COMPETENCE IN AUTOMATION | WEMO.

WCS

Wemo Conveyor System

Belt conveyors & Box handling systems

25 WEMO. 1987-2012

A production cell is only as strong as it weakest link. That's why we've chosen to develop and produce our own belt conveyors based on our long experience in automation.

Our belt conveyors are stable and operationally reliable – two fundamental requirements if a belt conveyor is to be used in robotic cells, where precision and repetition accuracy are essential for trouble-free operation.

Today, Wemo takes care of the whole chain from design, development and components manufacture to assembly of customized solutions and distribution of our automation systems.

OWN MANUFACTURING

Our internal high efficient manufacturing department has the most modern machines for precision parts of highest level of quality.

COMPETENCE IN AUTOMATION

Assembly lines for box handling systems made by specialists with knowledge of automation demands.

CAPACITY

Our modern automation factory with high efficient flow results in high capacity in our manufacturing.

WCS-R

Belt conveyors for automation solutions

The WCS belt conveyor design is based on long experience of material-handling in robotic cells.

High load during buffering of parts on the conveyor belt, precise positioning and repetition accuracy of boxes or pallets during pattern packing and safe, reliable operation are basic characteristics of our belt conveyors.

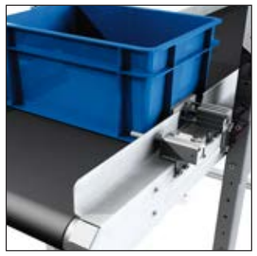
This means we can offer various advantages:

Sturdy body in anodised aluminium and hard-wearing steel base plate.

Direct drive with floating mounting reduces wear and increases useful life.

Clean, simple design with integrated free cable channel for easy cleaning.

Sturdy legs with lockable wheels gives maximum stability.



Stop cylinders and lateral positioning cylinders for boxes (optional).

Advantages & overview Wemo Conveyor System

WCS-R

Horizontal belt conveyors

WCS-RVE/RVD

Angled straight belt conveyor with single support leg (RVE) or double support legs (RVD)

WCS-VRB

Inclined robot belt conveyor

WCS-OB

Inclined non-driven roller conveyor

WCS-VL/ZL

Inclinable plastic slatted belt

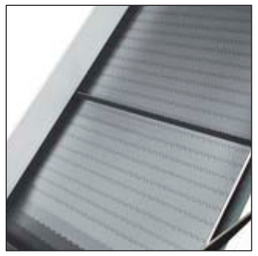
The Wemo plastic slatted belt conveyors offers many benefits compared to earlier belt conveyor solutions:

The belt conveyors are based on inhouse designed profiles developed for optimum stability, for long lifetime.

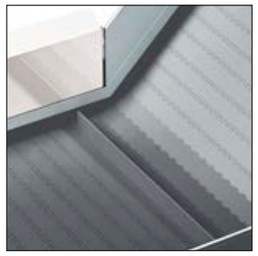
Instead of a traditional belt material, the belts have a chain of plastic slats made of PP material.
This makes the surface significantly more resistant to falling parts, even when the parts are relatively warm. The standard version of the plastic chain withstands temperatures up to 130˚C, while ordinary conveyor belts only withstand 70˚C.

The belt can be dismantled and cleaned if the belt surface is soiled. It is also possible to replace individual slats if any are damaged, instead of replacing the whole belt.

The conveyors are adapted for food and clean room production. All components have been integrated into the equipment. If the parts need to be cooled while they're still hot, perforated belt slats are available. This allows efficient cooling of the parts during operation.



The plastic slatted belt makes the surface more resistant to hot parts.



Specially designed slide strips prevent small, pointed parts from catching between the belt mat and the sides of he conveyor.

Individual plastic slats can easily be replaced if necessary, and the slats are easy to clean.

Direct drive with integrated, adjustable slide coupling prevents mechanical damage.

Clean design without pockets and protruding fasteners makes the equipment easy to keep clean.

WCS-VL

Inclined slatted belt conveyor with one angle

WCS-ZL

Inclined slatted belt conveyor with two angles

WCS-RL

Horizontal flat slatted belt conveyor

WCS-RLVE

Inclined flat slatted belt conveyor

WCS-VX

Box handling systems

Boxes in plastic or cardboard can be feeded and stored fully automatically in concepts for saving man power and floorspace. This systems is easy to integrate for existing as well as in new robot automation cells.

Wemo has long experience of produce costefficient solutions depending of needs.

Examples of modular automation concepts:

- Buffering and stacking of components
- Handling of large or small boxes
- Handling of pallets or fixtures
- Simple installation and start-up thanks to integrated controllers

Advantages & overview Box handling

WCS-VXH

Horizontal straigth handling of boxes

WCS-VXP

Horizontal straigth handling of boxes placed parallel with lateral pusher

WCS-VXV

Vertical straigth handling of boxes with vertical lift unit for up to 5 level of conveyors

WCS BOX HANDLING
solutions for efficient material flow

Solution 1

2x WCS-VXH-1R-10B
Horizontal box handling system with one belt conveyor for ingoing empty boxes, and one undriven roller conveyor.

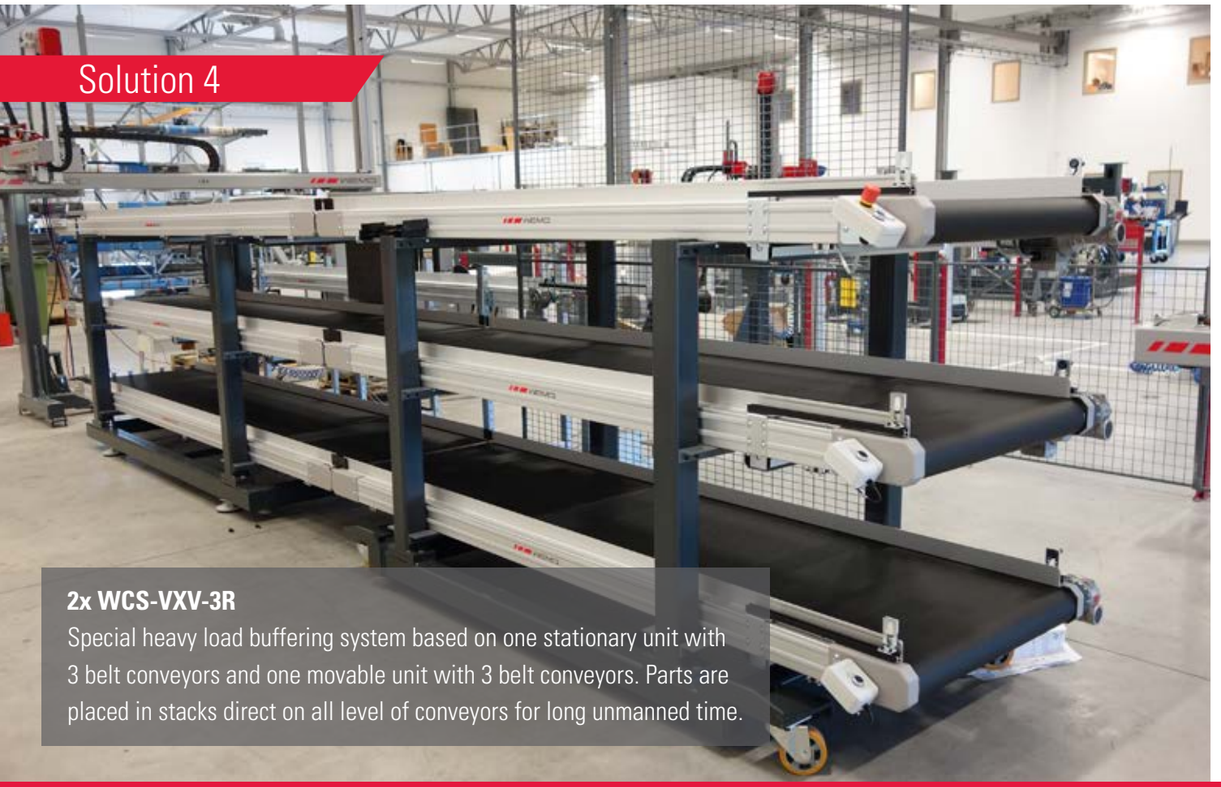
Solution 2

WCS-VXV-2R
Vertical box handling with one belt conveyor for ingoing empty boxes, and one belt conveyor for filled outgoing boxes. This unit is for standalone application on wheels, with cover to protect from contaminations.

Solution 3

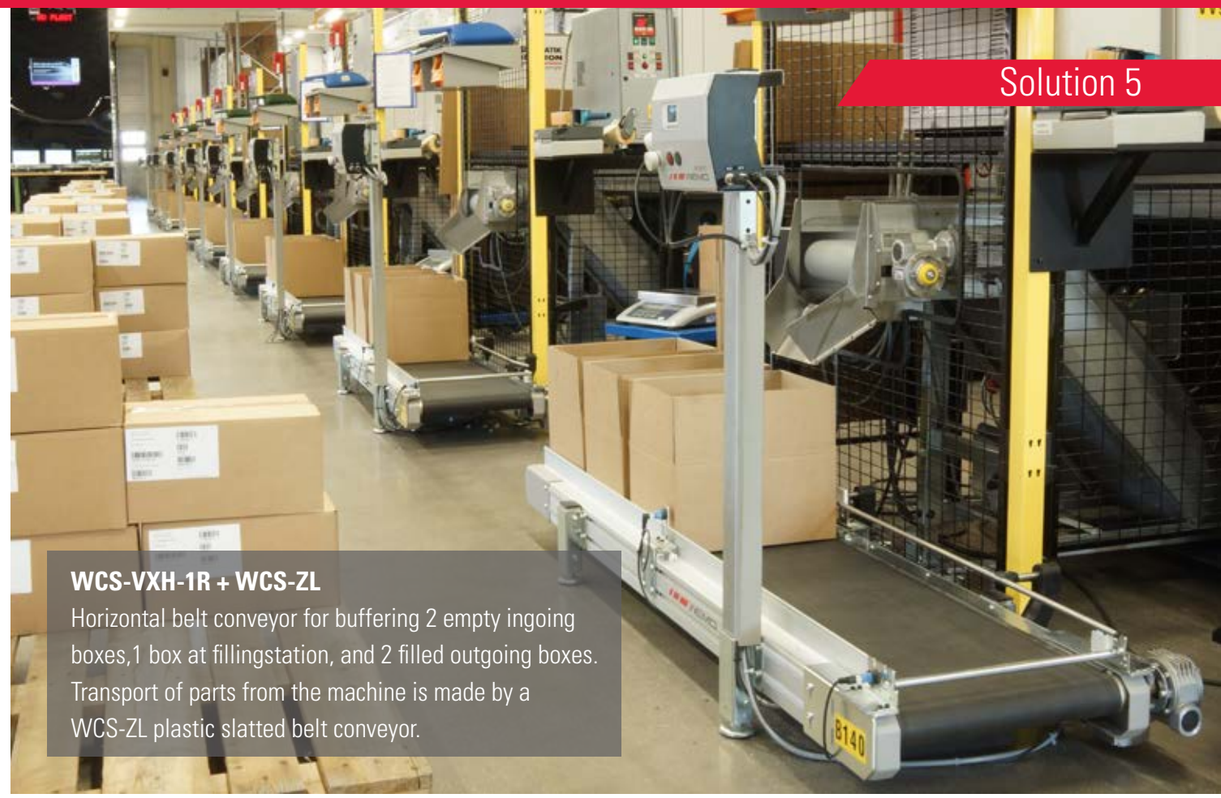
WCS-VXH-3R-10B
Special box handling system for filling line based on one belt conveyor for ingoing empty boxes. Lateral pusher to next conveyor for filling boxes, and third belt conveyor for inclined movement of filled boxes. Undriven roller conveyor for buffering.

Solution 4



2x WCS-VXV-3R
Special heavy load buffering system based on one stationary unit with 3 belt conveyors and one movable unit with 3 belt conveyors. Parts are placed in stacks direct on all level of conveyors for long unmanned time.

Solution 5



WCS-VXH-1R + WCS-ZL
Horizontal belt conveyor for buffering 2 empty ingoing boxes,1 box at fillingstation, and 2 filled outgoing boxes. Transport of parts from the machine is made by a WCS-ZL plastic slatted belt conveyor.

Solution 6

WCS-VXP-1R-10B + WCS-VL
Parallel horizontal box handlingsystem with one belt conveyor for ingoing empty boxes. A lateral pusher moves the filled box to an undriven roller conveyor for buffering filled boxes. Inclided conveyor for transport of parts from the machine.

Solution 7

WCS-VXP-2R
Parallel horizontal box handlingsystem with one belt conveyor for ingoing empty boxes. A lateral pusher moves the filled box to a second belt conveyor for buffering filled boxes. Positioning cylinders is added for more precise positioning of box to robothandling. Transport of parts from the machine is made by a WCS-ZL plastic slatted belt conveyor.

Solution 8

WCS-VXH-1R-10B
Horizontal box handling system with one belt conveyor for ingoing empty boxes, and one undriven roller conveyor for outgoing filled boxes. With cover on top and sides to protect from contaminations.

Solution 9

WCS-VXV-4R-10B + WCS-VL
Vertical box handling with four levels of belt conveyors for ingoing empty boxes, and buffering for filled outgoing boxes. This unit is for standalone application, with cover to protect from contaminations and as safety enclousure.

Solution 10

WCS-VXH-1R + WCS-R
Horizontal belt conveyor for buffering 2 empty ingoing boxes,1 box at fillingstation, and 2 filled outgoing boxes. Transport of parts from the machine is made by a WCS-R horizontal belt conveyor with special beltprofile for careful handling during cooling.

Solution 11

WCS-VXH-1R-10B

Horizontal fixture handling for transport of fixtures with metal insert parts. One horizontal belt conveyor for transport of ingoing filled fixtures, and one undriven roller conveyor for empty fixtures. Positioning cylinders are added for more precise positioning of fixtures for robothandling.

Solution 12

WCS-VXH-1R-10B

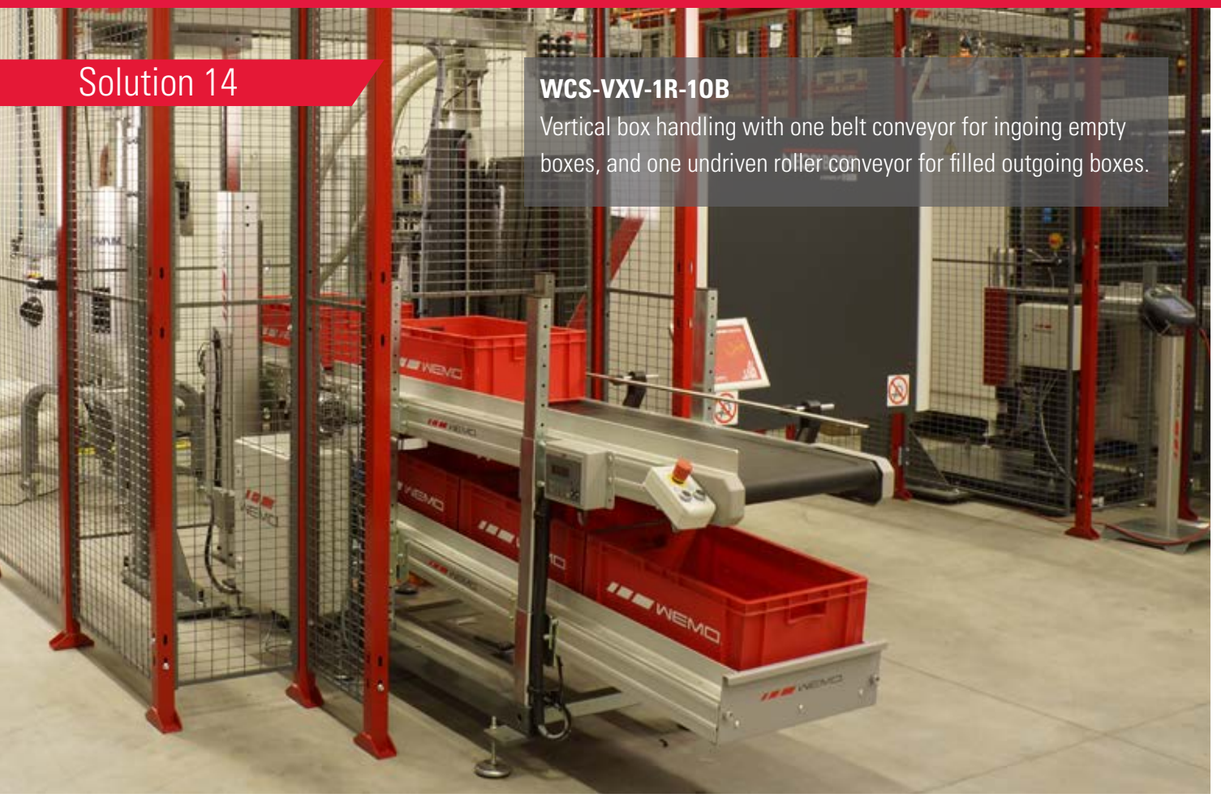
Horizontal tray handling for transport of stacks with trays for electronic cover parts. One horizontal belt conveyor for transport of ingoing empty trays, and one undriven roller conveyor for filled trays. Positioning cylinders and separation units is added for more precise positioning and separation of trays for robothandling.

Solution 13

WCS-VXV-3R-10B

Vertical tray/ box handling with three levels of belt conveyors for ingoing empty trays/boxes, and buffering for filled outgoing trays/boxes. One undriven roller conveyor for buffering when trays/boxes will be changed.

Solution 14



WCS-VXV-1R-10B
Vertical box handling with one belt conveyor for ingoing empty boxes, and one undriven roller conveyor for filled outgoing boxes.

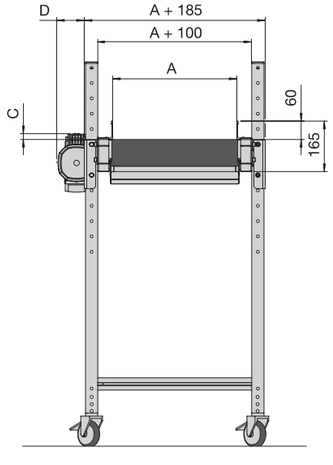
Solution 15

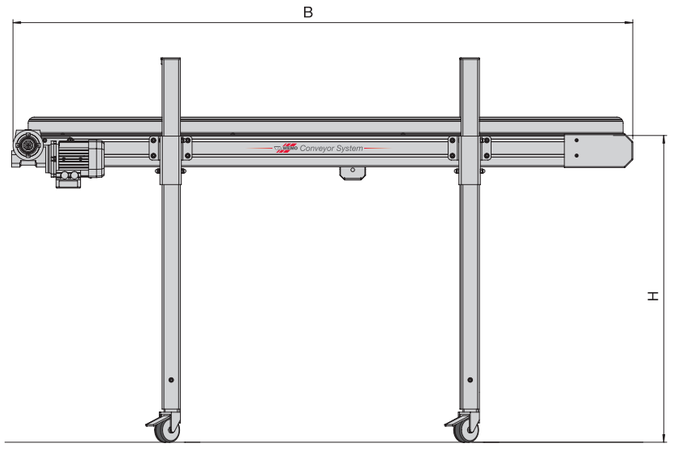
WCS-VXV-1R-1R
Buffering conveyors placed in 2 levels in vertical. The lower level of belt conveyor is for normal buffering of parts, and the upper level is used when buffering is needed for inspection parts.

SOLUTIONS FOR SPACE- AND COST- EFFICIENT PRODUCTION

WCS-R

Horizontal flat belt conveyor





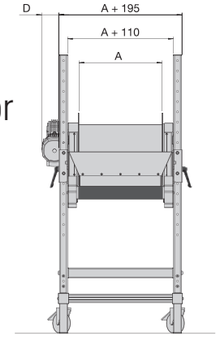
Dimensions	A	B	C	D	H
Min.	205	500	4**	83*	700
Max.	1 205	6 000	20*	101**	1 300

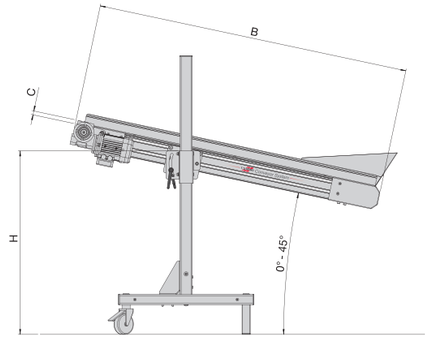
Standard model:
Belt widths: 200, 300, 400, 500, 600, 800, 1 000, 1 200 mm.
Lengths: from 700 mm to 6 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 200 mm.
Drive: AC motor 400V, 50 Hz with maintenance-free worm gear.
*Belt width 200-600 mm 0.12 kW.
**Belt width from 800 mm 0.18 kW.
Direct drive with floating mounting.

Belt speed: 5 m/min.
Transport weight max. 50 kg/m.
Frame in sturdy anodised aluminium profile with integrated cable channel.
Hard-wearing PVC belt. Temperature resistance -10ºC to +70ºC.
Lateral edges, height 60 mm on both sides. Easy to dismantle.

WCS-RVE

Angled straight belt conveyor with single support leg



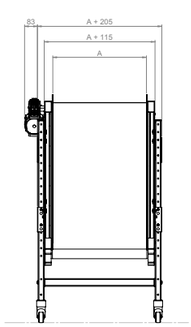


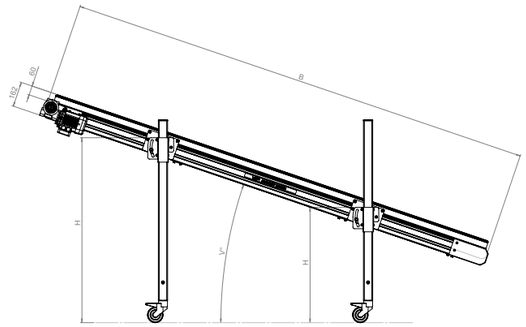
Dimensions	A	B	C	D	H
Min.	305	1 000	20	83	700
Max.	405	2 000	20	83	1 300

Standard model:
Belt widths: 300, 400 mm.
Lengths: 700, 1,000, 1 500, 2 000 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 300 mm.
Drive: AC motor 0,12 kW 400V, 50 Hz with worm gear.
Direct drive with floating mounting. Belt speed: 5 m/min.
Transport weight max. 50 kg/m.
Frame in sturdy anodised aluminium profile with integrated cable channel.
Hard-wearing PVC belt.
Temperature resistance -10ºC to +70ºC.
Lateral edges, height 60 mm on both sides.
Easy to dismantle.
As option we can also offer belt with shaped carrier.

WCS - RVD

Angled straight belt conveyor with double support legs





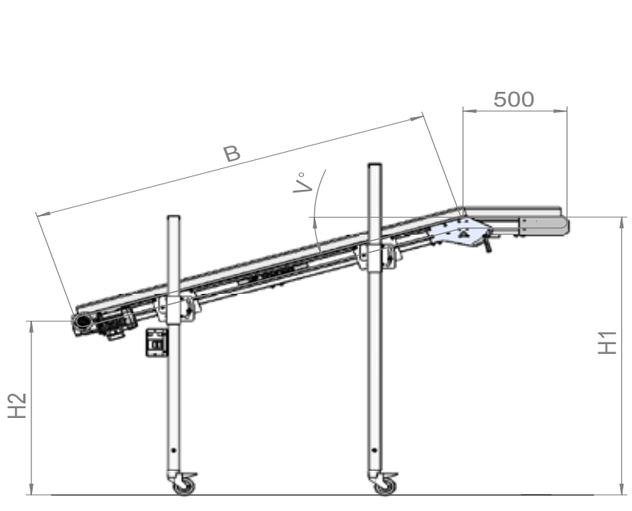
Dimensions	A	B	C	D	H
Min.	205	2 000	4**	83*	700
Max.	1 205	6 000	20*	101**	1 300

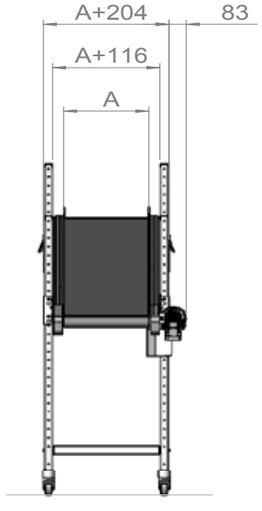
Standard model:
Belt widths: 200, 300, 400, 500, 600, 800, 1 000, 1 200 mm.
Lengths: 2 500 to 6 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 200 mm.
Drive: AC motor 400V, 50 Hz with worm gear.
*Belt width 200-600 mm 0.12 kW.
**Belt width from 800 mm 0.18 kW.
Direct drive with floating mounting.

Belt speed: 5 m/min.
Transport weight max. 50 kg/m.
Frame in sturdy anodised aluminium profile with integrated cable channel.
Hard-wearing PVC belt.
Temperature resistance -10ºC to +70ºC.
Lateral edges, height 60 mm on both sides.
Easy to dismantle.
As option we can also offer belt with shaped carrier.

WCS-VRB

Inclined robot conveyorbelt





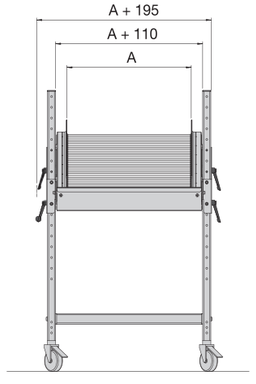
Dimensions	A	B	H1/H2
Min.	405	1500	1 300/700
Max.	605	4 000	2 000/1 300

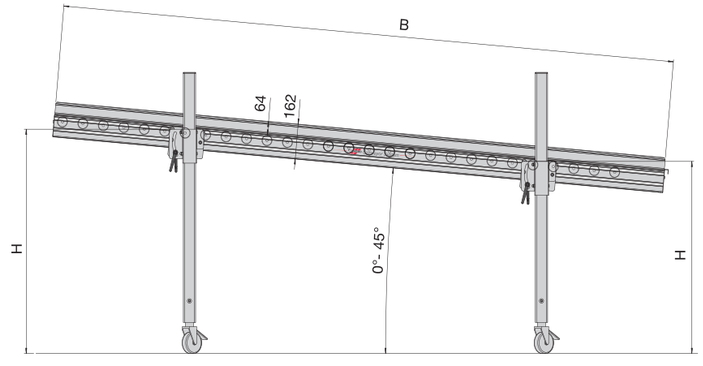
Standard model:
Belt widths: 400, 500, 600 mm.
Horisontal part of conveyor with fixed length of 500 mm
Inclined lengths: from 1 500 mm to 4 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 200 mm.
Drive: AC motor 400V, 50 Hz with maintenance-free worm gear.
*Belt width 200-600 mm 0.12 kW.
Direct drive with floating mounting.

Belt speed: 5 m/min.
Transport weight max. 50 kg/m.
Frame in sturdy anodised aluminium profile with integrated cable channel.
Hard-wearing PVC belt. Temperature resistance -10ºC to +70ºC.
Lateral edges, height 60 mm on both sides. Easy to dismantle.

WCS - OB

Inclined undriven roller conveyor





Dimensions	A	B	H
Min.	405	2 000	700
Max.	805	6 000	1 200

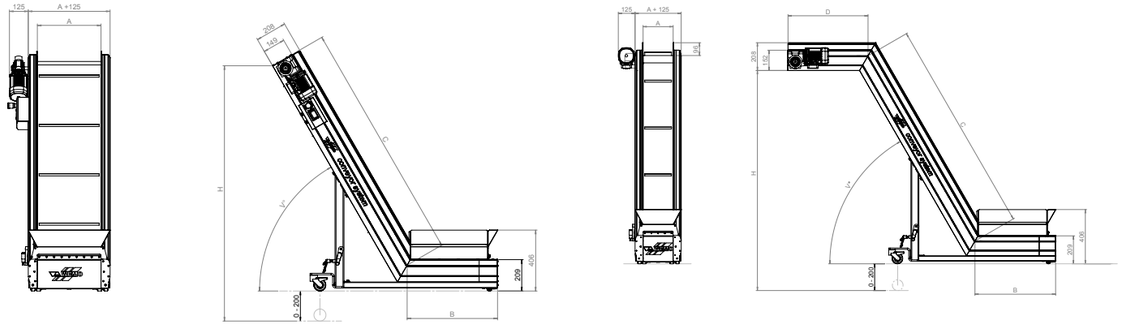
Standard model:
Widths: 400, 500, 600, 800 mm.
Lengths: 2 000 to 6 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 200 mm.
Non-driven rollers, Ø 50 mm, center distance rollers: 90 mm

Transport weight max. 50 kg/m.
Frame in sturdy anodised aluminium profile with integrated cable channel.
Lateral edges, height 60 mm on both sides. Easy to dismantle.

WCS-VL/ZL

VL-Inclined slatted belt conveyor with one angle

ZL-Inclined slatted belt conveyor with two angles



Dimensions	A	B	C	D	H45/H60
Min.	220	600	500	600	1 190/1 445
Max.	820	4 000	3 000	2 000	1 810/2 170

Standard version:
A= Belt widths.
B= Lower horizontal belt length.
C= Inclinable belt length.
D= Upper horizontal belt length, (only for ZL-version).
H= Heigth for gradient (H45=45˚, or H60=60˚).
V= Gradient angle fixed (45˚, or 60˚).

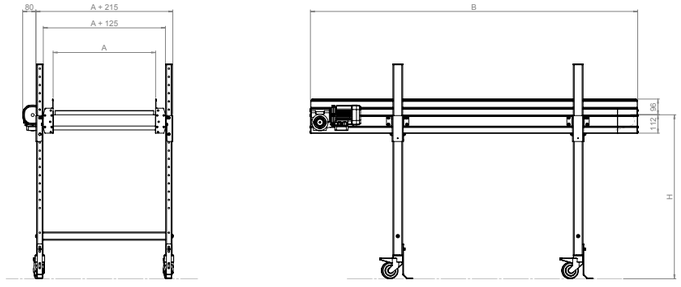
Front support legs with lockable wheels and easy height adjustment.

Drive: AC motor, 0.12 kW, 400V, 50 Hz.
Maintenance-free worm gear and integrated adjustable slide coupling.

Motor switch with emergency stop function.
Belt speed: 5 m/min.
Frame made of hard-wearing anodised aluminium profile with integrated slide strips.
Plastic slatted belt made of hard-wearing polypropylene (PP), withstands temperatures up to 130˚C.
Carrier height 25 mm, standard spacing 406 mm.
Lateral edges: 60 mm.

WCS-RL

Straight horizontal belt conveyor wih plastic slatted belts



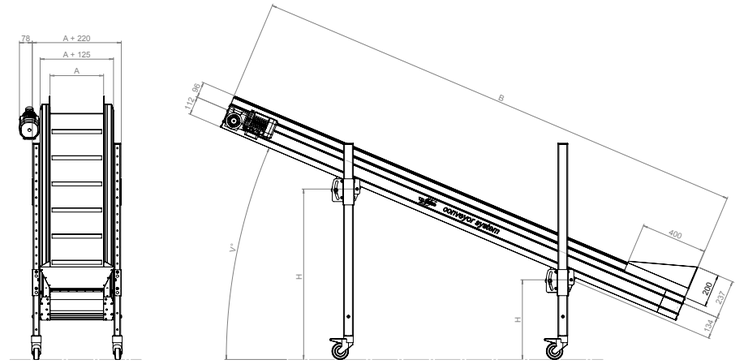
Dimensions	A	B	H
Min.	220	1 500	700
Max.	820	6 000	1 300

Standard model:
Belt widths: 220, 320, 420, 520, 620, 720, 820 mm.
Lengths: 1 500 to 6 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1,300 mm.
Drive: AC motor 400V, 50 Hz with worm gear.
Belt width 220-820 mm 0.12 kW.
Direct drive with floating mounting.

Motor switch with emergency stop function.
Belt speed: 5 m/min.
Frame made of hard-wearing anodised aluminium profile with integrated slide strips.
Plastic slatted belt made of hard-wearing polypropylene (PP), withstandstemperatures up to 130˚C.
Carrier height 25 mm, standard spacing 400 mm.
Lateral edges: 60 mm.

WCS-RLVE/RLVD

Inclined flat slatted belt conveyor



Dimensions	A	B	V	H
Min.	220	1 500	0-30	700
Max.	820	6 000	0-30	1 300

Standard model:
Belt widths: 220, 320, 420, 520, 620, 720, 820 mm.
Lengths: 1 500 to 6 000 mm in intervals of 500 mm.
Support legs with lockable wheels.
Adjustable support legs for belt heights of 700-1 300 mm.
Drive: AC motor 400V, 50 Hz with worm gear.
Belt width 220-820 mm 0.12 kW.
Direct drive with floating mounting.

Motor switch with emergency stop function.
Belt speed: 5 m/min.
Frame made of hard-wearing anodised aluminium profile with integrated slide strips.
Plastic slatted belt made of hard-wearing polypropylene (PP), withstandstemperatures up to 130˚C.
Carrier height 25 mm, standard spacing 400 mm.
Lateral edges: 60 mm.

CONVEYOR BELTS - MATERIALS AND TYPES

The right belt for every application

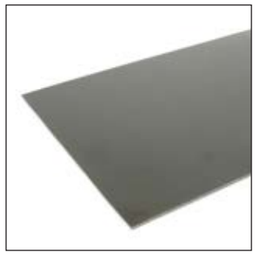
Our conveyor belt selection includes different belts to satisfy application requirements that covers range from straight horisontal operations to accumulation and diverters.

Belt materials

The materials and designs are selected to cope with a broad range of application requirements, including resistance to wear or chemical agents, and to high or low temperatures.

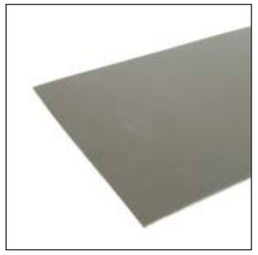
Belt design

Our high quality belts are generally made of different layers, with tensile strength provided by synthetic fabric plies. These fabrics are connected by layers of thermoplastic materials.
The material, thickness and texture of the conveying side depend on the function of the belt.
Cover coatings are mainly made of thermoplastic materials like PVC, PU, TPU, Si.



WCS-BM80-PVC

WCS-BL80-TPU



WCS-BH70-PVC

WCS-GL80-PU

WCS-WL80-TPU

WCS-WH70-PVC

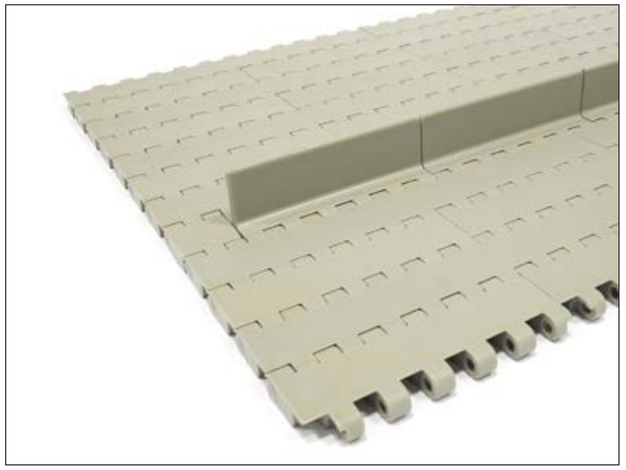
WCS-WH180-SI

Type	WCS-BM80-PVC	WCS-BL80-TPU	WCS-BH70-TPU	WCS-GL80-PU	WCS-WL80-TPU	WCS-WH70-PVC	WCS-WH180-Si
Material	PVC	TPU	TPU	PU	TPU	PVC	Silicon
Colour	Black	Black	Black	Green	White	White	White
Low friction	❍	●	❍	●	●	❍	❍
Medium friction	●	❍	❍	❍	❍	❍	❍
High friction	❍	❍	●	❍	❍	●	●
Food approved	❍	❍	❍	●	●	●	❍
Temp > 70°C	●	❍	●	❍	❍	●	❍
Temp > 80°C	❍	●	❍	●	●	❍	❍
Temp > 180°C	❍	❍	❍	❍	❍	❍	●

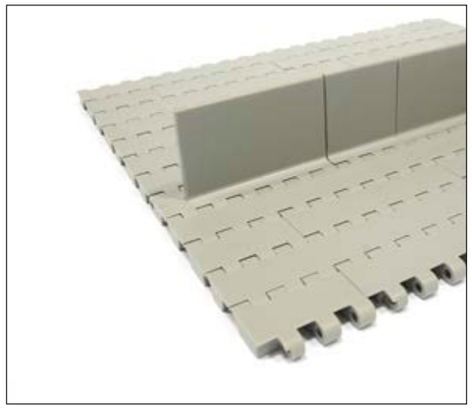
PLASTIC SLATTED BELTS - MATERIALS AND TYPES

The plastic belt is designed of individual plastic modules made by highprecision injection molding and connected by lateral rods. The robust design is optimized for efficient conveying and easy cleaning procedures.

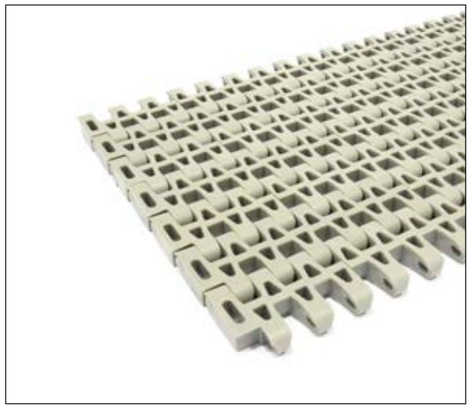
Plastic slatted belts eliminate the need for high-tension systems by positively engaging the sprocket with the running belt and maintaining proper belt tracking.



WCS-G130-PP
Standard plastic slatted belt with carrier height 25 mm.



WCS-G130-PP
Optional plastic slatted belt with carrier height 50 mm.



WCS-G130C-PP
Optional plastic slatted belt with cooling holes.

Type	WCS-G130-PP	WCS-G130C-PP
Material	PP	PP
Colour	Grey	Grey
Temp > 130°C	●	●
Cooling holes	❍	●
Carrier height	Standard 25mm	Standard 25mm
Spacing between carrier	Standard 406mm	Standard 406mm
Carrier height (optional)	50mm	50mm
Extended spacing between carrier (optional)	In steps of 203mm	In steps of 203mm

WCS-JSL1

Adjustable sidewalls

Adjustable sidewalls are handy, for instance when different sized boxes are transported on the belt conveyor. They can be adjusted by 200 mm. No adjustment tools are required.

Article no	Type
77000097	WCS-JBL1

WCS-LB1,LB2

Longer legs

Longer support legs for high release level of conveyor.
LB1: for conveyor height 1 100-1 500 mm
LB2: for conveyor height 1 400-1 800 mm

Article no	Type
720001128 / 77001245	WCS-LB1/ WCS-LB2

WCS-JSF1

Adjustable feets

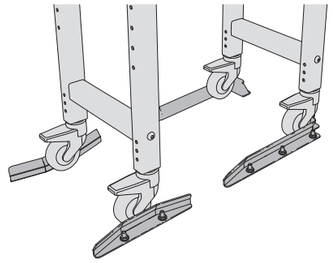
Fixed adjustable feet can be mounted on all WCS systems, and are ideal when you need maximum stability and precise positioning of the conveyors in the robotic cell. Heigth of conveyor surface will be reduced with -100 mm compare to lockable wheels. They can be adjusted up to +50mm.

Article no	Type
77000098	WCS-JSF1

WCS-IV

Floormounted guides

Allows you to easily remove the belt conveyor using the standard wheels, and later replace it in exactly the same position as before.
Keeps the wheels aligned with the edge, guiding the conveyor into the correct position. Complete package of 2 front guides and 1 right rear guide angle and 1 left rear guide angle and fitting elements.



Article no	Type
77000099	WCS-IV

WCS-MC

Protections

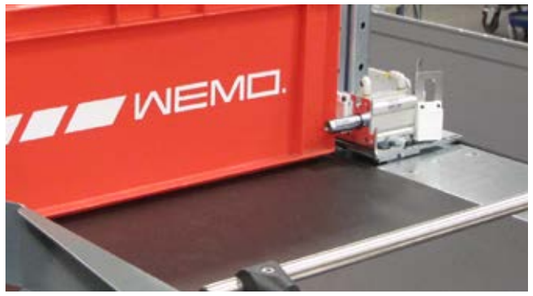
Cover above conveyor surface to protect from contaminations. Possible to use for horisontal and inclined directions.

Article no	Type
On request	WCS-MC

WCS-SC1

Stop cylinder in belt direction

For positioning of boxes or pallets in the conveying direction. Contains two stoppcylinders, angle brackets for mounting, two cylinder sensors, air valve (monostable), nipples and tubes.



Article no	Type
77000107	WCS-SC1

WCS-BS

Endstop removable

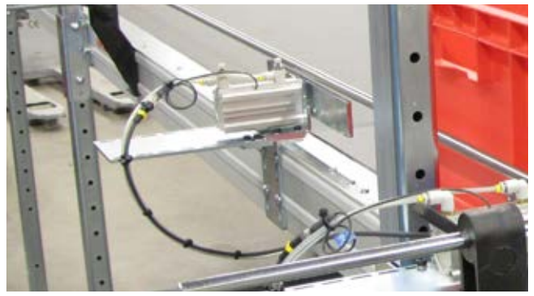
Endstop for outgoing boxes to keep them on conveyor surface. For emptying boxes on conveyor the stopper is easy to remove.

Article no	Type
Depending on width	WCS-BS

WCS-SPC1

Side positioning/separation cylinder

Lateral positioning cylinder for positioning of boxes or pallets across the belt direction. Can also be used as conveyor cylinder to separate the boxes behind, during changing. Contains positioning cylinder, angle bracket for mounting, one cylinder sensor, air valve (monostable), nipples and tubes.

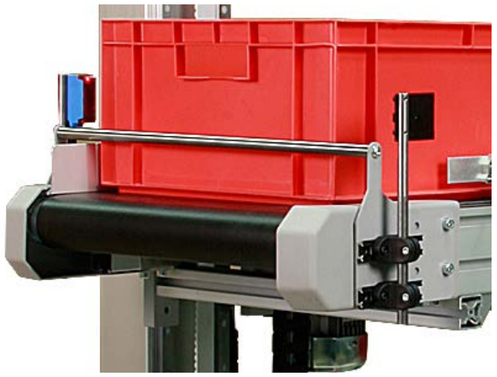


Article no	Type
77000108	WCS-SPC1

WCS-FC1

Photocensor with flexible adjustment

Photocells for box detection. Consists of photocell with adjustable mounting vertical and in rotation, and reflector with adjustable mounting for accurate detection of parts or boxes.



Article no	Type
77000106	WCS-FC1

WCS-FC2

Photosensor mounted on bracket

Photocells for box detection. Consists of photocell for mounting in fixed angle and reflector for accurate detection of parts or boxes.

Article no	Type
77000194	WCS-FC2

WCS-MB

Belt pacing button

Manual belt pacing button for simple activation of feeding of parts on the belt. The push button box comes with a specially adapted angle bracket for mounting on WCS conveyors.

Article no	Type
77000104	WCS-MB

WCS-OP1

Operatorpanel

Operator panel for manual belt pacing button, emptying of conveyor and emergency stop function. Equiped with a specially adapted angle bracket for mounting on WCS conveyors.

Article no	Type
77000105	WCS-OP1

WCS-BTS

Belt pacing box

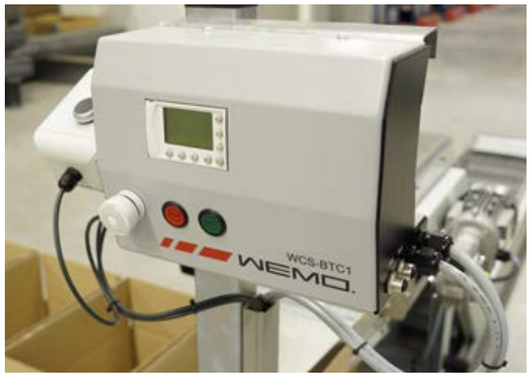
A separate unit with a contactor and motor protector. Can be controlled from other brands of robots with one potential-free 24VDC signal. The unit is also equiped with terminal blocks for connecting photocells and a manual belt pacing button.

Article no	Type
77000103	WCS-BTS

WCS-BTC1

Belt controller with functions

A controller with display which can be used for belt pacing, time control like run/stop functions. It´s also equiped with terminal blocks for communication with external units.



Article no	Type
77000267	WCS-BTC1

WCS-FO2

Frequency inverter for speed control

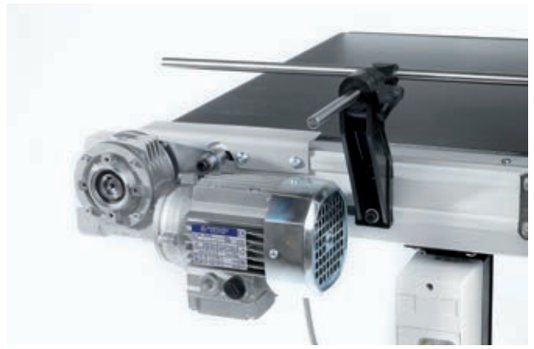
Speed adjustment and soft start-up. If you need to adjust the belt speed for different jobs, or start the belt up gently so stack of parts will not fall down.

Article no	Type
77000160	WCS-FO2

WCS-HSM

High speed motors

Higher belt speed. All WCS belt conveyors has as standard belt speed of 5 meters/min. The speed can be increased to 10 meters/min with this option.



Article no	Type	Belt width
77001074	WCS-HSM1	200-600
77001076	WCS-HSM2	800-1 200

WEMO ROBOT SYSTEM

WEMO GRIP SYSTEM

WEMO CONVEYOR SYSTEM

WEMO SAFETY SYSTEM

WEMO PERIPHERAL SYSTEM

WEMO APPLICATION SYSTEM

COMPETENCE IN AUTOMATION

WEMO.

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