The Drive & Control Company

Rexroth
Bosch Group

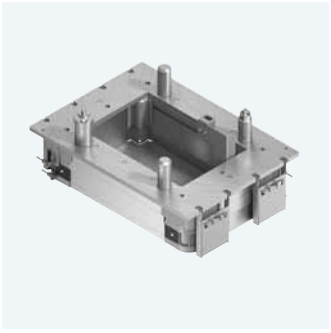
TS 5 transfer system

4.0



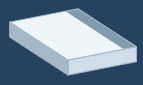


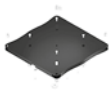
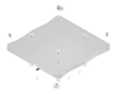


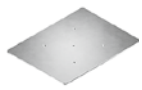


TS 5 system overview

Workpiece pallet

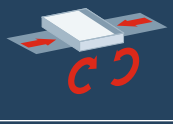




See page 2-4 **See page 2-6** **See page 2-10** **See page 2-13**

Drive unit









See page 3-4 **See page 3-9** **See page 3-14** **See page 3-20** **See page 3-25**

Longitudinal conveyor









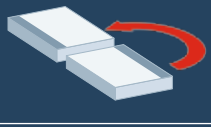

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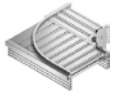




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Curves

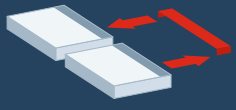


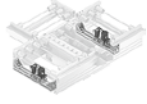


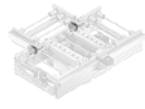
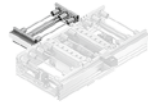



See page 5-4 **See page 5-8** **See page 5-13** **See page 5-18**

Transverse conveyor




See page 6-4 **See page 6-9** **See page 6-11** **See page 6-13** **See page 6-15** **See page 6-17ff.**

Leg sets

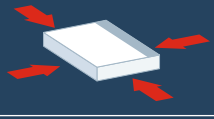






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Positioning and orientation





See page 8-3 **See page 8-7** **See page 8-11** **See page 8-15** **See page 8-19** **See page 8-23**

Transportation control

See page 9-3 **See page 9-6** **See page 9-9** **See page 9-12** **See page 9-16**

Parameters

Recurring parameters:

b	width (track width in direction of transport)
l	length graduated according to the roller dimensions l = p × N (stored default values)
p	Roller spacing (pitch) 130 mm; 195 mm; 260 mm; 325 mm
N	number of rollers, multiplier for length (l = p × N), pricing factor in the price list
LG	Lateral guide material 1: steel; 2: plastic; 3: aluminum
BG	Bevel wheel material 1: plastic; 2: sintered metal
TR	Roller material 1: steel, galvanized; 2: steel, nitrocarburized
b_{WT}	workpiece pallet width, note the interdependencies for p and b_{WT}!
l_{WT}	workpiece pallet length, note the interdependencies for p and l_{WT}!
bx	Variable width details for different components
lx	Variable length details for different components
n1	Motor speed
n2	gear output speed
P/P_N	Motor power/rated motor power

Specific parameters:

f/U	Frequency/voltage		AB 5
AT	Motor connection K: with terminal box; S: with cable/plug		AS 5/HQ 5
DP	Drive position		AS 5
DP_r	drive position, right (only for Open Center drive unit)		AS 5
DP_l	drive position, left (only for Open Center drive unit)		AS 5
DD	King shaft		AS 5, ST 5
	for drive units 1: on one side with 1 gear motor 2: on two sides with 1 gear motor 3: on two sides with 2 gear motors	for conveyor units 1: on one side 2: on two sides	
GM	Gear motor 0: without (interface SW27); 1: with gear motor SW27; 2: without (interface to SEW connection, round shaft Ø20)		AS 5
MA	Motor mounting: L: left; R: right		AS 5
v_N	nominal speed (m/min)		AS 5, HQ 5
CD	curve direction / diverter direction 1: left; 2: right		CU 5, DI 5
DSM	King shaft installation on main section 1: left; 2: right		CU 5, DI 5, JU 5
DST	King shaft installation on secondary section 1: left; 2: right		CU 5, DI 5, JU 5
JD	Junction direction 1: left; 2: right		JU 5
SC	protective covers / protective casing (see product pages) 1: without protective covers/protective casing; 2: with protective covers/protective casing		CU 5, DI 5, JU 5, HQ 5, PE 5, PE 5/...
b_L (b_{WT})	track width in direction of transport (longitudinal conveyor)		HQ 5, PE 5, PE 5/...
b_Q (l_{WT})	track width in direction of transport (transverse conveyor)		HQ 5, PE 5, PE 5/...
OFD	direction of the outfeed (see product pages) 1: left; 2: right; 3; to both sides		HQ 5
b_{PE}	Positioning unit width		PE 5, PE 5/...
l_{PE}	Positioning unit length		PE 5, PE 5/...
AO/AO_1	Installation location/installation location lower section 1: ST 5/H; 2: ST 5/XH		SZ 5
AO	= 1: Main section (stop gate is 35 mm eccentric) = 2: Transverse section (stop gate is in the center, only applies for transverse section HQ 5)		VE 5/D-301
MT	Condition on delivery 0: assembled; 1: not assembled		SZ 5
H/H1	Transport height/transport height lower section		SZ 5
b_{PL}	Ordered width of the carrying plate		WT 5
l_{PL}	Ordered length of the carrying plate		WT 5
d_{PL}	Plate thickness		WT 5
$m_{G/}$ m_{Gzul}	WT total mass/permissible WT total mass		WT 5
m_{WT}	Workpiece pallet mass		VE 5, VE 5/..., WT 5

Symbols

Product features:



Width of profile T-slot
(for fixtures on the profile T-slot)



Energy efficiency

Material number
3 842 998 786
b = ... mm
l = ... mm
SC = ...

Indicate the desired parameters on the order

Potential applications:



Suitable for use in ESD sensitive areas. A contact with your Rexroth representative is recommended.



Suitable for use in clean rooms



Suitable for use in dry rooms



Suitable for use in oily environments

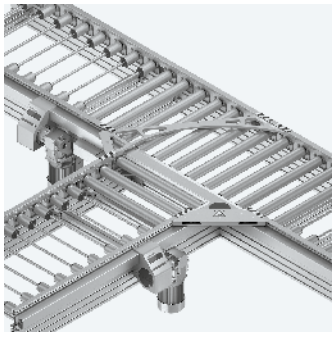
Ordering information:

Explanation

Packing unit = minimum order quantity (: here 20 units)

Example: Packing unit contains 20 units, material number 3 842 548 865, i.e. the order quantity must at least equal the specified quantity or a multiple of it; differing quantities will be rounded up
Order examples:
Order 1x 3 842 548 865 = delivery 1x minimum order quantity 3 842 548 865 = 20 items
Order 35x 3 842 548 865 = delivery 2x minimum order quantity 3 842 548 865 = 40 items

TS 5 transfer system	1
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Transfer system TS 5

TS 5 – the roller conveyor in a class by itself	**1-2**
Operating principle	**1-3**
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Energy efficiency - Rexroth 4EE	**1-9**

TS 5 – the roller conveyor in a class by itself

The TS 5 transfer system transports loads of up to 400 kg and more. Rexroth offers you a comprehensive system of conveyor modules: drive modules, workpiece pallets, roller sections, curves, diverters, lift transverse units, positioning units and components for transportation control. Everything is designed for modular flexibility and pre-assembled and can be combined as needed using a single interface.

Driven by high-quality technology: the king shaft
The TS 5 transfer system with king shaft offers you considerable advantages compared to the usual chain drives:

- Low maintenance
- Noise-free operation
- High energy efficiency through effective performance with low drive force requirements
- Friction can be adjusted by hand (after removing the protective cover on the king shaft)

New possibilities in all directions
In contrast to a chain-driven conveyor system, the TS 5 with its king shaft installation can be used without any limitations. Its drive concept gives you a great amount of planning freedom. You can, for example, branch the system off to the right or to the left. This is very economical because no additional drive modules are needed in many system layouts.

Flexible planning, simple set-up, quick commissioning
As a system supplier for all areas of automation, we offer you an extensive, industrially manufactured modular product line-up. The new TS 5 transfer system is also based on a flexible system of modular components. As a Rexroth customer, this offers you many advantages, including the fact that you will be operating in a familiar environment right from the start of assembly – with everything proceeding quickly and smoothly. As the components for the TS 5 are included in our MT*pro*-program, the parts list is generated automatically, which considerably simplifies the entire planning process.

A choice of transport types
Different products require different types of conveyor sections. Accordingly, you can choose whether to transport your goods on a workpiece pallet or directly on a continuous roller conveyor.

Advantages at a glance

- Fast, cost-effective system planning and expansion: The conveyor section design allows branching in both directions. And because the assembly space required for the drive is lower than the conveyor height, you can choose to have the drive mounted on either side. As always, all components are available in the MT*pro* planning tool.
- Reliable construction and fast commissioning: Industrially manufactured modular system with standardized components, resulting in short delivery times.
- High availability of the system thanks to the low-maintenance drive concept of the king shaft. No more need for lubrication and greasing.
- Sturdy design: Suitable for particularly harsh production environments and heavy loads.
- Everything from a single source: Easy ordering thanks to compatibility with the entire assembly technology product range.

New features

New assemblies
With new assemblies, we increase flexibility in terms of individual planning.

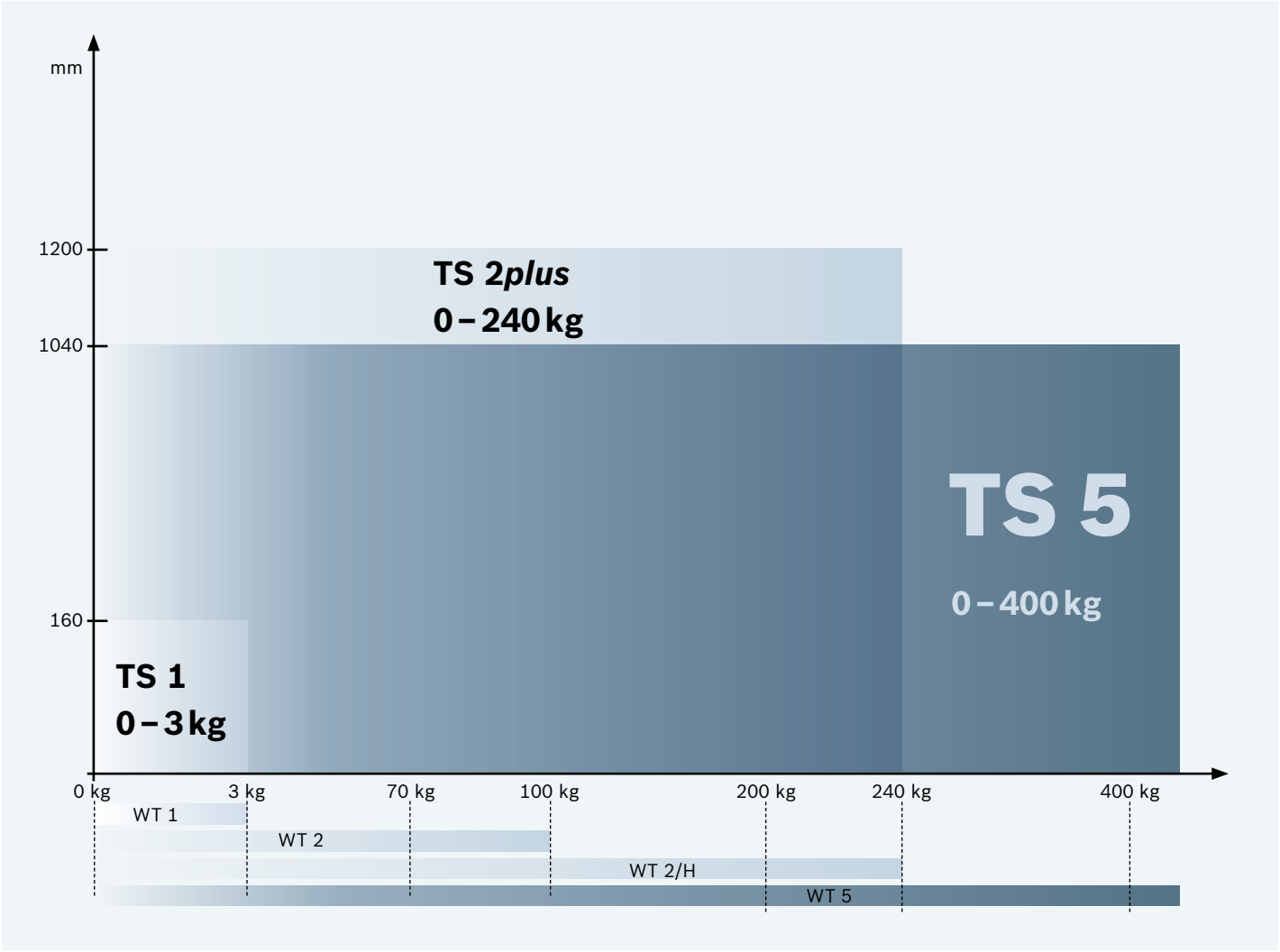
These include:

- AB 5 drive kit (p. 3-20)
- Three-way diverter DI 5/...-3W (p. 5-18)
- Lift transverse unit HQ 5 (p. 5-18)
- PE 5 positioning unit... (p. 8-3)
- VE 5/...-301 stop gates (p. 9-9)

Operating principle

Choice of system

To ensure the most economical operation possible, an assembly line requires precise forward planning. Later conversions must be as simple and cost-effective to execute as possible in order to be able to respond to future market requirements. The key factors when selecting a suitable transfer system are the weight and quality of the work-pieces to be conveyed as well as the particular production environment.
The flexible modular TS 5 transfer system from Rexroth covers a very wide range of requirements: With the wide range of mutually compatible units and macro modules permit a large variety of layouts with manual and automatic processing stations to be created. Solutions for maximum positioning accuracy or for especially heavy workpieces can be implemented easily using standard components. The future-proof TS 5 transfer systems are designed for high availability, even under the harshest conditions.





TS 5

TS 5
0 – 400 kg

The roller conveyor of the TS 5 transfer system conveys loads of up to 400 kg, over long distances where necessary, while its robust construction make it especially suitable for harsh environments.



TS 2*plus*

TS 2*plus*
0 – 240 kg

In the automotive industry and the electronics industry, household appliances and electronics manufacturing: With their diverse system components, TS 2*plus* assembly lines are suitable for use in a wide range of industries.



TS 1

TS 1
0 – 3 kg

The TS 1 transfer system is specifically tailored to small, lightweight products and assemblies, which require high positioning accuracy and repeatability.

TS 5 features
Selection data



Available workpiece pallet (WT) dimensions

Workpiece pallets with system widths of 455 ... 1 040 mm allow adjustment to the respective workpiece geometry as needed. If necessary, a number of workpieces can be accommodated on a single workpiece pallet (WT).

Permissible workpiece pallet (WT) masses

To ensure that the permissible surface pressure between the WT and conveyor medium is not exceeded, the WT total mass is limited for each WT size.

The WT total mass results from:

- Workpiece pallet mass
- Workpiece pallet load (workpiece, pick-up, etc.)
- Mass of the special equipment (data carrier, etc.)

For workpiece pallets that are not square, please note that the permissible WT total mass may be different for longitudinal conveyors and transverse conveyors.

Environmental conditions

Materials used, resistance to media

Rexroth transfer systems are manufactured with high-quality materials to ensure continuous use. They are resistant to lubricating and cleansing agents that are common in an industrial environment. However, we cannot guarantee that the products contained in this catalog are resistant to all combinations of testing liquids, gases, or solvents. Please contact your Rexroth representative if you have any doubts.



Environmental conditions – climatic

The transfer systems have been designed for stationary use in a location that is protected from the elements.

Operating temperature
+5 ... +40 °C
-5 ... +60 °C at 20%
less load

Storage temperature
-25 °C ... +70 °C

Relative humidity
5 ... 85%, non-condensing
1 ... 2% (dry room) on request

Air pressure
> 84 kPa as appropriate
Installation altitude < 1400 m above mean sea level.
Load values are reduced by 15% when the system is set up at a location that is over 1,400 m above sea level.

Environmental conditions – biological

Avoid molds, fungi, rodents, and other vermin.

Environmental conditions – chemical

Do not set up near industrial systems with chemical emissions.

Environmental conditions – physical

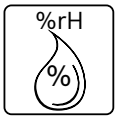
Do not set up in areas that are regularly jarred by high forces caused by e.g. presses, heavy machinery, etc.





Suitability for electrostatically sensitive areas

Almost all of the components and parts in Rexroth transfer systems are ESD-compatible or available in ESD-compatible design. They can thus principally be used in EPA (ESD protected areas). We do, however, recommend that you contact your Rexroth representative.



Use in dry rooms

TS 5 has been tested and approved with all conveyor media for use in dry rooms with a relative humidity of 1 ... 2%, e.g. for the production of Li-Ion battery cells. Your Rexroth representative will be pleased to advise you about this.



Use in oily environments

Almost all of the TS 5 components are suitable for use in oily environments. The transfer system has a high resistance to many oils commonly found in manufacturing. In case of doubt regarding resistance to test oils and doped oils, we recommend you contact your Rexroth specialist.



Use in clean rooms

Almost all the components have been approved by the IPA*) for use in clean rooms and for clean room class 8 according to DIN EN ISO 14644-1. Please note that some clean room-compatible components have been specially modified. Please contact your Rexroth representative if you require clean room components.

*) Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany

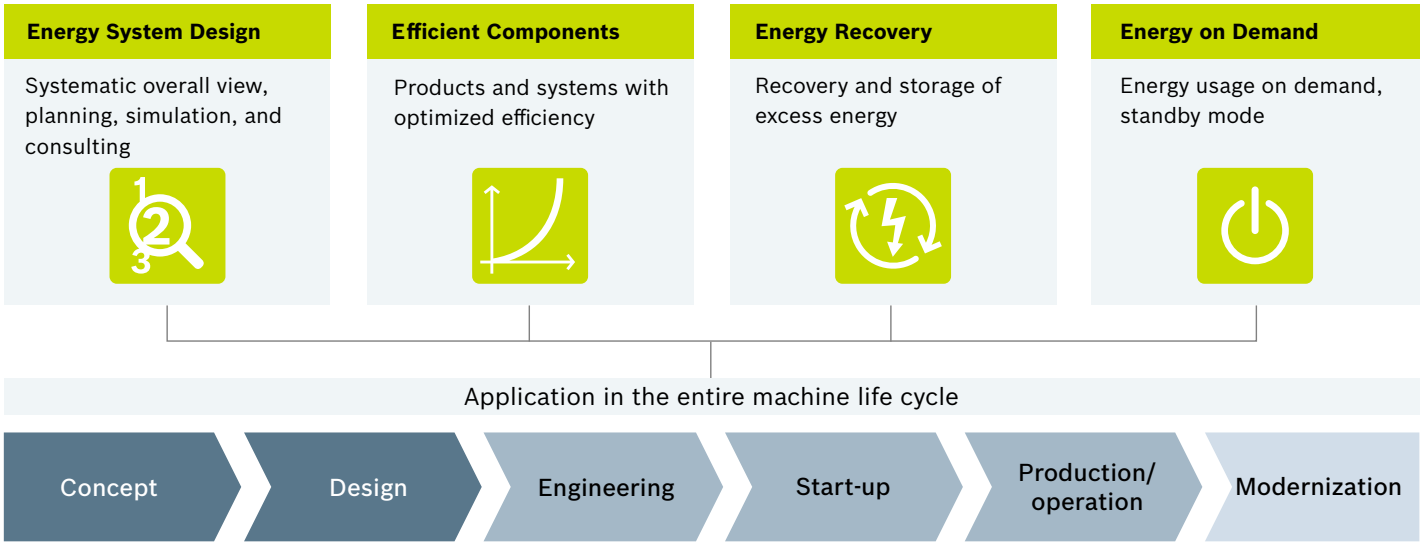
Energy efficiency – Rexroth 4EE

4EE ENERGY EFFICIENCY

Energy efficiency – a key factor for corporate success

From an economic point of view, energy efficiency and reduced emissions lower operating costs and offer a competitive edge in the fiercely competitive global market. In addition, they help support compliance with environmental standards.

All potentials for optimization are used effectively when not only the details of a system but the system as a whole is optimized. The 4EE system features four levers:



Efficient system layout

To achieve high energy efficiency, the system must be examined as a whole as early as in the planning phase. The TS 5 modular system offers numerous modules, all of which enable you to implement a transfer system tailored precisely to the particular application. This effectively prevents over-dimensioning and high energy losses from the outset.

Energy-efficient modules

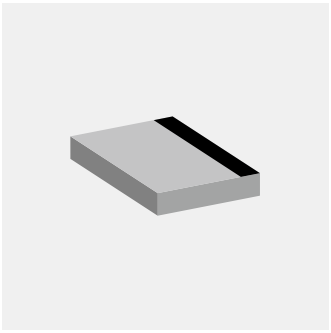
The TS 5 modules are equipped with particularly energy-efficient drives. The efficiency of most of the motors already exceed future requirements. The interplay of friction-optimized materials, e.g. on slide rails, friction-minimizing gear oils and numerous further design details ensures perfect coordination in the overall system.

Energy use on demand

Minimal energy consumption requires the ability to be able to switch off system components on demand. The majority of motors in the TS 5 system are designed for start-stop operation and frequency converter operation.

Worldwide approval

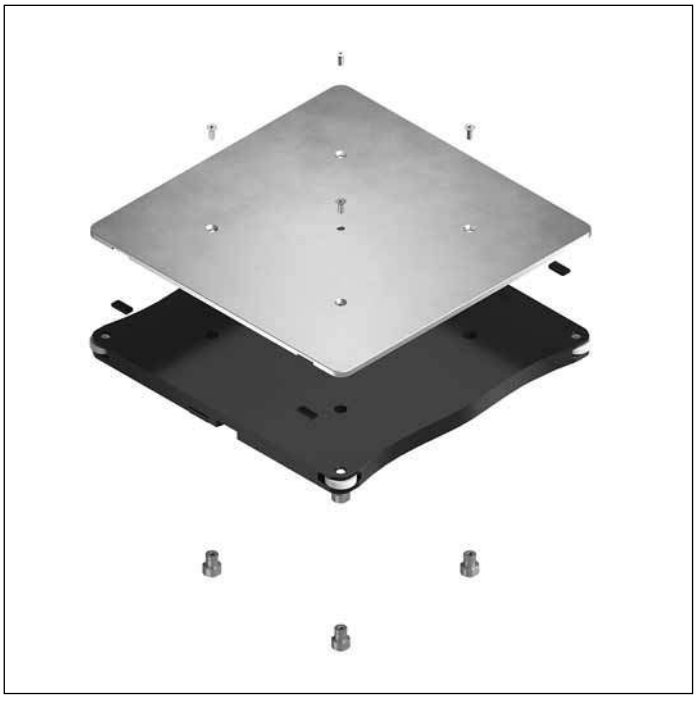
For international use, most of the motors feature CE, cURus and CCC approvals.



Workpiece pallet

Workpiece pallet selection	**2-2**
Base pallets	**2-4**
Accessories	**2-6**
Permissible workpiece pallet load	**2-8**
Selection of workpiece pallets in accordance with load limits	**2-9**
Carrying plates, standard sizes	**2-10**
Carrying plates, variable dimensions	**2-13**

Workpiece pallet selection



Versions

The workpiece pallet is a modular system consisting of a base pallet and carrying plate. The positioning bushings (see page 2-6) and an attachment kit (see page 2-6) comprising sensor plates, damping elements and rollers with pins are available separately.

- Workpiece pallets available in 6 standard sizes, see page 2-4
- Side rollers reduce friction, particularly in curves, diverters, and junctions
- Aluminum carrying plates available in 2 thicknesses (see page 2-10) and with variable dimensions (see page 2-13).
  The carrying plate may extend over the front and rear of the base pallet.

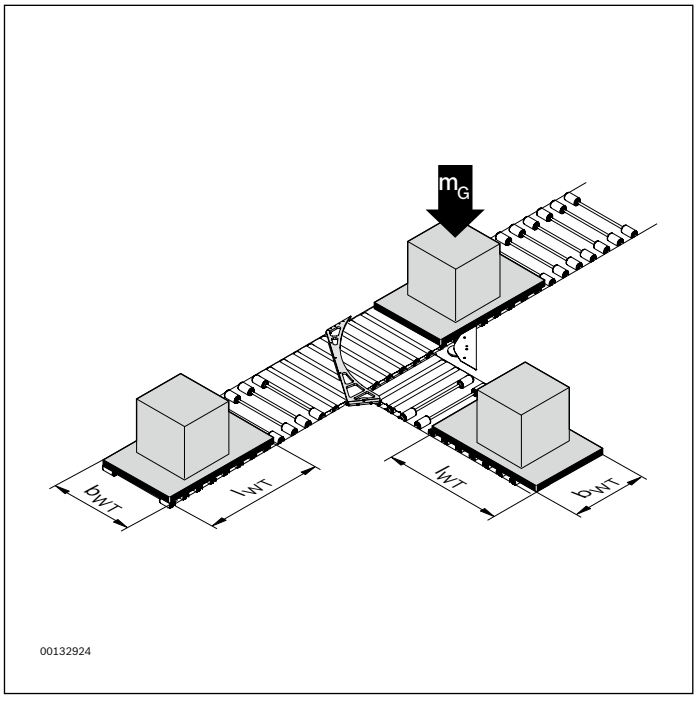
Application and functions

The workpiece pallet transports the workpiece in the transfer system as it goes through the processing stations.

- Defined positioning of the supported workpiece in the processing station is enabled through integrated positioning bushings.
- Integrated damping elements help to avoid noise and damage when workpiece pallets run into each other.
- Workpiece-related information can be transferred with the workpiece during processing using optional data tags. This information can be evaluated on-site and also updated.

The orientation of the workpiece pallet on the conveyor section must strictly be observed:

- Traveling through curves/diverters is only possible in a longitudinal conveyor direction (see arrow on workpiece pallet).
- Separating workpiece pallets is only possible in a longitudinal conveyor direction (see arrow on workpiece pallet). A WT can also be brought cleanly to a halt on the outside of a transverse conveyor.
- In order to read out data tags, the workpiece pallet must cross the reader in the proper position.



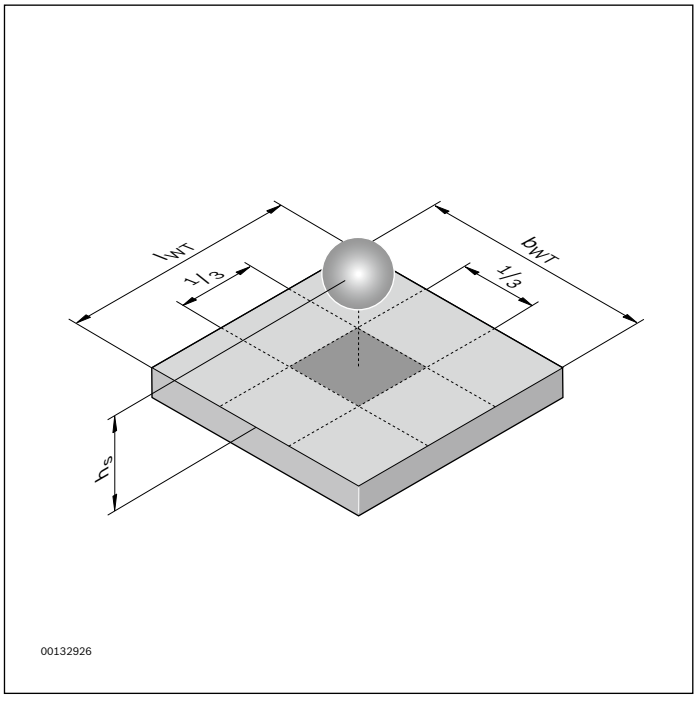
Size and load carrying capacity

The total mass of a workpiece pallet m_G is the sum of the

- Base pallet mass
- Carrying plate mass
- Workpiece support mass
- Workpiece mass
- Identification system mass

Depending on the total mass m_G of the workpiece pallet, the transport system can be set up with various parameters:

- roller spacing
- Load class of the conveyor unit



Permissible gravity center position

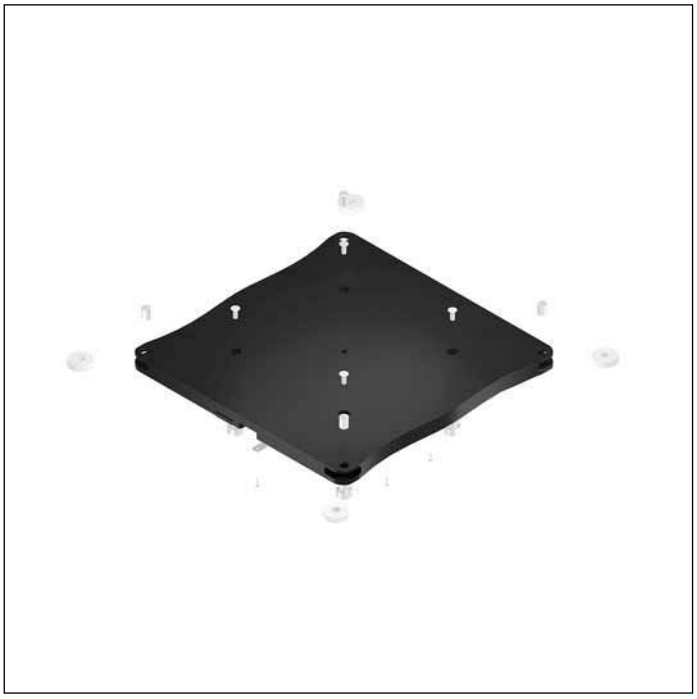
In order to absorb acceleration forces without any problems when separating and changing the direction of the pallets (in curves, when changing to transverse conveyors), the location of the load center position on the workpiece pallet must be noted.

Generally we recommend that:

- the load should be positioned in the center of the workpiece pallet
- the center of gravity should not exceed a height h_s of 1/3 b_{WT} (with $b_{WT} \leq l_{WT}$).

Limits with junctions and diverters, see page 5-17 and 5-22

Base pallets



Use:
- The base pallet is the interface between the transfer system and the carrying plate with workpiece fixtures
- The base pallet is designed to deal with the highest loads

Version:
- 6 standard sizes
- Optimized contours for easier movement through curves
- Stop gate stop on interior and exterior of the workpiece pallet surface (in the longitudinal conveyor direction)
- Can be combined with mobile data tags from the ID 40 and ID 200 identification systems, see RFID systems catalog

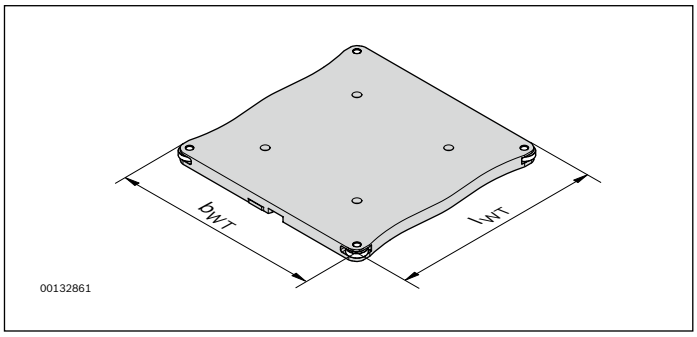
Condition on delivery:
- Not assembled, attachment kit available, without carrying plate

Material:
- PE UHMW, ESD-capable

Required accessories:
- Attachment kit incl. rollers, roller pins, damping elements and sensor plates, see page 2-6

Recommended accessories:
- Positioning bushing kit, see page 2-6
- Carrying plate, see page 2-10; 2-13

Ordering information



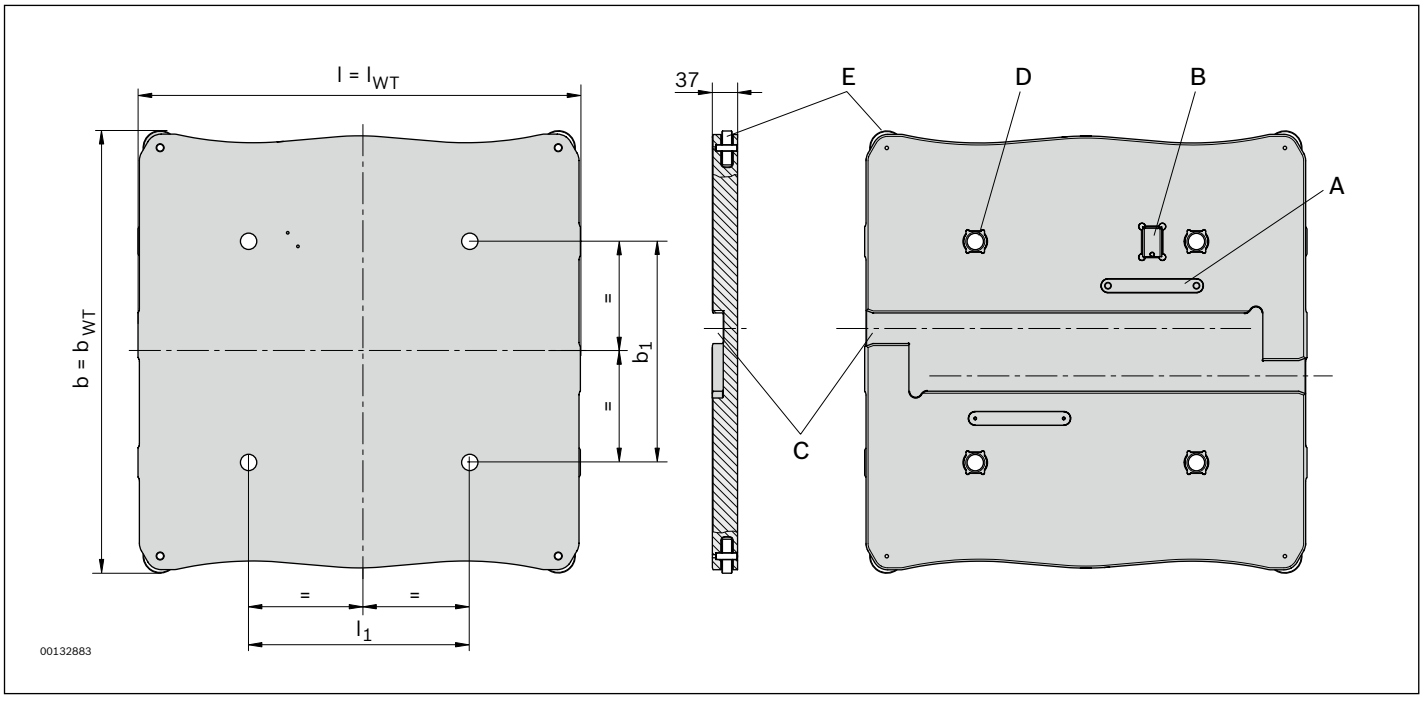
b_{WT} (mm)	l_{WT} (mm)	m_{WT} (kg)	b_1 (mm)	l_1 (mm)	Material number
455	455	6.4	195	195	**3 842 545 080**
455	650	8.9	195	325	**3 842 545 083**
650	650	13.5	325	325	**3 842 545 086**
650	845	17.2	325	520	**3 842 545 089**
845	845	23.2	520	520	**3 842 545 092**
845	1040	27.2	520	715	**3 842 545 095**

m_{WT} = weight of the workpiece pallet itself

Description of further parameters, see page 0-3

Dimensions

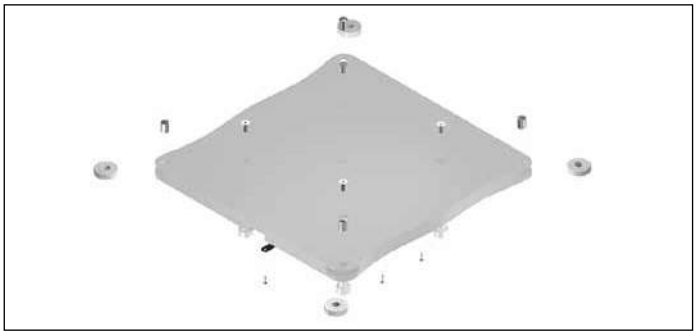
WT 5 workpiece pallet



A Damping element
B Holder for ID data tag ...
C Stop gate feed-through
D Mounting for positioning bushing
E Guide rollers

3D models can be found in the eShop or in MT*pro* see page 12-3

Accessories



Attachment kit

Use:

- Attachment kit for mounting the workpiece pallet

Version:

- 4 rollers for lateral guides
- 4 roller pins for adjusting the rollers
- 2 sensor plates for damping inductive sensors
- 4 damping elements help to avoid noise and damage when workpiece pallets run into each other.

Material:

- PUR, POM

Attachment kit

	b_{WT} (mm)	Material number
	455	**3 842 554 931**
	650; 845	**3 842 554 932**



Positioning bushing kit

Use:

- For fixing the carrying plate on the base pallet
- For a defined workpiece pallet entry in the positioning unit

Scope of delivery:

- 4 positioning bushings, 4 screws for fixing the carrying plate

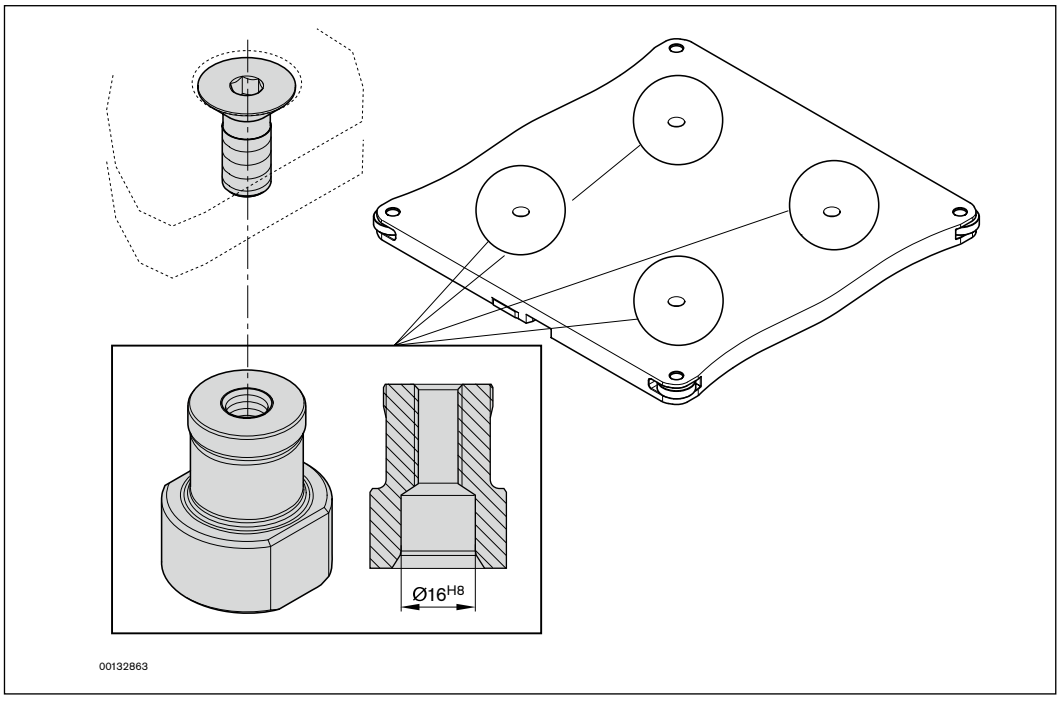
Material:

- hardened steel

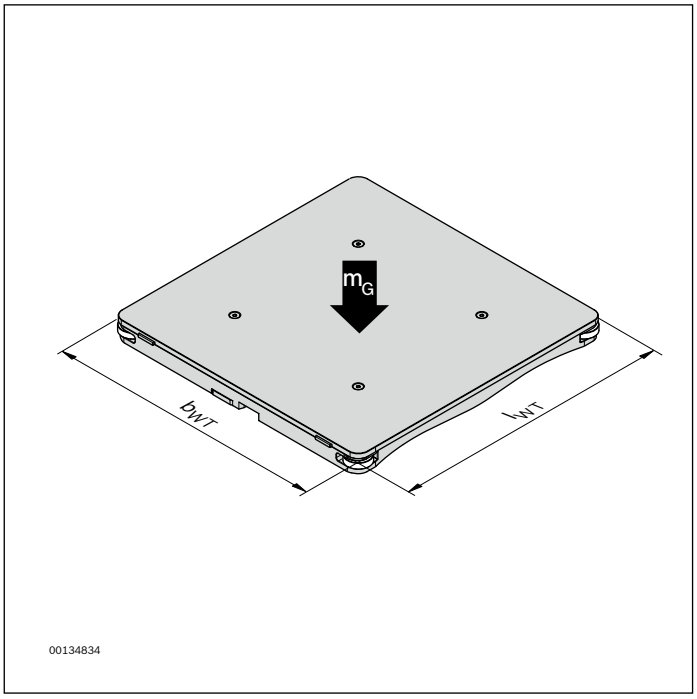
Positioning bushing kit

		Material number
	Set	**3 842 545 264**

Dimensions

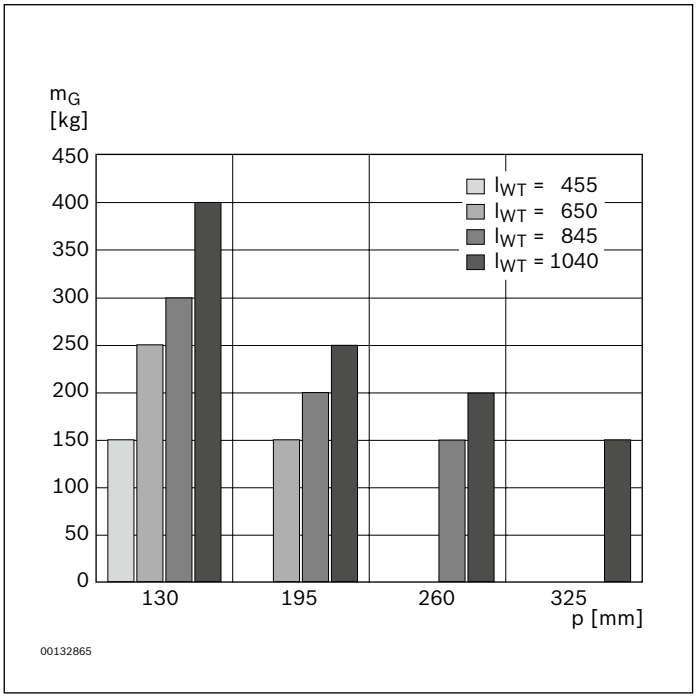


Permissible workpiece pallet load



The permissible load from the conveyed goods is calculated based on the permissible WT total mass less the weight of the workpiece pallet itself including supports and special equipment etc.

The permissible total mass depends on the length of the workpiece pallet l_{WT}, and on the roller spacing.



The carrying force per roller is 50 kg, and the WT must always be on at least 3 rollers. The resulting load limits for the longitudinal conveyor are illustrated in the graphic.

Note:
For curves, junctions and diverters, alternative load limits must be observed.

Selection of workpiece pallets in accordance with load limits

For workpiece pallets that are not square, please note that the permissible WT total mass m_{Gzul} is different for longitudinal and transverse conveyors. In the transverse conveyor the shorter side (b_{WT}) is to be used for the calculation.

The resulting permissible WT total masses are shown in the table opposite.

The WT total mass m_G results from:

- Workpiece pallet mass
- WT load (workpiece, support, etc.)
- Mass of the special equipment (data carrier, etc.)

The WT total mass mG must not exceed the permissible WT total mass m_{Gzul}:

$m_G \leq m_{Gzul}$

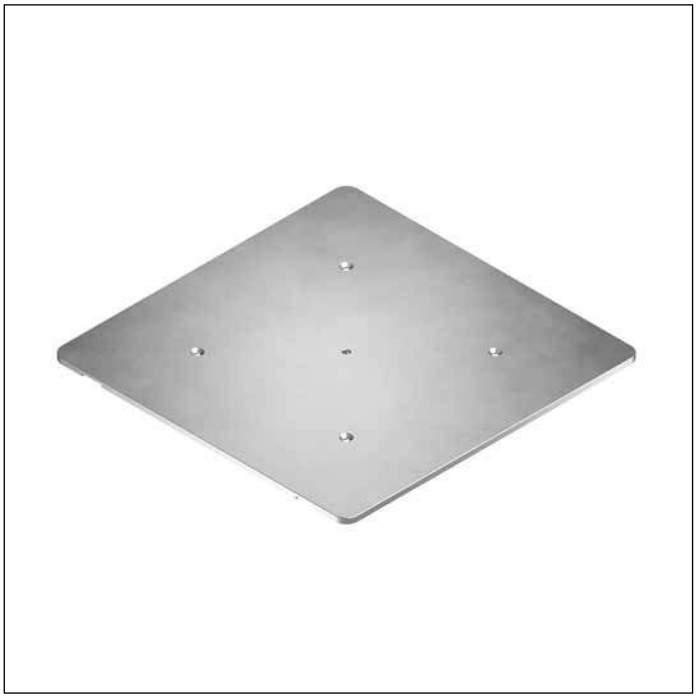
The workpiece pallet must be designed with sufficient rigidity for the load. The deflection of the workpiece pallet (base pallet can be ignored) must not exceed 1 mm.

Permissible load according to the number of rollers

b_{WT} (mm)	l_{WT} (mm)	p (mm)	m_{Gzul} Longitudinal conveyor (kg)	m_{Gzul} Transverse conveyor (kg)	m_{WT1} (kg)	m_{WT2} (kg)	m_{WT3} (kg)
455	455	130	150	150	13.6	17.4	6.7
455	650	130	250	150	18.8	24.3	8.9
455	650	195	150	–	18.8	24.3	8.9
650	650	130	250	250	28.8	35.3	13.9
650	650	195	150	150	28.8	35.3	13.9
650	845	130	300	250	36.3	45.5	17.7
650	845	195	200	150	36.3	45.5	17.7
650	845	260	150	–	36.3	45.5	17.7
845	845	130	300	300	48.0	60.0	23.8
845	845	195	200	200	48.0	60.0	23.8
845	845	260	150	150	48.0	60.0	23.8
845	1040	130	400	300	57.6	72.4	27.7
845	1040	195	250	200	57.6	72.4	27.7
845	1040	260	200	150	57.6	72.4	27.7
845	1040	325	150	–	57.6	72.4	27.7

p = Roller spacing (pitch)
m_{Gzul} = Permissible WT total mass
m_{WT1} = mass of workpiece pallet, fully installed with carrying plate (mass of base plate + mass of carrying plate d_{PI} = 12.7)
m_{WT2} = mass of workpiece pallet, fully installed with carrying plate (mass of base plate + mass of carrying plate d_{PI} = 19.05)
m_{WT3} = mass of workpiece pallet, fully installed without carrying plate (mass of base plate)

Carrying plates, standard sizes



Use:

- For combination with a base pallet to form a WT 5 workpiece pallet
- For finishing fixtures by the user

Version:

- 6 standard sizes in 2 thicknesses
- Carrying plate, ready to assemble with mounting holes

Material:

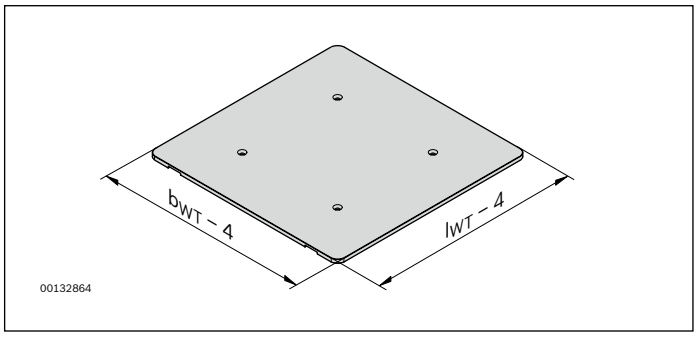
- aluminum

Note:

To assemble the carrying plate on the base pallet:

- positioning bushing kit 3 842 545 264, see page 2-6

Ordering information



b_{WT} (mm)	l_{WT} (mm)	d_{PL} (mm)	⏥* (mm)	m_{PL} (kg)	Material number
455	455	12.7	0.6	6.6	**3 842 545 081**
455	650	12.7	0.8	9.4	**3 842 545 084**
650	650	12.7	0.8	14.2	**3 842 545 087**
650	845	12.7	1.0	18.6	**3 842 545 090**
845	845	12.7	1.0	24.2	**3 842 545 093**
845	1040	12.7	1.2	29.8	**3 842 545 096**
455	455	19.05	0.6	10.4	**3 842 545 266**
455	650	19.05	0.8	14.9	**3 842 545 267**
650	650	19.05	0.8	21.3	**3 842 545 268**
650	845	19.05	1.0	27.8	**3 842 545 269**
845	845	19.05	1.0	36.2	**3 842 545 270**
845	1040	19.05	1.2	44.6	**3 842 545 271**

b_{WT} = width of workpiece pallet

l_{WT} = length of workpiece pallet

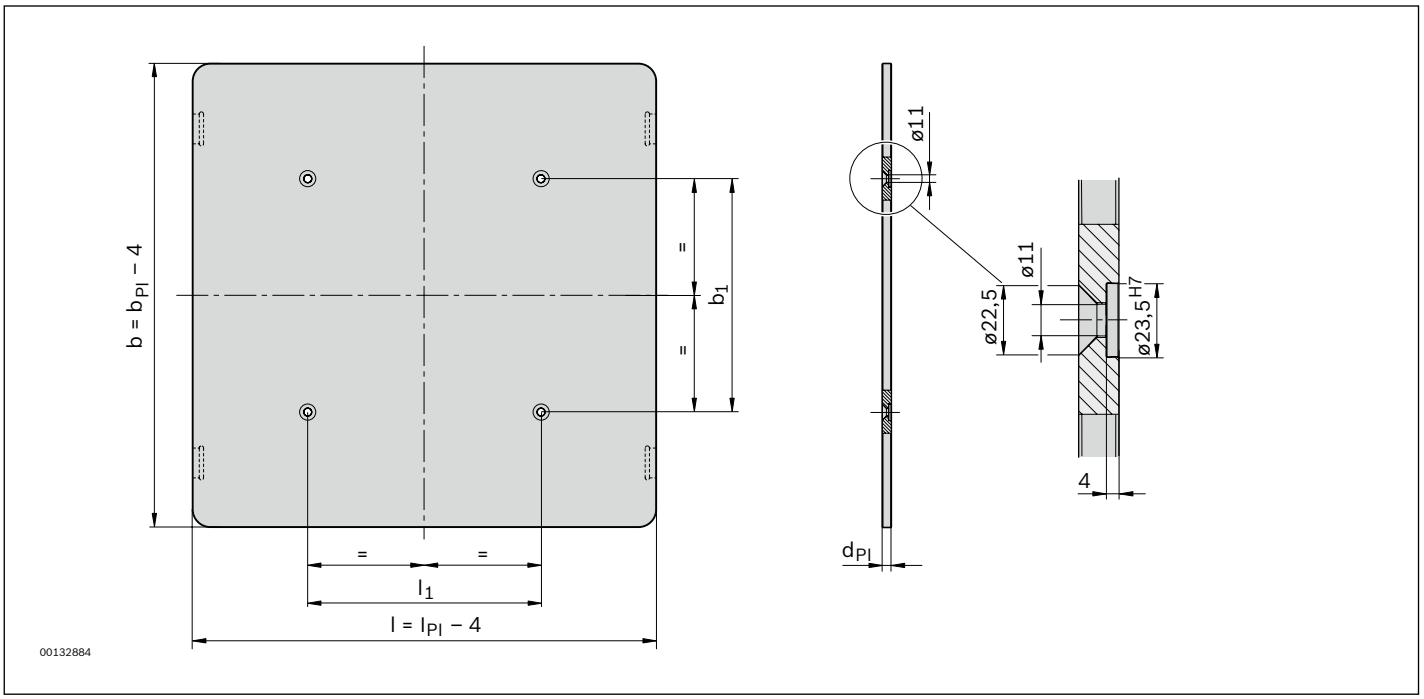
d_{PL} = plate thickness

⏥* = evenness

m_{PL} = plate weight

Dimensions

WT 5: carrying plate, standard sizes



Carrying plates, variable dimensions



Use:

- For combination with a base pallet to form a WT 5 workpiece pallet
- For finishing fixtures by the user

Version:

- Variable sizes in 2 thicknesses
- Carrying plate, ready to assemble with mounting holes

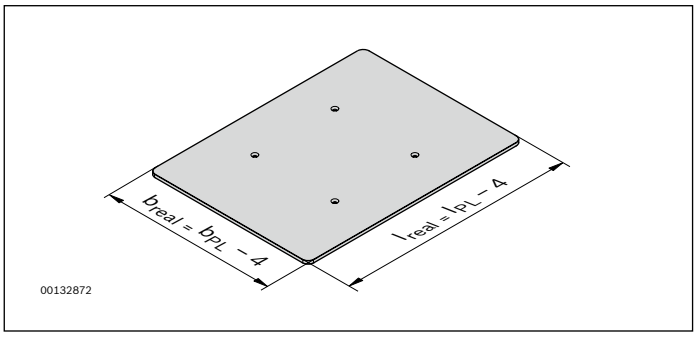
Material:

- aluminum

Note:

The carrying plate may extend beyond all sides of the base pallet. Exception: The HQ 5 cannot be passed through if the carrying plate protrudes on the sides. The user must install dampers in the direction of transport. To assemble the carrying plate on the base pallet: positioning bushing kit 3 842 545 264, see page 2-6.

Ordering information



l_{PL} = ordered length of the carrying plate
b_{PL} = ordered width of the carrying plate

Carrying plates in various dimensions, adapted to the base pallets b_{WT} x l_{WT}

b_{WT} x l_{WT} (mm)	b_{PL} (mm)	l_{PL} (mm)	d_{PL} (mm)	□* (mm)	b_1 (mm)	l_1 (mm)	Material number
455 x 455	455 ≤ b_{PL} ≤ 650	455 ≤ l_{PL} ≤ 650	12.7	0.6	195	195	**3 842 998 562**
455 x 650	455 ≤ b_{PL} ≤ 650	650 ≤ l_{PL} ≤ 845	12.7	0.8	195	195	**3 842 998 564**
650 x 650	650 ≤ b_{PL} ≤ 845	650 ≤ l_{PL} ≤ 845	12.7	0.8	195	195	**3 842 998 566**
650 x 845	650 ≤ b_{PL} ≤ 845	845 ≤ l_{PL} ≤ 1040	12.7	1.0	195	195	**3 842 998 568**
845 x 845	845 ≤ b_{PL} ≤ 1040	845 ≤ l_{PL} ≤ 1040	12.7	1.0	195	195	**3 842 998 570**
845 x 1040	845 ≤ b_{PL} ≤ 1040	1040 ≤ l_{PL} ≤ 1250	12.7	1.2	195	195	**3 842 998 572**
455 x 455	455 ≤ b_{PL} ≤ 650	455 ≤ l_{PL} ≤ 650	19.05	0.6	195	195	**3 842 998 563**
455 x 650	455 ≤ b_{PL} ≤ 650	650 ≤ l_{PL} ≤ 845	19.05	0.8	195	195	**3 842 998 565**
650 x 650	650 ≤ b_{PL} ≤ 845	650 ≤ l_{PL} ≤ 845	19.05	0.8	195	195	**3 842 998 567**
650 x 845	650 ≤ b_{PL} ≤ 845	845 ≤ l_{PL} ≤ 1040	19.05	1.0	195	195	**3 842 998 569**
845 x 845	845 ≤ b_{PL} ≤ 1040	845 ≤ l_{PL} ≤ 1040	19.05	1.0	195	195	**3 842 998 571**
845 x 1040	845 ≤ b_{PL} ≤ 1040	1040 ≤ l_{PL} ≤ 1250	19.05	1.2	195	195	**3 842 998 573**

b_{WT} x l_{WT} = base pallet dimensions
b_{PL} = carrying plate width (b_{real}) + 4 mm = ordered width
l_{PL} = carrying plate length (l_{real}) + 4 mm = ordered length
d_{PL} = plate thickness
□* = evenness

Description of further parameters, see page 0-3

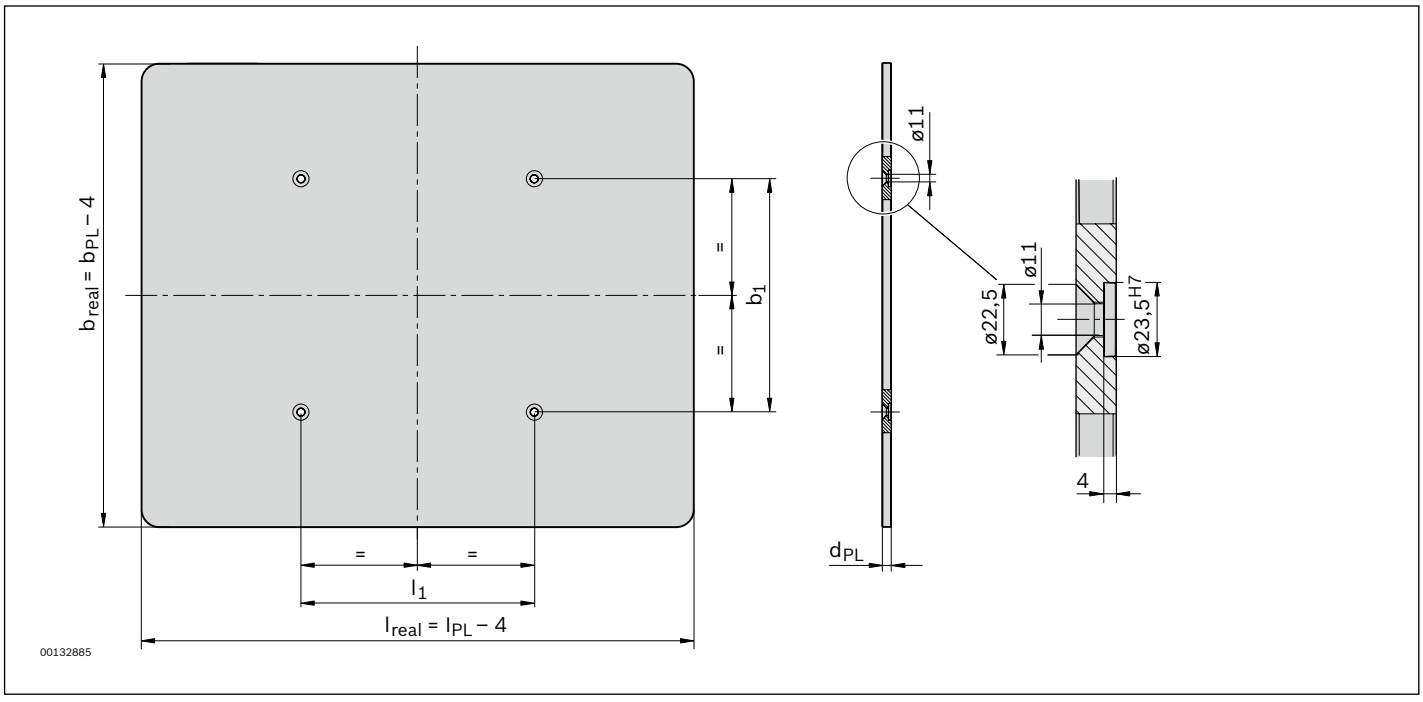
Formula for calculating the weight of a carrying plate:
m_{PL} (kg) = (b_{PL} – 4) (mm) x (l_{PL} – 4) (mm) x d_{PL} (mm) x 0.0000027 (kg/mm³)

Order examples:
Standard plate without cut-out for damping element:

- b_{PL} = b_{WT} = 455 mm;
  l_{PL} = l_{WT} = 455 mm
  Delivery dimensions: 451 mm x 451 mm
- b_{PL} = b_{WT} = 650 mm;
  l_{PL} = l_{WT} = 650 mm
  Delivery dimensions: 646 mm x 646 mm
- b_{PL} = b_{WT} = 845 mm;
  l_{PL} = l_{WT} = 845 mm
  Delivery dimensions: 841 mm x 841 mm

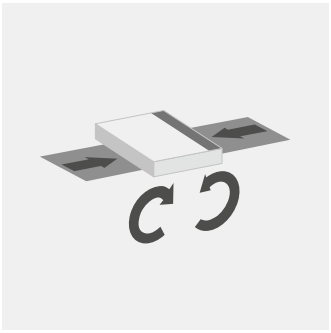
Dimensions

WT 5: carrying plate, variable dimensions



Formula for calculating the weight of a carrying plate:

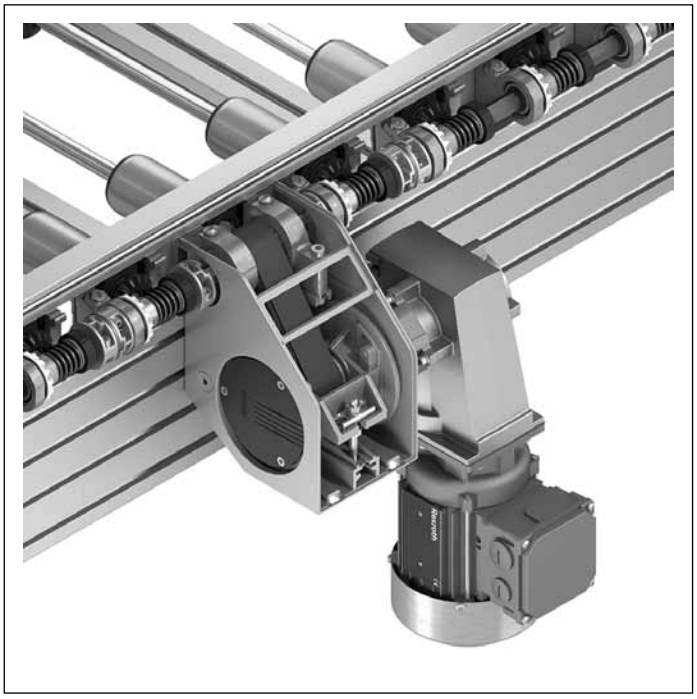
m_{PL} (kg) = (b_{PL} – 4) (mm) x (l_{PL} – 4) (mm) x d_{PL} (mm) x 0.0000027 (kg/mm³)



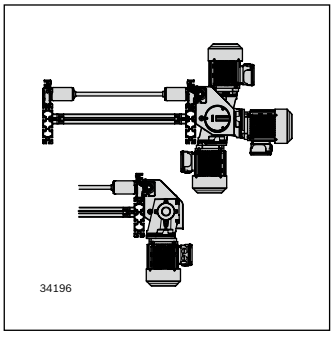
Drive unit

Design	**3-2**
Drive layout	**3-3**
AS 5/XH, AS 5/H drive units (with split rollers)	**3-4**
AS 5/XH-FR, AS 5/H-FR drive units (with full rollers)	**3-9**
Drive units AS 5/OC (Open Center)	**3-14**
Drive options for an Open Center section	**3-19**
AB 5 drive kit	**3-20**
Frequency converter (FU)	**3-25**
Frequency converter (FU) accessories	**3-29**

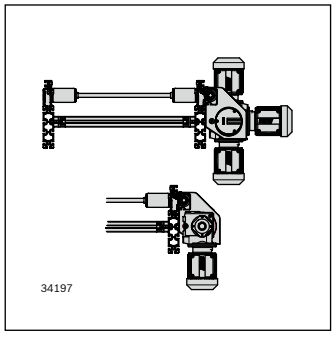
Design



Attachment options for the gear motor



Standard



Customer-specific motor

Drive units

Ready-for-operation module to drive conveyor units, curves, diverters, and junctions in 4 system widths and 2 load classes. Versions available with split rollers (standard) or full rollers.
The rollers in the conveyor section are driven by a king shaft in the drive unit.
The king shaft is located behind a protective cover below the transport level; the workpiece pallet can pass over the king shaft.

The length of the driven conveyor section depends on the roller spacing. A drive torque of up to 45 Nm (in reversible operation: 20 Nm) is enough to drive a section of up to 10 m with 2 curves/diverters, or a straight section of up to 21 m, with roller spacing of 195 mm and 80% of the section in accumulation operation.

Required accessories:

- SZ 5/... leg sets, see page 7-1
- Connection kit, see page 4-25

Note:
The AB 5 drive kit (see page 3-20) is available for implementing a face-side drive.

Drive layout

When laying out the system, make sure that there is enough driving power for the entire conveyor section.

The rollers are driven by the drive unit or by the drive kit via a king shaft. A friction clutch on each roller prevents blocking of the drive.
The maximum transferable total torque results from the torque present briefly before an individual clutch slides, multiplied by the total number of rollers in the section.

Example layout:

Drive torque 45 Nm, each roller loads the drive with 0.5 Nm (with a sliding clutch). Each curve, diverter, or junction loads the drive with 12 Nm.

Note:
Install the motor as close as possible to the center of the section.
The driven rollers of the drive module itself are included in the calculation (if p = 130 one drive module roller is not being driven).

Example A:
Section, b = 650 mm, with roller pitch p = 130 mm and a curve; 100% of the section in accumulation operation
Question: If one drive unit is used, how long may the straight section be?
Calculation:
45 Nm – 12 Nm (for curve) = 33 Nm remaining for the straight section 33 Nm ÷ 0.5 Nm = 66 (driven rollers)

66 x 130 mm = 8580 mm straight section.

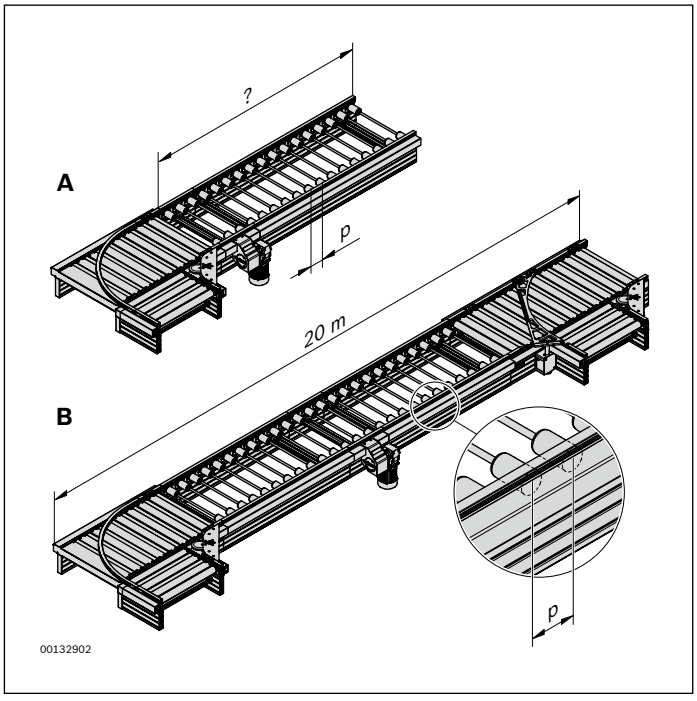
Note:
If a section is not operated completely in accumulation operation, the section length can be multiplied by a corresponding factor. For example, with 50% accumulation operation in the case of example A the section length is doubled to 17160 mm (2 x 66 x 130 mm).

Example B:
Section, b = 650 mm, length 20 m, p = 130, includes 1 diverter and 1 curve; 100% of the section in accumulation operation
Question: Will one drive unit be sufficient?
Calculation:
45 Nm – 12 Nm (diverter) – 12 Nm (curve) = 21 Nm remaining for the straight section

20000 mm – 1560 mm (diverter) – 1149 mm (curve) = 17291 mm straight section
Values taken from the following tables:
Diverter, page 5-8 and curve, page 5-4

17291 mm ÷ 130 mm = 133 rollers
133 x 0.5 Nm = 66.5 Nm
66.5 Nm > 21 Nm, 2 drives are therefore needed in order to attain the torque to be transferred.

Note:
If a section is not operated completely in accumulation operation, the section length can be multiplied by a corresponding factor. For example, with 30% accumulation operation in the case of example B the required torque is reduced to: 66.5 Nm x 30% = 19.95 Nm < 21 Nm. In this case, only one drive would be needed.



AS 5/XH, AS 5/H drive units (with split rollers)



Condition on delivery:

- Ready-to-install, gear motor enclosed separately
- Mounting option for the gear motor on the right/left possible, see page 3-2

Use:

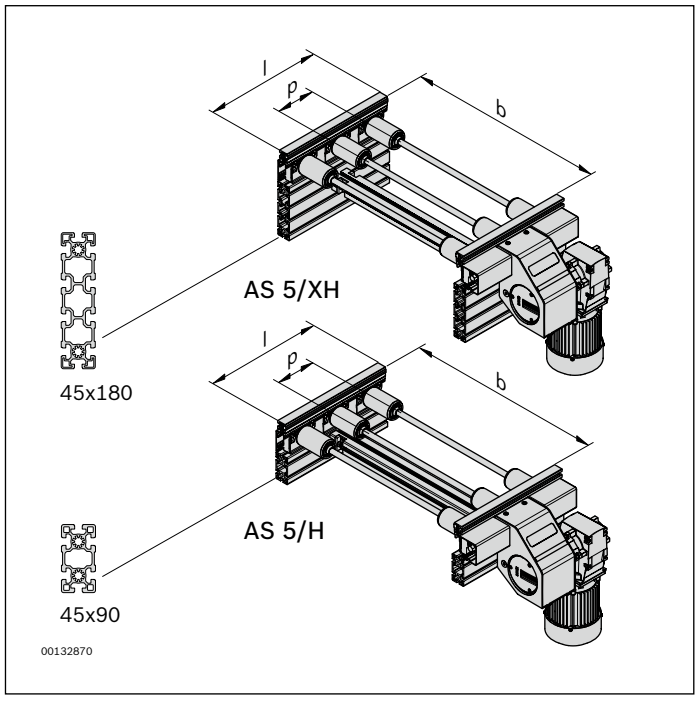
To drive

- ST 5/... conveyor units
- CU 5/... curves
- DI 5/... diverters
- JU 5/... junctions
- HQ 5/... lift transverse unit

Version:

- Reversible operation possible
- Accumulation operation possible
- Motor connection with cable/plug (AT = S) or terminal box (AT = K)
- Freely selectable motor position and length
- Gear motor can be mounted on both sides on the transmission drive (MA = R and MA = L)
- Viewing window for checking the toothed belt
- Due to the simple and space-saving disassembly of the cover, adjacent components/machines can be positioned at a distance of 20 mm from the AS 5
- Frequency converter, optional, see page 3-25

Ordering information



AS 5/XH, AS 5/H drive units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	GM	TR	DP	AT	MA	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	**3 842 998 837 (AS 5/XH)**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	**3 842 998 838 (AS 5/H)**
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	b = ... mm
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	p = ... mm, see page 3-8
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	l = ... mm
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	LG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	BG = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	TR = ...
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 11	K; S	R; L	DP = ..., see page 3-8
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	v_N = ... m/min, see page 13-8
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	U = ... V, see page 13-9
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	f = ... Hz, see page 13-9
												AT = ...
												MA = ...

b = width (track width in direction of transport)

l_{WT} = Length of workpiece pallet

p = Roller spacing (pitch)

l = Length graduated according to the roller dimensions (l = p × N)

N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.

LG = Lateral guide material
1: steel
2: plastic
3: aluminum

BG = Bevel wheel material
1: plastic
2: sintered metal

GM = Gear motor
0: without (SW27 interface)
1: with SW27 gear motor
2: without (interface to SEW connection, round shaft Ø 20)

TR = Roller material
1: steel, galvanized
2: steel, nitrocarburized

DP = Drive position

v_N = nominal speed (m/min);
2*; 4; 6; 9; 12; 15; 18
= 0 (without gear motor)

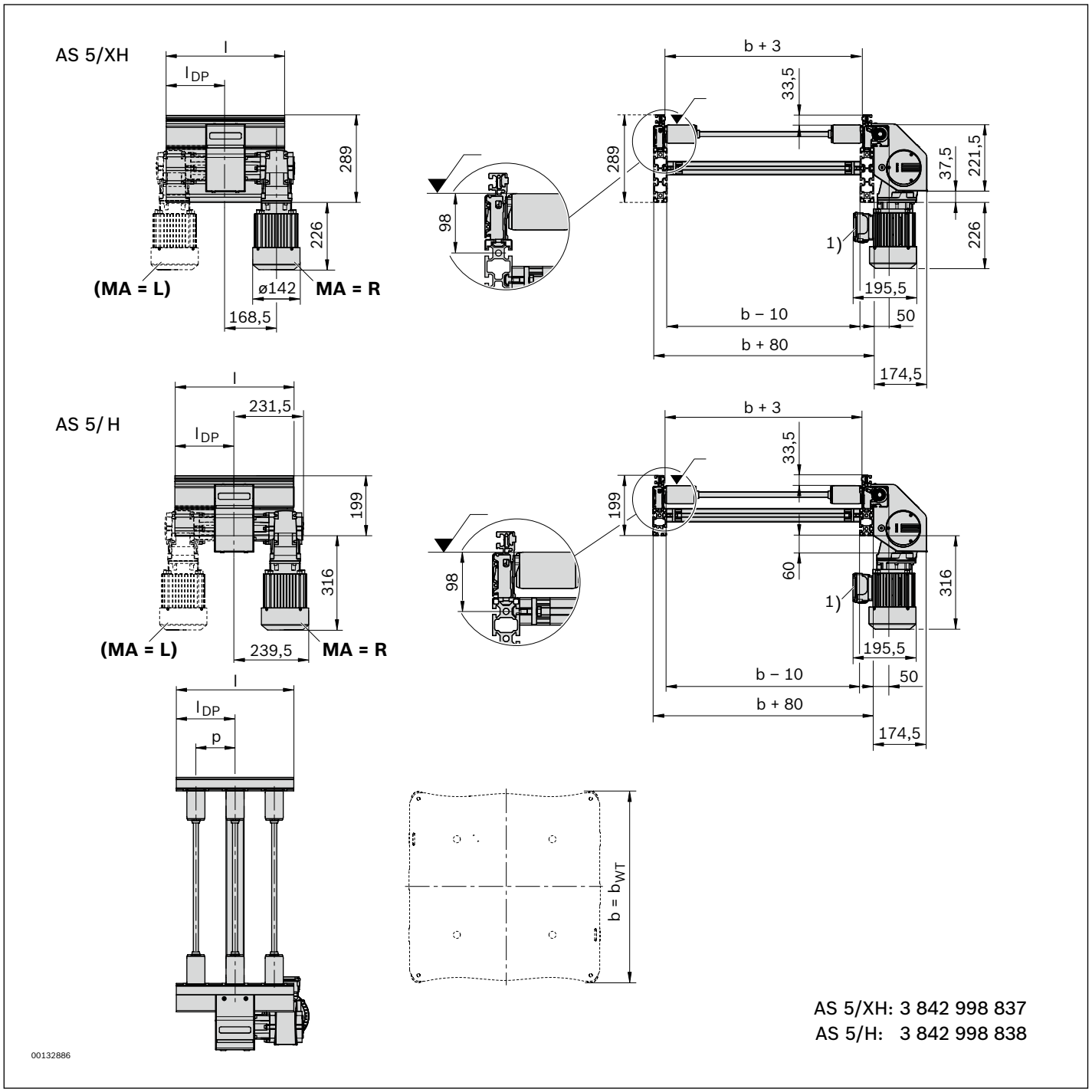
AT = Motor connection
K: with terminal box
S: with cable/plug

MA = Motor mounting
R: Right
L: Left

* Additional measures may be necessary

Dimensions

Drive module AS 5/XH, AS 5/H, pitch p = 130 mm



1) Note: In this depiction, the terminal box can collide with the leg sets. It protrudes into the section.

l = p x n

l_{DP} = DP x p – p/2

p = roller spacing (pitch)

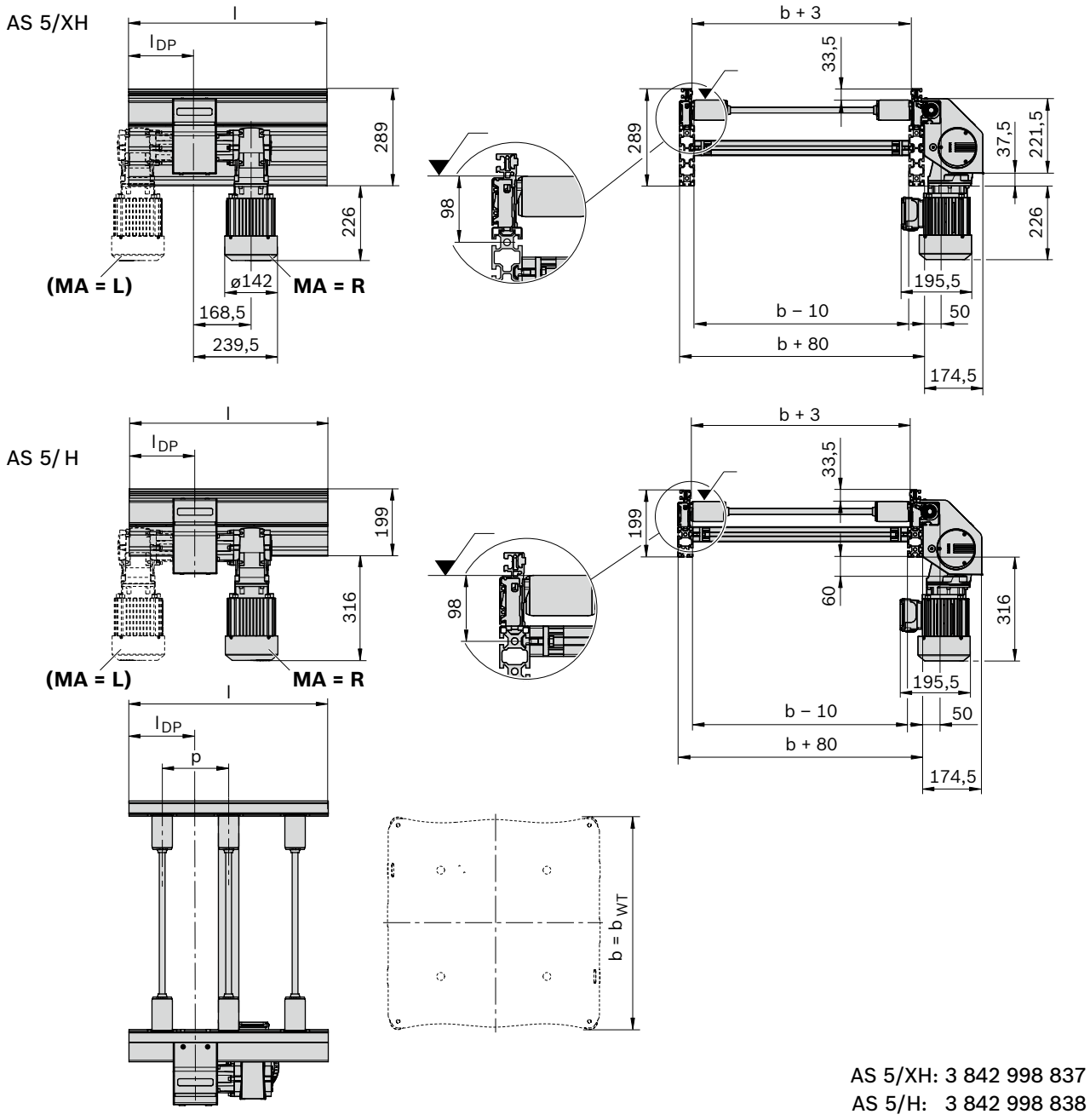
n = number of rollers

DP = drive position

Description of parameters, see page 3-5

Dimensions

Drive module AS 5/XH, AS 5/H, pitch p = 195 mm; p = 260 mm; p = 325 mm



l = p x n

l_{DP} = DP x p

p = roller spacing (pitch)

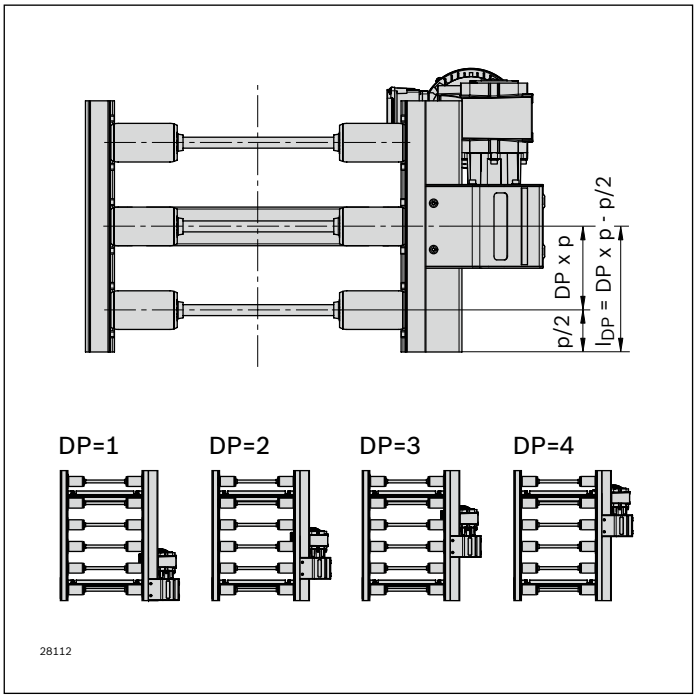
n = number of rollers

DP = drive position

Description of parameters, see page 3-5

Pitch p and drive position DP

p = 130 mm
DP is the roller to which the transmission drive is fitted.
This roller is not driven.



Example: DP = 2

Possible drive positions DP with pitch p

p (mm)	MA	DP
130	R; L	1 ... 31

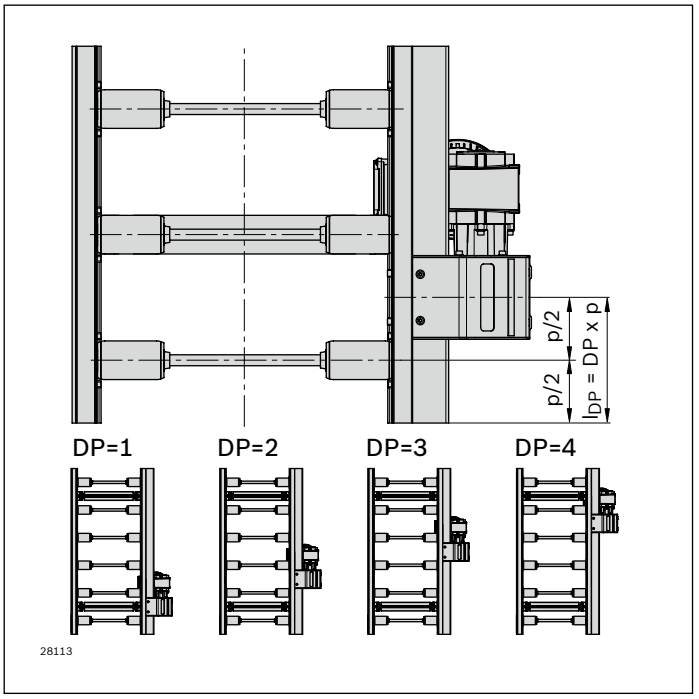
Note:
Only if p = 130 mm: Roller corresponding to DP is not driven.
Gear motor can be mounted on both sides.

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p – p/2

Example for p = 130 mm and DP = 10:
l_{DP} = 10 x 130 mm – 65 mm = 1235 mm

Description of further parameters, see page 3-5

p = 195 mm; p = 260 mm; p = 325 mm
DP is the space between two rollers in which the transmission drive is fitted.



Example: DP = 1

Possible drive positions DP with pitch p

p (mm)	MA	DP
195	R; L	1 ... 20
260	R; L	1 ... 15
325	R; L	1 ... 11

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p

Example for p = 260 mm and DP = 5:
l_{DP} = 5 x 260 mm = 1300 mm

AS 5/XH-FR, AS 5/H-FR drive units (with full rollers)



Condition on delivery:

- Ready-to-install, gear motor enclosed separately
- Mounting option for the gear motor on the right/left possible, see page 3-2

Use:

To drive

- ST 5/...-FR conveyor units
- CU 5/...-FR curves
- DI 5/...-FR diverters
- JU 5/...-FR junctions
- HQ 5/... lift transverse unit

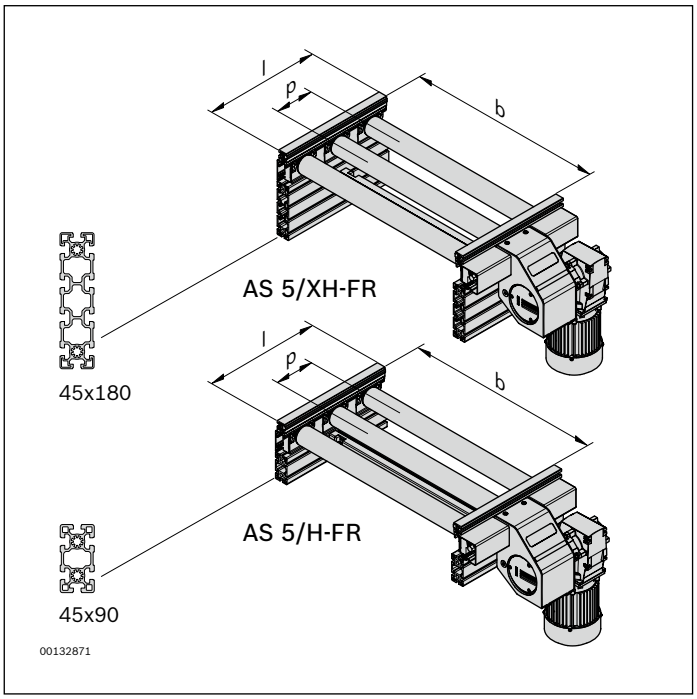
Version:

- Reversible operation possible
- Accumulation operation possible
- Motor connection with cable/plug (AT = S) or terminal box (AT = K)
- Freely selectable motor position and length
- Gear motor can be mounted on both sides on the transmission drive (MA = R and MA = L)
- Viewing window for checking the toothed belt
- Due to the simple and space-saving disassembly of the cover, adjacent components/machines can be positioned at a distance of 20 mm from the AS 5
- Frequency converter, optional, see page 3-25

Note:

To transport workpieces without workpiece pallets.
Use plastic lateral guides to ensure the workpiece is not damaged!

Ordering information



AS 5/XH-FR, AS 5/H-FR drive units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	GM	TR	DP	AT	MA	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	**3 842 998 839 (AS 5/XH-FR)**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	**3 842 998 840 (AS 5/H-FR)**
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	b = ... mm
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	p = ... mm, see page 3-13
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	l = ... mm
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	LG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	BG = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	TR = ...
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 11	K; S	R; L	DP = ..., see page 3-13
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 31	K; S	R; L	v_N = ... m/min, see page 13-8
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 20	K; S	R; L	U = ... V, see page 13-9
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2	1; 2; 3 ... 15	K; S	R; L	f = ... Hz, see page 13-9
												AT = ...
												MA = ...

b = width (track width in direction of transport)
l_{WT} = Length of workpiece pallet
p = Roller spacing (pitch)
l = Length graduated according to the roller dimensions (l = p × N)
N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.
LG = Lateral guide material
1: steel
2: plastic
3: aluminum

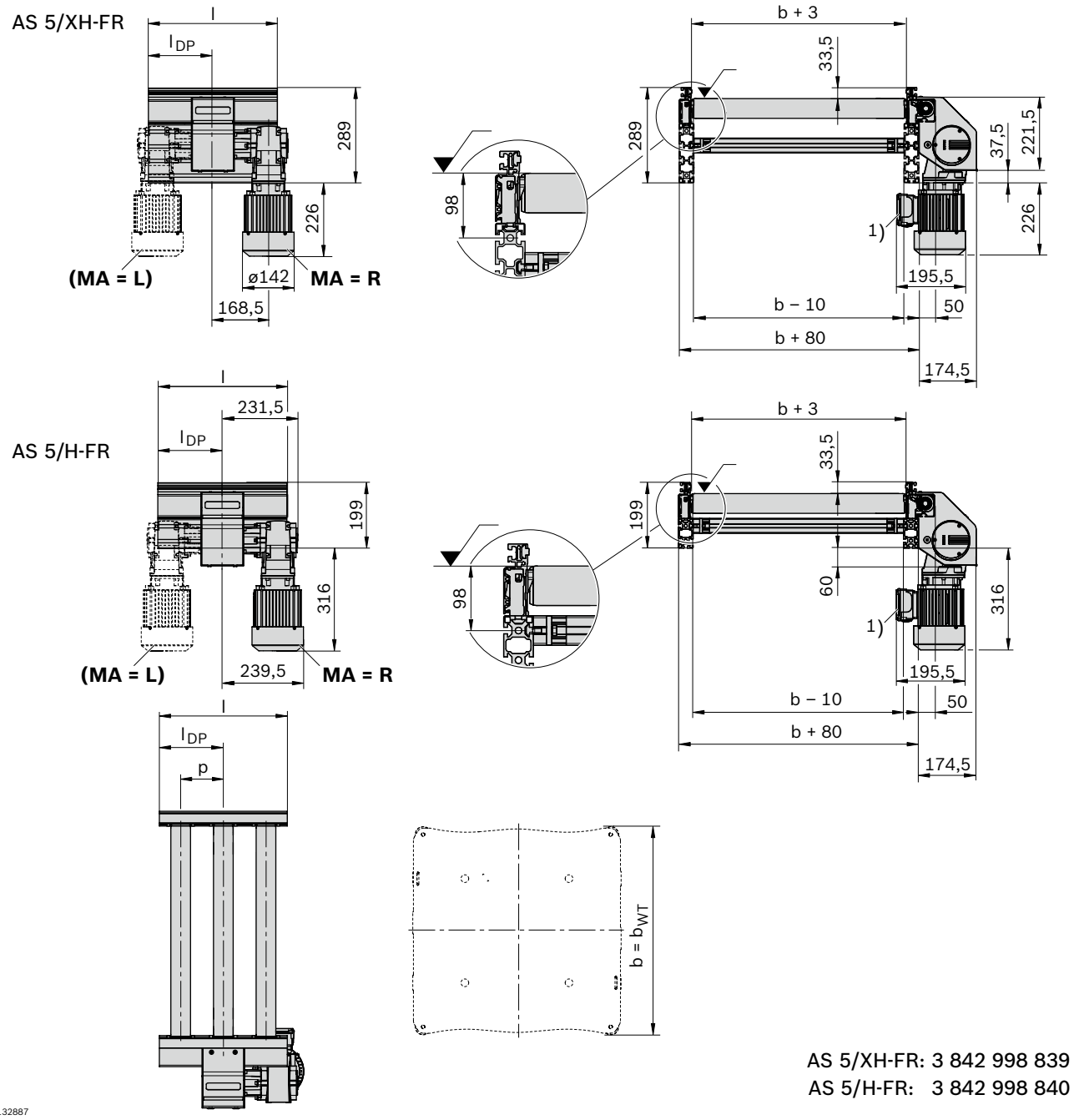
BG = Bevel wheel material
1: plastic
2: sintered metal
GM = Gear motor
0: without (SW27 interface)
1: with SW27 gear motor
2: without (interface to SEW connection, round shaft Ø 20)
TR = Roller material
1: steel, galvanized
2: steel, nitrocarburized
DP = Drive position

v_N = nominal speed (m/min);
2*; 4; 6; 9; 12; 15; 18
= 0 (without gear motor)
AT = Motor connection
K: with terminal box
S: with cable/plug
MA = Motor mounting
R: Right
L: Left

* Additional measures may be necessary

Dimensions

Drive module AS 5/XH-FR, AS 5/H-FR, pitch p = 130 mm



AS 5/XH-FR: 3 842 998 839
AS 5/H-FR: 3 842 998 840

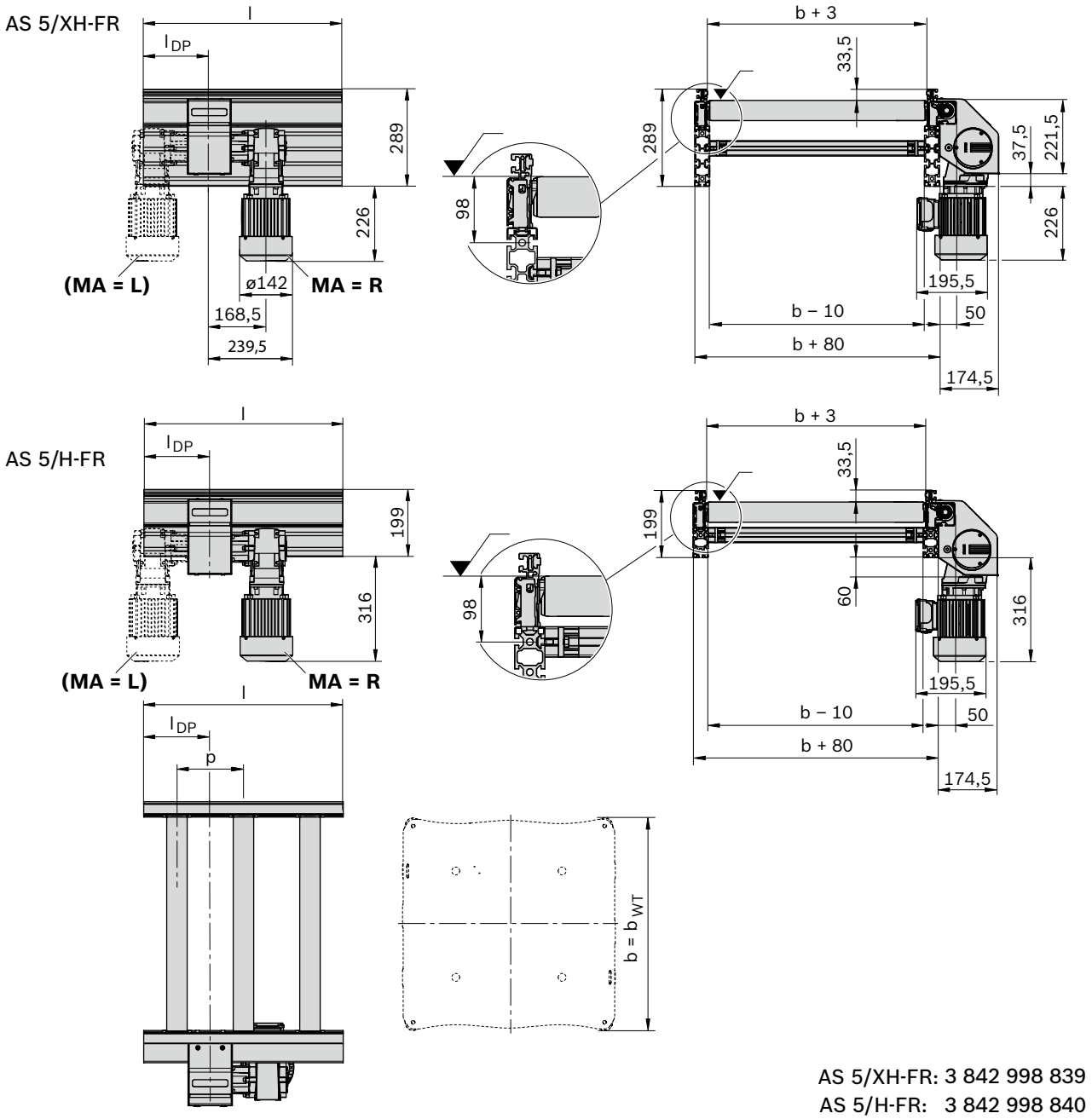
1) Note: In this depiction, the terminal box can collide with the leg sets. It protrudes into the section.

l	= p x n	p	= roller spacing (pitch)
l_{DP}	= DP x p – p/2	n	= number of rollers
		DP	= drive position

Description of parameters, see page 3-5

Dimensions

Drive module AS 5/XH-FR, AS 5/H-FR, pitch p = 195 mm; p = 260 mm; p = 325 mm



l = p x n

l_{DP} = DP x p

p = roller spacing (pitch)

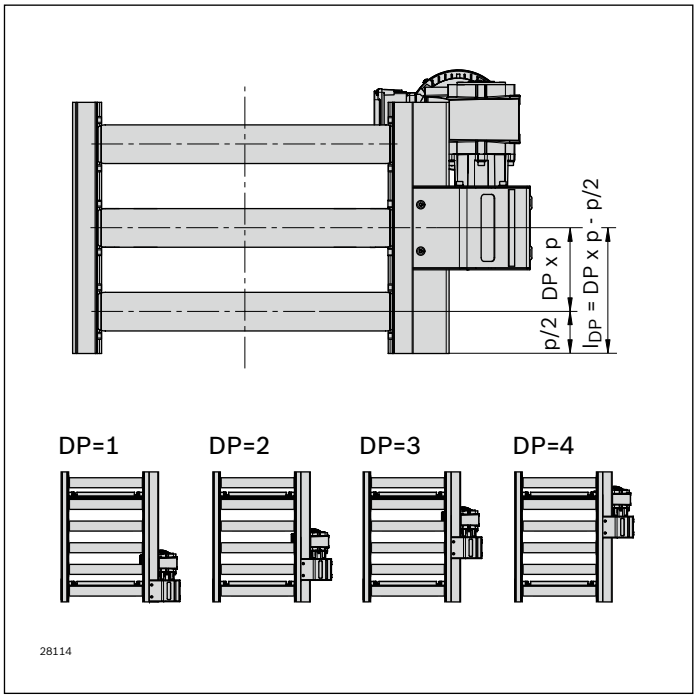
n = number of rollers

DP = drive position

Description of parameters, see page 3-5

Pitch p and drive position DP

p = 130 mm
DP is the roller to which the transmission drive is fitted. This roller is not driven.



Example: DP = 2

Possible drive positions DP with pitch p

p (mm)	MA	DP
130	R; L	1 ... 31

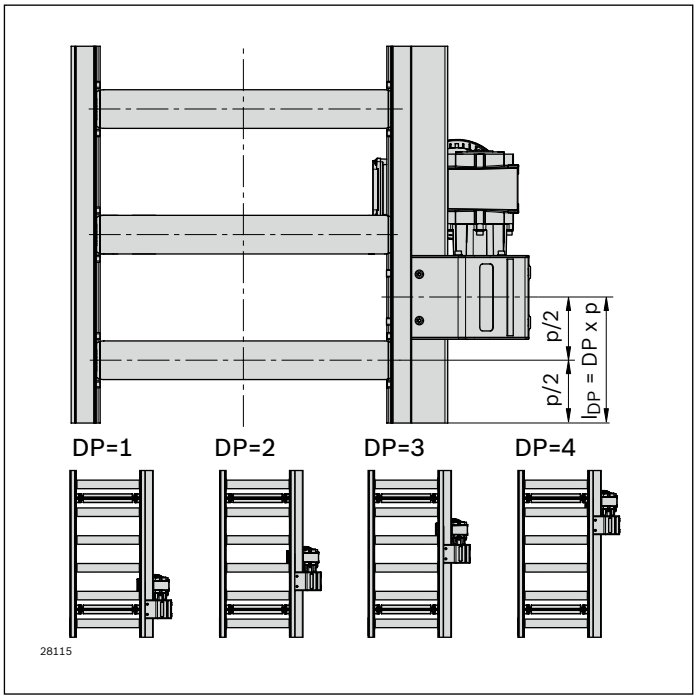
Note:
Only if p = 130 mm: Roller corresponding to DP is not driven.
Gear motor can be mounted on both sides.

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p – p/2

Example for p = 130 mm and DP = 10:
l_{DP} = 10 x 130 mm – 65 mm = 1235 mm

Description of further parameters, see page 3-10

p = 195 mm; p = 260 mm; p = 325 mm
DP is the space between two rollers in which the transmission drive is fitted.



Example: DP = 1

Possible drive positions DP with pitch p

p (mm)	MA	DP
195	R; L	1 ... 20
260	R; L	1 ... 15
325	R; L	1 ... 11

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p

Example for p = 260 mm and DP = 5:
l_{DP} = 5 x 260 mm = 1300 mm

Drive units AS 5/OC (Open Center)



Condition on delivery:

- Ready-to-install, gear motor enclosed separately
- Mounting option for the gear motor on the right/left possible, see page 3-2

Use:

To drive

- ST 5/OC... conveyor units

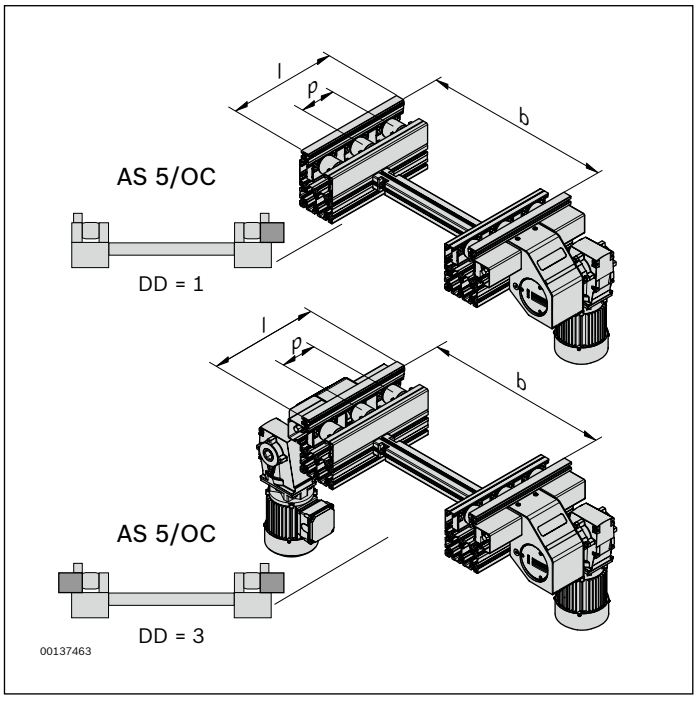
Version:

- Reversible operation possible
- Accumulation operation possible
- Motor connection with cable/plug (AT = S) or terminal box (AT = K)
- Freely selectable motor position and length
- Gear motor can be mounted on both sides on the transmission drive (MA = R and MA = L)
- Viewing window for checking the toothed belt
- Due to the simple and space-saving disassembly of the cover, adjacent components/machines can be positioned at a distance of 20 mm from the AS 5
- Frequency converter, optional, see page 3-25

Note:

Please take account of the load center of gravity when selecting the drive, see page 3-19

Ordering information



AS 5/OC drive units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	GM	DD	TR	DP_r/DP_l	AT	MA	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 31	K; S	R; L	**3 842 998 841**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 20	K; S	R; L	b = ... mm
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 31	K; S	R; L	p = ... mm, see page 3-18
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 20	K; S	R; L	l = ... mm
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 15	K; S	R; L	LG = ...
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 31	K; S	R; L	BG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 20	K; S	R; L	TR = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 15	K; S	R; L	DP_r/DP_l = ..., see page 3-18
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 11	K; S	R; L	v_N = ... m/min, see page 13-8
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 31	K; S	R; L	U = ... V, see page 13-9
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 20	K; S	R; L	f = ... Hz, see page 13-9
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	0; 1; 2	1; 2; 3	1; 2	1; 2; 3 ... 15	K; S	R; L	AT = ...
													MA = ...

b = width (track width in direction of transport)
l_{WT} = Length of workpiece pallet
p = Roller spacing (pitch)
l = Length graduated according to the roller dimensions (l = p × N)
N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.
LG = Lateral guide material
1: steel
2: plastic
3: aluminum

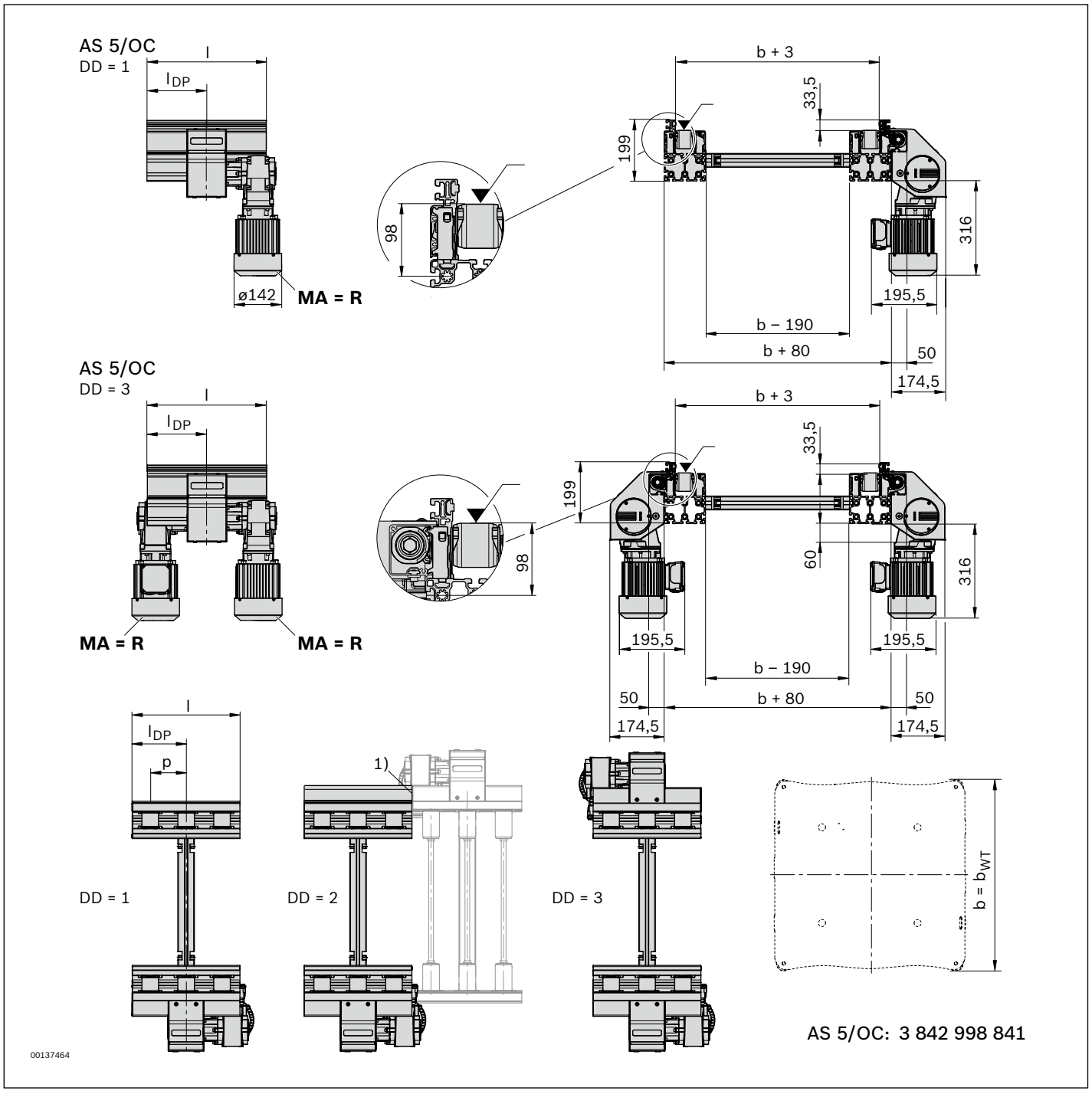
BG = Bevel wheel material
1: plastic
2: sintered metal
GM = Gear motor
0: without (SW27 interface)
1: with SW27 gear motor
2: without (interface to SEW connection, round shaft Ø 20)
DD = King shaft
1: on one side with 1 gear motor
2: on two sides with 1 gear motor
3: on two sides with 2 gear motors
TR = Roller material
1: steel, galvanized
2: steel, nitrocarburized

DP_r/DP_l = Drive position
v_N = nominal speed (m/min);
2*; 4; 6; 9; 12; 15; 18
= 0 (without gear motor)
AT = Motor connection
K: with terminal box
S: with cable/plug
MA = Motor mounting
R: Right
L: Left

* Additional measures may be necessary

Dimensions

Drive module AS 5/OC (Open Center), pitch p = 130 mm



1) DD = 2: Join the drive side without the gear motor to a gear-driven section.

l = p x n

l_{DP} = DP x p – p/2

p = roller spacing (pitch)

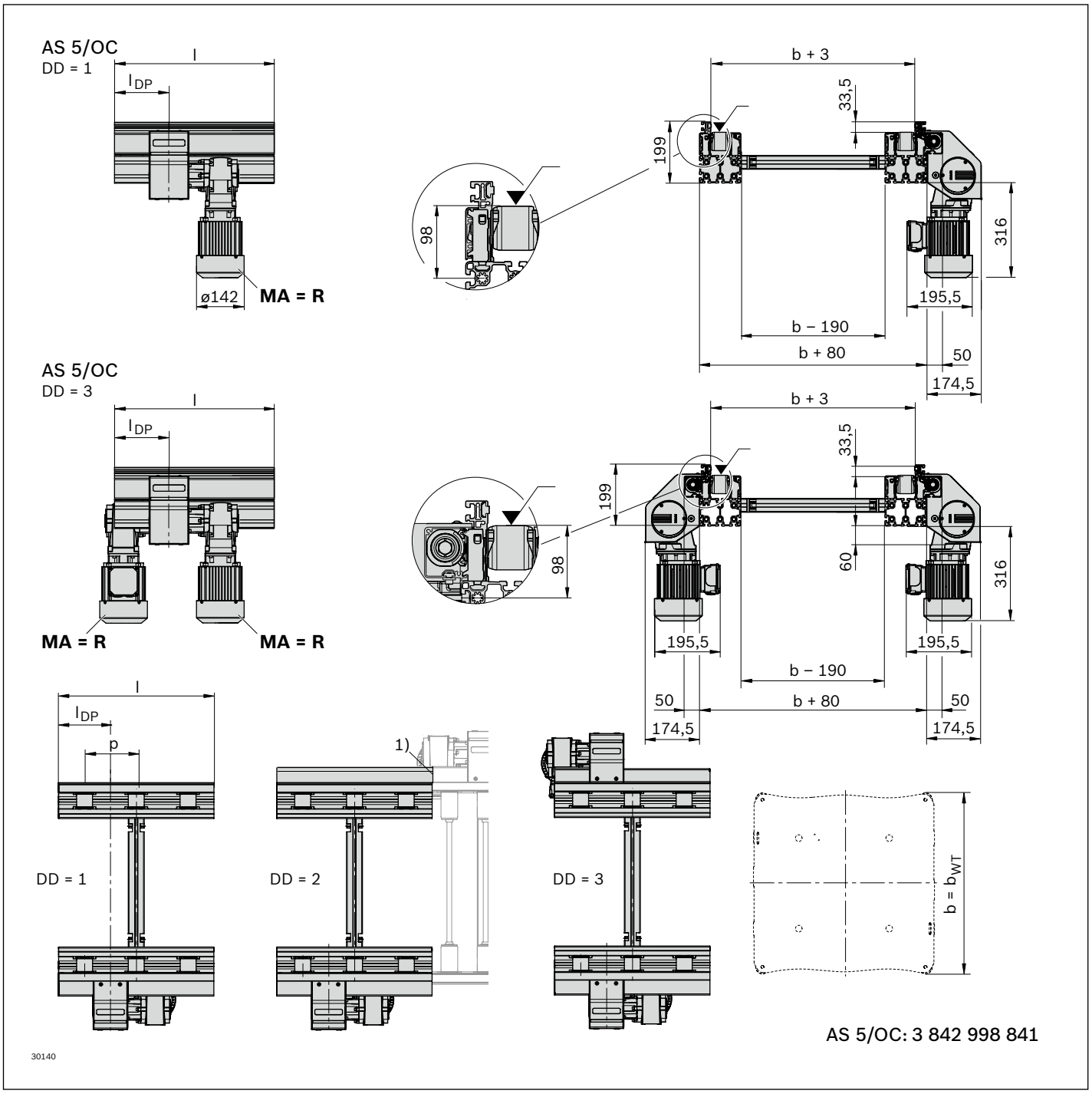
n = number of rollers

DP = drive position

Description of parameters, see page 3-15

Dimensions

Drive module AS 5/OC (Open Center), pitch p = 195 mm; p = 260 mm; p = 325 mm



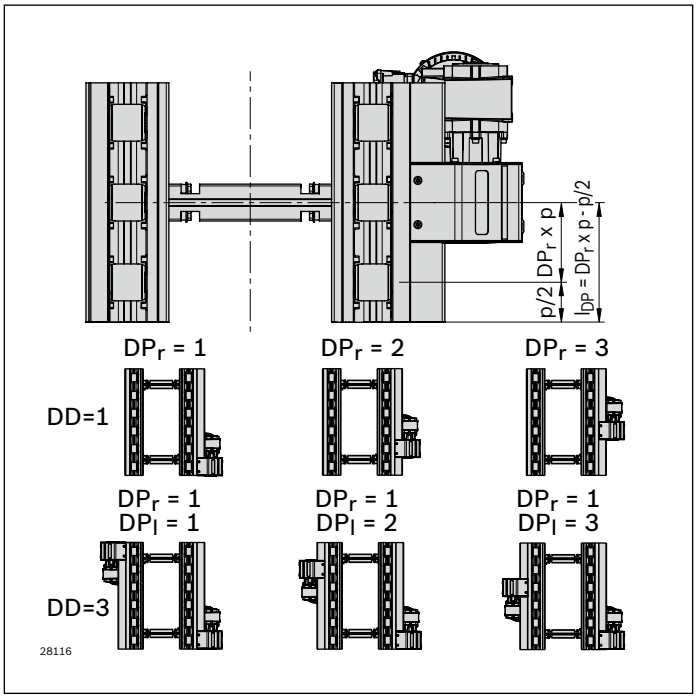
1) DD = 2: Join the drive side without the gear motor to a gear-driven section.

l	= p x n	p	= roller spacing (pitch)
l_{DP}	= DP x p	n	= number of rollers
		DP	= drive position

Description of parameters, see page 3-15

Pitch p and drive position DP

p = 130 mm
DP is the roller to which the transmission drive is fitted. This roller is not driven.



Example: DP = 2

Possible drive positions DP with pitch p

p (mm)	MA	DP
130	R; L	1 ... 31

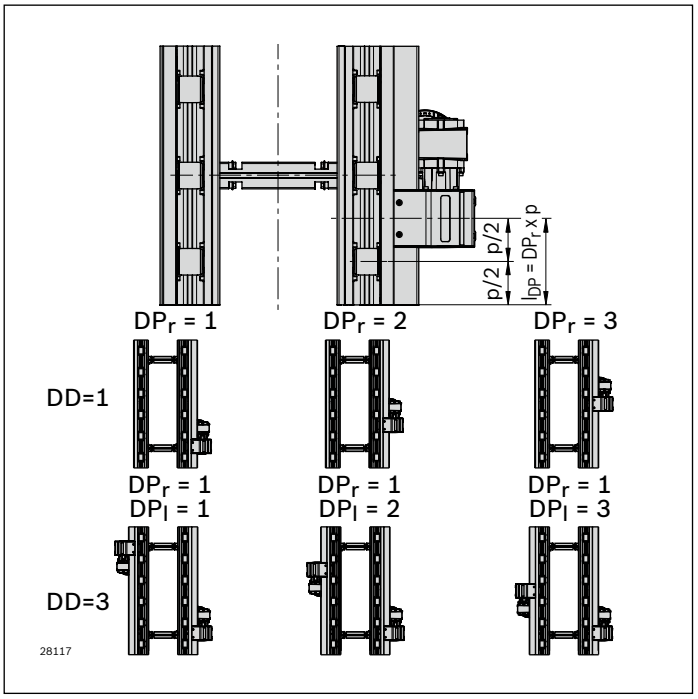
Note:
Only if p = 130 mm: Roller corresponding to DP is not driven.
Gear motor can be mounted on both sides.

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p – p/2

Example for p = 130 mm and DP = 10:
l_{DP} = 10 x 130 mm – 65 mm = 1235 mm

Description of further parameters, see page 3-15

p = 195 mm; p = 260 mm; p = 325 mm
DP is the space between two rollers in which the transmission drive is fitted.



Example: DP = 1

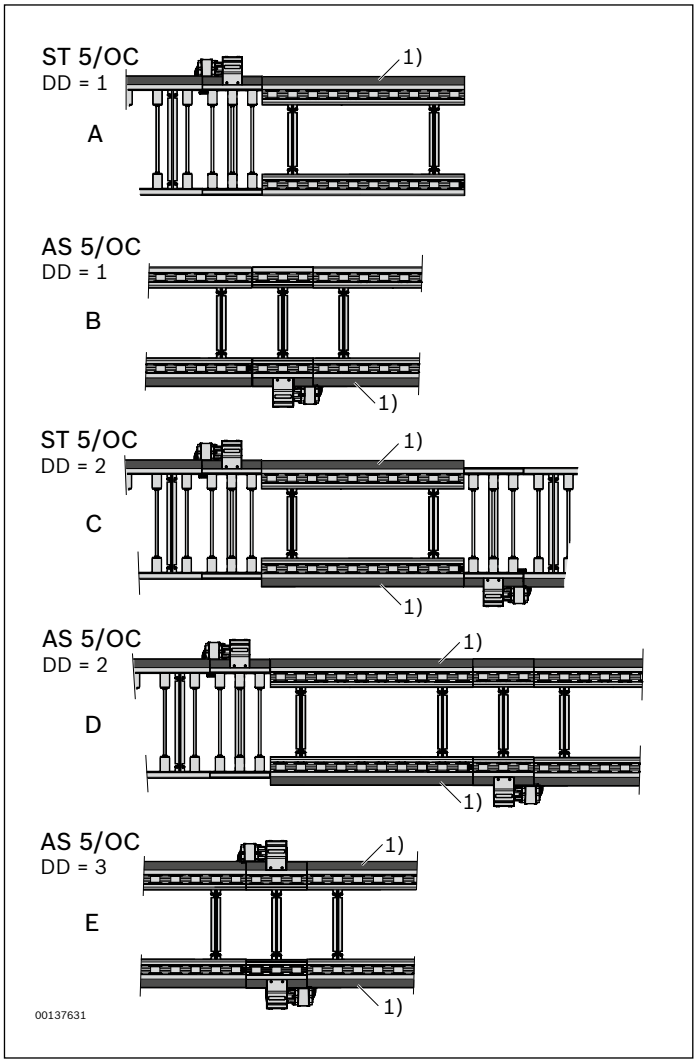
Possible drive positions DP with pitch p

p (mm)	MA	DP
195	R; L	1 ... 20
260	R; L	1 ... 15
325	R; L	1 ... 11

Permissible position l_{DP} (mm) after start of section:
l_{DP} = DP x p

Example for p = 260 mm and DP = 5:
l_{DP} = 5 x 260 mm = 1300 mm

Drive options for an Open Center section



The TS 5 drive concept enables one- or two-sided drive of an Open Center section connected to adjacent sections. Depending on the loading situation, a separate AS 5/OC drive may not be required.

[1] Drive side
A, B: Drive on one side
C, D, E: Drive on both sides

Load position centered on WT

b_{WT} x l_{WT} (mm)	m_{WTmax} (kg)	DD =
455 x 455	150	1[2]
455 x 650	250	1[2]
650 x 650	250	1[2]
650 x 845	300	1[2]
845 x 845	300	1[2]
845 x 1040	300	1[2]

Load position off-center and within the permissible load area

b_{WT} x l_{WT} (mm)	m_{WTmax} (kg)	DD =	m_{WTmax} (kg)	DD =
455 x 455	100	1[2]	150	x[3]
455 x 650	160	1[2]	250	x[3]
650 x 650	160	1[2]	250	x[3]
650 x 845	200	1[2]	300	x[3]
845 x 845	200	1[2]	300	x[3]
845 x 1040	200	1[2]	300	x[3]

[2] drive on one side sufficient (DD = 1)
[3] drive on both sides required (DD = 2 or DD = 3)

AB 5 drive kit



Material:

- Flange (Lenze): aluminum
- Flange (SEW): steel
- Bracket: aluminum
- Motor flange: die-cast aluminum
- Shaft: brass
- Coupling: cast steel; brass

Condition on delivery:

- Not assembled, incl. fastening material and flange
- Mounting option for the gear motor at the top/horizontally/bottom possible, see page. 3-2

Use:

For face-side driving of

- ST 5/... conveyor units
- Adaptation of the sheet metal parts is required, adapter may be required for hexagonal shaft

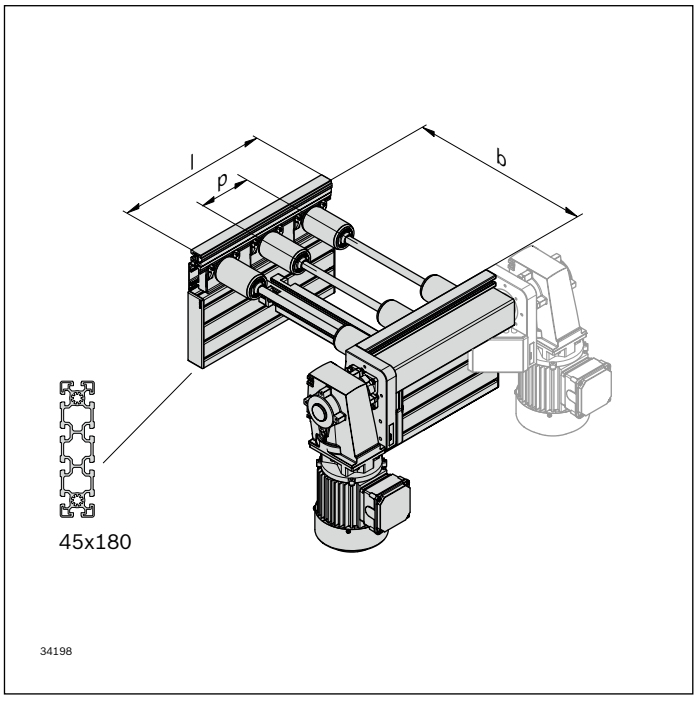
Version:

- Suitable for reversible operation (max. 20 Nm)
- With a Lenze gear motor (GM = 1) or with interface for installing a SEW gear motor (GM = 2)
- Motor connection with cable/plug (AT = S) or terminal box (AT = K)
- Frequency converter, optional, see page 3-25

Note:

- Maximum length of the driven total section at p = 130 and 45 Nm motor output = 19.5 m (longer sections on request)
- Suitable for driving two connected curves
- Assembly in curves, diverters, junctions and lift transverse units on request

Ordering information



AB 5 drive kit

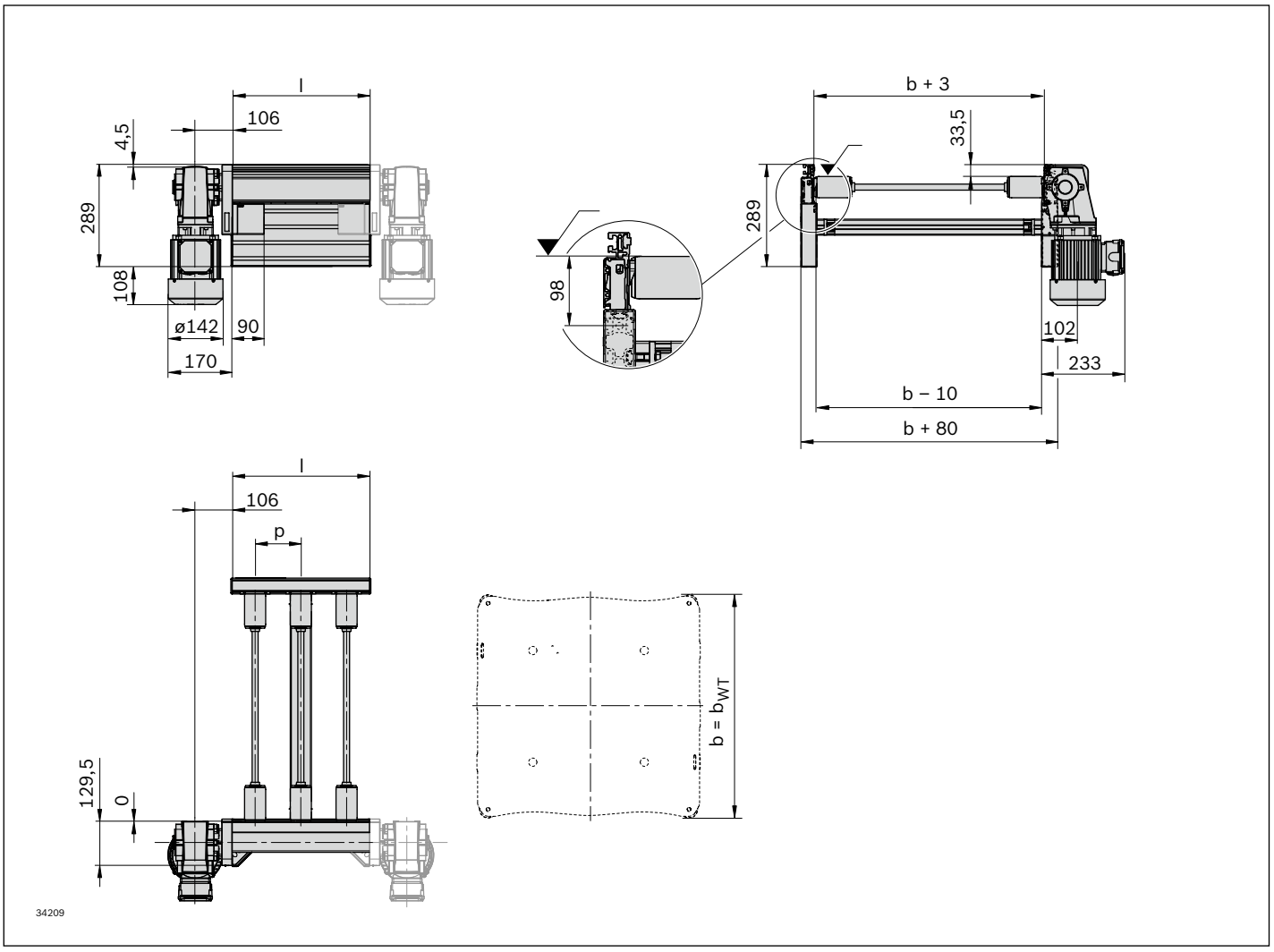
Material number		**3 842 998 842**
v_N (m/min)	Nominal speed	2*; 4; 6; 9; 12; 15; 18 0: without gear motor
U (V)	Voltage	see motor data, p. 13-9
f (Hz)	Frequency	see motor data, p. 13-9
GM	Gear motor 0: without (SW27 interface) 1: with SW27 gear motor 2: without (interface to SEW connection, round shaft Ø 20)	0; 1; 2
AT	Motor connection K: with terminal box S: with cable/plug	K; S
p (mm)	Roller spacing (pitch)	130; 195; 260; 325
MA	Motor mounting R: Right L: Left	R; L

* Additional measures may be necessary

Description of further parameters, see page 0-3

Dimensions

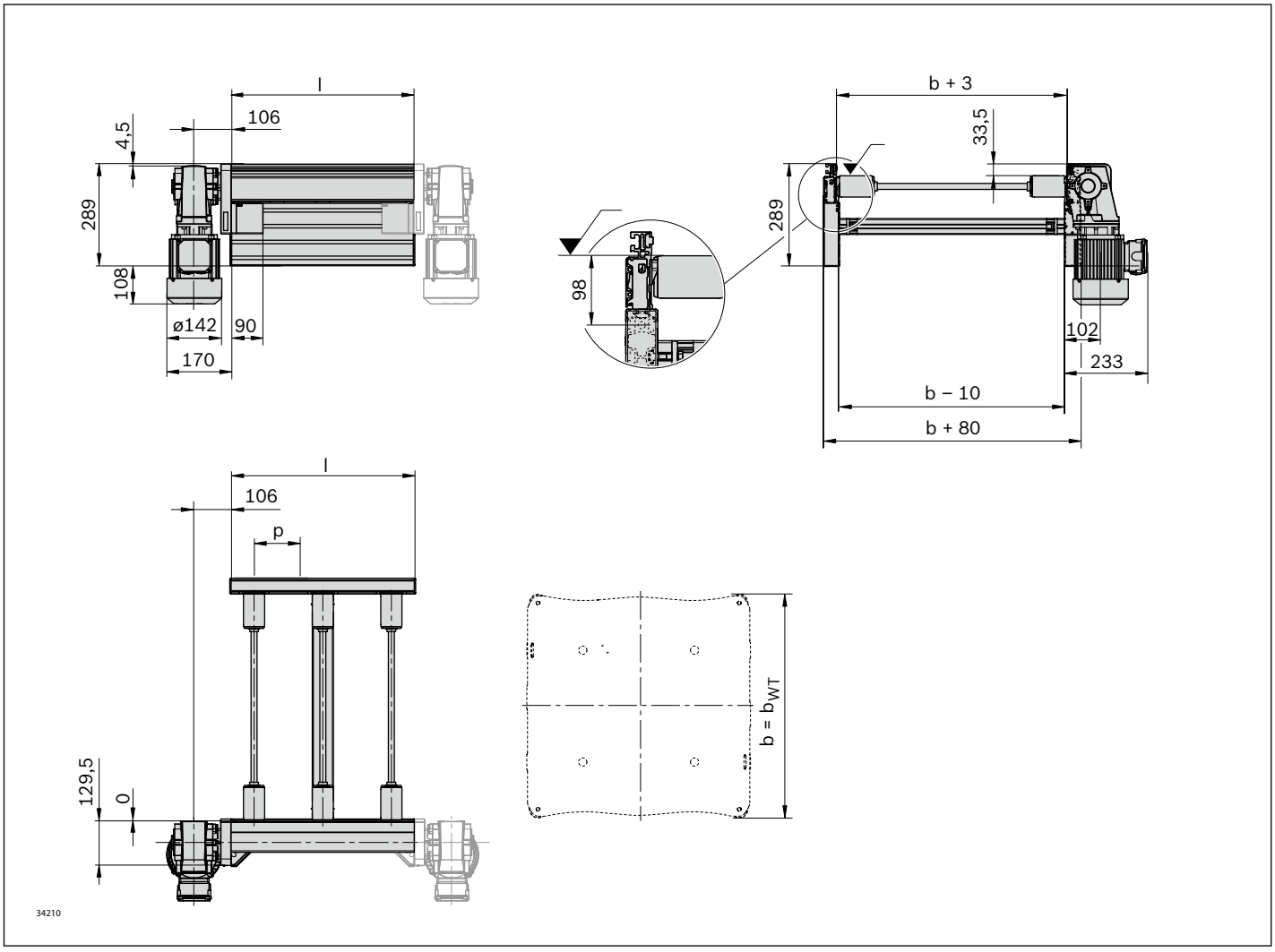
AB 5 drive kit



l = p x n
p = roller spacing (pitch)
n = number of rollers

Description of parameters, see page 3-21

Dimensions
AB 5 drive kit

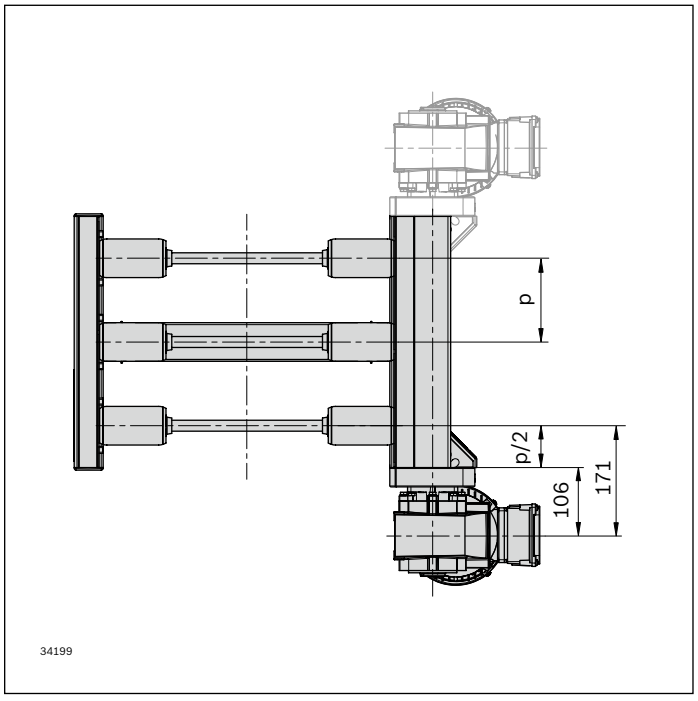


l = p x n
p = roller spacing (pitch)
n = number of rollers

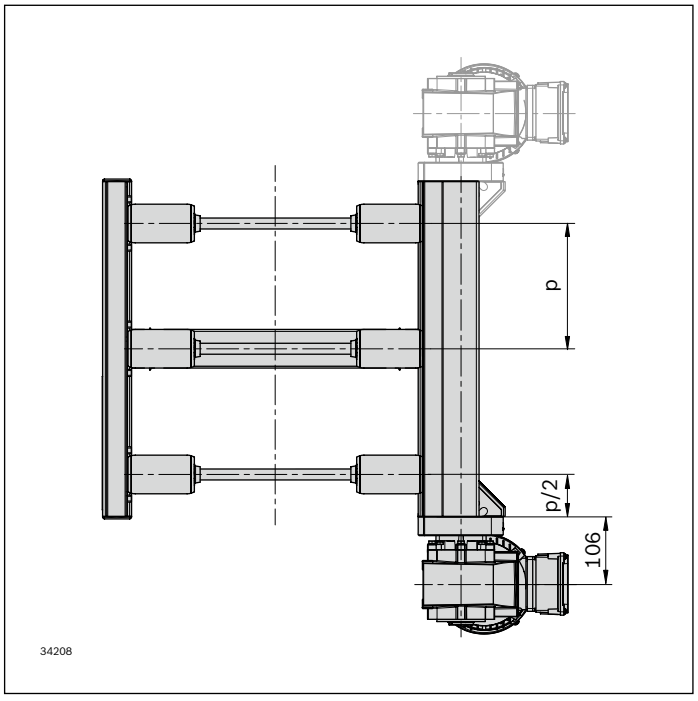
Description of parameters, see page 3-21

Roller spacing (pitch)

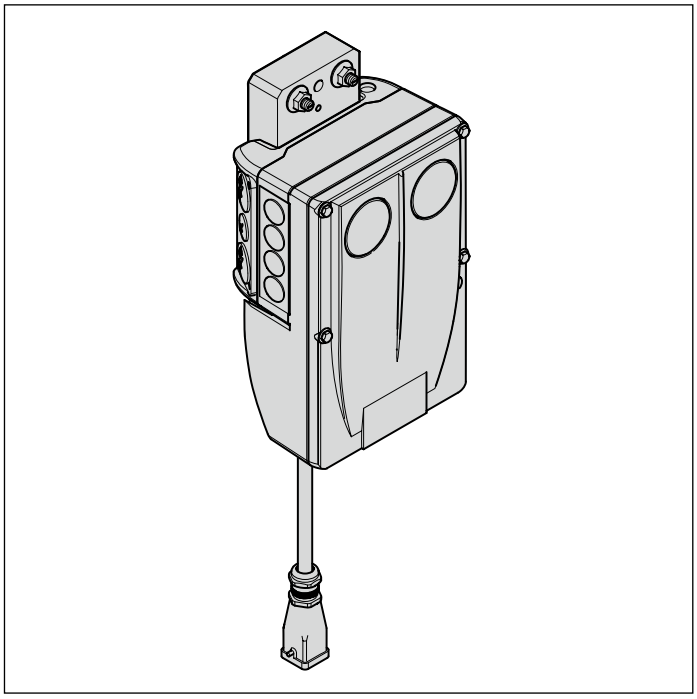
p = 130 mm



p = 195 mm; p = 260 mm; p = 325 mm



Frequency converter (FU)



Required accessories:

- ▶ Manual control unit, see page 3-29
- ▶ Switch/potentiometer unit, see page 3-29

In order to operate a gear motor with adjustable speed, the motor needs to be retrofitted with a frequency converter (FU). The frequency converter has a modular design so that it can be easily mounted on a leg set and connected to the motor by cable.

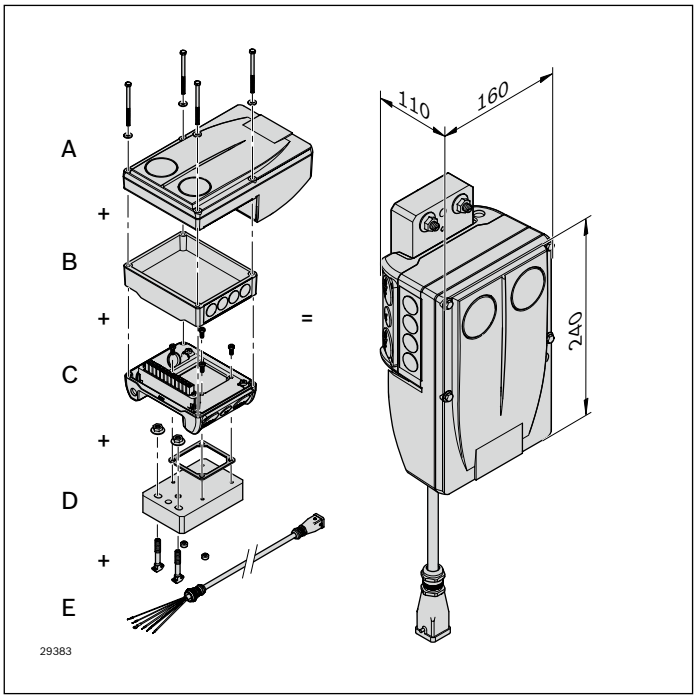
- Connection power: 0.55 kW (connection voltage: 400 V ±10% ... 460 V/480 V ±10%)
- Speed (v_N) depending on the base speed of the gear motor used

Permissible speed range: 2 ... 21 m/min

Complete frequency converter (FU) consisting of the modules

- Frequency converter power unit
- Communication module
- Connection unit
- Attachment kit
- Optional: Connection cable for the plug-in connection to the gear motor (AT = S)

The individual modules can be ordered separately and are easy to connect using the supplied screws. For the internal and external voltage supply, the modules must be wired by the user.

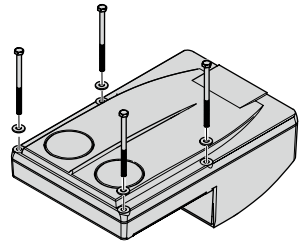


Complete frequency converter consisting of the modules

- Frequency converter power unit (**A**)
- Communication module (**B**)
- Connection unit (**C**)
- Attachment kit (**D**)
- Optional: Connection cable (**E**) for the plug-in connection to the gear motor (AT = S)

The individual modules can be ordered separately and are easy to connect using the supplied screws. For the internal and external voltage supply, the modules must be wired by the user (see terminal assignment plan, see page 13-12).

A



29384

Motor base speed (m/min) **at 50 Hz**	**Min** (m/min)	**Max** (m/min)	**Max** (m/min) **at max. 80% torque**
4	2*	4.5	6
6	2*	6	8
9	3.5	10	13
12	4	13	17
15	5	15	20
18	6	18.5	25

* Additional measures may be necessary

Frequency converter (A)

Power unit: 0.55 kW

(400 V ±10% ... 460 V/480 V ±10%)

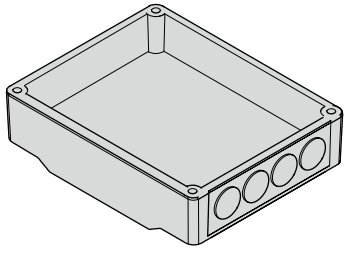
- Easy commissioning via hand-held terminal
- Easy to replace memory module
- Large LED as status display

Product designation	**Material number**
Power element 0.55 kW	**3 842 553 447**

The speed range of the frequency converter is based on the base speed of the motor[1]:

[1] By accepting a resulting loss of power, a higher bandwidth can be covered (see page 13-11)

B



29385

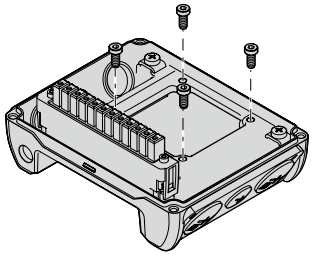
Communication module (B)

- To control the frequency converter
- Cable connection options

Depending on their function, the individual communication modules are provided with the corresponding connections.

Product designation	**Material number**
Standard I/O	**3 842 553 449**
AS-i	**3 842 553 453**
CANopen	**3 842 553 454**
EtherNet/IP	**3 842 553 451**
EtherCAT	**3 842 553 459**
PROFIBUS	**3 842 553 452**
PROFINET	**3 842 553 450**

C



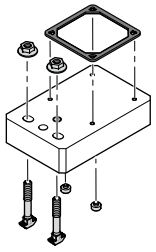
29386

Connection unit (C)

- Power grid connection options

Product designation	Material number
Connection unit	**3 842 553 445**

D



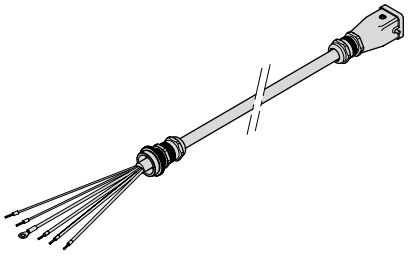
29387

Attachment kit (D)

- For the simple attachment of the frequency converter to the AL leg set (slot/s of a 60 or 80 strut profile)

Product designation	Material number
Attachment kit	**3 842 553 457**

E



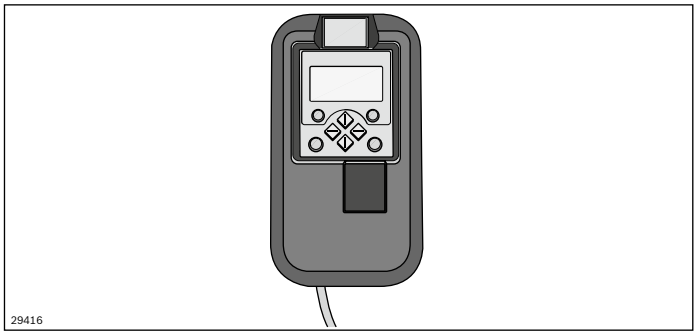
29426

Connection cable (E)

- For connecting the gear motor with the frequency converter (length: 1 m)

Product designation	Material number
Connection cable	**3 842 553 512**

Frequency converter (FU) accessories



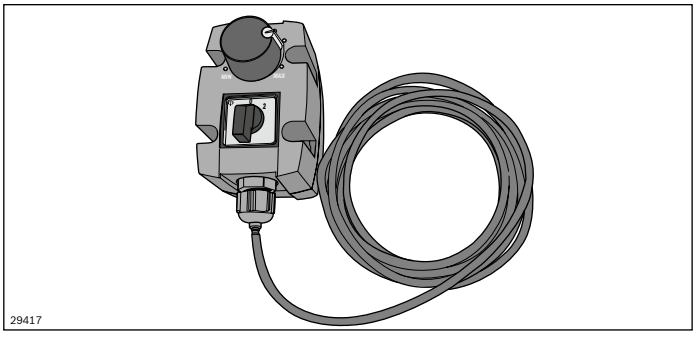
Manual control unit (A)

The manual control unit is required for the parameterization of drives with frequency converters.

In addition, you can:

- Control (e.g. block and release)
- Display operating data
- Steplessly regulate the transport speed
- Transfer parameter sets to other basic devices

Product designation	Material number
Manual control unit	**3 842 552 821**



Switch/potentiometer unit (B)

The switch/potentiometer unit is used to fine tune the transport speed within a range that has been preset with the manual control unit. The switch/potentiometer unit is connected to the frequency converter by a cable.

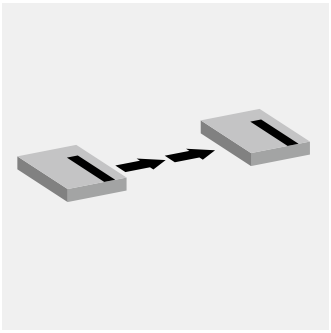
The drive can be started or stopped with the rotary switch.

Note: It is imperative that the direction in which the roller conveyor is running is checked prior to commissioning.

Product designation	Material number
Switch/potentiometer unit	**3 842 553 184**

Scope of delivery:

A, B: Incl. 2.5 m connection cable



Longitudinal conveyor

4

Conveyor unit selection	**4-2**
ST 5/XH, ST 5/H conveyor units (with split rollers)	**4-3**
End plates for ST 5/XH, ST 5/H	**4-6**
Protective covers for ST 5/XH, ST 5/H	**4-8**
ST 5/XH-FR, ST 5/H-FR conveyor units (with full rollers)	**4-10**
End plates for ST 5/XH-FR, ST 5/H-FR	**4-13**
Protective covers for ST 5/XH-FR, ST 5/H-FR	**4-15**
ST 5/OC (Open Center) conveyor units	**4-17**
End plates for ST 5/OC	**4-20**
Protective covers for ST 5/OC	**4-22**
Cover for OC/XH, OC/H transition	**4-23**
Connection kits	**4-25**

Conveyor unit selection

Application and functions

Conveyor units are available in 2 load classes and 3 different system widths (455, 650, 845 mm) for longitudinal conveyors, as well as a further width for transverse conveyors (1040 mm). All rollers in the conveyor unit are driven by a king shaft in the respective drive unit. The king shaft is located behind a protective cover below the transport level; the workpiece pallet can pass over the king shaft.
The conveyor units have a symmetrical design and there is no drive side selection.
The rollers are driven by bevel wheels; a friction clutch protects the drive during accumulation operation.
2 roller types:

- Split rollers as standard for longitudinal conveyors
- Full rollers (FR) as standard for curves, diverters, and junctions
- Full rollers for longitudinal conveyors to transport workpieces without workpiece pallets

Note:
The use of conveyor units with full rollers with WTs is limited. Depending on the roller dimensions, it may not be possible to assemble stop gates, sensor supports, and supports for ID systems due to insufficient space.

Required accessories:

- AS 5/... drive unit, see page 3-2
- SZ 5/... leg sets, see page 7-2
- Connection kits, see page 3842540380 (2017-07)

Conveyor unit load carrying capacity

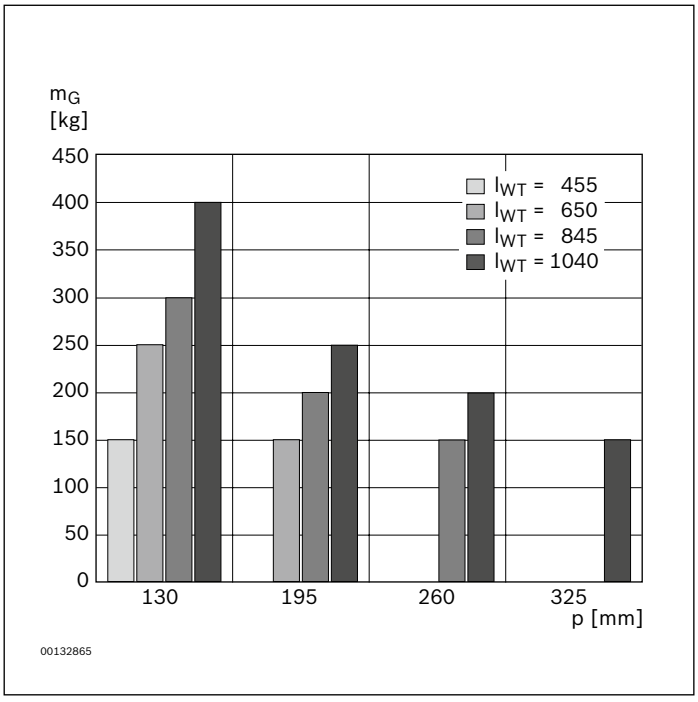
- Permissible section load with a leg distance ≤ 2 m:
  - ST 5/XH: 380 kg/m
  - ST 5/H: 200 kg/m

The permissible loads apply only on condition that workpiece pallets with the maximum permitted weight m_{Gzul} have accumulated.
Accumulation operation is not permitted in curves, diverters, junctions, or the positioning unit.

Max. permissible WT weight m_{Gzul} with various WT lengths and roller spacings (pitch p)
When designing the transfer system, the WT length, WT total weight m_G and roller spacing (pitch p) must be adjusted to each other.
The carrying force per roller is 50 kg. The workpiece pallet must always be on at least 3 rollers. The resulting load limits are shown in the graphic (see page 2-8).

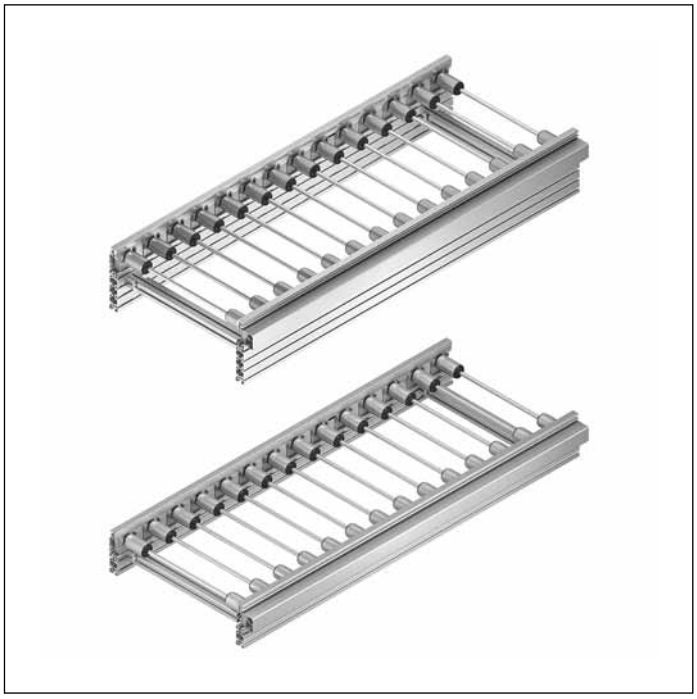
Use of the customer's own workpiece pallets

The indicated interdependencies between b_{WT} and l_{WT} must be taken into account when using curves, diverters and lift transverse units.
If a workpiece pallet is only conveyed on a straight section, it can be any length; observe the permissible section load and roller load.



m_G = WT total mass
p = roller spacing

ST 5/XH, ST 5/H conveyor units (with split rollers)



Condition on delivery:

- Ready-to-install.

Use:

- The conveyor unit is a ready-for-operation module used to transport workpiece pallets

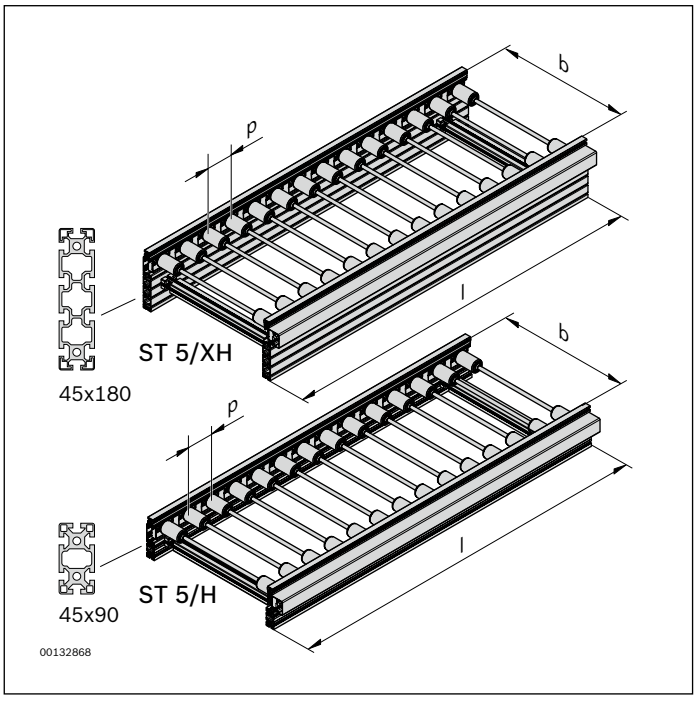
Version:

- Reversible operation possible
- Accumulation operation possible
- Support profile made of anodized aluminum
- Permissible section load:
  - ST 5/XH: 380 kg/m
  - ST 5/H: 200 kg/m
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel wheels made of polymer or sintered metal

Note:

Other roller spacings available on request.

Ordering information



ST 5/XH, ST 5/H conveyor units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	TR	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	**3 842 998 521 (ST 5/XH)**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	**3 842 998 520 (ST 5/H)**
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	b = ... mm
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	p = ... mm
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	l = ... mm
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	LG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	BG = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	TR = ...
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	1; 2	
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	

b = width (track width in direction of transport)

l_{WT} = workpiece pallet length, note the interdependencies for p and l_{WT}!

p = Roller spacing (pitch)

l = Length graduated according to the roller dimensions (l = p × N)

N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.

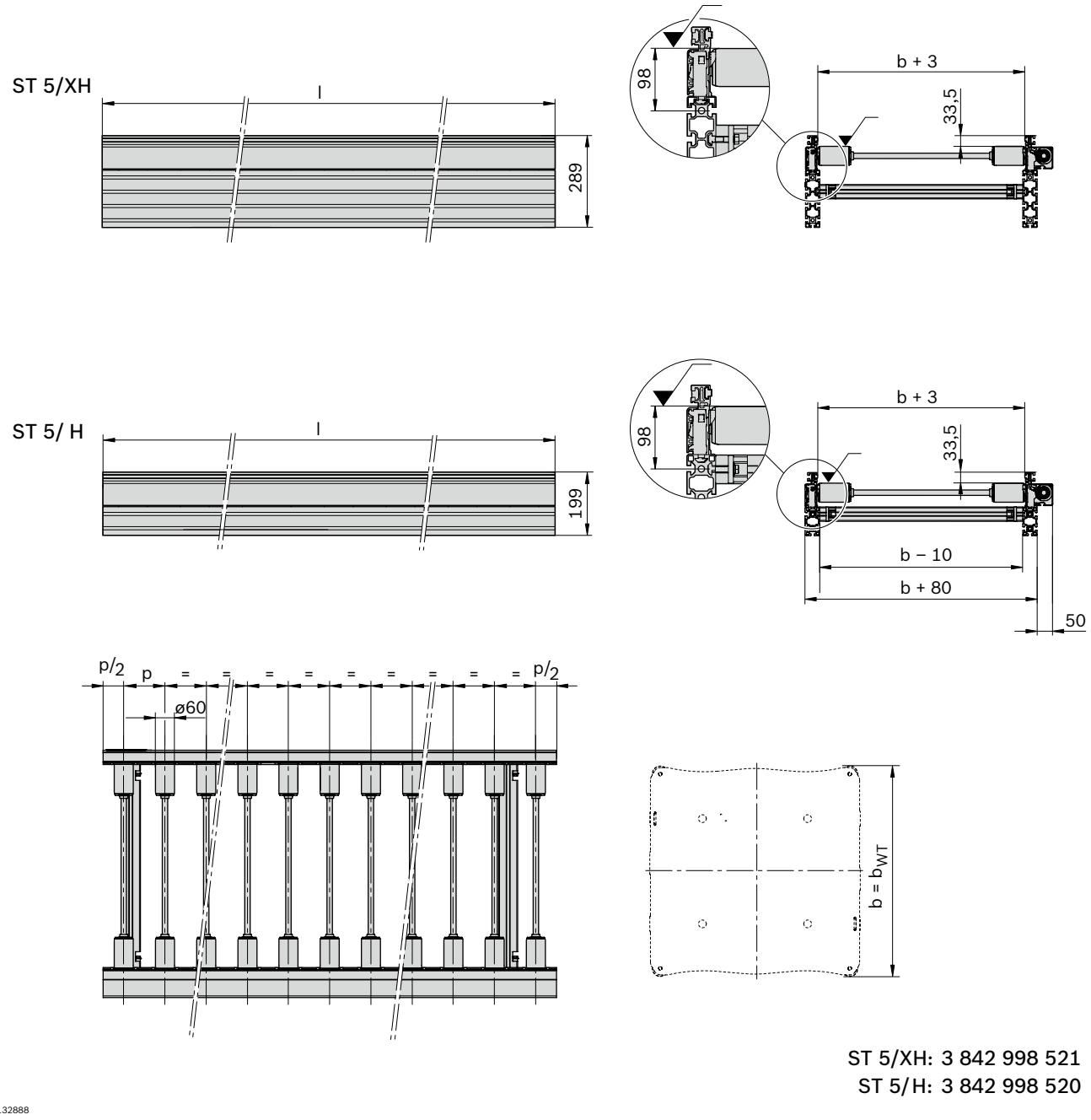
LG = Lateral guide material
1: steel
2: plastic
3: aluminum

BG = Bevel wheel material
1: plastic
2: sintered metal

TR = Roller material
1: galvanized steel
2: steel, nitrocarburized

Dimensions

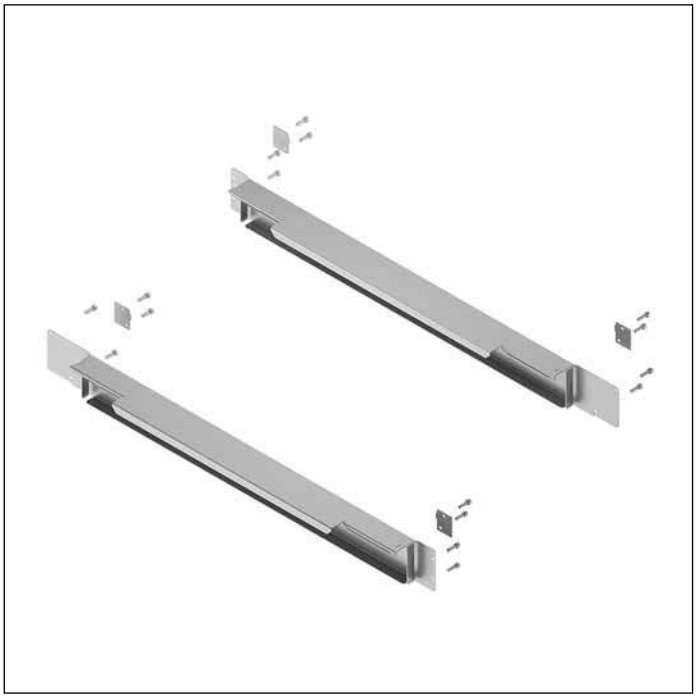
ST 5/XH, ST 5/H conveyor unit



ST 5/XH: 3 842 998 521
ST 5/H: 3 842 998 520

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End plates for ST 5/XH, ST 5/H



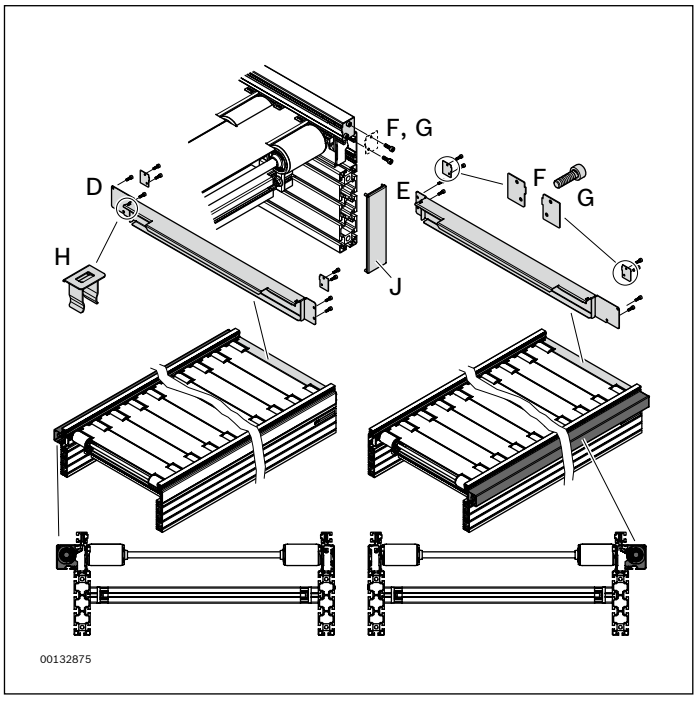
Use:
The protective covers and end plates are provided in working areas to increase safety. They can be ordered separately for conveyor units; for curves, diverters, and junctions they are optionally included in the scope of delivery (SC = 2). The protective covers and end plates are clipped between the rollers using spring elements.

Note:
Do not walk on the protective covers or end plates.

Versions:
- Protective covers for various widths and roller spacings.
- Special covers for conveyor section center, transitions, and ends.

Material:
- galvanized steel

Ordering information



End plates

- End plate, left drive side (**D**)
- End plate, right drive side (**E**)

	b[1] (mm)	p[2] (mm)	Material number
D	455	130	**3 842 545 679**
	455	195	**3 842 545 680**
	650	130	**3 842 545 681**
	650	195	**3 842 545 682**
	650	260	**3 842 545 683**
	845	130	**3 842 545 684**
	845	195	**3 842 545 685**
	845	260	**3 842 545 686**
	845	325	**3 842 545 687**
	1040	130	**3 842 545 476**
	1040	195	**3 842 545 477**
	1040	260	**3 842 545 688**
E	455	130	**3 842 545 689**
	455	195	**3 842 545 690**
	650	130	**3 842 545 691**
	650	195	**3 842 545 692**
	650	260	**3 842 545 693**
	845	130	**3 842 545 694**
	845	195	**3 842 545 695**
	845	260	**3 842 545 696**
	845	325	**3 842 545 697**
	1040	130	**3 842 545 474**
	1040	195	**3 842 545 475**
	1040	260	**3 842 545 698**

[1] b = Track width in direction of transport
[2] p = roller spacing

Lateral guide cover

- Lateral guide protective cover (**F**), 2 required
- Screw DIN 7500-EEM5X16-8.8 (**G**), 4 required for each end plate, 2 for each lateral guide cover The screws must be sourced by the customer.

		Material number
F	2	**3 842 545 276**

Spring element

- Spring element (**H**), 2 required for each end plate

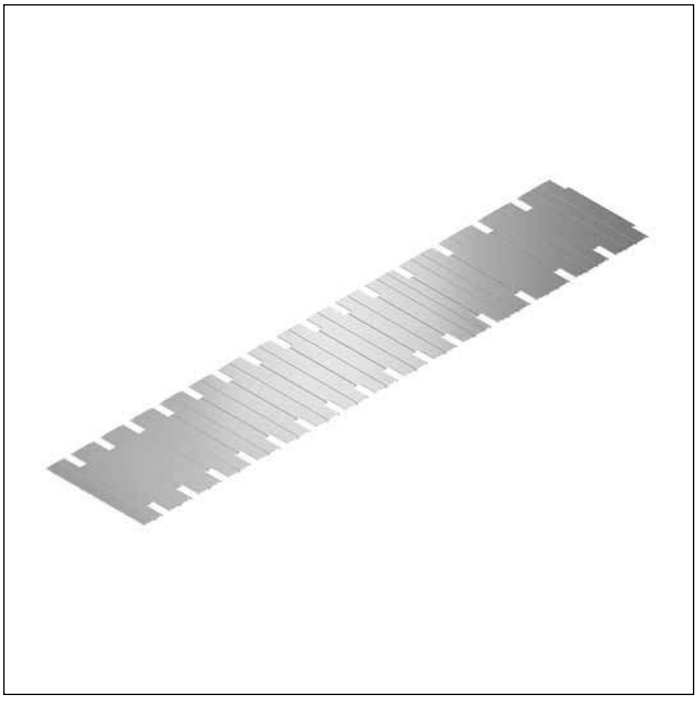
		Material number
H	50	**3 842 545 214**

Cover caps

- Cover cap for the open profile ends (**J**), 2 required for each section end

			Material number
J	ST 5/XH (45x180)	20	**3 842 503 845**
	ST 5/H (45x90)	20	**3 842 511 783**

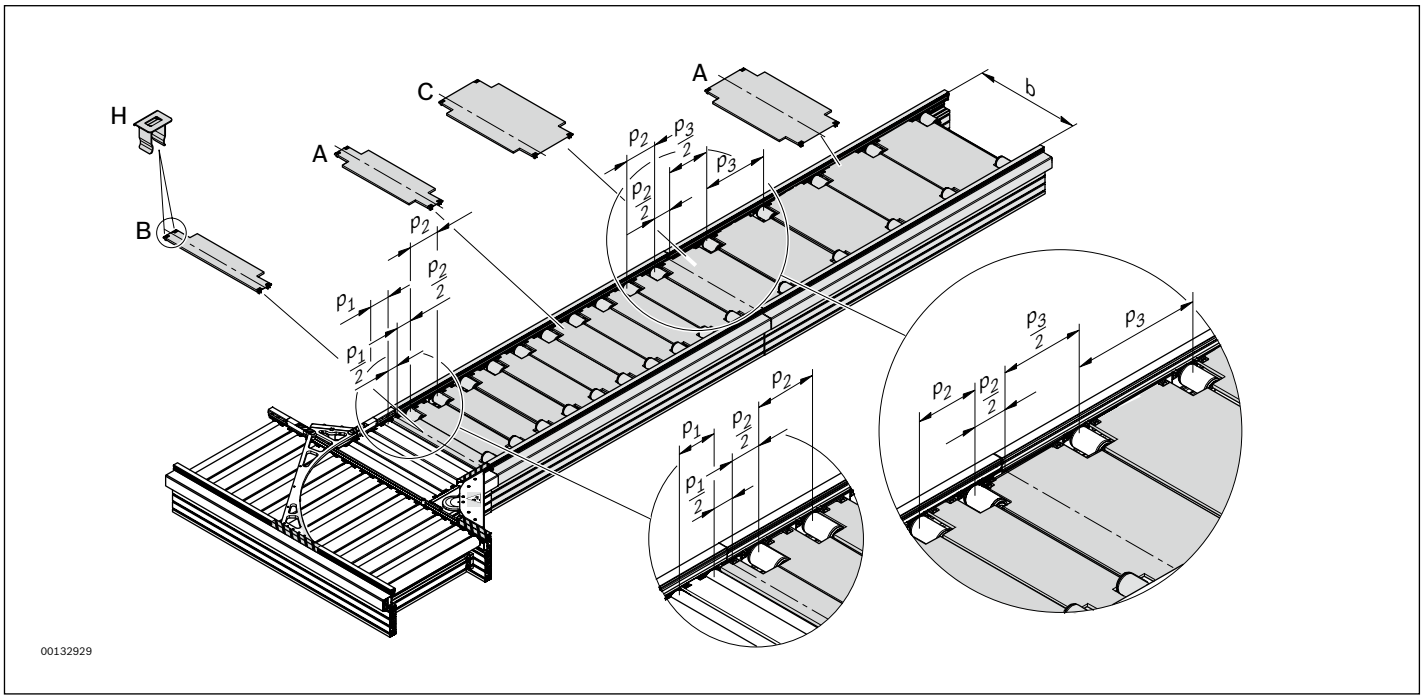
Protective covers for ST 5/XH, ST 5/H



- Section center protective cover (**A**)
- Protective covers for transition between curve (diverter, junction) / conveyor unit (**B**)
- Protective covers for transition between conveyor unit/ conveyor unit with different rollers (**C**)
- Spring element (**H**), 4 required for each protective cover, see page 4-9

The different dimensions of the protective covers can be found on page 4-9.

Ordering information



Protective covers for center (A) and transitions (B, C)

	b[1] (mm)	p[2] (mm)	Material number
A	455	130	**3 842 545 404**
	455	195	**3 842 545 609**
	650	130	**3 842 545 405**
	650	195	**3 842 545 360**
	650	260	**3 842 545 612**
	845	130	**3 842 545 361**
	845	195	**3 842 545 362**
	845	260	**3 842 545 363**
	845	325	**3 842 545 403**
	1040	130	**3 842 545 638**
	1040	195	**3 842 545 641**
	1040	260	**3 842 545 365**

	b[1] (mm)	p2/p3[2] (mm)	Material number
C	455	130/195	**3 842 545 616**
	650	130/195	**3 842 545 619**
	650	195/260	**3 842 545 644**
	845	130/195	**3 842 545 628**
	845	195/260	**3 842 545 629**
	845	260/325	**3 842 545 645**
	1040	130/195	**3 842 545 640**
	1040	195/260	**3 842 545 364**

[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 and p2/p3
= transition between different roller spacing dimensions

	b[1] (mm)	p1/p2[2] (mm)	Material number
B	455	130/130	**3 842 545 482**
	455	130/195	**3 842 545 617**
	650	130/130	**3 842 545 483**
	650	130/195	**3 842 545 485**
	650	130/260	**3 842 545 621**
	845	130/130	**3 842 545 484**
	845	130/195	**3 842 545 506**
	845	130/260	**3 842 545 507**
	845	130/325	**3 842 545 508**

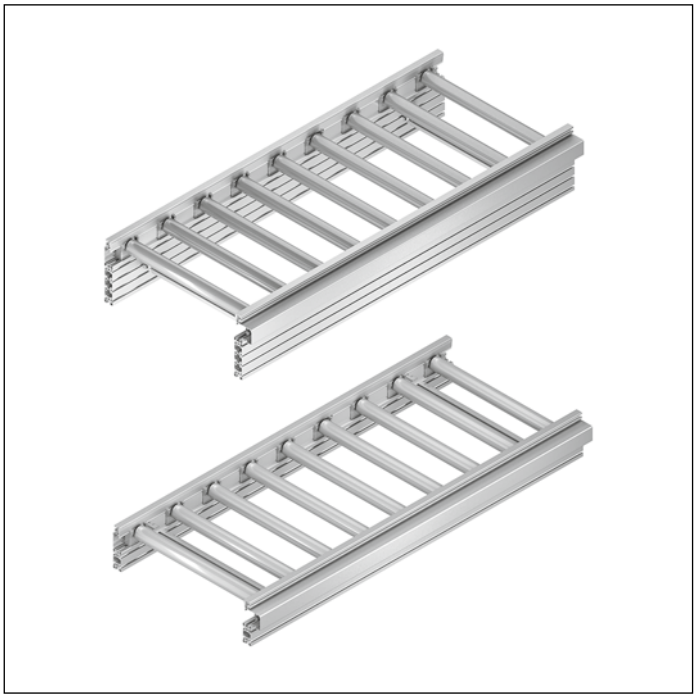
[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 and p2/p3
= transition between different roller spacing dimensions

Spring element

▶ Spring element (**H**), 2 required for each end plate

		Material number
H	50	**3 842 545 214**

ST 5/XH-FR, ST 5/H-FR conveyor units (with full rollers)



Condition on delivery:

- Ready-to-install.

Use:

- The conveyor unit is a ready-for-operation module, which is particularly suitable for transporting workpieces without workpiece pallets

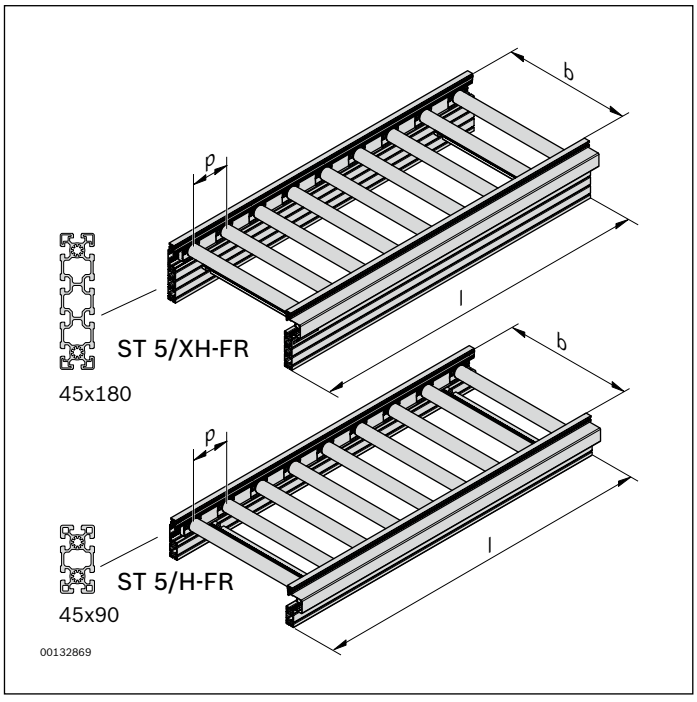
Note:

Depending on the roller spacing, the use of ST 5/...-FR conveyor units with workpiece pallets is limited,
see page 4-2.
Other roller spacings available on request.

Version:

- Reversible operation possible
- Accumulation operation possible
- Support profile made of anodized aluminum
- Permissible section load:
  - ST 5/XH-FR: 380 kg/m
  - ST 5/H-FR: 200 kg/m
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel wheels made of polymer or sintered metal

Ordering information



ST 5/XH-FR, ST 5/H-FR conveyor units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	TR	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	**3 842 998 523 (ST 5/XH-FR)**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	**3 842 998 522 (ST 5/H-FR)**
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	b = ... mm
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	p = ... mm
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	l = ... mm
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	LG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	BG = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	TR = ...
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	1; 2	
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	

b = width (track width in direction of transport)

l_{WT} = workpiece pallet length, note the interdependencies for p and l_{WT}!

p = Roller spacing (pitch)

l = Length graduated according to the roller dimensions (l = p × N)

N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.

LG = Lateral guide material
1: steel
2: plastic
3: aluminum

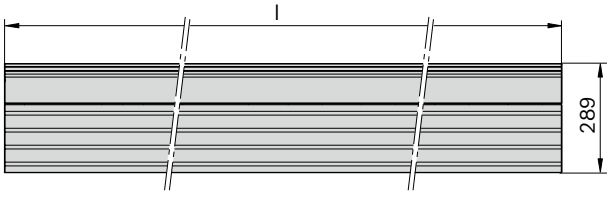
BG = Bevel wheel material
1: plastic
2: sintered metal

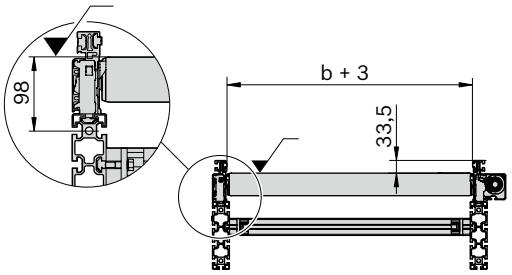
TR = Roller material
1: steel, galvanized
2: steel, nitrocarburized

Dimensions

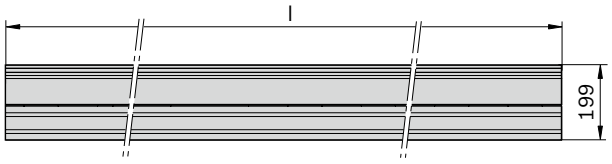
ST 5/XH-FR, ST 5/H-FR conveyor unit

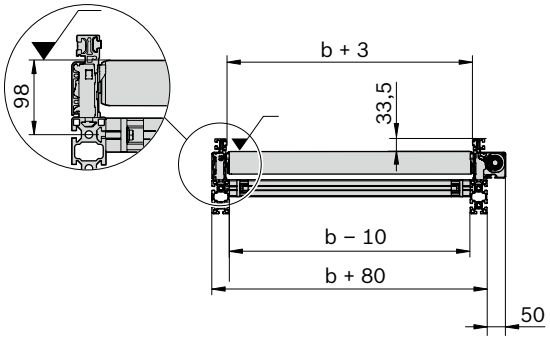
ST 5/XH-FR

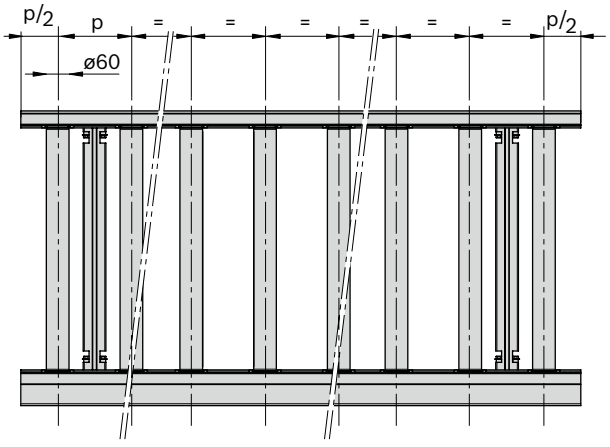


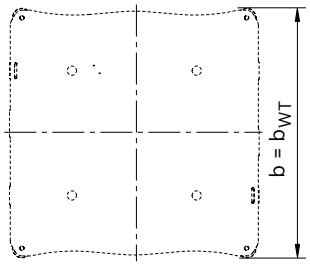


ST 5/ H-FR





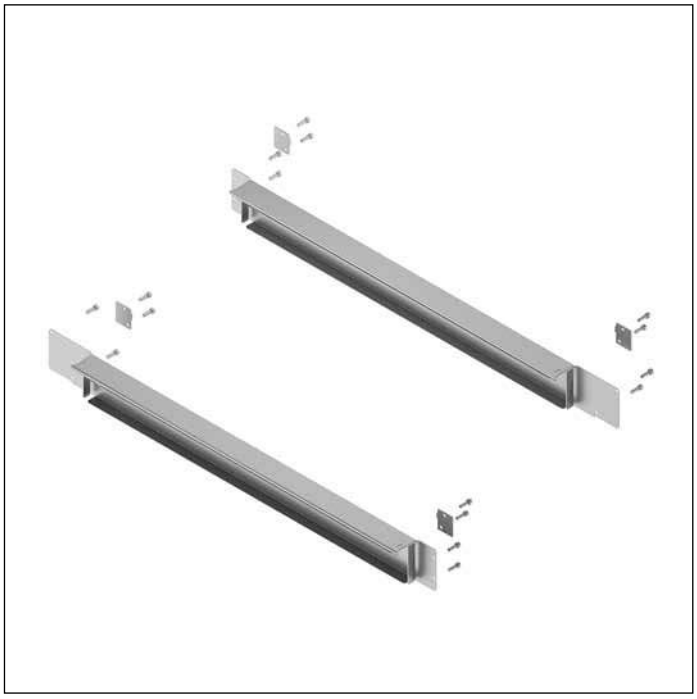




ST 5/XH-FR: 3 842 998 523
ST 5/H-FR: 3 842 998 522

00132889

End plates for ST 5/XH-FR, ST 5/H-FR



Use:

The protective covers and end plates are provided in working areas to increase safety. They can be ordered separately for conveyor units; for curves, diverters, and junctions they are optionally included in the scope of delivery (SC = 2). The protective covers and end plates are clipped between the rollers using spring elements.

Note:

Do not walk on the protective covers or end plates.

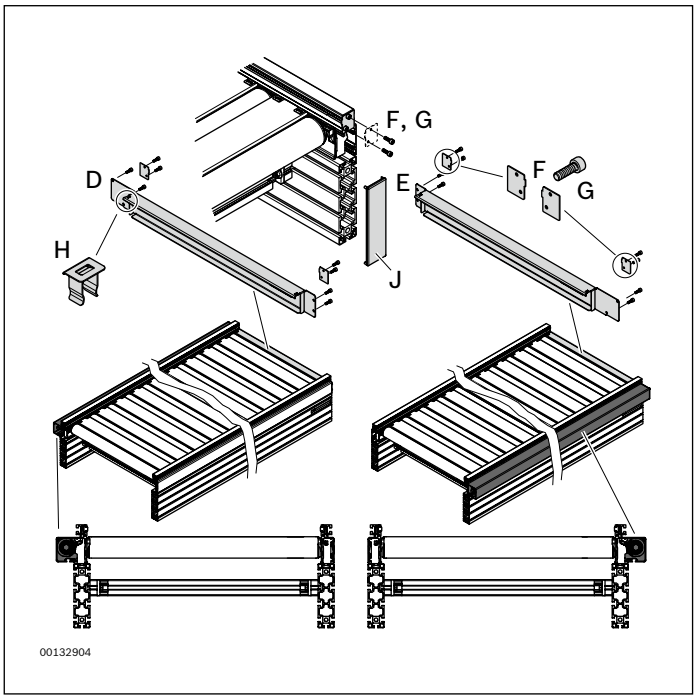
Version:

- Protective covers for various widths and roller spacings.
- Special covers for conveyor section center, transitions, and ends.

Material:

- galvanized steel

Ordering information



End plates

- End plate, left drive side (**D**)
- End plate, right drive side (**E**)

	b[1] (mm)	p[2] (mm)	Material number
D	455	130	**3 842 545 659**
	455	195	**3 842 545 660**
	650	130	**3 842 545 661**
	650	195	**3 842 545 662**
	650	260	**3 842 545 663**
	845	130	**3 842 545 664**
	845	195	**3 842 545 665**
	845	260	**3 842 545 666**
	845	325	**3 842 545 667**
	1040	130	**3 842 545 468**
	1040	195	**3 842 545 469**
	1040	260	**3 842 545 668**
E	455	130	**3 842 545 669**
	455	195	**3 842 545 670**
	650	130	**3 842 545 671**
	650	195	**3 842 545 672**
	650	260	**3 842 545 673**
	845	130	**3 842 545 674**
	845	195	**3 842 545 675**
	845	260	**3 842 545 676**
	845	325	**3 842 545 677**
	1040	130	**3 842 545 466**
	1040	195	**3 842 545 467**
	1040	260	**3 842 545 678**

[1] b = Track width in direction of transport
[2] p = roller spacing

Lateral guide cover

- Lateral guide protective cover (**F**), 2 required
- Screw DIN 7500-EEM5X16-8.8 (**G**), 4 required for each end plate, 2 for each lateral guide cover
  The screws must be sourced by the customer.

		Material number
F	2	**3 842 545 276**

Spring element

- Spring element (**H**), 2 required for each end plate

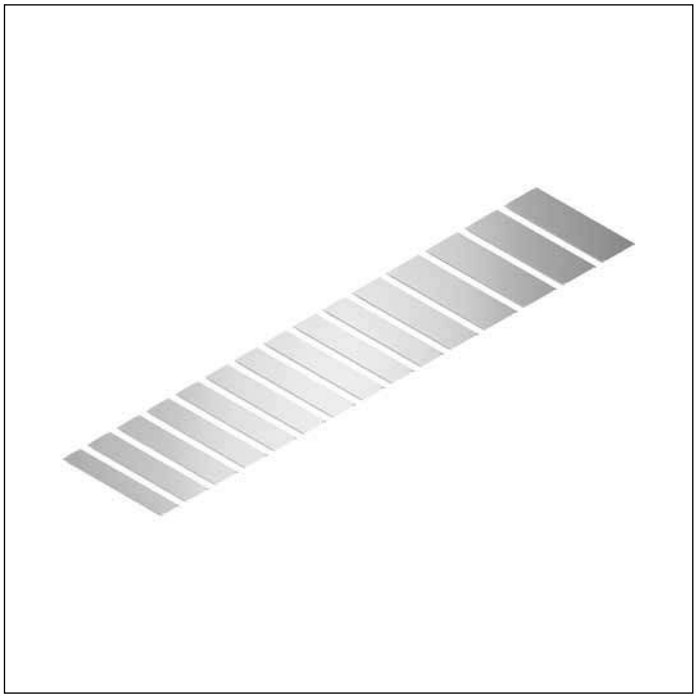
		Material number
H	50	**3 842 545 214**

Cover caps

- Cover cap for the open profile ends (**J**), 2 required for each section end

			Material number
J	ST 5/XH (45x180)	20	**3 842 503 845**
	ST 5/H (45x90)	20	**3 842 511 783**

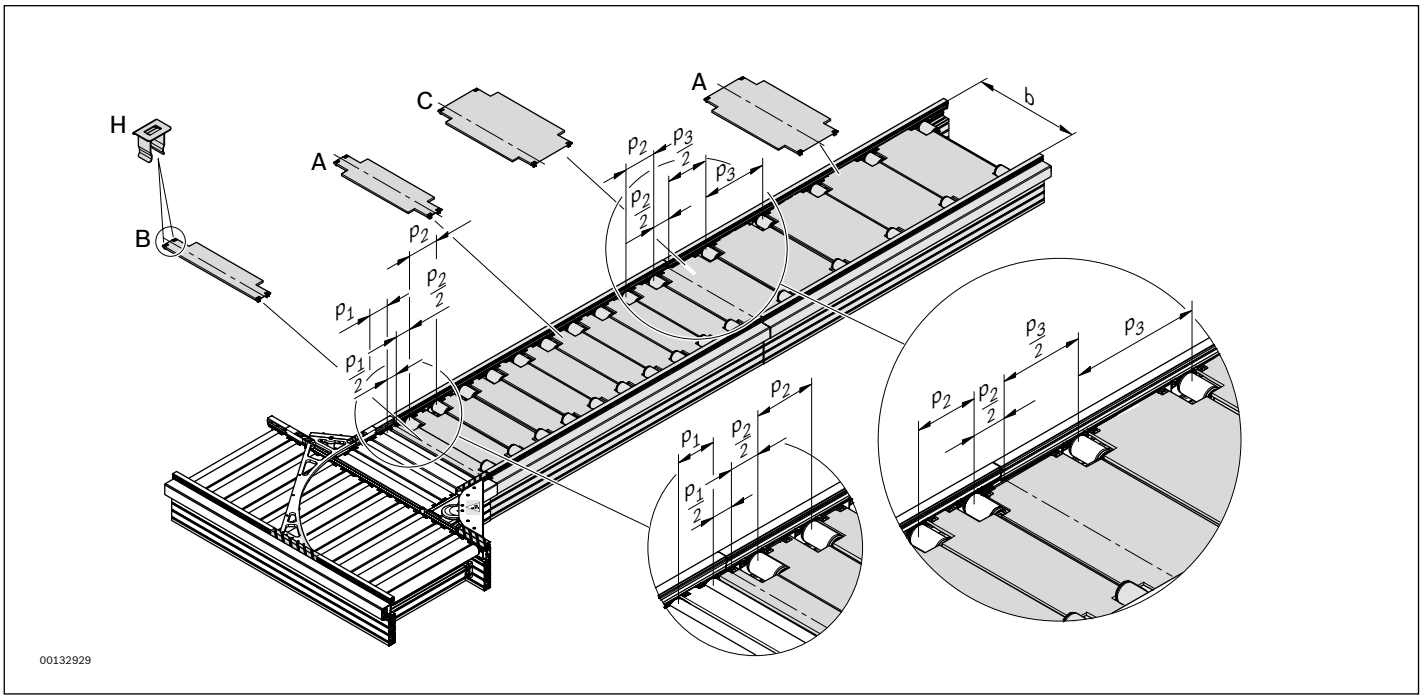
Protective covers for ST 5/XH-FR, ST 5/H-FR



- Section center protective cover (**A**)
- Protective covers for transition between curve (diverter, junction) / conveyor unit (**B**)
- Protective covers for transition between conveyor unit/ conveyor unit with different rollers (**C**)
- Spring element (**H**), 4 required for each protective cover, see page 4-16

The different dimensions of the protective covers can be found on page 4-16.

Ordering information



Protective covers for center (A) and transitions (B, C)

	b[1] (mm)	p[2] (mm)	Material number
A	455	130	**3 842 545 406**
	455	195	**3 842 545 610**
	650	130	**3 842 545 407**
	650	195	**3 842 545 408**
	650	260	**3 842 545 613**
	845	130	**3 842 545 409**
	845	195	**3 842 545 410**
	845	260	**3 842 545 411**
	845	325	**3 842 545 415**
	1040	130	**3 842 545 412**
	1040	195	**3 842 545 413**
	1040	260	**3 842 545 414**

	b[1] (mm)	p2/p3[2] (mm)	Material number
C	455	130/195	**3 842 545 614**
	650	130/195	**3 842 545 620**
	650	195/260	**3 842 545 642**
	845	130/195	**3 842 545 626**
	845	195/260	**3 842 545 630**
	845	260/325	**3 842 545 643**
	1040	130/195	**3 842 545 639**
	1040	195/260	**3 842 545 637**

	b[1] (mm)	p1/p2[2] (mm)	Material number
B	455	130/130	**3 842 545 406**
	455	130/195	**3 842 545 614**
	650	130/130	**3 842 545 407**
	650	130/195	**3 842 545 620**
	650	130/260	**3 842 545 408**
	845	130/130	**3 842 545 409**
	845	130/195	**3 842 545 626**
	845	130/260	**3 842 545 410**
	845	130/325	**3 842 545 630**
	1040	130/130	**3 842 545 412**
	1040	130/195	**3 842 545 639**
	1040	130/260	**3 842 545 413**

[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 and p2/p3
= transition between different roller spacing dimensions

Spring element

▶ Spring element (**H**), 2 required for each end plate

		Material number
H	50	**3 842 545 214**

ST 5/OC (Open Center) conveyor units



Use:

- The conveyor unit is a ready-for-operation module used to transport workpiece pallets. The open center allows processes from below

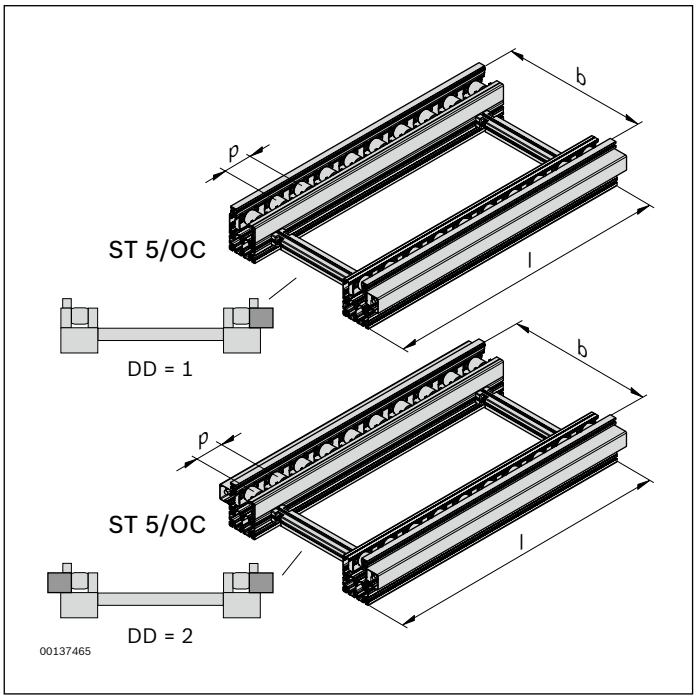
Version:

- Reversible operation possible
- Accumulation operation possible
- Support profile made of anodized aluminum
- Permissible section load: 380 kg/m
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel wheels made of polymer or sintered metal

Condition on delivery:

- Ready-to-install.

Ordering information



ST 5/OC (Open Center) conveyor units

b (mm)	l_{WT} (mm)	p (mm)	l (mm)	N	LG	BG	TR	DD	Material number
455	455; 650	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	1; 2	**3 842 998 574 (ST 5/OC)**
455	650	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	1; 2	b = ... mm
650	650; 845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	1; 2	p = ... mm
650	650; 845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	1; 2	l = ... mm
650	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	1; 2	LG = ...
845	845; 1040	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	1; 2	BG = ...
845	845; 1040	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	1; 2	TR = ...
845	845; 1040	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	1; 2	DD = ...
845	1040	325	975 ... 3900	3; 4; 5 ... 12	1; 2; 3	1; 2	1; 2	1; 2	
1040	845	130	390 ... 4160	3; 4; 5 ... 32	1; 2; 3	1; 2	1; 2	1; 2	
1040	845	195	585 ... 4095	3; 4; 5 ... 21	1; 2; 3	1; 2	1; 2	1; 2	
1040	845	260	780 ... 4160	3; 4; 5 ... 16	1; 2; 3	1; 2	1; 2	1; 2	

b = width (track width in direction of transport)

l_{WT} = workpiece pallet length, note the interdependencies for p and l_{WT}!

p = Roller spacing (pitch)

l = Length graduated according to the roller dimensions (l = p × N)

N = number of rollers, multiplier for length (l = p × N), pricing factor in the price list.

LG = Lateral guide material
1: steel
2: plastic
3: aluminum

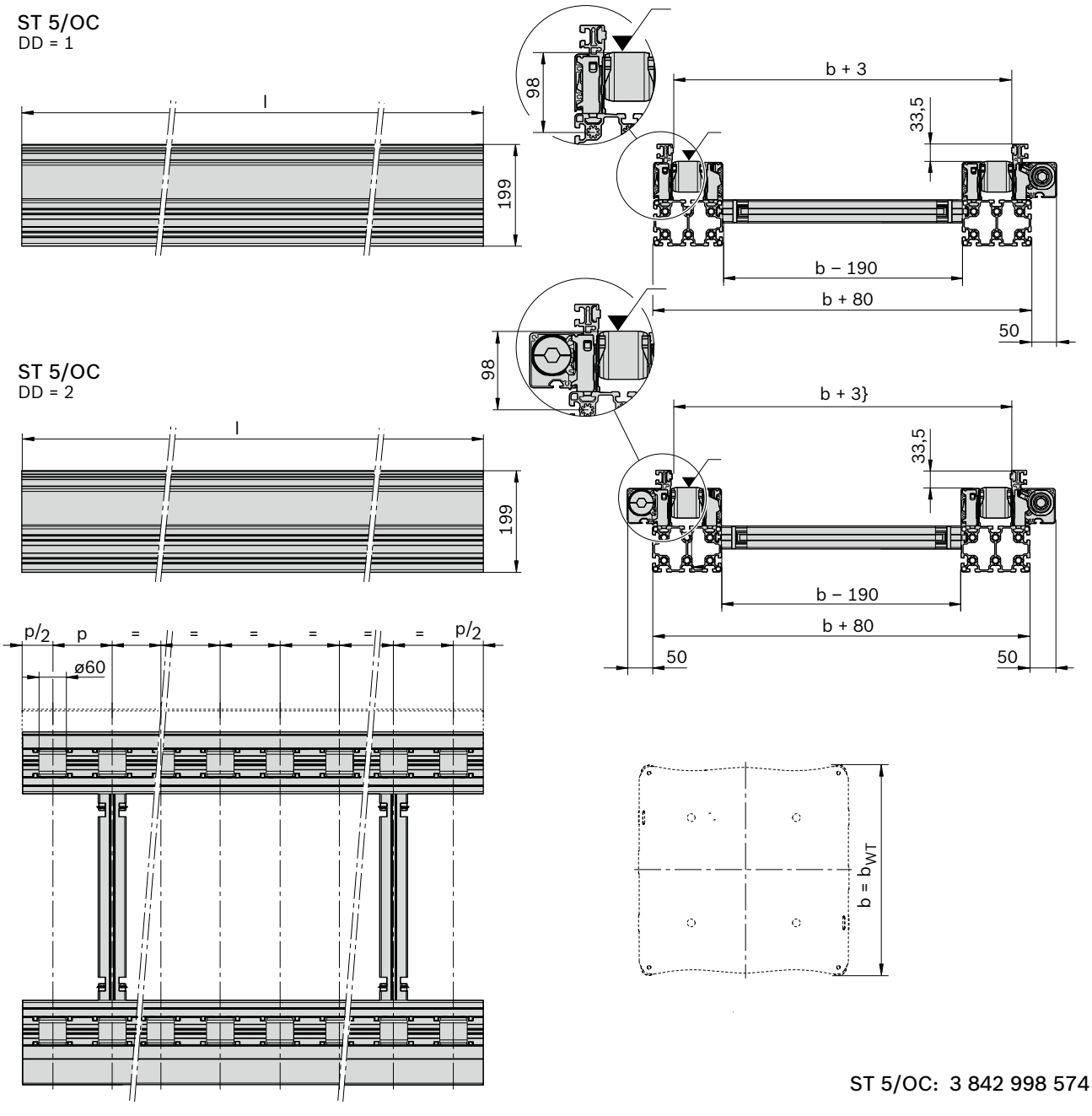
BG = Bevel wheel material
1: plastic
2: sintered metal

TR = Roller material
1: galvanized steel
2: steel, nitrocarburized

DD = drive
1: on one side
2: on two sides

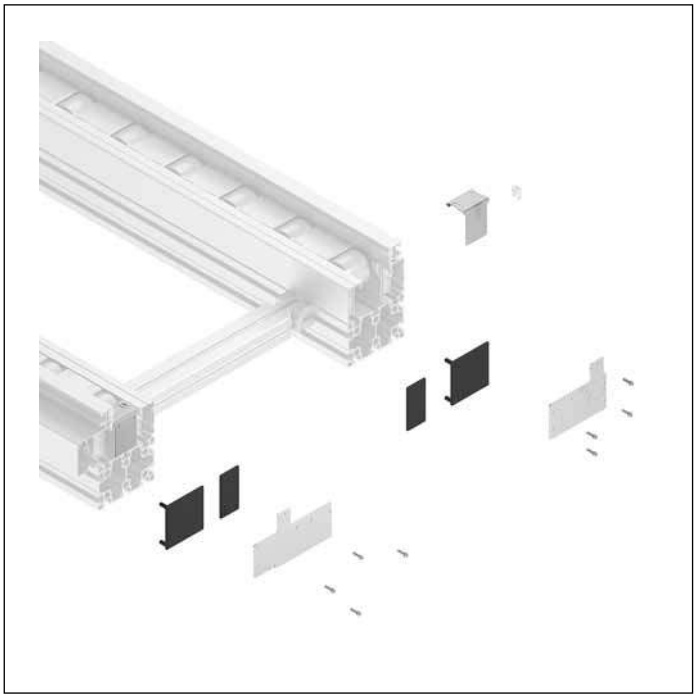
Dimensions

ST 5/OC (Open Center) conveyor unit



ST 5/OC: 3 842 998 574

End plates for ST 5/OC



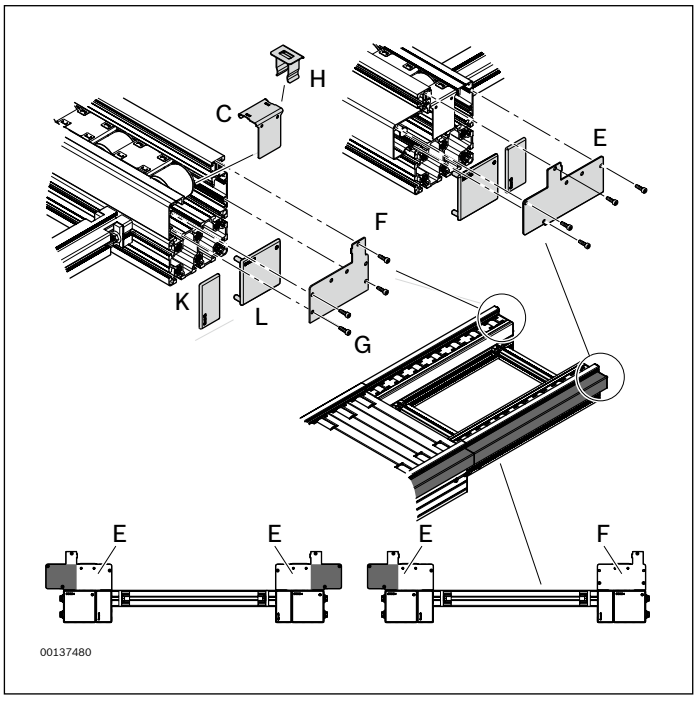
Use:
The protective covers and end plates are provided in working areas to increase safety

Note:
Do not walk on the protective covers or end plates.

Version:
- Protective covers for various roller spacings
- Special covers for conveyor section center, transitions, and ends

Material:
- galvanized steel

Ordering information



End plates (C)

- End plate for drive side (**E**), left/right
- End plate for passive side (**F**), left/right
- Screw DIN 7500-EEM5X16-8.8 (**G**), 4 required for each end plate The screws must be sourced by the customer.

	p[1] (mm)		Material number
C	130	2	**3 842 545 573**
	195	2	**3 842 545 574**
	260	2	**3 842 545 575**
	325	2	**3 842 545 576**
E			**3 842 545 571**
F			**3 842 545 572**

1) p = roller spacing

Spring element (H)

- Spring element, 2 required for each end plate

		Material number
H	50	**3 842 545 214**

End caps (K, L)

- Cover cap for the open profile ends, 2 required for each section end

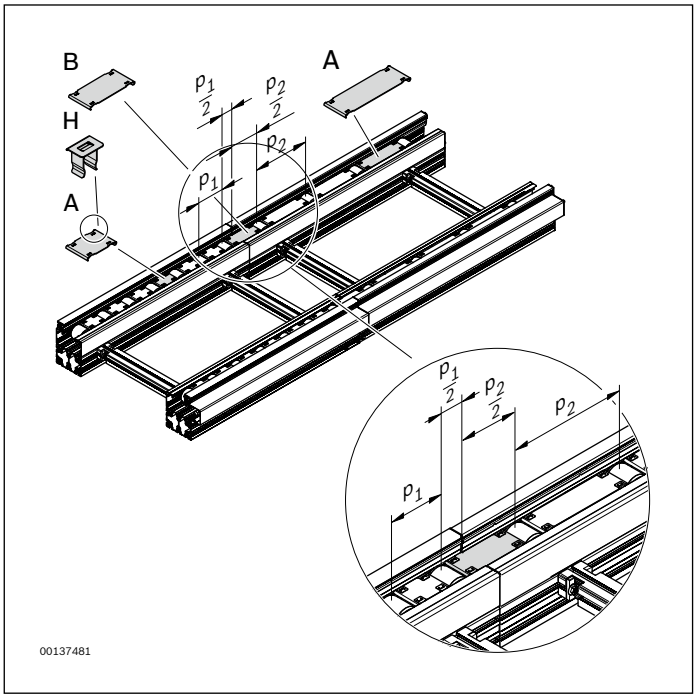
		Material number
K	20	**3 842 511 783**
L	20	**3 842 516 214**

Protective covers for ST 5/OC



- Section center protective cover (**A**)
- Protective covers for transition between conveyor unit/ conveyor unit with the same or different rollers (**B**)
- Spring element (**H**), 4 required for each protective cover

Ordering information



Protective covers for center (A) and transitions (B)

	p[1)] (mm)	Material number
A	130	**3 842 545 541**
	195	**3 842 545 543**
	260	**3 842 545 545**
	325	**3 842 545 547**

1) p = roller spacing (pitch); p1/p2 = transition between different roller spacing dimensions

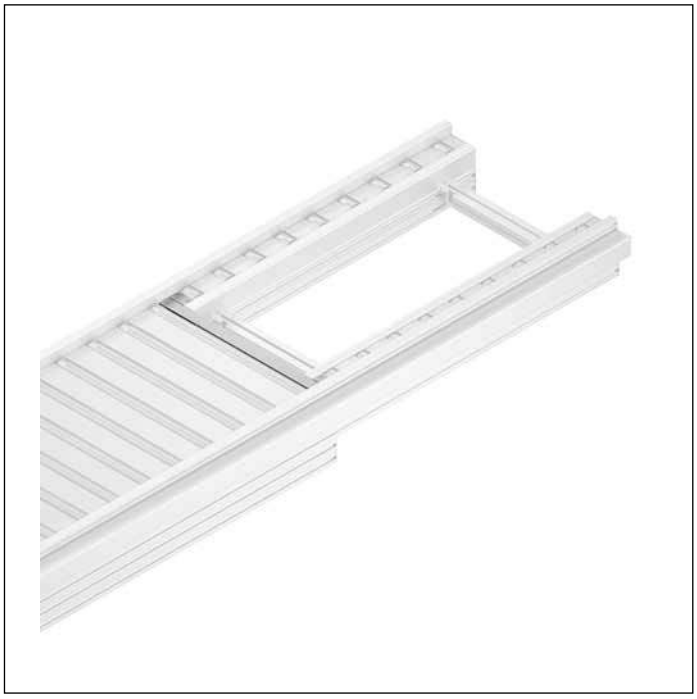
	p1/p2[1)] (mm)	Material number
B	130/130	**3 842 545 541**
	130/195	**3 842 545 542**
	195/195	**3 842 545 543**
	195/260	**3 842 545 544**
	260/260	**3 842 545 545**
	260/325	**3 842 545 546**
	325/325	**3 842 545 547**

1) p = roller spacing (pitch); p1/p2 = transition between different roller spacing dimensions

Spring element

		Material number
H	50	**3 842 545 214**

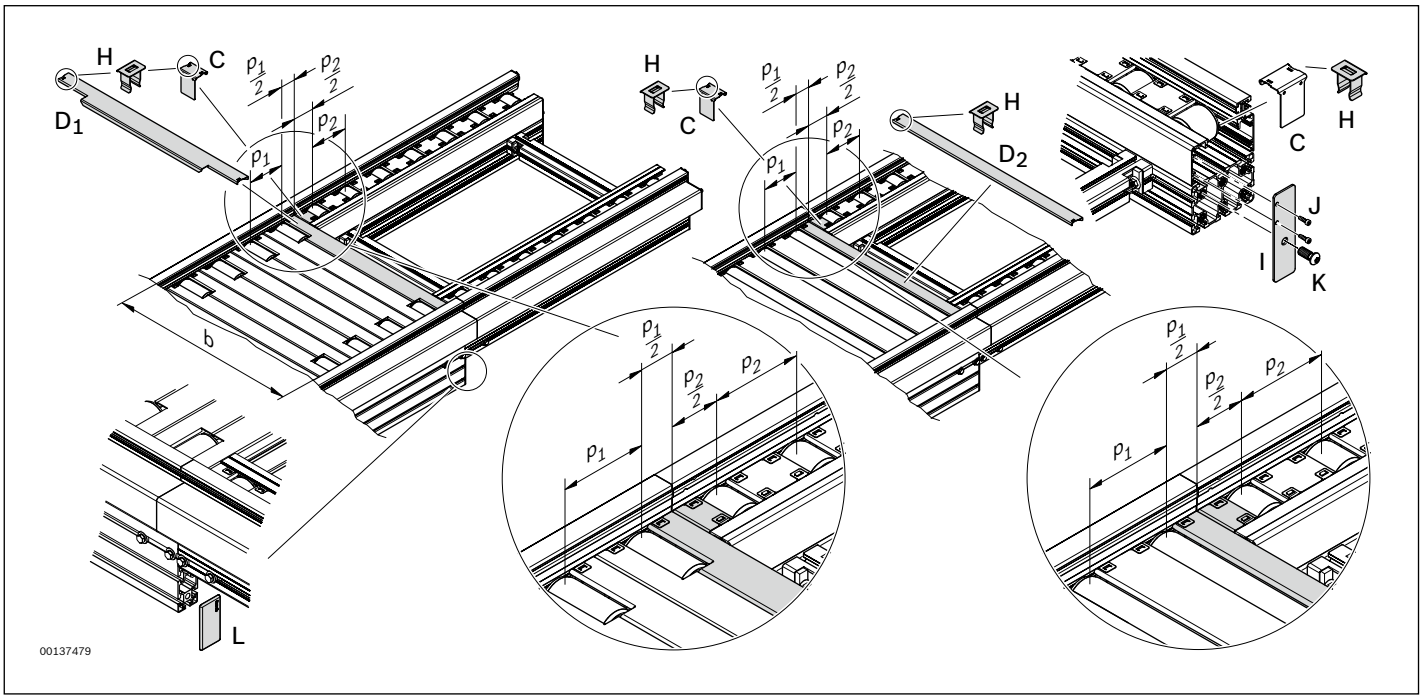
Cover for OC/XH, OC/H transition



- Protective cover (**C**)
- Cover for split rollers (**D1**)
- Cover for full rollers (**D2**)
- Spring element (**H**)
- End plate for open profile ends (**I**)
- Screw DIN7500-EEM5X16-8.8 (**J**), 2 required for each lateral guide cover
- Screw (**K**), 1 required for each end plate
- Cover cap for the open profile ends (**L**)

The different dimensions of the protective covers can be found on page 4-24.

Ordering information



Cover

	b[1] (mm)	p1[2] (mm)	Material number
D1	455	130	**3 842 545 150**
	455	195	**3 842 545 151**
	650	130	**3 842 545 152**
	650	195	**3 842 545 153**
	650	260	**3 842 545 739**
	845	130	**3 842 545 154**
	845	195	**3 842 545 155**
	845	260	**3 842 545 740**
	845	325	**3 842 545 741**
	1040	130	**3 842 545 156**
	1040	195	**3 842 545 157**
	1040	260	**3 842 545 742**
	1040	325	**3 842 545 745**

[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 = transition between different roller spacing dimensions

	b[1] (mm)	p1[2] (mm)	Material number
D2	455	130	**3 842 545 158**
	455	195	**3 842 545 248**
	650	130	**3 842 545 321**
	650	195	**3 842 545 548**
	650	260	**3 842 545 577**
	845	130	**3 842 545 549**
	845	195	**3 842 545 550**
	845	260	**3 842 545 578**
	845	325	**3 842 545 579**
	1040	130	**3 842 545 551**
	1040	195	**3 842 545 599**
	1040	260	**3 842 545 600**
	1040	325	**3 842 545 737**

[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 = transition between different roller spacing dimensions

Cover

		p2[2] (mm)	Material number
C	2	130	**3 842 545 573**
		195	**3 842 545 574**
		260	**3 842 545 575**
		325	**3 842 545 576**
I	1		**3 842 549 670**

[1] b = Track width in direction of transport
[2] p = roller spacing (pitch); p1/p2 = transition between different roller spacing dimensions

Spring element

		Material number
H	50	**3 842 545 214**

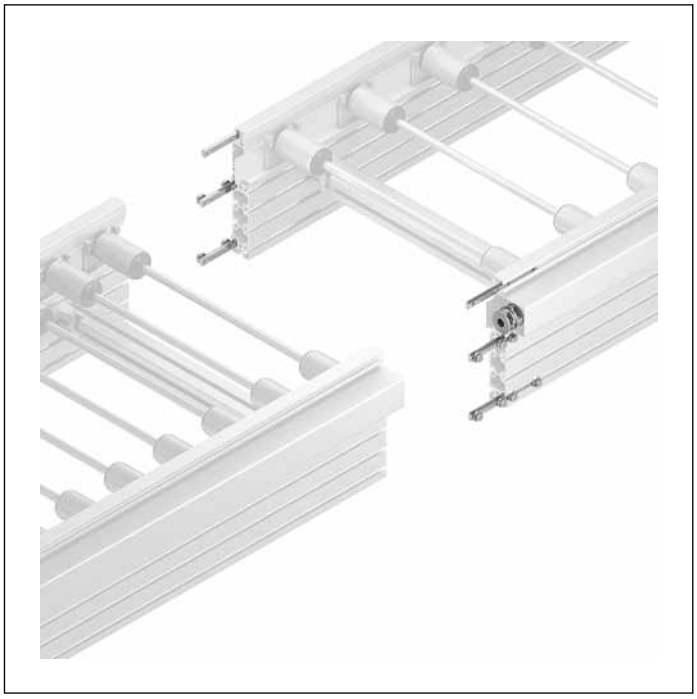
Screw

		Material number
K	100	**3 842 530 236**

End cap

		Material number
L	20	**3 842 511 855**

Connection kits



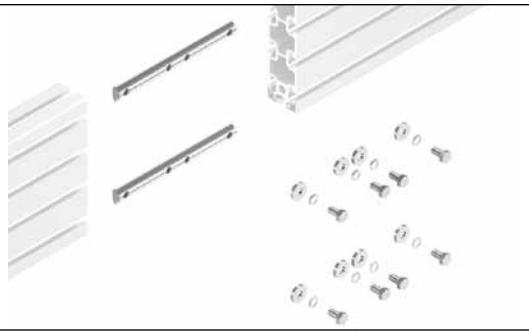
Use:

To connect two TS 5 modules, you will need:

- 4 profile connectors for section profiles (**A**)
- 2 profile connectors for lateral guide (**B**)
- 2 intermediate plates (**C**)
- 1 coupling (**D**)

The coupling is used to connect the king shafts. A cross plate in the coupling compensates for alignment errors and concentricity tolerances.

A



Profile connectors for conveyor section profiles/lateral guides

- The profile ends are connected to each other using profile connectors.

Material:

- Galvanized steel

Scope of delivery:

- Profile connector, screws

B



Profile connector for section profile

	Material number
A	**3 842 528 746**

Profile connectors for lateral guides

		Material number
B	10	**3 842 545 699**

C



Intermediate plates for module transitions

- The modules (conveyor sections, drives, curves, diverters) are separated using intermediate plates with the respective roller dimension p.

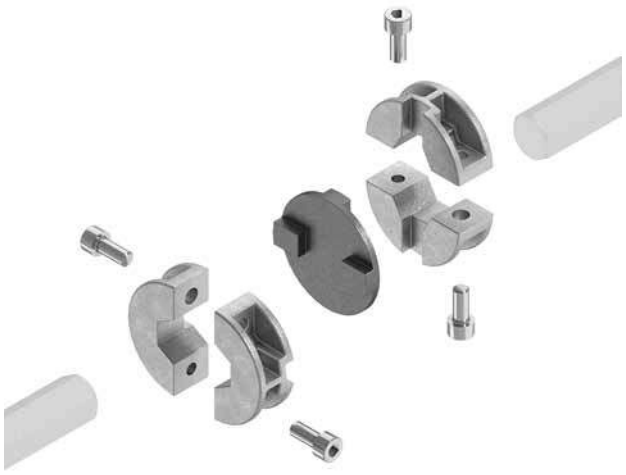
Material:

- galvanized steel

		p1/p2[1)] (mm)	Material number
C	10	130/130	**3 842 545 215**
	10	130/195	**3 842 545 354**
	10	130/260	**3 842 545 216**
	10	130/325	**3 842 545 355**
	10	195/195	**3 842 545 216**
	10	195/260	**3 842 545 355**
	10	260/260	**3 842 545 217**
	10	260/325	**3 842 545 648**
	10	325/325	**3 842 545 218**

[1)] Roller spacing of the respective modules

D



Coupling

- For connecting the king shaft. Compensates for alignment errors and concentricity tolerances.

Material:

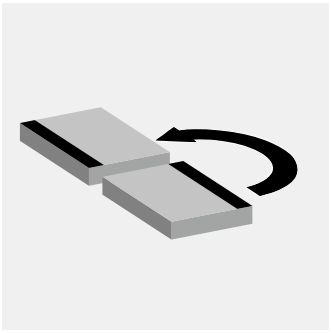
- galvanized steel
- brass

Scope of delivery:

- Couplings, screws

Coupling

		Material number
D	10	**3 842 545 160**



Curves/diverters/ junctions

Design	**5-2**
CU 5/XH, CU 5/H curves	**5-4**
DI 5/XH, DI 5/H diverters	**5-8**
JU 5/XH, JU 5/H junctions	**5-13**
Limits for the permissible gravity center position for junctions and diverters	**5-17**
Three-way diverter DI 5/XH-3W, DI 5/H-3W	**5-18**
Limits for the permissible gravity center position for the three-way diverter	**5-22**

Design



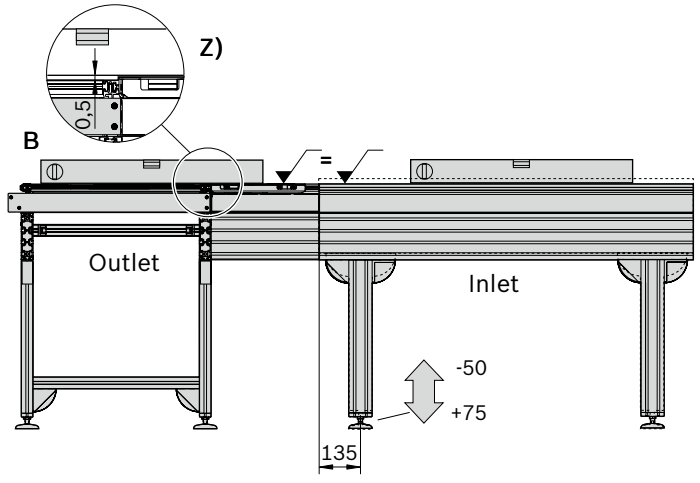
Curves, diverters, and junctions are available for branching transport of workpiece pallets. The inlet and outlet of these modules are separately driven via king shafts.
Due to the function, the transport height of the main and secondary sections (inlet and outlet) has a slight difference. This is why curves, diverters, and junctions must always be arranged with an opposite orientation (see the graphic).

Permissible loads

m_G (kg)	v_N (m/min)
max. 260	12
max. 300	9

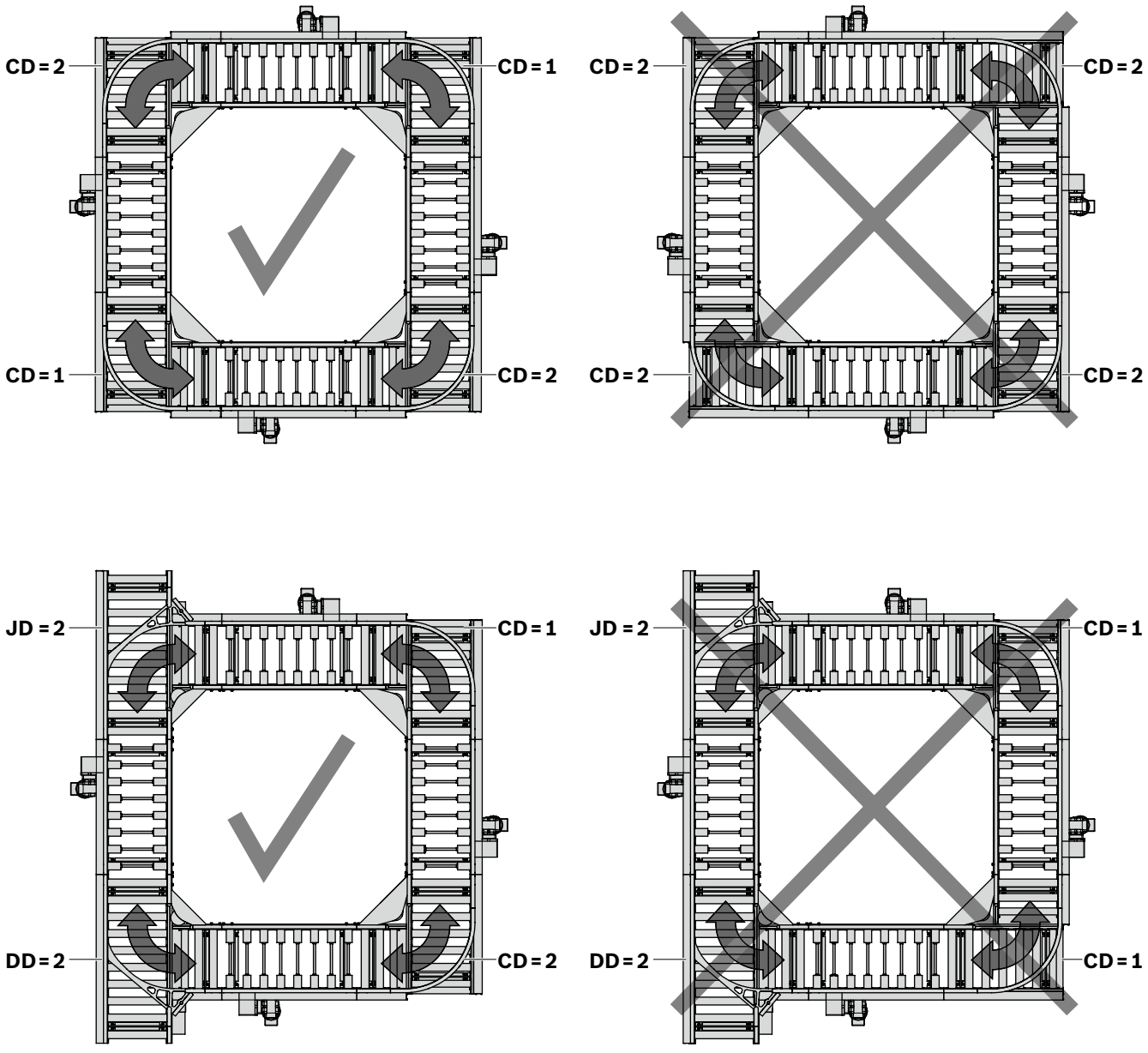
m_G = total mass of workpiece pallet

Higher weights available on request.
Can be adapted to different transport speeds.

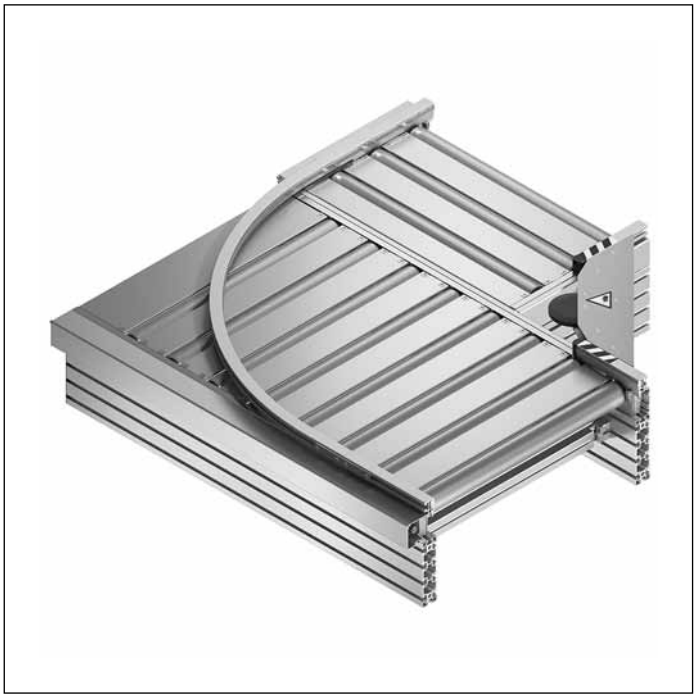


Note:
At curves, diverters and junctions, functional considerations mean that there is 0.5 mm difference between the transport height of the main and secondary section (inlet and outlet) (**Z**).

Arrangement of curves, diverters, and junctions



CU 5/XH, CU 5/H curves



Condition on delivery:

- Ready-to-install.

Optional:

- assembled protective covers
- (protective covers cannot be ordered separately)

Use:

The curve is a ready-for-operation module for branching transport of workpiece pallets. Curves can be driven either on the inside or on the outside.

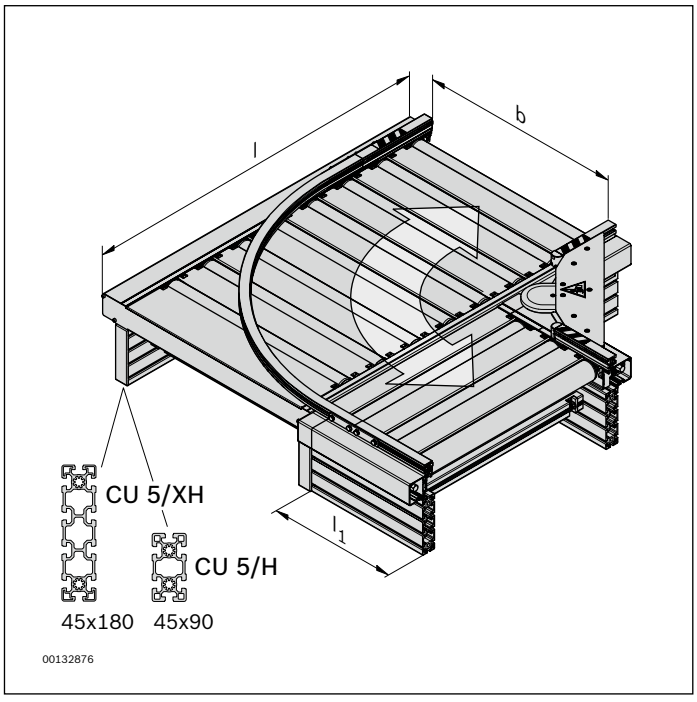
Note:

The curve is not suitable for accumulation operation.
Permissible loads, see page 5-6

Version:

- Reversible operation possible
- Accumulation operation not permitted
- Support profile made of anodized aluminum
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel gears made of sintered metal
- Roller spacing p = 130
- Full rollers
- m_G up to 300 kg (where v = 9 m/min)

Ordering information



CU 5/XH, CU 5/H curves

b (mm)	l_{WT} (mm)	N	LG	CD[1]	DSM[2]	DST[3]	TR	SC[4]	Material number
455	455; 650	10	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 526 (CU 5/XH)**
650	650; 845	11	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 525 (CU 5/H)**
845	845; 1040	13	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	b = ... mm
									l_{WT} = ... mm
									N = ...
									LG = ...
									CD = ...
									DSM = ...
									DST = ...
									TR = ...
									SC = ...

[1] CD = curve direction,
1: left
2: right

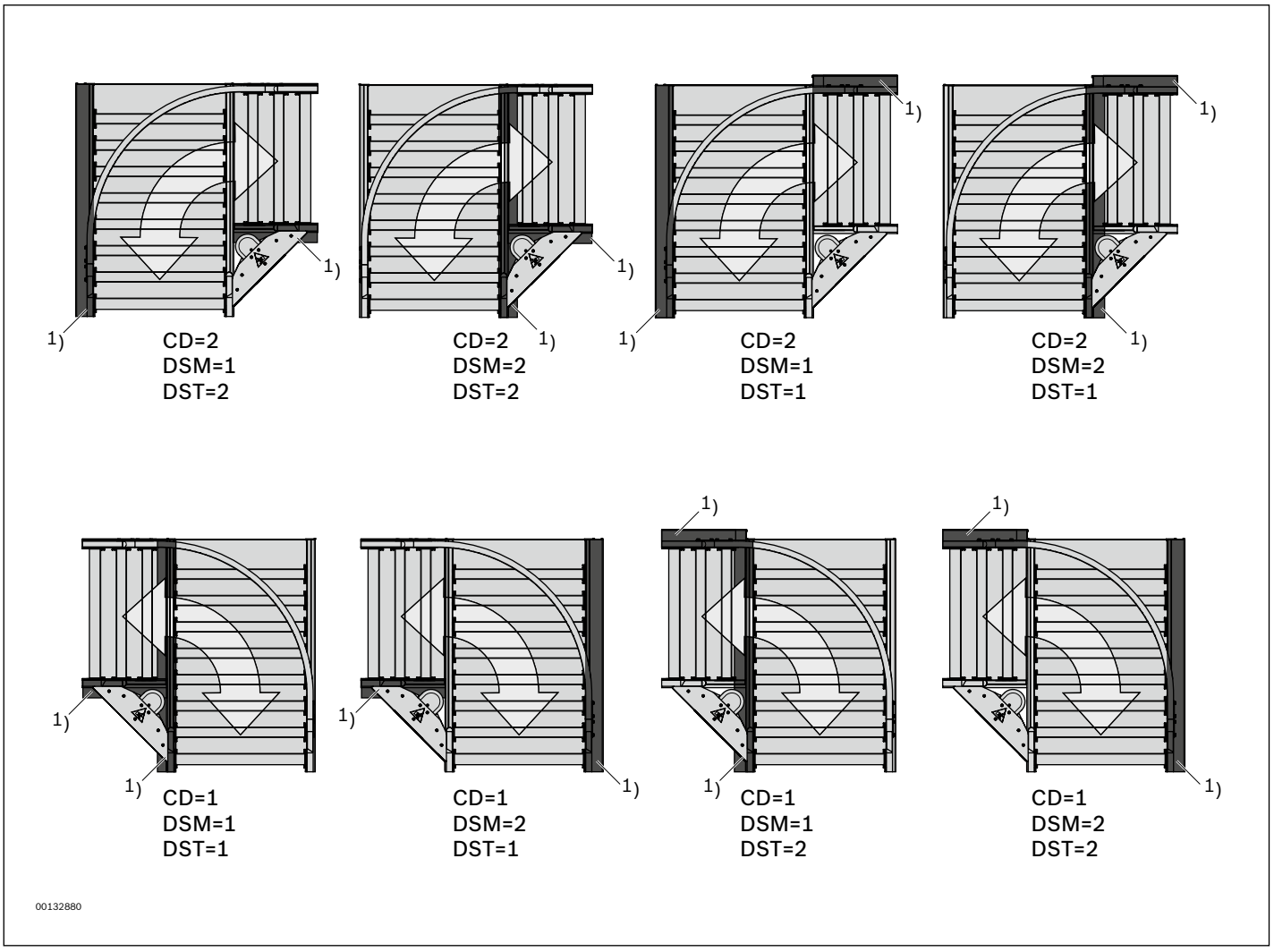
[2] DSM = King shaft installation on main section
1: left
2: right

[3] DST = King shaft installation on secondary section
1: left
2: right

[4] SC = protective covers
1: without protective covers
2: with protective covers

Description of further parameters, see page 0-2
Ordering examples, see page 5-6

Order examples



[1] Drive side

Permissible loads

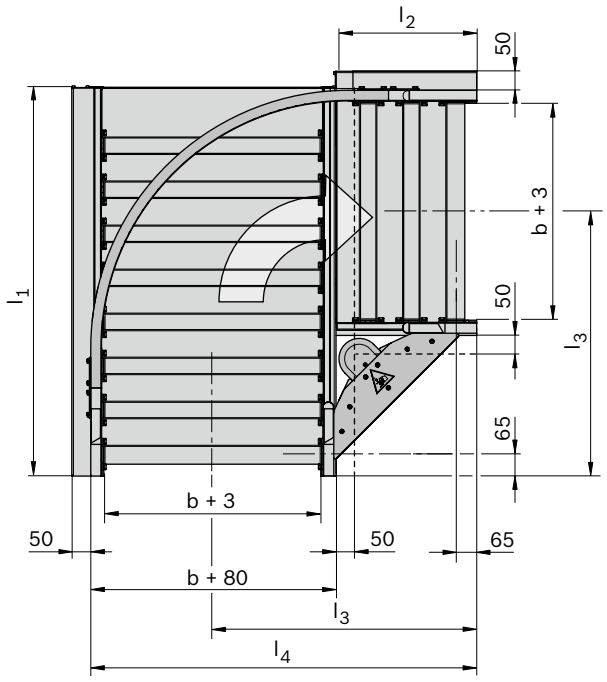
m_G (kg)	v_N (m/min)
max. 260	12
max. 300	9

m_G = total mass of workpiece pallet

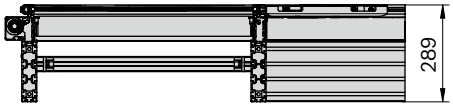
Higher weights available on request.
Can be adapted to different transport speeds.

Dimensions

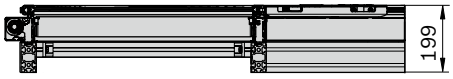
CU 5/H, CU 5/XH curve

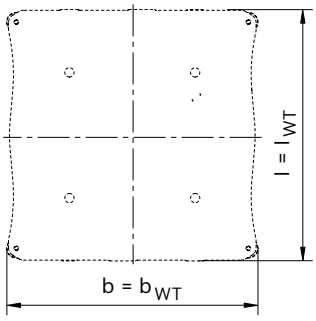


CU 5/XH



CU 5/H





CU 5/XH: 3 842 998 526
CU 5/H: 3 842 998 525

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b[1] (mm)	l_{WT}[2] (mm)	N	l_1[3] (mm)	l_2[4] (mm)	l_3[5] (mm)	l_4 (mm)
455	455; 650	10	921.5	382.5	650	917.5
650	650; 845	11	1149	415	780	1145
845	845; 1040	13	1376.5	447	910	1372.5

[1] b = track width in direction of transport
[2] l_{WT} = workpiece pallet length (in direction of transport)
[3] l_1 = length of main section
[4] l_2 = length of secondary section
[5] l_3 = length of secondary section up to center of main section

Description of further parameters, see page 0-2

DI 5/XH, DI 5/H diverters



Condition on delivery:

- Ready-to-install.

Optional:

- Protective covers mounted (protective covers cannot be ordered separately)

Use:

The diverter is a ready-for-operation module for branching transport of workpiece pallets. The king shaft installation for the main or secondary section can be installed on either side. The diverter is controlled as an active element via a pneumatic cylinder (p = 5 ... 6 bar).

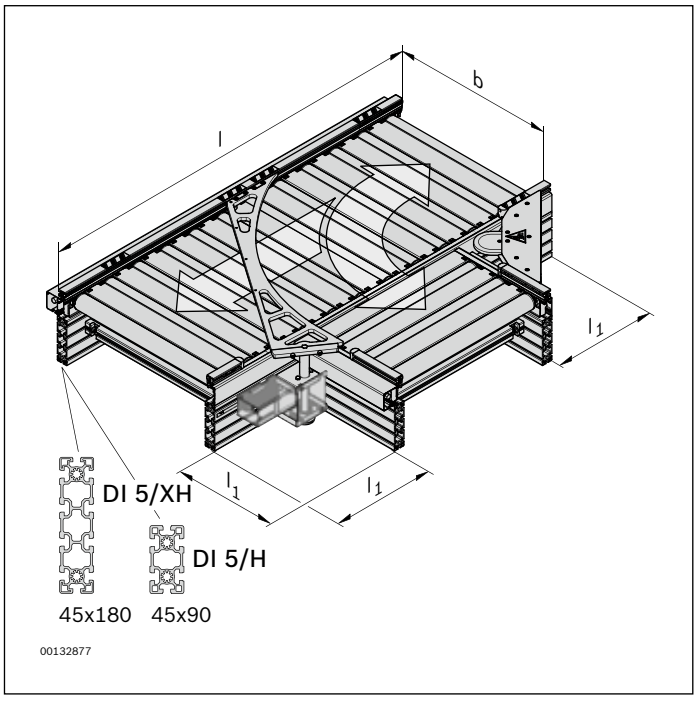
Note:

The diverter is not suitable for accumulation operation.
Permissible loads, see page 5-10

Version:

- Reversible operation possible
- Accumulation operation not permitted
- Support profile made of anodized aluminum
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel gears made of sintered metal
- Roller spacing p = 130
- Full rollers
- m_G up to 300 kg (where v = 9 m/min)
- Pneumatic push-in fitting: 6 mm

Ordering information



DI 5/XH, DI 5/H diverters

b (mm)	l_{WT} (mm)	N	LG	DD[1]	DSM[2]	DST[3]	TR	SC[4]	Material number
455	455; 650	13	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 529 (DI 5/XH)**
650	650; 845	15	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 528 (DI 5/H)**
845	845; 1040	17	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	b = ... mm
									l_{WT} = ... mm
									N = ...
									LG = ...
									DD = ...
									DSM = ...
									DST = ...
									TR = ...
									SC = ...

[1] DD = diverter direction
1: left
2: right

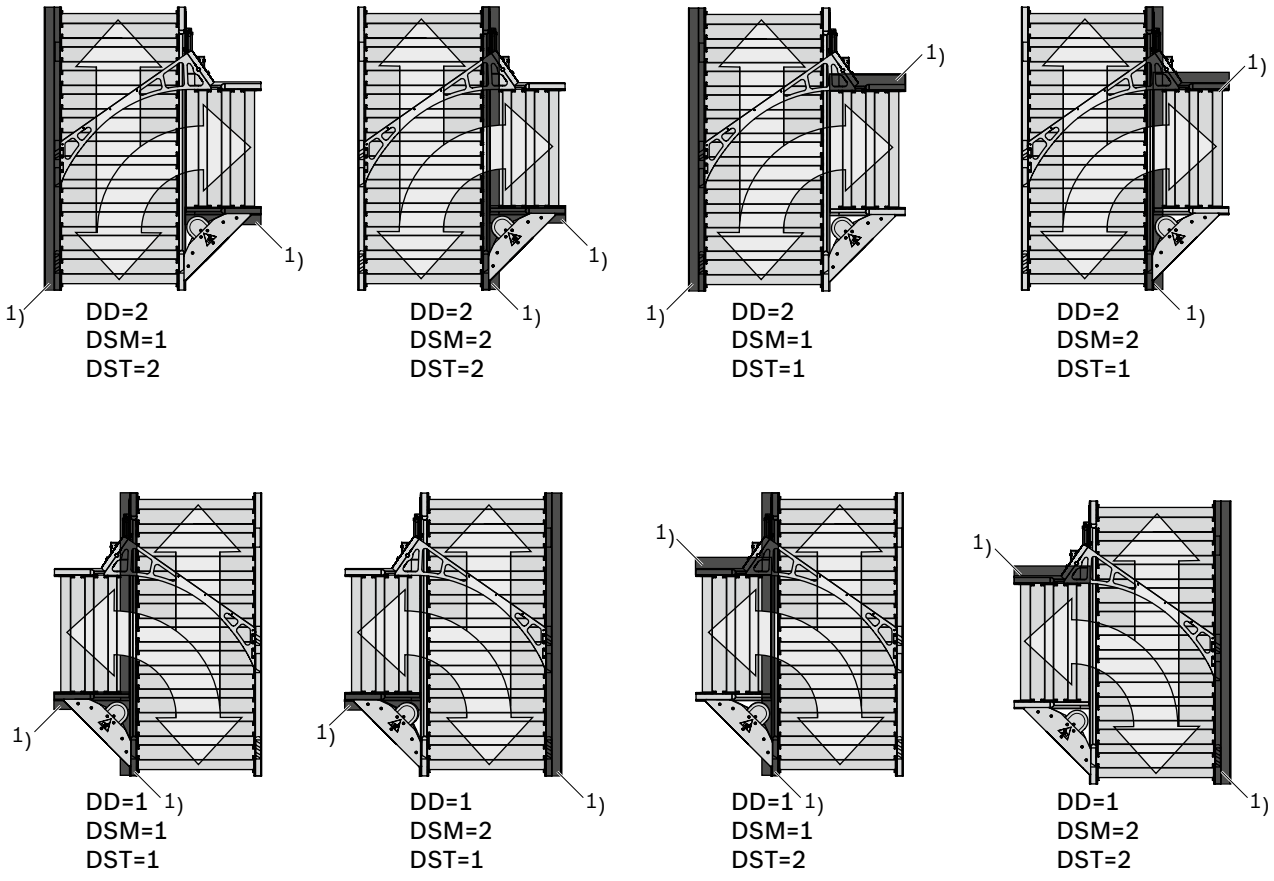
[2] DSM = King shaft installation on main section
1: left
2: right

[3] DST = King shaft installation on secondary section
1: left
2: right

[4] SC = protective covers
1: without protective covers
2: with protective covers

Description of further parameters, see page 0-2
Ordering examples, see page 5-10

Order examples



[1)] Drive side

Permissible loads

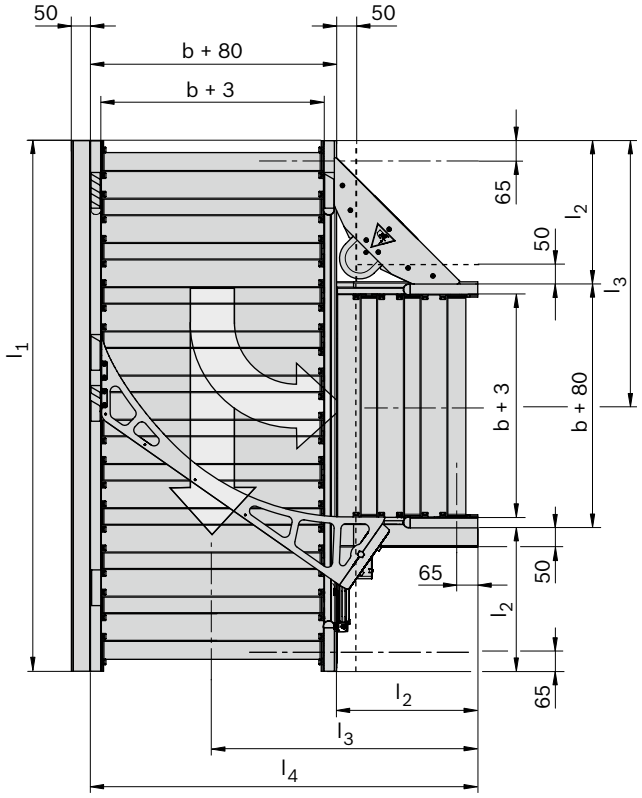
m_G (kg)	v_N (m/min)
max. 260	12
max. 300	9

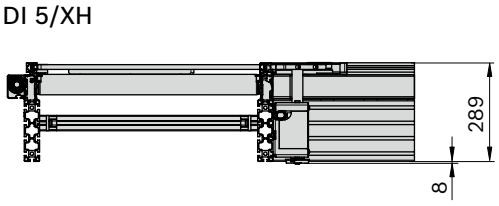
m_G = total mass of workpiece pallet

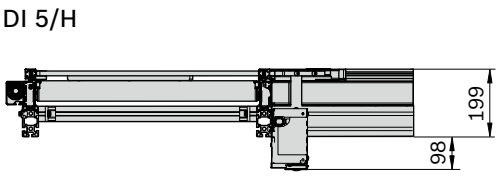
Higher weights available on request.
Can be adapted to different transport speeds.
Diverter arm position inquiry on request.

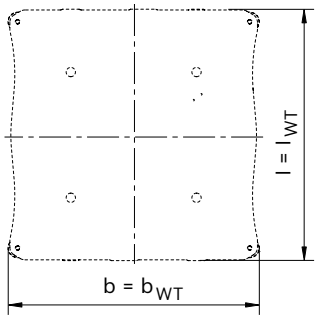
Dimensions

DI 5/H, DI 5/XH diverter









DI 5/XH: 3 842 998 529
DI 5/H: 3 842 998 528

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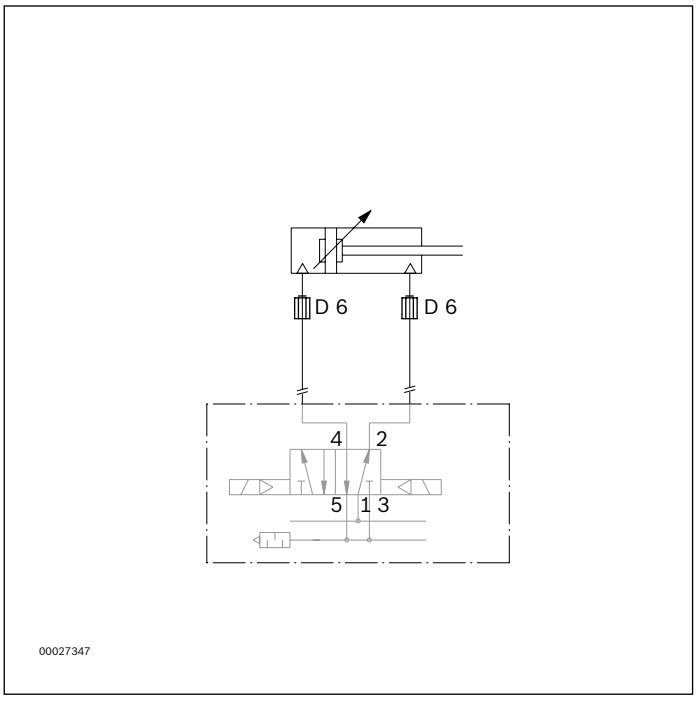
b[1] (mm)	l_{WT}[2] (mm)	N	l_1[3] (mm)	l_2[4] (mm)	l_3[5] (mm)	l_4 (mm)
455	455; 650	13	1300	382.5	650	917.5
650	650; 845	15	1560	415	780	1145
845	845; 1040	17	1820	447	910	1372.5

[1] b = track width in direction of transport
[2] l_{WT} = workpiece pallet length (in direction of transport)
[3] l_1 = length of main section
[4] l_2 = length of secondary section
[5] l_3 = length of secondary section up to center of main section

Description of further parameters, see page 0-2

Circuit diagram

DI 5/H, DI 5/XH diverter



JU 5/XH, JU 5/H junctions



Condition on delivery:

- Ready-to-install.

Optional:

- Protective covers mounted (protective covers cannot be ordered separately)

Use:

The junction is a module for branching transport of workpiece pallets. The king shaft installation for the main or secondary section can be installed on either side.
The junction is a passive element without any control.
The workpiece pallet moves the diverter arm into position.

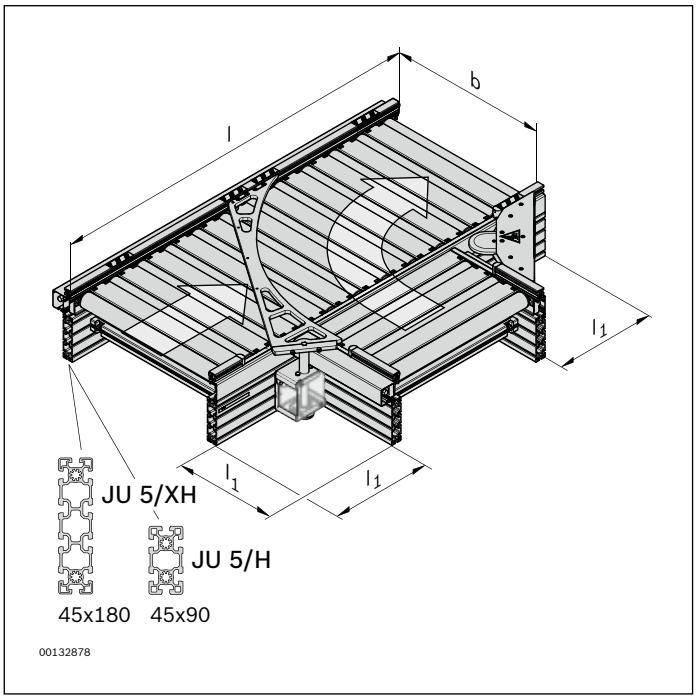
Note:

The junction is not suitable for accumulation operation.
Permissible loads, see page 5-15

Version:

- Reversible operation not permitted
- Accumulation operation not permitted
- Support profile made of anodized aluminum
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel gears made of sintered metal
- Roller spacing p = 130
- Full rollers
- m_G up to 300 kg (where v = 9 m/min)

Ordering information



JU 5/XH, JU 5/H junctions

b (mm)	l_{WT} (mm)	N	LG	JD[1)]	DSM[2)]	DST[3)]	TR	SC[4)]	Material number
455	455; 650	13	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 531 (JU 5/XH)**
650	650; 845	15	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	**3 842 998 530 (JU 5/H)**
845	845; 1040	17	1; 2; 3	1; 2	1; 2	1; 2	1; 2	1; 2	b = ... mm
									l_{WT} = ... mm
									N = ...
									LG = ...
									JD = ...
									DSM = ...
									DST = ...
									TR = ...
									SC = ...

[1)] JD = Junction direction
1: left
2: right

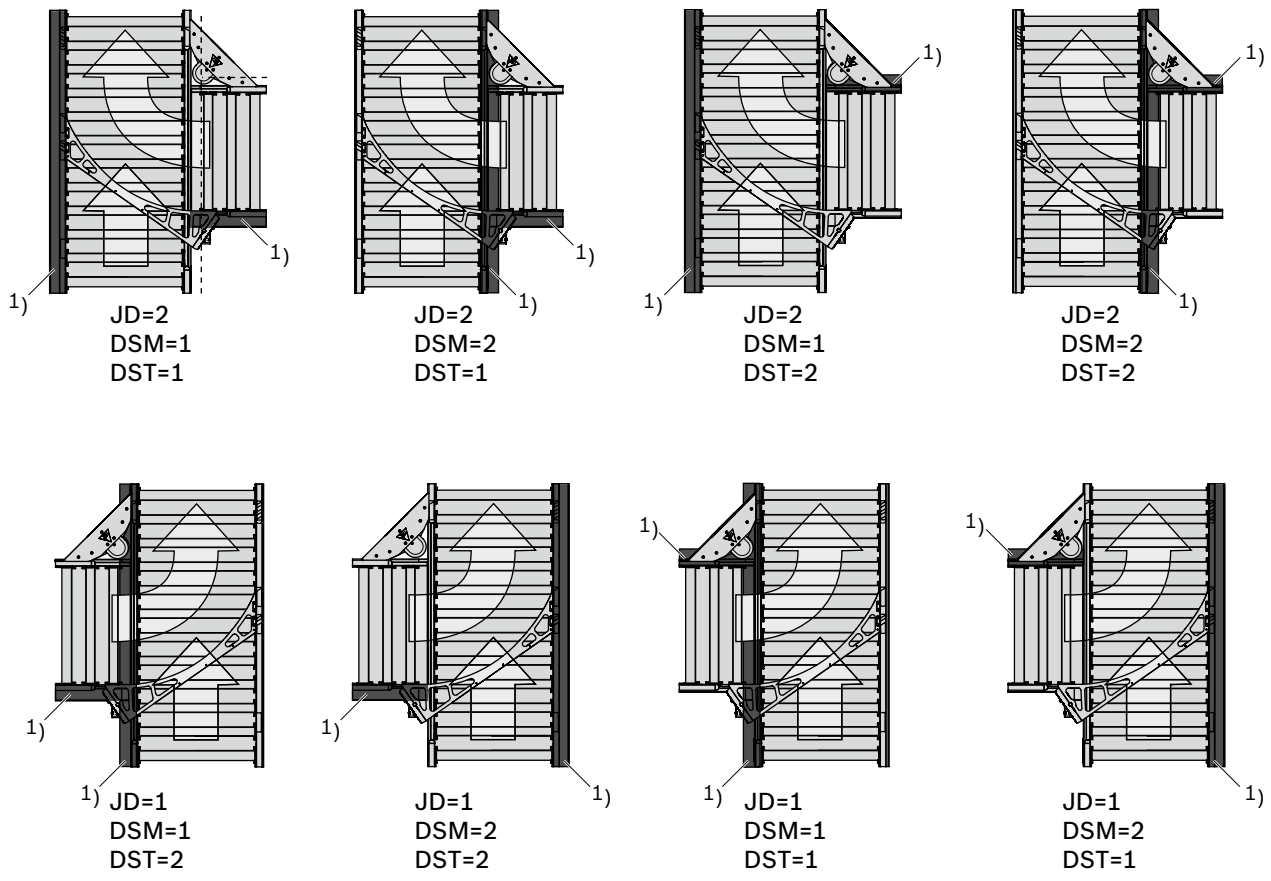
[2)] DSM = King shaft installation on main section
1: left
2: right

[3)] DST = King shaft installation on secondary section
1: left
2: right

[4)] SC = protective covers
1: without protective covers
2: with protective covers

Description of further parameters, see page 0-2
Ordering examples, see page 5-15

Order examples



[1)] Drive side

Permissible loads

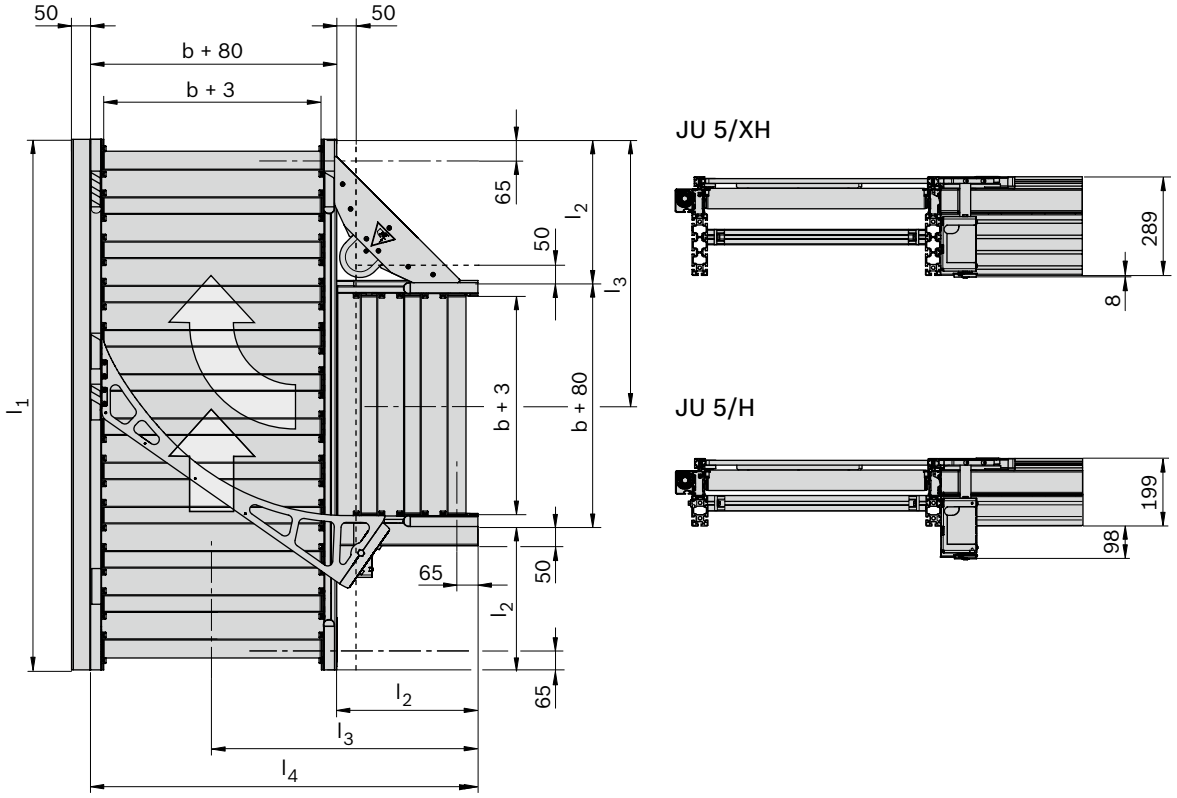
m_G (kg)	v_N (m/min)
max. 260	12
max. 300	9

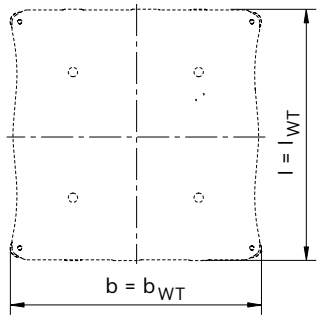
m_G = total mass of workpiece pallet

Higher weights available on request.
Can be adapted to different transport speeds.

Dimensions

JU 5/H, JU 5/XH junction





JU 5/XH: 3 842 998 531
JU 5/H: 3 842 998 530

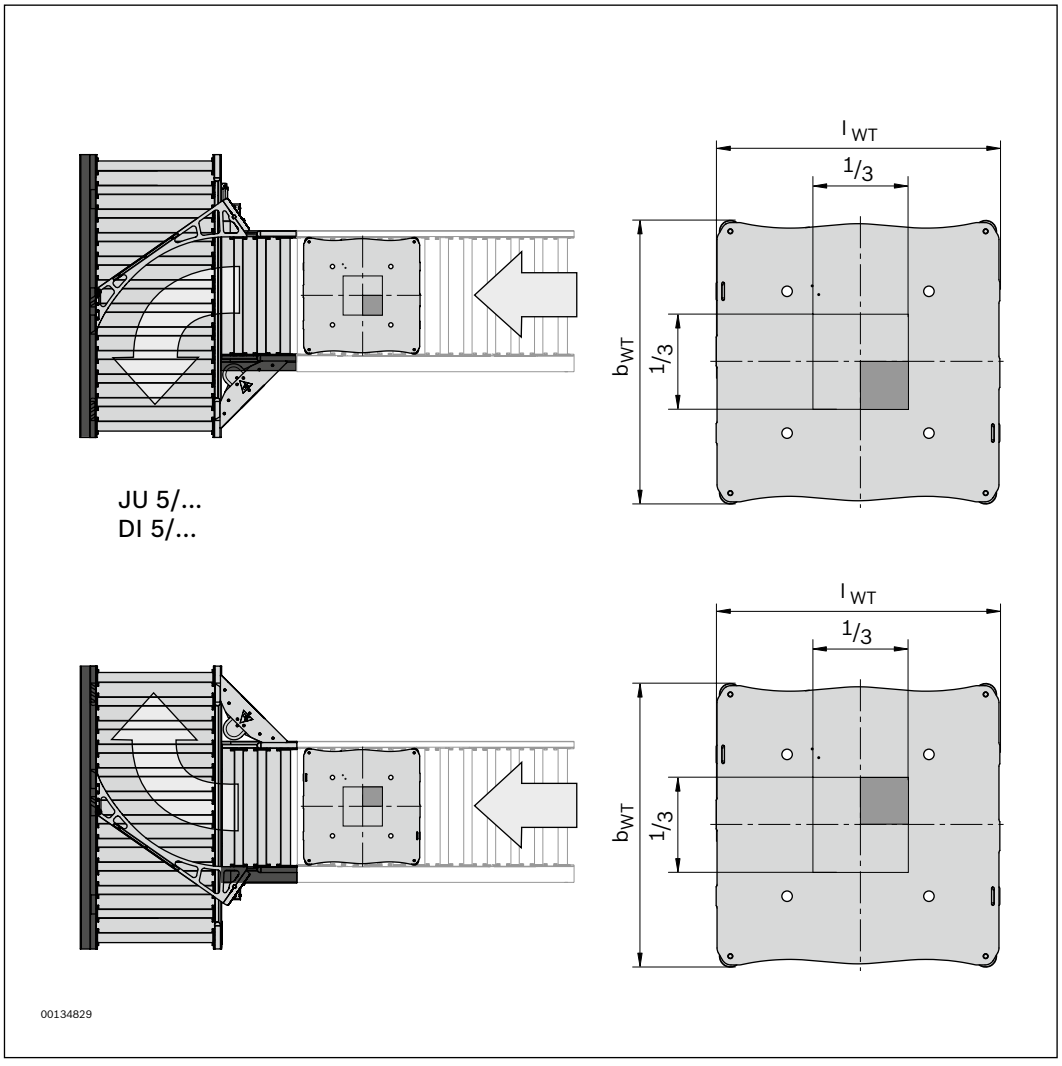
00132895

b[1] (mm)	l_{WT}[2] (mm)	N	l_1[3] (mm)	l_2[4] (mm)	l_3[5] (mm)	l_4 (mm)
455	455; 650	13	1300	382.5	650	917.5
650	650; 845	15	1560	415	780	1145
845	845; 1040	17	1820	447	910	1372.5

[1] b = track width in direction of transport
[2] l_{WT} = workpiece pallet length (in direction of transport)
[3] l_1 = length of main section
[4] l_2 = length of secondary section
[5] l_3 = length of secondary section up to center of main section

Description of further parameters, see page 0-2

Limits for the permissible gravity center position for junctions and diverters



With the illustrated gravity center position transport problems may occur at the transition from the secondary section to the main section. General information on the gravity center position, see page 2-3

Three-way diverter DI 5/XH-3W, DI 5/H-3W



Condition on delivery:

- Ready-to-install.

Optional:

- Protective covers mounted (protective covers cannot be ordered separately)

Use:

The three-way diverter is a ready-for-operation module for branching off workpiece pallets in two directions or combining from two directions. The king shaft installation for the main or secondary section can be installed on either side. The diverter is controlled as an active element via a pneumatic cylinder (p = 5 ... 6 bar).

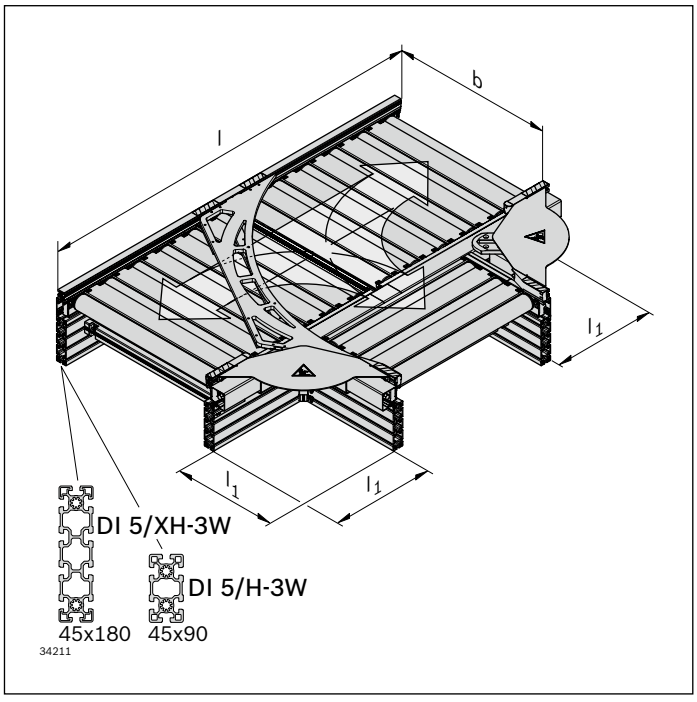
Note:

The three-way diverter is not suitable for accumulation operation.
Permissible loads, see page 5-20

Version:

- Reversible operation possible
- Accumulation operation not permitted
- Support profile made of anodized aluminum
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel gears made of sintered metal
- Roller spacing p = 130
- Full rollers
- m_G up to 300 kg (where v = 9 m/min)
- Pneumatic push-in fitting: 6 mm

Ordering information



DI 5/XH, DI 5/H diverters

b (mm)	l_{WT} (mm)	N	LG	DSM[1)]	DST[2)]	TR	SC[3)]	Material number
455	455; 650	13	1; 2; 3	1; 2	1; 2	1; 2	1; 2	**3 842 998 807 (DI 5/XH-3W)**
650	650; 845	15	1; 2; 3	1; 2	1; 2	1; 2	1; 2	**3 842 998 808 (DI 5/H-3W)**
845	845; 1040	17	1; 2; 3	1; 2	1; 2	1; 2	1; 2	b = ... mm
								l_{WT} = ... mm
								N = ...
								LG = ...
								DSM = ...
								DST = ...
								TR = ...
								SC = ...

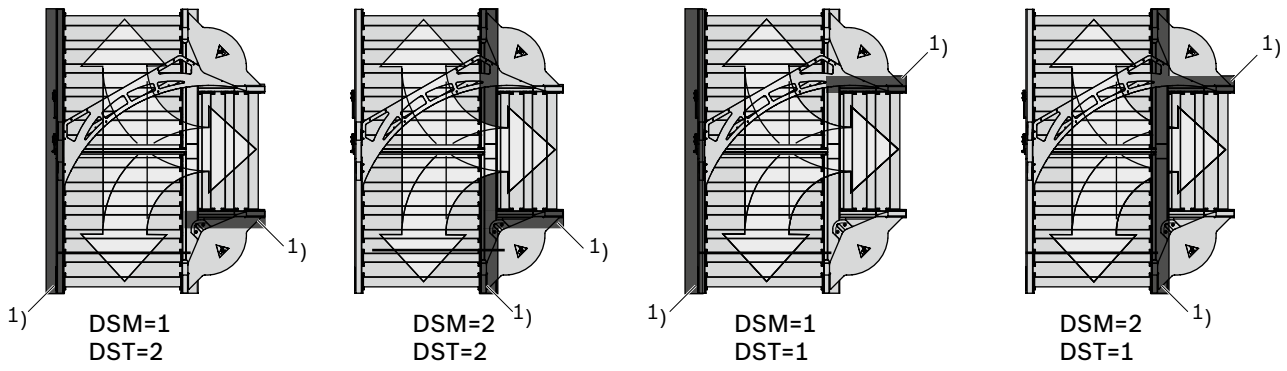
[1)] DSM = King shaft installation on main section
1: left
2: right

[2)] DST = King shaft installation on secondary section
1: left
2: right

[3)] SC = protective covers
1: without protective covers
2: with protective covers

Description of further parameters, see page 0-2
Ordering examples, see page 5-20

Order examples



[1)] Drive side

Permissible loads

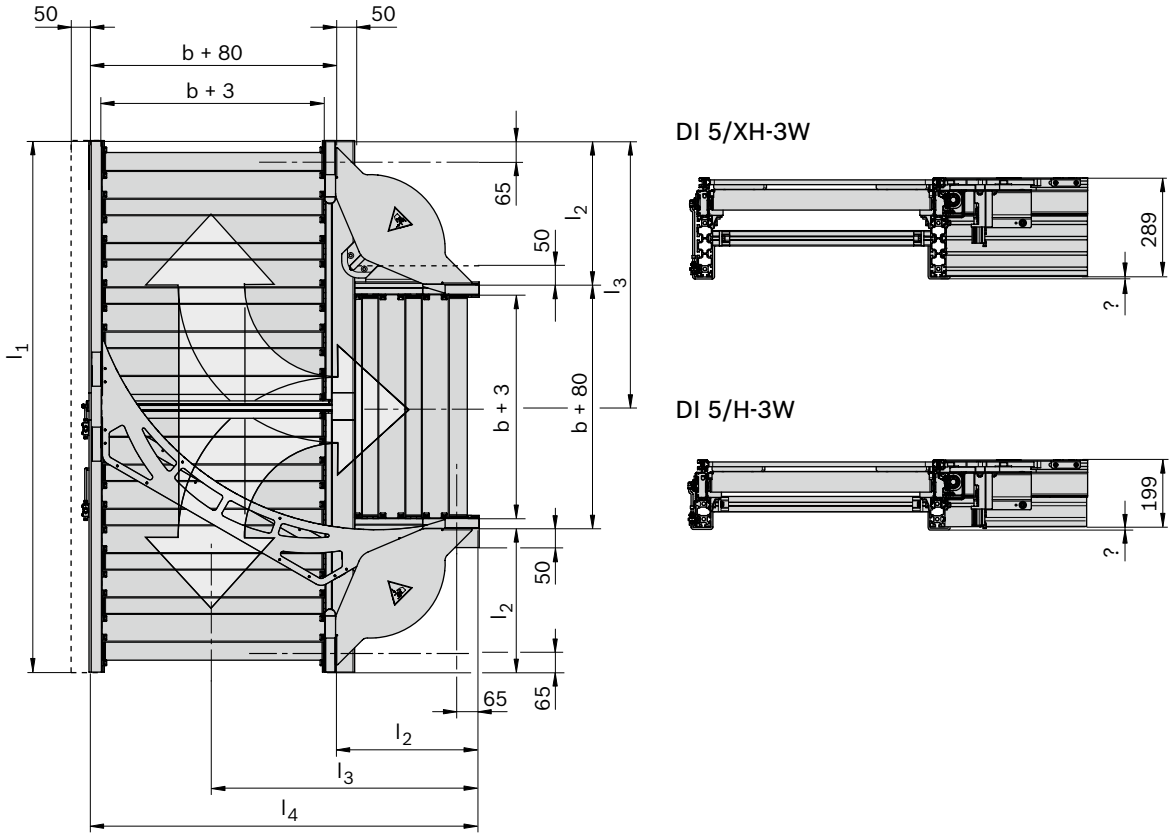
m_G (kg)	v_N (m/min)
max. 260	12
max. 300	9

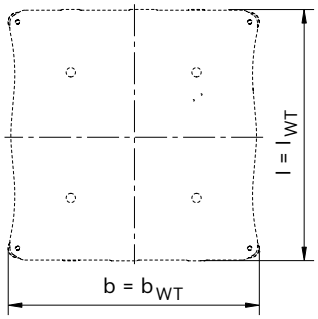
m_G = total mass of workpiece pallet

Higher weights available on request.
Can be adapted to different transport speeds.
Diverter arm position inquiry on request.

Dimensions

Diverter DI 5/XH-3W, DI 5/H-3W





DI 5/XH-3W: 3 842 998 807
DI 5/H-3W: 3 842 998 808

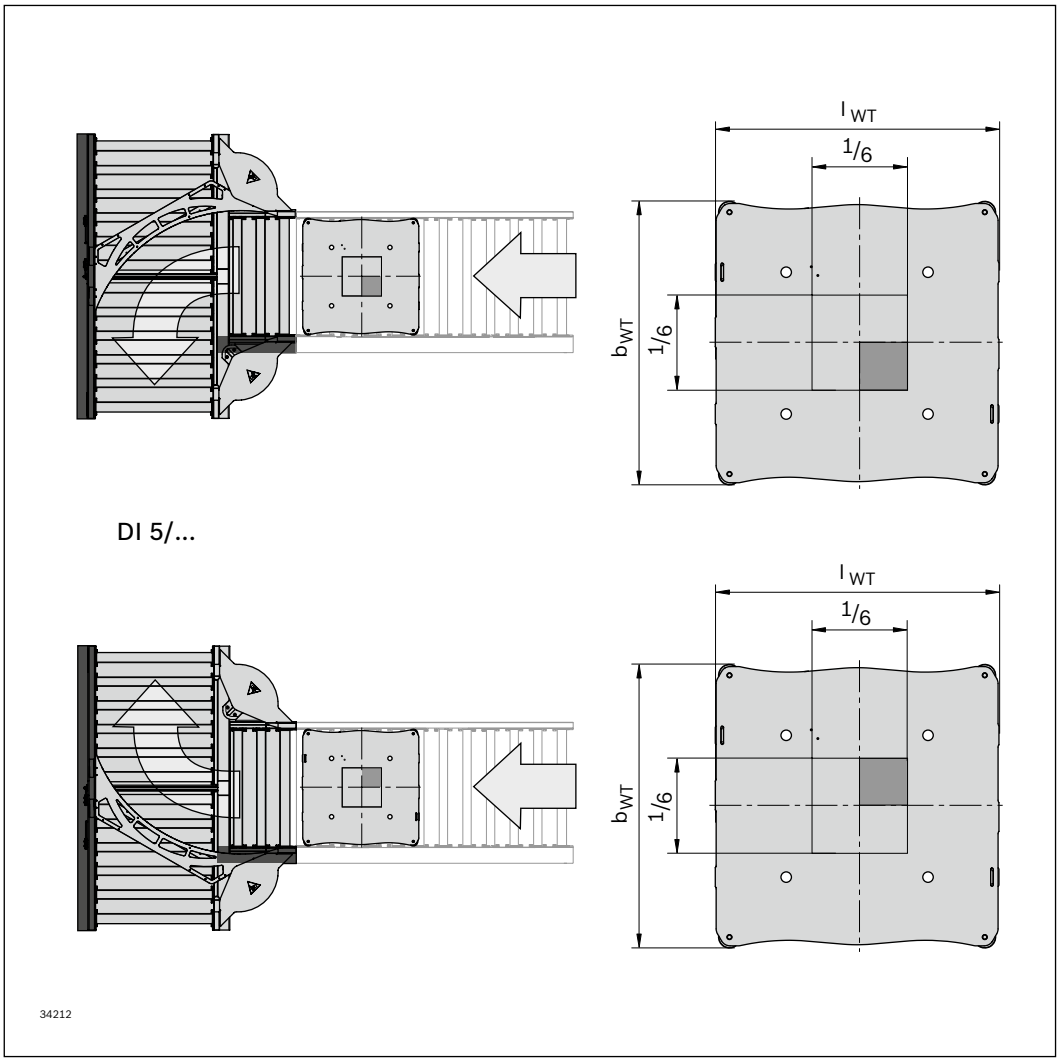
34214

b[1] (mm)	l_{WT}[2] (mm)	N	l_1[3] (mm)	l_2[4] (mm)	l_3[5] (mm)	l_4 (mm)
455	455; 650	13	1300	382.5	650	917.5
650	650; 845	15	1560	415	780	1145
845	845; 1040	17	1820	447	910	1372.5

[1] b = track width in direction of transport
[2] l_{WT} = workpiece pallet length (in direction of transport)
[3] l_1 = length of main section
[4] l_2 = length of secondary section
[5] l_3 = length of secondary section up to center of main section

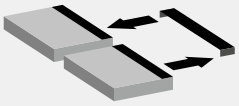
Description of further parameters, see page 0-2

Limits for the permissible gravity center position for the three-way diverter



With the illustrated gravity center position transport problems may occur at the transition from the secondary section to the main section. General information on the gravity center position, see page 2-3

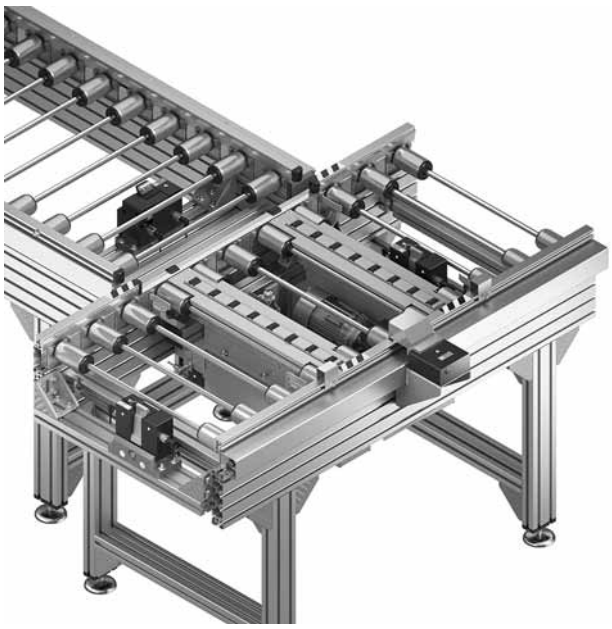
Note:
With b_{WT} = 650 mm and load center 1/6, eccentric, m_G = max. 200 kg



Transverse conveyor

Design	**6-2**
HQ 5 lift transverse unit	**6-4**
Stop gate VE 5/200, VE 5/D-300, VE 5/D-301, VE 5/D-1000	**6-9**
Damper DA 5/200, damper DA 5/1000	**6-11**
Connection kit for connecting the transverse section	**6-13**
Connection bridge	**6-15**
HQ 5 lift transverse unit protective covers	**6-17**
Cover for lateral guide of HQ 5 lift transverse unit	**6-19**

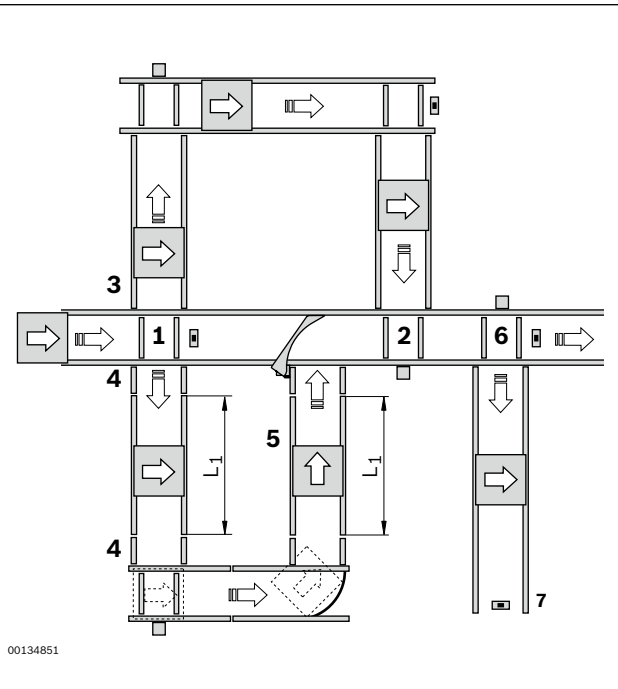
Design



Transverse conveyors are used to branch workpiece pallet paths into the individual processing stations.
When changing from a longitudinal conveyor to a transverse conveyor and vice versa, the workpiece pallet also changes its orientation with regard to its direction of transport.

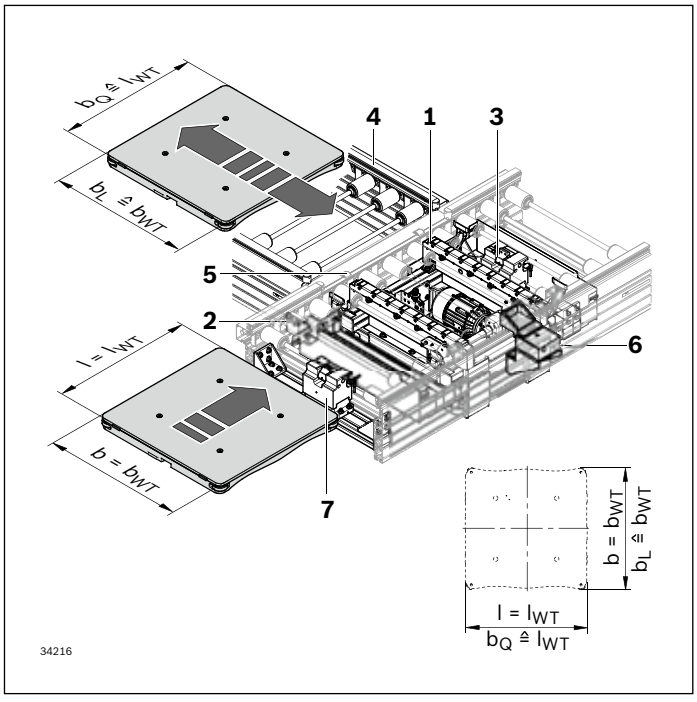
Note:

- Minimum speed of transverse section: 6 m/min
- Traveling through curves/diverters/junctions is only possible in a longitudinal direction (see arrow on workpiece pallet)!
- Accumulation is not permitted on HQ 5



HQ 5 infeeding and outfeeding options.

- Outfeeding to both sides
- Infeeding from just one side, see page 6-11
- Connection of the transverse section (standard section) in a circuit with 4 lift transverse units, see page 6-15
- Connection of the transverse section (2x connection bridge + standard section) with parallel use of lift transverse unit and curve/diverter/junction, see page 6-15
  L_1: same section length
- Rotation of the workpiece pallet by 90° with the combination of lift transverse unit and curve/diverter
- Infeeding and outfeeding to dead end section
- Dead end section with stop gate as end stop



Transverse conveyor sections include the following components:

- Lift transverse unit HQ 5, see page 6-4
- Connection kit for connecting the transverse section, see page 6-13
- VE 5/D-300, VE 5/D-301 or VE 5/D-1000 stop gate to stop the workpiece pallet when outfeeding, see page 6-9
- Connection bridge (see page 6-15) to compensate for length with parallel use of lift transverse unit and curve/diverter/junction
- DA 5/... damper to stop the workpiece pallet when infeeding, see page 6-11
- Sensor 3 842 555 421 to query the position of the workpiece pallet, see page 9-16
- Stop gate, if required, to pre-stop the workpiece pallet, see page 9-6

HQ 5 lift transverse unit



Use:
The HQ 5 lift transverse unit is a ready-for-operation module for branching transport. It lifts the workpiece pallet from the rollers and moves it transversely to the original conveyor direction via a driven roller section.

Note:
Note the orientation of the workpiece pallet after branching.

Version:
- Can be used with all WT 5 workpiece pallets
- The transport level of the transverse section is 4.5 mm above the transport level of the longitudinal section
- Protective casing can also be removed in the case of low conveyor heights
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

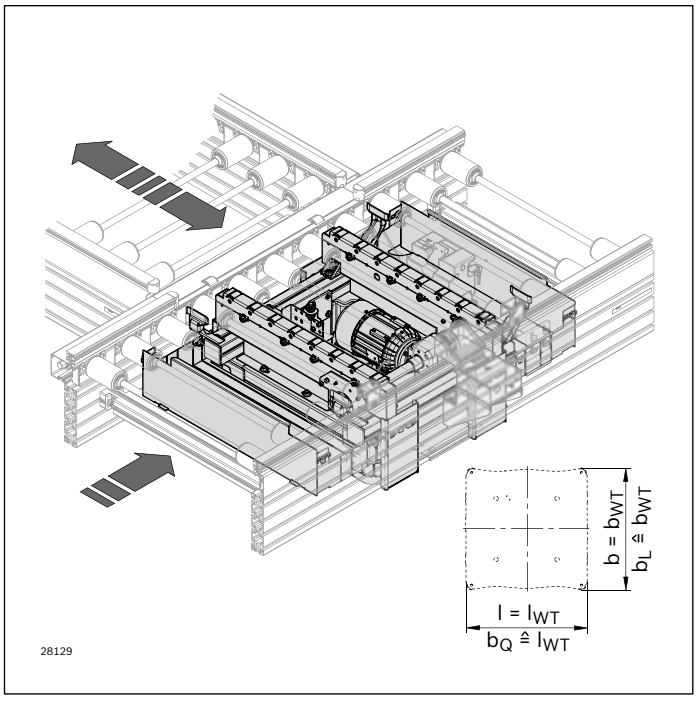
Scope of delivery:
- Incl. ST 5/XH or ST 5/H conveyor unit, dimensions, see page 4-4

Condition on delivery:
- Fully assembled

Required accessories:
- Stop gate VE 5/200, VE 5/D-300, VE 5/D-301 or VE 5/D-1000, see page 6-9
- SH 2/U-H 3 842 537 289 switch bracket, see page. 9-18
- Clamping holder for sensor, see page 9-15

Recommended accessories:
- Protective covers, see page 6-19
- For position inquiry WT sensor 3 842 555 421, see page 9-16

Ordering information



HQ 5 lift transverse unit

b_L (mm)	b_Q (mm)	p (mm)	v_N (m/min)	SC	DSM	OFD	TR	U, f	AT	Material number
								See page 13-9		
455	455	130	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	**3 842 998 855 (HQ 5/XH)**
455	650	130; 195	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	**3 842 998 854 (HQ 5/H)**
650	650	130; 195	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	b_L = ... mm
650	845	130; 195; 260	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	b_Q = ... mm
845	845	130; 195; 260	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	p = ... mm
845	1040	130; 195; 260; 325	6; 9; 12	1; 2	1; 2	1; 2; 3	1; 2		K; S	v_N = ... m/min.
										U = ... V, see page 13-9
										f = ... Hz, see page 13-9
										SC = ...
										OFD = ...
										DSM = ...
										TR = ...
										AT = ...

b_L = track width in direction of transport (longitudinal conveyor)

b_Q = track width in direction of transport (transverse conveyor)

p = Roller spacing (pitch)

v_N = Nominal speed
U = 0, v_N > 0: with gear, without motor
v_N = 0: without motor and gear

SC = Housing element
1: without protective casing
2: with protective casing

DSM = King shaft installation on main section
1: left
2: right

OFD = Direction of the outfeed
1: left
2: right
3: left and right

AT = Motor connection
K: with terminal box
S: with cable/plug

HQ 5 lift transverse unit position inquiry (top/bottom) on request

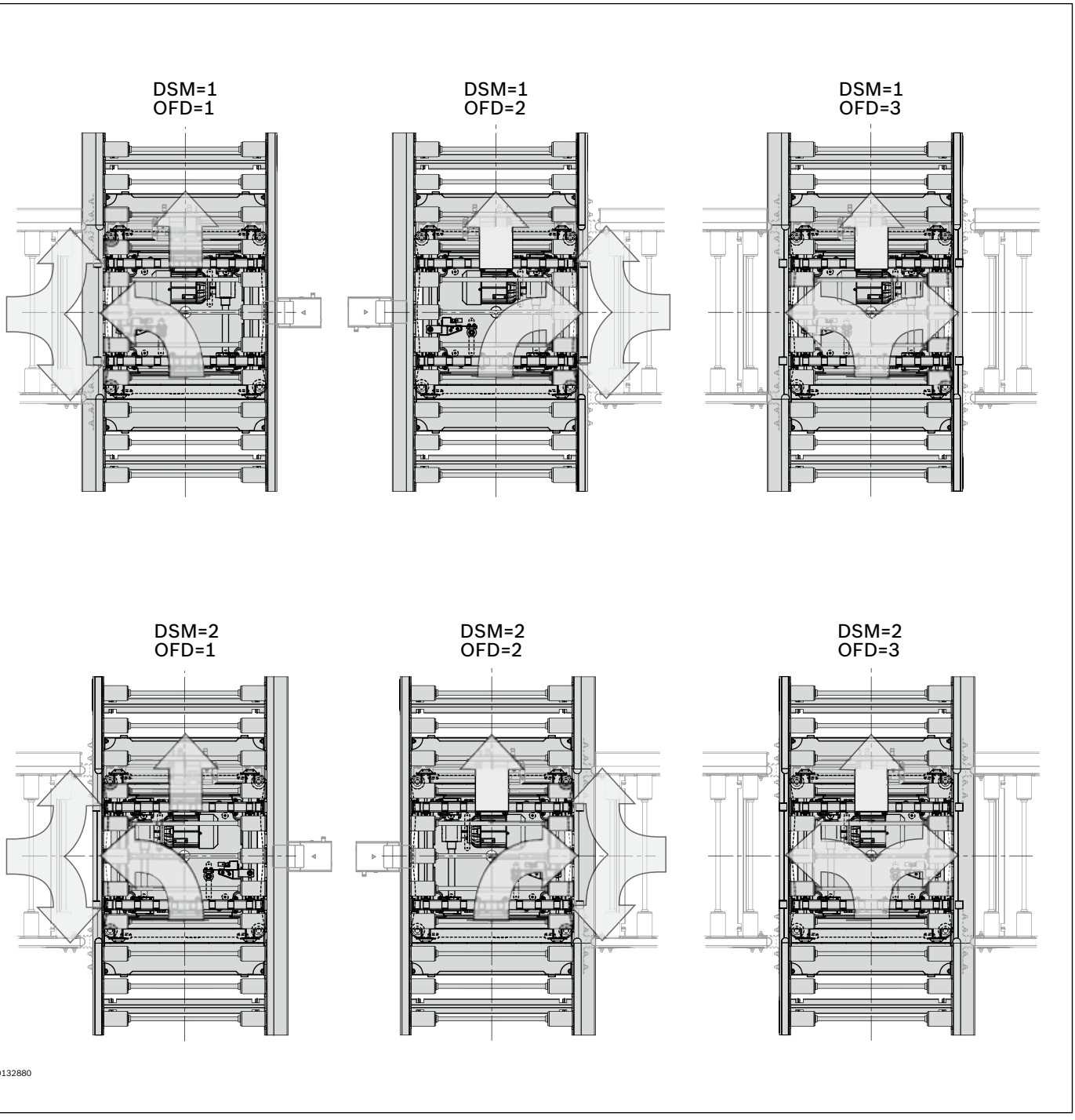
Description of further parameters, see page 0-2

Ordering examples, see page 6-6

Order examples for the king shaft installation and direction of the outfeed

Size shown

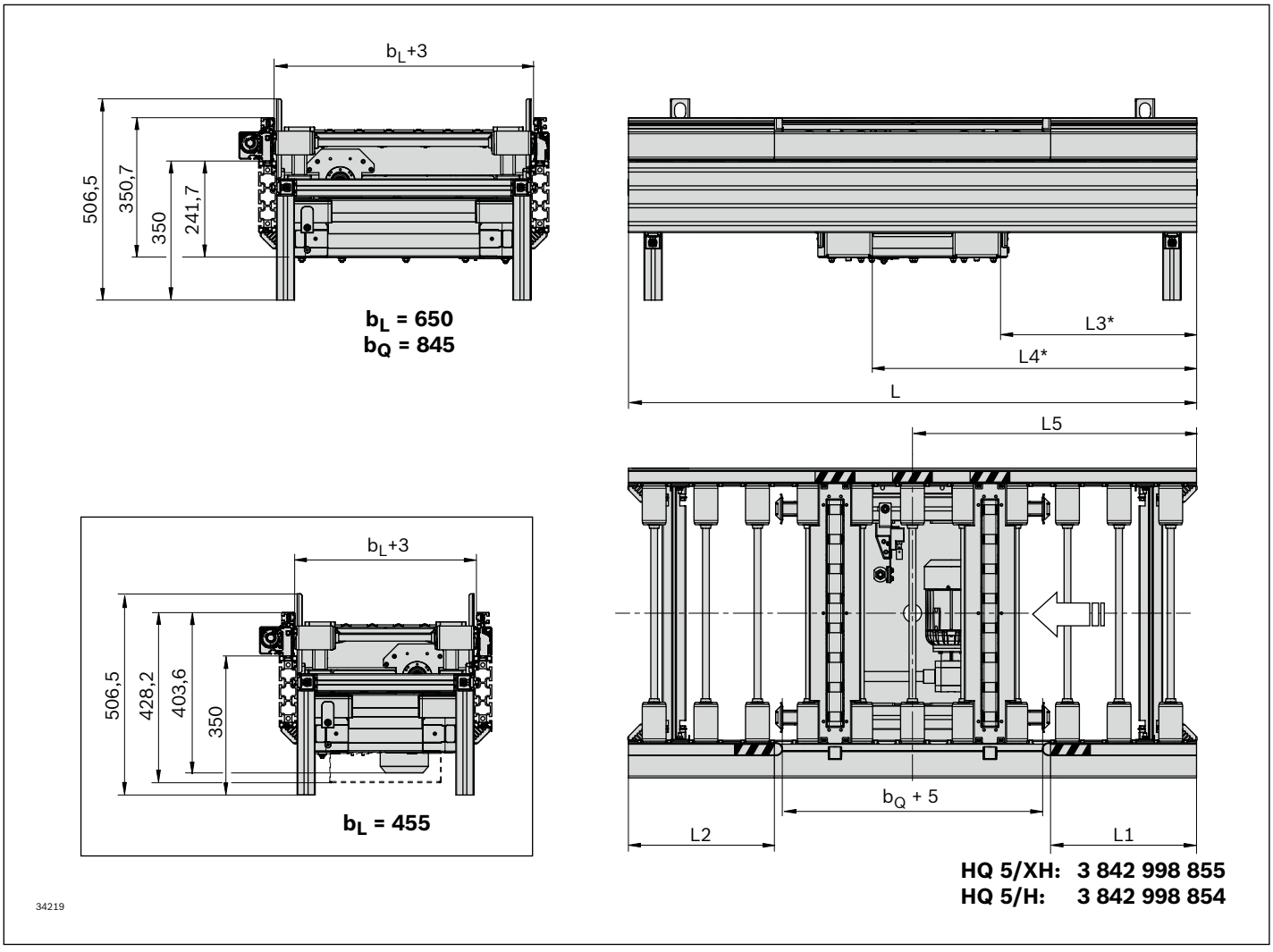
b = 650 x 650 mm



If infeeding in the main section takes place, the VE 5/... can be installed in the HQ as an alternative to the damper. In this case, the workpiece pallet is stopped in the center of the HQ and can then continue in any direction.

Dimensions

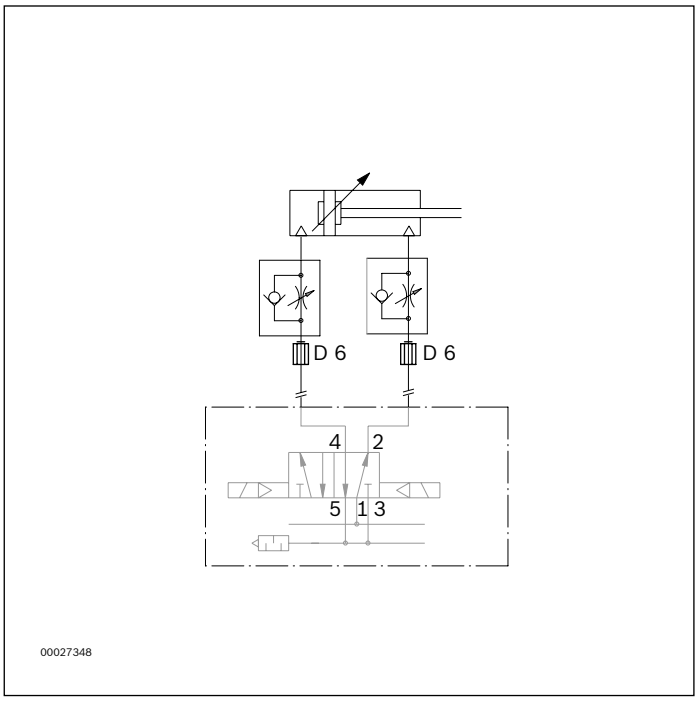
HQ 5 lift transverse unit



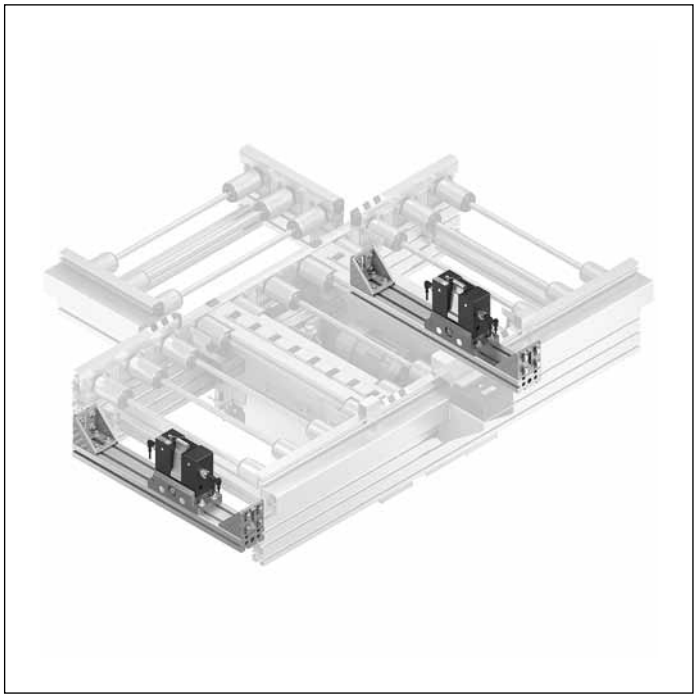
b (mm)	l_{WT} (mm)	p (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)
455	455	130	1300	400.0	400	493.8	686.3	650.0
455	650	130	1430	367.5	367.5	493.8	816.3	715.0
455	650	195	1560	432.5	432.5	558.8	881.3	780.0
650	650	130	1430	367.5	367.5	493.8	816.3	715.0
650	650	195	1560	432.5	432.5	558.8	881.3	780.0
650	845	130	1690	400.0	400.0	493.8	1076.3	845.0
650	845	195	1755	432.5	432.5	526.3	1108.8	910.0
650	845	260	1820	595.0	335.0	688.8	1271.3	650.0
845	845	130	1690	400.0	400.0	493.8	1076.3	845.0
845	845	195	1755	432.5	432.5	526.3	1108.8	877.5
845	845	260	1820	595.0	335.0	688.8	1271.3	650.0
845	1040	130	1820	367.5	367.5	493.8	1206.3	910.0
845	1040	195	1950	432.5	432.5	558.8	1271.3	975.0
845	1040	260	2080	432.5	562.5	558.8	1271.3	910.0
845	1040	325	1950	432.5	432.5	558.8	1271.3	975.0

Description of parameters, see page 0-2

Circuit diagram
HQ 5 lift transverse unit



Stop gate VE 5/200, VE 5/D-300, VE 5/D-301, VE 5/D-1000



Use:

- For non-damped (VE 5/200) or damped (VE 5/D-300, VE 5/D-301 and VE 5/D-1000) stopping of accumulating workpiece pallets for outfeeding, see page 9-3, 9-6, 9-12

Version:

- Pneumatic stop gate. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.
- Compressed air connection 5 ... 6 bar
- Further technical details, see page 9-3

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

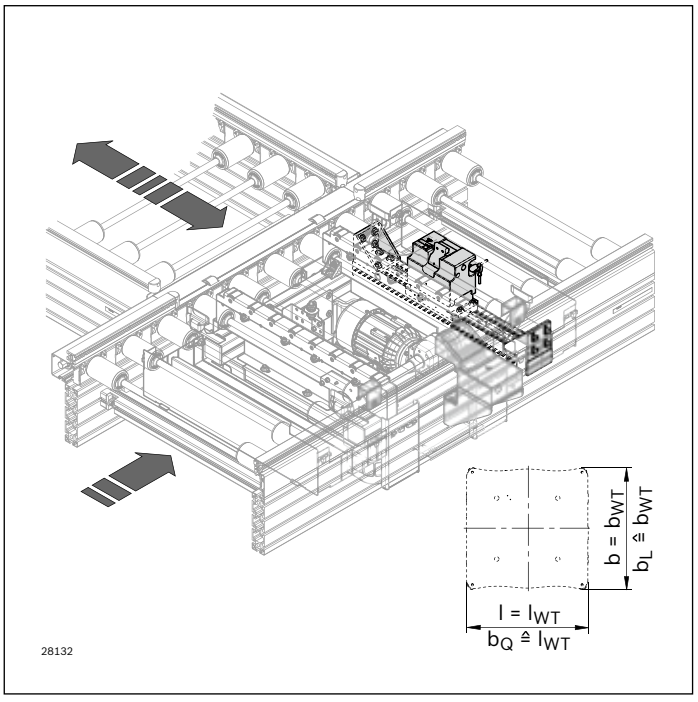
Condition on delivery:

- Not assembled

Recommended accessories:

- Sensor 3 842 549 811 or 3 842 537 814, see page 9-16
- Sensor for VE 5/D-301 3 842 551 761, see page 9-16
- Clamping holder for sensor, see page 9-15

Ordering information



VE 5/200 stop gates

b (b_L) (mm)	Material number
455; 650; 845; 1040	**3 842 998 518**
	b_L = ... mm

b_L = track width in direction of transport (longitudinal conveyor)

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
200	2 ... 9

[1] Conveyor speed

VE 5/D-300 stop gate

b (b_L) (mm)	Material number
455; 650; 845; 1040	**3 842 998 517**
	b_L = ... mm

b_L = track width in direction of transport (longitudinal conveyor)

VE 5/D-301 stop gate

b (b_L) (mm)	Material number
455; 650; 845; 1040	**3 842 998 079**
	b_L = ... mm

b_L = track width in direction of transport (longitudinal conveyor)

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
max. 300	2 ... 9
max. 260	2 ... 12
max. 160	2 ... 18

[1] Conveyor speed

VE 5/D-1000 stop gate

b (b_L) (mm)	Material number
455; 650; 845; 1040	**3 842 998 805**
	b_L = ... mm
	l_a = ... (1/2)

b_L = track width in direction of transport (longitudinal conveyor)

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
min. 50 max. 1000	2 ... 9
min. 50 max. 900	2 ... 12
min. 50 max. 700	2 ... 18

[1] Conveyor speed

Damper DA 5/200, damper DA 5/1000



Use:

- Damped stopping of an accumulating workpiece pallet during infeeding

Version:

- Damping steplessly adjustable (DA 5/200, DA /1000 self-adjusting)
- See table for workpiece pallet loads
- The damper is extended pneumatically into the damping position (infeeding of the workpiece pallet to the main section) and is pushed into the end position by the infeeding workpiece pallet. A workpiece pallet can only move onto the main section if the damper is in the end position.
- Compressed air connection 5 ... 6 bar

Note:

If the damper is extended, it moves into the main section and cannot be retracted pneumatically! The damper can only be retracted by infeeding a workpiece pallet.
Collision hazard if there are overhanging carrying plates.

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

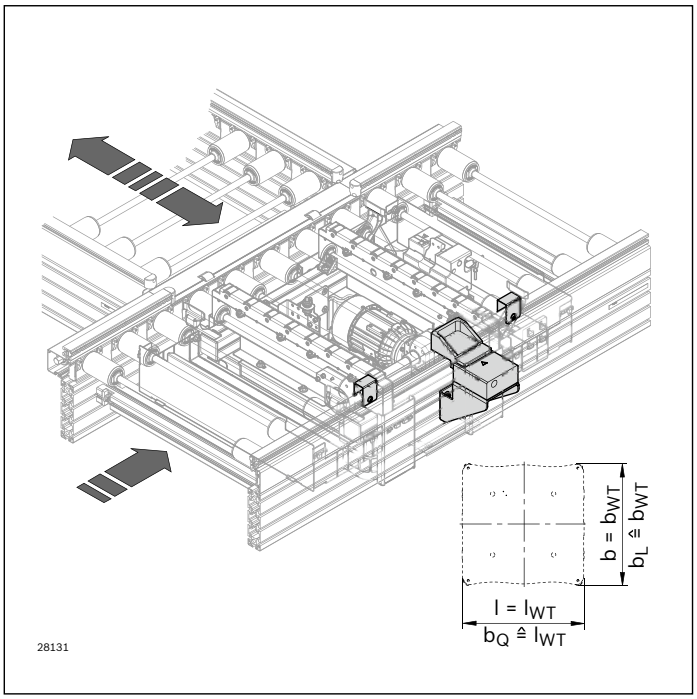
Condition on delivery:

- Not assembled

Recommended accessories:

- Cover for the lateral guide, see page 6-19f

Ordering information



DA 5/200 damper

	Material number
Set	**3 842 545 128**

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
max. 280	2 ... 9
max. 240	2 ... 12
max. 140	2 ... 18

[1] Conveyor speed

DA 5/1000 damper

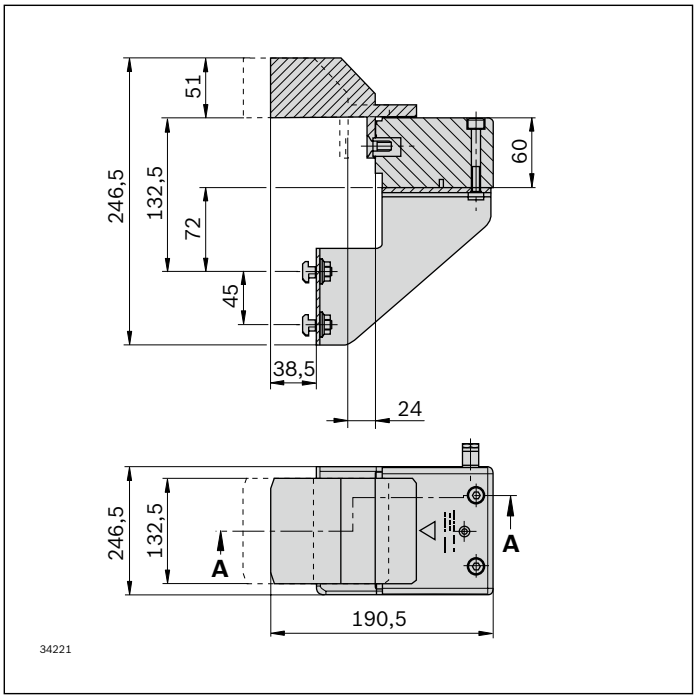
	Material number
Set	**3 842 545 130**

Permissible impact force per WT

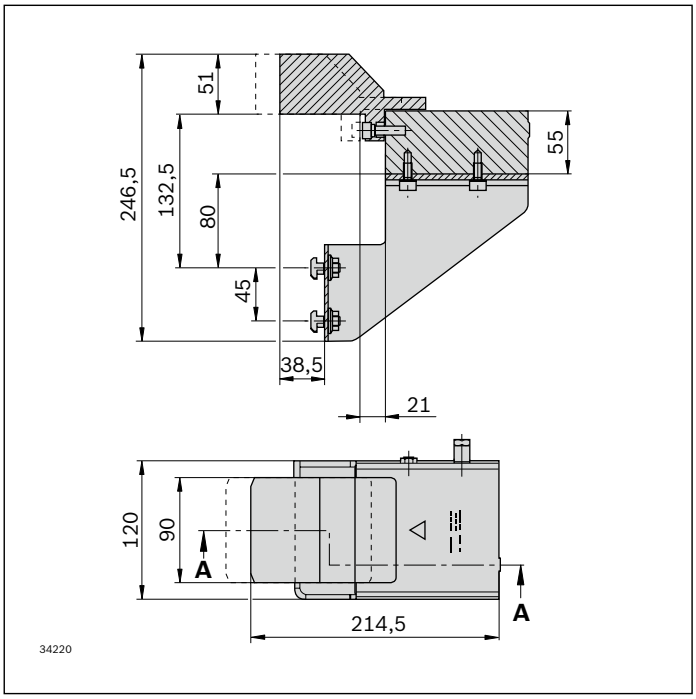
m_{WT} (kg)	v_N [1] (m/min)
min. 50 max. 1100	2 ... 9
min. 50 max. 1000	2 ... 12
min. 50 max. 800	2 ... 18

[1] Conveyor speed

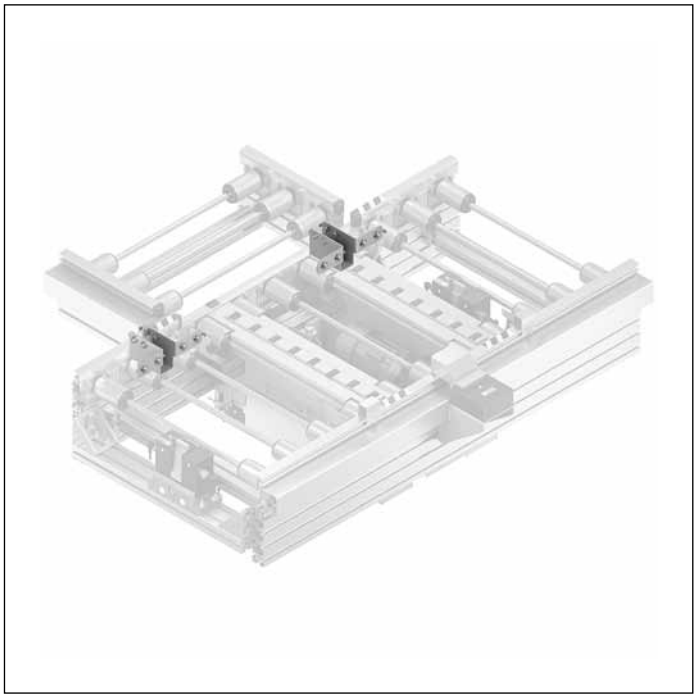
Dimensions
DA 5/200



Dimensions
DA 5/1000



Connection kit for connecting the transverse section



Use:

For connecting the transverse section, independent of the drive side of the main section. If a circuit only consists of lift transverse units, the transverse sections are connected directly to the longitudinal section.

The guide kit (**A**) is part of the connection bridge (see page 6-15).

For the connection of a standard section, the guide kit (**A**) must be ordered separately.

Version:

- Support brackets made from galvanized steel incl. covers for the open profile ends of the transverse section

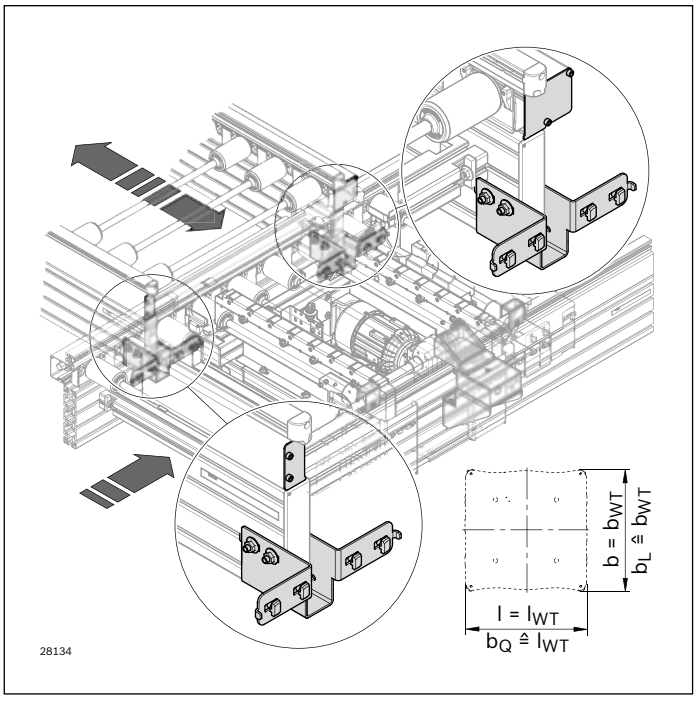
Scope of delivery:

- Connection kit for connecting the transverse section:
  2 support brackets incl. fastening material for assembly
- Guide kit:
  2 guide aids incl. fastening material for assembly

Condition on delivery:

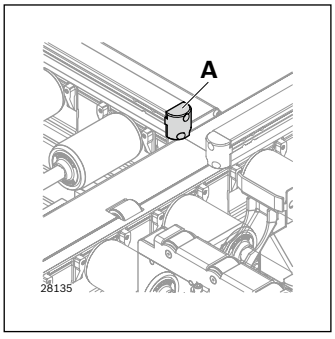
- Not assembled

Ordering information



Connection kit for connecting the transverse section

		Material number
ST 5/H, ST 5/XH	Set	**3 842 549 782**
ST 5/OC DD = 2[1)]	Set	**3 842 549 783**
ST 5/OC DD = 1[1)]	Set	**3 842 549 784**

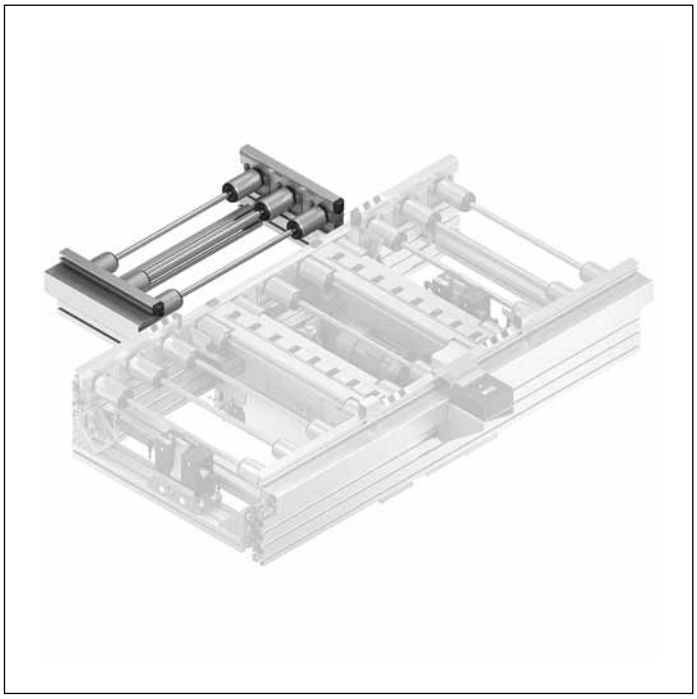


Guide kit

		Material number
A	Set	**3 842 545 975**

[1)] DD = drive
1: on one side
2: on two sides

Connection bridge



Condition on delivery:

- Ready-to-install.

Required accessories:

- Connection kit for connecting the transverse section, see page 6-13

Material:

- Roller: galvanized steel

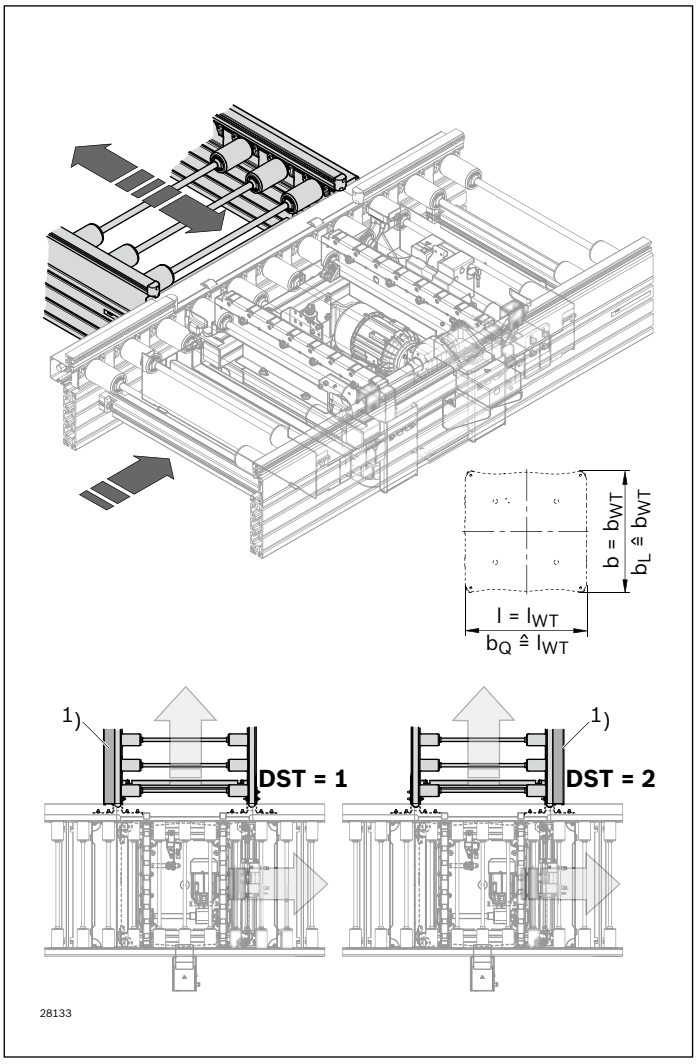
Use:

- The connection bridge is used for length adjustment when parallel transverse sections are used with lift transverse units and curves/diverters/junctions

Version:

- Support profile made of anodized aluminum
- Permissible section load:
  - ST 5/XH: 380 kg/m
  - ST 5/H: 200 kg/m
- Lateral guide profile made of steel, polymer, or aluminum in an anodized aluminum support
- Driven via king shaft with bevel wheels made of polymer or sintered metal

Ordering information



1) Drive side

Connection bridge

b_Q 1) (mm)	b_L 2) (mm)	LG 3)	BG 4)	DST 5)	SC 6)	Material number
455	455	1; 2; 3	1; 2	1; 2	1; 2	**3 842 998 605 (ST 5/XH)**
650	455; 650	1; 2; 3	1; 2	1; 2	1; 2	**3 842 998 604 (ST 5/H)**
845	650; 845	1; 2; 3	1; 2	1; 2	1; 2	b_Q = ... mm
1040	845	1; 2; 3	1; 2	1; 2	1; 2	b_L = ... mm
						LG = ...; BG = ...
						DST = ...; SC = ...

1) b_Q = width of transverse section
2) b_L = Width of workpiece pallet
3) LG = Lateral guide material
1: steel; 2: plastic; 3: aluminum
4) BG = Bevel wheel material
1: plastic
2: sintered metal
5) DST = King shaft installation on secondary section
1: left
2: right
6) SC = protective covers
1: without protective covers
2: with protective covers

Description of further parameters, see page 0-2
Ordering examples, see page 6-6

HQ 5 lift transverse unit protective covers



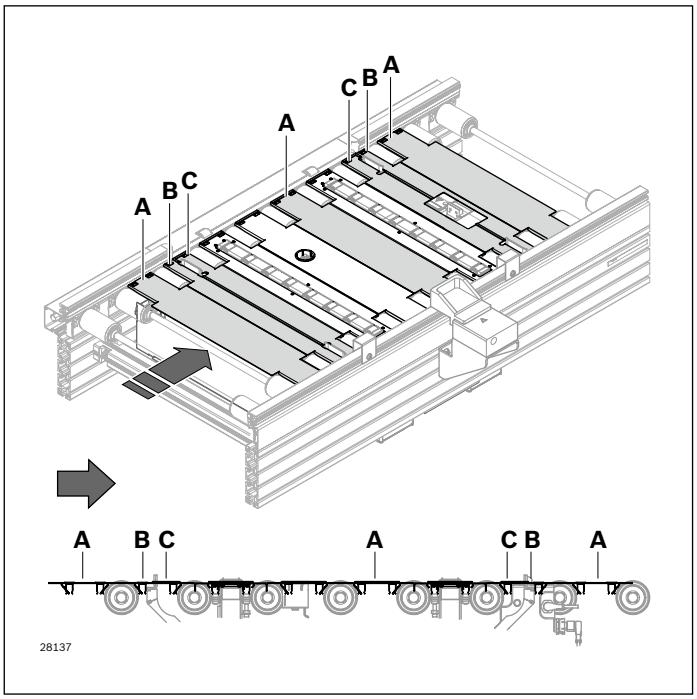
Use:
The protective covers are provided in working areas to increase safety.
Mobile protective covers (**A, B**) are assembled to HQ 5, fixed protective covers (**C, D, E**)
are clipped between the rollers using spring elements. The user must make the openings in the protective covers, see assembly instructions.

Note:
Do not walk on the protective covers.
Slots for add-on parts must be made by the customer, for details see assembly instructions.

Versions:
- Protective covers for various widths and roller spacings

Material:
- galvanized steel

Ordering information

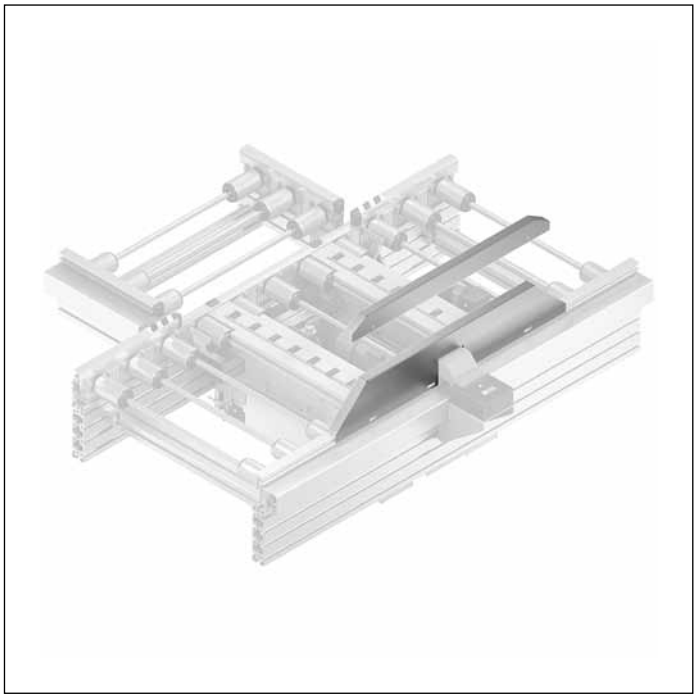


Required protective covers for HQ 5

b_L (mm)	b_Q (mm)	p (mm)	n	Material number A	n	Material number B	C	
455	455	130	8x	**3 842 545 404**	1x	**3 842 545 966**	2x	pre-assembled in the scope of delivery
455	650	130	9x	**3 842 545 404**	1x	**3 842 545 966**		
455	650	195	6x	**3 842 545 609**	1x	**3 842 545 966**		
650	650	130	9x	**3 842 545 405**	1x	**3 842 545 966**		
650	650	195	6x	**3 842 545 360**	1x	**3 842 545 966**		
650	845	130	11x	**3 842 545 405**	1x	**3 842 545 966**		
650	845	195	7x	**3 842 545 360**	1x	**3 842 545 966**		
650	845	260	5x	**3 842 545 612**	1x	**3 842 545 966**		
845	845	130	11x	**3 842 545 361**	1x	**3 842 545 966**		
845	845	195	7x	**3 842 545 362**	1x	**3 842 545 966**		
845	845	260	5x	**3 842 545 363**	1x	**3 842 545 966**		
845	1040	130	12x	**3 842 545 361**	1x	**3 842 545 966**		
845	1040	195	8x	**3 842 545 362**	1x	**3 842 545 966**		
845	1040	260	6x	**3 842 545 363**	1x	**3 842 545 966**		
845	1040	325	4x	**3 842 545 403**	1x	**3 842 545 966**		

b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)
p = Roller spacing (pitch)
n = Required quantity

Cover for lateral guide of HQ 5 lift transverse unit



Use:

- Covers must be provided for the lateral guide in the vicinity of the HQ 5 lift transverse unit (see page 6-4) to increase safety.

Note:

Do not walk on the protective covers.

Versions:

- Covers with (**A**) a slot for DA 5/... dampers
- Covers without (**B**) a slot for DA 5/... dampers

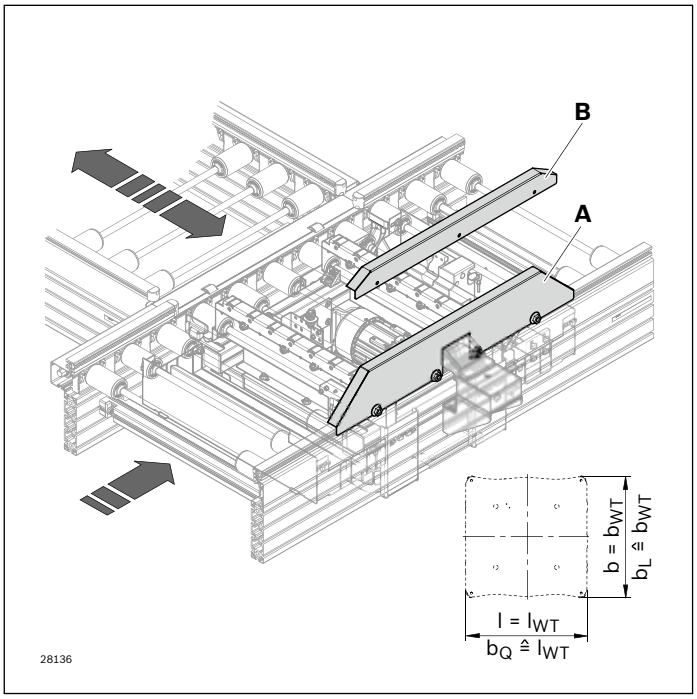
Required accessories:

- T-bolt, see page 6-20
- Flange nut, see page 6-20

Material:

- galvanized steel

Ordering information



Covers for lateral guide of HQ 5

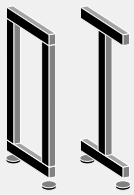
	b_Q (mm)	Material number
A	455	**3 842 552 658**
	650	**3 842 552 659**
	845	**3 842 552 660**
	1040	**3 842 552 661**
B	455	**3 842 552 662**
	650	**3 842 552 663**
	845	**3 842 552 664**
	1040	**3 842 552 665**

b_Q = track width in direction of transport (transverse conveyor)

Required fastening materials:

		Material number
Flange nut	100	**3 842 345 081**
T-bolt	100	**3 842 528 718**

Description of the T-bolt and flange nut, see page 7-10



Legs

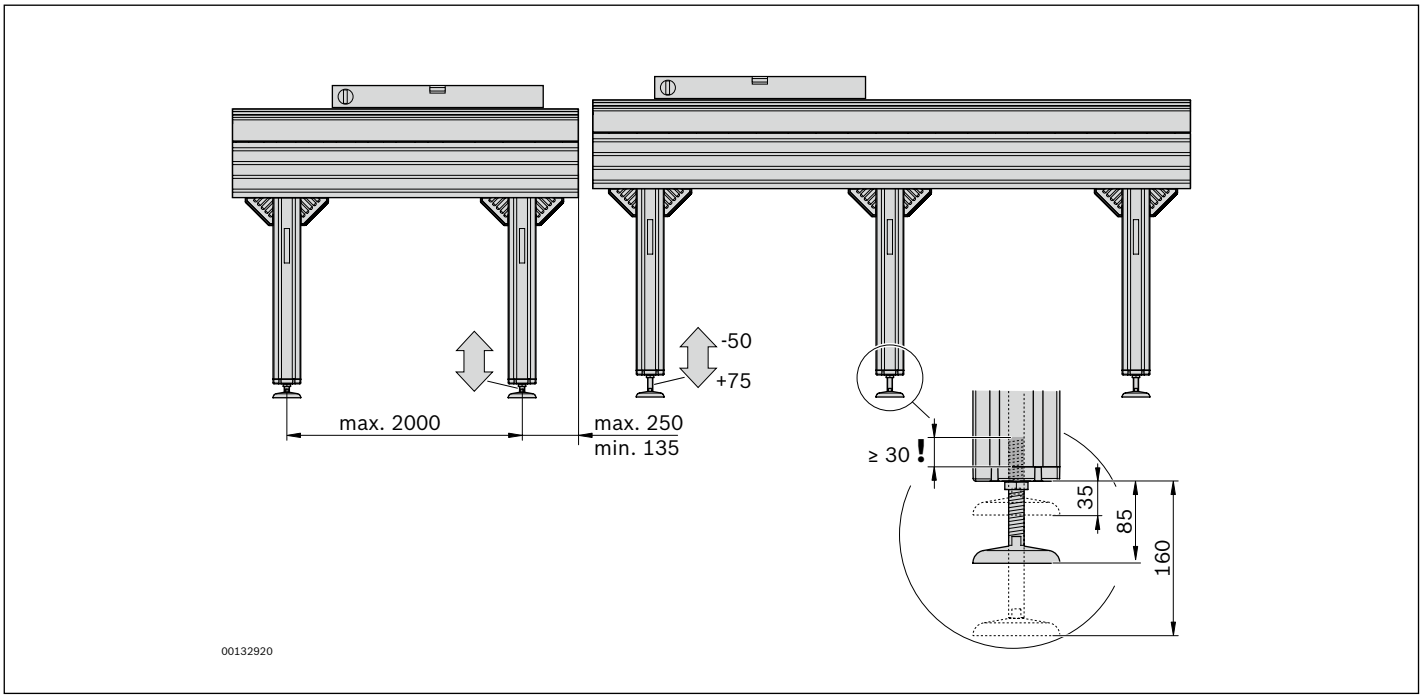
Design	**7-2**
SZ 5 leg set	**7-4**
SZ 5/U leg set	**7-6**
SZ 5/OC leg set	**7-8**
Foundation brackets, dowels	**7-10**

Design

Leg sets

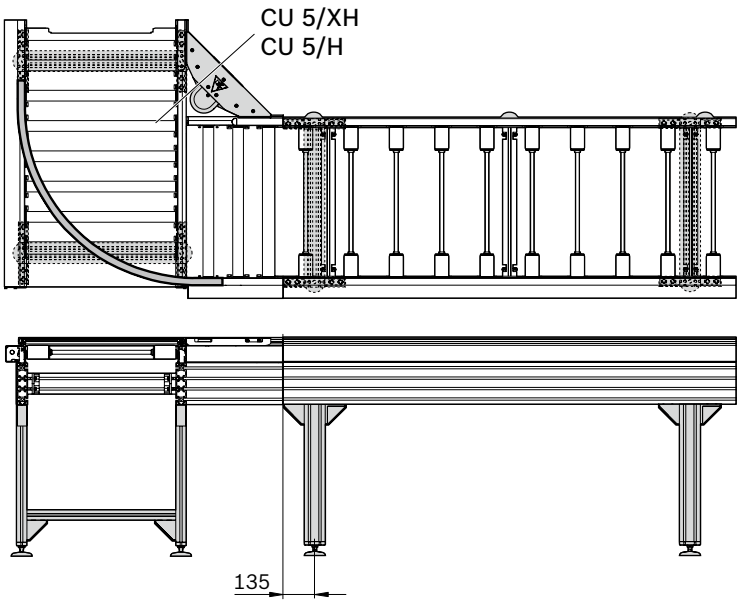
Leg sets support the conveyor section. We recommend providing a separate leg set for every module (conveyor unit, curve, diverter, junction) in order to compensate for height tolerances at the transitions.

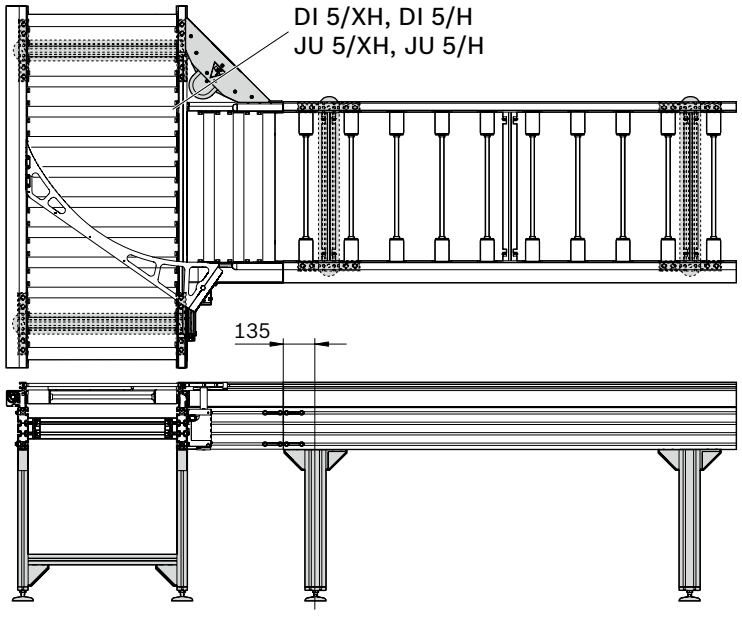
A max. leg distance of 2,000 mm must be maintained per workpiece pallet.
The engagement depth of the leveling feet must be at least 30 mm for all leg sets.



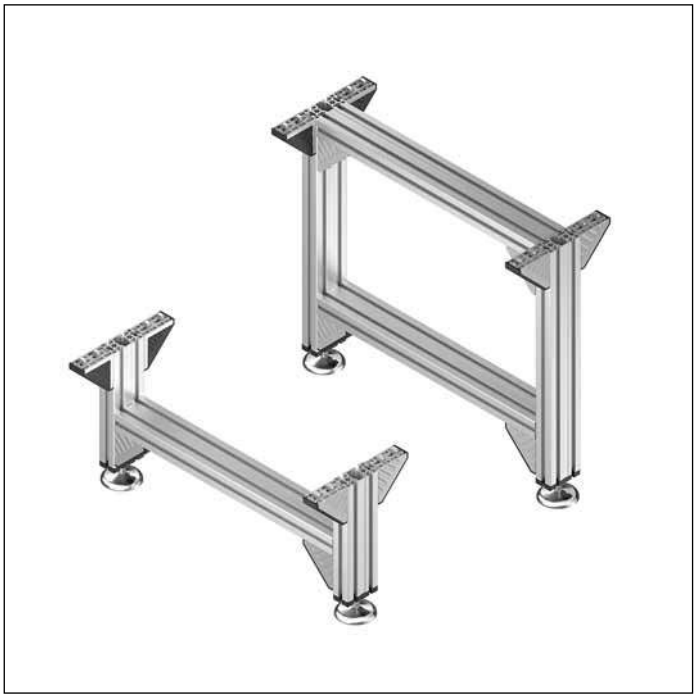
Since curves, diverters, and junctions are only supported by 2 legs, the secondary section must be immediately supported after the transition, see Figures.

Recommended accessories:
Leg sets can be anchored to the floor using foundation brackets 3 842 146 815 and dowels 3 842 526 560, see page 7-10





SZ 5 leg set



Use:

- Leg set for general applications

Version:

- Extruded aluminum profiles
- Height-adjustable bases
- Suitable for the construction of high-load conveyor sections in conjunction with the ST 5/... conveyor units
- Lowest possible transport level (with lowest possible foot setting of 35 mm):
  - ST 5/XH = 425.5 mm
  - ST 5/H = 335.5 mm

Note:

For transport heights > 1,000 mm, we recommend that users compensate for horizontal braking forces with diagonal bracing struts, see MGE catalog.

Scope of delivery:

- Incl. height-adjustable bases, incl. fastening material to mount the leg set onto a conveyor unit, drive unit, curve, diverter, or junction.

Condition on delivery:

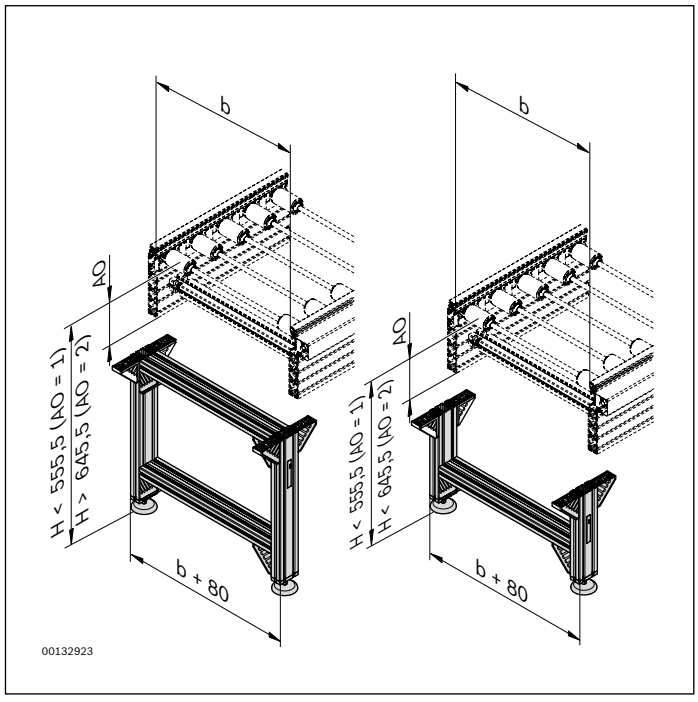
- Assembled (MT = 1)
- Not assembled (MT = 0)

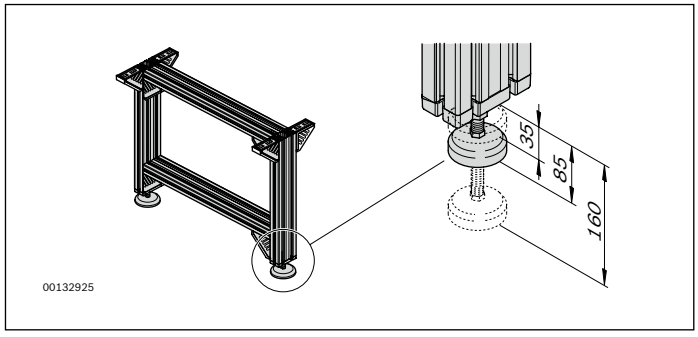
Recommended accessories:

Cover caps for bracket

		Material number
45x90, black ESD	100	**3 842 548 865**
90x90, black ESD	20	**3 842 548 869**

Ordering information



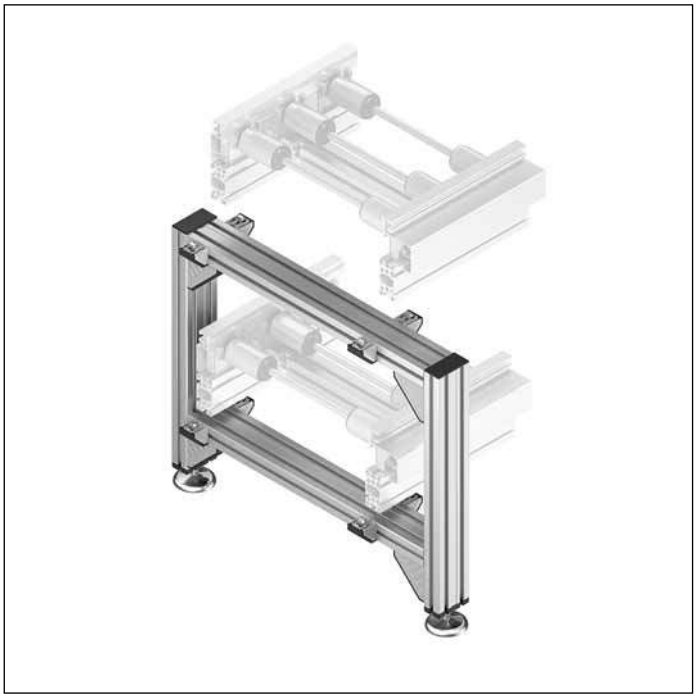


SZ 5 leg set

AO	b (mm)	H (mm)	MT	Material number
1	455; 650; 845; 1,040	385.5 ... 2,000	0; 1	**3 842 996 330**
2	455; 650; 845; 1,040	475.5 ... 2,000	0; 1	AO = ...
				b = ... mm
				H = ... mm
				MT = ...

AO = Installation location
1: ... 5/H
2: ... 5/XH
b = Track width in direction of transport
H = Transportation height
MT = Condition on delivery
0: not assembled
1: assembled

SZ 5/U leg set



Use:

- Leg set for multi-level sections

Version:

- Extruded aluminum profiles
- Height-adjustable bases
- Suitable for the construction of high-load conveyor sections in conjunction with the ST 5/... conveyor units

Note:

For transport heights > 1,000 mm, we recommend that users compensate for horizontal braking forces with diagonal bracing struts, see MGE catalog.

Scope of delivery:

- Incl. height-adjustable bases, incl. fastening material to mount the leg set onto a conveyor unit, drive unit, curve, diverter, or junction.

Condition on delivery:

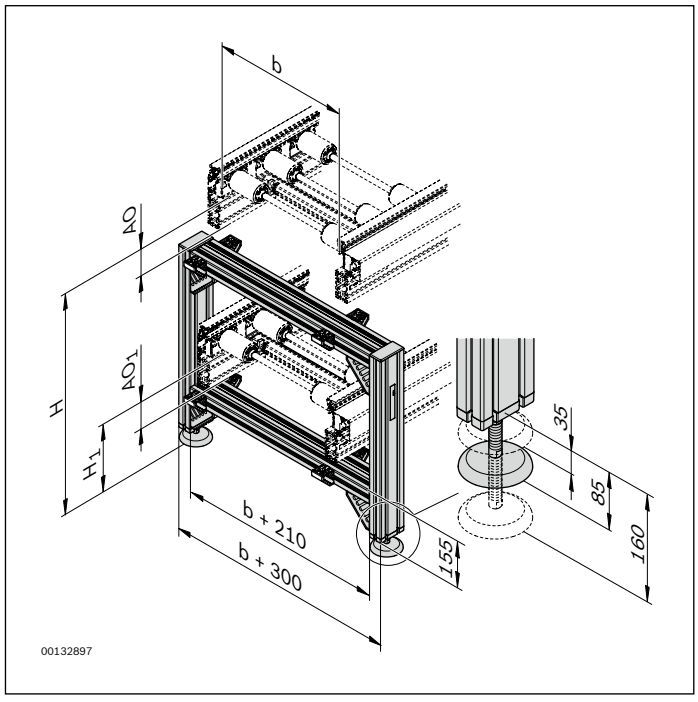
- Assembled (MT = 1)
- Not assembled (MT = 0)

Recommended accessories:

Cover caps for bracket

		Material number
45x45, black ESD	100	**3 842 548 863**
90x90, black ESD	20	**3 842 548 869**

Ordering information



SZ 5/U leg set

AO	b (mm)	H (mm)	AO_1	H_1 (mm)	MT	Material number
1	455; 650; 845; 1,040	719.5 ... 2,000	1	385.5 ... H-334	0; 1	**3 842 996 331**
			2	475.5 ... H-334		AO = ...
2	455; 650; 845; 1,040	899.5 ... 2,000	1	385.5 ... H-424	0; 1	b = ... mm
			2	475.5 ... H-424		H = ... mm
						AO_1 = ...
						H_1 = ... mm
						MT = ...

AO = Installation location
1: ... 5/H
2: ... 5/XH

AO_1 = Installation location lower section
1: ST 5/H
2: ST 5/XH

b = Track width in direction of transport

H = Transportation height

H1 = Transport height lower section

MT = Condition on delivery
0: not assembled
1: assembled

SZ 5/OC leg set



Use:

- Leg set for Open Center sections

Version:

- Extruded aluminum profiles
- Height-adjustable bases
- Suitable for the construction of high-load conveyor sections in conjunction with the ST 5/OC... conveyor units
- Lowest possible transport level (with lowest possible foot setting of 35 mm):
  335.5 mm

Note:

For transport heights > 1,000 mm, we recommend that users compensate for horizontal braking forces with diagonal bracing struts, see MGE catalog.

Scope of delivery:

- Incl. height-adjustable bases, incl. fastening material to mount the leg set onto a conveyor unit, drive unit, curve, diverter, or junction.

Condition on delivery:

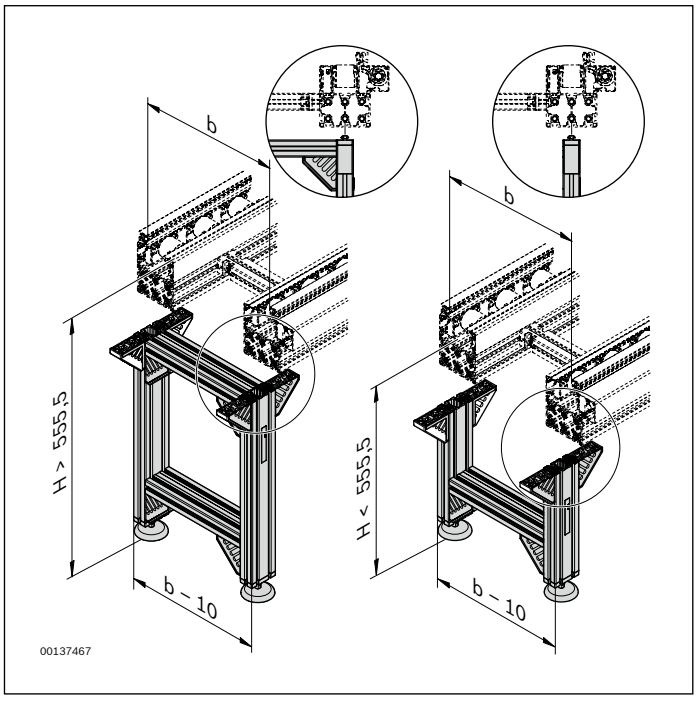
- Assembled (MT = 1)
- Not assembled (MT = 0)

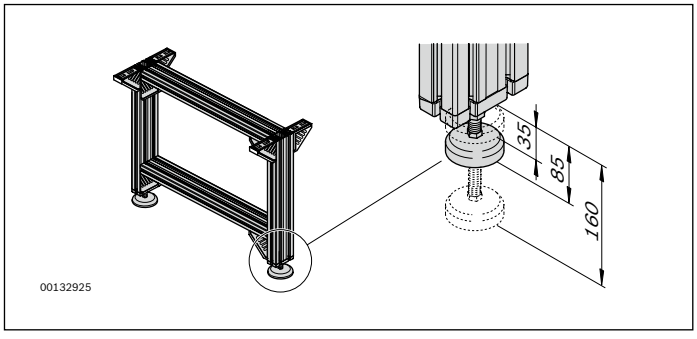
Recommended accessories:

Cover caps for bracket

		Material number
45x90, black ESD	100	**3 842 548 865**
90x90, black ESD	20	**3 842 548 869**

Ordering information





SZ 5/OC leg set

b (mm)	H (mm)	MT	Material number
455; 650; 845; 1,040	385.5 ... 2,000	0; 1	**3 842 996 332**
			b = ... mm
			H = ... mm
			MT = ...

b = Track width in direction of transport
H = Transportation height
MT = Condition on delivery
0: not assembled
1: assembled

Foundation brackets, dowels



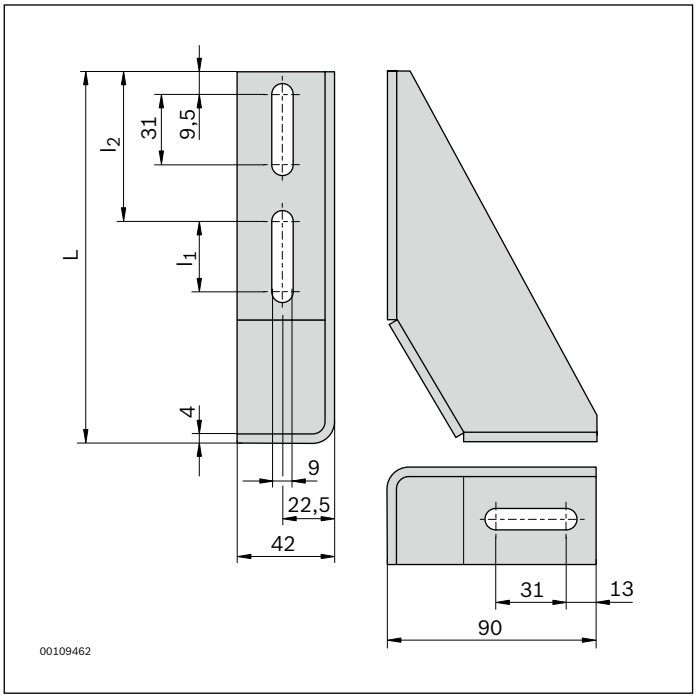
Use:

- Frames are fastened to the floor with the foundation bracket. The hole for the dowel can be bored without removing the foundation bracket.

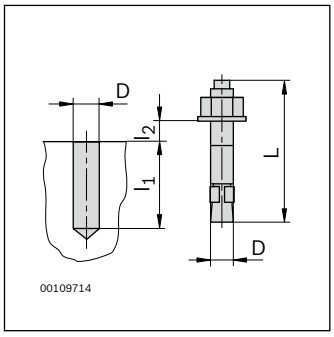
Material:

- **Foundation bracket:** Sheet steel, galvanized and transparent chrome-plated

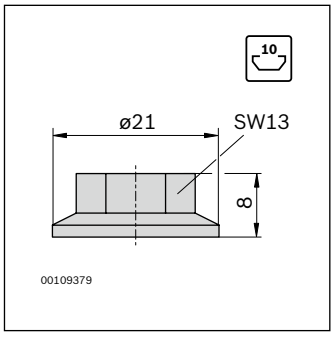
Ordering information



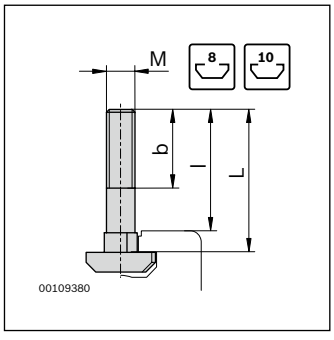
Product designation	L (mm)	l_1 (mm)	l_2 (mm)		Material number
Foundation bracket	160	31	91	20	**3 842 146 815**



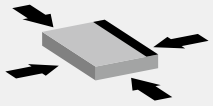
Product designation	D (mm)	L (mm)	l_1 (mm)	l_{2max} (mm)		Material number
Dowel	8	80	65	15	100	**3 842 526 560**



Product designation		Material number
Flange nut	100	**3 842 345 081**



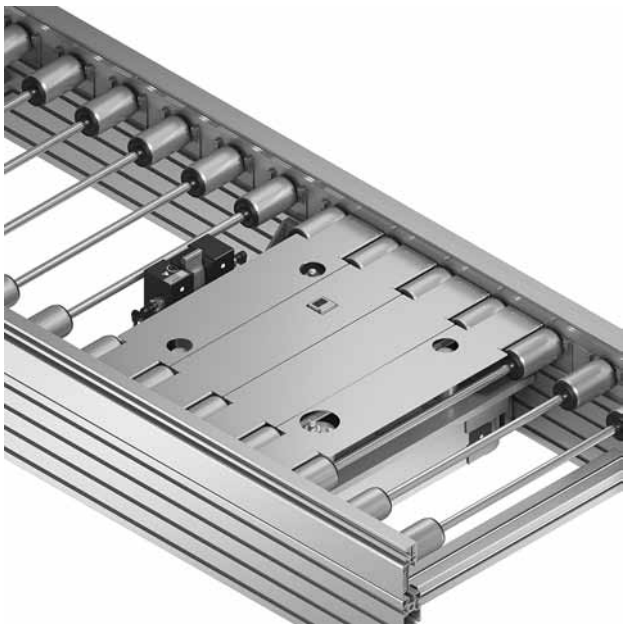
Product designation	M	b (mm)	l (mm)		Material number
T-bolt	M8x25	19	19	100	**3 842 528 718**



Positioning and orientation

Design	**8-2**
PE 5 positioning unit	**8-3**
PE 5/T positioning unit	**8-7**
PE 5/L positioning unit	**8-11**
PE 5/L-T positioning unit	**8-15**
PE 5/OC positioning unit	**8-19**
PE 5/OC-T positioning unit	**8-23**
Assembly kit for PE 5 and PE 5/T	**8-27**
Protective sleeves for PE 5, PE 5/T, PE 5/L and PE 5/L-T	**8-29**
Cover of lateral guide for positioning units	**8-31**
Protective covers for PE 5/OC and PE 5/OC-T	**8-32**

Design



In order to process and maintain manufacturing tolerances, workpiece pallets must be stopped and positioned in the processing station.

In doing so, the workpiece pallets can be exactly positioned by up to ±0.3 mm and the system can absorb vertical process forces of up to 4,000 N.

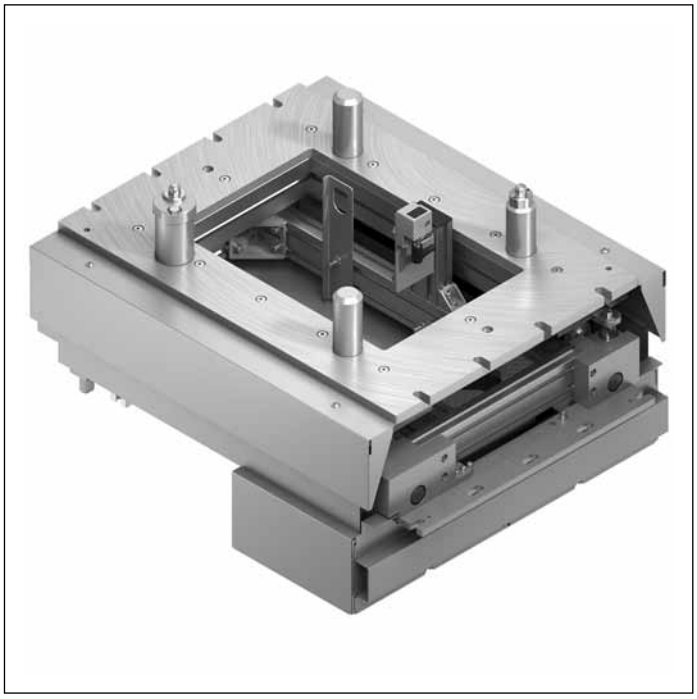
Applications:

- For exact positioning and to lift the workpiece pallet from the conveyor transport surface:
  PE 5, see page 8-3
- A VE 5 stop gate, see page 9-3, is sufficient for use with a manual workplace that has low requirements for positioning accuracy and if no forces act upon the workpiece pallet



Figures:
PE 5 positioning unit with protective covers and sleeves, installed with an assembly kit in an ST 5/H section.
Top figure: top position
Bottom figure: bottom position

PE 5 positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the longitudinal conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation from above also possible
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 4,000 N[2), 3)]
- Suitable for ST 5/H and ST 5/XH (not ST 5/H-FR or ST 5/XH-FR)
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[2)] If assembling in a ST 5/H section place legs directly in front of and behind the PE 5.
[3)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5 in ST 5/XH conveyor sections

Condition on delivery:

- Fully assembled

Required accessories:

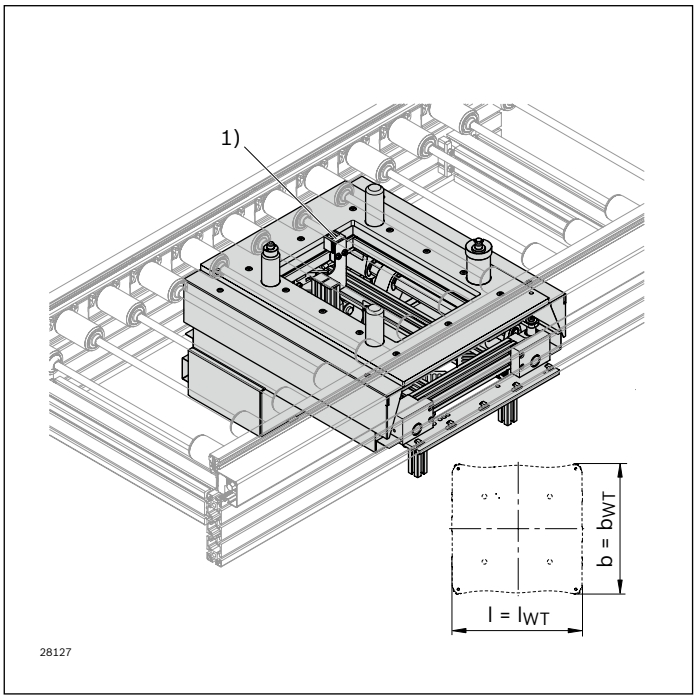
- Assembly kit 3 842 996 185 is required for assembly in ST 5/H conveyor sections, see page 8-27
- Stop gate VE 5/D-1000, page 9-12, stop gate VE 5/D-300, page 9-6, VE 5/D-301, page 9-9 or stop gate VE 5/200, page 9-3
- SH 2/U-H 3 842 537 289 switch bracket, see page 9-18[1)]
- SH 2/U-H 3 842 545 132 assembly kit, see page 9-20

[1)] Not for size b = 455 mm.

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective sleeves, see page 8-29

Ordering information



[1] Not for size b = 455 mm

PE 5 positioning unit

b (mm)	l_{WT} (mm)	SC	Material number
455	455	1; 2	**3 842 998 786**
455	650	1; 2	b = ... mm
650	650	1; 2	l_{WT} = ... mm
650	845	1; 2	SC = ...
845	845	1; 2	
845	1,040	1; 2	

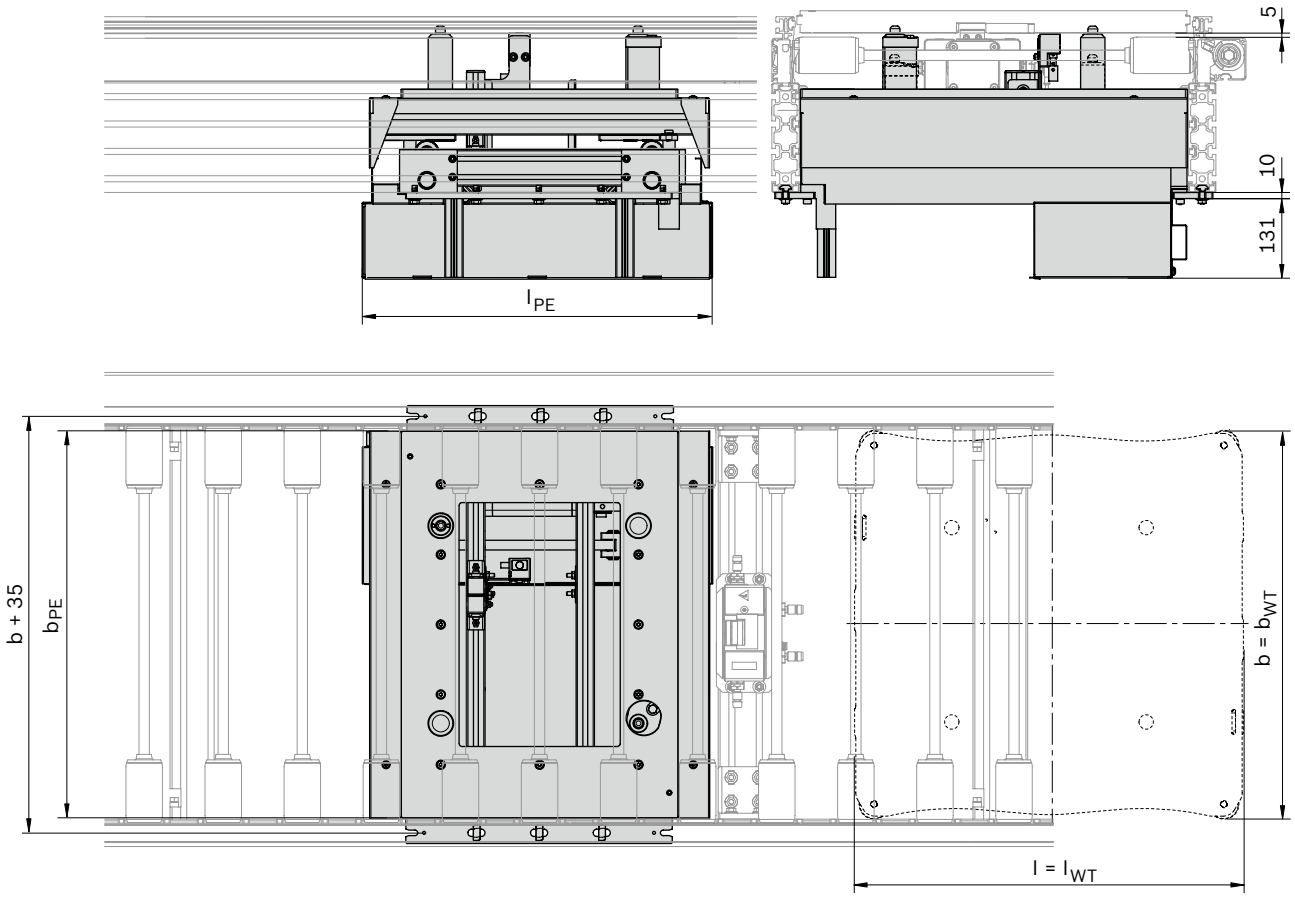
SC = Housing element
1: without protective casing
2: with protective casing
b = Track width of the positioning unit in the direction of transport
l_{WT} = workpiece pallet length

PE 5 (top/bottom) positioning unit position inquiry option on request

Description of further parameters, see page 0-2

Dimensions

PE 5 positioning unit



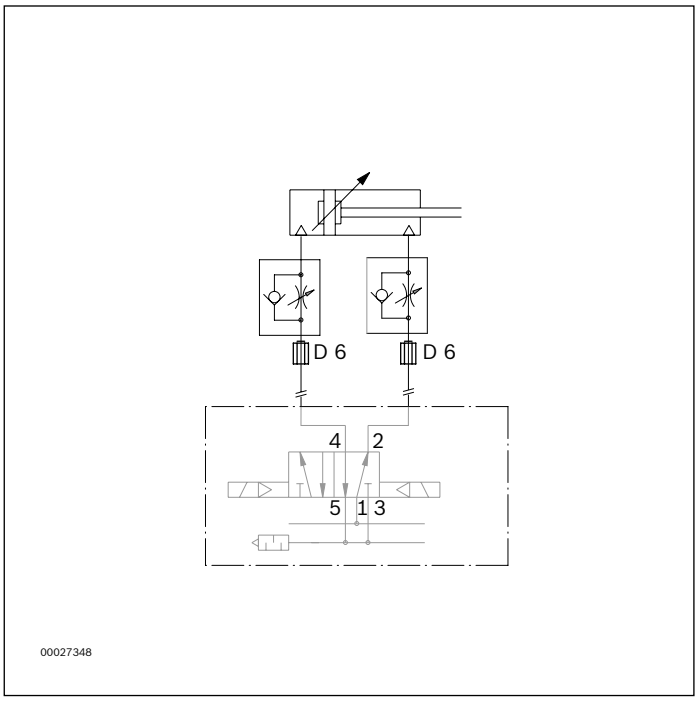
PE 5: 3 842 998 786

b_{WT} (mm)	l_{WT} (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455	441	471
455	650	441	576
650	650	636	576
650	845	636	764
845	845	831	764
845	1,040	831	966

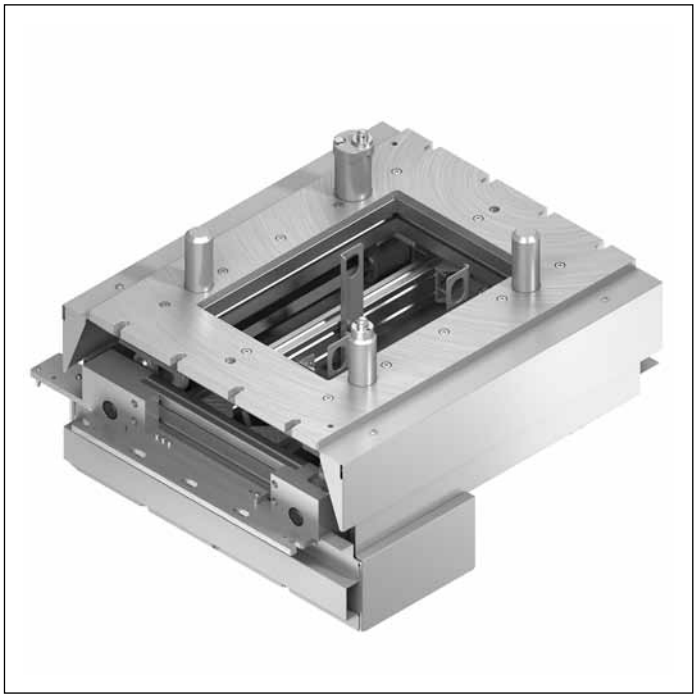
Assembly kit for installing the PE 5 in the ST 5/H: Material number 3 842 996 185, see page 8-27

b_{WT} = width of workpiece pallet
l_{WT} = length of workpiece pallet
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram
PE 5 positioning unit



PE 5/T positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the transverse conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation from above also possible
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 4,000 N[2), 3)]
- Suitable for ST5/H and ST 5/XH (not ST 5/H-FR or ST 5/XH-FR)
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[2)] If assembling in a ST 5/H section place legs directly in front of and behind the PE 5/T.
[3)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5/T in ST 5/XH conveyor sections, and stop kit for VE 5/D-300 and VE 5/D-1000.

Condition on delivery:

- Fully assembled

Required accessories:

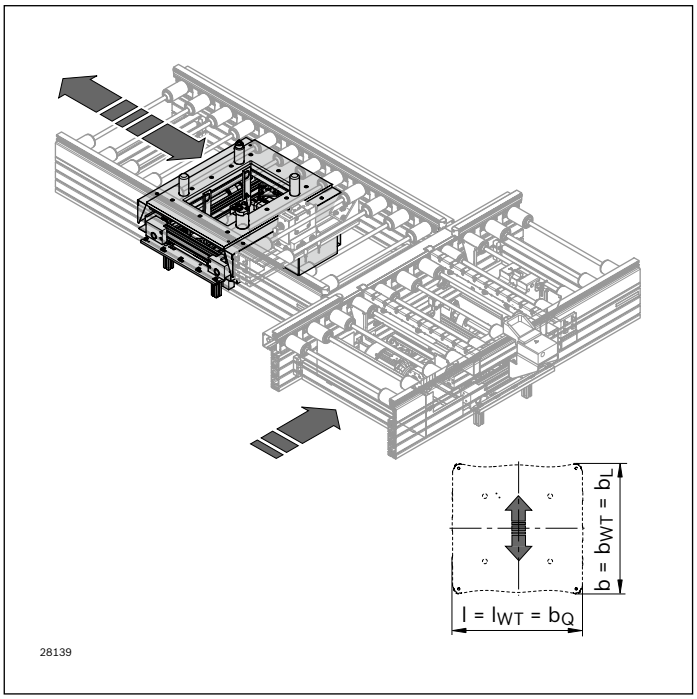
- Assembly kit 3 842 996 185 is required if assembling in ST 5/H conveyor sections, see page 8-27
- VE 5/D-300 stop gate, page 9-6, VE 5/D-301 stop gate, page 9-9, VE 5/D-1000 stop gate, page 9-12 or VE 5/200 stop gate, page 9-3[1)]

[1)] A position inquiry for the workpiece pallet on the PE is only possible through use of a VE 5/D-300 or VE 5/D-1000 stop gate.

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective sleeves, see page 8-29

Ordering information



PE 5/T positioning unit

b_L (mm)	b_Q (mm)	SC	Material number
455	455	1; 2	**3 842 998 177**
455	650	1; 2	b_L = ... mm
650	650	1; 2	b_Q = ... mm
650	845	1; 2	SC = ...
845	845	1; 2	
845	1,040	1; 2	

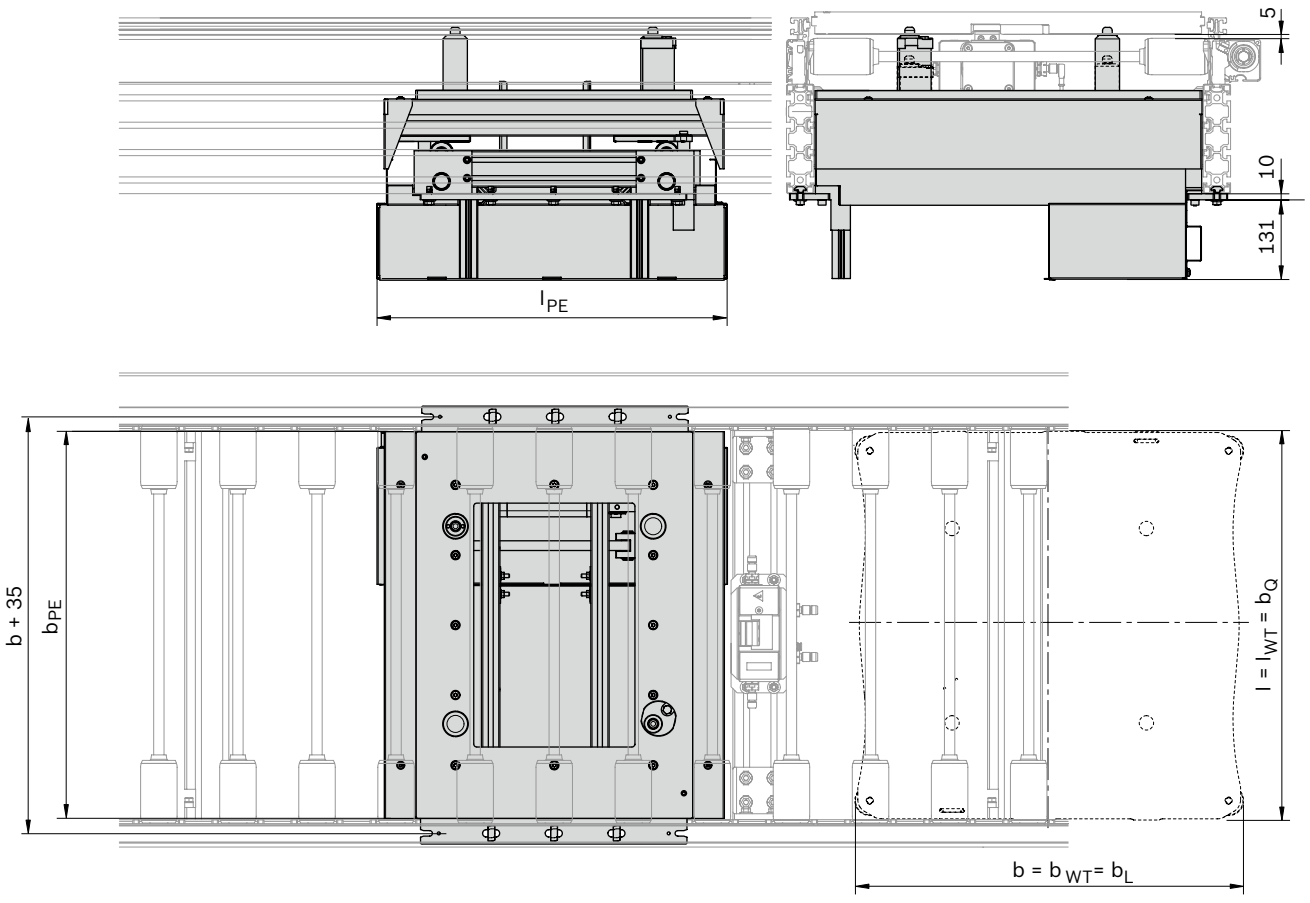
SC = Housing element
1: without protective casing
2: with protective casing
b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)

PE 5/T (top/bottom) positioning unit position inquiry option on request

Description of further parameters, see page 0-2

Dimensions

PE 5/T positioning unit



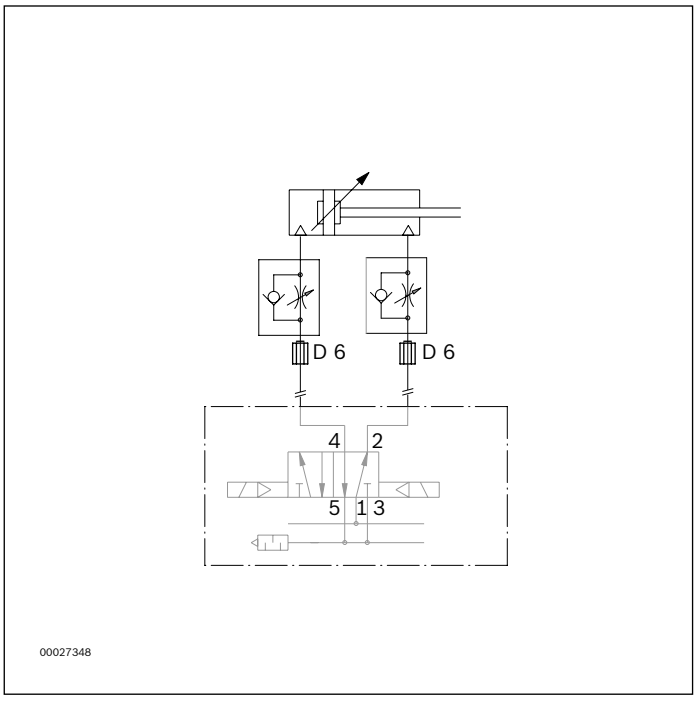
b_L (mm)	b_Q (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455; 650	441	471
650	650	636	576
650	845	636	576
845	845	831	764
845	1,040	831	764

Assembly kit for installing the PE 5/T in the ST 5/H: Material number 3 842 996 185, see page 8-27

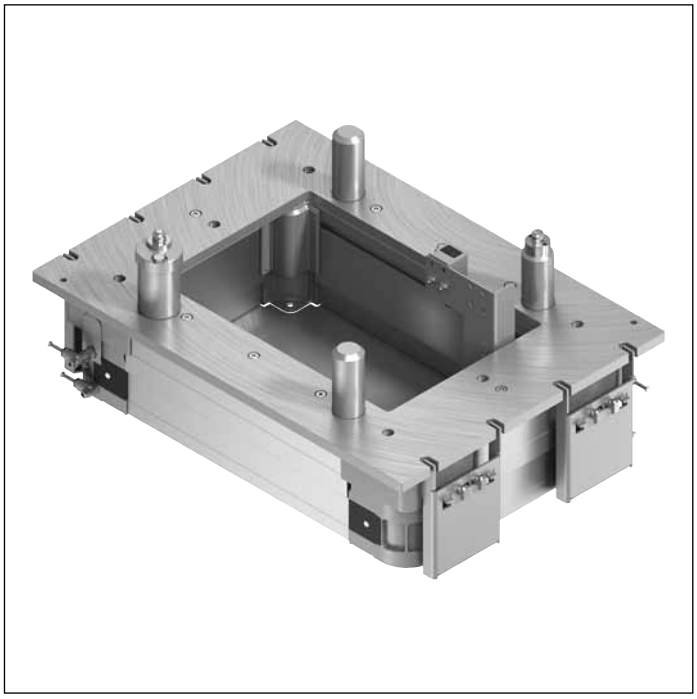
b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram

PE 5/T positioning unit



PE 5/L positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the longitudinal conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation only possible from above
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 3,500 N[2), 3)] incl. WT
- Suitable for ST 5/H and ST 5/XH (not ST 5/H-FR or ST 5/XH-FR)
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[2)] If assembling in a ST 5/H section place legs directly in front of and behind the PE 5/L.
[3)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5/L in ST 5/XH conveyor sections

Condition on delivery:

- Fully assembled

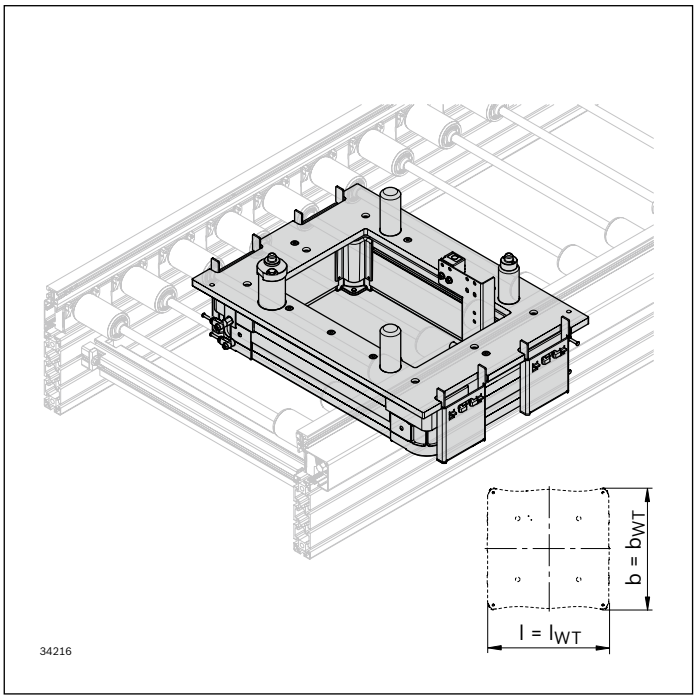
Required accessories:

- Stop gate VE 5/D-1000, page 9-12, stop gate VE 5/D-300, page 9-6, VE 5/D-301, page 9-9 or stop gate VE 5/200, page 9-3
- SH 2/U-H 3 842 537 289 switch bracket, see page. 9-18

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective sleeves, see page 8-29

Ordering information



PE 5/L positioning unit

b (mm)	l_{WT} (mm)	SC	Material number
455	455	1; 2	**3 842 998 048**
455	650	1; 2	b = ... mm
650	650	1; 2	l_{WT} = ... mm
650	845	1; 2	SC = ...
845	845	1; 2	
845	1,040	1; 2	

SC = Housing element
1: without protective casing
2: with protective casing

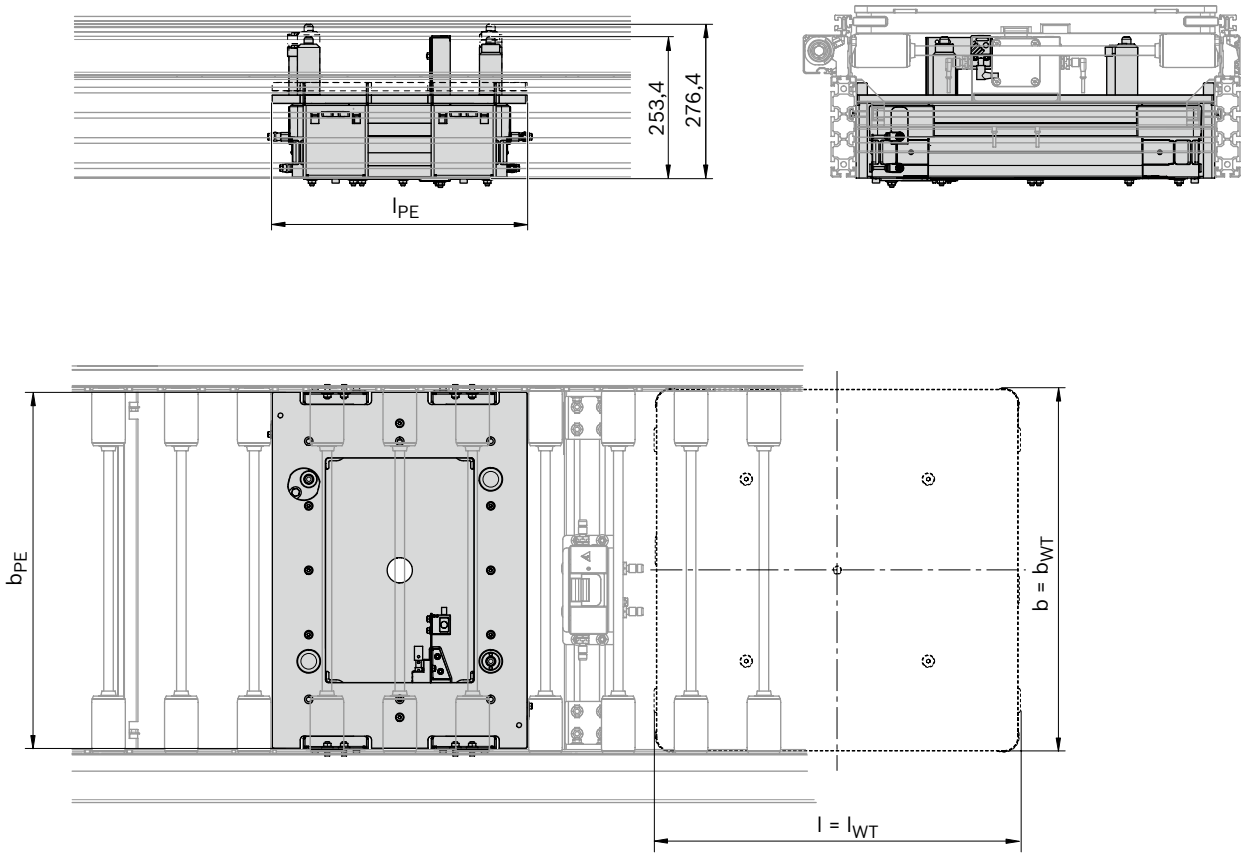
b = Track width of the positioning unit in the direction of transport

l_{WT} = workpiece pallet length

Description of further parameters, see page 0-2

Dimensions

PE 5/L positioning unit



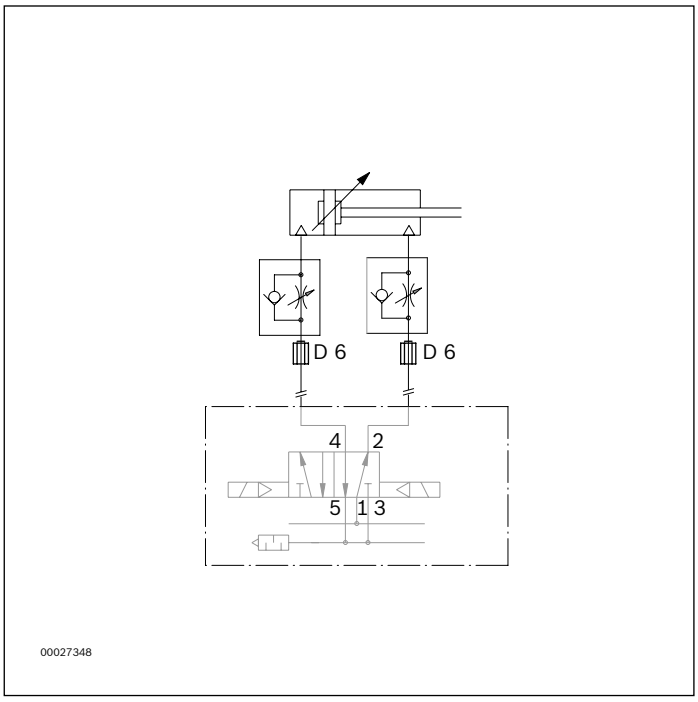
PE 5/L: 3 842 998 048

b_{WT} (mm)	l_{WT} (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455	441	471
455	650	441	576
650	650	636	576
650	845	636	764
845	845	831	764
845	1,040	831	966

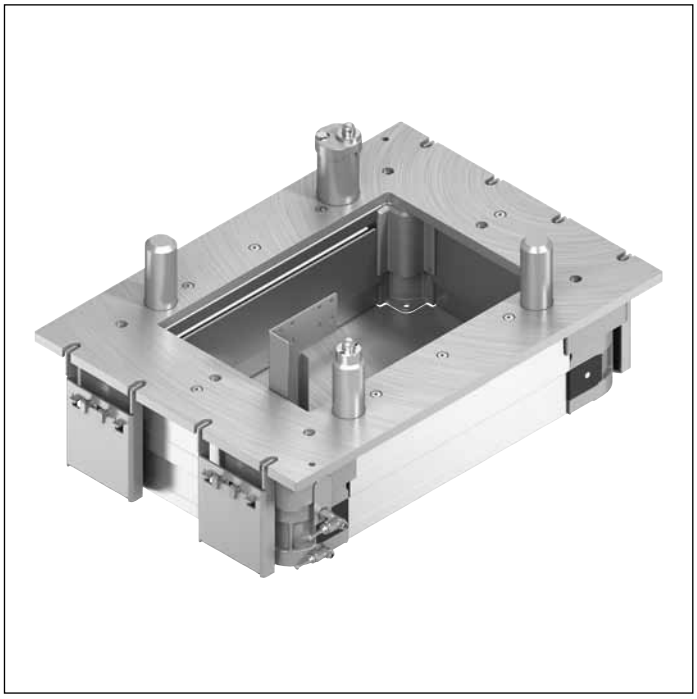
b_{WT} = width of workpiece pallet
l_{WT} = length of workpiece pallet
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram

PE 5/L positioning unit



PE 5/L-T positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the transverse conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation only possible from above
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 3,500 N[2), 3)] incl. WT
- Suitable for ST5/H and ST 5/XH (not ST 5/H-FR or ST 5/XH-FR)
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[2)] If assembling in a ST 5/H section place legs directly in front of and behind the PE 5/L-T.
[3)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5/L-T in ST 5/XH conveyor sections, and stop kit for VE 5/D-300 and VE 5/D-1000.

Condition on delivery:

- Fully assembled

Required accessories:

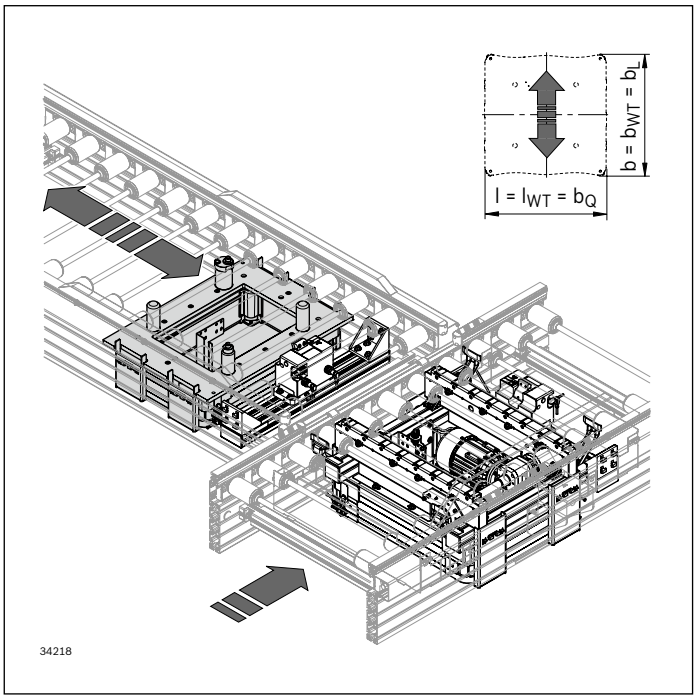
- VE 5/D-300 stop gate, page 9-6, VE 5/D-301, page 9-9, VE 5/1000 stop gate, page 9-12 or VE 5/200, stop gate, page 9-3[1)]
- SH 2/U-H 3 842 537 289 switch bracket, see page. 9-18

[1)] A position inquiry for the workpiece pallet on the PE is only possible through use of a VE 5/D-300 or VE 5/D-1000 stop gate.

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective sleeves, see page 8-29

Ordering information



PE 5/L-T positioning unit

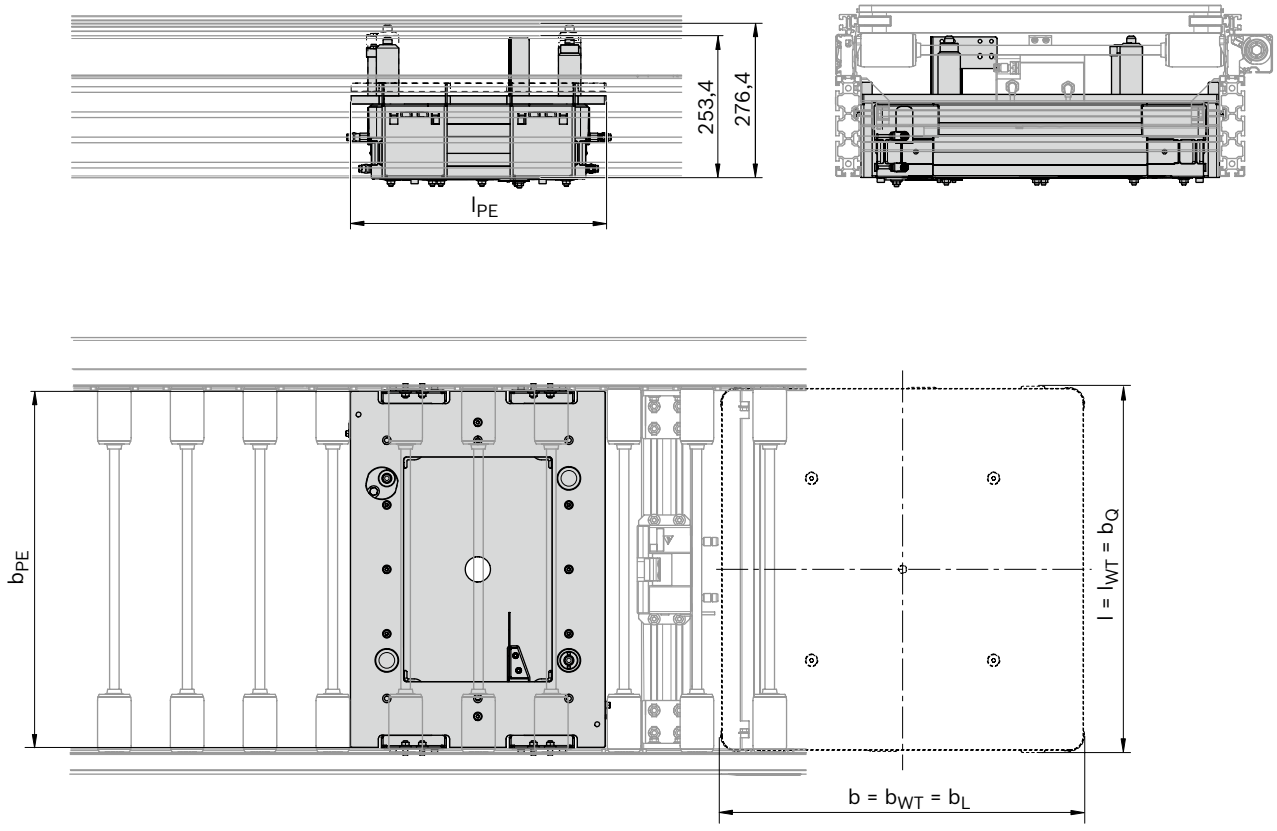
b_L (mm)	b_Q (mm)	SC	Material number
455	455	1; 2	**3 842 998 049**
455	650	1; 2	b_L = ... mm
650	650	1; 2	b_Q = ... mm
650	845	1; 2	SC = ...
845	845	1; 2	
845	1,040	1; 2	

SC = Housing element
1: without protective casing
2: with protective casing
b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)

Description of further parameters, see page 0-2

Dimensions

PE 5/L-T positioning unit



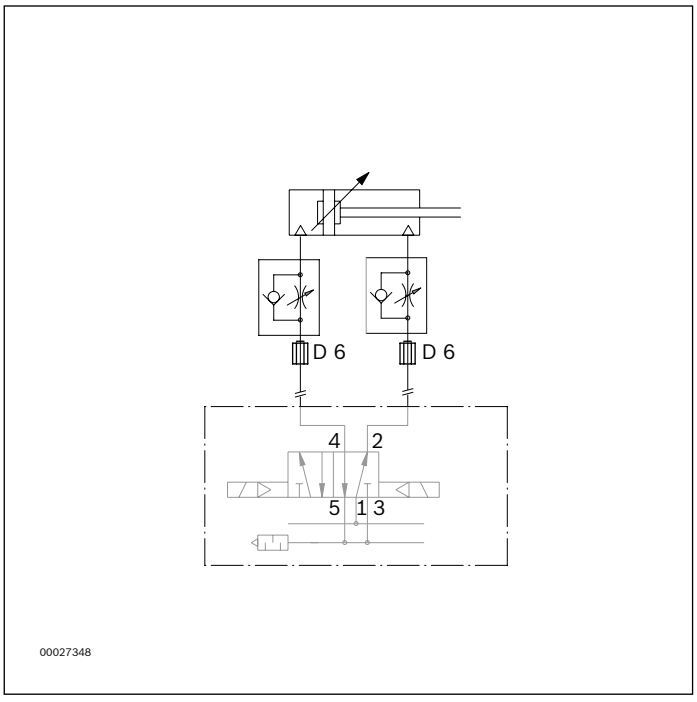
PE 5/L-T: 3 842 999 049

34222

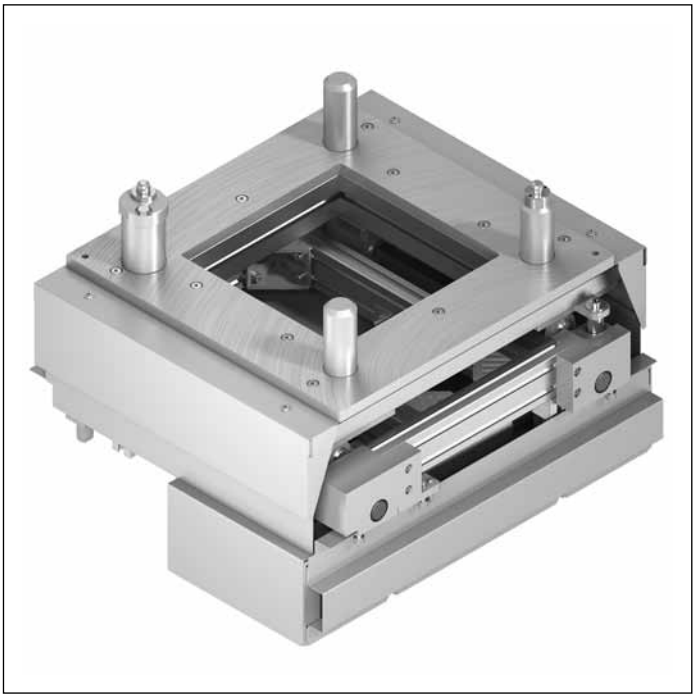
b_L (mm)	b_Q (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455; 650	441	471
650	650	636	576
650	845	636	576
845	845	831	764
845	1,040	831	764

b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram
PE 5/L-T positioning unit



PE 5/OC positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the longitudinal conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation from below
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 4,000 N[1)]
- Suitable for ST 5/OC
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[1)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5/OC in ST 5/OC conveyor sections

Condition on delivery:

- Fully assembled

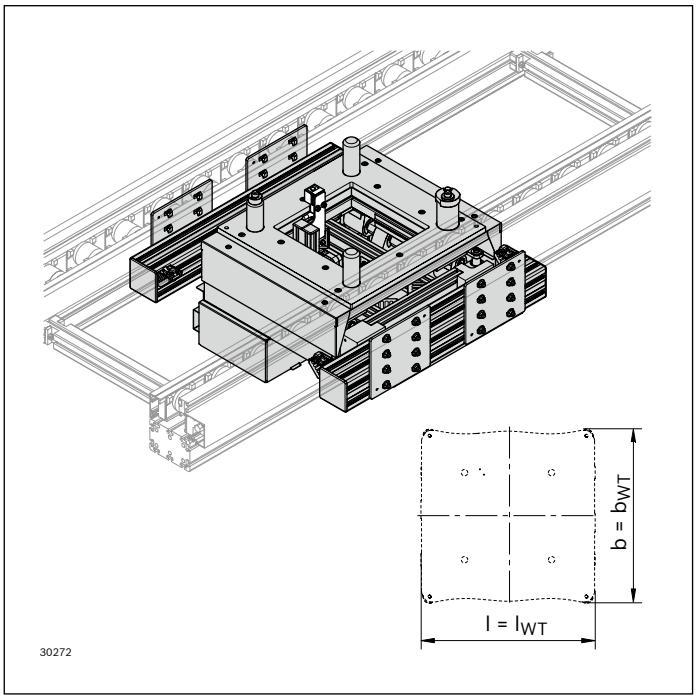
Required accessories:

- VE 5/OCD-1000 stop gate, P. 9-12, VE 5/OCD-300 stop gate, P. 9-6, VE 5/OCD-301 stop gate, P. 9-9, or VE 5/OC-200 stop gate, P. 9-3
- SH 2/U-H 3 842 537 289 switch bracket, see page. 9-18
- SH 2/U-H 3 842 545 132 assembly kit, see page 9-20
- Protective sleeves and protective cover, see pages 8-32

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective cover, see page 8-32

Ordering information



PE 5/OC positioning unit

b (mm)	l_{WT} (mm)	SC	Material number
455	455	1; 2	**3 842 998 178**
455	650	1; 2	b = ... mm
650	650	1; 2	l_{WT} = ... mm
650	845	1; 2	SC = ...
845	845	1; 2	
845	1,040	1; 2	

SC = Housing element
1: without protective casing
2: with protective casing

b = Track width of the positioning unit in the direction of transport

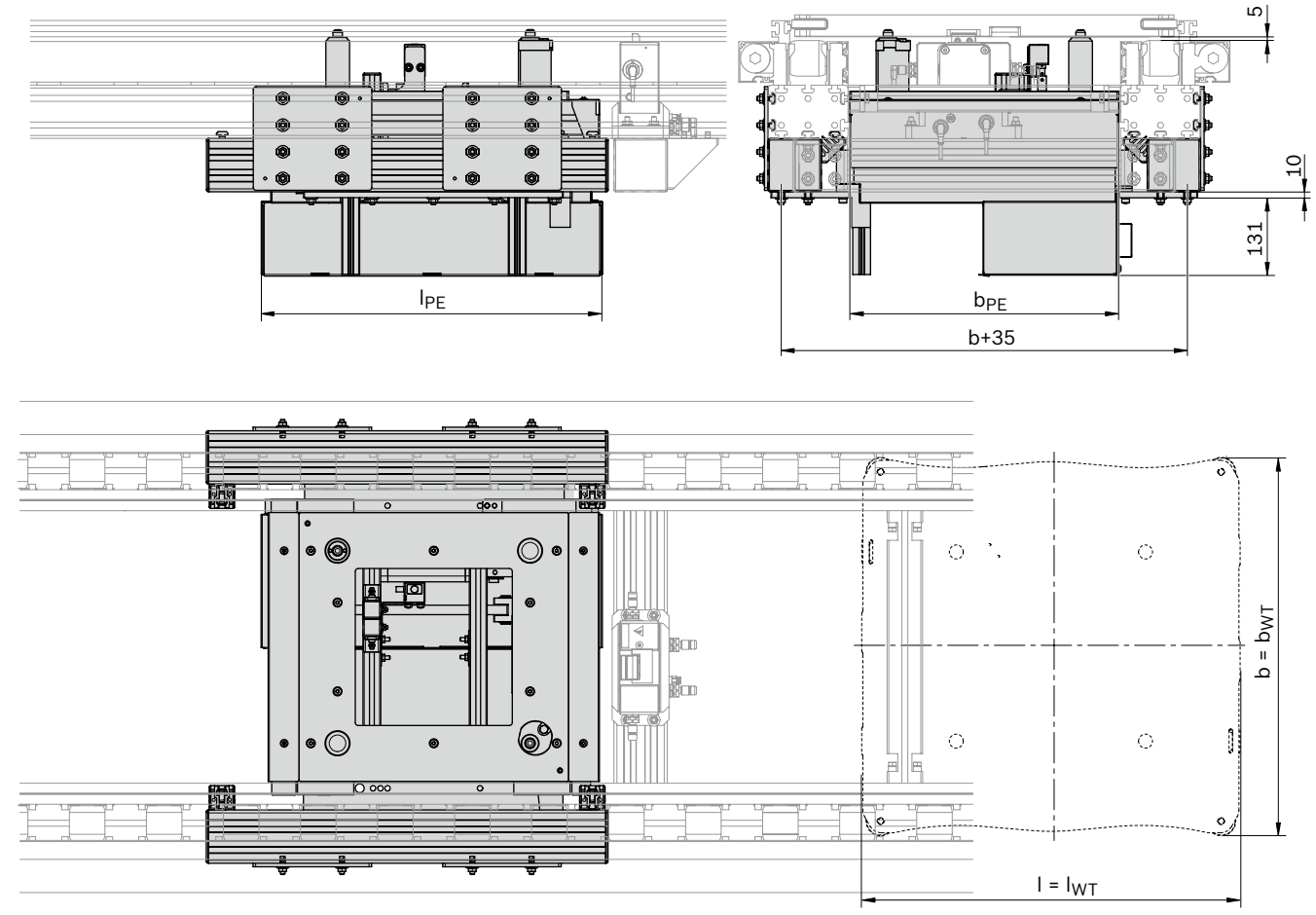
l_{WT} = workpiece pallet length

PE 5/OC (top/bottom) positioning unit position inquiry option on request

Description of further parameters, see page 0-2

Dimensions

PE 5/OC positioning unit

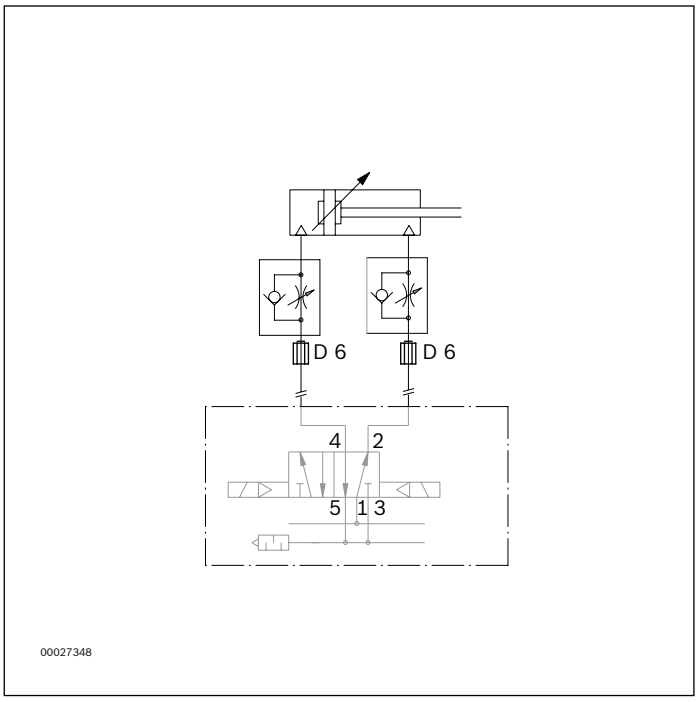


PE 5/OC: 3 842 998 178

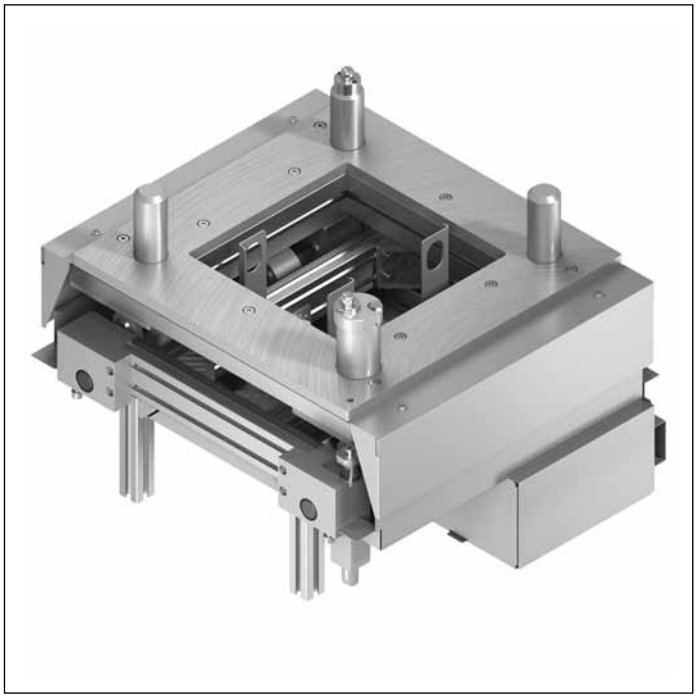
b (mm)	l_{WT} (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455; 650	259	471; 576
650	650	454	576
650	845	454	764
845	845	649	764
845	1,040	649	996

b_{WT} = width of workpiece pallet
l_{WT} = length of workpiece pallet
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram
PE 5/OC positioning unit



PE 5/OC-T positioning unit



Use:

- Positioning a workpiece pallet in a manual or automated processing station in the transverse conveyor with high positioning accuracy requirements (±0.3 mm)

Version:

- Can be used with all WT 5 workpiece pallets
- Installation from below
- Lift over transport level: 5 mm
- Positioning accuracy: ±0.3 mm
- Permissible vertical process force with center load: up to 4,000 N[2)]
- Suitable for ST 5/OC
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

[2)] Permissible vertical process force if assembled in the section. Higher process forces of up to 15,000 N possible with direct support (on request).

Scope of delivery:

- Incl. fastening material for mounting the PE 5/OC-T in ST 5/OC conveyor sections, and stop kit for VE 5/OCD-300 and VE 5/OCD-1000

Condition on delivery:

- Fully assembled

Required accessories:

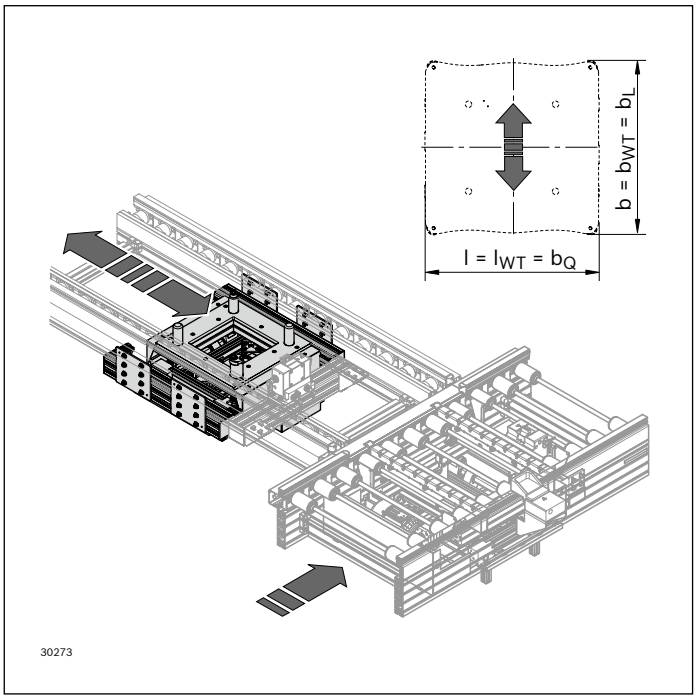
- VE 5/OCD-1000 stop gate, P. 9-12, VE 5/OCD-300 stop gate, P. 9-6, VE 5/OCD-301 stop gate, P. 9-9, or VE 5/OC-200 stop gate, P. 9-31)[1)]
- Protective sleeves and protective cover, see page 8-32

[1)] A position inquiry for the workpiece pallet on the PE is only possible through use of a VE 5/OCD-300 or VE 5/OCD-1000 stop gate.

Recommended accessories:

- Cover for the lateral guide, see page 8-31
- Protective cover, see page 8-32

Ordering information



PE 5/OC-T positioning unit

b_L (mm)	b_Q (mm)	SC	Material number
455	455	1; 2	**3 842 998 804**
455	650	1; 2	b_L = ... mm
650	650	1; 2	b_Q = ... mm
650	845	1; 2	SC = ... mm
845	845	1; 2	
845	1,040	1; 2	

SC = Housing element
1: without protective casing
2: with protective casing

b_L = track width in direction of transport (longitudinal conveyor)

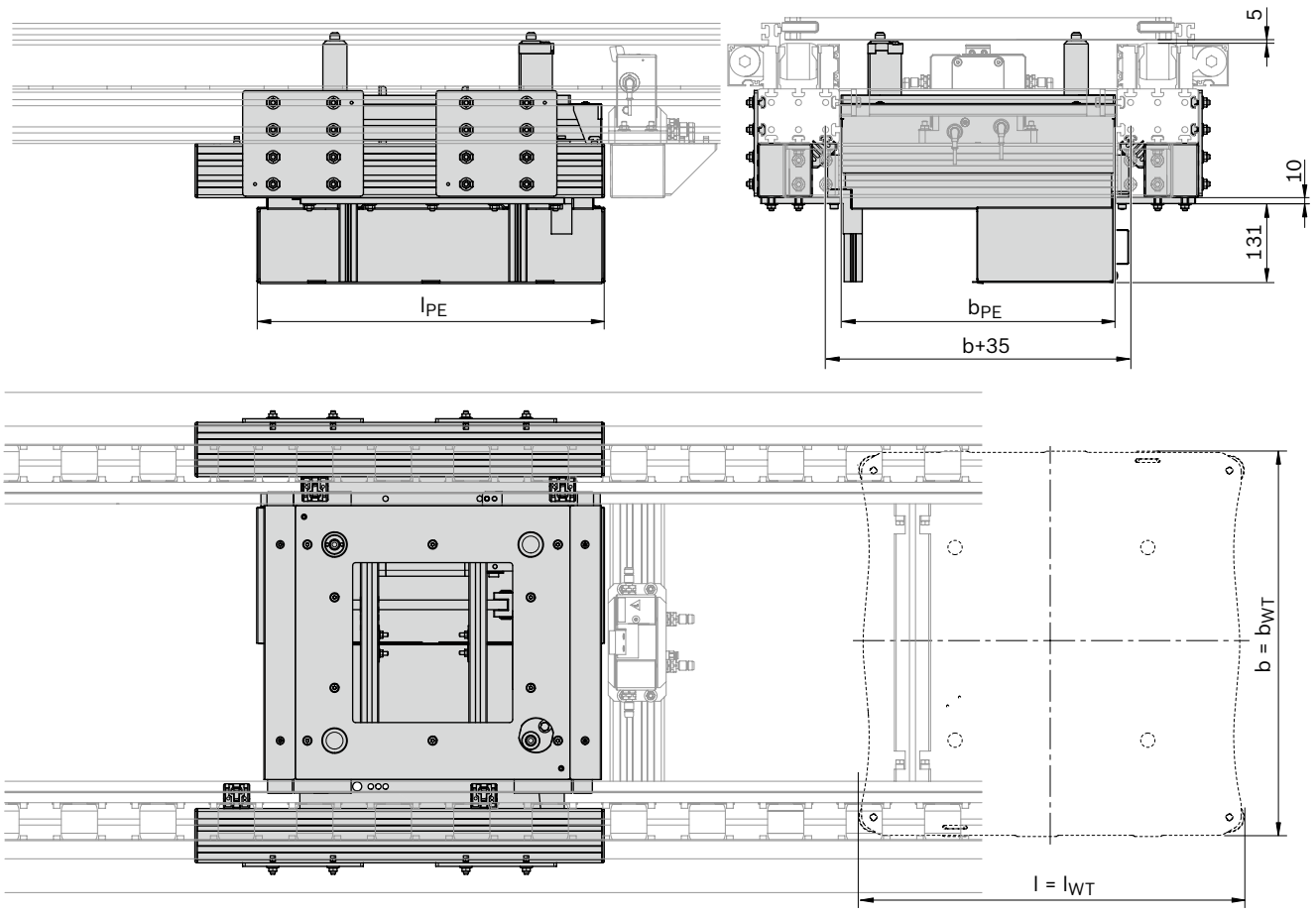
b_Q = track width in direction of transport (transverse conveyor)

PE 5/OC-T (top/bottom) positioning unit position inquiry option on request

Description of further parameters, see page 0-2

Dimensions

PE 5/OC-T positioning unit

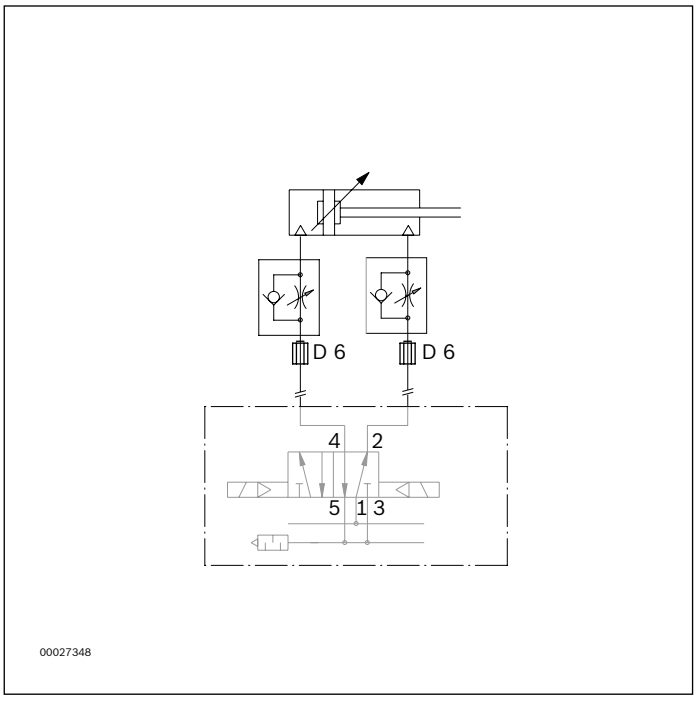


PE 5/OC-T: 3 842 998 804

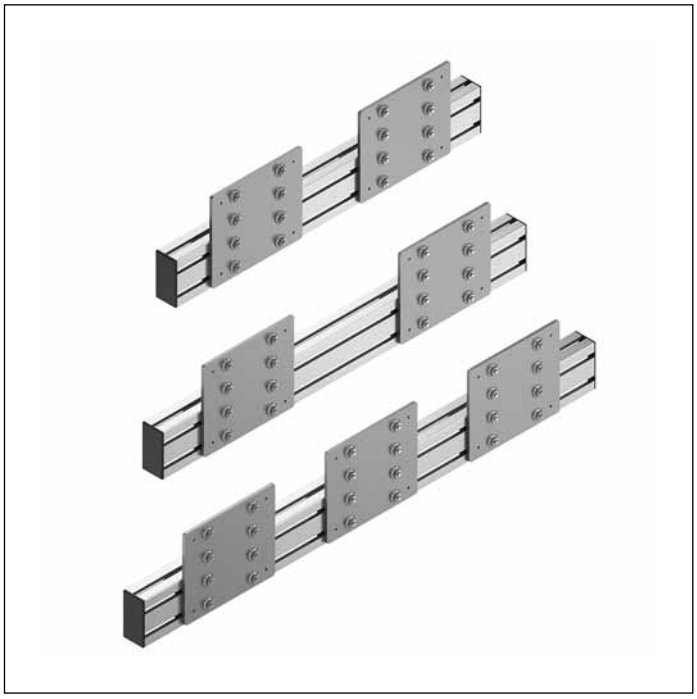
b_L (mm)	b_Q (mm)	b_{PE} (mm)	l_{PE} (mm)
455	455; 650	259; 454	471
650	650	454	576
650	845	649	576
845	845	649	764
845	1,040	844	764

b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)
b_{PE} = positioning unit width
l_{PE} = positioning unit length

Circuit diagram
PE 5/OC-T positioning unit



Assembly kit for PE 5 and PE 5/T



Use:

- Mounting the PE 5 and PE 5/T positioning unit in the ST 5/H conveyor unit, see page 8-3

Version:

- Centering lugs for pre-positioning and fast assembly

Mounting location:

- on the section profile

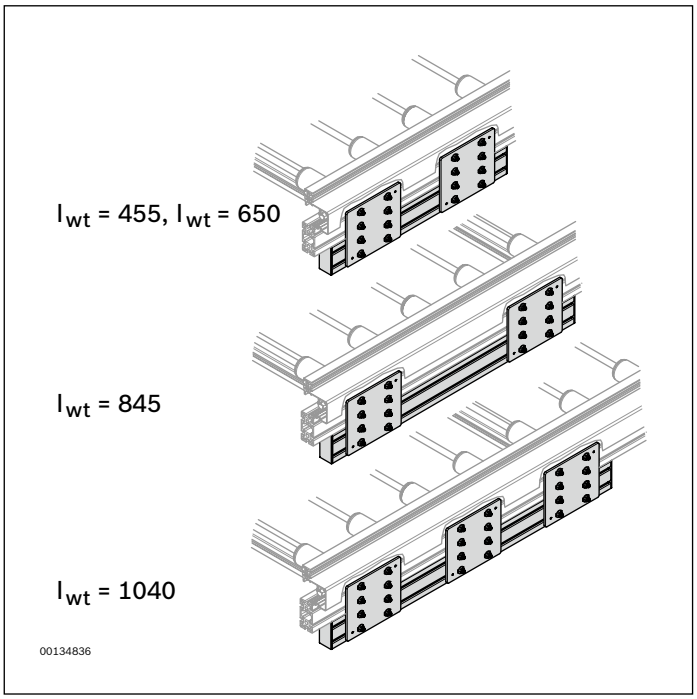
Scope of delivery:

- 2 profiles for height compensation
- Incl. cover caps and fastening material for assembly.

Condition on delivery:

- Not assembled

Ordering information

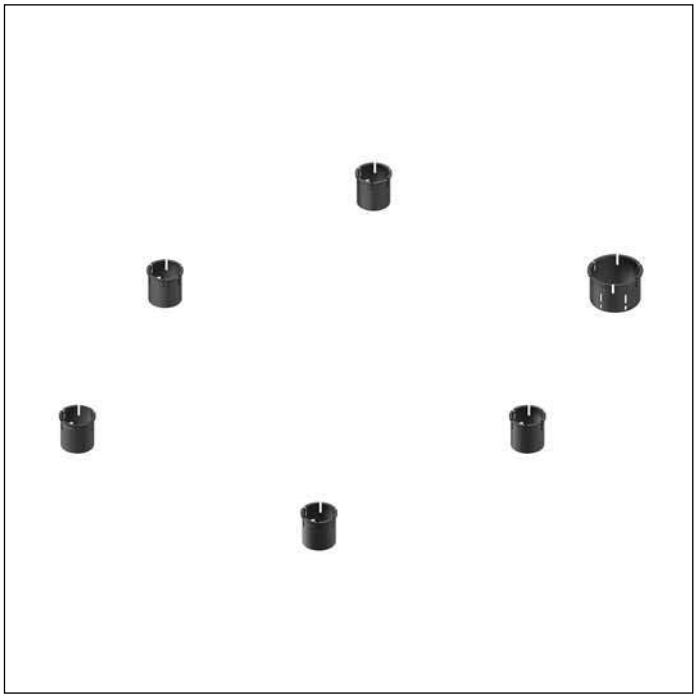


Assembly kit for PE 5 and PE 5/T

l_{WT}	Material number
455; 650; 845; 1,040	**3 842 996 185**
	l_{WT} = ... mm

l_{WT} = workpiece pallet length

Protective sleeves for PE 5, PE 5/T, PE 5/L and PE 5/L-T



Use:

- Trap guard to clip in the openings in the protective covers over the lifting plungers of the PE 5, PE 5/T, PE 5/L and PE 5/L-T. Refer to the assembly instructions for the installation dimensions.

Note:

Do not walk on the protective covers. Slots for add-on parts must be made by the customer; for details, see assembly instructions.

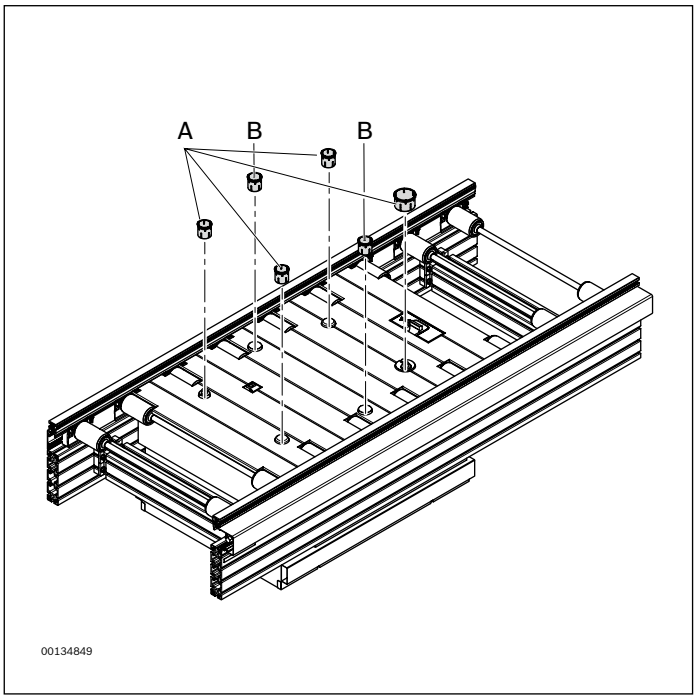
Required accessories:

- Protective covers for conveyor unit, see page 4-8

Material:

- PA

Ordering information

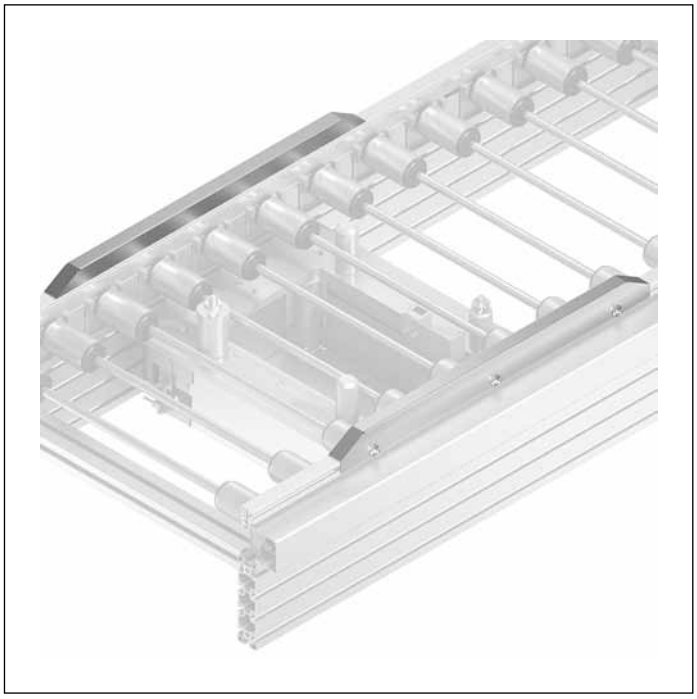


Required protective sleeve sets for PE 5, PE 5/T, PE 5/L and PE 5/L-T

b (mm)	l_{WT} (mm)	Material number A	Material number B for PE 5 and PE 5/L	Material number B for PE 5/T and PE 5/L-T
455	455	1x **3 842 545 965**		
455	650	1x **3 842 545 965**		
650	650	1x **3 842 545 965**		
650	845	1x **3 842 545 965**	+1x **3 842 545 966**	+2x **3 842 545 966**
845	845	1x **3 842 545 965**	+3x **3 842 545 966**	+3x **3 842 545 966**
845	1,040	1x **3 842 545 965**	+3x **3 842 545 966**	+3x **3 842 545 966**

b = track width of the positioning unit in the direction of transport
l_{WT} = length of workpiece pallet

Cover of lateral guide for positioning units



Use:

- The lateral guide covers are provided on both sides in the vicinity of the PE 5 (see page 8-3), PE 5/T (see page 8-7), PE 5/OC (see page 8-19) and PE 5/OC-T (see page 8-23) positioning unit to increase safety

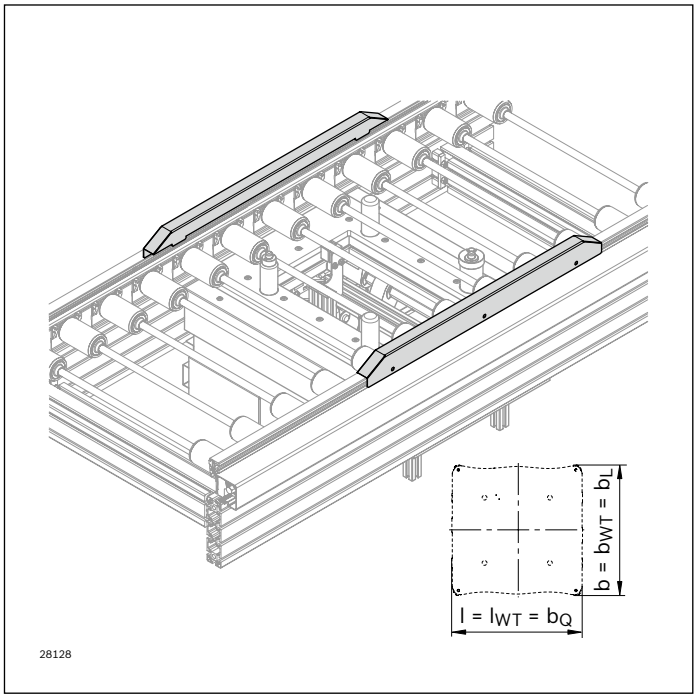
Note:

Do not walk on the protective covers.

Material:

- galvanized steel

Ordering information



Covers of lateral guide for positioning units

PE 5, PE 5/OC b_Q (mm)	PE 5/T, PE 5/OC-T b_L (mm)		Material number
455	455	1	**3 842 552 662**
650	650	1	**3 842 552 663**
845	845	1	**3 842 552 664**
1,040	1,040	1	**3 842 552 665**

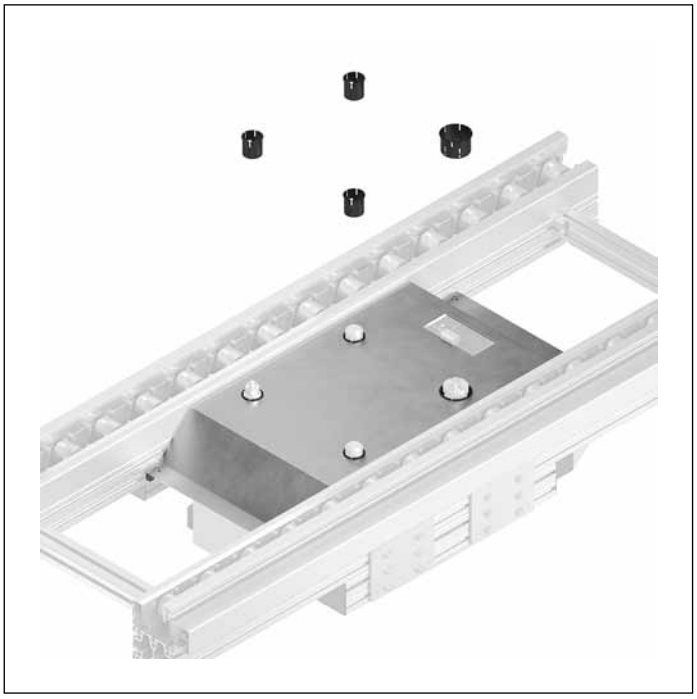
b_Q = track width in direction of transport (transverse conveyor)
b_L = track width in direction of transport (longitudinal conveyor)

Required fastening materials:
T-bolt and flange nut

		Material number
C	100	**3 842 345 081**
D	100	**3 842 528 718**

Description of the T-bolt and flange nut, see page 7-10

Protective covers for PE 5/OC and PE 5/OC-T



Use:

- Safety guard above the lifting plungers for the PE 5/OC and PE 5/OC-T. Refer to the assembly instructions for the installation dimensions.

Note:

Do not walk on the protective covers.

Scope of delivery:

- Incl. protective sleeves (**A** and **B**) and fastening material

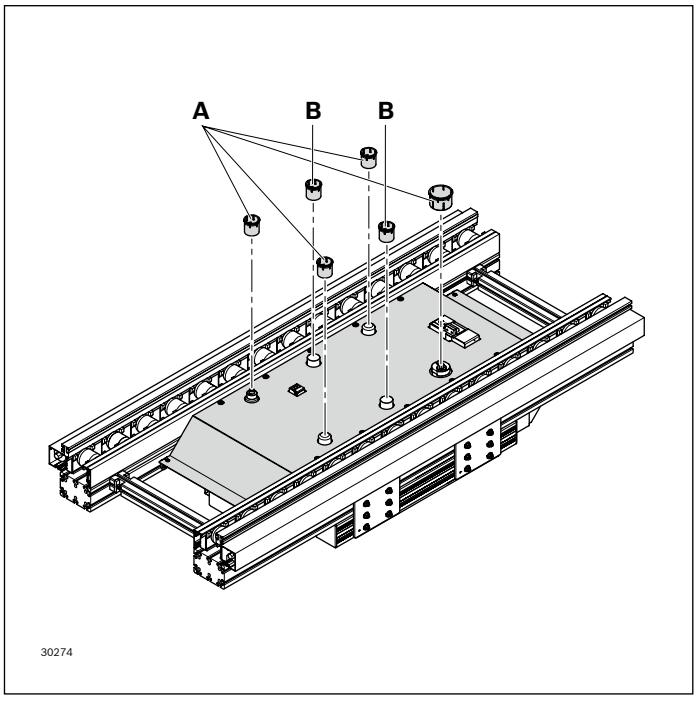
Condition on delivery:

- Not assembled

Material:

- Cover: aluminum
- Protective sleeves: PA

Ordering information



Necessary protective covers including protective sleeves (A and B) for PE 5/OC and PE 5/OC-T

b	l_{WT}	b_L	b_Q	PE 5/OC with VE 5/OCD-300 or VE 5/OCD-1000	PE 5/OC-T with VE 5/OCD-300 or VE 5/OCD-1000
(mm)	(mm)	(mm)	(mm)		
455	455			**3 842 554 557**	
455	650			**3 842 554 558**	
650	650			**3 842 554 559**	
650	845			**3 842 554 560**	
845	845			**3 842 554 561**	
845	1,040			**3 842 554 562**	
		455	455		**3 842 554 569**
		455	650		**3 842 554 570**
		650	650		**3 842 554 571**
		650	845		**3 842 554 572**
		845	845		**3 842 554 573**
		845	1,040		**3 842 554 574**

b = track width of the positioning unit in the direction of transport
l_{WT} = workpiece pallet length
b_L = track width in direction of transport (longitudinal conveyor)
b_Q = track width in direction of transport (transverse conveyor)



Transportation control

Transportation control	**9-2**
VE 5/200, VE 5/OC-200 stop gates	**9-3**
VE 5/D-300, VE 5/OCD-300 stop gates	**9-6**
VE 5/D-301, VE 5/OCD-301 stop gates	**9-9**
VE 5/D-1000, VE 5/OCD-1000 stop gates	**9-12**
Clamping holder for sensors	**9-15**
M12 sensors with M12x1 or M8x1 push-in fitting	**9-16**
Accessories, sensor	**9-18**
Accessories, sensor in Open Center **Assembly kit for SH 2/U-H switch bracket**	**9-21**

Transportation control

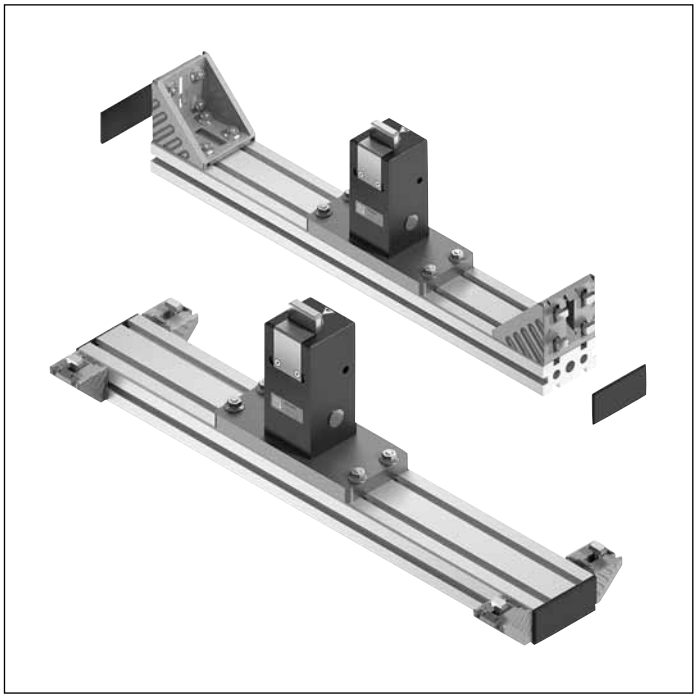
The modular units for transportation control are used to control the flow of the workpiece pallets on the transfer system. The direction of travel of the workpiece pallet is decisive for proper function of the transportation control.
Transportation control includes:

- Stopping and separating workpiece pallets in the longitudinal conveyor, see page 9-3, 9-6, 9-9, 9-12
- Stopping workpiece pallets in the transverse conveyor. It is not possible to separate workpiece pallets in the transverse conveyor, see page 9-3, 9-6, 9-9, 9-12
- Querying the position of a workpiece pallet. A suitable clamping holder for sensors is required for this, see page 9-16
- Controlling operation sequences
- Function plans, see page 13-16 ff.

Stop gate

VE 5/... stop gates are used to separate (only possible in longitudinal conveyors) and stop workpiece pallets, e.g. in an automated station.
Actuation is performed pneumatically. In a pressurefree state, the stop gate is held in the blocking position by a spring and thus contributes significantly to production safety. Stop gates are available with and without shock absorbers.

VE 5/200, VE 5/OC-200 stop gates



Use:

- Stopping one or more accumulating workpiece pallets at the defined workpiece pallet stop surface

Version:

- Pneumatic stop gate. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

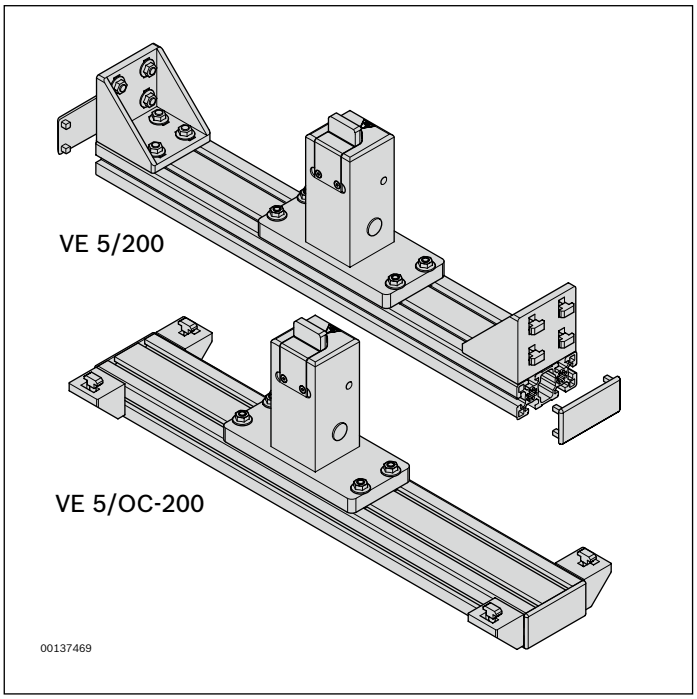
Condition on delivery:

- Not assembled

Recommended accessories:

- 1 sensor, 3 842 549 811 or 3 842 549 814, for position inquiry (engaged, top position/not engaged, bottom position), see page 9-16
- Clamping holder for sensor, see page 9-15

Ordering information



VE 5/200 stop gates

b (mm)	Material number
455; 650; 845; 1,040	**3 842 998 518**
	b = ... mm

b = track width in direction of transport

VE 5/OC-200 stop gates

	Material number
	3 842 998 577
	b = ... mm

b = track width in direction of transport

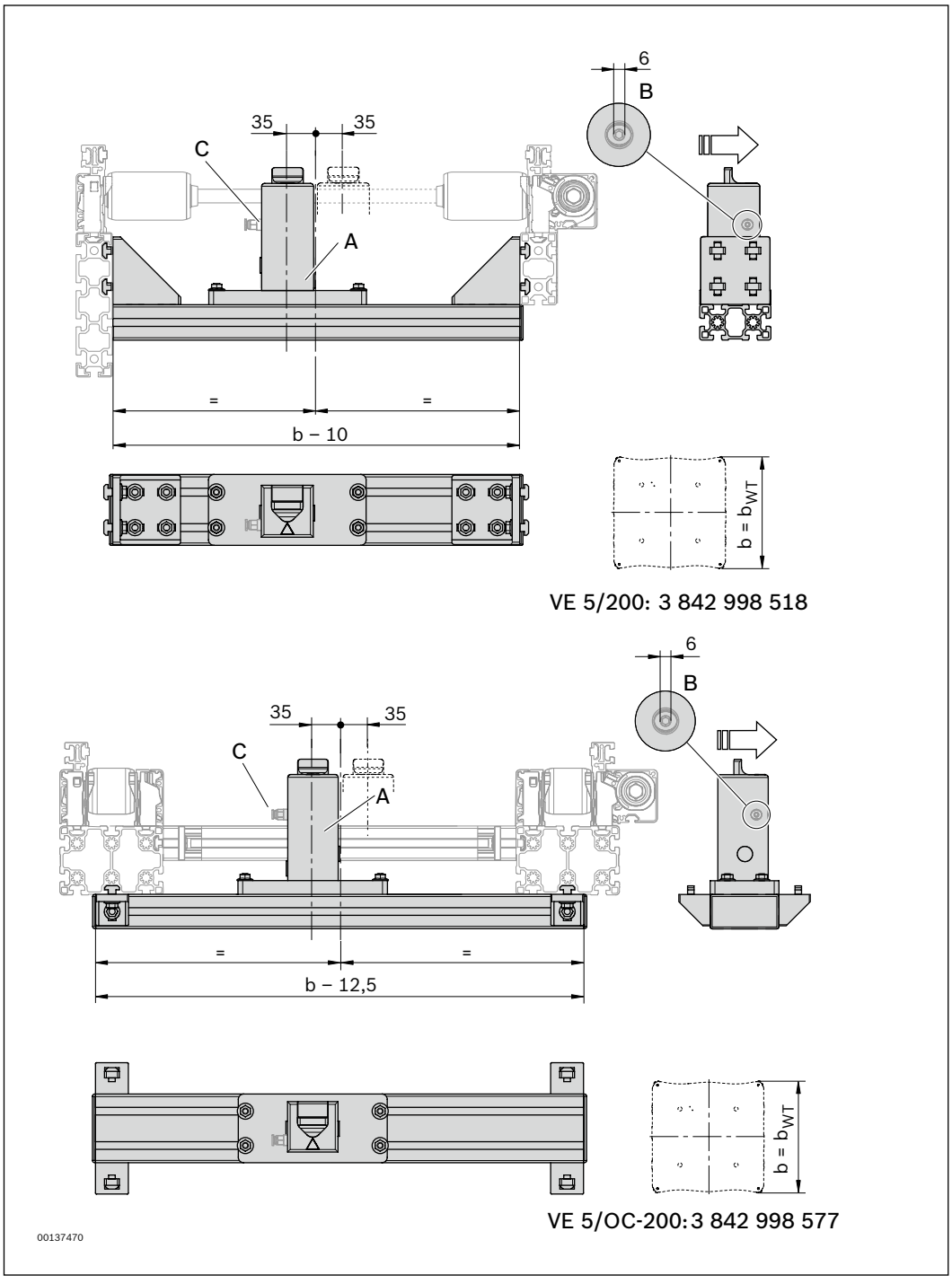
Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
200	2 ... 9

[1] Conveyor speed

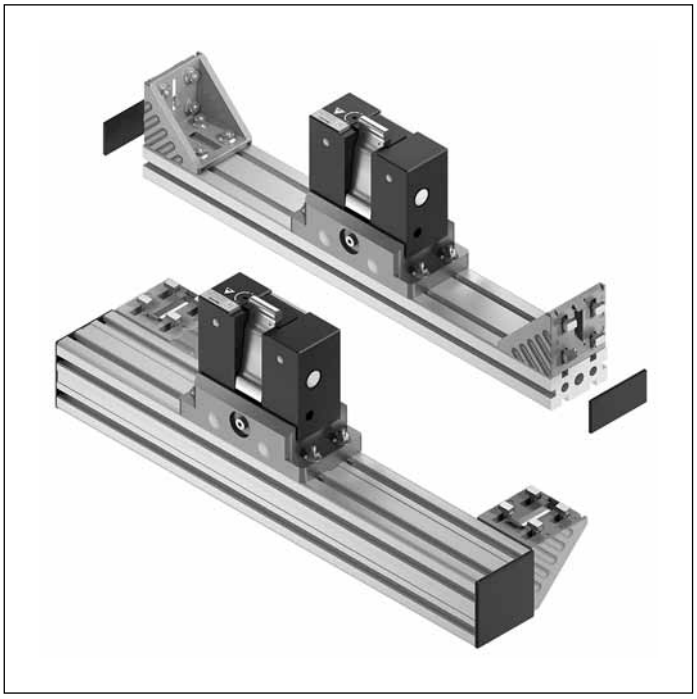
Dimensions

VE 5/200, VE 5/OC-200 stop gates



A = Stop gate
B = 6 mm pneumatic push-in connector
C = position inquiry VE stop blade up: yes/no

VE 5/D-300, VE 5/OCD-300 stop gates



Use:

- Damped stopping of one or more accumulating workpiece pallets at the defined workpiece pallet stop surface

Version:

- Pneumatic stop gate with steplessly adjustable damping. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

Recommended accessories:

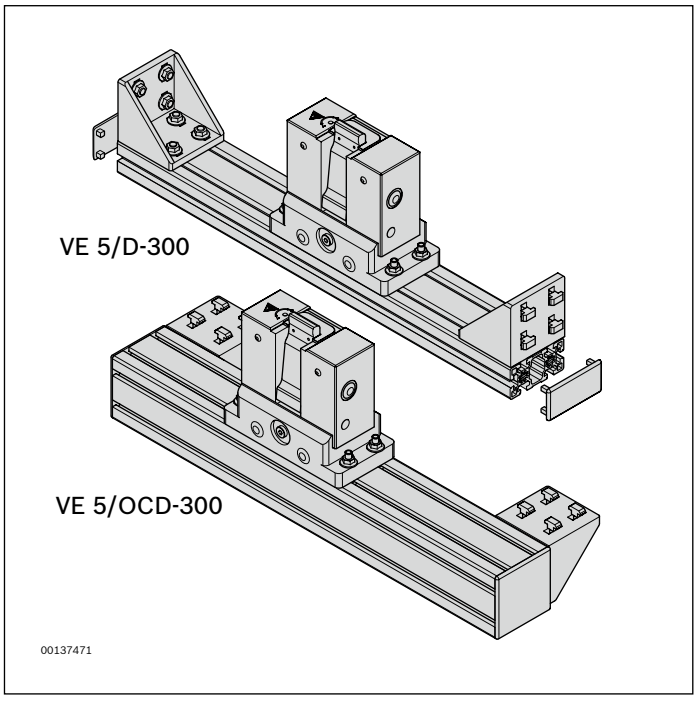
3 sensors, 3 842 549 811 or 3 842 549 814, for position inquiry in respect of

- stop gate position inquiry (engaged, top position), see page 9-16
- Stop gate position inquiry (not engaged, bottom position), see page 9-16
- Damper position inquiry (stop blade retracted: yes/no), see page 9-16
- Clamping holder for sensor, see page 9-15
- Trap guard, see page 9-7

Condition on delivery:

- Not assembled

Ordering information



VE 5/D-300 stop gate

b (mm)	Material number
455; 650; 845; 1,040	**3 842 998 517**
	b = ... mm

b = track width in direction of transport

VE 5/OCD-300 stop gates

	Material number
	3 842 998 578
	b = ... mm

b = track width in direction of transport

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
max. 300	2 ... 9
max. 260	2 ... 12
max. 160	2 ... 18

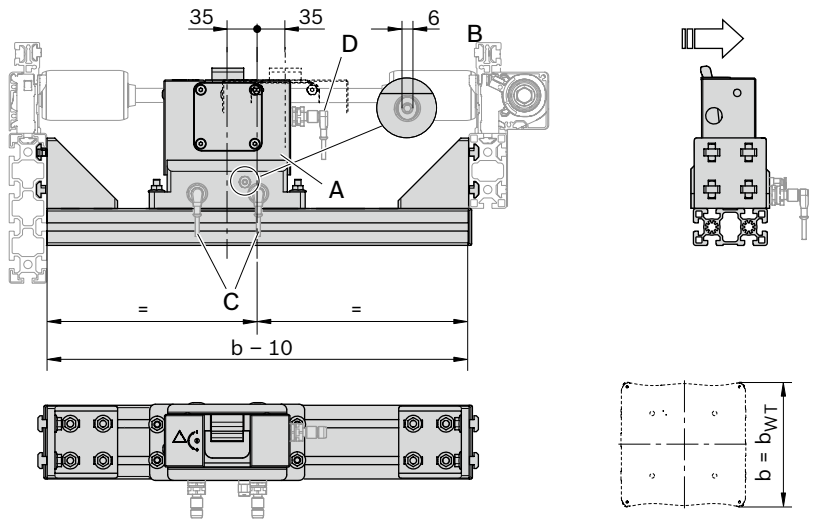
[1] Conveyor speed

Trap guard

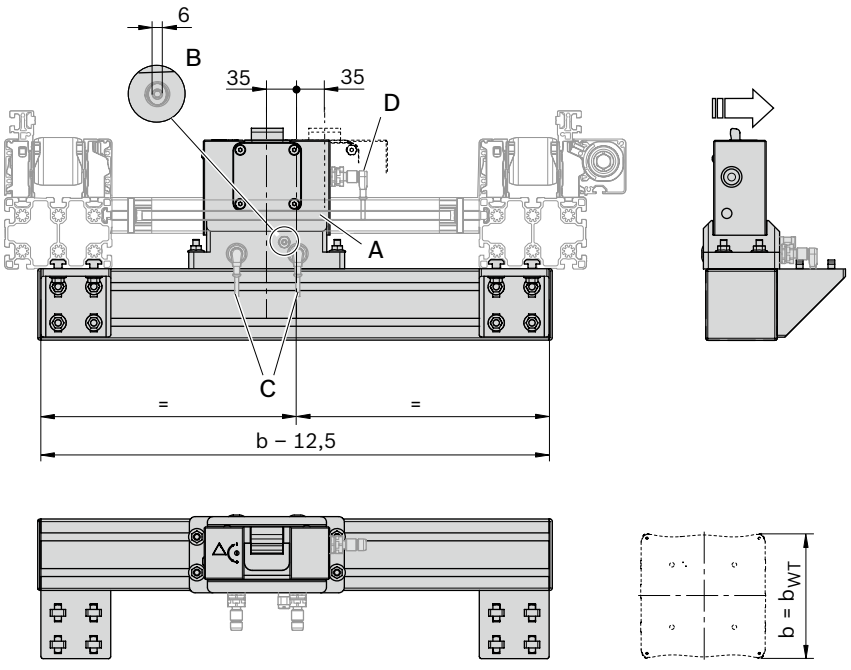
	Material number
	3 842 552 672

Dimensions

VE 5/D-300, VE 5/OCD-300 stop gates



VE 5/D-300: 3 842 998 517



VE 5/OCD-300: 3 842 998 578

00137472

A = Stop gate
B = 6 mm pneumatic push-in connector
C = position inquiry VE stop blade: up/down
D = position inquiry VE stop blade, damper retracted: yes/no

VE 5/D-301, VE 5/OCD-301 stop gates



Use:

- Damped stopping of one or more accumulating workpiece pallets at the defined workpiece pallet stop surface

Version:

- Pneumatic stop gate with steplessly adjustable damping. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

Condition on delivery:

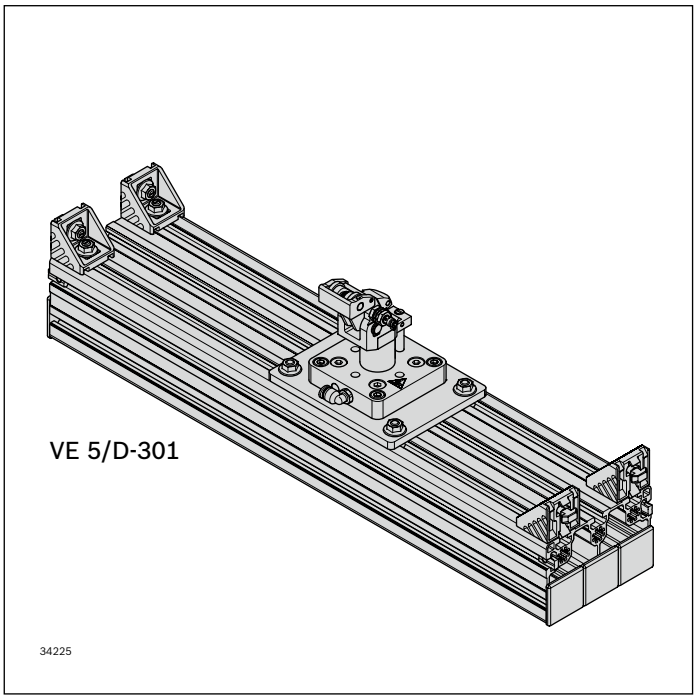
- Not assembled

Recommended accessories:

Sensor 3 842 551 761 for

- position inquiry top/bottom on request see page 9-16
- Damper position inquiry (stop blade retracted), sensor M8, see page 9-16

Ordering information



VE 5/D-301 stop gate

b (mm)	AO	Material number
455; 650; 845; 1,040	1; 2	**3 842 998 079**
		b = ... mm

b = track width in direction of transport
AO = 1: Main section (stop gate is 35 mm eccentric)
AO = 2: Transverse section (stop gate is in the center, only applies for transverse section HQ 5)

VE 5/OCD-301 stop gates

	Material number
	3 842 998 080
	b = ... mm

b = track width in direction of transport

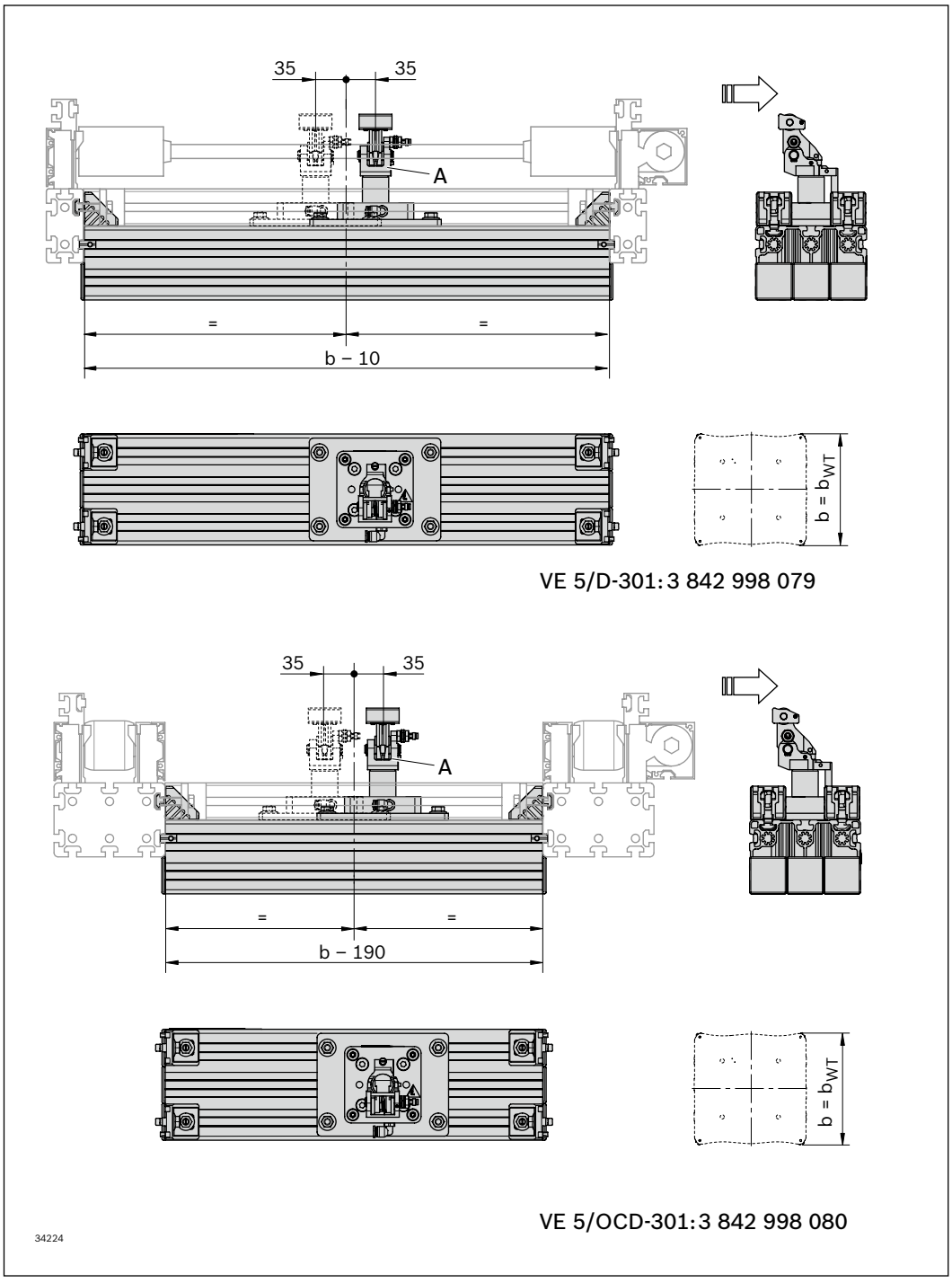
Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
max. 300	2 ... 9
max. 260	2 ... 12
max. 160	2 ... 18

[1] Conveyor speed

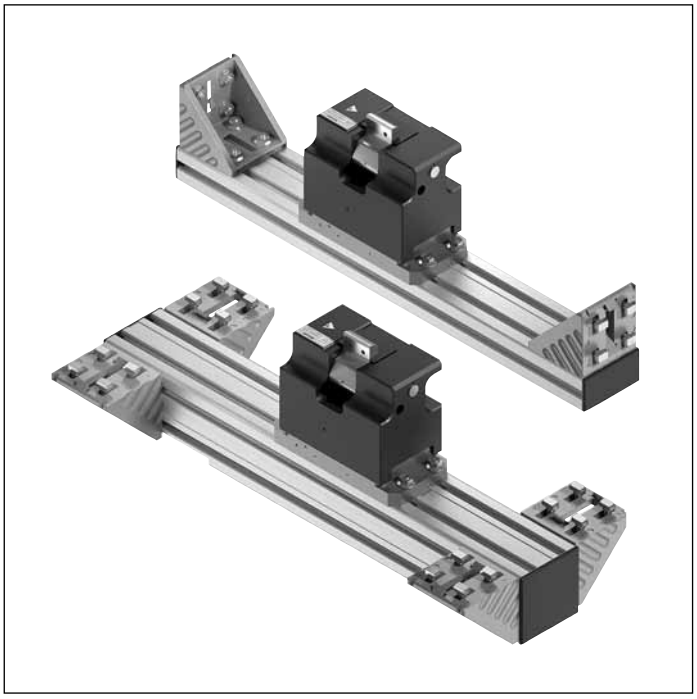
Dimensions

VE 5/D-301, VE 5/OCD-301 stop gates



A = Stop gate
B = 6 mm pneumatic push-in connector
C = position inquiry VE stop blade: up/down
D = position inquiry VE stop blade, damper retracted: yes/no

VE 5/D-1000, VE 5/OCD-1000 stop gates



Use:

- Oil-damped stopping of one or more accumulating workpiece pallets at the defined workpiece pallet stop surface

Version:

- Pneumatic stop gate. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.
- Compressed air connection 5 ... 6 bar
- Pneumatic push-in fitting: 6 mm

Note:

Cannot be combined with ST 5/H-FR and ST 5/XH-FR if spacing p = 130.

Scope of delivery:

- Incl. fastening material for assembly on the conveyor section, pneumatic push-in connector Ø 6 mm

Condition on delivery:

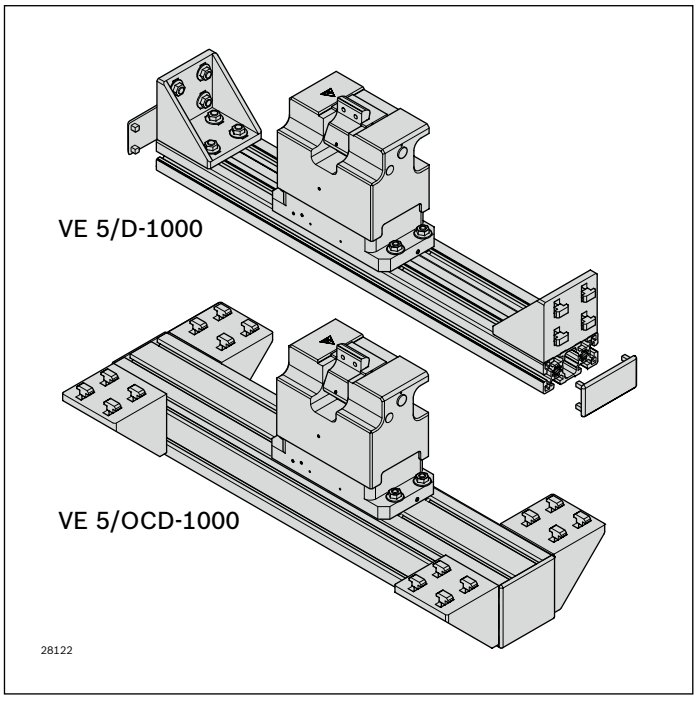
- Not assembled

Recommended accessories:

2 or 3 sensors 3 842 549 811 or 3 842 549 814 for

- stop gate position inquiry (engaged, top position), see page 9-16
- Stop gate position inquiry (not engaged, bottom position), see page 9-16
- Damper position inquiry (stop blade retracted: yes/no), see page 9-16
- Clamping holder for sensor, see page 9-15
- Trap guard, see page 9-13

Ordering information



VE 5/D-1000 stop gate

b (mm)	Material number
455; 650; 845; 1,040	**3 842 998 805** b = ... mm

b = track width in direction of transport

VE 5/OCD-1000 stop gates

b (mm)	Material number
455; 650; 845; 1,040	**3 842 998 806** b = ... mm

b = track width in direction of transport

Permissible impact force per WT

m_{WT} (kg)	v_N [1] (m/min)
min. 50 max. 1,000	2 ... 9
min. 50 max. 900	2 ... 12
min. 50 max. 700	2 ... 18

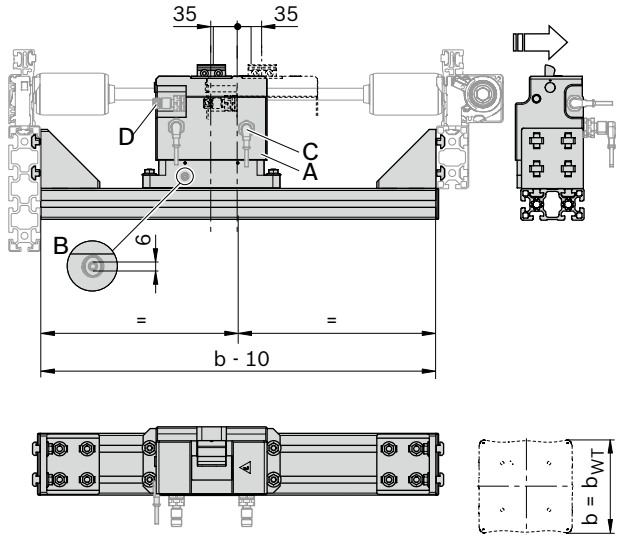
[1] Conveyor speed

Trap guard

Material number
3 842 552 672

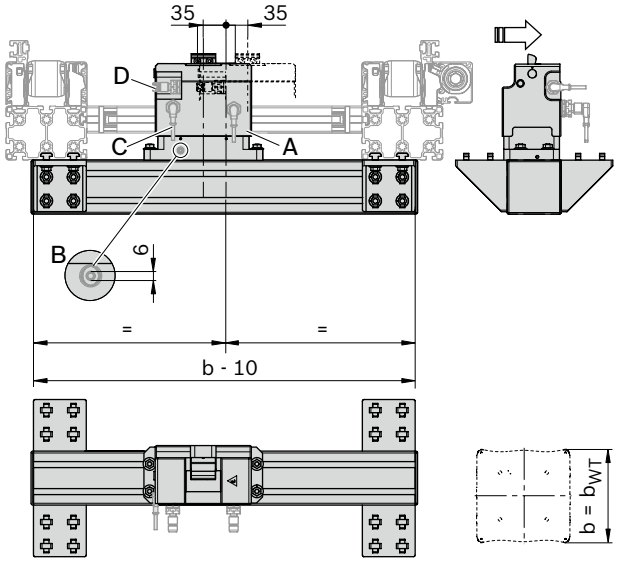
Dimensions

VE 5/D-1000, VE 5/OCD-1000 stop gates



VE 5/D-1000: 3 842 998 805

28123



VE 5/OCD-1000: 3 842 998 806

28124

A = Stop gate
B = 6 mm pneumatic push-in connector
C = position inquiry VE stop blade: top/bottom
D = position inquiry VE stop blade, damper retracted: yes/no

Clamping holder for sensors



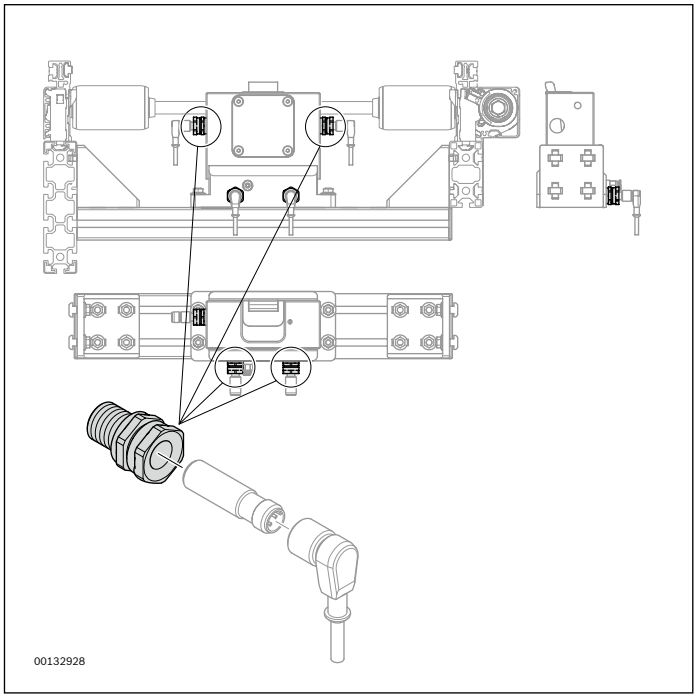
Clamping holder for sensors

Use:

- Clamping holder for sensor Ø 12 mm, for screwing onto the stop gate

Material:

- brass, nickel-plated



Clamping holder

	Material number
1	**3 842 545 974**

M12 sensors with M12x1 or M8x1 push-in fitting



Use:

- Detection of the position of a workpiece pallet, position inquiry in respect of lift transverse units and positioning units.

Version:

	3 842 549 811[1]	**3 842 549 813**[2]	**3 842 551 761**[1]	**3 842 549 814**[1]	**3 842 537 995**[2]	**3 842 555 421**[2]
Size	M12 x 44 mm	M12 x 44 mm	M12 x 30 mm	M12 x 45 mm	M12 x 45 mm	M12 x 60 mm
Nominal switching distance S_N	4 mm	8 mm	2 mm	4 mm	7 mm	10 mm
Switching frequency	2,500 Hz	800 Hz	1,500 Hz	300 Hz	500 Hz	600 Hz
Operating current	200 mA	200 mA	200 mA	200 mA	200 mA	200 mA
Housing material	CuZn coated, LCP	CuZn coated, LCP	CuZn coated, LCP	CuZn coated, LCP	CuZn coated, LCP	CuZn coated, LCP
Ambient temperature	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +85 °C
Protection class	IP 67	IP 67	IP 68	IP 67	IP 67	IP 68
Mech. installation	Flush	Not flush	Flush	Flush	Not flush	Not flush
Plug connection	M8x1	M8x1	M8x1	M12x1	M12x1	M12x1
Function display	LED	LED	LED	LED	LED	LED
Switching output	PNP	PNP	PNP	PNP	PNP	PNP
Switching function	Normally open (NO)	Normally open (NO)	Normally open (NO)	Normally open (NO)	Normally open (NO)	Normally open (NO)
Operating voltage	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
Approvals	CE, UL, CSA	CE, UL, CSA	CE, cULus	CE, UL, CSA	CE, UL, CSA	CE, cULus, EAC
Conformity with standards	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2

[1] Not suitable for position inquiry in respect of lift transverse units.

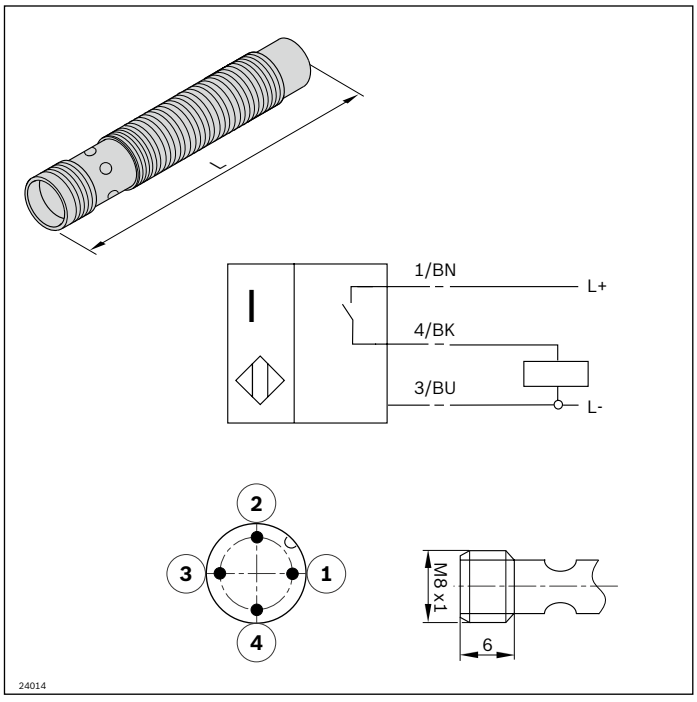
[2] Not suitable for position inquiry in respect of stop gates.

Required accessories:

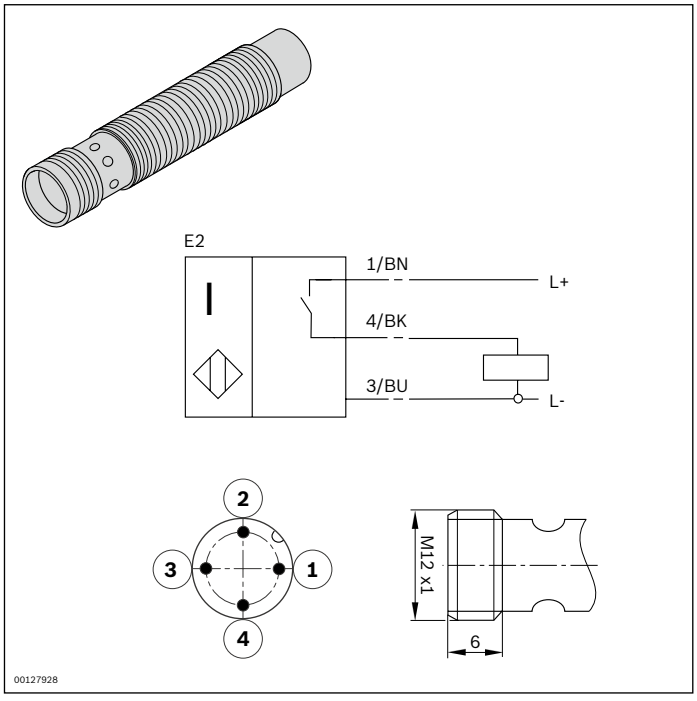
- SH 2/U-H switch bracket, see page 9-18
- Assembly kit for switch bracket, see page 9-20
- Clamping holder for sensor, see page 9-15

Ordering information

Circuit diagram M8x1



Circuit diagram M12x1



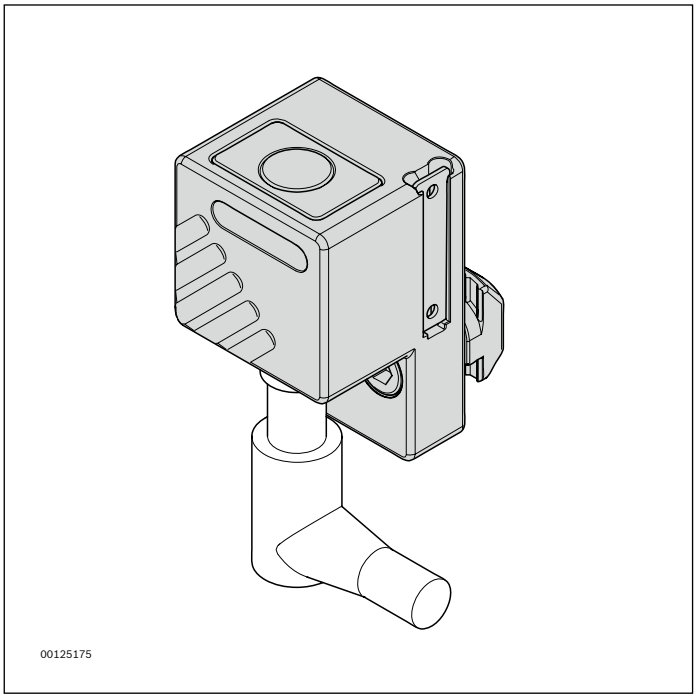
Sensor M12

Plug connection	Length (mm)	Material number
M8x1	44	**3 842 549 811**
	44	**3 842 549 813**
	30	**3 842 551 761**
M12x1	45	**3 842 549 814**
	45	**3 842 537 995**
	60	**3 842 555 421**

Accessories, sensor



Ordering information



SH 2/U-H switch bracket

Use:

- Fastening for a M12x1 sensor for workpiece pallet position sensing from below.
- Especially sturdy metal design

Version:

- Die-cast aluminum
- Integrated stop for 12 mm sensor

Mounting location:

- On the assembly kit for the switch bracket

Scope of delivery:

- Incl. fastening material for assembly

Required accessories:

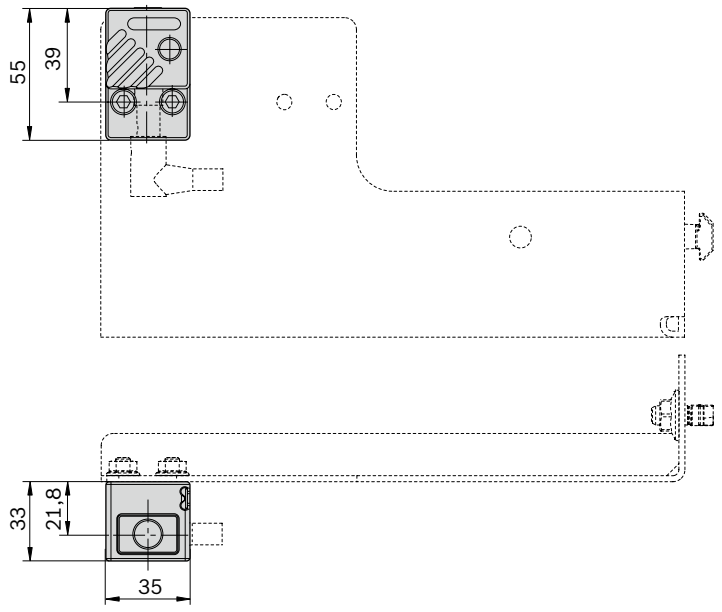
- Assembly kit for SH 2/U-H switch bracket
- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, see p. 9-16

SH 2/U-H switch bracket

	Material number
	3 842 537 289

Dimensions

SH 2/U-H switch bracket



SH 2/U-H: 3 842 537 289



Assembly kit for SH 2/U-H switch bracket

Use:

- Holding plate to bring the switch bracket into the correct inquiry position

Version:

- Centering lugs for pre-positioning and fast assembly

Condition on delivery:

- Not assembled

Required accessories:

- SH 2/U-H switch bracket
- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, see p. 9-16

SH 2/U-H assembly kit on ST 5/H, ST 5/XH conveyor unit

b (mm)	Material number
455; 650; 845; 1,040	**3 842 545 134**

b = track width in direction of transport

Mounting location:

- 3 842 545 134: on ST 5/H, ST 5/XH conveyor unit

Scope of delivery:

- Incl. fastening material for assembly and a 45x90 bracket for reinforcement as needed.

SH 2/U-H assembly kit on PE 5 positioning unit or HQ 5 lift transverse unit

	Material number
	3 842 545 132

Mounting location:

- on the PE 5 positioning unit and HQ 5 lift transverse unit; not required for b = 455 mm (fitted to stop gate without assembly kit)

Scope of delivery:

- Incl. fastening material for assembly

Accessories, sensor in Open Center Assembly kit for SH 2/U-H switch bracket



Use:

- Holding plate to bring the switch bracket into the correct inquiry position

Version:

- Centering lugs for pre-positioning and fast assembly

Mounting location:

- on the section profile

Scope of delivery:

- Incl. fastening material for assembly

Condition on delivery:

- Not assembled

Required accessories:

- SH 2/U-H switch bracket
- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, see p. 9-16

SH 2/U-H assembly kit on ST 5/OC conveyor unit

b (mm)	Material number
455; 650; 845	**3 842 545 533**

b = track width in direction of transport



Identification systems

Identification systems	**10-2**
Assembly kits for ID 40/ID 200 identification systems in longitudinal conveyors	**10-3**
Assembly kits for ID 40/ID 200 identification systems in Open Center sections	**10-5**
Kits for installation in WT 5 workpiece pallets	**10-7**

Identification systems



RFID Systems catalog

	Material number
DE	**3 842 541 003**
EN	**3 842 541 004**
FR	**3 842 541 005**
IT	**3 842 541 006**

Identification and data tag systems are used to control numerous production and transport systems in assembly technology applications.

Data related to objects is the basis for

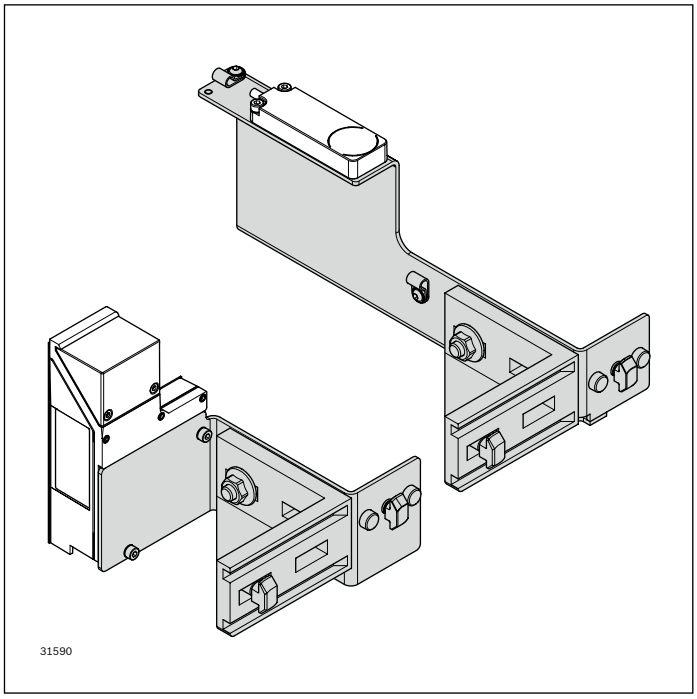
- targeted control of processes and processing steps
- infeeding or outfeeding workpiece pallets according to type or variant when manufacturing product variants on flexible assembly systems.

You can find our current range of identification and data tag systems in the RFID systems catalog.

Required accessories:

- Assembly kit for identification system read/write heads, see page 10-3

Assembly kits for ID 40/ID 200 identification systems in longitudinal conveyors



Condition on delivery:

- Not assembled

Required accessories:

- For relevant read/write head, see RFID systems catalog, page 10-2

Use:

- For fastening the various read/write heads from the identification systems in the longitudinal conveyor

Note: ID 40/ID 200 identification systems in transverse conveyor on request.

Version:

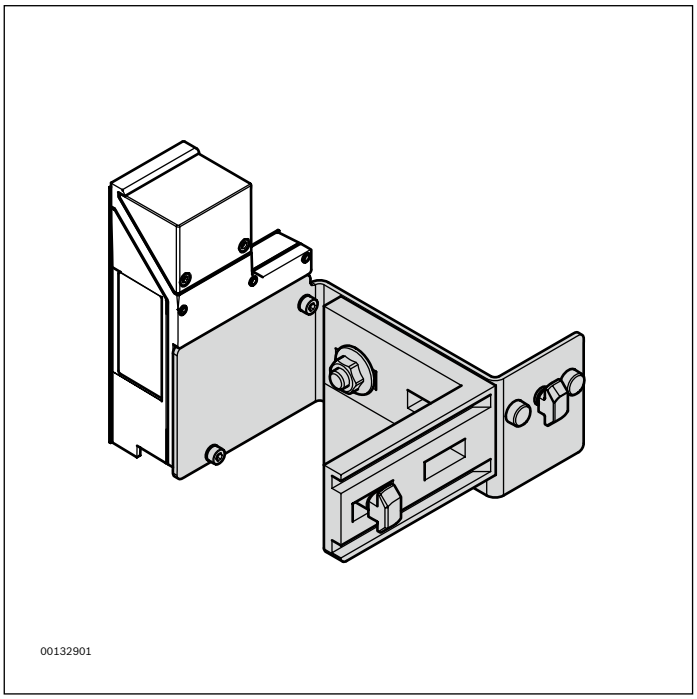
- Centering lugs for pre-positioning and fast assembly

Mounting location:

- on the section profile

Note:
The sensors and ID 40 and ID 200...-LF identification systems use the same frequency range. Maintain a minimum distance of 200 mm to prevent interference.

Ordering information



Assembly kit for ID 40 identification system

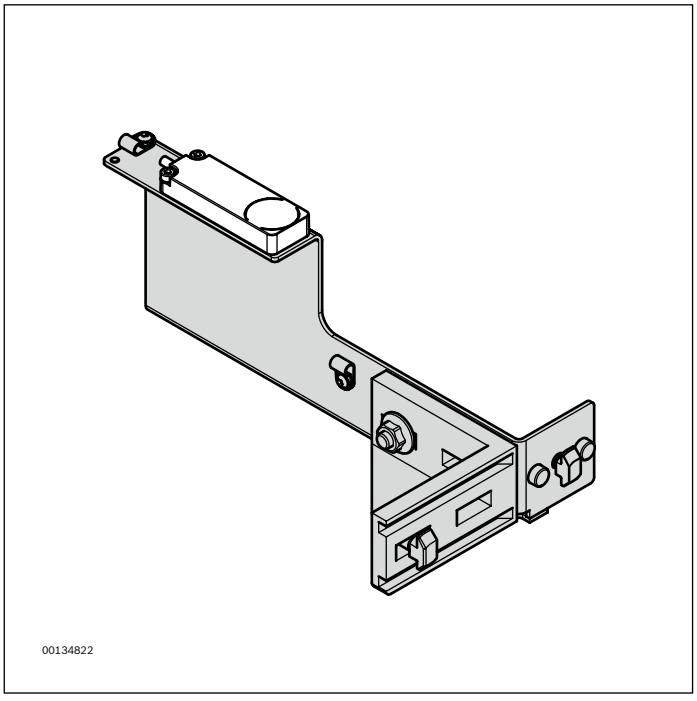
b (mm)	Material number
455	**3 842 545 140**
650; 845	**3 842 545 142**

b = track width in direction of transport

Scope of delivery:

- 3 842 545 140: Incl. fastening material for assembly
- 3 842 545 142: Incl. fastening material for assembly and a 45x90 bracket for reinforcement as needed.

Ordering information



Assembly kit for ID 200 identification system, longitudinal conveyor

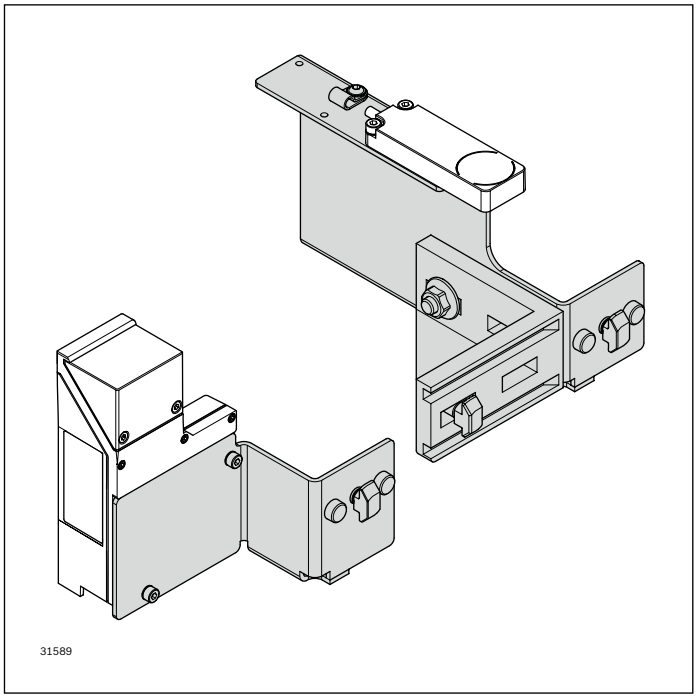
b (mm)	Material number
455; 650; 845	**3 842 545 144**

b = track width in direction of transport

Scope of delivery:

- Incl. fastening material for assembly and a 45x90 bracket for reinforcement as needed.

Assembly kits for ID 40/ID 200 identification systems in Open Center sections



Condition on delivery:

- Not assembled

Required accessories:

- For relevant read/write head, see RFID systems catalog, page 10-2

Use:

- For fastening the various read/write heads from the identification systems in the longitudinal conveyor

Note: ID 40/ID 200 identification systems in transverse conveyor on request.

Version:

- Centering lugs for pre-positioning and fast assembly

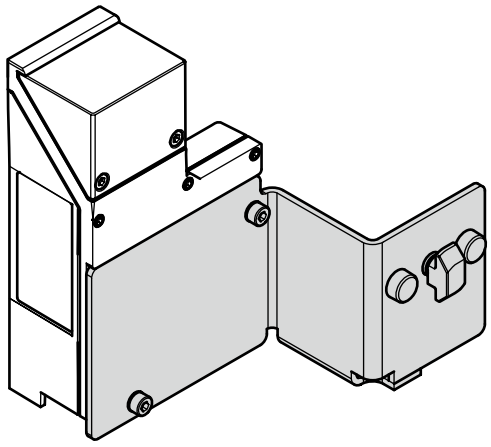
Mounting location:

- on the section profile

Note:

The sensors and ID 40 and ID 200...-LF identification systems use the same frequency range. Maintain a minimum distance of 200 mm to prevent interference.

Ordering information



00137477

Assembly kit for ID 40 identification system

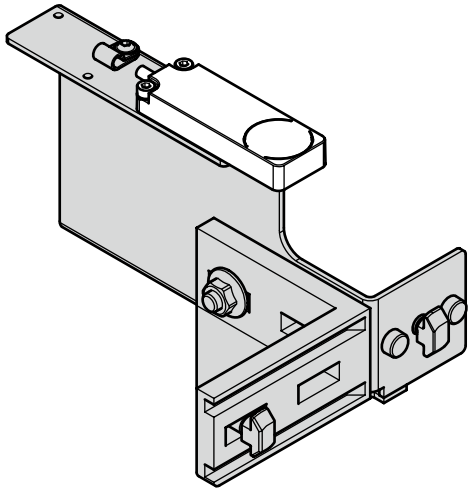
b (mm)	Material number
455	**3 842 545 535**
650; 845	**3 842 545 537**

b = track width in direction of transport

Scope of delivery:

- 3 842 545 535: Incl. fastening material for assembly
- 3 842 545 537: Incl. fastening material for assembly and a 45x90 bracket for reinforcement as needed.

Ordering information



31545

Assembly kit for ID 200 identification system, longitudinal conveyor

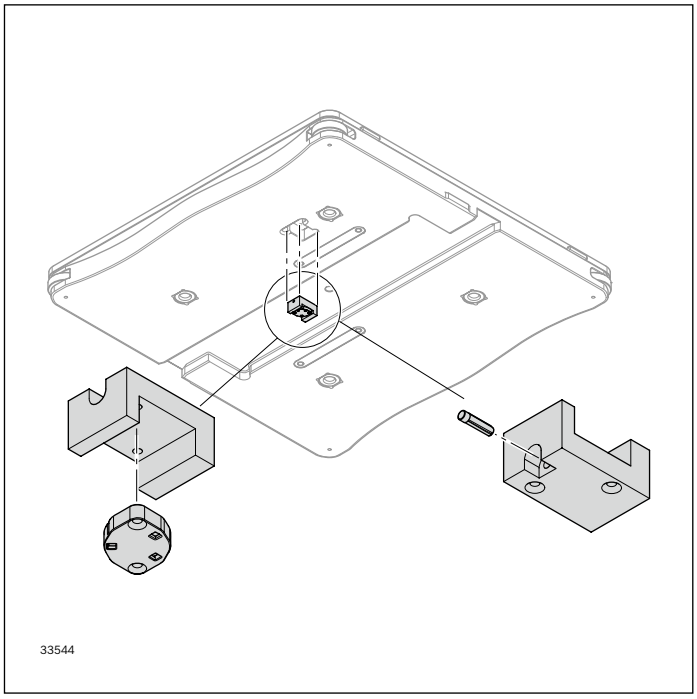
b (mm)	Material number
455; 650; 845	**3 842 545 539**

b = track width in direction of transport

Scope of delivery:

- 3 842 545 539: Incl. fastening material for assembly and a 45x90 bracket for reinforcement as needed.

Kits for installation in WT 5 workpiece pallets



Use:

- Kits for installing the different data tags (ID 40/ID 200 identification systems) in the WT 5 workpiece pallet

Mounting location:

- On WT 5 workpiece pallet

Scope of delivery:

- Incl. fastening material for mounting the kit.

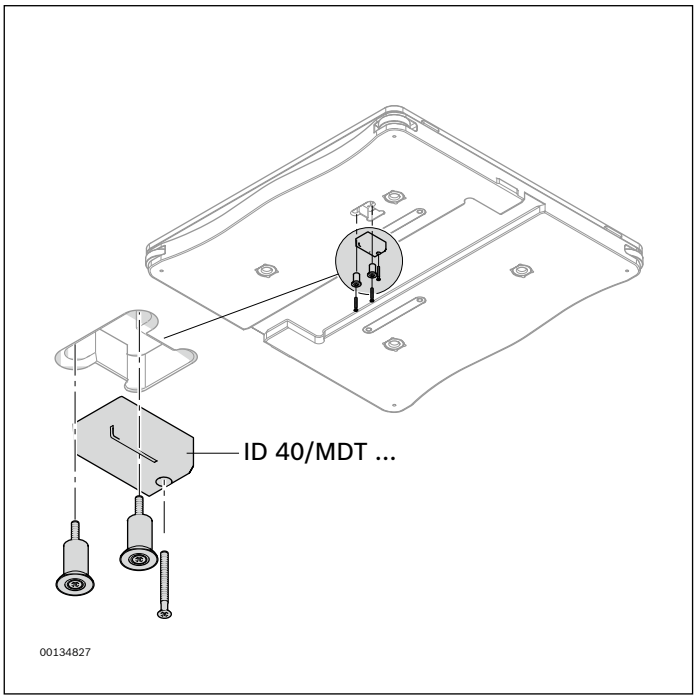
Condition on delivery:

- Not assembled

Required accessories:

- For relevant data tag, see RFID systems catalog, page 10-2

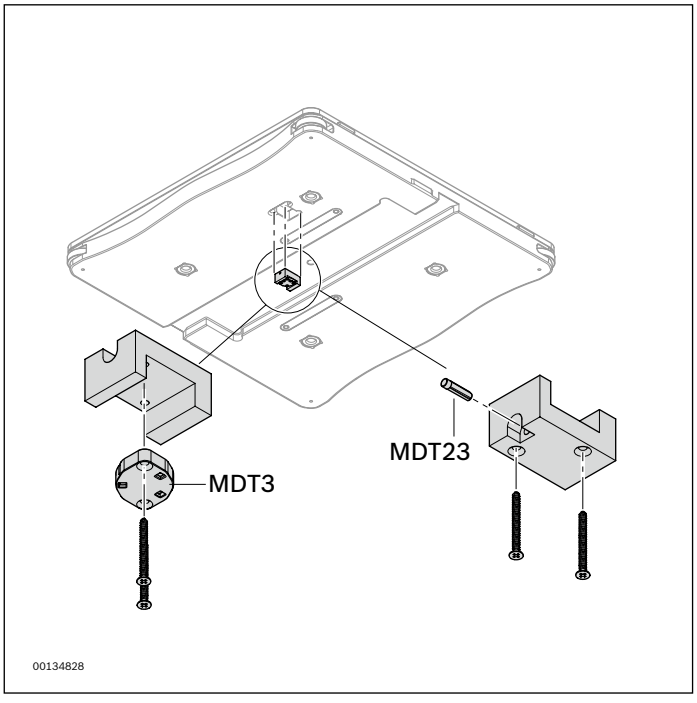
Ordering information



Kit for ID 40 identification systems

	Material number
	3 842 545 448

Ordering information



Kit for ID 200 identification systems

	Material number
	3 842 545 450



Tools

Chain breaker **11-2**

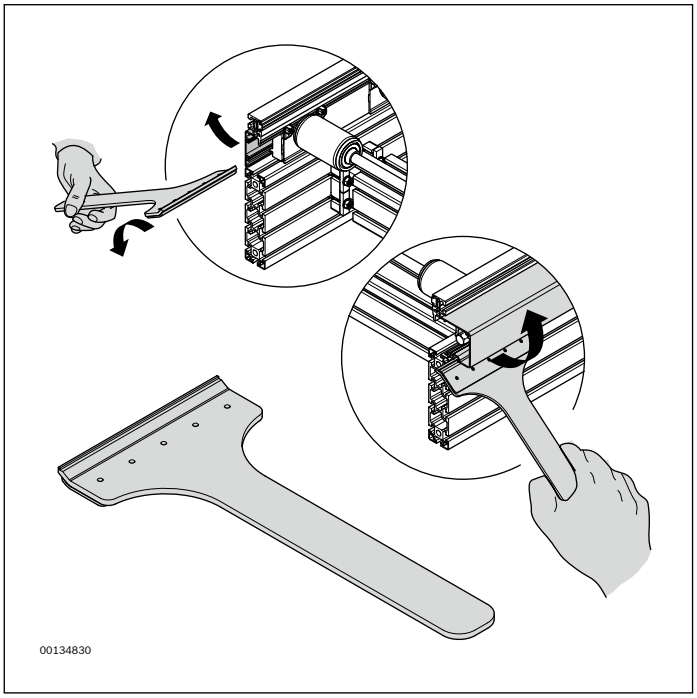
Spring tensioner **11-3**

Chain breaker



Use:

- To gently remove the covers (on the king shaft and passive side).



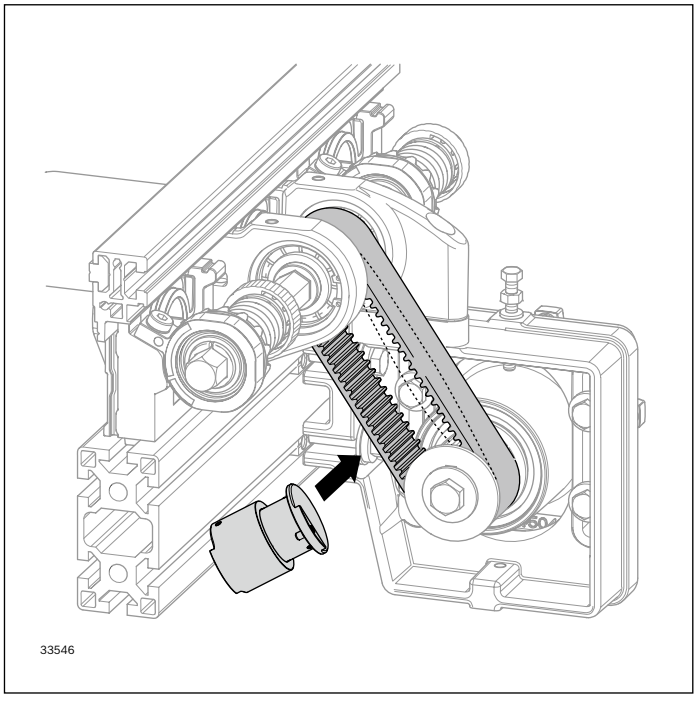
Product designation	Material number
Chain breaker	**3 842 545 836**

Spring tensioner



Use:

- Only required when exchanging the toothed belt in the AS 5 drive unit.
  In the delivery condition, the toothed belt in the AS 5 drive unit has been tensioned at the factory.

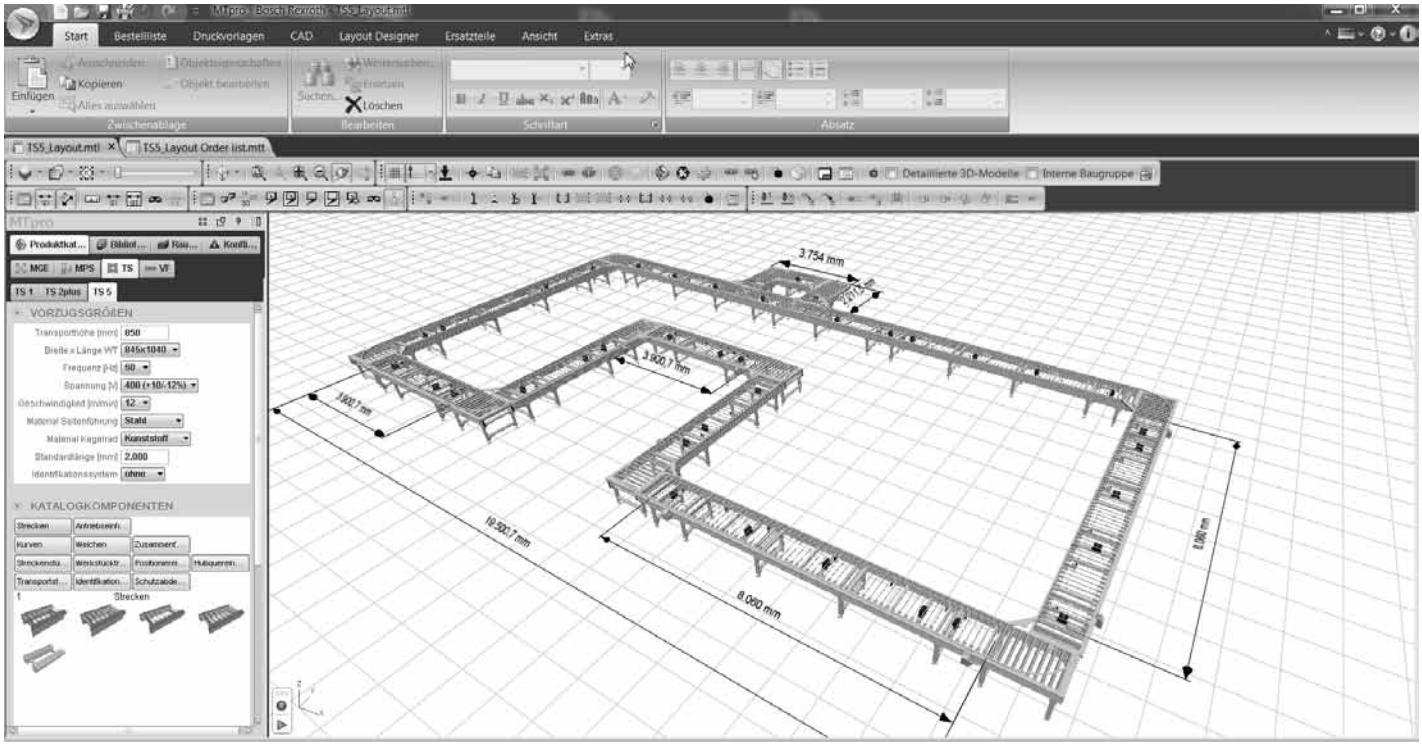


Product designation	Material number
Spring tensioner	**3 842 545 871**



MT*pro* – planning software

MTpro – planning software **12-3**


Start
Bestellliste
Druckvorlagen
CAD
Layout Designer
Ersatzteile
Ansicht
Extras
Einfügen
Kopieren
Alles auswählen
Suchen...
Ersetzen
Löschen
Zwischenablage
Bearbeiten
Schriftart
Absatz
TS5_Layout.mtl
TS5_Layout Order list.mtt
Detaillierte 3D-Modelle
Interne Baugruppe
MTpro
MGE
MPS
TS
VT
TS 1
TS 2plus
TS 5
VORZUGSGRÖßEN
KATALOGKOMPONENTEN
Strecken
Kurven
Weichen
Zusammenf...
Transportst...
Identifikation...
Schutzabde...
3.754 mm
3.920,7 mm
3.920,7 mm
10.500,7 mm
8.000 mm
1.000 mm

MT*pro* – planning software

MT*pro* is a software program used for planning assembly systems. It assists you from selection to configuration and ordering of the Rexroth products. The program offers the following functions and full content in seven languages (en/de/fr/es/it/ja/zh):

Layout Designer for planning and designing complete frames and conveyor systems

- Simple design using the drag & drop and snap functions without a CAD system
- Design logic for automatic configuration and assembly adaptation
- Automatic order list generation of all small parts and accessories
- Export of 3D volume models
- Library for saving and reusing your own modules and layouts

Product information

- Technical data
- Catalog data sheets
- Assembly instructions
- Spare parts lists and drawings

Configuration and calculation

- Product configuration and generation of ordering information
- Issuing of order lists in user-specific presentations
- Direct connection to Rexroth eShop
- Quick & Easy profile configuration and drafting
- Other design and calculation programs

CAD library

- Configurable CAD models
- Memories in standard formats
- Direct integration into all common CAD systems

System requirements

- Windows from version 7 onwards
- DVD-ROM drive
- At least 6 GB of free disk space hard disk space
- Adobe Reader from version 10 onwards
- Internet access for layout designer licensing and automatic updates



Catalog: 3 842 539 057
www.boschrexroth.de/mediadirectory

Technical data

System specifications **13-2**

Drive data **13-6**

Motor data **13-7**

Ordering parameters for SEW motors **13-13**

Conversion table for metric/imperial dimensions **13-15**

Function plans **13-16**

System specifications

Application

The Rexroth transfer systems all form a program of fine-tuned mechanical components that are used to convey, separate, and position workpiece pallets. With these components, you can create almost any system layout you need. The systems are primarily used to convey workpieces (on Rexroth workpiece pallets) to and from manual or automatic work stations on an assembly line.

Planning

Transfer system planning, setup, initial start-up and maintenance should only be done by trained personnel. Rexroth offers training courses for this.

Scope of delivery – small parts

The sensors, pneumatic valves, and electrical and pneumatic installation material that are necessary for operation are usually not included in the scope of delivery. These parts are only preassembled if they guarantee special functional safety or if installing them at a later point would require too much effort.
Please note the references for the required flow control valves and check valves in the pneumatic switching plan (listed in the assembly and operation instructions) must be followed.

Note

Examples
Installation references, pneumatic switching plans and typical function processes are described in the catalogs and assembly instructions. These must be followed when setting up and starting the initial operation of the system.

CE identification, responsibility

Components that fall under the EC Machinery Directive are delivered with the corresponding manufacturer's declaration. Overall responsibility for system safety (declaration of conformity, CE identification) lies with the system builder. The references in the assembly instructions and in the Instructions for Employees on Safety – 3 842 527 147 must be followed.

Materials used

The materials used in the components are primarily:
- Non-rusting steel or steel protected against corrosion by a special surface,
- Brass,
- Cast or malleable aluminum alloys,
- Polyurethane, polyamide, in some cases with additives to improve electrical and mechanical characteristics, and UHMW polyethylene.
- NBR or Viton for elastic seals.

Media resistance

Resistant to many common media used in production such as water, mineral oil, grease, and detergents. Contact your Rexroth representative if you have any doubts about resistance to specific chemicals, e.g. test oil, doped oils, aggressive detergents, solvents, or brake fluid.
Avoid prolonged contact with highly reactive acidic or alkaline materials.

Contamination

Wear may increase dramatically if the system is contaminated, particularly with abrasive media from the surrounding area such as sand and silicates from construction, but also due to processes running on the transfer system (e.g. welding beads, pumice dust, glass shards, shavings, or lost parts, etc.). In such cases, maintenance intervals must be substantially shortened.

Such cases require special attention when planning the system and adjusting the maintenance intervals.

Functional safety

Resistance to media and contamination does not mean that functional safety is guaranteed in every case.
- Liquids that thicken on evaporation and are highly viscous or adhesive (sticky) could lead to a disruption in function.

- Media with lubricating properties may reduce the driving power transferred by friction if they are carried over onto systems with rollers.

Environmental sustainability, recycling

The materials used are environmentally friendly.
They can be recycled or reused (components may have to be processed and replaced). Recyclability is ensured by the selection of materials and the ability to take the components apart.

Pneumatic connection data

Oiled or non-oiled, filtered, dry compressed air.
Operating pressure 6 bar Performance data is for an operating pressure of 6 bar.

Maintenance

The TS components require very little maintenance. Maintenance instructions are included in the operating manual.

Wear

Wear is caused by the basic principle of this system and cannot be avoided. Design measures and appropriate materials help ensure functional safety over the life of the product. However, wear depends on the operating, maintenance, and ambient conditions of the system and the location (resistance, contamination).

Measures to reduce wear

The following measures reduce wear and the friction caused by it:

- Switch off conveyor sections when the system is not running, e.g. during breaks, overnight, on the weekend.
- Only select speeds that correspond with the particular function.
- Minimize the weight of the workpiece pallet – do not overload workpiece supports with material.
- Avoid unnecessary accumulation sections, e.g. by reducing the number of workpiece pallets
- Switch off accumulation sections carrying heavy workpiece pallets as long as transport is not necessary.
- Very important: Avoid contamination by abrasive media or reduce contamination through regular cleaning.

Load specifications

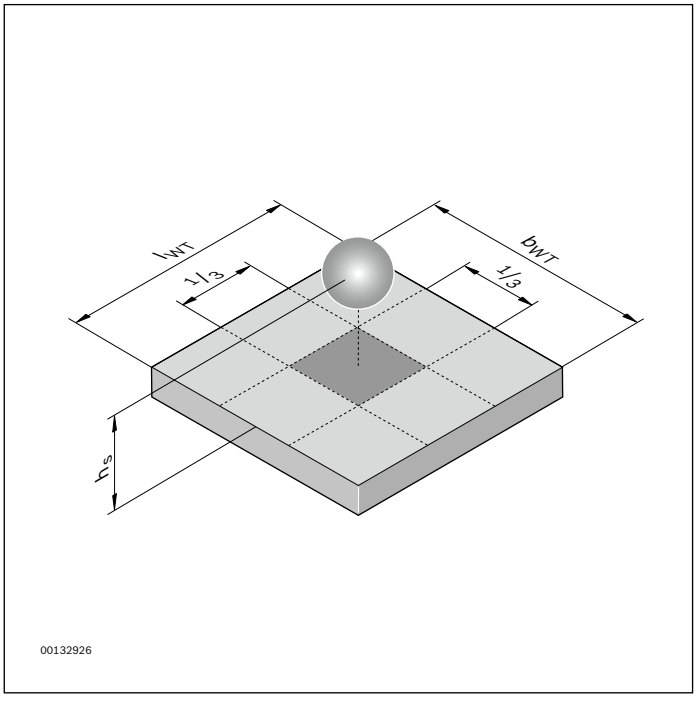
Permitted loads apply for conveyor sections only under the condition that workpiece pallets with the maximum permitted weight have accumulated.
Accumulation operation is not permitted at curves, diverters, junctions, or the positioning unit.

Wear and conveyor speed

Nominal data for the permitted workpiece pallet weight describe operation with standard speeds and normal operating conditions.
Wear on the workpiece pallet wear pads and the conveyor medium will not influence system function throughout the service life.

Loading the workpiece pallet, gravity center position

Concentric load with a low center of gravity is generally preferable. Incorrect load distribution with a high and/or eccentric gravity center on the workpiece pallet may have a negative influence on running and safety.
Pay attention when arranging workpiece supports and workpieces on the pallet that the center of gravity of the loaded workpiece pallet is within the area 1/3 of the length or width from the center of the workpiece pallet. The maximum height of the center of gravity over the conveying level should not exceed 1/2 of the workpiece pallet length or width.



Loading the workpiece pallet, combination of empty and loaded workpiece pallet

When setting up and testing the modular units, the workpieces pallets should not all have the same weight on the conveyor sections, i.e. full and empty pallets should all come through the circuit.
Extreme differences in weight may require special measures to avoid functional disruptions. This applies, e.g. to the permitted accumulation length before stop gates, for the function of dampers and dampened stop gates.
Function is usually not limited if the weight ratio is 2:1 between heavy workpiece pallets (loaded with a workpiece) and light workpiece pallets (empty).

Loading the workpiece pallet, minimum weights

The minimum weight of the workpiece pallet is generally not relevant. In special cases, depending on the marginal conditions, an application-specific minimum weight may be required for safe and continuous transport. This can occur, for example, if switching elements have to be manually operated (e.g. on a rocker), or if a light workpiece pallet does not run smoothly when changing directions. In such unusual cases, additional weight should be added when designing the workpiece pallet.

Overloading

Overloading the conveyor line can cause the conveyor medium to fail and motors and gears to fail prematurely. When overloading of pneumatic components occurs function cannot be guaranteed.

Transportation speed, dynamic influences

When the conveying speed increases, bumps when changing directions and the rebound force on the stop gates also increase. This may require longer damping periods or shock absorbers before the next movement.

Drive data

Definition of the basic principles of motor specifications
The specified performances, torques and revolutions per minute are rounded values and apply to:

- operating time/day = 8 h (100% switched-on time)
- uniform operation (continual), no, or very light, impacts in a direction of rotation at 10 switching cycles/hour
- installation positions and designs described in the catalog
- maintenance-free gears with life-long lubrication,
- ambient operating temperature 0 ... 60 °C. Gear unit with life-long lubrication for ambient operating temperature ≤0 °C available on request
- Protection class IP 55
- f_{mains} = 50 Hz constant
- T_U = 20 °C for gears
  T_U = 40 °C for motors
- Installation altitude ≤ 1,000 m above mean sea level
- Overloading the drive reduces its service life.
  10% overloading: = 75% service life
  20% overloading: = 50% service life

In the case of other operating conditions, the achievable values may differ from those stated.
In the case of extreme operating conditions, please consult your distribution partner.

Motor data

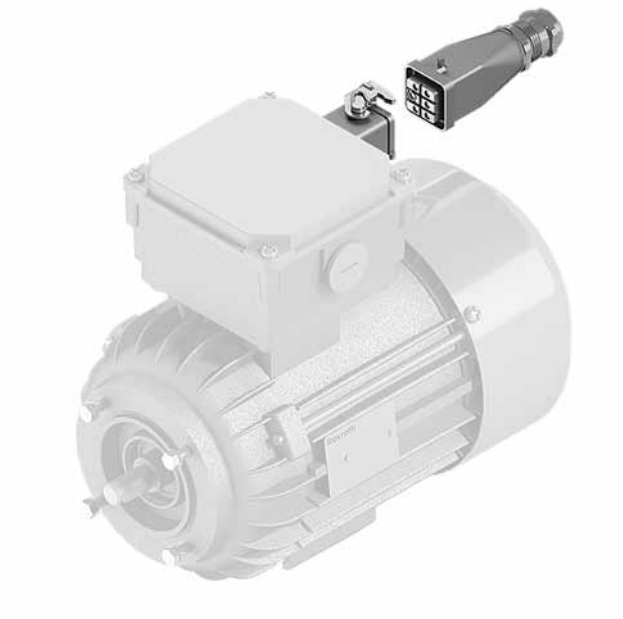
Electrical connection requirements:
Connection to a 3-phase, 5-wire system (L1, L2, L3, N, PE), a connection plan is included in the terminal box.
All motors are equipped with a thermal contact*), which has to be connected to an overload switch-off.

*) Bi-metal thermal contact, triggered at 150 °C ±5 °C
Resistance thermal contact provided on request.

Drive motors with frequency converters (FU) can only be operated with 380 V ... 500 V voltage.

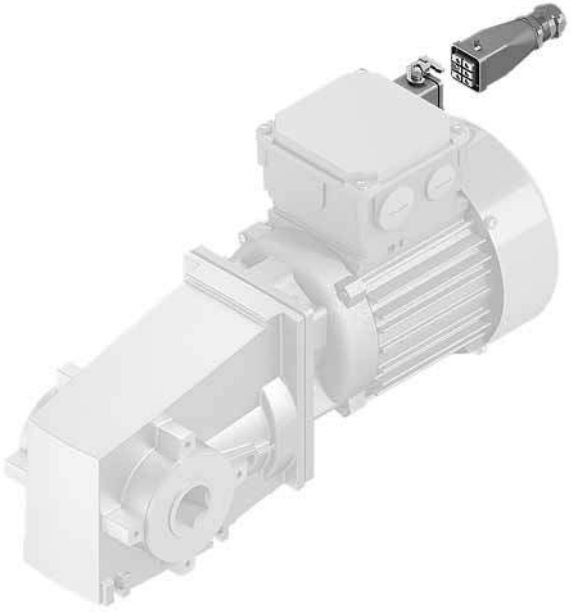
All of the motors comply with protection type IP 55.

Motor types without Index b



Motor connection with plug (AT = S) and 3A metal industrial plug-in connector for motor types without Index b, e.g. 714

Motor types with Index b



Motor connection with plug (AT = S) and 3A metal industrial plug-in connector for motor types with Index b, e.g. B. 714b

Motor data (GM = 1)

Transport and nominal speed v_N

The transport speed v_N is specified for the rated output and frequencies of 50 Hz or 60 Hz.

The actual values v vary depending on:

- Tolerance of the standard motors
- Performance range of the motors
- Load on the conveyor section

		400 V/50 Hz						400 V/60 Hz					
	v_N (m/min)	v[1] (m/min)	i	n1[2] (rpm)	n2[3] (rpm)	P[4] (W)	Type	v[1] (m/min)	i	n1[2] (rpm)	n2[3] (rpm)	P[4] (W)	Type
AS 5/XH AS 5/H AS 5/ OC	2	2.10	60.00	670	11	120	60/738b	2.53	60.00	804	13.4	120	60/738b
	4	4.21	60.00	1,340	22	250	60/714b	3.20	60.00	1,020	17.0	250	60/716b
	6	5.39	47.88	1,370	29	370	37/734b	6.47	47.88	1,644	34.3	370	37/734b
	9	8.80	29.33	1,370	47	370	29/734b	10.56	29.33	1,644	56.1	370	29/734b
	12	11.06	23.33	1,370	59	370	23/734b	13.28	23.33	1,644	70.4	370	23/734b
	15	13.55	19.05	1,370	72	370	19/734b	16.26	19.05	1,644	86.3	370	19/734b
	18	16.59	15.56	1,370	88	370	15/734b	19.15	15.56	1,644	105.6	370	15/734b
HQ 5	6 (b = 455 mm)	6.01	30	1,400	46.67	90	30/524	5.69	38	1,680	44.21	100	38/524
	6 (b = 650/845 mm)	6.01	30	1,400	46.67	180	30/624	5.41	40	1,680	42	220	40/624
	9 (b = 455 mm)	9.02	20	1,400	70	90	20/524	9.02	24	1,680	70	100	24/524
	9 (b = 650/845 mm)	9.02	20	1,400	70	180	20/624	8.66	25	1,680	67.2	220	25/624
	12 (b = 455 mm)	12.02	15	1,400	93.33	90	15/524	10.82	20	1,680	84	100	20/524
	12 (b = 650/845 mm)	12.02	15	1,400	93.33	180	15/634	10.82	20	1,680	84	220	20/624

1) Transport speeds at other voltages/frequencies provided on request.
2) n1 = motor speed
3) n2 = gear output speed
4) Motor output

AS 5/XH, AS 5/H technical data:
Max. torque limit: 45 Nm (toothed belt) limit
Toothed belt drive gear ratio: 1:1
Flange ø: 75 mm
Drive shaft: SW27
Conveyor roller ø: 60 mm

Country applicability

	Europe	Switzerland	USA	Canada	Brazil	Australia	New Zealand	South Korea	China	India
Line voltage (3x....)	400 V	400 V	480 V[1]	480 V[1] 575 V	220 V 380 V[3] 440 V[1]	400 V 415 V[2]	400 V 415 V[2]	220 V 380 V[3] 440 V[1]	380 V[2]	415 V[2]
Line voltage tolerance	±10%	±10%	±10%	±10%	±10%	±5%	±5%			±5%
Line frequency	50 Hz	50 Hz	60 Hz	60 Hz	60 Hz	50 Hz	50 Hz	60 Hz	50 Hz	50 Hz

1) ~ 460 V / 60 Hz
2) ~ 400 V / 50 Hz
3) ~ 400 V / 60 Hz

Motor data

Performance data

Note: The data is typical values. We reserve the right to make changes. See motor type plate for official data. Please note the country assignment.

Voltage class	**A**	**A**	**B**	**D**
Circuit	**Δ**	**Y**	**Y**	**Y**
Voltage U at f = 50 Hz	200 V ±10%		400 V ±10%	
	200 V ±10%		400 V +10...-12%	
Voltage U at f = 60 Hz	220 V ±10%	400 V ±10%	460 V ±10%	575 V ±10%
	220 V ±10%	400 V ±10%	460 V +10...-12%	575 V ±10%

			Current consumption at rated power				**Power factor**	**Power output for**	
	Motor type	**IE3**	**I_N** (A)	**I_N** (A)	**I_N** (A)	**I_N** (A)	**cos ϕ**	**(50 Hz) P** (kW)	**(60 Hz) P** (kW)
	524	x	0.65	0.35	0.32	0.24	0.6	0.09	0.1
	614b	–	–	–	0.49	–	0.56	0.12	0.14
	624	x	1.15	0.65	0.55	0.45	0.66	0.18	0.22
	634	x	1.65	0.9	0.85	0.65	0.6	0.25	0.29
	644b	–	–	–	–	0.75	0.6	0.25	0.29
	714b	–	1.75	1	0.8	–	0.64	0.25	0.3
	716b	–	1.45	0.85	0.6	0.55	0.66 ... 0.68	0.18	0.22
	716	x	1.3	0.75	0.6	0.62	0.68	0.18	0.22
	734b	–	2.3	1.35	0.95	0.95	0.72 ... 0.77	0.37	0.45
	734	x	1.9	1.05	0.95	0.72	0.74	0.37	0.42
	734a	x	2.5	1.4	1.3	1	0.66	0.45	0.52
	738b	–	1.4	0.8	0.55	0.5	0.60 ... 0.63	0.12	0.14
	744b	–	–	–	1.4	–	0.77	0.55	0.68
	814b	–	3	1.75	–	1.27	0.68 ... 0.69	0.55	0.64
	814	x	3.1	1.7	1.45	1.1	0.69	0.55	0.63
	824	x	4.1	2.25	2	1.6	0.66	0.75	0.86

Suitable for continuous operation, start-stop operation with an operating time of up to 70% and frequency converter operation.

Certification for the motor, cable and plug components:

IE3 motors: CE, cURURS, CCC

Motors with Index b: CE/CCC (50 Hz), CE/cURUS (60 Hz)

3-phase motors	
T_U (°C)	**P_V / P_N**
< 40	1[1)]
45	0.95
50	0.90
55	0.85
60	0.8

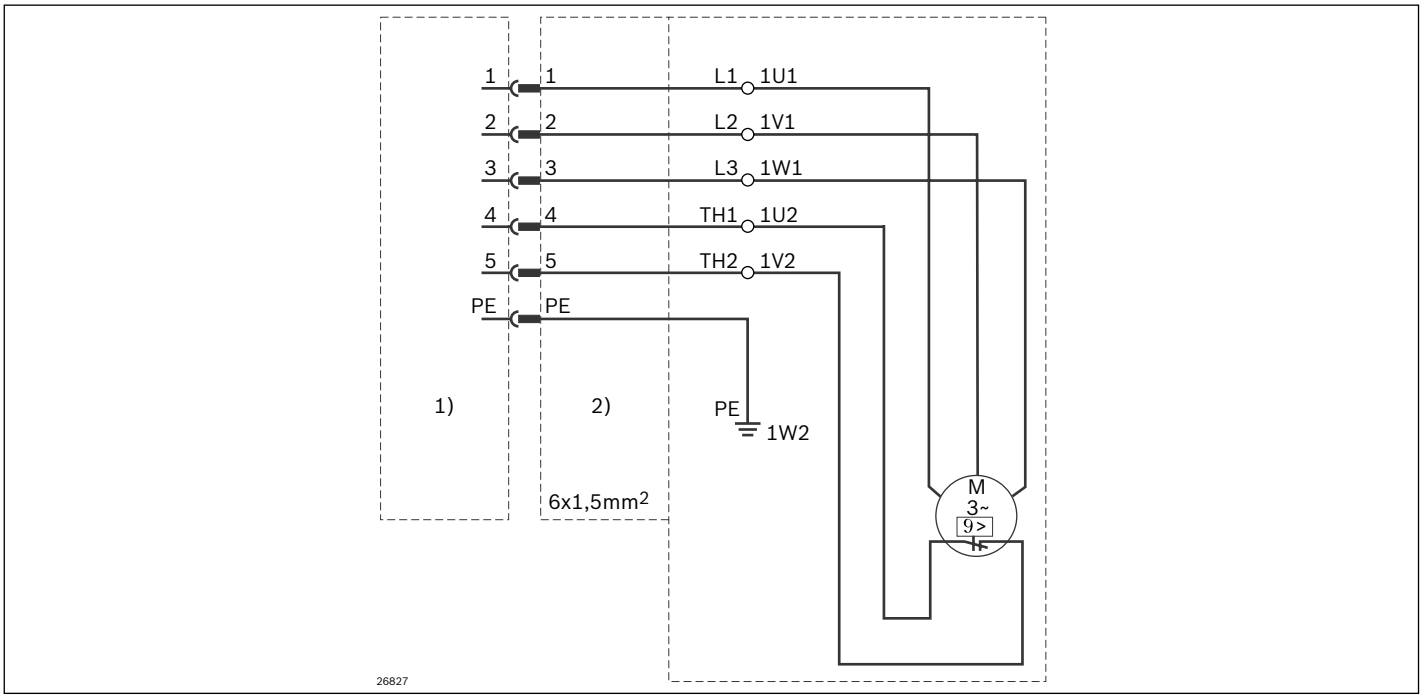
[1)] Rated motor power (0.37; 0.25; 0.12 kW)

Rated motor power

The ambient operating temperature T_U influences the rated power P_N of the gear motors.

Motor connection

Motor connection with cable/plug (AT = 1), circuit diagram



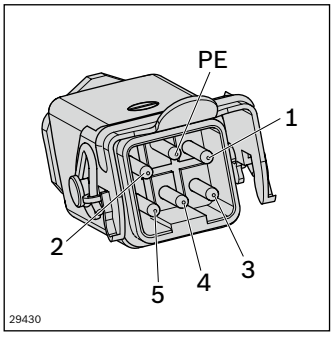
1) Connection cable side

2) Motor side

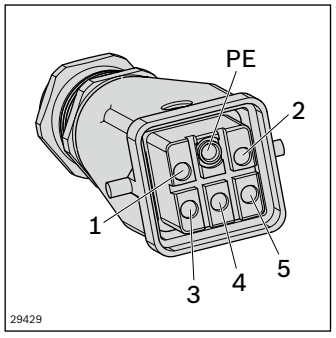
The plug connection consists of UL components.

Connection list

Connection terminals, motor 3~	Pin no.	Code
U1	1	L1
V1	2	L2
W1	3	L3
TW1	4	Th1
TW2	5	Th2
	PE	PE



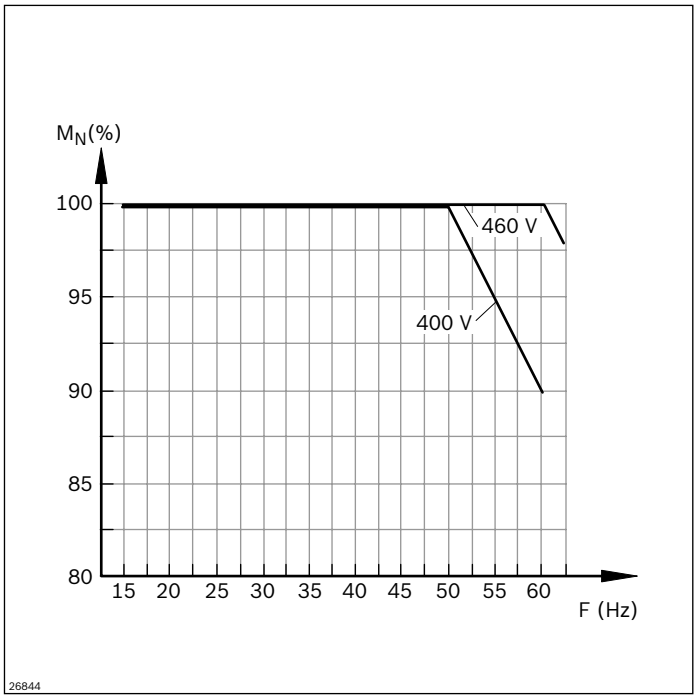
Motor side



Connection cable side

Frequency converter (FU)

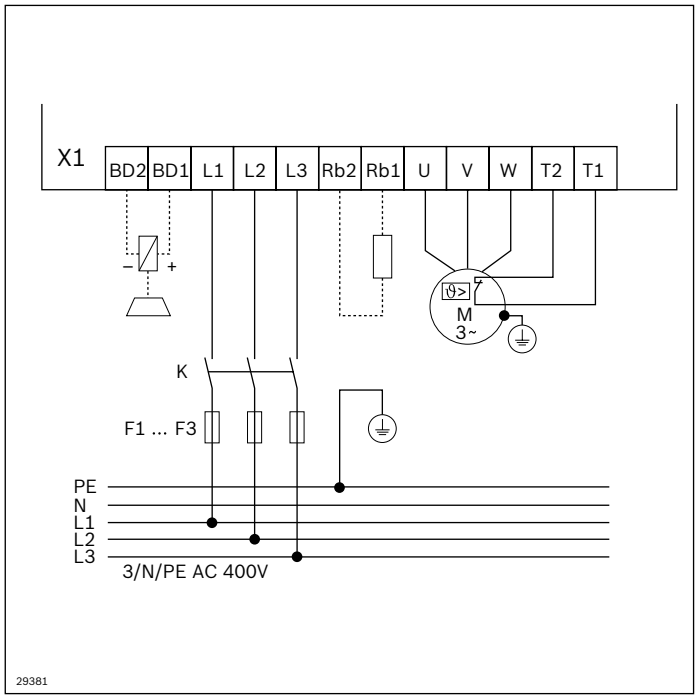
Drive range of the motors with frequency converters (FU)



Technical information:
At rotating field frequencies of ≥ 15 Hz, the motor can be operated under normal operating conditions without an external fan. The motor's thermal conditions should be considered at rotating field frequencies of ≤ 20 Hz.
With rotating field frequencies of > 50 Hz, higher speeds can also be achieved with corresponding performance losses. In the 20 ... 50 Hz range, the full torque is available.

Base speed of motor (m/min) **at 50 Hz**	**Min**[1] (m/min)	**Max**[2] (m/min)	**Max** (m/min) **at max. 80% torque**
5[3]	2	6	8
10[3]	4	12	16
13	5	15	21
16	6	19	26
21	7	25	34
27	9	32	43
33	11	39	52
40	13	48	–
50	16	60	–

[1] Min corresponds to approx. 16 Hz supply frequency
[2] Max corresponds to approx. 60 Hz supply frequency
[3] At 460 V/60 Hz max (m/min) 20% higher



——— Minimum wiring required for operation
----*)---- Additional wiring to change direction of rotation

Frequency converter (FU) accessories

In order to operate a drive with a frequency converter (FU), the user needs to work out the minimum wiring for the internal and external voltage supply (see terminal assignment plan left).

Ordering parameters for SEW motors

The following ordering information is required if using gear motors from SEW-Eurodrive GmbH & Co, Bruchsal:

- Motor type
- Ratio
- Installation position
- Position of drive output
- Position of terminal box
- Cable entry (Fig. 4)
- Motor voltage/frequency*)
- Thermal class*)
- Motor protection class*)

*) www.seweurodrive.com

SEW motors motor data

							400 V/50 Hz							400 V/60 Hz
v_N	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type
(m/min)	(m/min)		(rpm)	(rpm)	(Nm)	(W)	SAF37...	(m/min)		(rpm)	(rpm)	(Nm)	(W)	SAF37...
2	2.07	122.94	1,320	11	91	180	DR63M4	2.07	144.4	1,620	11	92	180	DR63M4
4	4.14	55.93	1,300	22	81	250	DR63L4	4.14	71.44	1,600	22	84	250	DR63L4
6	6.03	43.68	1,380	32	81	370	DRS71S4	6.03	53.83	1,700	32	80	370	DRS71S4
9	9.04	28.76	1,380	48	75	370	DRS71S4	9.04	35.1	1,700	48	75	370	DRS71S4
12	11.49	22.5	1,380	61	73	550	DRS71M4	11.12	28.76	1,690	59	75	550	DRS71M4
15	14.32	18.34	1,380	76	52	550	DRS71M4	14.13	22.5	1,690	75	73	550	DRS71M4
18	19.41	13.39	1,380	103	49	550	DRS71M4	17.53	18.24	1,690	93	52	550	DRS71M4
2 to 7[2]	1.5-7.53	35.1	280-1,400	8.0-40	78	370	DRS71S4MM03	1.5-7.53	35.1	280-1,400	8.0-40	78	370	DRS71S4MM03
7 to 18[2]	3.95-19.79	13.39	280-1,400	21-105	49	550	DRS71M4MM05	3.95-19.79	13.39	280-1,400	21-105	49	550	DRS71M4MM05

Motor data SEW motors for HQ 5: b = 455

							400 V/50 Hz							400 V/60 Hz
v_N	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type
(m/min)	(m/min)		(rpm)	(rpm)	(Nm)	(W)	WAF10...	(m/min)		(rpm)	(rpm)	(Nm)	(W)	WAF10...
6	6.09	27.50	1,300	47	12.0	90	DT56M4	6.34	32.50	1,600	49	12.0	90	DT56M4
9	8.59	19.50	1,300	67	9.4	90	DT56M4	8.41	24.50	1,600	65	9.4	90	DT56M4
12	11.69	14.33	1,300	91	7.6	90	DT56M4	12.49	16.50	1,600	97	7.6	90	DT56M4

Motor data SEW motors for HQ 5: b = 650/845

							400 V/50 Hz							400 V/60 Hz
v_N	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type	v[1]	i	n1[3]	n2[4]	M_N	P[5]	Type
(m/min)	(m/min)		(rpm)	(rpm)	(Nm)	(W)	WAF20...	(m/min)		(rpm)	(rpm)	(Nm)	(W)	WAF20...
6	6.18	27.50	1,320	48	24.0	180	DR63M4	6.42	32.50	1,620	50	24.0	180	DR63M4
9	8.72	19.50	1,320	68	19.0	180	DR63M4	8.52	24.50	1,620	66	19.0	180	DR63M4
12	11.86	14.33	1,320	92	15.0	180	DR63M4	12.49	16.50	1,600	97	15.0	250	DR63L4

1) Transport speeds at other voltages/frequencies provided on request.
2) Electronically controlled by a frequency converter (FU).
3) n1 = motor speed
4) n2 = gear output speed
5) Motor output

AS 5/XH, AS 5/H technical data:

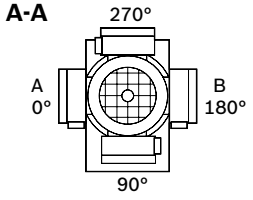
Max. torque limit:	45 Nm (toothed belt) limit
Toothed belt drive gear ratio:	1:1
Flange ø:	120 mm
Drive shaft:	SW27 on shaft ø 20
Conveyor roller ø:	60 mm

Motor mounting orientation, terminal box, cable entry

Motor mounting	Installation position	Drive output	Terminal box
R	M2 (M1)	B	0°
L	M2 (M1)	A	180°

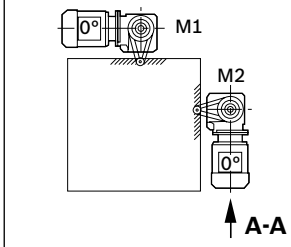
Position of terminal box

Fig. 1



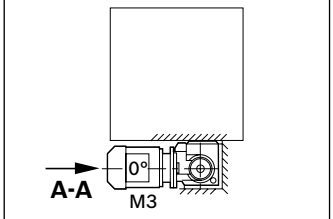
Installation position horizontal top/vertical

Fig. 2



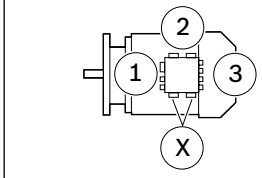
Installation position horizontal

Fig. 3



Cable entry point

Fig. 4



Conversion table for metric/imperial dimensions

Measurement	Multiply	by	to get:
Linear	millimeters (mm)	0.03937	inches
	inches	25.4	millimeters (mm)
	kilometers (km)	0.6214	miles
	miles	1.6093	kilometers (km)
Area	millimeters^2 (mm^2)	0.00155	inches^2
	inches^2	645.16	millimeters^2 (mm^2)
Volume	centimeters^3 (cm^3)	0.06102	inches^2
	inches^3	16.387	centimeters^3 (cm^3)
	1 cm^3 = 1 mililiter (ml)		
	1000 ml = 1 Liter		
Acceleration	meter/second^2 (m/s^2)	39.37	inch/second^2
	inch/second^2	0.0254	meter/second^2 (m/s^2)
Velocity	meter/second	3.281	feet/second
	feet/second	0.3048	meter/second
Mass	kilogram (kg)	2.2046	pounds
	pounds	0.4536	kilogram (kg)
Force	kilograms-f (kgf)	9.807	Newtons (N)
	Newtons (N)	0.10194	kilograms-f (kgf)
	pounds-f	4.448	Newtons (N)
Pressure	Newtons	0.2248	pounds-f
	bar	14.5	PSI
	PSI	0.069	bar
Torque	Newton meters (Nm)	8.851	pound inches
	pound inches	0.11298	Newton meters (Nm)
Moment of Inertia	centimeters^4 (cm^4)	0.02403	inches^4
	inches^4	41.623	centimeters^4 (cm^4)
Power	kilowatts (Kw)	1.34	horsepower (HP)
	horsepower (HP)	0.746	kilowatts (Kw)
Energy	Joules (J)	0.7376	foot/pounds (ft/lbs)
	foot/pounds (ft/lbs)	1.3558	Joules (J)

Metric Tap/Drill Specifications

Tap	Drill Size
M4 × 0.7	3.3 mm
M5 × 0.8	4.2 mm
M6 × 1	5.0 mm
M8 × 1.25	6.8 mm
M12 × 1.75	10.2 mm
M16 × 2	14.0 mm

Temperature

Degrees Celsius

$$\frac{5 \times (\text{degrees Fahrenheit} - 32)}{9}$$

Degrees Fahrenheit

$$\frac{9 \times (\text{degrees Celsius}) + 32}{5}$$

Function plans

On the following pages, you can find proven fundamental function plans for control tasks in transfer systems.

Contrary to DIN IEC 61131-3, qualifiers are used in the action blocks, which are explained in the table below.

Action block	Explanation
S	Storing
NS	Non-storing
S	Set
R	Reset
NS T3 D ? T3 S Y2.1 S	Non-storing triggering of a time function (with cycle time T). After it has been concluded, a switch function is triggered.

Simple VE 5 stop gates are used to stop workpiece pallets. The position of the workpiece pallets is queried with separate sensors.

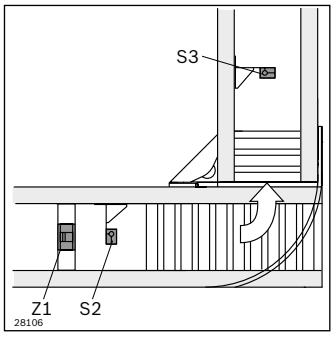
The function plans are simplified accordingly if using stop gates with integrated sensors and internal switching logic.

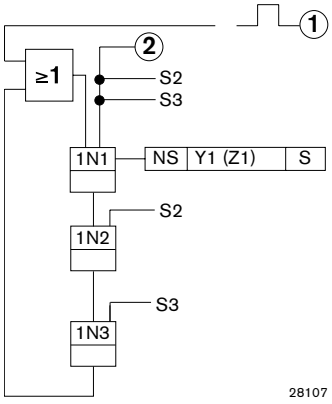
General abbreviations

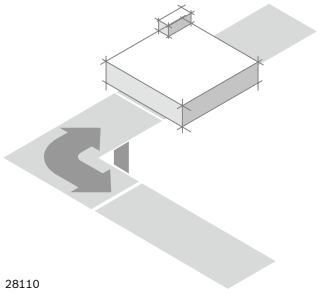
WT	=	Workpiece pallet
VE	=	Stop gate
S...	=	Signaling device
Y...	=	Valve
Z...	=	Cylinder
LT	=	Longitudinal conveyor (main section)
QT	=	Transverse conveyor (adjacent section)
HQ	=	Lift transverse unit
DA	=	Damper
①	=	Start pulse after end of start-up
②	=	Release cyclic travel

Function plans

Curve CU



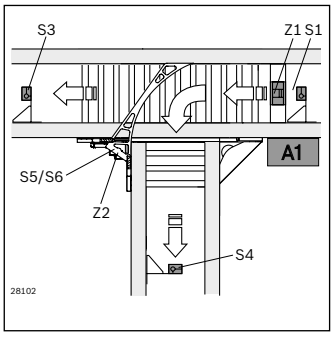


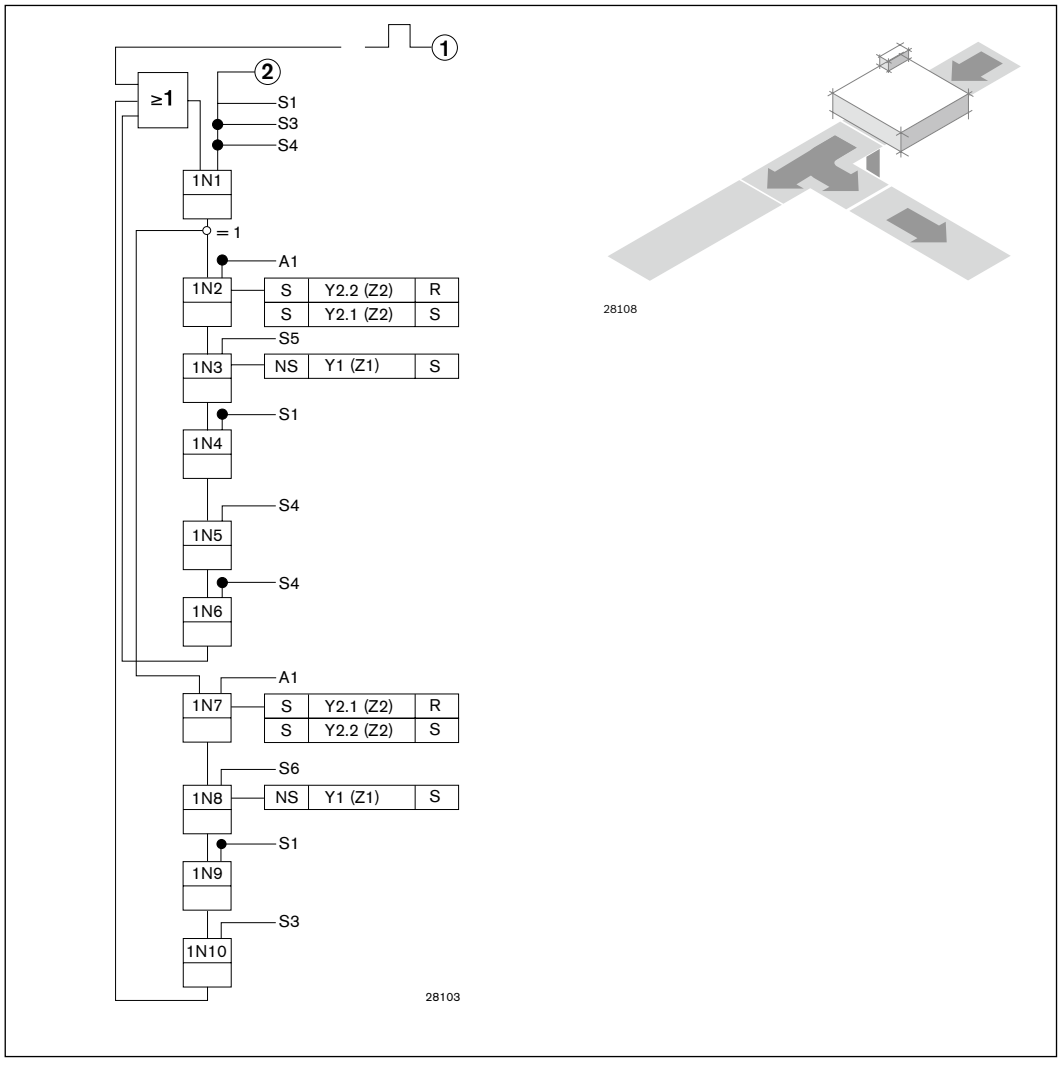


S2 = WT after VE
S3 = WT after CU
Y1 = Open VE (Z1)

Function plans

DI diverter

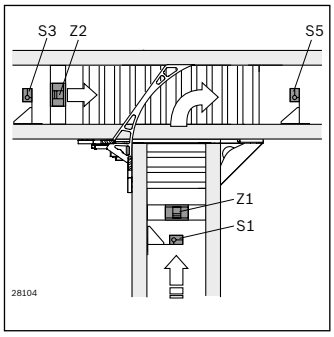


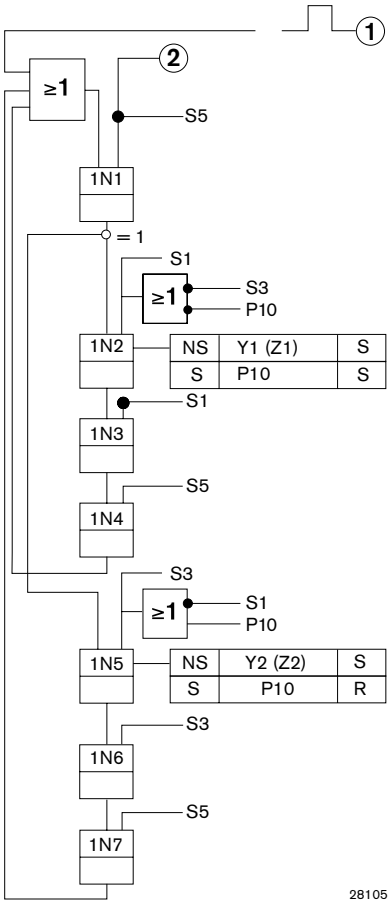


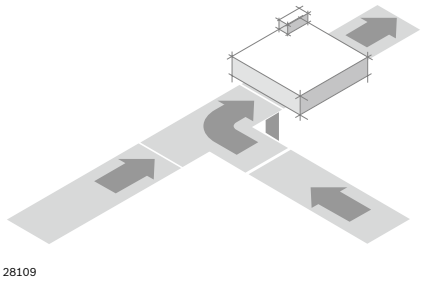
S1 = WT at VE (Z1)
S3 = WT behind main section diverter
S4 = WT behind secondary section diverter
S5 = Diverter open
S6 = Diverter closed
Y2 = Diverter (Z2)
Y1 = Stop gate (Z1)
A1 = Identification system with straight-ahead signal

Function plans

JU junction



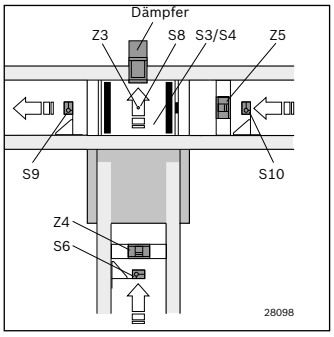


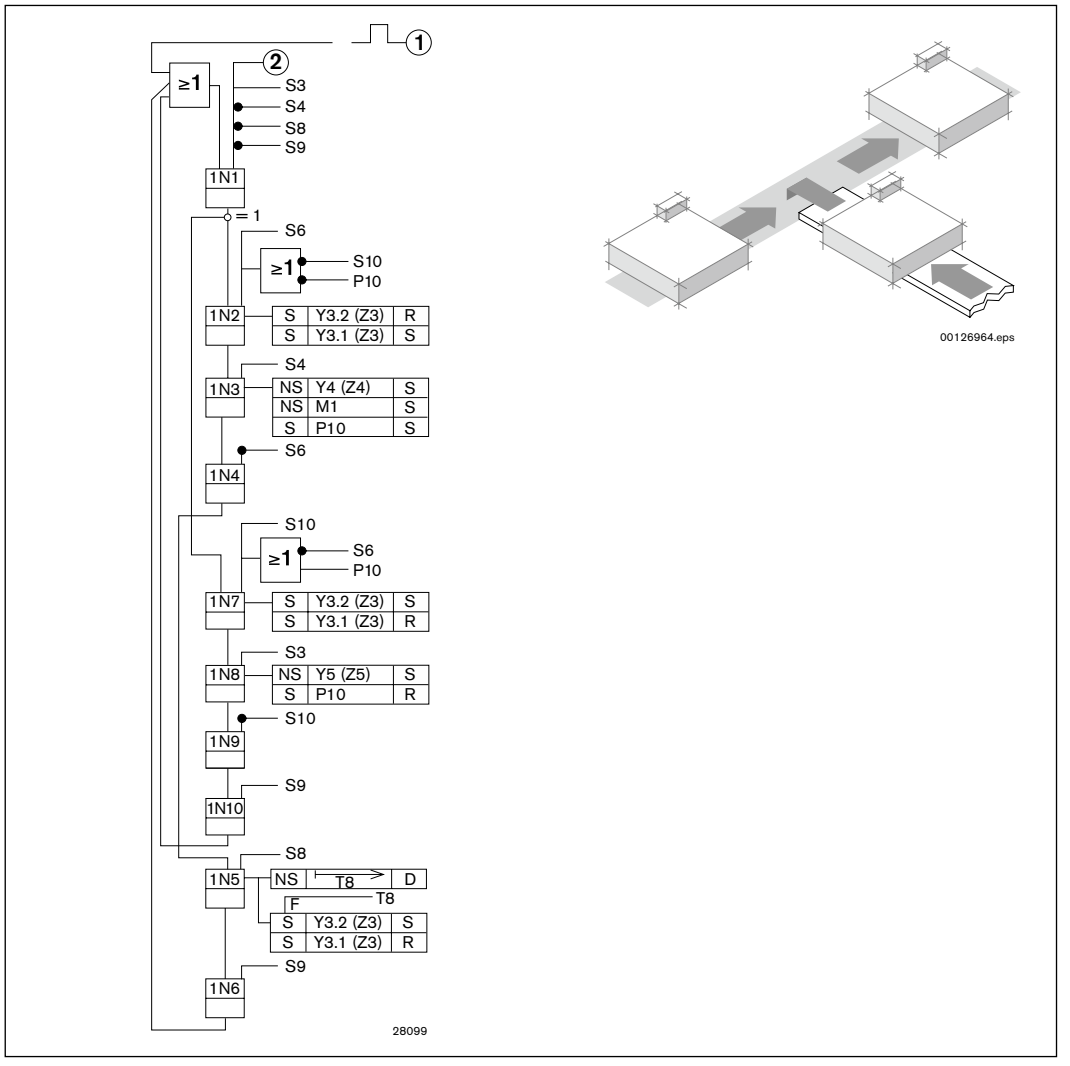


S1 = WT at VE (Z1)
S3 = WT at VE (Z2)
Y1 = Adjacent section VE (Z1)
Y2 = VE main section (Z2)
P10 = Priority main section

Function plans

HQ lift transverse unit (stop gate, infeeding)

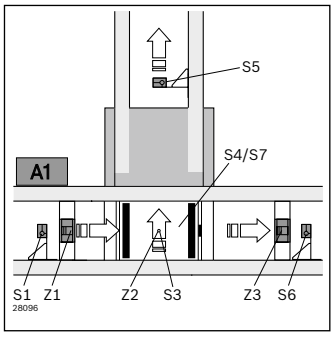


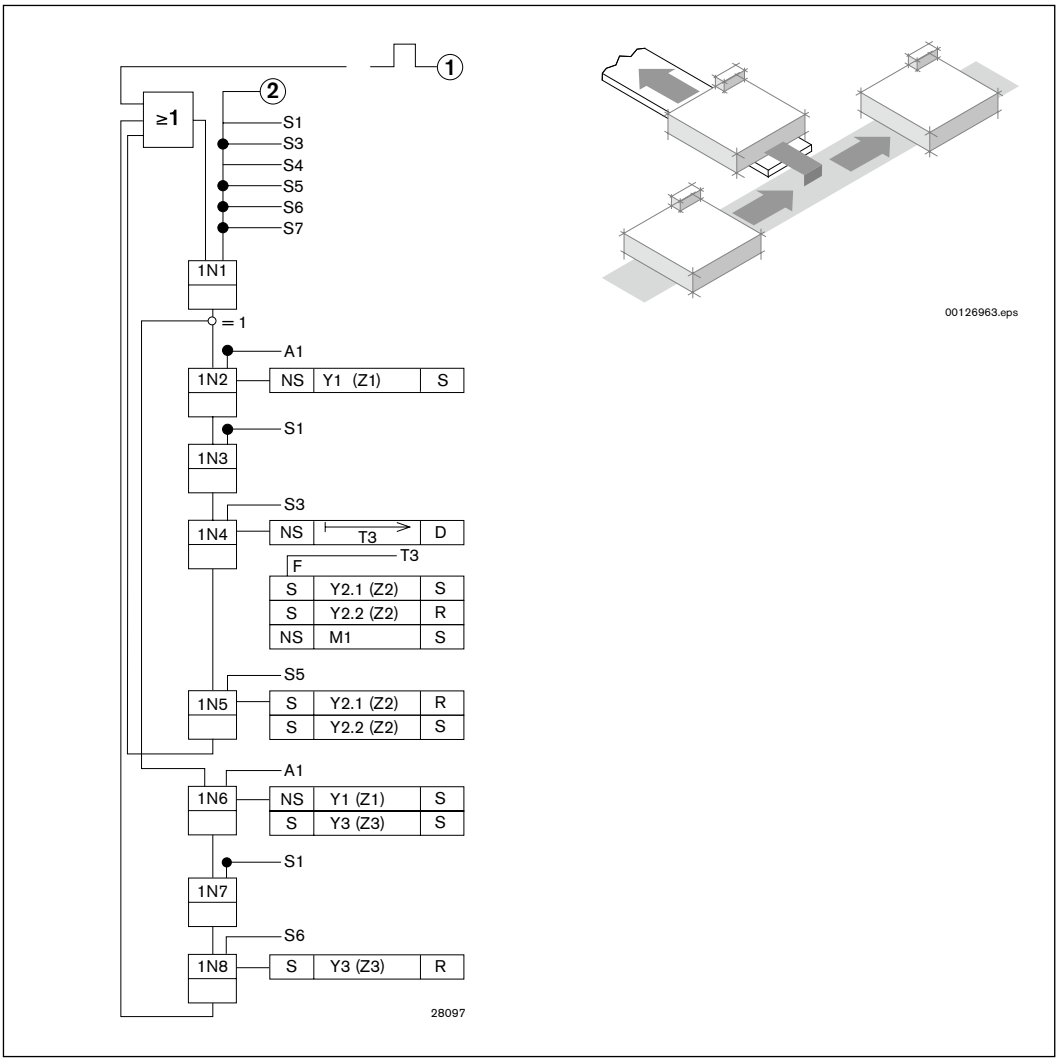


T8	=	Delaying time 100...200 ms
S3	=	Lift end position at bottom
S4	=	Lift end position at top
S6	=	WT before VE (Z4)
S8	=	WT on HQ
S9	=	Enable main section 2
S10	=	WT in front of stop gate (Z5)
Y3	=	HQ lift cylinder (Z3)
Y4	=	VE secondary section (Z4) + DA main section (Z6)
Y5	=	VE main section (Z5)
M1	=	HQ motor
P10	=	Priority main section

Function plans

HQ lift transverse unit (separating, outfeeding)

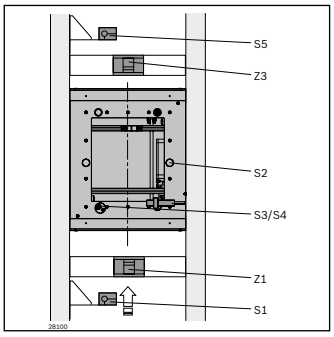


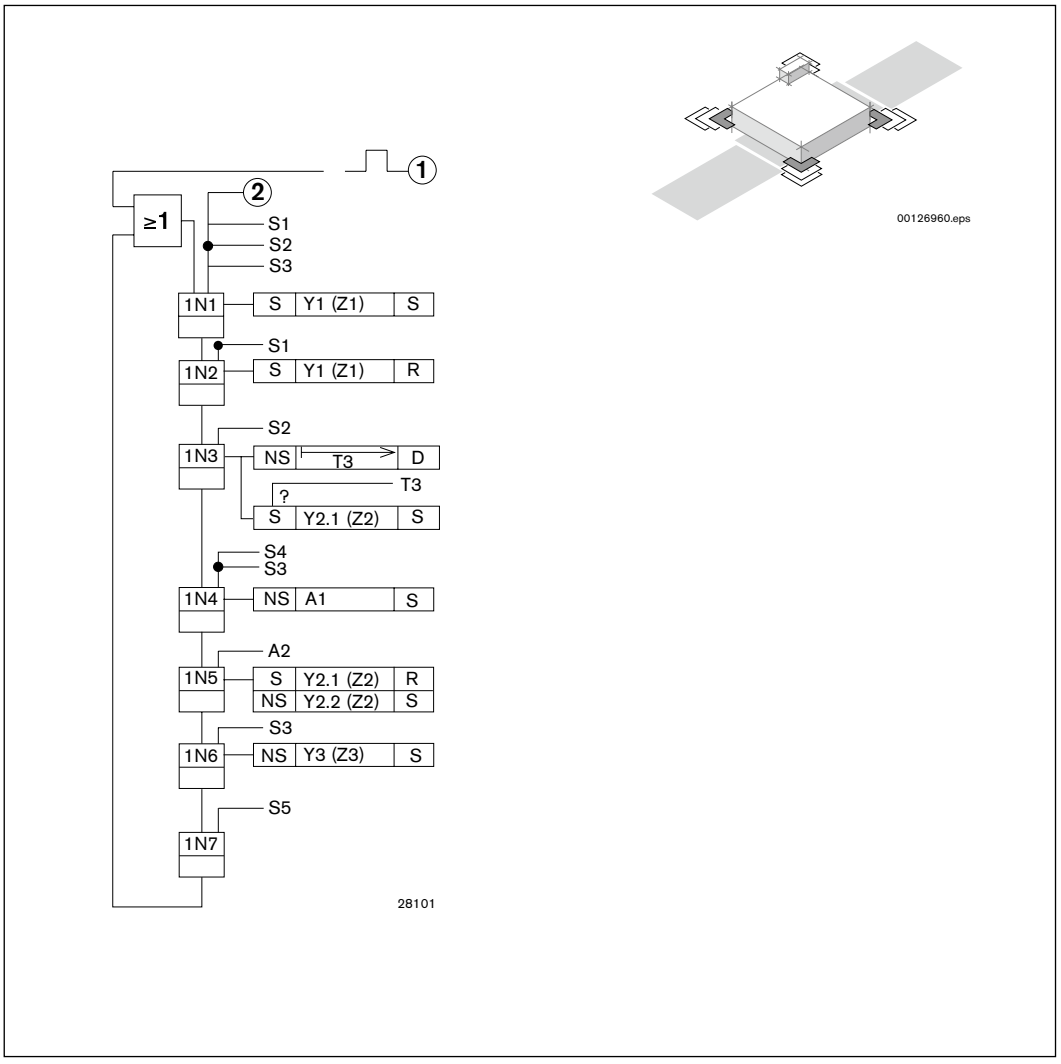


T8	=	Delaying time 100...200 ms	Y2	=	HQ lift cylinder (Z2)
S4	=	Lift end position at bottom	Y1	=	Main section VE (Z1)
S7	=	Lift end position at top	Y3	=	VE main section (Z3)
S1	=	WT before VE (Z1)	M1	=	HQ motor
S3	=	WT on HQ	A1	=	Identification system with straight ahead signal
S5	=	Enable main section			
S6	=	WT after stop gate (Z3)			

Function plans

PE positioning unit

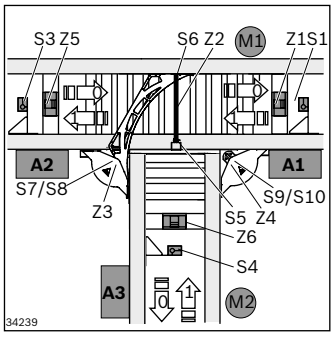


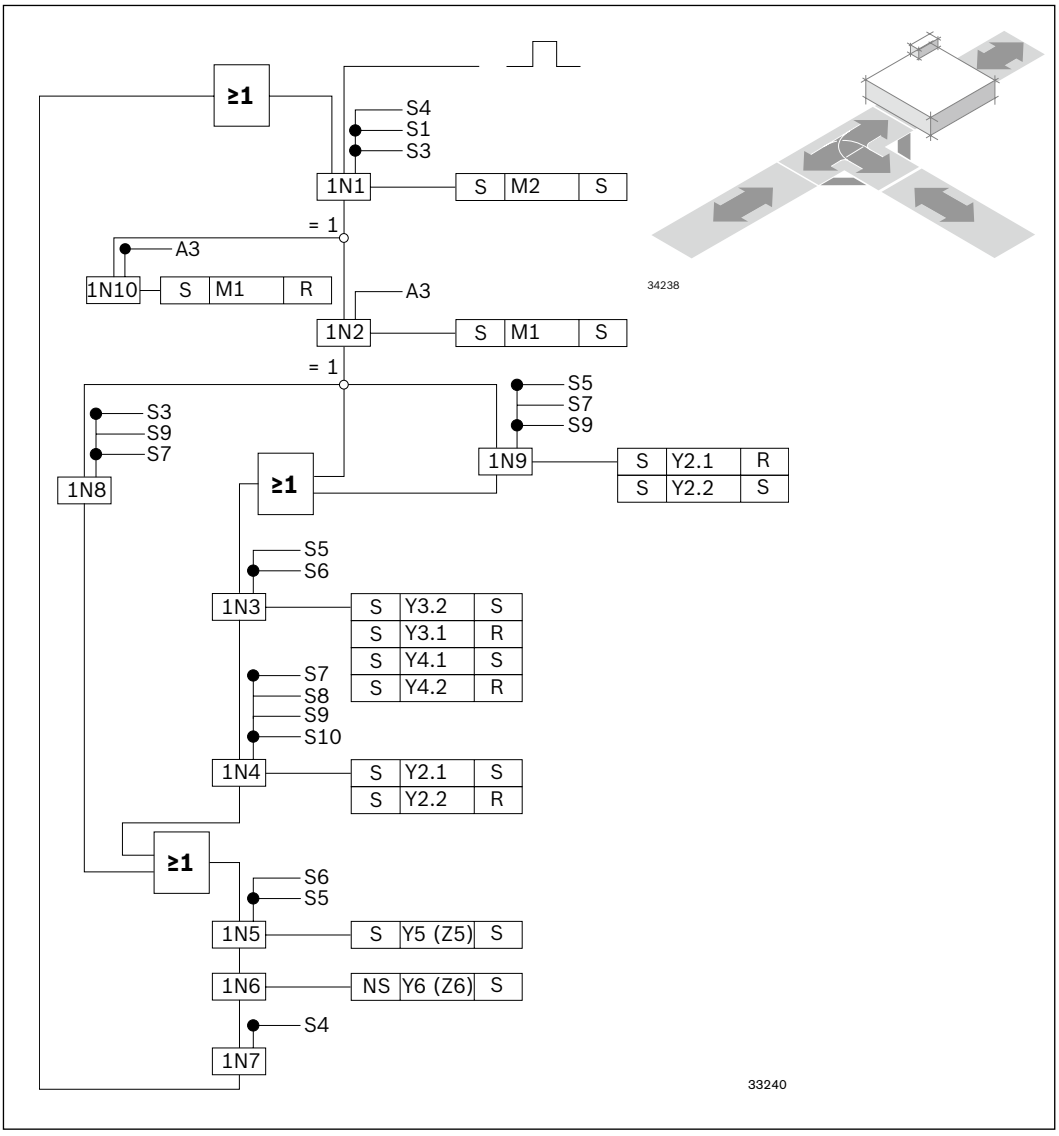


S1	=	WT before VE
S2	=	WT arrival
S3	=	End position of lift bottom
S4	=	End position of lift top
S5	=	WT after VE
Y1	=	Open VE (Z1)
Y2	=	WT lift (Z2)
Y3	=	Open VE (Z3)
A1	=	Start of processing
A2	=	End of processing

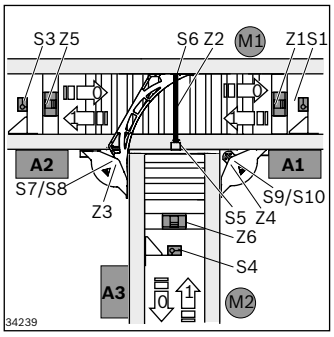
Function plans

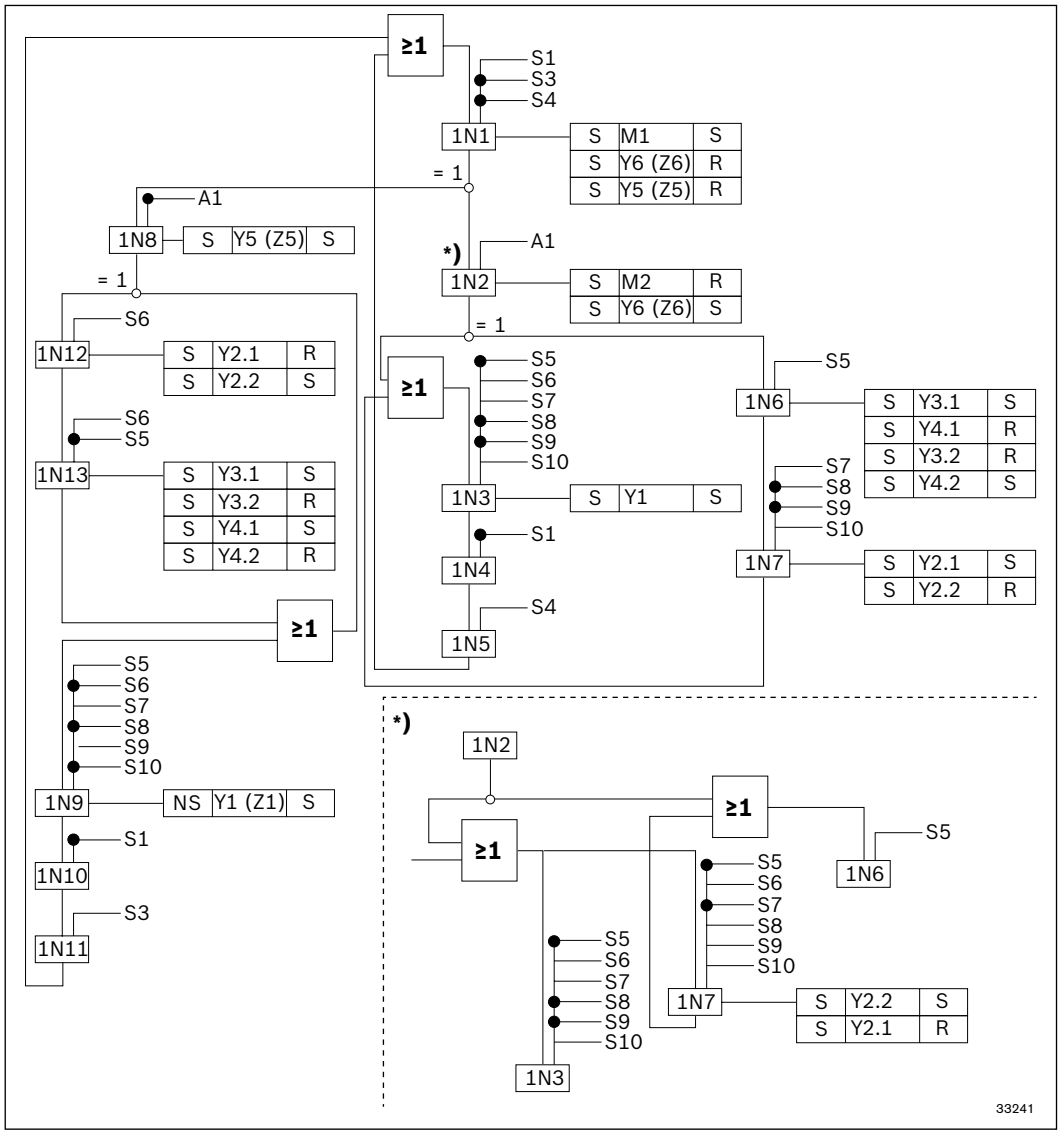
Three-way diverter





S5	=	Diverter closed	A3	=	0 = right	Y4.2	=	Bottom
S6	=	Diverter open			1 = left	M1	=	0 = right
S7	=	Top	Y1, Y5, Y6	=	Stop gate (Z1, Z5, Z6)			1 = left
S8	=	Bottom	Y2.1	=	Open	M2	=	0 = bottom
S9	=	Top	Y2.2	=	Closed			1 = top
S10	=	Bottom	Y3.1	=	Top			
A1/A2	=	0 = branch	Y3.2	=	Bottom			
		1 = straight on	Y4.1	=	Top			





* Optional kit

S5	=	Diverter closed	A3	=	0 = right	Y4.2	=	Bottom
S6	=	Diverter open			1 = left	M1	=	0 = right
S7	=	Top	Y1, Y5, Y6	=	Stop gate (Z1, Z5, Z6)			1 = left
S8	=	Bottom	Y2.1	=	Open	M2	=	0 = bottom
S9	=	Top	Y2.2	=	Closed			1 = top
S10	=	Bottom	Y3.1	=	Top			
A1/A2	=	0 = branch	Y3.2	=	Bottom			
		1 = straight on	Y4.1	=	Top			

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Notes

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