Modular plastic belt conveyor WL

Wide conveyor for transport and accumulation
The WL conveyor system offers many of the benefits of the original FlexLink conveyor system. The added advantage of a wide belt (up to 600 mm) permits effective transport and accumulation in several different configurations. Many accessory components of the original FlexLink system will fit, including guide rail components and supports. Most components are attached by means of T-slot fasteners, ensuring maximum flexibility. Nothing is welded. Only a minimum of cutting and drilling will be required to install a conveyor and have it running.

Belt width 304/406/608 mm

Typical applications
The WL conveyor system is designed for transport and accumulation of lightweight goods such as:
- Secondary packaging of food and hygiene products
- Pouches
- Shrink wrapped products
- Card board boxes
- Plastic containers

Technical specifications
- Maximum speed: 40 m/min
- Maximum conveyor length: 15 m
- Product weight: up to 30 kg
- Total load: up to 250 kg
- Max. product weight per belt pitch: 1.5 kg/belt section

Belt tension limit:
- Conveyor with bend: 1000 N
- Conveyor without bend: 1200 N

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Conveyor sections

The modular plastic belt conveyor in three widths – 322, 424 and 626 mm – can be built as straight sections or in S, U or L-shape with 30, 45, 60 or 90° horizontal bend, or combinations thereof. Vertical bends are available in 5° and 15°.

Note! A combination of horizontal and vertical curves are not recommended.
Belts – introduction

Links and plastic rods

The belt consists of plastic hinge-type links connected by plastic rods. The belt is woven together by 102 mm, 124 mm and 180 mm wide links. The assembled belt forms a wide, flat and tight conveyor surface. Three standard widths of belt can be delivered, 304 mm, 406 mm and 608 mm.

**Technical characteristics**

<table>
<thead>
<tr>
<th>Belt type</th>
<th>Belt material</th>
<th>Plastic rod material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain belt</td>
<td>Acetal</td>
<td>Polyamide</td>
</tr>
<tr>
<td>Friction top belt</td>
<td>Polypropylene</td>
<td>Acetal</td>
</tr>
</tbody>
</table>

**Belt width**

<table>
<thead>
<tr>
<th>Belt width</th>
<th>304/406/608 mm</th>
</tr>
</thead>
</table>

**Belt weight**

| Belt weight (Polypropylene) | 9.3 kg/m² |
| Belt weight (Acetal) | 14.9 kg/m² |

**Belt pitch**

| Belt pitch | 25.4 mm |

**Max. permissible belt tension**

| With bend | 1000 N |
| Without bend | 1200 N |

**Max. permissible belt tension for Friction top belt**

| With bend | 700 N |
| Without bend | 1000 N |

**Temperature range (Polypropylene)**

| 1 °C to +60 °C |

**Temperature range (Acetal)**

| –46 °C to +60 °C |

**Ordering information**

The belt is delivered in assembled 1 m lengths. To calculate the total length required, remember to add for belt consumed by the idler and drive units.
Belts

Plain belt

Length 1 m
Acetal
304 mm wide, WL322
406 mm wide, WL424
608 mm wide, WL626

WLTP 1A304 H
WLTP 1A406 H
WLTP 1A608 H

Friction top belt

Length 1 m
Polypropylene
304 mm wide, WL322
406 mm wide, WL424
608 mm wide, WL626

WLTP 1A304 FA
WLTP 1A406 FA
WLTP 1A608 FA

Friction top belt increases the friction between product and chain and can often be used for 20° slopes.

Note! Can only be used in straight sections and in combination with Vertical bends, a combination with Plain bends are not allowed.

Roller kit

Roller kit, centre belt support wheel/roller
Kit for Friction top belt WLTP 1A608 FA, includes mounting hardware.

8050050

Centre belt support wheel/roller
Conveyor frame components – introduction

Frame profiles and cross bars
Conveyor frame sections are built from the following components:

- Frame profile (3 m or cut to any length from 0.5 m up to 3 m)
- Centre support profile
- Beam for cross bar
- Fastener yoke
- Mounting hardware

Each 3 m frame section consists of two frame profiles connected by four cross bars. The conveyor chain slides on the top edges of the frame profiles, and returns on the bottom side. Plastic slide rails ensure a low friction contact between chain and conveyor frame.

One or more centre support profiles is used to prevent the centre portion of the chain from sagging with heavy loads. A centre support profile should be used every 200 mm, except for very light loads. The 626 mm wide conveyor also requires a centre chain support in type of profile for standard plain belt and a Roller kit for Friction top belt on the bottom side.

Suggested support layouts are shown on page 401. For support components refer to catalogue section Conveyor support components.

Conveyor dimensions

<table>
<thead>
<tr>
<th>Width</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>322</td>
<td>1160</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>424</td>
<td>1160</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>626</td>
<td>1160</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Minimum conveyor length

Ordering information
Slide rail, connecting strips, and connecting sleeves must be ordered separately.
Conveyor frame components

**Conveyor beam**

Conveyor beam, WL322
Length 3000 mm
Length to order (500-3000 mm)

Conveyor beam, WL424
Length 3000 mm
Length to order (500-3000 mm)

Conveyor beam, WL626
Length 3000 mm
Length to order (500-3000 mm)

*The beam section is delivered unassembled.*

**Conveyor frame profile**

Frame profile
Length 3000 +10/-0 mm
Length to order (30-3000 mm)

WLCF 3x113
WLCF Lx113

**Centre support profile**

Centre support profile
Length 3000 +10/-0 mm
Length to order (30-3000 mm)

WLCN 3x20
WLCN Lx20

**Connecting strips for beam**

Connecting strip
XSCJ 6x160

**Cleat**

Cleat
XWCP 20

Mounting:
One each of MC6S 6x14, BRB 6.4x12, XFAN 6

**Connecting sleeve kit**

Connecting sleeve
Length 100 mm
Including set screws

8050045

**T-slot nut**

T-slot nut
M6
M6, multipack (500 pcs)

XFAN 6*
5056130

*Note. Must be ordered in multiples of 10
Conveyor frame components (continued)

**Support rail**
- Support rail, length 25 m
  - PA-PE (Grey)
  - **WLCS 25x5 H**

**Fastener yoke**
- Fastener yoke
  - Steel, electro-zinc-plated
  - Length 30 mm
  - **WLAF 30**

**Spacer beam**
- Spacer beam 30 mm x 30 mm
  - Length 279 mm
  - **8050032**
  - Length 381 mm
  - **8050033**
  - Length 583 mm
  - **8050034**

**Beam section for belt installation**
- Beam section kit
  - WL322
  - WL424
  - WL626
  - **WLCC 322**
  - **WLCC 424**
  - **WLCC 626**
  - Including connection strips and screws

**Cover strip for T-slot, PVC**
- Cover strip for T-slot
  - Length 3 m
  - Grey PVC
  - **XCAC 3 P**
  - Note! Can't be used with bends

**Cover strip for T-slot, PVC**
- Cover strip for T-slot
  - Length 25 m
  - Grey PVC
  - **XCAC 25 P**

**Cover strip for T-slot, aluminium**
- Cover strip for T-slot
  - Aluminium, anodized
  - Length 2 m
  - **XCAC 2**
  - Note! Can't be used with bends

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Conveyor frame components 393
Slide rail

Slide rail

Slide rail, length 25 m
PA-PE (Grey)
PA-PE (Grey)

XBCR 25 H
XBCR 25 HB

Mounting tool for slide rail

Mounting tool for slide rail

WLMR 135
Drive units – introduction

Drive unit types
The WL system includes direct driven units with or without slip clutch. The belt is guided through the drive unit eliminating any pinch point in the drive unit.
Available motors include variable speed types (V) as well as fixed speed motors (F).

Motor specifications
Motors are available for 230/400 V, 50 Hz and 230/460 V or 330/575 V, 60 Hz. All motors can be connected for delta or star configuration by means of jumpers.
Variable speed motors are SEW Movimot, 380–500 V. Note that variable speed motors include a control box that adds 93 mm to the width of the motor.

Technical specifications
Maximal speed ......................... 40 m/min
Number of teeth on sprocket wheel ... 2x16

Number of sprocket wheels vs. conveyor width

<table>
<thead>
<tr>
<th>Width</th>
<th>322 mm</th>
<th>424 mm</th>
<th>626 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprocket wheels</td>
<td>5</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

Ordering information
Drive units with motors must be specified using the web-based configurator. The configurator provides detailed information and step-by-step guidance in the specification process. A product code string is generated, containing the specification details. See next page for examples of code strings.
Drive units without motors can be ordered using the designations in the catalogue.
- Connecting strips are included with the drive units.
- Slide rail must be ordered separately.

Dimension drawings in catalogue
Note that dimensions relating to drive unit motors depend on the motor specified during the configuration. In most cases, the motors shown in the catalogue drawings represent the largest size. If variable speed motors are used, some dimensions may increase, indicated by dimension values xxx (V: yyy). V represents the max dimension using variable speed motor.
End drive units, direct drive, no slip clutch

End drive unit L/R, WL322

- Fixed/variable speed
- Without motor:
  - Transmission on left side
  - Transmission on right side

WLEB A322
WLEB 0A322NLP
WLEB 0A322NRP

* Use online configurator when ordering
Effective track length: 0.80 m

End drive unit L/R, WL424

- Fixed/variable speed
- Without motor:
  - Transmission on left side
  - Transmission on right side

WLEB A424
WLEB 0A424NLP
WLEB 0A424NRP

* Use online configurator when ordering
Effective track length: 0.80 m

End drive unit L/R, WL626

- Fixed/variable speed
- Without motor:
  - Transmission on left side
  - Transmission on right side

WLEB A626
WLEB 0A626NLP
WLEB 0A626NRP

* Use online configurator when ordering
Effective track length: 0.80 m
End drive units, direct drive with slip clutch

End drive unit L/R with slip clutch, WL322

- Fixed/variable speed*
- Without motor:
  - Transmission on left side
  - Transmission on right side

- Use online configurator when ordering
- Effective track length: 0.80 m

End drive unit L/R with slip clutch, WL424

- Fixed/variable speed*
- Without motor:
  - Transmission on left side
  - Transmission on right side

- Use online configurator when ordering
- Effective track length: 0.80 m

End drive unit L/R with slip clutch, WL626

- Fixed/variable speed*
- Without motor:
  - Transmission on left side
  - Transmission on right side

- Use online configurator when ordering
- Effective track length: 0.80 m
Idler end units – introduction

Chain guidance at end of conveyor
The idler end unit is used to guide the chain from the return side of the conveyor up to the top side with a minimum of friction. The chain is guided by three or more idler wheels on a common, rotating shaft supported by ball bearings.

Number of idler wheels vs. conveyor width

<table>
<thead>
<tr>
<th>Width</th>
<th>322 mm</th>
<th>424 mm</th>
<th>626 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idler wheels</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Ordering information
- Connecting strips are included with the idler end units.
- Slide rail must be ordered separately.

Idler units

Idler end unit, WL322
Effective track length: 0.80 m

Idler end unit, WL424
Effective track length: 0.80 m

Idler end unit, WL626
Effective track length: 0.80 m
**Plain bends**

- **Plain bend, 30°**
  - R=820±10 mm, WL322
  - R=1100±10 mm, WL424
  - R=1650±10 mm, WL626
  - Effective track lengths:
    - R820: 1,85 m (top+bottom)
    - R1100: 2,20 m (top+bottom)
    - R1650: 2,90 m (top+bottom)

- **Plain bend, 45°**
  - R=820±10 mm, WL322
  - R=1100±10 mm, WL424
  - R=1650±10 mm, WL626
  - Effective track lengths:
    - R820: 2,35 m (top+bottom)
    - R1100: 2,90 m (top+bottom)
    - R1650: 3,90 m (top+bottom)

- **Plain bend, 60°**
  - R=820±10 mm, WL322
  - R=1100±10 mm, WL424
  - R=1650±10 mm, WL626
  - Effective track lengths:
    - R820: 2,85 m (top+bottom)
    - R1100: 3,55 m (top+bottom)
    - R1650: 4,90 m (top+bottom)

- **Plain bend, 90°**
  - R=820±10 mm, WL322
  - R=1100±10 mm, WL424
  - R=1650±10 mm, WL626
  - Effective track lengths:
    - R820: 3,85 m (top+bottom)
    - R1100: 4,90 m (top+bottom)
    - R1650: 6,95 m (top+bottom)
Vertical bends

**Vertical bend, 5°**

Vertical bend, 5°, WL322  
Vertical bend, 5°, WL424  
Vertical bend, 5°, WL626  
*Effective track length: 0.50 m (top+bottom)*

**Vertical bend, 15°**

Vertical bend, 15° WL322  
Vertical bend, 15° WL424  
Vertical bend, 15° WL626  
*Effective track length: 0.75 m (top+bottom)*
Support designs

Support components

The illustrations on this page show recommended supports for the conveyor. All supports are built using components from FlexLink structural system XC. See main catalogue section Conveyor support components for more information.

System WL626 requires some additional support, please see page 402 for details.

We recommend using a drill fixture for Type 1 supports. Item no. 8050040

Height and width of supports Type 1 and 2

<table>
<thead>
<tr>
<th></th>
<th>WL322</th>
<th>WL424</th>
<th>WL626</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1 (mm)</td>
<td>322</td>
<td>424</td>
<td>626</td>
</tr>
<tr>
<td>L1 (mm)</td>
<td>ca. H1-100</td>
<td>ca. H1-100</td>
<td>ca. H1-100</td>
</tr>
<tr>
<td>W2 (mm)</td>
<td>172.5</td>
<td>274.5</td>
<td>476.5</td>
</tr>
<tr>
<td>L2 (mm)</td>
<td>ca. H2-284</td>
<td>ca. H2-284</td>
<td>ca. H2-284</td>
</tr>
</tbody>
</table>

Suggested support components

<table>
<thead>
<tr>
<th>Pos</th>
<th>Item</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Type 1</td>
</tr>
<tr>
<td>1</td>
<td>Beam support bracket</td>
<td>--</td>
</tr>
<tr>
<td>2</td>
<td>Leg support</td>
<td>XCFBL 3×44×88</td>
</tr>
<tr>
<td>3</td>
<td>Foot</td>
<td>XCFS 12×68</td>
</tr>
<tr>
<td>4</td>
<td>End cap</td>
<td>XCBE 44×88</td>
</tr>
<tr>
<td>5</td>
<td>Angle bracket</td>
<td>XCFB 88 B</td>
</tr>
<tr>
<td>6</td>
<td>Cross beam</td>
<td>XCBL 3×44×88</td>
</tr>
<tr>
<td>7</td>
<td>End plate for beam</td>
<td>XCFE 44×88 M12A</td>
</tr>
</tbody>
</table>
Support designs (continued)

Additional support for WL626

System WL626 requires extra support due to the width of the conveyor.

<table>
<thead>
<tr>
<th>Pos</th>
<th>Item</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cleat</td>
<td>XWCP 20</td>
</tr>
<tr>
<td>2</td>
<td>Support profile 669 mm</td>
<td>XFBM Lx30</td>
</tr>
<tr>
<td>3</td>
<td>Support bracket 669 mm</td>
<td>XLDB 21x100</td>
</tr>
<tr>
<td>4</td>
<td>Cross beam</td>
<td>XCBL 3×44×88 Used together with leg support XCBL 3×44×88</td>
</tr>
<tr>
<td>5</td>
<td>Cross beam</td>
<td>XCBL 3×64 Used together with leg support XCBL 3×64</td>
</tr>
</tbody>
</table>

Fastening material:

- XFAN 6
- MC6S 6x14
- BRB 6,4X12

Fastening material:

- XCAN 8
- M6S 8x14

Drill fixture

Drill fixture 8050040

See figure “Suggested support components” on page 401