

Modular belt conveyor WL678X

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System information



System overview

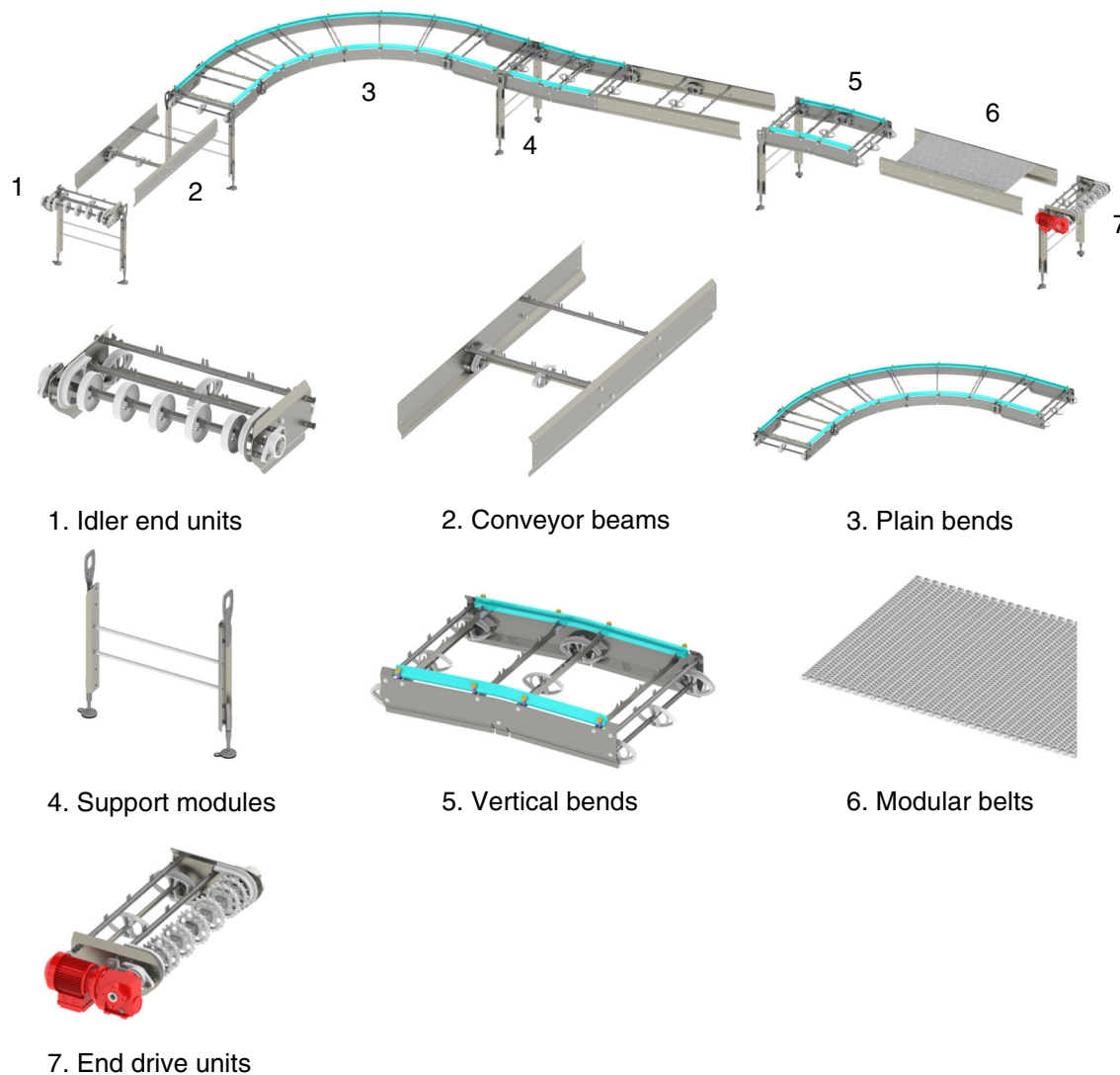
FlexLink's newly developed stainless steel conveyor is designed to fit into demanding primary and secondary packaging applications. It addresses important aspects of today's packing processes, such as being easy to clean, smooth handling of products, safe for operators, robust design, long life, and easy to maintain with a low cost of ownership.

The modularized and standardized design ensures fast set up, and facilitates rapid future extensions and changes.

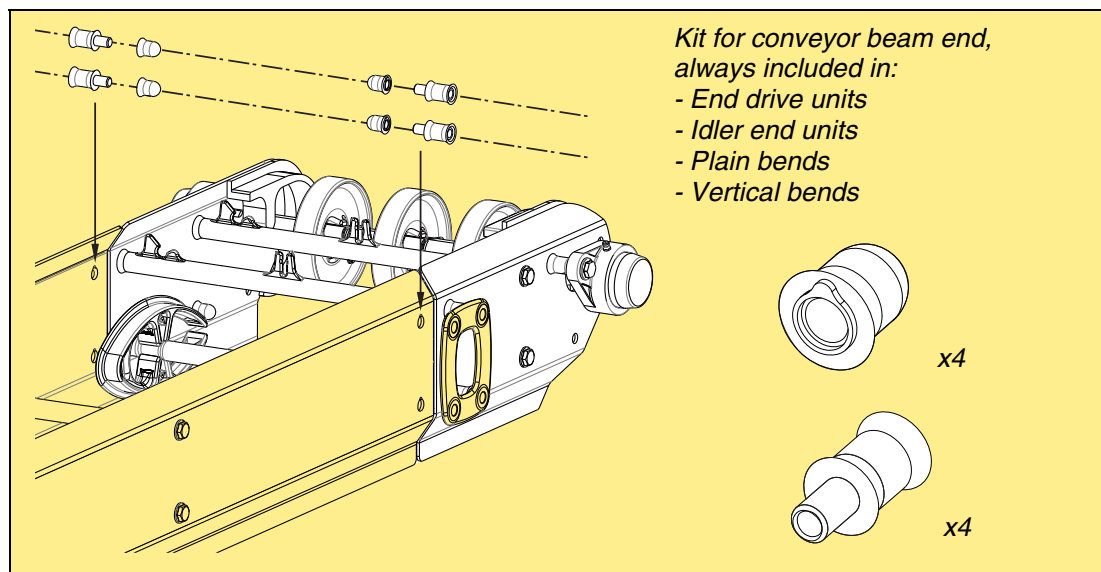
Technical specifications

Maximum speed:	40 m/min
Maximum conveyor length:	20 m
Max single item weight:	up to 30 kg
Total load on a conveyor:	300 kg
Max product weight per belt pitch:	1,5 kg/slide rail
Max permissible pull force (with bends):	1000 N
Max permissible pull force (without bends):	1200 N

PO
X70X
X85X
X180X
X300X
WL
222X
WL
273X
WL
374X
WL
526X
WL
678X
CSX
GRX
FSTX
TR
APX
IDX



The modular plastic belt conveyor in five widths – 222, 273, 374, 526 and 678 mm – can be built as straight sections or in S, U or L-shape with 30, 45, 60, 90° (180° only for 222 and 273) horizontal bend, or combinations thereof. Vertical bends are available in 5° (3° only for 222 and 273) positive or negative.



Modular Belts - Introduction



Modular belt, Radius flush grid, curve-running

The belt consists of plastic hinged links connected by plastic rods. The wide belts are woven together by links that are 102 mm, 124 mm, and 180 mm wide. The assembled belt forms a wide, flat, and tight conveyor surface. Five standard widths of belt can be delivered: 152 mm, 203 mm, 304 mm, 456 mm, and 608 mm.

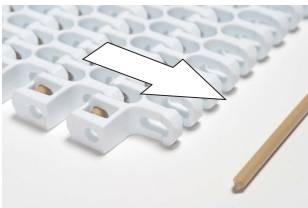
Standard belt color is white but blue belts can also be ordered.

Belts with polyamide pins are available for dry or semi-wet applications. In constant wet applications, belts with acetal pins must be used. This is due to the fact that polyamide pins will absorb water and swell in wet applications, and acetal pins will squeak in dry environments.

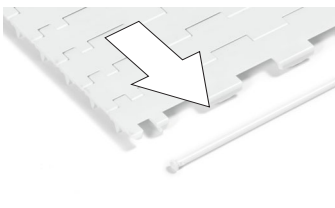
Flat top belt, straight running

The belt has a minimal number of seams and has open hinges that are easy to clean. The belt is white and is available with acetal pins for wet applications

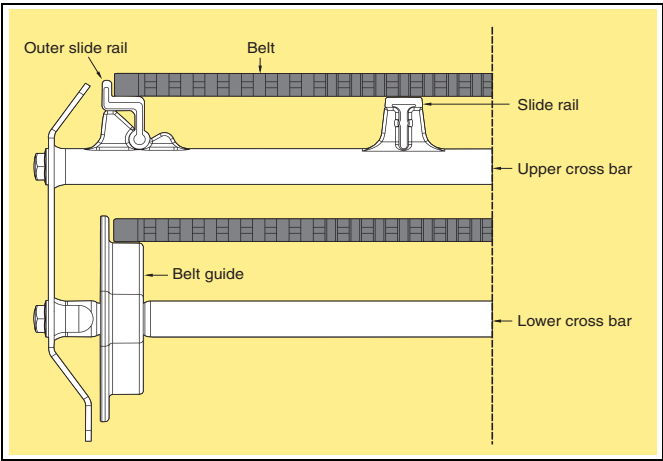
Travel direction of the belts:



Radius flush grid



Flat top belt



Technical characteristics

Belt width	608 mm
Modular belt weight (Acetal)	
Radius flush grid	4,57 kg/m
Flat top belt	4,78 kg/m
Modular belt height	
Radius flush grid	13 mm
Flat top belt	10 mm
Belt pitch	25,4 mm
Max. permissible belt tension	
Belt width 304	670 N
Belt width 456 and 608	1000 N
With bend	1000 N
Without bend	1200 N

P0

X70X

X85X

X180X

Tools and accessories

The belt should be pretensioned with a return slack of about 25 mm. Too much belt slack is a safety risk as the belt can hang below the side of the conveyor beam. A belt tensioner tool (51 18803) is available in order to facilitate installation of the belt and minimize the amount of slack in the return belt.

X300X

WL

222X

WL

273X

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.

WL

374X

WL

526X

WL

678X

CSX

GRX

FSTX

TR

APX

IDX

Modular belts

Radius flush grid belt, Wet



Plain belt

Belt material Acetal (POM)

Pin material Acetal (POM), white

Length 1 m

608 mm wide, White

608 mm wide, Blue

WLTP 1A608L W
WLTP 1A608L WB

Flat top belt



Flat top belt

Belt material Acetal (POM)

Pin material Acetal (POM), white

Length 1 m

608 mm wide

WLTP 1B608 W

Radius flush grid belt, Dry



Plain belt

Belt material Acetal (POM)

Pin material Polyamide (PA), brown

Length 1 m

608 mm wide, White

608 mm wide, Blue

WLTP 1A608L
WLTP 1A608L B

Radius flush grid belt, Wet



Plain belt

Belt material Acetal (POM)

Pin material Acetal (POM), white

Length 1 m

608 mm wide, White

608 mm wide, Blue

WLTP 1A608L W
WLTP 1A608L WB

Belt tensioner tool for radius flush grid

Belt tensioner tool

5118803

Radius flush grid belt, Wet (Spare part - Available as request for quote item)



Plain belt
Belt material Acetal (POM)
Pin material Acetal (POM), white
Length 1 m
608 mm wide, White
608 mm wide, Blue

WLTP 1A608 W
WLTP 1A608 WB

Note! For use with belt delivered before April 2019

Radius flush grid belt, Wet (Spare part - Available as request for quote item)



Plain belt
Belt material Acetal (POM)
Pin material Acetal (POM), white
Length 1 m
608 mm wide, White
608 mm wide, Blue

WLTP 1A608 W
WLTP 1A608 WB

Note! For use with belt delivered before April 2019

Radius flush grid belt, Dry (Spare part only)

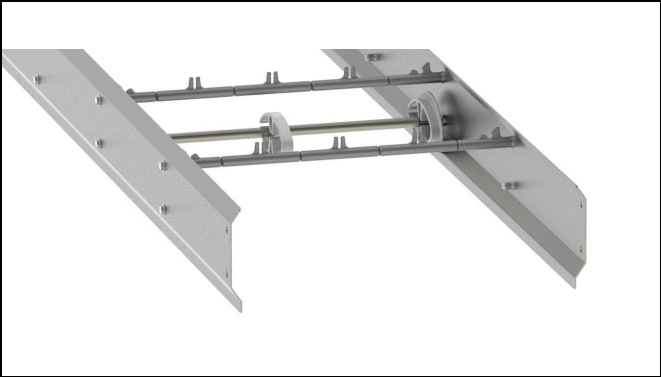


Plain belt
Belt material Acetal (POM)
Pin material Polyamide (PA), brown
Length 1 m
608 mm wide, White
608 mm wide, Blue

WLTP 1A608
WLTP 1A608 B

Note! For use with belt delivered before April 2019

PO
X70X
X85X
X180X
X300X
WL 222X
WL 273X
WL 374X
WL 526X
WL 678X
CSX
GRX
FSTX
TR
APX
IDX



Conveyor frame structure

Frame profiles and cross bars

In order to facilitate cleaning, the top belt can be lifted up and the outer slide rails can be folded back.

For hygiene reasons, the WLX system is based on an easy-to-clean, free hanging return belt.

Elongation of the belt due to load is normally evenly distributed on the return side and along the whole conveyor, and placement of the belt guides for the return belt is critically important for proper conveyor system performance. Conveyor beams can be ordered from 142 mm up to 3000 mm and are always pre-engineered and configured according to the rules that must be followed.

Conveyor beams are normally not symmetrical, which is why they have an upstream and downstream end. An arrow label on the conveyor beam side indicates the appropriate top belt travel direction to ensure correct assembly.

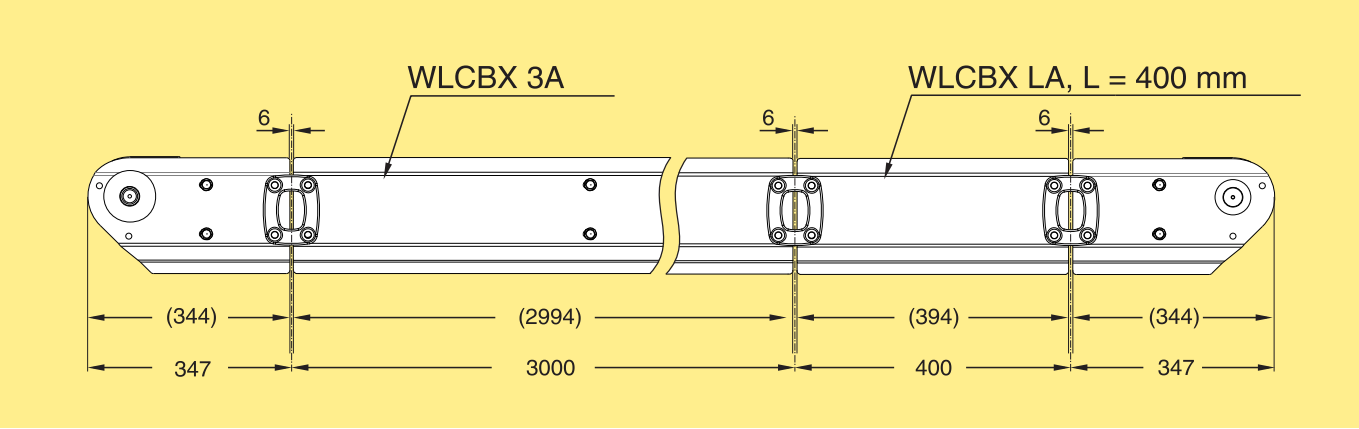
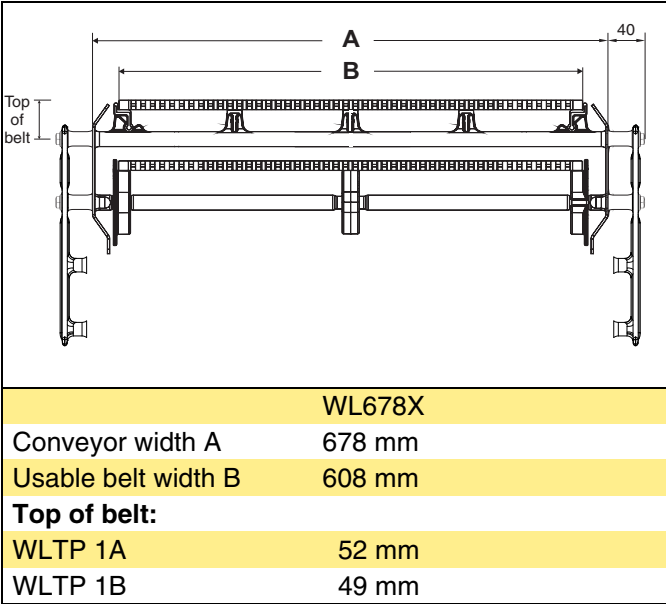
Components such as plain bends, etc., cannot be placed too close to an End drive unit. Therefore, the minimum permissible length for conveyor beam sections

when connecting to an End drive unit is 844 mm. This ensures a sufficient amount of return belt tension directly after the drive sprocket to avoid slack close to the sprocket wheel. The return belt hanging between the first two belt guides provides this belt tension (called back tension). For more information see WLX Engineering guidelines.

Connecting brackets have to be ordered separately when joining End drives, idler ends, conveyor beams, etc.

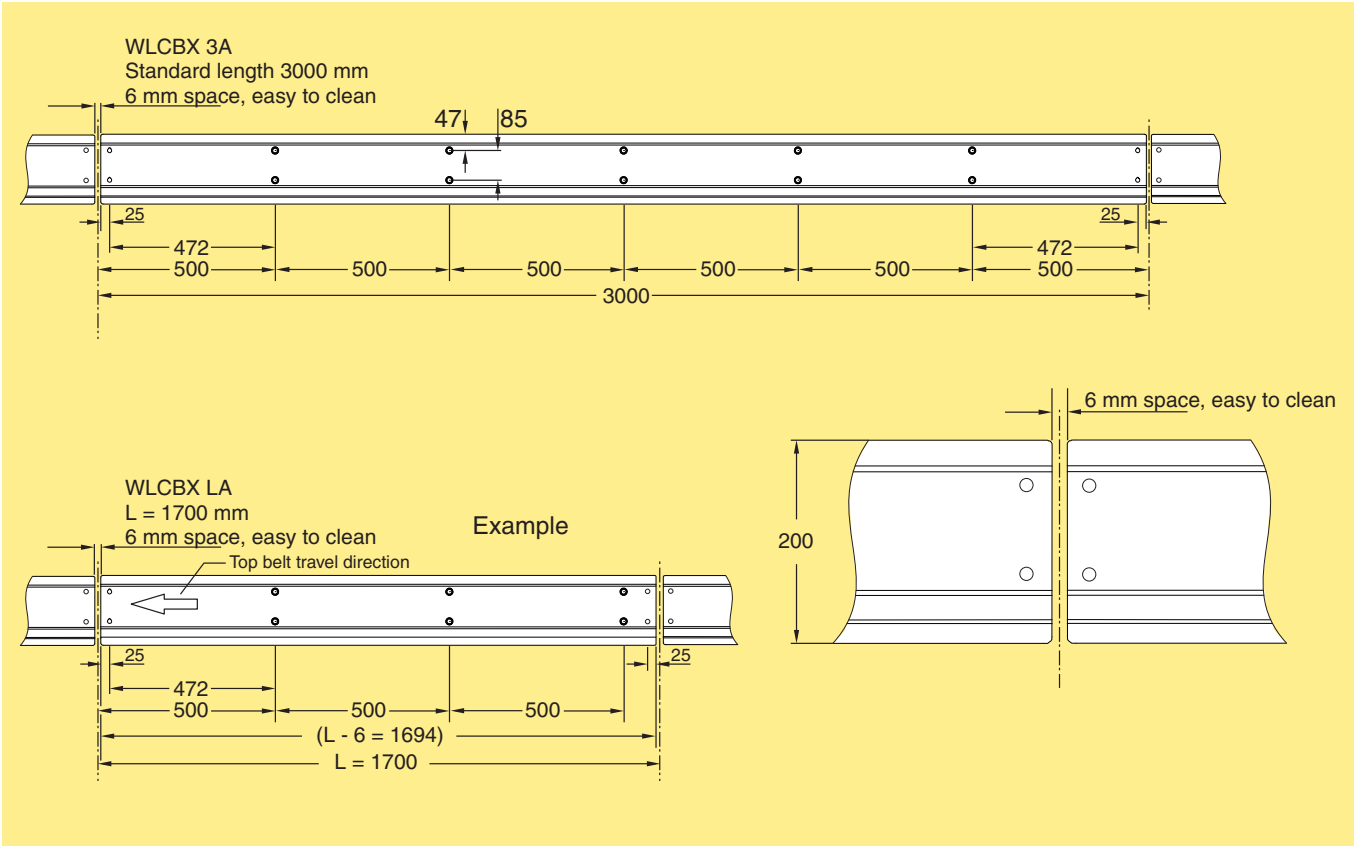
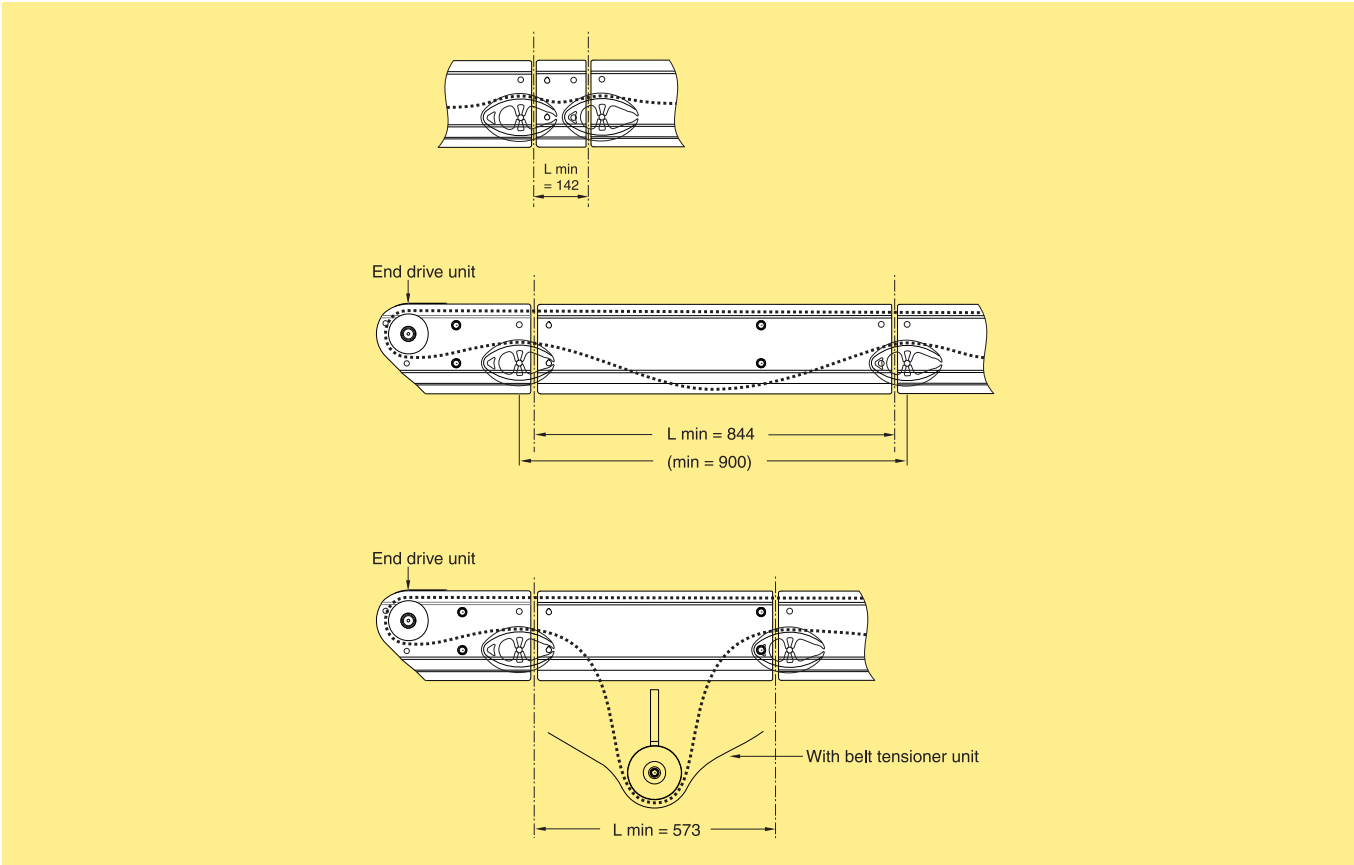
When joining two conveyor beams, a beam spacer kit must be ordered separately.

Conveyor dimensions



Technical specifications

Minimum permissible conveyor beam length to be connected:



Lift arms for straight conveyors

In order to simplify the cleaning process FlexLink offers belt lift arms for straight conveyors.

The lift arms are assembled to the beam WLCBX LA678 C and are compatible with these belts:

- WLTP 1A608L W
- WLTP 1A608L WB

A Belt tensioner unit has to be added for proper function. See “Belt tensioner unit” on page 180.

Use the online configurator and FlexLink Online Store

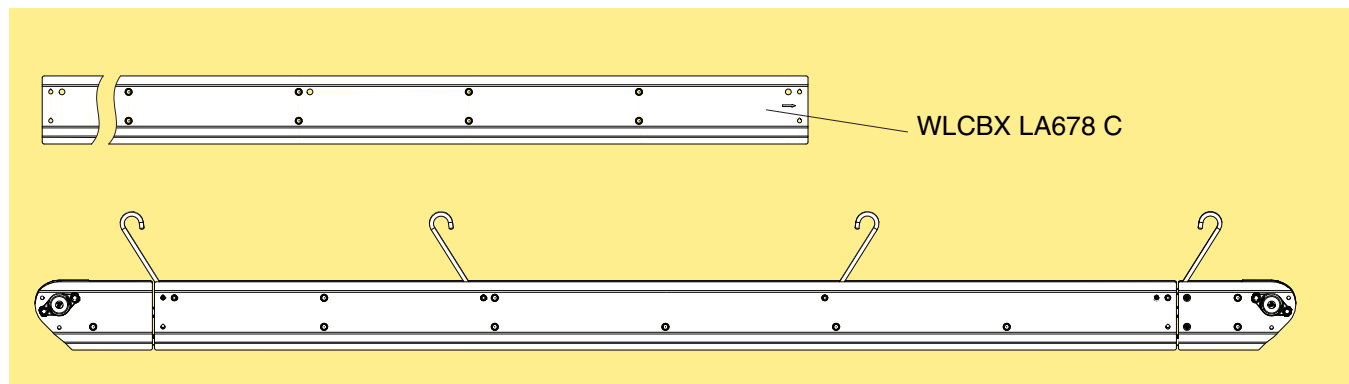
To to acquire a straight conveyor with lift arms, you'll need:

- A beam with pre-drilled holes for assembly of lift arms.
- Two extra cross bars.
- A number of lift arms. The number depends on the conveyor length.

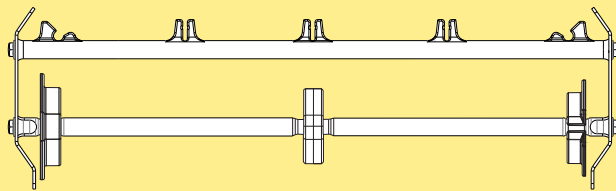
This is calculated automatically and the configurator generates a Bill of Material (BoM). Enter the items on the BoM into FlexLink Online Store.



Examples

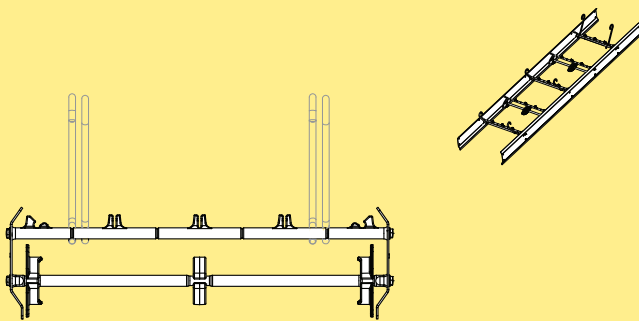


Conveyor beam, Easy Clean



Conveyor beam, WL678X
Length 3 m (3000 ±1,2 mm) **WLCBX 3A678**
Length to order (142- 2999 mm) **WLCBX LA678**
Weight, 1 m, incl. belt: 25 kg/m

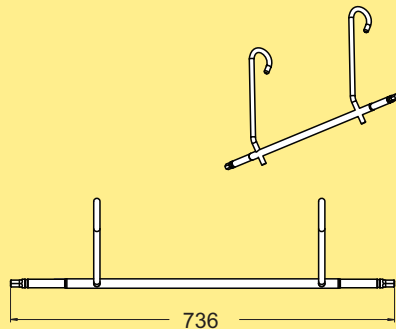
Conveyor beam, Easy Clean for lift arm(s)



Conveyor beam, WL678C
Length 3 m (3000 ±1,2 mm) **WLCBX 3A678 C**
Length to order (142- 2999 mm) **WLCBX LA678 C**

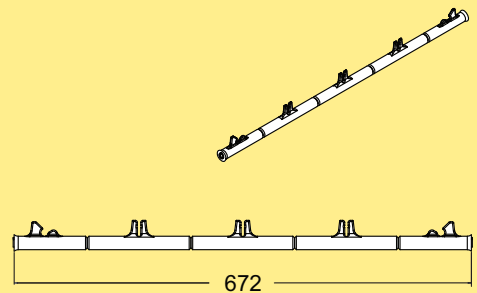
** Use online configurator when ordering.*
Effective track length: 2,1 m
Weight, incl belt: 25 kg/m

Lift unit WL678X



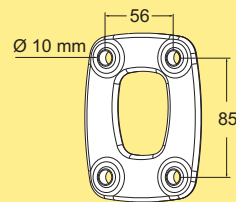
Lift unit WL678X **FLX1012354**

Crossbar WL678X



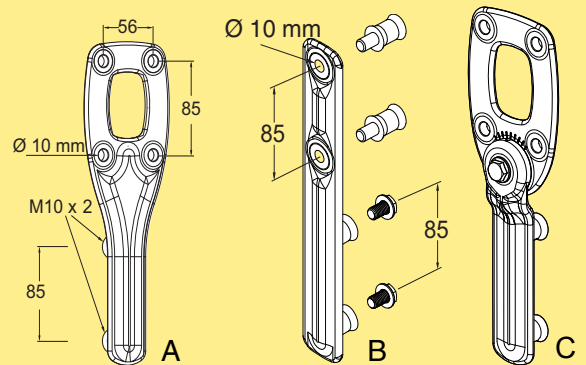
Crossbar WL678X **FLX1012353**
Including 2 pcs XCASX 10X16

Connecting bracket kit



Connecting Bracket
For beam
Including 4 pcs M10 screws **WLCJX 10X56**

Beam support brackets



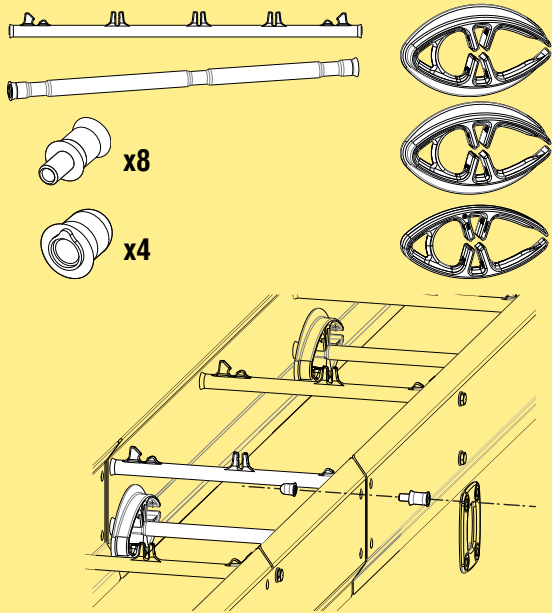
Beam support bracket (A) **WLCSX 10X56**
Including 6 pcs M10 screws

Beam support bracket (B) **WLCSX 10**
Including 2 pcs M10 screws and
2 pcs spacer WLRDX M10X25

Beam support bracket (C) **WLCSX 10X56V40**
Adjustable ±40°

PO
X70X
X85X
X180X
X300X
WL 222X
WL 273X
WL 374X
WL 526X
WL 678X
CSX
GRX
FSTX
TR
APX
IDX

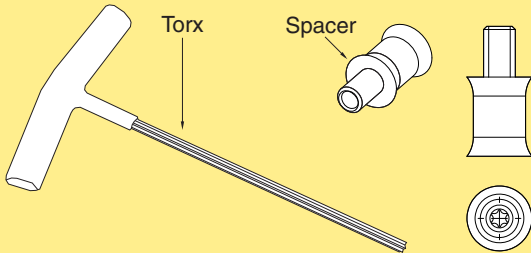
Beam spacer Kit for WL678



Beam spacer kit

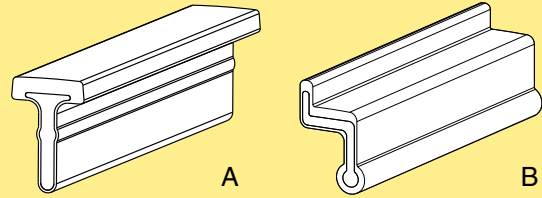
WLCEX A678

Recommended Torx tool for fasten spacer
Size T30



Slide rail

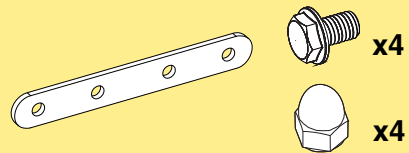
Slide rail



Slide rail, length 3 m
Slide rail (A)
Outer slide rail (B)

**WLCRX 3
WLCRX 3 B**

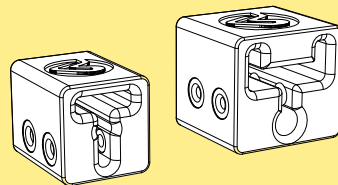
Connecting Strip



Connecting strip kit
Contains 10 pcs.

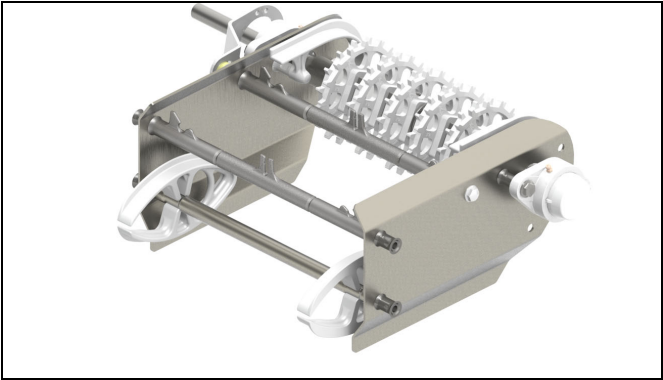
WLAHX 100

Drill fixture for connecting strip



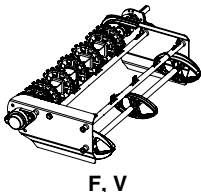
Contains drill fixtures for both
WLCRX 3 and WLCRX 3B

5118922



End drive unit

End drive units

Size	Direct drive, no slip clutch
Drive unit types	 F, V

Drive unit types

A soft motor start is recommended for use with high-speed and long conveyors. This is because these types of modular belts are quite heavy, and the free hanging return belt can begin to oscillate momentarily during startup.

A grease nipple is included in all flange bearings. The bearings are initially filled with FDA-approved, food-grade grease (NSF H1).

End drive units including SEW motors IP 65, can be ordered with food-grade oil and stainless steel hollow shafts in the web-based configurator.

Motor specifications

Motors are available for 230/400 V, 50 Hz and 230/460 V, 60 Hz. Variable speed motors are SEW Movimot, 380–500 V. Note that variable speed motors include a control box that adds 120 mm to the width of the motor.

IP55 available with standard oil.
IP65 available with food grade oil.

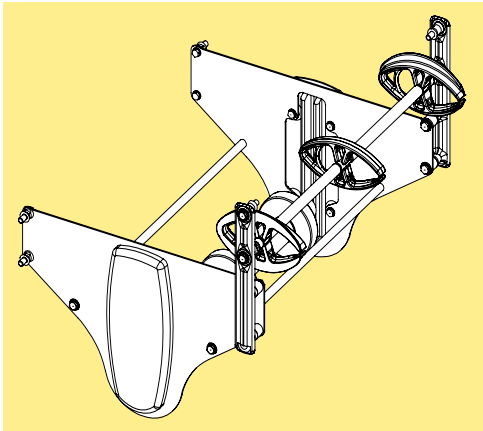
Technical specifications

Maximal speed..... 40 m/min
Number of teeth on sprocket wheel... 16

Belt tensioner unit

A belt tensioner unit should always be placed near the End drive unit and its use is recommended:

- for long conveyors >20 meters
- for long conveyors >15 m and a speed of >30 m/min
- for conveyors with frequent starts/stops, especially if the load is high
- if an End drive unit needs to be placed close to a plain bend
- if an End drive unit needs to be placed on the lower part next to a conveyor slope section
- for short conveyors where the belt slack length is insufficient to lift the belt for cleaning



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 brackets have to be ordered separately.
- Slide rail must be ordered separately.

Dimension

Note that dimensions relating to drive unit motors depend on the motor specified during the configuration.

P0
X70X
X85X
X180X
X300X
WL 222X
WL 273X
WL 374X
WL 526X
WL 678X
CSX
GRX
FSTX
TR
APX
IDX

Drive units – configuration strings

Below are two examples of text strings obtained from the configurator with explanations.

Drive unit with fixed speed motor

Item no	A	B	D	E	G	H	I
	HNP	-	L	-	V4	-	SA37 - 50/230 - 0,18kW - TF

Drive unit with variable speed motor

Item no	A	B	D	E	F	G	J	K
	HPV	-	L	-	V6-15	SA37	-	MM03 - 50/380-500 - C - P

Item no - Drive type

WLEBX: End drive

A – 0-Unit

HNP: Direct drive, no slip clutch
....V: Variable speed

B – Motor position

L: Left
R: Right

D – Speed

V...: Fixed speed... m/min
V...-...: Variable speed range...-... m/min

E – Gearbox

SA37: SEW motor type SA37
WA30: SEW gear box type WA30

F – Movimot size

MM03: SEW Movimot type, 0,37 kW
MM05: SEW Movimot type, 0,55 kW
MM07: SEW Movimot type, 0,75 kW
(position is omitted for fixed speed motors)

G – Electrical environment

50/230: 50 Hz, 230 V
50/400: 50 Hz, 400 V
60/230: 60 Hz, 230 V
60/460: 60 Hz, 460 V
50/380-500: SEW Movimot variable speed motor

H – Motor power

... kW: Motor power, kW
(position is omitted for variable speed motors
see position F)

I – Thermal protection

No: No thermal protection
TF: Thermal protection type TF
TH: Thermal protection type TH
(position is omitted for variable speed motors)

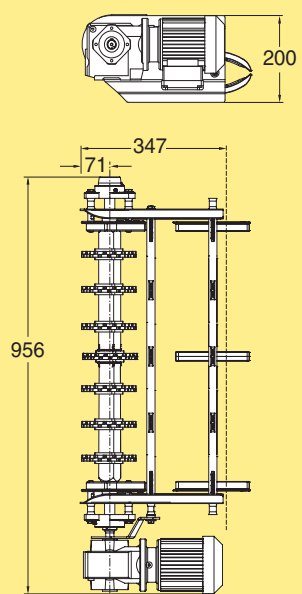
J – Hybrid cable

No: No hybrid cable
C: Hybrid cable included in SEW Movimot
(position is omitted for fixed speed motors)

K – Fieldbus

No: No fieldbus
P: Profibus fieldbus, maintenance switch
D: DeviceNet fieldbus, maintenance switch
(position is omitted for fixed speed motors)

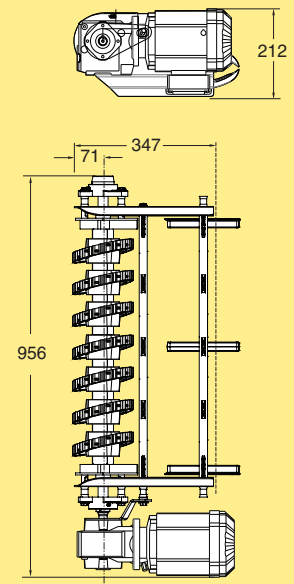
End drive unit Easy Clean, Radius flush grid 678



End drive unit **WLEBX A678**
Fixed/variable speed*
Without motor:
Transmission on left side **WLEBX0A678NLP**
Transmission on right side **WLEBX0A678NRP**

** Use online configurator when ordering*
Effective track length: 0,80 m
Weight, incl belt: 24 kg

End drive unit Easy Clean, Flat top 678

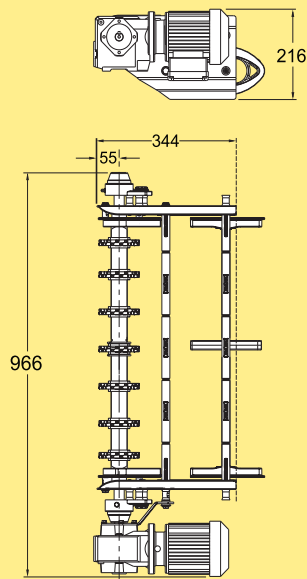


End drive unit **WLEBX B678**
Fixed/variable speed*
Without motor:
Transmission on left side **WLEBX0B678NLP**
Transmission on right side **WLEBX0B678NRP**

** Use online configurator when ordering*
Effective track length: 0,80 m
Weight, incl belt: 25 kg

- P0
- X70X
- X85X
- X180X
- X300X
- WL 222X
- WL 273X
- WL 374X
- WL 526X
- WL 678X
- CSX
- GRX
- FSTX
- TR
- APX
- IDX

End drive unit S, Radius flush grid 678



End drive unit

Fixed/variable speed*

WLEBX A678 S

Without motor:

Transmission on left side

WLEBX0A678NLP S

Transmission on right side

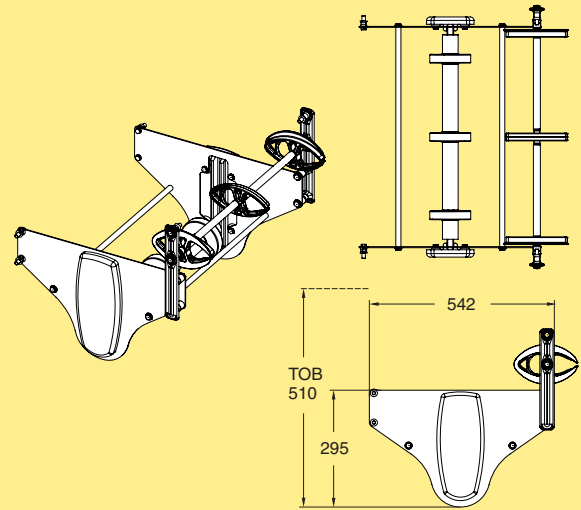
WLEBX0A678NRP S

* Use online configurator when ordering

Effective track length: 0,75 m

Weight, incl belt: 23,2 kg

Belt tensioner unit



Belt tensioner for: WL678X

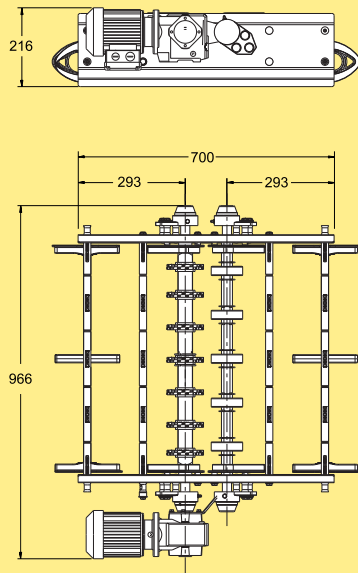
5118763

Required extra belt length

0,55 m

Weight, incl belt: 23 kg

End drive unit J, Radius flush grid 678



End drive unit

Fixed/variable speed*

WLEBX A678 J

Without motor:

Transmission on left side

WLEBX0A678NLPJ

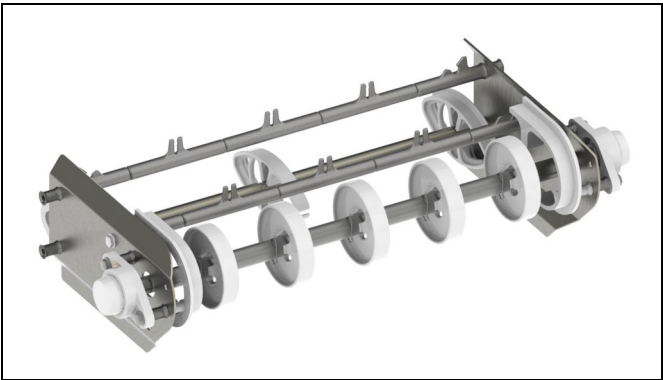
Transmission on right side

WLEBX0A678NRPJ

* Use online configurator when ordering

Effective track length: 1,5 m

Weight, incl belt: 39,1 kg



Idler end unit

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 two or more idler wheels on a common, rotating shaft supported by ball bearings.

Ordering information

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

Idler units

Idler end unit, WL678

Idler end unit (For conveyors with plain bends) **WLEJX 300A678**

Idler en unit (Only for straight conveyors) **WLEJX 300B678**

** Use online configurator when ordering*
Effective track length: 0,80 m
Weight, incl belt: 22 kg

Idler end unit, WL678 S

Idler end unit **WLEJX 300A678 S**

** Use online configurator when ordering*
Effective track length: 0,75 m
Weight, incl belt: 18,2 kg

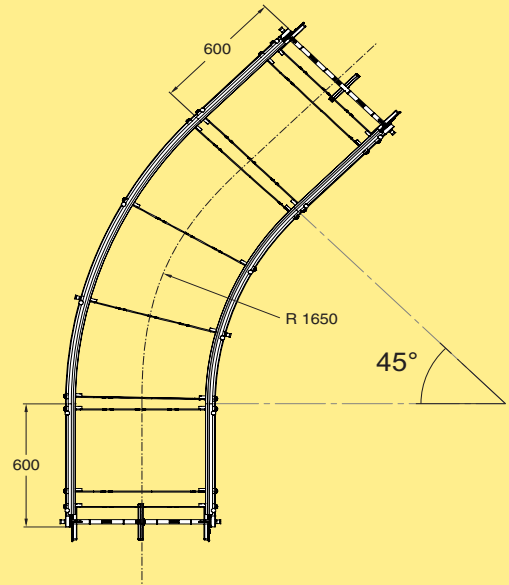
PO
X70X
X85X
X180X
X300X
WL 222X
WL 273X
WL 374X
WL 526X
WL 678X
CSX
GRX
FSTX
TR
APX
IDX

Plain Bends - Introduction

When using radius flush grid belts in plain bends, the belt pull force will be concentrated on the outer part of the belt. A certain straight section is needed before and after the bend in order to transfer the load between the outer belt section and evenly distribute it to the straight belt section. This is critical before entering another plain bend, end drive unit, etc. This required straight section is always integrated in the plain bend itself (300 mm for WL374X, 450 mm for WL526X, and 600 mm for WL678X).

Plain bend placement, as for all other Flexlink conveyors, should always be considered. A plain bend placed too far downstream on a conveyor generates unnecessary belt pull. Also, placement of a plain bend too close to an end drive unit can lead to an unnecessary slack increase and a separate slack unit must be added. Always use the Flexlink calculation tool (FLCT) to calculate the resulting pull forces.

Plain bend, Easy Clean, 45°



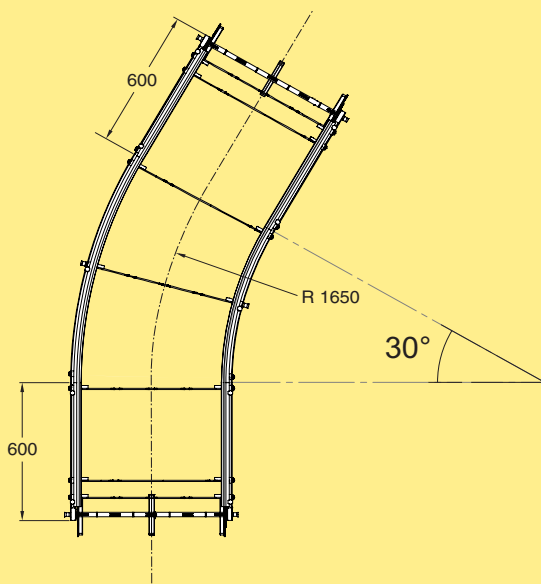
Plain bend, 45°±1°

R=1650±10 mm, WL626

WLBPX 45A678

** Use online configurator when ordering*
Effective track length: 5,5 m
Weight, incl belt: 77 kg

Plain bend, Easy Clean 30°

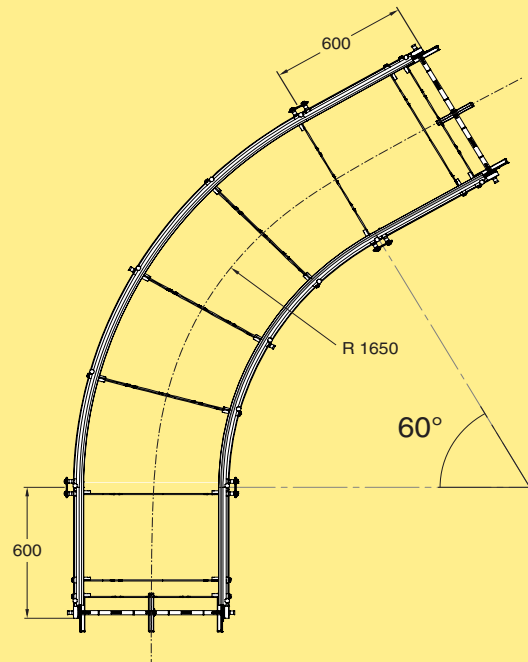


Plain bend, 30°±1°
R=1650±10 mm

WLBPX 30A678

** Use online configurator when ordering*
Effective track length: 4,5 m
Weight, incl belt: 66 kg

Plain bend, Easy Clean 60°

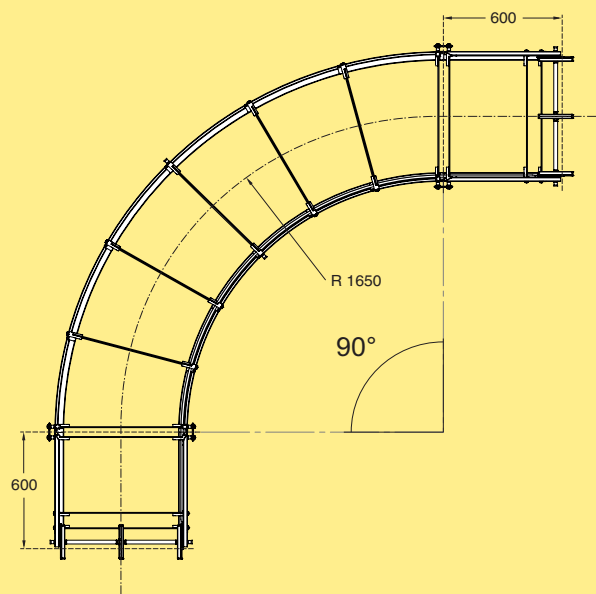


Plain bend, 60°±1°
R=1650±10 mm

WLBPX 60A678

** Use online configurator when ordering*
Effective track length: 6,5 m
Weight, incl belt: 91 kg

Plain bend, Easy Clean 90°

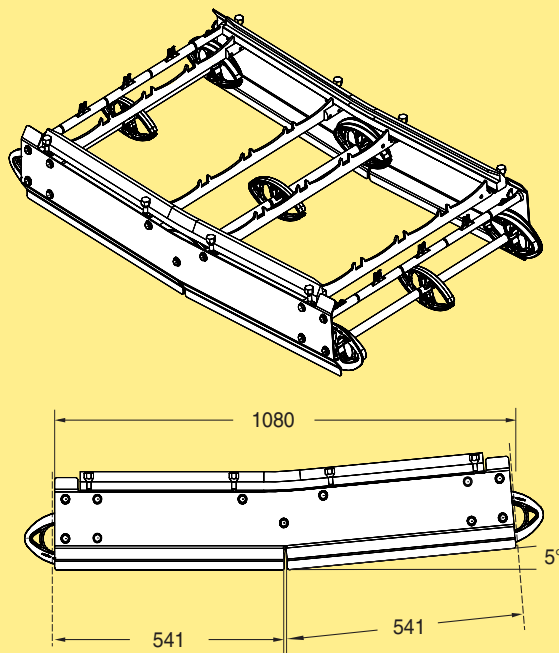


Plain bend, $90^\circ \pm 1^\circ$
 $R=1650 \pm 10$ mm

WLBPX 90A678

** Use online configurator when ordering*
 Effective track length: 8,6 m
 Weight, incl belt: 113 kg

Vertical bend, Easy Clean, 5° (pos.)

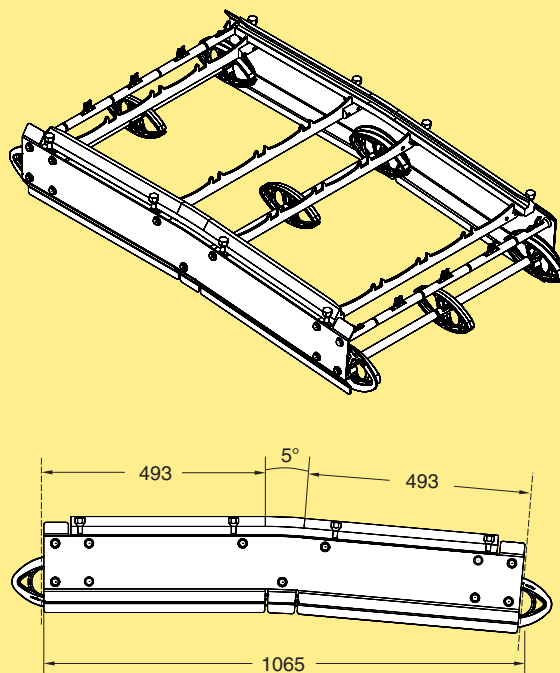


Vertical bend 5°, pos

WLBVX 5A678P

** Use online configurator when ordering*
 Effective track length: 2,1 m
 Weight, incl belt: 39 kg

Vertical bend, Easy Clean, 5° (neg.)



Vertical bend 5°, neg

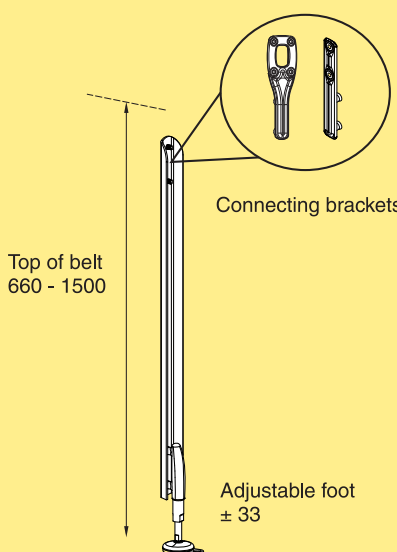
WLBVX 5A678N

** Use online configurator when ordering*
 Effective track length: 2,1 m
 Weight, incl belt: 39 kg

Conveyor supports

Support modules must be specified using the web-based configurator. There, a product code string is generated that contains the specification details (E.g., WLUFX S01-WL374X-900).

Support module, single leg



Top of belt
660 - 1500

Connecting brackets

Adjustable foot
± 33

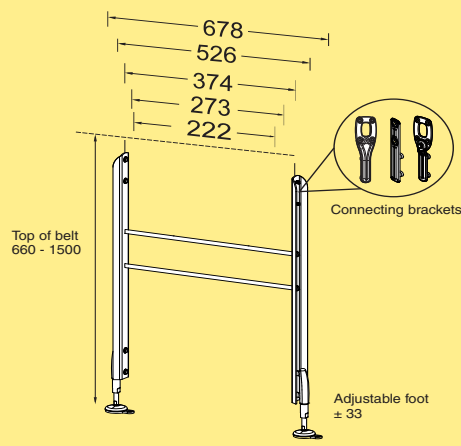
Support module, single leg

WLUFX S04

Support module, single leg WLUFX S04

Parameter	Option
Top of belt:	660-1500 mm
Foot type:	XCFSX 16x80 H XCFSX 16x80 HA XCFSX 16x80 XCFSX 16x80 A
Bracket type:	WLCSX 10X56 WLCSX 10

Support module, type H



678
526
374
273
222

Top of belt
660 - 1500

Connecting brackets

Adjustable foot
± 33

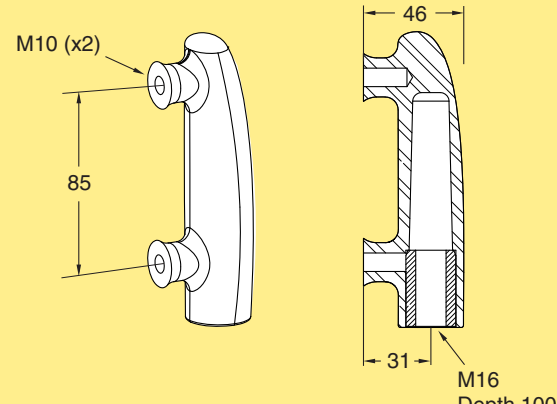
Support module type H

WLUFX S01

Support module type H, WLUFX S01

Parameter	Option
Platform	WL222X WL273X WL374X WL526X WL678X
Top of belt:	660-1500 mm
Foot type:	XCFSX 16x80 H XCFSX 16x80 HA XCFSX 16x80 XCFSX 16x80 A
Bracket type:	WLCSX 10X56 WLCSX 10 WLCSX 10X56V40

Foot holder for adjustable foot



M10 (x2)

85

46

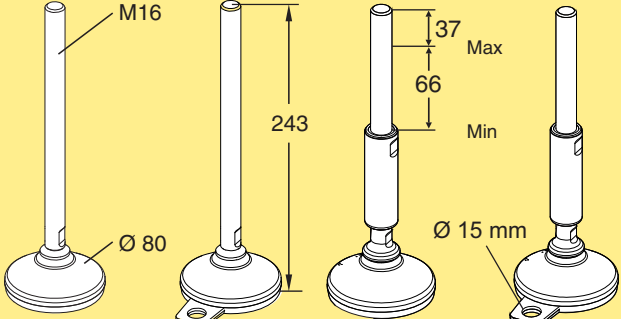
31

M16
Depth 100

Foot holder
Including 2 pcs M10 screws

XCFCX 16x100

Adjustable foot



M16

Ø 80

243

37 Max

66 Min

Ø 15 mm

Adjustable foot

M16
M16, Anchoring
M16, EHEDG/3A
M16, EHEDG/3A, Anchoring

**XCFSX 16x80
XCFSX 16x80 A
XCFSX 16x80 H
XCFSX 16x80 HA**

