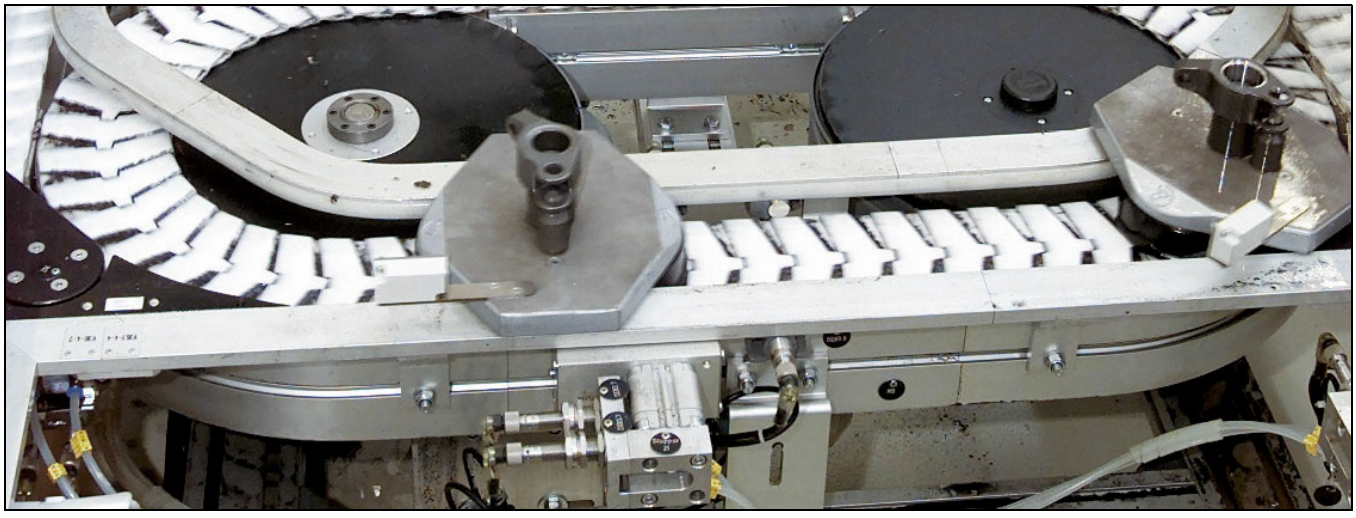
XK pallet system

Contents

System information 263
Pallets 264
Pallet accessories/spare parts 265
RFID components 266
Pallets XKPP 200×150 A, XKPP 250×225 A 267
Pallet XKPP 300×300 A + guide discs XKPG 268
Slide rails 269
Guide rails (dry applications) 269
Drip catchers (wet applications) 270
Accessories and tools 271
Pallet locating station 272
Locating station accessories 273
Pallet stop device 274
Diverting and Merging modules – introduction 275
Divert modules 276
Merge modules 276
Divert and merge modules 277

System information



Pallet handling components for conveyor system XK

The pallet handling components for conveyor system XK satisfy the demands for a sturdy pallet conveyor for medium to heavy loads in demanding environments. Heavy-duty conveyor beams, sturdy product carriers (pallets), and a strong chain permits item weights up to 30 kg. The maximum size of the products on the pallets depends on the shape of the products and the location of their centre of gravity. Robust side support components permit accumulation up to 200 kg per stop device, even in wheel bends.

Divert/merge devices

Divert/merge devices are used for routing products by dividing or combining flows of products.

RFID functions

All pallets are equipped with sockets for RFID chips. System components for automatic pallet handling are available. Please contact FlexLink Systems for more information

Chain for XK pallet handling

A special chain type XKTP 5 K was developed for use with the XK pallet handling system. Since XKTP 5 K can also be used in non-pallet systems, it is listed under "Conveyor chains" in catalogue section "Conveyor system XK".
The standard plain chain XKTP 5 cannot be used.

Examples of application areas

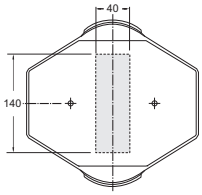
Transport and assembly of pistons, water taps, connecting rods, ball and roller bearings, gear wheels, crankshafts, and hydraulic pumps.

Function modules

Several pre-designed function modules, including merge, divert and locate functions, can be ordered using the online configuration tool. Please contact FlexLink Systems for more information.

Pallet loading

Centre of gravity must be within the rectangle. See figure.



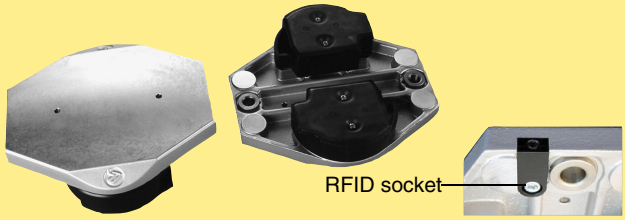
Technical characteristics

Pallet sizes (W×L×H)

200 mm ×150 mm × 53 mm
250 mm × 225 mm × 53 mm
300 mm × 300 mm × 53 mm

Max. load on pallet: 30 kg (including pallet and fixture)

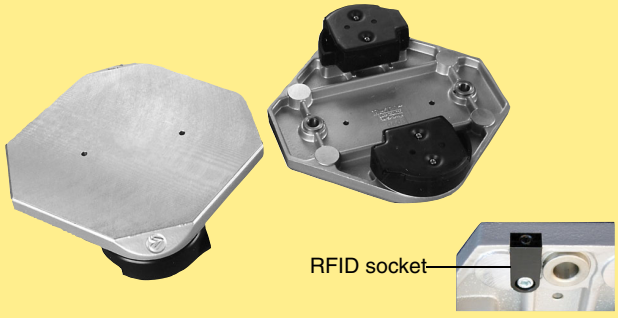
Pallet 200×150 with RFID socket



Pallet 200 mm × 150 mm **XKPP 200×150 A**

Fully assembled unit, including two guide discs and RFID socket.
Weight: 1,4 kg.
Pallet plate: cast aluminium.
Guide disc: acetal resin POM.
See page 265 for detailed pallet dimension, specification and allowed load distribution

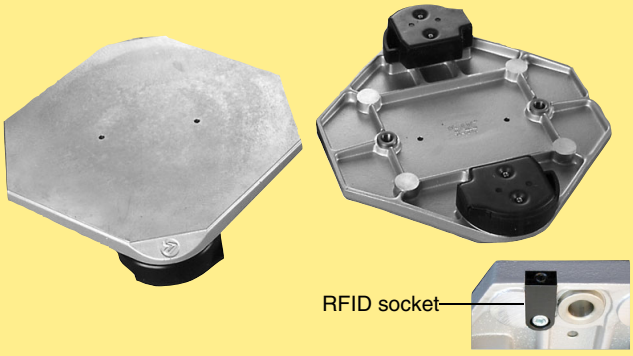
Pallet 250×225 with RFID socket



Pallet 250 mm × 225 mm **XKPP 250×225 A**

Fully assembled unit, including two guide discs and RFID socket.
Weight: 1,8 kg.
Pallet plate: cast aluminium.
Guide disc: acetal resin POM.
See page 265 for detailed pallet dimensions, specification and allowed load distribution.

Pallet 300×300 with RFID socket



Pallet 300 mm × 300 mm **XKPP 300×300 A**

Note. This pallet cannot be accumulated through 180° bends.
Fully assembled unit, including two guide discs and RFID socket.
Weight: 2,3 kg.
Pallet plate: cast aluminium.
Guide disc: acetal resin POM.
See page 266 for detailed pallet dimensions, specification and allowed load distribution.

Damped guide disc XKPG D105 A is particularly useful:

- for conveyor speeds ≥10 m/min to reduce noise from collisions between pallets
- to reduce shock for sensitive products
- to reduce the total queue pressure that arises when stopping longer, heavier pallet queues

and includes guidance towards the pallet plate and to be more wear resistant it also includes a steel insert, placed where the stop arm acts.

Ordering information

Damped guide discs have to be ordered as a complement. Standard pallets (XKPP) cannot be ordered including damped guide discs. However, standard pallets can easily be rebuilt according to below.

Mounting methods

The damped guide discs can be mounted in two different ways:

Method 1 – Only front disc replaced to damped version

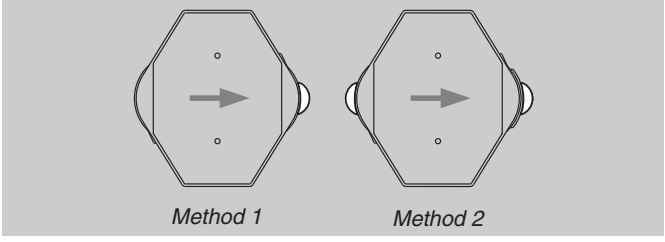
Function:

- Shock reduction between pallets.

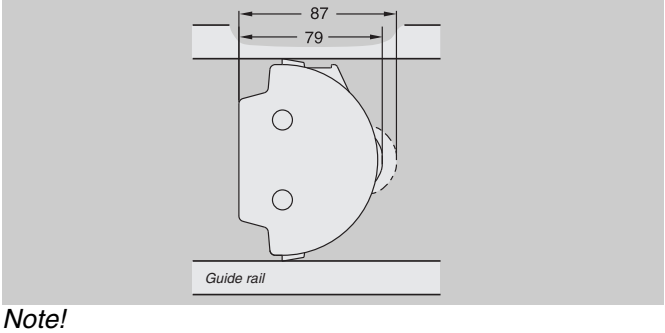
Method 2 – Both front and rear disc replaced to damped versions.

Function:

- Further improved shock reduction between pallets compared to method 1.
- Reduction of the total queue pressure that arises when stopping a longer, heavier pallet queues.

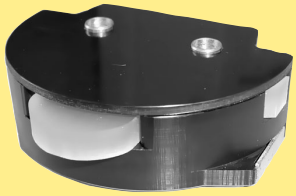


When a pallet hits another pallet the nose will be pressed into the guide disc, thereby transmitting the force perpendicular towards the guide rails.



Note!
Use optical sensors for max. queue indication instead of a proximity sensor toward a pallet sensor plate.

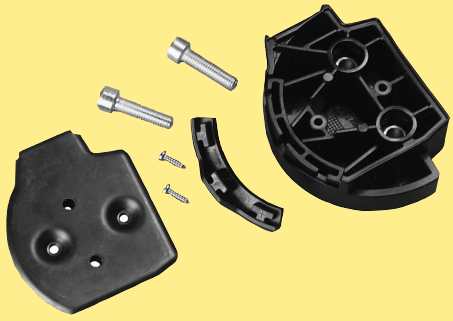
Guide disc with integrated damping function



Guide disc with damping **XKPG D105 A**

Body: acetal resin POM.
Shock absorber: polyurethane.
Weight: 0,38 kg.
See page 266 for detailed guide disc information.
Including screws, slide plate, shock absorber.
*Note. The previous version of this product (**XKPG D105**) can be ordered as a spare part.*

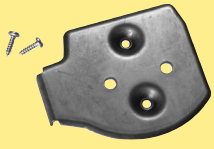
Guide disc for pallet



Guide disc **XKPG 105 A**

Body: acetal resin POM
Weight: 0,24 kg
See page 266 for detailed guide disc information.
Including screws, slide plate, shock absorber.
*Note. The previous version of this product (**XKPG 105**) can be ordered as a spare part.*

Slide plate for pallet



Slide plate **XKPS 105**

Steel. Including screws

Shock absorber for pallet

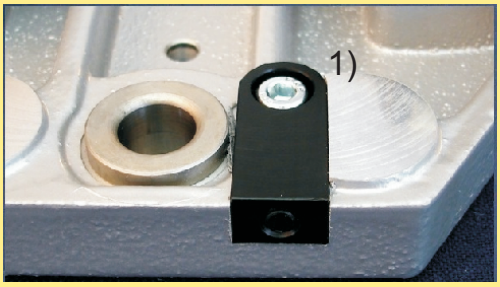
Shock absorber
Polyurethane **3926430**

RFID tag

The RFID tag can be read reliably at speeds up to 30 m/min. The tag has an M5 grub screw like design and is mounted in a plastic holder.

Threaded type	M5x16,5mm
Operating frequency	125 kHz
Memory [BIT]	224 (7 pages with 32 bits each)

RFID tag



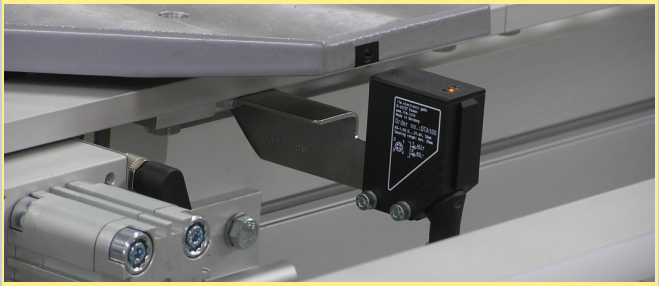
RFID tag **5058153**

[1] The RFID tag holder is included in all pallets

Read/write head

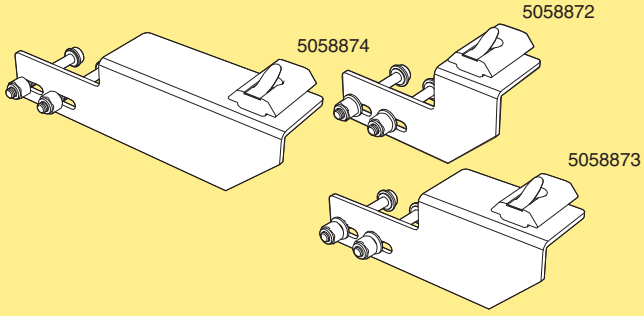
The read/write heads exchange data with the passive RFID tags at a maximum distance of 20 mm. The read/write head has an M12 connector. The M12 cable is connected to an M12 ASi socket. Up to 31 read/write heads can be connected to one ASi system.

Read/write head



Read/write head **5058152**

Read/write head bracket

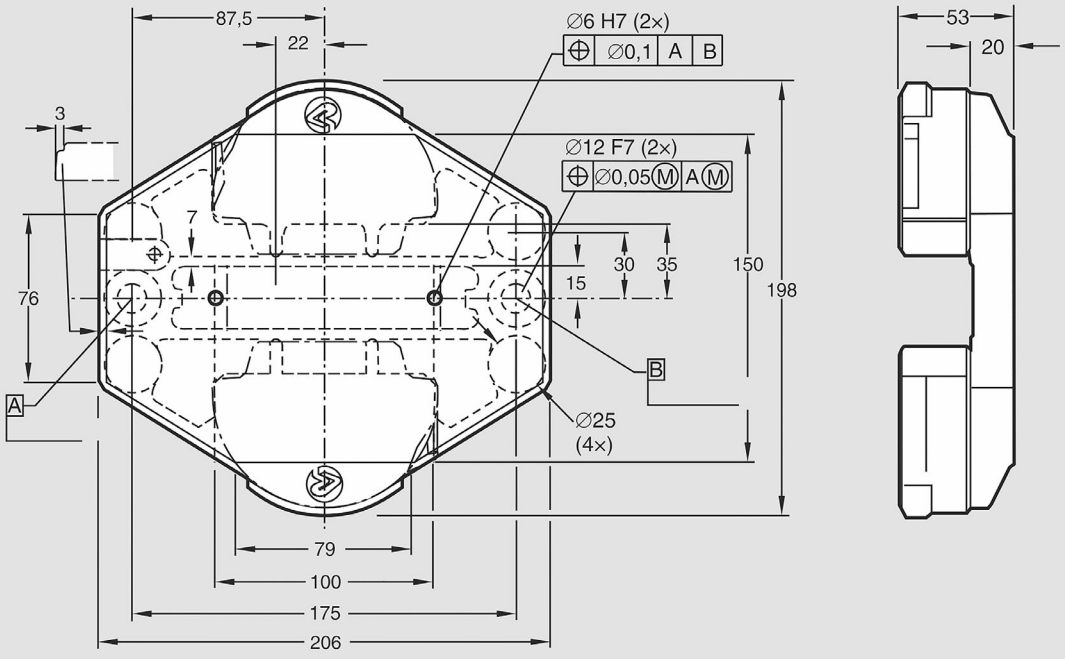


Read/write head bracket

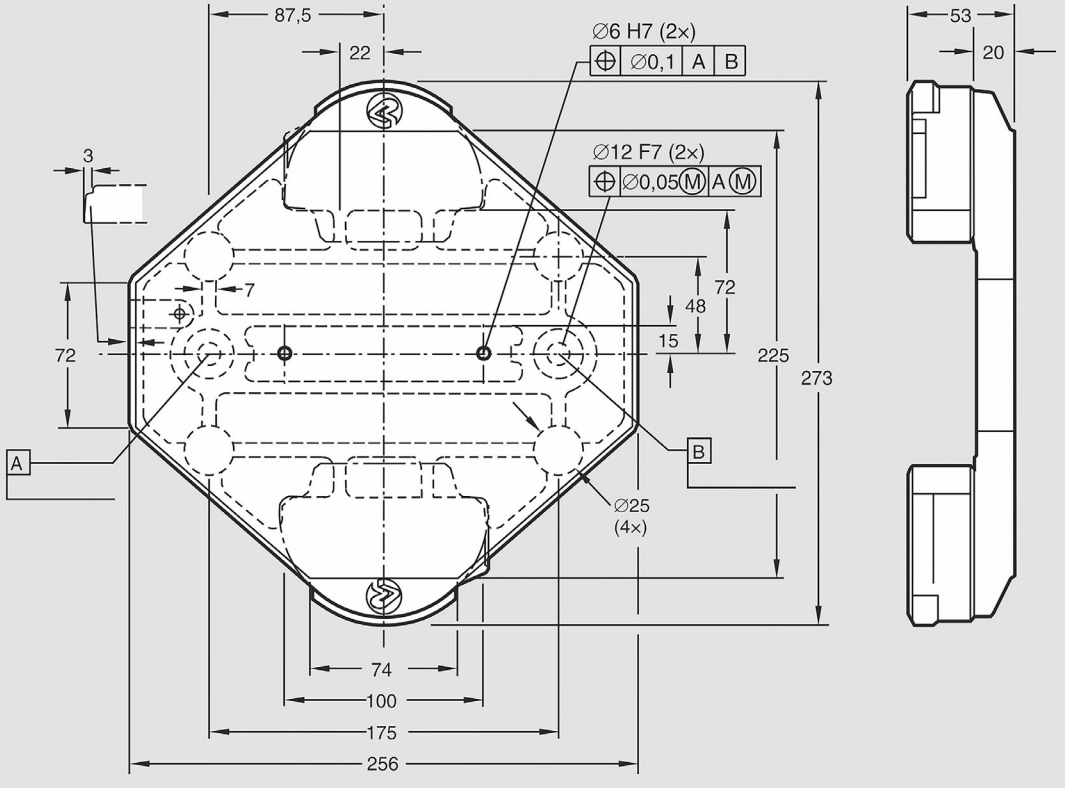
for pallet XKPP 200×150 A	**5058872**
for pallet XKPP 250×225 A	**5058873**
for pallet XKPP 300×300 A	**5058874**

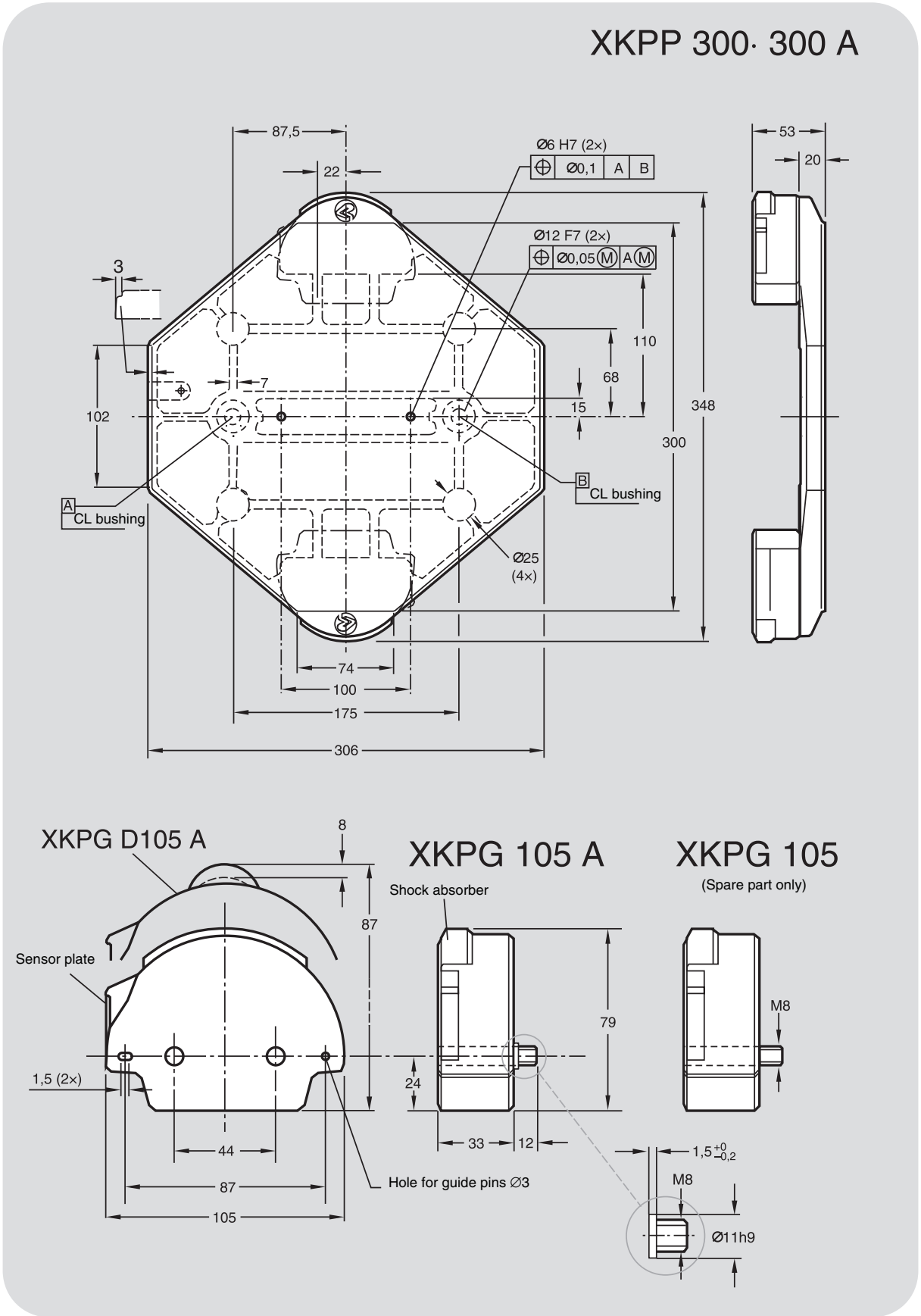
Including mounting details.

XKPP 200×150 A



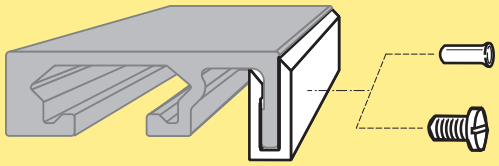
XKPP 250×225 A





Slide rails

Slide rails



Slide rail
Length 25 m

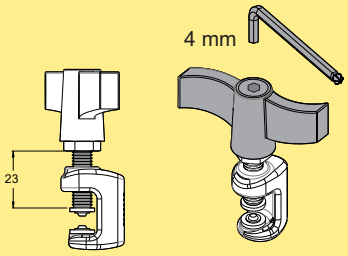
UHMW-PE (White)	**XKCR 25 U**
PVDF (Natural white)	**XWCR 25 P**
PA-PE (Grey)	**XKCR 25 H**
Plastic screw for slide rail	**XWAG 5***
Aluminium rivet (brown colour)	**XLAH 4x7****

Note. Contains 50 pcs.
Note. Contains 250 pcs.

Rivet crimping pliers

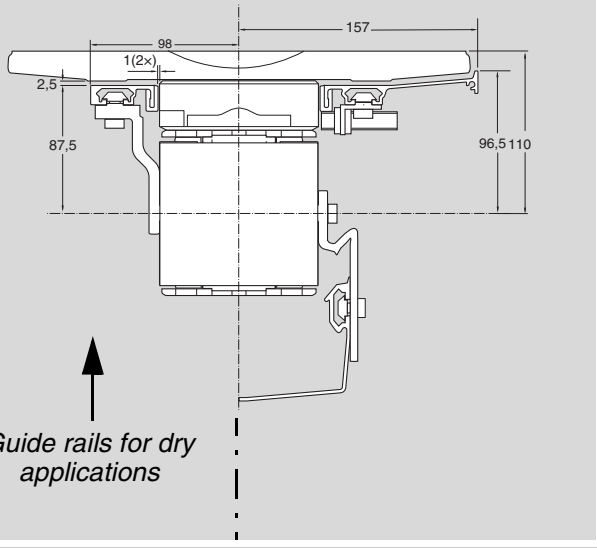
Rivet crimping pliers
For 4 mm rivets **5051395**

Rivet crimping clamp



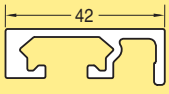
Rivet crimping clamp
For 4 mm rivets
(Allen key not included) **3923005**

Guide rails (dry applications)



Guide rails for dry applications

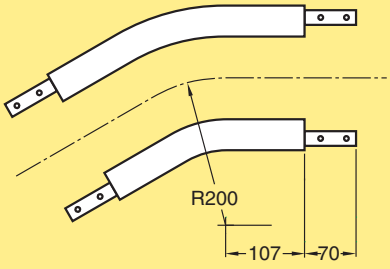
Straight guide rail



Guide rail
Length 3 m **XKRS 3x42**

Guide rail bracket: see page 269.

Guide rails for pallets in bends 30°

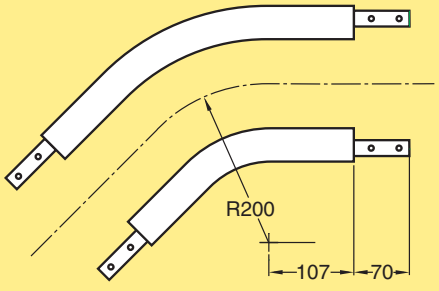


Guide rail for pallets in bends

Outer guide rail, 30°	**3927174**
Inner guide rail, 30°	**3927170**

Including connecting strips

Guide rails for pallets in bends 45°

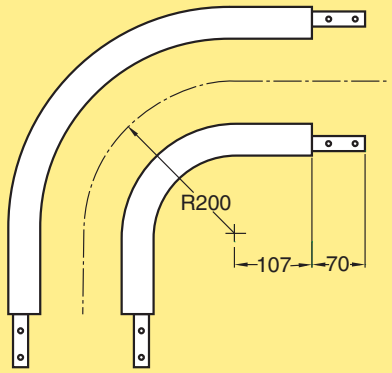


Guide rail for pallets in bends

Outer guide rail, 45°	**3927173**
Inner guide rail, 45°	**3927169**

Including connecting strips

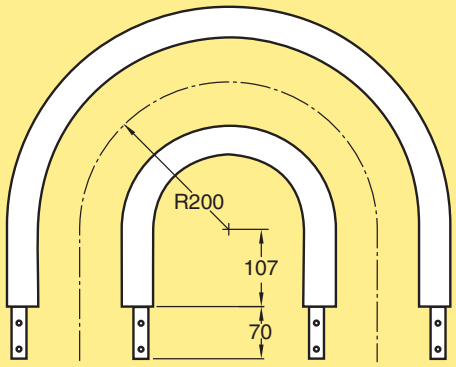
Guide rails for pallets in bends 90°



Guide rail for pallets in bends
Outer guide rail, 90° **3927172**
Inner guide rail, 90° **3927168**

Including connecting strips

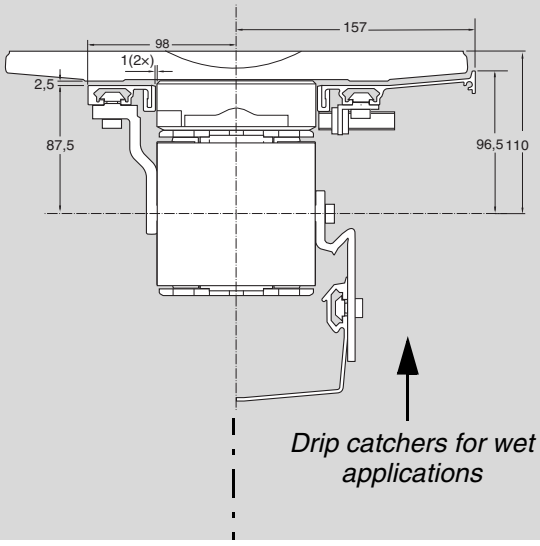
Guide rails for pallets in bends 180°



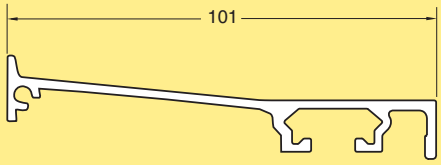
Guide rail for pallets in bends
Outer guide rail, 180° **3927171**
Inner guide rail, 180° **3927167**

Including connecting strips

Drip catchers (wet applications)



Straight guide rail with drip catcher



Guide rail with drip catcher
Length 3 m **XKRS 3×100**

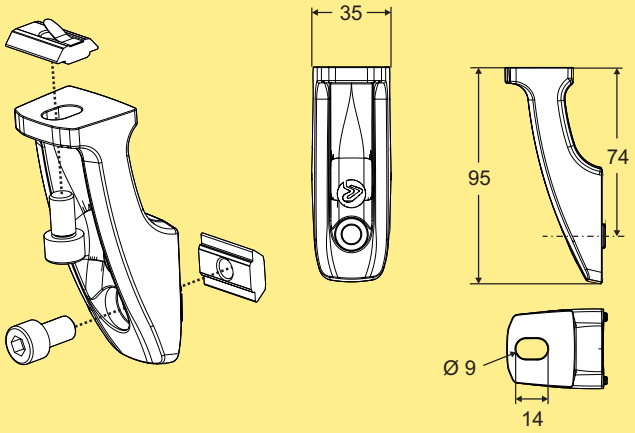
Guide rail bracket: see page 269.

Drip trays

Drip tray
Length 3 m **XKDT 3×147**

See page 258 for more information.

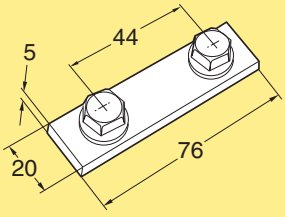
Guide rail bracket



Guide rail bracket for XK pallets **XKRB 30×74 A**

Note. Designed for use with chain XKTP 5 K. Chain XKTP 5 cannot be used for XK pallet handling.
All fasteners included.

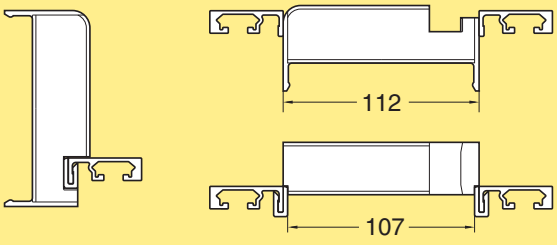
Connecting strip for XK guide rails



Connecting strip for XK guide rails **3924731**

Includes two Connecting strip, 4 washers and 4 screws

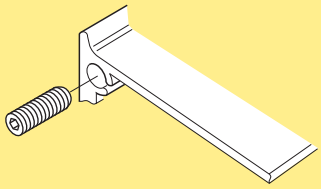
Mounting toolkit for guide rail



Mounting toolkit for guide rail **3926757**

Use the kit to ensure that the guide rails are attached with a correct and consistent spacing. Including assembly instructions

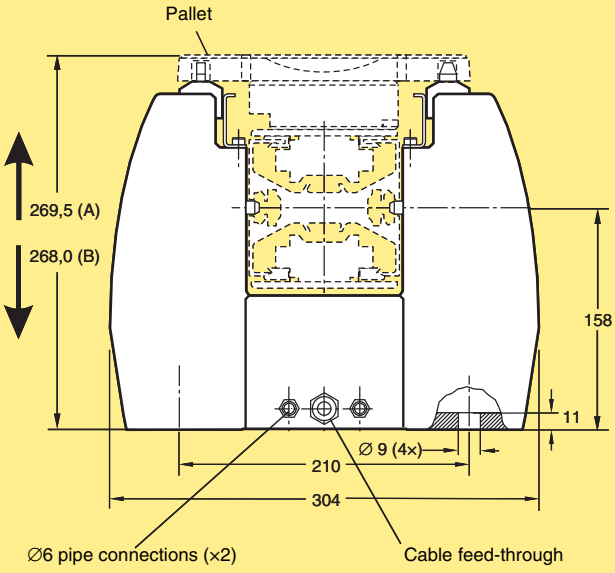
Set screw (used as guide pin)

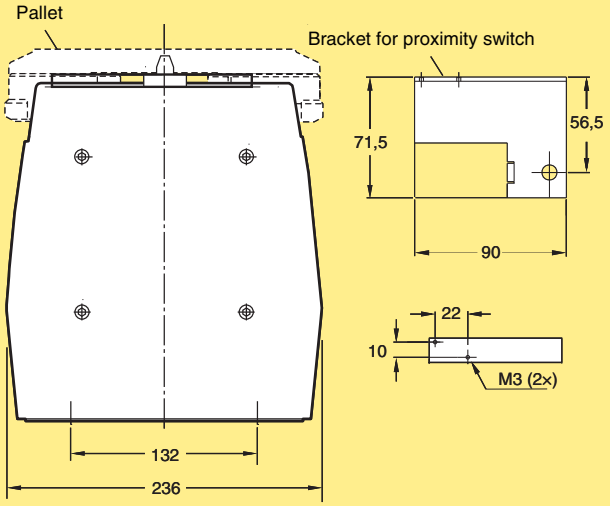


Set screw, ISO 7436: 1983 M4x 20 **SK6SS 4×20**

Note. Contains 50 pcs

Pallet locating station



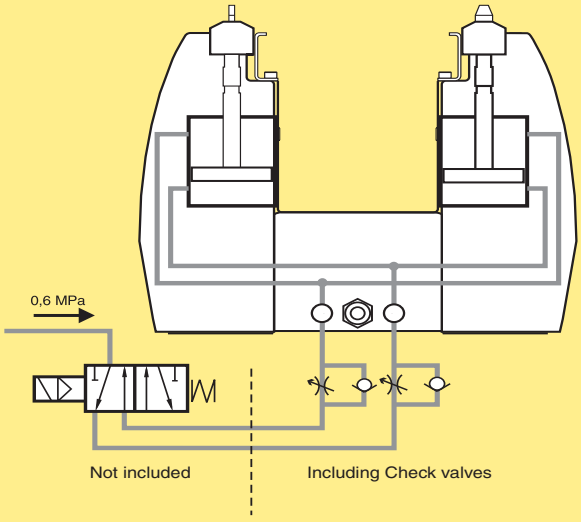


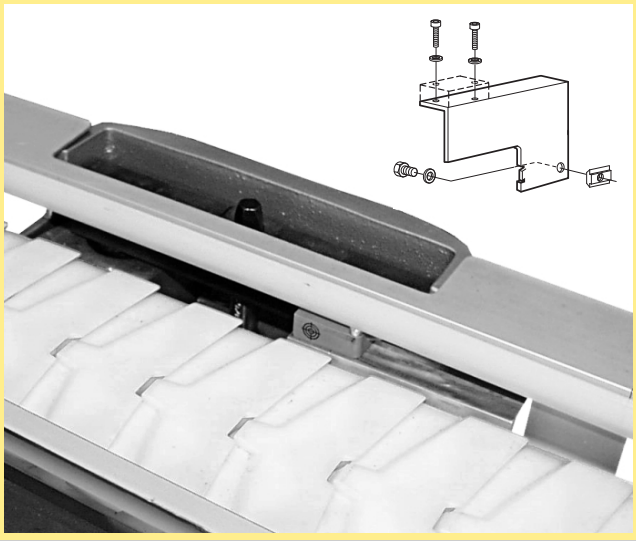
Pneumatic locating station

(A) = located, (B) = non-located.

Note. Designed for use with chain XKTP 5 K. Chain XKTP 5 cannot be used for XK pallet handling.
Frame: cast aluminium. Rulers and guide pins: hardened steel.
Locating accuracy: ±0,1 mm. Maximum vertical force per ruler at 0,6 MPa: 600 N including pallet weight.
The locating station should be installed on a separate support which is not rigidly connected to the conveyor beam.
Specify the locating station with guide rails with or without drip catcher.
Proximity switches are not supplied by FlexLink Systems. To indicate "pallet ready to lift", a SICK proximity switch (IQ 10 series, sensing range 6 mm) or similar can be used. See figure below.

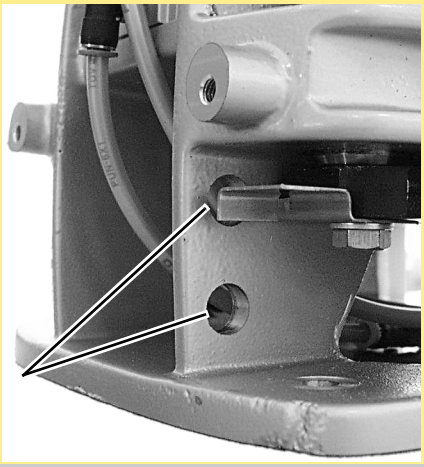
XKPX 175 A



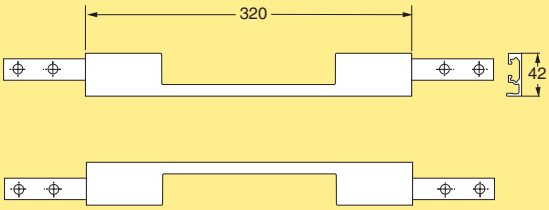


Sensor: M12 thread
Housing length max 50 mm
Flush sensor
Sensing range 1-4 mm

Use angled connectors (for accessability)



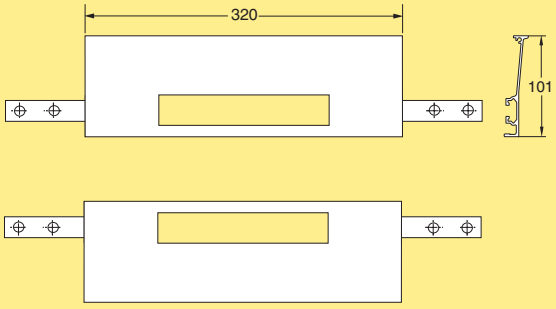
Guide rail kit for locating station



Guide rail kit for locating station **3927386**

One pair, including connecting strips

Guide rail kit with drip catcher for locating station



Guide rail kit for locating station
With integrated drip catcher **3927387**

One pair, including connecting strips

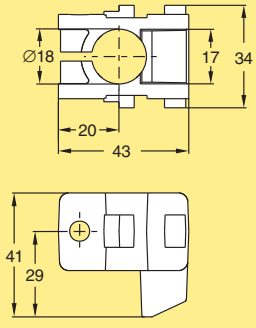
About proximity switches

The proximity switch (not supplied by FlexLink) must have a minimum effective sensing distance of 3,5 mm to the steel initiator plate.

Example: the effective sensing distance for SICK (IM12 sensing range 6 mm) is 4,86 mm. This is calculated as follows: 6 mm × 0,81* = 4,86 mm.

*Useful sensing range = 0,81 × nominal sensing range.

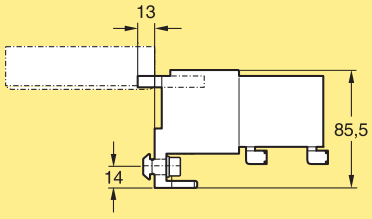
Bracket for horizontal proximity switch

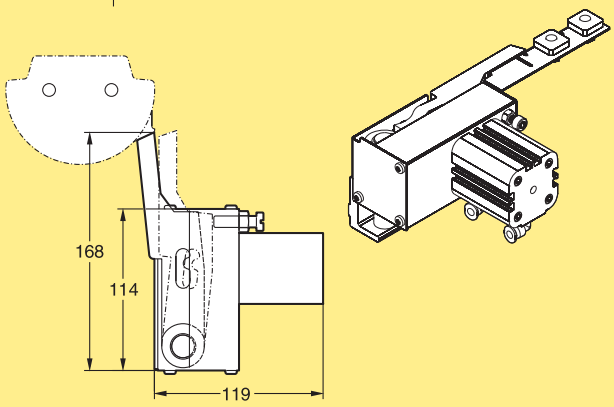


Bracket for horizontal proximity switch Ø18 mm **XKPB 18 H**

Acetal resin. Including screw, T-slot nut and washer

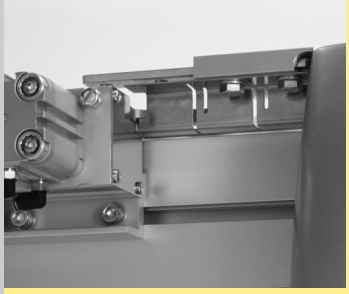
Pneumatic stop for pallet locating station





Pneumatic stop for pallet locating station, double-actuated **XKPD 32×15 LB**

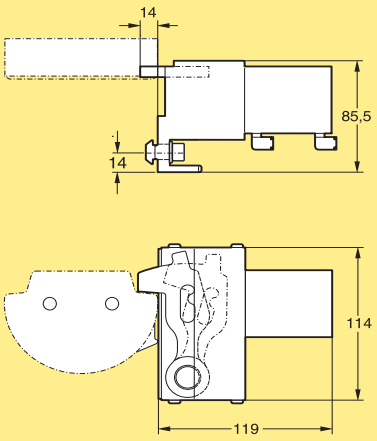
Housing: anodized aluminium. Cover: stainless steel. For use with cylinder position sensor. Including ∅6 pipe connections and the necessary mounting hardware.
The stop is double-acting, but also includes an integrated spring for stop out if air supply is cut off.

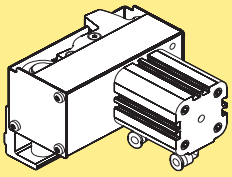


The stop device comes with a cover for the stop lever. The cover dimensions are for use with the largest pallet. It can easily be cut for use with the other standard pallet sizes. The cover is fastened to the T-slot of the guide rail.

Note. Designed for use with chain XKTP 5 K. Chain XKTP 5 cannot be used for XK pallet handling.

Pneumatic stop



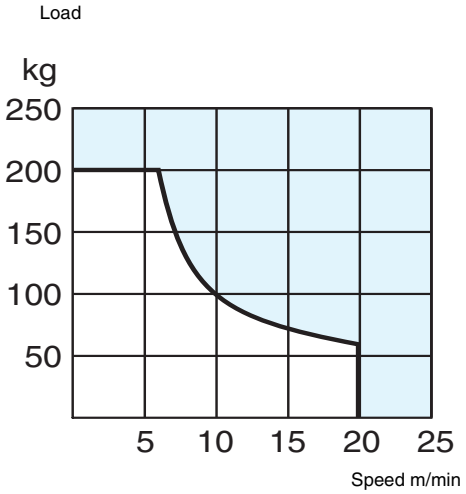


Pneumatic stop device
Double-actuated

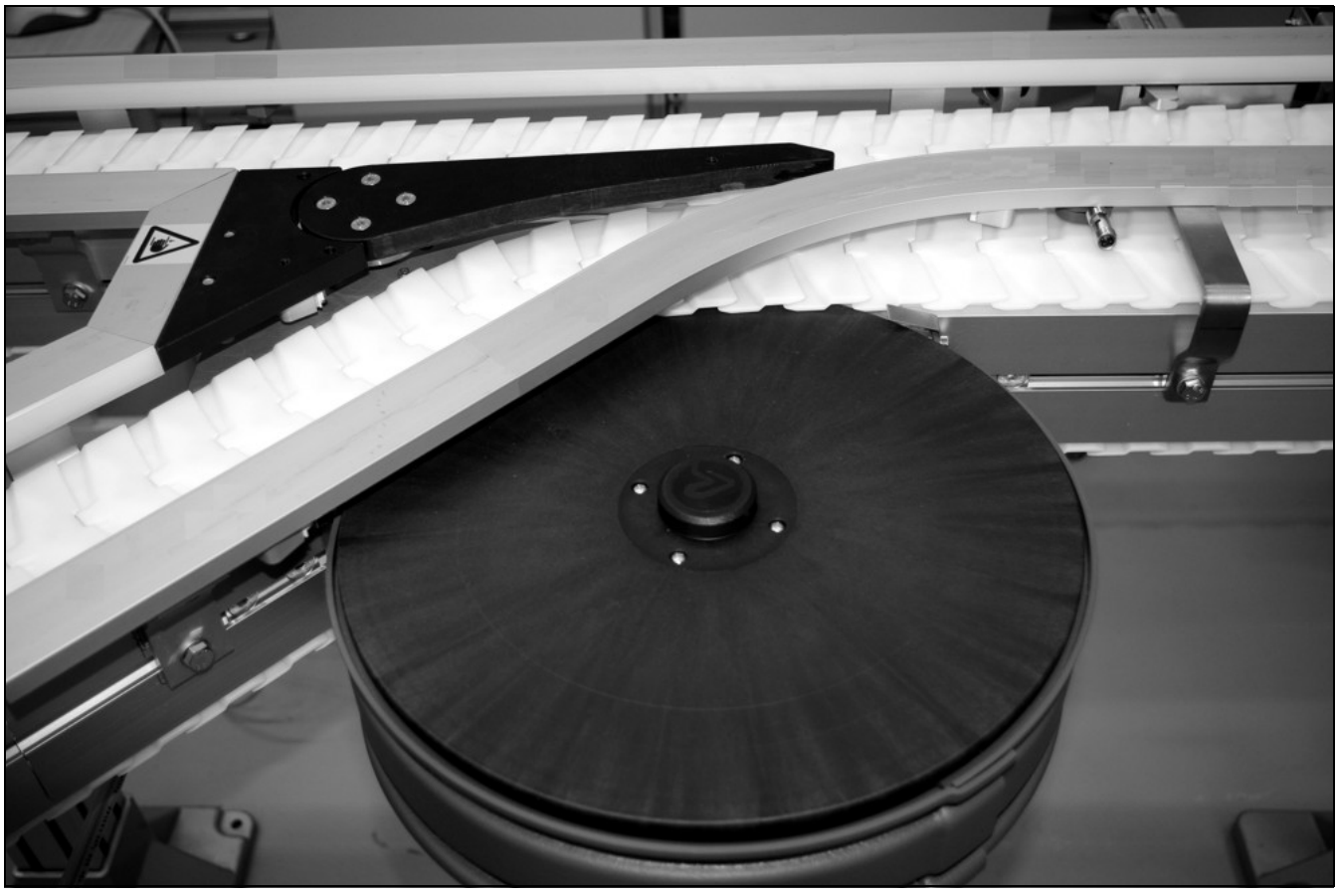
XKPD 32×15 C

Housing: anodized aluminium. Cover: stainless steel. For use with cylinder position sensor. Including ∅6 pipe connections and the necessary mounting hardware. The stop is double-acting, but also includes an integrated spring for stop out if air supply is cut off. Connection: G 1/8". Stroke: 15 mm. Locating accuracy: ±1 mm.

Note. Designed for use with chain XKTP 5 K. Chain XKTP 5 cannot be used for XK pallet handling.

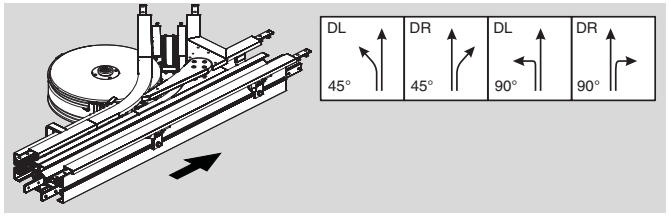


The diagram shows the maximum permissible weight of a group of pallets (product weight + pallet weight) that the stop device is capable of stopping, as a function of the conveyor speed.



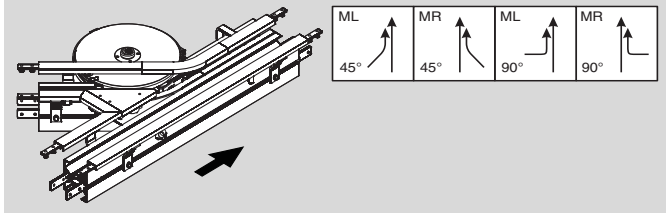
Divert modules

Divert modules are used to guide selected pallets from one conveyor to another.



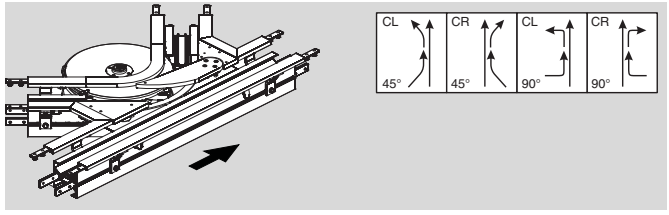
Merge modules

Merge devices are used to guide pallets back from a satellite conveyor into the main conveyor (highway).



Divert and Merge modules

A combined divert/merge device is used to guide selected pallets from a main conveyor (highway) into a satellite conveyor and back. The combination also permits recirculating the pallets on the satellite until the pallet is ready to return to the highway.



Configurator tool

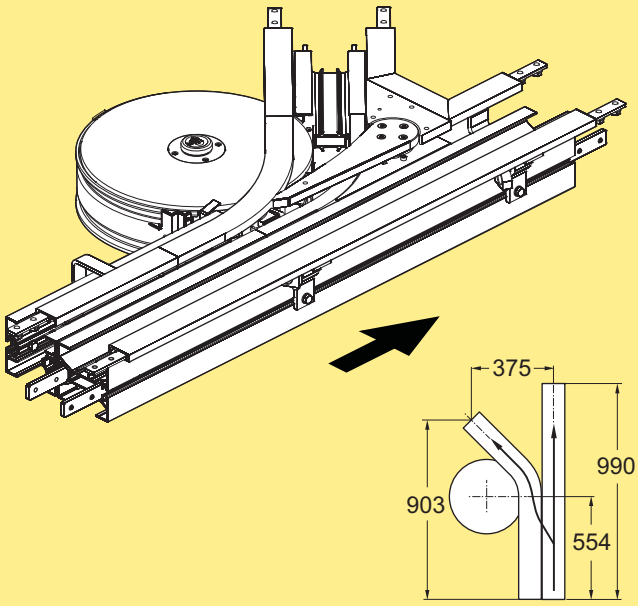
The divert/merge/combination modules can be individually configured to the right pallet size using the configurator tool. The configurator tool will create a geometrically correct 3D CAD-model that can be inserted in the layout. The configured module will include the function, stops, conveyor beams, wheel bends and guide rails.

Configurable options include:

- Specific pallet size
- Sensors
- RFID readers and brackets
- Photo eyes and brackets

Divert modules

Divert module 45°

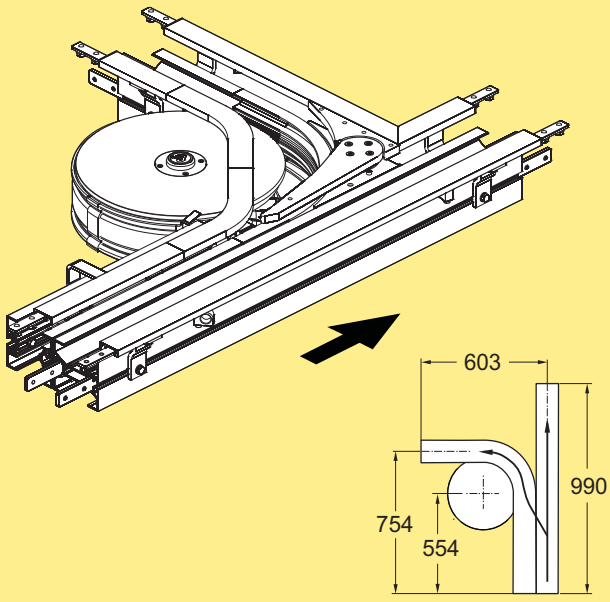


Divert module 45° * **XKUT 45 D**

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

Effective track length: 2,02 m 1-way (4,04 m 2-way)

Divert module 90°



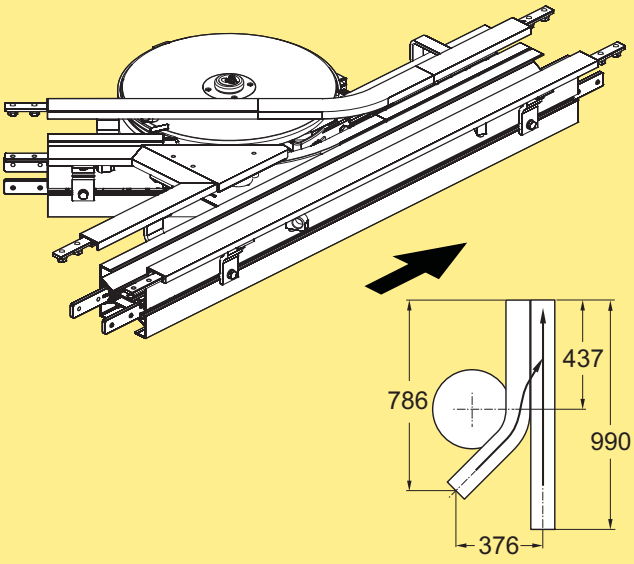
Divert module 90° * **XKUT 90 D**

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

Effective track length: 2,2 m 1-way (4,4 m 2-way)

Merge modules

Merge module 45°

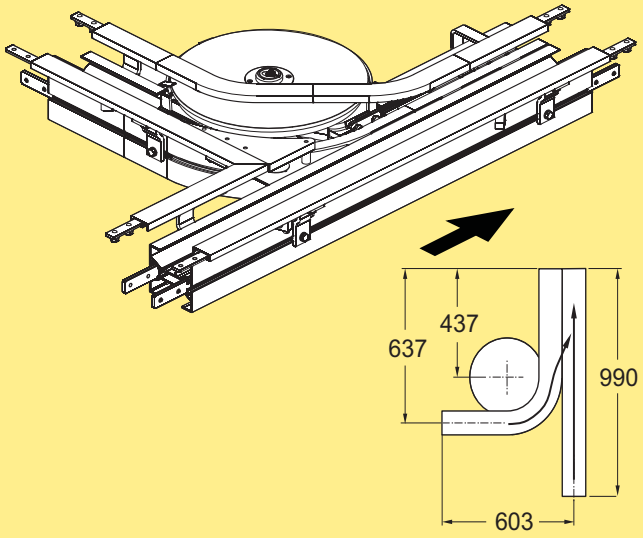


Merge module 45° * **XKUT 45 M**

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

Effective track length: 2,02 m 1-way (4,04 m 2-way)

Merge module 90°

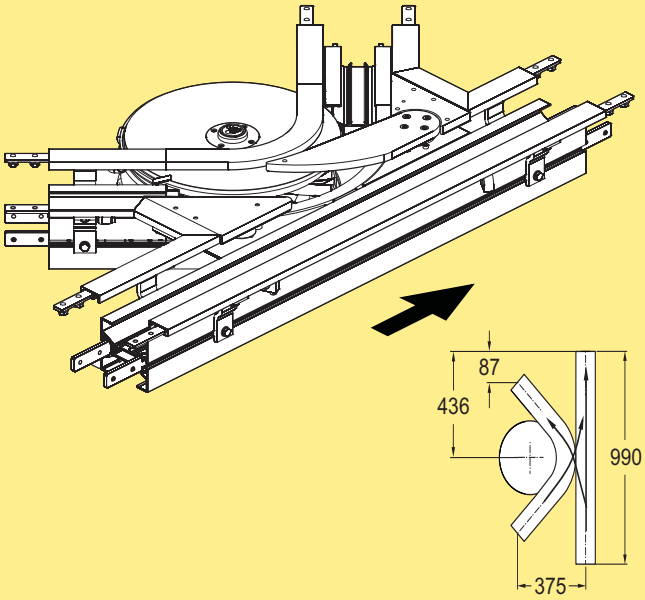


Merge module 90° * **XKUT 90 M**

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

Effective track length: 2,2 m 1-way (4,4 m 2-way)

Divert and merge module 45°

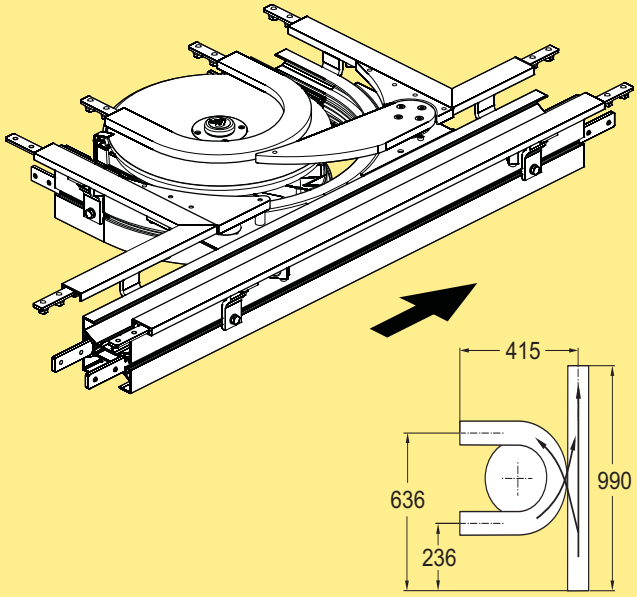


Divert and merge module 45° * **XKUT 45 C**

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

Effective track length: 1,94 m 1-way (3,9 m 2-way)

Divert and merge module 90°



Divert and merge module 90° * **XKUT 90 C**

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

Effective track length: 2,0 m 1-way (4,0 m 2-way)

