mains supply 16 A with circuit breaker type C (1NPE 230 V / 50 Hz / 16 A)
- motor speed parameter: analog index value
- inverter enabling: activation 24 V DC
- error reset: activation 24 V DC
- motor cord: type MFMCA □□□□□□ EED-S
- resolver cord: type MFECA □□□□□□ EAM-S (□ in m)
- external motor speed analysis
- counter signal 24VCD PNP switching (min. 5 Hz) with plug M12×1
- protection IP 40
- motor cord
- external control cabinet

**optional**

**Analysis output for servo motor optional integrated in external control cabinet at the servo drive**

**Sensor cable for monitoring of motor speed at drive shaft**
People Mover System

People movers with Kanban trolleys
### Concept layout "Large Line"

**Calculation:**

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Surface area</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pcs. 48,000</td>
<td>3,200</td>
<td>308 m²</td>
</tr>
<tr>
<td>2 pcs. 24,000</td>
<td>3,200</td>
<td>154 m²</td>
</tr>
<tr>
<td>2 pcs. 66,000</td>
<td>3,200</td>
<td>423 m²</td>
</tr>
<tr>
<td>2 pcs. 36,000</td>
<td>3,200</td>
<td>230 m²</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>1,115 m²</strong></td>
</tr>
</tbody>
</table>

---

### Concept layout "MayTec People Mover"

**Calculation:**

<table>
<thead>
<tr>
<th>Length</th>
<th>Width</th>
<th>Surface area</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 pcs. 6,000</td>
<td>800</td>
<td>528 m²</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>528 m²</strong></td>
</tr>
</tbody>
</table>
extremely strong

efficient

functional

The key...

to success

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