

# Conveyor system X45

## Contents

Introduction .....	49
System information X45.....	50
Technical characteristics .....	51
Basic and common guidelines X45C and X45H.....	52

## Conveyor System X45C

Conveyor – introduction.....	53
Conveyor modules X45C.....	54
X45C components.....	55
Beams .....	56
Slide rail .....	58
Slide rails .....	59
Drive and idler units X45C – introduction.....	60
End drive units .....	61
Intermediate drive units .....	63
Basic units.....	64
Idler units.....	64
Wheel bends .....	65
Plain bends .....	66
Vertical bends .....	67
Enclosure components X45C and X45H.....	67
Guide rail system .....	67
Conveyor support.....	67

## Conveyor System X45H

Conveyor – introduction.....	68
Puck handling .....	68
X45H components.....	69
Chains X45H .....	69

Chain accessories X45H.....	69	X45
Beams X45H.....	70	
Cover strip for T-slot .....	71	XS
Slide rails .....	72	
Slide rail tools .....	73	
Drive and idler units – introduction .....	74	X65
End drive units .....	75	
Idler end unit.....	76	X65P
Wheel bends.....	77	
Horizontal plain bends.....	78	X85
Vertical bends.....	78	
Enclosure components X45C and X45H.....	79	
Guide rail system.....	79	X85P
Conveyor support.....	79	

## Puck handling functions X45e for X45C and X45H

Conveyor functions for puck handling X45C and X45H.....	80	
Maximum permissible weight X45C and X45H.....	82	XKP
Conveyor noise level X45C .....	83	
Overall installation dimensions.....	83	X180
Divert functions and kits.....	84	
Merge functions and kits.....	86	X300
Combined Divert/Merge .....	88	
Transfer.....	91	
Stop.....	94	GR
Locating unit .....	95	
Puck handling.....	97	CS
RFID components.....	98	
Sensor maximum queue .....	99	XT

## Introduction



## Features

The X45 is a very compact conveyor system for handling small and light products.

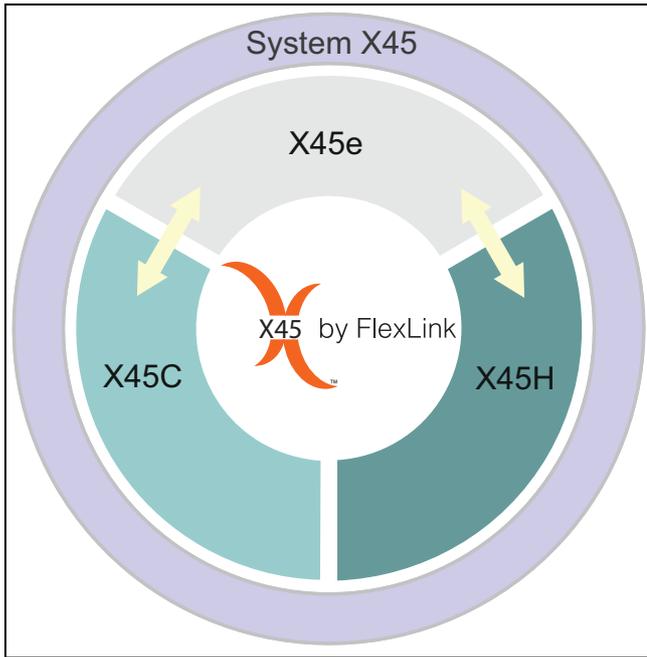
## Examples of application areas

All types of small products down to 10 mm diameter. Typical products transported directly on the conveyor are pharmaceutical bottles, perfume bottles and smaller products/packages up to 100 mm wide. Puck handling of products like test tubes for blood and urine, small bottles, cosmetics and electrical parts such as batteries.

## Chain width 43 mm



# System information X45



## Conveyor X45C and X45H

The **X45** offer includes a range of conveyor modules both for handling products directly on chain or handling X45 standard pucks.

The **X45C** conveyor is a light weight platform including both normal 3 phase AC motors and 24V DC motors with built in intelligence.

The **X45H** conveyor is a high capacity conveyor platform. It is normally used in combination with X45C when handling longer transportation and systems requiring more bends and higher speed.

## Puck handling equipment X45e

X45e includes a range of function units for puck handling such as Divert, Merge, Stop or Locating. There are units handling both single pucks and train of pucks.

X45e functions includes 24V motors with embedded controls that can reduce the total lead time significantly from system design to ramp-up of the line. Each function motor include possibilities to connect to a network and in/out signals

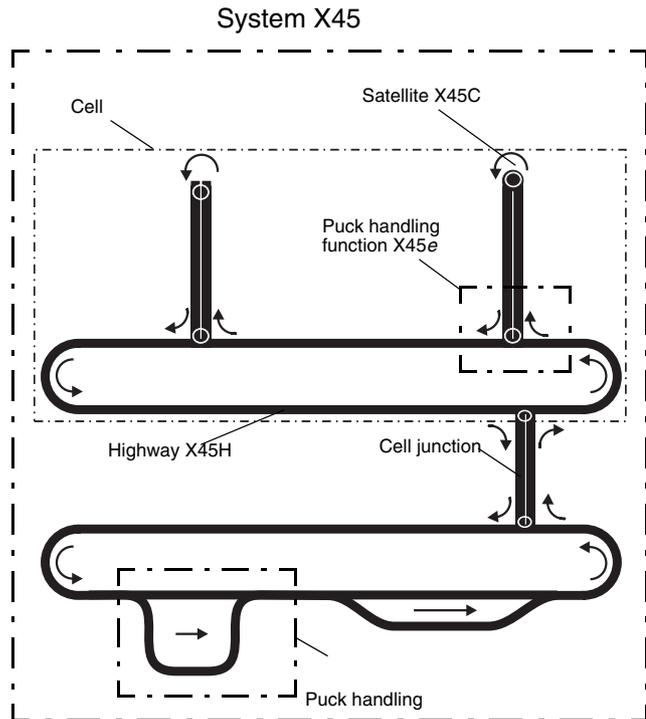
Standard X45 pucks are available in two types, with or without lock for rotating

## Divert/merge devices

Divert/merge devices are used for routing products by dividing or combining product flows. Usually there is a main conveyor, a "highway" (X45H), and separate subordinated conveyors, "satellites" (X45C).

On the satellites, products can be subjected to various operations such as turning, grinding, assembly or testing, without disturbing the main flow. After the operations, the products return to the highway.

A combination of a highway and one or more satellites is often called a cell. Using puck handling functions (X45e), it is possible to build cell junctions which facilitate transfer of a puck from one cell to another. See figure below.



System	X45C	X45H	
Beam width	45 mm	45 mm	
Chain width	43 mm	43 mm	
Chain pitch	12,7 mm	25,4 mm	
Drive unit capacity	100- 200 N	900N	
Chain tension limit	200 N (100 N Conductive)	900 N	
Item width	10-100 mm	10-100 mm	
Maximum conveyor length	6 m (4 m Conductive)	25 m	
Maximum weight on conveyor	30 kg	125 kg	
Maximum load per 100 mm conveyor length	800 g (100 g/ link)	4000 g (1000 g/ link)	
Maximum single item weight, horizontal transport	800 g	8000 g	
Conveyor speed	Variable speed 5-20 m/min	Fixed speed 5, 10, 15, 20, 30, 40, 50, 60 m/min (Max 20 with pallet)	
Horizontal plain bends:	30°/45°/90°/180°	30°/45°/90°	
Radius 150 mm	Note! Maximum 2 bends/conveyor or max 270° total		
Horizontal wheel bends	45°/90°/180°	45°/90°/180°	
Vertical bends:	5°/15°	5°/15°	
Radius	400 mm	358 mm/515 mm	
	Note! 2 bends/conveyor (maximum)		
Electrostatic discharge feature (ESD)	Standard/Conductive	Standard	

CC

X45

XS

X65

X65P

X85

X85P

XH

XK

XKP

X180

X300

GR

CS

XT

HU

WL

WK

XC

XF

XD

ELV

CTL

FST

TR

APX

IDX

The following guidelines must be considered when engineering conveyor:

### 1 Conveyor length

Maximum permissible conveyor length: See “Technical characteristics” on page 51.

### 2 Plain bends (only applies to X45C)

Horizontal conveyor modules can include maximum two Plain bends 30, 45, 90 or 180°. Different plain bends can be mixed, but the sum of the two bends may not exceed 270°.

Horizontal conveyor modules in conductive versions may not exceed 180°

### 3 Guide rails

Guide rails for straight standard conveyor modules can be adapted for products up to maximum 100 mm width. Guide rails for standard conveyor modules with horizontal bends can be adapted for products up to maximum 100x200 mm (WxL).

### 4 Conductive version

Conveyor modules are available in standard or conductive chain and slide rail materials versions.

### 5 RFID option

RFID is available for controlling puck handling functions.

## Conveyor – introduction



### Configuration of X45C

The modular conveyor system X45C makes it very easy and fast to create simple as well as advanced layouts. A range of conveyor modules can be ordered:

- Straight horizontal conveyors
- Horizontal conveyors with one or two bends
- Vertical conveyors, transporting products from one level to another

Also a range of single and multi-lane support modules can be chosen.

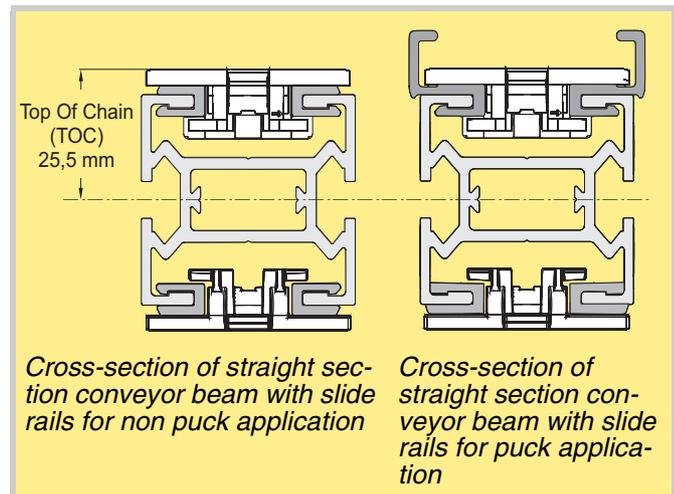
The conveyor modules can be divided into:

- Standard conveyor modules
- Conveyor modules for puck handling

Configuration of X45C is done using FlexLink Online Store or the design tool FLDT.

### Beam design

The X45C beams are designed for rigidity, smooth running and low noise. The T-slots ensure easy but rigid attachment of accessories such as guide rail brackets. Connecting strip kit XUCJ 50 is placed in the middle of the beam keeping the T-slots free.



# Conveyor modules X45C

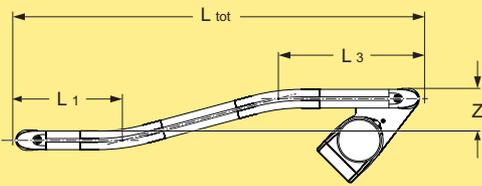
## Straight conveyor



Straight conveyor- Standard conveyor\* **XUUC S**

\*Use online configurator when ordering

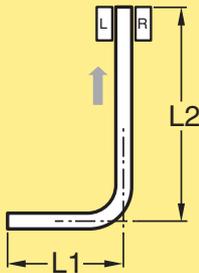
## Vertical conveyor



Vertical conveyor- Standard conveyor\* **XUUC V**

\*Use online configurator when ordering

## Single bend conveyor

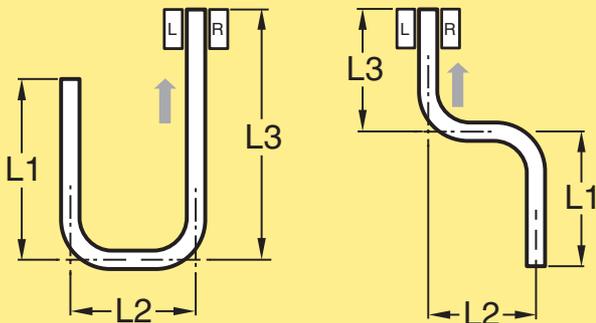


Single bend conveyor- Standard conveyor\*

**XUUC L**

\*Use online configurator when ordering

## Two bend conveyor



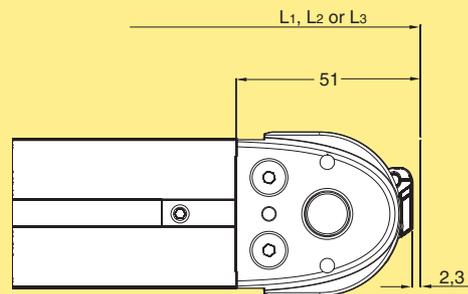
Two bend conveyor- Standard conveyor\* **XUUC U**

\*Use online configurator when ordering

## Support modules – single and multi-lane

	5995387	Single diecast
	5995388	Single end adjustable
	5995389	Single end guide roller
	5995390	Single foot plate
	5995392	Single XB
	5995393	Multi single 2 lane
	5995394	Multi single 3 lane
	5995395	Multi single 4 lane
	5995396	Multi double 2lane
	5995397	Multi double 3 lane
	5995398	Multi double 4 lane

## Minimum clearance distance



When two conveyors meet end to end or when a conveyor ends, they must be separated by a minimum clearance distance.

Chains – introduction



Chain types

The conveyor chain is designed for smooth running, minimum wear and low noise level at normal speeds.

Chain

- Plain chain
- Plain chain conductive
- Friction top chain
- Friction top chain, conductive
- Flexible cleat chain

**Plain chain** can be used up to  $5^{\circ} \pm 2^{\circ}$  slopes, depending on the friction coefficient between product and chain.

**Friction top chain** increases the friction between product and chain and can often be used for  $15^{\circ}$  slopes.

**Flexible cleat chain** is used for wedge conveyors elevating products or straight horizontal transfers.  
-For individual weights up to 500 g

**Other chains** See the *Chain guide* for a selection of other chains.

**Chain installation** See “Appendix “D. Chain installation” on page 533 for installation instructions.

**Plain chain**

Plain chain  
Length 3 m  
Standard material  
Conductive material

**XUTP 3A45**  
**XUTP 3A45 E**

Plain link kit \*  
Standard material  
Conductive material

**5113047**  
**5113048**

\* Link kit contains 10 links, 10 steel pins

**Friction top chain**

Friction top chain  
Length 3 m  
All links are friction type  
Standard material  
Conductive material

**XUTP 3A45 F**  
**XUTP 3A45 EF**

Friction top link kit \*  
Standard material  
Conductive material

**5113492**  
**5113493**

\*Link kit contains 10 friction top links, 10 steel pins

**Flexible cleat chain**

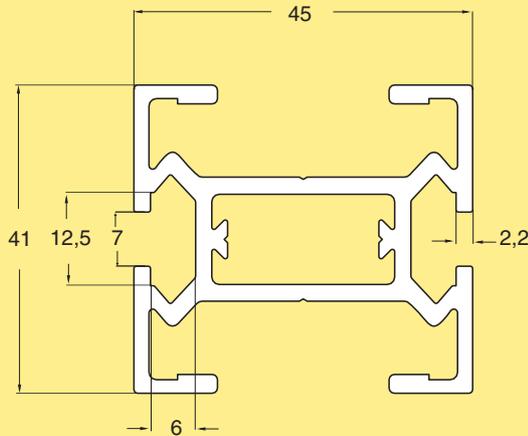
Flexible cleat chain  
Length 3 m

**XUTE 3A45 C**

Flexible cleat link kit\*  
\*Link kit contains 10 links, 10 steel pins

**5113494**

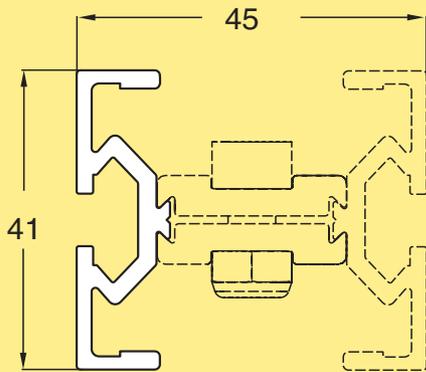
## Conveyor beam



Beam  
 Length 3000 +10/-0 mm  
 Length to order (30- 3000 mm) **XUCB 3**  
**XUCB L**

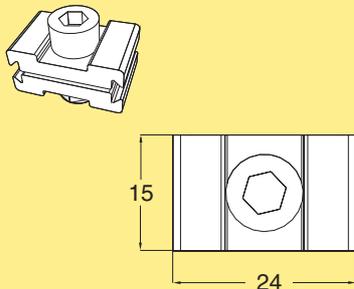
The beam has the same T-slot as used in the XF structural system see "T-slot dimensions" on page 495.

## Profile for split conveyor beam



Profile for split conveyor beam  
 Length 3000 +10/-0 mm  
 Length to order (30- 3000 mm) **XUCB 3 H**  
**XUCB L H**

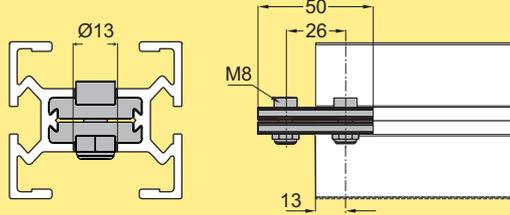
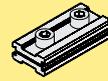
## Joint piece



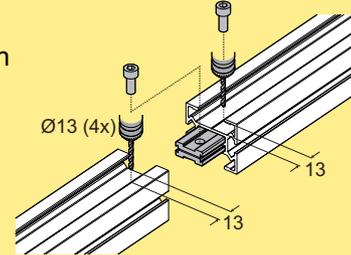
Joint piece  
 Aluminium **XUCE 25x14**

Including M6 screw and locking nut.

## Connecting strip kit

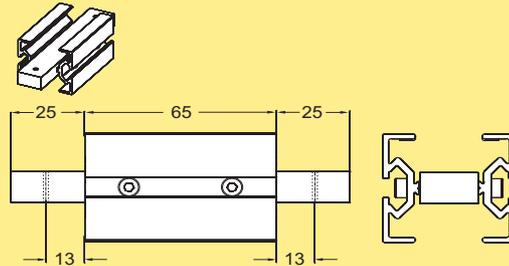


### Drill instruction



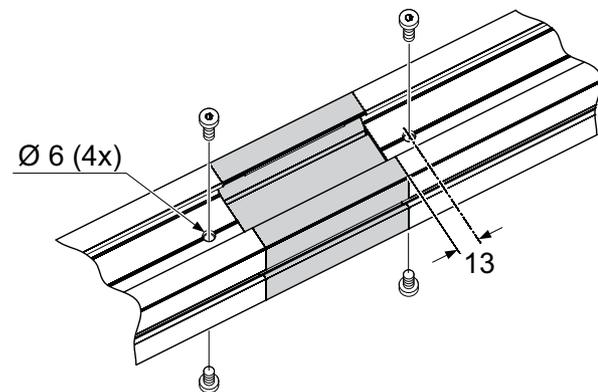
Connecting strip kit  
 Aluminium **XUCJ 50**  
 Including M8 screws. Use drill fixture 5123264

## Beam section for chain installation



Beam section kit  
**XUCC 65**  
 Including connection strips and screws

## Drill instruction, Beam section for chain installation



To connect the Beam section for chain installation, drill a hole straight through beam with diameter 6 mm, 13 mm from the edge. (Use drill fixture 5123264)

**Beam spacer**

Beam spacer X45-X45 **XUCD 15x20**

*Complete kit*  
*Note! Recommended distance between Beam spacer 600 mm.*

**T-slot nut**

T-slot nut  
 Steel, zinc-chromated  
 M5  
 M5, multipack (500 pcs) **XFAN 5\***  
 M6  
 M6, multipack (500 pcs) **5056131**  
**XFAN 6\***  
**5056130**

*Note. Contains 10 pcs.*

**Beam spacer**

Beam spacer X45H<=>X45 **5114822**

*Complete kit*  
*Note! Recommended distance between Beam spacer 600 mm.*

**Drill fixture for conveyor beam**

Drill fixture for conveyor beam **5123264**

*To be used when drilling a 13 mm hole for Connecting strip kit XUCJ 50 and a 6 mm hole for Beam section for chain installation XUCC 65.*

**Cover strip**

Cover strip for T-slot  
 Length 3 m  
 Polyvinyl chloride, grey **XFAC 3 T**

## Slide rail

The slide rails are designed for long service life, smooth running, low elongation and minimized risk of failure. Several options exist for high performance operation. Slide rail types include

- Type H – high wear resistance (standard)
- Type E – conductive

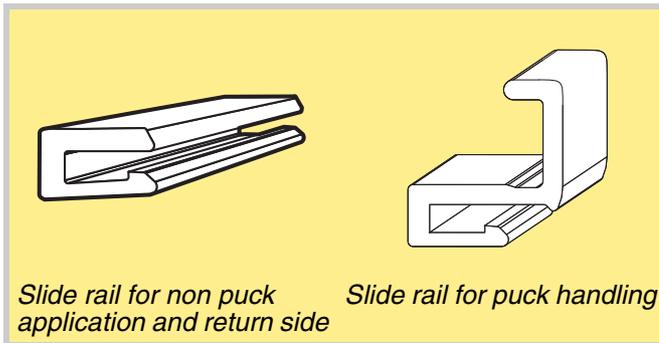
**All slide rails can be mounted to the conveyor beams without using rivets for anchoring.**

*Two slide rail profiles*

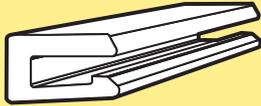
Slide rails are available in two profile designs: Slide rail for non puck-application and slide rail for puck handling.

Slide rails to be used for conveyors for puck handling				
	For straight sections	For plain bends R150 and R358	For the return side of the conveyor beam	
Standard	XUCR 3 HAG	FLX1004554 and FLX1004555	XTCR 25 H	To be used with standard chains

Slide rails to be used for standard conveyors		
Standard	XTCR 25 H	To be used with standard chains
Conductive	XTCR 25 E	To be used with conductive chains

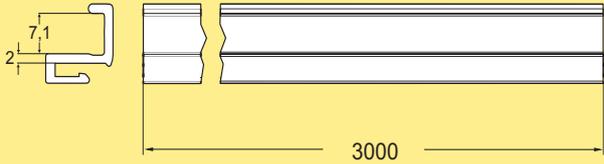


**Slide rail for non puck-application or return side**



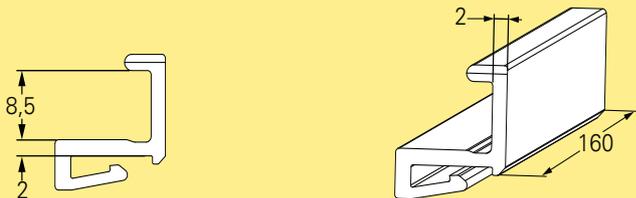
Slide rail (A)  
 Length 25 m  
 PA-PE (Grey) **XTCR 25 H**  
 UHMW-PE (White) **XTCR 25 U**  
 UHMW-PE (Blue) **XTCR 25 UL**  
 UHMW-PE + carbon (conductive) (Black) **XTCR 25 E**

**Slide/guide rail for puck handling**



Slide/guide rail  
 Length 3 m  
 PA-PE (standard) (White) **XUCR 3 HAG**  
 UHMW-PE (Blue) **XUCR 3 GUL**

**Vertical plain bend kit for puck handling**



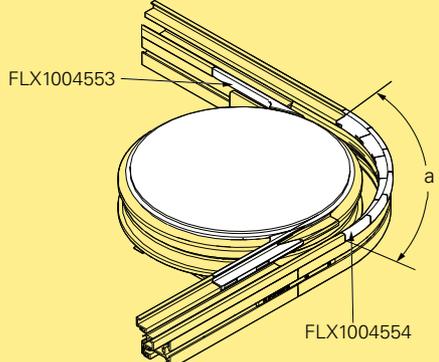
Guide kit **FLX1005074**  
 Note. Kit contains 2 pcs.

**Mounting tool for slide rail**



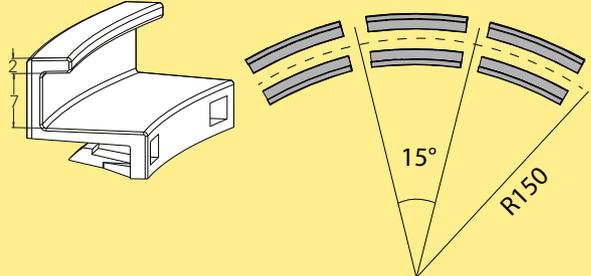
Mounting tool for slide rail **XTMR 160 A**

**Guide kit for puck handling in wheel bends**



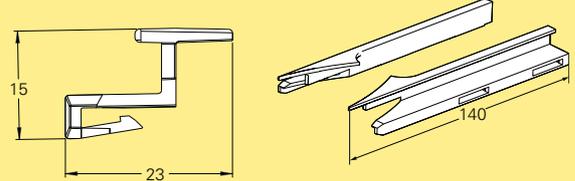
Guide kit  
 45° **FLX1004763**  
 90° **FLX1004764**  
 180° **FLX1004765**  
 Note. Kit contains guide disc (1), guide kit (1-4 depending on angle).

**Guide kit for plain bends, radius 150 mm**



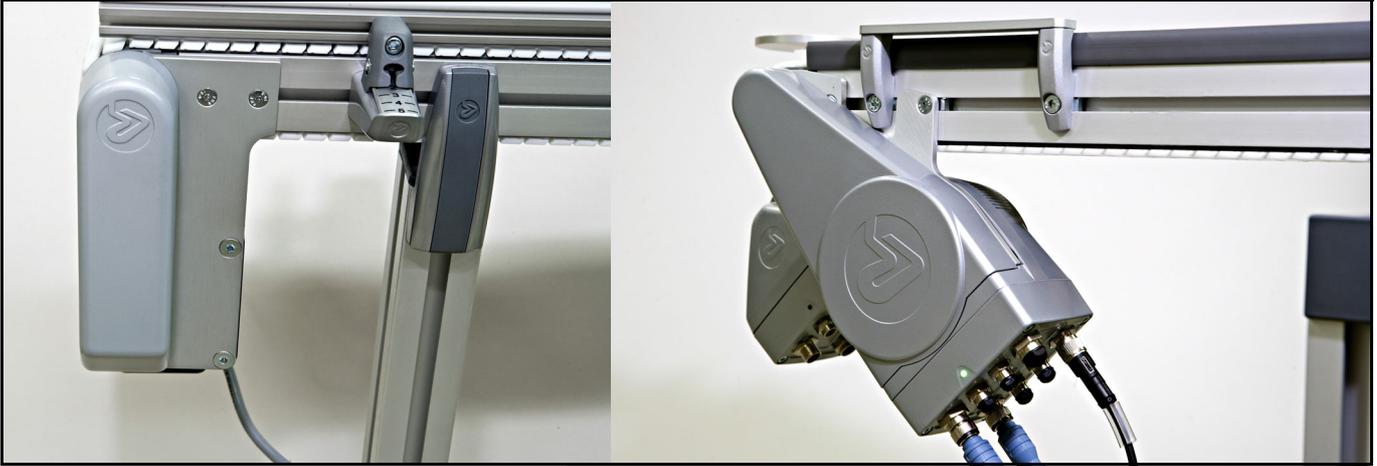
Guide kit **FLX1004554**  
 Note. Kit contains 6 pcs. Included in FLX1004763, FLX1004764 and FLX1004765

**Guide kit**



Horizontal 15R150 **FLX1004553**  
 Note. Kit contains 2 pcs. Included in FLX1004763, FLX1004764 and FLX1004765

CC  
 X45  
 XS  
 X65  
 X65P  
 X85  
 X85P  
 XH  
 XK  
 XKP  
 X180  
 X300  
 GR  
 CS  
 XT  
 HU  
 WL  
 WK  
 XC  
 XF  
 XD  
 ELV  
 CTL  
 FST  
 TR  
 APX  
 IDX



## Drive unit X45C

The drive unit is an active function with the main purpose of driving the chain of a conveyor. The X45C system includes 24V and 380-440V drive units. Drive units are available as end drive and intermediate drive units.

### 24 Volt drive unit

The 24V smart motor is equipped with a permanent magnetic (PM) motor and a built-in embedded controller. The unit has interfaces to PROFINET and Ethernet/IP and connections for 8 in and 4 out signals. The embedded controller enables local decisions directly down in the drive unit, giving a big advantage regarding software development, electrical design, and electrical installation.

The drive unit has a variable speed ranging from 5 m/min to 20 m/min with a maximum traction force of 100N over the whole speed range. Each side is equipped with a LED indicating its status.

The drive unit has two main alternatives of receiving commands. In the local mode, the drive unit starts immediately or by one of the digital input signals. In the line control mode, the drive unit receives commands over the Ethernet/IP or PROFINET.

If the motor is in local mode, only power (24VDC) is needed to work properly.

For more detailed information about the function, see User documentation.

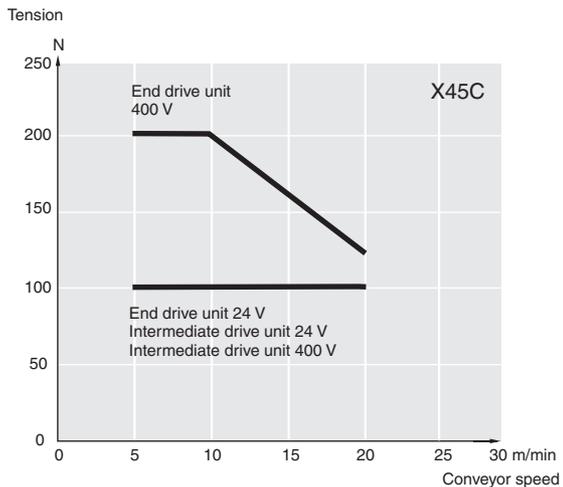
### 380-440V drive unit

The 380-440V, 50/60Hz drive unit is available in a range of fixed speeds between 5-20m/min, see table below. The traction force depends on the speed with a maximum of 200N.

This drive is without built-in intelligence or network possibilities. Start and stop function is handled by the power supply.

For U.S. market, see Technical bulletin 5519EN-1.

Tension/speed diagram, X45C Drive units



Ordering information Drive units								
Type	Designation	Chain pull		Speed in meters per minute 50/60 Hz				
		100 N	200 N	4,2/5	8,5/10	13,5/16	17/20	5-20
24V End drive unit, motor on left side	XUEB L B	X						X
24V End drive unit, motor on right side	XUEB R B	X						X
24V Intermediate drive unit, motor on left side	XUER L B	X						X
24V Intermediate drive unit, motor on right side	XUER R B	X						X
380- 440V End drive unit, motor on left side	XUEB ML1		X	X				
	XUEB ML2		X		X			
	XUEB ML3		X			X		
	XUEB ML4		X				X	
380- 440V End drive unit, motor on right side	XUEB MR1		X	X				
	XUEB MR2		X		X			
	XUEB MR3		X			X		
	XUEB MR4		X				X	
380- 440V Intermediate drive unit, motor on left or right side	XUER M1 A	X		X				
	XUER M2 A	X			X			
	XUER M3 A	X				X		
	XUER M4 A	X					X	

## End drive units

**End drive unit, 24 V, 40 W**

End drive unit  
Maximum traction force: up to 100 N.  
Maximum permissible speed: 20 m/min.

Motor on left side:  
Variable speed \*                   **XUEB L B**

Motor on right side (not shown):  
Variable speed \*                   **XUEB R B**

Effective track length: 0,125 m  
(Height 185 mm to center T-slot)  
\*See table "Ordering information Drive units"

**End drive unit, 380 V-440 V, 40 W**

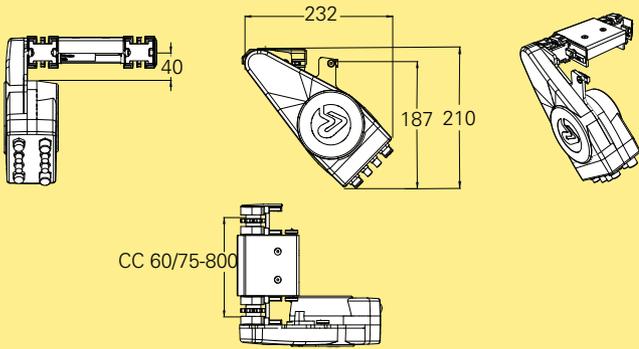
End drive unit  
Maximum traction force: up to 200 N.  
Maximum permissible speed: 20 m/min.

Motor on left side:  
Fixed speed \*                       **XUEB ML\_**  
Without motor                       **XUEB MLO**

Motor on right side (not shown):  
Fixed speed \*                       **XUEB MR\_**  
Without motor                       **XUEB MRO**

Effective track length: 0,125 m  
(Height 170 mm to center T-slot)  
\*See table "Ordering information Drive units"

## Double end drive units, 24V, 40W,



### End drive unit

Maximum traction force: up to 100 N.

Maximum permissible speed: 20 m/min.

Variable speed\*

**XUEB DD**

Effective track length: 0,125 m  
(Height 187 mm to center of T-slot)

\*See table "Ordering information Drive units"

**Intermediate drive unit, 24 V, 40 W**

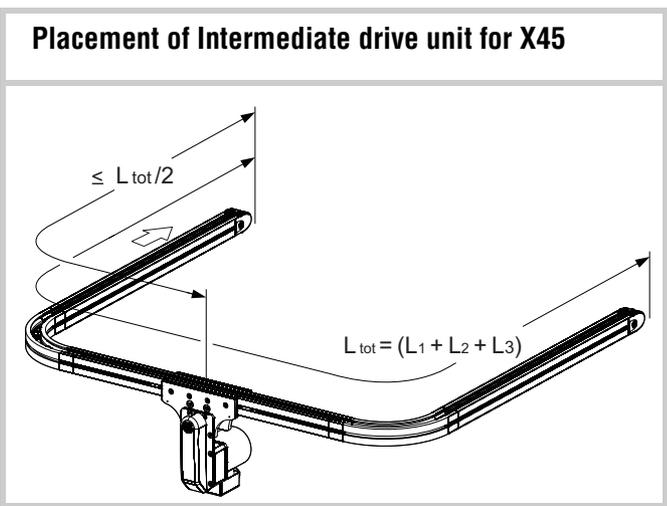
Intermediate drive unit  
 Maximum traction force: up to 100 N.  
 Maximum permissible speed: 20 m/min.

Motor on left side:  
 Variable speed \*                    **XUER L B**

Motor on right side (not shown):  
 Variable speed \*                    **XUER R B**

Effective track length: 0,45 m  
 (Height 240 mm to center T-slot)

\* See table "Ordering information Drive units"



**Intermediate drive unit, 380 V-440 V, 40 W**

Intermediate drive unit  
 Maximum traction force: up to 100 N.  
 Maximum permissible speed: 20 m/min.

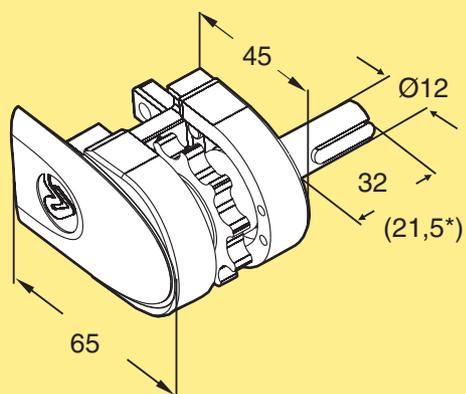
Motor on left or right side:  
 Fixed speed \*                    **XUER M\_A**  
 Without motor                    **XUER M0 A**

Effective track length: 0,45 m  
 (Height 225 mm to center T-slot)

\* See table "Ordering information Drive units"

## Basic units

### Basic unit



Basic unit (380-440V)

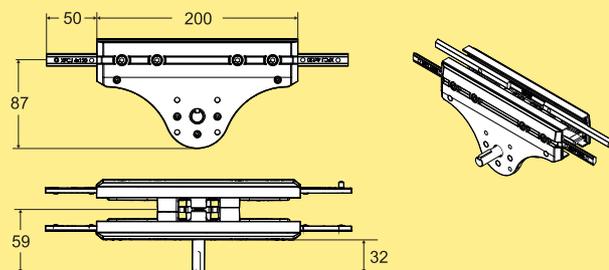
**XUEB 0 U**

Basic unit (24 V)

**5113189**

*Effective track length: 0,125 m*

### Basic unit



Basic unit (380-440V)

**XUER 0 U A**

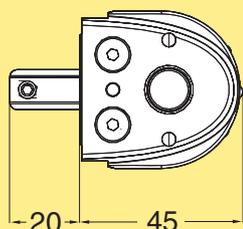
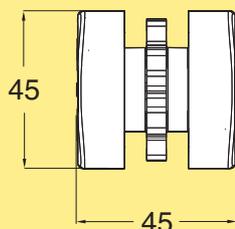
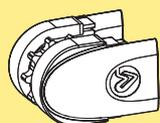
Basic unit (24 V)

**5125160**

*Effective track length: 0,45 m  
(Height 90 mm to center T-slot)*

## Idler units

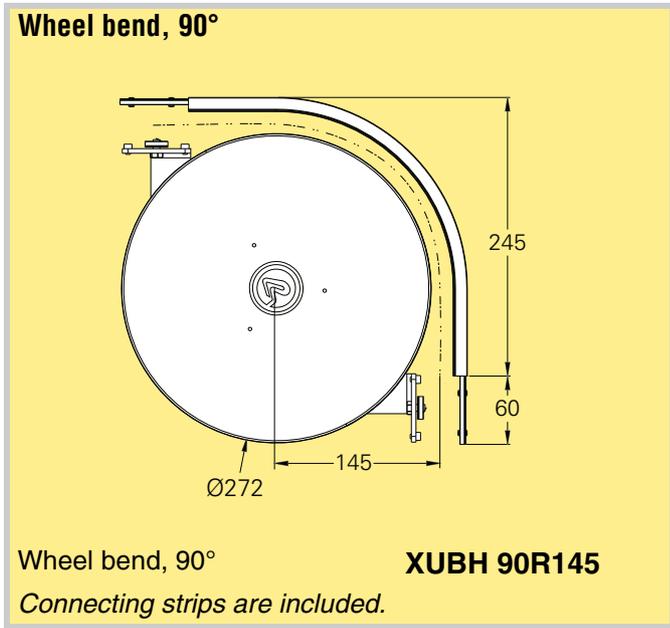
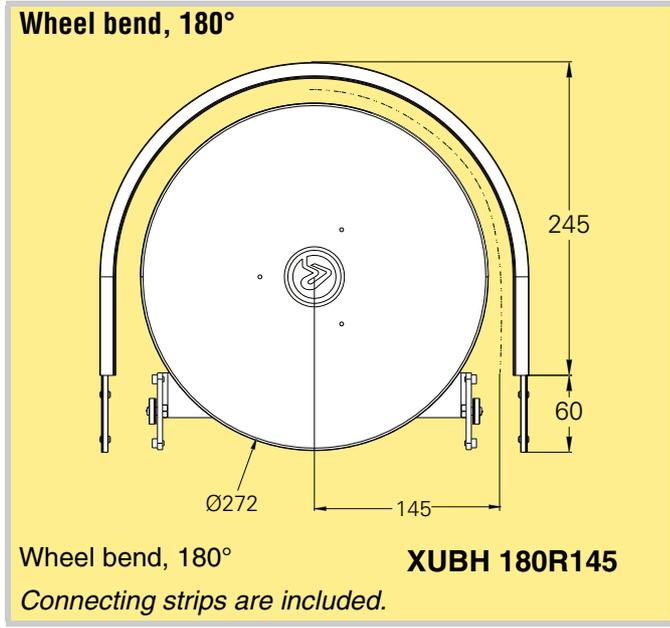
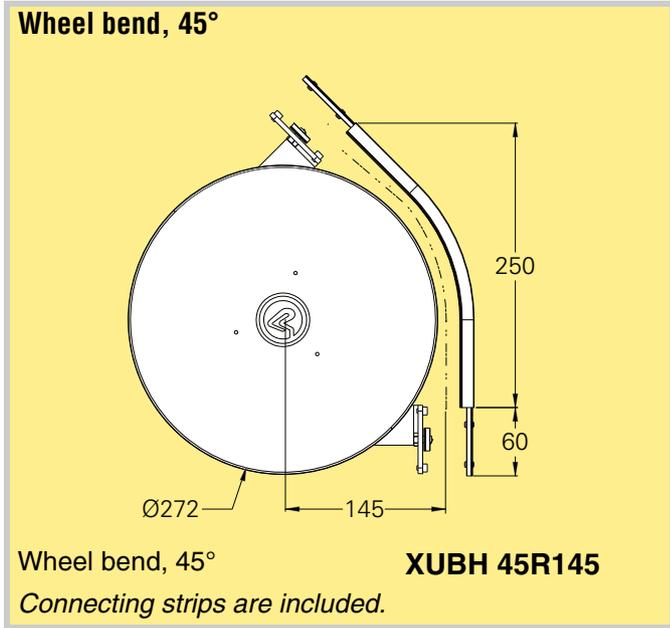
### Idler end unit



Idler end unit

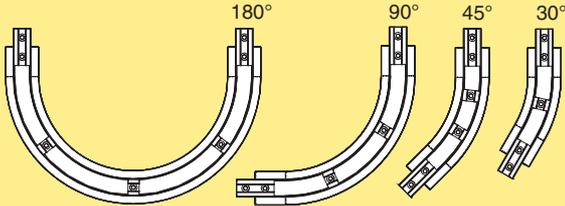
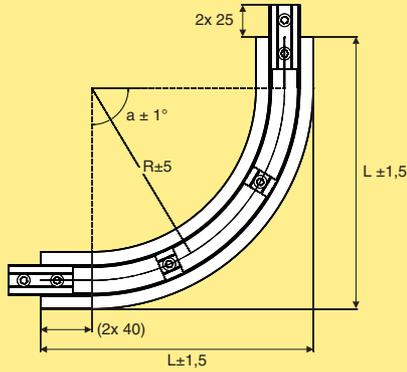
**XUEJ 50**

*Effective track length: 0,125 m*



# Plain bends

## Plain bends



Item no	Angle (a)	Radius (R)	Length (L)
XUBP 30R150	$30^\circ \pm 1^\circ$	$150 \pm 5$ mm	160 mm
XUBP 30R210	$30^\circ \pm 1^\circ$	$210 \pm 5$ mm	190 mm
XUBP 45R150	$45^\circ \pm 1^\circ$	$150 \pm 5$ mm	190 mm
XUBP 45R210	$45^\circ \pm 1^\circ$	$210 \pm 5$ mm	232 mm
XUBP 90R150	$90^\circ \pm 1^\circ$	$150 \pm 5$ mm	212 mm
XUBP 90R210	$90^\circ \pm 1^\circ$	$210 \pm 5$ mm	272 mm
XUBP 180R150	$180^\circ \pm 1^\circ$	$150 \pm 5$ mm	212 mm
XUBP 180R210	$180^\circ \pm 1^\circ$	$210 \pm 5$ mm	272 mm
XUBP 45TYP5	$15^\circ-45^\circ \pm 1^\circ$	$R=210-500 \pm 10$ mm	
XUBP 90TYP5	$46^\circ-90^\circ \pm 1^\circ$	$R=210-500 \pm 10$ mm	
XUBP 45TYP10	$15^\circ-45^\circ \pm 1^\circ$	$R=501-1000 \pm 10$ mm	
XUBP 90TYP10	$46^\circ-90^\circ \pm 1^\circ$	$R=501-1000 \pm 10$ mm	
	(Maximal $t_{ot}$ 270°)		

### Plain bend, 30°

Effective track lengths: R150: 0,16 m 1-way (0,32 m 2-way)

Effective track lengths: R210: 0,20 m 1-way (0,40 m 2-way)

**XUBP 30R150**

**XUBP 30R210**

### Plain bend, 45°

Effective track lengths: R150: 0,21 m 1-way (0,42 m 2-way)

Effective track lengths: R210: 0,25 m 1-way (0,50 m 2-way)

**XUBP 45R150**

**XUBP 45R210**

### Plain bend, 90°

Effective track lengths: R150: 0,34 m 1-way (0,68 m 2-way)

Effective track lengths: R210: 0,43 m 1-way (0,86 m 2-way)

**XUBP 90R150**

**XUBP 90R210**

### Plain bend, 180°

Effective track lengths: R150: 0,60 m 1-way (1,2 m 2-way)

Effective track lengths: R210: 0,90 m 1-way (1,8 m 2-way)

**XUBP 180R150**

**XUBP 180R210**

### Plain bend, 15°-45°, 46°-90°

Plain bend,  $15^\circ-45^\circ \pm 1^\circ$ ,  $R=210-500 \pm 10$  mm

Plain bend,  $46^\circ-90^\circ \pm 1^\circ$ ,  $R=210-500 \pm 10$  mm

Plain bend,  $15^\circ-45^\circ \pm 1^\circ$ ,  $R=501-1000 \pm 10$  mm

Plain bend,  $46^\circ-90^\circ \pm 1^\circ$ ,  $R=501-1000 \pm 10$  mm

**XUBP 45TYP5**

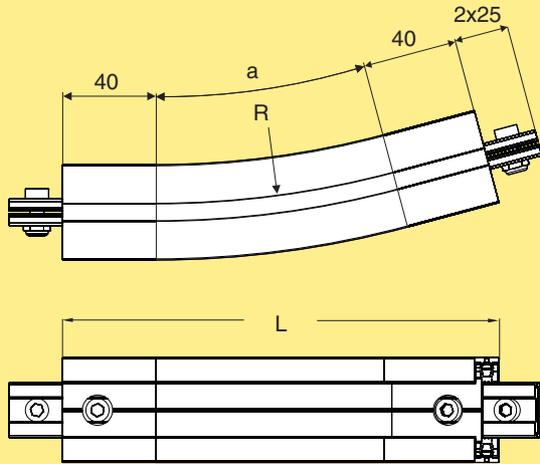
**XUBP 90TYP5**

**XUBP 45TYP10**

**XUBP 90TYP10**

# Vertical bends

## Vertical bend, 5° and 15°



Vertical bend 5°  
 $R=400$ ,  $L=116,5$ ,  $a=5^\circ$   
 Vertical plain bend

Vertical bend 15°  
 $R=400$ ,  $L=187$ ,  $a=15^\circ$   
 Vertical plain bend

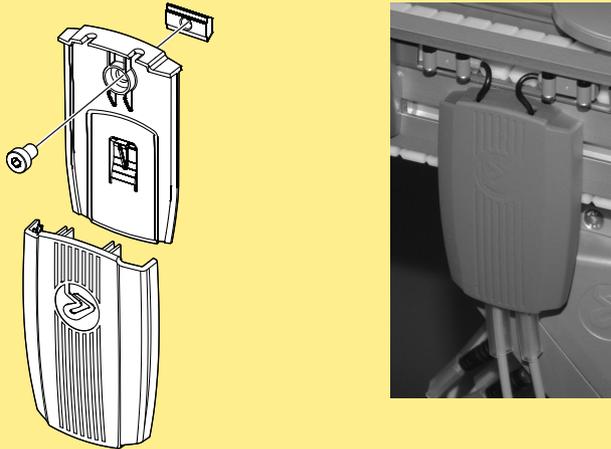
**XUBV 5R400**

**XUBV 15R400**

Effective track lengths:  
 $a=5^\circ$   $R400$ : 0,20 m 1-way (0,40 m 2-way)  
 $a=15^\circ$   $R400$ : 0,26 m 1-way (0,52 m 2-way)

## Enclosure components X45C and X45H

### Cable cover



Cable cover  
 Plastic  
**5113038**  
 Including mounting details

## Guide rail system

See "Guide rail components" on page 299

## Conveyor support

See "Conveyor support components" on page 337

PO  
 CC  
**X45**  
 XS  
 X65  
 X65P  
 X85  
 X85P  
 XH  
 XK  
 XKP  
 X180  
 X300  
 GR  
 CS  
 XT  
 HU  
 WL  
 WK  
 XC  
 XF  
 XD  
 ELV  
 CTL  
 FST  
 TR  
 APX  
 IDX

# Conveyor System X45H

## Conveyor – introduction

The X45H conveyor is high capacity conveyor system for handling small products and can easily integrated with X45 conveyors enable the advantage of running longer conveyors with more bends and with higher speed than X45.

## Puck handling

The standard pucks for X45 can run on the X45H conveyors. Slide rails with integrated rail for puck handling are available for straight conveyors as well as for bends.

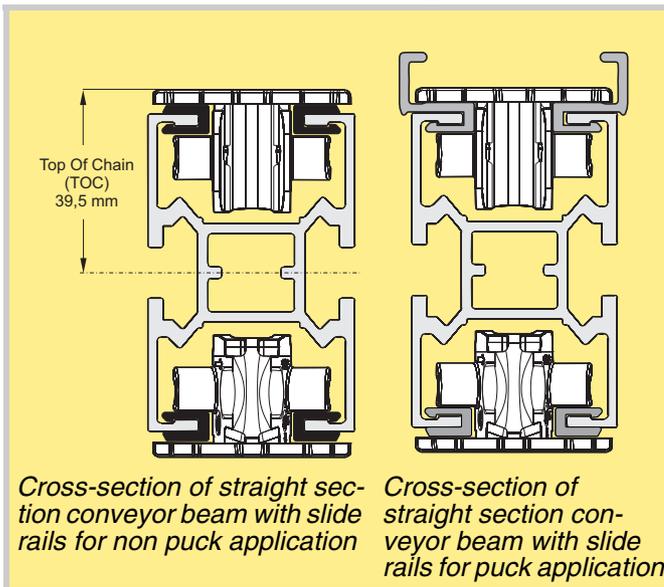
A number of puck handling functions for diverting and merging is available.



The standard guide components can be used.

## Beam design

The X45H beams are designed for rigidity, smooth running and low noise. The T-slots ensure easy but rigid attachment of accessories such as guide rail brackets.



**Chains – introduction**

**Chain types**

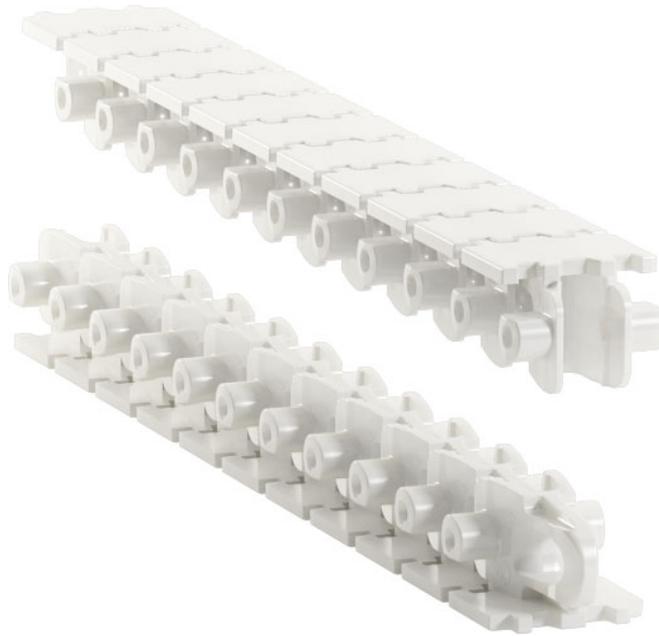
The conveyor chain is designed for smooth running, minimum wear and low noise level at normal speeds.

*Chain*

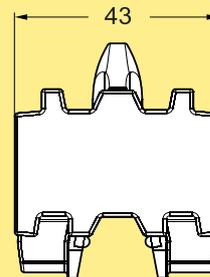
- Plain chain

**Plain chain** can be used up to  $5^{\circ} \pm 2^{\circ}$  slopes, depending on the friction coefficient between product and chain.

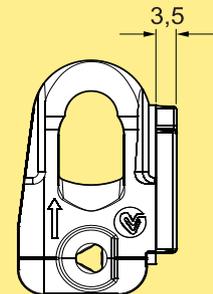
**Chains X45H**



**Plain chain**



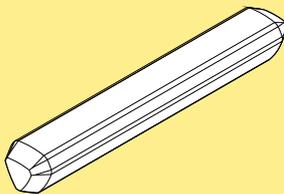
Plain chain  
Length 5 m



**5114508**

**Chain accessories X45H**

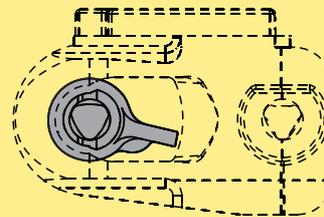
**Steel pin kit**



Steel pin kit XT **5116330**

*Note. kit contains 25 pcs of XTTD 4.5x30*

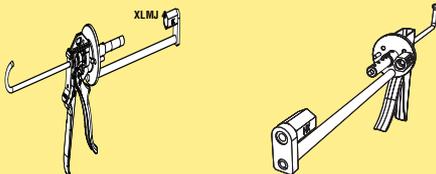
**Ball kit XT**



Ball kit XT **5116331**

*Note. kit contains 25 pcs of XTTT 11x17*

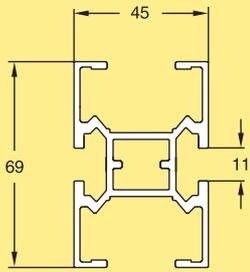
**Pin insertion tool for chain**



Pin insertion tool  
X45H-XS-X65-XT **XLMJ 4**  
X45H-XS-X65-XT, PRO version\* **XLMJ 4 P**

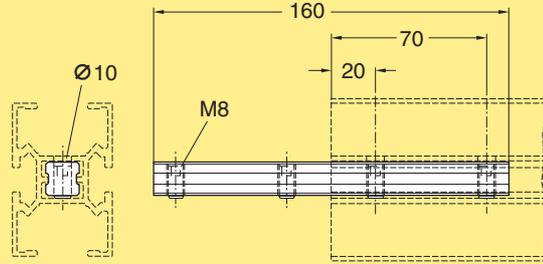
*\*This product is recommended for frequent users.*

## Conveyor beam



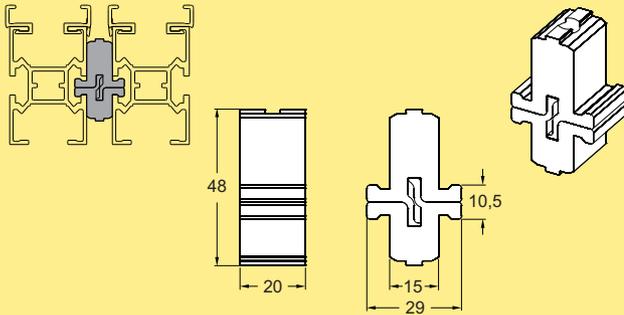
Beam  
 Length 3000 +10/-0 mm  
 Length to order (30- 3000 mm) **XTCB 3**  
**XTCB L**

## Connecting strip kit



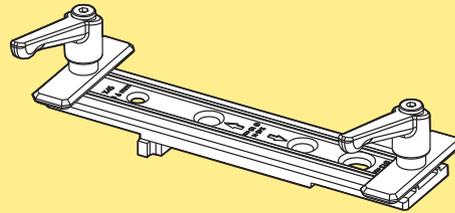
Connecting strip kit  
 Steel, electro-zinc-plated **5053503**  
 Kit with two connecting strips. Including M8 set screws.  
 Not for XT Compact beam

## Beam spacer



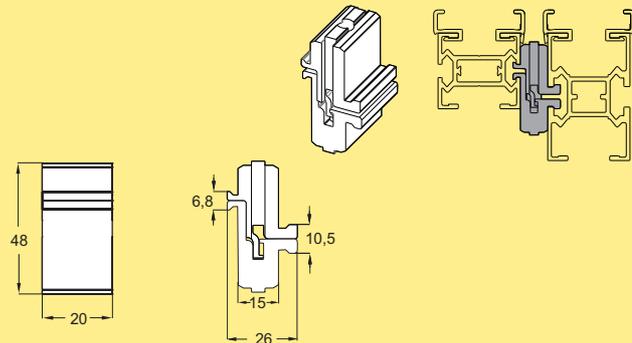
Beam spacer X45H-X45H **XCCD 15x20**  
 Complete kit  
 Note! Recommended distance between Beam spacer  
 600 mm.

## Drill fixture for conveyor beam



Drill fixture for conveyor beam **5123264**  
 To be used when drilling a 10 mm hole for Connecting  
 strip kit 5053503

## Beam spacer



Beam spacer X45<=>X45H **5114822**  
 Complete kit  
 Note! Recommended distance between Beam spacer  
 600 mm.

# Cover strip for T-slot

PO

CC

X45

XS

X65

X65P

X85

X85P

XH

XK

XKP

X180

X300

GR

CS

XT

HU

WL

WK

XC

XF

XD

ELV

CTL

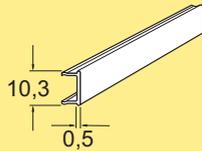
FST

TR

APX

IDX

## Cover strip for T-slot, PVC

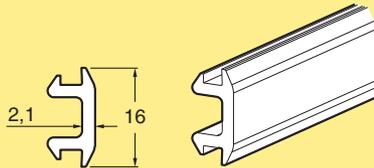


Cover strip for T-slot  
Length 3 m  
Grey PVC

**XCAC 3 P**

*Note! Can't be used with bends*

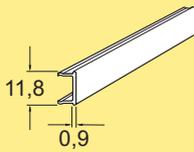
## Cover strip for T-slot, PVC



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*

# Slide rails

## Slide rail for non puck-application or return side



Slide rail (A)

Length 25 m

PA-PE (Grey)

UHMW-PE (White)

UHMW-PE (Blue)

UHMW-PE + carbon (conductive) (Black)

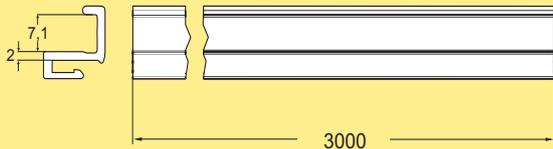
**XTCR 25 H**

**XTCR 25 U**

**XTCR 25 UL**

**XTCR 25 E**

## Slide/guide rail for puck handling



Slide/guide rail

Length 3 m

PA-PE (standard) (White)

UHMW-PE (Blue)

**XUCR 3 HAG**

**XUCR 3 GUL**

## Vertical plain bend kit for puck handling

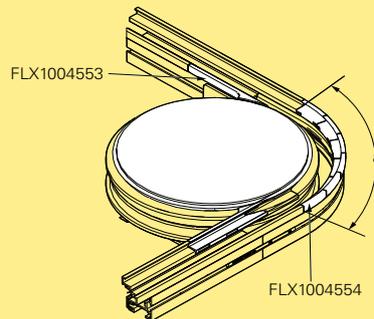


Guide kit

Note. Kit contains 2 pcs.

**FLX1005074**

## Guide kit for puck handling in wheel bends



Guide kit

45°

90°

180°

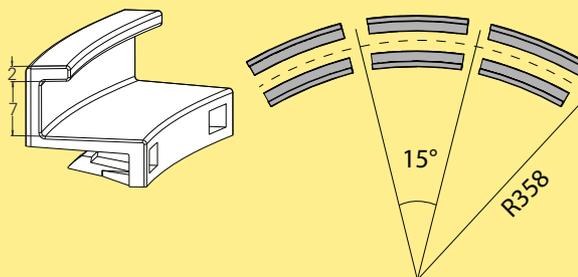
**FLX1004836**

**FLX1004837**

**FLX1004838**

Note. Kit contains guide disc (1), guide kit (1-4 depending on angle).

## Guide kit for plain bends, radius 358 mm

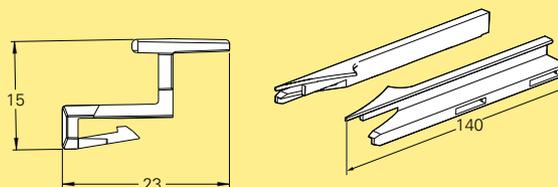


Guide kit

**FLX1004555**

Note. Kit contains 6 pcs. Included in FLX1004836, FLX1004837 and FLX1004838

## Guide kit

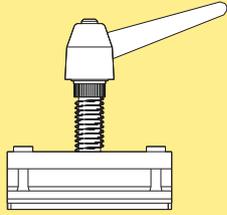


Horizontal 15R358

**FLX1004553**

Note. Kit contains 2 pcs. Included in FLX1004836, FLX1004837 and FLX1004838

**Drill fixture for slide rail**



Drill fixture for slide rail

**3923584**

**Rivet tool**



Rivet tool

**3923563**

**Mounting tool for slide rail**



Mounting tool for slide rail

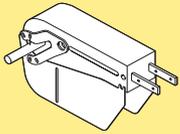
**XTMR 160 A**

## Drive unit types

The X45H system includes direct drive units, Heavy and Medium

Available motors include variable speed types (**V**) as well as fixed speed motors (**F**).

### End drive units

Size	Direct drive
	
Medium	F, V
Heavy	F, V

## 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.

## 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 section CC for examples of code strings.

Drive units *without* motors can be ordered using the designations in the catalogue.

## Dimension

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

### End drive unit NLP/NRP

End drive unit  
 Direct drive, No slip clutch  
 Maximum traction force: 900 N at 5 m/min.  
 Fixed speed up to 60 m/min  
 Variable speed up to 60 m/min

End drive unit, left	<b>XTEB</b>
50 Hz 230/400 V	
Without motor	<b>XTEB 0 NLP</b>
End drive unit, right	<b>XTEB</b>
50 Hz 230/400 V	
Without motor	<b>XTEB 0 NRP</b>

*Connecting strips are included.  
 Use online configurator when ordering*

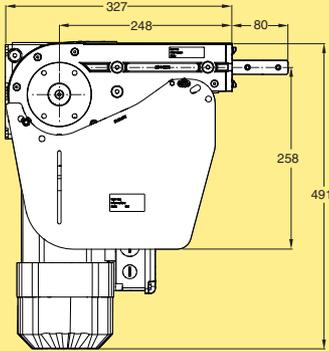
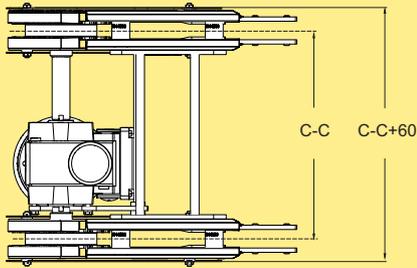
### End drive unit MNLP/MNRP

End drive unit  
 Direct drive, No slip clutch  
 Maximum traction force: 700 N at 5 m/min.  
 Fixed speed up to 25 m/min  
 Variable speed up to 25 m/min

End drive unit, left	<b>XTEB</b>
50 Hz 230/400 V	
Without motor	<b>XTEB 0 MNLP</b>
End drive unit, right	<b>XTEB</b>
50 Hz 230/400 V	
Without motor	<b>XTEB 0 MNRP</b>

*Connecting strips are included.  
 Use online configurator when ordering*

### End drive unit X45H, Mid drive

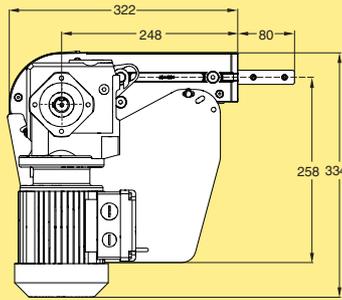
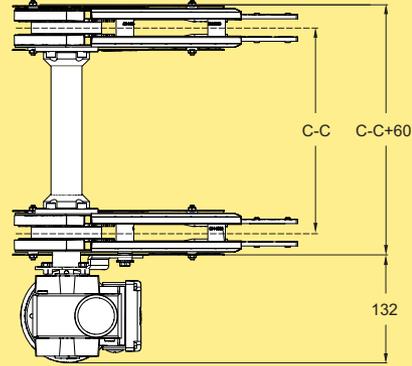


End drive unit, configured item\*  
Fixed speed: 5- 10- 15- 20 m/min\*

End drive unit, Mid **XTEB DD**  
50/60 Hz 230/400 V

\* Use online configurator when ordering  
Effective track length: 2x0,80 m

### End drive unit NLPD/NRPD



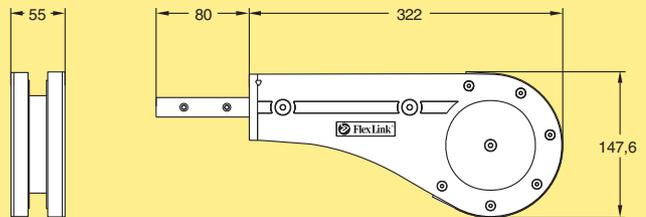
End drive unit, configured item\*  
Fixed speed: 5- 10- 15- 20- 30- 40- 50- 60 m/min\*

End drive unit, left/right **XTEB DD**  
50/60 Hz 230/400 V

\* Use online configurator when ordering  
(Max 20 m/min with pallets)  
Effective track length: 2x0,80 m

### Idler end unit

#### Idler end unit



Idler end unit  
Length 320 mm **XTEJ 320**

Connecting strips are included.

# Wheel bends

PO

CC

X45

XS

X65

X65P

X85

X85P

XH

XK

XKP

X180

X300

GR

CS

XT

HU

WL

WK

XC

XF

XD

ELV

CTL

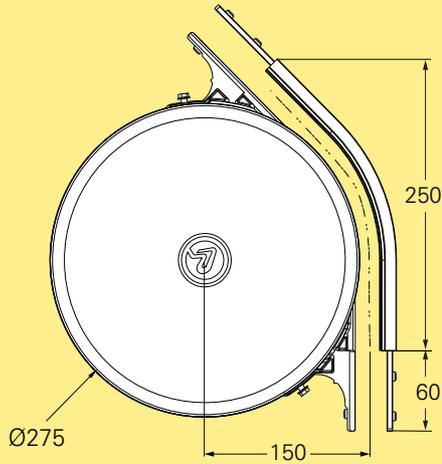
FST

TR

APX

IDX

## Wheel bend, 45°

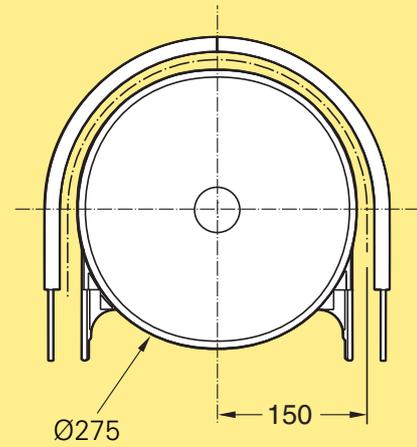


Wheel bend, 45°

**XTBH 45R150**

Connecting strips are included.

## Wheel bend, 180°

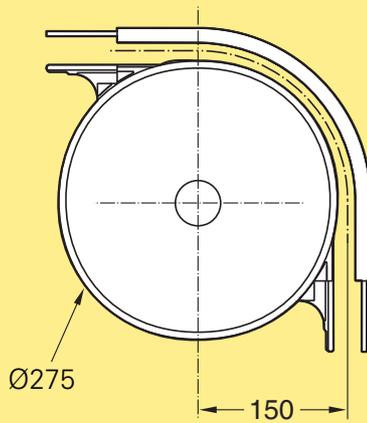


Wheel bend, 180°

**XTBH 180R150**

Connecting strips are included.

## Wheel bend, 90°



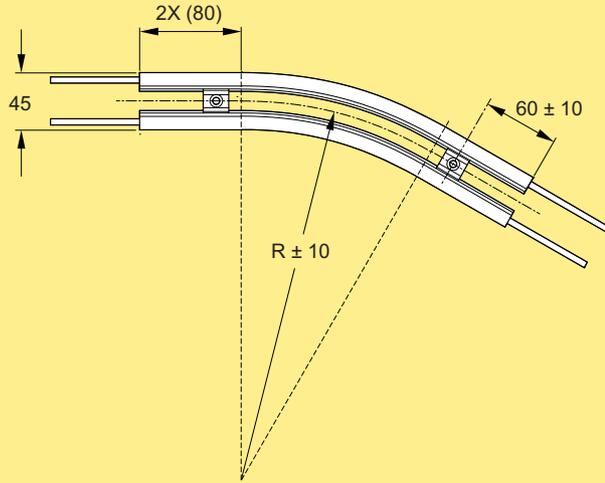
Wheel bend, 90°

**XTBH 90R150**

Connecting strips are included.

# Horizontal plain bends

## Horizontal plain bend, 30°



Horizontal plain bend, 30°±1°

R=358±10 mm

R=518±10 mm

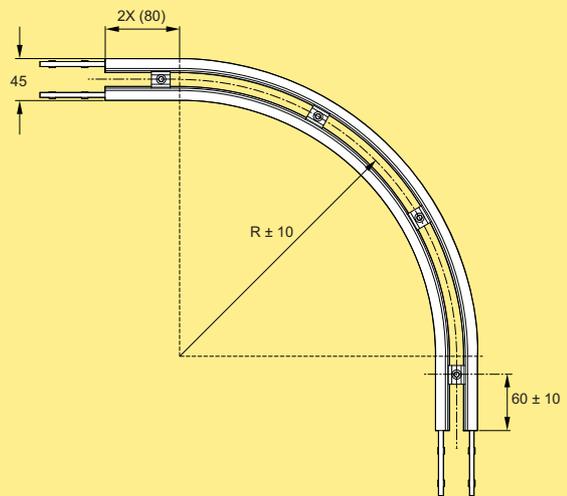
**XTBP 30R358**  
**XTBP 30R518**

*Effective track lengths:*

R358: 0,60 m 1-way (1,2 m 2-way)

R518: 0,70 m 1-way (1,40 m 2-way)

## Horizontal plain bend, 90°



Horizontal plain bend, 90°±1°

R=358±10 mm

R=518±10 mm

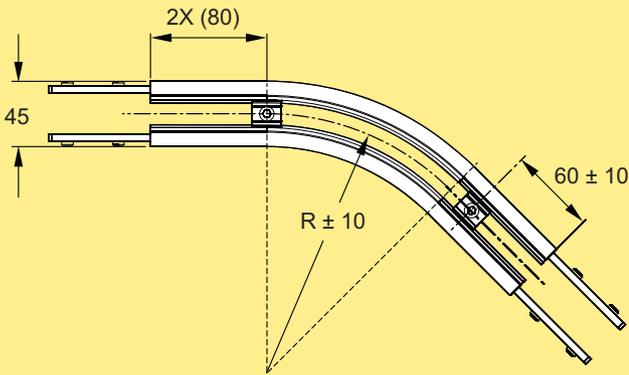
**XTBP 90R358**  
**XTBP 90R518**

*Effective track lengths:*

R358: 0,97 m 1-way (1,94 m 2-way)

R518: 1,25 m 1-way (2,50 m 2-way)

## Horizontal plain bend, 45°



Horizontal plain bend, 45°±1°

R=358±10 mm

R=518±10 mm

**XTBP 45R358**  
**XTBP 45R518**

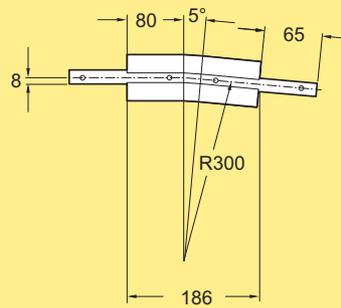
*Effective track lengths:*

R358: 0,70 m 1-way (1,40 m 2-way)

R518: 0,85m 1-way (1,70 m 2-way)

## Vertical bends

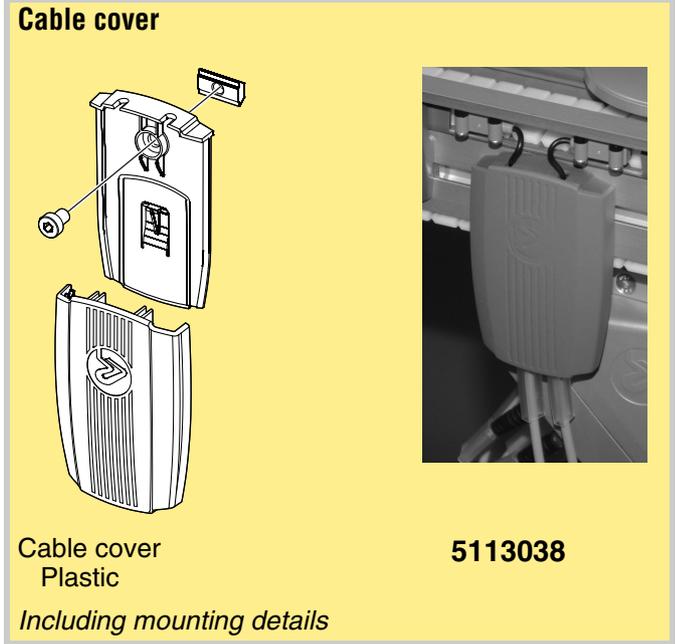
### Vertical bend, 5°



Vertical bend, 5°

**XTBV 5R300**

*Connecting strips are included.*



## Guide rail system

See "Guide rail components" on page 299

## Conveyor support

See "Conveyor support components" on page 337

# Puck handling functions X45e for X45C and X45H

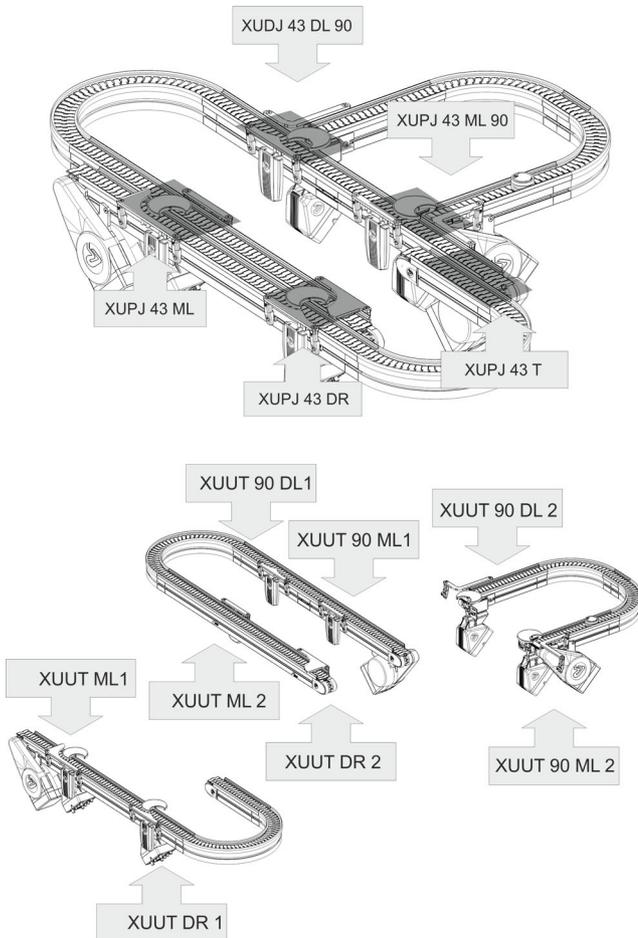
## Conveyor functions for puck handling X45C and X45H

Conveyor function kits for puck handling are used for handling individual products on standard pucks (carrier) XUPP 43 and XUPP 43 T. A whole range of functions such as Divert, Merge, Combined Divert/ Merger, Stop and Locating can easily be integrated to X45C and X45H conveyors.

This makes it easy and fast to create layouts for routing, balancing, buffering and positioning of pucks. RFID identification in the pucks enables one piece track and trace and logistic control for the production line.

### Typical conveyor layouts for puck handling

The figures shows a typical conveyor layouts for puck handling. A system that includes a mix of X45C and X45H conveyors with X45e kits for handling the puck functions in the system.



### Configuration X45e kit for X45C and X45H

Functional X45e kits are available with the following functions: Divert, Merge, Combined Divert/Merge, Transfer, Locate and Stops.

### Configuration procedure

All functions are delivered with an assembly instruction that contains detailed information about or how to:

- Bill of material (BOM)
- Function origin.

(Identification of the function origin. All components are mounted from this point.)

- Cutting Slide Rail
- How to cut different types
- Motor Assembly
- Mounting Motor
- Mounting Guide Rails
- Mounting Sensors

The instructions are included with the kit or can be downloaded at our website [www.flexlink.com](http://www.flexlink.com)



The control system for the platforms X45e is structured in an object oriented way. All puck function motors in the platform have embedded control units and local sensors are connected directly to each motor unit. This layout gives a big advantage regarding software developing, electrical design and electrical installation.

**Function control**

The motor unit consists of a motor, circuit boards and eight connectors in an encapsulated housing. There are two types of motor units, the drive unit and the function unit. All that differs on these variants are the motor and the mechanical housing.

*Function units X45e*

Each function unit includes an embedded controller for handling local decisions within the function area. The unit is equipped with 8 input signals and 4 output signals for connection to sensors and other function units and equipment. The motor unit has a LED on each side indicating the status.

The motors can be autonomously controlled only by the input of the local sensors or controlled from a line controller over a EtherNet/IP or PROFINET network.

If the motors are in autonomous mode they only need power (24VDC) to work properly.

All software in the X45e motors are preloaded and the behavior of the motors can be adjusted to different performance (such as function type, speed and angle settings) by connecting a computer via the USB connector

For more detailed information about the function see User documentation

**Line control and power**

A line controller can be interlinked via an external EtherNet/IP or PROFINET network. RFID reader/writers can be connected to the same network via a control interface unit. All dynamic route handling has to be implemented in the line controller. The main electrical cabinet supplies the motor units with power, 24 VDC. The power is divided in safe and continuous power in order to have the possibilities to implement emergency or safety stops.

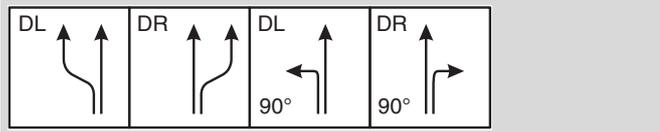
X45e units equipped with the old version of Device NET Interface are available to order as RFQ item. Contact FlexLink for more info.

# Diverters, Mergers, Combined Diverters/Mergers and Transfers for Puck handling



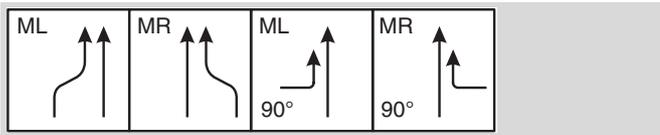
## Diverters

Diverters are used to split a flow of pucks from one line into two. The lines can be parallel or in a 90° angle.



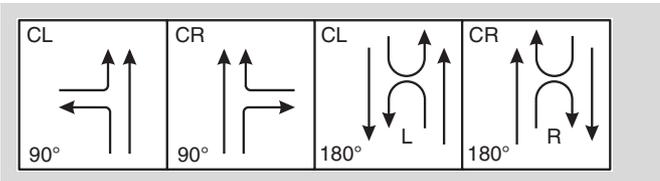
## Mergers

Mergers are used to combine the flow from two lines into one. The lines can be parallel or in a 90° angle.



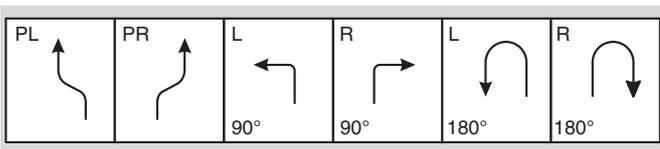
## Combined Diverter/merger

A combined diverter/merger is used to create a sub line for example to guide pucks out and in on a satellite conveyor from the main conveyor. They can also be used as "shortcuts".

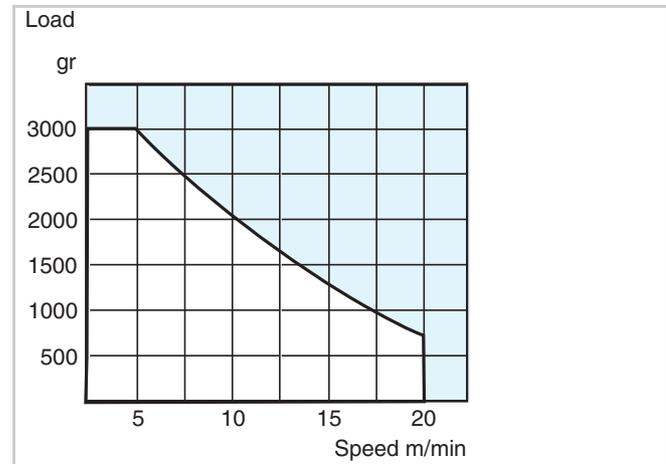


## Transfers

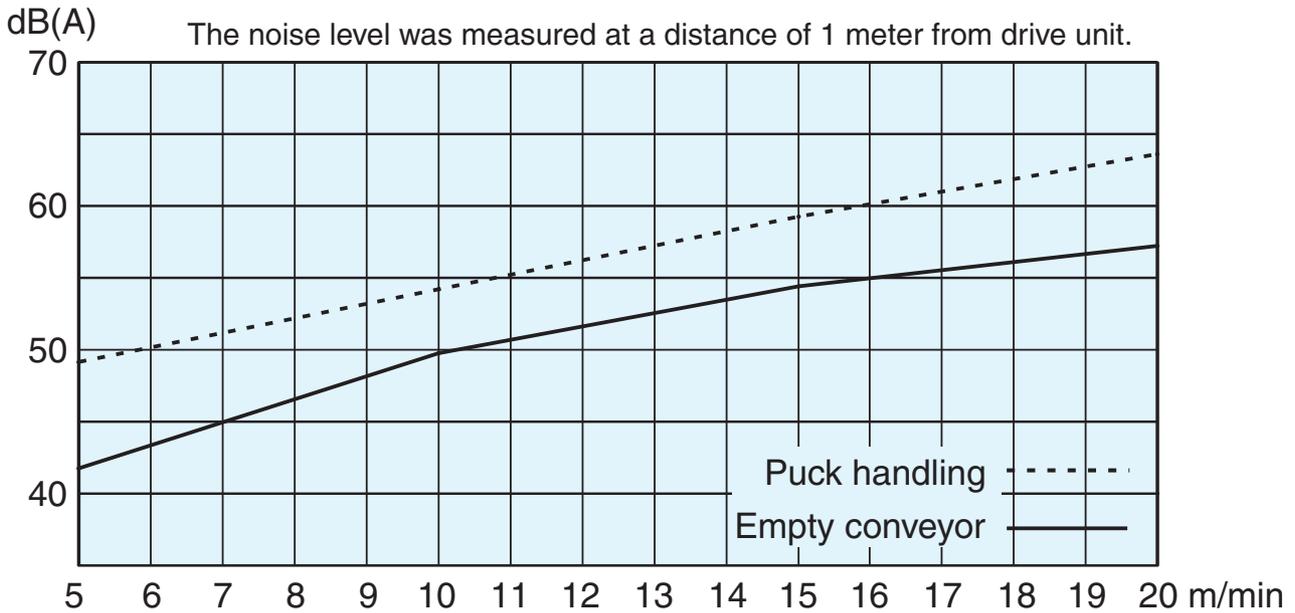
Transfers are used to transfer the puck between the conveyors in a system. The parallel transfers are passive but the 90° and 180° angled transfers are driven by a motor.



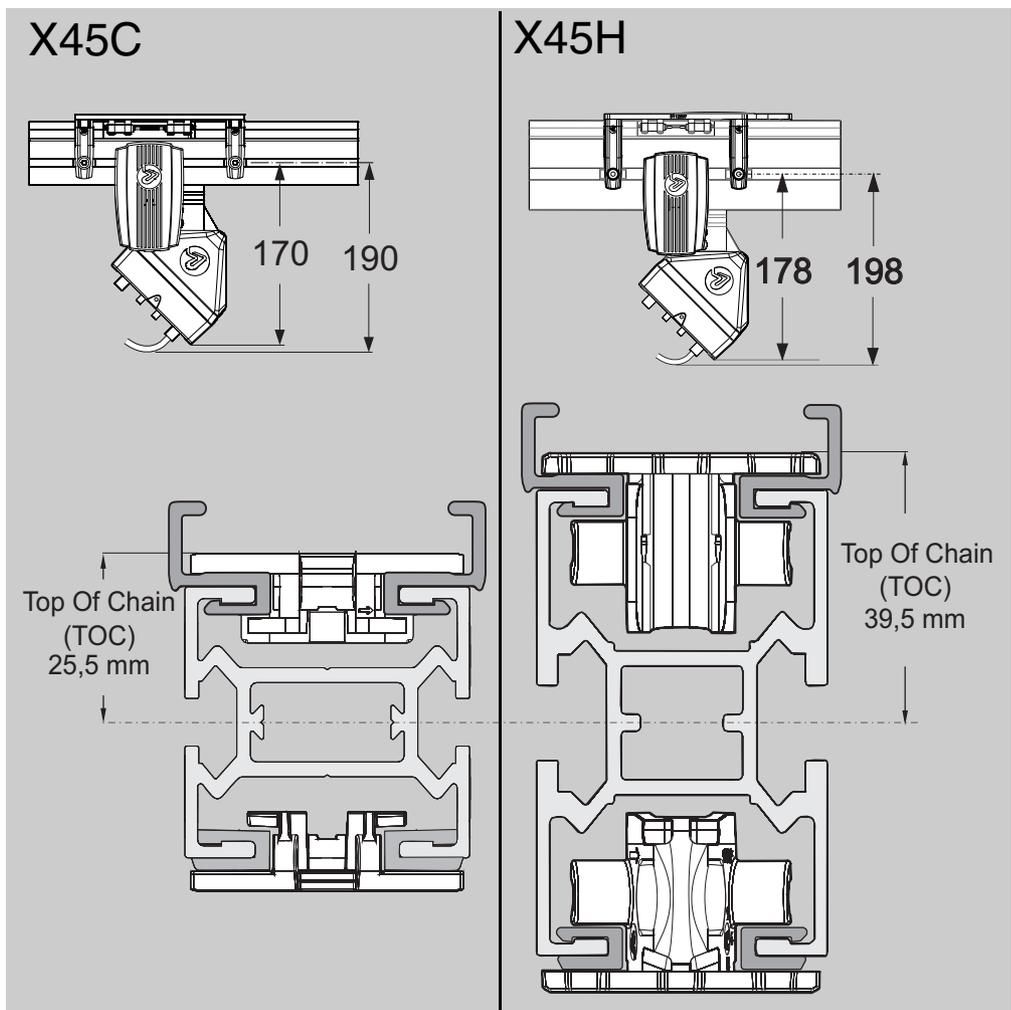
## Maximum permissible weight X45C and X45H



The diagram shows the maximum permissible weight of a group of pucks (product weight + puck weight) that the functions Divert, Merger, Combined Diverter/Merger, Stop and Locating are capable stopping, as a function of the conveyor speed.



Overall installation dimensions



The figure shows the overall installation dimensions for function units X45C and X45H and Top Of Chain (TOC)

## Divert functions and kits

The diverter is an active unit with one infeed and two out-feed conveyors.

There are four different variants of the diverter.

- Diverter, Parallel, Left
- Diverter, Parallel, Right
- Diverter, 90°, Left
- Diverter, 90°, Right

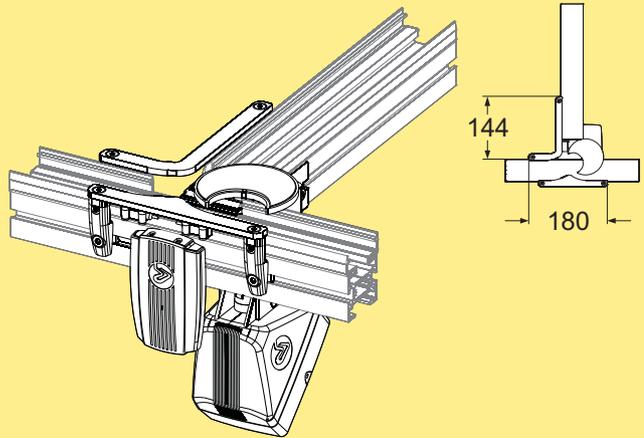
The unit has two positions for photoelectric sensors. The first one is used for sensing the queue status of the infeed conveyor. This sensor can be replaced by a RFID read/write head.

When a puck arrives the rotation disc opens up to receive the puck. The second sensor is used for detecting that the puck has reached the gap of the rotation disc. This is the trigger signal for the main rotation of the rotation disc, with a puck in the gap.

The decision of which outfeed conveyor to release the puck on can be received from the external bus, via a local sensor or from a predetermined pattern.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

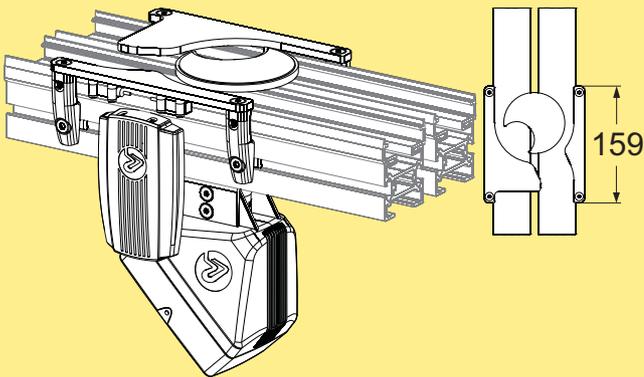
### Divorter, 90°



Divorter 90° kit X45C<=>X45C    **XUPJ 43 D\_ 90 B**  
 Divorter 90° kit X45H<=>X45    **XUPJ 43 D\_ 90 HB**

*Figure shows type L (divert to left, merge from left)  
 Use online configurator when ordering*

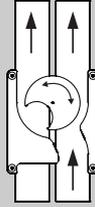
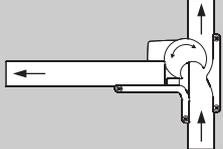
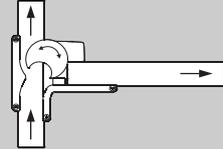
### Divorter, parallel



Divorter kit X45C<=>X45C    **XUPJ 43 D\_ B**  
 Divorter kit X45H<=>X45C    **XUPJ 43 D\_ HB**  
 Divorter kit X45H<=>X45H    **XTPJ 43 D\_ B**

*Figure shows type L (divert to left)  
 Use online configurator when ordering*

# Function structure list, Divert functions and kits

Function	Direction	Designation	Layout	
Divert	Parallel	Diverter kit X45C<=>X45, Left	<b>XUPJ 43 DL B</b>	
		Diverter kit X45H<=>X45C, Left	<b>XUPJ 43 DLH B</b>	
		Diverter kit X45H<=>X45H, Left	<b>XTPJ 43 DL B</b>	
		Diverter kit X45C<=>X45, Right	<b>XUPJ 43 DR B</b>	
	Diverter kit X45H<=>X45C, Right	<b>XUPJ 43 DRH B</b>		
	Diverter kit X45H<=>X45H, Right	<b>XTPJ 43 DR B</b>		
	90°	Diverter 90° kit X45C<=>X45C, Left	<b>XUPJ 43 DL 90 B</b>	
		Diverter 90° kit X45H<=>X45C, Left	<b>XUPJ 43 DL 90HB</b>	
Diverter 90° kit X45C<=>X45C, Right		<b>XUPJ 43 DR 90 B</b>		
Diverter 90° kit X45H<=>X45C, Right		<b>XUPJ 43 DR 90HB</b>		

- PO
- CC
- X45**
- XS
- X65
- X65P
- X85
- X85P
- XH
- XK
- XKP
- X180
- X300
- GR
- CS
- XT
- HU
- WL
- WK
- XC
- XF
- XD
- ELV
- CTL
- FST
- TR
- APX
- IDX

## Merge functions and kits

The merger is an active unit with two infeed and one out-feed conveyor.

There are four different variants of the merger.

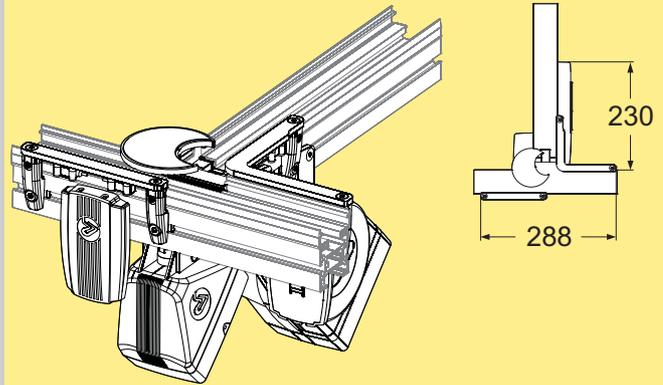
- Merger, Parallel, Left
- Merger, Parallel, Right
- Merger, 90°, Left
- Merger, 90°, Right

The unit has two sets of guide brackets each containing two photoelectric sensors. The first sensor position on each side is used for sensing the queue status of the infeed conveyors. These queue sensors are the trigger signal for the merger to move the rotation disc to one of the two receive positions. This is done either clockwise or counter clockwise depending on which conveyor to receive pucks from.

The last sensor is used for sensing pucks in the gap of the rotation disc. This is the trigger signal for the main rotation of the rotation disc, with a puck in the gap. When the rotation disc has reached the release position the cycle is complete and the unit waits for a new puck to arrive.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

### Merger 90°



Merger 90° kit X45C<=>X45C

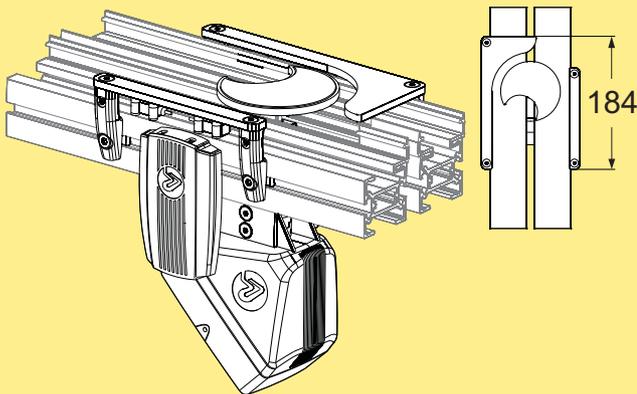
**XUPJ 43 M\_90B**

Merger 90° kit X45H<=>X45C

**XUPJ 43 M\_90 HB**

*Figure shows type L (merge from left)  
Use online configurator when ordering*

### Merger, parallel



Merger kit X45C<=>X45C

**XUPJ 43 M\_B**

Merger kit X45H<=>X45C

**XUPJ 43 M\_HB**

Merger kit X45H<=>X45H

**XTPJ 43 M\_B**

*Figure shows type L (divert to left)  
Use online configurator when ordering*

Function structure list, Merger functions and kits

Function		Direction	Designation	Layout
Merge	Parallel	Merger kit X45C<=>X45C, Left	<b>XUPJ 43 ML B</b>	
		Merger kit X45H<=>X45C, Left	<b>XUPJ 43 MLH B</b>	
		Merger kit X45H<=>X45H, Left	<b>XTPJ 43 ML B</b>	
	90°	Merger kit X45C<=>X45C, Right	<b>XUPJ 43 MR B</b>	
		Merger kit X45H<=>X45C, Right	<b>XUPJ 43 MRH B</b>	
		Merger kit X45H<=>X45H, Right	<b>XTPJ 43 MR B</b>	
		Merger 90° kit X45<=>X45C, Left	<b>XUPJ 43 ML 90 B</b>	
		Merger 90° kit X45H<=>X45C, Left	<b>XUPJ 43 ML 90HB</b>	
		Merger 90° kit X45C<=>X45C, Right	<b>XUPJ 43 MR 90 B</b>	
		Merger 90° kit X45H<=>X45C, Right	<b>XUPJ 43 MR 90HB</b>	

PO  
 CC  
**X45**  
 XS  
 X65  
 X65P  
 X85  
 X85P  
 XH  
 XK  
 XKP  
 X180  
 X300  
 GR  
 CS  
 XT  
 HU  
 WL  
 WK  
 XC  
 XF  
 XD  
 ELV  
 CTL  
 FST  
 TR  
 APX  
 IDX

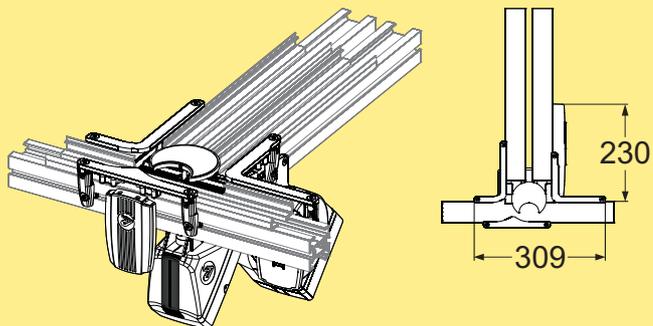
## Combined Divert/Merge

A Combined Diverter/Merger is used to create a sub line for example to guide pucks out and in on a satellite conveyor. They can also be used as "shortcuts".

This function has the behaviour from both the diverter and the merger. The prioritized order can be predetermined or decided dynamically from a line controller.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

### Combined Diverter/Merger 90°

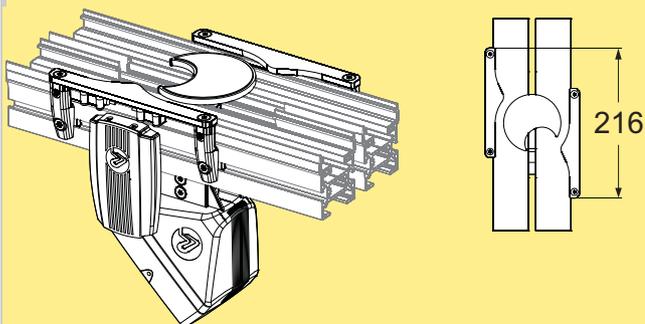


Combined Diverter and Merger kit 90° X45C<=>X45C **XUPJ 43 C\_ 90B**

Combined Diverter and Merger kit 90° X45H<=>X45C **XUPJ 43 C\_ 90 HB**

*Figure shows type L (divert to left, merge from left)  
Use online configurator when ordering*

### Combined Diverter and Merger 180°



Combined Diverter and Merger kit 180° X45C<=>X45C **XUPJ 43 C\_ B**

Combined Diverter and Merger kit 180° X45H<=>X45C **XUPJ 43 C\_ HB**

Combined Diverter and Merger kit 180° X45H<=>X45H **XTPJ 43 C\_ B**

*Figure shows type L (divert to left, merge from left)  
Use online configurator when ordering*

Function structure list, Combined Diverter/Merger

Function		Direction	Designation	Layout
Combined Divert/Merge	Parallel	Combined Divert/Merge kit X45C<=>X45C, Left	<b>XUPJ 43 CL B</b>	
		Combined Divert/Merge kit X45C<=>X45H, Left	<b>XUPJ 43 CLH B</b>	
		Combined Divert/Merge kit X45H<=>X45H, Left	<b>XTPJ 43 CL B</b>	
		Combined Divert/Merge kit X45C<=>X45C, Right	<b>XUPJ 43 CR B</b>	
		Combined Divert/Merge kit X45C<=>X45H, Right	<b>XUPJ 43 CRH B</b>	
		Combined Divert/Merge kit X45H<=>X45H, Right	<b>XTPJ 43 CR B</b>	
	90°	Combined Divert/Merge kit X45C<=>X45C, Left	<b>XUPJ 43 CL 90 B</b>	
		Combined Divert/Merge kit X45C<=>X45H, Left	<b>XUPJ 43 CL 90HB</b>	
Combined Divert/Merge kit X45C<=>X45C, Right		<b>XUPJ 43 CR 90 B</b>		
Combined Divert/Merge kit X45C<=>X45H, Right		<b>XUPJ 43 CR 90HB</b>		

PO

CC

**X45**

XS

X65

X65P

X85

X85P

XH

XK

XKP

X180

X300

GR

CS

XT

HU

WL

WK

XC

XF

XD

ELV

CTL

FST

TR

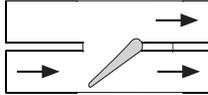
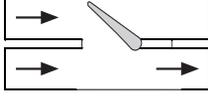
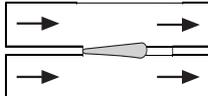
APX

IDX

## Combined Diverter/Merger for handling train of products

This combined diverter/merger unit is handling train of products. It require a gap in the product flow during function operation change. Gaps are normally created by stop units located on each incoming conveyor. The decision of which outfeed conveyor to release the pucks on

can be received from the external bus, via a local sensor or from a predetermined pattern. For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

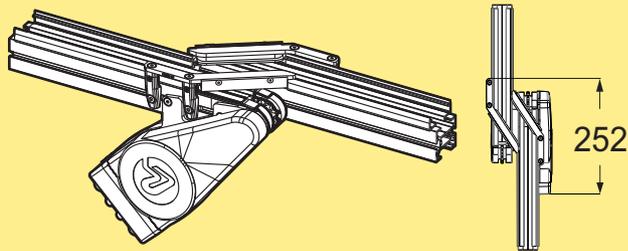
Function	Direction	Designation	Function alternatives
Combined Divert/Merge Train product handling	Diverter/Merge kit X45C<=>X45	<b>XUPJ 43 DT B</b>	
	Diverter/Merge kit X45H<=>X45C,	<b>XUPJ 43 DTH B</b>	
	Diverter/Merge kit X45H<=>X45H	<b>XTPJ 43 DT B</b>	

# Transfer

Transfers are used to transfer the puck between the conveyors in a system.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

## Transfer, parallel

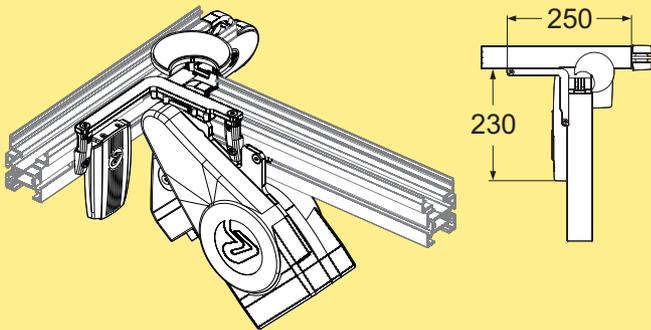


Transfer kit parallel X45C<=>X45C  
 Transfer kit parallel X45H<=>X45C  
 Transfer kit parallel X45H<=>X45H

**XUPJ 43 T**  
**XUPJ 43 TH**  
**XTPJ 43 T**

*Figure shows type L (transfer to left)  
 Use online configurator when ordering*

## Transfer 90°

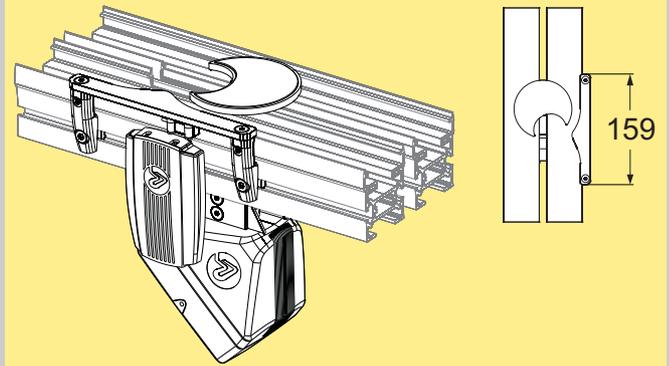


Transfer kit 90° X45C<=>X45C  
 Transfer kit 90° X45H<=>X45

**XUPJ 43 T\_90 B**  
**XUPJ 43 T\_90 HB**

*Figure shows type L (transfer to left)  
 Use online configurator when ordering*

## Transfer 180°



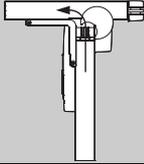
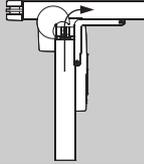
Transfer kit 180° X45C<=>X45C  
 Transfer kit 180° X45H<=>X45C  
 Transfer kit 180° X45H<=>X45H

**XUPJ 43 T\_180 B**  
**XUPJ 43 T\_180 HB**  
**XTPJ 43 T\_180 B**

*Figure shows type L (transfer to left)  
 Use online configurator when ordering*

P0  
 CC  
**X45**  
 XS  
 X65  
 X65P  
 X85  
 X85P  
 XH  
 XK  
 XKP  
 X180  
 X300  
 GR  
 CS  
 XT  
 HU  
 WL  
 WK  
 XC  
 XF  
 XD  
 ELV  
 CTL  
 FST  
 TR  
 APX  
 IDX

## Function structure list, Transfer, parallel and 90°

Function		Direction	Designation	Layout	
Transfer	Parallel	Transfer kit, parallel, left, X45C<=>X45	<b>XUPJ 43 T</b>		
		Transfer kit, parallel, left, X45H<=>X45C	<b>XUPJ 43 TH</b>		
		Transfer kit, parallel, left, X45H<=>X45H	<b>XTPJ 43 T</b>		
		Transfer kit, parallel, right, X45C<=>X45C	<b>XUPJ 43 T</b>		
		Transfer kit, parallel, right, X45H<=>X45C	<b>XUPJ 43 TH</b>		
		Transfer kit, parallel, right, X45H<=>X45H	<b>XTPJ 43 T</b>		
	90°	Transfer kit, 90, left, X45C<=>X45C	<b>XUPJ 43 TL 90 B</b>		
		Transfer kit, 90, left, X45H<=>X45C	<b>XUPJ 43 TL 90HB</b>		
Transfer kit, 90, right, X45C<=>X45C		<b>XUPJ 43 TR 90 B</b>			
Transfer kit, 90, right, X45H<=>X45C		<b>XUPJ 43 TR 90HB</b>			

Function structure list, Transfer 180°

Function		Direction	Designation	Layout
Transfer	180°	Transfer kit, 180, left, X45C<=>X45C	<b>XUPJ 43 TL 180B</b>	
		Transfer kit, 180, left, X45H<=>X45C	<b>XUPJ 43 TL 180HB</b>	
		Transfer kit, 180, left, X45H=>X45C	<b>XTPJ 43 TL 180UB</b>	
		Transfer kit, 180, left, X45H<=>X45H	<b>XTPJ 43 TL 180B</b>	
		Transfer kit, 180, right, X45C<=>X45C	<b>XUPJ 43 TR 180B</b>	
		Transfer kit, 180, right, X45H<=>X45C	<b>XUPJ 43 TR 180HB</b>	
		Transfer kit, 180, right, X45H=>X45C	<b>XTPJ 43 TR 180UB</b>	
		Transfer kit, 180, right, X45H<=>X45H	<b>XTPJ 43 TR 180B</b>	

- PO
- CC
- X45**
- XS
- X65
- X65P
- X85
- X85P
- XH
- XK
- XKP
- X180
- X300
- GR
- CS
- XT
- HU
- WL
- WK
- XC
- XF
- XD
- ELV
- CTL
- FST
- TR
- APX
- IDX

# Stop

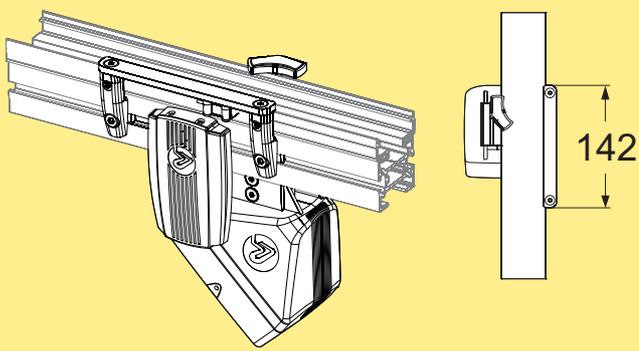
Stop unit is an active unit acting on a single conveyor.

The unit has only one photoelectric sensor. This detects a puck in the queue. The default position of the stop unit is closed, i.e. it is able to resist a queue of pucks. If the stop is deactivated the unit opens up to receive a puck.

This unit can be controlled either via the external bus or in local mode by a signal in the local digital input.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

**Stop unit- Single product handling**

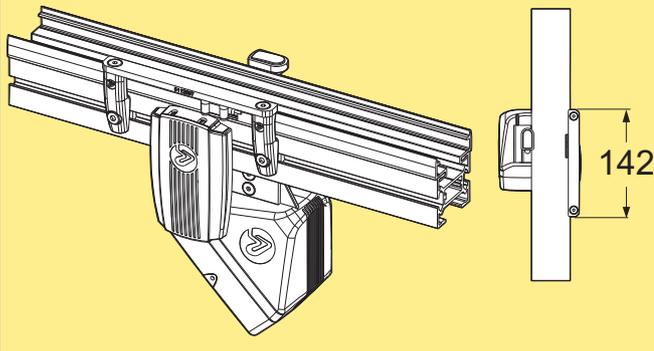


Stop unit X45C, kit  
Stop unit X45H, kit

**XUPD 43 \_B**  
**XTPD 43 \_B**

*Use online configurator when ordering*  
*Figure shows type Left*

**Stop unit- Train product handling**

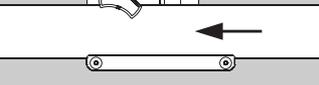


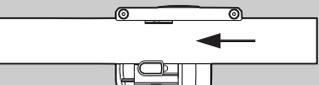
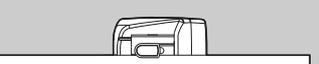
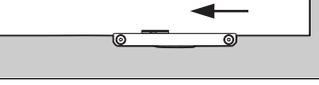
Stop unit X45C, kit  
Stop unit X45H, kit

**XUPD 43 \_T B**  
**XTPD 43 \_T B**

*Use online configurator when ordering*  
*Figure shows type Left*

## Function structure list, Stop unit

Function	Direction	Designation	Layout
Stop unit Single product handling	Stop unit kit, X45C Left	<b>XUPD 43 L B</b>	
	Stop unit kit, X45H Left	<b>XTPD 43 L B</b>	
	Stop unit kit, X45C Right	<b>XUPD 43 R B</b>	
	Stop unit kit, X45H Right	<b>XTPD 43 R B</b>	

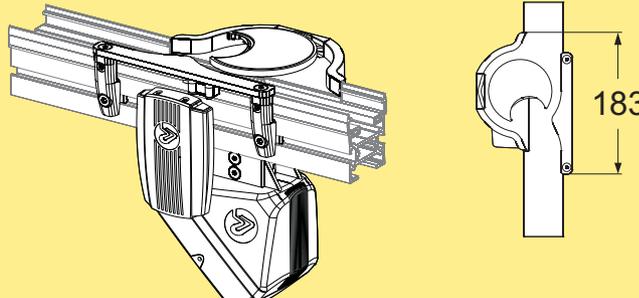
Function	Direction	Designation	Layout
Stop unit Train product handling	Stop unit kit, X45C Left	<b>XUPD 43 LT B</b>	
	Stop unit kit, X45H Left	<b>XTPD 43 LT B</b>	
	Stop unit kit, X45C Right	<b>XUPD 43 RT B</b>	
	Stop unit kit, X45H Right	<b>XTPD 43 RT B</b>	

# Locating unit

Locating unit is an active unit acting on a single conveyor. The station has only one photoelectric sensor. This is detecting that the puck has reached the gap of the rotation disc. The locating station can also be equipped with a RFID read/write head on the locating position. The station can be controlled either via the external bus or using only local control.

For more detailed information about the function, see User documentation in Technical library at [flexlink.com](http://flexlink.com)

**Locating unit**

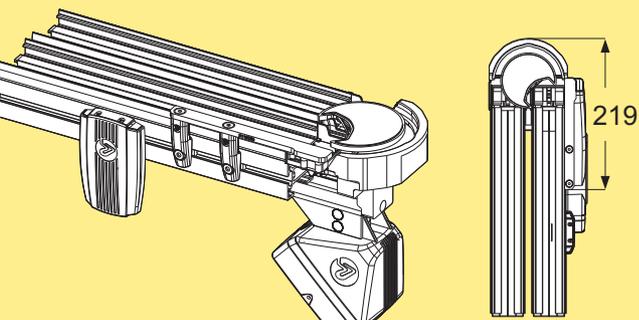


Locating unit X45C, kit  
 Locating unit X45H, kit  
 Locating accuracy  $\pm 0,5$  mm  
 Angle accuracy  $\pm 2^\circ$

**XUPX 43 O\_B**  
**XTPX 43 O\_B**

*Use online configurator when ordering*  
*Figure shows type Left*

**Locating unit, end of satellite**

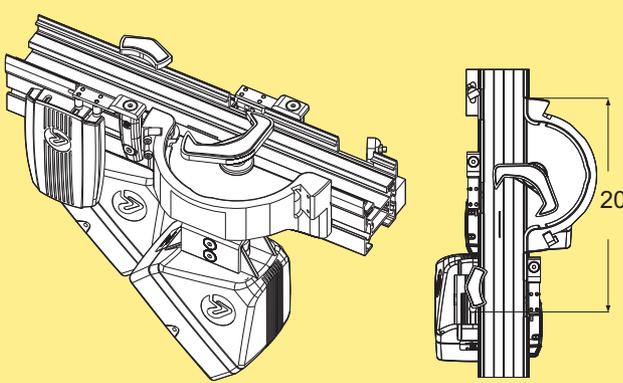


Locating unit X45C, kit  
 Locating accuracy  $\pm 0,5$  mm  
 Angle accuracy  $\pm 2^\circ$

**XUPX 43 S\_B**

*Use online configurator when ordering. Available in variants with 45, 90 and 135 degrees stop position.*

**Locating unit, with bypass**



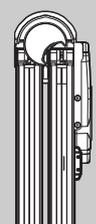
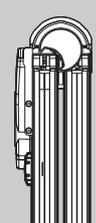
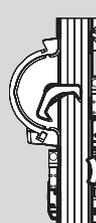
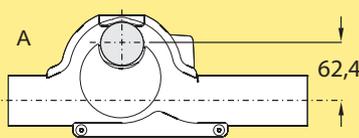
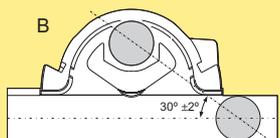
Locating unit X45C, kit  
 Locating accuracy  $\pm 0,5$  mm  
 Angle accuracy  $\pm 2^\circ$

**XUPX 43 OB\_B**

*Use online configurator when ordering*  
*Figure shows type Right*

- PO
- CC
- X45**
- XS
- X65
- X65P
- X85
- X85P
- XH
- XK
- XKP
- X180
- X300
- GR
- CS
- XT
- HU
- WL
- WK
- XC
- XF
- XD
- ELV
- CTL
- FST
- TR
- APX
- IDX

# Function structure list, Locating unit

Function	Direction	Designation	Item	Layout
Locating unit	X45C, Left, kit	<b>XUPX 43 OL B</b>		
	X45H, Left, kit	<b>XTPX 43 OL B</b>		
	X45C, Right, kit	<b>XUPX 43 OR B</b>		
	X45H, Right, kit	<b>XTPX 43 OR B</b>		
Locating unit, end of satellite	X45C, Left, kit	<b>XUPX 43 SL B</b>		
	X45C, Right, kit	<b>XUPX 43 SR B</b>		
Locating unit, locating with bypass	X45C, Left, kit	<b>XUPX 43 OBL B</b>		
	Note: Do not use with puck XUPP 43 TA			
	X45C, Right, kit	<b>XUPX 43 OBR B</b>		
	Note: Do not use with puck XUPP 43 TA			
<p><b>XUPP 43</b></p> 		<p><b>XUPP 43</b></p> 		<p>The rotating disc guides the puck sideways out of the conveyor into the locating position. A spring function included in the rotating disc presses the puck towards a v-shaped block. In this position the puck is locked vertical and can take limited vertical forces e.g. unload or load a test tube. No loads are aloud in the X, Y-plane.</p> <p>Accuracy:          Locating <math>\pm 0,5</math> mm          Angle <math>\pm 2^\circ</math></p>
<p>Note: A) Can be used with XUPP 43 and XUPP 43 TA.          B) Can only be used with XUPP 43.</p>				

# Puck handling

A complete Puck XUPP 43 or XUPP 43 TA consists of a base and a ring part.

Function of the ring is to allow the function disc in all different function units, to rotate without getting force from the other pucks that can be in queue in a line up situation.

**Puck**

**XUPP 43**

Puck  
Plastic PA  
Puck weight: 12g  
Max load on puck: 250g  
*Puck can be equipped with RFID tag, see Page 98*

**Puck**

**XUPP 43 TA**

Puck  
Plastic PA  
Puck weight: 14 g  
Max load on puck: 250 g  
*XUPP 43 TA works as a pallet this means that full orientation control of the product is obtained, which can be an advantage in the process.*  
*The puck will be a bit more stable as more of the surface area is in contact with the conveyor.*  
*Puck can be equipped with RFID tag, see Page 98*

## Product specific application/fixture (valid for both XUPP 43 and XUPP 43 TA)

Max. 58 mm  
Customer application  
Hole Ø3 M6 (x2) depth 4.7 ±0.1 for cylindrical pin CPR DIN7 3x6  
3,9 ±0,1  
14,5 Max  
Ø29,8±0,2 (33,5)  
Customer application  
Customer application  
Top Of Chain (TOC) 25,5 mm

*Interface description product specific application/fixture*

PO  
CC  
X45  
XS  
X65  
X65P  
X85  
X85P  
XH  
XK  
XKP  
X180  
X300  
GR  
CS  
XT  
HU  
WL  
WK  
XC  
XF  
XD  
ELV  
CTL  
FST  
TR  
APX  
IDX

# RFID components

## RFID tag

The RFID tag is a circular tag with a diameter of 30 mm operating at the frequency of 13.56 MHz. The memory available is 1024 bit or 16 kbit.

## Read/ write head

The read/write head exchanges data with the passive RFID tags at a maximum distance of 50 mm.

The read/write head has an M12 connector. The M12 cable is connected to a control interface unit.

## Control interface unit

Every read/write head has to be connected to a control interface unit. These units exist in different variants that can connect up to four read/write heads each.

They are equipped with interfaces for some of the most common field bus system, Profibus, PROFINET, Ethernet and DeviceNet and Interbus, as well as with serial interfaces.

For more detailed information about the function, see User documentation.

## RFID tag



5113121

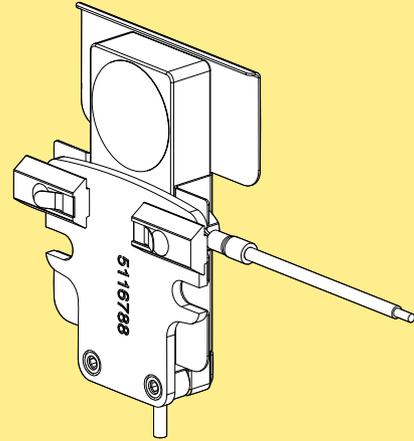
RFID tag 1024 bit  
RFID tag 16 kbit



5113120

5113121  
5113120

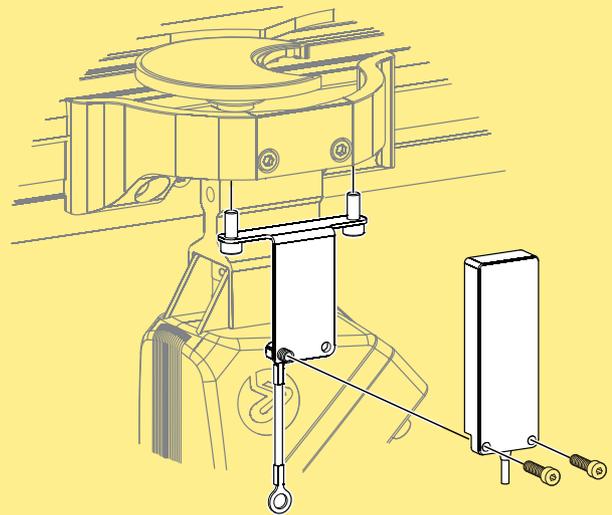
## RFID Reader/writer for X45 and X45H



RFID Reader/writer  
Including bracket kit

5113046

## RFID Reader/writer locating station

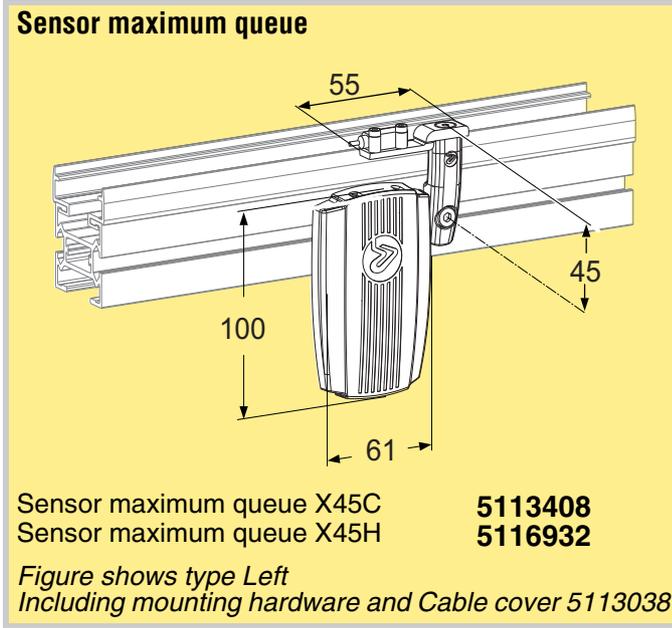


RFID Reader/writer locating station  
Including bracket kit

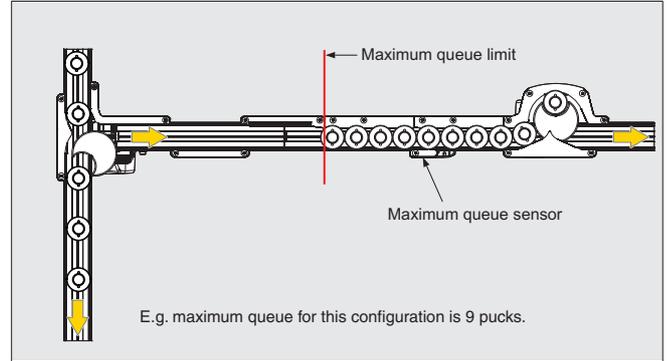
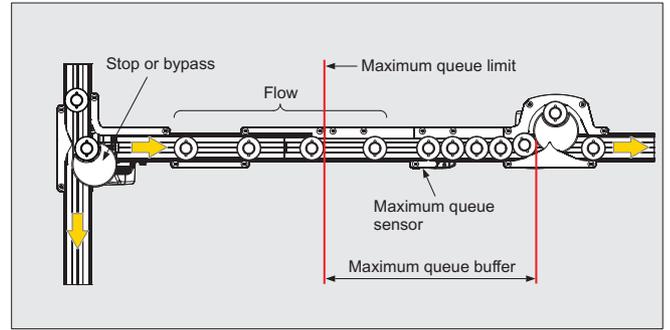
5113119

# Sensor maximum queue

In order to prevent any jam in the production flow, a maximum queue sensor can be connected. It will read if an unexpected long queue occurs, a signal will be received by the embedded software in previous function motor in the flow and stop the feed or feed through to another flow



## Maximum queue



PO

CC

X45

XS

X65

X65P

X85

X85P

XH

XK

XKP

X180

X300

GR

CS

XT

HU

WL

WK

XC

XF

XD

ELV

CTL

FST

TR

APX

IDX

