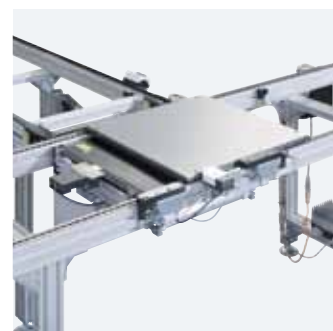


Transfer system TS 2*plus*

6.0



Symbols

Product features

	Permissible load, single load
	Permissible load, sum of loads
	Transport level
	Unit with energy-efficient drive available
	Lateral separation
	Central separation

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

Conveyor medium

	Belt
	Toothed belt
	Plastic flat top chain
	Plastic accumulation roller chain
	Steel accumulation roller chain
	Vplus accumulation roller chain
	Duplex chain
	Rollers
	Rounded belt
	Specific section load = overall workpiece pallet mass/support surface length

Ordering information

Explanation

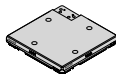
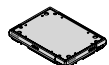
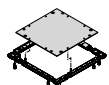
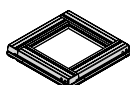
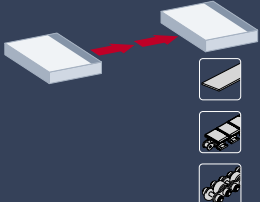
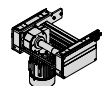
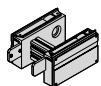
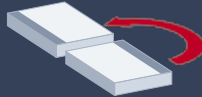
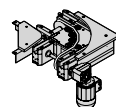
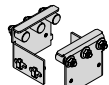
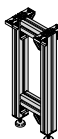
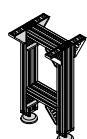
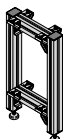
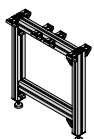
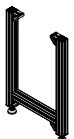
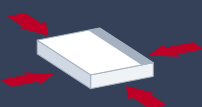
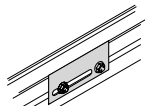
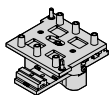
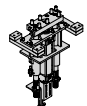
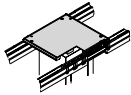
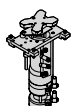
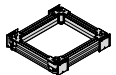
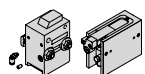
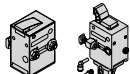
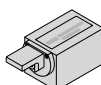
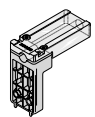
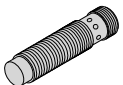
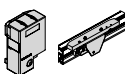
Packing unit = minimum order quantity (here: 10 items)

Example: Packing unit contains ten items, material number 3 842 523 258
 Order 1x 3 842 523 258 = delivery 1x minimum order quantity 3 842 523 258 = 10 items
 Order 15x 3 842 523 258 = delivery 2x minimum order quantity 3 842 523 258 = 20 items

Delivery unit = delivery quantity (here: 16 items)

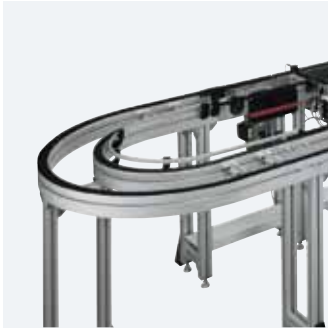
Example: Delivery unit contains 16 items, material number 3 842 532 695
 Order 1x 3 842 532 695 – delivery 1x delivery quantity 3 842 532 695, SP 2/B, l = 6070 mm = 16 items
 Order 15x 3 842 532 695 – delivery 15x delivery quantity 3 842 532 695 SP 2/B, l = 6070 mm = 240 items

System overview of TS 2plus

Workpiece pallet 						
	See page 2-6	See page 2-8	See page 2-12	See page 2-34	See page 2-47	See page 2-50
Longitudinal conveyor 						
	See page 3-6	See page 3-18	See page 3-24	See page 3-28		
	See page 3-55	See page 3-68	See page 3-80	See page 3-86		
	See page 3-120	See page 3-134	See page 3-146	See page 3-152		
Curves 						
	See page 4-6	See page 4-9	See page 4-24	See page 4-32		
Transverse conveyor 						
	See page 5-4	See page 5-26	See page 5-78	See page 5-80	See page 5-86	
Leg sets 						
	See page 6-6	See page 6-8	See page 6-10	See page 6-14	See page 6-22	
Positioning and orientation 						
	See page 7-5	See page 7-7	See page 7-25	See page 7-38	See page 7-46	See page 7-50
Transportation control 						
	See page 8-4	See page 8-40	See page 8-58	See page 8-92	See page 8-108	See page 8-118



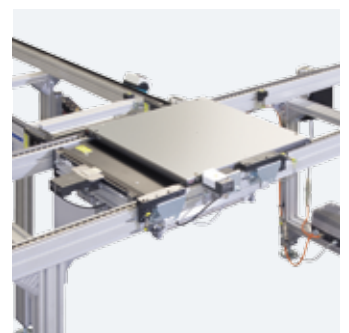
Transfer system TS 2plus	1
Workpiece pallet	2
Longitudinal conveyor	3
Curves	4
Transverse conveyor	5
Leg sets	6
Positioning and orientation	7
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Identification systems	9
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Material number overview	12
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Transfer system TS 2plus

1

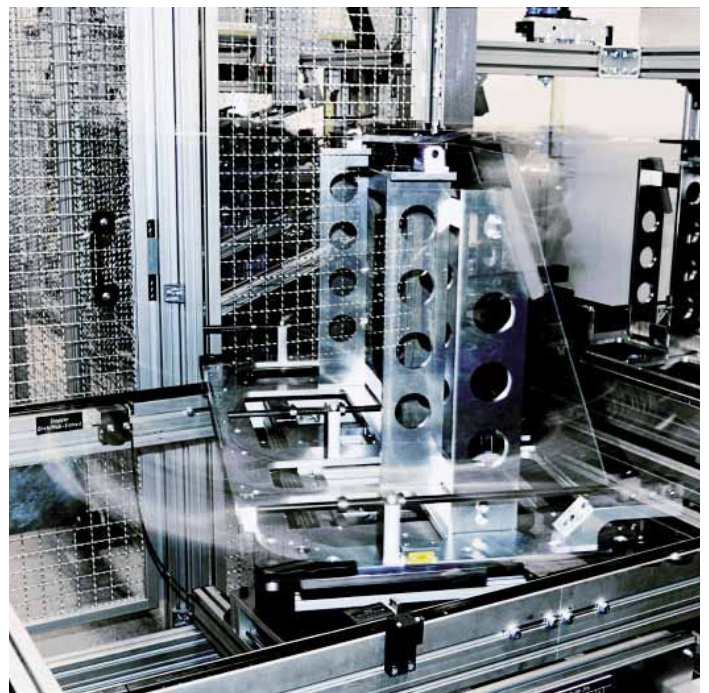
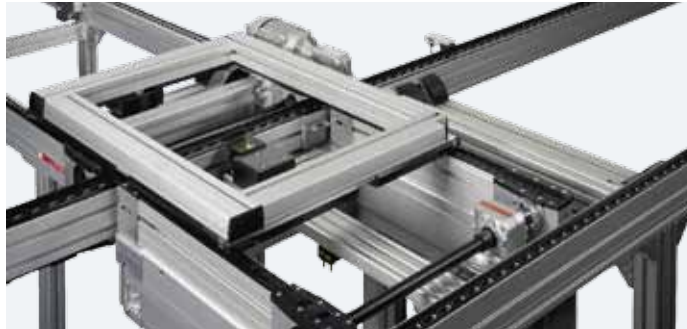
TS 2plus features	1-2
Operating principle	1-3
Design ideas	1-16
Identification and data tag systems	1-18
Energy efficiency – Rexroth 4EE	1-19



TS 2plus features

The Rexroth TS 2plus transfer system is designed for the transportation of workpiece pallets weighing up to 240 kg and is a good all-rounder in economical production. It is a diverse modular system that meets the requirements of a wide range of different products.

TS 2plus features standardized modular units, that can be combined in many ways to create a single system. This permits a wide range of variants to be constructed and tailor made for individual requirements. The modular design permits the cost-effective use of ratio potentials in production. All components are of robust design and can therefore be reused for mounting future product generations.



Diverse, sturdy, adaptable

Due to the large number of modular components incorporated in the system, it can be adapted to suit specific production conditions and individual layouts without requiring any extra parts:

- ▶ Four types of conveyor media (polyamide belts, toothed belts, flat top chains and accumulation roller chains) which can be combined together to meet the needs of the assembly process.
- ▶ Workpiece pallets dimensions (from 160 x 160 mm up to 1200 x 1200 mm) specifically designed for the product sizes.
- ▶ A high maximum load of up to 240 kg per workpiece pallet

Special TS 2plus units

Apart from the different types of conveyor media, the TS 2plus also provides an abundance of specific components for curves, transverse conveyors, positioning units and drive units. The time and effort spent on planning and designing can be reduced to a minimum using predefined macro modules.

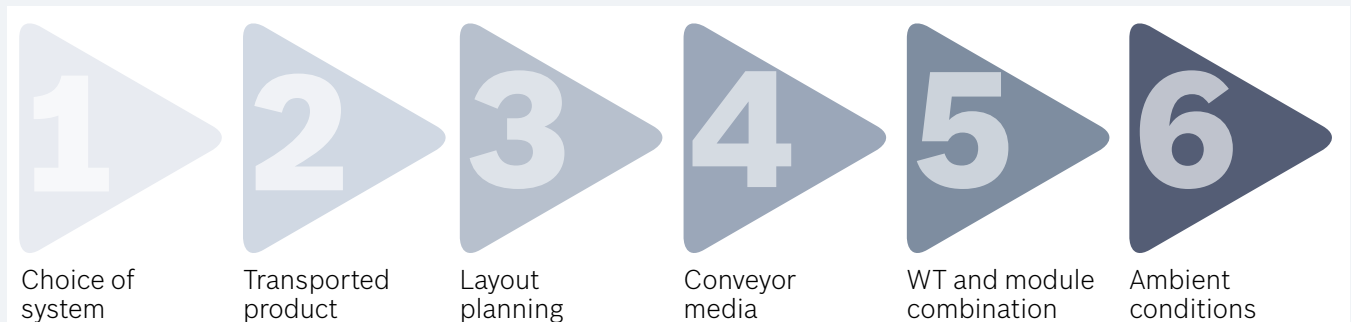
Material combinations that can be ordered from the catalog have been optimized for standard operation with TS 2plus. For special applications, additional material combinations are available. Your Rexroth representative will be pleased to support you in choosing an appropriate solution where required.

Operating principle

On an assembly line, a transfer system transports workpieces from one station to another. Two constantly moving belts, toothed belts, flat top chains or round belts convey the workpiece pallets (WT) by means of friction. The workpiece pallets hold the workpieces. All workpiece finishing takes place on the workpiece pallets. Information about destination and processing stage are carried in the workpiece pallet memory. The stop gate (VE) stops the workpiece pallet at the stations

(areas for manual work or automatic stations), while the conveyor medium continues moving. Several workpiece pallets can build up in front of individual stations to form small buffers. Once a processing stage is completed at the station, the workpiece pallet is released to travel on to the next work station. The pneumatic stop gate is opened, either manually or with a station control. At the end of the assembly process the workpiece is removed from the workpiece pallet.

In a few steps for the best solution



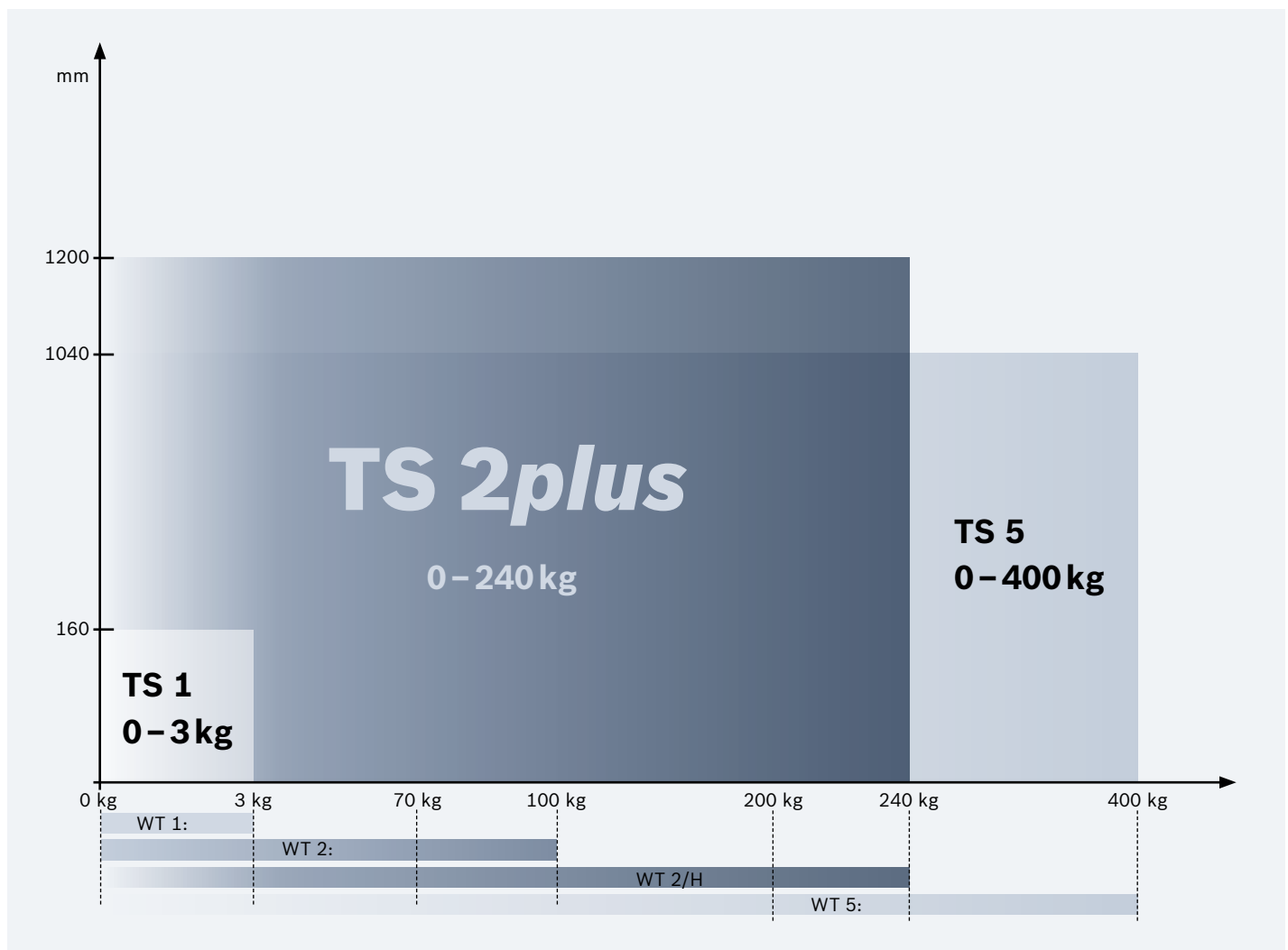
Operating principle

1. 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 workpieces to be conveyed as well as the particular production environment.

The flexible modular TS 2plus 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 2plus transfer systems are designed for high availability, even under the harshest conditions.





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 2plus

TS 2plus **0 – 240 kg**

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



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.

Operating principle

2. Transported product

Workpiece pallet (WT)

The workpiece pallet (WT) transports the workpiece from one processing station to the next on the transfer system. Rexroth workpiece pallets are available in several versions for different applications: The complete plastic WT 2/E handles the transportation and positioning of lighter workpieces. The more robust WT 2 and WT 2/H models, with their steel or aluminum carrying plates, are also suitable for medium and heavy loads.

The WT 2 series workpiece pallets can be configured from components for the individual workpieces. A selection of various frame modules and carrying plates is available for this purpose.

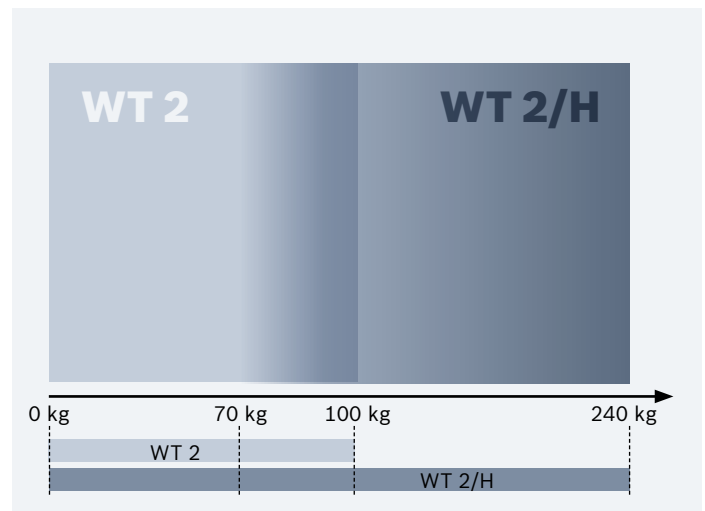
Because the workpiece pallets must be loaded as centrally as possible for optimal transportation, it is advisable to choose larger sized carrying plates for heavier workpieces or for those with uneven weight distribution.

Permitted weights

The WT total weight is limited for each WT size so that the permitted surface pressure is not exceeded. The WT total weight results from the following:

- ▶ Workpiece pallet mass
- ▶ Workpiece pallet load (workpiece, pick-up, etc.)
- ▶ Weight of the special equipment (data storage, etc.)

For workpiece pallets that are not square, please note that the permissible WT total weight (m_G) may be different for longitudinal conveyors and transverse conveyors and the shorter side is the determining factor for the maximum WT load.



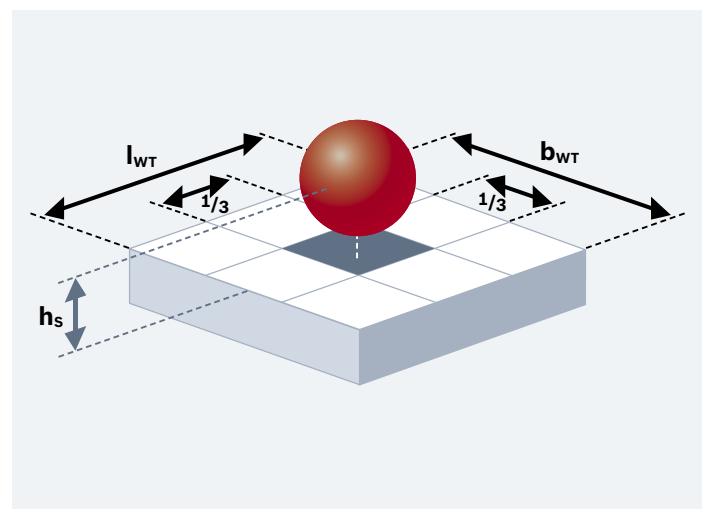
Permissible gravity center position

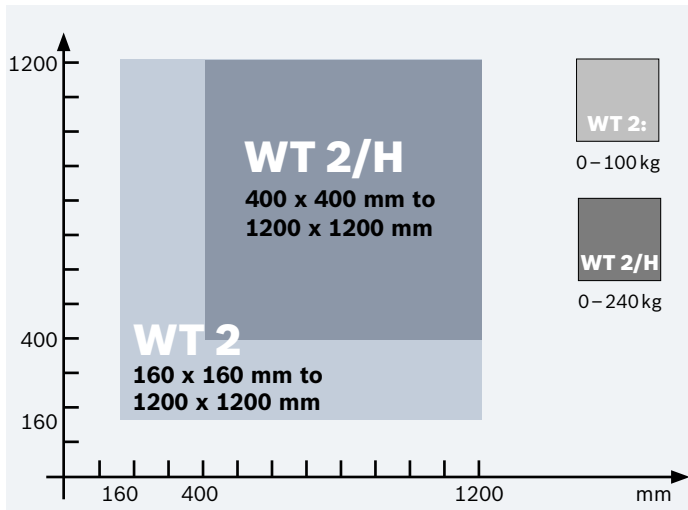
When separating pallets or changing directions, it is important to observe the position of the gravity center load on the workpiece pallet to ensure that the acceleration forces can be absorbed without any interferences.

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 $1/2 b_{WT}$ (with $b_{WT} \leq l_{WT}$).

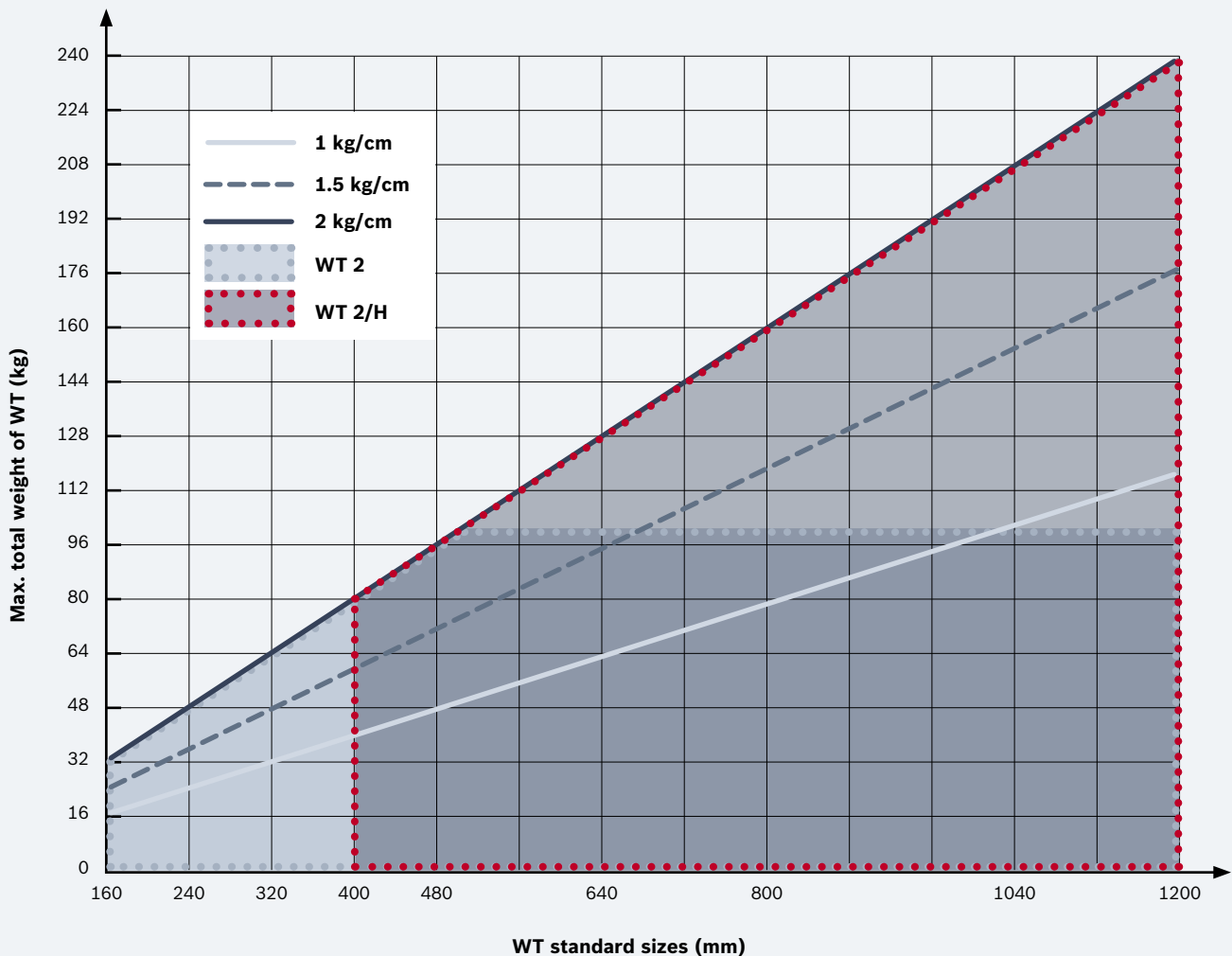
The specified performance data relate to the illustrated gravity center position.





Available workpiece pallet (WT) dimensions

Workpiece pallets with a surface from 160 x 160 mm up to 1200 x 1200 mm (WT 2) or with a surface from 400 x 400 mm up to 1200 x 1200 mm (WT 2/H) allow for correct adaptation to the particular workpiece geometry. If necessary, a number of workpieces can be accommodated on a single workpiece pallet (WT).



Operating principle

3. Layout planning

When planning the system layout, it is very important to take into account the individual requirements, targets and priorities of the company. A very flexible system is often required for complex assembly procedures. This may be due to:

- ▶ frequent product alterations
- ▶ cycle problems due to different models
- ▶ differences in the work involved at each station
- ▶ frequent product alterations
- ▶ great fluctuation in number of workpieces

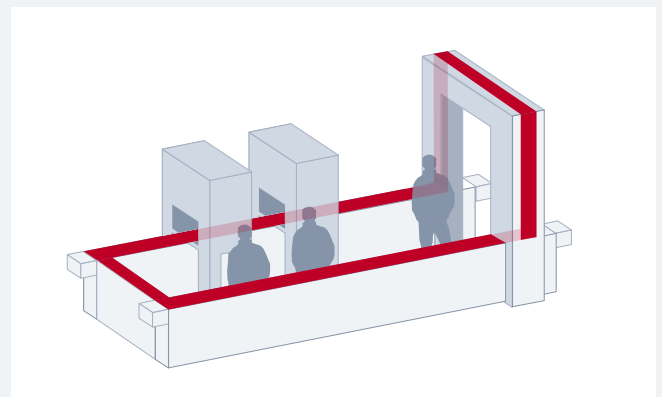
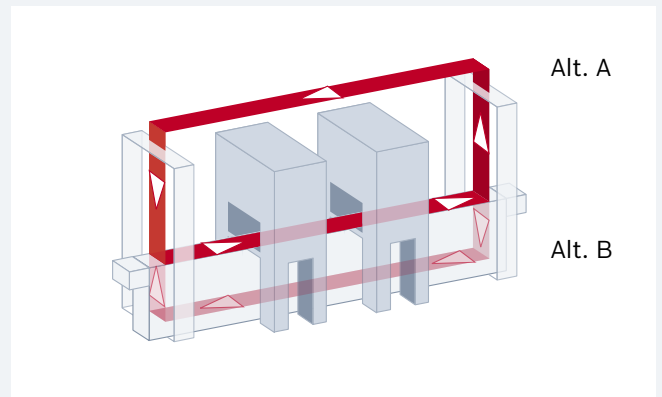
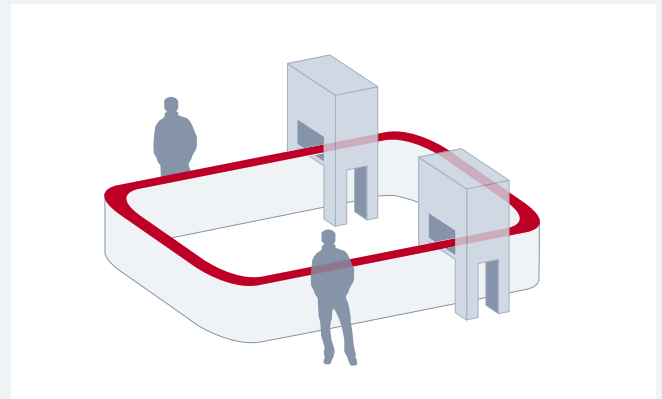
In cases like this, it is practical to transfer the workpiece pallet off the main conveyor (main circuit) into a shunt system which is independent of the main cycle. The term main circuit is used to describe workplaces or stations arranged in series.

A shunt is when workpiece pallets are directed out of the main circuit for processing independently of the main cycle, and then reintegrated in the main circuit.

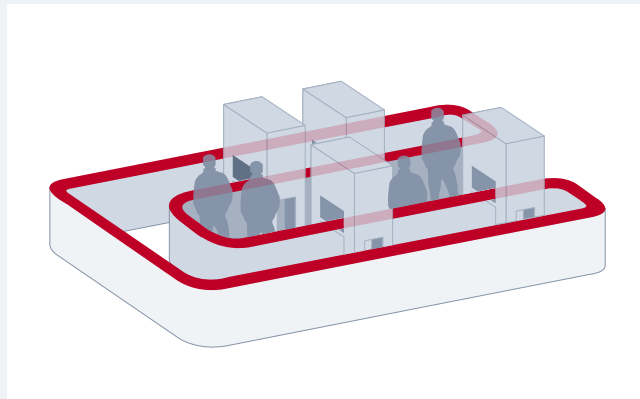


System layouts

Main circuit



◀ Rectangular circuit

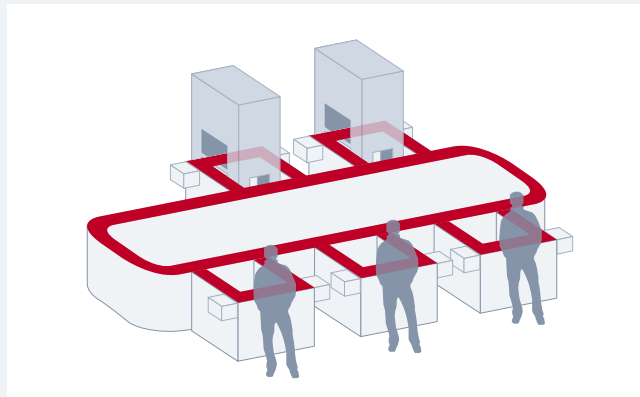


◀ U-shape

Shunt

◀ Production line construction (with lift*)

* Our partners can advise you about lifts.

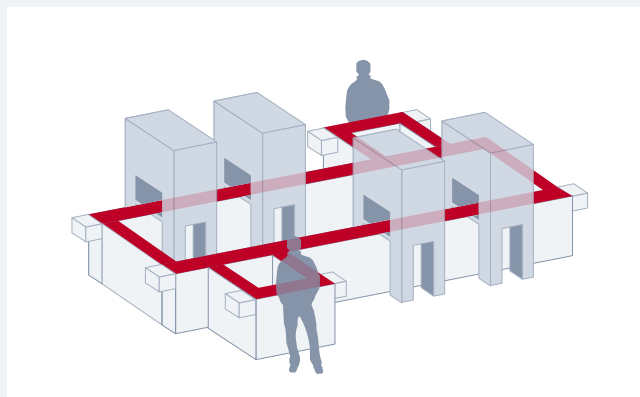


◀ Parallel workplaces

Mixed systems

◀ U-shape (with lift)

*Our partners can advise you about lifts.



◀ Rectangular circuits with parallel workplaces

Operating principle

4. Conveyor media

The load carrying capacity of a workpiece pallet results from the

- combination of conveyor medium, glide profiles, and workpiece pallet wear pad as well as
- the surface length on the conveyor medium.



Toothed belts, belts, plastic flat top chains, roller chains, duplex chains (from left to right)

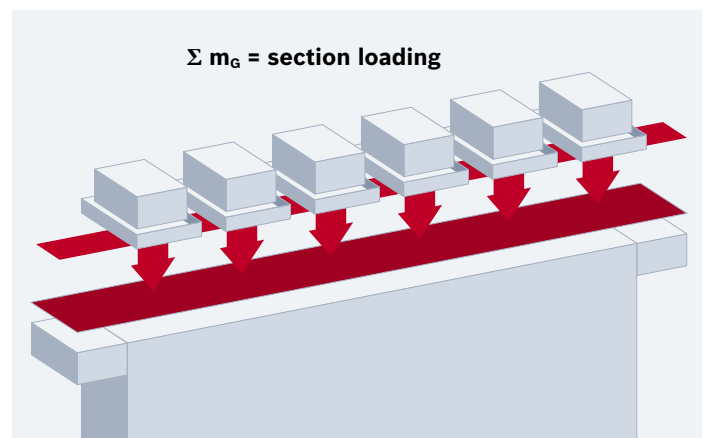
	Standard wear pad				Special wear pad			
	PA				PE			
Conveyor medium								
Steel glide profile								
Plastic glide profile								

Specific section load/cm = overall workpiece pallet mass / support surface length

Permitted section loading

When designing the conveyor sections, it is important to ensure that the **sum of the total weights of all workpiece pallets**, which re on the conveyor section in accumulation operation at one time, **is less than the permitted load for the conveyor section**.

The permitted section loading in accumulation is specified on individual drive modules and belt sections. If the permitted section loading for the conveyor section is exceeded, the section must be divided into several individual sections.



Operating principle

5. Combination of conveyor media, glide profiles and components

Assignment of weight classes – products

Workpiece pallet	WT 2 ≤ 400 mm	WT 2:	WT 2-H	WT 2-H
Typical total weights of the WT in the application	Load 0 – 30 kg	Load 30 – 100 kg	Load 30 – 100 kg	Load 100 – 240 kg
(Lift) position unit	PE 2 (F ≤ 30 kg)			
		PE 2/X (F ≤ 100 kg)	PE 2/H (F ≤ 240 kg)	PE 2/H (F ≤ 240 kg)
	HP 2/L (F ≤ 40 kg)	HP 2/L (F ≤ 40 kg)		
	HP 2 (F ≤ 110 kg)	HP 2 (F ≤ 110 kg)		
	PE 2/XX (F ≤ bel)	PE 2/XX (F ≤ bel)	PE 2/XX (F ≤ bel)	PE 2/XX (F ≤ bel)
	PE 2/XP (F ≤ 100 kN)			
Stop gate	VE 2 (F ≤ 200 kg)	VE 2 (F ≤ 200 kg)	VE 2/D100-H	VE 2/D100-H
	VE 2/L (F ≤ 200 kg)	VE 2/L (F ≤ 200 kg)	VE 2/D250-H	VE 2/D250-H
	VE 2/M (F ≤ 200 kg)	VE 2/M (F ≤ 200 kg)		
	VE 2/S (F ≤ 140 kg)	VE 2/S (F ≤ 140 kg)		
	VE 2/X (F ≤ 450 kg)	VE 2/X (F ≤ 450 kg)		
	VE 2/D-60 (F ≤ 60 kg)	VE 2/D-60 (F ≤ 60 kg)		
	VE 2/D-150 (F ≤ 100 kg)	VE 2/D-150 (F ≤ 100 kg)		
	VE 2/D-200 (F ≤ 200 kg)	VE 2/D-200 (F ≤ 200 kg)		
Damper	DA 2/10 (F ≤ 20 kg)			
	DA 2/30 (F ≤ 60 kg)			
	DA 2/100 (F ≤ 100 kg)	DA 2/100 (F ≤ 100 kg)		
			DA 2/100-H (F ≤ 100 kg)	DA 2/100-H (F ≤ 100 kg)
			DA 2/250-H (F ≤ 240 kg)	DA 2/250-H (F ≤ 240 kg)
		DA 2/150-E	DA 2/150-E	
Switch bracket	SH 2/S	SH 2/S		
	SH 2/ST	SH 2/ST		
	SH 2/S-H	SH 2/S-H	SH 2/S-H	SH 2/S-H
	SH 2/U	SH 2/U		
	SH 2/UV	SH 2/UV		
	SH 2/U-H	SH 2/U-H		
	SH 2/SF	SH 2/SF		
Rocker	WI 2	WI 2		

Operating principle

6. Ambient 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 with 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 near sources of shavings, sand or dust. 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.

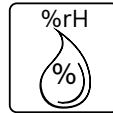


OIL

Use in oily environments

For applications where process-related oil can enter the transfer system, we recommend using chains as the conveyor medium (accumulation roller chains, *Vplus* chains or flat top chains). We do, however, recommend that you contact your Rexroth representative.





Use in dry rooms

TS *2plus* 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 clean rooms

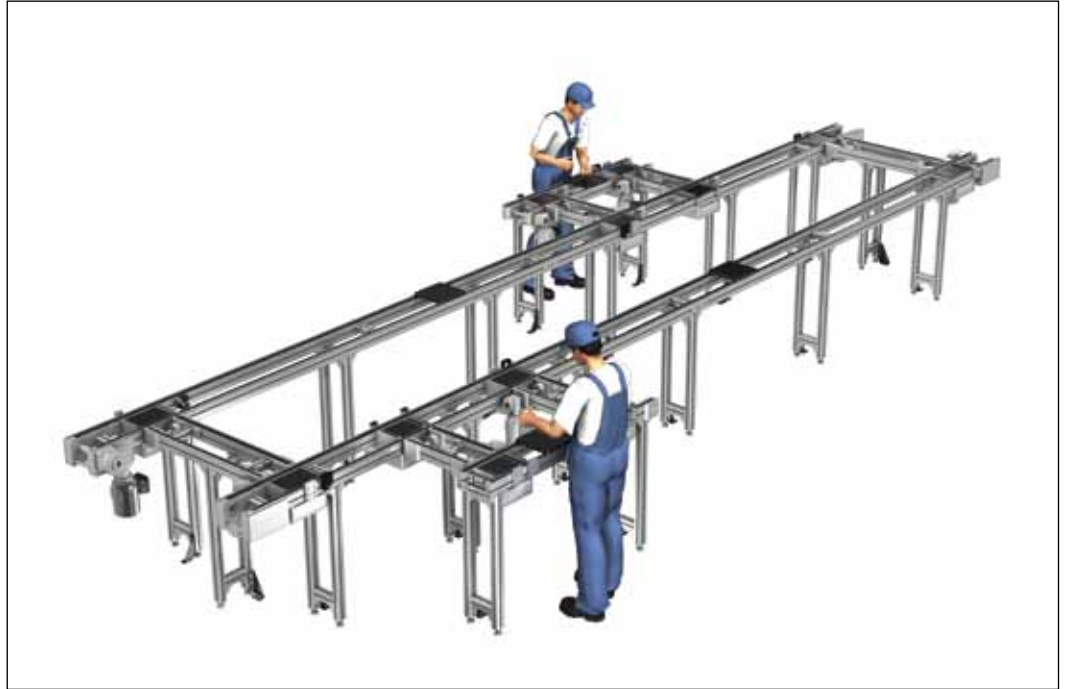
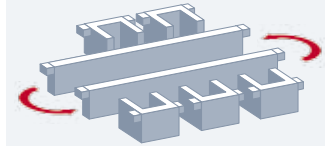
Almost all the components have been approved by the IPA^{*)} for use in clean rooms and for clean room class 7 according to DIN EN ISO 14644-1. Please note that some clean room-compatible components have been specially modified. Please contact your Rexroth representative if you require clean room components.

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

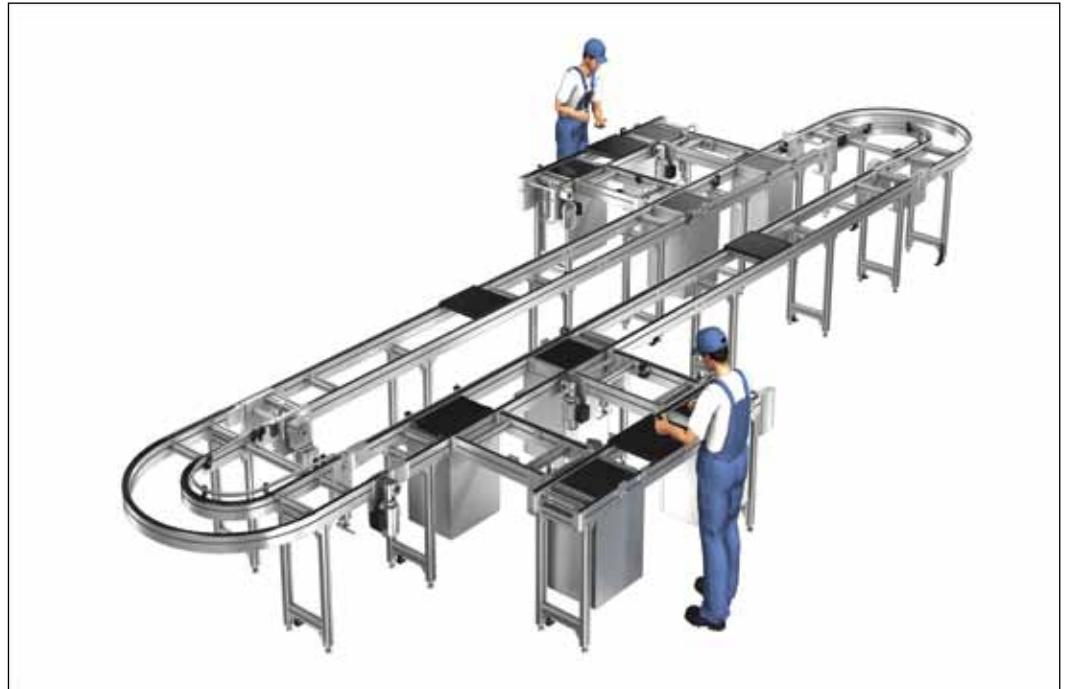
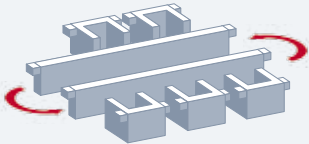
Design ideas

Systems

Layout example
workpiece pallets of
240 x 240 mm, conveyor
medium: Belts, toothed
belts



Layout example
workpiece pallets of
640 x 640 mm, conveyor
medium: Accumulation
roller chain, flat top
chain



Identification and data tag systems

Identification and data storage systems store all product and process-related data directly on the workpiece pallet and enable local or central data processing. 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

- ▶ 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.



ID 15



ID 40

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

Identification systems catalog

DE no. 3842547003



ID 200

Energy efficiency – Rexroth 4EE

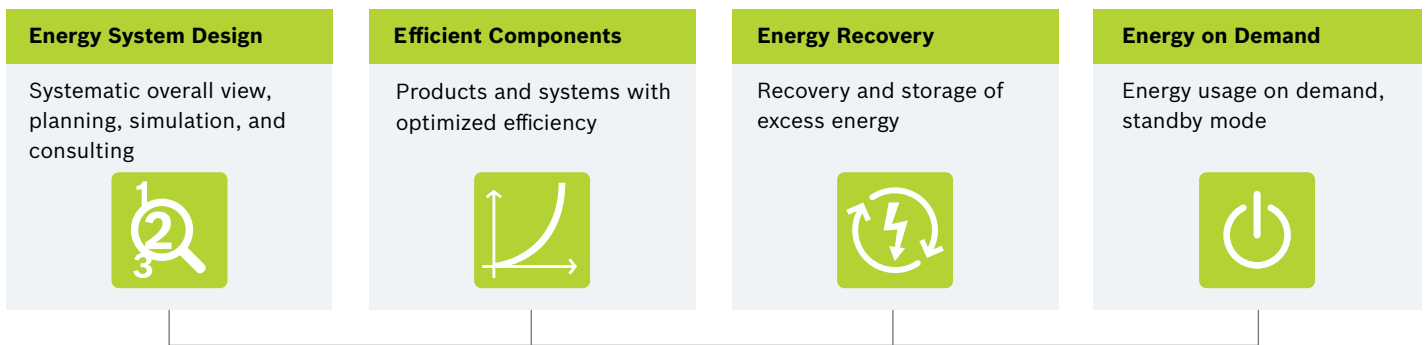
4EE
ENERGY
EFFICIENCY

1

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:



Application in the entire machine life cycle



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 2plus 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 2plus 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.



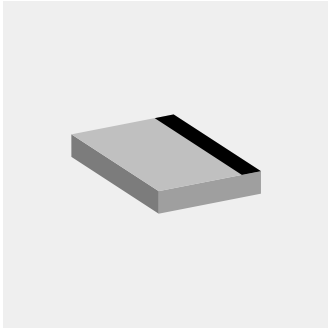
Energy use on demand

Minimal energy consumption requires the ability to be able to switch off system components on demand. The majority of motors in the TS 2plus 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.

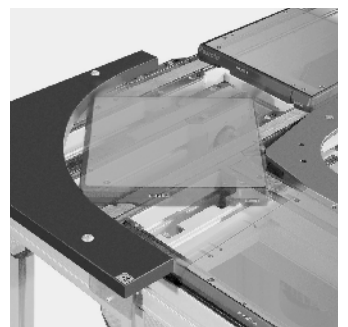


Workpiece pallets

2

Workpiece pallet selection

2-2



Workpiece pallet selection

The workpiece pallet (WT) is used in the transfer system to convey the workpiece through the processing stations.

To guarantee an optimal transport, it should be loaded in the center.

Workpiece pallet applications

- ▶ Integrated positioning bushings enable defined positioning of the incoming workpiece in the processing station.
- ▶ Optionally available data tags can provide work-related information during processing. This information can be evaluated on-site and also updated.

Various WT workpiece pallets are available:

- ▶ The WT 2/E is an especially inexpensive, light-weight workpiece pallet with an all-plastic design that can be used for simple conveying and positioning tasks (see p. 2-6)
- ▶ The WT 2 is a sturdy and universally applicable workpiece pallet with a steel carrying plate (see p. 2-8)
- ▶ The WT-2 components enable individual configuration of the WT using various frame modules and carrying plates (see p. 2-12). Total weight of workpiece pallets up to 100 kg
- ▶ The WT 2/H with aluminum carrying plate for applications with total weights up to 240 kg (see p. 2-34)
- ▶ WT 2/F with an aluminum frame profile design can be used for large workpieces. Grooves throughout the frame profile make it easier to install parts holders (see p. 2-47). Total weight of workpiece pallets up to 100 kg
- ▶ WT 2/F-H with the same aluminum carrying plate, but in the heavy duty version up to 240 kg (see p. 2-50)

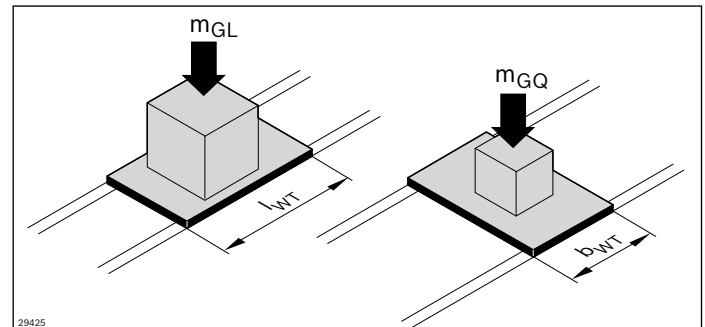
Size, combination with conveyor medium

The permitted total weight m_G of a workpiece pallet results from the

- ▶ combination of conveyor medium, glide profiles, and workpiece pallet wear pad as well as
- ▶ the surface length on the conveyor medium (see p. 1-10)

The surface length on the conveyor medium may vary in longitudinal and transverse conveying with non-square pallets. The shorter side of the workpiece pallet determines the maximum permitted total weight.

The following estimated parameters can be used:



- ▶ **Conveyor media belt and toothed belt:** A surface load of up to 1 kg/cm is permissible on workpiece pallets with PA wear pads.
- ▶ **Conveyor medium flat top chain:** PA wear pads on the workpiece pallets are recommended in the combination with a plastic flat top chain. This permits surface loads of up to 1 kg/cm in the standard design with plastic glide profiles in the section profile. Bearing loads of 1.5 kg/cm are possible with the optionally available version with steel glide profiles.
- ▶ **Conveyor medium accumulation roller chain:** In conjunction with PE wear pads on the workpiece pallets, the standard design with plastic glide profiles in the section profile permits surface loads of up to 1.5 kg/cm. The optionally available version with steel glide profiles and the accumulation roller chain with steel rollers can tolerate surface loads of 2 kg/cm

When WT 2/E, WT 2 and WT 2/F workpiece pallets are used, the VE 2/... stop gates are mounted directly on the section for lateral separation.

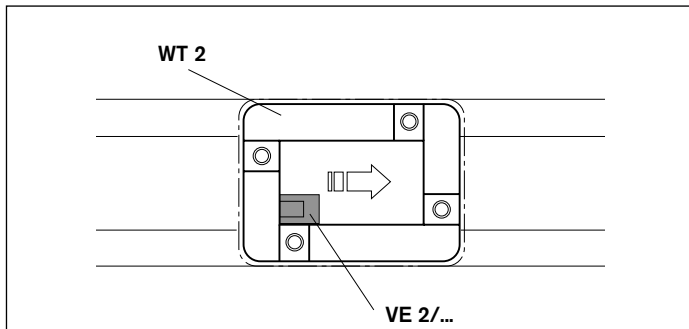
The WT 2/E, WT 2 and WT 2/F are used up to 100 kg.

When WT 2/H and WT 2/F-H are used the VE 2/D...-H stop gates are mounted by a cross strut for central separation. WT 2/H or WT 2/F-H are used for heavy duty versions up to workpiece pallet total weights of 240 kg.

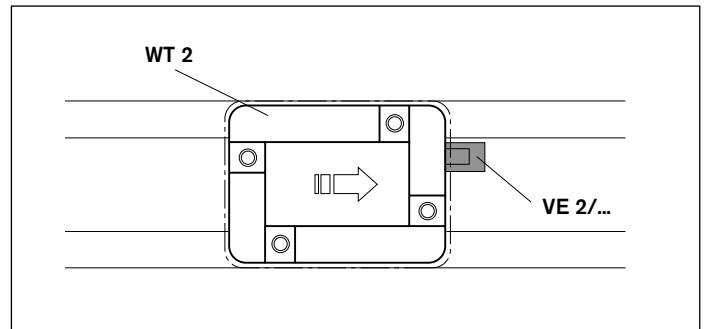
All VE 2/... (without VE 2/...-H) can be used for lateral separation.

All (without VE 2/D...-H) can be used for central separation.

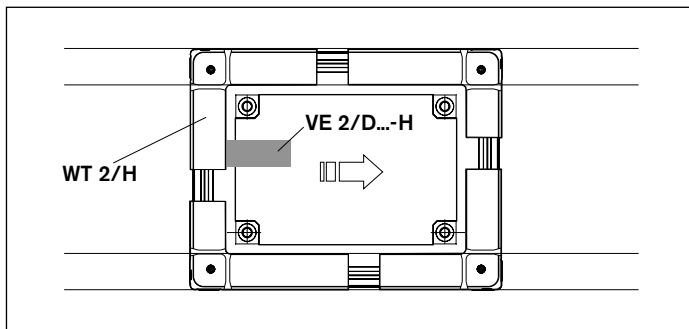
Mounting in rear right position in the direction of transport, on the **inside** of the workpiece pallet surface



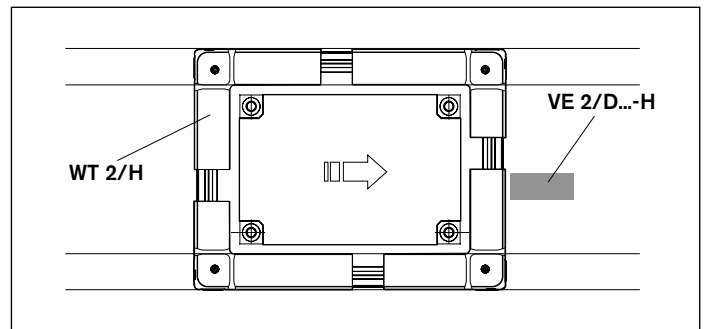
Mounting in front left position in the direction of transport, on the **outside** of the workpiece pallet surface



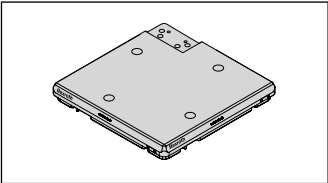
Mounting inside the workpiece pallet surface



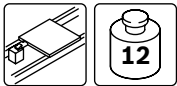
Mounting outside the workpiece pallet surface



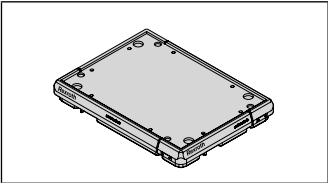
The size and position of the positioning bushings is different for the workpiece carriers for lateral separation compared to the types for central separation. This must be considered when selecting the positioning units. For more information, see also the table on p. 1-11



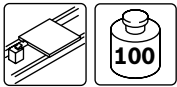
WT 2/E workpiece pallet



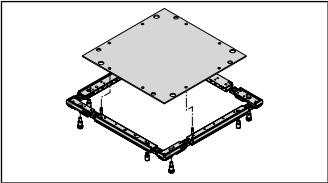
2-6



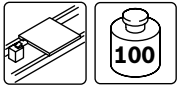
WT 2 workpiece pallet



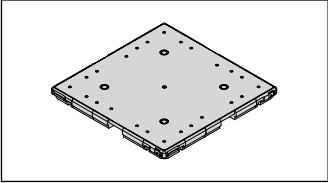
2-8



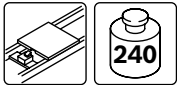
Components for WT 2 workpiece pallets



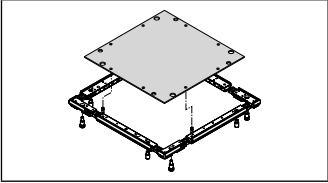
2-12



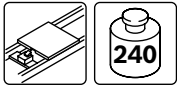
WT 2/H workpiece pallet



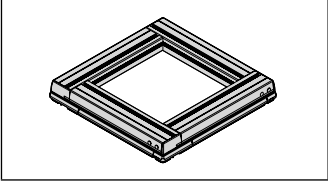
2-34



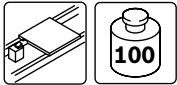
Components for WT 2/H workpiece pallets



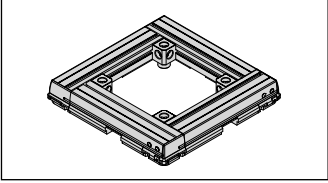
2-40



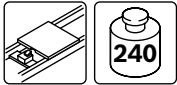
WT 2/F workpiece pallet



2-47

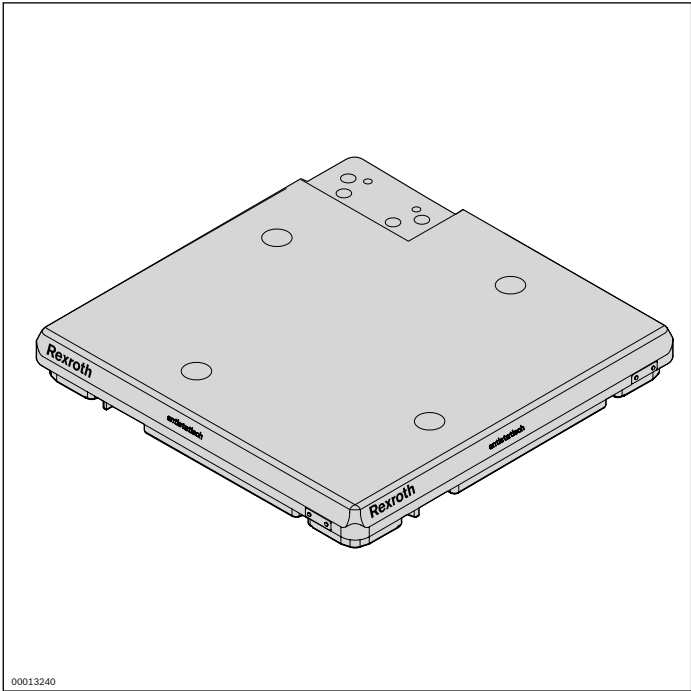
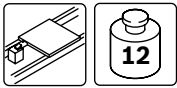


WT 2/-H workpiece pallet



2-50

WT 2/E workpiece pallet



- ▶ Integrated positioning bushings for a positioning accuracy of ± 0.3 mm
- ▶ Prepared for the installation of mobile data tags from the ID 10, ID 40 and ID 200 identification systems
- ▶ Not suitable for accumulation roller chains
- ▶ A standard size with the dimensions $b_{WT} \times l_{WT} = 240 \times 240$ mm
- ▶ Material: All-plastic polyamide version (PA 6)

WT 2/E is a cost-effective workpiece pallet with an all-plastic design, suitable for applications with low loads from

above and on the joints of up to 0.5 kg/cm.

Accessories

Recommended accessories

- ▶ ID 40 attachment kit 3842532630 (see RFID systems catalog)

Delivery note

Scope of delivery

- ▶ Workpiece pallet, complete

Condition on delivery

- ▶ Fully assembled

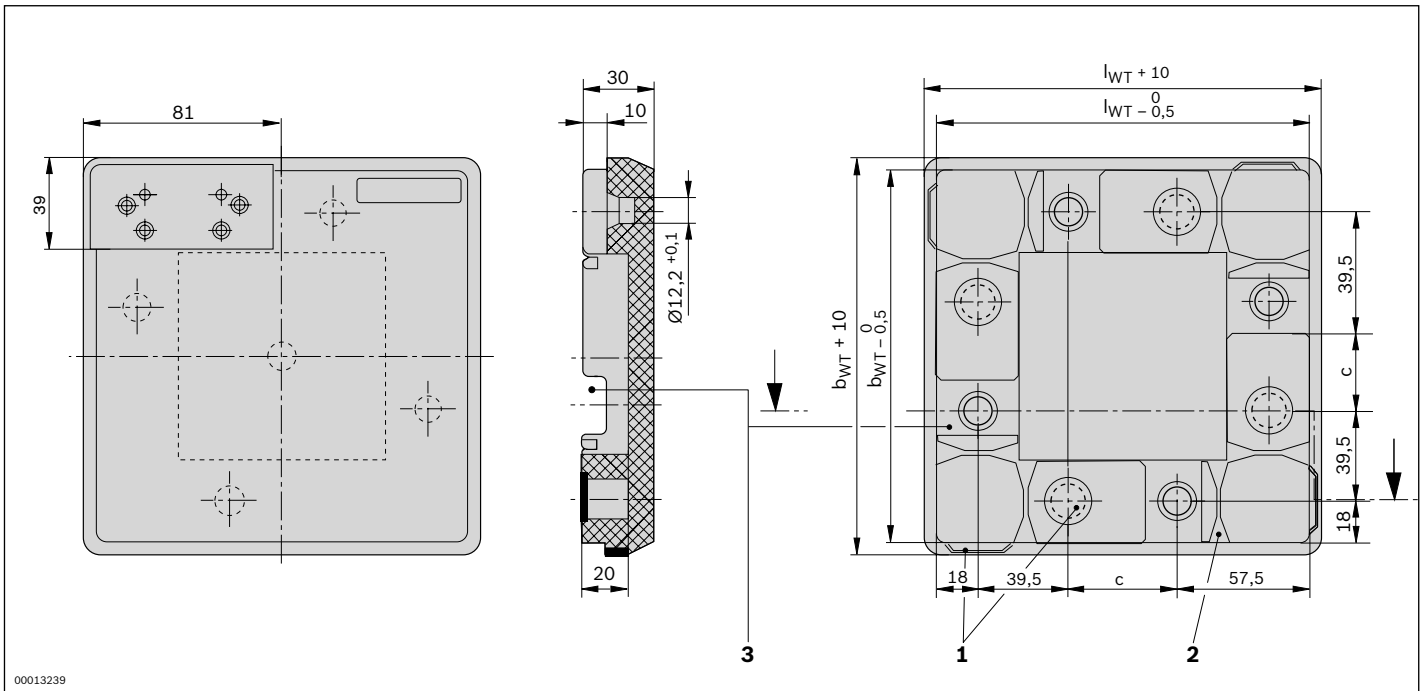
Ordering information

Product designation	Material number
WT 2/E workpiece pallet	3842352171

Technical data

Material number			3842352171
Features			
Plate thickness	d_{PI}	mm	10
Flatness	$\square$	mm	1
Workpiece pallet mass	m_{WT}	kg	1.6

Dimensions



No production drawing

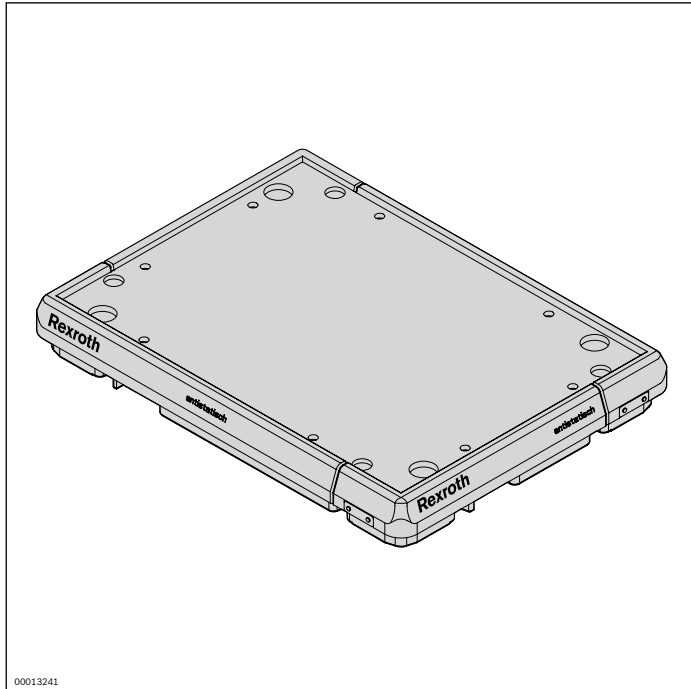
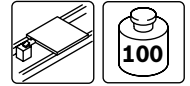
1 exciter plate

2 guide groove

3 stop gate aperture

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Workpiece pallet mass m_{WT} (kg)	Dimension c (mm)
240	240	1.6	125

WT 2 workpiece pallet, fully assembled



- ▶ Suitable for belt, toothed belt, and flat top chain
- ▶ Robust workpiece pallet with high rigidity
- ▶ Integrated positioning bushings
- ▶ Prepared for installation of mobile data tags from the ID 15, ID 40 and ID 200 identification systems
- ▶ Not suitable for accumulation roller chains
- ▶ Plastic frame modules with universal steel carrying plate
- ▶ 15 standard sizes
- ▶ ESD-capable
- ▶ Material:
 - Frame module polyamide (PA) wear pad
 - Steel carrying plate (4.8 mm)

WT 2 is a sturdy workpiece pallet with high rigidity in a composite plastic-steel construction used to pick up and convey workpieces in the TS 2plus transfer system. From size 400 x 400 mm, the workpiece pallet plates are

executed as standard with two or four additional threaded holes for reinforcing bolts. Number given in carrying plate table on page 2-27.

Delivery note

Scope of delivery

- ▶ Carrying plate
- ▶ Frame modules
- ▶ Connection elements
- ▶ Positioning bushings

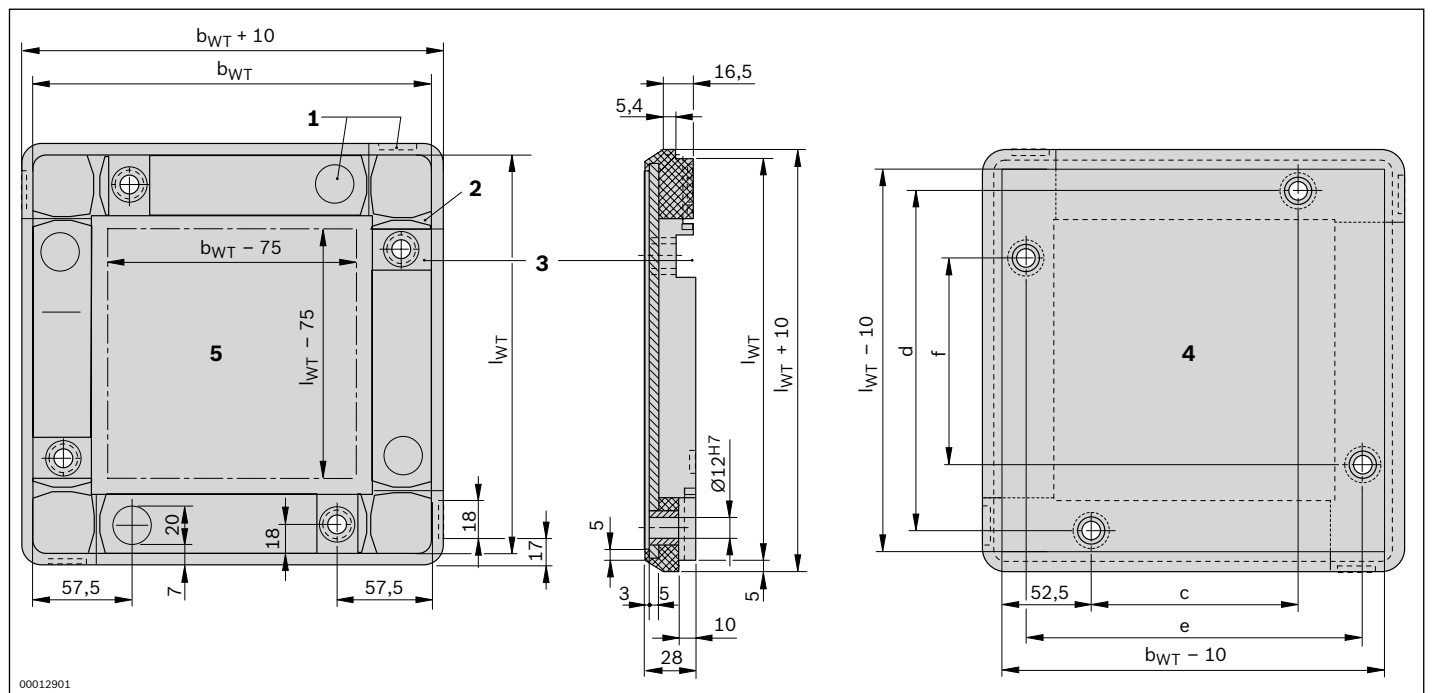
Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Workpiece pallet $b_{WT} \times l_{WT}$	Material number
WT 2 workpiece pallet	160 x 160	0842090030
WT 2 workpiece pallet	160 x 240	0842090032
WT 2 workpiece pallet	160 x 320	0842090034
WT 2 workpiece pallet	240 x 240	0842090039
WT 2 workpiece pallet	240 x 320	0842090041
WT 2 workpiece pallet	240 x 400	0842090043
WT 2 workpiece pallet	320 x 320	0842090048
WT 2 workpiece pallet	320 x 400	0842090050
WT 2 workpiece pallet	320 x 480	0842090051
WT 2 workpiece pallet	400 x 400	0842090080
WT 2 workpiece pallet	400 x 480	0842090081
WT 2 workpiece pallet	400 x 640	0842090083
WT 2 workpiece pallet	480 x 480	0842090086
WT 2 workpiece pallet	480 x 640	0842090088
WT 2 workpiece pallet	640 x 640	3842523405

Dimensions

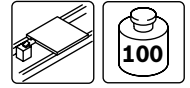


No production drawing

- 1 exciter plate
- 2 guide groove
- 3 stop gate aperture
- 4 top clearance
- 5 bottom clearance

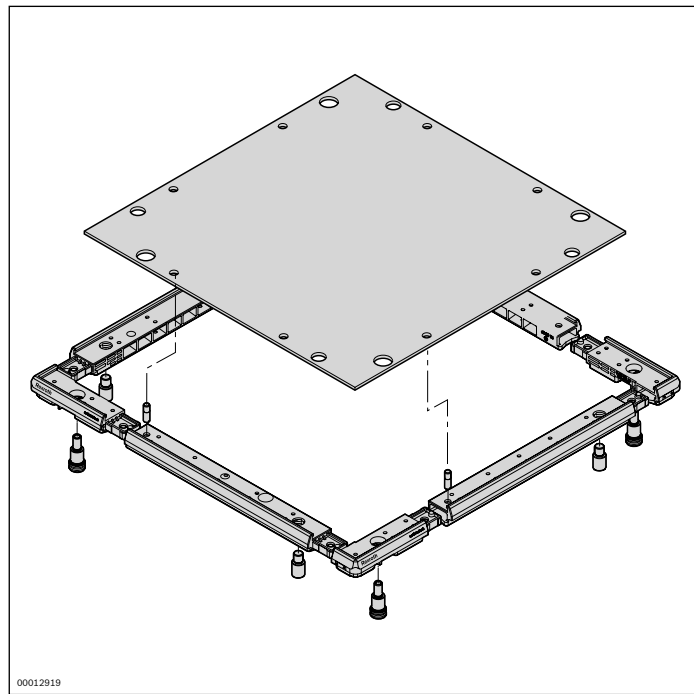
2-10 **TS 2plus 6.0** | Workpiece pallets
 WT 2 workpiece pallet, fully assembled

Width of work- piece pallet b_{WT} (mm)	Length of work- piece pallet l_{WT} (mm)	Plate thick- ness d_{PI} (mm)	Flatness  (mm)	Plate mass m_{PI} (kg)	Workpiece pallet mass m_{WT} (kg)	Dimen- sion c (mm)	Dimen- sion d (mm)	Dimen- sion e (mm)	Dimen- sion f (mm)
160	160	4.8	0.3	0.9	1.2	45	124	124	45
160	240	4.8	0.3	1.3	1.8	45	204	124	125
160	320	4.8	0.3	1.8	2.5	45	284	124	205
240	240	4.8	0.3	2.0	2.3	125	204	204	125
240	320	4.8	0.5	2.7	3.3	125	284	204	205
240	400	4.8	0.5	3.4	4.4	125	364	204	285
320	320	4.8	0.5	3.6	4.1	205	284	284	205
320	400	4.8	0.6	4.6	5.4	205	364	284	285
320	480	4.8	0.6	5.5	6.6	205	444	284	365
400	400	4.8	0.6	5.9	6.4	285	364	364	285
400	480	4.8	0.6	6.1	8.0	285	444	364	365
400	640	4.8	0.8	9.3	9.7	285	604	364	525
480	480	4.8	0.8	8.3	11.0	365	444	444	365
480	640	4.8	1.0	11.4	12.4	365	604	444	525
640	640	4.8	1.0	15.3	16.3	525	604	604	525



Components for WT 2 workpiece pallets

To fulfill special needs, the workpiece pallets can also be individually configured in a design where the carrying plate is assembled by the customer. In addition to frame modules with different wear pads, various carrying plates, positioning bushings, and all the necessary fastening elements are available.



Carrying plates

- ▶ Steel carrying plates with a thickness of 4.8 mm for workpiece pallets up to medium size High stability allows for easy integration of your own workpiece supports
- ▶ Aluminum carrying plates with a thickness of 8 mm or 12.7 mm are a light and rigid alternative for medium and large workpiece pallets

Positioning bushings

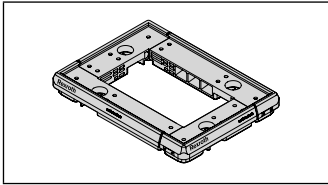
- ▶ For defined pick-up of the workpiece pallet in the positioning units

Accessories

- ▶ Dowel pins to connect the extension modules to the carrying plate
- ▶ Bolts in combination with reinforced frame modules for large workpiece pallets (from 400 x 400 mm) and weights over 50 kg to max. 100 kg.

Frame modules

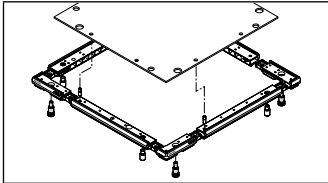
- ▶ PA frame modules are the basic solution for use on belts, toothed belts, and plastic flat top chains
- ▶ PA wear pads are required for use on conveyor medium accumulation roller chains and duplex chains
- ▶ Reinforced (PA or PE) for workpiece pallet total weights > 50 kg and conveyor speeds > 12 m/min.



Frame modules, standard/reinforced



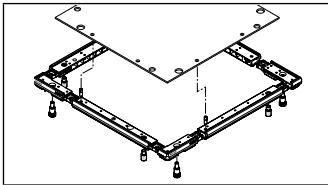
2-14



Positioning bushing

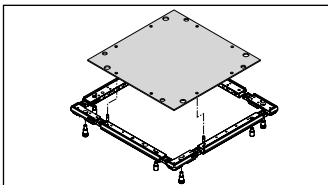


2-22



Bolts

2-24

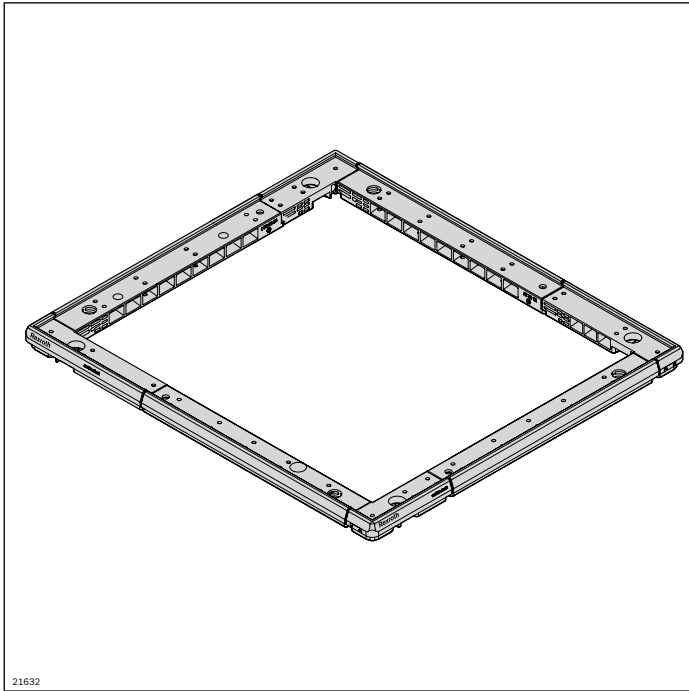


Carrying plates



2-26

Standard frame module

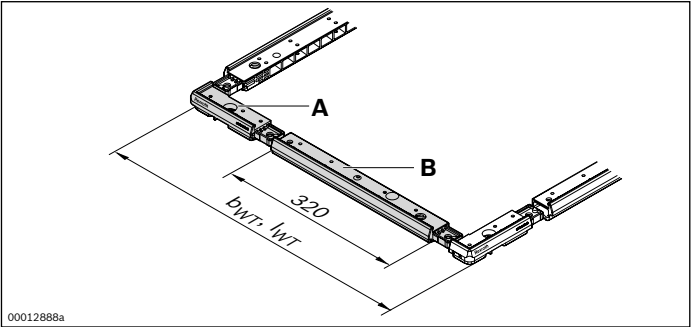


- ▶ Corner modules with standard side lengths of 160 to 400 mm
- ▶ Frame extension module, 320 mm
- ▶ Material:
 - Corner/extension module (PA) with PA (= polyamide) wear pad or
 - Corner/extension module (PA) with PE (= polyethylene) wear pad or
- ▶ Reinforced frame modules are required for total weights $m_G > 50$ kg or for conveyor speeds $v_N > 12$ m/min
- ▶ Can be combined with WT 2 carrying plates

Frame modules are used for self-assembly of workpiece pallets. The PA basic solution for use on conveyor media belts/toothed belts is suitable for use on the belt/toothed belt and flat top chain conveyor media.

Frame module with PE wear pads are required for use on duplex chain and accumulation roller chain conveyor media. The PE pad is not suitable for accumulation operation on ESD flat top chains.

Ordering information



A Corner module
B Extension module

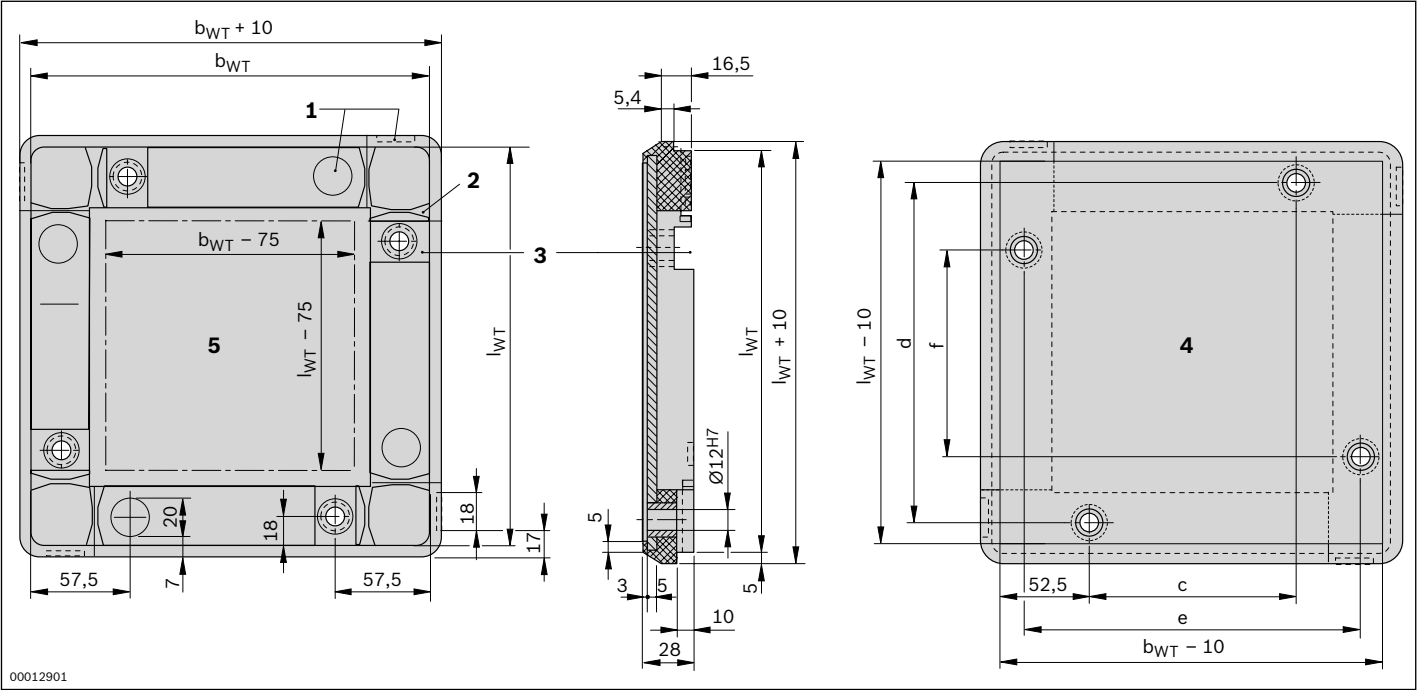
2

Product designation	b_{WT} , l_{WT} (mm)	Material number
Standard frame module, corner module (PA)	160	3842174301
Standard frame module, corner module (PA)	240	3842174302
Standard frame module, corner module (PA)	320	3842174303
Standard frame module, corner module (PA)	400	3842174304
Standard frame module, corner module (PA+PE) ¹⁾	160	3842526760
Standard frame module, corner module (PA+PE)	240	3842526761
Standard frame module, corner module (PA+PE)	320	3842526762
Standard frame module, corner module (PA+PE)	400	3842526763

¹⁾ No exciter plate for position inquiry from below with inductive sensors is included. Only lateral position inquiry is possible with this design.

Product designation	l (mm)	Material number
Standard frame module, extension module (PA)	320	3842513458
Standard frame module, extension module (PA+PE)	320	3842526764

Dimensions



- 1 exciter plate
2 guide groove
3 stop gate aperture
- 4 top clearance
5 bottom clearance

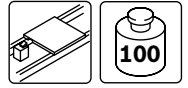
Width of work- piece pallet b_{WT} (mm)	Length of work- piece pallet l_{WT} (mm)	Plate mass $m_{PI}^{1)}$ (kg)	Plate mass $m_{PI}^{2)}$ (kg)	Plate mass $m_{PI}^{3)}$ (kg)	Dimension c (mm)	Dimension d (mm)	Dimension e (mm)	Dimension f (mm)
160	160	0.9			45	124	124	45
160	240	1.3			45	204	124	125
160	320	1.8			45	284	124	205
240	240	2.0			125	204	204	125
240	320	2.7			125	284	204	205
240	400	3.4	1.9		125	364	204	285
320	320	3.6	2		205	284	284	205
320	400	4.6	2.6		205	364	284	285
320	480	5.5	3.1	5.0	205	444	284	365
400	400	5.9	3.3	5.2	285	364	364	285
400	480	6.1	3.9	6.0	285	444	364	365
400	640	9.3	5.2	6.5	285	604	364	525
400	800			10.4	285	764	364	685
480	480	8.3	4.6	6.5	365	444	444	365
480	640	11.4	6.3	7.0	365	604	444	525
480	800			12.5	365	764	444	685
640	640	15.3	8.4	7.5	525	604	604	525
640	800			16.7	525	764	604	685
640	1040			22.8	525	1004	604	925
800	800			21.0	685	764	764	685
800	1040			27.3	685	1004	764	925
800	1200			36.0	685	1164	764	1085
1040	1040			40.6	925	1004	1004	925
1040	1200			46.9	925	1164	1004	1085
1200	1200			54.1	1085	1164	1164	1085

¹⁾ Steel 4.8 mm

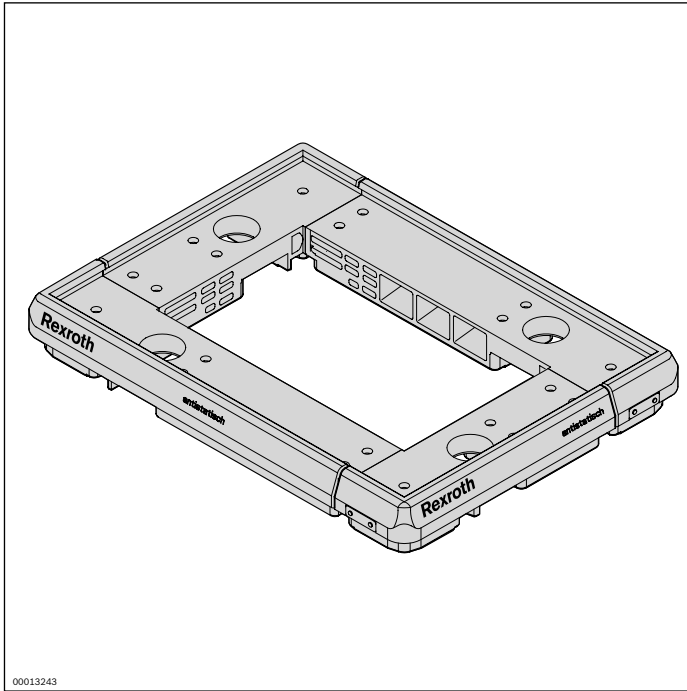
²⁾ Aluminum 8.0 mm

³⁾ Aluminum 12.7 mm

Reinforced frame module



2



- For self-assembly of workpiece pallets from 400 x 400 mm. Required for workpiece pallet total weights $m_G > 50$ kg or for conveyor speeds $v_N > 12$ m/min
- Corner module, 400 mm
- Frame extension module, 320 mm
- Wide variety of workpiece pallet sizes possible through combinations of standard modules
- Material:
 - Corner/extension module (PA) with PA (= polyamide) wear pad or
 - Corner/extension module (PA) with PE (= polyethylene) wear pad or
- Can be combined with WT 2 carrying plates

Reinforced frame modules are used for self-assembly of workpiece pallets with dimensions from 400 x 400 mm. Required for workpiece pallet total weights > 50 kg or for conveyor speeds $v_N > 12$ m/min.

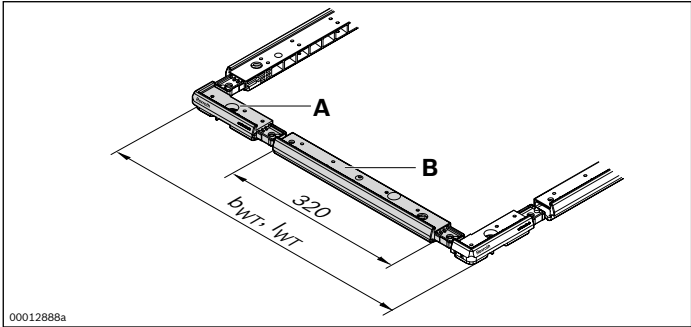
The PA basic solution for use on conveyor media belts/toothed belts is suitable for use on the belt/toothed belt and plastic flat top chain conveyor media. Frame module with PE wear pads are required for use on duplex chain and accumulation roller chain conveyor media

Accessories

Required accessories

- Bolts, see p. 2-24

Ordering information

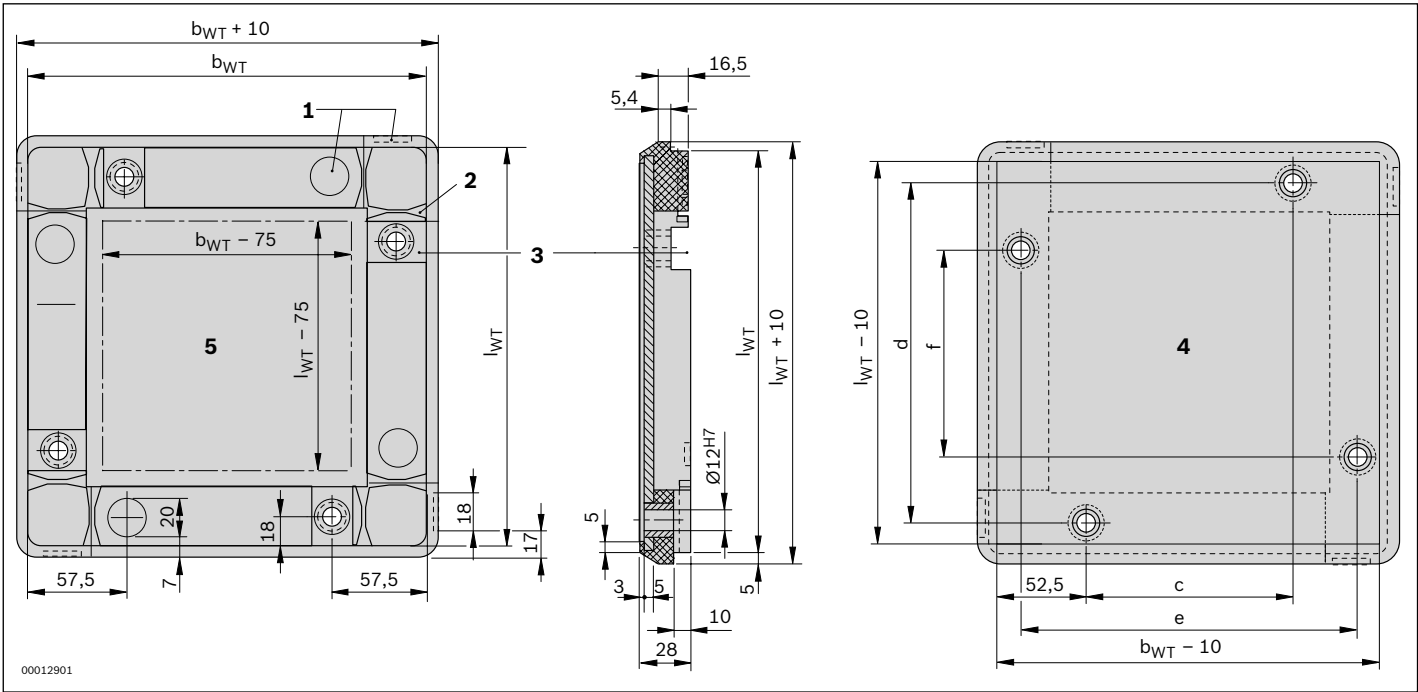


A Corner module
B Extension module

Product designation	b_{WT}, l_{WT} (mm)	Material number
Reinforced frame module, corner module (PA)	400	3842525998
Reinforced frame module, corner module (PA+PE)	400	3842528292

Product designation	l (mm)	Material number
Reinforced frame module, extension module (PA)	320	3842525999
Reinforced frame module, extension module (PA+PE)	320	3842528293

Dimensions



- 1 exciter plate
- 2 guide groove
- 3 stop gate aperture
- 4 top clearance
- 5 bottom clearance

Width of work- piece pallet b_{WT} (mm)	Length of work- piece pallet l_{WT} (mm)	Plate mass $m_{PI}^{1)}$ (kg)	Plate mass $m_{PI}^{2)}$ (kg)	Plate mass $m_{PI}^{3)}$ (kg)	Dimension c (mm)	Dimension d (mm)	Dimension e (mm)	Dimension f (mm)
160	160	0.9			45	124	124	45
160	240	1.3			45	204	124	125
160	320	1.8			45	284	124	205
240	240	2.0			125	204	204	125
240	320	2.7			125	284	204	205
240	400	3.4	1.9		125	364	204	285
320	320	3.6	2.0		205	284	284	205
320	400	4.6	2.6		205	364	284	285
320	480	5.5	3.1	5.0	205	444	284	365
400	400	5.9	3.3	5.2	285	364	364	285
400	480	6.1	3.9	6.0	285	444	364	365
400	640	9.3	5.2	6.5	285	604	364	525
400	800			10.4	285	764	364	685
480	480	8.3	4.6	6.5	365	444	444	365
480	640	11.4	6.3	7.0	365	604	444	525
480	800			12.5	365	764	444	685
640	640	15.3	8.4	7.5	525	604	604	525
640	800			16.7	525	764	604	685
640	1040			22.8	525	1004	604	925
800	800			21.0	685	764	764	685
800	1040			27.3	685	1004	764	925
800	1200			36.0	685	1164	764	1085
1040	1040			40.6	925	1004	1004	925
1040	1200			46.9	925	1164	1004	1085
1200	1200			54.1	1085	1164	1164	1085

¹⁾ Steel 4.8 mm

²⁾ Aluminum 8.0 mm

³⁾ Aluminum 12.7 mm

WT 2: Components

WT 2: Frame modules with PA-wear pad – parts list

For $m_G \leq 50$ kg or $v_N \leq 12$ m/min workpiece pallets

						
b_{WT}	l_{WT}	3842174301	3842174302	3842174303	3842174304	3842513458
(mm)	(mm)					
160	160	4				
160	240	2	2			
160	320	2		2		
240	240		4			
240	320		2	2		
240	400		2		2	
320	320			4		
320	400			2	2	
320	480	2		2		2
400	400				4	
400	480	2			2	2
400	640			2	2	2
400	800	2			2	4
480	480	4				4
480	640	2		2		4
480	800	4				6
640	640			4		4
640	800	2		2		6
640	1040			2	2	6
800	800	4				8
800	1040	2			2	8
800	1200	2	2			10
1040	1040				4	8
1040	1200		2		2	10
1200	1200		4			12

^{*)} Reinforced module

1) With the 160 mm frame module with PE wear pad (3842526760), no exciter plate is included for inquiry with inductive sensors from below. Only lateral position inquiry is possible with this design.

For $m_G > 50$ kg and $v_N > 12$ m/min workpiece pallets

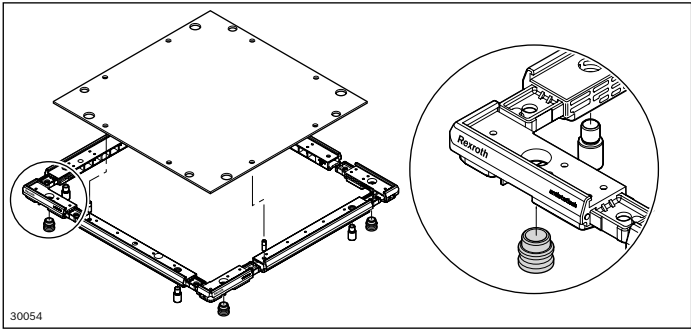
[illegible]

For $m_G \leq 50$ kg or $v_N \leq 12$ m/min workpiece pallets

¹⁾ With the 160 mm frame module with PE wear pad (3842526760), no exciter plate is included for inquiry with inductive sensors from below. Only lateral position inquiry is possible with this design.

R999000396 (2015-10), **Bosch Rexroth AG**

Positioning bushing



- For pick-up of the workpiece pallet in positioning units
- Used to mount frame modules and carrying plates
- Positioning bushings increase the empty weight of the workpiece pallet
- Material: steel, hardened
- Can be combined with frame modules of the WT 2 workpiece pallet

Accessories

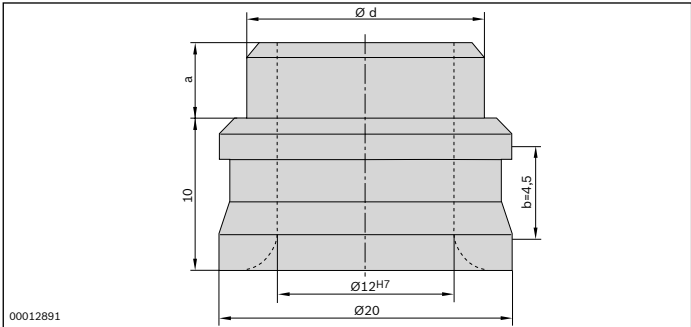
Required mounting accessories

- Press-fit mandrel, see p. 2-23

Ordering information

Product designation	Delivery unit	Material number
D20 x 14.8 positioning bushing	1	3842174341
D20 x 18 positioning bushing	1	3842524614
D20 x 22.7 positioning bushing	1	3842524615

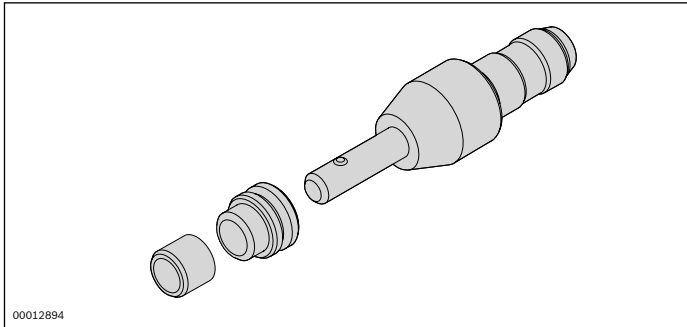
Dimensions



Dimension must to correspond to the WT plate thickness.
Note: The dimension 12H7 refers to the state before press-fitting. After press-fitting with the mandrel the dimension 12H7 is guaranteed to be in the “b” range.

Material number	Dimension a	Lower dimension for a A _u	Dimension d	Upper dimension for d A _o	Lower dimension for d A _u
	(mm)	(mm)	(mm)	(mm)	(mm)
3842174341	4.8	-0.1	16	+0.034	+0.024
3842524614	8	-0.1	16	+0.05	+0.04
3842524615	12.7	-0.1	16	+0.05	+0.04

Press-fit mandrel



- Material: steel, hardened
- Can be combined with positioning bushings of the WT 2 workpiece pallet

The press-fit mandrel is used when mounting the workpiece carrier for pressing the positioning bushings into the carrying plate.

Accessories

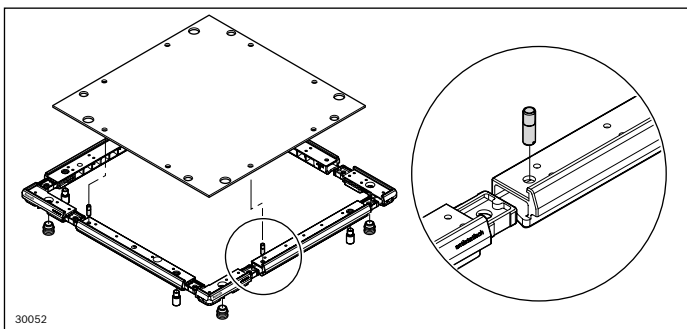
Required accessories

- Positioning bushing, see p. 2-22

Ordering information

Product designation	Material number
Press-fit mandrel	3842525846

Dowel pin



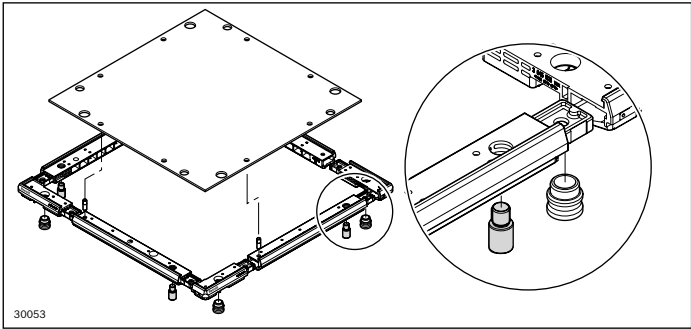
- Connects the carrying plate and the extension module with 2 dowel pins each.
- Material: Steel
- Can be combined with frame modules of the WT 2 workpiece pallet

The dowel pin is used to connect the carrying plate and the extension module.

Ordering information

Product designation	Packaging unit	Material number
Dowel pin	100	3842532812

Bolts



- For absorbing the stop forces on the stop gate
- Material: Steel, galvanized
- Can be combined with reinforced frame modules of the WT 2 workpiece pallet

All WT plates from $b_{WT} \times l_{WT} = 400 \times 400$ mm are equipped with four threaded bores for reinforcement bolts as

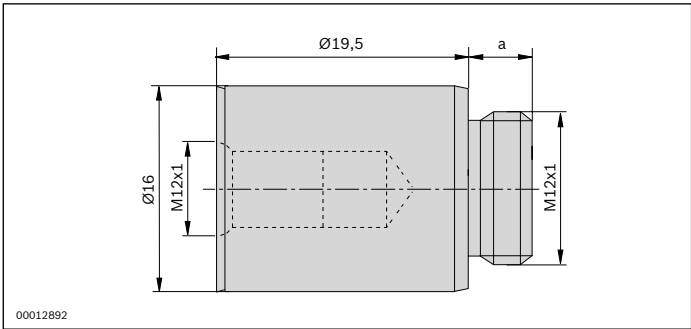
standard. An exception is the 480 x 320 mm WT plate, which is executed with only two threaded bores.

Ordering information

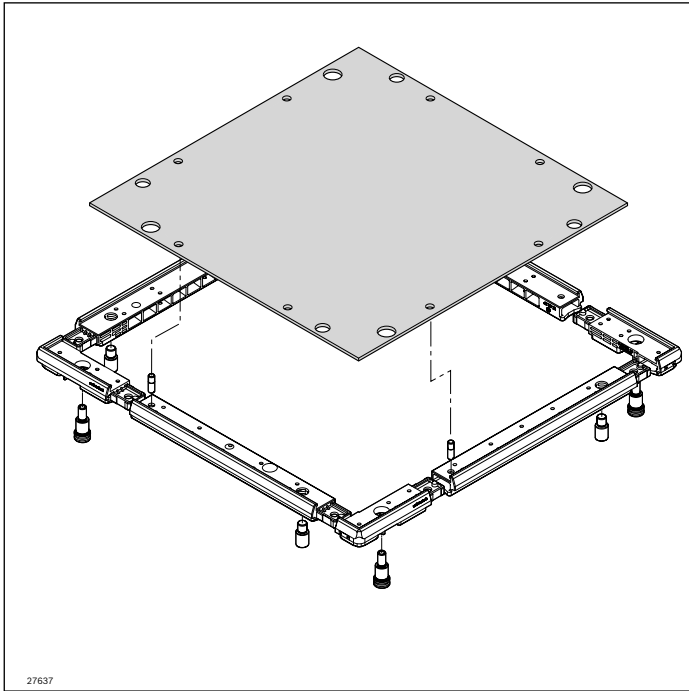
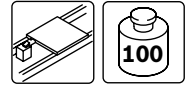
Product designation	Dimension a* (mm)	Lower dimension for a A _U (mm)	Delivery unit	Material number
Bolt, D16 a = 4.8	4.8	-0.2	1	3842525803
Bolt, D16 a = 8	8	-0.2	1	3842525804
Bolt, D16 a = 12.7	12.7	-0.2	1	3842525805

* The dimension must correspond to the plate thickness.

Dimensions



Carrying plate



- ▶ For self-assembly of workpiece pallets for product pick-up
- ▶ Completely drilled and ready for assembly
- ▶ 15 standard sizes in steel, 4.8 mm thick, with KTL (cataphoretic primer) coating
- ▶ 10 standard sizes in aluminum, 8 mm thick
- ▶ 13 standard sizes in aluminum, 12.7 mm thick
- ▶ You will find drilling plans for identification and data storage systems in the RFID systems catalog
- ▶ Can be combined with frame modules of the WT 2 workpiece pallet

Carrying plates are used for self-assembly of WT 2 workpiece pallets using frame modules and mounting elements.

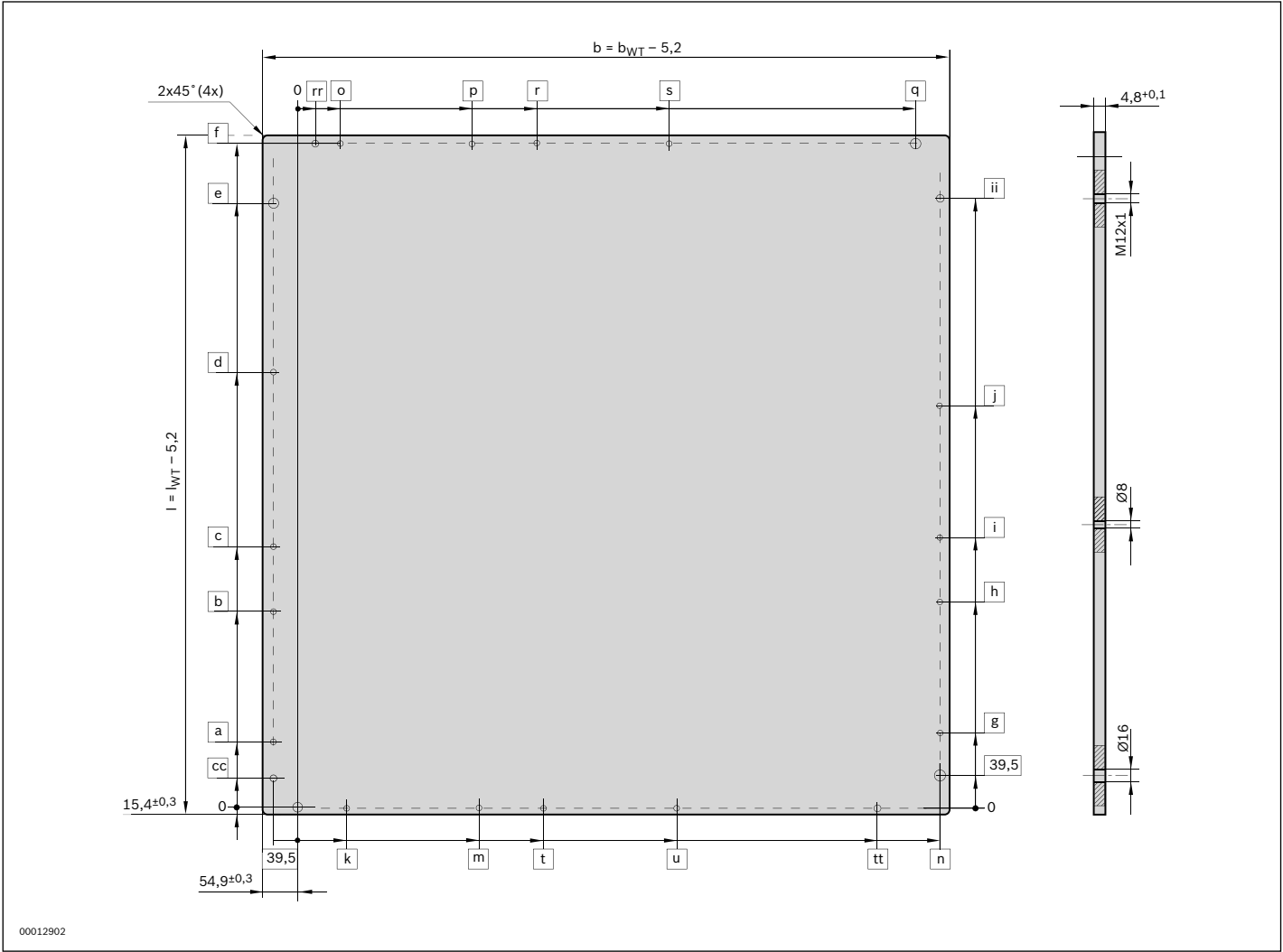
Ordering information

Width of work-piece pallet b_{WT} (mm)	Length of work-piece pallet l_{WT} (mm)	Plate thick-ness d_{PI} (mm)	Flat-ness  (mm)	Plate mass m_{PI} (kg)	Material num-ber Steel	Plate thick-ness d_{PI} (mm)	Flat-ness  (mm)	Plate mass m_{PI} (kg)	Material number Aluminum	Plate thick-ness d_{PI} (mm)	Flat-ness  (mm)	Plate mass m_{PI} (kg)	Material number Aluminum
160	160	4.8	0.3	0.9	3842174311								
160	240	4.8	0.3	1.3	3842174313								
160	320	4.8	0.3	1.8	3842174315								
240	240	4.8	0.3	2.0	3842174321								
240	320	4.8	0.5	2.7	3842174323								
240	400	4.8	0.5	3.4	3842174325	8.0	0.5	1.9	3842524594				
320	320	4.8	0.5	3.6	3842174331	8.0	0.5	2.0	3842524595				
320	400	4.8	0.6	4.6	3842174333	8.0	0.6	2.6	3842524596				
320	480	4.8	0.6	5.5	3842174334	8.0	0.6	3.1	3842524597¹⁾	12.7	0.6	5.0	3842538346¹⁾
400	400	4.8	0.6	5.9	3842174375²⁾	8.0	0.6	3.3	3842524598²⁾	12.7	0.6	5.2	3842538307²⁾
400	480	4.8	0.6	6.1	3842174376²⁾	8.0	0.6	3.9	3842524599²⁾	12.7	0.6	6.0	3842538308²⁾
400	640	4.8	0.8	9.3	3842174378²⁾	8.0	0.8	5.2	3842524600²⁾	12.7	0.8	6.5	3842538310²⁾
400	800									12.7	1.0	10.4	3842524601²⁾
480	480	4.8	0.8	8.3	3842174381²⁾	8.0	0.8	4.6	3842524602²⁾	12.7	0.8	6.5	3842538309²⁾
480	640	4.8	1.0	11.4	3842174383²⁾	8.0	1.0	6.3	3842524603²⁾	12.7	1.0	7.0	3842538311²⁾
480	800									12.7	1.0	12.5	3842524604²⁾
640	640	4.8	1.0	15.3	3842523381²⁾	8.0	1.0	8.4	3842524605²⁾	12.7	1.0	7.5	3842538312²⁾
640	800									12.7	1.0	16.7	3842524606²⁾
640	1040									12.7	1.2	22.8	3842524607²⁾
800	800									12.7	1.0	21.0	3842524608²⁾
800	1040									12.7	1.2	27.3	3842524609²⁾
800	1200									12.7	1.2	36.0	3842548684²⁾
1040	1040									12.7	1.2	40.6	3842548685²⁾
1040	1200									12.7	1.2	46.9	3842548686²⁾
1200	1200									12.7	1.2	54.1	3842548687²⁾

¹⁾ with two threaded bores for reinforcing bolts

²⁾ with four threaded bores for reinforcing bolts

Dimensions
Steel carrying plate (4.8 mm)

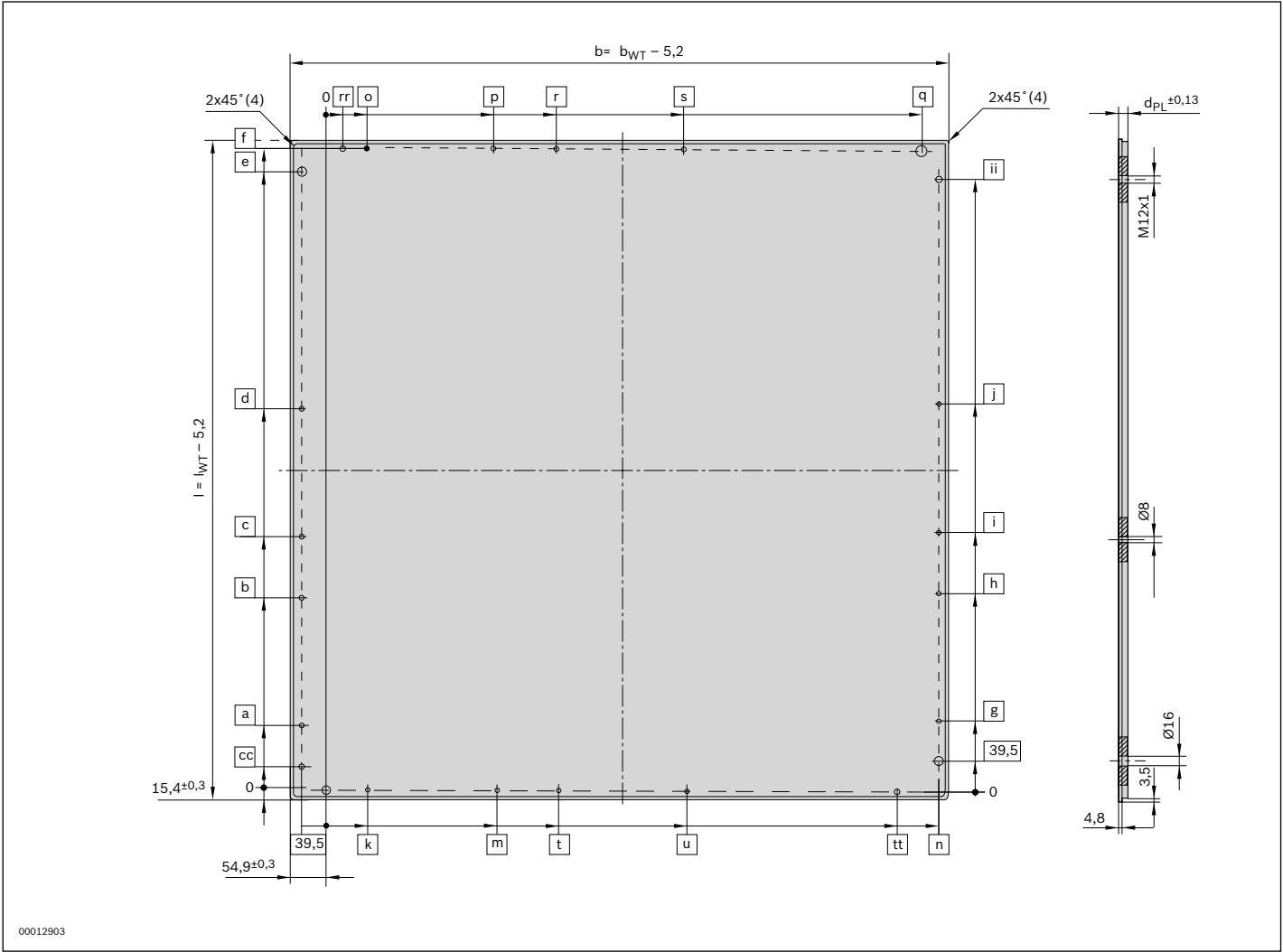


No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Flat- ness  (mm)	a	b	c	cc	d	e	f	g	h	i	ii	j	k
160	160	0.3						84.5	124						
160	240	0.3						164.5	204						
160	320	0.3						244.5	284						
240	240	0.3						164.5	204						
240	320	0.5						244.5	284						
240	400	0.5						324.5	364						
320	320	0.5						244.5	284						
320	400	0.6						324.5	364						
320	480	0.6	108.5	323.5				404.5	444	120.5	335.5				
400	400	0.6				59.5		324.5	364				304.5		
400	480	0.6	108.5	323.5		59.5		404.5	444	120.5	335.5		384.5		
400	640	0.8	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		
480	480	0.8	108.5	323.5		59.5		404.5	444	120.5	335.5		384.5		81
480	640	1.0	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		81
640	640	1.0	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		241

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	m	n	o	p	q	r	rr	s	t	tt	u	Material number
160	160		84.5			45							3842174311
160	240		84.5			45							3842174313
160	320		84.5			45							3842174315
240	240		164.5			125							3842174321
240	320		164.5			125							3842174323
240	400		164.5			125							3842174325
320	320		244.5			205							3842174331
320	400		244.5			205							3842174333
320	480		244.5			205							3842174334
400	400		324.5			285		20			265		3842174375
400	480		324.5			285		20			265		3842174376
400	640		324.5			285		20			265		3842174378
480	480	296	404.5	69	284	365		20			345		3842174381
480	640	296	404.5	69	284	365		20			345		3842174383
640	640	456	564.5	69	284	525		20			505		3842523381

Dimensions
Aluminum carrying plate (8 mm)

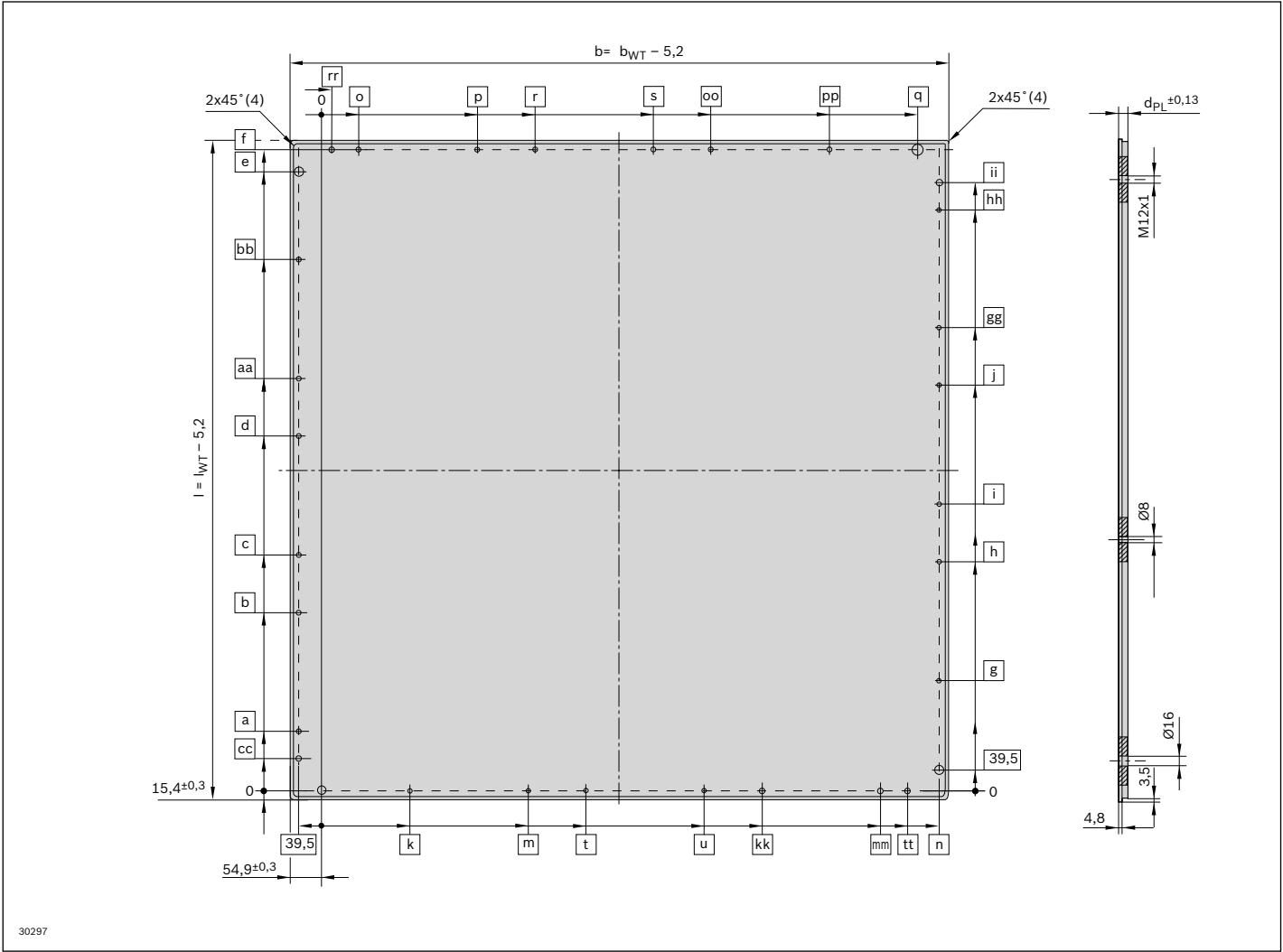


No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Flat- ness  (mm)	a	b	c	cc	d	e	f	g	h	i	ii	j	k
240	400	0.5						324.5	364						
320	320	0.5						244.5	284						
320	400	0.6						324.5	364						
320	480	0.6	108.5	323.5		59.5		404.5	444	120.5	335.5		384.5		
400	400	0.6				59.5		324.5	364				304.5		
400	480	0.6	108.5	323.5		59.5		404.5	444	120.5	335.5		384.5		
400	640	0.8	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		
480	480	0.8	108.5	323.5		59.5		404.5	444	120.5	335.5		384.5		81
480	640	1.0	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		81
640	640	1.0	108.5	323.5		59.5		564.5	604	280.5	495.5		544.5		241

b_{WT} (mm)	l_{WT} (mm)	m	n	o	p	q	r	rr	s	t	tt	u	d_{PI}	Material number
240	400		164.5			125							8.0	3842524594
320	320		244.5			205							8.0	3842524595
320	400		244.5			205							8.0	3842524596
320	480		244.5			205							8.0	3842524597
400	400		324.5			285		20			265		8.0	3842524598
400	480		324.5			285		20			265		8.0	3842524599
400	640		324.5			285		20			265		8.0	3842524600
480	480	296	404.5	69	284	365		20			345		8.0	3842524602
480	640	296	404.5	69	284	365		20			345		8.0	3842524603
640	640	296	404.5	69	284	525		20			505		8.0	3842524605

Dimensions
Aluminum carrying plate (12.7 mm)



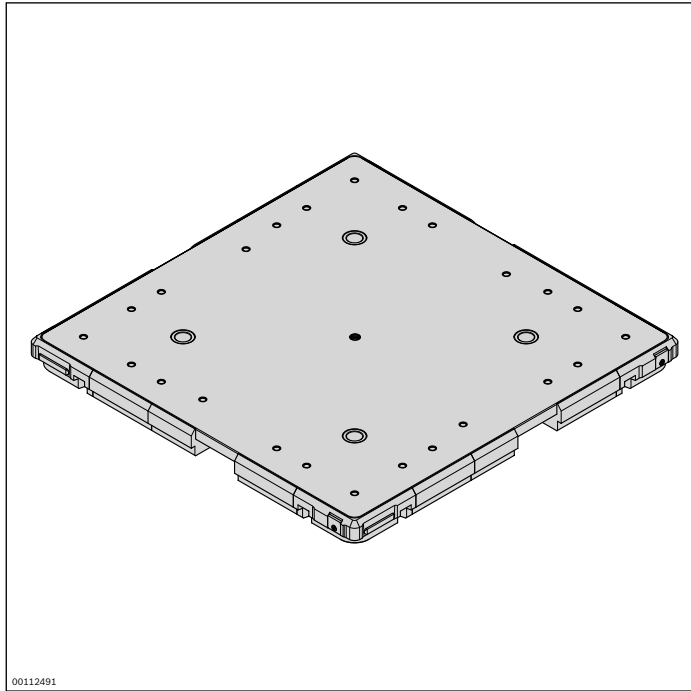
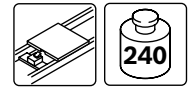
No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Flatness  (mm)	a	b	c	cc	d	aa	bb	e	f	g	h
320	480	0.6	108.5	323.5		59.5				404.5	444	120.5	335.5
400	400	0.6				59.5				324.5	364		
400	480	0.6	108.5	323.5		59.5				404.5	444	120.5	335.5
400	640	0.8	108.5	323.5		59.5				564.5	604	280.5	495.5
400	800	1.0	108.5	323.5	428.5	59.5	643.5			724.5	764	120.5	335.5
480	480	0.8	108.5	323.5		59.5				404.5	444	120.5	335.5
480	640	1.0	108.5	323.5		59.5				564.5	604	280.5	495.5
480	800	1.0	108.5	323.5	428.5	59.5	643.5			724.5	764	120.5	335.5
640	640	1.0	108.5	323.5		59.5				564.5	604	280.5	495.5
640	800	1.0	108.5	323.5	428.5	59.5	643.5			724.5	764	120.5	335.5
640	1040	1.2	108.5	323.5	428.5	59.5	643.5			964.5	1004	360.5	575.5
800	800	1.0	108.5	323.5	428.5	59.5	643.5			724.5	764	120.5	335.5
800	1040	1.2	108.5	323.5	428.5	59.5	643.5			964.5	1004	360.5	575.5
800	1200	1.2	108.5	323.5	428.5	59.5	643.5	748.5	963.5	1124.5	1164	200.5	415.5
1040	1040	1.2	108.5	323.5	428.5	59.5	643.5			964.5	1004	360.5	575.5
1040	1200	1.2	108.5	323.5	428.5	59.5	643.5	748.5	963.5	1124.5	1164	200.5	415.5
1200	1200	1.2	108.5	323.5	428.5	59.5	643.5	748.5	963.5	1124.5	1164	200.5	415.5

b_{WT} (mm)	l_{WT} (mm)	i	ii	j	k	gg	hh	m	n	o	p	q	r
320	480		384.5						244.5			205	
400	400		304.5						324.5			285	
400	480		384.5						324.5			285	
400	640		544.5						324.5			285	
400	800	440.5	704.5	655.5					324.5			285	
480	480		384.5		81		296	404.5	69	284	365		
480	640		544.5		81		296	404.5	69	284	365		
480	800	440.5	704.5	655.5	81		296	404.5	69	284	365		
640	640		544.5		241		296	404.5	69	284	525		
640	800	440.5	704.5	655.5	241		456	564.5	69	284	525		
640	1040	680.5	944.5	895.5	241		456	564.5	69	284	525		
800	800	440.5	704.5	655.5	81		296	724.5	69	284	685	389	
800	1040	680.5	944.5	895.5	81		296	724.5	69	284	685	389	
800	1200	520.5	1104.5	735.5	81	840.5	1055.5	296	724.5	69	284	685	389
1040	1040	680.5	944.5	895.5	321			536	964.5	69	284	925	389
1040	1200	520.5	1104.5	735.5	321	840.5	1055.5	536	964.5	69	284	925	389
1200	1200	520.5	1104.5	735.5	161	840.5	1055.5	376	1124.5	69	284	1085	389

b_{WT} (mm)	l_{WT} (mm)	rr	s	t	tt	u	kk	mm	oo	pp	d_{PI}	Material number
320	480										12.7	3842538346
400	400	20			265						12.7	3842538307
400	480	20			265						12.7	3842538308
400	640	20			265						12.7	3842538310
400	800	20			265						12.7	3842524601
480	480	20			345						12.7	3842538309
480	640	20			345						12.7	3842538311
480	800	20			345						12.7	3842524604
640	640	20			505						12.7	3842538312
640	800	20			505						12.7	3842524606
640	1040	20			505						12.7	3842524607
800	800	20	604	401	665	616					12.7	3842524608
800	1040	20	604	401	665	616					12.7	3842524609
800	1200	20	604	401	665	616					12.7	3842548684
1040	1040	20	604	641	905	856					12.7	3842548685
1040	1200	20	604	641	905	856					12.7	3842548686
1200	1200	20	604	481	1065	696	801	1016	709	924	12.7	3842548687

WT 2/H workpiece pallet



Pick-up and transportation of workpieces in the TS 2plus transfer system.

Accessories

Recommended accessories

- ▶ 2x WT 2/H (LE 2) positioning bushing sets, see p. 2-46
Positioning bushings are required if a PE 2/H position unit is used

Delivery note

Scope of delivery

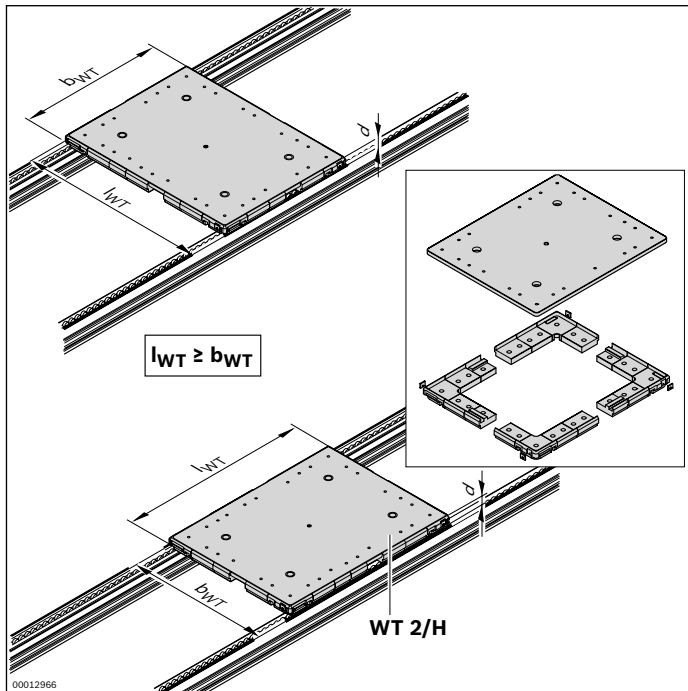
- ▶ Carrying plate
- ▶ Corner module
- ▶ Wear pads
- ▶ Damping elements

- ▶ Workpiece pallet for especially high maximum permitted total weight up to 240 kg (2 kg/cm length) in combination with accumulation roller chain conveyor medium
- ▶ Fully assembled or as a kit for self-assembly
- ▶ PE wear pads for quiet operation and low wear
- ▶ Integrated stop damper, ensures quiet running onto other workpiece pallets
- ▶ 17 standard sizes
- ▶ For workpiece pallet dimensions
 $l_{WT} \times b_{WT} = 400 \times 400 \text{ mm up to } 1200 \times 1200 \text{ mm}$
- ▶ Special dimensions on request
- ▶ Universal aluminum carrying plate with two carrying plate thicknesses:
 $d = 12.70 \text{ mm}$
 $d = 19.05 \text{ mm}$
- ▶ ESD-capable
- ▶ Material:
 - Aluminum carrying plate
 - Corner module and slider with PE (= polyethylene) wear pad

Condition on delivery

- ▶ Assembled (MT = 1)
- ▶ Kit, not assembled (MT = 0)

Ordering information



Material number		3842998751 ¹⁾	3842998755 ²⁾
b _{WT} (mm)	Width of workpiece pallet	400; 480; 640; 800; 1040; 1200	
l _{WT} (mm)	Length of workpiece pallet	400; 480; 640; 800; 1040; 1200	
b _{WT} x l _{WT} (mm x mm)	Combination options	400 x 400; 480; 640; 800 480 x 480; 640; 800 640 x 640; 800; 1040; 1200 800 x 800; 1040; 1200 1040 x 1040; 1200 1200 x 1200	
MT	Assembly kit 0 = not assembled 1 = assembled	0; 1	

¹⁾ Plate thickness 12.7 mm

²⁾ Plate thickness 19.05 mm

Technical data

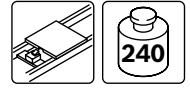
Material number			3842998751	3842998755
Load				
Max. total weight of workpiece pallet	m _G	kg	240	240
Plate thickness	d _{Pl}	mm	12.7	19.05

Width of workpiece pallet	Length of workpiece pallet	Workpiece pallet mass 3842998751 ¹⁾	Flatness 3842998751 ¹⁾	Workpiece pallet mass 3842998755 ²⁾	Flatness 3842998755 ²⁾
b _{WT} (mm)	l _{WT} (mm)	m _{WT} (kg)	□ (mm)	m _{WT} (kg)	□ (mm)
400	400	6.9	0.4	9.6	0.4
400	480	8.2	0.6	11.5	0.6
400	640	10.9	0.8	15.2	0.8
400	800	13.5	1.0	18.9	1.0
480	480	9.8	0.6	13.7	0.6
480	640	12.9	0.8	18.1	0.8
480	800	16.0	1.0	22.5	1.0
640	640	16.8	0.8	23.7	0.8
640	800	20.7	1.0	29.4	1.0
640	1040	26.6	1.2	37.9	1.2
640	1200	30.6	1.2	43.6	1.2
800	800	25.6	1.0	36.5	1.0
800	1040	32.8	1.2	46.9	1.2
800	1200	37.6	1.2	53.9	1.2
1040	1040	41.9	1.2	60.3	1.2
1040	1200	48.1	1.2	69.3	1.2
1200	1200	55.1	1.2	79.6	1.2

¹⁾ Plate thickness 12.7 mm

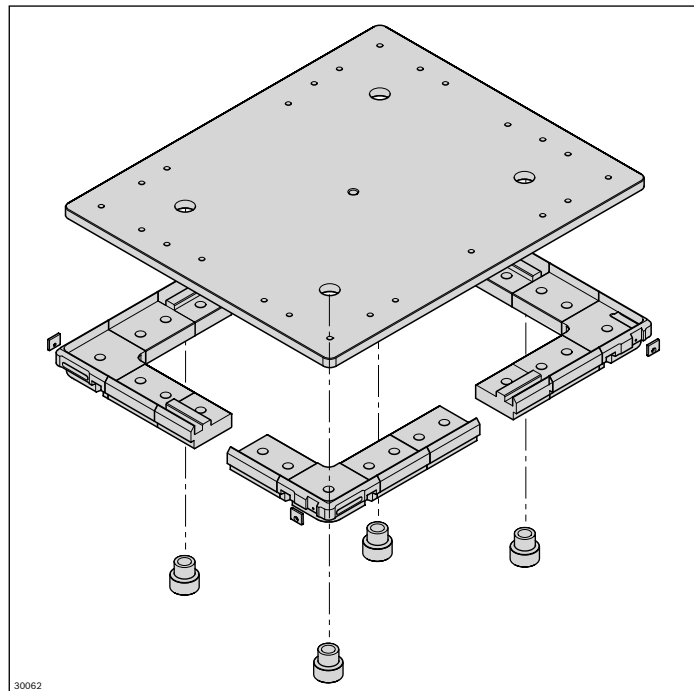
²⁾ Plate thickness 19.05 mm





Components for WT 2/H workpiece pallet

To fulfill special needs, the workpiece pallets can also be individually configured in a design where the carrying plate is assembled by the customer. In addition to frame modules, various carrying plates, positioning bushings, and all the necessary fastening elements are available.



WT 2/H workpiece pallet mounting kit

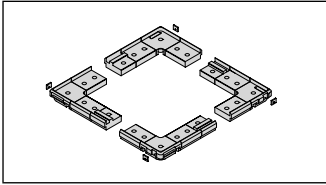
- ▶ Suitable for WT 2/H aluminum carrying plates and high WT bearing loads
- ▶ PE wear pads for quiet operation and low wear
- ▶ Suitable for accumulation roller chains

Carrying plates

- ▶ Aluminum carrying plates with a thickness of 12.70 mm or 19.05 mm are a light and rigid alternative for large workpiece pallets

Positioning bushings

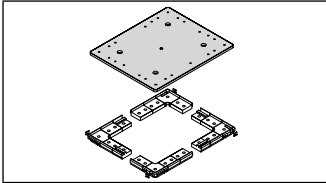
- ▶ For defined pick-up of the workpiece pallet in the positioning units



WT 2/H workpiece pallet mounting kit



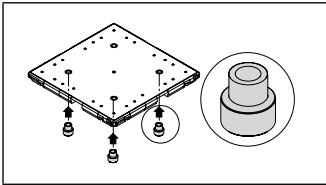
2-40



Carrying plate



2-42

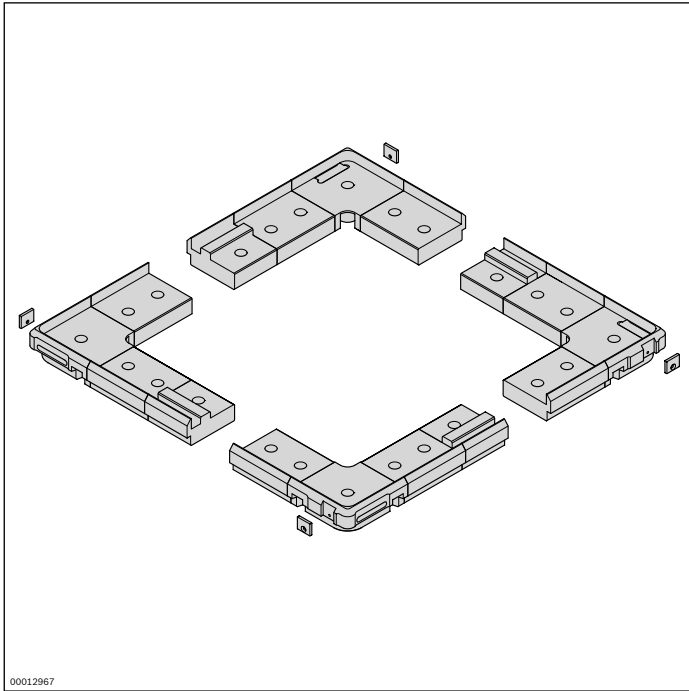
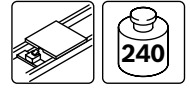


WT 2/H positioning bushing set



2-46

WT 2/H workpiece pallet mounting kit



- ▶ Workpiece pallet mounting kit without carrying plate for self-assembly kit or for adaptation to specific customer requirements
- ▶ PE wear pads for quiet operation and low wear
- ▶ Integrated stop damper, ensures quiet running onto other workpiece pallets
- ▶ 17 standard sizes
- ▶ For workpiece pallet dimensions $b_{WT} \times l_{WT} = 400 \times 400$ up to 1200×1200 mm
- ▶ Special dimensions on request
- ▶ ESD-capable
- ▶ Material: PE (= polyethylene) wear pad

Accessories

Recommended accessories

- ▶ 2x WT 2/H (LE 2) positioning bushing sets, see p. 2-46
Positioning bushings are required if a PE 2/H position unit is used

Delivery note

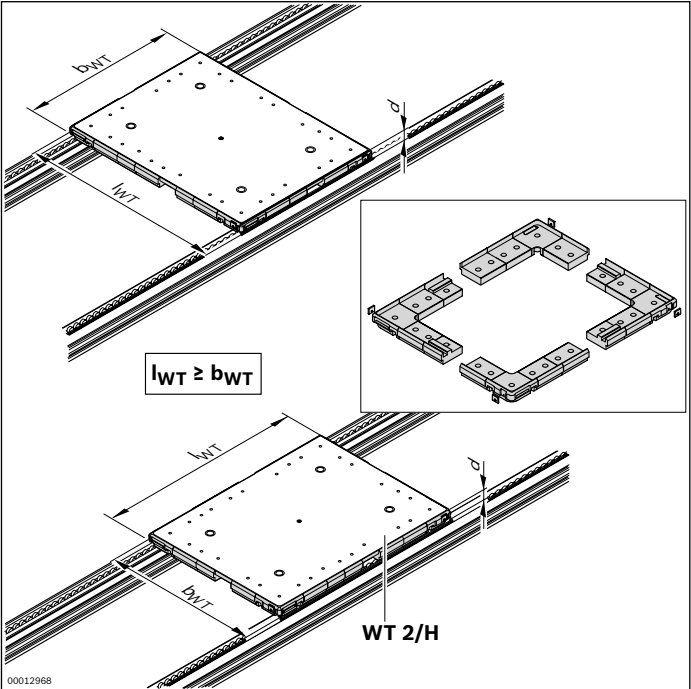
Scope of delivery

- ▶ Corner module
- ▶ Glider with PE wear pads
- ▶ Damping elements

Condition on delivery

- ▶ Parts kit without carrying plate
- ▶ Not assembled

Ordering information



Material number		3842998756
b _{WT} (mm)	Width of workpiece pallet	400; 480; 640; 800; 1040; 1200
l _{WT} (mm)	Length of workpiece pallet	400; 480; 640; 800; 1040; 1200
b _{WT} x l _{WT} (mm x mm)	Combination options	400 x 400; 480; 640; 800 480 x 480; 640; 800 640 x 640; 800; 1040; 1200 800 x 800; 1040; 1200 1040 x 1040; 1200 1200 x 1200

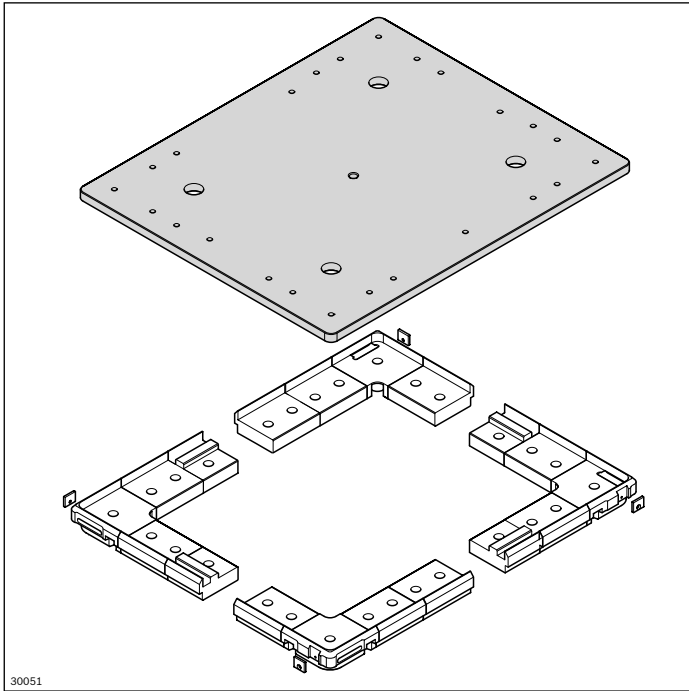
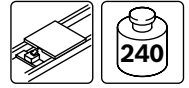
Technical data

Material number		3842998756
Load		
Max. total weight of workpiece pallet	m _G	kg 240

Dimensions

Width of workpiece pallet b _{WT} (mm)	Length of workpiece pallet l _{WT} (mm)	Frame module weight m (kg)
400	400	1.7
400	480	1.9
400	640	2.4
400	800	2.8
480	480	2.2
480	640	2.6
480	800	3.1
640	640	3.0
640	800	3.5
640	1040	4.1
640	1200	4.6
800	800	4.0
800	1040	4.6
800	1200	5.0
1040	1040	5.2
1040	1200	5.7
1200	1200	6.1

Carrying plate

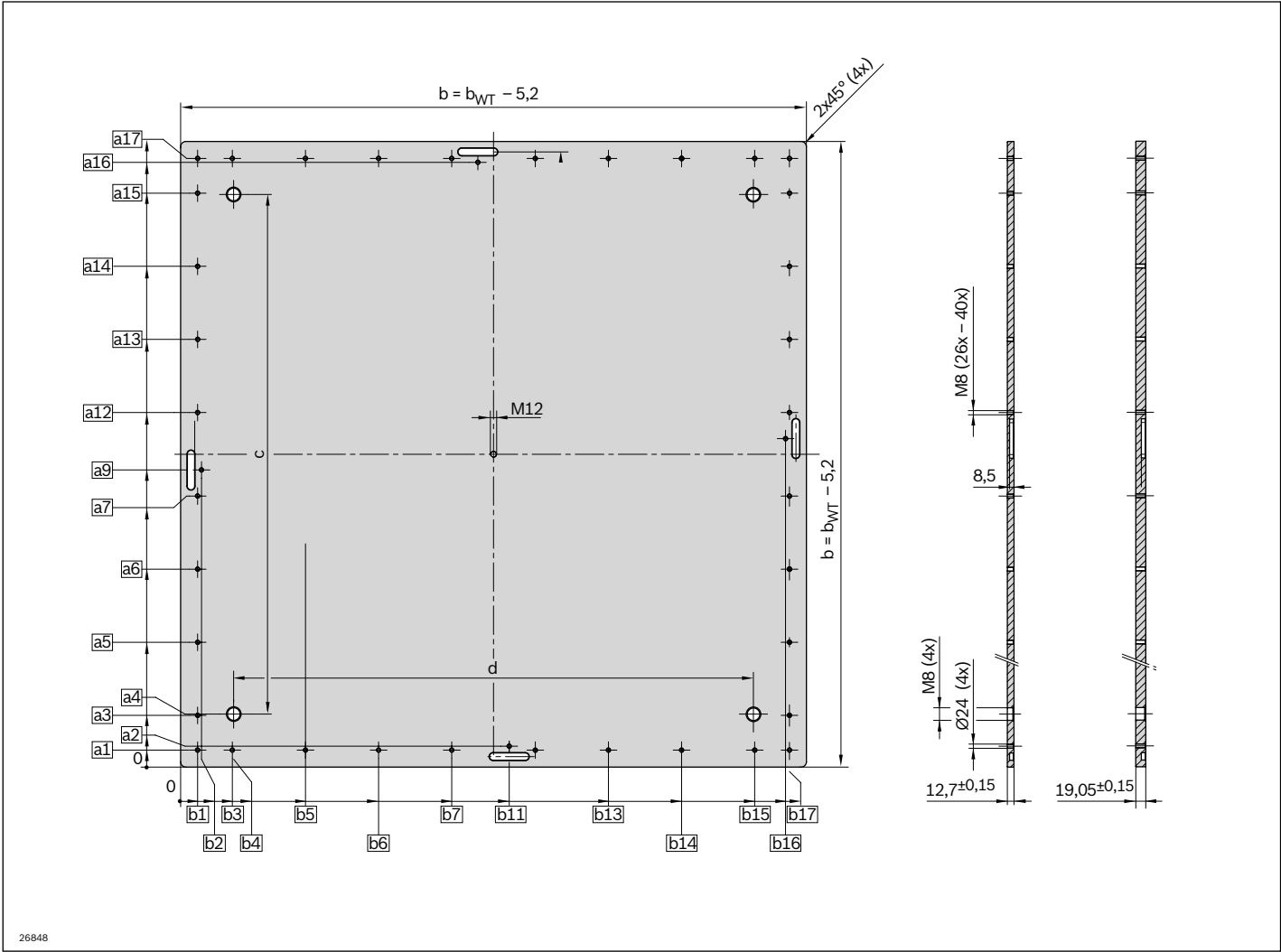


- ▶ Aluminum carrying plates for high loads with large workpiece pallets
- ▶ For workpiece pallet self-assembly for product pick-up or for adaptation to specific customer requirements
- ▶ Completely drilled and ready for assembly
- ▶ 17 standard sizes
- ▶ Universal aluminum carrying plate with two carrying plate thicknesses:
 - d = 12.70 mm
 - d = 19.05 mm
- ▶ Can be combined with WT 2/H workpiece pallet mounting kit

Ordering information

Width of work- piece pallet b_{WT} (mm)	Length of work- piece pallet l_{WT} (mm)	Plate thickness d_{PI} (mm)	Flatness  (mm)	Plate mass m_{PI} (kg)	Material number	Plate thick- ness d_{PI} (mm)	Flatness  (mm)	Plate mass m_{PI} (kg)	Material number
400	400	12.7	0.4	5.2	3842548420				
400	480	12.7	0.6	6.3	3842548421				
400	640	12.7	0.8	8.5	3842548422				
400	800	12.7	1.0	10.7	3842548440				
480	480	12.7	0.6	7.6	3842548688				
480	640	12.7	0.8	10.3	3842548689				
480	800	12.7	1.0	12.9	3842548691				
640	640	12.7	0.8	13.8	3842548690				
640	800	12.7	1.0	17.3	3842548692				
640	1040	12.7	1.2	22.5	3842548694				
640	1200	12.7	1.2	26.0	3842548697				
800	800	12.7	1.0	21.6	3842548693				
800	1040	12.7	1.2	28.2	3842548695				
800	1200	12.7	1.2	32.6	3842548698				
1040	1040	12.7	1.2	36.7	3842548696				
1040	1200	12.7	1.2	42.2	3842548699				
1200	1200	12.7	1.2	49.0	3842548405				
400	400					19.05	0.4	7.9	3842548424
400	480					19.05	0.6	9.5	3842548425
400	640					19.05	0.8	12.0	3842548426
400	800					19.05	1.0	16.1	3842548439
480	480					19.05	0.6	11.5	3842548407
480	640					19.05	0.8	15.4	3842548408
480	800					19.05	1.0	19.4	3842548410
640	640					19.05	0.8	20.7	3842548409
640	800					19.05	1.0	25.9	3842548411
640	1040					19.05	1.2	33.8	3842548413
640	1200					19.05	1.2	39.1	3842548416
800	800					19.05	1.0	32.5	3842548412
800	1040					19.05	1.2	42.3	3842548414
800	1200					19.05	1.2	48.9	3842548417
1040	1040					19.05	1.2	55.2	3842548415
1040	1200					19.05	1.2	63.7	3842548418
1200	1200					19.05	1.2	73.5	3842548419

Dimensions
Aluminum carrying plate

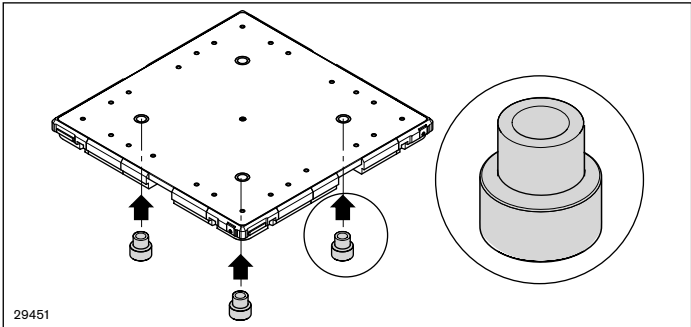


No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Di- men- sion a1 (mm)	Di- men- sion a2 (mm)	Di- men- sion a3 (mm)	Di- men- sion a4 (mm)	Di- men- sion a5 (mm)	Di- men- sion a6 (mm)	Di- men- sion a7 (mm)	Di- men- sion a9 (mm)	Di- men- sion a12 (mm)	Di- men- sion a13 (mm)	Di- men- sion a14 (mm)	Dimen- sion a15 (mm)	Dimen- sion a16 (mm)	Dimen- sion a17 (mm)	Di- men- sion c (mm)
400	400	32.5	40.0	109.0	101.5				169.0				289.0	358.0	365.5	195.0
400	480	32.5	40.0	99.0	101.5			159.0	209.0	319.0			379.0	438.0	445.5	295.0
400	640	32.5	40.0	99.0	101.5			239.0	289.0	399.0			539.0	598.0	605.5	435.0
400	800	32.5	40.0	99.0	101.5	209.0		319.0	369.0	479.0	589.0		699.0	758.0	765.5	595.0
480	480	32.5	40.0	99.0	101.5			159.0	209.0	319.0			379.0	438.0	445.5	275.0
480	640	32.5	40.0	99.0	101.5			239.0	289.0	399.0			539.0	598.0	605.5	435.0
480	800	32.5	40.0	99.0	101.5	209.0		319.0	369.0	479.0	589.0		699.0	758.0	765.5	595.0
640	640	32.5	40.0	99.0	101.5			239.0	289.0	399.0			539.0	598.0	605.5	435.0
640	800	32.5	40.0	99.0	101.5	209.0		319.0	369.0	479.0	589.0		699.0	758.0	765.5	595.0
640	1040	32.5	40.0	99.0	101.5	269.0		439.0	489.0	599.0	769.0		939.0	998.0	1005.5	835.0
640	1200	32.5	40.0	99.0	101.5	239.0	379.0	519.0	569.0	679.0	819.0	959.0	1099.0	1158.0	1165.5	995.0
800	800	32.5	40.0	99.0	101.5	209.0		319.0	369.0	479.0	589.0		699.0	758.0	765.5	595.0
800	1040	32.5	40.0	99.0	101.5	269.0		439.0	489.0	599.0	769.0		939.0	998.0	1005.5	835.0
800	1200	32.5	40.0	99.0	101.5	239.0	379.0	519.0	569.0	679.0	819.0	859.0	1099.0	1158.0	1165.5	995.0
1040	1040	32.5	40.0	99.0	101.5	269.0		439.0	489.0	599.0	769.0		939.0	998.0	1005.5	835.0
1040	1200	32.5	40.0	99.0	101.5	239.0	379.0	519.0	569.0	679.0	819.0	859.0	1099.0	1158.0	1165.5	995.0
1200	1200	32.5	40.0	99.0	101.5	239.0	379.0	519.0	569.0	679.0	819.0	859.0	1099.0	1158.0	1165.5	995.0

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Di- men- sion b1 (mm)	Di- men- sion b2 (mm)	Di- men- sion b3 (mm)	Di- men- sion b4 (mm)	Di- men- sion b5 (mm)	Di- men- sion b6 (mm)	Di- men- sion b7 (mm)	Di- men- sion b11 (mm)	Di- men- sion b13 (mm)	Di- men- sion b14 (mm)	Di- men- sion b15 (mm)	Di- men- sion b16 (mm)	Di- men- sion b17 (mm)	Di- men- sion d (mm)
400	400	32.5	40.0	109.0	101.5				229.0			289.0	358.0	365.5	195.0
400	480	32.5	40.0	109.0	101.5				229.0			289.0	358.0	365.5	195.0
400	640	32.5	40.0	109.0	101.5				229.0			289.0	358.0	365.5	195.0
400	800	32.5	40.0	109.0	101.5				229.0			289.0	358.0	365.5	195.0
480	480	32.5	40.0	99.0	101.5			159.0	269.0			379.0	438.0	445.5	275.0
480	640	32.5	40.0	99.0	101.5			159.0	269.0			379.0	438.0	445.5	275.0
480	800	32.5	40.0	99.0	101.5			159.0	269.0			379.0	438.0	445.5	275.0
640	640	32.5	40.0	99.0	101.5			239.0	349.0			539.0	598.0	605.5	435.0
640	800	32.5	40.0	99.0	101.5			239.0	349.0			539.0	598.0	605.5	435.0
640	1040	32.5	40.0	99.0	101.5			239.0	349.0			539.0	598.0	605.5	435.0
640	1200	32.5	40.0	99.0	101.5			239.0	349.0			539.0	598.0	605.5	435.0
800	800	32.5	40.0	99.0	101.5	209.0		319.0	429.0	589.0		699.0	758.0	765.5	595.0
800	1040	32.5	40.0	99.0	101.5	209.0		319.0	429.0	589.0		699.0	758.0	765.5	595.0
800	1200	32.5	40.0	99.0	101.5	209.0		319.0	429.0	589.0		699.0	758.0	765.5	595.0
1040	1040	32.5	40.0	99.0	101.5	269.0		439.0	549.0	769.0		939.0	998.0	1005.5	835.0
1040	1200	32.5	40.0	99.0	101.5	269.0		439.0	549.0	769.0		939.0	998.0	1005.5	835.0
1200	1200	32.5	40.0	99.0	101.5	239.0	379.0	519.0	629.0	819.0	959.0	1099.0	1158.0	1165.5	995.0

WT 2/H positioning bushing



- For defined pick-up of the workpiece pallet in positioning units
- Material: Steel
- Can be combined with WT 2/H workpiece pallet carrying plates

Accessories

Required accessories

- Positioning bushings are required if a PE 2/H position unit is used

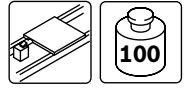
Ordering information

Product designation	Delivery unit	Material number
WT 2/H positioning bushing set	2	3842531354

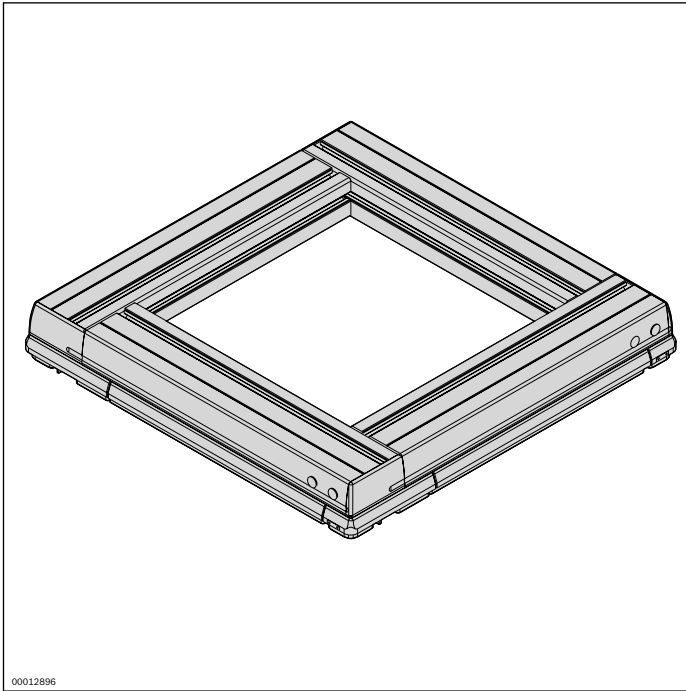
Technical data

Material number		3842531354
Features		
Mass	kg	0.6

WT 2/F workpiece pallet



2



- ▶ Frame workpiece pallet, fully assembled or as a kit for self-assembly
- ▶ Low weight and high stability thanks to aluminum frame construction
- ▶ Especially suitable for low-cost transportation of large products
- ▶ Continuous standard grooves to easily fasten cross struts and workpiece supports
- ▶ Integrated positioning bushings
- ▶ Various wear pads for use on all conveyor media
- ▶ PA wear pads (LS = 0) for use on belts, toothed belts, or flat top chains
- ▶ PE wear pads (LS = 1) for use on accumulation roller chains

Delivery note

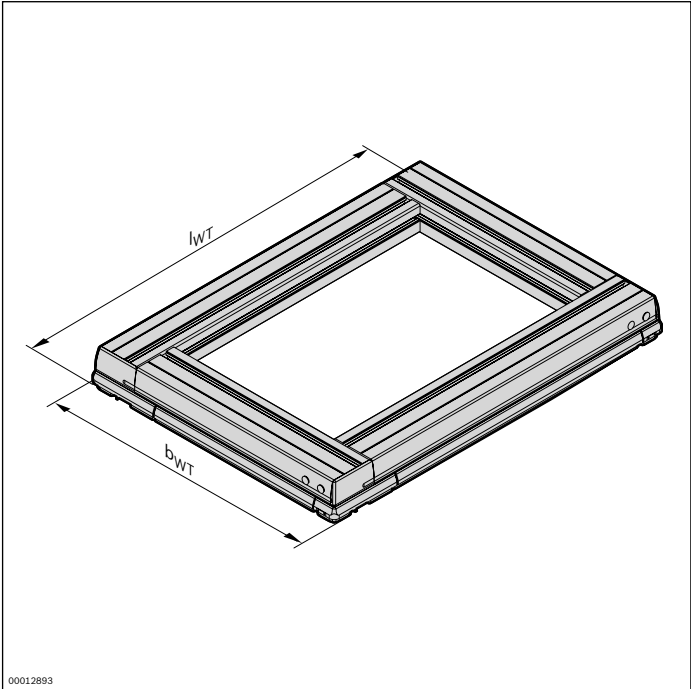
Scope of delivery

- ▶ Frame modules
- ▶ Connection elements
- ▶ Positioning bushings

Condition on delivery

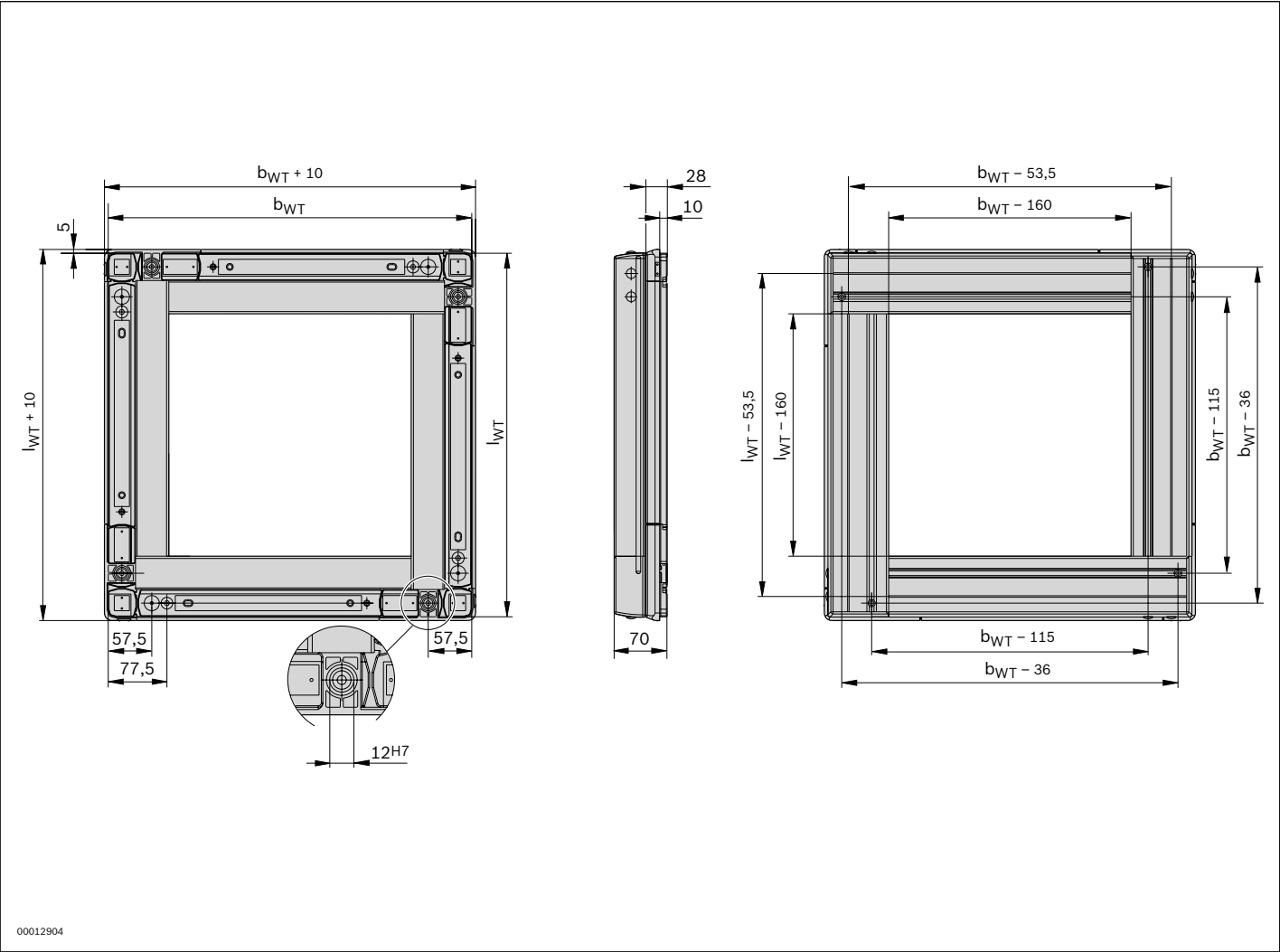
- ▶ Assembled (MT = 1)
- ▶ Kit, not assembled (MT = 0)

Ordering information



Material number		3842999941
b _{WT} (mm)	Width of workpiece pallet	400; 480; 640; 800
l _{WT} (mm)	Length of workpiece pallet	400; 480; 640; 800; 1040
b _{WT} x l _{WT} (mm x mm)	Combination options	400 x 400; 480; 640; 800 480 x 480; 640; 800; 640 x 640; 800; 1040; 1200 800 x 800; 1040; 1200 1040 x 1040; 1200 1200 x 1200
MT	Assembly kit 0 = not assembled 1 = assembled	0; 1
LS	Wear pad 0 = PA 1 = PE	0; 1

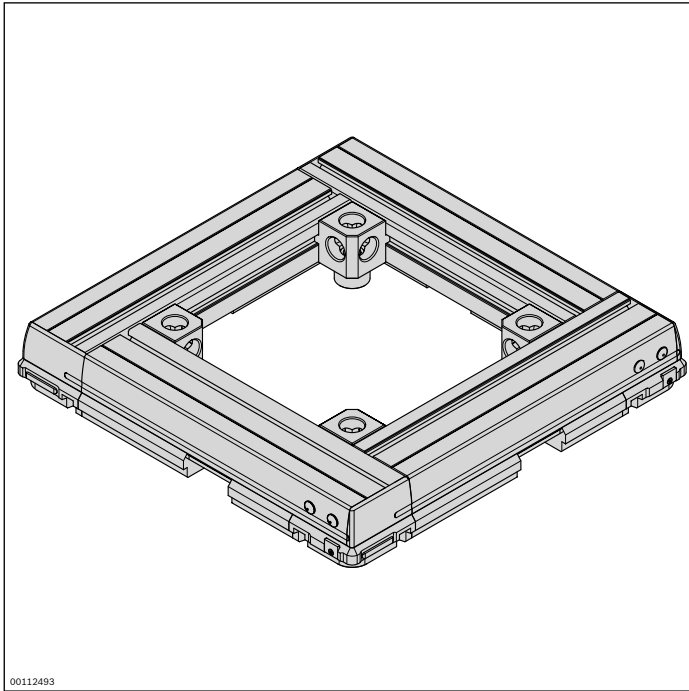
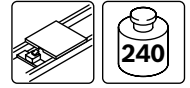
Dimensions



No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Workpiece pallet mass m_{WT} (kg)
400	400	6.6
400	480	7.1
400	640	8.9
400	800	10.8
480	480	7.7
480	640	9.4
480	800	12.5
640	640	11.2
640	800	12.5
640	1040	15.0
800	800	13.9
800	1040	16.0

WT 2/F-H workpiece pallet



- ▶ Frame workpiece pallet for especially high maximum permitted total weight up to 240 kg (2 kg/cm length) in combination with accumulation roller chain conveyor medium
- ▶ Fully assembled or unassembled as a kit
- ▶ Low weights and high stability thanks to aluminum frame construction
- ▶ Standard grooves to easily fasten cross struts and workpiece supports
- ▶ PE wear pads for quiet operation and low wear
- ▶ Integrated stop damper, ensures quiet running onto other workpiece pallets
- ▶ For workpiece pallet dimensions $b_{WT} \times l_{WT} = 400 \times 400$ up to 1200×1200 mm
- ▶ Special dimensions on request
- ▶ ESD-capable
- ▶ Material:
Frame module with PE (= polyethylene) wear pad

Pick-up and transportation of workpieces in the TS 2plus transfer system.

Accessories

Recommended accessories

- ▶ 2x WT 2/F-H (LE 2) positioning bushing sets, see p. 2-53

Delivery note

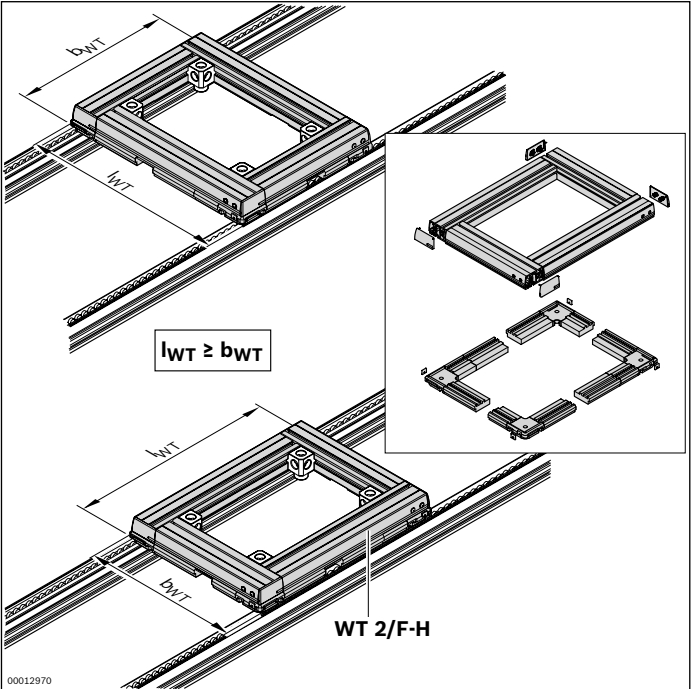
Scope of delivery

- ▶ Corner module
- ▶ Wear pads
- ▶ Damping elements
- ▶ Frame modules
- ▶ Caps

Condition on delivery

- ▶ Assembled (MT = 1)
- ▶ Kit, not assembled (MT = 0)

Ordering information

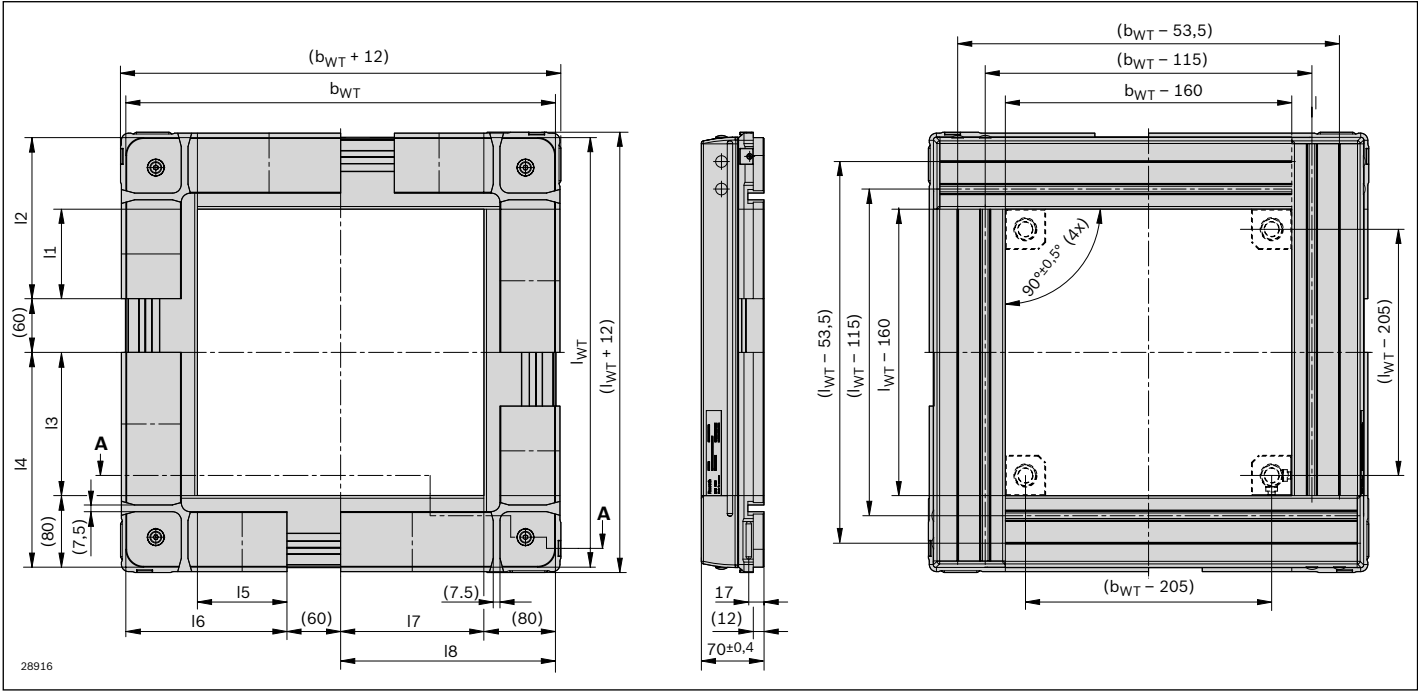


Material number		3842998757
b _{WT} (mm)	Width of workpiece pallet	400; 480; 640; 800; 1040; 1200
l _{WT} (mm)	Length of workpiece pallet	400; 480; 640; 800; 1040; 1200
b _{WT} x l _{WT} (mm x mm)	Combination options	400 x 400; 480; 640; 800 480 x 480; 640; 800 640 x 640; 800; 1040; 1200 800 x 800; 1040; 1200 1040 x 1040; 1200 1200 x 1200
MT	Assembly kit 0 = not assembled 1 = assembled	0; 1

Technical data

Material number			3842998757
Load			
Max. total weight of workpiece pallet	m _G	kg	240

Dimensions



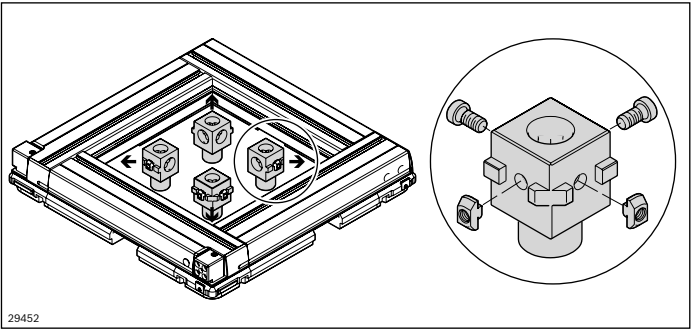
No production drawing

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Workpiece pallet mass m_{WT} (kg)	Dimen- sion l_1 (mm)	Dimen- sion l_2 (mm)	Dimen- sion l_3 (mm)	Dimen- sion l_4 (mm)	Dimen- sion l_5 (mm)	Dimen- sion l_6 (mm)	Dimen- sion l_7 (mm)	Dimen- sion l_8 (mm)
400	400	7.3	60	140	120	200	60	140	120	200
400	480	8.2	100	180	160	240	60	140	120	200
400	640	10.1	180	260	240	320	60	140	120	200
400	800	11.9	260	340	320	400	60	140	120	200
480	480	9.1	100	180	160	240	100	180	160	240
480	640	11.0	180	260	240	320	100	180	160	240
480	800	12.8	260	340	320	400	100	180	160	240
640	640	12.8	180	260	240	320	180	260	240	320
640	800	14.7	260	340	320	400	180	260	240	320
640	1040	17.4	380	460	440	520	180	260	240	320
640	1200	19.3	460	540	520	600	180	160	240	320
800	800	16.5	260	340	320	400	260	340	320	400
800	1040	19.3	380	460	440	520	260	340	320	400
800	1200	21.1	460	540	520	600	260	340	320	400
1040	1040	22.0	380	460	440	520	380	460	440	520
1040	1200	23.9	460	540	520	600	380	460	440	520
1200	1200	25.7	460	540	520	600	460	540	520	600

WT 2/F-H positioning bushing set



2



- Positioning bushings are used for defined pick-up of the workpiece pallet in positioning units
- Material: Steel
- Can be combined with the WT 2/F-H frame module

Accessories

Required accessories

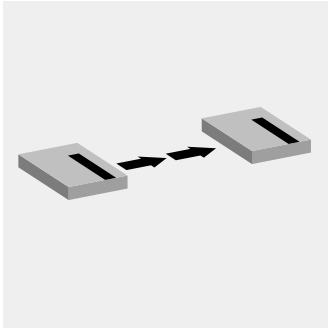
- Positioning bushings are required if a PE 2/H position unit is used

Ordering information

Product designation	Delivery unit	Material number
WT 2/F-H positioning bushing set	2	3842530529

Technical data

Material number		3842530529
Features		
Mass	kg	1.3

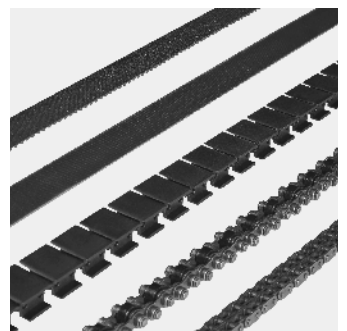


Longitudinal conveyor

3

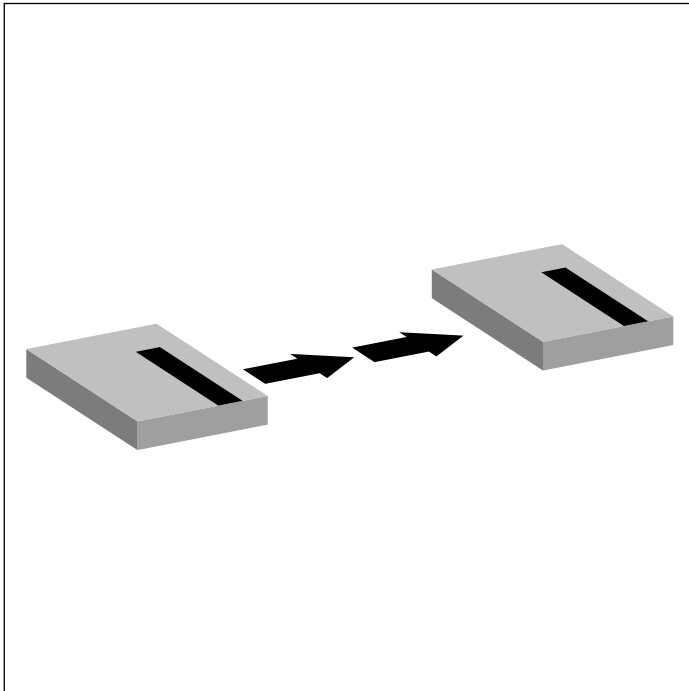
Conveyor media selection

3-2



Conveyor media selection

Belts, toothed belts, flat top chains, and accumulation roller chains are available conveyor belts for longitudinal conveying.



Belts/Toothed belts

The polyamide belt is electrically conductive. It has been designed for loads of up to 250 kg and is pretensioned with a special device and then bonded to form a continuous belt. It is mainly used in systems with light conveying loads and section lengths of over 2 m.

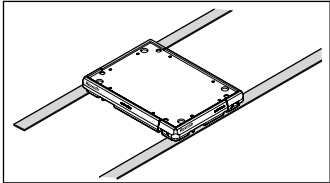
Belt sections with toothed belts are available for shorter sections. The workpiece pallet is conveyed on the back side, which has been reinforced with fabric. A change to the conveying direction (reversible operation) is also possible. All toothed belts and the belt are suitable for use in EPA (ESD protected areas).

Flat top chain

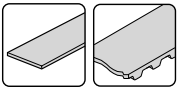
Plastic flat top chains have wear-free polyamide caps on each chain link which reduce friction and help the system run more quietly. A marked cap is available for the chain joint. A design that is also flexible on the side enables use of the plastic flat top chain in curves. It is mainly used in systems with medium conveying loads.

Accumulation roller chain

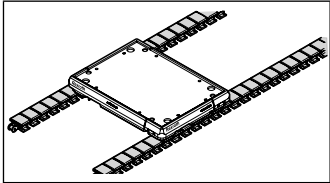
The roller elements of the accumulation roller chain allow the chain to lightly roll underneath the workpiece pallet when pallets accumulate. It is mainly used to convey heavy loads in rough environments. Both types of chains are closed using a master link to create an endless chain (1 master link each in scope of delivery).



Conveyor media belt and toothed belt



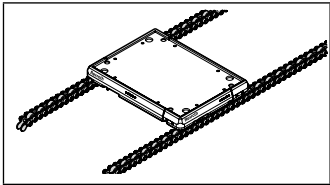
3-4



Conveyor medium flat top chain



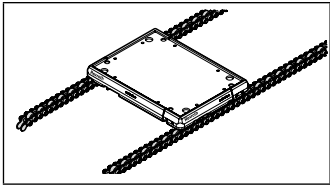
3-50



Conveyor medium accumulation roller chain



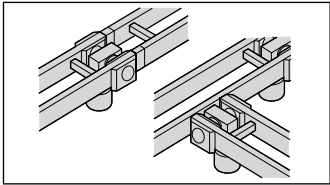
3-118



Conveyor medium *Vplus* accumulation roller chain

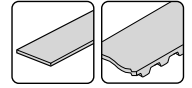


3-188

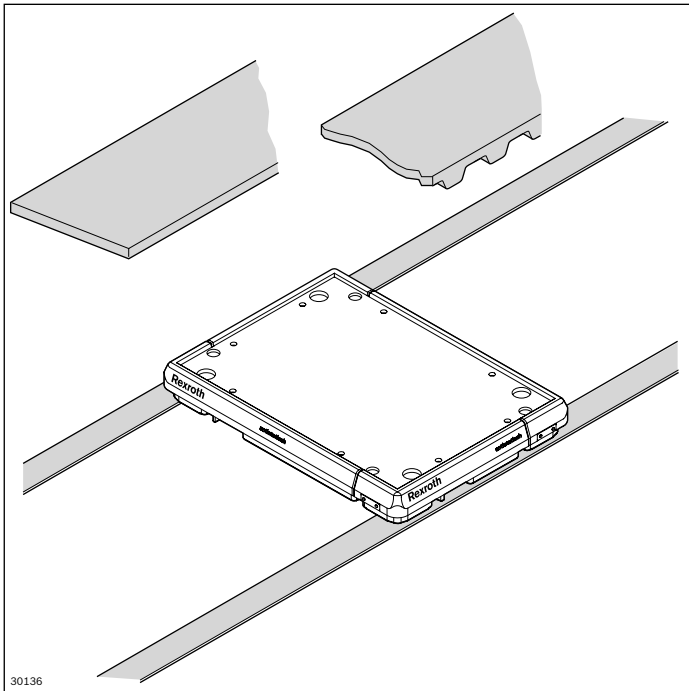


Connection kits

3-228



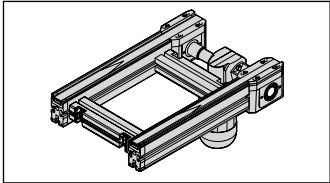
Conveyor media belt and toothed belt



The conveyor media belt and toothed belt are suitable for conveying small and medium-sized workpiece pallets in clean, dry environments. The high flexibility and flat design of the conveyor media allow for narrow conveyor trenches between section profiles.

Whereas the belt is an especially economical conveyor medium, primarily utilized on longer section segments, the toothed belt is suitable for shorter section segments and/or driving neighboring modules without their own drives.

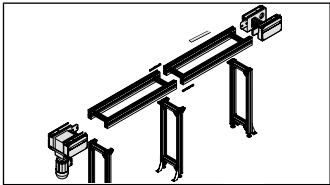
The conveyor media, or the modules equipped with these media, are used for assembly of lightweight products, e.g. electrical household appliances. Features such as a low risk of drawing-in and low profile construction height, as well as quiet operation, facilitate use at manual assembly stations. A surface load of up to 1 kg/cm is permissible on workpiece pallets with PA wear pads.



BS 2 belt sections...



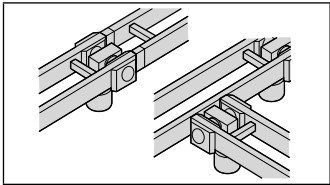
3-6



**Parts for conveyor units
AS 2/..., UM 2/..., ST 2...**



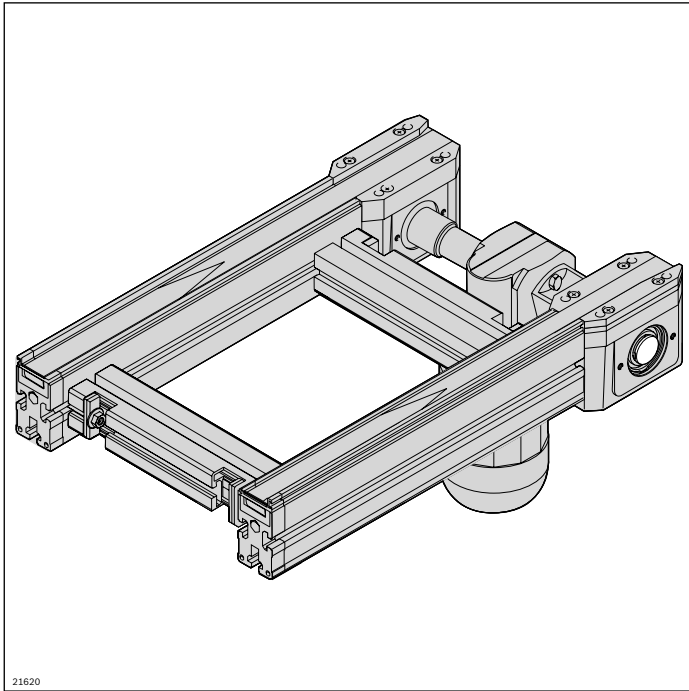
3-16



Connection kits

3-228

BS 2 belt section



- ▶ Ready for operation conveyor section with own drive
- ▶ Accumulation operation possible
- ▶ Conveyor medium: Toothed belt, ESD-compatible
- ▶ Reversible operation possible
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying

of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Accessories

Recommended accessories

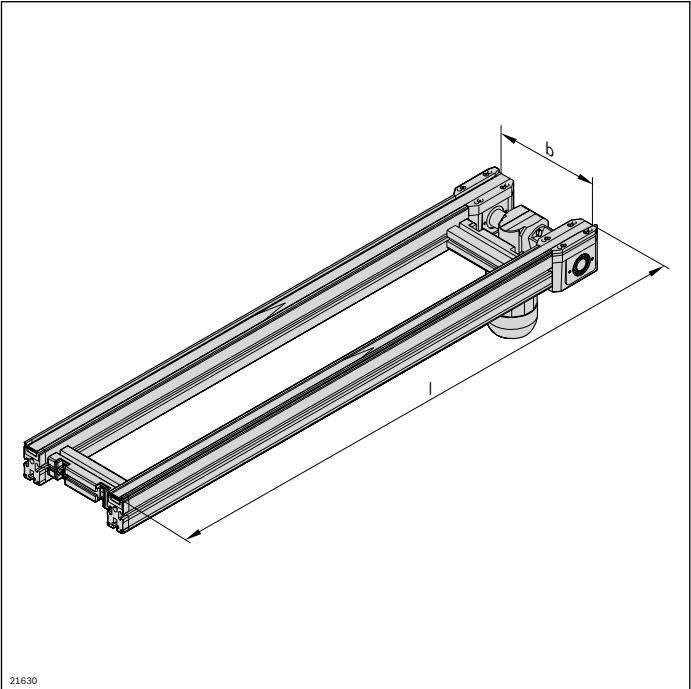
- ▶ Connection kit, see p. 3-228
- ▶ SZ 2 leg sets/..., see p. 6-2

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



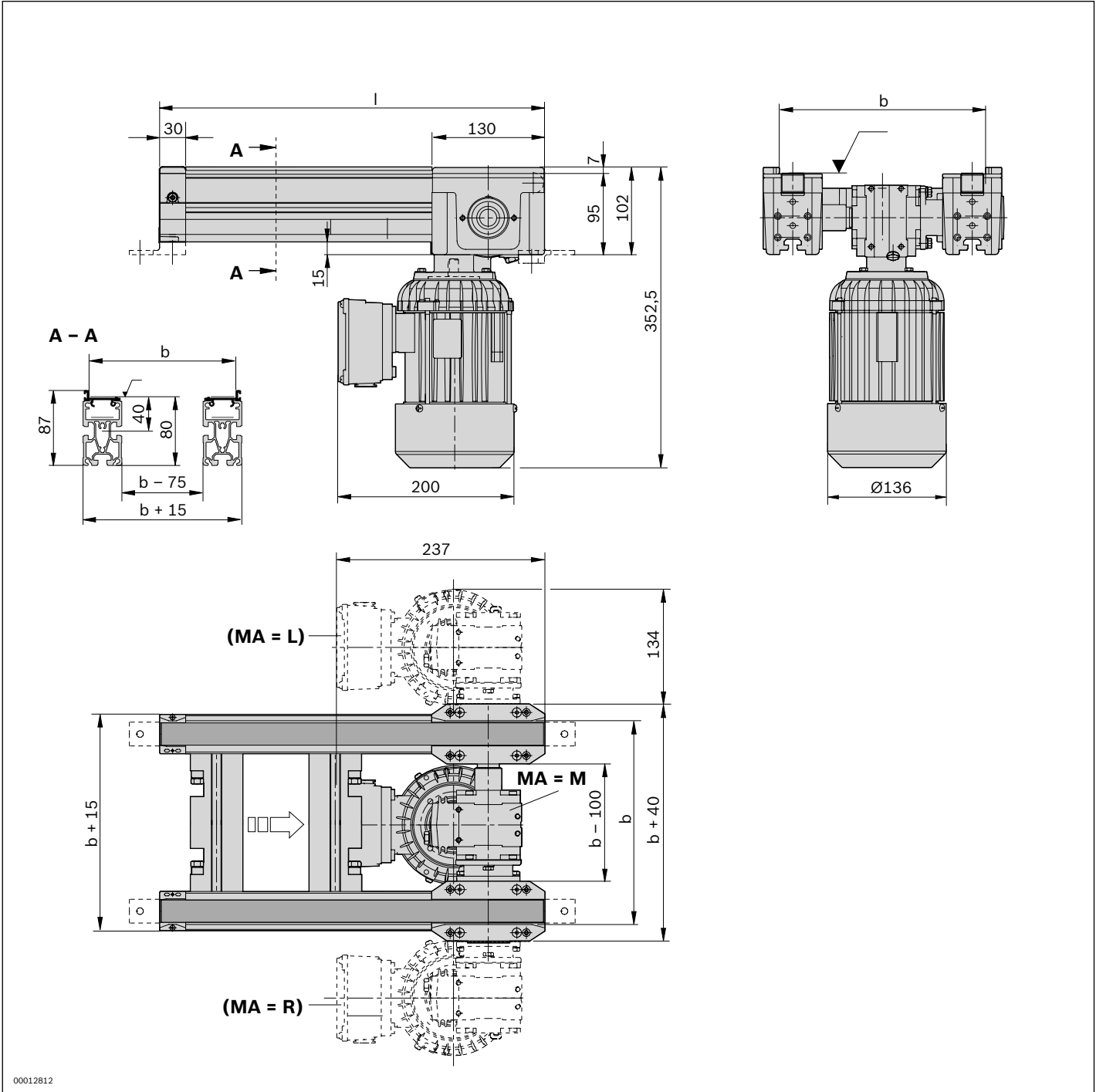
Material number		3842999716
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾
l (mm)	Length	240 ... 6000 ²⁾
v _N (m/min)	Nominal speed	0 ³⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

¹⁾ Individual width variants available
²⁾ l is rounded in accordance with the toothed belt pitch
³⁾ v_N = 0: without motor or gear
⁴⁾ MA = M only for b ≥ 240 mm

Technical data

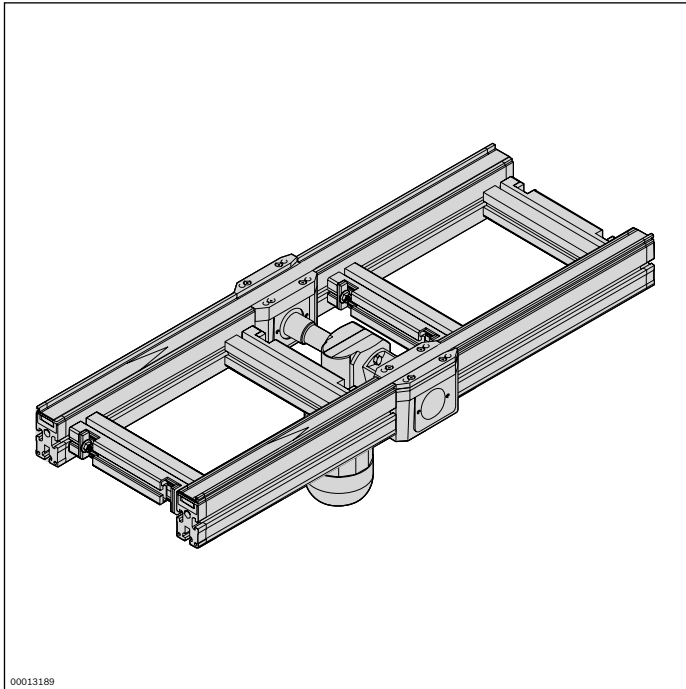
Material number		3842999716
Load		
Max. section load in accumulation operation	kg	60
Features		
ESD		yes
Material specification		Section profile: aluminum, natural; anodized Guide profile: Polyamide Slide profile: Polyamide
Dimensions		
Length	l	mm
		240 ... 6000

Dimensions



00012812

BS 2/M belt section



- ▶ Functional operation conveyor complete with drive
- ▶ Accumulation operation possible
- ▶ Conveyor medium: Toothed belt, ESD-compatible
- ▶ Reversible operation possible
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request

The belt section is a conveyor section that is ready for operation with own drive for the transportation of workpiece

pallets. It is suitable for all installation situations in which the motor cannot be fitted to the end of the belt section.

Accessories

Recommended accessories

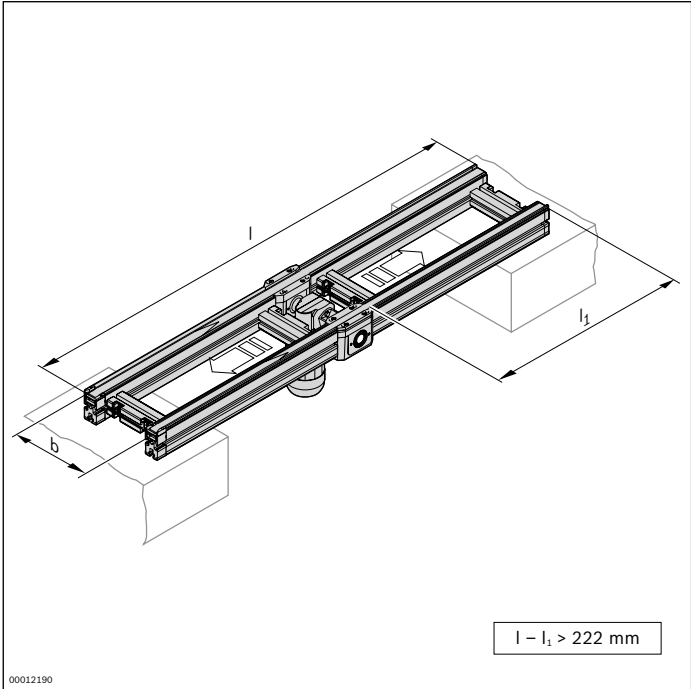
- ▶ Connection kit, see p. 3-228
- ▶ SZ 2 leg sets/..., see p. 6-2

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



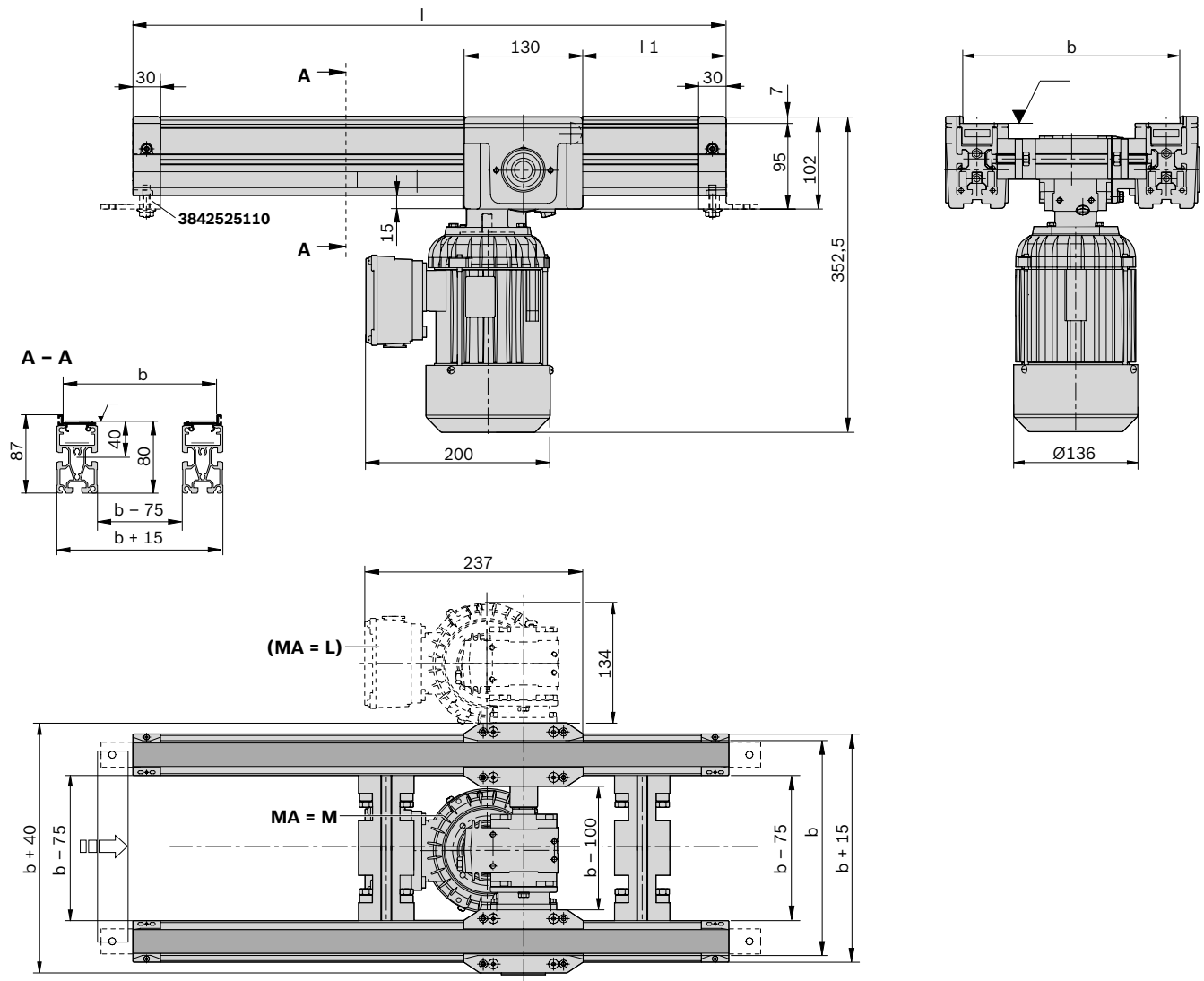
Material number		3842999717
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
l (mm)	Length	310 ... 6000 ²⁾
l ₁ (mm)	Length	90 ... 5770
v _N (m/min)	Nominal speed	0 ³⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

¹⁾ Individual width variants available
²⁾ l is rounded in accordance with the toothed belt pitch
 l - l₁ > 222 mm
³⁾ v_N = 0: without motor or gear
⁴⁾ MA = M only for b ≥ 240 mm

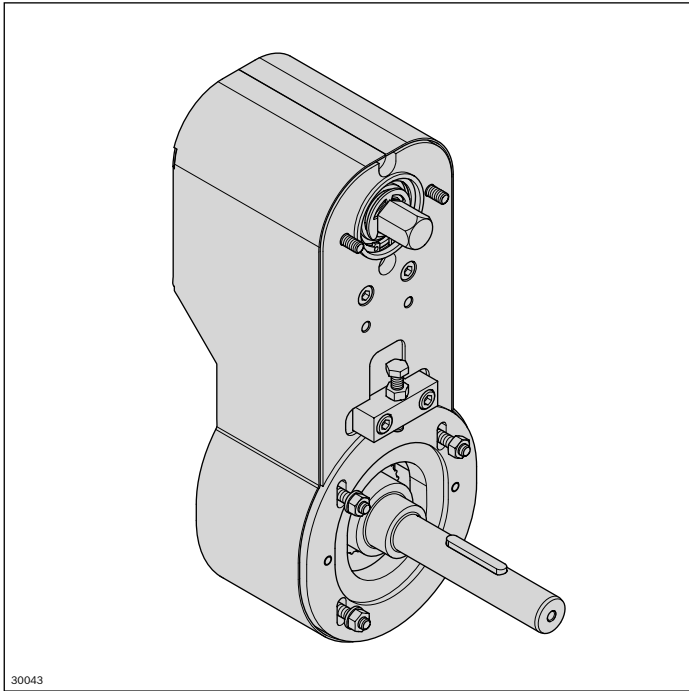
Technical data

Material number		3842999717
Load		
Max. section load in accumulation operation	kg	60
Features		
ESD		yes
Material specification		Section profile: aluminum, natural; anodized Guide profile: Polyamide Slide profile: Polyamide
Dimensions		
Length	l mm	310 ... 6000

Dimensions



Transmission drive



- ▶ Timing belt side drive for gear motors that must be constructed set lower so that they can be driven over
- ▶ Suitable for flange mounted gears, flange diameter 120 mm (B5 version with worm gear) and hollow shaft, diameter 20 mm
- ▶ Designed for Spiroplan SEW, WAF20, WAF30 or WAF37 right-angle gear motors and SAF37 worm gear motors
- ▶ Reversible operation possible
- ▶ Suitable for mounting to BS 2 and BS 2/M belt sections
- ▶ Maximum transferable torque (on the gear output):
 $m_{\max} = 12 \text{ Nm}$
- ▶ Only suspended mounting of the gear motor is permitted

For mounting larger third-party motors for the transmission of higher drive torques (maximum section loads of the belt section must not be exceeded).

Accessories

Required accessories

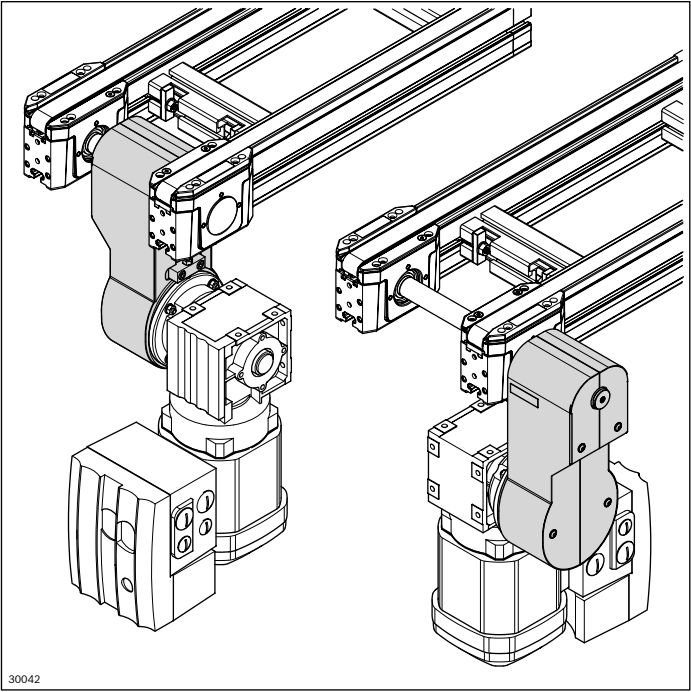
- ▶ Belt section BS 2 (s. S. 3-6) or BS 2/M (see p. 3-9)
- ▶ Gear motor
- ▶ Torque support (to be created by the operator)

Delivery note

Condition on delivery

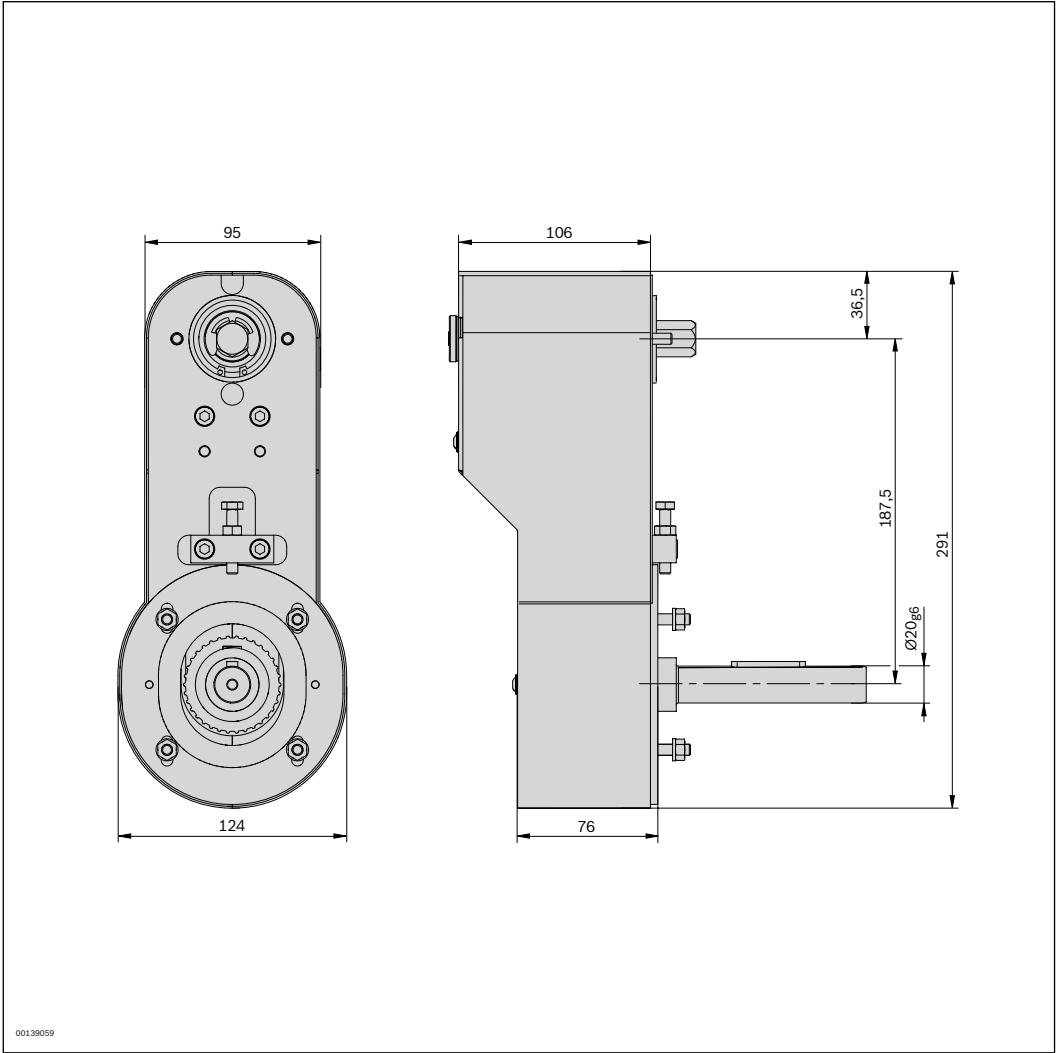
- ▶ Unassembled in parts
- ▶ Bearing already press-fitted
- ▶ Including adapter set and additional hexagonal shaft

Ordering information



Product designation		Material number
Transmission drive		3842542550
Technical data		
Material number		3842542550
Load		
Maximum transferable torque	Nm	12
Features		
ESD		yes

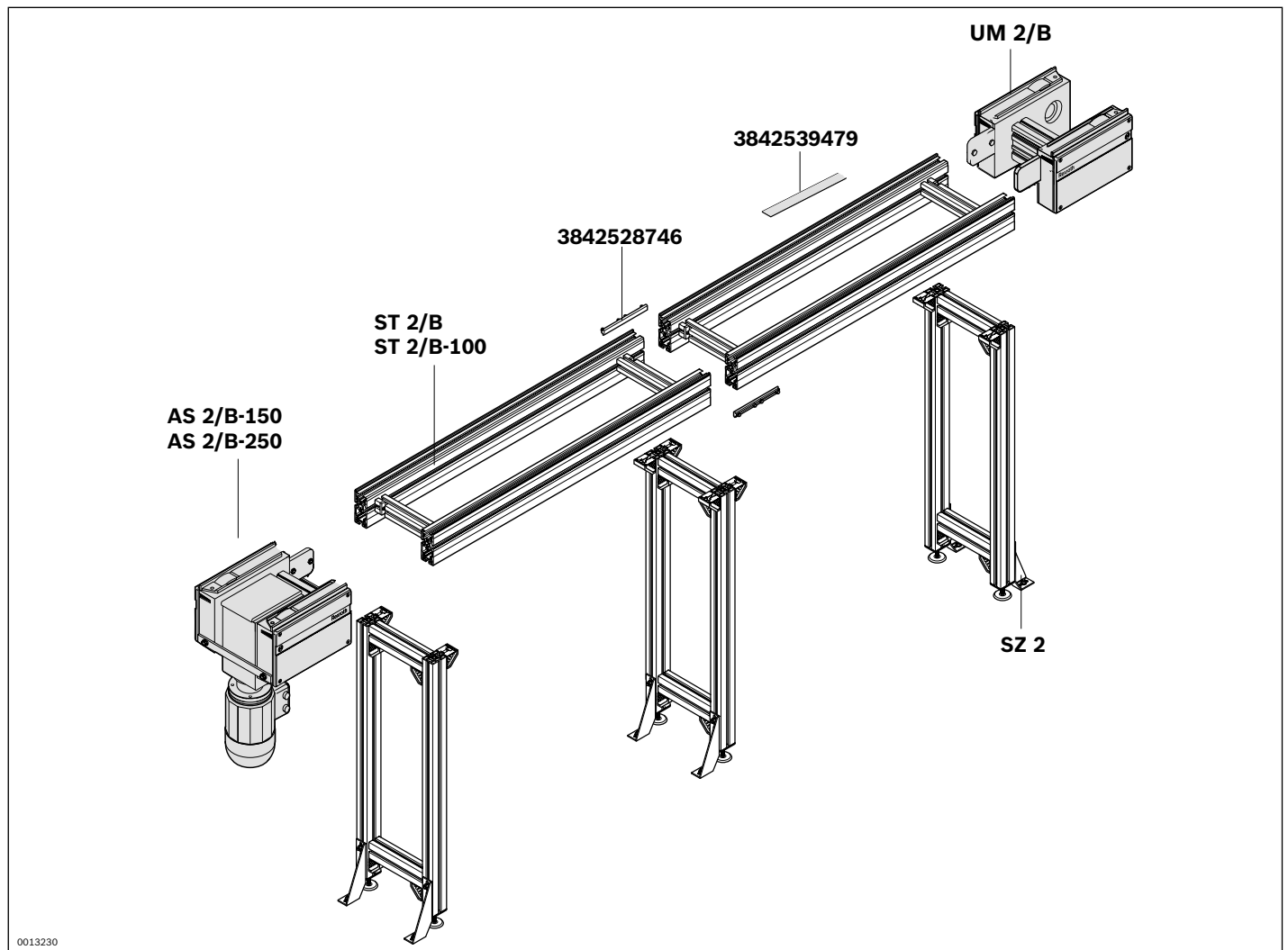
Dimensions





Conveyor units

Parts for conveyor media belt

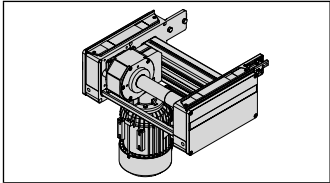


A conveyor unit is a complete unit used for linear conveying of workpiece pallets. It consists of:

- ▶ AS 2/B-... drive module, see p. 3-18
- ▶ UM 2/B return unit, see p. 3-24
- ▶ ST 2/... section, see p. 3-28
- ▶ SZ 2 leg sets/..., see p. 6-2

The UM 2/B and AS 2/B-... may be set up right next to each other, which allows for conveyor unit combinations.

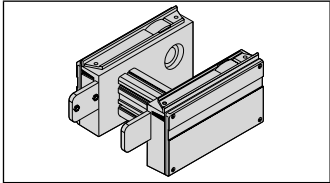
The drive module is designed for section loads up to $m_g = 150 \text{ kg}$ or up to $m_g = 250 \text{ kg}$ per conveyor unit.



AS 2/B... drive module



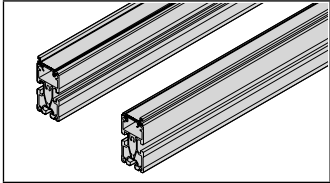
3-18



UM 2/B return unit



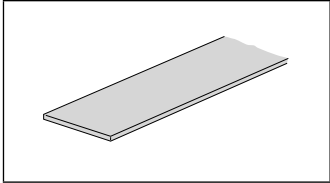
3-24



ST 2/B... section, components



3-28

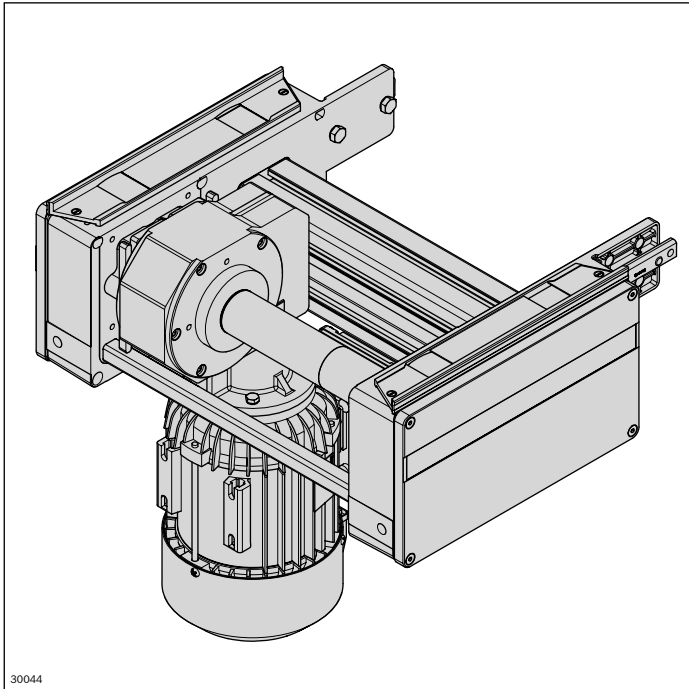


Conveyor media belt, accessories



3-45

AS 2/B-150 drive module



- Conveyor medium: Belt
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request
- Accumulation operation possible

The AS 2/B-... drive module drives the conveyor medium belt in self-built conveyor section elements with section,

return unit and conveyor belt or serves as a transverse section.

Accessories

Required accessories

- Roller conveyor RB 2 3842532822, see p. 3-27 with adjacent longitudinal sections and workpiece pallet lengths of < 320 mm
- Roller conveyor RB 2 3842549774 (see p. 5-86) for use in transverse sections with adjacent longitudinal sections

Delivery note

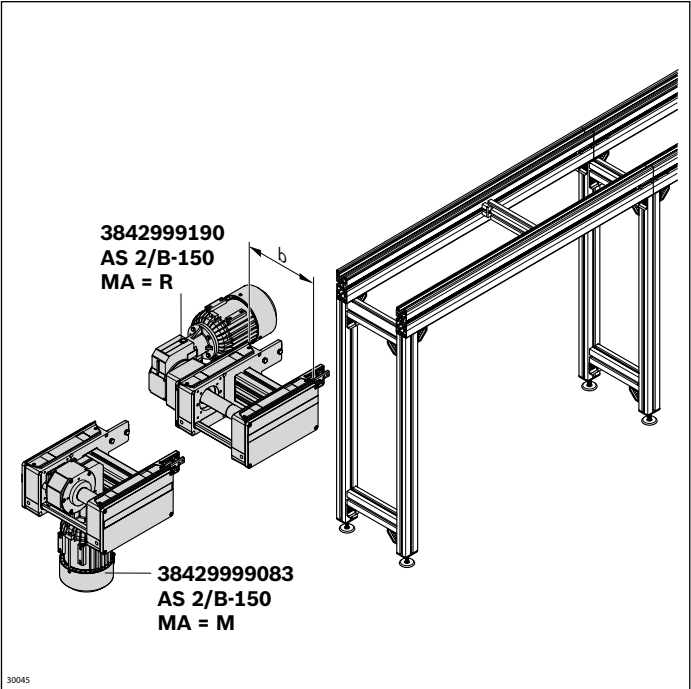
Scope of delivery

- AS 2/B-150 drive module
- Includes fastening material to mount on the ST 2/... conveyor section, as well as to mount on an adjacent return unit.

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999083	3842999190
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200	160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15 ³⁾ ; 18	
U (V)	Voltage	see motor data, p. 11-18ff	
f (Hz)	Frequency	see motor data, p. 11-18ff	
AT	Motor connection	S; K	
	S = cable/plug		
	K = clamping profile		
MA	Motor mounting	R ⁴⁾ ; L ⁴⁾ ; M	
	R = right		
	L = left		
	M = center		

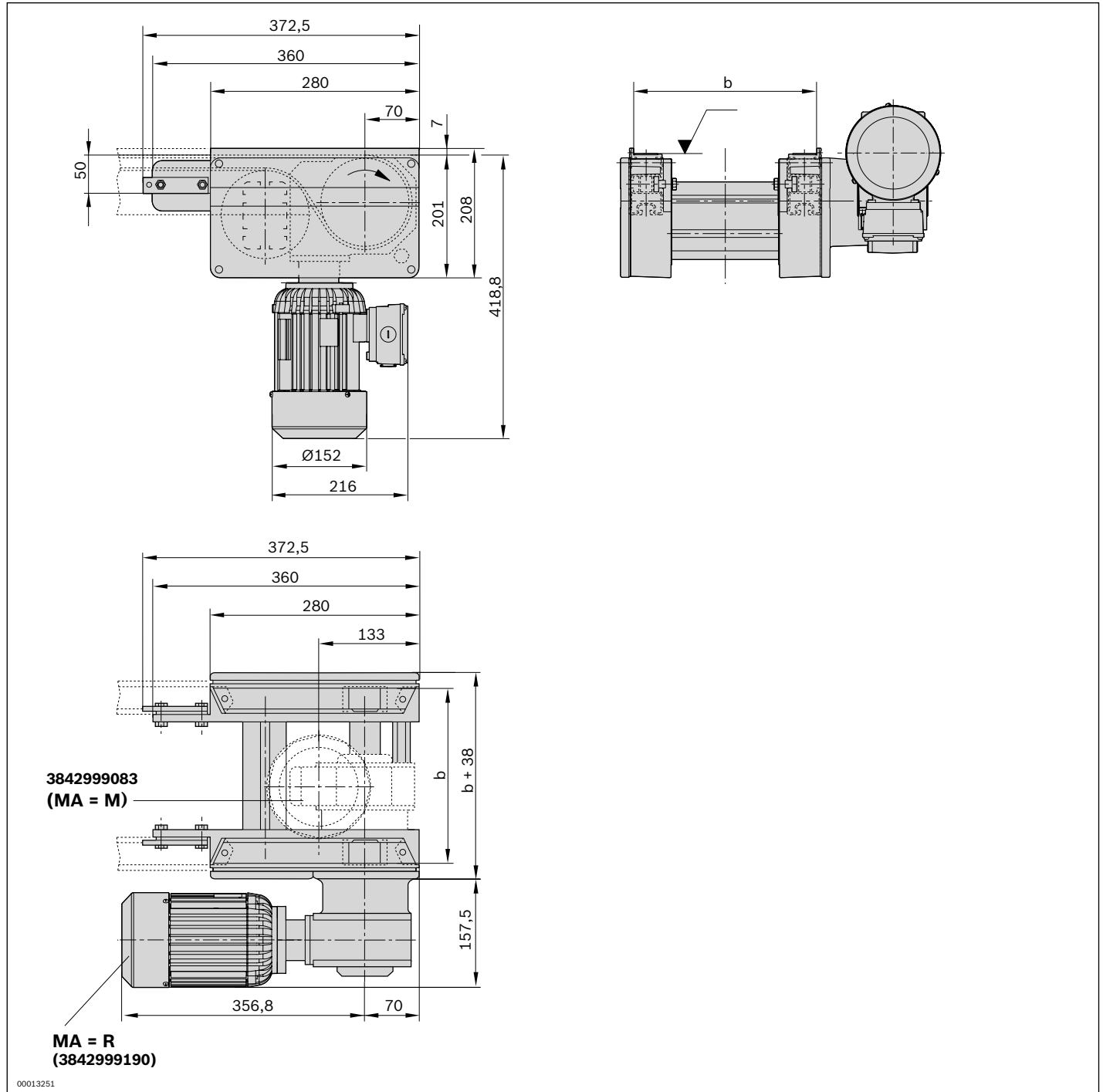
- ¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Not possible if f = 60 Hz
⁴⁾ The following applies to 3842999190: MA = R; L

Technical data

Material number		3842999083	3842999190
Motor mounting		MA = M	MA = R, L
Load			
Max. section load in accumulation operation		150	150
Features			
ESD		yes	yes
Additional information			
Required conveyor media length ^{*)}	l _{AS}	660	660

^{*)} Formula for calculating the conveyor medium, see p 3-46

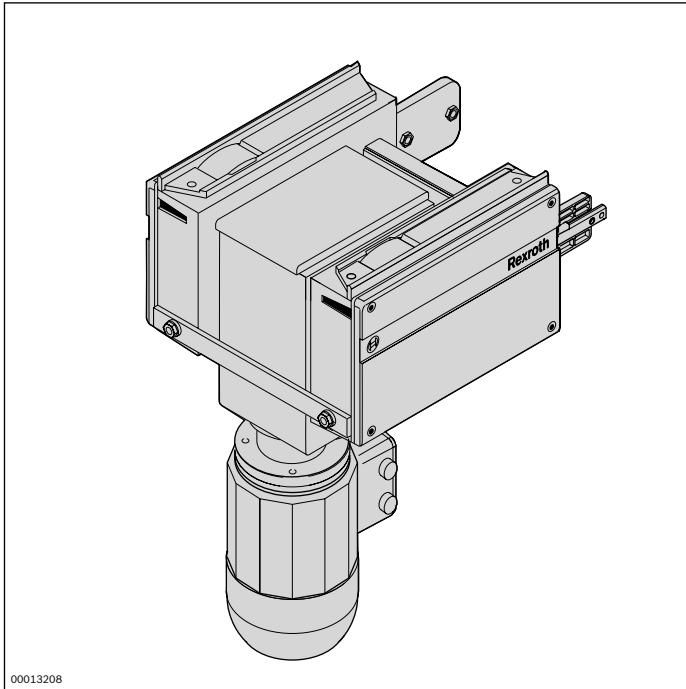
Dimensions



AS 2/B-250 drive module



3



- Conveyor medium: Belt
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request
- Accumulation operation possible

The AS 2/B-... drive module drives the conveyor medium belt in self-built conveyor section elements with section,

return unit and conveyor belt or serves as a transverse section.

Accessories

Required accessories

- Roller conveyor RB 2 3842532822, see p. 3-27 with adjacent longitudinal sections and workpiece pallet lengths of < 320 mm
- Roller conveyor RB 2 3842549774 (see p. 5-86) for use in transverse sections with adjacent longitudinal sections

Delivery note

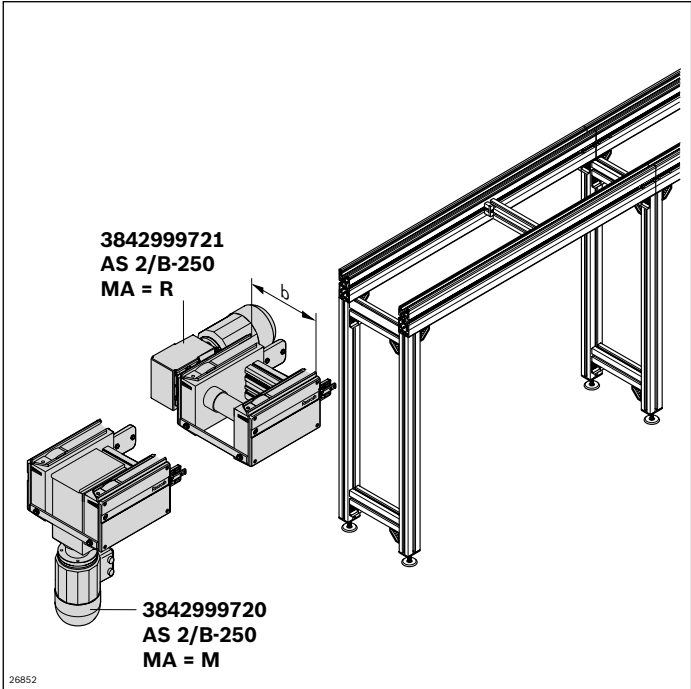
Scope of delivery

- AS 2/B-250 drive module
- Includes fastening material to mount on the ST 2/... conveyor section, as well as to mount on an adjacent return unit.

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999720	3842999721
b (mm)	Track width in direction of transport	160; 240 ¹⁾ ; 320; 400; 480; 640; 800; 1040; 1200	240 ... 1200 ²⁾
		240 ... 1200 ²⁾	
v _N (m/min)	Nominal speed	0 ³⁾ ; 6; 9; 12; 15; 18	
U (V)	Voltage	see motor data, p. 11-18ff	
f (Hz)	Frequency	see motor data, p. 11-18ff	
AT	Motor connection	S; K	
	S = cable/plug		
	K = clamping profile		
MA	Motor mounting	R ⁴⁾ ; L ⁴⁾ ; M ¹⁾	
	R = right		
	L = left		
	M = center		

¹⁾ The following applies to 3842999720: MA = M and b ≥ 240 mm

²⁾ Individual width variants available

³⁾ v_N = 0: without motor or gear

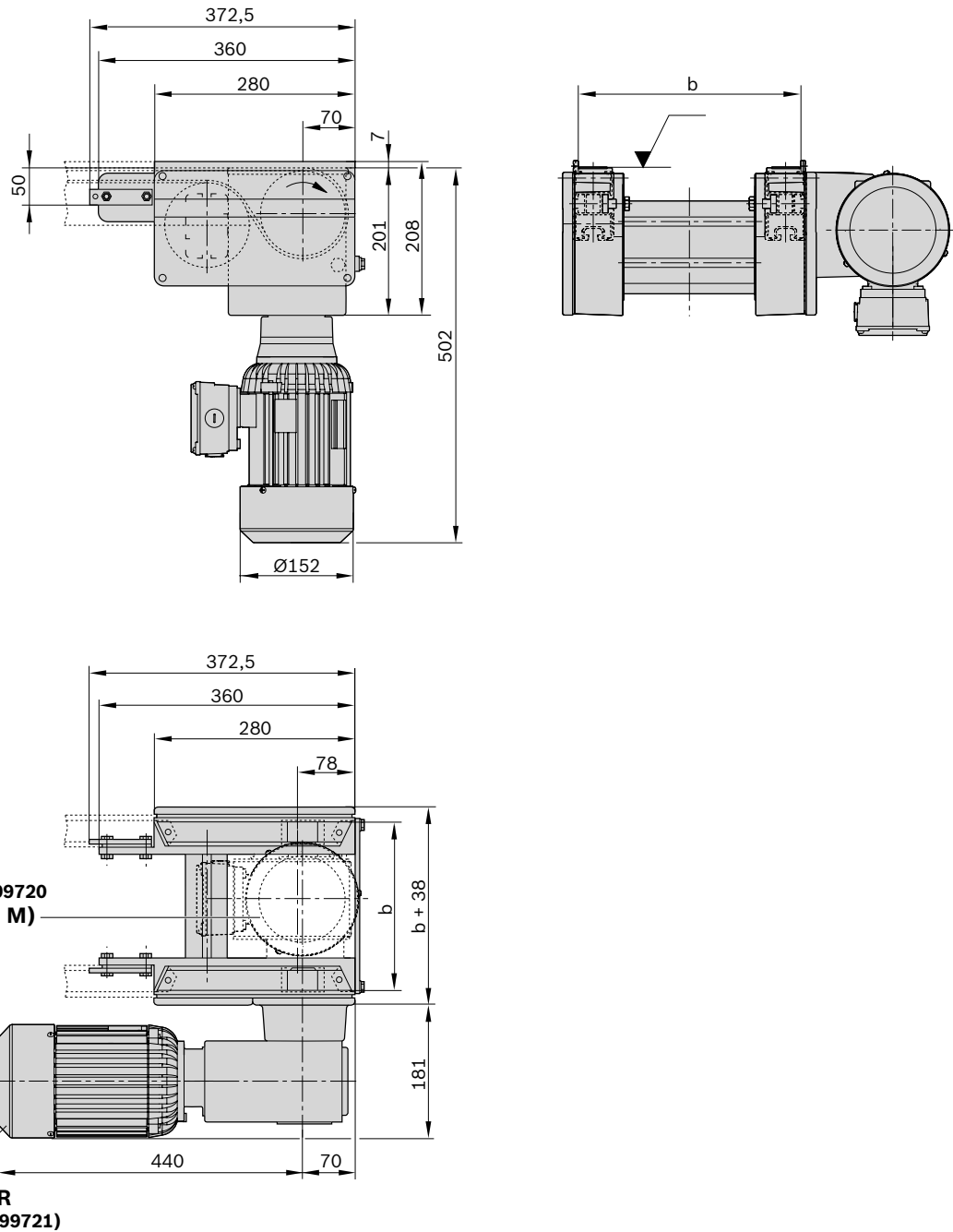
⁴⁾ The following applies to 3842999721: MA = R; L

Technical data

Material number		3842999720	3842999721
Motor mounting		MA = M for b ≥ 240 mm	MA = R, L
Load			
Max. section load in accumulation operation		250	250
Features			
ESD		yes	yes
Additional information			
Required conveyor media length ^{*)} l _{AS}		660	660

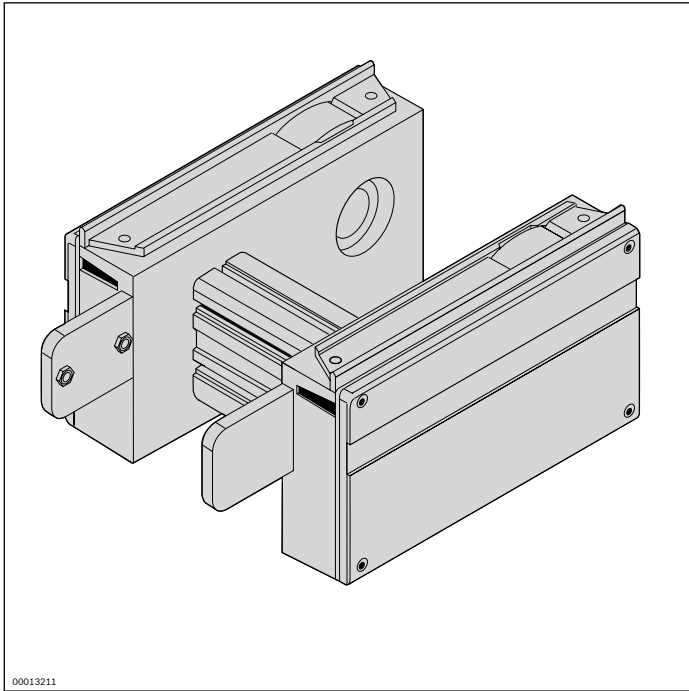
^{*)} Formula for calculating the conveyor medium, see p 3-46

Dimensions



00013252

UM 2/B return unit



- Conveyor medium: Belt
- For use in conjunction with all AS 2/B-... drive modules
- Max. permissible load up to 250 kg in accumulation operation per conveyor unit

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Delivery note

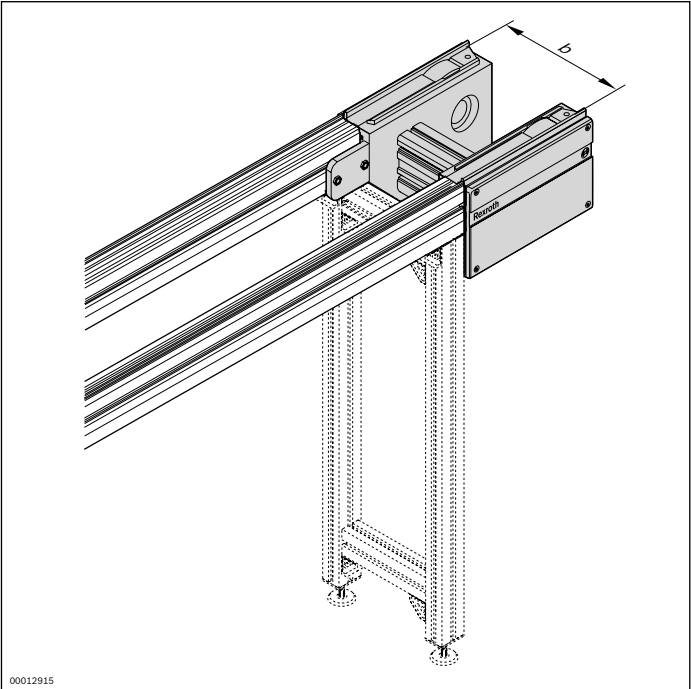
Scope of delivery

- Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999090
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

¹⁾ Individual width variants available

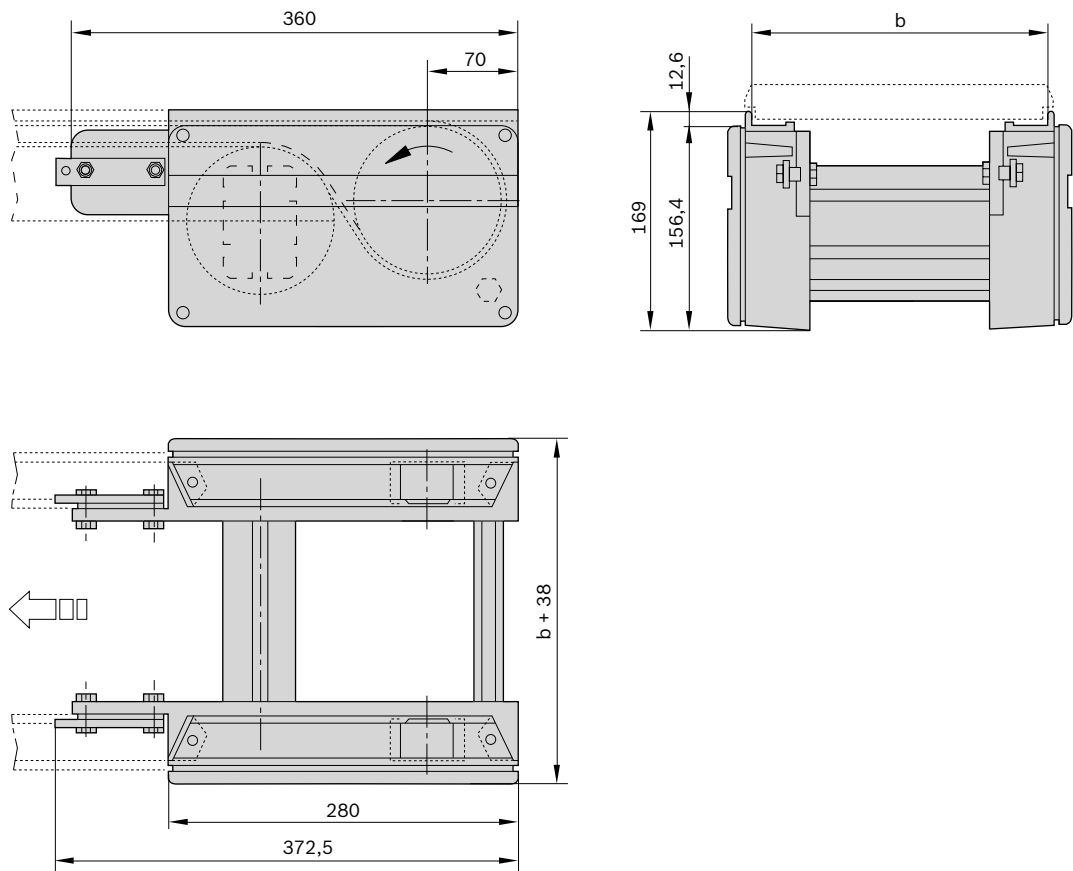
3

Technical data

Material number		3842999090
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l _{UM}		660 mm

^{*)} Formula for calculating the conveyor medium, see p 3-46

Dimensions

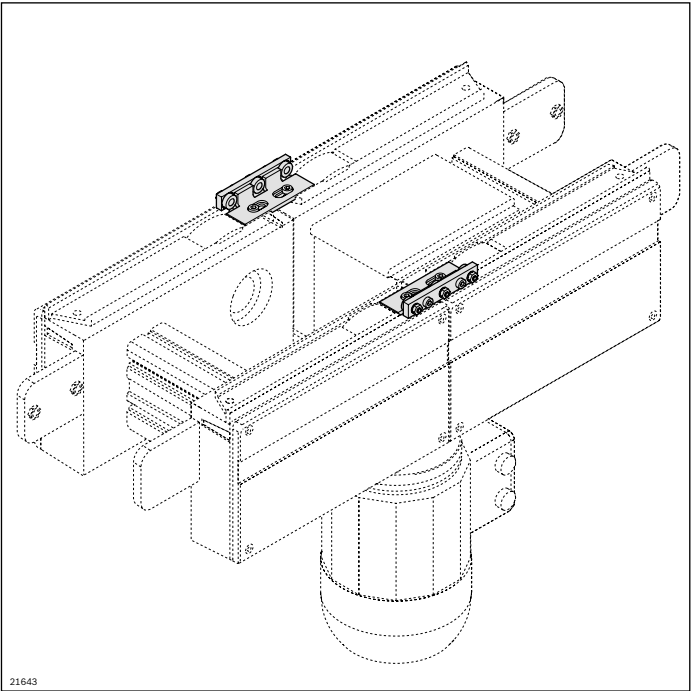


00013253

RB 2 roller conveyor



3



- It is used to support the workpiece pallets at the transition point between a conveyor unit and another adjacent conveyor unit. Necessary for workpiece pallets with $l_{WT} < 320$ mm.
- Universal design

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Fully assembled

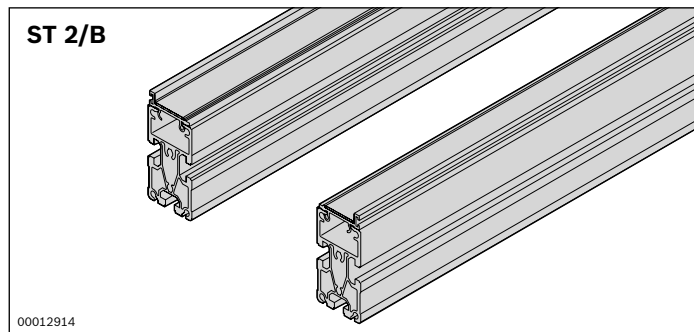
Ordering information

Product designation	Packaging unit	Material number
RB 2 roller conveyor	2	3842532822

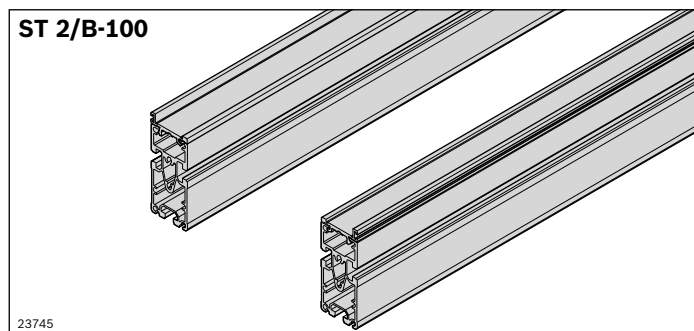
Technical data

Material number	3842532822
Features	
ESD	yes
Material specification	Roller carrier: Aluminum rollers: steel, hardened

ST 2/B section, ST 2/B-100 section



- For conveyor unit self-assembly
- Easy insertion of the guide profile into the section profile
- Easily replaceable if worn out
- Conveyor medium: Belt



The section is used for self-construction of conveyor units in conjunction with the AS 2/B-... drive module and the UM 2/B return unit.

Accessories

Recommended accessories

- SZ 2 leg sets/..., see p. 6-2
- Profile connector, see p. 3-40
- Cross connector, see p. 3-41

Delivery note

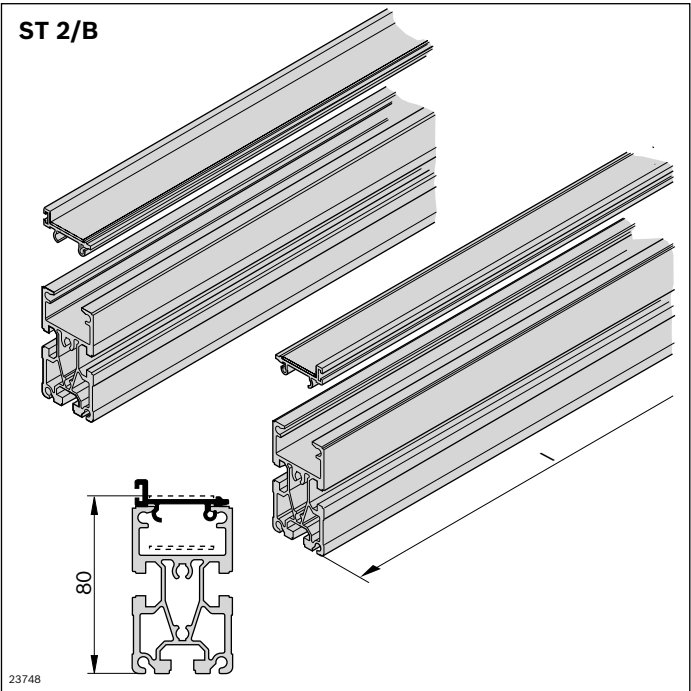
Scope of delivery

- ST 2/B: 2x SP 2/B section profile, 2x FP 2/B guide profile
- ST 2/B-100: 2x SP 2/B-100 section profile, 2x FP 2/B guide profile

Condition on delivery

- Not assembled

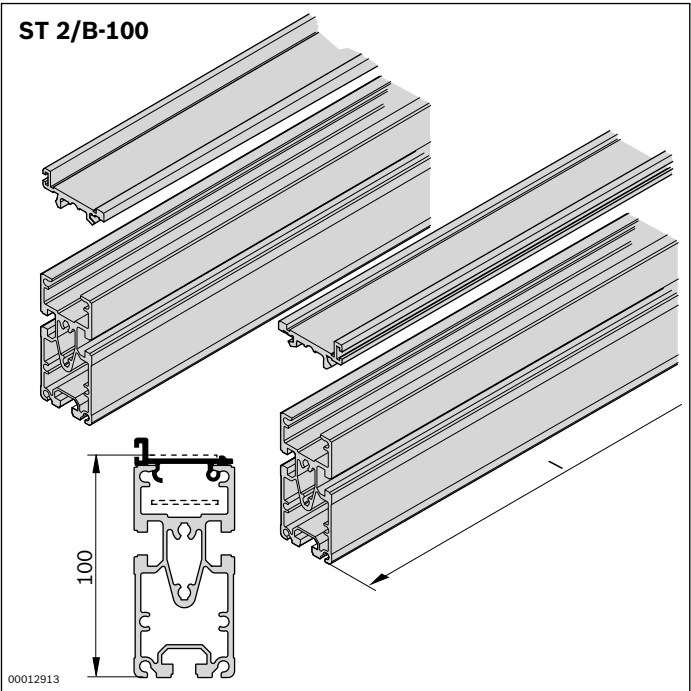
Ordering information



ST 2/B section

Material number		3842992650
l (mm)	Length	60 ... 6000
h (mm)	Height to conveying level	80

3



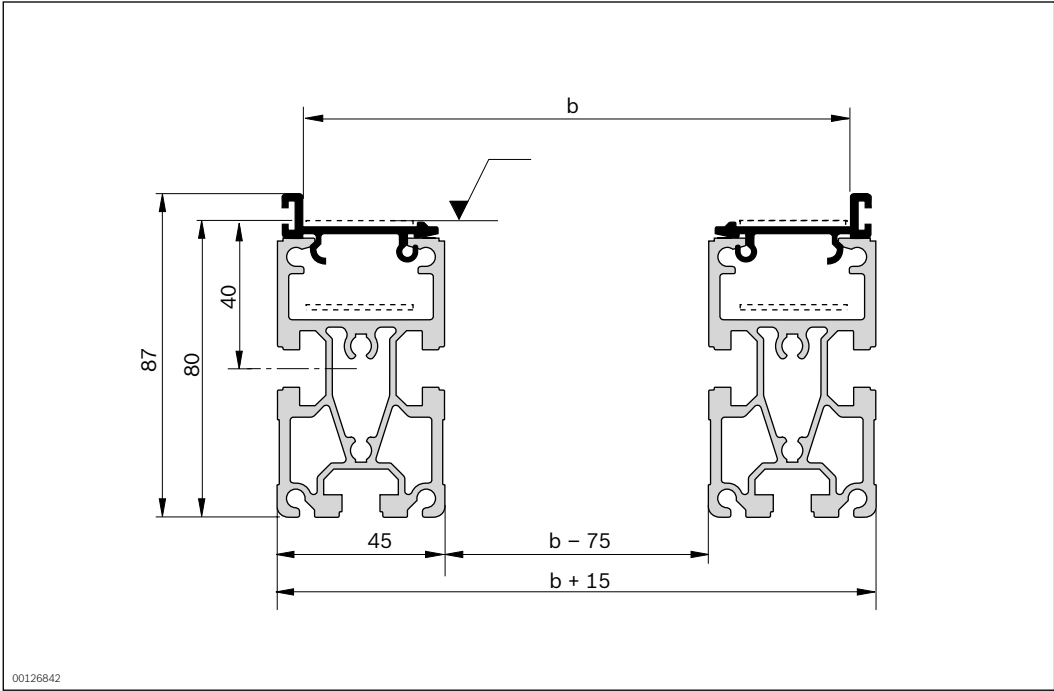
ST 2/B-100 section

Material number		3842994927
l (mm)	Length	60 ... 6000
h (mm)	Height to conveying level	100

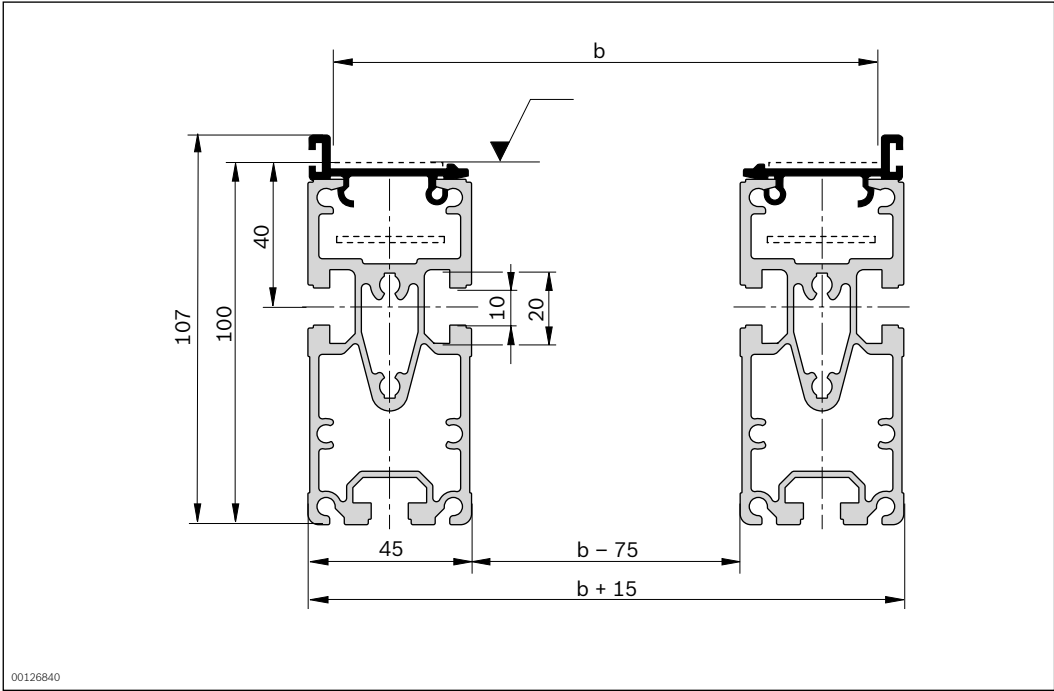
Technical data

Material number			3842992650	3842994927
Product designation			ST 2/B section	ST 2/B-100 section
Features				
ESD			yes	yes
Material specification			Section profile: aluminum, anodized guide profile: Polyamide	Section profile: aluminum, anodized guide profile: Polyamide
Dimensions				
Length	l	mm	60 ... 6000	60 ... 6000
Height to conveying level	h	mm	80	100

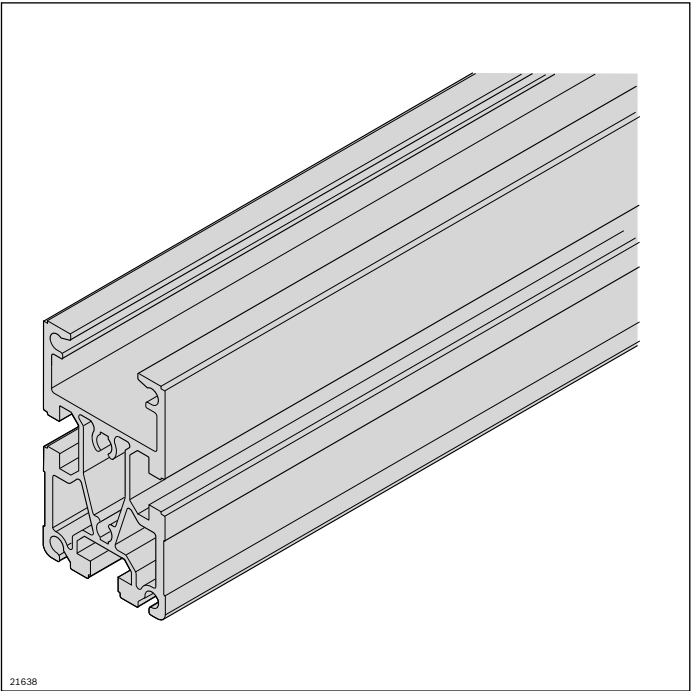
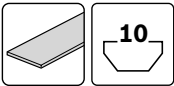
Dimensions
ST 2/B



ST 2/B-100



SP 2/B section profile



- ▶ Used for self-construction of low-profile conveyor units and the conveyor media belt
- ▶ For use in conjunction with all AS 2/B-... drive modules, UM 2/B return units and FP 2/B guide profiles
- ▶ Longitudinal grooves for easy mounting
- ▶ ST 2/B to be used in sections

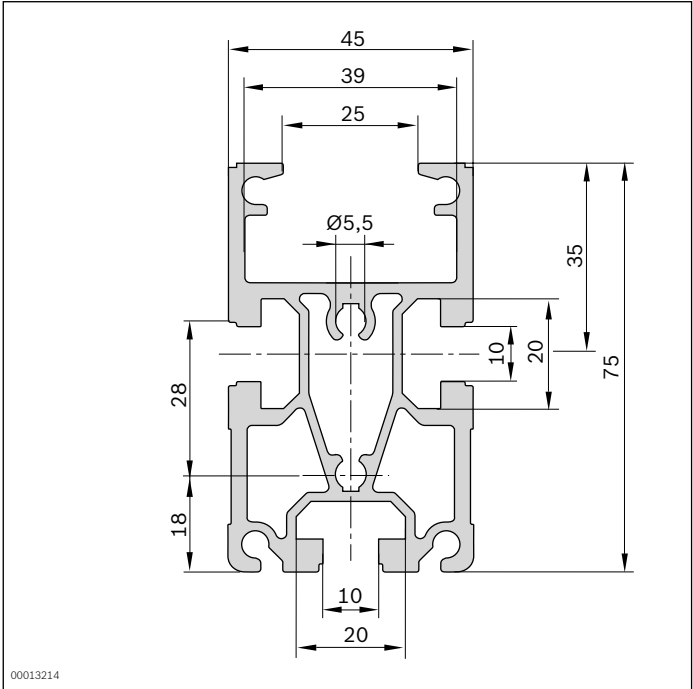
Ordering information

Product designation	l (mm)	Delivery unit	Material number
SP 2/B 16 x 6070 mm section profile	6070	16	3842532695
SP 2/B section profile	60 ... 6000		3842992884

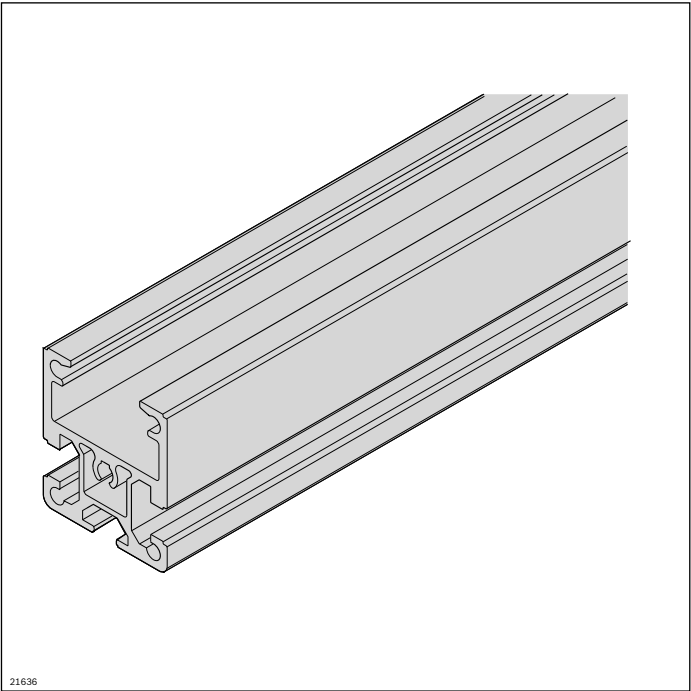
Technical data

Material number			3842532695	3842992884
Load				
Moment of inertia	I_x	cm ⁴	49.6	49.6
	I_y	cm ⁴	25.8	25.8
Moment of resistance	W_x	cm ³	12.1	12.1
	W_y	cm ³	11.5	11.5
Features				
Material specification			aluminum, natural; anodized	aluminum, natural; anodized
Mass	m	kg/m	2.8	2.8
Dimensions				
Length	l	mm	6070	
Length	l	mm		60 ... 6000
Profile surface	A	cm ²	10.4	10.4

Dimensions



SP 2/B-50 section profile



- ▶ Used for self-construction of low-profile conveyor units and the conveyor media belt
- ▶ For use in conjunction with all AS 2/B-... drive modules, UM 2/B return units and FP 2/B guide profiles
- ▶ Longitudinal grooves for easy mounting
- ▶ Suitable for installation at manual workplaces

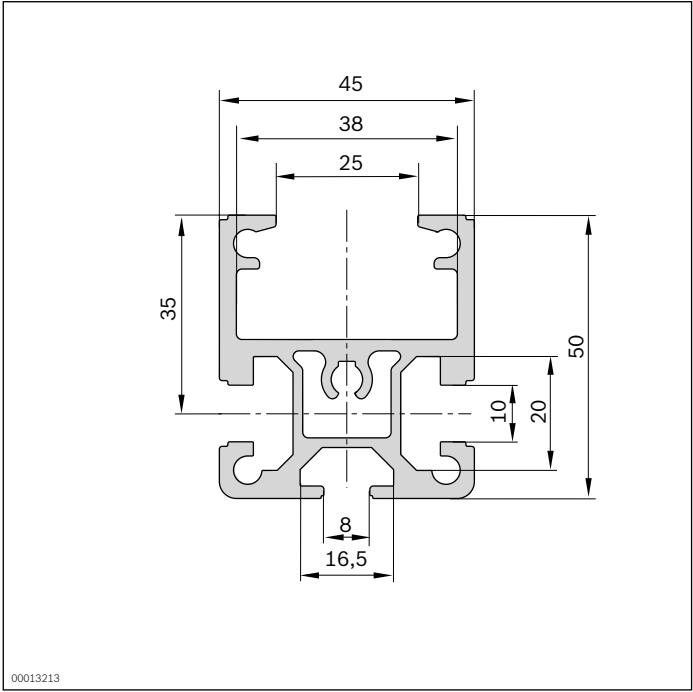
Ordering information

Product designation	I (mm)	I (mm)	Delivery unit	Material number
SP 2/B-50 20 x 6070 mm section profile	6070		20	3842532697
SP 2/B-50 section profile		60 ... 6000		3842992903

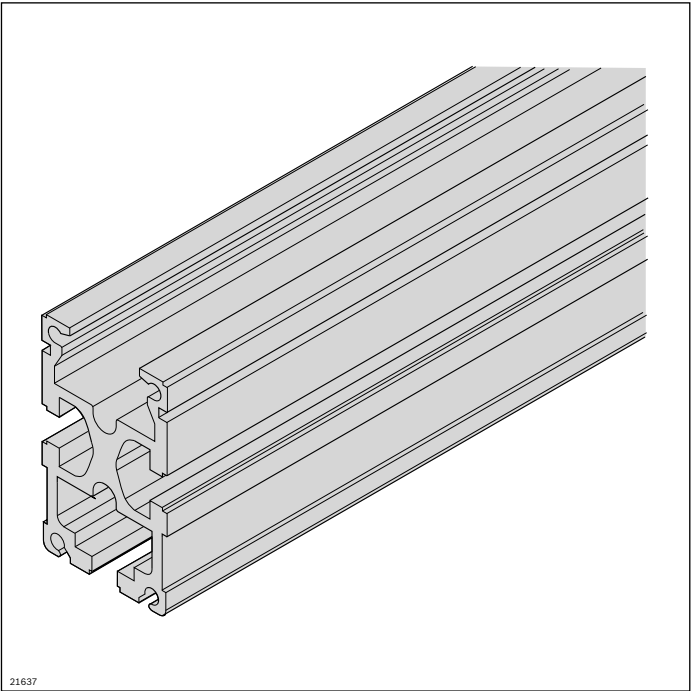
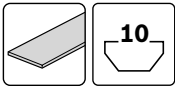
Technical data

Material number			3842532697	3842992903
Load				
Moment of inertia	I _x	cm ⁴	46.2	46.2
	I _y	cm ⁴	16.9	16.9
Moment of resistance	W _x	cm ³	5.3	5.3
	W _y	cm ³	7.5	7.5
Features				
Material specification			aluminum, natural; anodized	aluminum, natural; anodized
Mass	m	kg/m	1.9	1.9
Dimensions				
Length	l	mm	6070	
Length	l	mm		60 ... 6000
Profile surface	A	cm ²	6.9	6.9

Dimensions



SP 2/BH section profile



- ▶ Used for self-construction of low-profile conveyor units and the conveyor media belt
- ▶ For use in conjunction with all AS 2/B-... drive modules, UM 2/B return units and FP 2/B guide profiles
- ▶ Longitudinal grooves for easy mounting
- ▶ In tough design

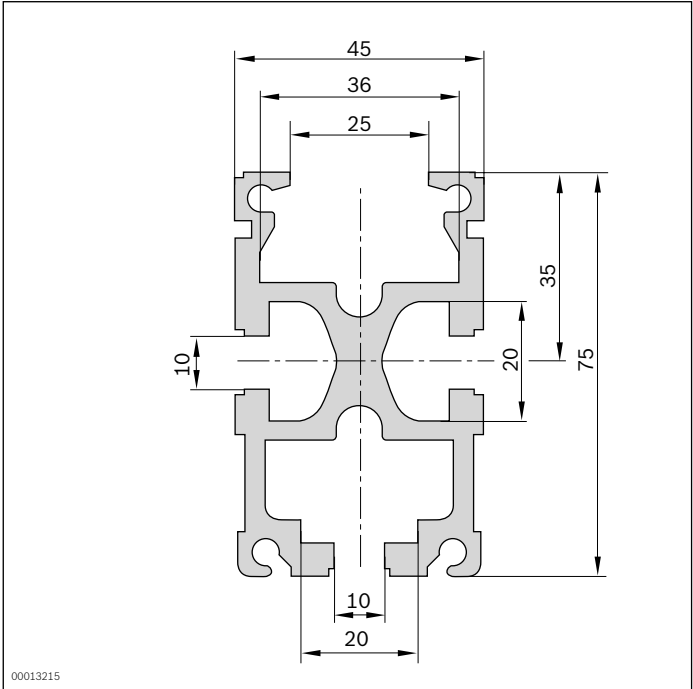
Ordering information

Product designation	I (mm)	I (mm)	Delivery unit	Material number
SP 2/BH 16 x 6070 mm section profile	6070		16	3842532696
SP 2/BH section profile		60 ... 6000		3842990409

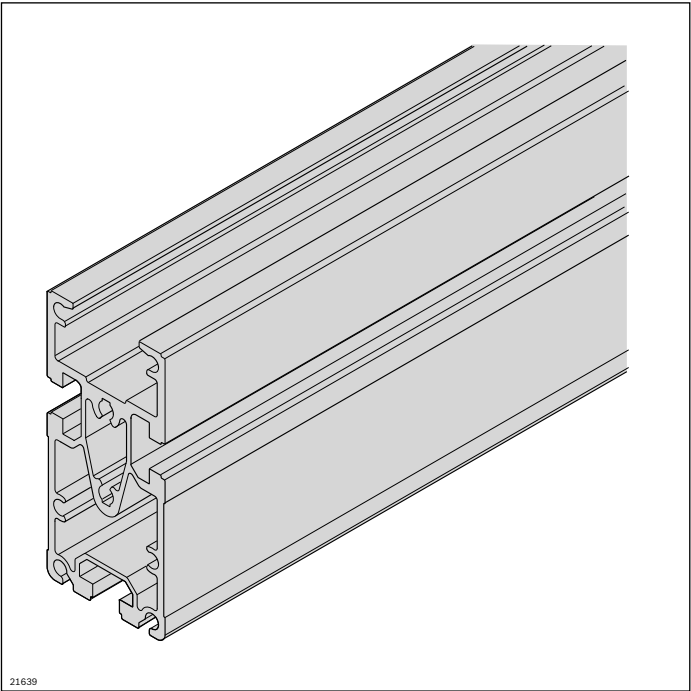
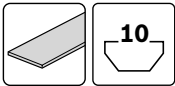
Technical data

Material number			3842532696	3842990409
Load				
Moment of inertia	I _x	cm ⁴	53.7	53.7
	I _y	cm ⁴	28.6	28.6
Moment of resistance	W _x	cm ³	14.0	14.0
	W _y	cm ³	13.8	13.8
Features				
Material specification			aluminum, natural; anodized	aluminum, natural; anodized
Mass	m	kg/m	3.3	3.3
Dimensions				
Length	l	mm	6070	
Length	l	mm		60 ... 6000
Profile surface	A	cm ²	12.4	12.4

Dimensions



SP 2/B-100 section profile



- Used for self-construction of conveyor units with a height of 100 mm and the conveyor medium belt
- For use in conjunction with all AS 2/B-... drive modules, UM 2/B return units and FP 2/B guide profiles
- Longitudinal grooves for easy mounting
- For use in assembly systems with mixed conveyor media, e.g. belt and flat top chain

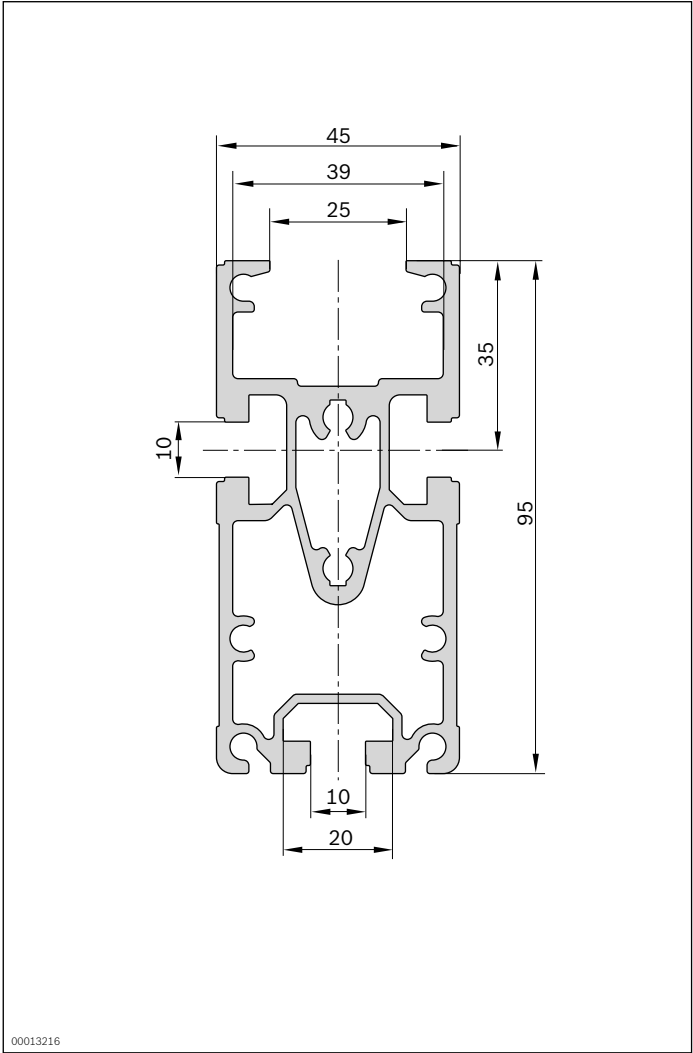
Ordering information

Product designation	I (mm)	I (mm)	Delivery unit	Material number
SP 2/B-100 16 x 6070 mm section profile	6070		16	3842532608
SP 2/B-100 section profile		60 ... 6000		3842993259

Technical data

Material number			3842532608	3842993259
Load				
Moment of inertia	I _x	cm ⁴	95.1	95.1
	I _y	cm ⁴	30.4	30.4
Moment of resistance	W _x	cm ³	20.0	20.0
	W _y	cm ³	13.5	13.5
Features				
Material specification			aluminum, natural; anodized	aluminum, natural; anodized
Mass	m	kg/m	3.2	3.2
Dimensions				
Length	l	mm	6070	
Length	l	mm		60 ... 6000
Profile surface	A	cm ²	11.9	11.9

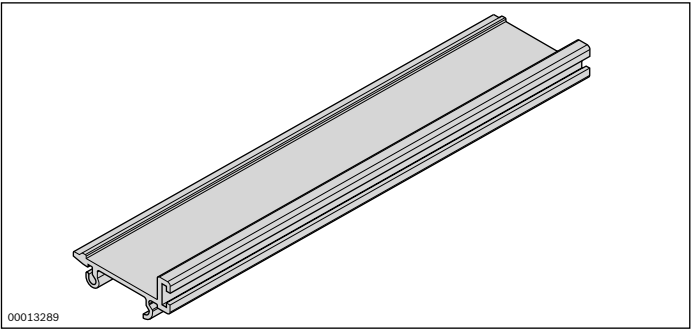
Dimensions



FP 2/B guide profile



3



- For belt guide
- For clipping onto the SP 2/B... section profiles

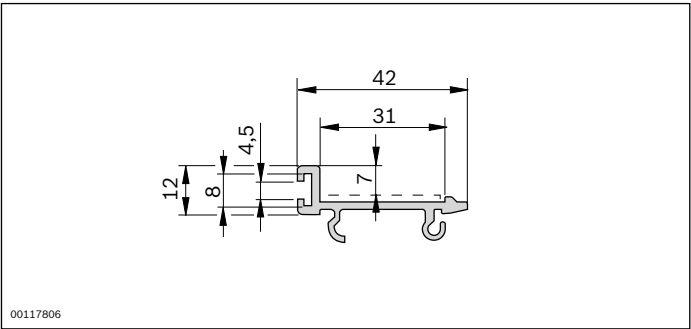
Ordering information

Product designation	l (mm)	Delivery unit	Material number
FP 2/B guide profile	6000	16	3842532675

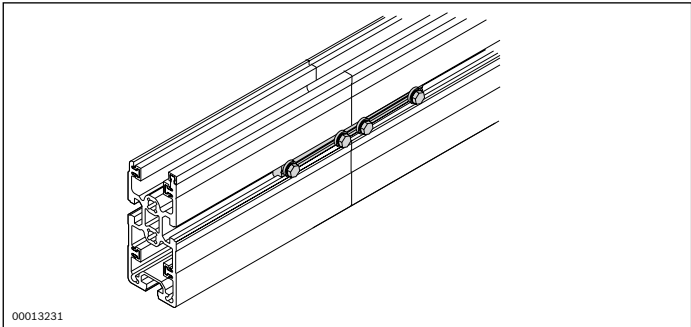
Technical data

Material number			3842532675
Features			
ESD			yes
Material specification			Plastic; PA (anti-static)
Dimensions			
Length	l	mm	6000

Dimensions



Profile connector



- For the end-to-end connecting of two profiles SP 2/...
- Two profile connectors are required for each profile joint
- For conveyor unit self-assembly
- For use in conjunction with all AS 2/B-... drive modules, UM 2/B return units and SP 2/B-... section profiles

Delivery note

Scope of delivery

- Profile connector, screws

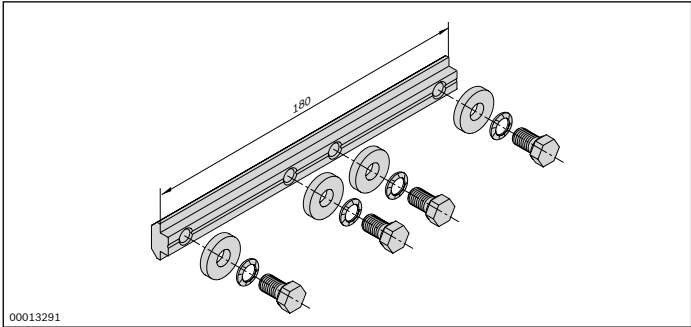
Ordering information

Product designation	Material number
Profile connector	3842528746

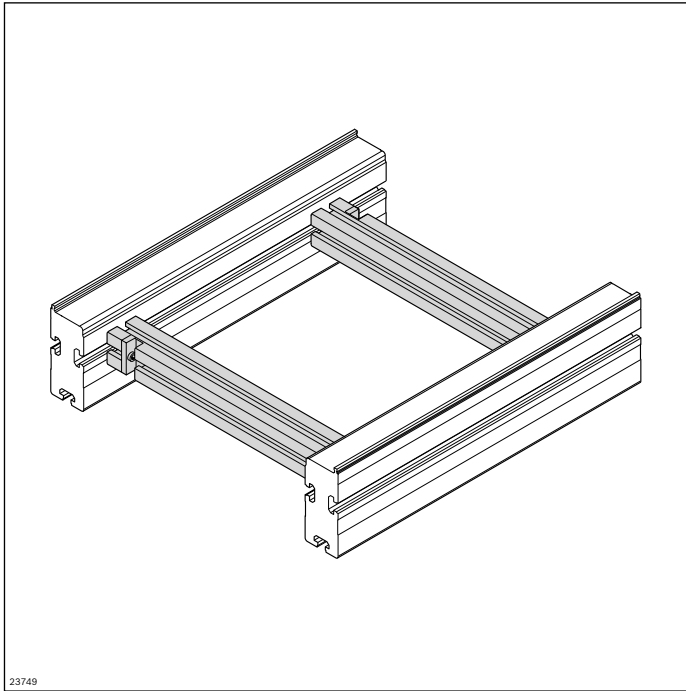
Technical data

Material number	3842528746
Features	
Material specification	Steel, galvanized

Dimensions



QV 2 cross connector



- For conveyor unit self-assembly
- For connecting section profiles and defining the track width
- Can be combined with all SP 2/... section profiles

3

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

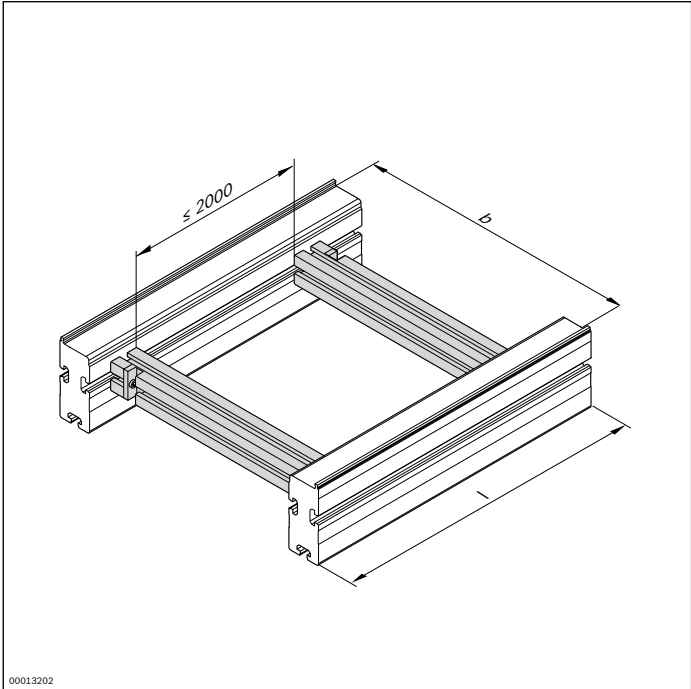
l = section length

Delivery note

Scope of delivery

- Strut profile 45x60, finished
- 2x fastening material to mount on an ST 2/... section

Ordering information



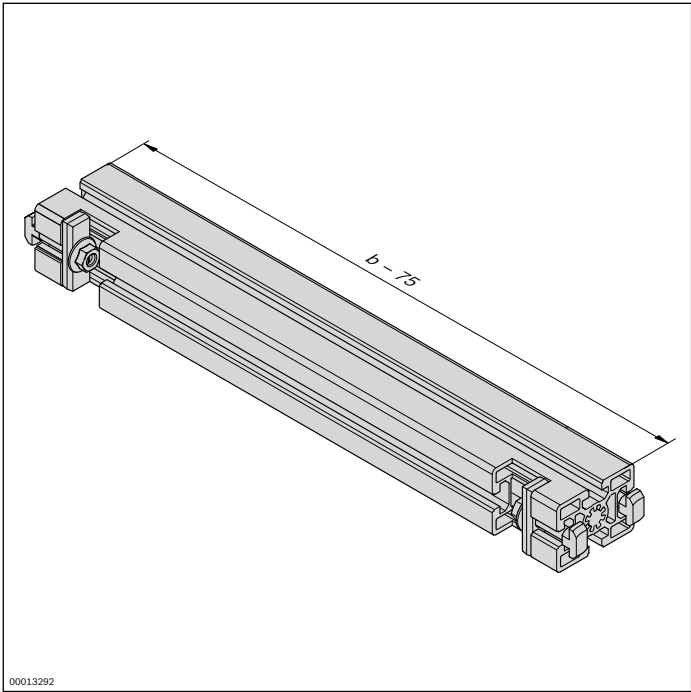
Material number		3842994635
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

¹⁾ Individual width variants available

Technical data

Material number	3842994635
Features	
Material specification	aluminum, natural; anodized

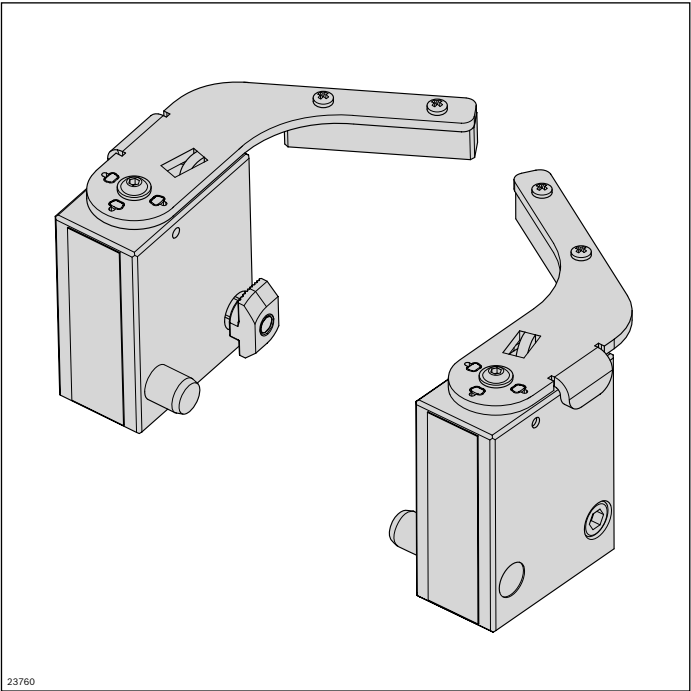
Dimensions



Scraper



3



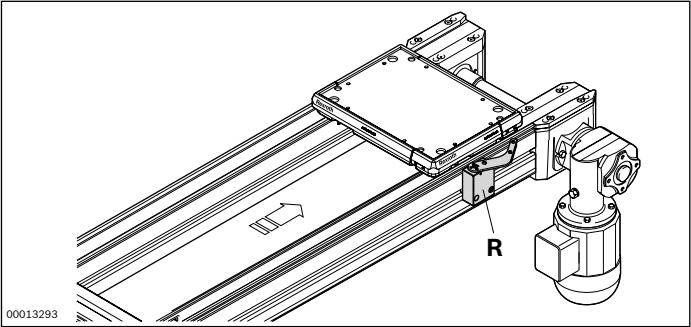
Delivery note

Scope of delivery

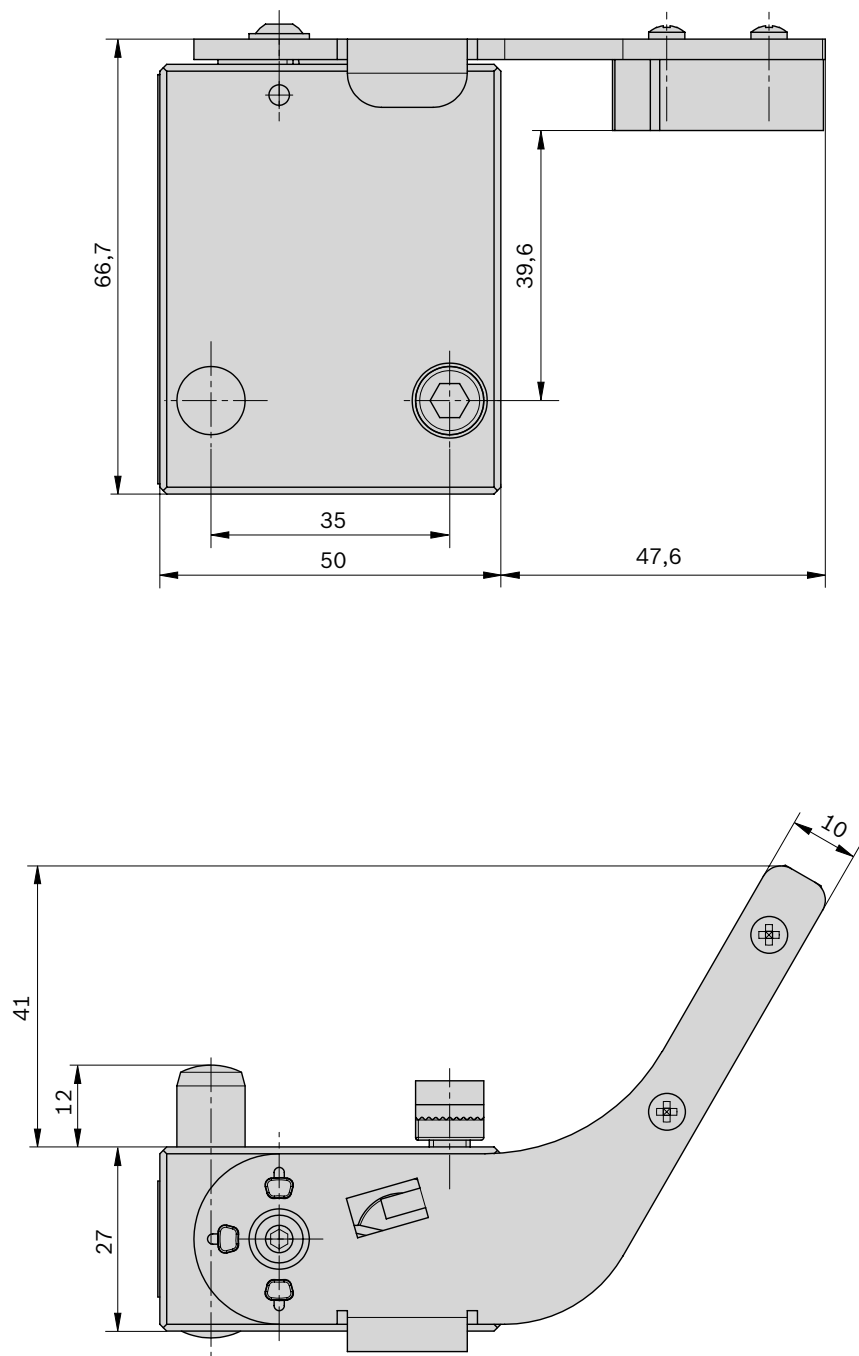
- 1x scraper, right or left, including fastening material

Ordering information

Product designation	Material number
Scraper, right	3842532679
Scraper, left	3842532680



Dimensions

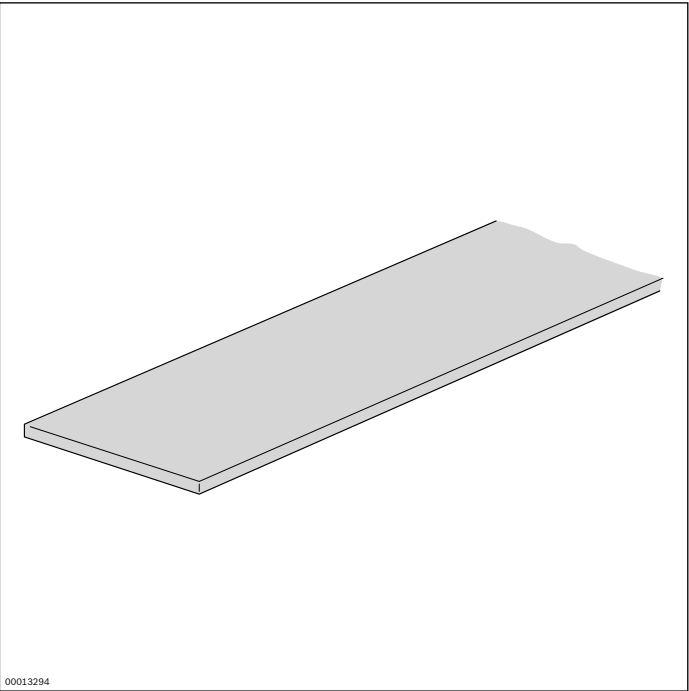


27630

GT 2 belt



3



The belt as a conveyor medium transports the workpiece pallets into the transfer system. The belts are pretensioned during installation and bonded to form a continuous belt.

A belt mounting tool kit is used for jointing, tensioning and bonding.

Accessories

Required accessories

- ▶ Belt mounting tool kit, see p. 3-48
- ▶ Glue, see p. 3-47

Ordering information

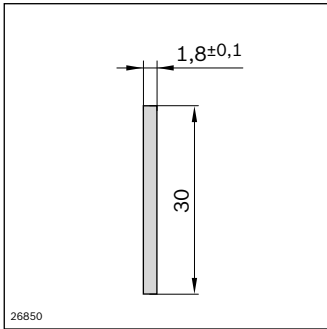
Product designation	l (m)	l (m)	Material number
GT 2 belt	250		3842539479
GT 2 belt		1 ... 250 ¹⁾	3842992811

¹⁾ Order and delivery are possible only up to the next full meter

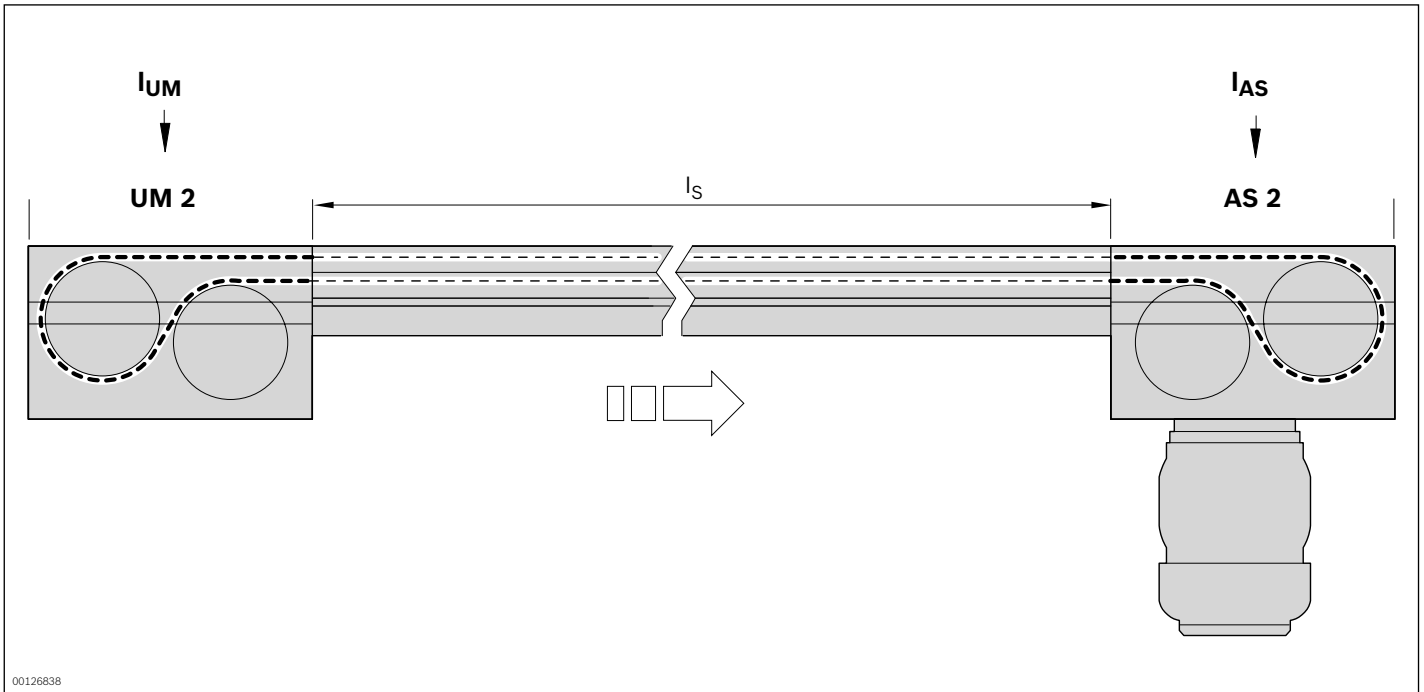
Technical data

Material number		3842539479	3842992811
Features			
ESD		yes	yes
Material specification		Polyamide (PA)	Polyamide (PA)
Dimensions			
Length	l	m	250
Length	l	m	1 ... 250

Dimensions



Calculating the required length of the conveyor medium



The required belt length is determined using the following formula.

Note: A pre-tensioning factor F is required for the belt, see the “Pre-tensioning factor F for belts” overview.

$$l_B = ((2 \times l_s + l_{AS} + l_{UM}) \times F) + 60$$

Pretensioning factor F for belt

at $l_s \leq 4$ m, $F = 0.98$

at $l_s > 4$ m, $F = 0.975$

Length of the conveyor medium for belt

$l_{UM} = 660$ mm

$l_{AS} = 660$ mm

l_B = Length of belt

l_s = Length of section

l_{AS} = Length of the conveyor medium at the drive module

l_{UM} = Length of the conveyor medium at the return unit

F = pretensioning factor

Glue



3

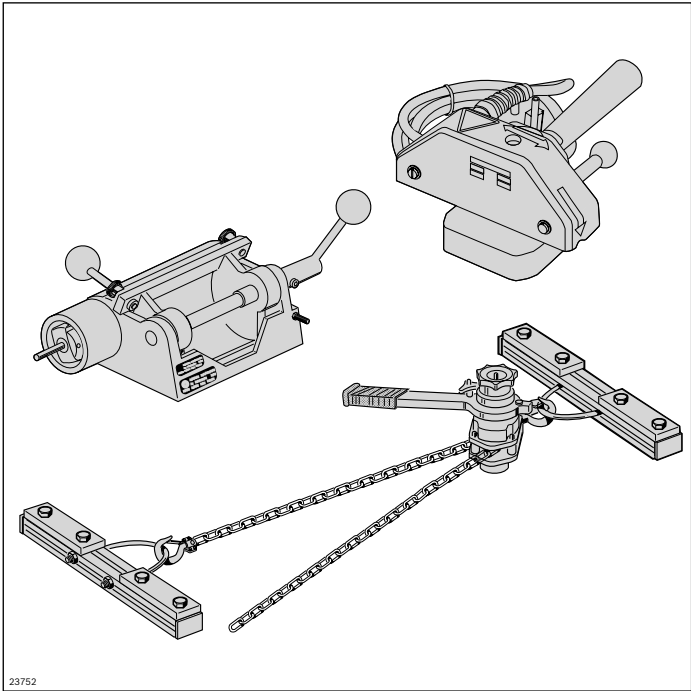


- ▶ Used for bonding belts
- ▶ For use in connection with the belt mounting tool kit
- ▶ For industrial use only
- ▶ Following the safety instructions

Ordering information

Product designation	Material number
Glue, 50 ml	3842315106

Belt mounting tool



- ▶ Skiving device for reducing belts at connection points
- ▶ Heat press to glue the belt ends thermally
- ▶ Belt pretensioning device

The belt mounting tool is used to join the ends of belts for section lengths $l > 2000$ mm.

Accessories

Required accessories

- ▶ Glue, see p. 3-47

Delivery note

Scope of delivery

- ▶ Skiving device
- ▶ Heating press
- ▶ Pretensioning device
- ▶ Abrasive belt
- ▶ Brush

Recommended accessories

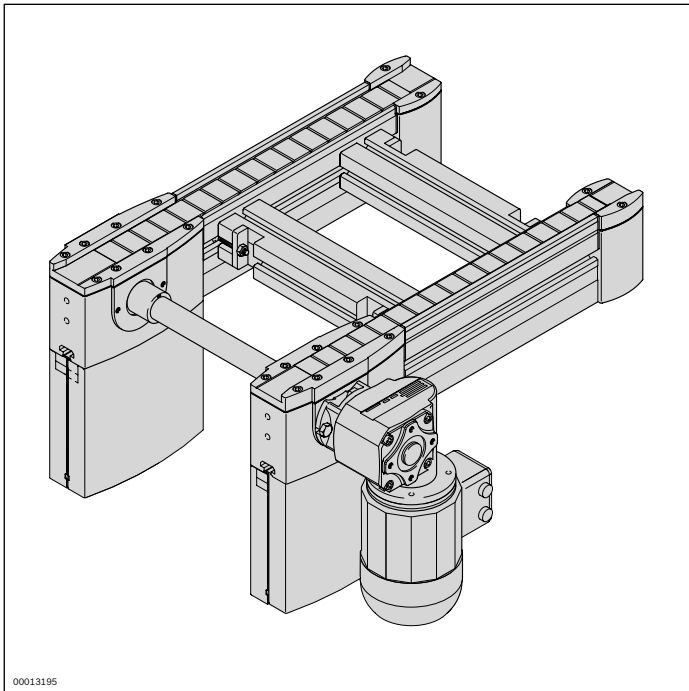
- ▶ Second heating press for the simultaneous bonding of adjacent belts

Ordering information

Product designation	Material number
Heating press, single	3842315101
Belt mounting tool kit	3842532810



Flat top chain conveyor medium



The flat top chain conveys primarily medium and large-sized workpiece pallets in environments with low to moderate production emissions.

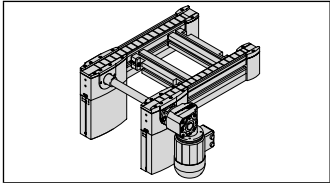
The arcing capacity of the plastic flat top chain permits continuous drive combinations with curve arcs (see p. 4-32).

PA wear pads on the workpiece pallets are recommended in the combination with the plastic flat top chain. This permits in the standard design with plastic glide profiles in the section profile surface loads of up to 1 kg/cm, whereas the optionally available version with steel glide profiles can tolerate surface loads of up to 1.5 kg/cm.

A particularly robust combination can be created from the HD profiles in combination with steel glide profiles and steel guide profile.

Reversible operation is not permitted with the flat top chain conveyor medium.

If flat top chains are used, the LU2 automatic lubrication unit is highly recommended



Single-track CS/C section, BS 2 belt section ...



$\Sigma 100$ kg

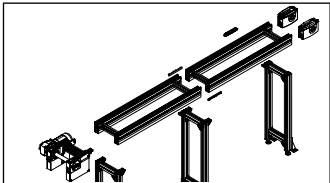


$\Sigma 250$ kg



$\Sigma 400$ kg

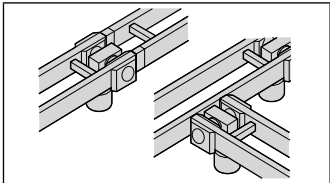
3-52



**Parts for conveyor units
AS 2/..., UM 2/..., ST 2...**



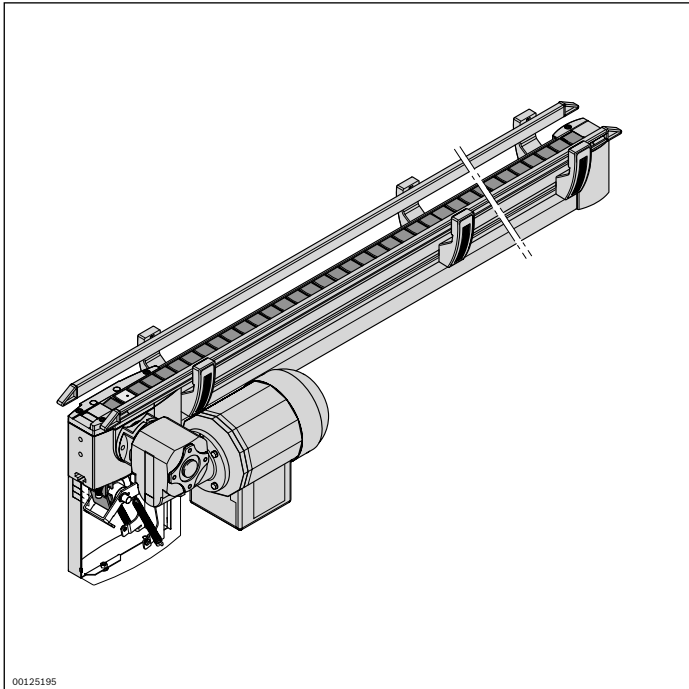
3-66



Connection kits

3-228

Single-track CS/C section



- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Motor mounting right or left
- ▶ Conveyor medium plastic flat top chain optional in ESD version
- ▶ Special models on request
- ▶ Reversible operation is possible for $l \leq 2000$ mm and environments without small parts

The CS/C single-track section is a conveyor section that is ready for operation with own drive for the transportation of small parts for mounting and assembly workstations.

Accessories

Recommended accessories

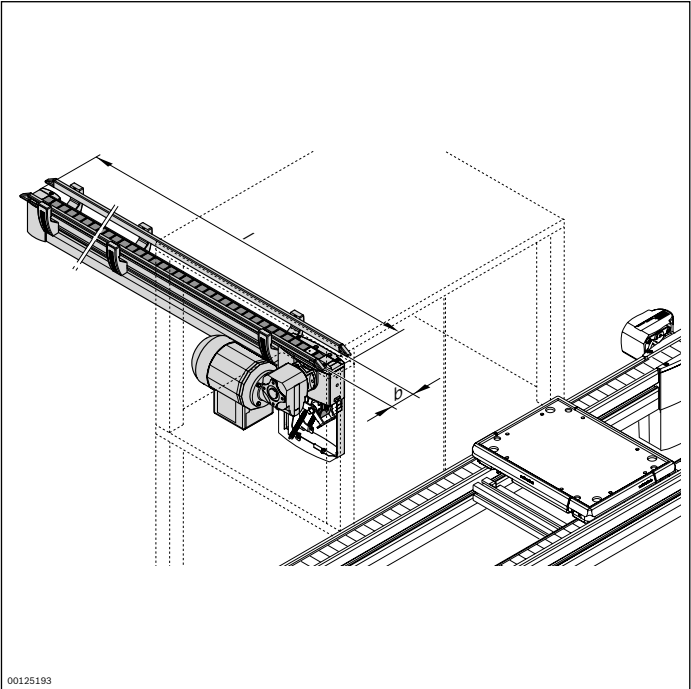
- ▶ Connection kits, see p. 3-228
- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



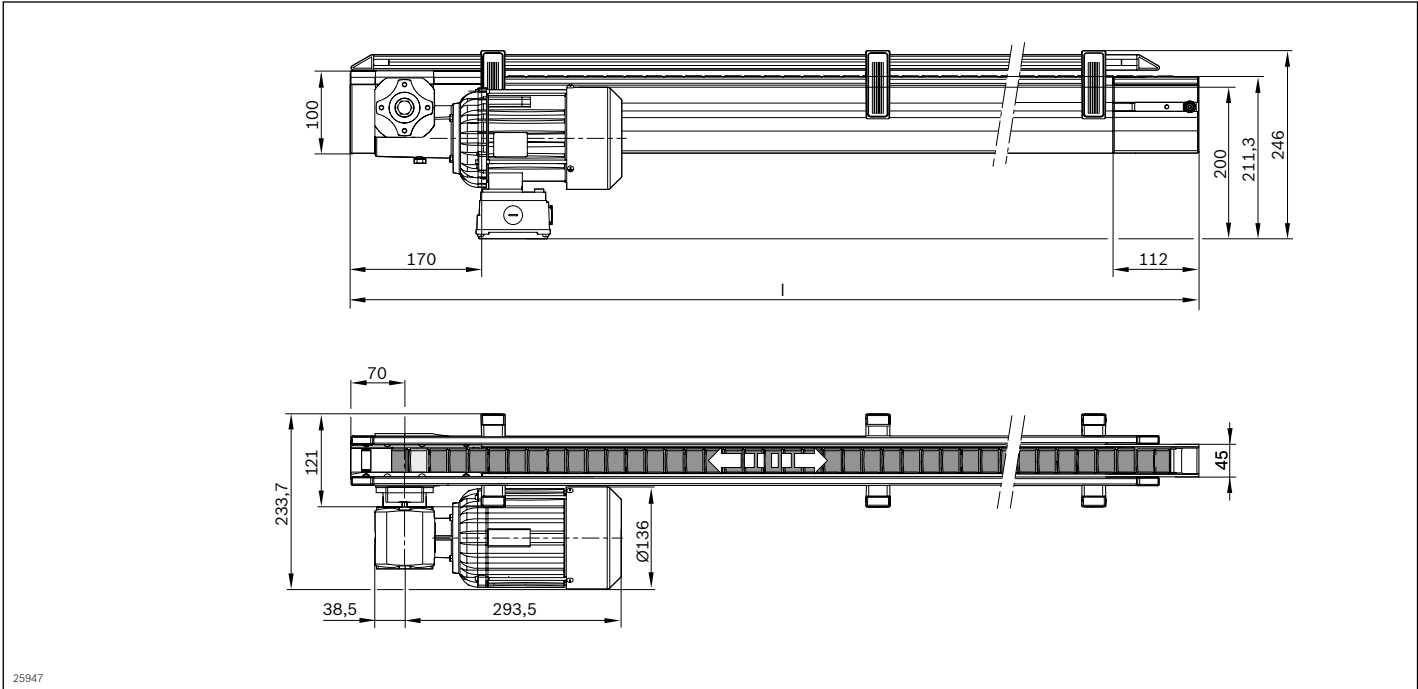
Material number		3842998277
b (mm)	Track width in direction of transport	42; 52; 62; 72
l (mm)	Length	350 ... 6000
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L
KA	Chain version Chain in standard version (KA = N) Chain in anti-static version (KA = N)	N; A

Technical data

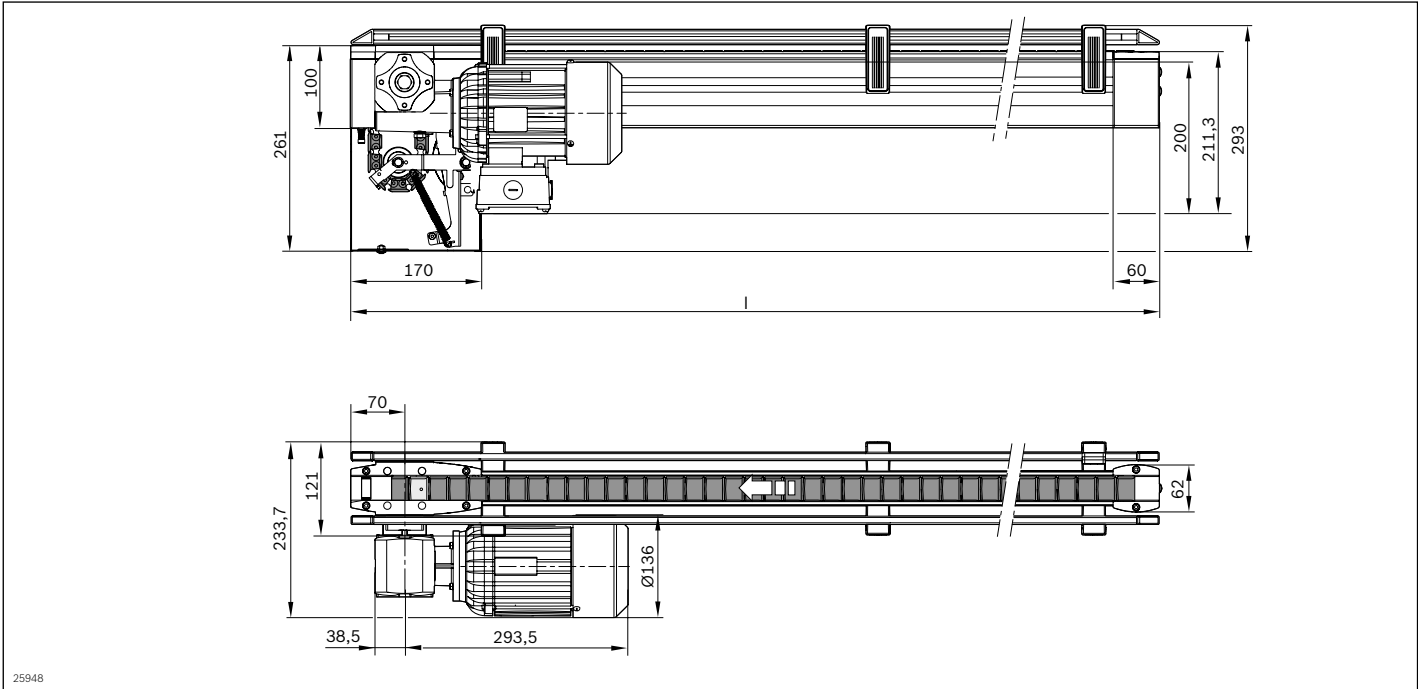
Material number			3842998277
Load			
Max. section load in accumulation operation		at l = 2001 ... 6000 mm	at l = 350 ... 2000 mm
	kg	100	70
Features			
ESD			yes, with KA = A ^{*)}
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	350 ... 6000

^{*)} Chain in anti-static version (KA = A)

Dimensions
CS/C ≤ 2000 mm



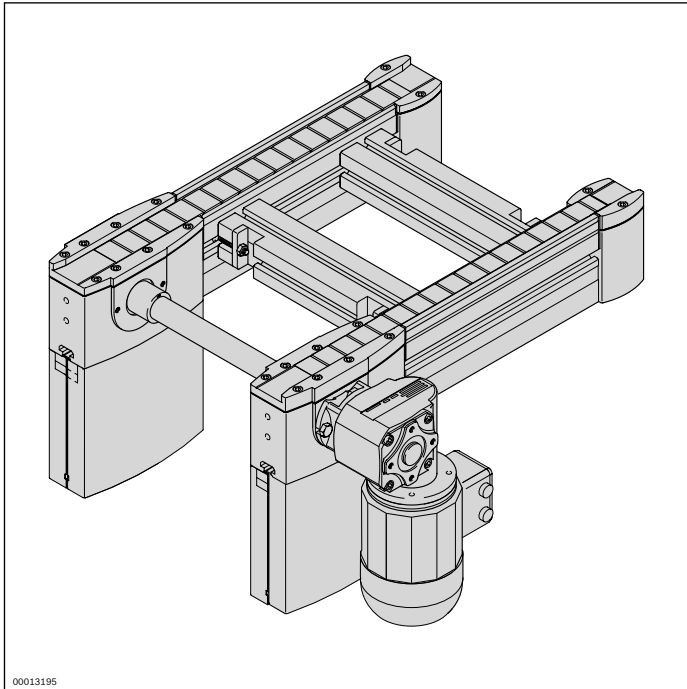
CS/C > 2000 mm



BS 2/C-100 belt section



3



- Functional operation conveyor complete with drive
- Longitudinal conveying of the workpiece pallet on conveyor sections of up to 6000 mm
- Transverse conveyor between parallel conveyor sections
- Conveyor medium plastic flat top chain optional in ESD version
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request
- Reversible operation not permitted
- Use with medium accumulation loads
- The LU 2 automatic lubrication unit is highly recommended

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying

of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Accessories

Recommended accessories

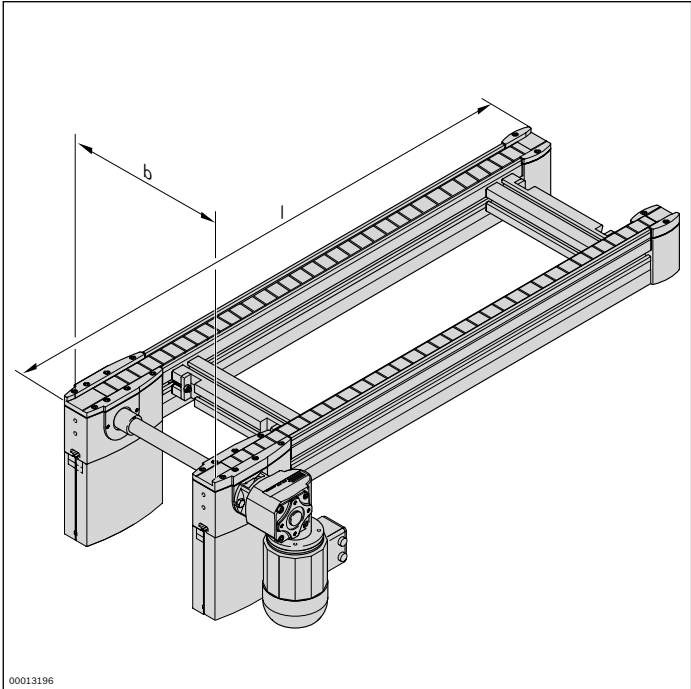
- Connection kits, see p. 3-228
- SZ 2 leg sets/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-84

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999917
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
l (mm)	Length	300 ... 6000
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ³⁾
KA	Chain version Chain in standard version (KA = N) Chain in anti-static version (KA = N)	N; A

¹⁾ Individual width variants available

²⁾ v_N = 0: without motor or gear

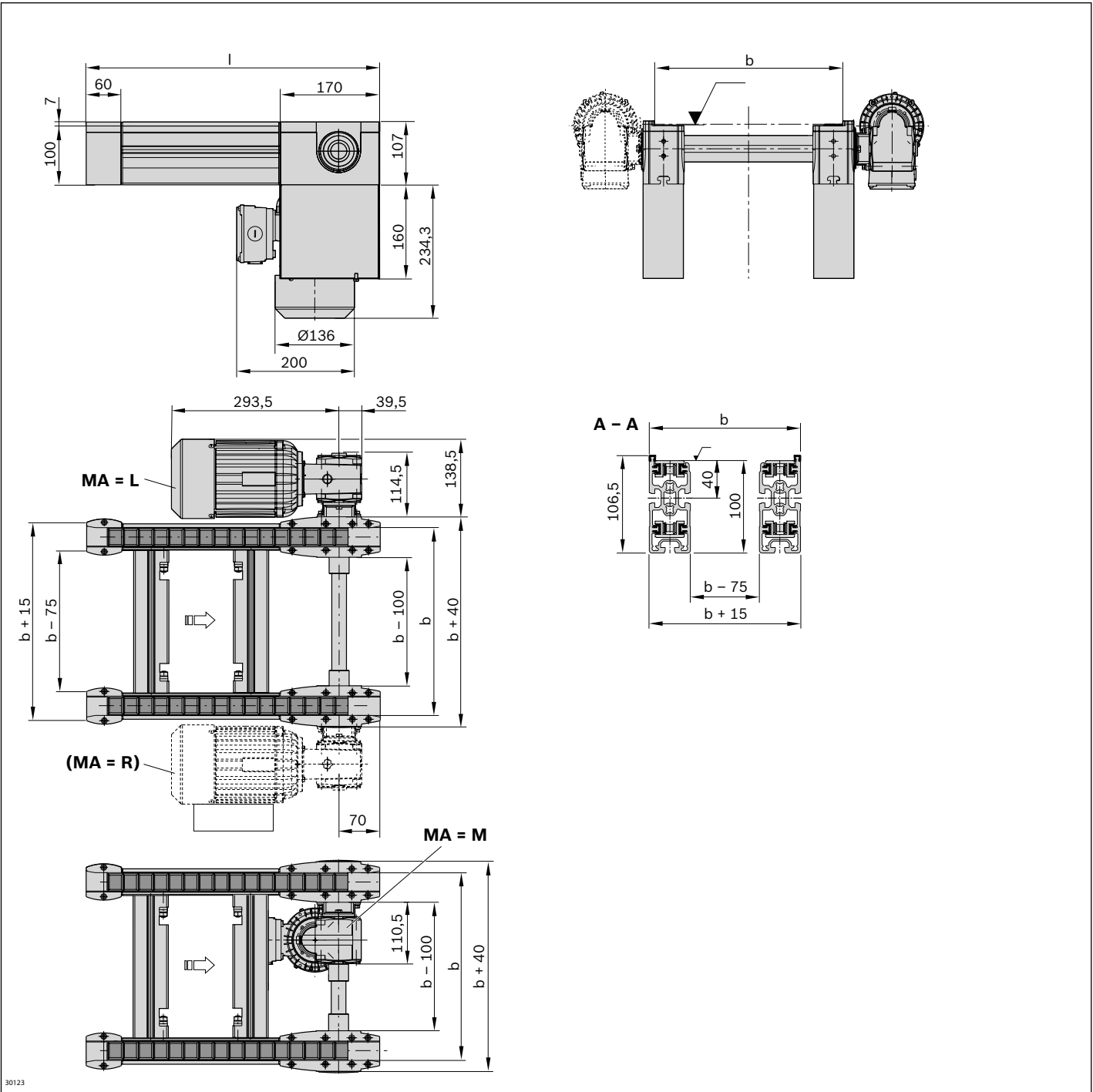
³⁾ MA = M only for b ≥ 240 mm

Technical data

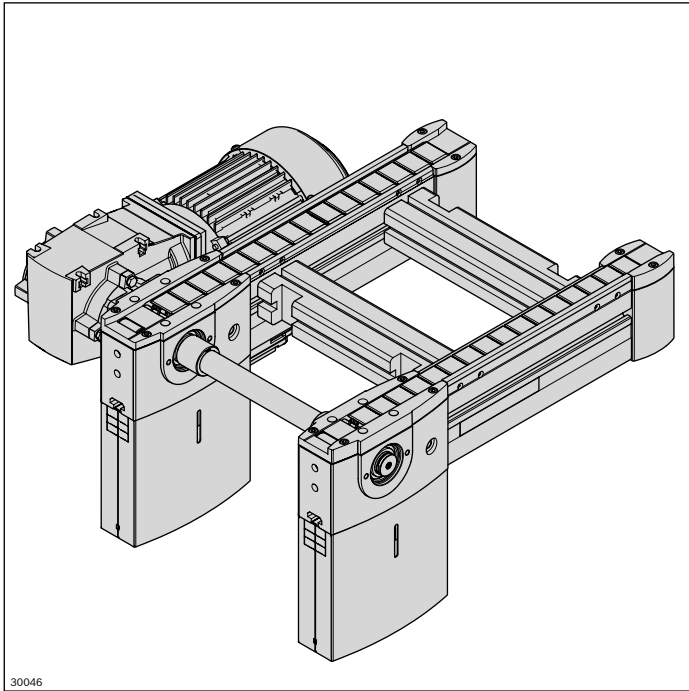
Material number		3842999917
Load		
Max. section load in accumulation operation	kg	100
Features		
ESD		yes, with KA = A ^{*)}
Material specification		Section profile: aluminum, natural; anodized Guide profile: Polyamide Slide profile: Polyamide
Max. operating temperature	T	°C
		+40
Dimensions		
Length	l	mm
		300 ... 6000

^{*)} Chain in anti-static version (KA = A)

Dimensions



BS 2/C-250 belt section



- ▶ Functional operation conveyor complete with drive
- ▶ Longitudinal conveying of the workpiece pallet on conveyor sections of up to 6000 mm
- ▶ Transverse conveying between parallel conveyor sections in conjunction with lift transverse units
- ▶ Conveyor medium plastic flat top chain optional in ESD version
- ▶ Motor mounting right or left
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Reversible operation not permitted
- ▶ Use with medium accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying

of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Accessories

Recommended accessories

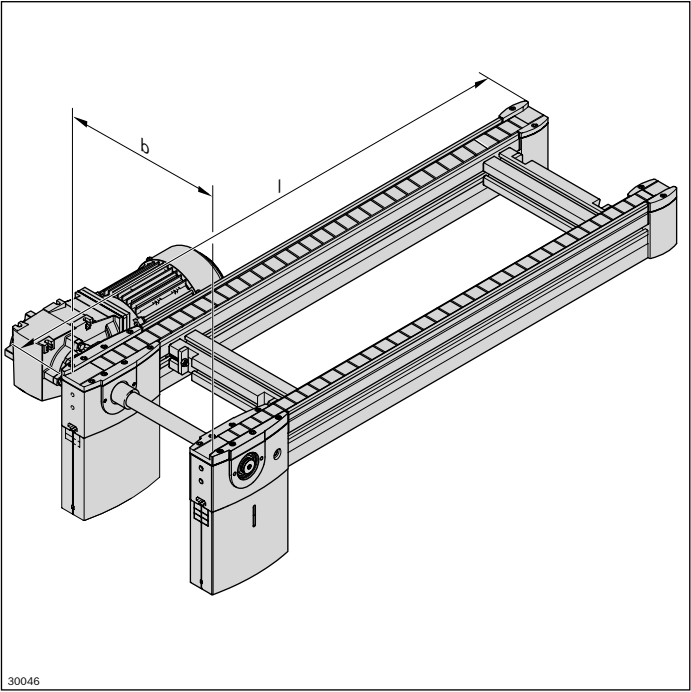
- ▶ Connection kits, see p. 3-228
- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842999985
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
l (mm)	Length	300 ... 6000
v _N (m/min)	Nominal speed	0 ¹⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L
KA	Chain version Chain in standard version (KA = N) Chain in anti-static version (KA = N)	N; A

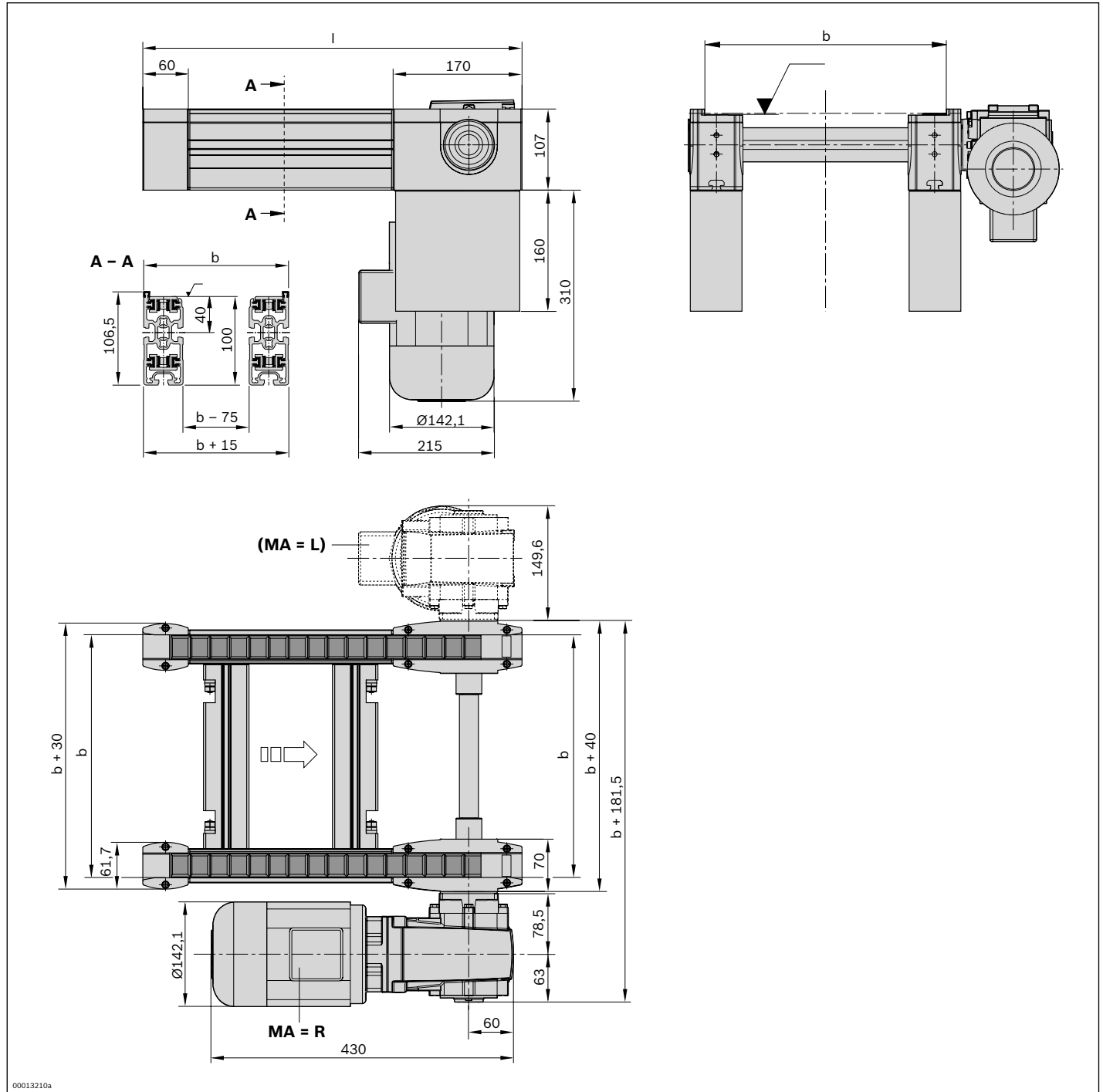
¹⁾ v_N = 0: without motor or gear

Technical data

Material number		3842999985
Load		
Max. section load in accumulation operation	kg	250
Features		
ESD		yes, with KA = A ^{*)}
Material specification		Section profile: aluminum, natural; anodized Guide profile: Polyamide Slide profile: Polyamide
Max. operating temperature	T °C	+40
Dimensions		
Length	l mm	300 ... 6000

^{*)} Chain in anti-static version (KA = A)

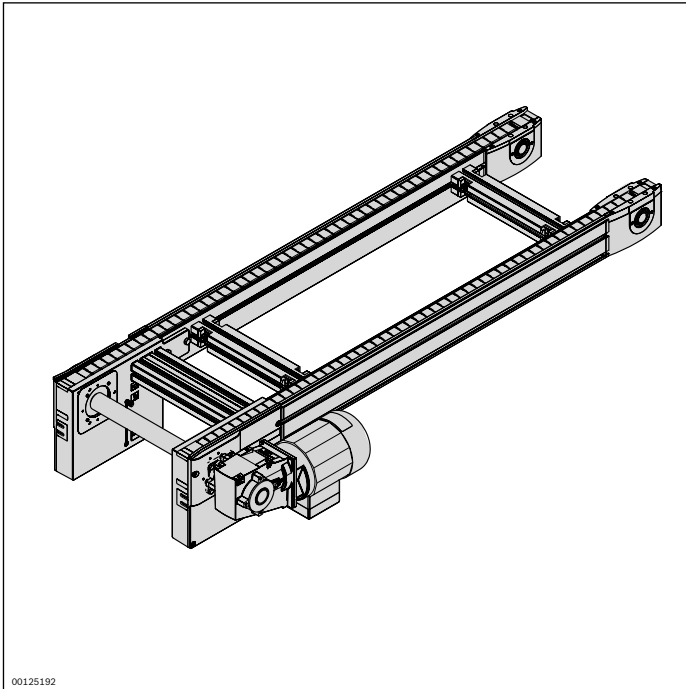
Dimensions



BS 2/C-H belt section



3



- ▶ Functional operation conveyor complete with drive
- ▶ Sturdy design for especially heavy-duty systems
- ▶ Longitudinal conveying of the workpiece pallet on conveyor sections of 6000 mm
- ▶ Transverse conveying between parallel conveyor sections in conjunction with lift transverse units
- ▶ Conveyor medium plastic flat top chain optional in ESD version
- ▶ Motor mounting right, left or central
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Stainless steel workpiece pallet lateral guide
- ▶ Reversible operation not permitted
- ▶ Profile width: 50 mm
- ▶ Use with high accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying

of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Accessories

Recommended accessories

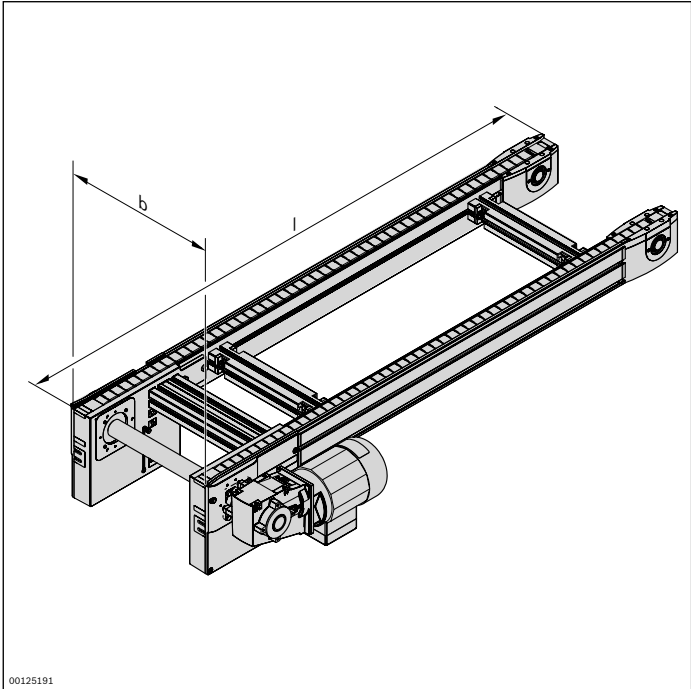
- ▶ Connection kits, see p. 3-228
- ▶ SZ 2/...-H leg sets, see p. 6-2
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998239
b (mm)	Track width in direction of transport	400 ... 1200
l (mm)	Length	650 ... 6000
v _N (m/min)	Nominal speed	0 ¹⁾ ; 6; 9; 12; 15; 18 ²⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M)
KA	Chain version Chain in standard version (KA = N) Chain in anti-static version (KA = N)	N; A
GP	Glide profile in corrosion-resistant steel (GP = 1) Plastic (GP = 0)	0; 1

¹⁾ v_N = 0: without motor or gear

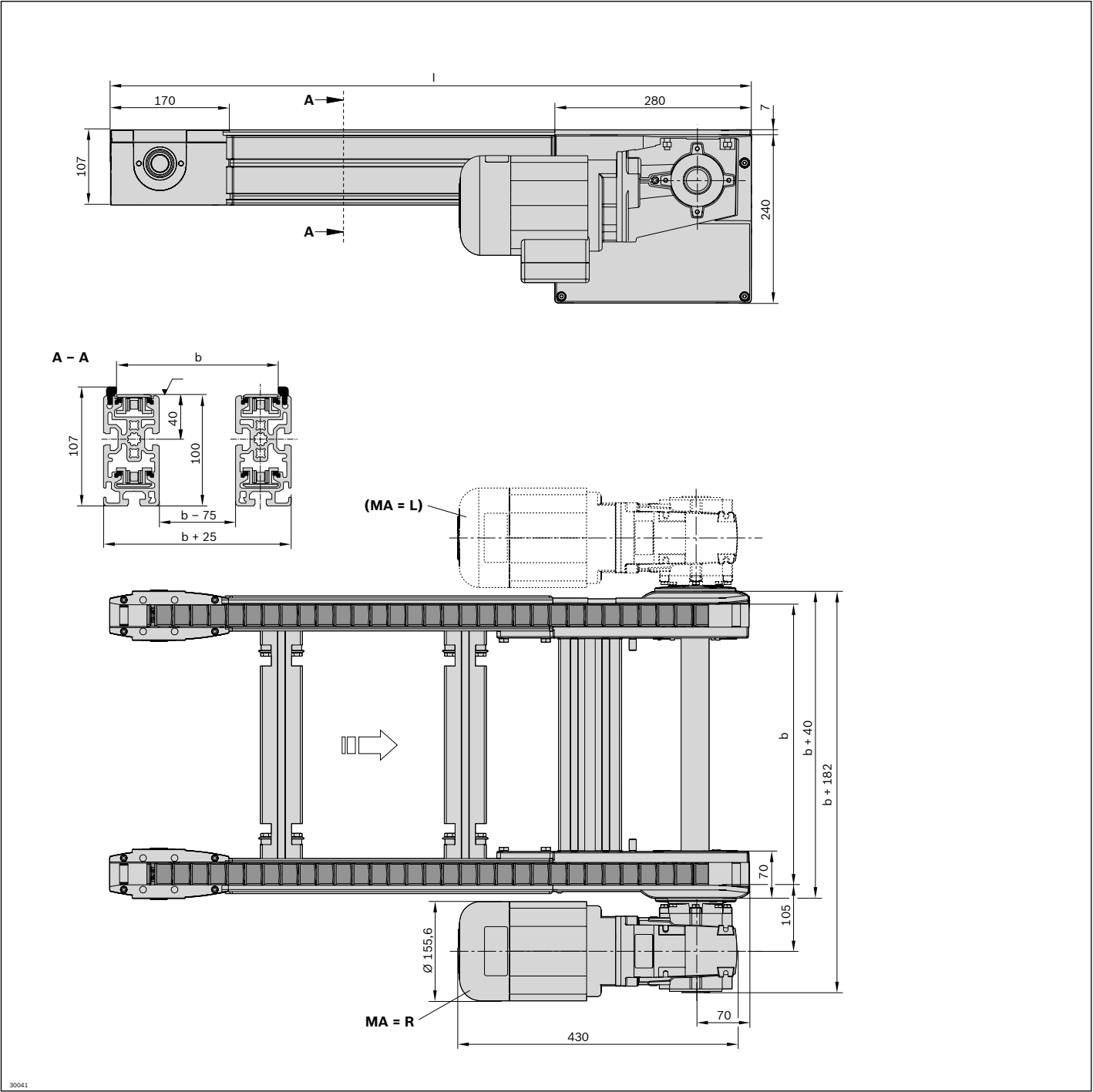
²⁾ Not possible if f = 60 Hz

Technical data

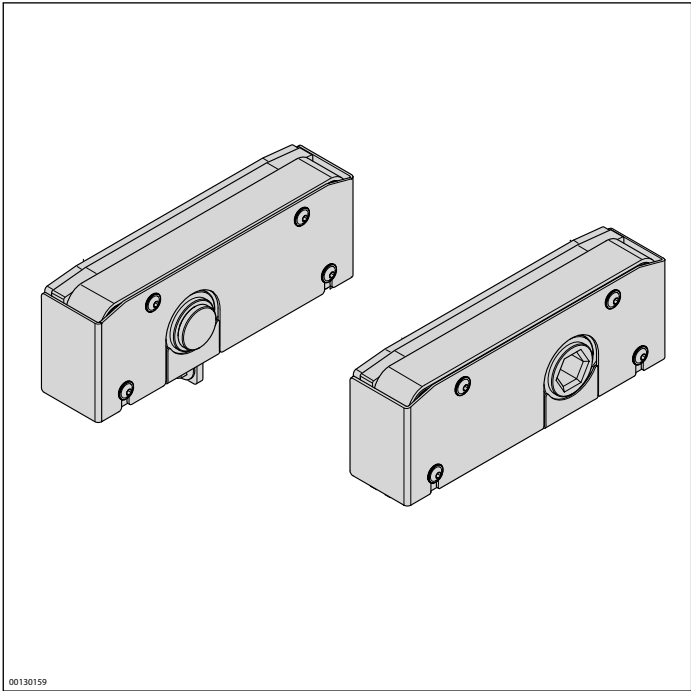
Material number		3842998239
Load		
Max. section load in accumulation operation	kg	400
Features		
ESD		yes, with KA = A ^{*)}
Material specification		Section profile: aluminum, natural; anodized Lateral guide: Stainless steel glide profile: Steel/plastic; corrosion-resistant
Dimensions		
Length	l	mm
		650 ... 6000

^{*)} Chain in anti-static version (KA = A)

Dimensions



BS 2/C+R connection belt



► Conveyor medium: Toothed belts in ESD version

The head-to-head connection of the drive and return heads results in short, non-driven sections. The connection belt is

used to bridge these > 180 mm conveyor trenches by using short $l_{WT} < 320$ mm workpiece pallets.

Delivery note

Condition on delivery

- Fully assembled

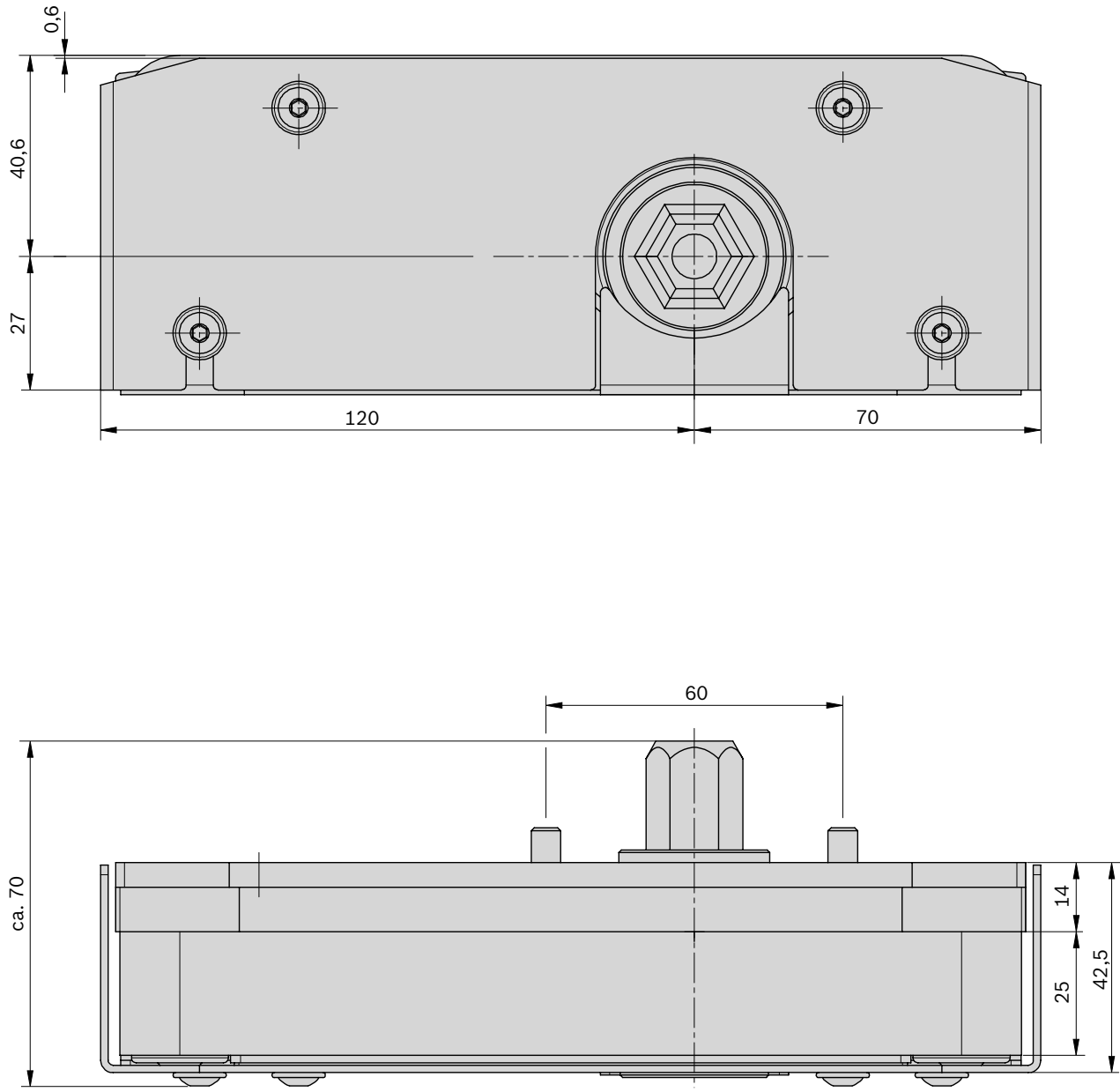
Ordering information

Product designation	Material number
Connection belt, left	3842528480
Connection belt, right	3842539096

Technical data

Material number	3842528480	3842539096
Features		
ESD	yes	yes

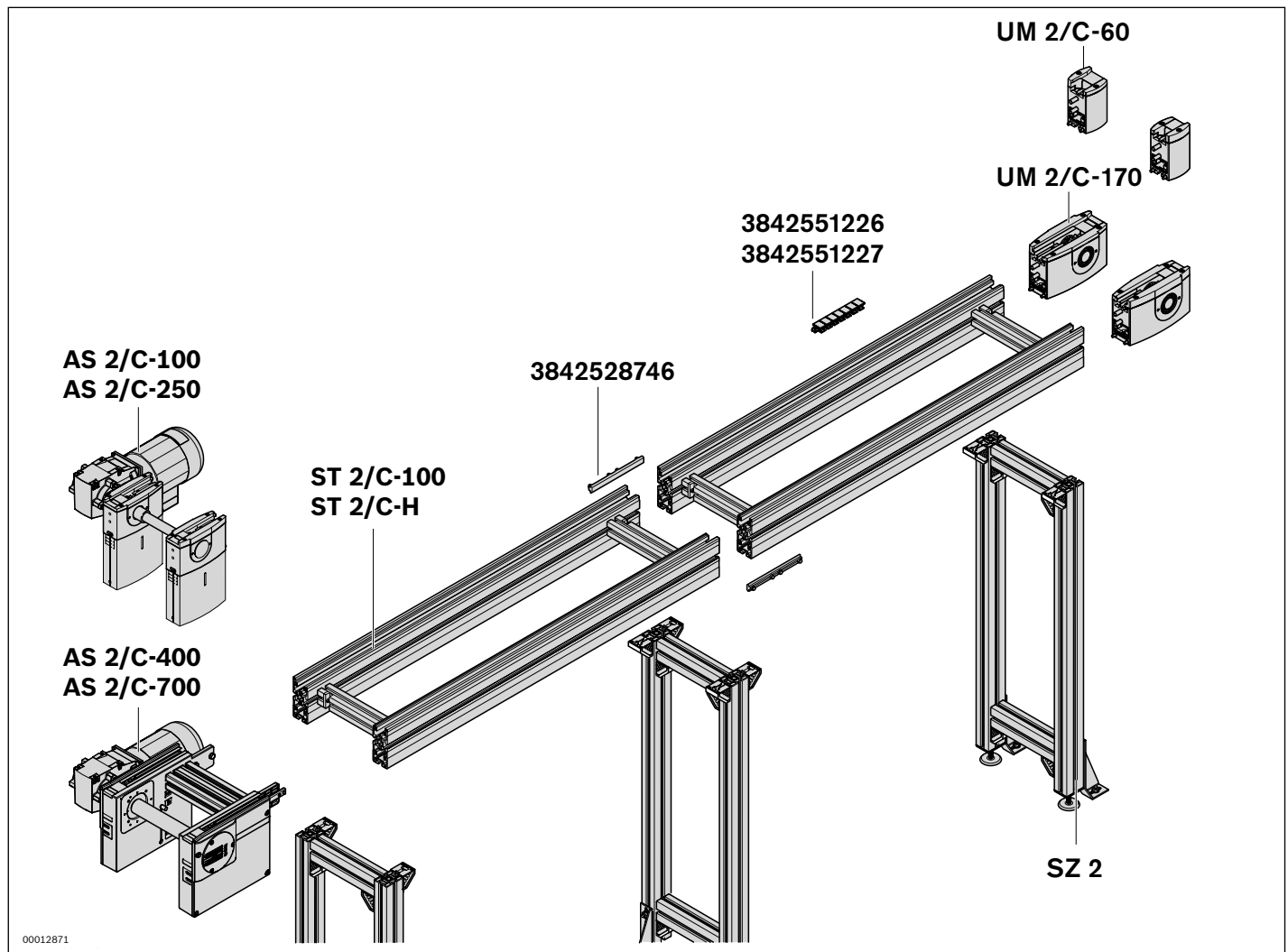
Dimensions



27631

Conveyor units

Parts for conveyor medium flat top chain

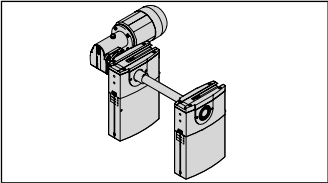


A conveyor unit is a complete unit used for linear conveying of workpiece pallets. It consists of:

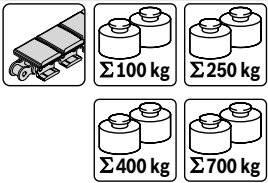
- ▶ AS 2/C drive module, see p. 3-68
- ▶ UM 2/C return unit, see p. 3-80
- ▶ ST 2/... section, see p. 3-86
- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ QV 2 cross connector, see p. 3-107
- ▶ Flat top chain, see p. 3-115

The UM 2/C and AS 2/C-... may be set up right next to each other, which allows for conveyor unit combinations.

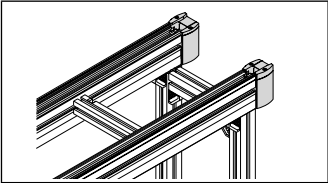
Drive modules for loads up to $m_G = 100$ kg; 250 kg; 400 kg; or up to $m_G = 700$ kg per conveyor unit.



AS 2/C... drive module



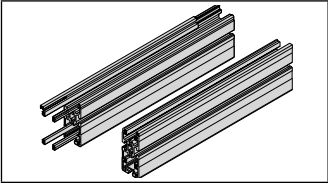
3-68



UM 2/C...return unit



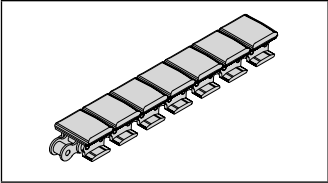
3-80



ST 2/C... section, components



3-86

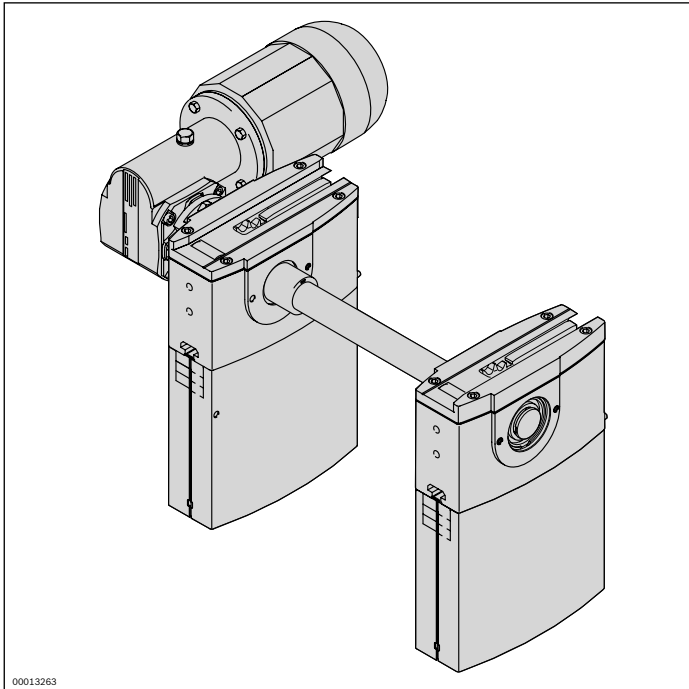


Conveyor medium flat top chain



3-115

AS 2/C-100 drive module



- ▶ Drive for conveyor unit self-assembly
- ▶ Conveyor medium: Flat top chain
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Reversible operation not permitted
- ▶ Use with medium accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The AS 2/B-... drive module drives the conveyor medium flat top chain in self-built conveyor section elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 3-228
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

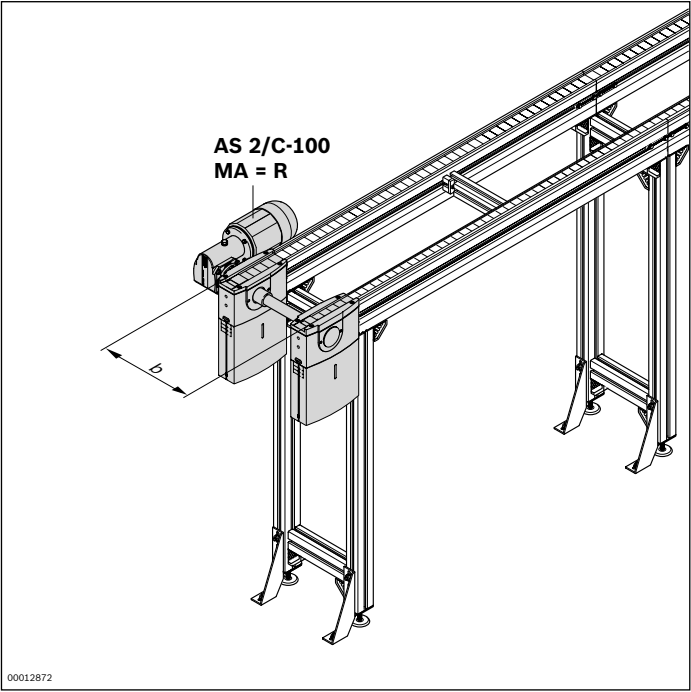
Scope of delivery

- ▶ Includes fastening material to mount on the ST 2/... conveyor section, as well as to mount on an adjacent return unit.

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998053
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ³⁾

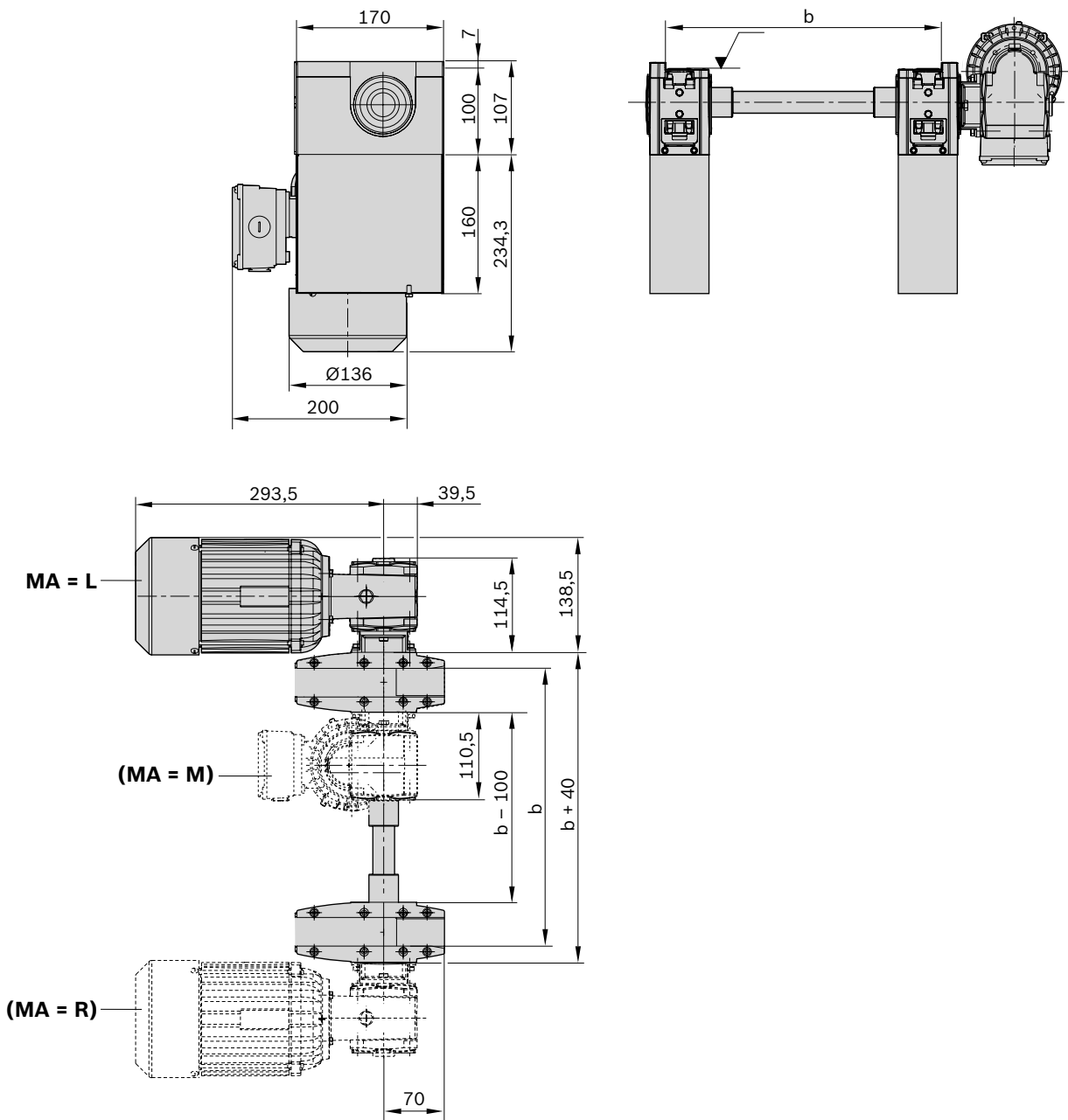
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998053
Load		
Max. section load in accumulation operation	kg	100
Features		
ESD		yes, with KA = A ^{*)}
Additional information		
Required conveyor media length ^{**) l_{AS}}	mm	475

^{*)} Chain in anti-static version (KA = A) required for ESD compatibility
^{**) Formula for calculating the conveyor medium, see p 3-116}

Dimensions

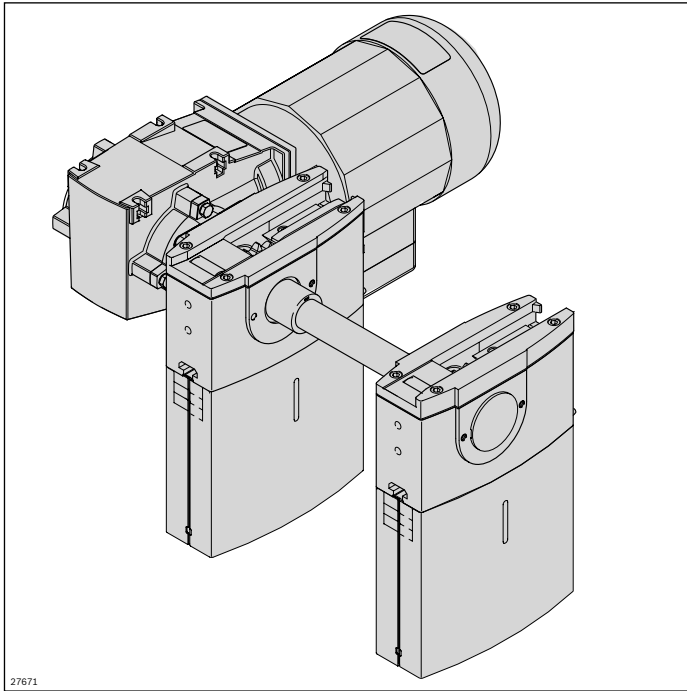


00013212

AS 2/C-250 drive module



3



- ▶ Drive for conveyor unit self-assembly
- ▶ Conveyor medium: Flat top chain
- ▶ Motor mounting right or left
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Reversible operation not permitted
- ▶ Use with medium accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The AS 2/B-... drive module drives the conveyor medium flat top chain in self-built conveyor section elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 3-228
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

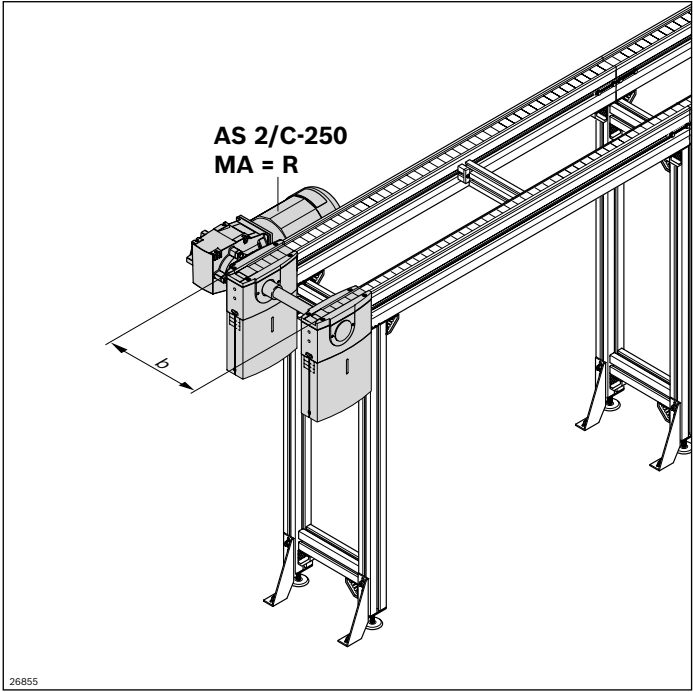
Scope of delivery

- ▶ Includes fastening material to mount on the ST 2/... conveyor section, as well as to mount on an adjacent return unit.

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998087
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L

¹⁾ Individual width variants available

²⁾ v_N = 0: without motor or gear

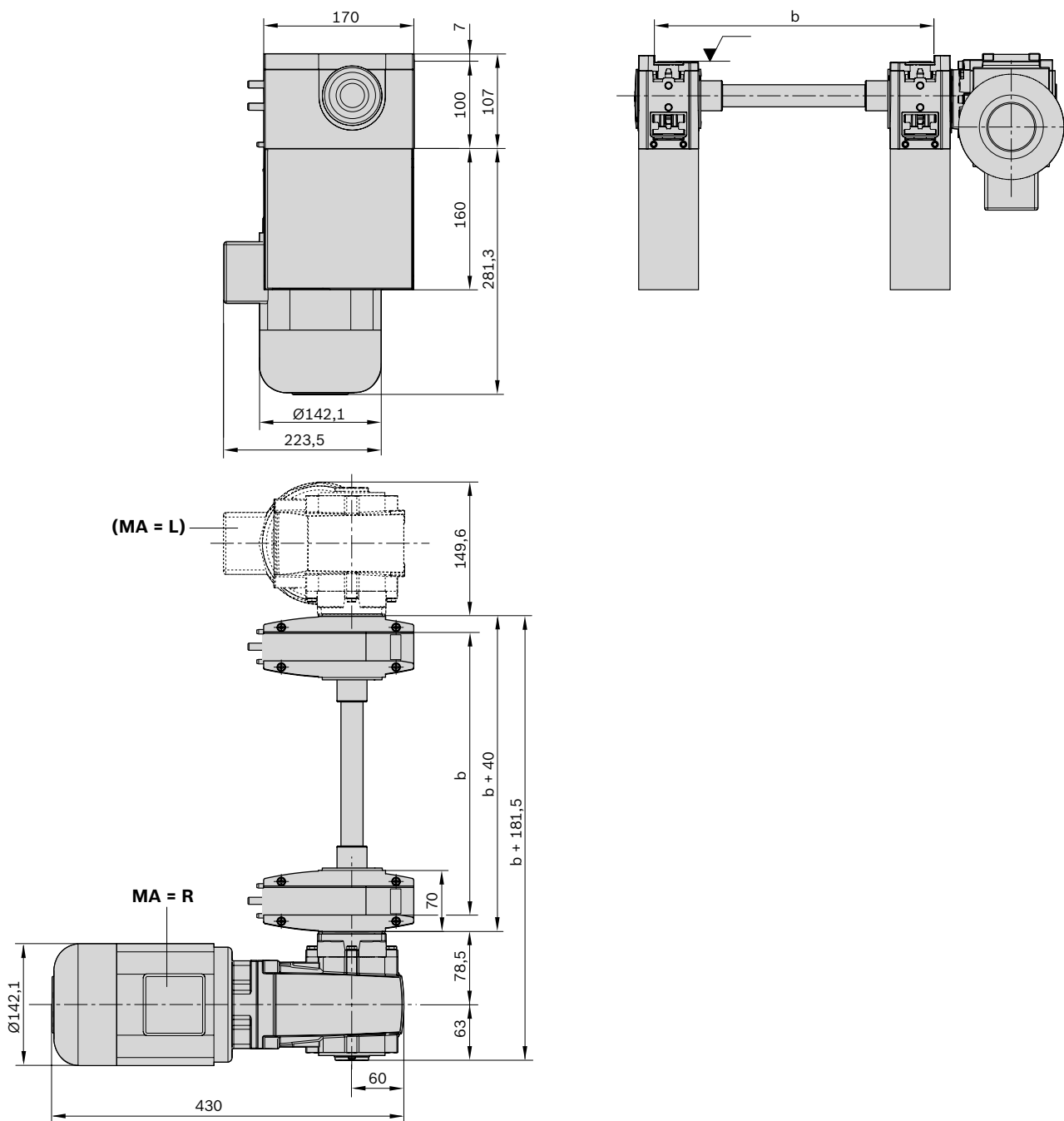
Technical data

Material number		3842998087
Load		
Max. section load in accumulation operation	kg	250
Features		
ESD		yes, with KA = A ^{*)}
Additional information		
Required conveyor media length ^{**)}	l _{AS} mm	475

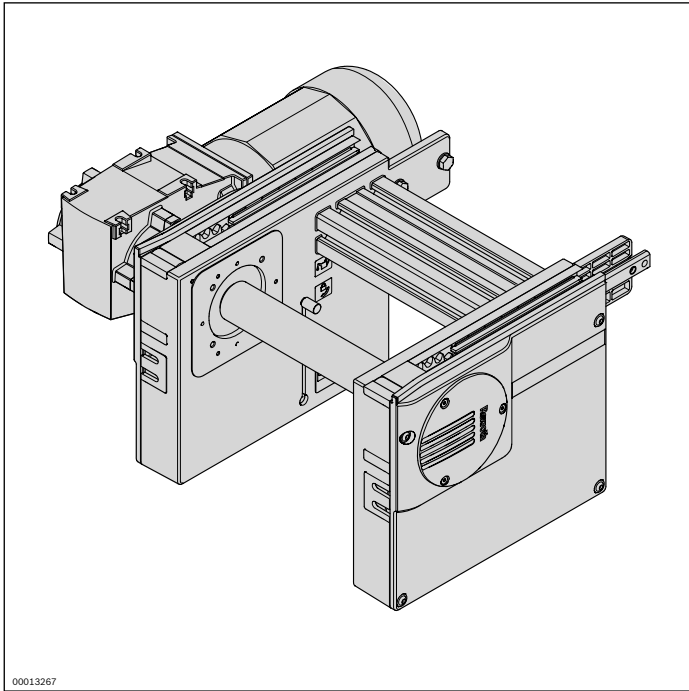
^{*)} Chain in anti-static version (KA = A) required for ESD capability

^{**)} Formula for calculating the conveyor medium, see p 3-116

Dimensions



AS 2/C-400 drive module



- ▶ Drive for conveyor unit self-assembly
- ▶ Conveyor medium: Flat top chain
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Reversible operation not permitted
- ▶ Use with medium accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The AS 2/B-... drive module drives the conveyor medium flat top chain in self-built conveyor section elements with

section, return unit and flat top chain.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 3-228
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

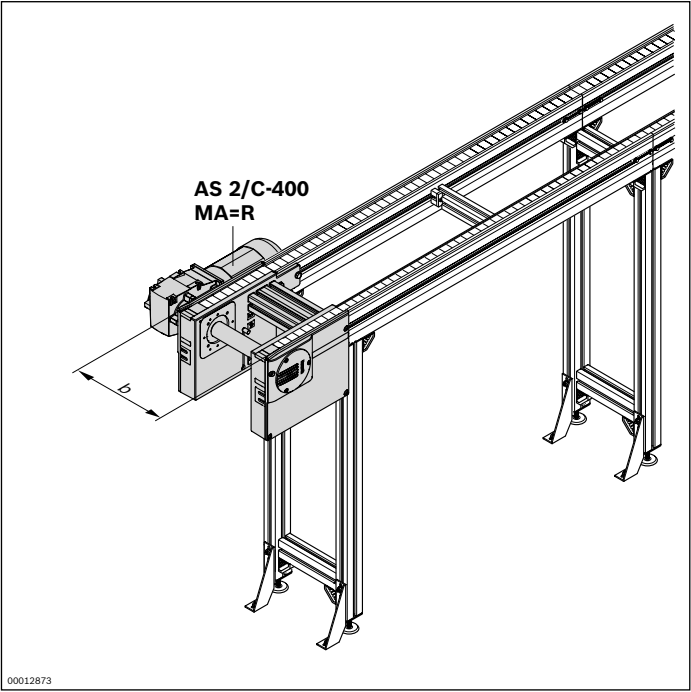
Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998038
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

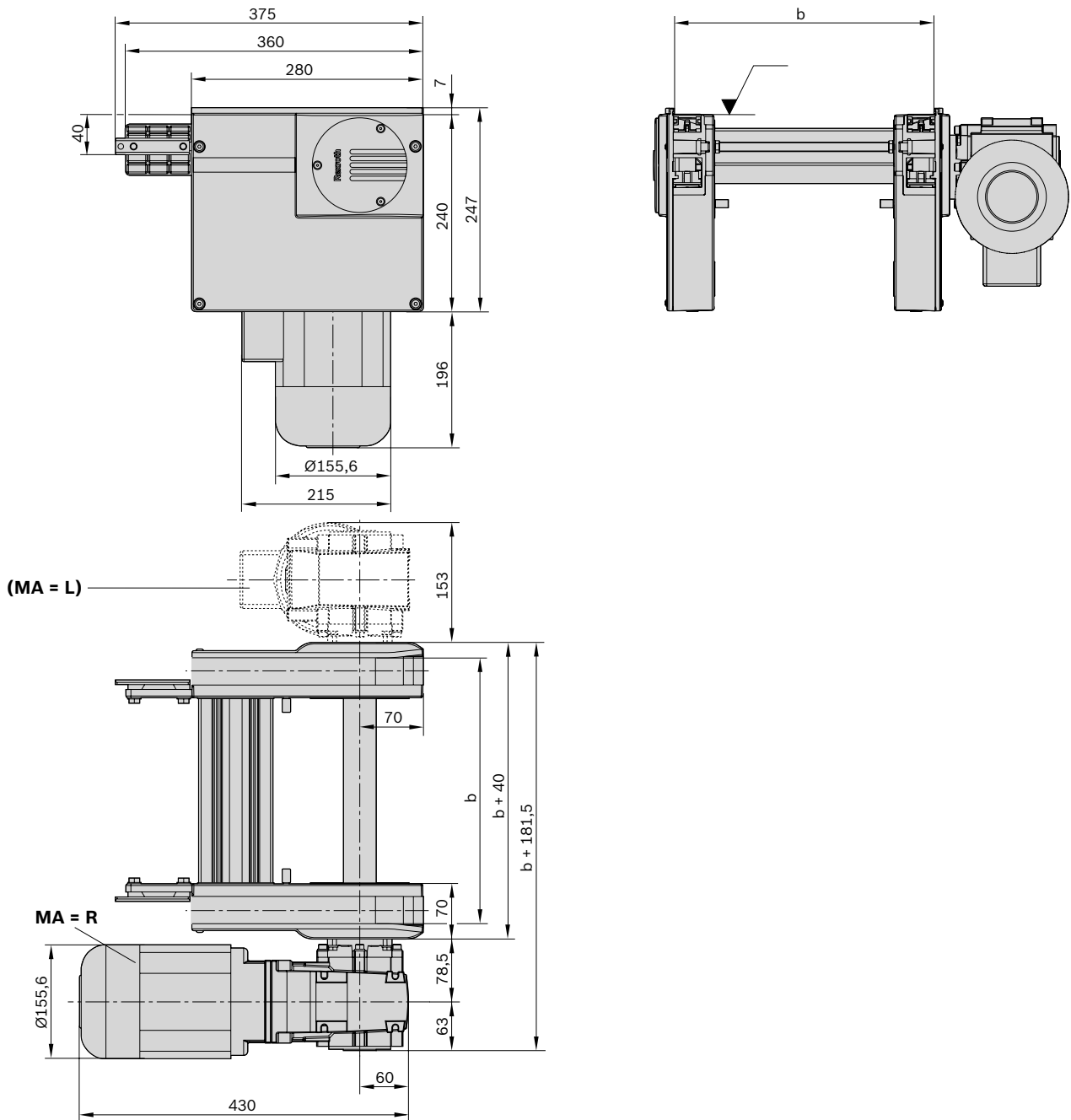
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Not possible if f = 60 Hz
⁴⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998038
Load		
Max. section load in accumulation operation	kg	400
Features		
ESD		yes, with KA = A ^{*)}
Additional information		
Required conveyor media length ^{**) I_{AS}}	mm	625

^{*)} Chain in anti-static version (KA = A) required for ESD compatibility
^{**) Formula for calculating the conveyor medium, see p 3-116}

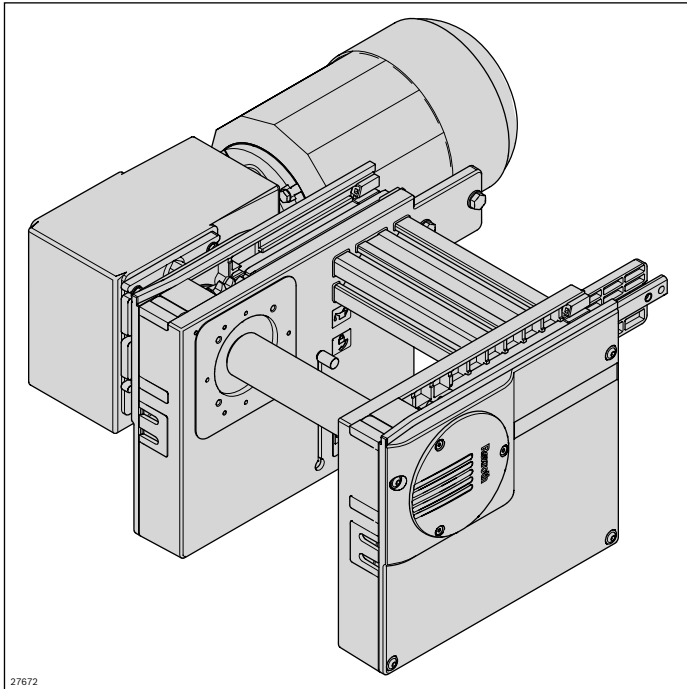
Dimensions



AS 2/C-700 drive module



3



- ▶ Drive for conveyor unit self-assembly
- ▶ Conveyor medium: Flat top chain
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request
- ▶ Reversible operation not permitted
- ▶ Use with high accumulation loads
- ▶ The LU 2 automatic lubrication unit is highly recommended

The AS 2/B-... drive module drives the conveyor medium flat top chain in self-built conveyor section elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 3-228
- ▶ LU 2 automatic lubrication unit, see p. 3-84

Delivery note

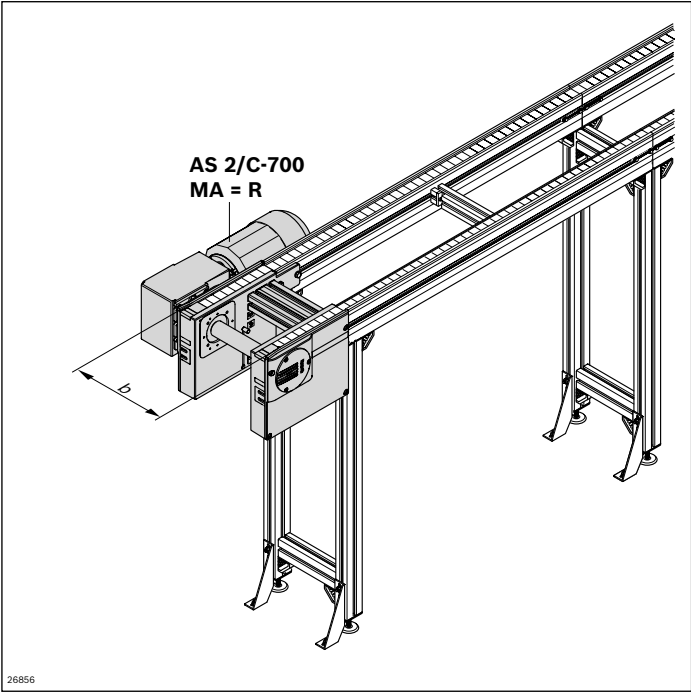
Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998039
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

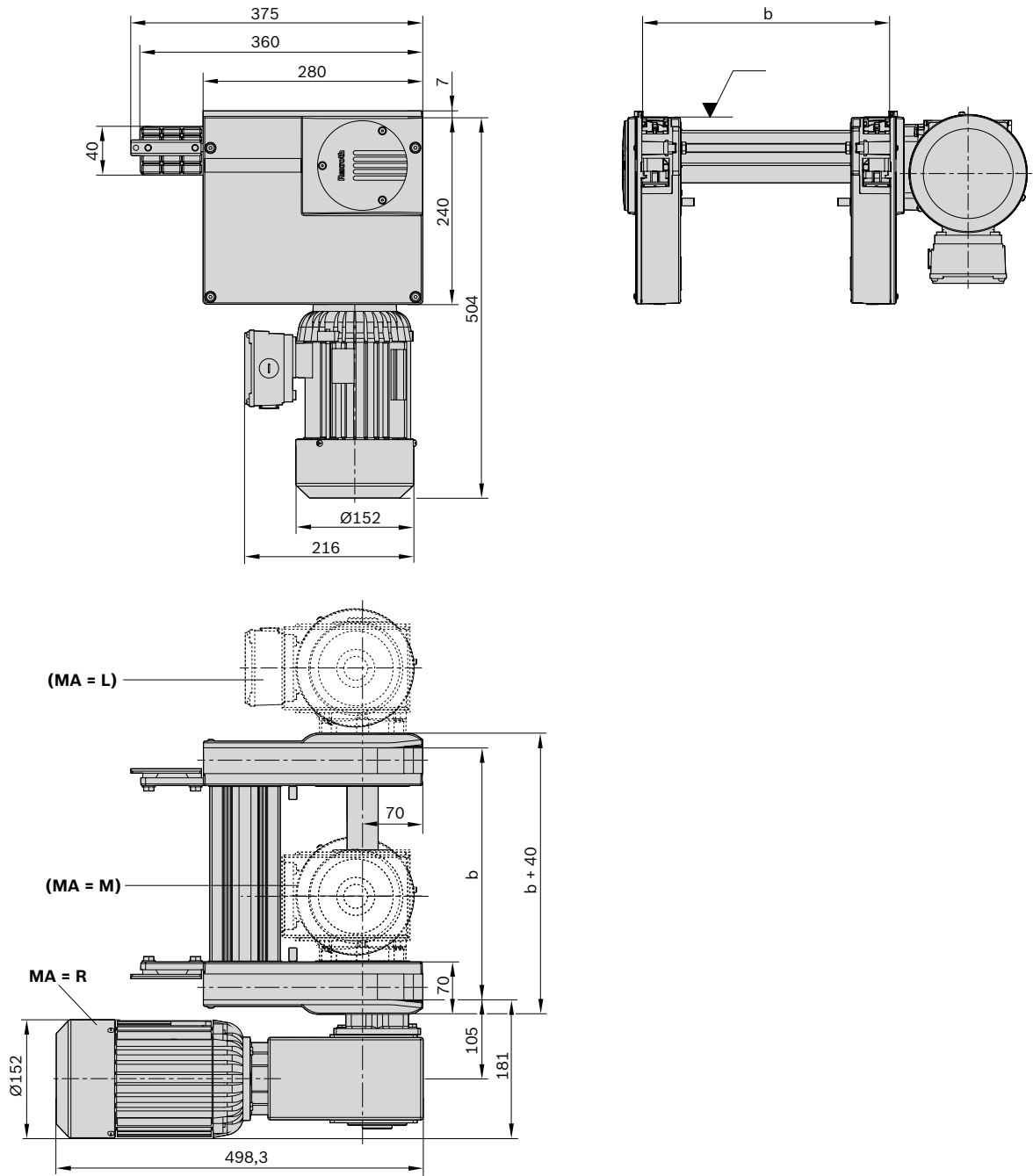
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Reduced load to 600 kg
⁴⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998039
Load		
Max. section load in accumulation operation	kg	700
Features		
ESD		yes, with KA = A ^{*)}
Additional information		
Required conveyor media length ^{**) i_{AS}}	mm	625

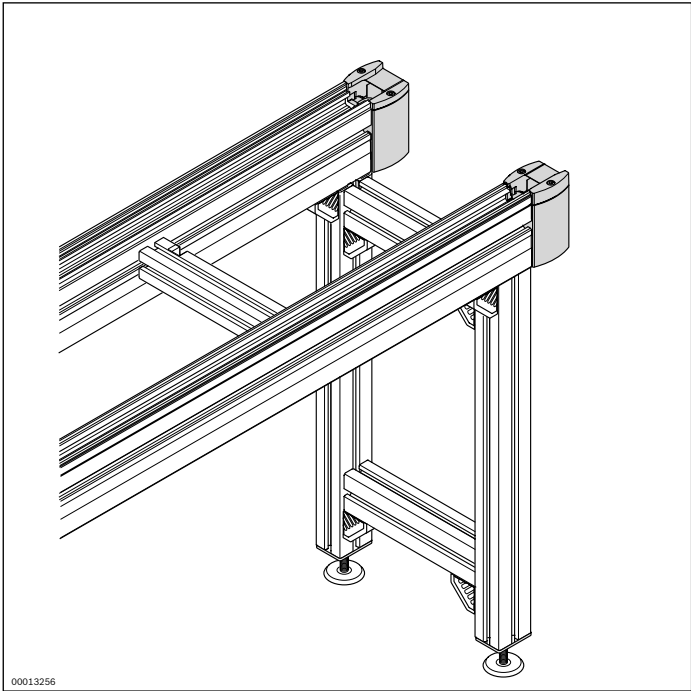
^{*)} Chain in anti-static version (KA = A) required for ESD compatibility
^{**) Formula for calculating the conveyor medium, see p 3-116}

Dimensions



00013277

UM 2/C-60 return unit



- Conveyor medium: Flat top chain
- For use in conjunction with all AS 2/C-... drive modules
- Version with sliding piece for return unit
- Recommended for sections up to l = 6000 mm

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Accessories

Required accessories

- Connection kits, see p. 3-228

Delivery note

Scope of delivery

- One pair of return unit heads
- Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- Fully assembled

Ordering information

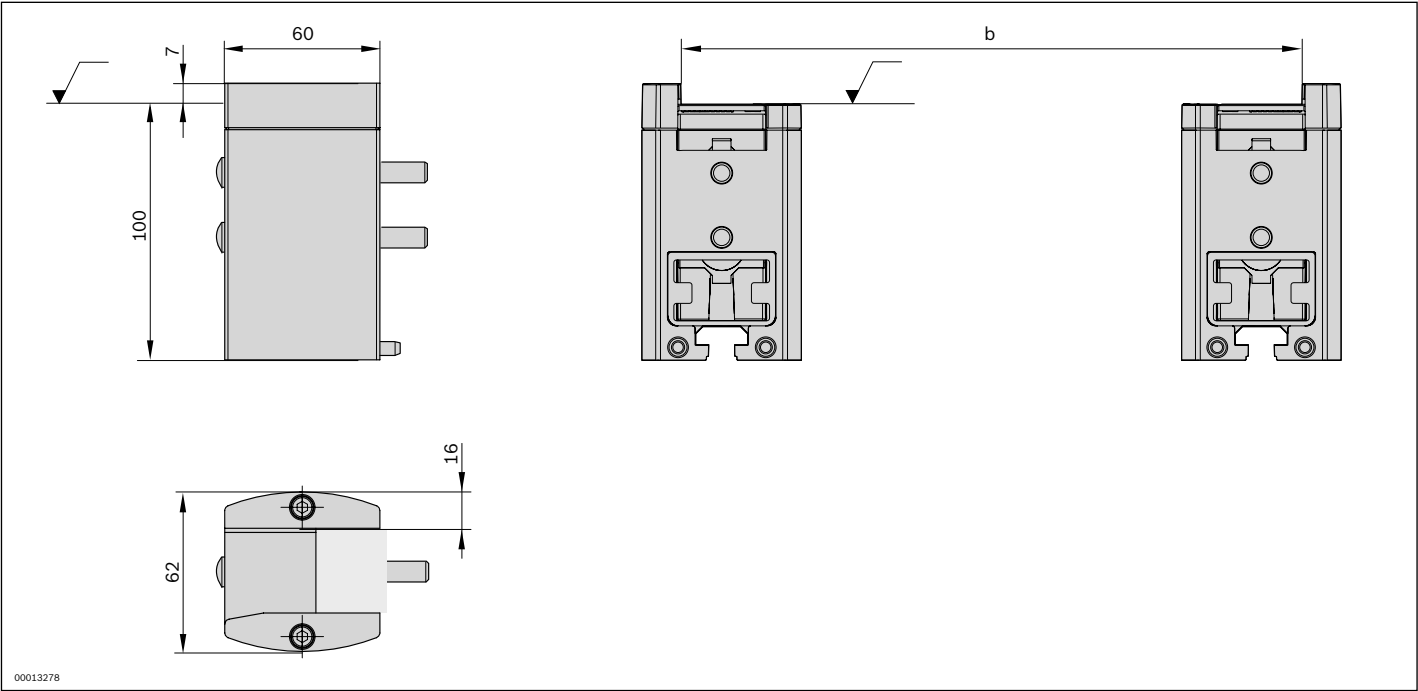
Product designation	Material number
UM 2/C-60 return unit	3842528802

Technical data

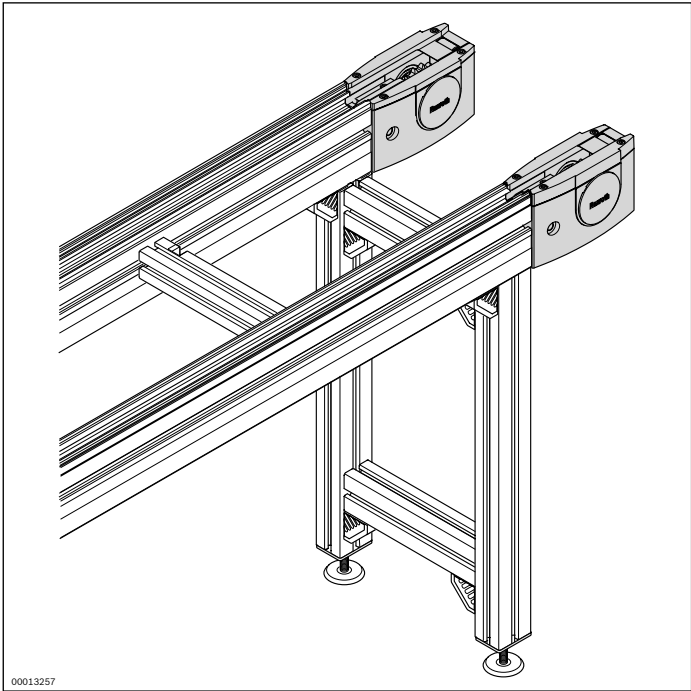
Material number		3842528802
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)}	l_{UM}	mm 150

^{*)} Formula for calculating the conveyor medium, see p 3-116

Dimensions



UM 2/C-170 return unit



- Conveyor medium: Flat top chain
- For use in conjunction with all AS 2/C-... drive modules
- Version with pinion for return unit
- Recommended for sections of $l > 6000$ mm

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Accessories

Required accessories

- Connection kits, see p. 3-228

Delivery note

Scope of delivery

- One pair of return unit heads
- Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- Fully assembled

Ordering information

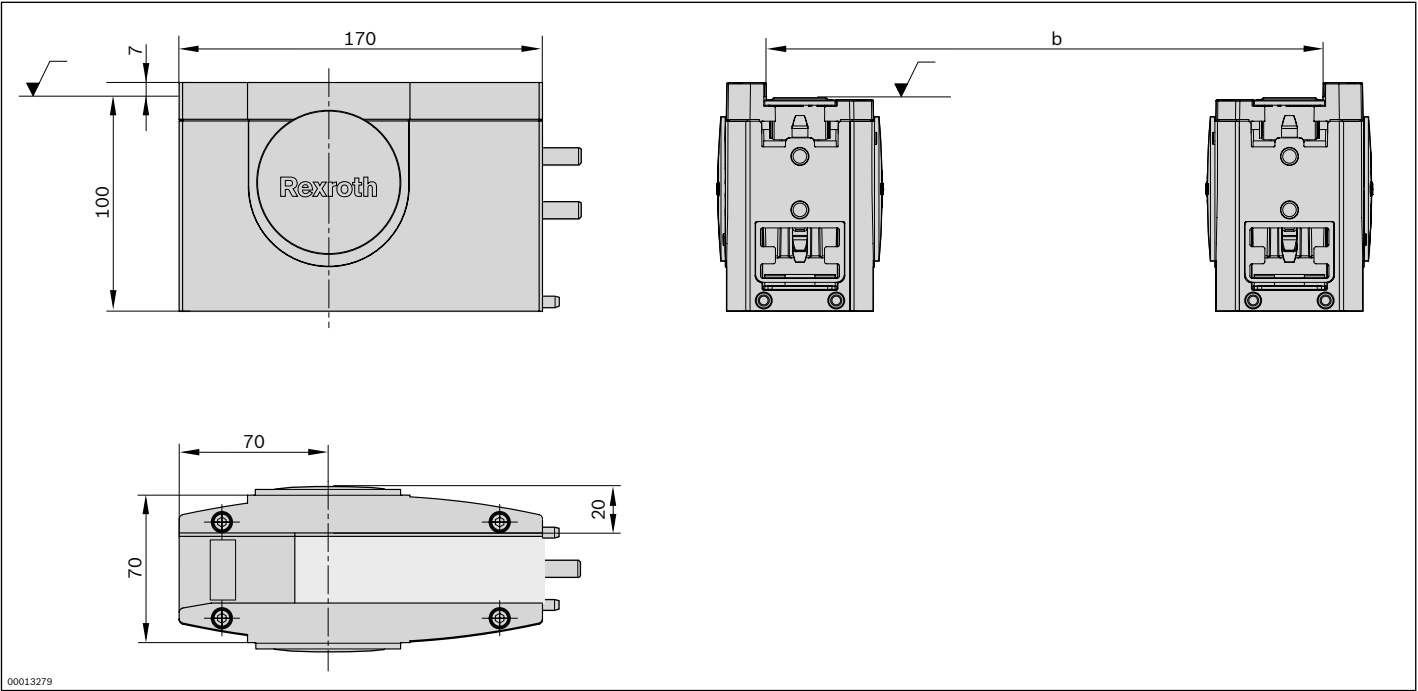
Product designation	Material number
UM 2/C-170 return unit	3842528806

Technical data

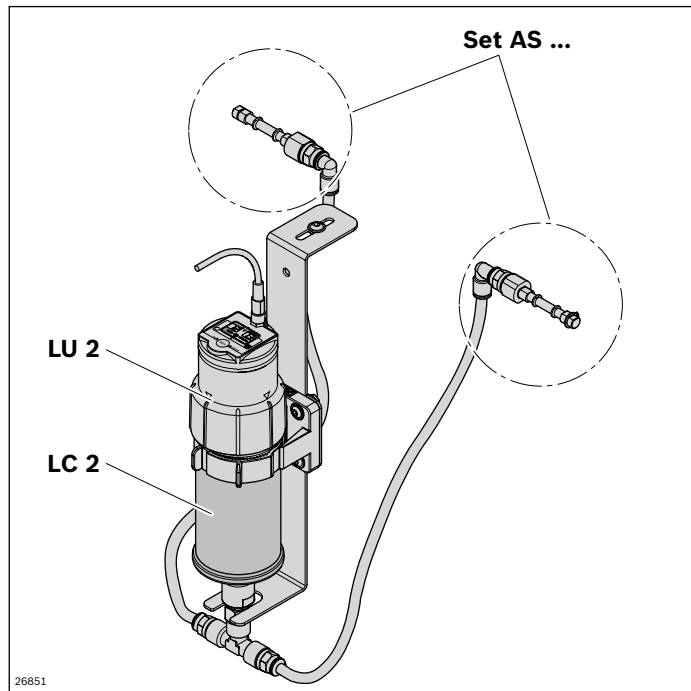
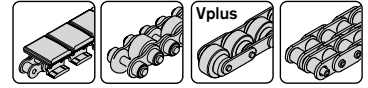
Material number		3842528806
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l_{UM}		mm
		310

^{*)} Formula for calculating the conveyor medium, see p 3-116

Dimensions



LU 2 automatic lubrication unit



- Modular design made of LU 2 automatic lubrication unit, LC 2 oil container and adapter set
- LU 2 automatic lubrication unit with drive, compressed-air connection to drive module and fastening material
- LC 2 oil container with Structovis GHD from Klüber; contains: 0.25 l (must be ordered separately)
- Specific adapter sets with compatible lubrication pins for different drive modules
- Adjustment of lubrication amount to be distributed per metering process on the LU 2 automatic lubrication unit. The metering process is actuated by an external PLC.
- Designed for lubricating one belt section or conveyor unit respectively
- Use of the LU 2 automatic lubrication unit is highly recommended for flat top chains

Increasing the system service life through continuous and maintenance-free lubrication of flat top chains, accumulation roller chains, and duplex chains during operation. Prevention of dry running.

Use for all belt sections and conveyor units; lubrication at the drive module
Reduction of oil consumption thanks to exact metering and pinpoint application to the chain links.

Accessories

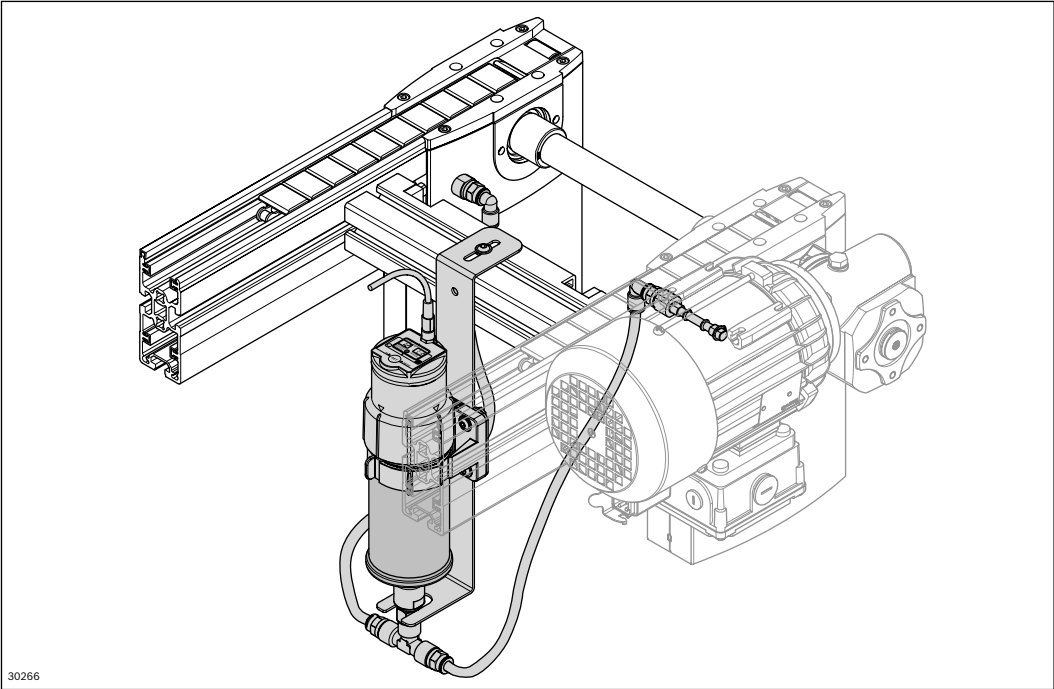
Required accessories

- Oil container LC 2, see p. 3-85
- Adapter set, see p. 3-85

Delivery note

Condition on delivery

- Not assembled, fastening material enclosed
- LC 2 oil container and adapter set as ordered



Ordering information

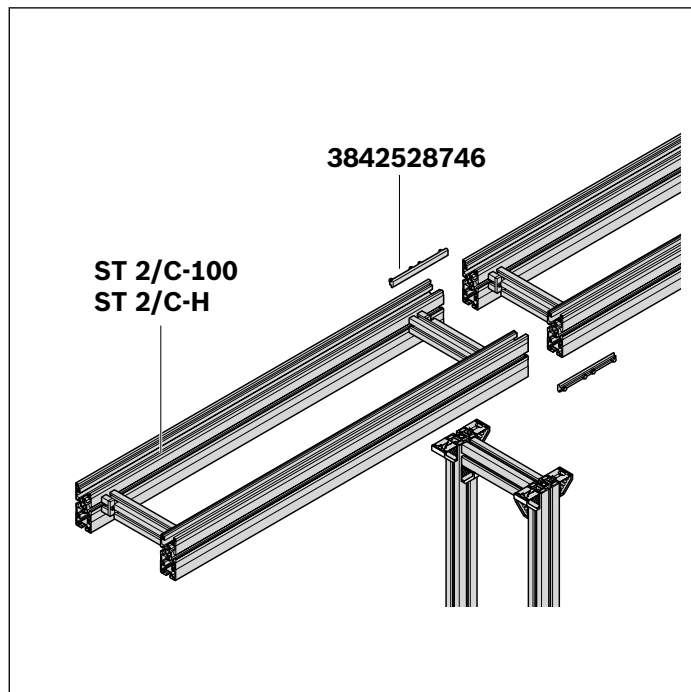
Product designation	Packaging unit	Material number
LU 2 automatic lubrication unit	1	3842543482
Oil container LC 2	4	3842543469

Product designation			Material number
Adapter set for	AS 2/C-100	1	3842543483
	AS 2/C-250		
	BS 2/C		
Adapter set for	AS 2/C-400	1	3842543484
	AS 2/C-700		
	BS 2/C-H		
Adapter set for	AS 2/R-300	1	3842543485
	AS 2/R-700		
	BS 2/R		
Adapter set for	AS 2/R-1200	1	3842543486
	AS 2/R-2200		
	BS 2/R-H		
Adapter set for	AS 2/R-V-1200	1	3842543487
	AS 2/R-V-2200		
	BS 2/R-V-1200		
Adapter set for	HQ 2/U-H	1	3842548578

Technical data

Material number		3842543482
Features		
ESD		yes
Max. operating temperature	T	°C +40

Section, section profiles



Sections can be individually configured for special requirements by selecting various section, glide, and guide profiles.

Depending on the load spectrum of the conveyor medium, stainless steel or plastic glide profiles can be inserted in the section profile. Use of steel glide profiles increases resistance to wear and temperature. This opens up new areas of application for the TS 2plus.

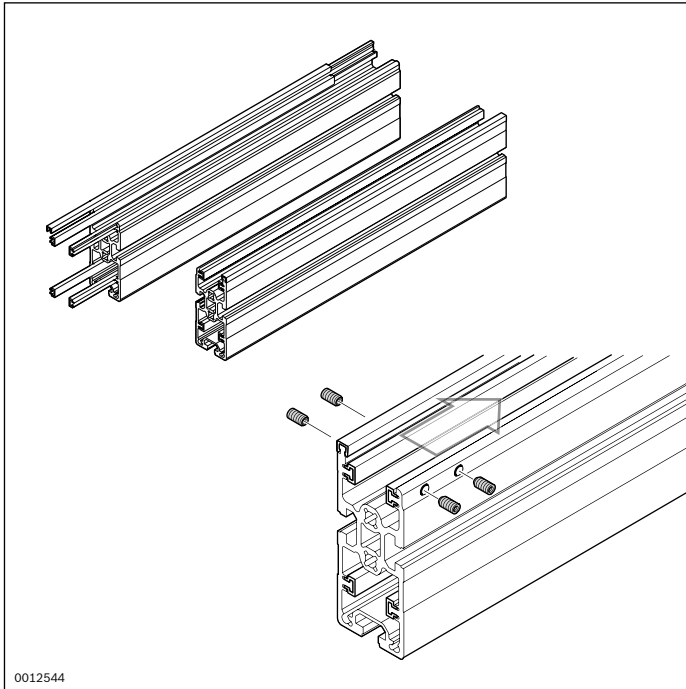
The proven SP 2/C-100 profiles are primarily suitable for medium loads in simple system layouts.

Especially suited for high strains and loads, the new, sturdy SP 2/C-H section profiles have been developed for flat top chains. In addition to a more robust profile cross section and improvements to details (integrated cable duct), the use of stainless steel in the guide profile enhances the system. An adapter plate not only enables visually attractive mounting of the SP 2/C-H section profiles on the drive modules in the TS 2plus, it also securely keeps the glide profiles (sliding guides) from shifting.

ST 2/C-100 section



3



- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with all AS 2/C-... drive modules and UM 2/C-... return units
- ▶ Conveyor medium: Plastic flat top chain
- ▶ GP 2 plastic glide profile
- ▶ Pre-assembled unit for quick setup

The section is used to construct conveyor units with plastic flat top chains in connection with the AS 2/C-... drive

modules and UM 2/C-... return units

Accessories

Required accessories

- ▶ Cross connector, see p. 3-107

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Profile connector, see p. 3-106
- ▶ Cross connector, see p. 3-107

Delivery note

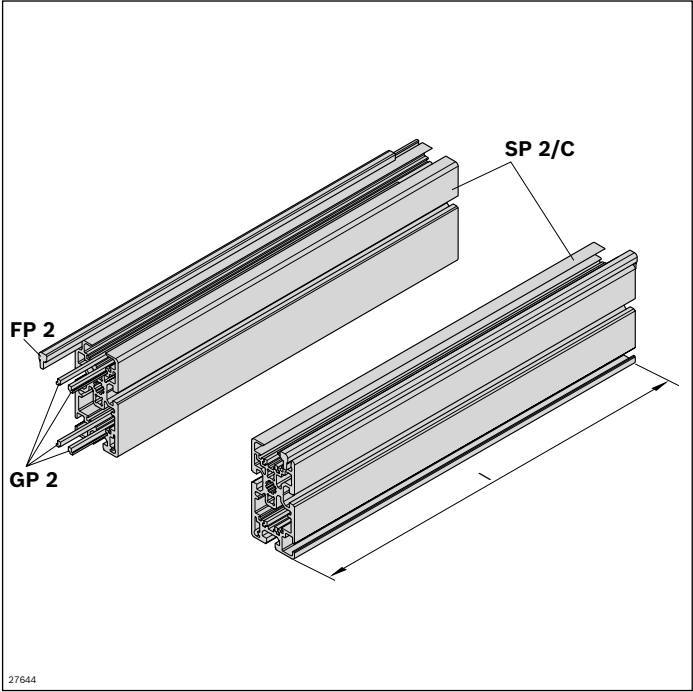
Scope of delivery

- ▶ 2x SP 2/C section profiles with assembled guide profiles and glide profiles
- ▶ 8x blocking bolts

Condition on delivery

- ▶ Fully assembled

Ordering information

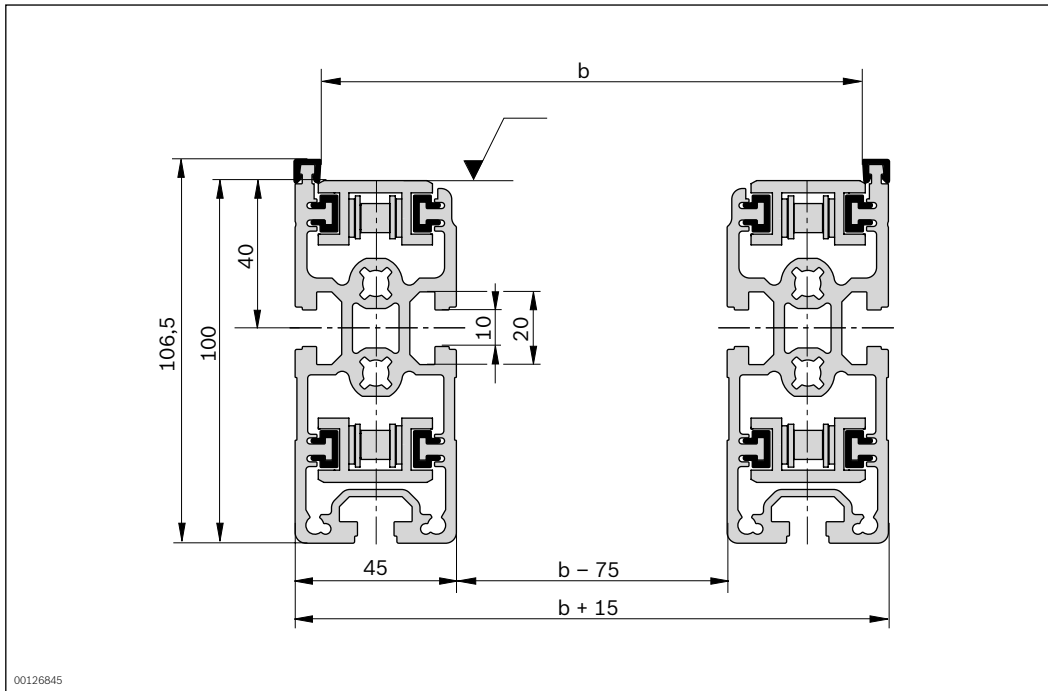


Material number		3842994890
l (mm)	Length	60 ... 6000

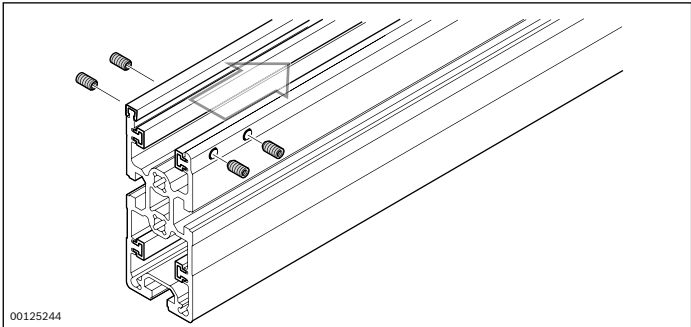
Technical data

Material number			3842994890
Features			
Material specification			Section profile: aluminum, anodized FP 2 guide profile: Polyamide GP 2 glide profile Polyamide
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	60 ... 6000

Dimensions



Blocking bolts



- ▶ To prevent the glide profiles from moving in a longitudinal direction
- ▶ Installation at the beginning of the section in the conveying direction
- ▶ For all ST 2/C... sections included in the delivery

Blocking bolts prevent the plastic glide profiles from moving in a longitudinal direction.

Accessories

Recommended accessories

- ▶ Drilling template 3842538972, see p. 3-117

Delivery note

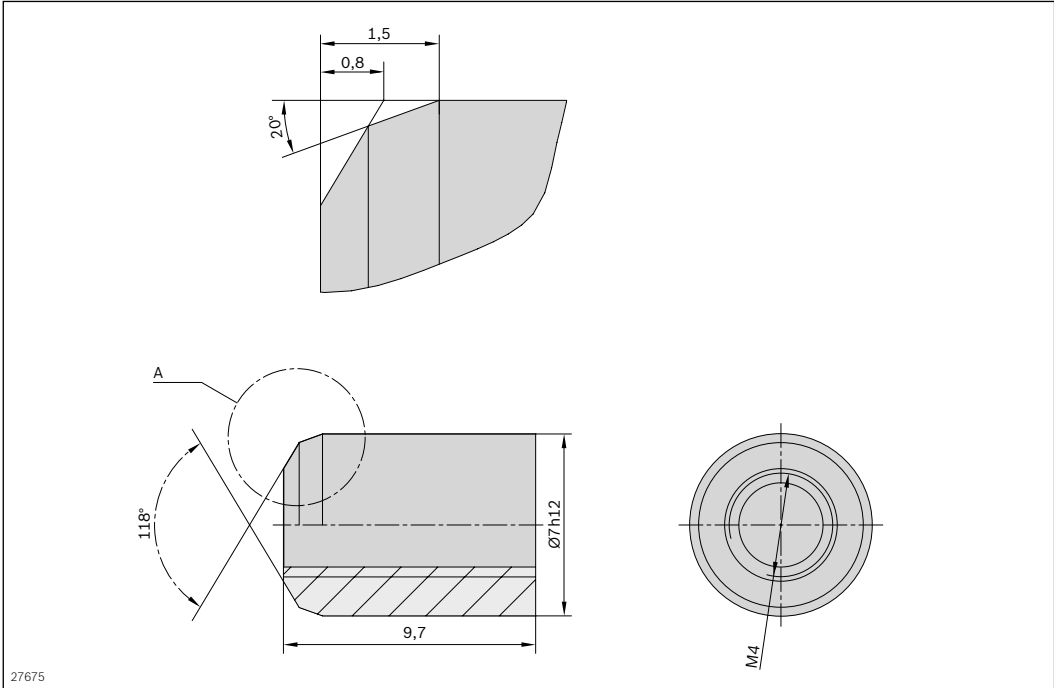
Scope of delivery

- ▶ 8x blocking bolts

Ordering information

Product designation	Packaging unit	Material number
Blocking bolts	8	3842537353

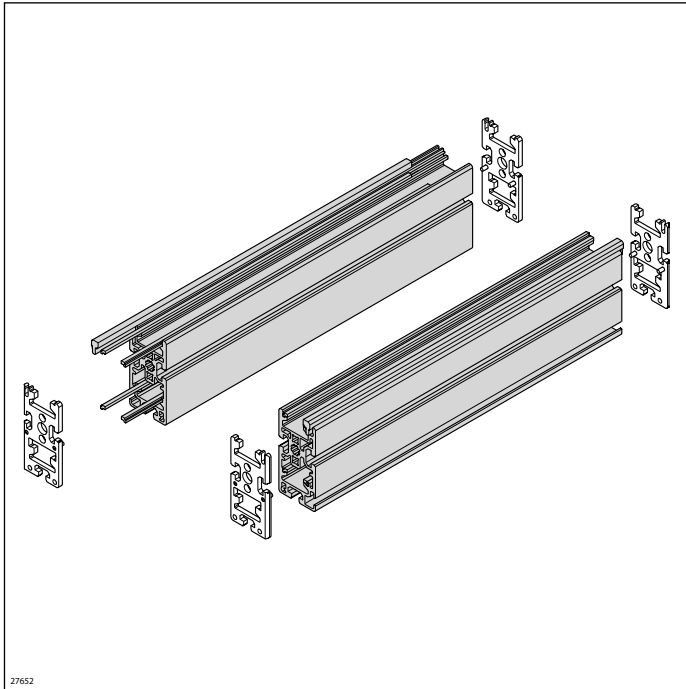
Dimensions



ST 2/C-H section



3



27652

- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with all AS 2/C-... drive modules and UM 2/C-... return units
- ▶ Section profile (50 mm wide) in especially sturdy design for section loads of up to 30 % higher
- ▶ Conveyor medium: Plastic flat top chain
- ▶ Optional steel or plastic GP 2 glide profiles

The section is used to construct heavy-duty conveyor units with plastic flat top chains in connection with the AS 2/C-...

drive modules and UM 2/C-... return units

Accessories

Required accessories

- ▶ ST 2/C-H adapter plate kit, see p. 3-101
- ▶ If GP = 0, then adapter plates are to be fitted between each section joint.

Delivery note

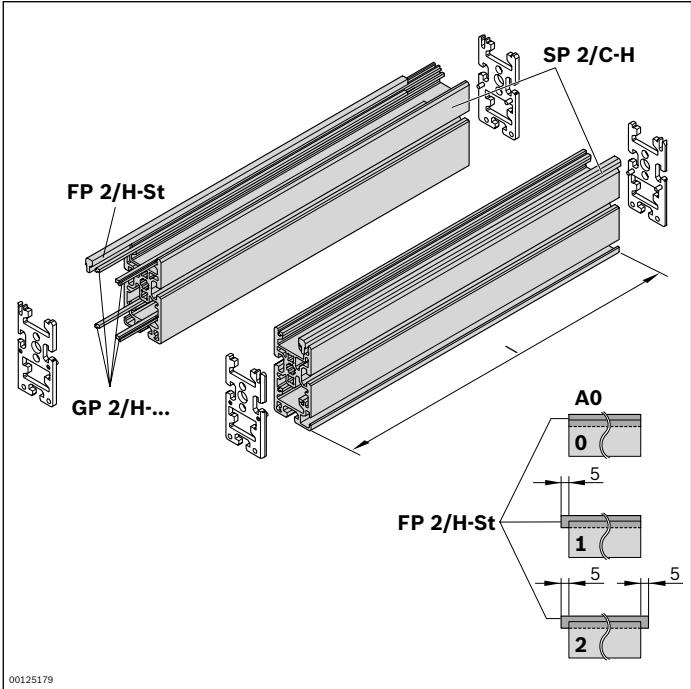
Scope of delivery

- ▶ 2x SP 2/C-H section profiles with assembled guide and glide profiles

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Profile connector, see p. 3-106
- ▶ Cross connector, see p. 3-107
- ▶ Cover rail for cable duct, see p. 3-94

Ordering information

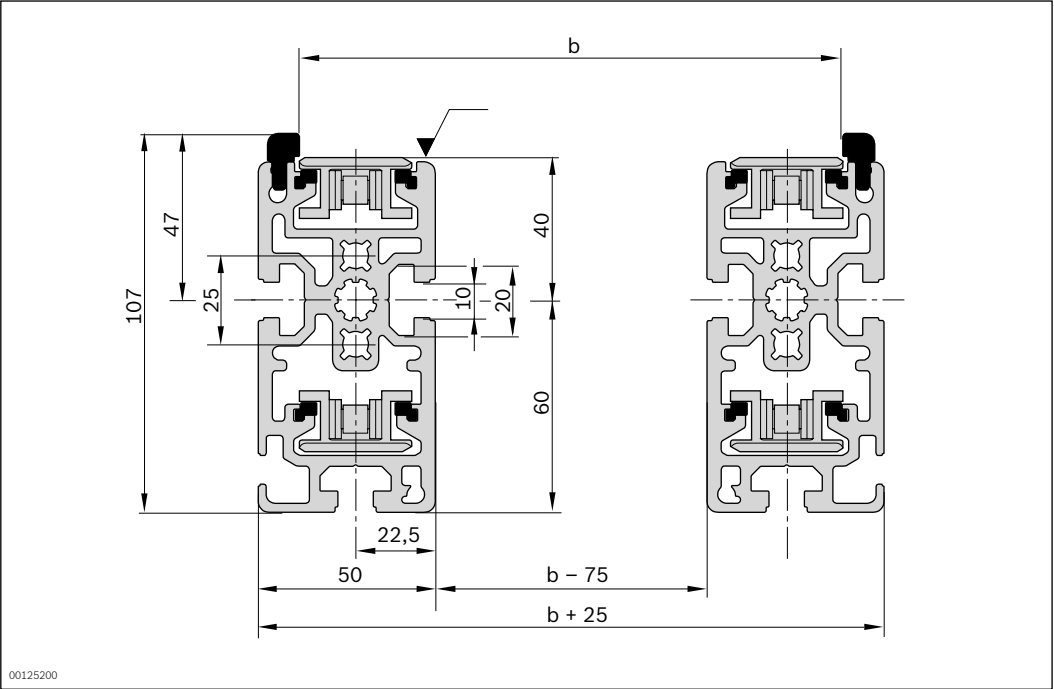


Material number		3842994973
l (mm)	Length	200 ... 6000
AO	Installation location	0; 1; 2
	Plastic glide profile AO = 2	Plastic glide profile AO = 0; 1; 2
GP	Glide profile	0; 1
	in corrosion-resistant steel (GP = 1) Plastic (GP = 0)	

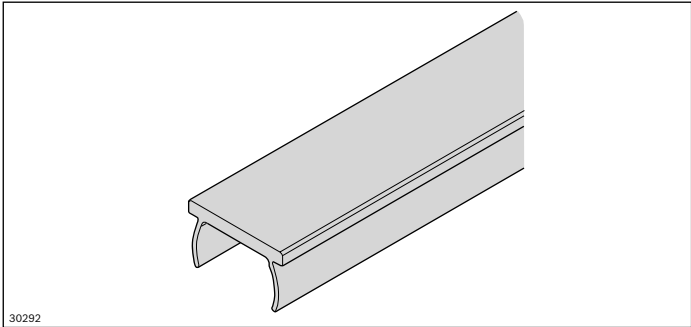
Technical data

Material number		3842994973
Features		
Material specification		Section profile: aluminum, anodized Guide profile: Steel; corrosion-resistant Slide profile: Plastic or steel; corrosion-resistant
Max. operating temperature	T	°C +40
Dimensions		
Length	l	mm 200 ... 6000

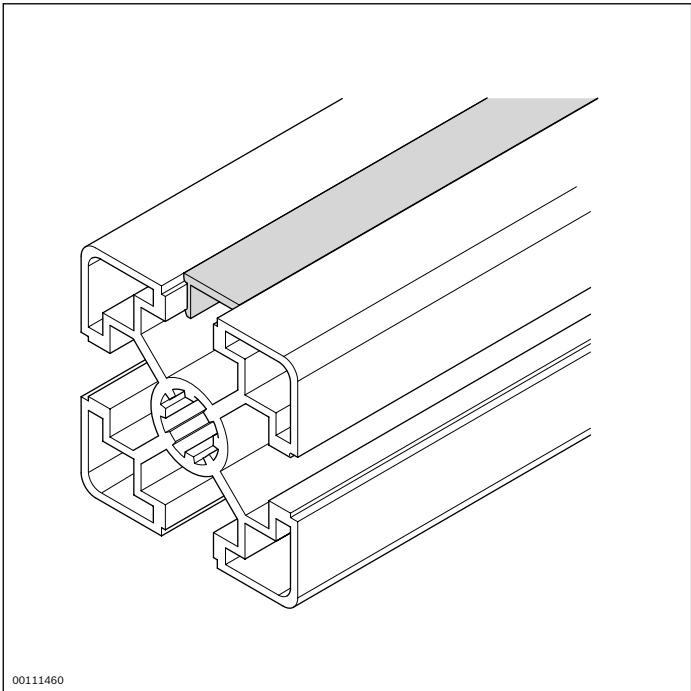
Dimensions



Cover rail for cable duct



- To prevent dirt from entering the profile slot
- For fixing cables in position
- Flush with profile



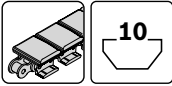
Ordering information

Product designation	Packaging unit	Material number
Cover rail for cable duct	10	3842523258

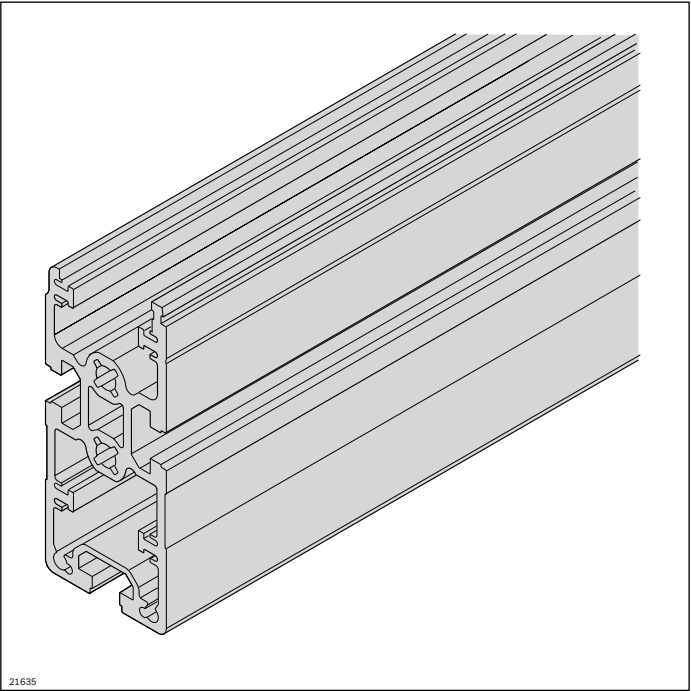
Technical data

Material number	3842523258
Features	
Material specification	aluminum, natural; anodized
Dimensions	
Length	2000

SP 2/C-100 section profile



3



- ▶ For conveyor unit self-assembly for profile construction heights of 100 mm
- ▶ For use in conjunction with all AS 2/C-... drive modules, UM 2/C-... return units, FP 2 guide profiles and GP 2 glide profiles
- ▶ Longitudinal grooves for easy mounting
- ▶ For conveyor units with a height to conveying level of 100 mm

The section profile is used for constructing conveyor units with the conveyor medium flat top chain. Additional

blocking bolts prevent glide profiles from moving in a longitudinal direction.

Accessories

Required accessories

- ▶ GP 2 glide profile, see p. 3-97
- ▶ FP 2 guide profile, see p. 3-97
- ▶ Blocking bolts, see p. 3-90

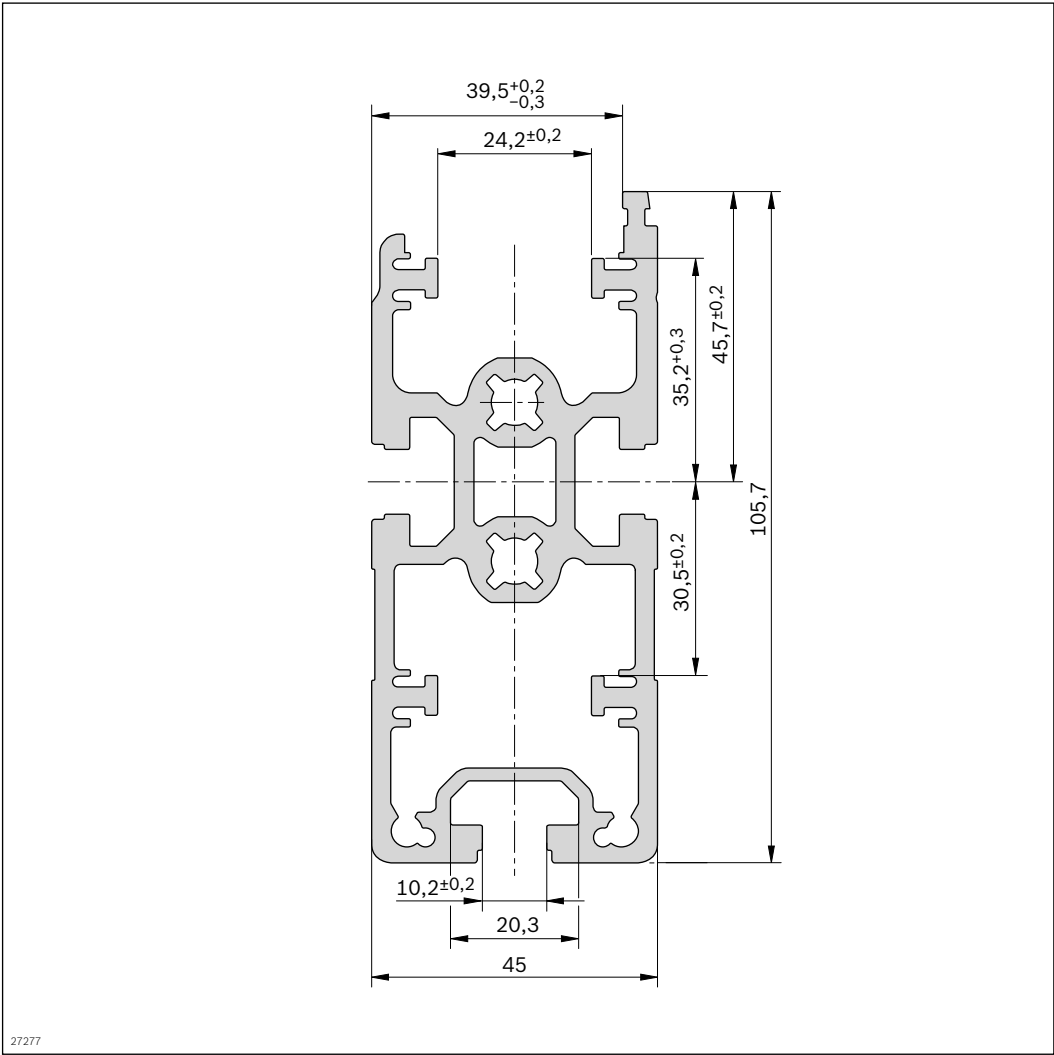
Ordering information

Product designation	l (mm)	Delivery unit	Material number
SP 2/C-100 16 x 6070 mm section profile	6070	16	3842532609

Technical data

Material number			3842532609
Load			
Moment of inertia	I _x	cm ⁴	128.0
	I _y	cm ⁴	37.0
Moment of resistance	W _x	cm ³	24.6
	W _y	cm ³	16.4
Features			
Material specification			aluminum, anodized
Mass	m	kg/m	4.0
Dimensions			
Length	l	mm	6070
Profile surface	A	cm ²	15.0

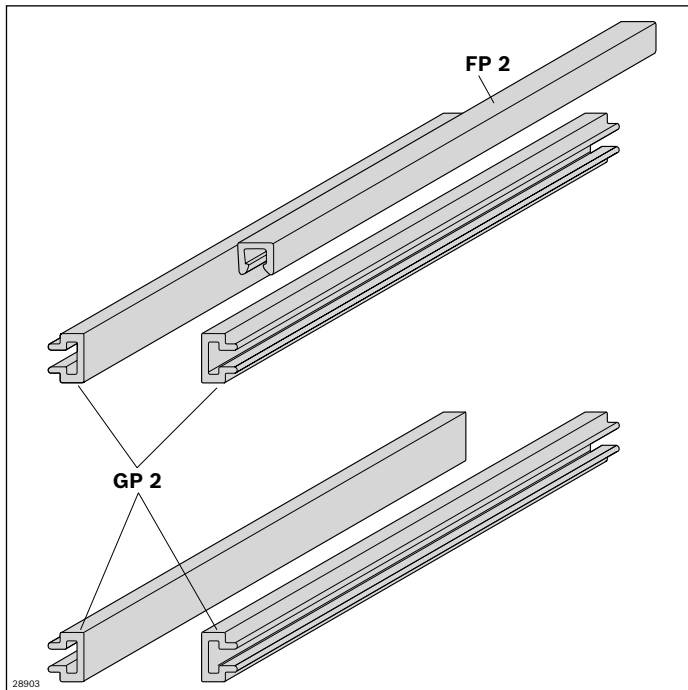
Dimensions



FP 2 guide profile set, GP 2 glide profile



3



- For conveyor unit self-assembly
- Used in conjunction with ST 2/C-... section profiles, AS 2/C-... drive modules and UM 2 /C-... return units
- FP 2 guide profile for laterally guiding the workpiece pallet; slid onto section profile SP 2/C-100
- GP 2 glide profile for guiding the top flat chain; slid onto section profile SP 2/C-100

The guide profile is used for lateral guidance of the workpiece pallet. The glide profile is used to guide the flat top chain. Both profiles are pushed onto the section profile.

Additional blocking bolts prevent glide profiles from moving in a longitudinal direction.

Accessories

Required accessories

- Blocking bolts, see p. 3-90

Delivery note

Scope of delivery

- 16x FP 2 guide profile (L = 6000 mm)
- 64x GP 2 glide profiles (L = 6000 mm)

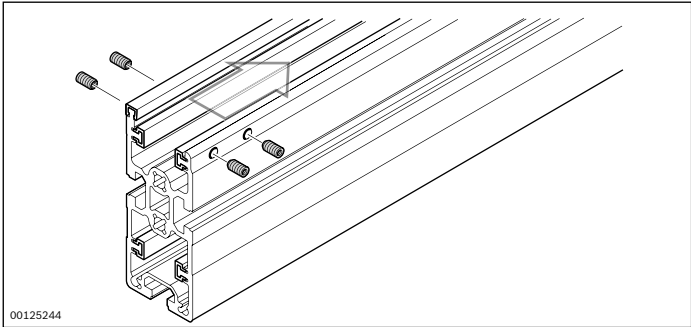
Ordering information

Product designation	l (mm)	Material number
FP 2 guide profile set, GP 2 glide profile	6000	3842529933

Technical data

Material number		3842529933
Features		
ESD		yes
Material specification		Guide profile: Plastic; PA (anti-static) Slide profile: Plastic; PA (anti-static)
Max. operating temperature	T	°C
		+40
Dimensions		
FP 2 length	l	mm
		6000
GP 2 length	l	mm
		6000

Blocking bolts



- ▶ To prevent the glide profiles from moving in a longitudinal direction
- ▶ Installation at the beginning of the section in the conveying direction
- ▶ For all ST 2/C-... sections included in the delivery

Blocking bolts prevent the glide profiles from moving in a longitudinal direction.

Accessories

Recommended accessories

- ▶ Drilling template 3842538972, see p. 3-117

Delivery note

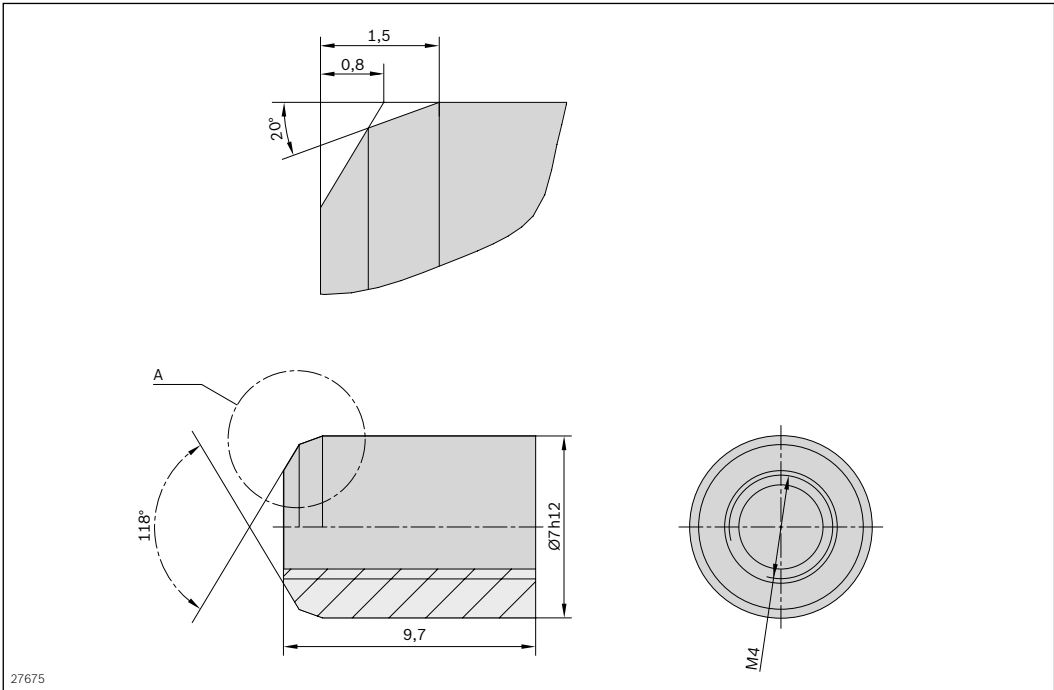
Scope of delivery

- ▶ 8x blocking bolts

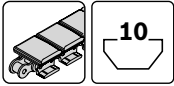
Ordering information

Product designation	Packaging unit	Material number
Blocking bolts	8	3842537353

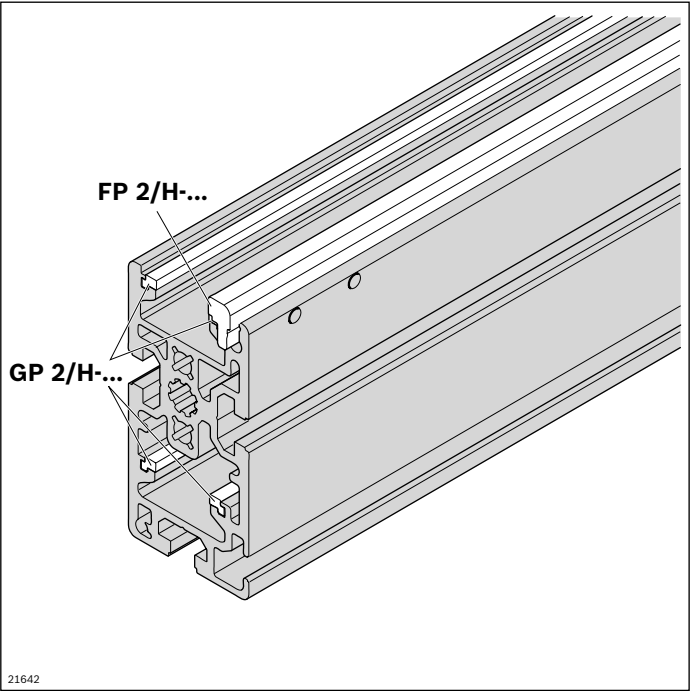
Dimensions



SP 2/C-H section profile



3



- For conveyor unit self-assembly
- In especially sturdy design for particularly heavy-duty sections
- For use in conjunction with all AS 2/C-... drive modules, FP 2/H-... guide profiles and GP 2/H-... glide profiles
- Longitudinal grooves for easy mounting
- For conveyor units with a height to conveying level of 100 mm
- For heavy-duty conveyor unit assembly
- Profile width: 50 mm

The section profile is used for constructing conveyor units with the conveyor medium flat top chain. Additional

blocking bolts prevent glide profiles from moving in a longitudinal direction.

Accessories

Required accessories

- FP 2/H-St guide profile, see p. 3-103
- GP 2/H-St glide profile, see p. 3-104
- GP 2/H-Kst glide profile, see p. 3-105
- ST 2/C-H adapter plate kit, see p. 3-101
- Cover rail for cable duct, see p. 3-161

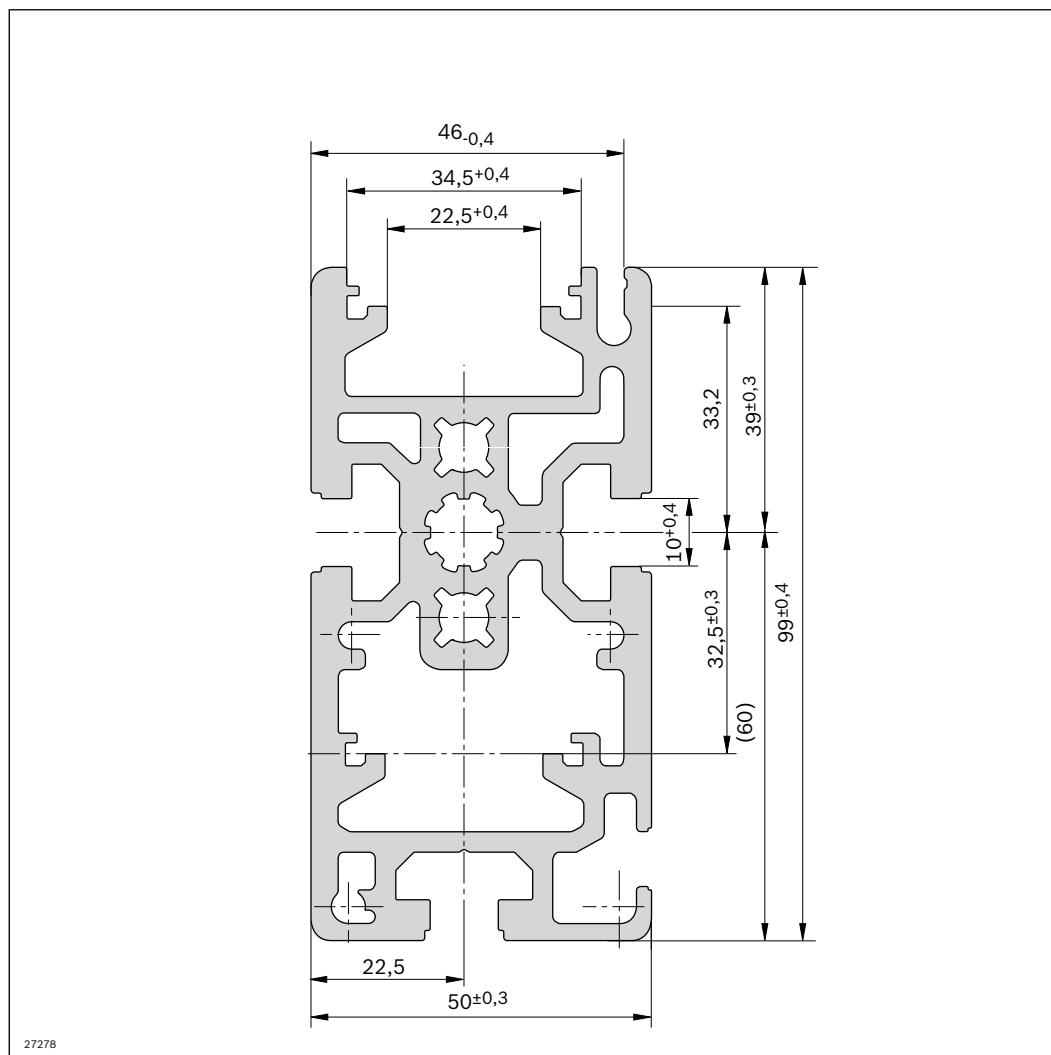
Ordering information

Product designation	l (mm)	Material number
SP 2/C-H 12 x 6000 mm section profile	6000	3842536793

Technical data

Material number			3842536793
Load			
Moment of inertia	I_x	cm^4	156.8
	I_y	cm^4	54.9
Moment of resistance	W_x	cm^3	31.9
	W_y	cm^3	21.4
Features			
Material specification			aluminum, anodized
Mass	m	kg/m	5.3
Dimensions			
Length	l	mm	6000
Profile surface	A	cm^2	19.3

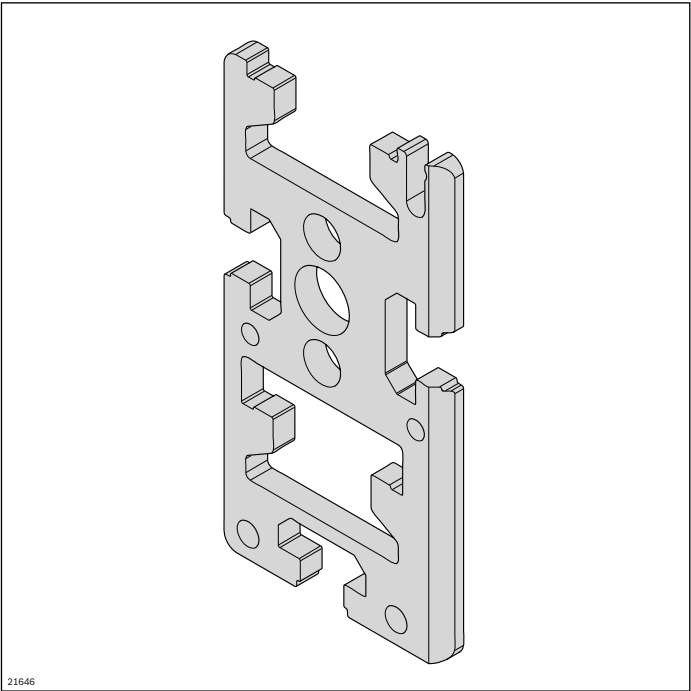
Dimensions



ST 2/C-H adapter plate kit



3



- ▶ Front cover
- ▶ For connection of SP 2/C-H section profiles and AS 2/C-...;
for connection of SP 2/C-H profiles and UM 2/C-...return units;
and between section profiles if GP 2 plastic glide profiles are used

The adapter plates are used as front covers and for connecting section profiles and drive modules, or between section profiles and return units.

The adapter plates are also suitable for use between section profiles where GP 2 plastic glide profiles are used.

Delivery note

Scope of delivery

- ▶ 2x left adapter plate
- ▶ 2x right adapter plate

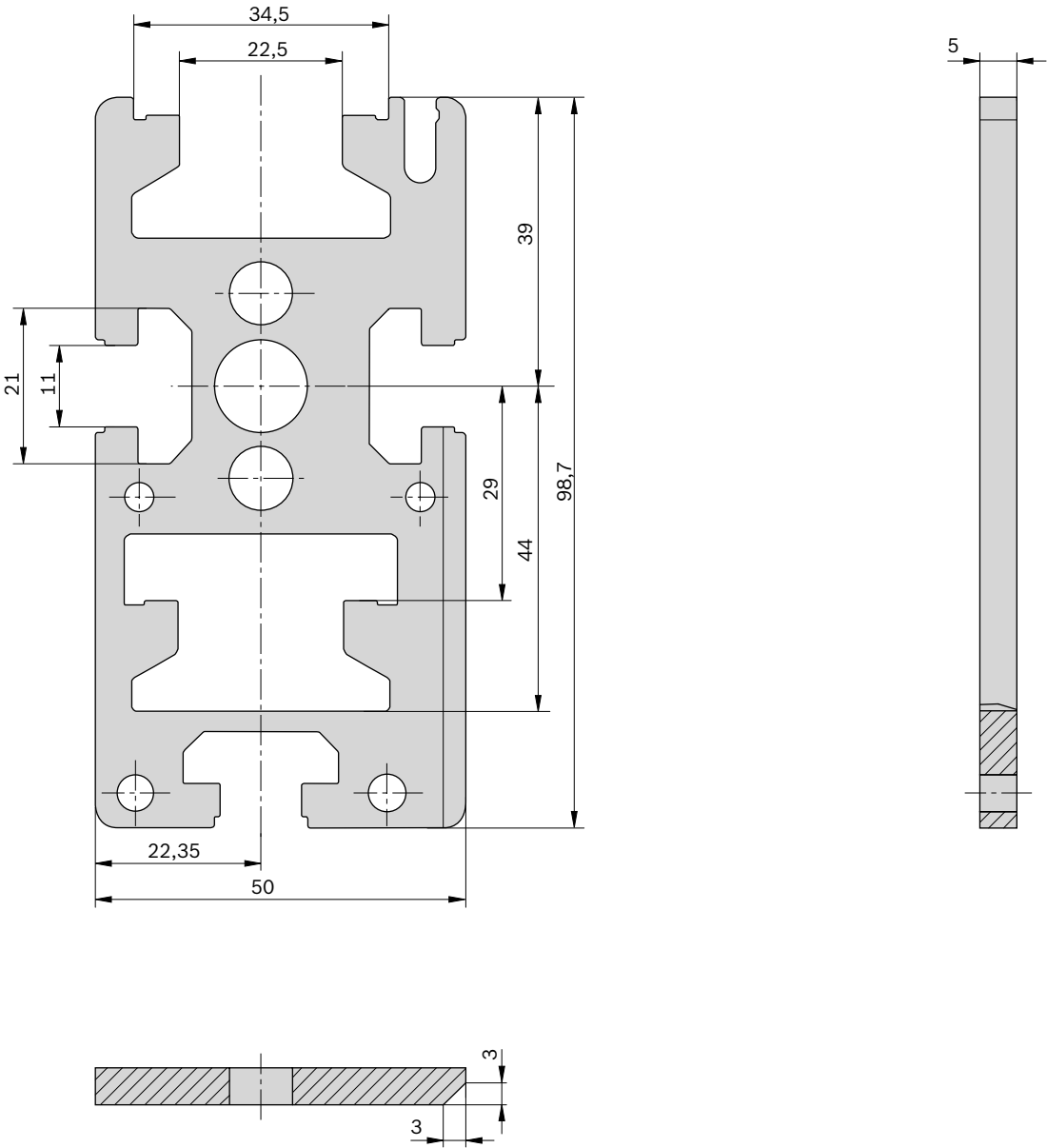
Ordering information

Product designation	Packaging unit	Material number
ST 2/C-H adapter plate kit	4	3842536801

Technical data

Material number	3842536801
Features	
Material specification	Steel; corrosion-resistant

Dimensions

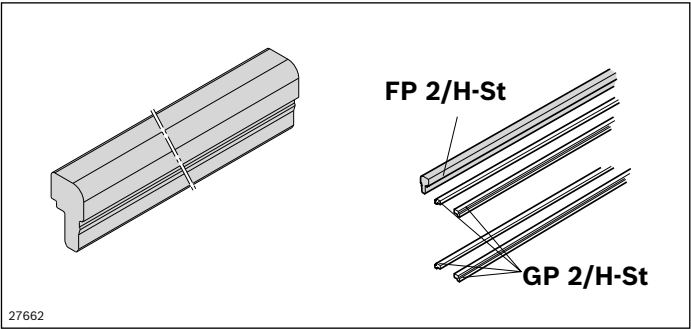


27633

FP 2/H-St guide profile



3



- For lateral guidance of the workpiece pallet
- For conveyor unit self-assembly
- For sliding onto section profiles
- In especially sturdy design with corrosion-resistant steel for particularly heavy-duty sections

Accessories

Required accessories

- SP 2/C-H section profile, see p. 3-99, or SP 2/R-H section profile, see p. 3-165

Delivery note

Scope of delivery

- 24x rods (L = 3000 mm)

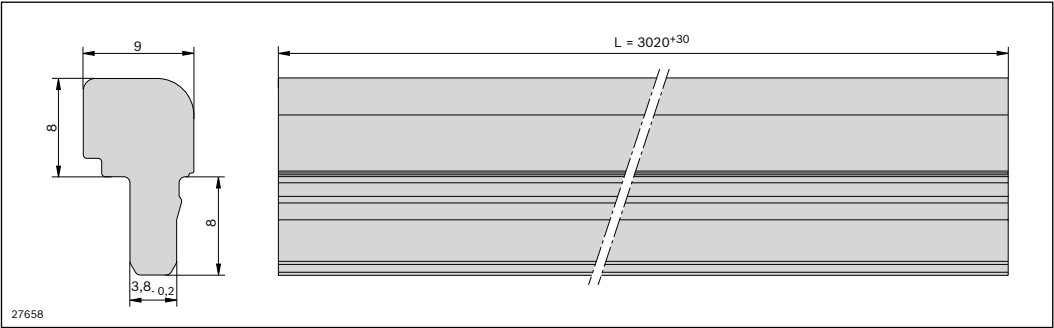
Ordering information

Product designation	l (mm)	Delivery unit	Material number
FP 2/H-St guide profile	3000	24	3842537890

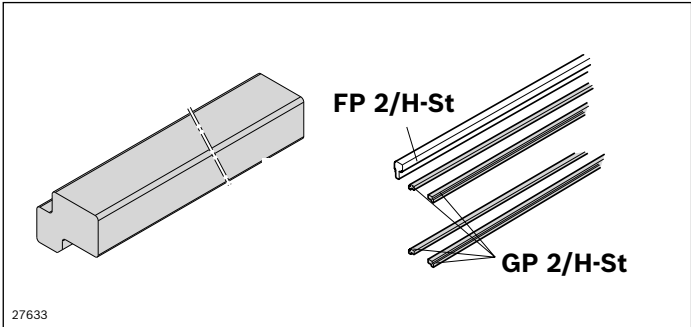
Technical data

Material number			3842537890
Features			
ESD		yes	
Material specification		Steel; corrosion-resistant	
Dimensions			
Length	l	mm	3000

Dimensions



GP 2/H-St glide profile



- ▶ For conveyor unit self-assembly
- ▶ For guiding the flat top chain or accumulation roller chain
- ▶ In especially sturdy design with corrosion-resistant steel for particularly heavy-duty sections
- ▶ For sliding onto section profile SP 2/C-H or SP 2/R-H
- ▶ For use in conjunction with all AS 2/C-... drive modules, UM 2/C- return units and SP 2/C-... section profiles

Accessories

Required accessories

- ▶ SP 2/C-H section profile, see p. 3-99, or SP 2/R-H, see p. 3-165

Delivery note

Scope of delivery

- ▶ 48x rods (L = 3000 mm)

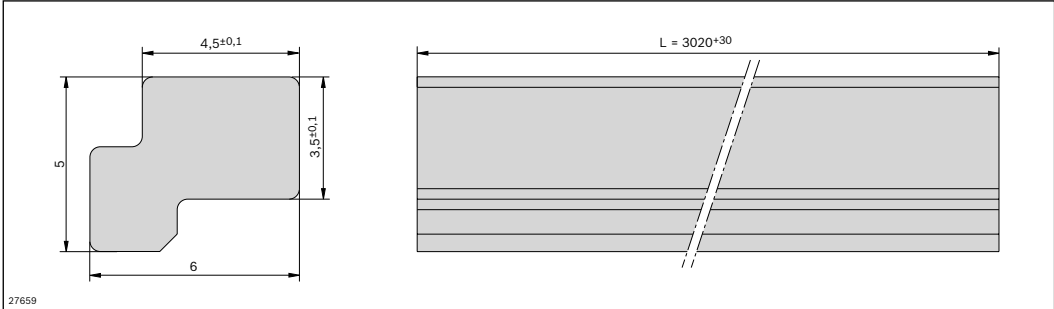
Ordering information

Product designation	l (mm)	Delivery unit	Material number
GP 2/H-St glide profile	3000	48	3842537888

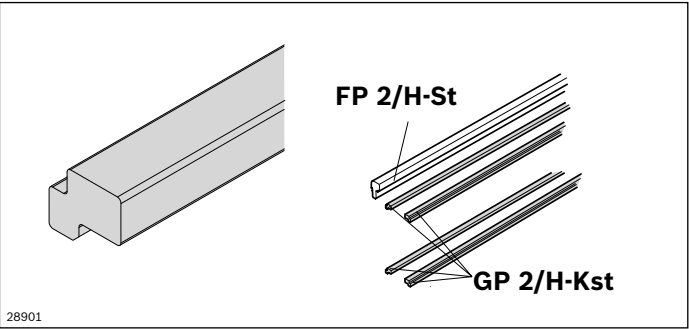
Technical data

Material number			3842537888
Features			
ESD			yes
Material specification			Steel; corrosion-resistant
Dimensions			
Length	l	mm	3000

Dimensions



GP 2/H-Kst glide profile



- ▶ For conveyor unit self-assembly
- ▶ For guiding the flat top chain or the accumulation roller chain
- ▶ For sliding onto section profile SP 2/C-H or SP 2/R-H
- ▶ For use in conjunction with all AS 2/C-... drive modules, UM 2/C- return units and SP 2/C-... section profiles

3

Accessories

Required accessories

- ▶ SP 2/C-H section profile, see p. 3-99, or SP 2/R-H, see p. 3-165

Delivery note

Scope of delivery

- ▶ 48x rods (L = 3000 mm)

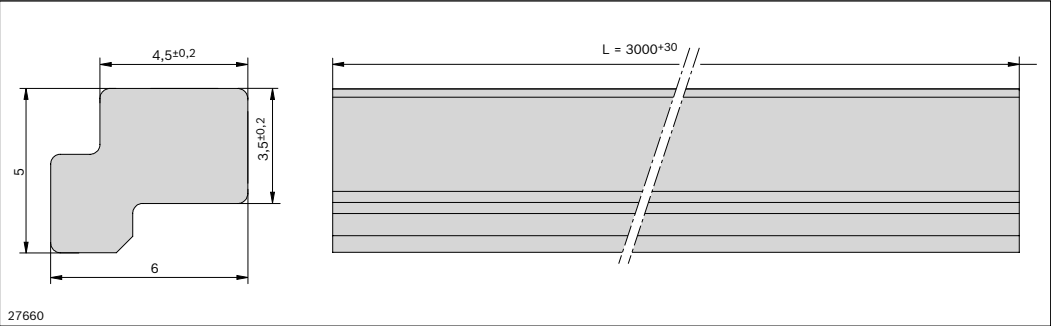
Ordering information

Product designation	l (mm)	Delivery unit	Material number
GP 2/H-Kst glide profile	3000	48	3842537889

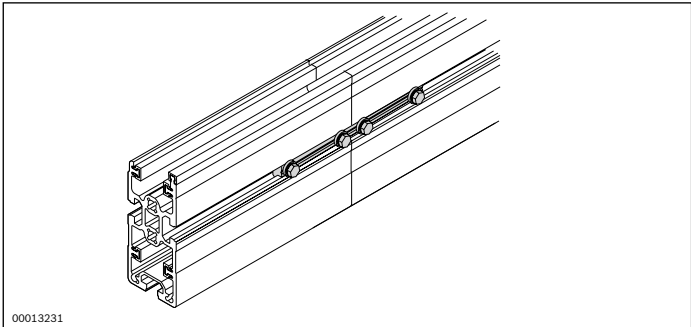
Technical data

Material number			3842537889
Features			
ESD			yes
Material specification			Plastic; PA (anti-static)
Dimensions			
Length	l	mm	3000

Dimensions



Profile connector



- For the end-to-end connecting of two profiles SP 2/....
Two profile connectors are recommended for each profile joint
- For conveyor unit self-assembly
- For use in conjunction with all AS 2/C-... drive modules, UM 2/C- return units and SP 2/C-... section profiles

Delivery note

Scope of delivery

- Profile connector, screws

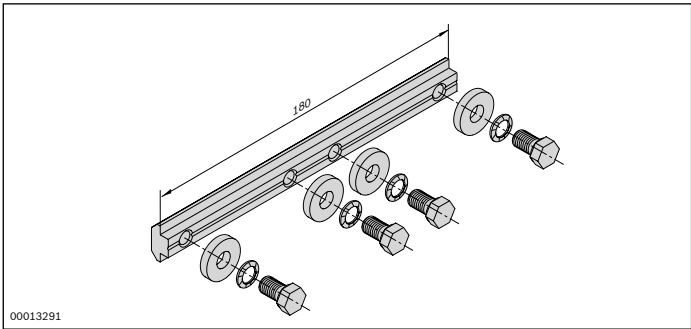
Ordering information

Product designation	Material number
Profile connector	3842528746

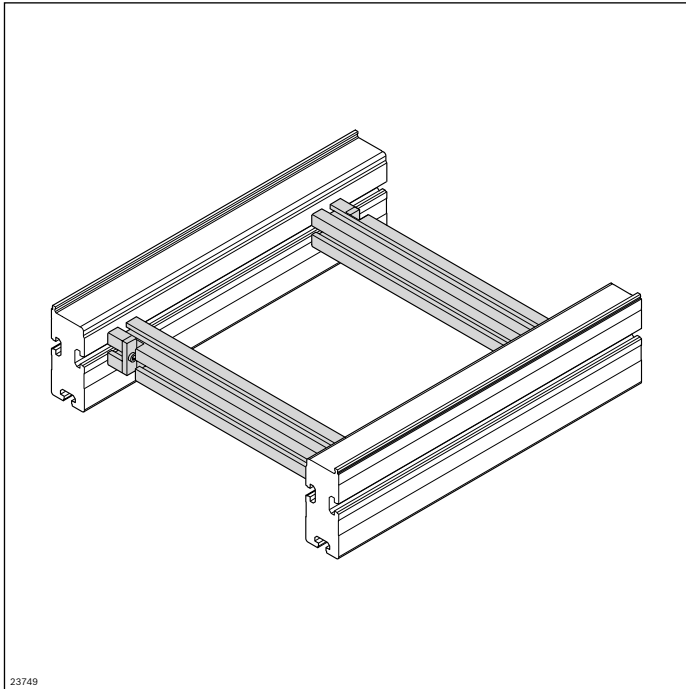
Technical data

Material number	3842528746
Features	
Material specification	Steel, galvanized

Dimensions



QV 2 cross connector



- ▶ For conveyor unit self-assembly
- ▶ For connecting section profiles and defining the track width
- ▶ Can be combined with all SP 2/... section profiles.

3

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

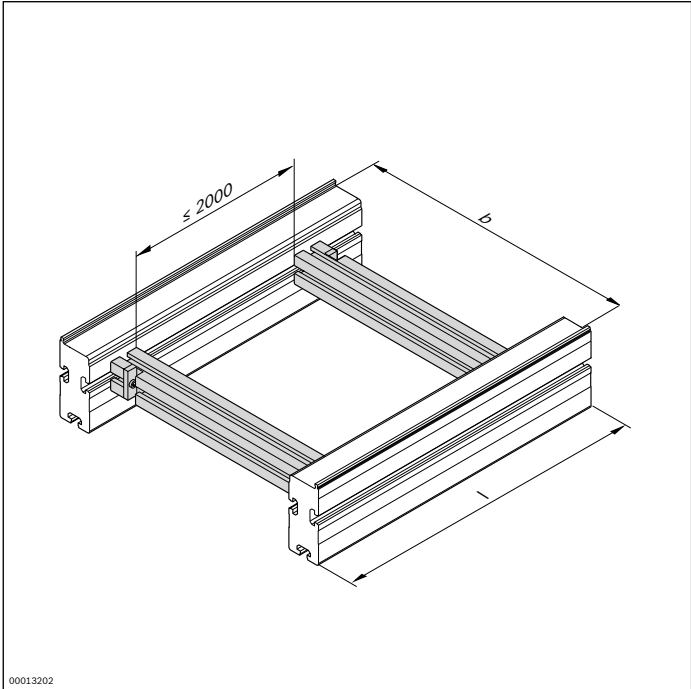
l = section length

Delivery note

Scope of delivery

- ▶ Strut profile 45x60, finished
- ▶ 2x fastening material to mount on an ST 2/... section

Ordering information



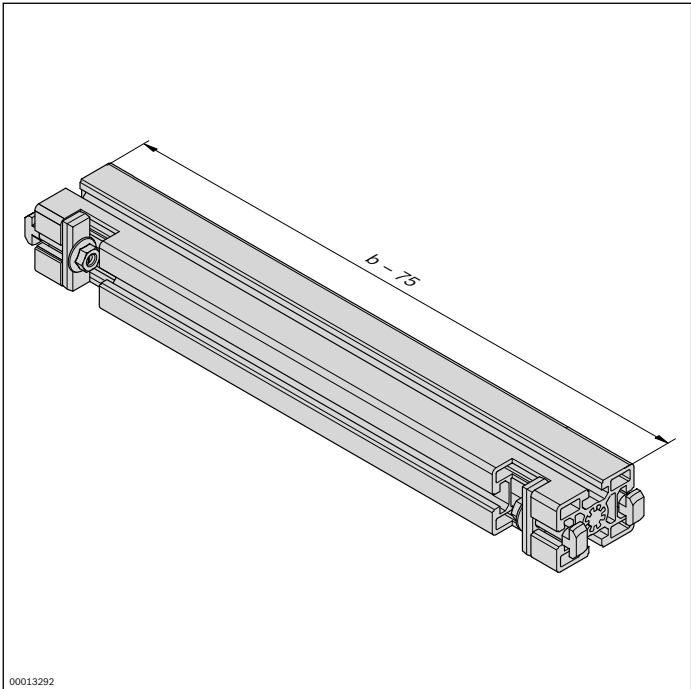
Material number		3842994635
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

¹⁾ Individual width variants available

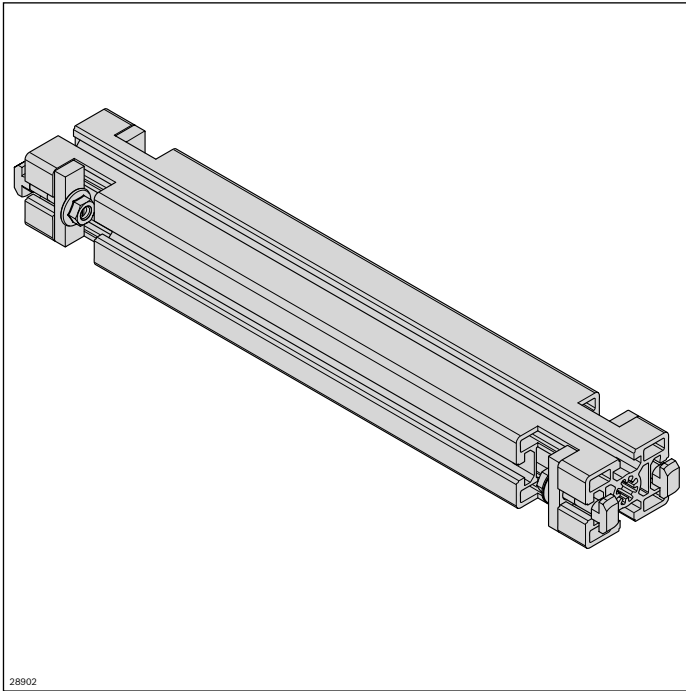
Technical data

Material number	3842994635
Features	
Material specification	aluminum, natural; anodized

Dimensions



QV 2-H cross connector



- ▶ For heavy-duty conveyor unit self-assembly
- ▶ For connecting section profiles and defining the track width
- ▶ Can be combined with all SP 2/... section profiles.

QV 2-H cross connectors are particularly suitable for connections between section profiles in heavy-duty systems.

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

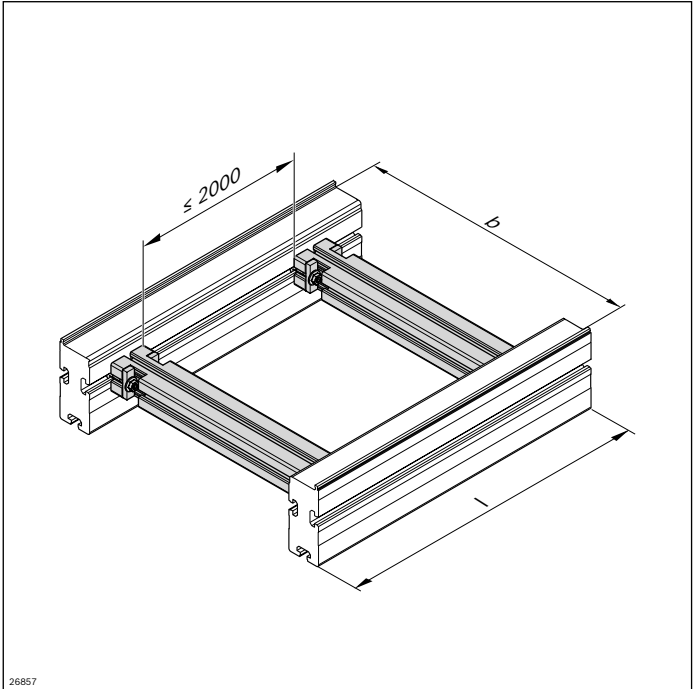
l = section length

Delivery note

Scope of delivery

- ▶ Strut profile 45x60, finished
- ▶ 4x fastening material to mount on an ST 2/... section

Ordering information



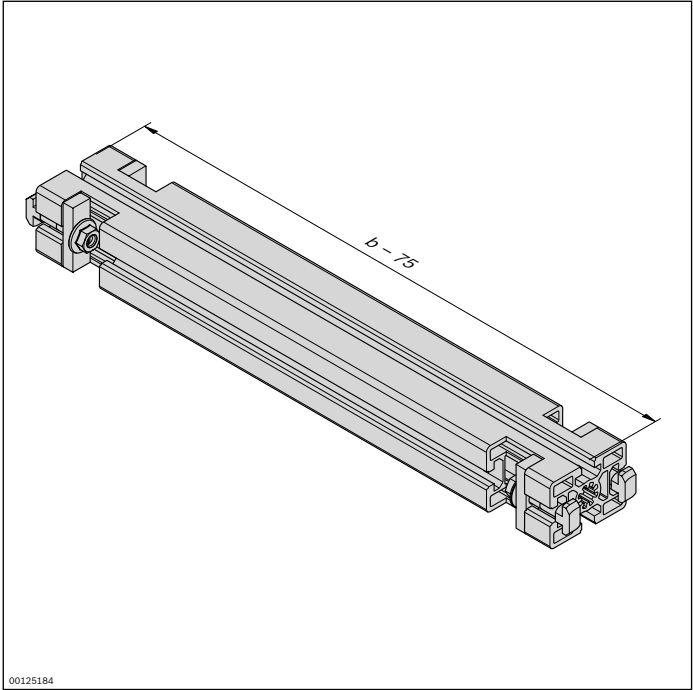
Material number		3842993052
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

¹⁾ Individual width variants available

Technical data

Material number	3842993052
Features	
Material specification	aluminum, natural; anodized

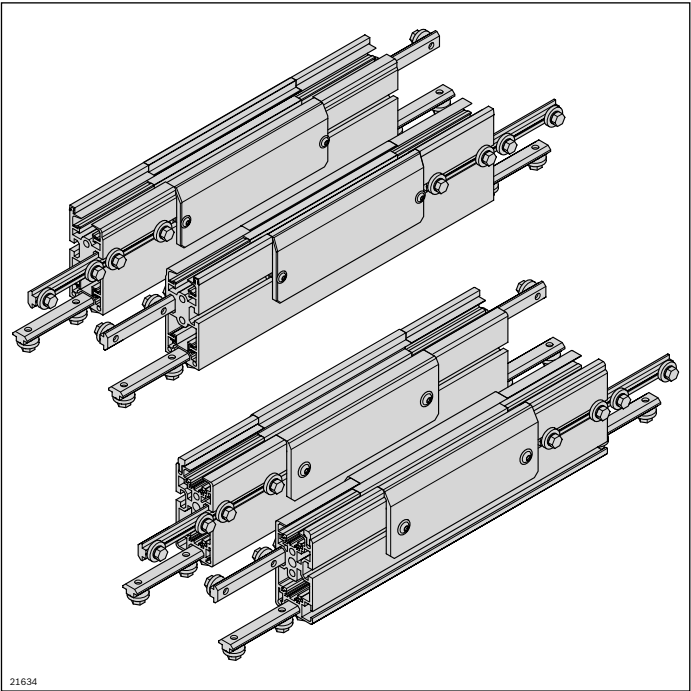
Dimensions



ST 2/...-W maintenance section



3



- For maintenance use (assembly, disassembly or lubrication)
- Two removable side covers each
- Suitable for flat top chains

The maintenance section is a section element with removable caps. It is used for maintenance (assembly, disassembly, lubrication) of the flat top chain.

Delivery note

Scope of delivery

- 2x maintenance section elements, 400 mm long
- Incl. 8x profile connectors

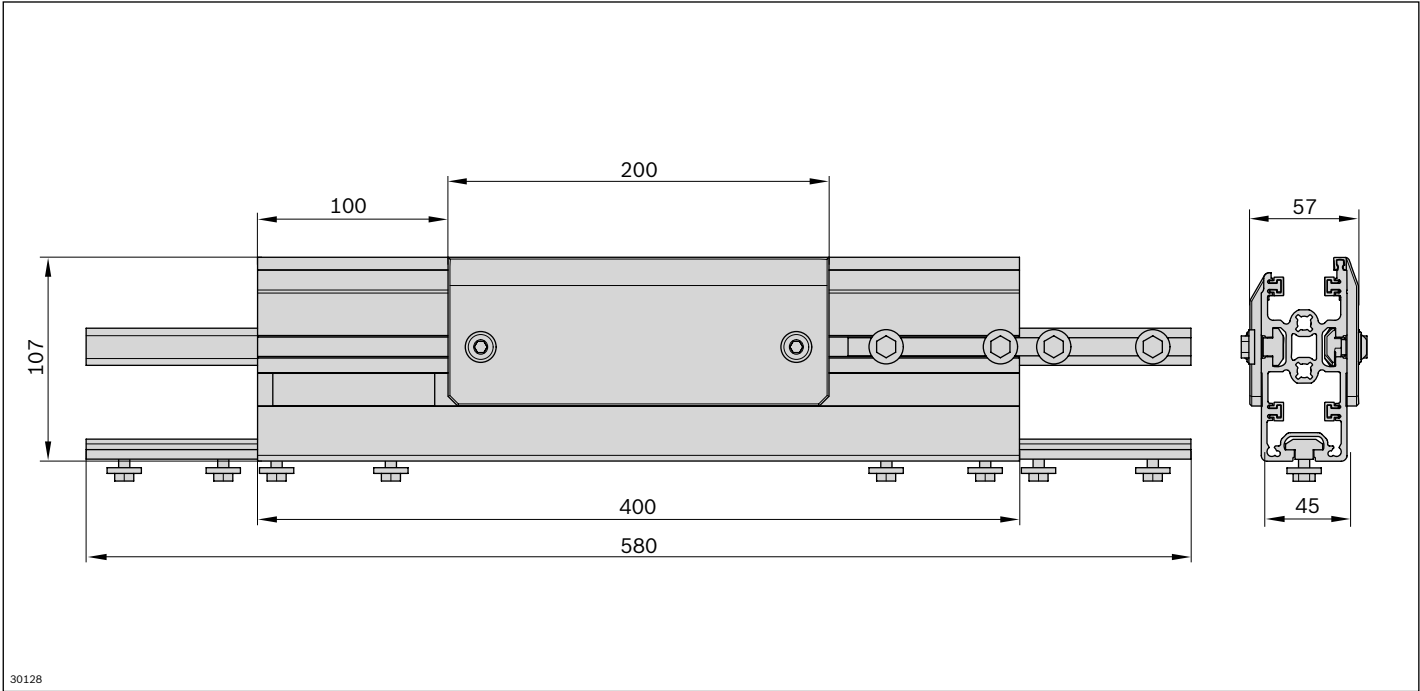
Ordering information

Product designation	Material number
ST 2/C-W maintenance section	3842532777
ST 2/C-H-W maintenance section	3842537310

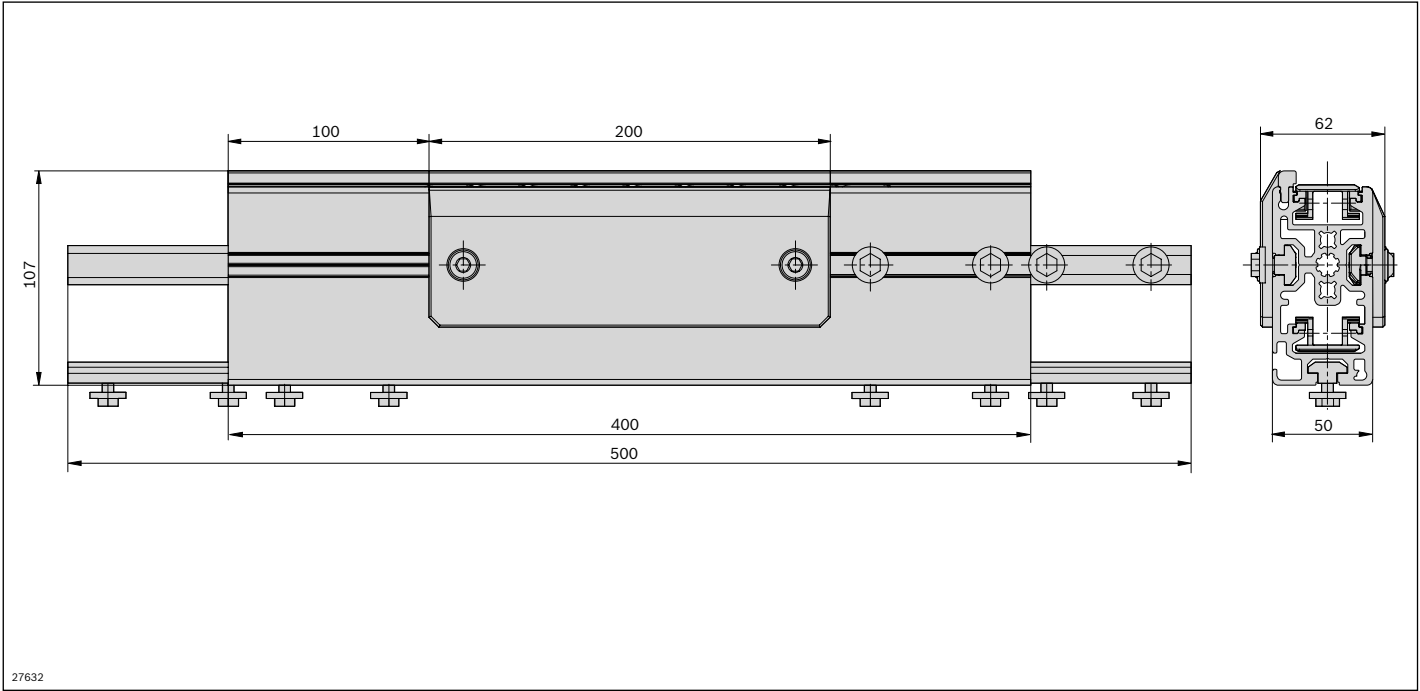
Technical data

Material number	3842532777	3842537310
Features		
ESD	yes	yes
Material specification	Section profile: aluminum, natural; anodized Side cover: PE	Section profile: aluminum, natural; anodized Side cover: PE
Dimensions		
Length	400	400

Dimensions
ST 2/C-W maintenance section



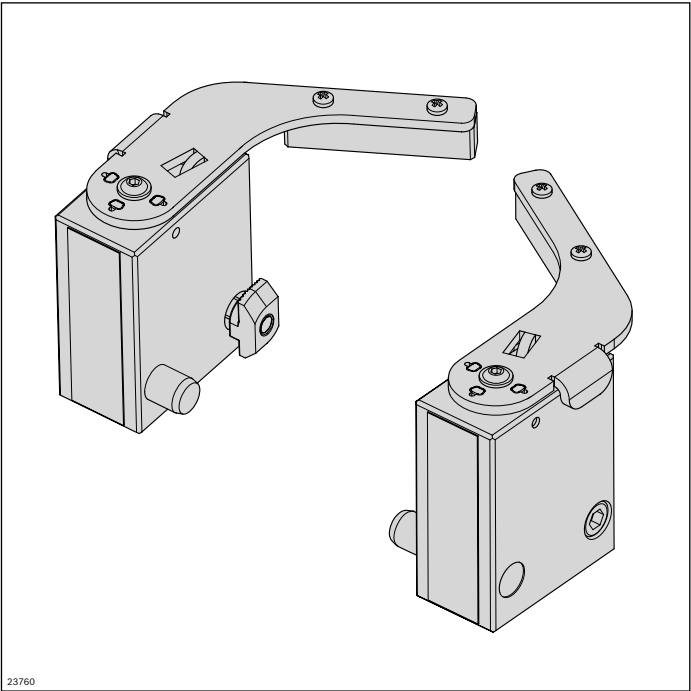
ST 2/C-H-W maintenance section



Scraper



3



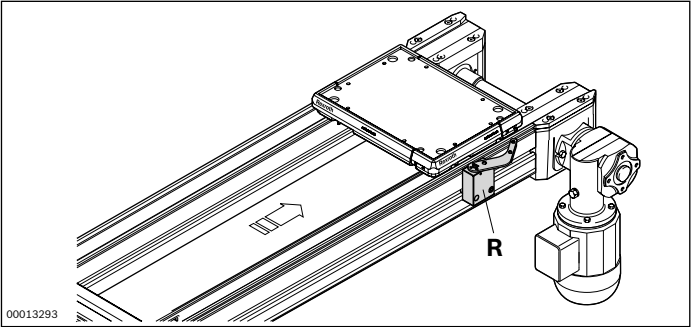
Delivery note

Scope of delivery

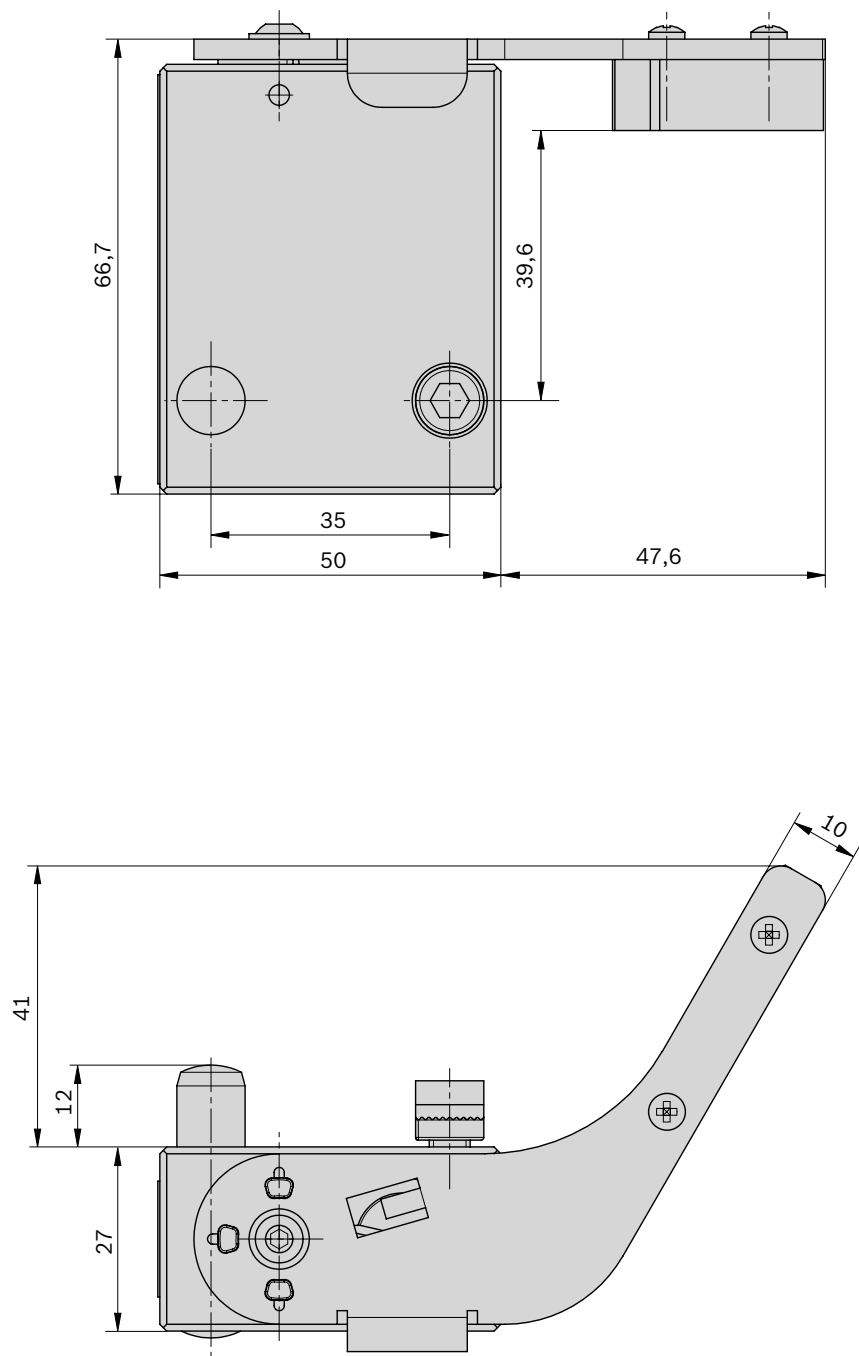
- 1x scraper, right or left, including fastening material

Ordering information

Product designation	Material number
Scraper, right	3842532679
Scraper, left	3842532680



Dimensions



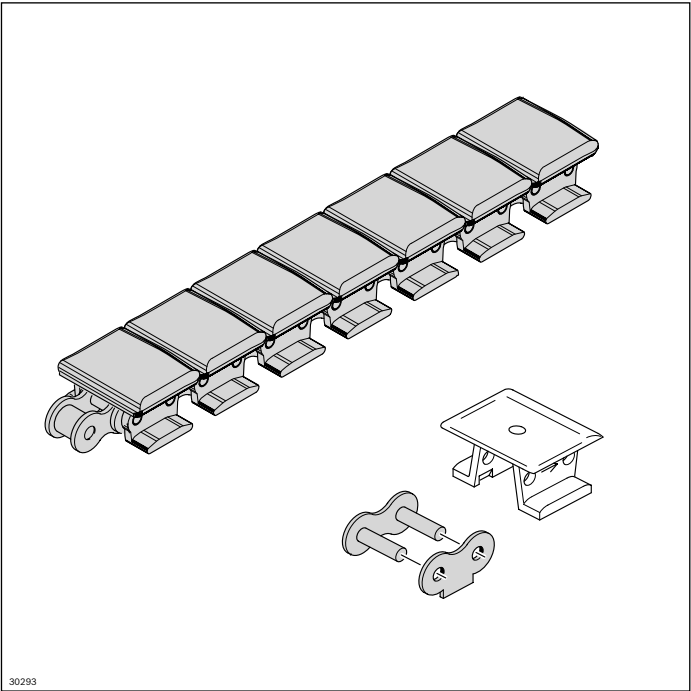
27630

Plastic flat top chain

Master link



3



- Conveyor medium for use with conveyor unit self-assembly
- For use in conjunction with ST 2/C sections and ST 2/C-H sections
- Delivered in units of up to 12,000 mm. Lengths of $l > 12,000$ mm can be produced by connecting several flat top chains using a master link
- Nickel-plated steel base chain version
- Steel chain with PA66 polyamide support caps

Note:

- The ESD plastic flat top chain is not permitted for use in curves and curve arcs.
- Accumulation operation with workpiece pallets fitted with PE wear pads not recommended as this increases wear
- The plastic flat top chain is not permitted for use with steel GP glide profiles

Conveyor medium for the workpiece pallets in the TS 2plus system in conjunction with ST 2/C and ST 2/C-H conveyor section.

Accessories

Recommended accessories

- Additional master link, 3842551234
- Tool for flat top chain, see p. 3-117

Delivery note

Scope of delivery

- Units up to 12,000 mm including one master link

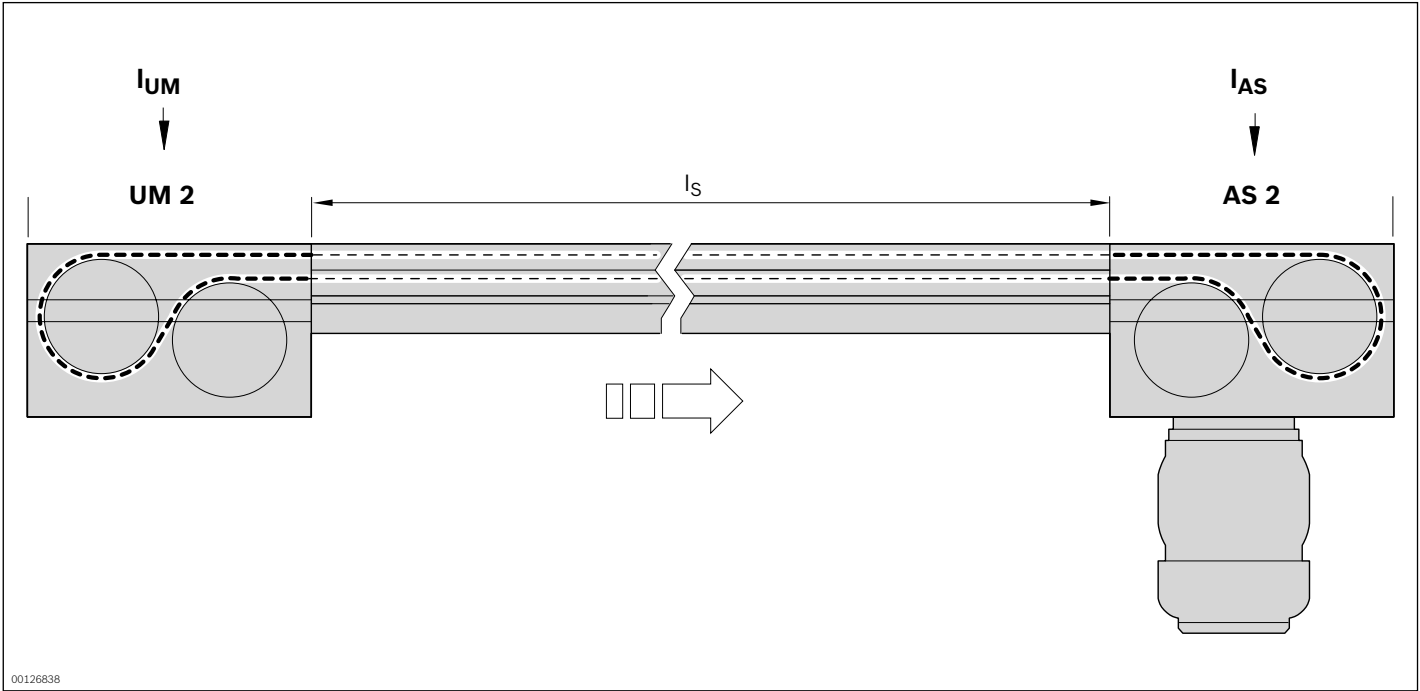
Ordering information

Product designation	Material number
Plastic flat top chain	3842551226
Plastic flat top chain ESD	3842551227
Master link	3842551234

Technical data

Material number	3842551226	3842551227	3842551234
Features			
ESD	no	yes	yes
Material specification	Base chain: steel, nickel-plated Flat chain PA66	Base chain: steel, nickel-plated Flat chain PA66 in anti-static version	steel, nickel-plated
Dimensions			
Length	l	mm	12000

Dimensions



The required chain length is determined using the following formula.

$$l_C = 2 \times l_s + l_{AS} + l_{UM}$$

Length of the conveyor medium for flat top chain

$$l_{UM\ 2/C-170} = 310\text{ mm}$$

$$l_{UM\ 2/C-60} = 150\text{ mm}$$

$$l_{AS} = 625\text{ mm}$$

l_C = Length of flat top chain

l_s = Length of the section profile

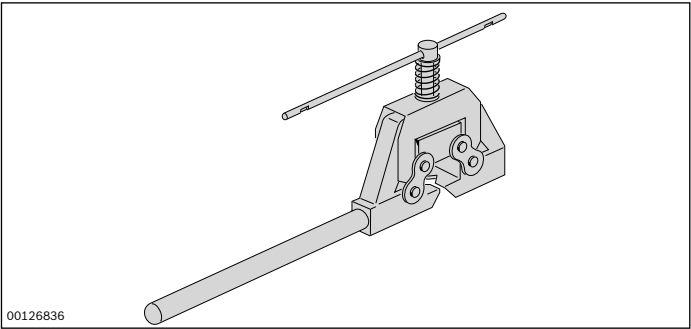
l_{AS} = Length of the conveyor medium in the drive module

l_{UM} = Length of the conveyor medium at the return unit

Chain breaker



3

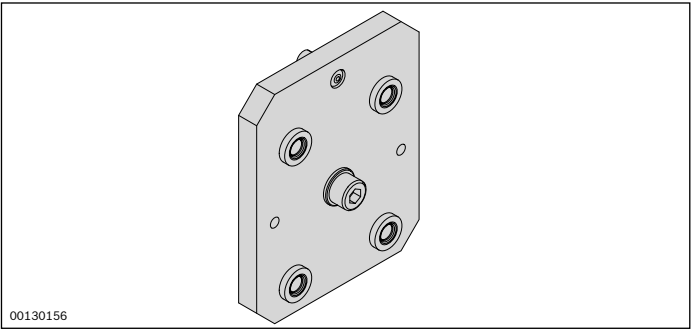


► For disassembling plastic flat top chains

Ordering information

Product designation	Material number
Chain breaker for plastic flat top chain	8981010510

Drilling template for blocking bolts

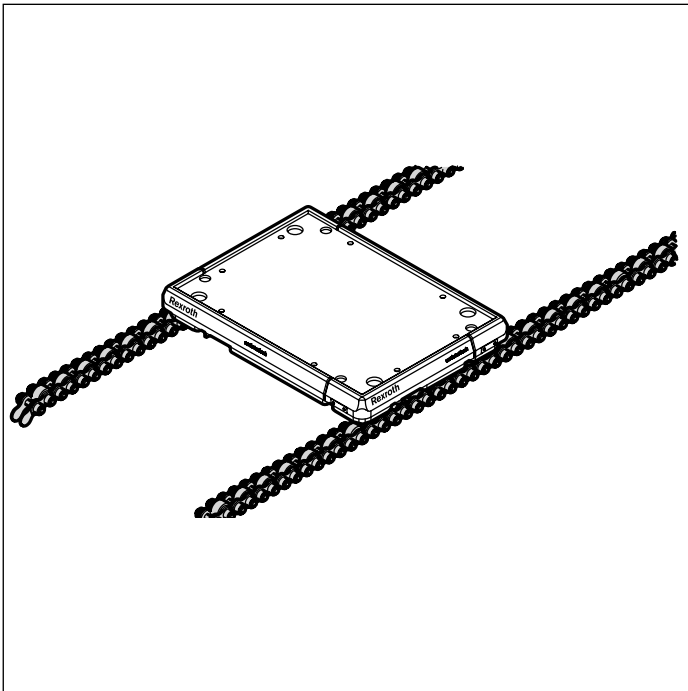


Ordering information

Product designation	Material number
Drilling template for blocking bolts	3842538972



Conveyor medium accumulation roller chain

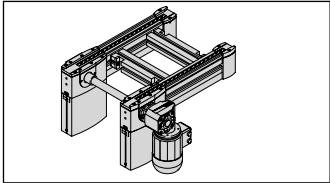


The accumulation roller chain is suitable for large, heavy workpiece pallets. Stress occurring due to media such as test oils or production emissions does not affect functional reliability.

The accumulation rollers do not only reduce the accumulation pressure on stop gates, but also enable a quick return to the transport speed following work at a processing station.

In conjunction with PE wear pads on the workpiece pallets, the standard design with plastic glide profiles in the section profile permits surface loads of up to 1.5 kg/cm, whereas the optionally available version with steel glide profiles and accumulation roller chain with steel rollers can tolerate surface loads up to 2 kg/cm.

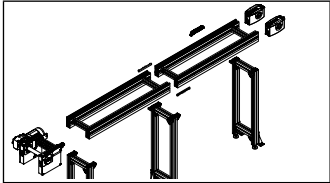
The new HD profiles equipped with steel glide profiles and steel guide profile provide a particularly sturdy, low-maintenance combination.



BS 2/R... belt section



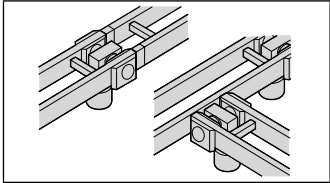
3-120



**Parts for conveyor units
AS 2/..., UM 2/..., ST 2...**



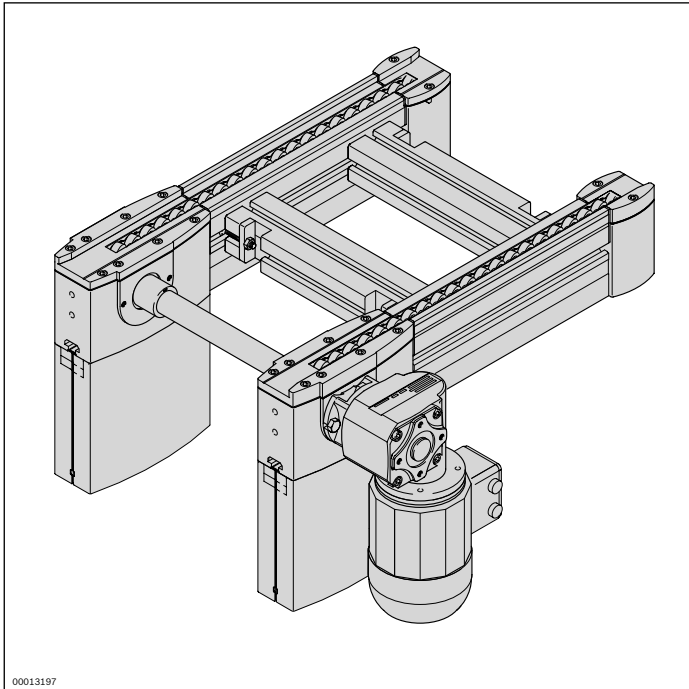
3-132



Connection kits

3-228

BS 2/R-300 belt section



- Ready for operation conveyor section
- Conveyor medium: Accumulation roller chain
- Reversible operation possible for $l \leq 2000$ mm and accumulation roller chains without small parts protection
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Note: With short, light workpiece pallets ($l_{WT} = 160, 240$), it may be necessary to ensure that conveyor trenches are traversable by installing the included acceleration element. The following must be noted for this:
Avoid accumulation above the acceleration element!
Accumulation above the acceleration element causes severe roller wear and shortens the service life of the chain.

Accessories

Recommended accessories

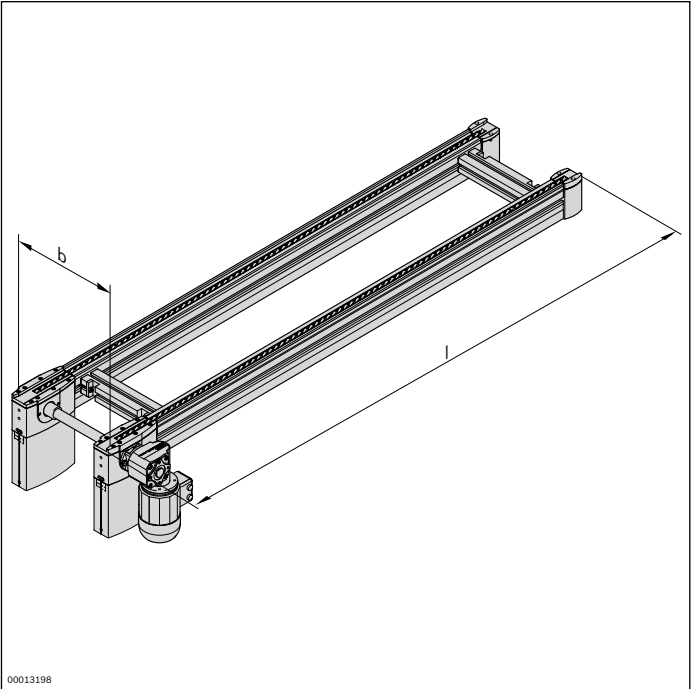
- Connection kits, see p. 3-228
- SZ 2 leg sets/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999904
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
l (mm)	Length	300 ... 6000
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ³⁾
RV	Reversible operation no reversible operation (RV = 0) Reversible operation (RV = 1)	0; 1
GP	Glide profile in corrosion-resistant steel (GP = S) Plastic (GP = K)	K; S
KT	Chain type Accumulation roller chain with PA accumulation rollers (KT = 1) Accumulation roller chain with steel accumulation rollers (KT = 2) Accumulation roller chains with PA accumulation rollers and small parts protection (KT = 3) Accumulation roller chains with steel accumulation rollers and small parts protection (KT = 4)	1; 2; 3; 4

¹⁾ Individual width variants available

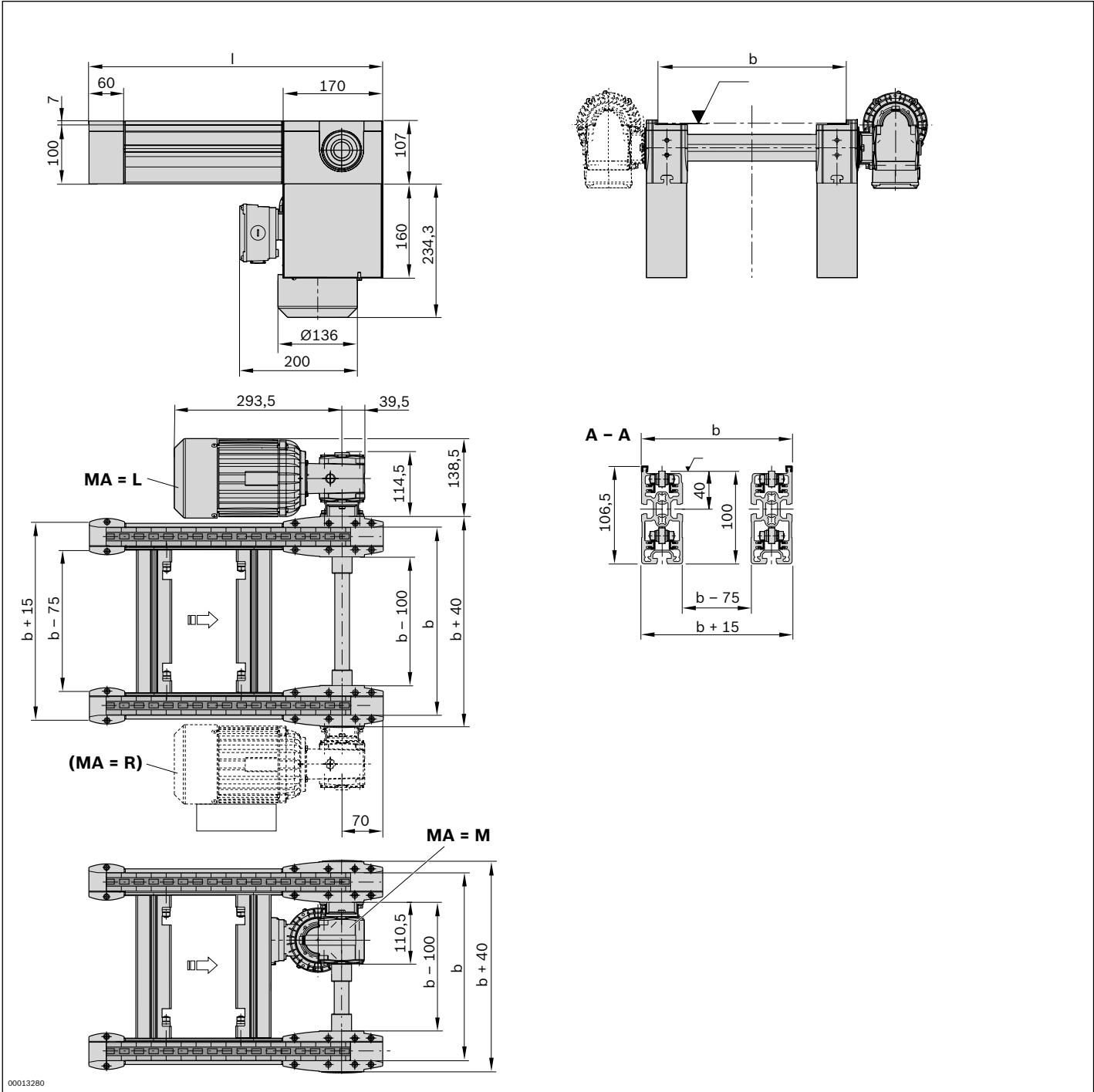
²⁾ v_N = 0: without motor or gear

³⁾ MA = M only for b ≥ 240 mm

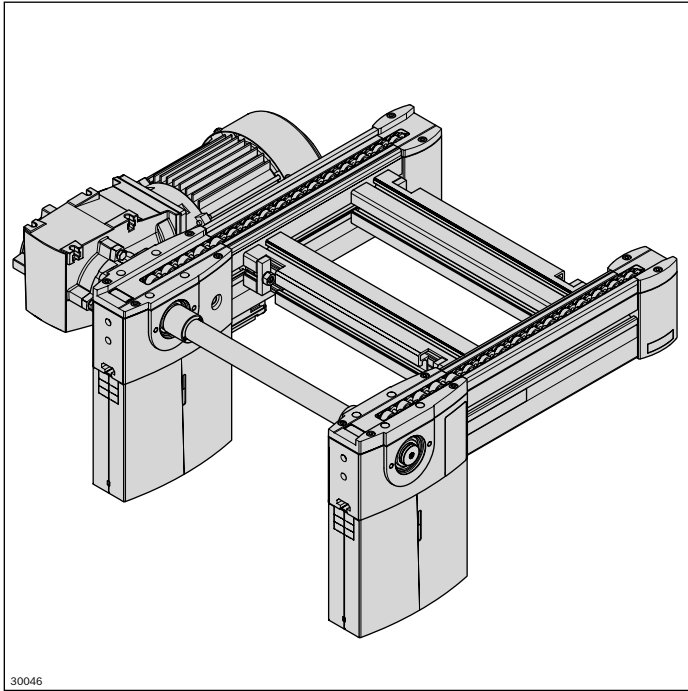
Technical data

Material number		3842999904
Load		
Max. section load in accumulation operation	kg	300
Features		
ESD		yes
Material specification		Section profile: aluminum, natural; anodized glide profile Polyamide or steel; corrosion-resistant Chain: Polyamide or steel accumulation rollers Small parts protection: Polyamide
Max. operating temperature	T	°C
		+40
Dimensions		
Length	l	mm
		300 ... 6000

Dimensions



BS 2/R-700 belt section



- Conveyor medium: Accumulation roller chain
- Reversible operation possible for $l \leq 2000$ mm and accumulation roller chains without small parts protection
- Motor mounting right or left
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Note: With short, light workpiece pallets ($l_{WT} = 160, 240$), it may be necessary to ensure that conveyor trenches are traversable by installing the included acceleration element. The following must be noted for this:
Avoid accumulation above the acceleration element!
Accumulation above the acceleration element causes severe roller wear and shortens the service life of the chain.

Accessories

Recommended accessories

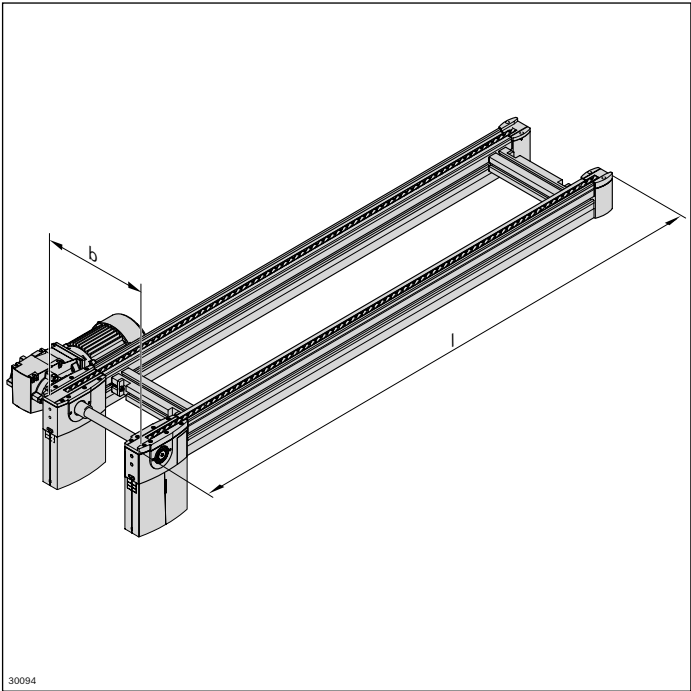
- Connection kits, see p. 3-228
- SZ 2 leg sets/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998096
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
l (mm)	Length	300 ... 6000
v _N (m/min)	Nominal speed	0 ¹⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L
RV	Reversible operation no reversible operation (RV = 0) Reversible operation (RV = 1)	0; 1
GP	Glide profile in corrosion-resistant steel (GP = S) Plastic (GP = K)	K; S
KT	Chain type Accumulation roller chain with PA accumulation rollers (KT = 1) Accumulation roller chain with steel accumulation rollers (KT = 2) Accumulation roller chains with PA accumulation rollers and small parts protection (KT = 3) Accumulation roller chains with steel accumulation rollers and small parts protection (KT = 4)	1; 2; 3; 4

¹⁾ v_N = 0: without motor or gear

Technical data

Material number		3842998096
Load		
Max. section load in accumulation operation	kg	700
Features		
ESD		yes
Material specification		Section profile: aluminum, natural; anodized Glide profile Polyamide or steel; corrosion-resistant Chain: Polyamide or steel accumulation rollers Small parts protection: Polyamide
Max. operating temperature	T	°C
		+40
Dimensions		
Length	l	mm
		300 ... 6000

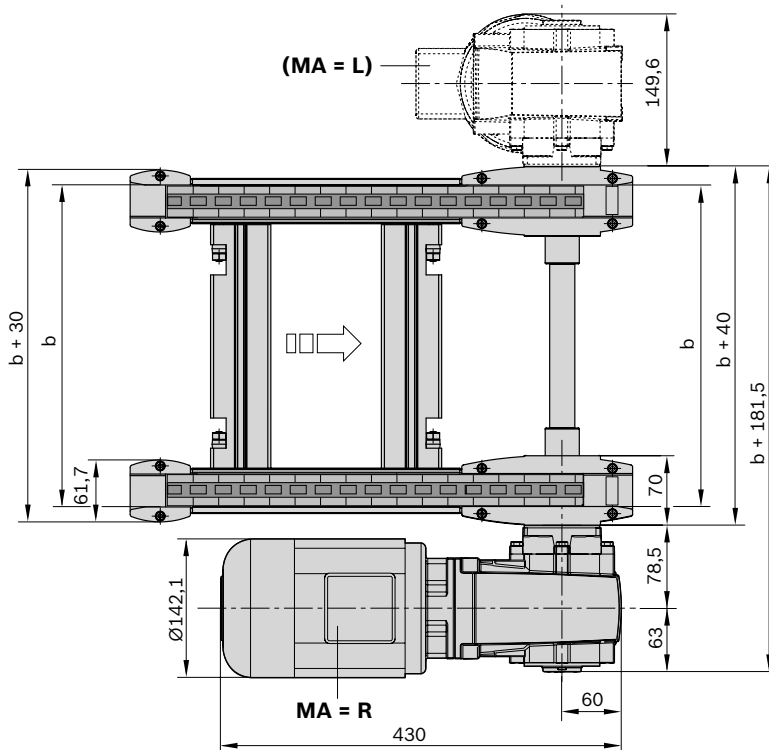
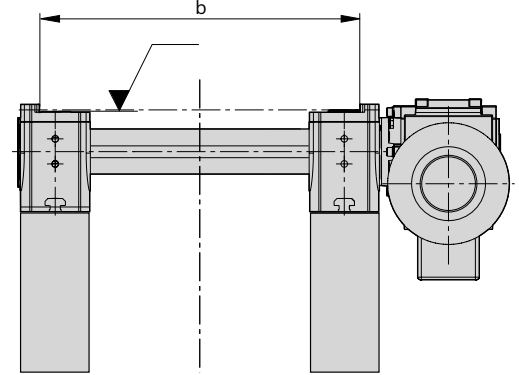
Technical drawing of a 100 mm high profile. The drawing includes a side view and a cross-section A-A.

Side View Dimensions:

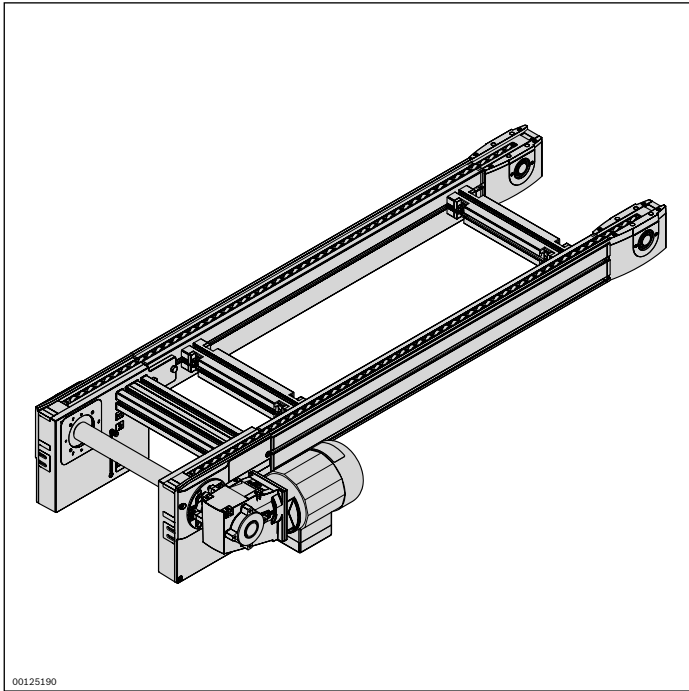
- Overall length: 170
- Distance from left end to center of circular feature: 60
- Height of the profile: 107
- Height of the circular feature: 107
- Height of the base: 281.3
- Height of the base (excluding the circular feature): 160
- Overall width: 223.5
- Width of the circular feature: $\varnothing 142.1$

Cross-section A-A Dimensions:

- Overall width: b
- Width of the base: $b - 75$
- Width of the base (excluding the circular feature): $b + 15$
- Height of the profile: 106.5
- Height of the base: 100
- Height of the base (excluding the circular feature): 40



BS 2/R-H belt section



- Ready for operation conveyor section
- Sturdy design for especially heavy-duty systems
- Conveyor medium: Accumulation roller chain
- Reversible operation possible for $l \leq 2000$ mm and accumulation roller chains without small parts protection
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box motor connection
- Profile width: 50 mm
- Special models on request

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying

of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Accessories

Recommended accessories

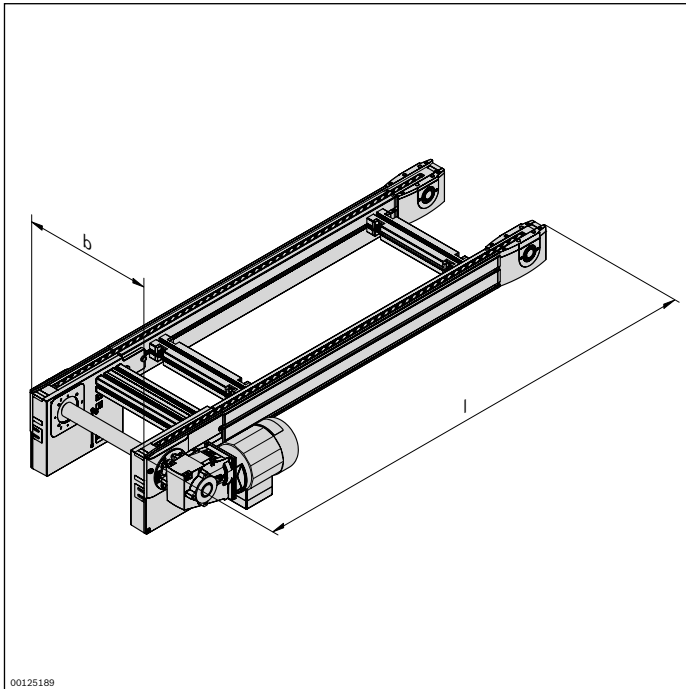
- Connection kits, see p. 3-228
- SZ 2 leg sets/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998238
b (mm)	Track width in direction of transport	400 ... 1200
l (mm)	Length	650 ... 6000
v_N (m/min)	Nominal speed	0 ¹⁾ ; 6; 9; 12; 15; 18 ²⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M)
RV	Reversible operation no reversible operation (RV = 0) Reversible operation (RV = 1)	0, 1 ³⁾
GP	Glide profile in corrosion-resistant steel (GP = S) Plastic (GP = K)	K; S
KT	Chain type Accumulation roller chain with PA accumulation rollers (KT = 1) Accumulation roller chain with steel accumulation rollers (KT = 2) Accumulation roller chains with PA accumulation rollers and small parts protection (KT = 3) Accumulation roller chains with steel accumulation rollers and small parts protection (KT = 4)	1; 2; 3; 4

¹⁾ $v_N = 0$: without motor or gear

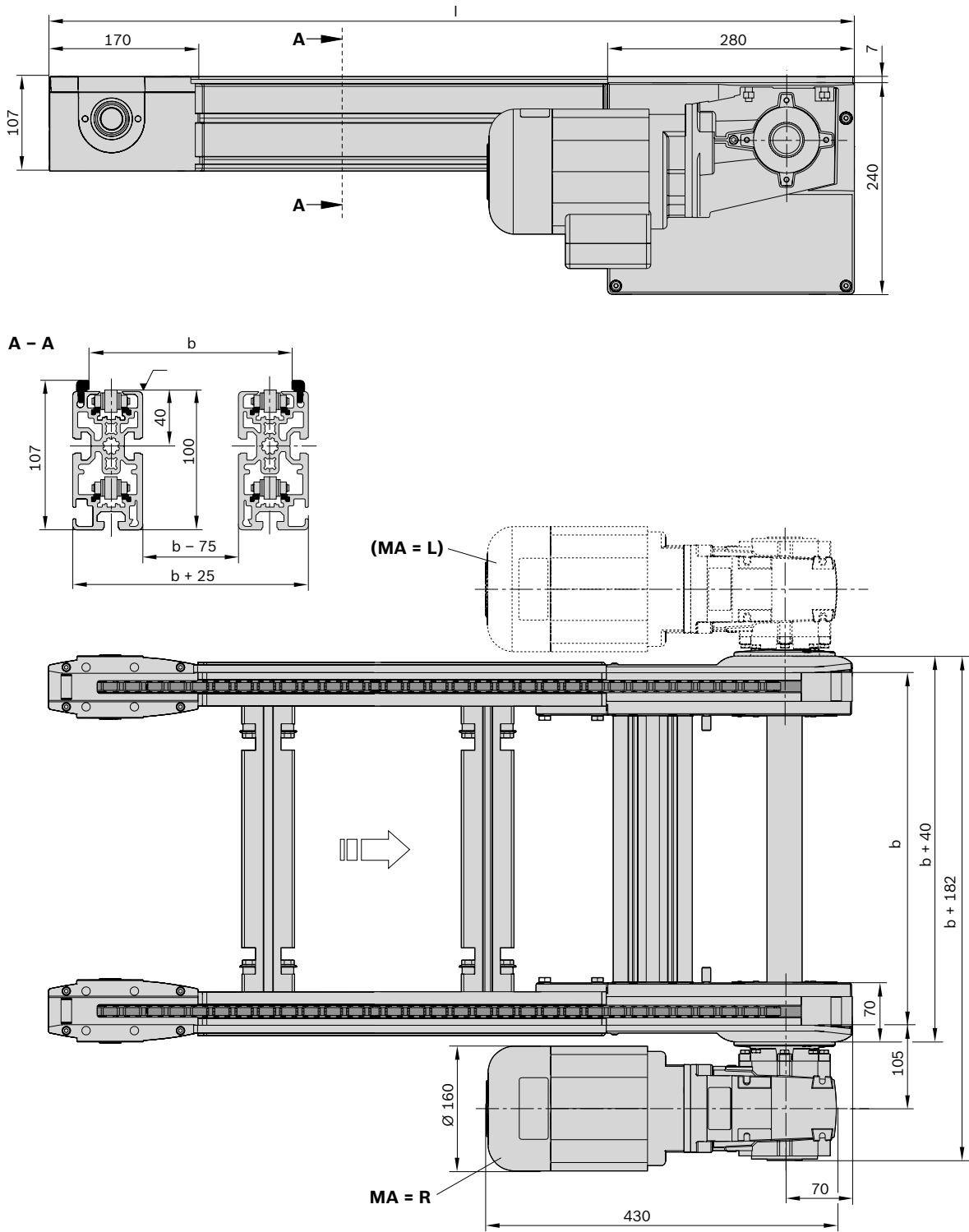
²⁾ Not possible if $f = 60$ Hz

³⁾ RV = 1 possible with $l \leq 2000$ mm and section loads < 400 kg;
no reversible operation for chains with small parts protection (KT = 3, 4)

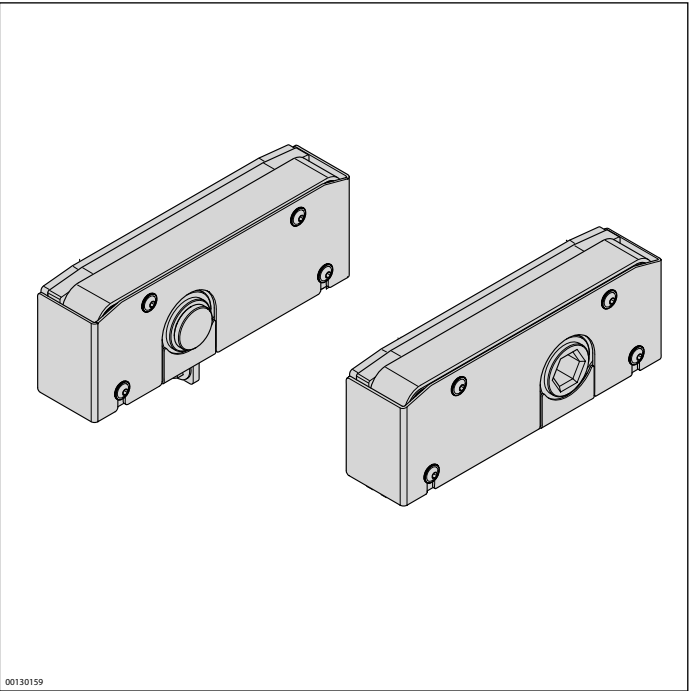
Technical data

Material number		3842998238
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		yes
Material specification		Section profile: aluminum, natural; anodized Glide profile Polyamide or steel; corrosion-resistant Chain: Polyamide or steel accumulation rollers Small parts protection: Polyamide
Dimensions		
Length	l	mm
		650 ... 6000

Dimensions



BS 2/C+R connection belt



► Conveyor medium: Toothed belts in ESD version

3

The head-to-head connection of the drive and return heads results in short, non-driven sections. The connection belt is

used to bridge these > 180 mm conveyor trenches by using short $l_{WT} < 320$ mm workpiece pallets.

Delivery note
Condition on delivery
► Fully assembled

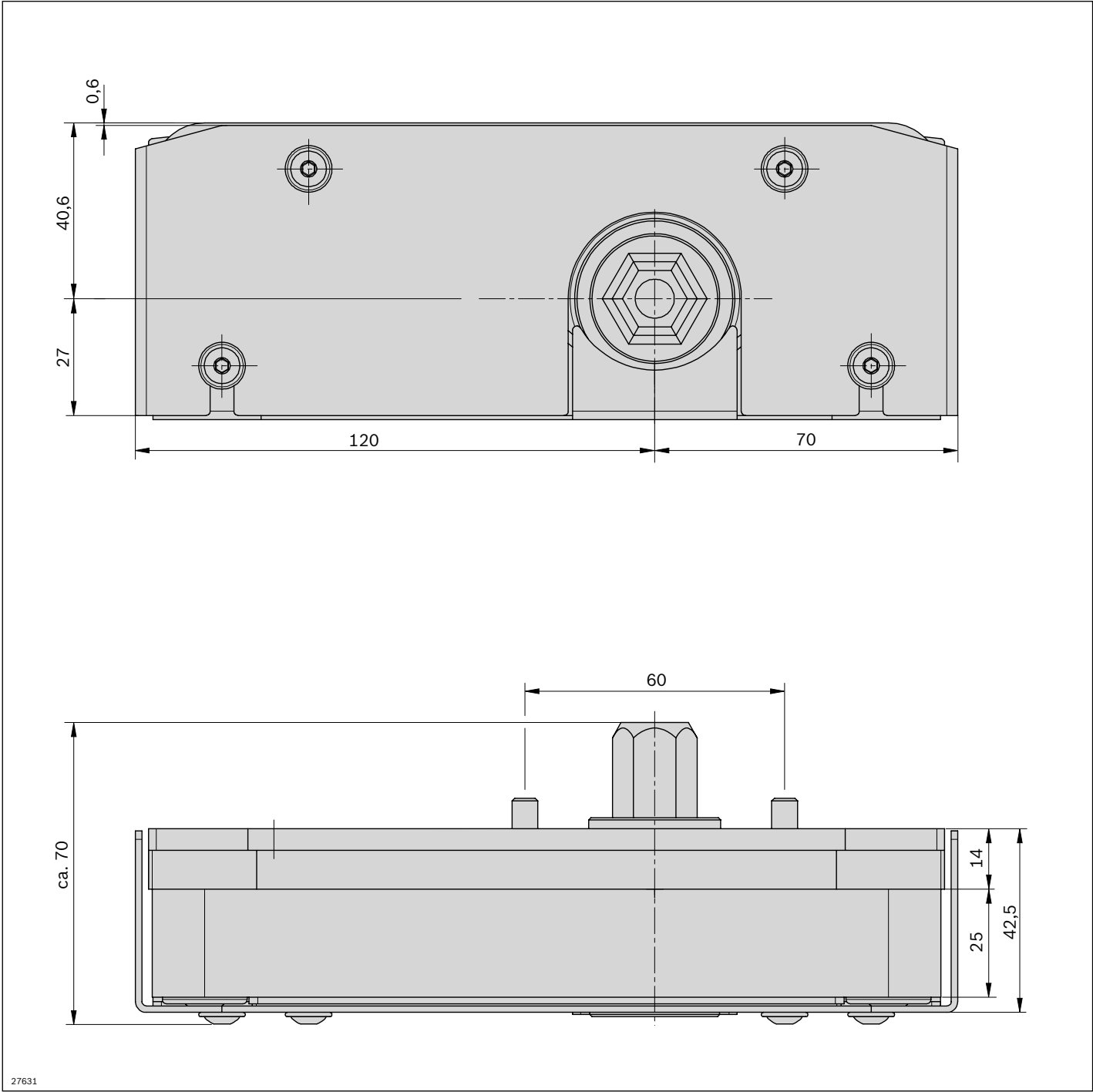
Ordering information

Product designation	Material number
Connection belt, left	3842528480
Connection belt, right	3842539096

Technical data

Material number	3842528480	3842539096
Features		
ESD	yes	yes

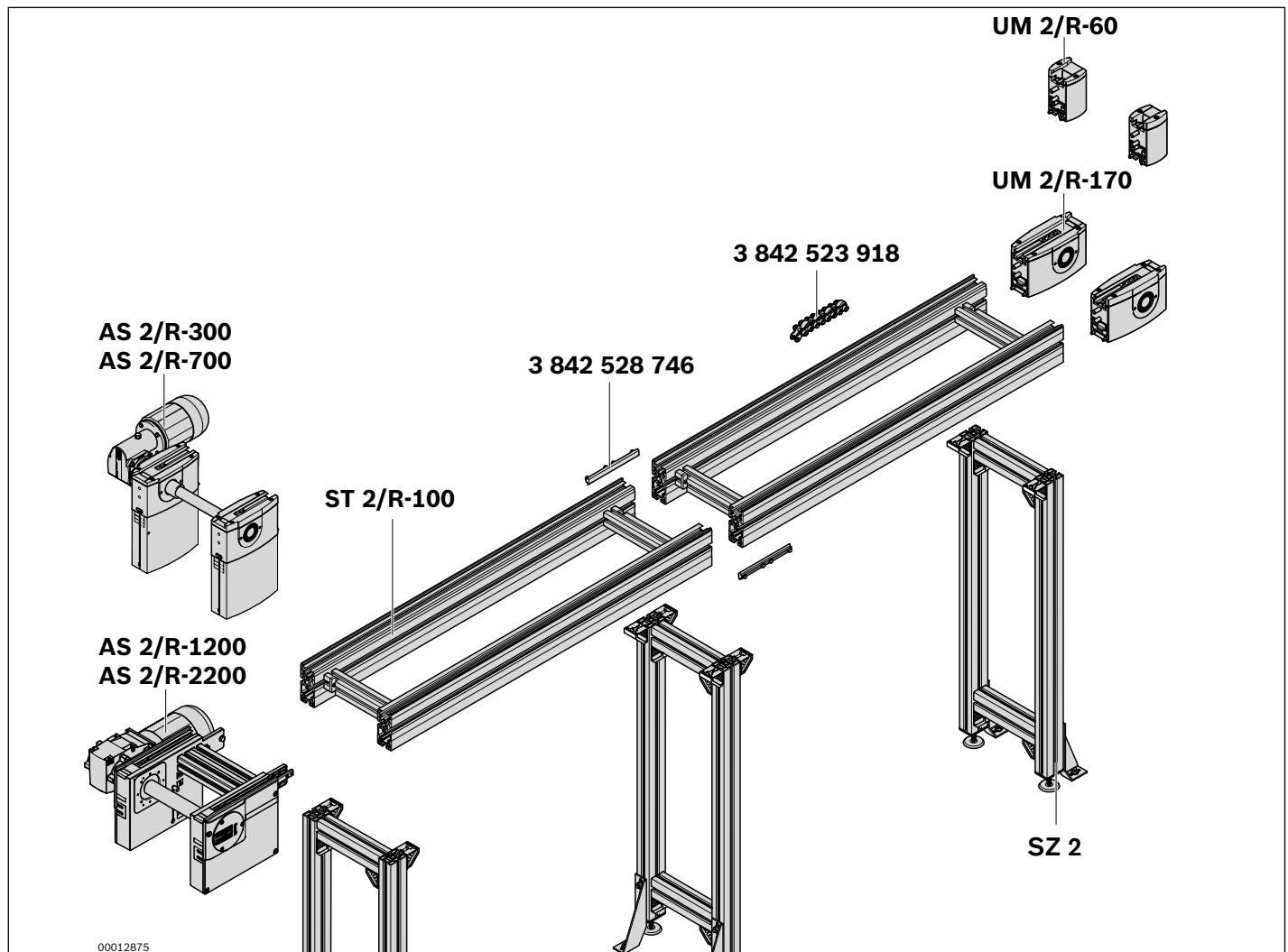
Dimensions





Conveyor unit

Conveyor medium accumulation roller chain



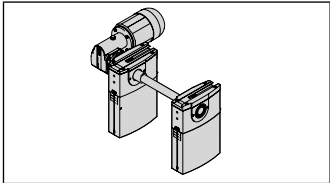
00012875

A conveyor unit is a complete unit used for linear conveying of workpiece pallets. It consists of:

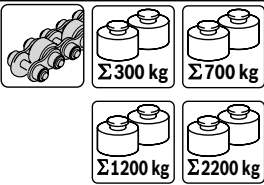
- ▶ AS 2/R drive module, s. S. 3-134
- ▶ UM 2/R return unit, see p. 3-146
- ▶ ST 2/R... sections, see p. 3-152
- ▶ SZ 2/... leg sets, see p. 6-2

The UM 2/R and AS 2/R may be set up right next to each other, which allows for conveyor unit combinations.

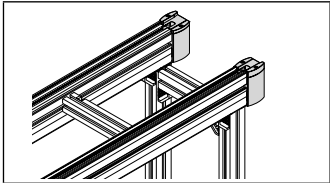
Drive modules for loads up to $m_G = 300$ kg; 700 kg; 1200 kg, or up to $m_G = 2200$ kg per conveyor unit.



AS 2/R... drive module



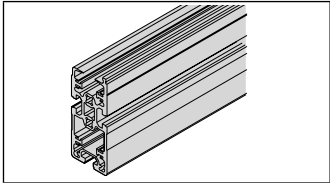
3-134



UM 2/R... return unit



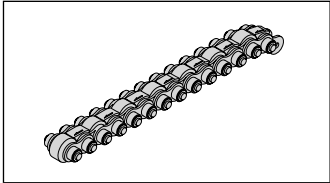
3-146



ST 2/R... section, components



3-152

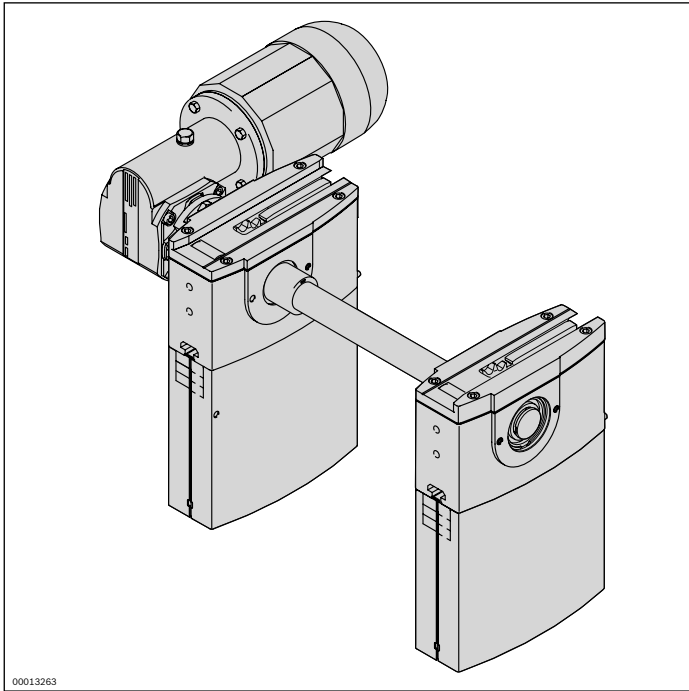


Conveyor medium accumulation roller chain, accessories



3-178

AS 2/R-300 drive module



- For conveyor unit self-assembly
- For use in conjunction with UM 2/... return units and ST 2/... sections
- Conveyor medium: Accumulation roller chain
- Reversible operation possible for $l \leq 2000$ mm and accumulation roller chains without small parts protection
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The AS 2/R... drive module drives the conveyor medium accumulation roller chain in self-built conveyor section

elements with section, return unit and accumulation roller chain.

Accessories

Recommended accessories

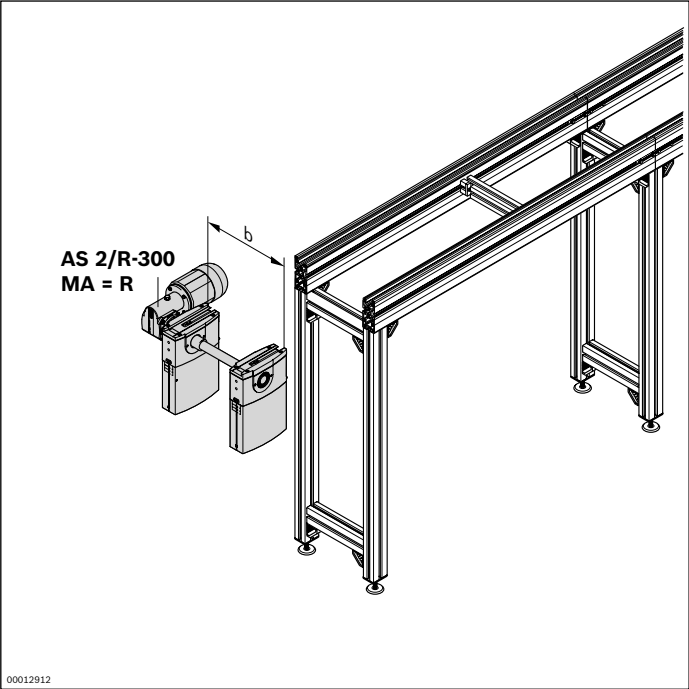
- LU 2 automatic lubrication unit, see p. 3-150
- Roller conveyor RB 2 for transverse section, see p. 5-86

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998052
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ³⁾

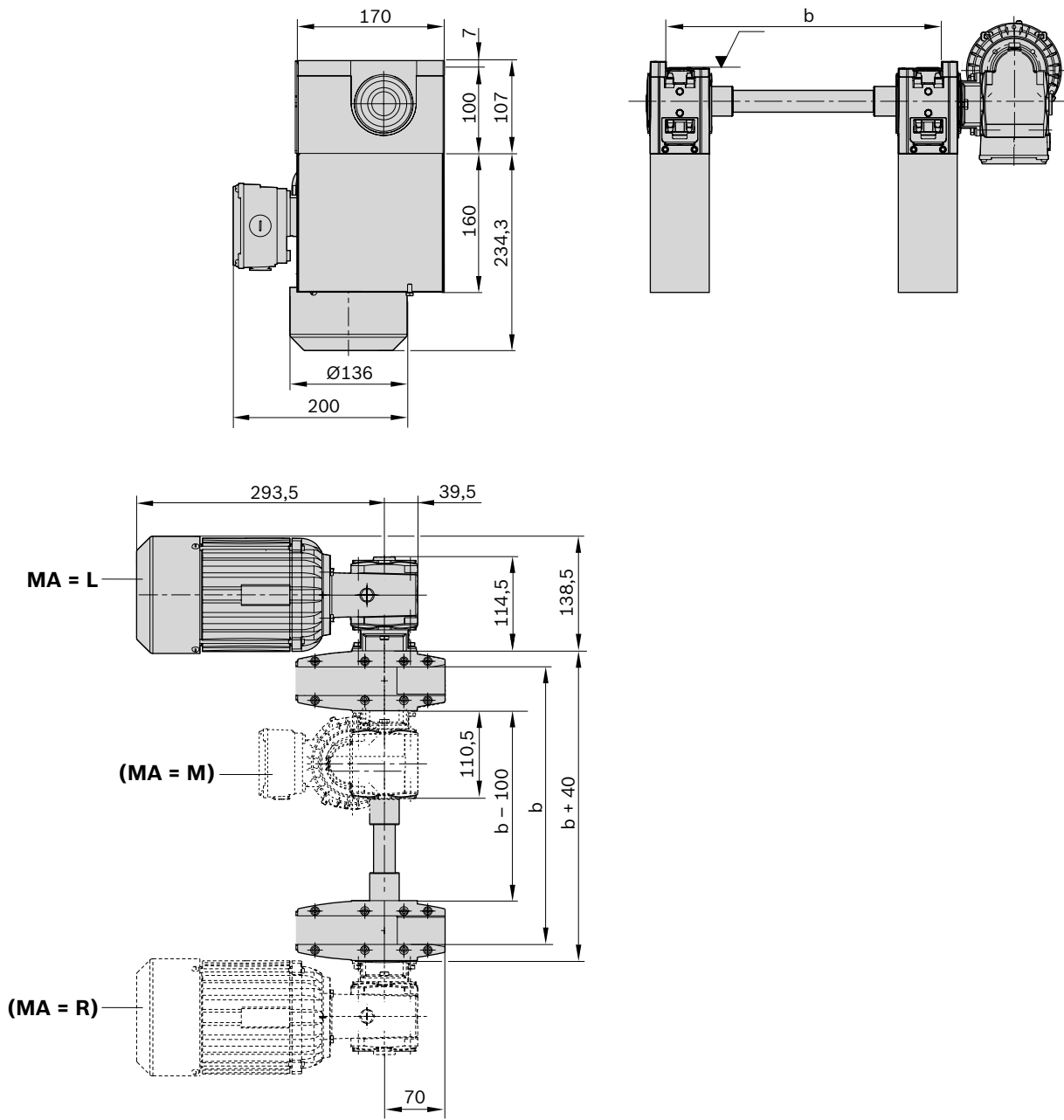
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998052
Load		
Max. section load in accumulation operation	kg	300
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l _{AS}	mm	475

^{*)} Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions

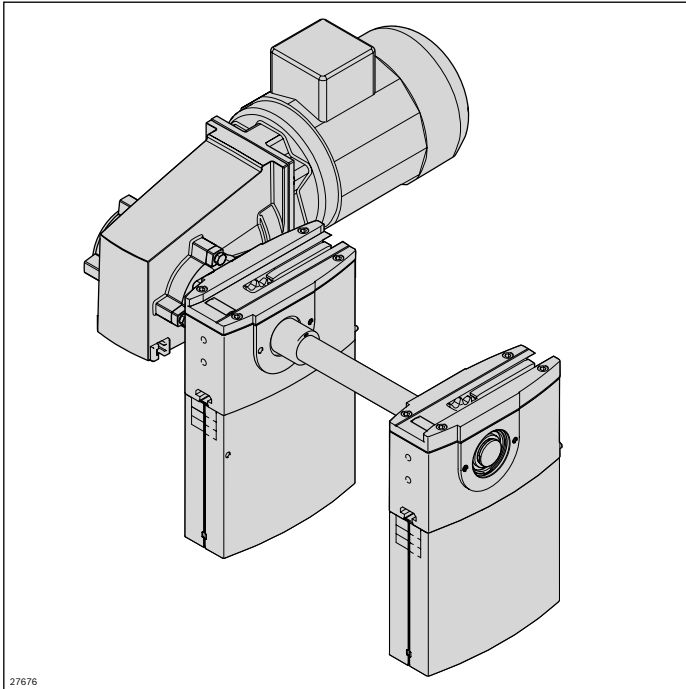


00013212

AS 2/R-700 drive module



3



- For conveyor unit self-assembly
- For use in conjunction with UM 2/... return units and ST 2/... sections
- Conveyor medium: Accumulation roller chain
- Motor mounting right or left
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The AS 2/R... drive module drives the conveyor medium accumulation roller chain in self-built conveyor section

elements with section, return unit and accumulation roller chain.

Accessories

Recommended accessories

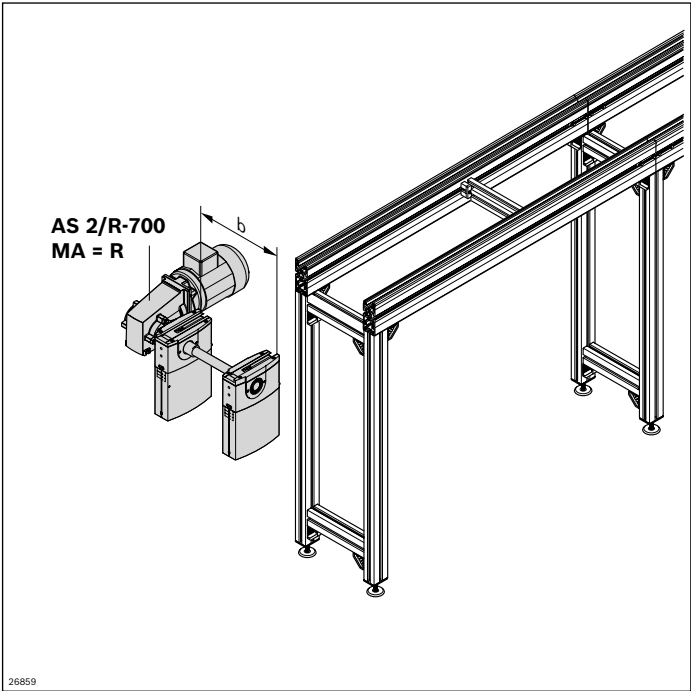
- LU 2 automatic lubrication unit, see p. 3-150
- Roller conveyor RB 2 for transverse conveyor, see p. 5-86

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998072
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L

¹⁾ Individual width variants available

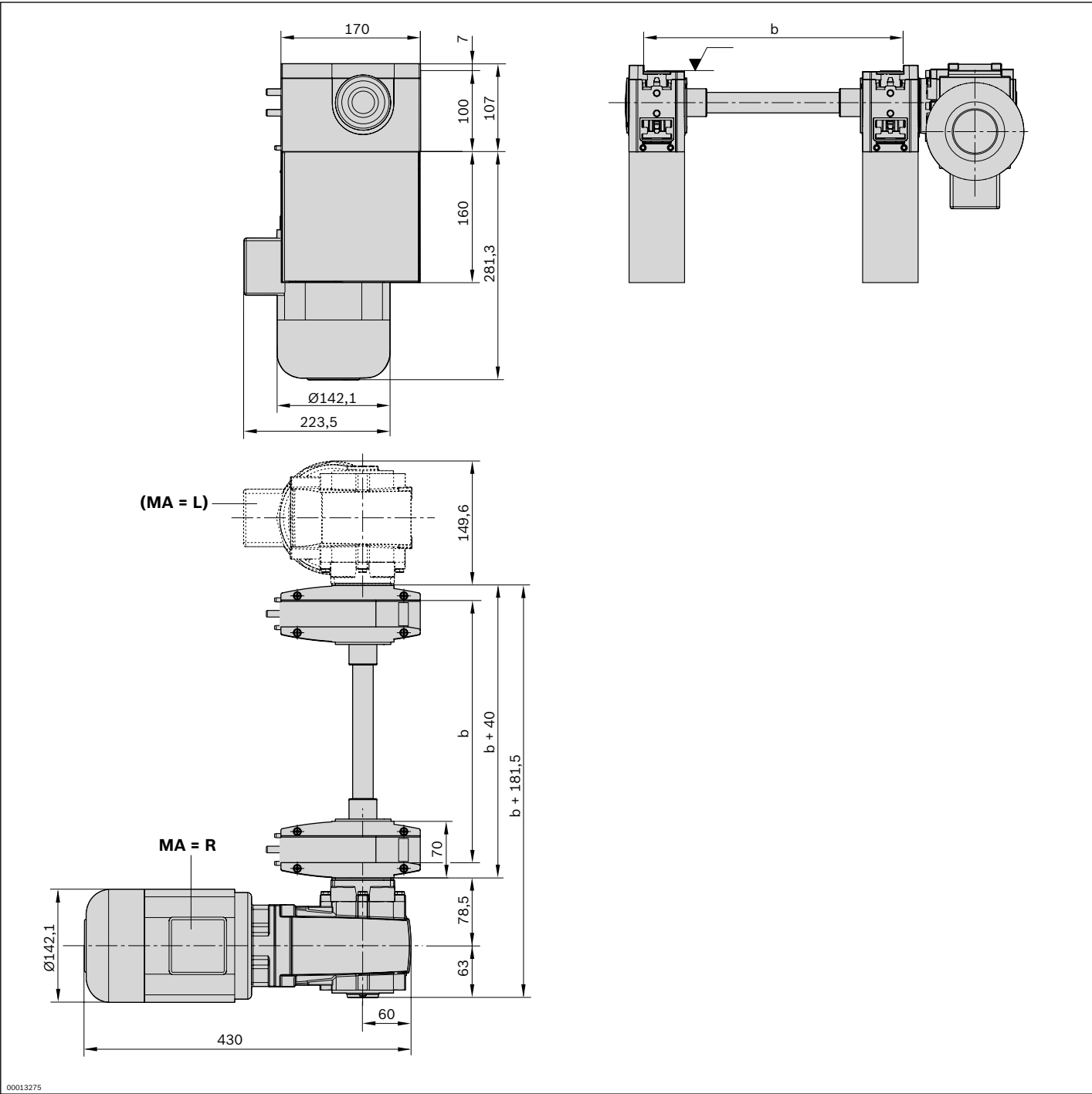
²⁾ v_N = 0: without motor or gear

Technical data

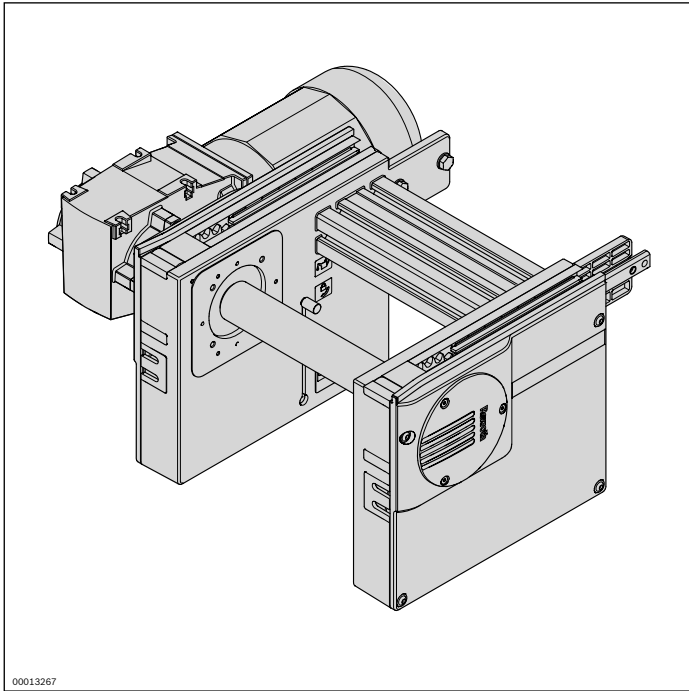
Material number		3842998072
Load		
Max. section load in accumulation operation	kg	700
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)}	l _{AS} mm	475

^{*)} Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions



AS 2/R-1200 drive module



- For conveyor unit self-assembly
- For use in conjunction with UM 2/... return units and ST 2/... sections
- Conveyor medium: Accumulation roller chain
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The AS 2/R... drive module drives the conveyor medium accumulation roller chain in self-built conveyor section

elements with section, return unit and accumulation roller chain.

Accessories

Recommended accessories

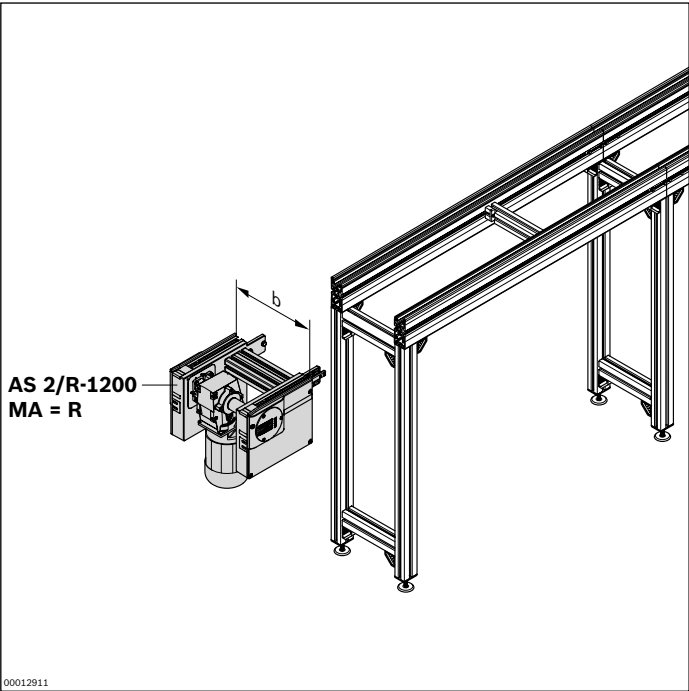
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998040
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

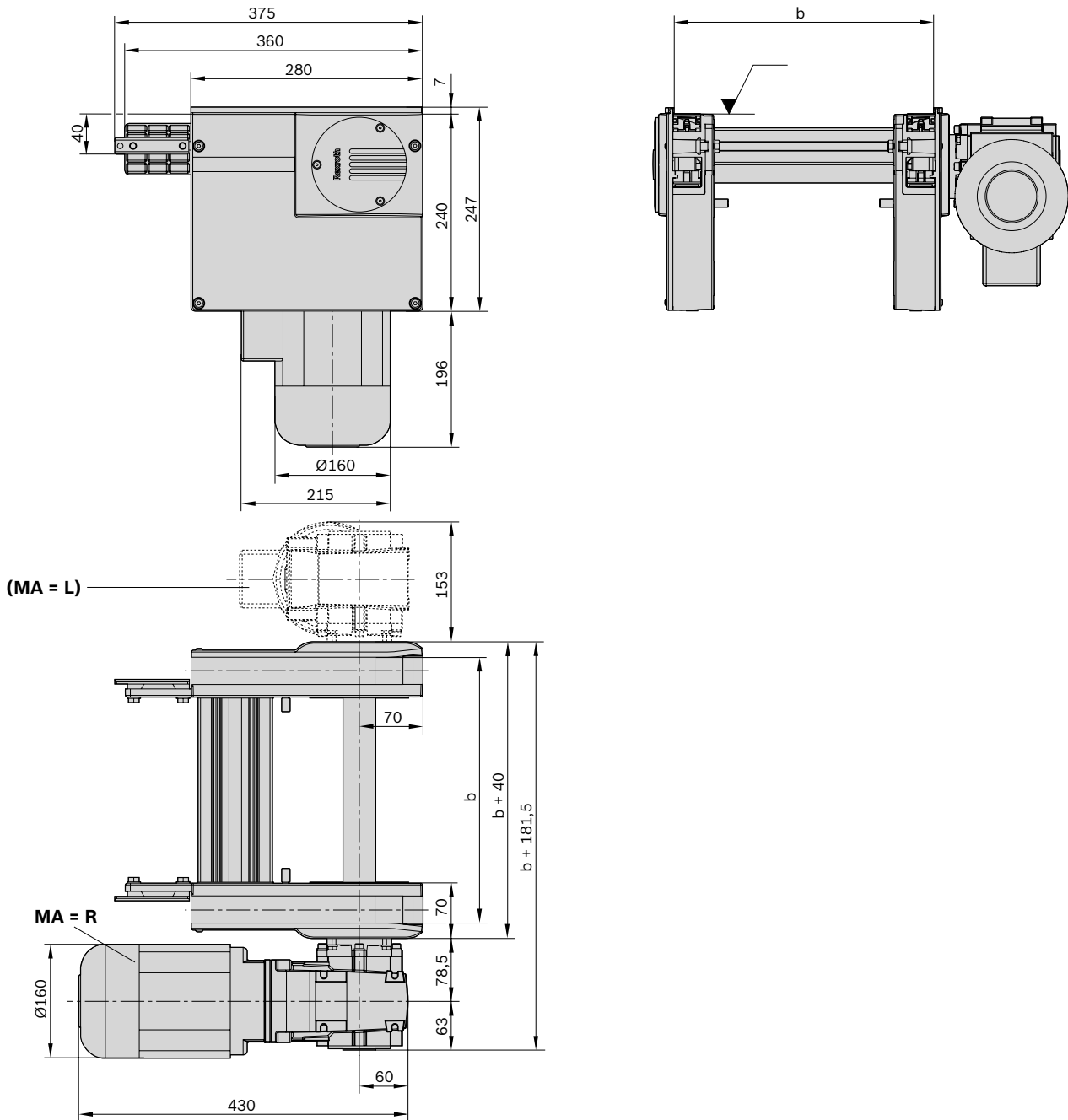
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Not possible if f = 60 Hz
⁴⁾ MA = M for b ≥ 240 mm

Technical data

Material number		3842998040
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l _{AS}	mm	625

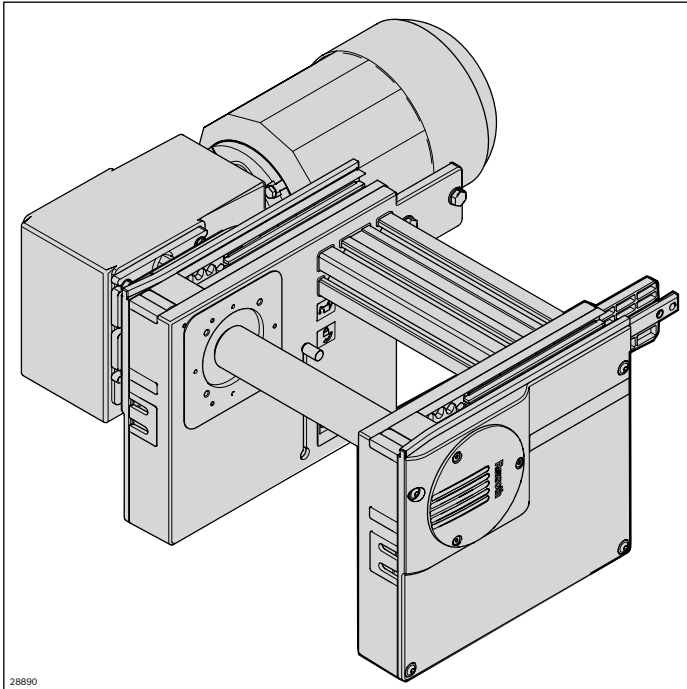
^{*)} Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions



00013276

AS 2/R-2200 drive module



- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with UM 2/... return units and ST 2/... sections
- ▶ Conveyor medium: Accumulation roller chain
- ▶ Motor mounting right, left or central (central from track width of 240 mm)
- ▶ Motor connection: optionally with cable/plug or terminal box motor connection
- ▶ Special models on request

3

The AS 2/R... drive module drives the conveyor medium accumulation roller chain in self-built conveyor section

elements with section, return unit and accumulation roller chain.

Accessories

Recommended accessories

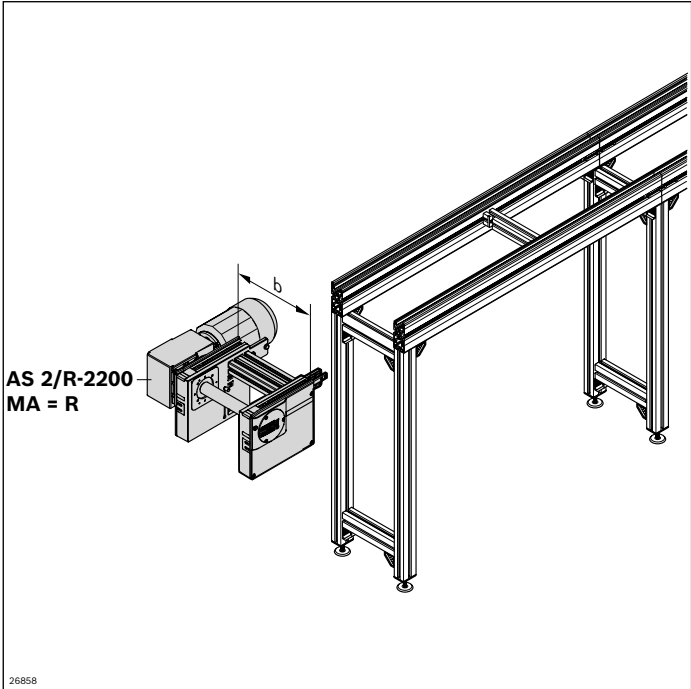
- ▶ LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998041
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200 160 ... 1200 ¹⁾
v _N (m/min)	Nominal speed	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ⁴⁾

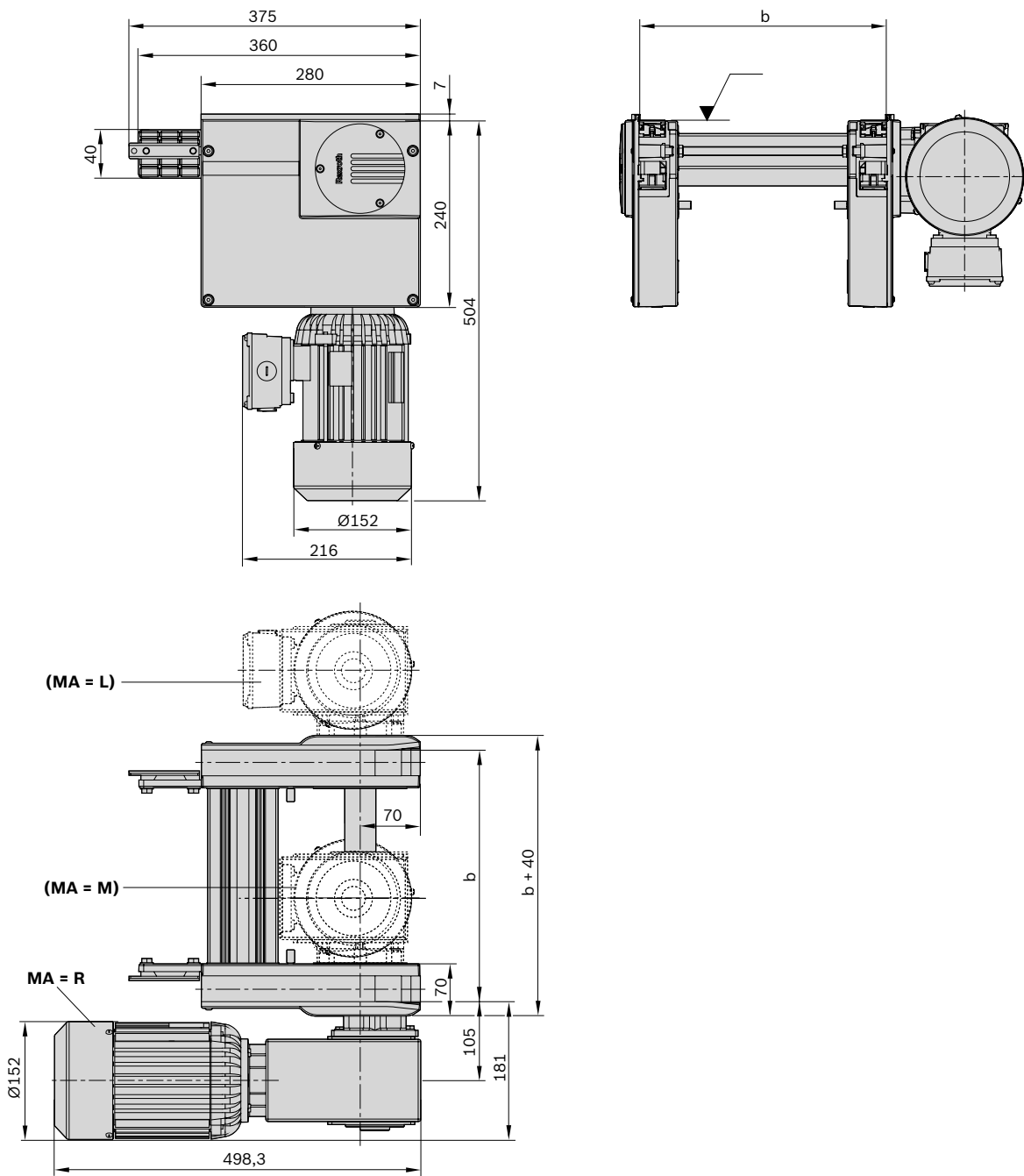
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Load reduced to 1800 kg
⁴⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998041
Load		
Max. section load in accumulation operation	kg	2200
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l _{AS}	mm	625

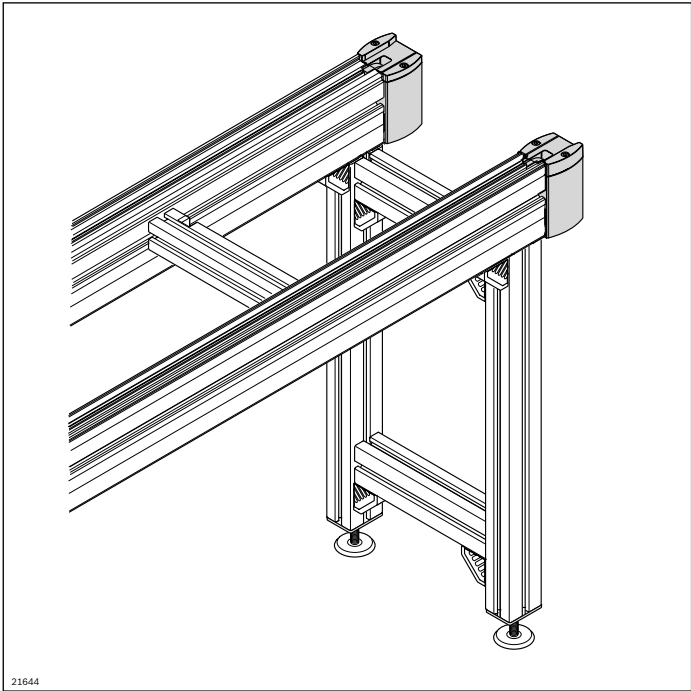
^{*)} Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions



00013277

UM 2/R-60 return unit



- For conveyor unit self-assembly
- Conveyor medium: Accumulation roller chain
- For use in conjunction with all AS 2/R-... and ST 2/... sections
- Design with sliding piece for return, recommended for sections up to l = 6000 mm

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Delivery note

Scope of delivery

- One pair of return unit heads
- Incl. all fastening material to mount on the ST 2/R-... conveyor section

Condition on delivery

- Fully assembled

Ordering information

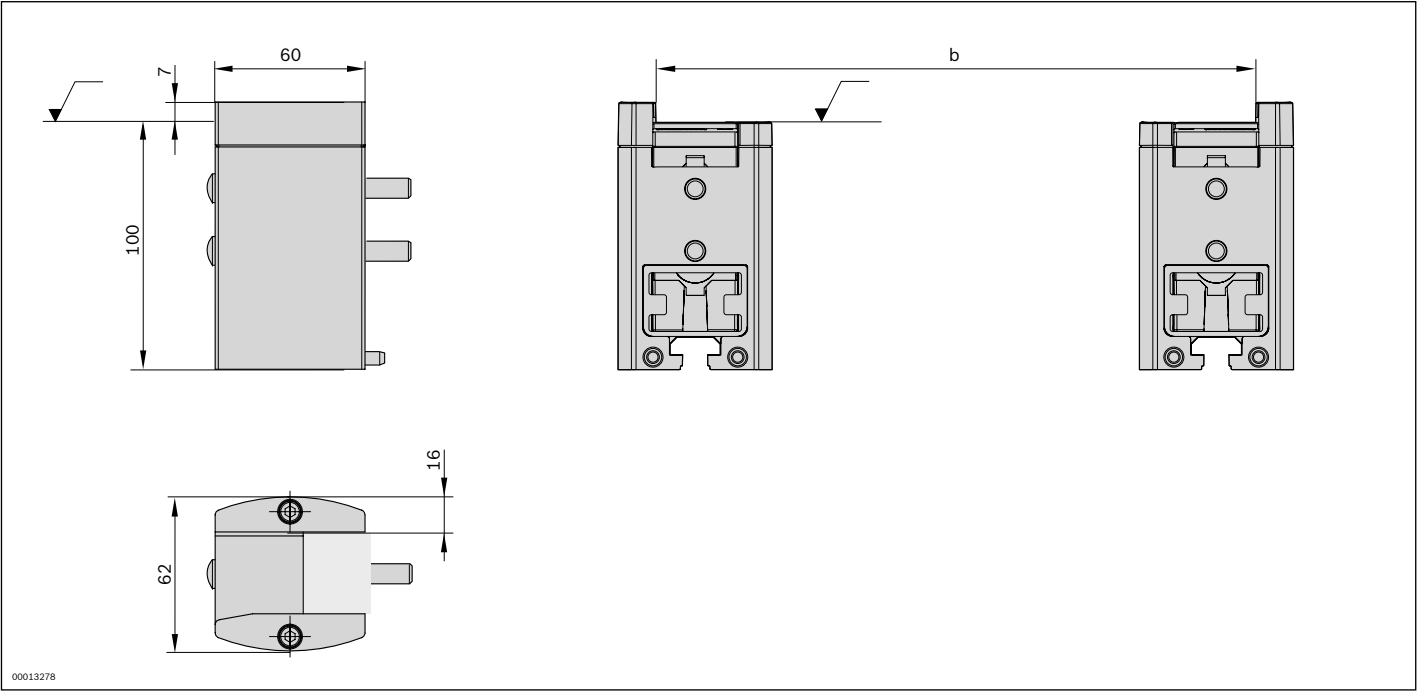
Product designation	Material number
UM 2/R-60 return unit	3842528803

Technical data

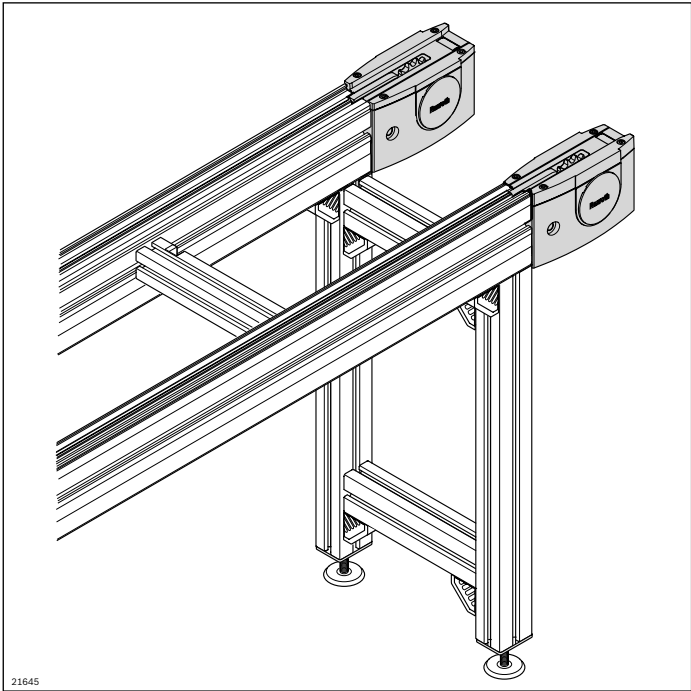
Material number	3842528803
Features	
ESD	yes
Additional information	
Required conveyor media length ^{*)} l _{UM}	mm 150

^{*)} Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions



UM 2/R-170 return unit



- For conveyor unit self-assembly
- Conveyor medium: Accumulation roller chain
- For use in conjunction with all AS 2/R-... and ST 2/... sections
- Design with pinion for return unit, recommended for sections up to l = 6000 mm

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Delivery note

Scope of delivery

- One pair of return unit heads
- Incl. all fastening material to mount on the ST 2/R-... conveyor section

Condition on delivery

- Fully assembled

Ordering information

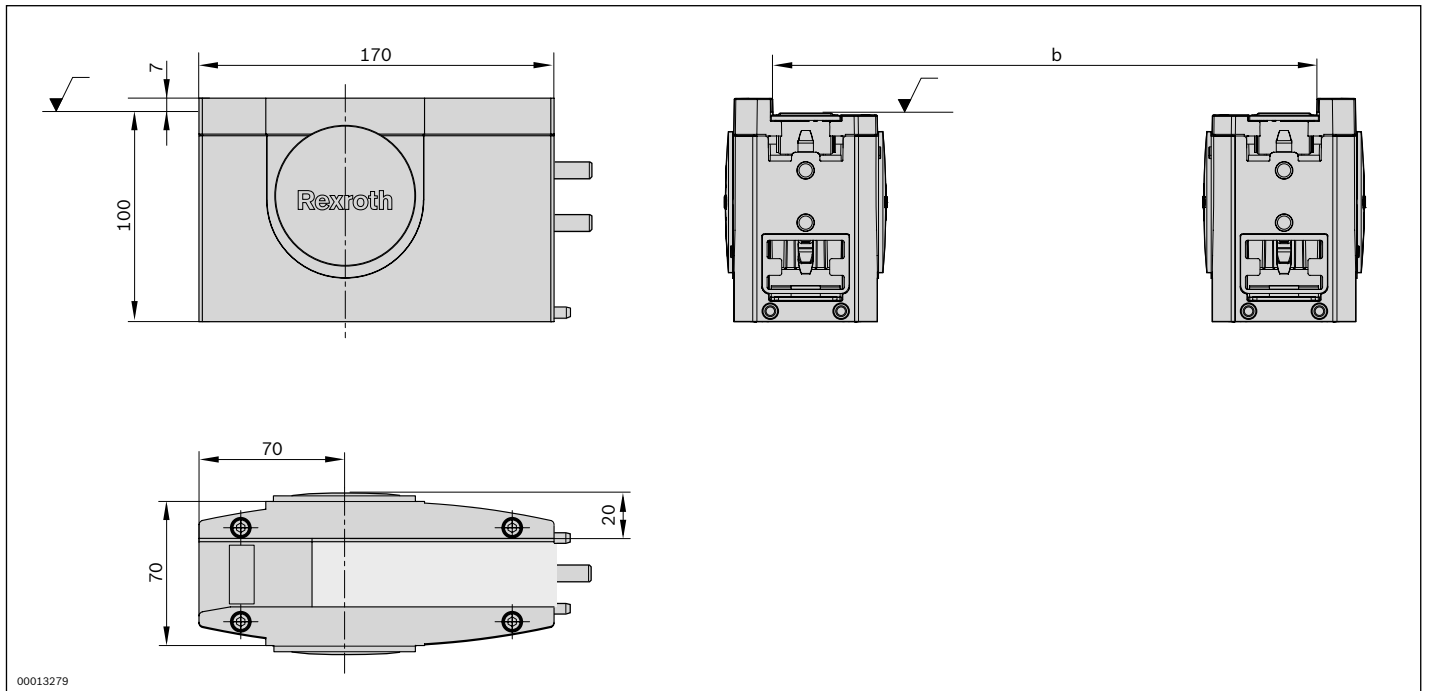
Product designation	Material number
UM 2/R-170 return unit	3842528807

Technical data

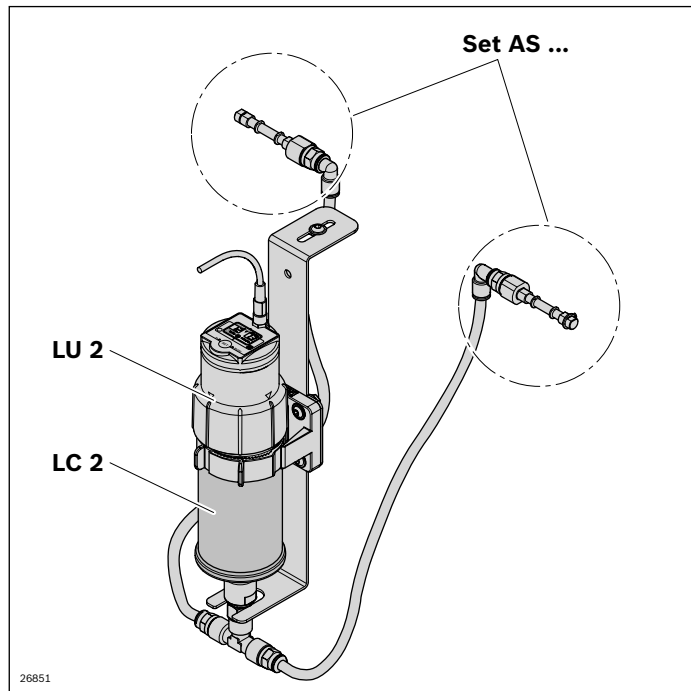
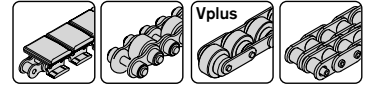
Material number	3842528807
Features	
ESD	yes
Additional information	
Required conveyor media length*) l_{UM}	mm 310

*) Formula for calculating the conveyor medium, see p. 3-179/3-181

Dimensions



LU 2 automatic lubrication unit



- Modular design made of LU 2 automatic lubrication unit, LC 2 oil container and adapter set
- LU 2 automatic lubrication unit with drive, compressed-air connection to drive module and fastening material
- LC 2 oil container with Structovis GHD from Klüber; contains: 0.25 l (must be ordered separately)
- Specific adapter sets with compatible lubrication pins for different drive modules
- Adjustment of lubrication amount to be distributed per metering process on the LU 2 automatic lubrication unit. The metering process is actuated by an external PLC.
- Designed for lubricating one belt section or conveyor unit respectively
- Use of the LU 2 automatic lubrication unit is highly recommended for flat top chains

Increasing the system service life through continuous and maintenance-free lubrication of flat top chains, accumulation roller chains, and duplex chains during operation. Prevention of dry running.

Use for all belt sections and conveyor units; lubrication at the drive module
Reduction of oil consumption thanks to exact metering and pinpoint application to the chain links.

Accessories

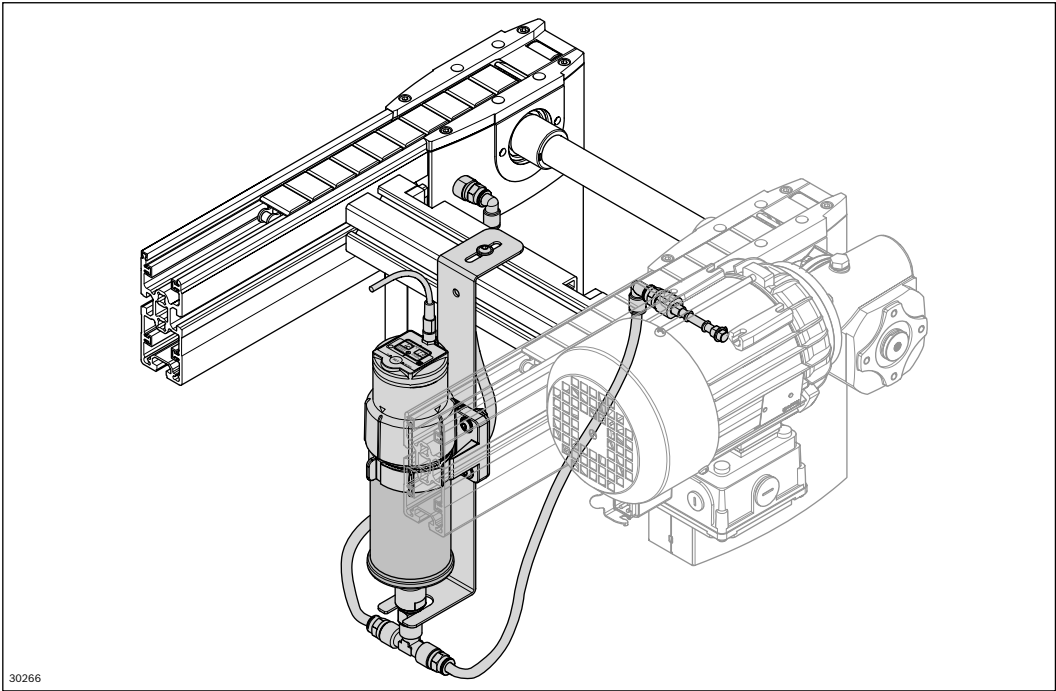
Required accessories

- Oil container LC 2, see p. 3-151
- Adapter set, see p. 3-151

Delivery note

Condition on delivery

- Not assembled, fastening material enclosed
- LC 2 oil container and adapter set as ordered



Ordering information

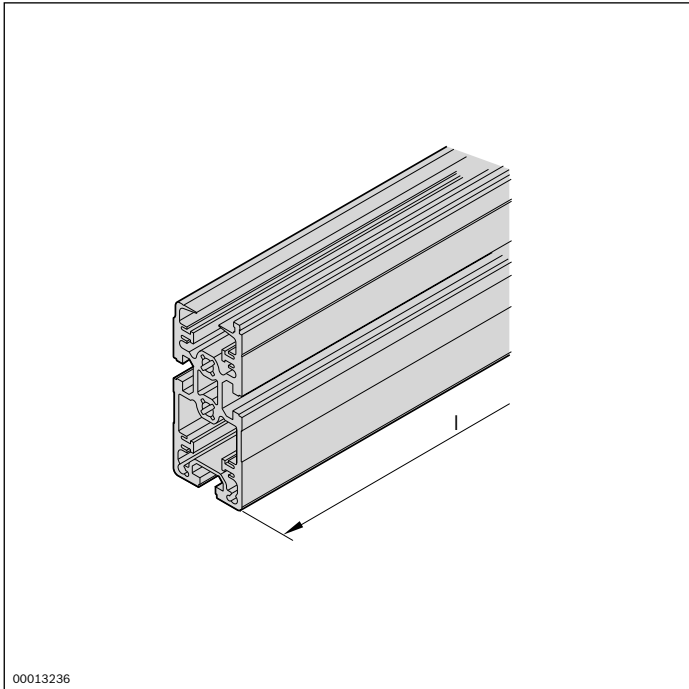
Product designation		Packaging unit	Material number
LU 2 automatic lubrication unit		1	3842543482
Oil container LC 2		4	3842543469

Product designation			Material number
Adapter set for	AS 2/C-100	1	3842543483
	AS 2/C-250		
	BS 2/C		
Adapter set for	AS 2/C-400	1	3842543484
	AS 2/C-700		
	BS 2/C-H		
Adapter set for	AS 2/R-300	1	3842543485
	AS 2/R-700		
	BS 2/R		
Adapter set for	AS 2/R-1200	1	3842543486
	AS 2/R-2200		
	BS 2/R-H		
Adapter set for	AS 2/R-V-1200	1	3842543487
	AS 2/R-V-2200		
	BS 2/R-V-1200		
Adapter set for	HQ 2/U-H	1	3842548578

Technical data

Material number		3842543482
Features		
ESD		yes
Max. operating temperature	T	°C +40

Section, section profiles



Sections can be individually configured for special requirements by selecting various section, glide, and guide profiles.

Depending on the load spectrum of the conveyor medium, stainless steel or plastic glide profiles can be inserted in the section profile. Use of steel glide profiles increases resistance to wear and temperature. This opens up new areas of application for the TS 2plus.

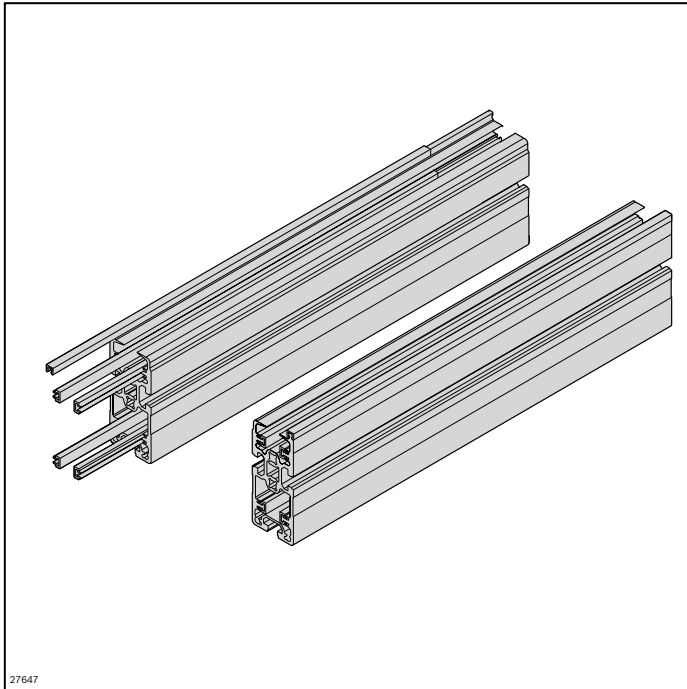
The proven SP 2/R-100 profiles are primarily suitable for medium to high loads in simple system layouts.

Especially suited for high strains and loads, the new, sturdy SP 2/R-H section profiles have been developed for accumulator roller chains. In addition to a more robust profile cross section and improvements to details (integrated cable duct), the use of stainless steel in the guide profile enhances the system. An adapter plate not only enables visually attractive mounting of the SP 2/R-H section profiles with drive modules in the TS 2plus, it also securely keeps the glide profiles (sliding guides) from shifting.

ST 2/R-100 section



3



- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with AS 2/R-... drive modules and UM 2/R-... return units
- ▶ GP 2 plastic glide profile
- ▶ Pre-assembled unit for quick setup

The section is used for the construction of conveyor units in conjunction with the AS 2/R-... drive modules and the UM 2/R-... return units.

Accessories

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Cross connector, see p. 3-212
- ▶ Profile connector, see p. 3-211

Delivery note

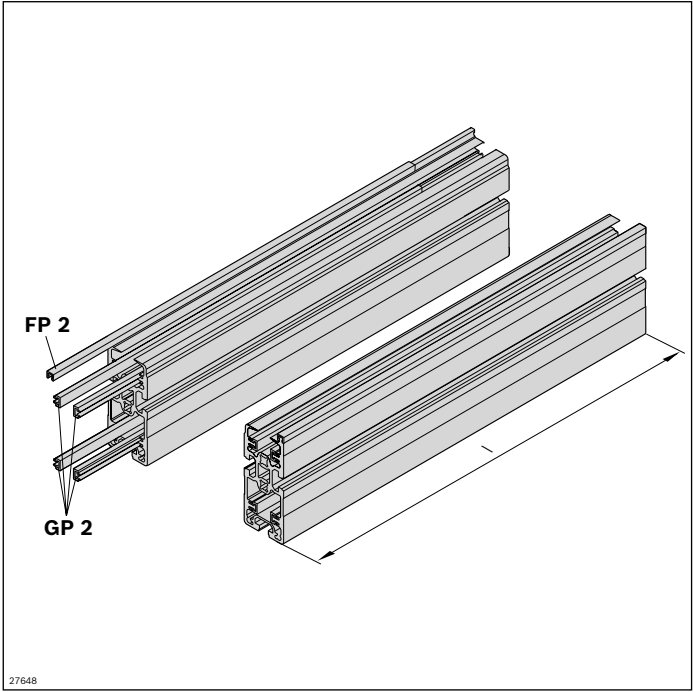
Scope of delivery

- ▶ 2x SP 2/R section profiles with assembled guide and glide profiles

Condition on delivery

- ▶ Fully assembled

Ordering information

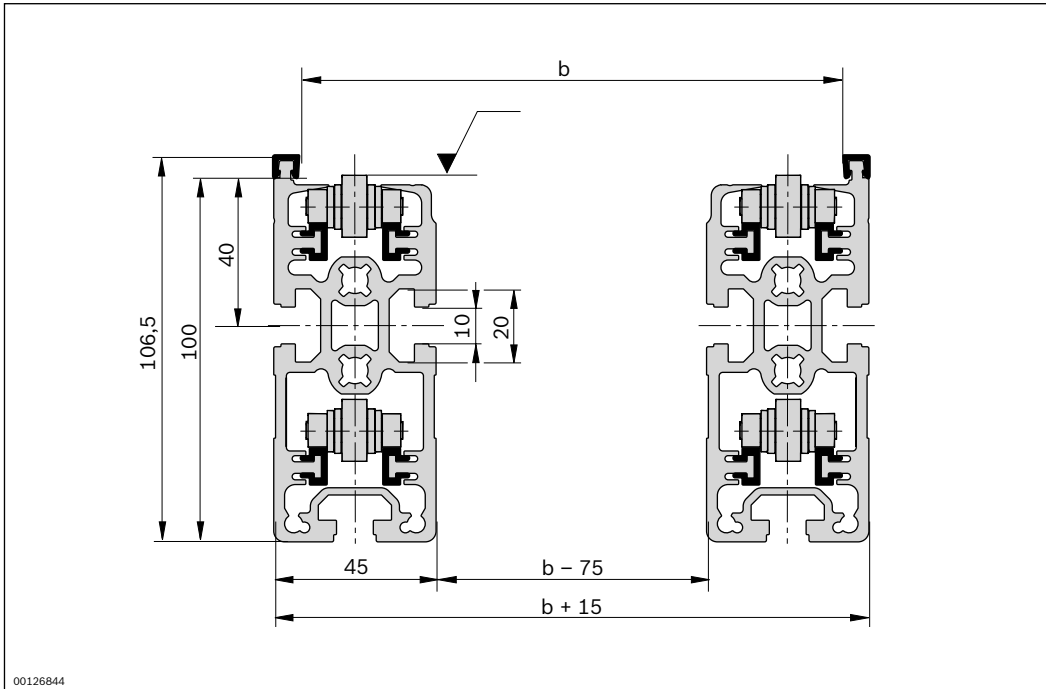


Material number		3842994889
l (mm)	Length	60 ... 6000

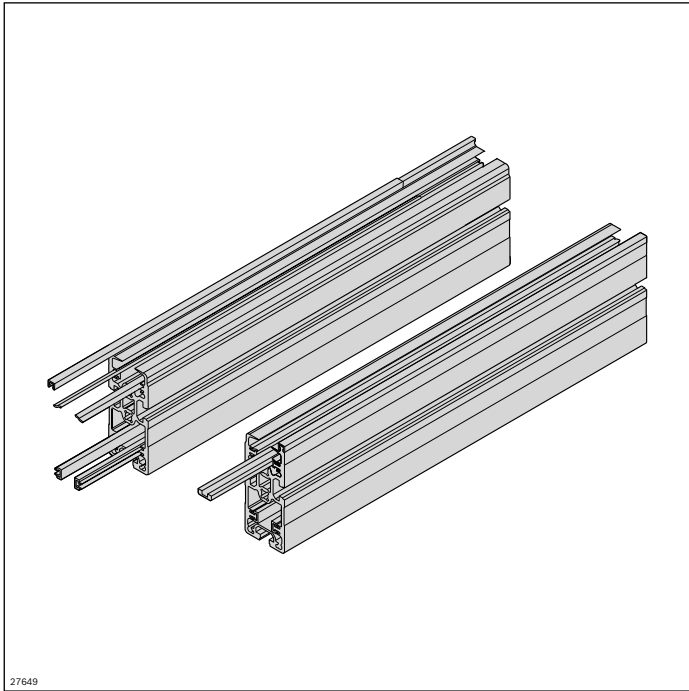
Technical data

Material number			3842994889
Features			
Material specification			Slide profile: Polyamide (PA) guide profile: Polyamide Section profile: aluminum, natural; anodized
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	60 ... 6000

Dimensions



ST 2/R-100 ST section



- For conveyor unit self-assembly for higher section loads
- For use in conjunction with AS 2/R-... drive modules and UM 2/R-... return units

The section is used for the construction of conveyor units in conjunction with the AS 2/R-... drive modules and the UM 2/R-... return units.

Accessories

Recommended accessories

- SZ 2 leg sets/..., see p. 6-2
- Cross connector, see p. 3-212
- Profile connector, see p. 3-211

Delivery note

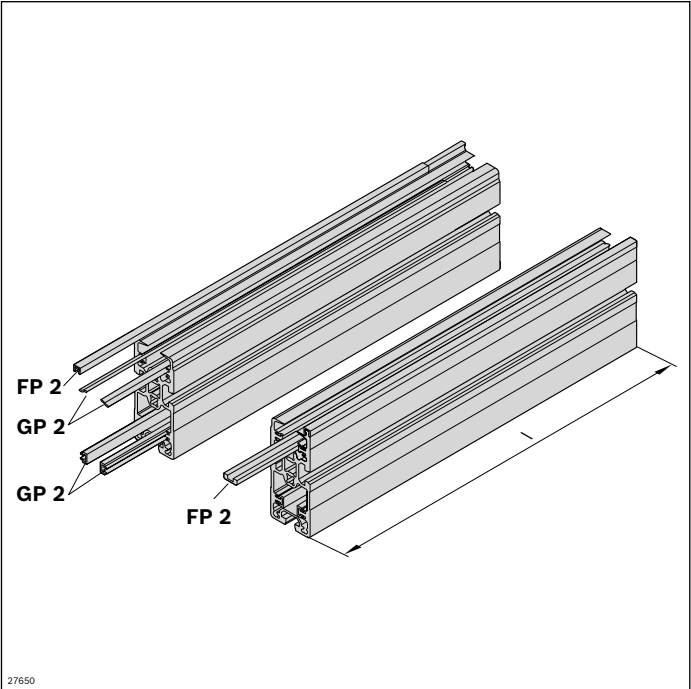
Scope of delivery

- 2x SP 2/R section profiles with assembled guide and glide profiles

Condition on delivery

- Fully assembled

Ordering information

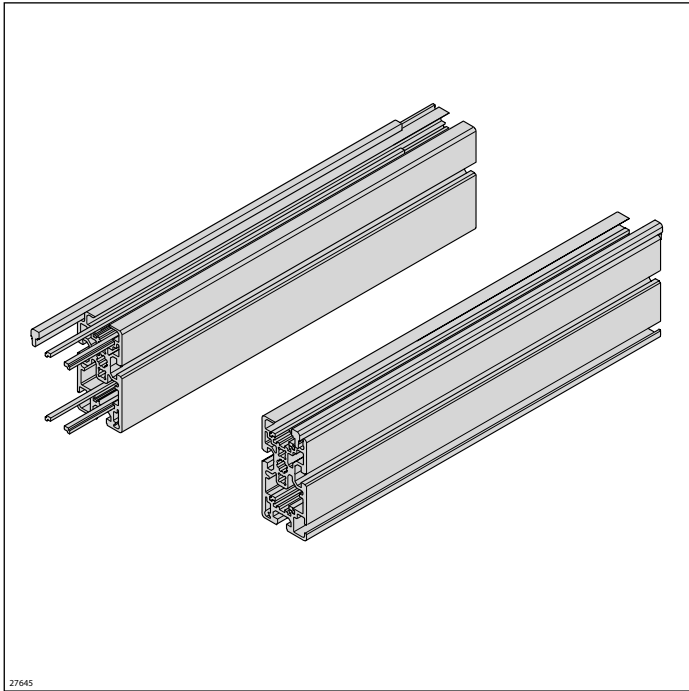


Material number		3842994907
I (mm)	Length	60 ... 6000

Technical data

Material number			3842994907
Features			
Material specification			Top glide profile: Steel Bottom glide profile Polyamide (PA) guide profile: Polyamide Chain guide profile: Polyamide Section profile: aluminum, natural; anodized
Max. operating temperature	T	°C	+40
Dimensions			
Length	I	mm	60 ... 6000

ST 2/R-H section



- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with AS 2/R-... drive modules and UM 2/R-... return units
- ▶ Section profile in especially sturdy design for section loads of up to 30 % higher
- ▶ Optional steel or plastic GP 2 glide profiles

The section is used for the construction of heavy-duty conveyor units in conjunction with the AS 2/R-... drive modules and the UM 2/R-... return units.

Accessories

Required accessories

- ▶ ST 2/R-H adapter plate kit, see p. 3-166 If GP = 0, then adapter plates are to be fitted between each section joint

Delivery note

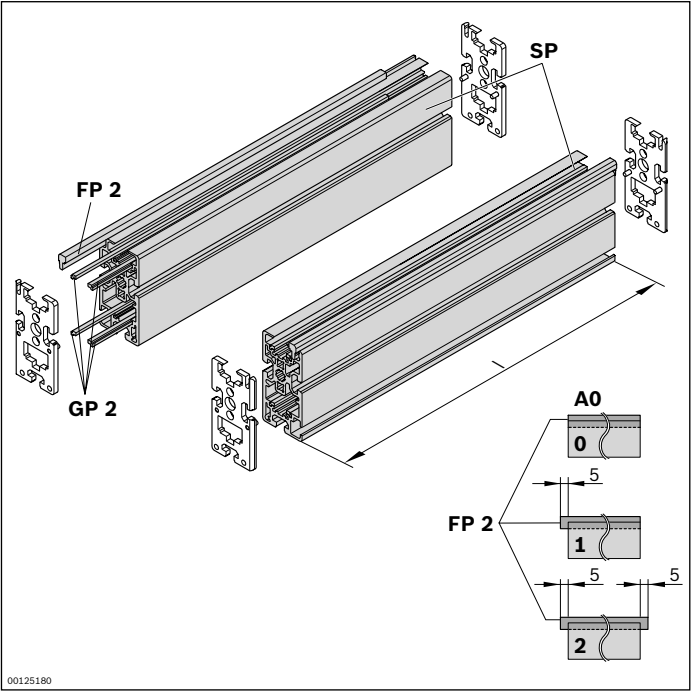
Scope of delivery

- ▶ 2x SP 2/R section profiles with assembled guide and glide profiles

Recommended accessories

- ▶ SZ 2/...-H leg sets, see p. 6-2
- ▶ Cross connector, see p. 3-212
- ▶ Profile connector, see p. 3-211
- ▶ Cover rail for cable duct, see p. 3-209

Ordering information

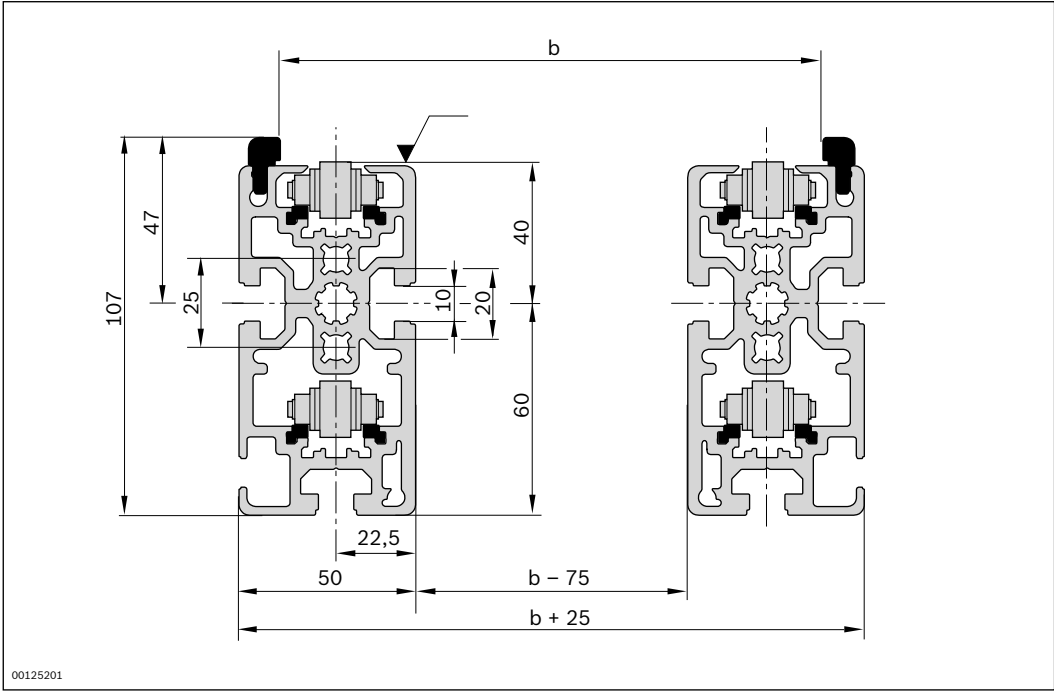


Material number		3842994972
I (mm)	Length	200 ... 6000
AO	Installation location, plastic glide profile AO = 2 Plastic glide profile AO = 0; 1; 2	0; 1; 2
GP	Glide profile in corrosion-resistant steel (GP = 1) Plastic (GP = 0)	0; 1

Technical data

Material number		3842994972
Features		
Material specification		Section profile: aluminum, natural; anodized Guide profile: Steel; corrosion-resistant Slide profile: Plastic or steel; corrosion-resistant
Dimensions		
Length	I	mm 200 ... 6000

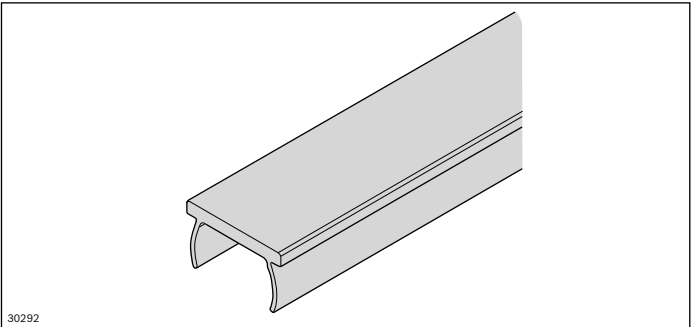
Dimensions



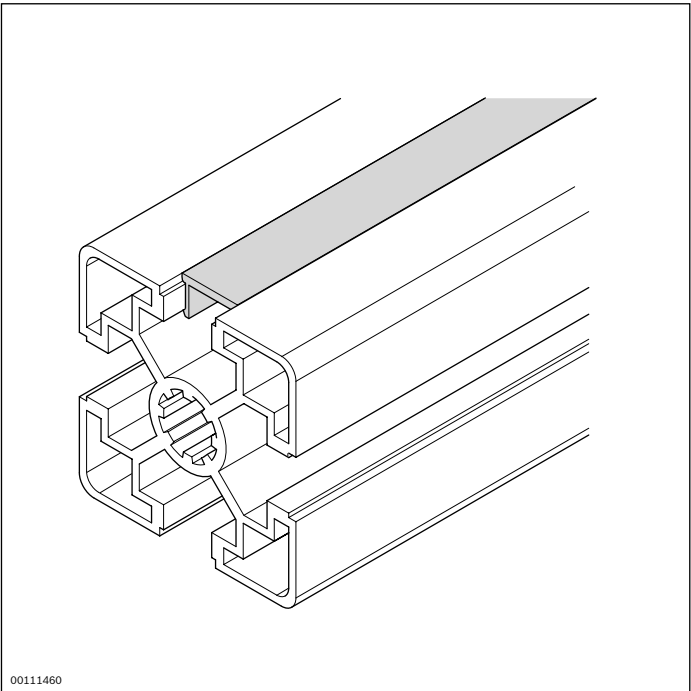
Cover rail for cable duct



3



- ▶ To prevent dirt from entering the profile slot
- ▶ For fixing cables in position
- ▶ Flush with profile



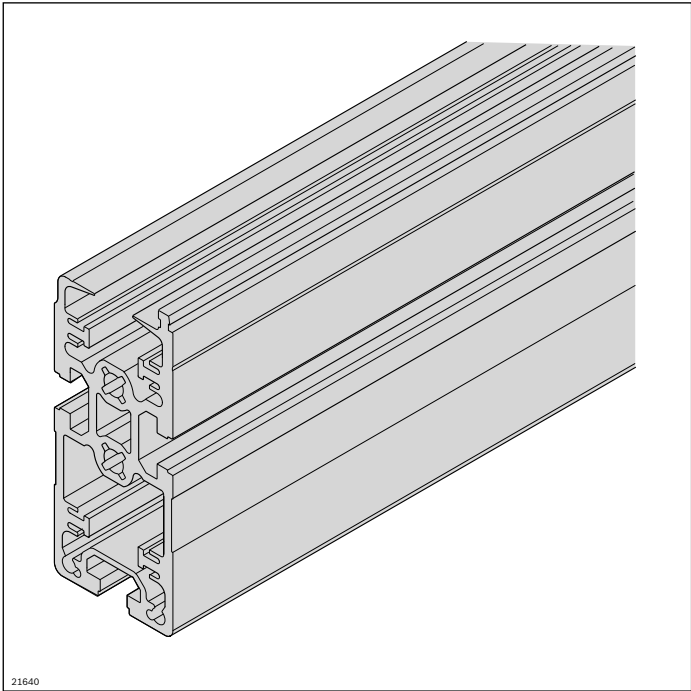
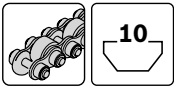
Ordering information

Product designation	Packaging unit	Material number
Cover rail for cable duct	10	3842523258

Technical data

Material number	3842523258
Features	
Material specification	aluminum, natural; anodized
Dimensions	
Length	2000

SP 2/R-100 section profile



- For conveyor unit self-assembly
- For use in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units, FP 2 guide profiles and GP 2... glide profiles
- Longitudinal grooves for easy mounting

The section profile is used for constructing conveyor units with the conveyor medium accumulation roller chain.

Accessories

Required accessories

- ST guide and glide profile set, see p. 3-163

Ordering information

Product designation	l (mm)	Delivery unit	Material number
SP 2/R-100 16 x 6070 mm section profile	6070	16	3842529931

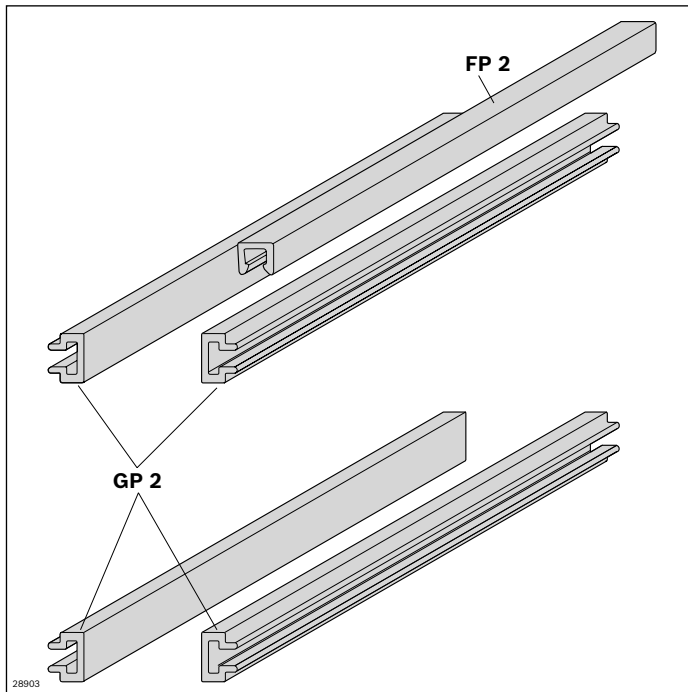
Technical data

Material number			3842529931
Load			
Moment of inertia	I _x	cm ⁴	144.0
	I _y	cm ⁴	40.1
Moment of resistance	W _x	cm ³	27.7
	W _y	cm ³	17.8
Features			
Material specification			aluminum, natural; anodized
Mass	m	kg/m	4.4
Dimensions			
Length	l	mm	6070
Profile surface	A	cm ²	16.4

FP guide profile set, GP 2 glide profile



3



- For conveyor unit self-assembly
- For use in conjunction with ST 2/R... section profiles, AS 2/R... drive modules and UM 2 /R... return units
- FP 2 guide profile for laterally guiding the workpiece pallet; slid onto section profile SP 2/R-100
- GP 2 glide profile for guiding the top flat chain; slid onto section profile SP2/R-100

The guide profile is used for lateral guidance of the workpiece pallet. The glide profile is used to guide the accumulation roller chain. Both profiles are pushed onto

the section profile. Additional blocking bolts prevent glide profiles from moving in a longitudinal direction.

Accessories

Required accessories

- Blocking bolts, see p. 3-90

Delivery note

Scope of delivery

- 16x FP 2 guide profile (L = 6000 mm)
- 64x GP 2 glide profiles (L = 6000 mm)

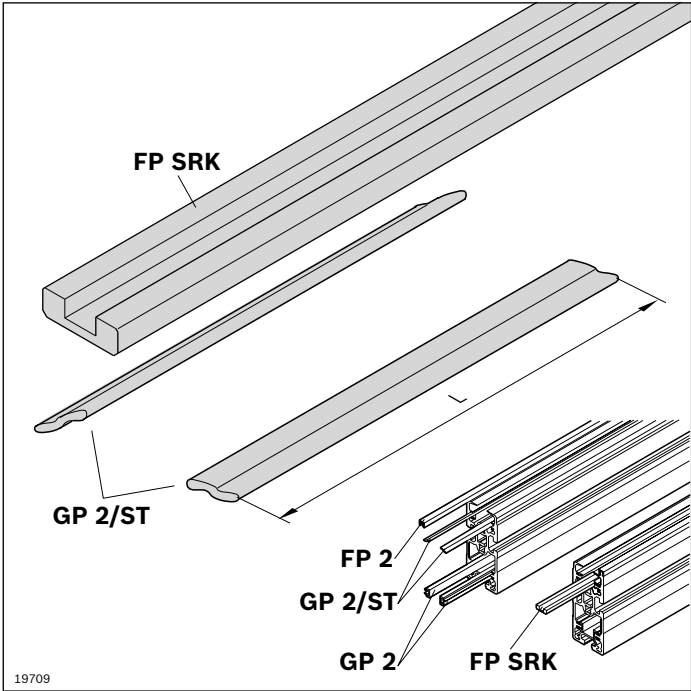
Ordering information

Product designation	l (mm)	Material number
FP 2 guide profile set, GP 2 glide profile	6000	3842529933

Technical data

Material number		3842529933
Features		
ESD		yes
Material specification		Guide profile: Plastic; PA (anti-static) Slide profile: Plastic; PA (anti-static)
Max. operating temperature	T	°C +40
Dimensions		
FP 2 length	l	mm 6000
GP 2 length	l	mm 6000

FP SRK guide profile, GP 2/ST glide profile



- ▶ For conveyor unit self-assembly
- ▶ Used in conjunction with ST 2/R... section profiles, AS 2/R... drive modules and UM 2 /R... return units
- ▶ GP 2/ST glide profile for supporting the accumulation roller chain; enables higher permissible loads in conjunction with an accumulation roller chain with steel rollers
- ▶ Accumulation roller chain guide profile for lateral guiding of the accumulation roller chain in conjunction with GP 2/ST glide profile

Accessories

Required accessories

- ▶ FP 2 guide profile, see p. 3-163
- ▶ GP 2 glide profile, see p. 3-163

Delivery note

Scope of delivery

- ▶ 24x FP SRK guide profile (L = 2000 mm)
- ▶ 32x GP 2/ST glide profiles (L = 3000 mm)

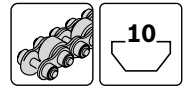
Ordering information

Product designation	l (mm)	Material number
FP SRK guide profile,	2000	3842532676
GP 2/ST glide profile	3000	

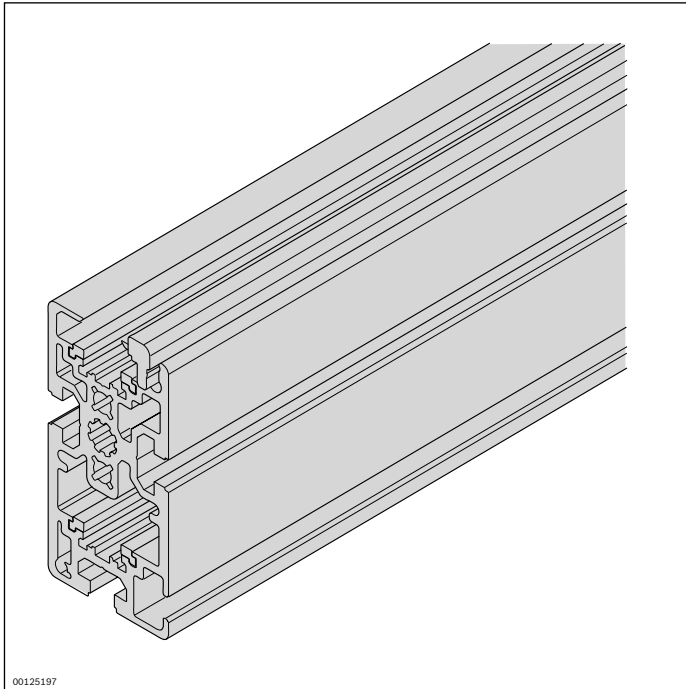
Technical data

Material number			3842532676
Features			
ESD			yes
Material specification			Guide profile for accumulation roller chain: PE Slide profile: Steel; corrosion-resistant
Dimensions			
Long FP SRK guide profile	l	mm	2000
GP 2/ST length	l	mm	3000

SP 2/R-H section profile



3



- For conveyor unit self-assembly for higher section loads in the 100Hibnwe mm construction height
- For use in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units, FP 2/H- guide profiles, GP 2/H-... glide profiles and SP 2/R section profiles
- Longitudinal grooves for easy mounting
- Extruded aluminum profile with an especially sturdy design
- Integrated cable duct at the profile base

The section profile is used for constructing conveyor units with 100 mm construction height a,d with the accumulation

roller chain and guide profile conveyor media.

Accessories

Required accessories

- Cover rail for cable duct, see p. 3-161
- FP 2/H-St guide profile, see p. 3-168
- GP 2/H-St GP 2/H-Kst glide profiles, see p. 3-169/3-170
- ST 2/R-H adapter plate kit, see p. 3-166

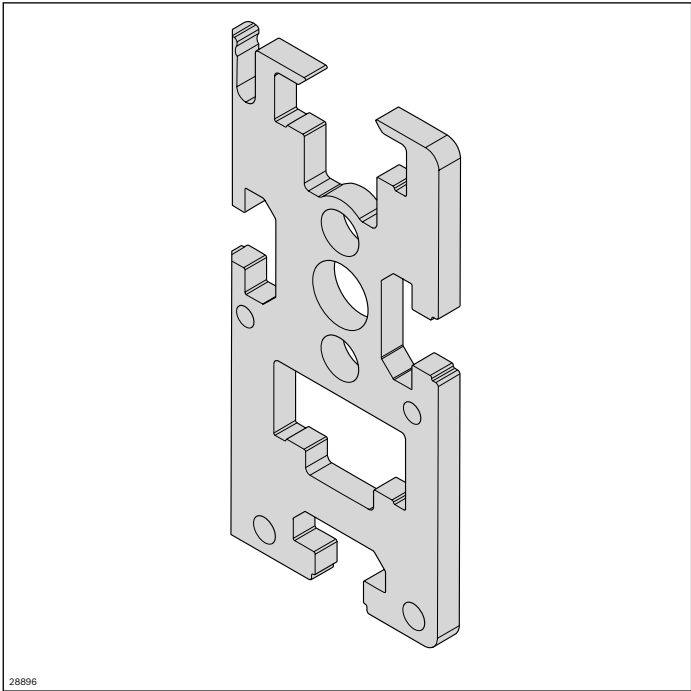
Ordering information

Product designation	l (mm)	Delivery unit	Material number
SP 2/R-H 12 x 6000 mm section profile	6000	12	3842536792

Technical data

Material number			3842536792
Load			
Moment of inertia	I _x	cm ⁴	155.6
	I _y	cm ⁴	51.3
Moment of resistance	W _x	cm ³	31.6
	W _y	cm ³	19.8
Features			
Material specification			aluminum, anodized
Mass	m	kg/m	5.2
Dimensions			
Length	l	mm	6000
Profile surface	A	cm ²	19.0

ST 2/R-H adapter plate kit



- Front cover
- For connection of SP 2/R-H section profiles and AS 2/R-...;
for connection of SP 2/R-H profiles and UM 2/R-...return units;
and between section profiles if GP 2 plastic glide profiles are used

The adapter plates are used as front covers and for connecting section profiles and drive modules, or between section profiles and return units.

The adapter plates are also suitable for use between section profiles where GP 2 plastic glide profiles are used.

Delivery note

Scope of delivery

- 2x left adapter plate
- 2x right adapter plate

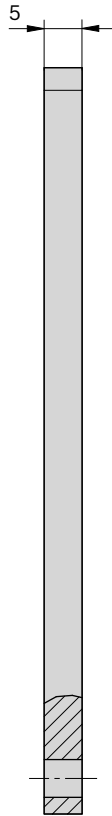
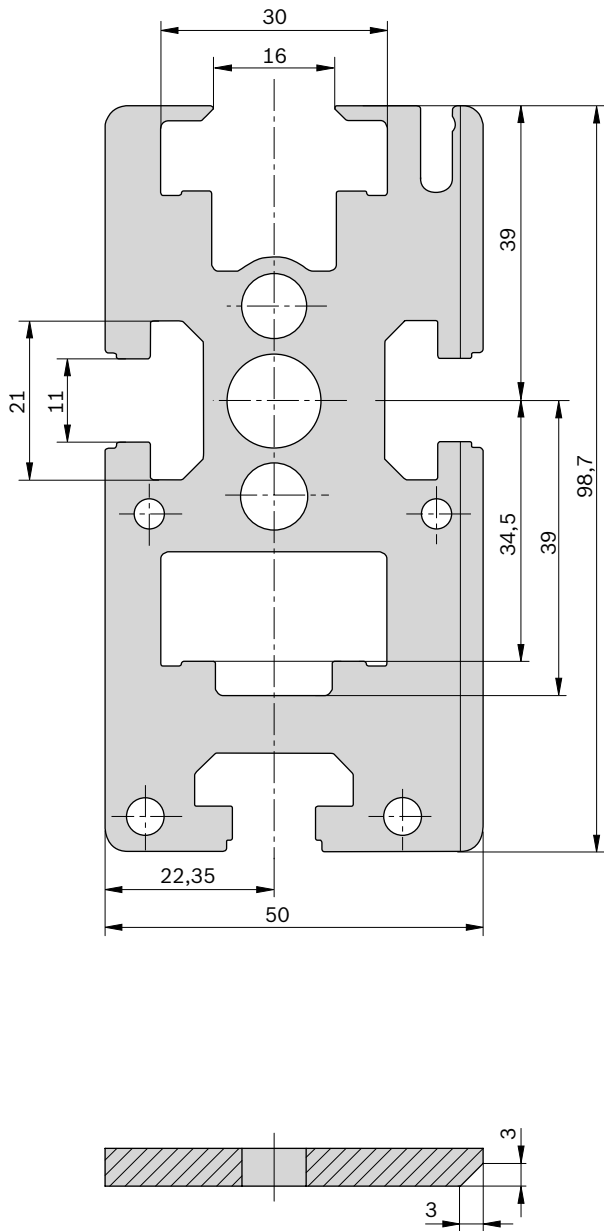
Ordering information

Product designation	Packaging unit	Material number
ST 2/R-H adapter plate kit	4	3842536800

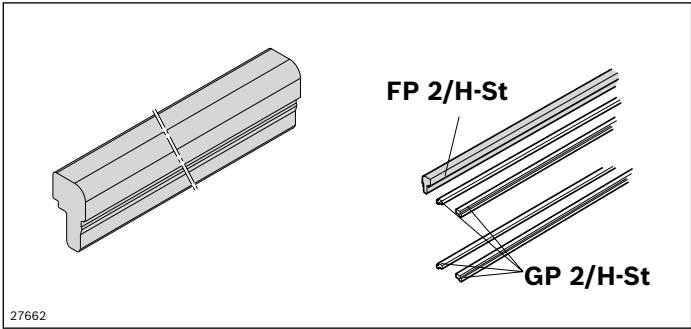
Technical data

Material number	3842536800
Features	
ESD	yes
Material specification	Steel; corrosion-resistant

Dimensions



FP 2/H-St guide profile



- For conveyor unit self-assembly
- For lateral guidance of the workpiece pallet
- For sliding onto section profile SP 2/C-H or SP 2/R-H
- Use in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units and SP 2/R-... section profiles

Accessories

Required accessories

- SP 2/C-H section profile, see p. 3-99, or SP 2/R-H, see p. 3-165

Delivery note

Scope of delivery

- 24 rods (L = 3000 mm)

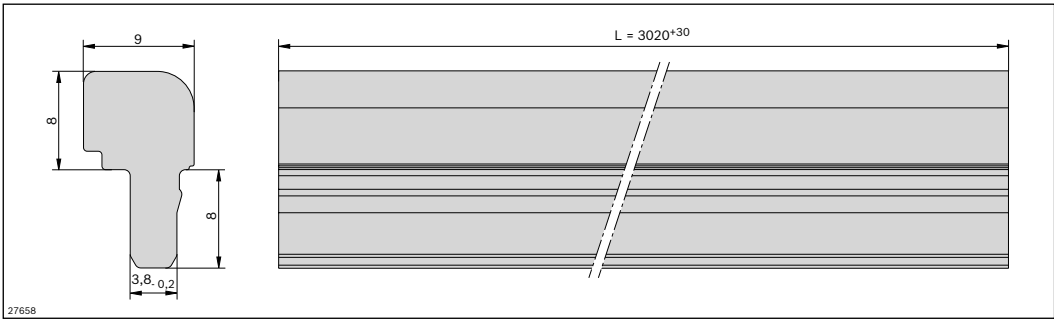
Ordering information

Product designation	l (mm)	Delivery unit	Material number
FP 2/H-St guide profile	3000	24	3842537890

Technical data

Material number			3842537890
Features			
ESD			yes
Material specification			Steel; corrosion-resistant
Dimensions			
Length	l	mm	3000

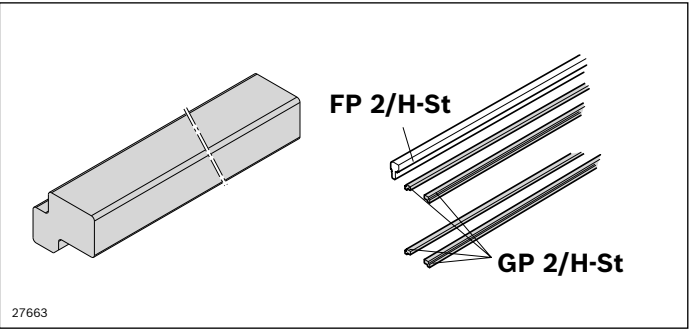
Dimensions



GP 2/H-St glide profile



3



- ▶ For conveyor unit self-assembly
- ▶ For guiding the flat top chain or accumulation roller chain
- ▶ In especially sturdy design with corrosion-resistant steel for particularly heavy-duty sections
- ▶ For sliding onto section profile SP 2/C-H or SP 2/R-H
- ▶ Use in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units and SP 2/R-... section profiles

Accessories

Required accessories

- ▶ SP 2/C-H section profile, see p. 3-99, or SP 2/R-H, see p. 3-165

Delivery note

Scope of delivery

- ▶ 48 rods (L = 3000 mm)

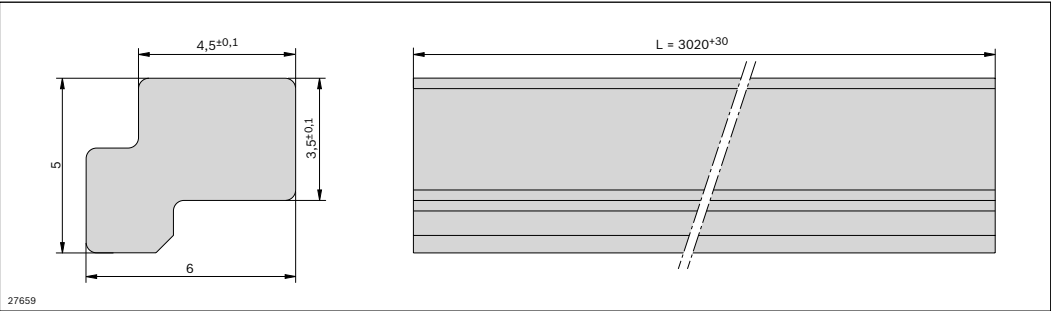
Ordering information

Product designation	l (mm)	Delivery unit	Material number
GP 2/H-St glide profile	3000	48	3842537888

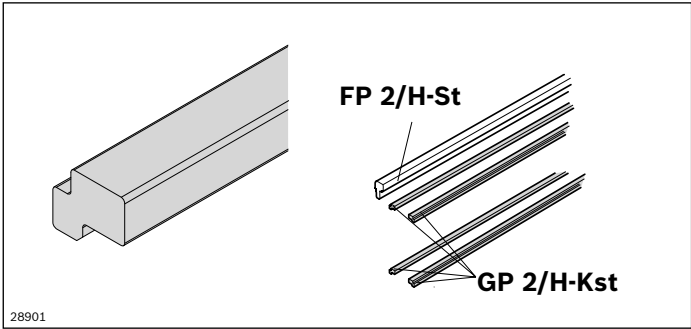
Technical data

Material number		3842537888
Features		
ESD		yes
Material specification		Steel; corrosion-resistant
Dimensions		
Length	l	mm 3000

Dimensions



GP 2/H-Kst glide profile



- ▶ For conveyor unit self-assembly
- ▶ For guiding the flat top chain or the accumulation roller chain
- ▶ For sliding onto section profile SP 2/C-H or SP 2/R-H
- ▶ Used in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units and SP 2/R-... section profiles

Accessories

Required accessories

- ▶ SP 2/C-H section profile, see p. 3-99, or SP 2/R-H, see p. 3-165

Delivery note

Scope of delivery

- ▶ 48 rods (L = 3000 mm)

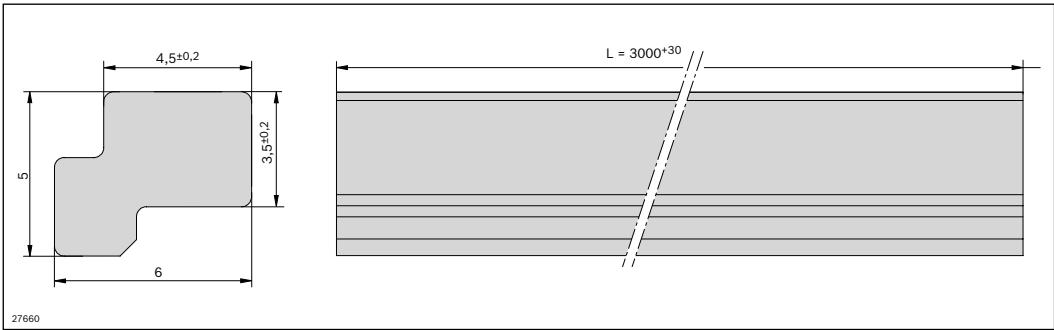
Ordering information

Product designation	l (mm)	Delivery unit	Material number
GP 2/H-Kst glide profile	3000	48	3842537889

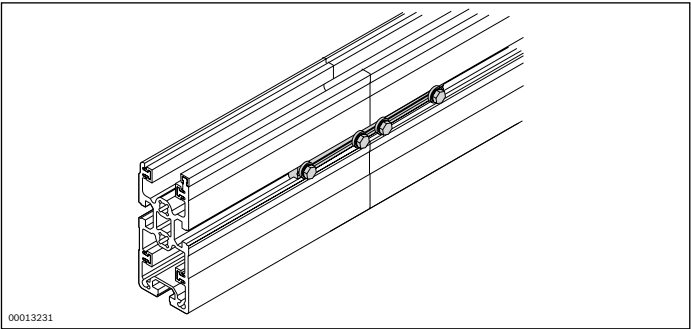
Technical data

Material number	3842537889		
Features			
ESD	yes		
Material specification	Plastic; PA (anti-static)		
Dimensions			
Length	l	mm	3000

Dimensions



Profile connector



- ▶ For the end-to-end connecting of two profiles SP 2/...
Two profile connectors are recommended for each profile joint
- ▶ For conveyor unit self-assembly
- ▶ Use in conjunction with all AS 2/R-... drive modules, UM 2/R-... return units and SP 2/R-... section profiles

Delivery note

Scope of delivery

- ▶ Profile connector, screws

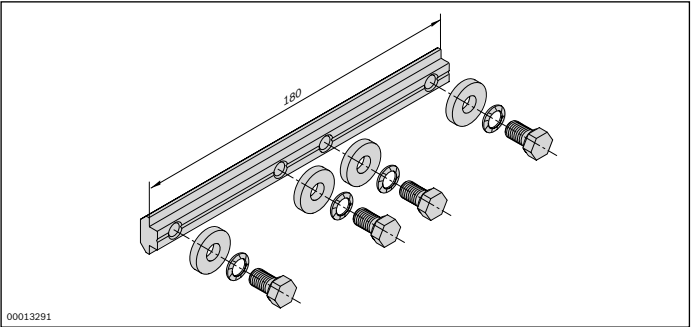
Ordering information

Product designation	Material number
Profile connector	3842528746

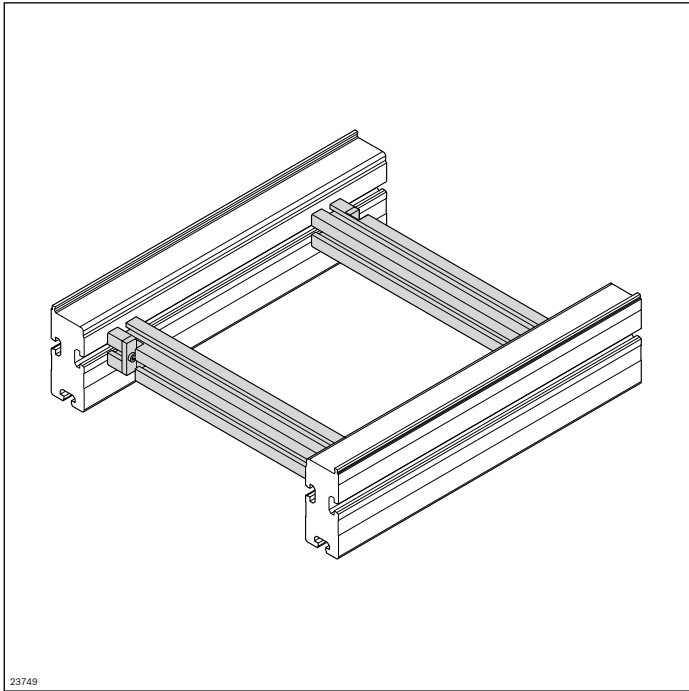
Technical data

Material number	3842528746
Features	
Material specification	Steel, galvanized

Dimensions



QV 2 cross connector



- For conveyor unit self-assembly
- For connecting section profiles and defining the track width
- Can be combined with all SP 2/... section profiles

The cross connectors serve to connect the conveyor section profiles.

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

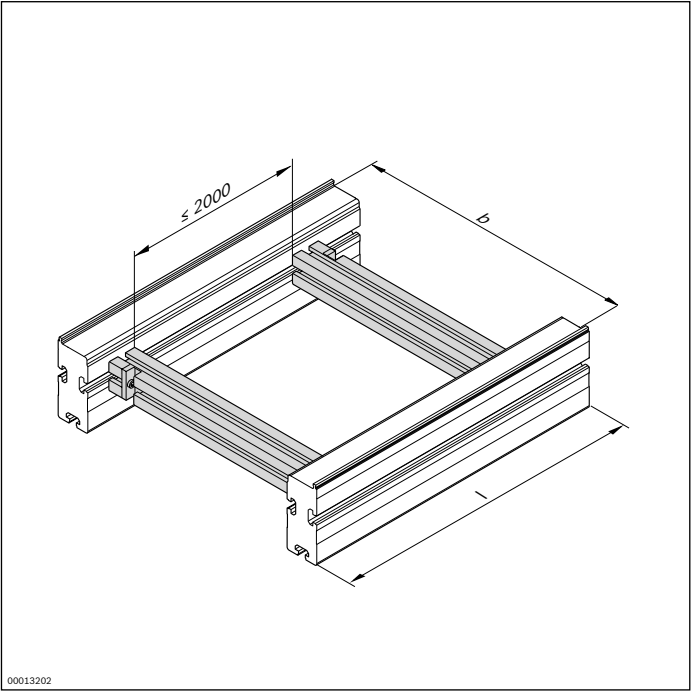
l = section length

Delivery note

Scope of delivery

- Strut profile 45x60, finished
- 2x fastening material to mount on an ST 2/... section

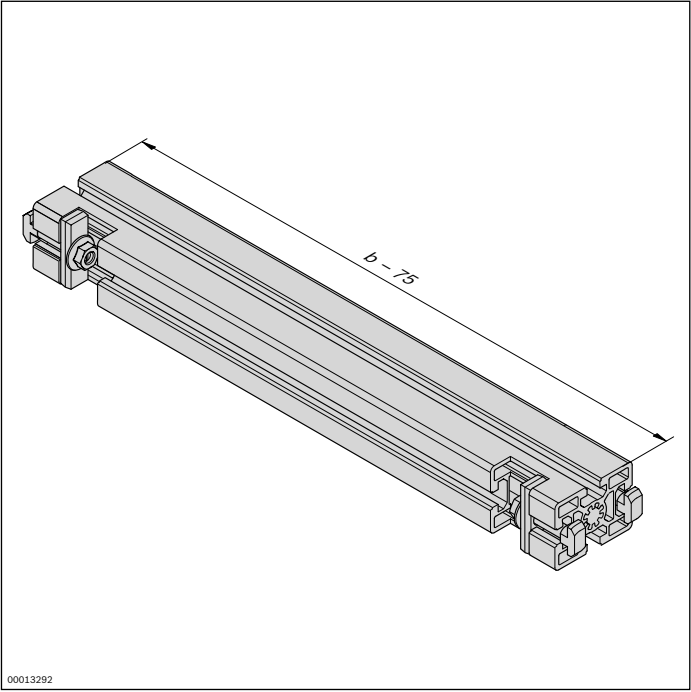
Ordering information



Technical data

Material number	3842994635
Features	
Material specification	aluminum, natural; anodized

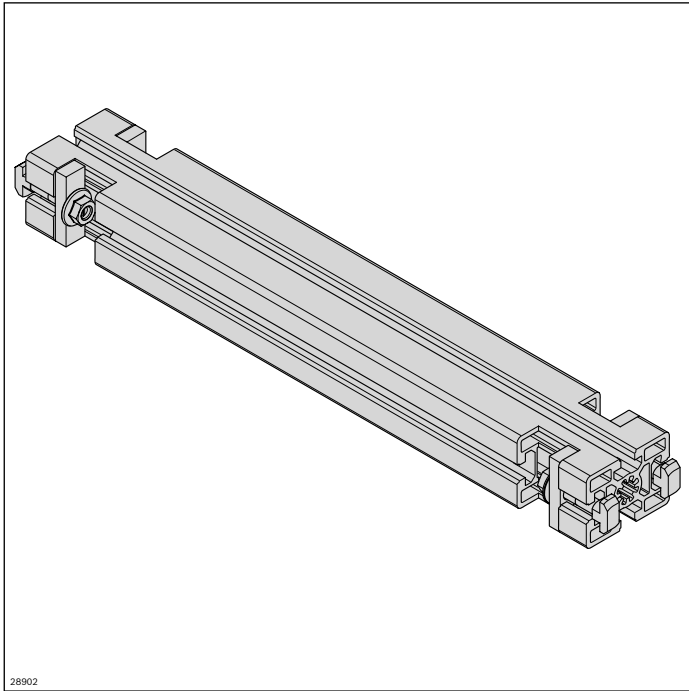
Dimensions



Material number		3842994635
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

¹⁾ Individual width variants available

QV 2-H cross connector



- ▶ For heavy-duty conveyor unit self-assembly
- ▶ For connecting section profiles and defining the track width
- ▶ Can be combined with all SP 2/... section profiles

QV 2-H cross connectors are particularly suitable for connections between section profiles in heavy-duty systems.

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

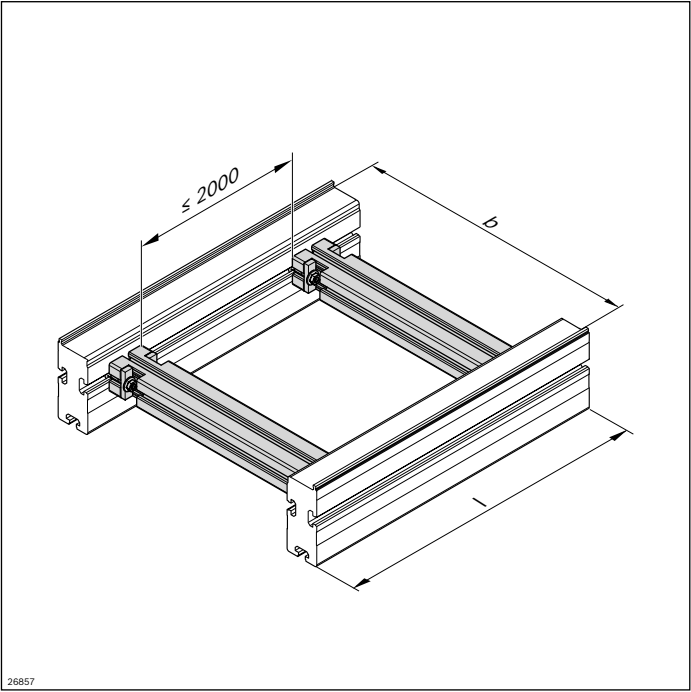
l = section length

Delivery note

Scope of delivery

- ▶ Strut profile 45x60, finished
- ▶ 4x fastening material to mount on an ST 2/... section

Ordering information



Material number		3842993052
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

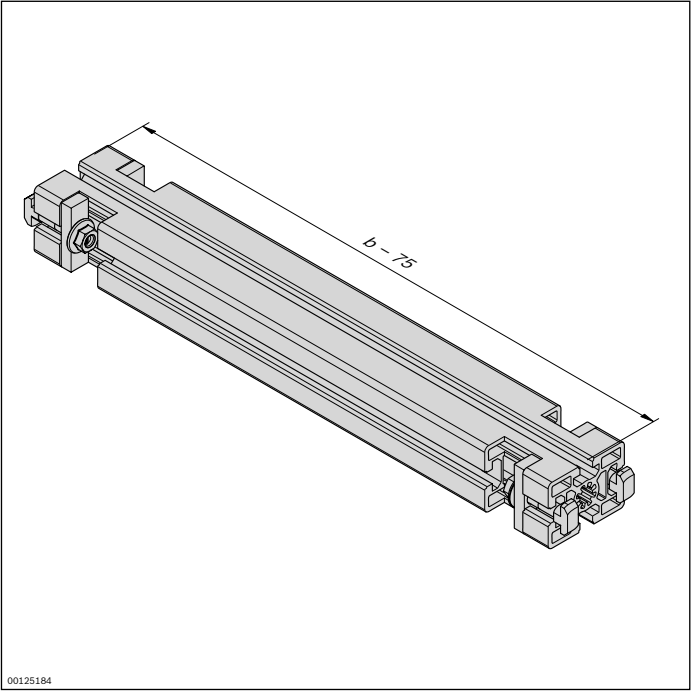
¹⁾ Individual width variants available

3

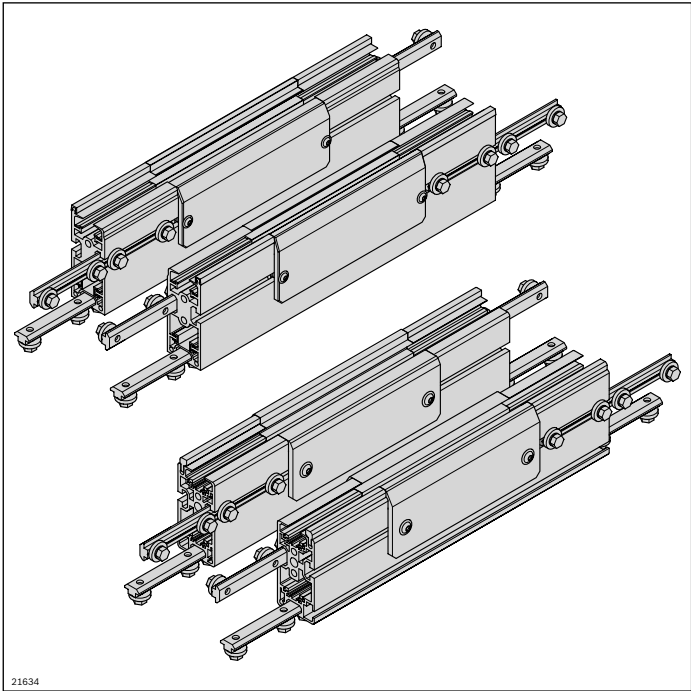
Technical data

Material number	3842993052
Features	
Material specification	aluminum, natural; anodized

Dimensions



ST 2/R-...-W maintenance section



- ▶ For maintenance use (assembly, disassembly or lubrication)
- ▶ Two removable side covers each
- ▶ Suitable for accumulation roller chains
- ▶ ST 2/R-W suitable for ST 2/R... section profiles
- ▶ ST 2/R-H-W suitable for ST 2/R-H section profiles

The maintenance section is a section element with removable caps. It is used for maintenance (assembly,

disassembly, lubrication) of the accumulation roller chain.

Delivery note

Scope of delivery

- ▶ 2x maintenance section elements consisting of ST 2/R-100 section profiles, FP 2/R guide profiles and GP 2/R glide profiles
- ▶ 4x side cover
- ▶ 8x profile connector
- ▶ Incl. mounting material

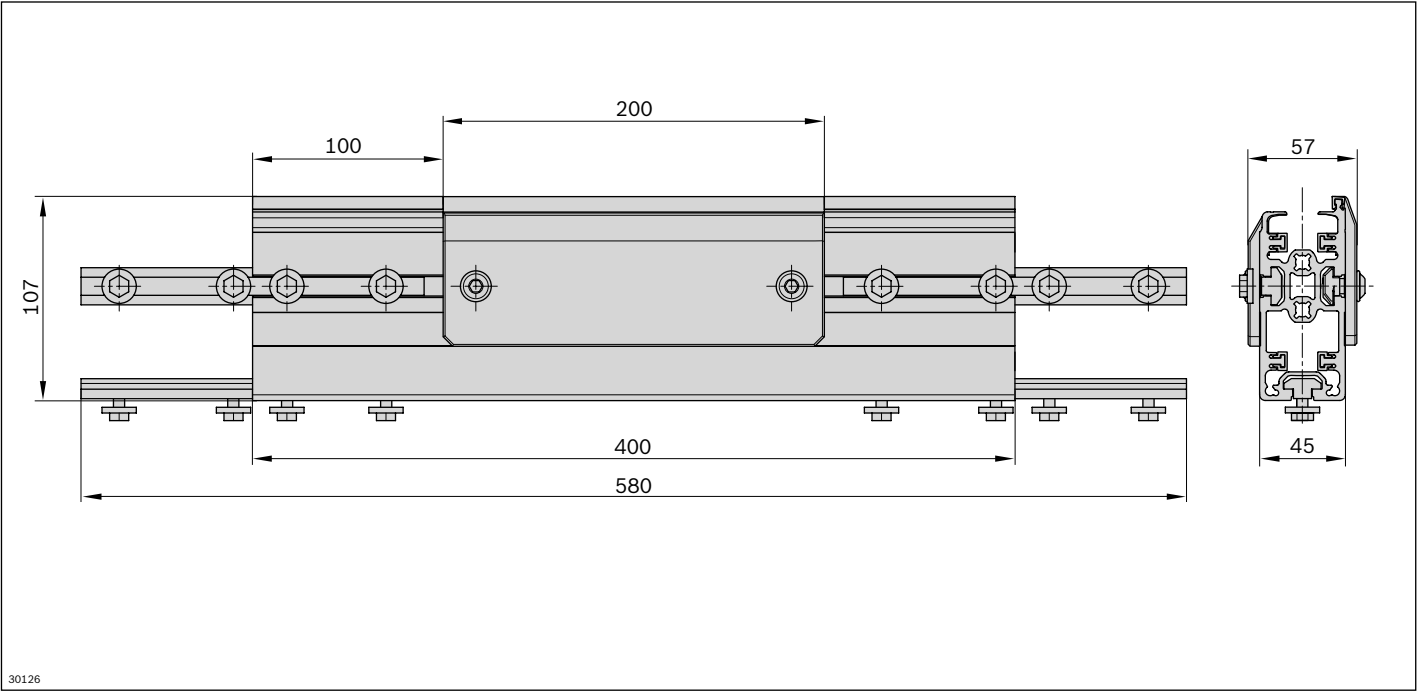
Ordering information

Product designation	Delivery unit	Material number
ST 2/R-W maintenance section	2	3842532778
ST 2/R-H-W maintenance section	2	3842537319

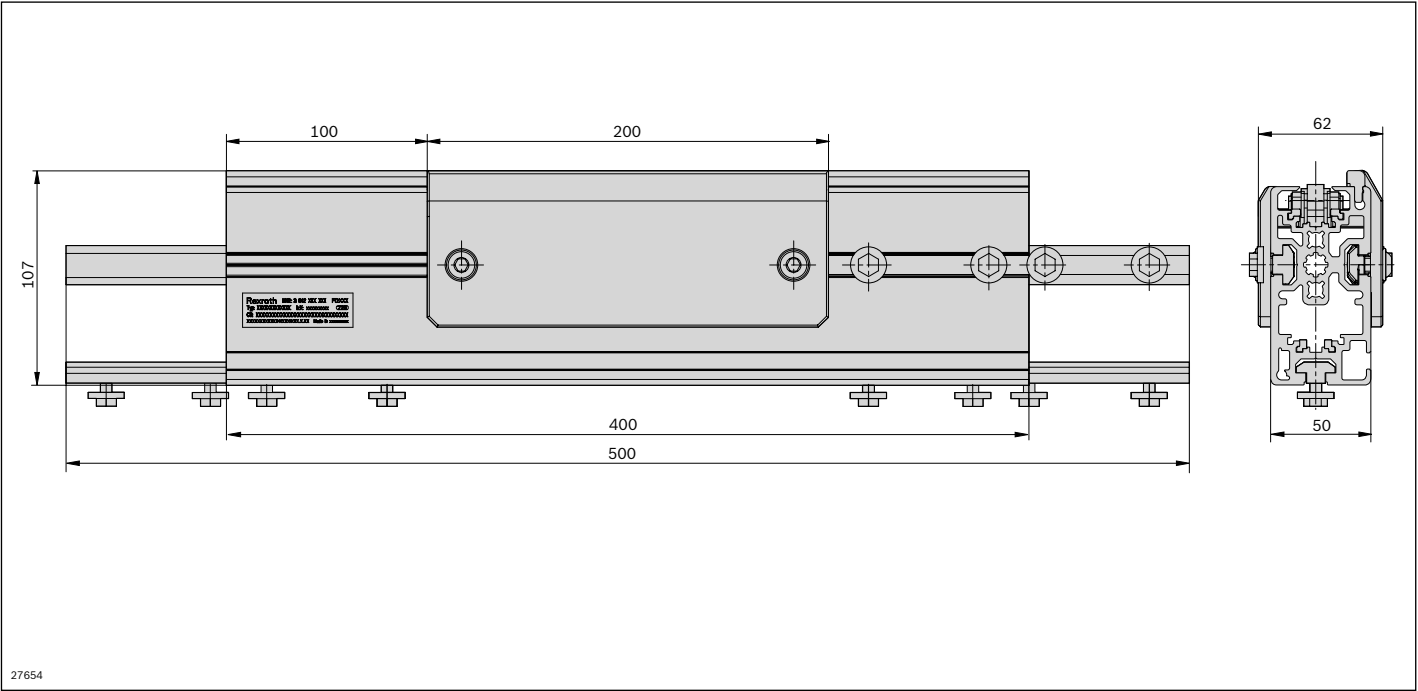
Technical data

Material number	3842532778	3842537319
Features		
ESD	yes	yes
Material specification	Section profile: aluminum, natural; anodized Side cover: Polyethylene	Section profile: aluminum, natural; anodized Side cover: Polyethylene
Dimensions		
Length	l	mm
	400	400

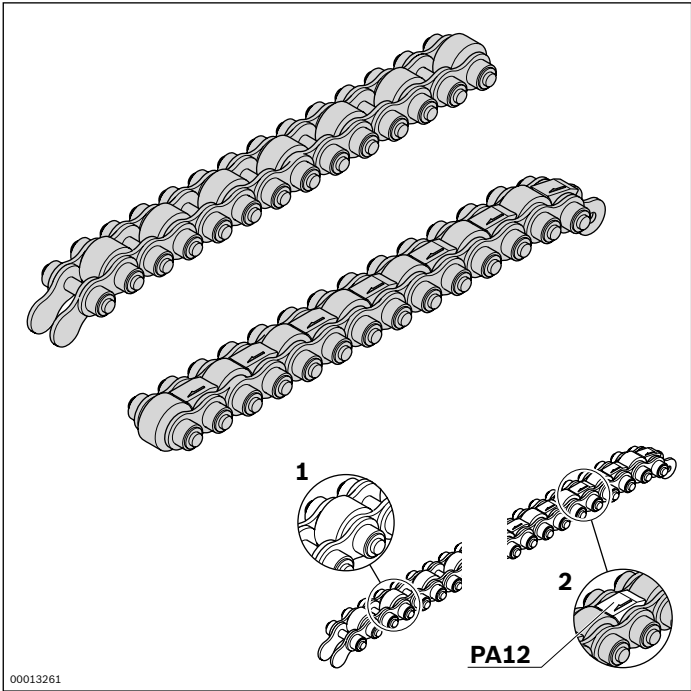
Dimensions
ST 2/R-W maintenance section



ST 2/R-H-W maintenance section



Accumulation roller chain with PA accumulation rollers



- Conveyor medium for the workpiece pallets
- For conveyor unit self-assembly
- For use in conjunction with ST 2/R and ST 2/R-H conveyor units
- Delivered in units of 12,000 mm. Lengths of l > 12,000 mm can be produced by connecting several accumulation roller chains using master links
- Chains are available with small parts protection (= filler pieces in the accumulation roller chain prevent small parts from pinching)

Note: Reversible operation is not possible in connection with small parts protection.

1 accumulation roller chain with PA accumulation rollers
2 accumulation roller chain with PA accumulation rollers and small parts protection

Delivery note

Scope of delivery

- Units up to 12,000 mm including one master link

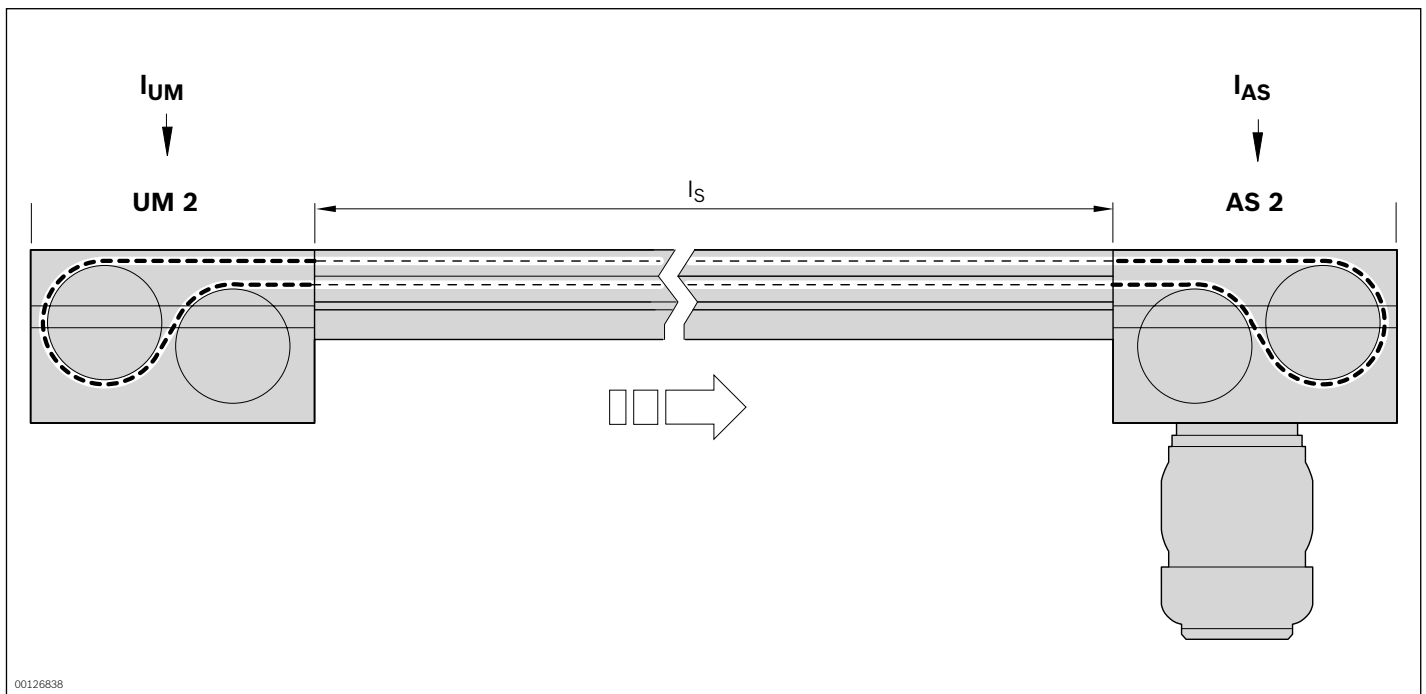
Ordering information

Product designation	Material number
Accumulation roller chain with PA accumulation rollers	3842523918
Accumulation roller chains with PA accumulation rollers and small parts protection	3842536268

Technical data

Material number	3842523918	3842536268
Features		
ESD	yes	yes
Material specification	Accumulation roller chains: PA 12	Accumulation roller chains: PA 12 Small parts protection: PA 12
Dimensions		
Length	l	mm
	12000	12000

Dimensions



The required chain length is determined using the following formula.

$$l_R = 2 \times l_s + l_{AS} + l_{UM}$$

Length of the conveyor medium for accumulation roller chain

$$l_{UM \ 2/C-170} = 310 \text{ mm}$$

$$l_{UM \ 2/C-60} = 150 \text{ mm}$$

$$l_{AS} = 625 \text{ mm}$$

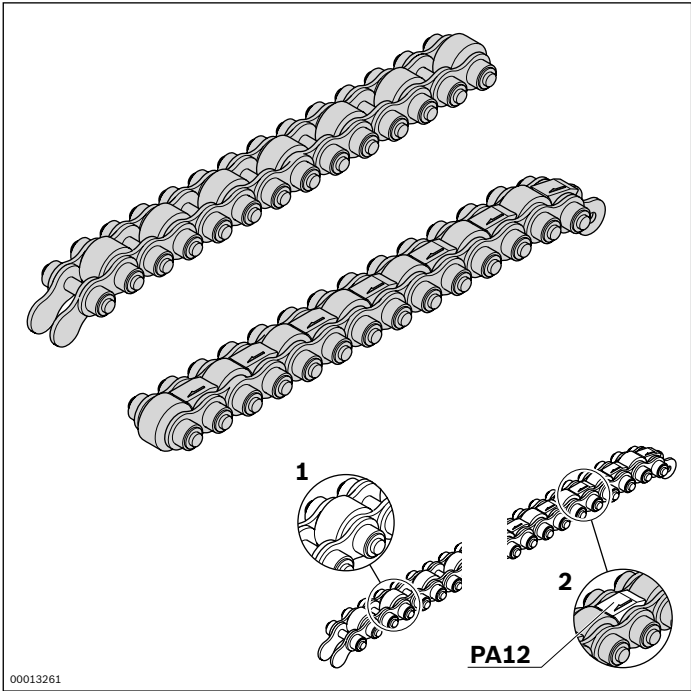
l_R = Length of accumulation roller chain

l_s = Length of the section profile

l_{AS} = Length of the conveyor medium in the drive module

l_{UM} = Length of the conveyor medium at the return unit

Accumulation roller chain with steel accumulation rollers



1 accumulation roller chain with steel accumulation rollers
2 accumulation roller chain with steel accumulation rollers and small parts protection

Delivery note

Scope of delivery

- Units up to 12,000 mm including one master link

Ordering information

Product designation	Material number
Accumulation roller chain with steel accumulation rollers	3842530864
Accumulation roller chains with steel accumulation rollers and small parts protection	3842536270

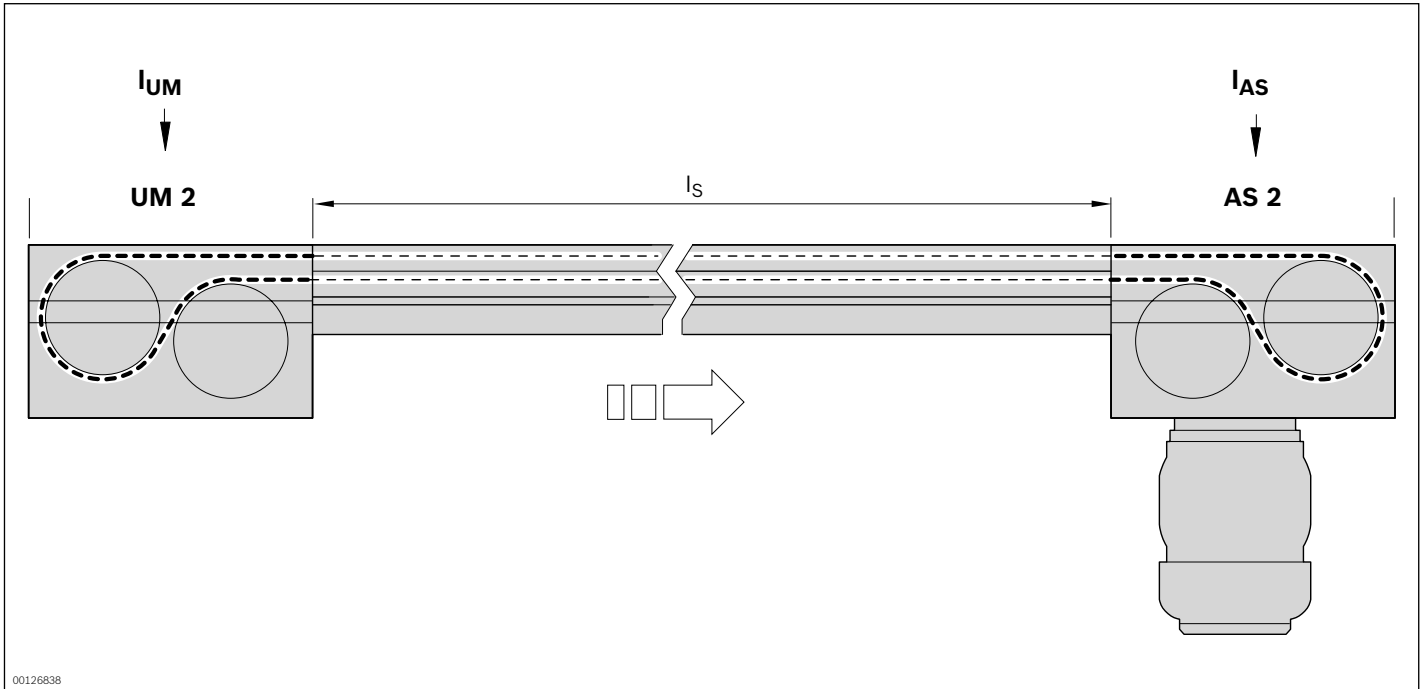
Technical data

Material number	3842530864	3842536270
Features		
ESD	yes	yes
Material specification	Accumulation roller chains: Steel	Accumulation roller chains: Steel Small parts protection: PA 12 (anti-static)
Dimensions		
Length	l	mm
	12000	12000

- Conveyor medium for the workpiece pallets
- For conveyor unit self-assembly
- For use in conjunction with ST 2/R and ST 2/R-H conveyor units
- Delivered in units of 12,000 mm. Lengths of l > 12,000 mm can be produced by connecting several accumulation roller chains using master links.
- Chains are available with small parts protection (= filler pieces in the accumulation roller chain prevent small parts from pinching)

Note: Reversible operation is not possible in connection with small parts protection.

Dimensions



The required chain length is determined using the following formula.

$$l_R = 2 \times l_s + l_{AS} + l_{UM}$$

Length of the conveyor medium for accumulation roller chain

$$l_{UM \ 2/C-170} = 310 \text{ mm}$$

$$l_{UM \ 2/C-60} = 150 \text{ mm}$$

$$l_{AS} = 625 \text{ mm}$$

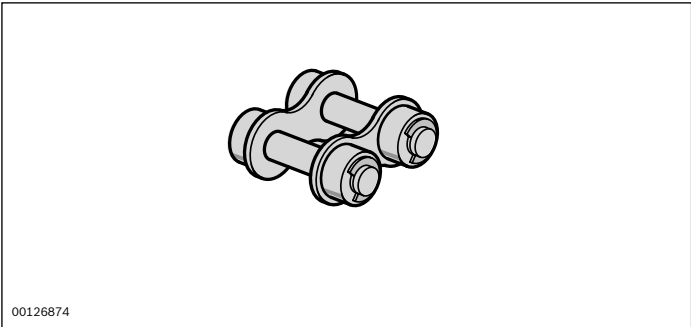
l_R = Length of accumulation roller chain

l_s = Length of the section profile

l_{AS} = Length of the conveyor medium in the drive module

l_{UM} = Length of the conveyor medium at the return unit

Master link for accumulation roller chain



- To close the accumulation roller chain after insertion in conveyor section element
- Suitable for all accumulation roller chains except the *Vplus* accumulation roller chain

Ordering information

Product designation	Material number
Master link for accumulation roller chain	3842530417

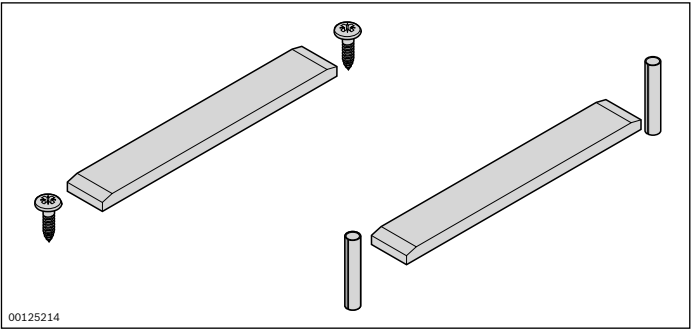
Technical data

Material number	3842530417
Features	
ESD	yes
Material specification	Accumulation roller chains: Steel Small parts protection: PA 12 (anti-static)

Acceleration element



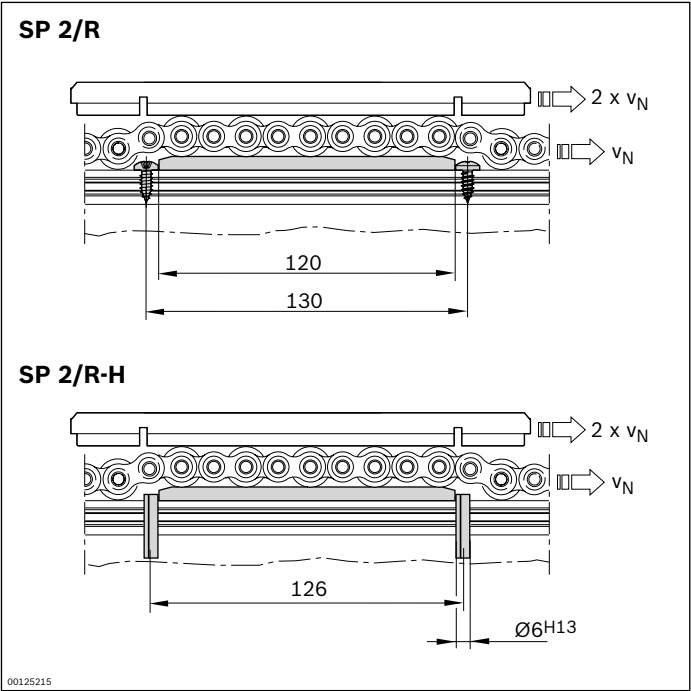
3



The support wheels of the chain are lifted and roll frictionally engaged between the acceleration element and the workpiece pallet with a peripheral speed of $v_U = 2 \times v_N$.

Delivery note
Condition on delivery
► Not assembled

Ordering information



Technical data

Material number	3842536382	3842537615
Features		
ESD	yes	yes
Material specification	PE; abrasion resistant	PE; abrasion resistant

- For accelerated transport of a workpiece pallet to a stop gate
- The acceleration element is used in connection with the accumulation roller chain conveyor medium with steel rollers.
- Accumulation operation not permitted
- Installation in sections after the stop gate
- Suitable for retrofitting

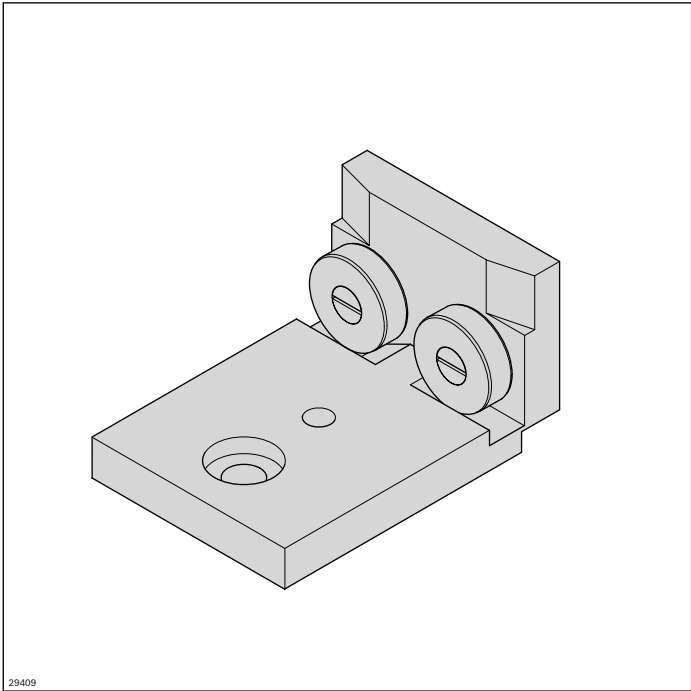
This may be limited in oily environments.

Product designation	Packaging unit	Material number
Acceleration element SP 2/R	2	3842536382

Product designation	Packaging unit	Material number
Acceleration element SP 2/R-H	2	3842537615 ¹⁾

¹⁾ Application with WT 2/F on request

RB 2 roller conveyor



- ▶ Mounted roller section for mounting on AS 2/B... or UM 2/B
- ▶ Additional workpiece pallet support on the front transition from AS 2/B... to UM 2/B or from AS 2/B... or UM 2/B to a lift transverse unit
- ▶ One kit is required for each AS 2/B... or UM 2/B
- ▶ Required for workpiece pallet lengths of 160 mm; recommended for longer lengths
- ▶ Without drive
- ▶ Reversible operation possible
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

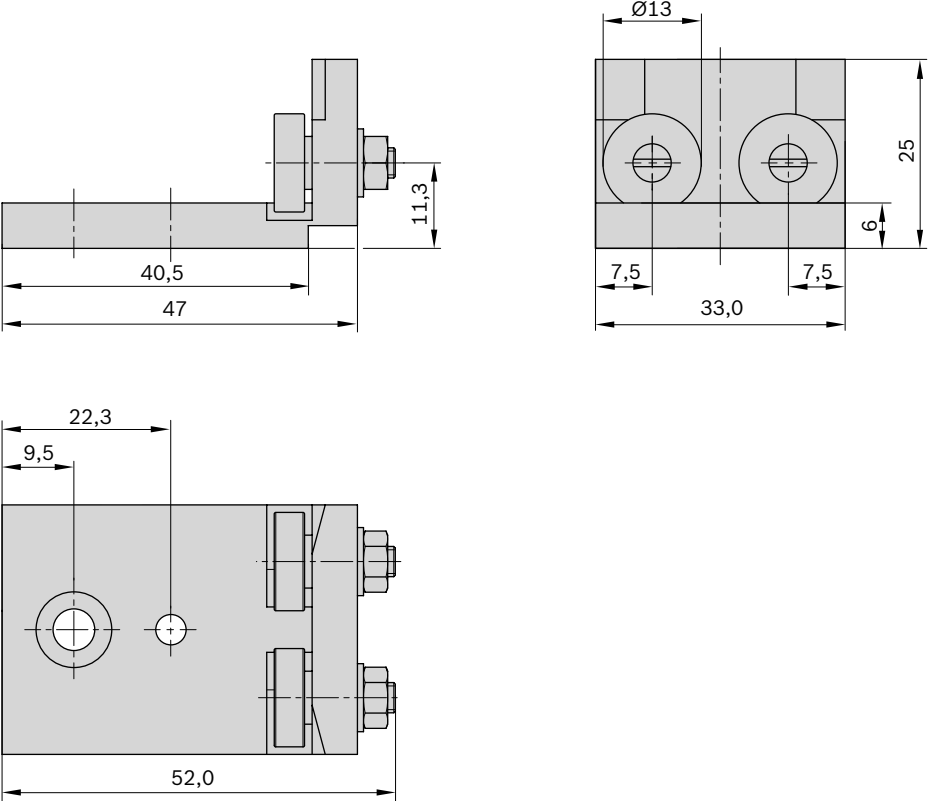
Delivery note
Condition on delivery
▶ Fully assembled

Ordering information

Product designation	Packaging unit	Material number
RB 2 roller conveyor	2	3842549774

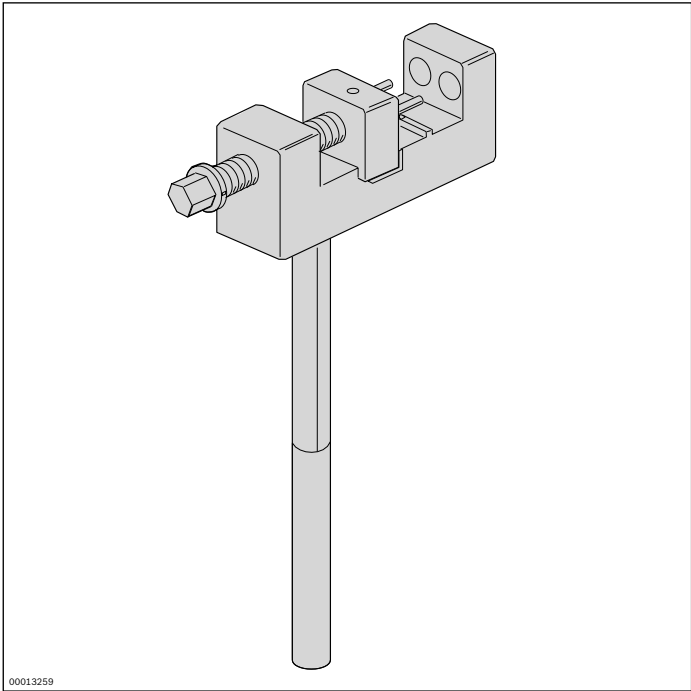
Technical data

Material number	3842549774
Features	
Material specification	Track: aluminum Rollers: Steel



29408

Chain breaker for accumulation roller chain



- Makes it easier to open and disassemble the accumulation roller chain.
- Turning the thread mandrel pushes out a chain bolt and the chain can be removed

The thread mandrel is provided with a hexagonal fixture as a lever arm for a size 13 hexagonal wrench Grooves are

provided for the exact positioning of the chain links.

Delivery note
Condition on delivery
► Fully assembled

Ordering information

Product designation	Material number
Chain breaker for accumulation roller chain	8981010511

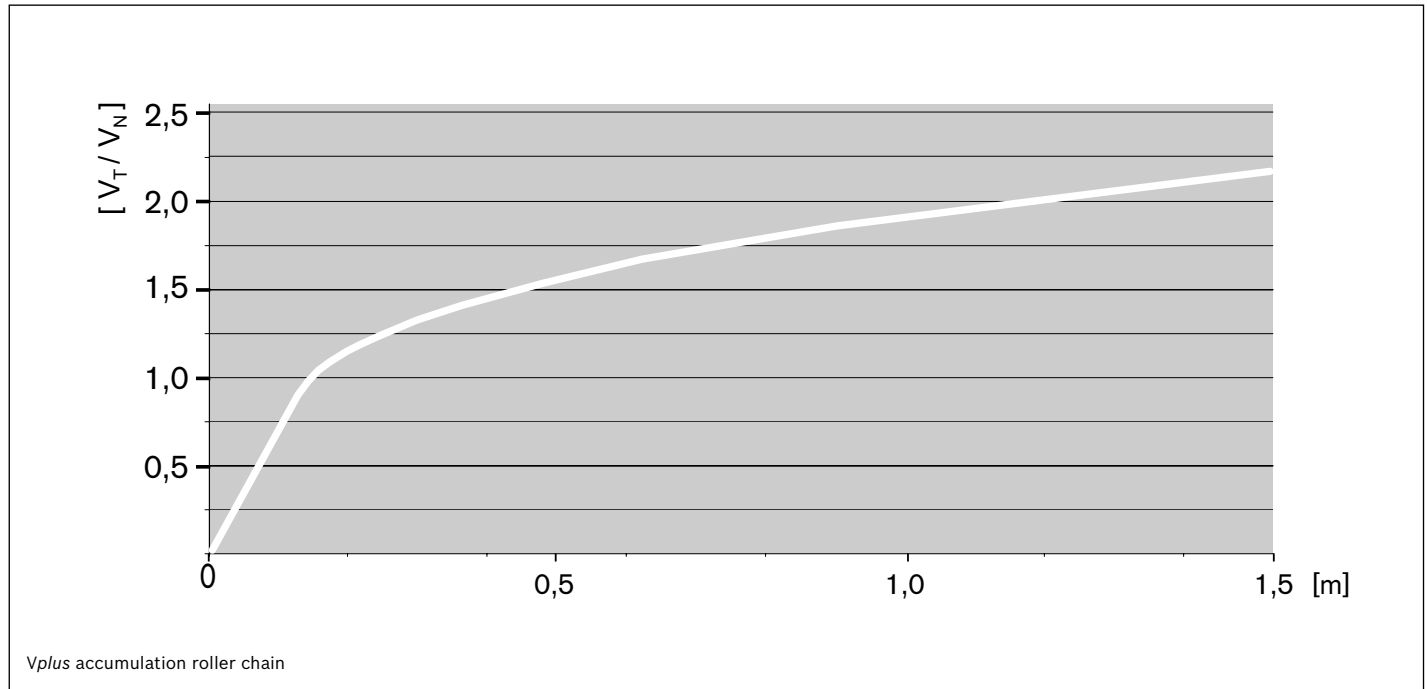
Technical data

Material number	8981010511
Features	
Material specification	steel, hardened

Vplus accumulation roller chain



Vplus accumulation roller chain – transportation speed over distance



v_N Nominal speed
 v_T Max. transportation speed

With the Vplus accumulation roller chain, the workpiece pallet attains conveying speeds to the factor of 2.5 higher than the nominal chain speed.

Smoother running and less wear can thus be achieved by using drives with lower chain speeds with the Vplus accumulation roller chain.

Another benefit of the Vplus accumulation roller chain is the acceleration effect: after each processing station, the conveying speed is picked up quickly without requiring any additional internal elements.

As a rule, dampened stop gates and dampers are recommended.

If conveying speeds over 18 m/min are to be attained with the Vplus chain, the resulting higher dynamic loads on the entire system must be taken into account. Please contact your Rexroth specialist if in any doubt.

Workpiece pallets with PE wear pads must be used on the Vplus accumulation roller chain. The maximum permissible section load is 1.5 kg/cm.

Vplus 3-189 planning advice

Vplus planning advice



The Vplus accumulation roller chain can mathematically reach a transportation speed that is 2.5 times the nominal speed of the conveyor medium.

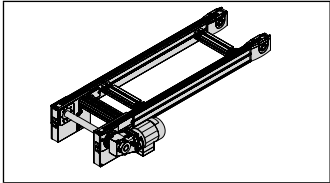
In practice,

- the weight of the workpiece pallet
- the lubrication and wear of the chain, as well as
- the length of the acceleration section

Can cause transportation speeds that are typically up to 2.5 times the nominal speed of the conveyor medium.

The system must be adjusted to the significantly higher kinetic energy of the workpiece pallet:

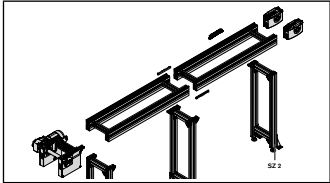
- Dampers and dampened stop gates must be designed for the mathematical transportation speed.
- Before entering a curve, ensure that the transportation speed is max. 18 m/min.



BS 2/R-V belt section...



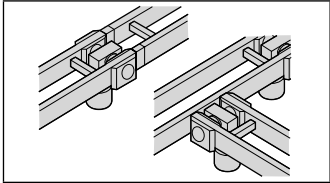
3-192



**Parts for conveyor units
AS 2/..., UM 2/..., ST 2...**



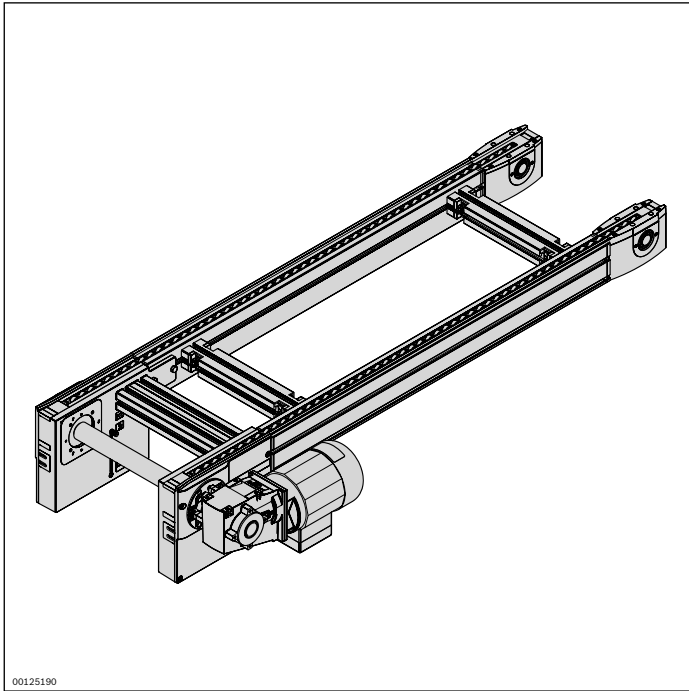
3-196



Connection kits

3-228

BS 2/R-V-1200 belt section



- Functional operation conveyor complete with drive for high workpiece pallet speeds
- Sturdy design for especially heavy-duty systems
- Conveyor medium: *Vplus* accumulation roller chain
- Reversible operation possible for $l \leq 2000$ mm and accumulation roller chains without small parts protection
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

The belt section is a ready for operation conveyor section with own drive for the transportation of workpiece pallets in the longitudinal direction or for the transverse conveying of the workpiece pallet between parallel conveyor sections in connection with two HQ 2 lift transverse units.

Note: On the *Vplus* accumulation roller chain, the workpiece pallet can attain a speed up to a factor of 2.5 higher than that of the chain. Special requirements must therefore be observed for chain speeds > 9 m/min!

Accessories

Recommended accessories

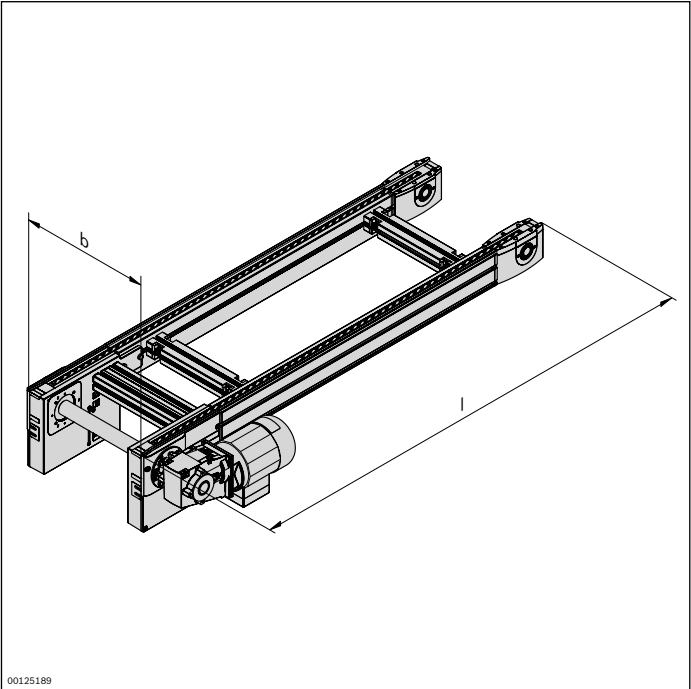
- Connection kits, see p. 3-228
- SZ 2/...-H leg sets, see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



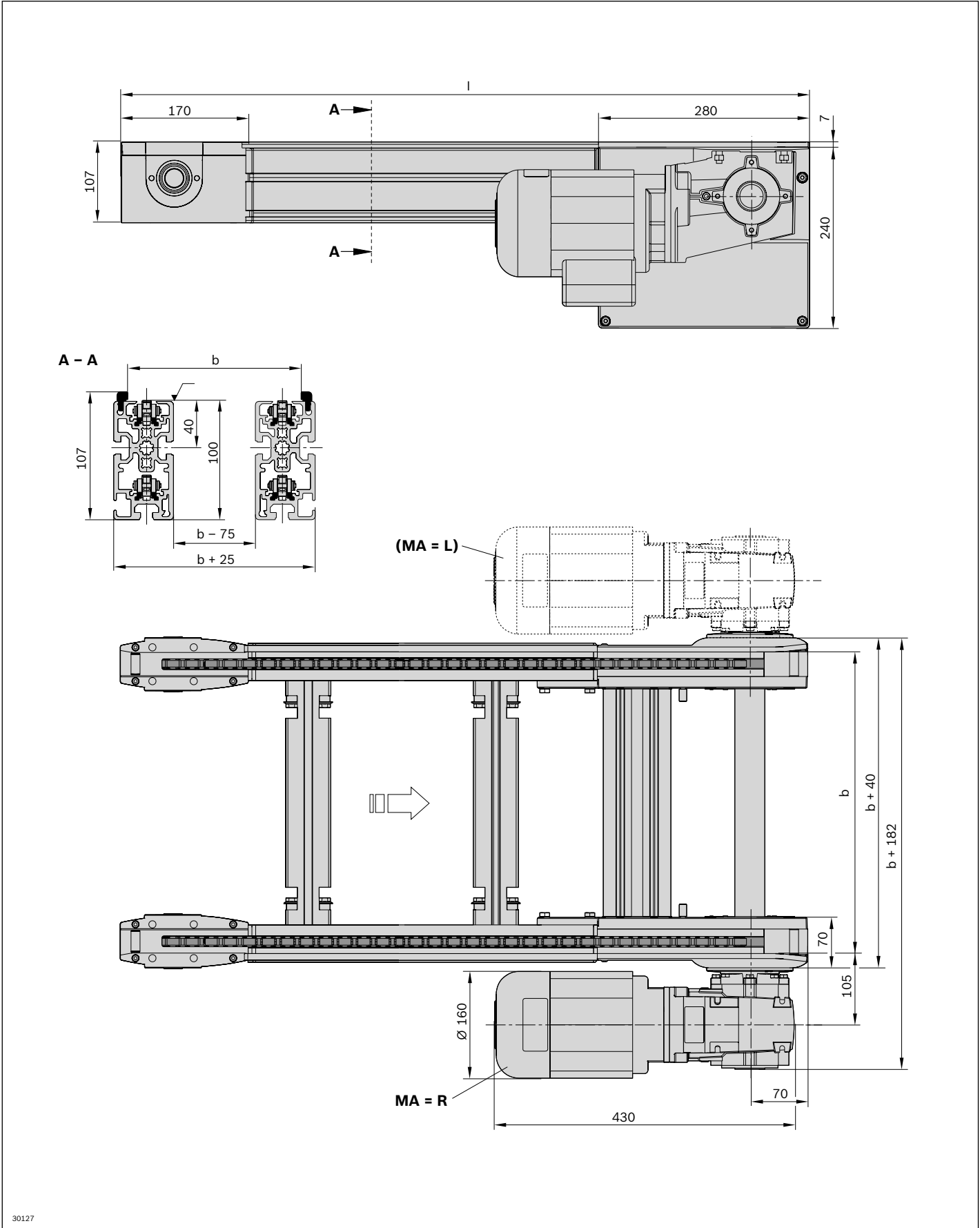
Material number		3842998492
b (mm)	Track width in direction of transport	400 ... 1200
l (mm)	Length	650 ... 6000
v _N (m/min)	Nominal speed of the chain	0 ¹⁾ ; 6; 9; 12; 15; 18 ²⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M
RV	Reversible operation no reversible operation (RV = 0) Reversible operation (RV = 1)	0; 1
KT	Chain type Accumulation roller chain with steel accumulation rollers (KT = 2) Accumulation roller chains with steel accumulation rollers and small parts protection (KT = 4)	2; 4

¹⁾ v_N = 0: without motor or gear
²⁾ Not possible if f = 60 Hz

Technical data

Material number		3842998492
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		yes
Material specification		Slide profile: Steel; corrosion-resistant Small parts protection: Steel
Dimensions		
Length	l	mm 650 ... 6000

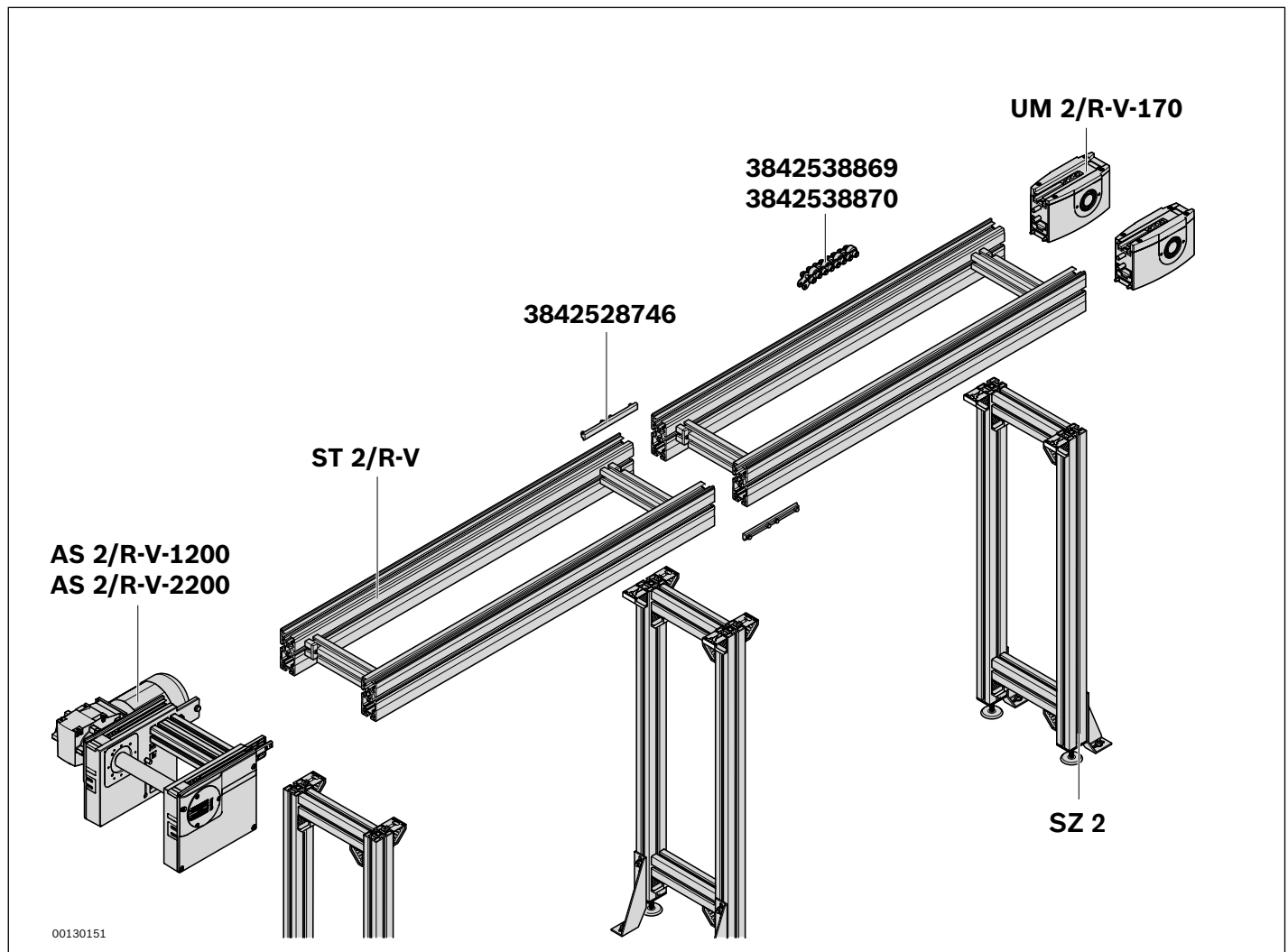
Dimensions





Conveyor units

Conveyor medium *Vplus* accumulation roller chain

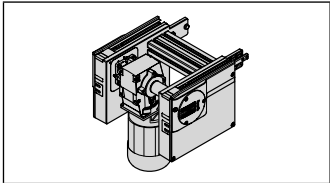


A conveyor unit is a complete unit used for linear conveying of workpiece pallets. It consists of:

- ▶ AS 2/R-V drive module, see p. 3-198
- ▶ UM 2/R-V return unit, see p. 3-204
- ▶ ST 2/R-V... sections, see p. 3-206
- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ QV 2... cross connector, see p. 3-212
- ▶ *Vplus* accumulation roller chain, see p. 3-188

The UM 2/R-V and AS 2/R-V may be set up right next to each other, which allows for conveyor unit combinations.

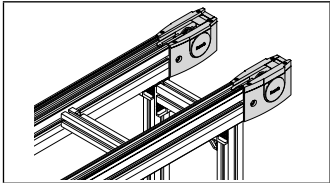
The drive modules are designed for section loads up to $m_G = 2200$ kg per conveyor unit.



AS 2/R-V... drive module



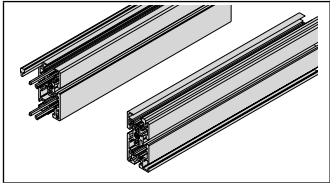
3-198



UM 2/R-V-170 return unit



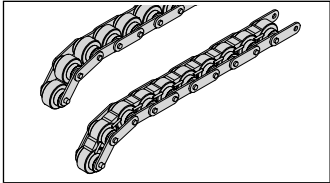
3-204



ST 2/R-V section, components



3-206

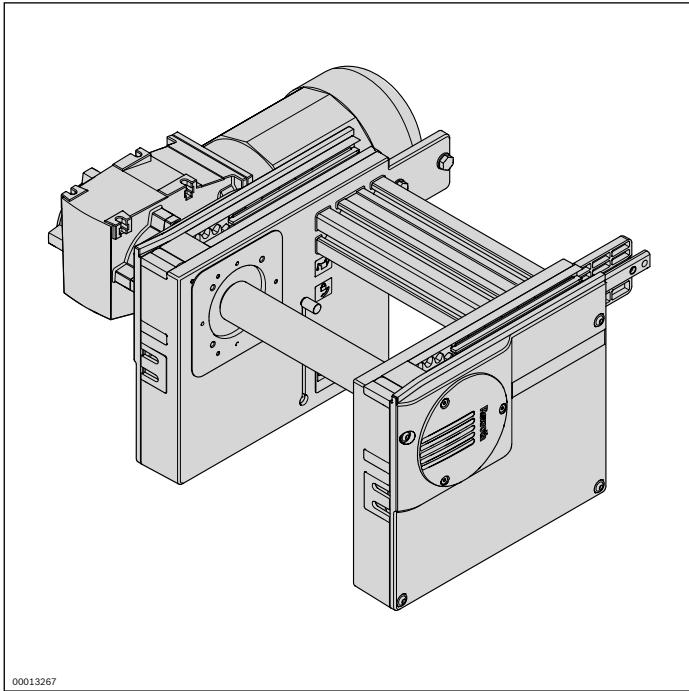


**Conveyor medium accumulation roller chain,
accessories**



3-218

AS 2/R-V-1200 drive module



- For conveyor unit self-assembly
- For use in conjunction with ST 2/R-V sections and ST 2/R-V-170 return units
- Conveyor medium: *Vplus* accumulation roller chain
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or with terminal box special models on request

The AS 2/R-V-1200 drive module drives the conveyor medium *Vplus* accumulation roller chain in self-built conveyor sections with sections, return units and *Vplus* accumulation roller chains.

Note: On the *Vplus* chain, the workpiece pallet attains a speed up to the factor of 2.5 higher than that of the chain. Special requirements must therefore be observed for chain speeds > 9 m/min!

Accessories

Recommended accessories

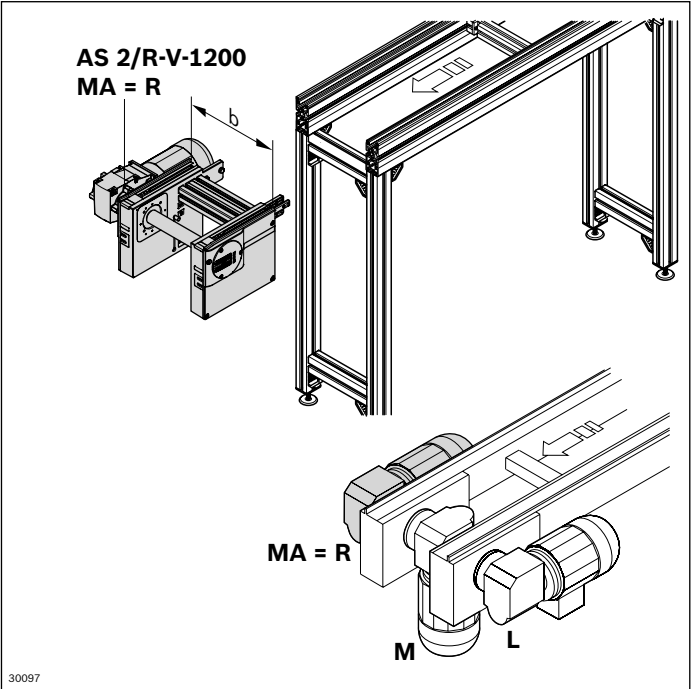
- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842998233
b (mm)	Track width in direction of transport	400; 480; 640; 800; 1040; 1200 400 ... 1200 ¹⁾
v _N (m/min)	Nominal speed of the chain	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M)

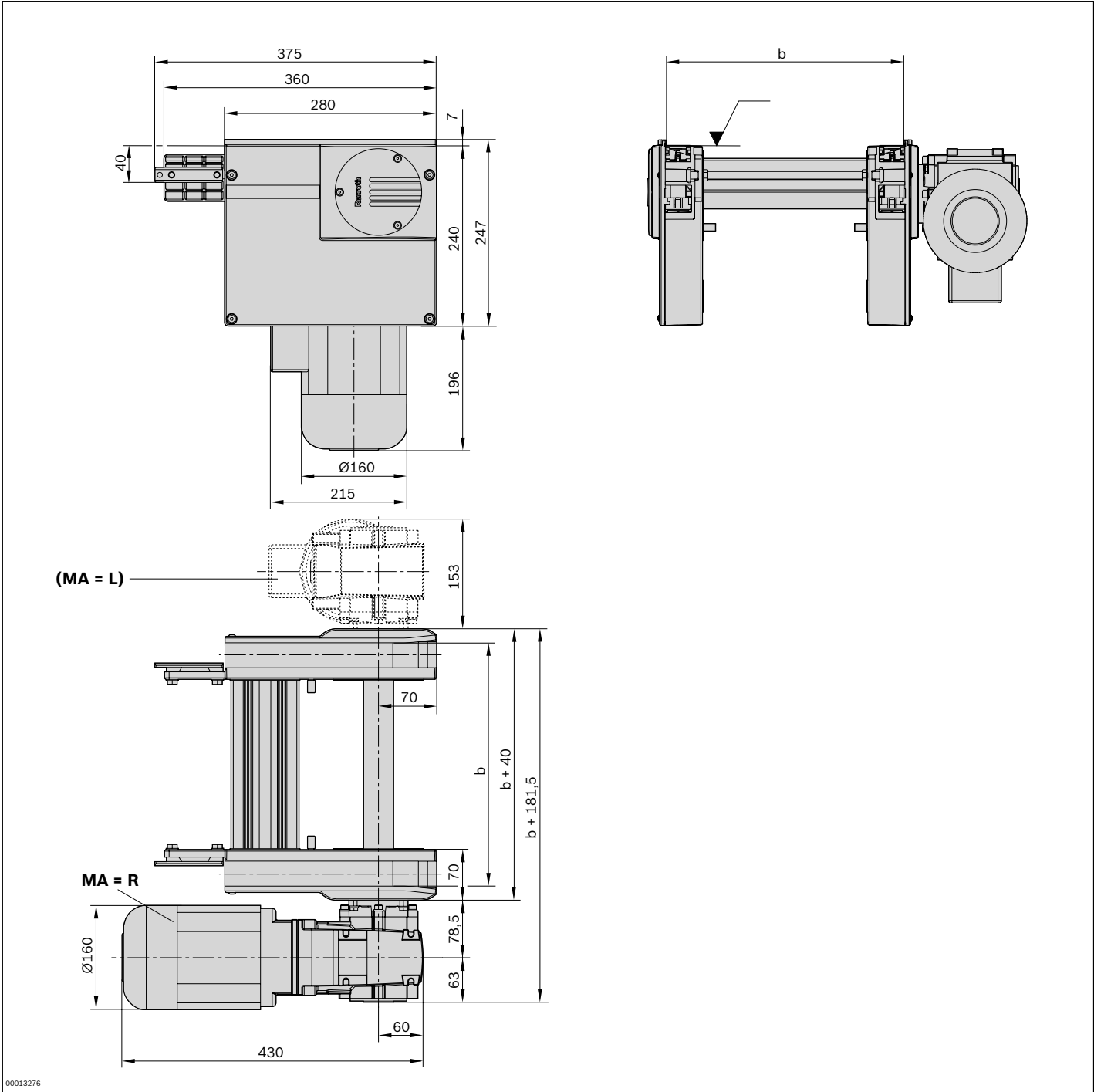
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Not possible if f = 60 Hz

Technical data

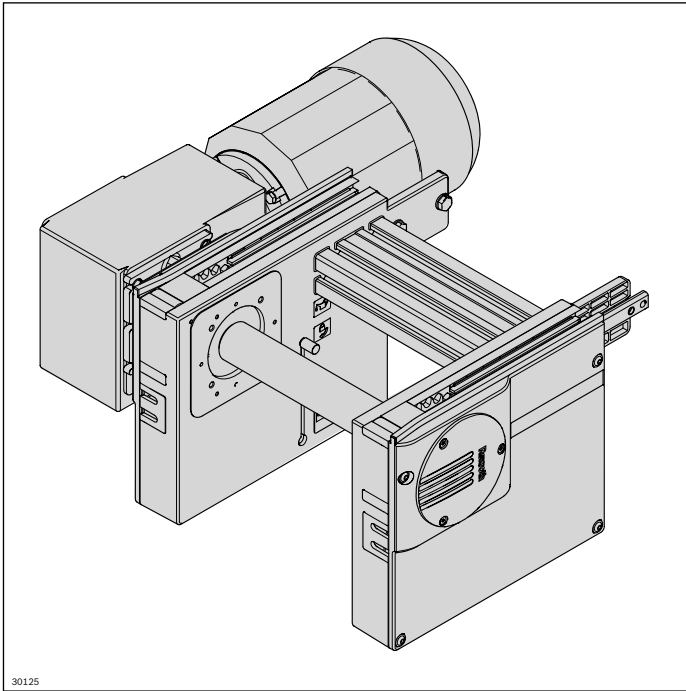
Material number		3842998233
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)} l _{AS}	mm	625

^{*)} Formula for calculating the conveyor medium, see p 3-219

Dimensions



AS 2/R-V-2200 drive module



The AS 2/R-V-2200 drive module drives the conveyor medium *Vplus* accumulation roller chain in self-built conveyor sections with section, return unit and *Vplus* accumulation roller chain.

Accessories

Recommended accessories

- LU 2 automatic lubrication unit, see p. 3-150

Delivery note

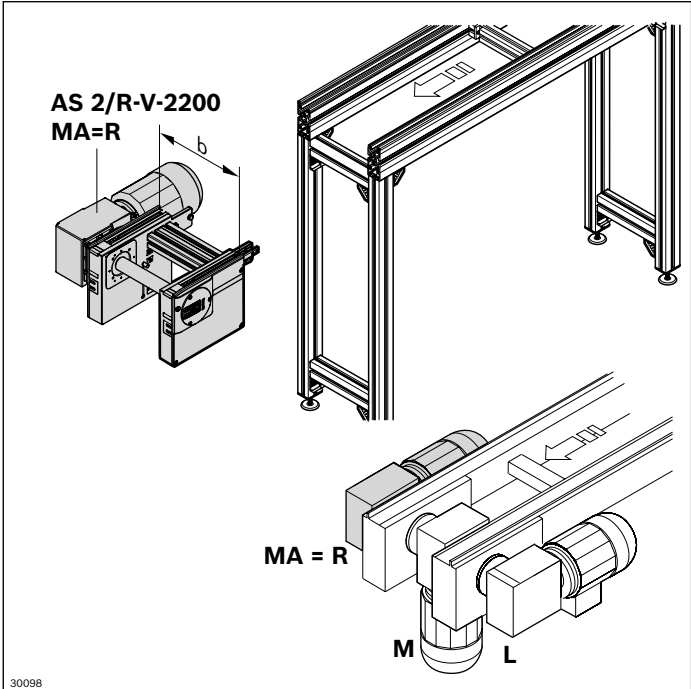
Condition on delivery

- Fully assembled

- Conveyor medium: *Vplus* accumulation roller chain
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box motor connection
- Special models on request

Note: On the *Vplus* chain, the workpiece pallet attains a speed up to the factor of 2.5 higher than that of the chain. Special requirements must therefore be observed for chain speeds > 9 m/min!

Ordering information



Material number		3842998234
b (mm)	Track width in direction of transport	400; 480; 640; 800; 1040; 1200
		400 ... 1200 ¹⁾
v _N (m/min)	Nominal speed of the chain	0 ²⁾ ; 6; 9; 12; 15; 18 ³⁾
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M)

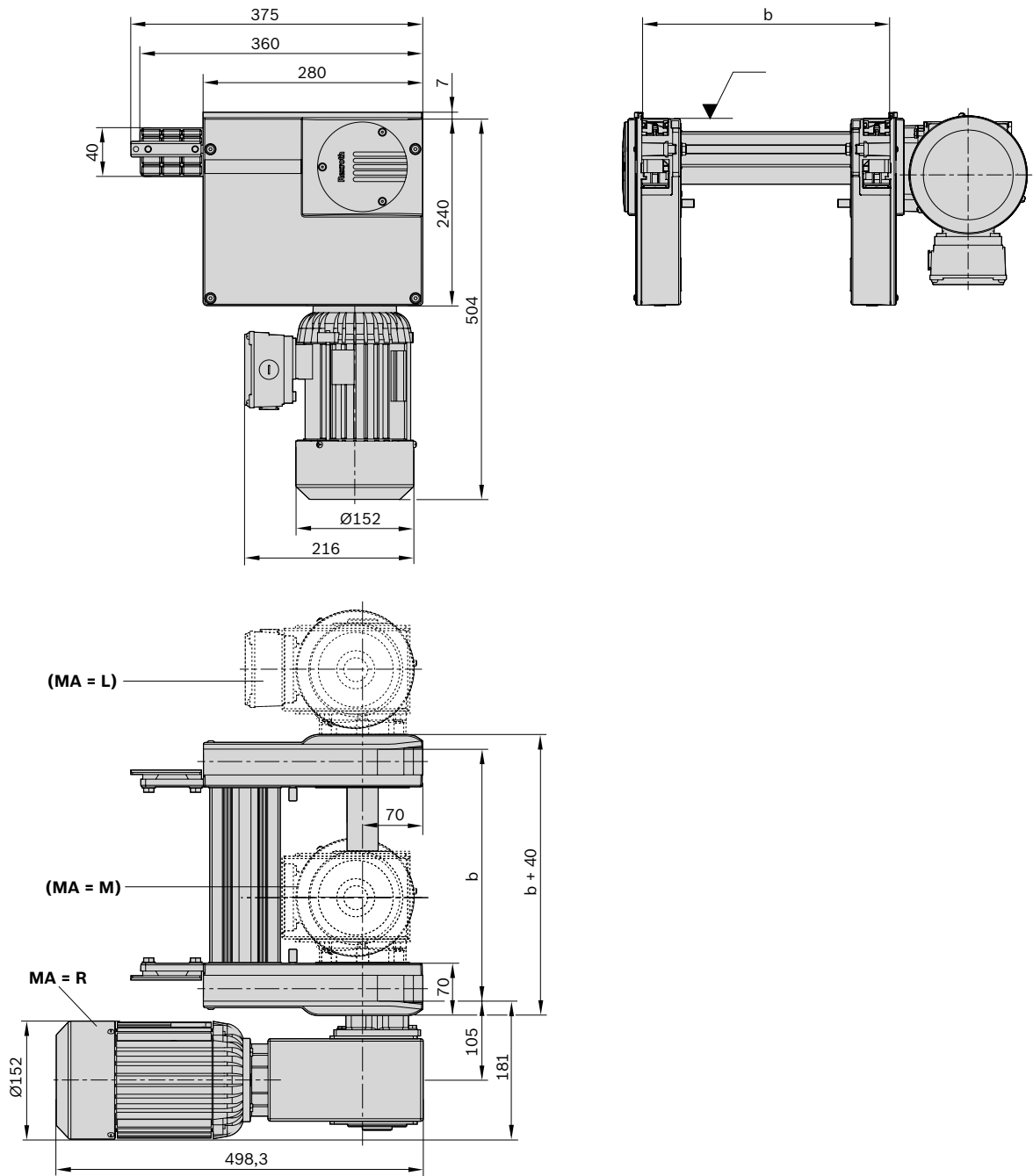
¹⁾ Individual width variants available
²⁾ v_N = 0: without motor or gear
³⁾ Reduced load to 1800 kg

Technical data

Material number		3842998234
Load		
Max. section load in accumulation operation	kg	2200
Features		
ESD		yes
Additional information		
Required conveyor media length ^{*)}	l _{AS} mm	625

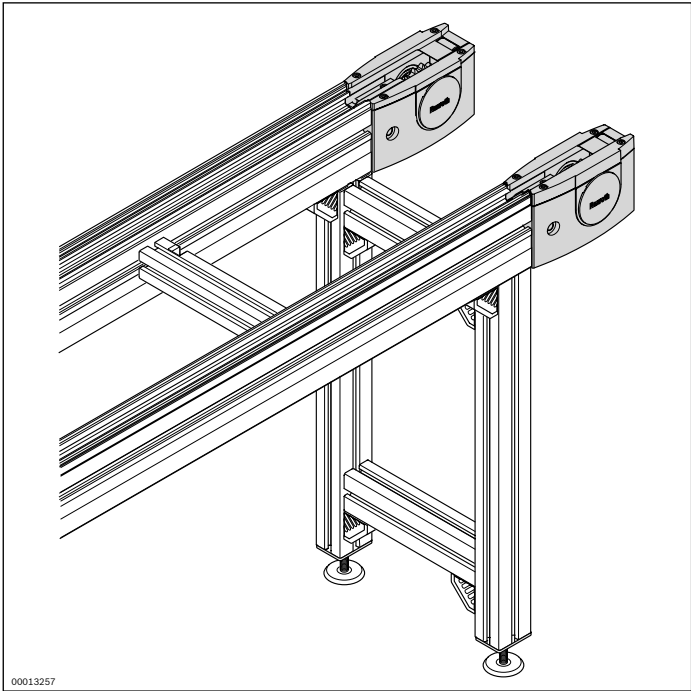
^{*)} Formula for calculating the conveyor medium, see p 3-219

Dimensions



00013277

UM 2/R-V-170 return unit



- Conveyor medium: *Vplus* accumulation roller chain
- For use in conjunction with all AS 2/R-V-... drive modules
- Version with pinion for return unit
- Reversible operation possible

The return unit is used for constructing conveyor units. It guides the conveyor medium at the end of the conveyor unit back to the drive module.

Note: On the *Vplus* chain, the workpiece pallet attains a speed up to the factor of 2.5 higher than that of the chain. Special requirements must therefore be observed for chain speeds > 9 m/min!

Delivery note

Scope of delivery

- One pair of return unit heads
- Incl. all fastening material to mount on the ST 2/... section

Condition on delivery

- Fully assembled

Ordering information

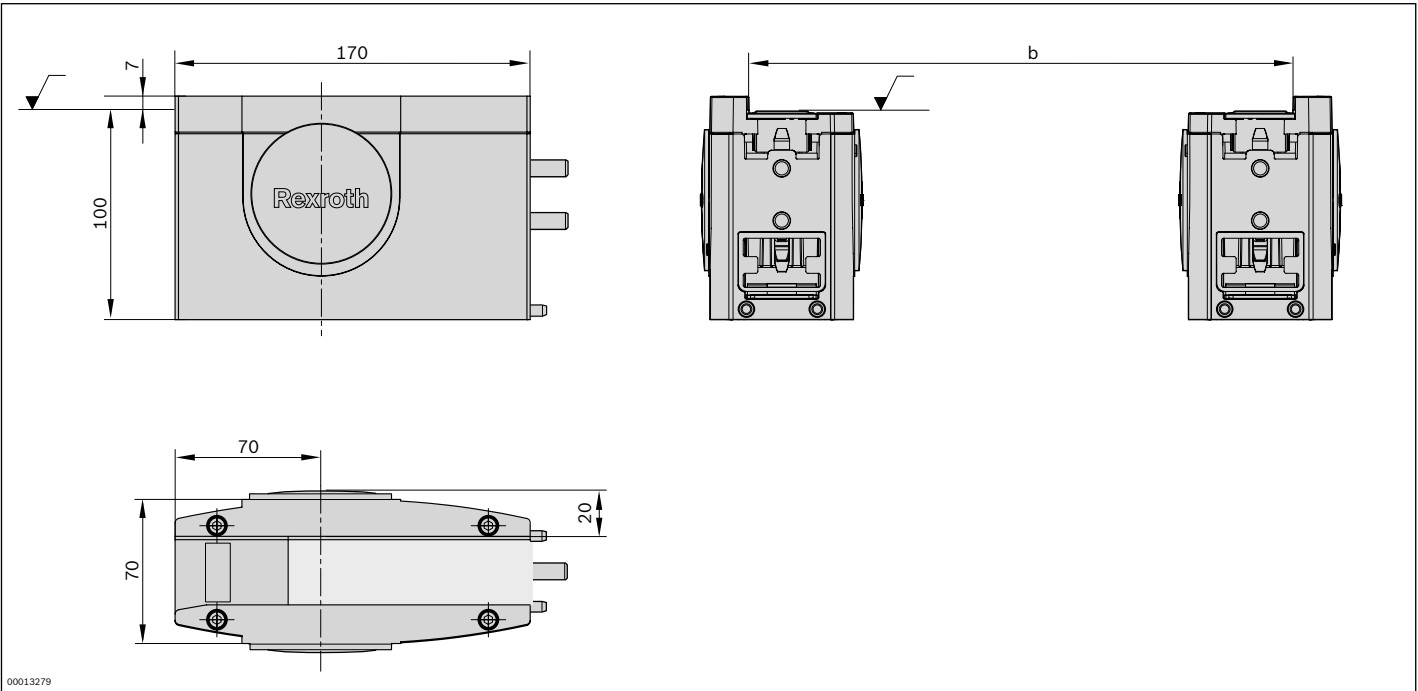
Product designation	Material number
UM 2/R-V-170 return unit	3842536803

Technical data

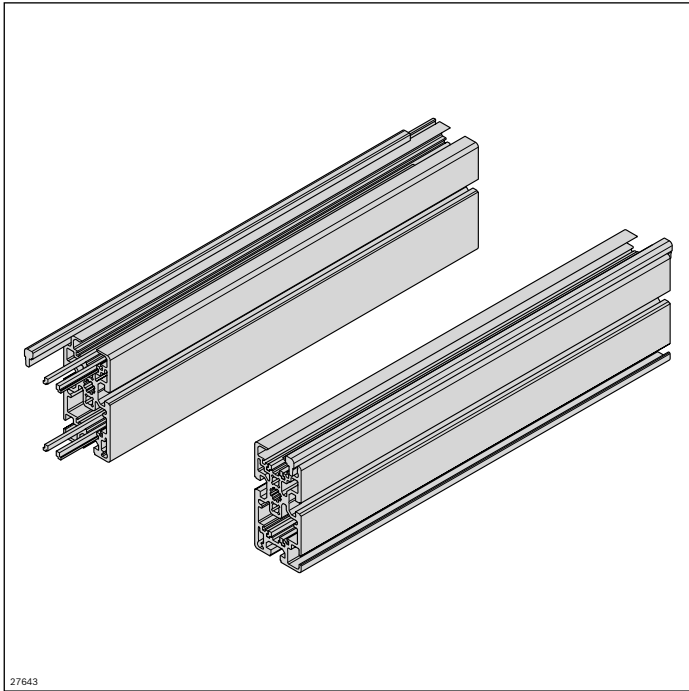
Material number	3842536803
Features	
ESD	yes
Additional information	
Required conveyor media length ^{*)} l _{UM}	mm 310

^{*)} Formula for calculating the conveyor medium, see p 3-219

Dimensions



ST 2/R-V section



- Section profile in especially sturdy design for section loads of up to 30 % higher

The section is used for the construction of conveyor units in conjunction with the *Vplus* accumulation roller chain with the AS 2/R-V-... drive module and the UM 2/R-V-... return unit

Accessories

Required accessories

- Adapter plate kit, see p. 3-210

Delivery note

Scope of delivery

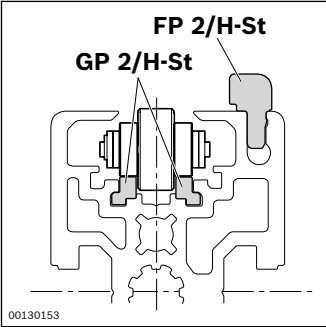
- 2x SP 2/R-H section profile
- 2x FP 2/H-St guide profile
- 4x GP 2/H-St glide profiles (in a different mounting position)

Recommended accessories

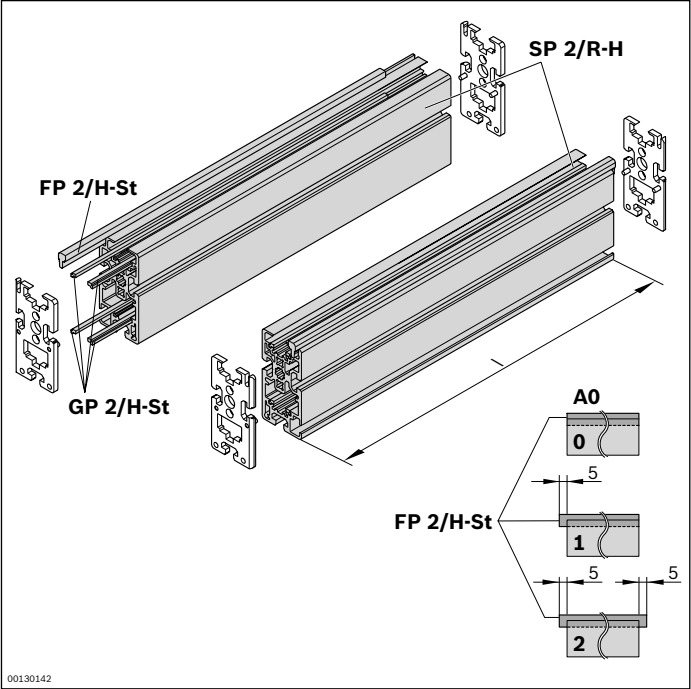
- SZ 2/...-H leg sets, see p. 6-2
- Cross connector, see p. 3-212
- Profile connector, see p. 3-211

Condition on delivery

- Fully assembled



Ordering information

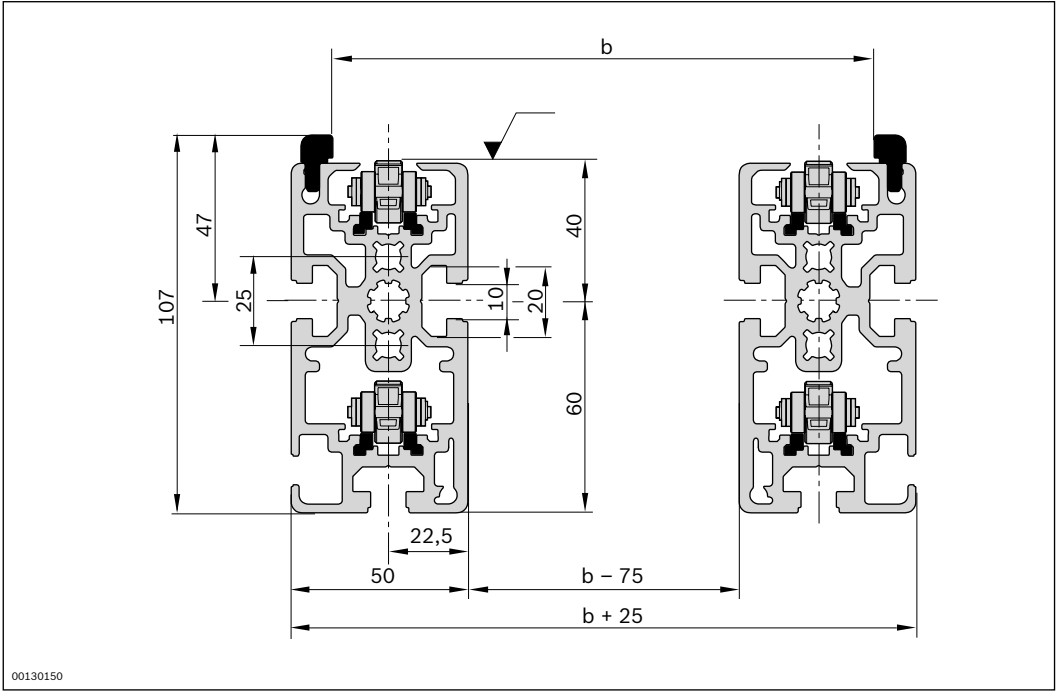


Material number		3842995000
I (mm)	Length	200 ... 6000
AO	Installation location, steel glide profile AO = 0; 1; 2	0; 1; 2
GP	Glide profile in corrosion-resistant steel (GP = 1)	1

Technical data

Material number		3842995000
Features		
ESD		yes
Material specification		Section profile: aluminum, anodized Guide profile: Steel; corrosion-resistant Slide profile: Steel; corrosion-resistant
Dimensions		
Length	I	mm 200 ... 6000

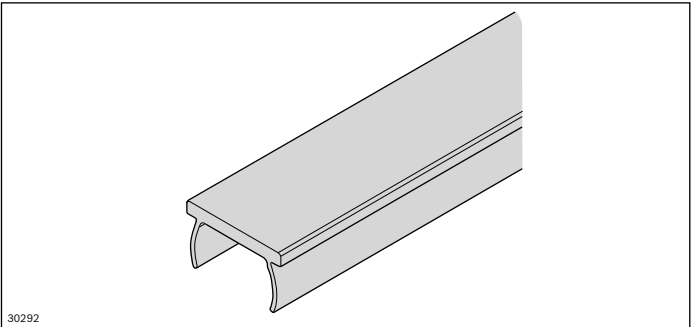
Dimensions



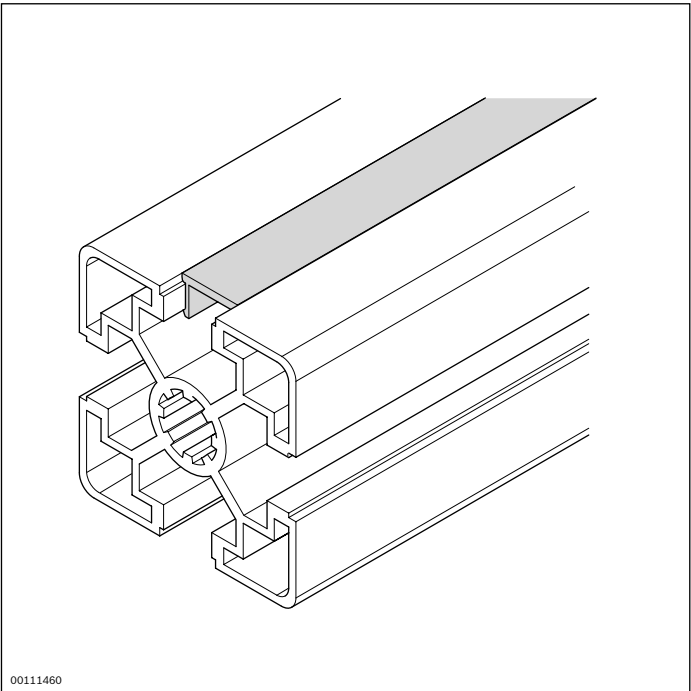
Cover rail for cable duct



3



- ▶ To prevent dirt from entering the profile slot
- ▶ For fixing cables in position
- ▶ Flush with profile



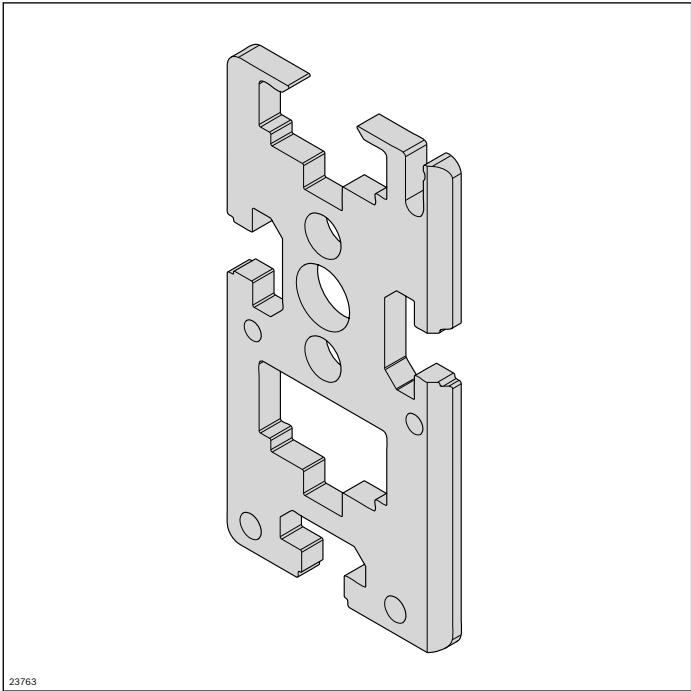
Ordering information

Product designation	Packaging unit	Material number
Cover rail for cable duct	10	3842523258

Technical data

Material number	3842523258
Features	
Material specification	aluminum, natural; anodized
Dimensions	
Length	l mm 2000

ST 2/R-V adapter plate kit



- Front cover
- For connection of SP 2/R-H section profiles and AS 2/R-V-... drive modules, for connection of SP 2/R-H UM 2/R-V-170 return units; and if GP 2 plastic glide profiles are used

The adapter plates are used as front covers and for connecting section profiles and drive modules, or between section profiles and return units.

The adapter plates are also suitable for use between section profiles where GP 2 plastic glide profiles are used.

Delivery note

Scope of delivery

- 2x left adapter plate
- 2x right adapter plate

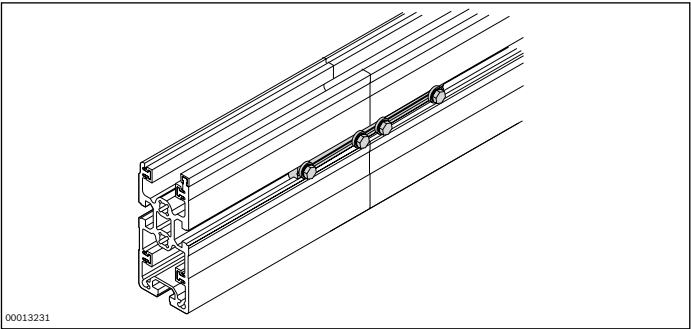
Ordering information

Product designation	Packaging unit	Material number
ST 2/R-V adapter plate kit	4	3842536802

Technical data

Material number	3842536802
Features	
ESD	yes
Material specification	steel; corrosion-resistant

Profile connector



- For the end-to-end connecting of two profiles SP 2/...
Two profile connectors are recommended for each profile joint
- For conveyor unit self-assembly
- Use in conjunction with all AS 2/R-V-... drive modules, UM 2/R-V-... return units and SP 2/R-H-... section profiles

Delivery note

Scope of delivery

- Profile connector, screws

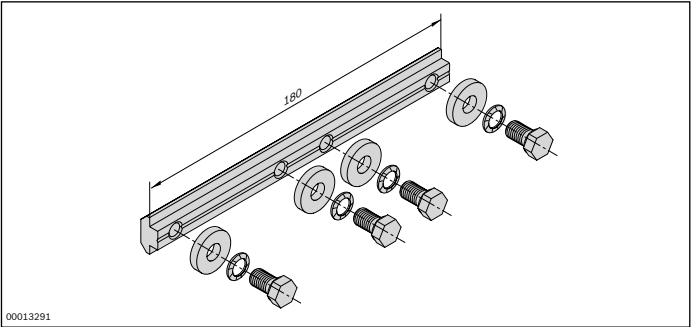
Ordering information

Product designation	Material number
Profile connector	3842528746

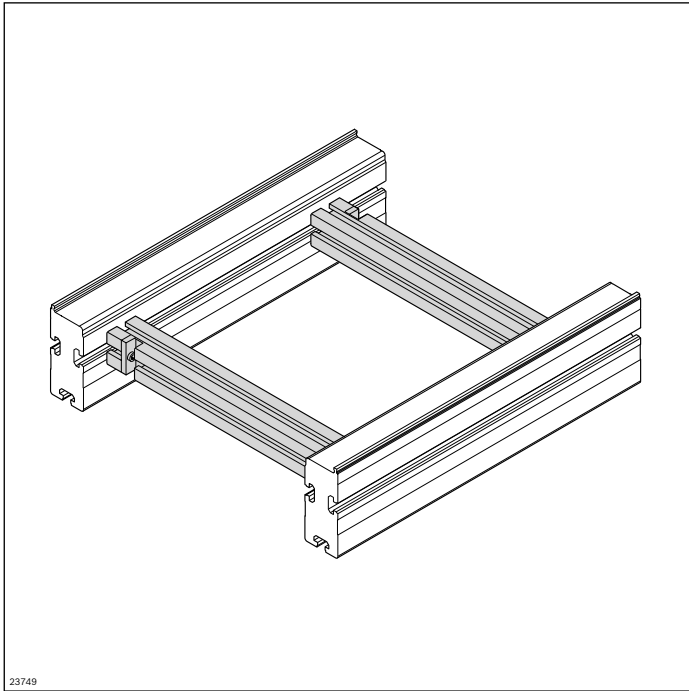
Technical data

Material number	3842528746
Features	
Material specification	steel, galvanized

Dimensions



QV 2 cross connector



- For conveyor unit self-assembly
- For connecting section profiles and defining the track width
- Use in conjunction with all AS 2/R-V... drive modules, UM 2/R-V... return units and SP 2/R-H... section profiles

The cross connectors serve to connect the conveyor section profiles.

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

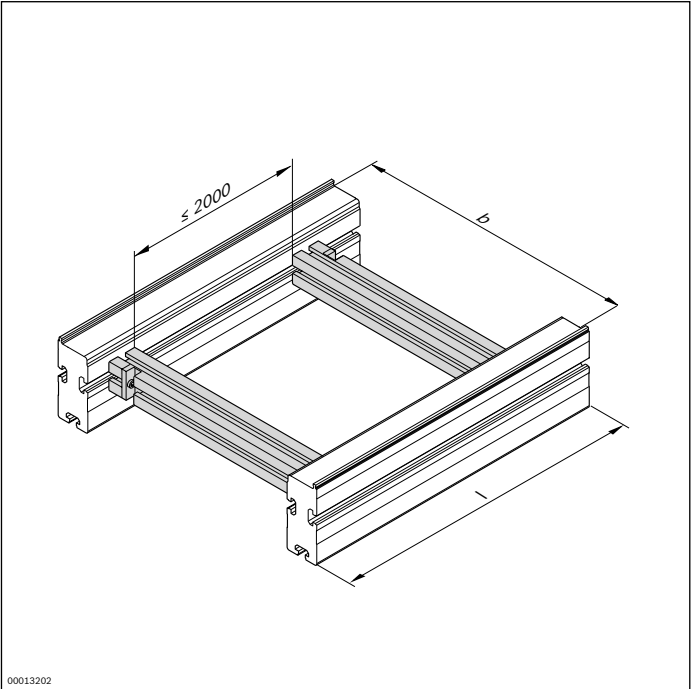
l = section length

Delivery note

Scope of delivery

- Strut profile 45x60, finished
- 2x fastening material to mount on an ST 2/... section

Ordering information



00013202

Material number		3842994635
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

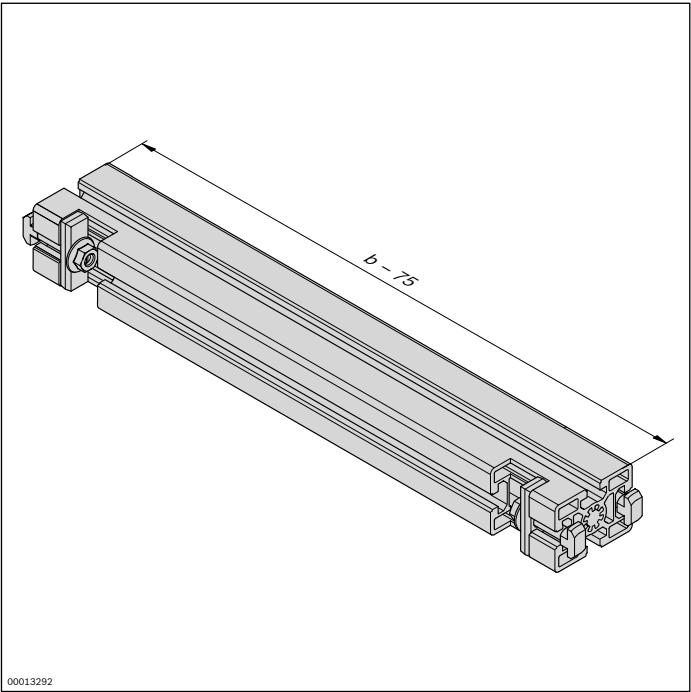
¹⁾ Individual width variants available

3

Technical data

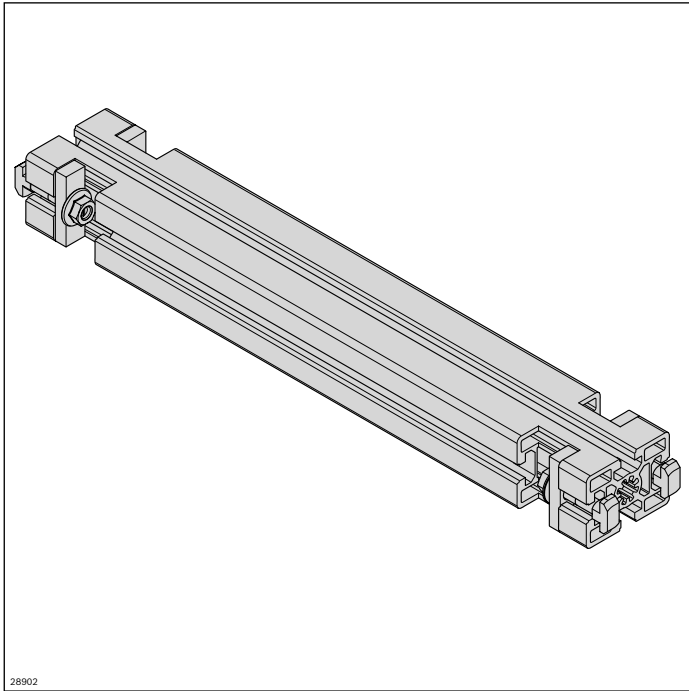
Material number	3842994635
Features	
Material specification	aluminum, natural; anodized

Dimensions



00013292

QV 2-H cross connector



- For heavy-duty conveyor unit self-assembly
- For connecting section profiles and defining the track width
- Use in conjunction with all AS 2/R-V... drive modules, UM 2/R-V... return units and SP 2/R-H... section profiles

QV 2-H cross connectors are particularly suitable for connections between section profiles in heavy-duty systems.

Formula for calculating the number of cross connectors needed

$$A_{QV} = (l/2000 \text{ mm}) + 1$$

A_{QV} = Number of cross connectors

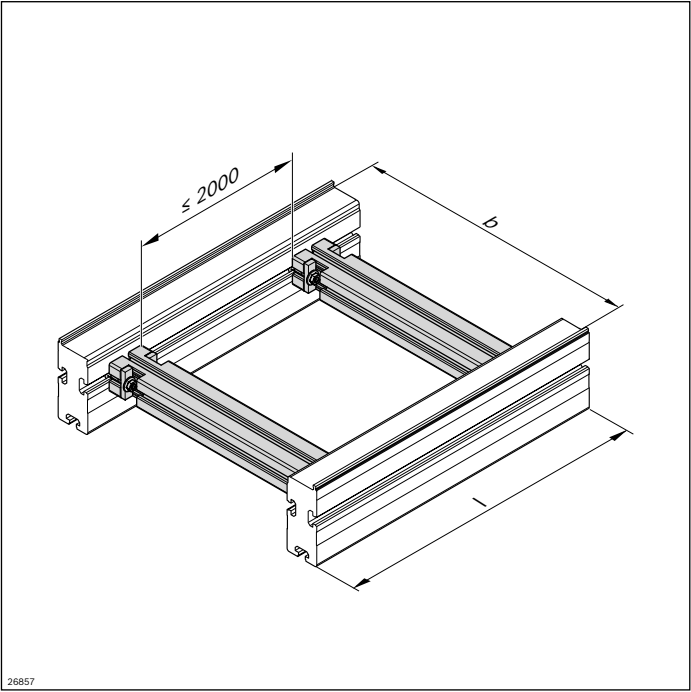
l = section length

Delivery note

Scope of delivery

- Strut profile 45x60, finished
- 4x fastening material to mount on an ST 2/... section

Ordering information



26857

Material number		3842993052
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
		160 ... 1200 ¹⁾

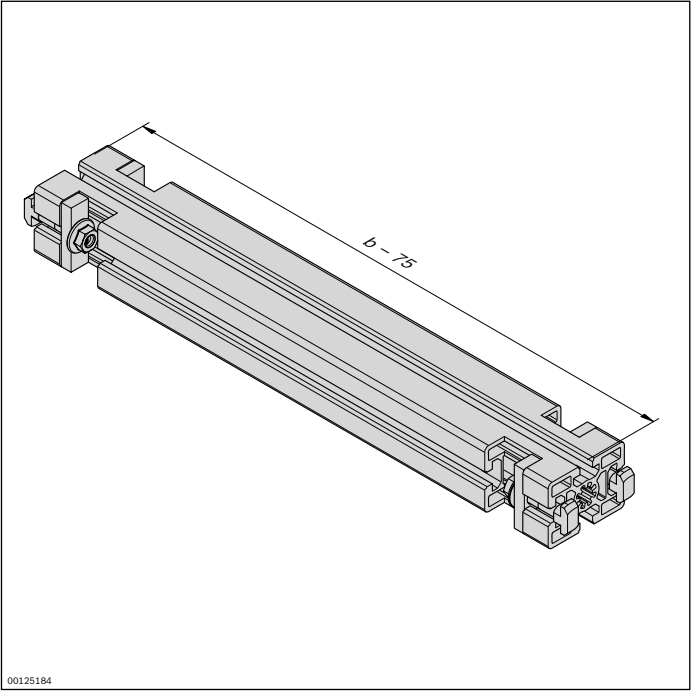
¹⁾ Individual width variants available

3

Technical data

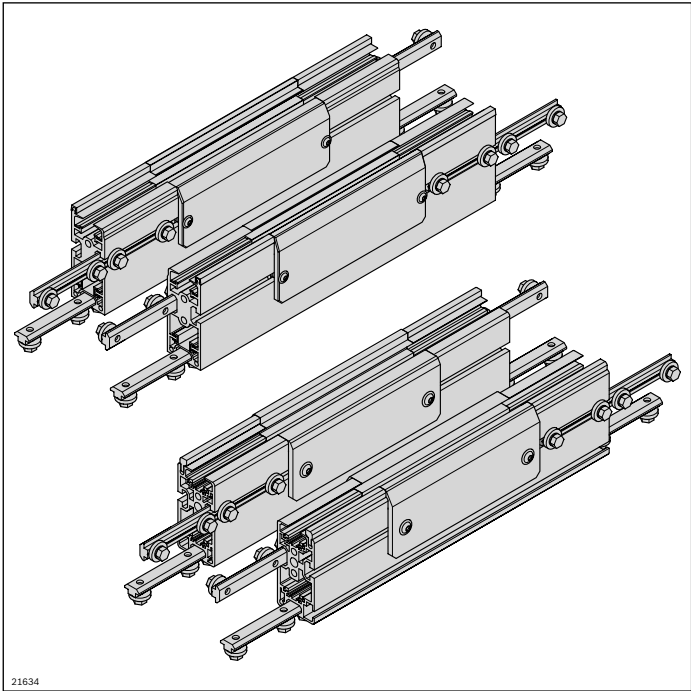
Material number	3842993052
Features	
Material specification	aluminum, natural; anodized

Dimensions



00125184

ST 2/R-V-W maintenance section



- For maintenance use (assembly, disassembly or lubrication)
- Two removable side covers each
- Suitable for *Vplus* accumulation roller chains
- Suitable for SP 2/R-H section profiles

The maintenance section is a section element with removable caps. It is used for maintenance (assembly,

disassembly, lubrication) of the *Vplus* accumulation roller chain.

Delivery note

Scope of delivery

- 2x maintenance section elements consisting of ST 2/R-H section profiles, FP 2/H-ST guide profiles and GP 2/H-Kst glide profiles
- 4x side cover
- 8x profile connector
- Fastening material

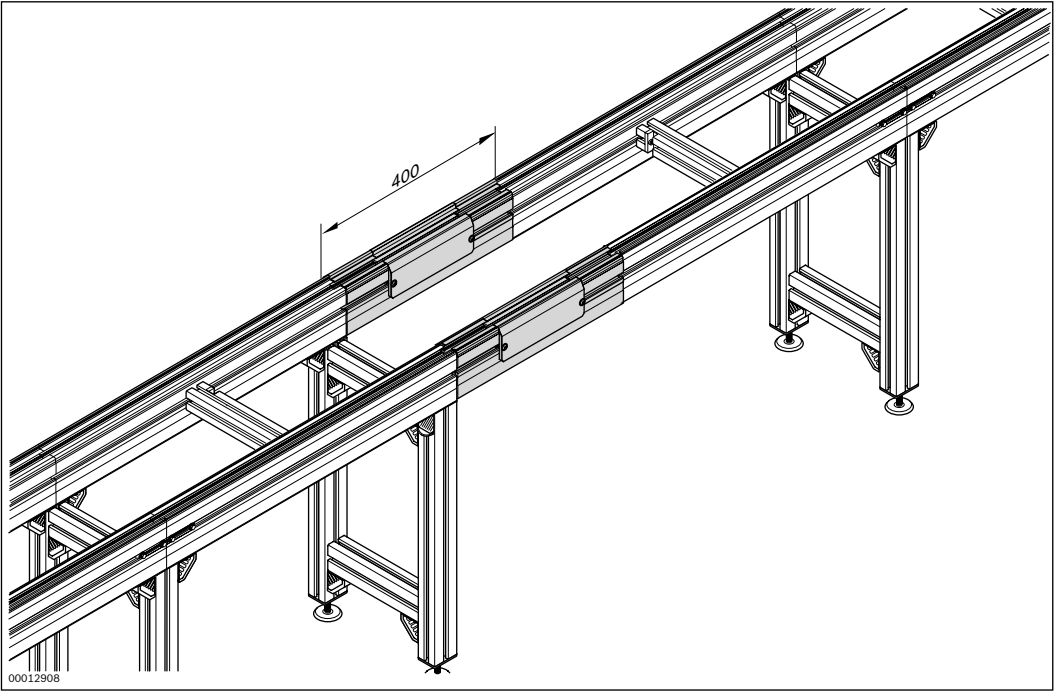
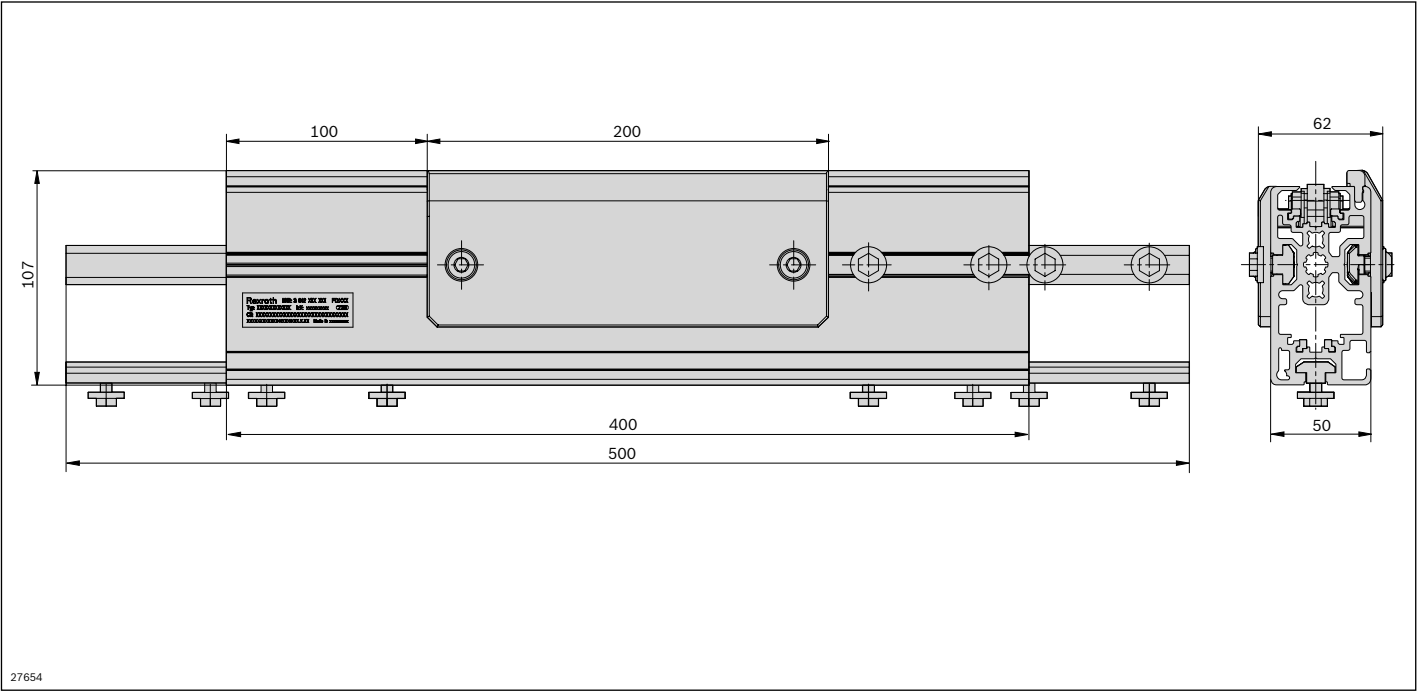
Ordering information

Product designation	Material number
ST 2/R-V-W maintenance section	3842537320

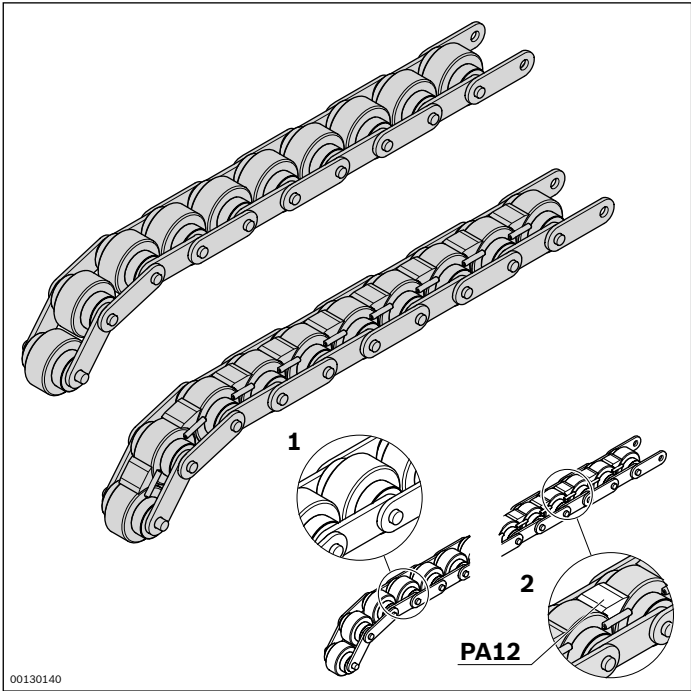
Technical data

Material number	3842537320
Features	
ESD	yes
Material specification	Section profile: aluminum, natural; anodized Side cover: Polyethylene
Dimensions	
Length	400

Dimensions
ST 2/R-V-W maintenance section



Vplus accumulation roller chain



1 accumulation roller chain with steel accumulation rollers
2 accumulation roller chain with steel accumulation rollers and small parts protection

Note: On the Vplus accumulation roller chain, the workpiece pallet can attain a speed up to a

Delivery note

Scope of delivery

- Units up to 12,000 mm including one master link

Ordering information

Product designation	Material number
Vplus accumulation roller chain with steel accumulation rollers	3842538869
Vplus accumulation roller chains with steel accumulation rollers and small parts protection	3842538870

Technical data

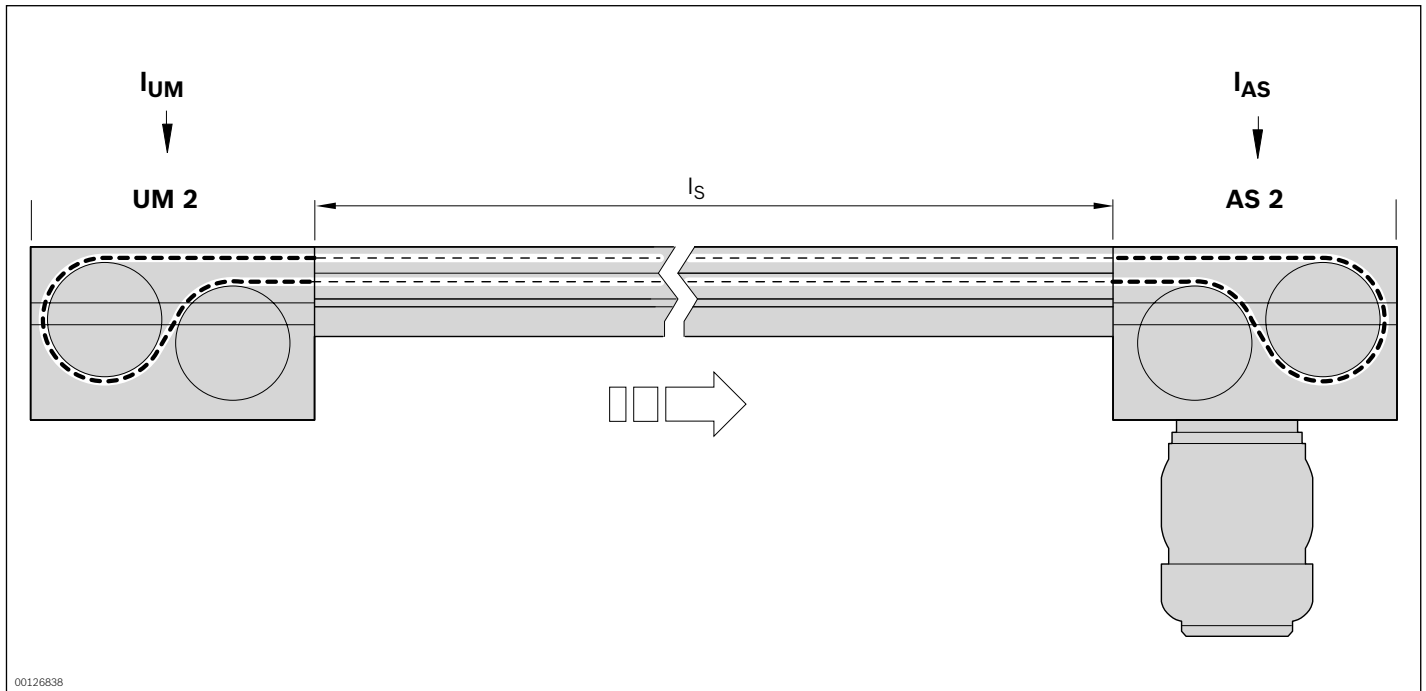
Material number	3842538869	3842538870
Features		
ESD	yes	yes
Material specification	Rollers: Steel	Rollers: steel Small parts protection: PA 12 (anti-static)
Dimensions		
Length	l	mm
	12000	12000

- Conveyor medium for the workpiece pallets in the TS 2plus system
- For conveyor unit self-assembly
- Can be combined with ST 2/R-V and ST 2/R-H conveyor units
- Delivered in units of 12,000 mm. Lengths of l > 12,000 mm can be produced by connecting several accumulation roller chains using master links
- Chains are available with small parts protection (= filler pieces in the Vplus accumulation roller chain prevent small parts from pinching)

Note: Reversible operation is not possible in connection with small parts protection.

factor of 2.5 higher than that of the chain. Special requirements must therefore be observed for chain speeds > 9 m/min!

Dimensions



The required chain length is determined using the following formula.

$$l_R = 2 \times l_S + l_{AS} + l_{UM}$$

Length of the conveyor medium for accumulation roller chain

$$l_{UM\ 2/C-170} = 310\text{ mm}$$

$$l_{UM\ 2/C-60} = 150\text{ mm}$$

$$l_{AS} = 625\text{ mm}$$

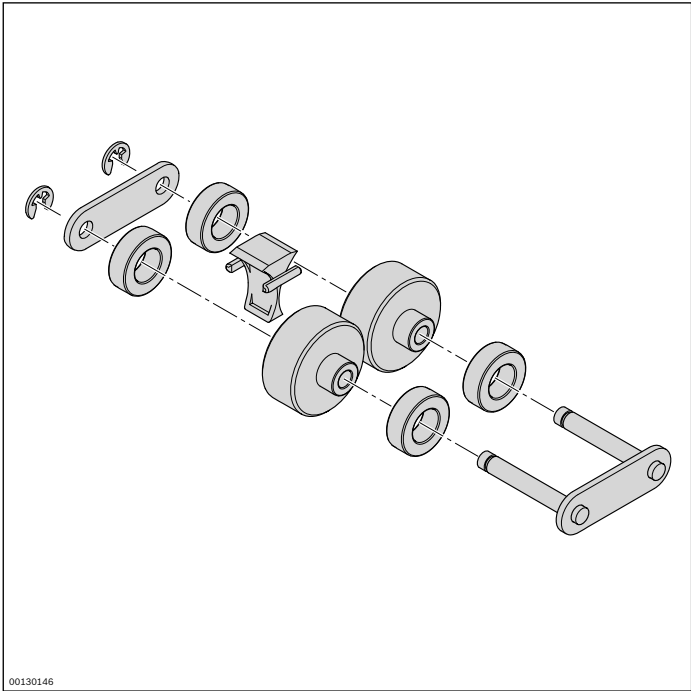
l_R = Length of accumulation roller chain

l_S = Length of the section profile

l_{AS} = Length of the conveyor medium in the drive module

l_{UM} = Length of the conveyor medium at the return unit

Master link for *Vplus* accumulation roller chain



- To close the *Vplus* accumulation roller chain after insertion in conveyor section element
- Only suitable for *Vplus* accumulation roller chains

Ordering information

Product designation	Material number
Master link for <i>Vplus</i> accumulation roller chain	3842538872

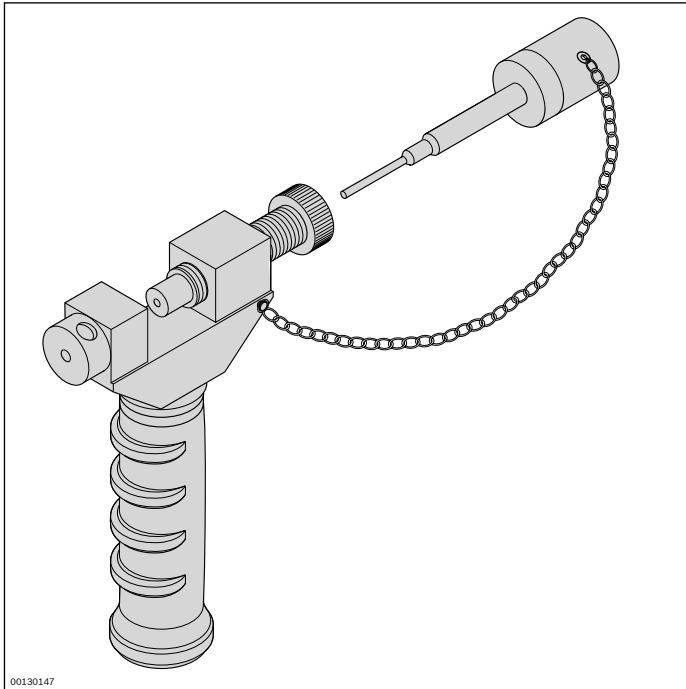
Technical data

Material number	3842538872
Features	
ESD	yes

Chain breaker for *Vplus* accumulation roller chain



3



- For disassembly of *Vplus* accumulation roller chains
- Makes it easier to open and disassemble the *Vplus* accumulation roller chain.
- Turning the thread mandrel pushes out a chain bolt and the chain can be removed

Delivery note

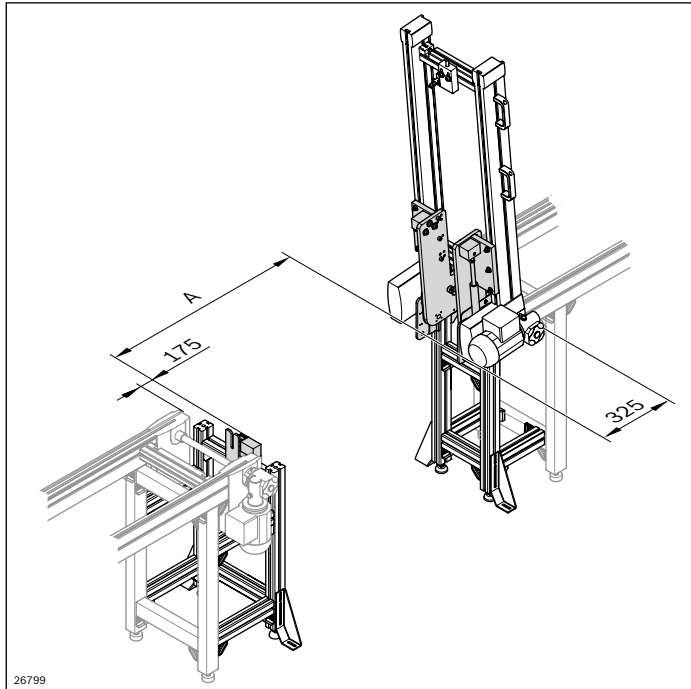
Condition on delivery

- Fully assembled

Ordering information

Product designation	Material number
Chain breaker for <i>Vplus</i> accumulation roller chain	3842539357

LG 2/H lift gate



- ▶ Can be used for BS 2, BS 2/C-100, BS 2/R-300 belt sections and for combinations of section ST 2/C-H (ST 2/R-H), drive AS 2/C-100 (AS 2/R-300) and return unit UM 2/C-60 (UM 2/R-60)
- ▶ From width $b = 240$ mm up to $b = 1200$ mm
- ▶ For passage width (A) 600 ... 1800 mm
- ▶ In open position (85°), locked
- ▶ Mechanical unlocking, optionally with pneumatic unlocking (PN-kit)
- ▶ Safety switch in off position
- ▶ Can be used as horizontal transverse

Note:

- ▶ The length of the belt section (l_{BS}) is the passage width plus 500 mm
- ▶ The total required space of the LG 2/H is the passage width plus 535 mm

The LG 2/H lift gate provides access or passage to the inner spaces of a belt section (BS). Manually tilting the belt section can open it from 0° to 85° or can close it from 85°

to 0°. The required effort is reduced by the support provided by a gas pressure spring.

Accessories

Required accessories

- ▶ 1x BS 2 belt section, see p. 3-6, or conveyor unit
- ▶ 2x SZ 2 leg set, see p. 6-6
- ▶ 2x 4 45x60 section profile, see p. 3-227
- ▶ 16x 45x45 bracket, see p. 3-227
- ▶ 2x foundation bracket, see p. 3-226 and 6-25

Delivery note

Scope of delivery

- ▶ Mounting kit with gas pressure springs, attachment kit, locking and safety switch

Recommended accessories

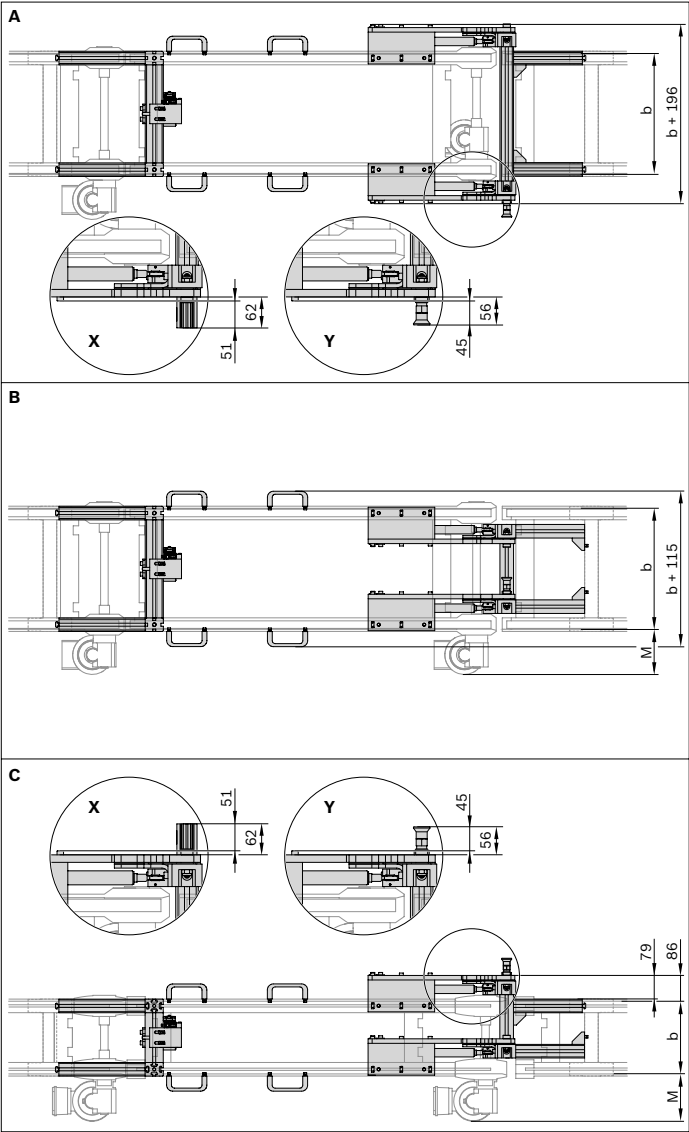
- ▶ PN mounting kit, see p. 3-227

Condition on delivery

- ▶ Not assembled

Overall width of the different lift gate assembly variants

Lift gate interfering contours



358 734-20

The total width results from the belt section width (b), the motor width (M) and other interfering contours (e.g. locking bolts for unlocking, etc.). The requirements for other interfering contours are specified in the dimension drawings on the left. In addition, the workpiece pallet width need not be taken into account.

Overall width/obtruding parts

	Belt section	M (mm)
B	BS 2	154.0
	BS 2/C-100	158.5
	BS 2/R-300	158.5
	ST 2/C-H	158.5
	ST 2/R-H	158.5
C	BS 2	154.0
	BS 2/C-100	158.5
	BS 2/R-300	158.5
	ST 2/C-H	158.5
	ST 2/R-H	158.5

Selection of the LG 2/H mounting kit for the belt section type

- ▶ 1. Select the appropriate table for your belt section type.
- ▶ 2. Determine the LG 2/H mounting kit reference number, which can be worked out from the workpiece pallet width b_{WT} and the feed width ($A = l_{BS} - 500$)

- ▶ 3. Use this reference number from the “LG 2/H mounting kit” table to identify the correct mounting kit (see p. 4)

Note:

- ▶ The length of the belt section (l_{BS}) is the passage width plus 500 mm
- ▶ The total required space of the LG 2/H is the passage width plus 535 mm

BS2

Passage width A	Width of workpiece pallet b_{WT}								
	160	240	320	400	480	640	800	1040	1200
600	x ¹⁾	1	1	1	1	1	1	1	1
700	x ¹⁾	1	1	1	1	1	1	1	1
800	x ¹⁾	1	1	1	1	1	1	1	1
900	x ¹⁾	1	1	1	1	1	1	1	1
1000	x ¹⁾	1	1	1	1	1	2	2	2
1100	x ¹⁾	1	1	1	1	2	2	2	2
1200	x ¹⁾	1	1	2	2	2	2	2	2
1300	x ¹⁾	2	2	2	2	2	2	2	2
1400	x ¹⁾	2	2	2	2	2	2	2	2
1500	x ¹⁾	2	2	2	2	2	2	2	2
1600	x ¹⁾	2	2	2	2	2	2	3	3
1700	x ¹⁾	2	2	2	2	3	3	3	3
1800	x ¹⁾	2	2	3	3	3	3	3	3

x¹⁾ Mounting not possible

BS2 C-100

Passage width A	Width of workpiece pallet b_{WT}								
	160	240	320	400	480	640	800	1040	1200
600	x ¹⁾	1	1	2	2	2	2	2	2
700	x ¹⁾	2	2	2	2	2	2	2	2
800	x ¹⁾	2	2	2	2	2	2	2	2
900	x ¹⁾	2	2	2	2	2	3	3	3
1000	x ¹⁾	2	2	2	3	3	3	3	3
1100	x ¹⁾	3	3	3	3	3	3	3	3
1200	x ¹⁾	3	3	3	3	3	3	3	3
1300	x ¹⁾	3	3	3	3	3	4	4	4
1400	x ¹⁾	3	3	3	4	4	4	5	5
1500	x ¹⁾	4	4	4	4	5	5	5	5
1600	x ¹⁾	4	4	4	5	5	5	5	5
1700	x ¹⁾	5	5	5	5	5	5	5	5
1800	x ¹⁾	5	5	5	5	5	6	6	6

x¹⁾ Mounting not possible

BS2 R-300 ks

Passage width A	Width of workpiece pallet b_{WT}								
	160	240	320	400	480	640	800	1040	1200
600	x ¹⁾	2	2	2	2	2	2	3	3
700	x ¹⁾	2	2	2	2	2	3	3	3
800	x ¹⁾	2	2	2	2	3	3	3	3
900	x ¹⁾	2	2	2	3	3	3	3	3
1000	x ¹⁾	3	3	3	3	3	3	4	4
1100	x ¹⁾	3	3	3	3	3	4	4	4
1200	x ¹⁾	3	3	3	3	4	4	5	5
1300	x ¹⁾	4	4	4	4	4	5	5	5
1400	x ¹⁾	4	4	4	4	5	5	5	5
1500	x ¹⁾	4	4	5	5	5	5	5	5
1600	x ¹⁾	5	5	5	5	5	5	6	6
1700	x ¹⁾	5	5	5	5	6	6	6	6
1800	x ¹⁾	5	6	6	6	6	6	6	6

x¹⁾ Mounting not possible

BS2 R-300 st

Passage width A	Width of workpiece pallet b_{WT}								
	160	240	320	400	480	640	800	1040	1200
600	x ¹⁾	2	2	2	2	2	3	3	3
700	x ¹⁾	2	2	2	2	3	3	3	3
800	x ¹⁾	3	3	3	3	3	3	3	3
900	x ¹⁾	3	3	3	3	3	3	4	4
1000	x ¹⁾	3	3	3	3	3	4	4	4
1100	x ¹⁾	3	3	3	4	4	4	5	5
1200	x ¹⁾	4	4	4	4	4	5	5	5
1300	x ¹⁾	4	4	4	5	5	5	5	5
1400	x ¹⁾	5	5	5	5	5	5	5	5
1500	x ¹⁾	5	5	5	5	5	5	6	6
1600	x ¹⁾	5	5	5	5	5	6	6	6
1700	x ¹⁾	5	6	6	6	6	6	6	6
1800	x ¹⁾	6	6	6	6	6	6	6	6

x¹⁾ Mounting not possible

Conveyor unit

ST 2/C-H + AS 2/C-100 + UM 2/C-60

Passage width A	Width of workpiece pallet b_{WT}									
	160	240	320	400	480	640	800	1040	1200	
600	x ¹⁾	2	2	3	3	3	3	3	3	
700	x ¹⁾	3	3	3	3	3	3	3	4	
800	x ¹⁾	3	3	3	3	3	4	4	4	
900	x ¹⁾	3	3	3	4	4	4	4	4	
1000	x ¹⁾	4	4	4	4	4	5	5	5	
1100	x ¹⁾	4	4	5	5	5	5	5	5	
1200	x ¹⁾	5	5	5	5	5	5	5	5	
1300	x ¹⁾	5	5	5	5	5	5	5	6	
1400	x ¹⁾	5	5	5	5	6	6	6	6	
1500	x ¹⁾	5	6	6	6	6	6	6	6	
1600	x ¹⁾	6	6	6	6	6	6	6	7	
1700	x ¹⁾	6	6	6	6	7	7	7	7	
1800	x ¹⁾	6	6	6	6	7	7	7	7	

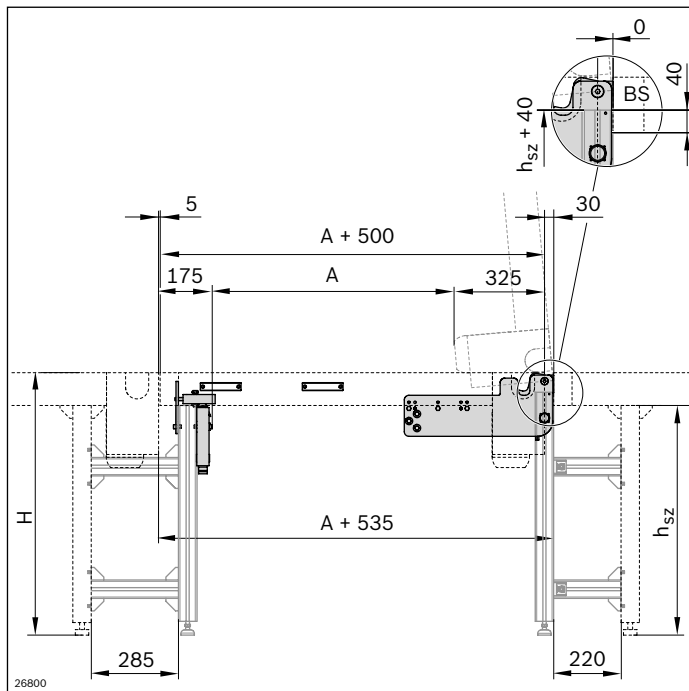
x¹⁾ Mounting not possible

Conveyor unit

ST 2/R-H + AS 2/R-300 + UM 2/R-60 (st)

Passage width A	Width of workpiece pallet b_{WT}									
	160	240	320	400	480	640	800	1040	1200	
600	x ¹⁾	2	3	3	3	3	3	3	3	
700	x ¹⁾	3	3	3	3	3	3	4	4	
800	x ¹⁾	3	3	3	3	4	4	4	4	
900	x ¹⁾	3	3	4	4	4	4	4	4	
1000	x ¹⁾	4	4	4	4	5	5	5	5	
1100	x ¹⁾	4	5	5	5	5	5	5	5	
1200	x ¹⁾	5	5	5	5	5	5	5	5	
1300	x ¹⁾	5	5	5	5	5	5	6	6	
1400	x ¹⁾	5	5	5	6	6	6	6	6	
1500	x ¹⁾	6	6	6	6	6	6	6	6	
1600	x ¹⁾	6	6	6	6	6	6	7	7	
1700	x ¹⁾	6	6	6	7	7	7	7	7	
1800	x ¹⁾	6	6	6	7	7	7	7	7	

x¹⁾ Mounting not possible



LG 2/H mounting kit

- Determine the LG 2/H mounting kit reference number using the tables and the description on pages 2 and 3. The reference number is also the mounting kit number. For example, if the reference number is 2, the mounting kit number is equal to 2

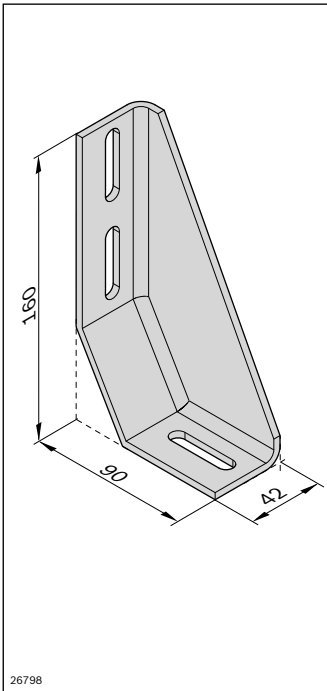
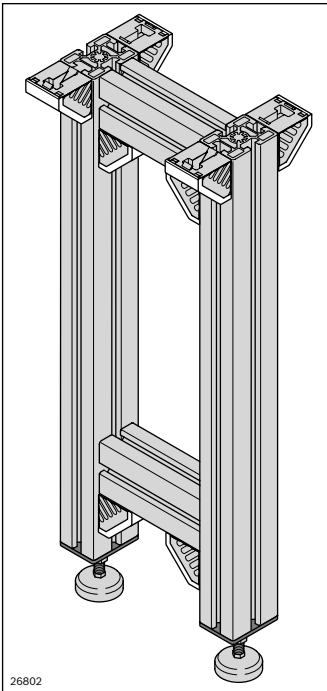
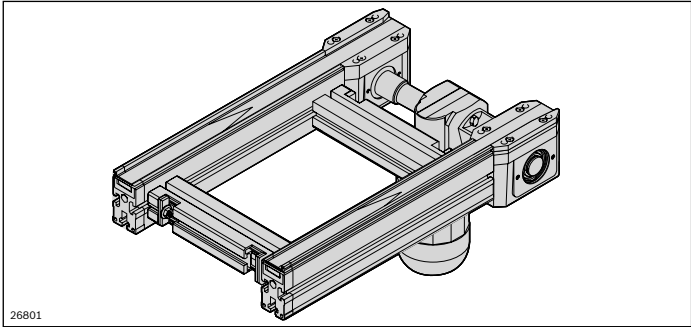
Required accessories:

- 1x BS 2 belt section, see p. 3-6, or conveyor unit
- 2x SZ 2 leg set, see p. 6-6
- 2x 4 45x60 section profile, see p. 3-227
- 16x 45x45 bracket, see p. 3-227
- 2x foundation bracket set, see p. 3-226

Recommended accessories:

- PN mounting kit for unlocking in the top end position

Mounting kit LG 2/H	Packaging unit	Material number
1	1	3842549511
2	1	3842549512
3	1	3842549513
4	1	3842549514
5	1	3842549515
6	1	3842549516
7	1	3842549517



Belt section of $l = A + 500$
Select the length (l) of the belt section (BS).
 $l = A + 500$ mm, according to the ambient system:

- ▶ BS 2, see p. 3-6
- ▶ BS 2/C-100, see p. 3-55
- ▶ BS 2/R-300 plastic chain and steel chain, see p. 3-120
- ▶ Conveyor unit: ST 2/R-H (see p. 3-158), AS 2/R-300 (see p. 3-134), UM 2/R-60 (see p. 3-146)
- ▶ Conveyor unit: ST 2/C-H (see p. 3-91), AS 2/C-100 (see p. 3-68), UM 2/C-60 (see p. 3-80)

To construct a lift gate you need:

- one SZ2 (3842996320) leg set with $b = b_{\text{section}}$, and transportation height (H)
- and one SZ2 leg set for motor mounting left, right or center

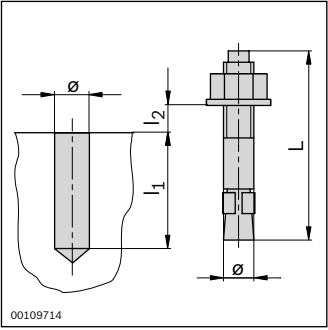
SZ 2 leg sets		Material number
$b < 320$	$b = b_{\text{section}}$ $AO^{1)} = 60$ mm	3842996320
$b \geq 320$, MA = L; R	$b_{\text{SZ}} = b_{\text{WT}} - 105$, $AO^{1)} = 60$ mm	3842996320
$b \geq 320$, MA = M	$b_{\text{SZ}} = b_{\text{WT}} + 135$, $AO^{1)} = 60$ mm	3842996320

¹⁾ AO = installation location (AO)

Ordering information

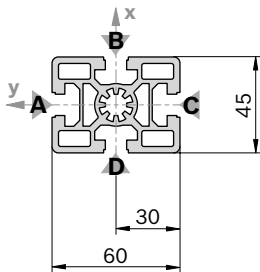
Product designation	Packaging unit	Material number
Foundation bracket	20	3842146815

Scope of delivery: Incl. mounting material

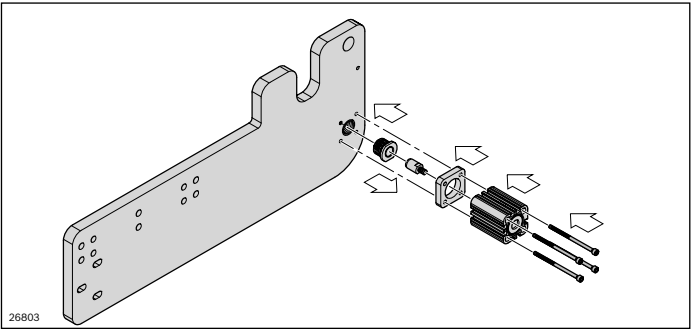
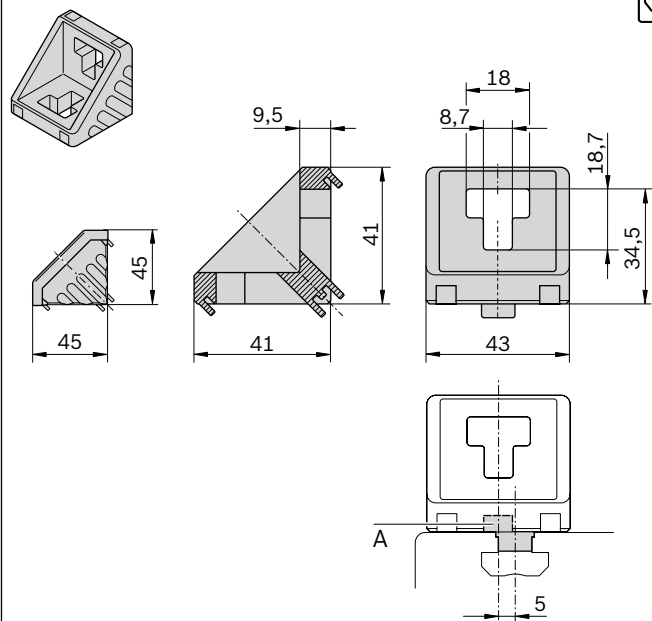


45x60

A = 11,0 cm²
I_x = 37,2 cm⁴
I_y = 22,7 cm⁴
W_x = 12,4 cm³
W_y = 10,1 cm³
m = 3,0 kg/m



45/45



Ordering information

Product designation	Packaging unit	Material number
Anchor bolt	100	3842526560

Ordering information

Material number	3842990570
I (mm)	50 ... 5600
Packaging unit	1

Note: Determine the required length/number of section profiles up to the next leg set according to your needs.

Ordering information

Product designation	Packaging unit	Material number
Bracket 45/45, set	1	3842523561
Scope of delivery	Incl. mounting material	

Technical data

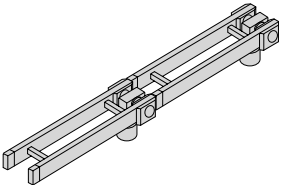
Material number	3842523561
Features	
ESD	yes
Dimensions	
Groove	10/10

Ordering information

Product designation	Packaging unit	Material number
PN mounting kit	1	3842549509

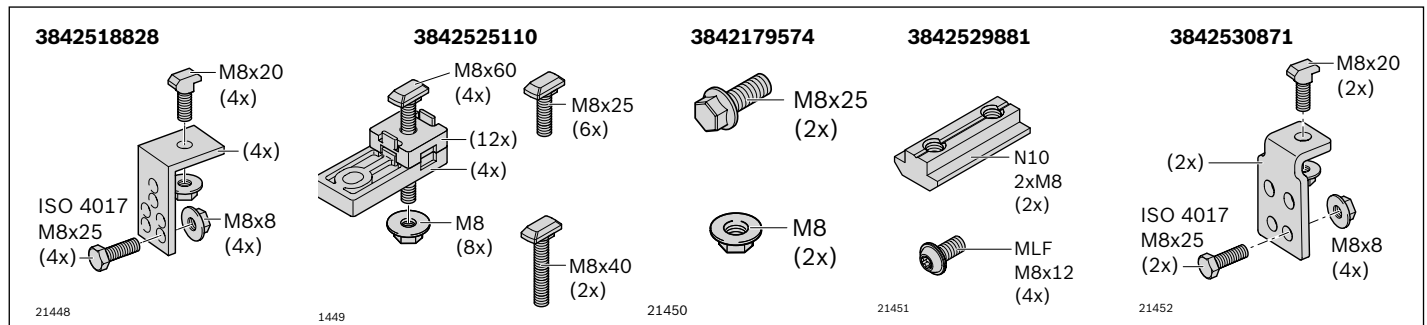
Connection kits for longitudinal conveyor

Used for area monitoring, accumulation stop gate and
 workpiece pallet recognition. For connecting the TS 2plus
 modules on a longitudinal conveyor at the ends (end-to-end)

	Return unit (return side)						
	UM 2/B	UM 2/C-60 UM 2/C-170 UM 2/R-60 UM 2/R-170	BS 2	BS 2/C BS 2/C-H BS 2/R BS 2/R-H	KE 2	KU 2	CU 2
Drive Unit (drive side)							
AS 2/B-150, AS 2/-250	3842179574 ¹⁾	3842530871	3842518828	3842530871	3842518828	3842530871	3842518828
AS 2/C-100, AS 2/C-250, KU 2/90, KU 2/180	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
AS 2/C-400, AS 2/C-700	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
AS 2/R-300, AS 2/R-700	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
AS 2/R-1200, AS 2/R-2200	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
BS 2	3842518828	3842525110	3842525110	3842525110	3842525110	3842525110	3842525110
BS 2/C BS 2/R	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
BS 2/C-H BS 2/R-H	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
KE 2/90 KE 2/180	3842518828	— ²⁾	3842525110	— ²⁾	3842525110	— ²⁾	3842525110

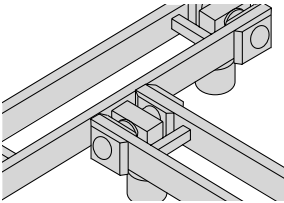
¹⁾ Included in the UM 2/B scope of delivery

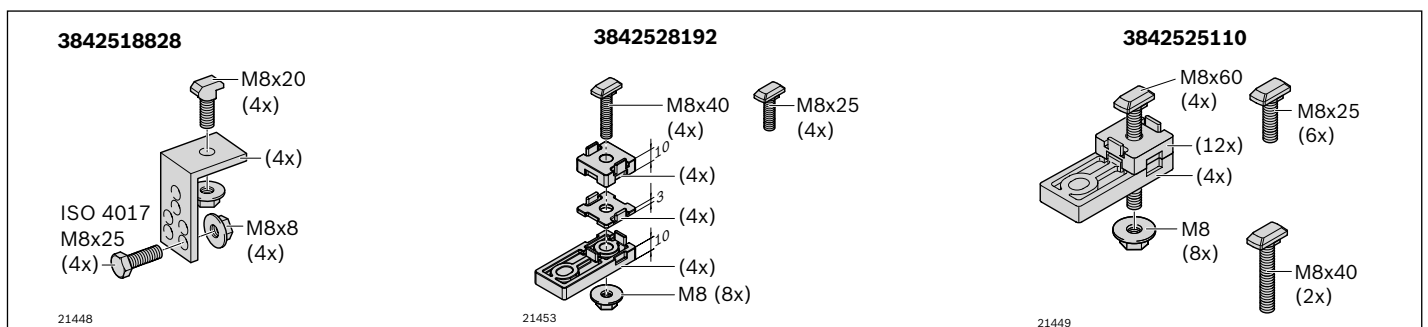
²⁾ Connection not permitted

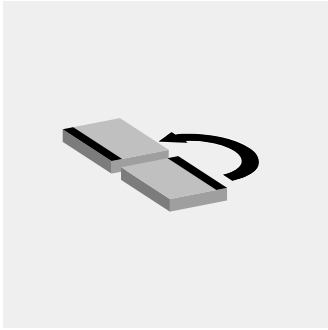


Connection kits for transverse conveyor

Used for area monitoring, accumulation stop gate and workpiece pallet recognition. For connecting the TS 2plus module on a transverse conveyor laterally (end-to-section), the following are additionally required: Lift transverse unit

	Longitudinal conveyor	
	ST 2/B SP 2/B ST 2/B-100 ST 2/C-100 ST 2/R-100	ST 2/C-H ST 2/R-H ST 2/R-V
Transverse conveyor		
AS 2/B-150, AS 2/B-250	3842518828	–
AS 2/C-100, AS 2/C-250	3842528192	3842528192
AS 2/C-400, AS 2/C-700	3842518828	3842518828
AS 2/R-300, AS 2/R-700	3842528 192	3842528192
AS 2/R-1200, AS 2/R-2200	3842518828	3842518828
UM 2/B	3842518828	–
UM 2/C-60, UM 2/C-170, UM 2/R-60, UM 2/R-170,	3842528192	3842528192
BS 2	3842525110	–
BS 2/C (drive side and return side) BS 2/R (drive side and return side)	3842528192	3842528192
BS 2/C-H (drive side) BS 2/R-H (drive side)	3842518828	3842518828
BS 2/C-H (return side) BS 2/R-H (return side)	3842528192	3842528192
KU 2 (drive side and return side)	3842528192	3842528192



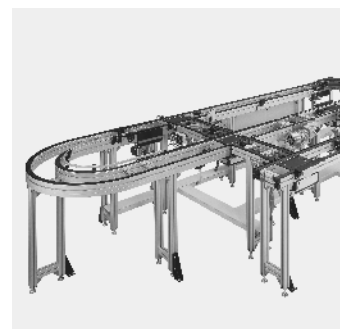


Curves

4

Selection of curves

4-2



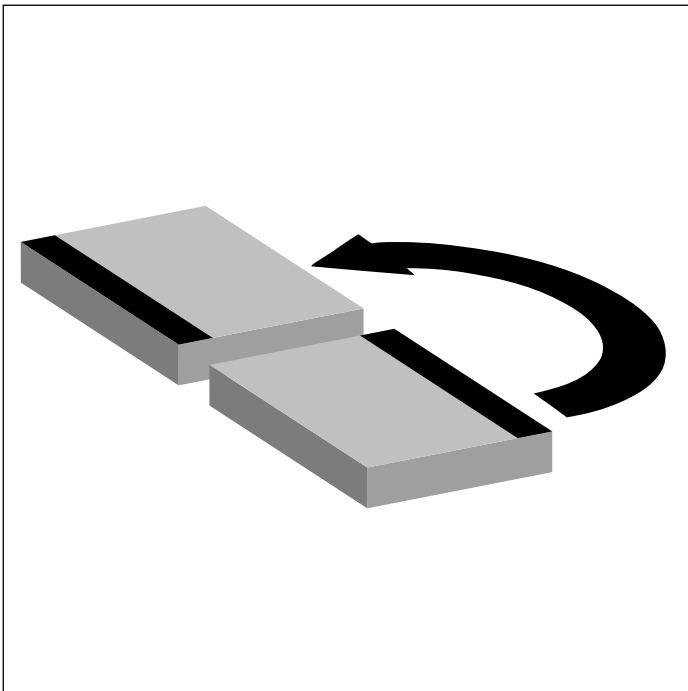
Selection of curves

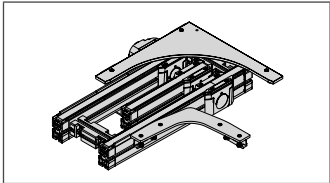
Curves

Curves are used to change the direction of a workpiece pallet and to keep the orientation of the parts travelling (the front is always the front). The pneumatic and electrical installation and control effort for these modules is minimal.

Connection kits

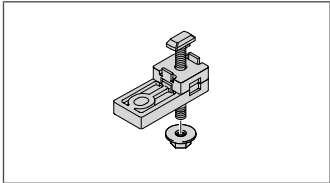
They are used for connecting curves and curve arcs.





Curves

4-4

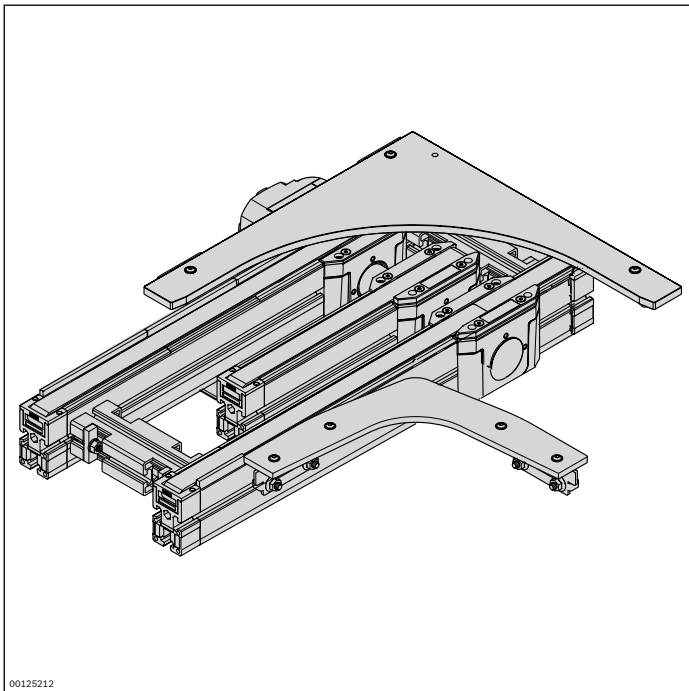


Connection kits for longitudinal conveyor

4-40

Curves

The following products are available for configuration for the curves:



CU 2/90 curve

Used with toothed belt conveyor medium and without an additional drive.

KE curves

Used with round belt conveyor medium in KE 2/90 and KE 2/180 versions with and without own drive.

Can be used for combining the longitudinal section with belts or toothed belts.

KU curves

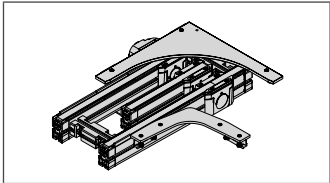
Used with flat top chain conveyor medium in KU 2/90 and KU 2/180 versions with and without own drive and conveyor medium.

KU curve arc

The construction principle of KU 2/O-90 and KU 2/O-180 curves with the conveyor medium flat top chain allows smooth integration into longer conveyor units driven by a single drive.

Note:

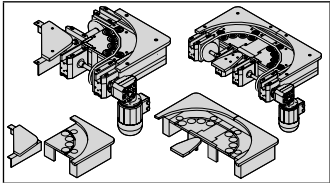
- ▶ For higher drive loads with integration of sections and curves, please consider the layout design
- ▶ The use of an automatic lubrication unit for curves with flat top chains is highly recommended



CU 2/90 curve



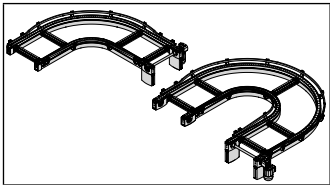
4-6



KE 2/..., KE 2/O-... curves



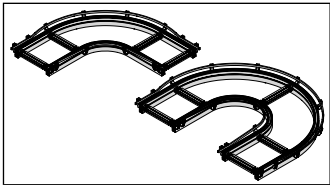
4-9



KU 2/... curves



4-24

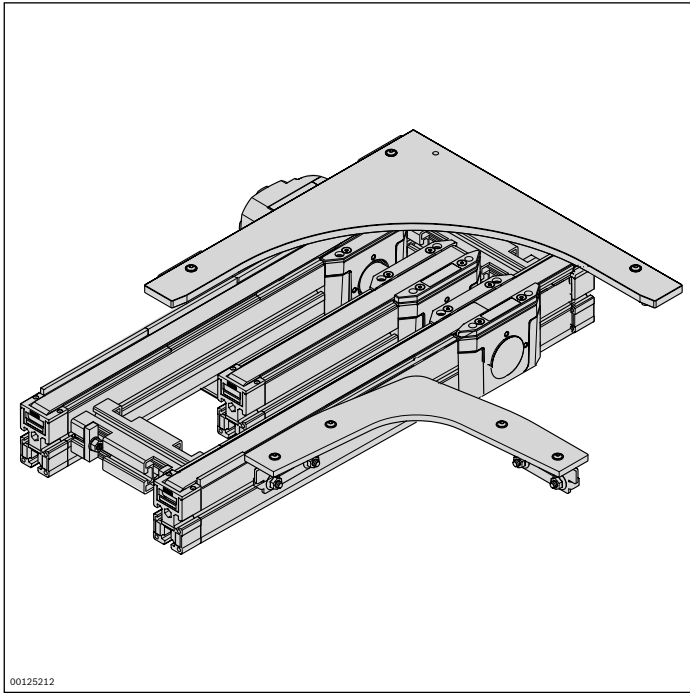
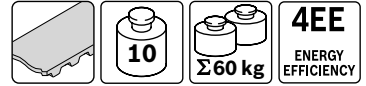


KU 2/O-... curve arcs



4-32

CU 2/90 curve



- ▶ 90° curve conveying of the workpiece pallet
- ▶ With no additional drive for the curve function
- ▶ Total weight of workpiece pallets up to 10 kg
- ▶ Conveyor medium: Toothed belts in ESD version
- ▶ Curve in anti-static version
- ▶ Can be combined with WT 2 and WT 2/F

Note: Accumulation operation not permitted in the curve.

The drive for CU 2/90 curves with the toothed belt conveyor medium is provided by the belt section.

Accessories

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Accumulation pressure control, e.g. with WI/M rocker, see p. 8-120

Delivery note

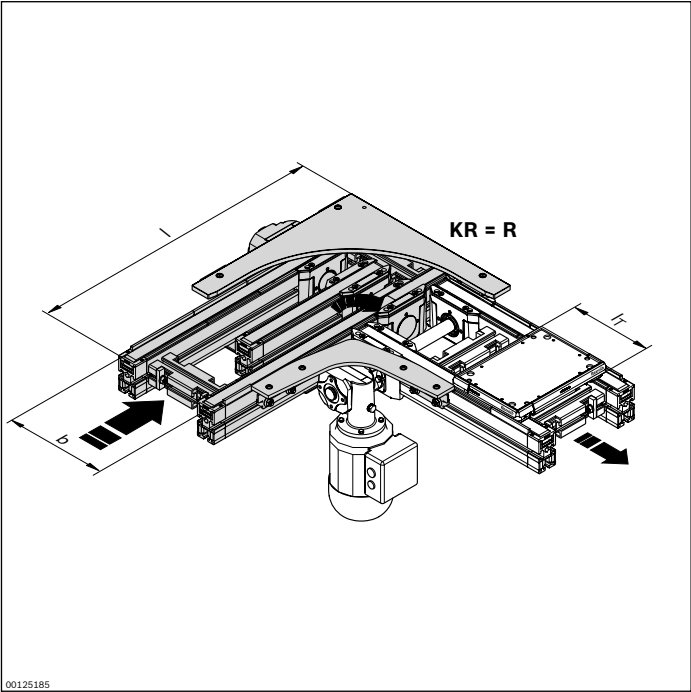
Scope of delivery

- ▶ Belt section
- ▶ Inner guide
- ▶ Outer guide
- ▶ Fastening material
- ▶ Connection kit 3842538259

Condition on delivery

- ▶ Partially assembled

Ordering information

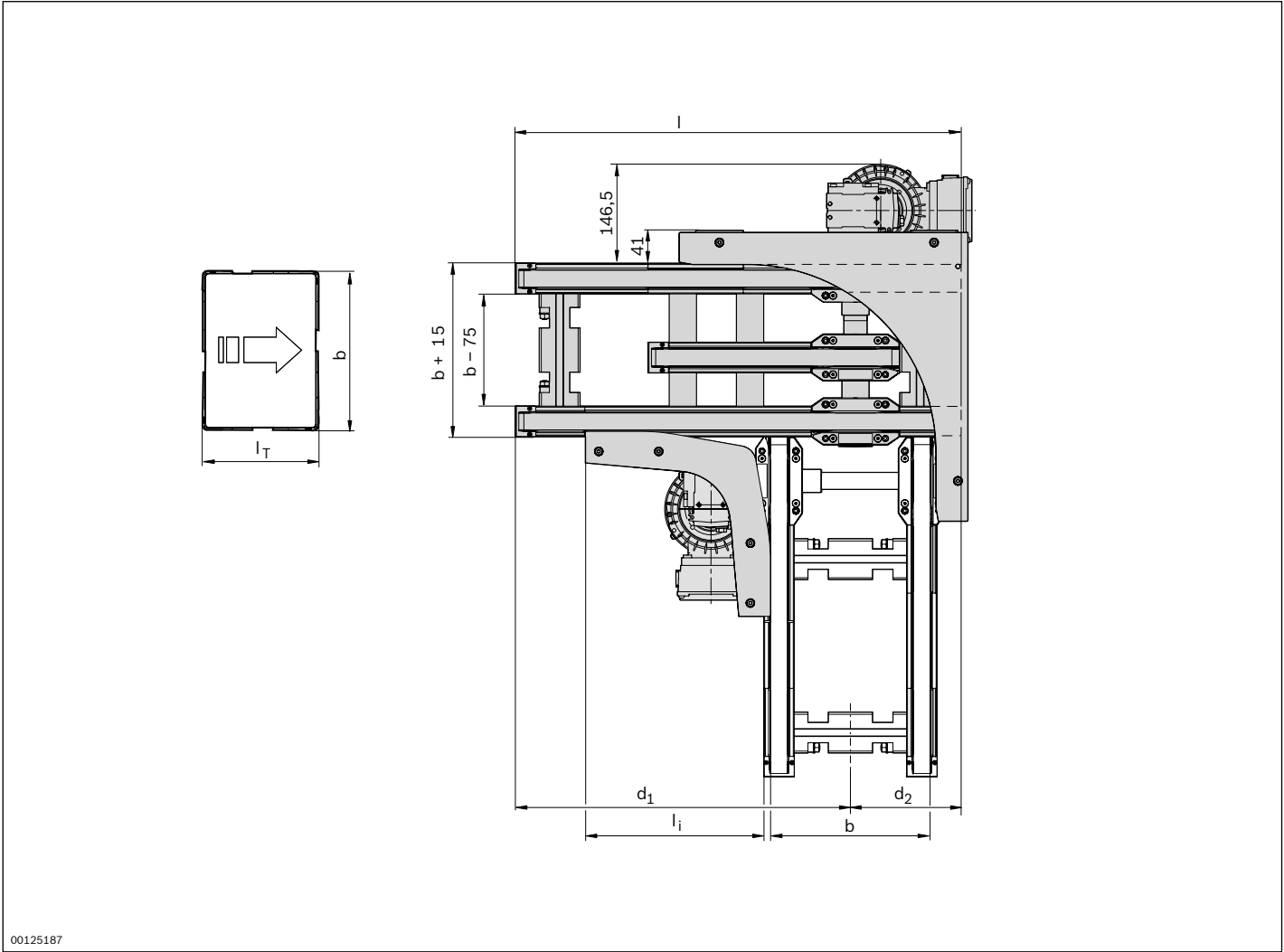


Material number		3842998288
b (mm)	Track width in direction of transport	240; 320
l _T (mm)	Length in direction of transport	240; 320; 400
l (mm)	Length	721 ... 6000
b x l _T x l (mm x mm x mm)	Combination options	240 x 240 x 721 ... 6000 240 x 320 x 801 ... 6000 320 x 320 x 881 ... 6000 320 x 400 x 961 ... 6000
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
KR	Curve direction R = right L = left	R; L

Technical data

Material number		3842998288
Load		
Max. section load in accumulation operation before the curve	kg	60
Max. total weight of workpiece pallet	m _G kg	10
Features		
ESD		yes

Dimensions

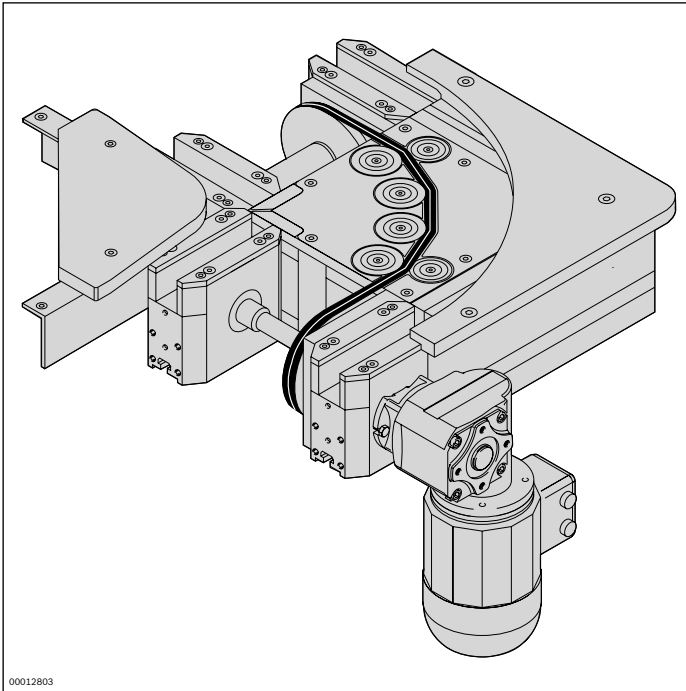


$d_2 = (b_T - 75) / 2 + 85$
 $d_1 = L - d_2$
 $L = d_1 + d_2 = d_1 + (b_T - 75) / 2 + 85$

b Track width in direction of transport
 l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Length L (mm)	Dimension d_1 (mm)	Dimension d_2 (mm)	Dimension l_i (mm)
240	240	721 ... 6000	553.5 ... 5832.5	167.5	270.5
240	320	801 ... 6000	633.5 ... 5832.5	167.5	285.5
320	320	881 ... 6000	673.5 ... 5792.5	207.5	285.5
320	400	961 ... 6000	753.5 ... 5792.5	207.5	350.5

KE 2/90 curve



- ▶ 90° curve conveying of the workpiece pallet
- ▶ Total weight of workpiece pallets up to 20 kg
- ▶ Conveyor medium: Round belt in ESD version
- ▶ Intended for grease-free and oil-free environments
- ▶ Can be combined with WT 2 and WT 2/F

Note: Accumulation operation not permitted.

The KE 2/... curves with conveyor medium, round belt, with own drive at curve end. Can be used for combining the

longitudinal section with belts or toothed belts.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 4-40
- ▶ SZ 2 leg sets/..., see p. 6-2

Delivery note

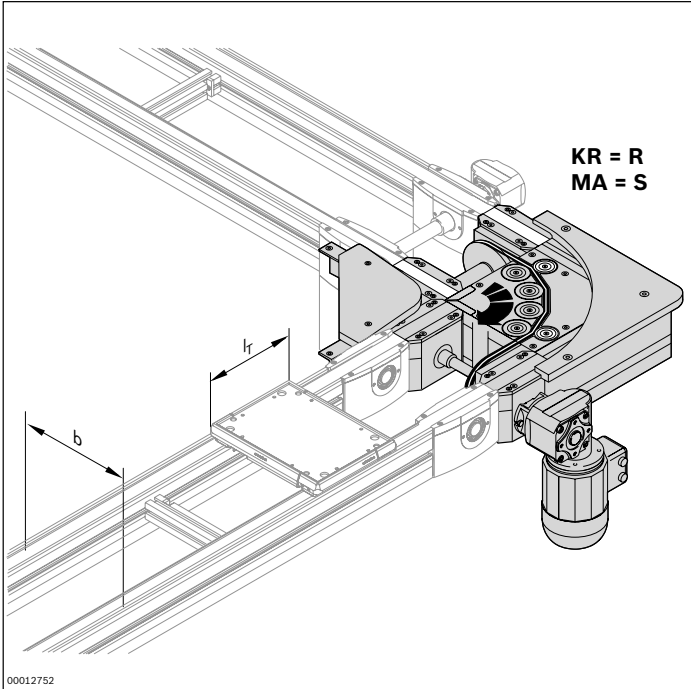
Scope of delivery

- ▶ Curve; complete with drive motor

Condition on delivery

- ▶ Partially assembled
- ▶ Inner guide and motor included

Ordering information



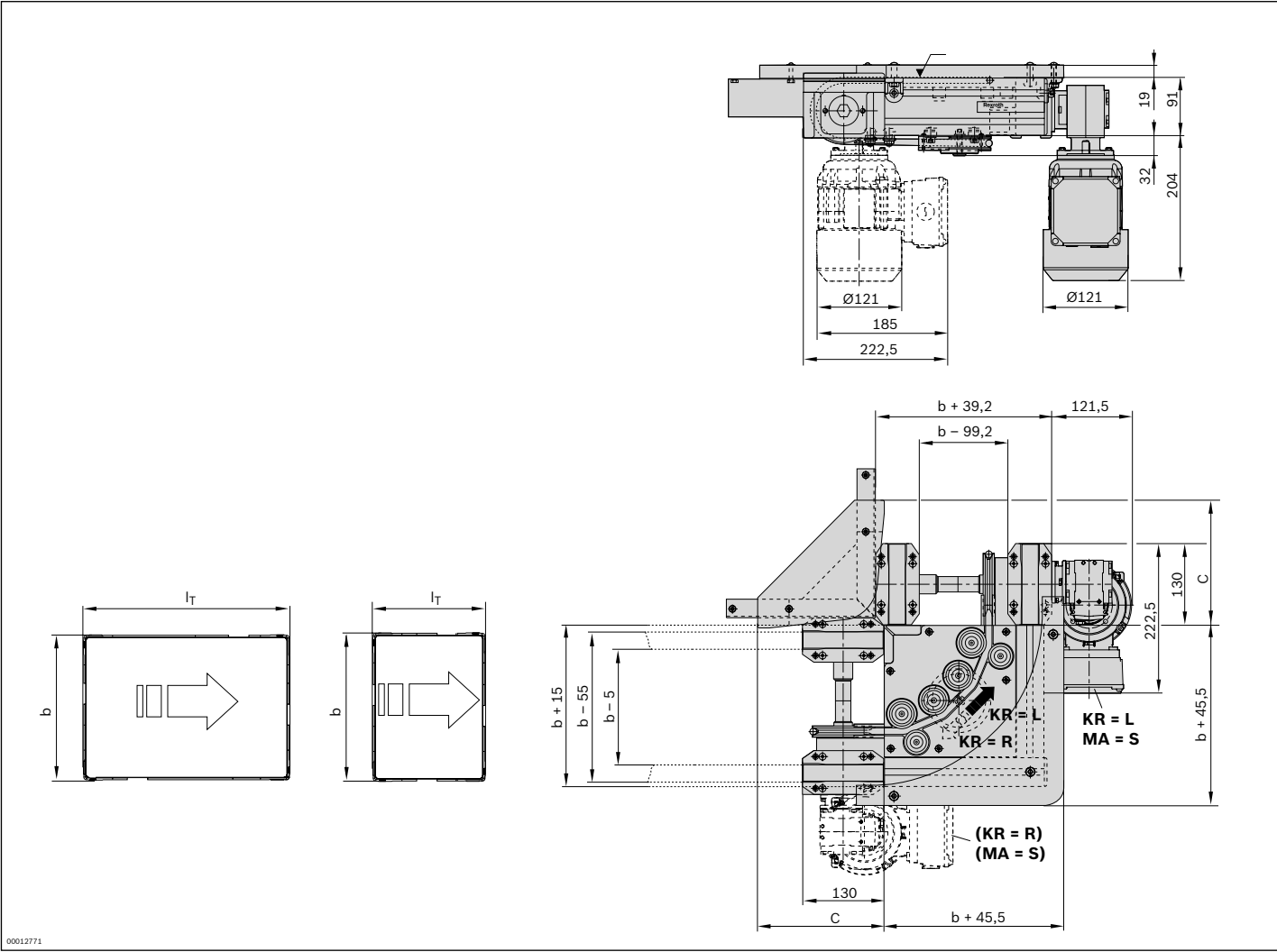
Material number		3842999727
b (mm)	Track width in direction of transport	160; 240; 320; 400
l_T (mm)	Length in direction of transport	160; 240; 320; 400
$w \times l_T$ (mm x mm)	Combination options	160 x 160; 240 x 160; 240; 320; 320 x 240; 320; 400 x 320; 400
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting M = center ¹⁾ S = side	M; S
KR	Curve direction R = right L = left	R; L

¹⁾ MA = M only for $b \geq 320$ mm

Technical data

Material number		3842999727
Load		
Max. total weight of workpiece pallet	m_G	kg 20
Features		
ESD		yes

Dimensions

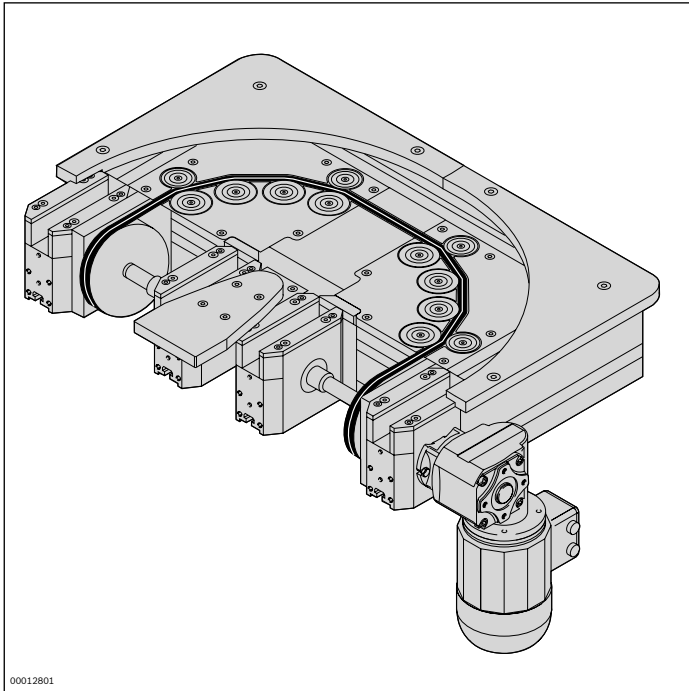


b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)
160	160	170
160	240	170
240	160	200
240	240	200
240	320	200
320	240	290
320	320	290
320	400	290
400	320	355
400	400	355

KE 2/180 curve



- ▶ 180° curve conveying of the workpiece pallet
- ▶ Curve module with own drive
- ▶ Total weight of workpiece pallets up to 20 kg
- ▶ Conveyor medium: Round belt in ESD version
- ▶ Intended for grease-free and oil-free environments
- ▶ Can be combined with WT 2 and WT 2/F

Note: Accumulation operation not permitted.

The KE 2/... curves with conveyor medium, round belt, with own drive at curve end. Can be used for combining the

longitudinal section with belts or toothed belts.

Accessories

Recommended accessories

- ▶ Connection kits, see p. 4-40
- ▶ SZ 2 leg sets/..., see p. 6-2

Delivery note

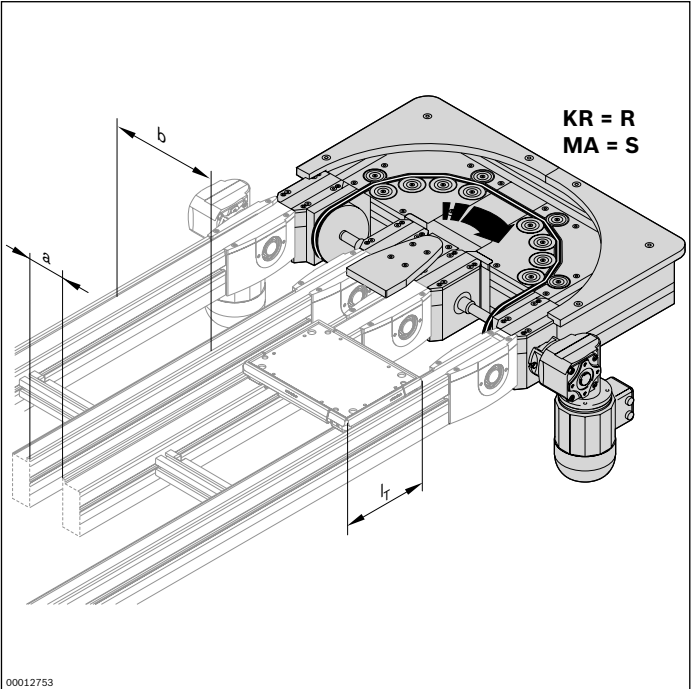
Scope of delivery

- ▶ Curve; complete with drive motor

Condition on delivery

- ▶ Partially assembled
- ▶ Inner guide and motor included

Ordering information



Material number		3842999728
b (mm)	Track width in direction of transport	160; 240; 320; 400
l _r (mm)	Length in direction of transport	160; 240; 320; 400
a (mm)	Distance between conveyors ¹⁾	90; 135
w x l _d (mm x mm)	Combination options	b x l _r 160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting M = center ²⁾ S = on the outside, on the side	M; S
KR	Curve direction R = right L = left	R; L

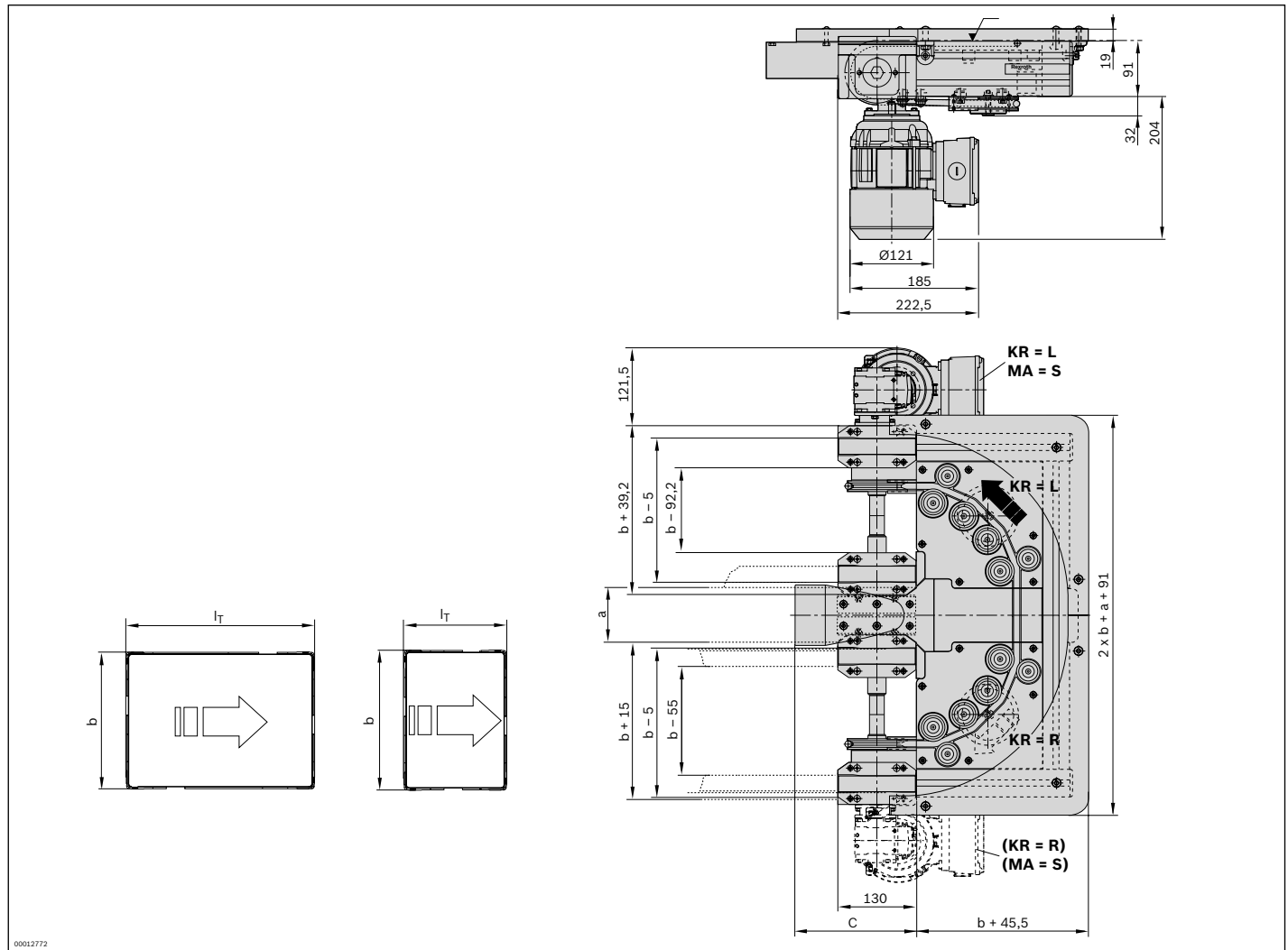
¹⁾ b x l_r is possible in all combinations

²⁾ MA = M only for b ≥ 320 mm

Technical data

Material number		3842999728
Load		
Max. total weight of workpiece pallet	m _G	kg 20
Features		
ESD		yes

Dimensions

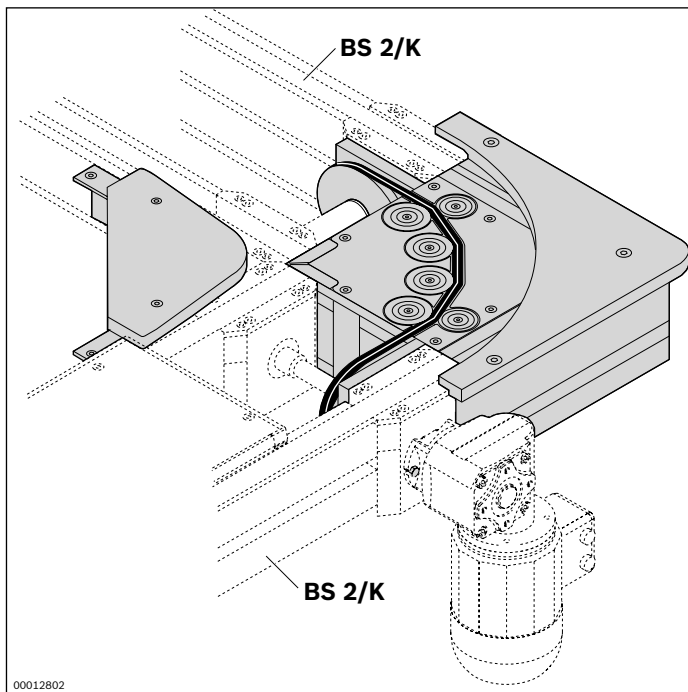


b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)	Distance between conveyors a (mm)
160	160	170	90; 135
160	240	170	90; 135
240	160	200	90; 135
240	240	200	90; 135
240	320	200	90; 135
320	240	290	90; 135
320	320	290	90; 135
320	400	290	90; 135
400	320	355	90; 135
400	400	355	90; 135

KE 2/O-90 curve



- ▶ 90° curve conveying of the workpiece pallet
- ▶ Suitable for combination with BS 2/K
- ▶ Curve without own drive
- ▶ Total weight of workpiece pallets up to 20 kg
- ▶ Conveyor medium: Round belt in ESD version
- ▶ Can be combined with WT 2 and WT 2/F

Note:

- ▶ Accumulation operation not permitted
- ▶ Drive by subsequent BS 2/K belt section (pulling operation)

In the KE 2/O... curves with round belt conveyor medium the drive is effected by the BS 2/K belt section in the infeed and outfeed sections.

Accessories

Required accessories

- ▶ 2x BS 2/K belt section, see p. 4-21

Delivery note

Scope of delivery

- ▶ Curve, complete with mounting hardware

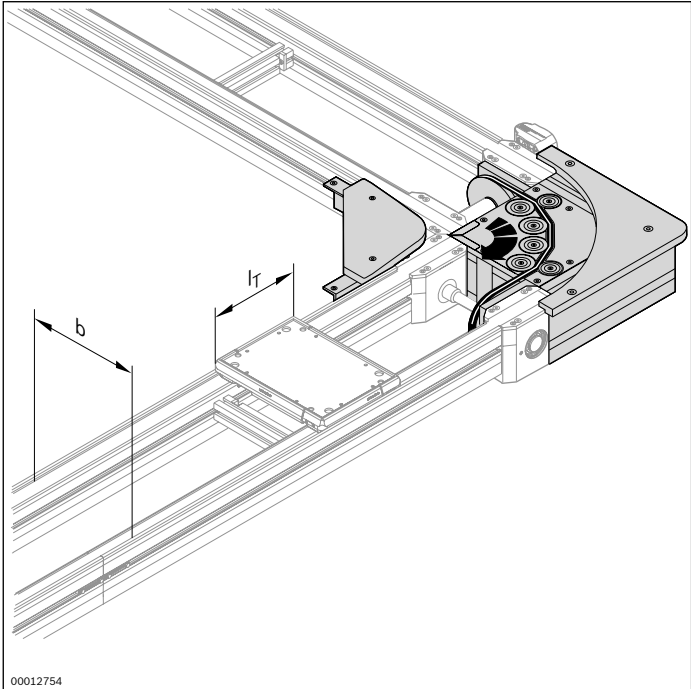
Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2

Condition on delivery

- ▶ Partially assembled
- ▶ Inner guide included

Ordering information

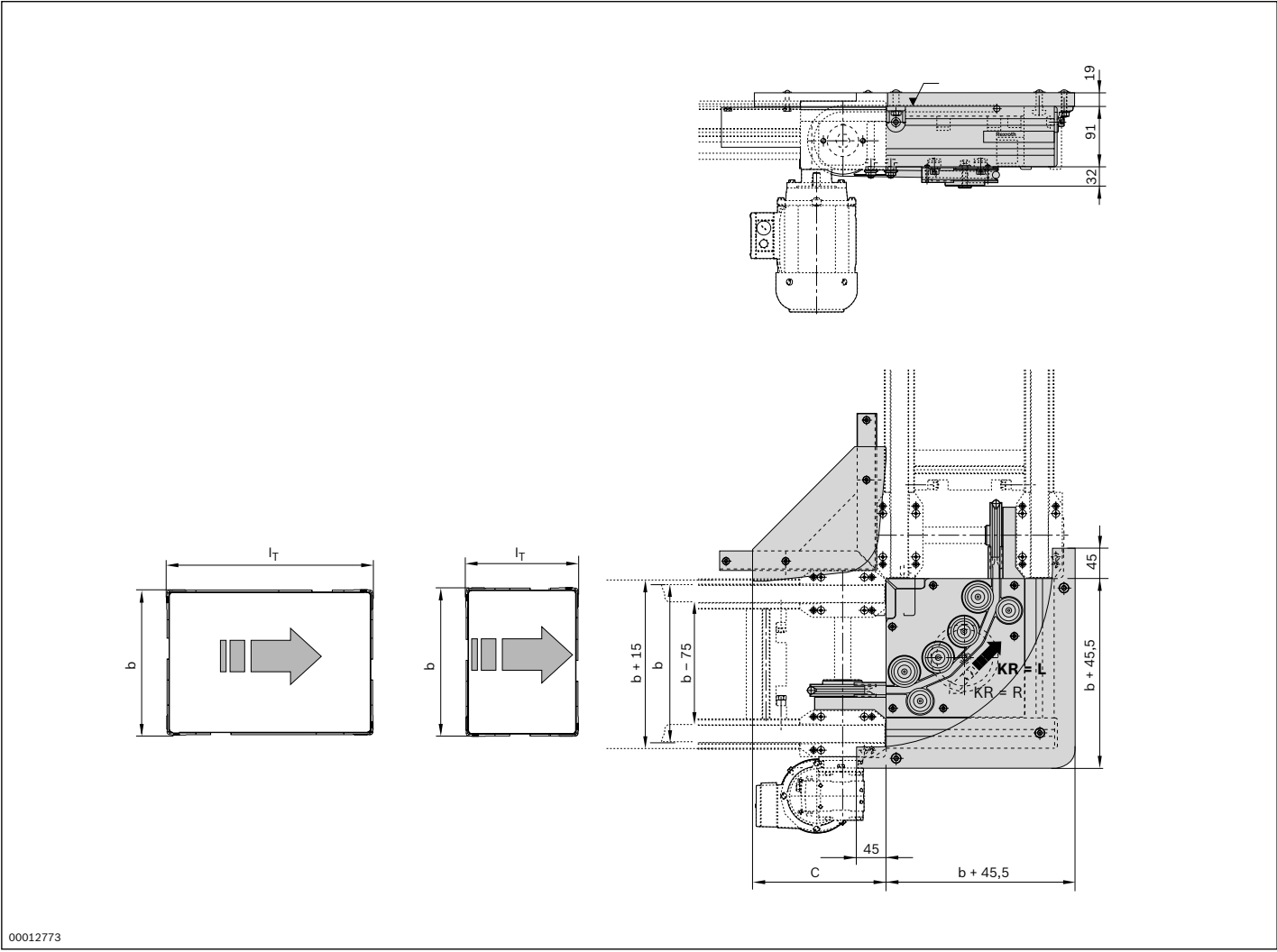


Material number		3842999725
b (mm)	Track width in direction of transport	160; 240; 320; 400
l _T (mm)	Length in direction of transport	160; 240; 320; 400
w x l _T (mm x mm)	Combination options	160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400

Technical data

Material number			3842999725
Load			
Max. total weight of workpiece pallet	m _G	kg	20
Features			
ESD			yes

Dimensions

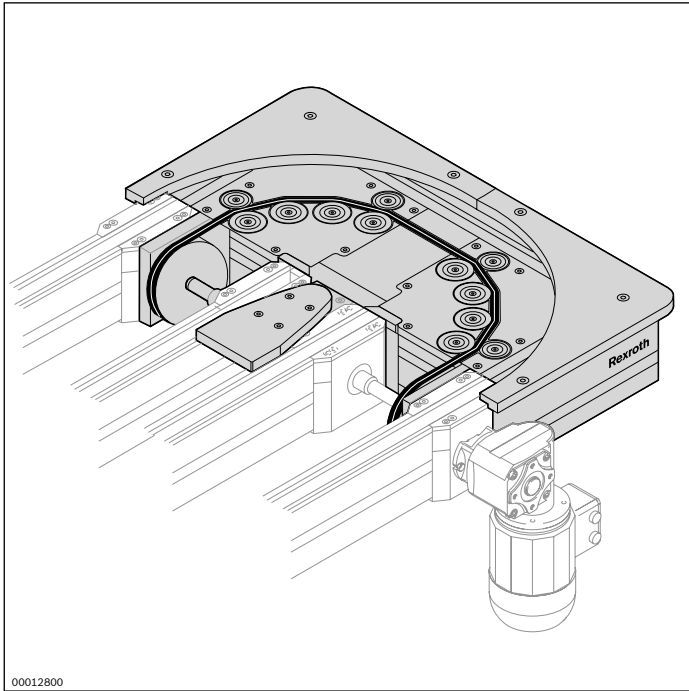


b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)
160	160	170
160	240	170
240	160	200
240	240	200
240	320	200
320	240	290
320	320	290
320	400	290
400	320	355
400	400	355

KE 2/O-180 curve



- ▶ 180° curve conveying of the workpiece pallet
- ▶ Suitable for combination with BS 2/K
- ▶ Curve module without own drive
- ▶ Total weight of workpiece pallets up to 20 kg
- ▶ Conveyor medium: Round belt in ESD version
- ▶ Can be combined with WT 2 and WT 2/F

Note:

- ▶ Accumulation operation not permitted
- ▶ Drive by subsequent BS 2/K belt section (pulling operation)

In the KE 2/O... curves with round belt conveyor medium the drive is effected by the BS 2/K belt section in the infeed and outfeed sections.

Accessories

Required accessories

- ▶ 2x BS 2/K belt section, see p. 4-21

Delivery note

Scope of delivery

- ▶ Curve, complete with mounting hardware

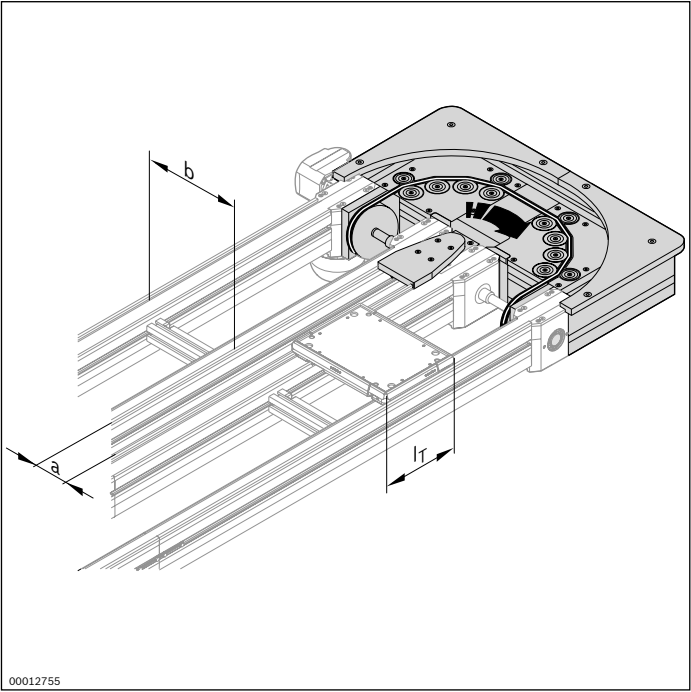
Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2

Condition on delivery

- ▶ Partially assembled
- ▶ Inner guide included

Ordering information



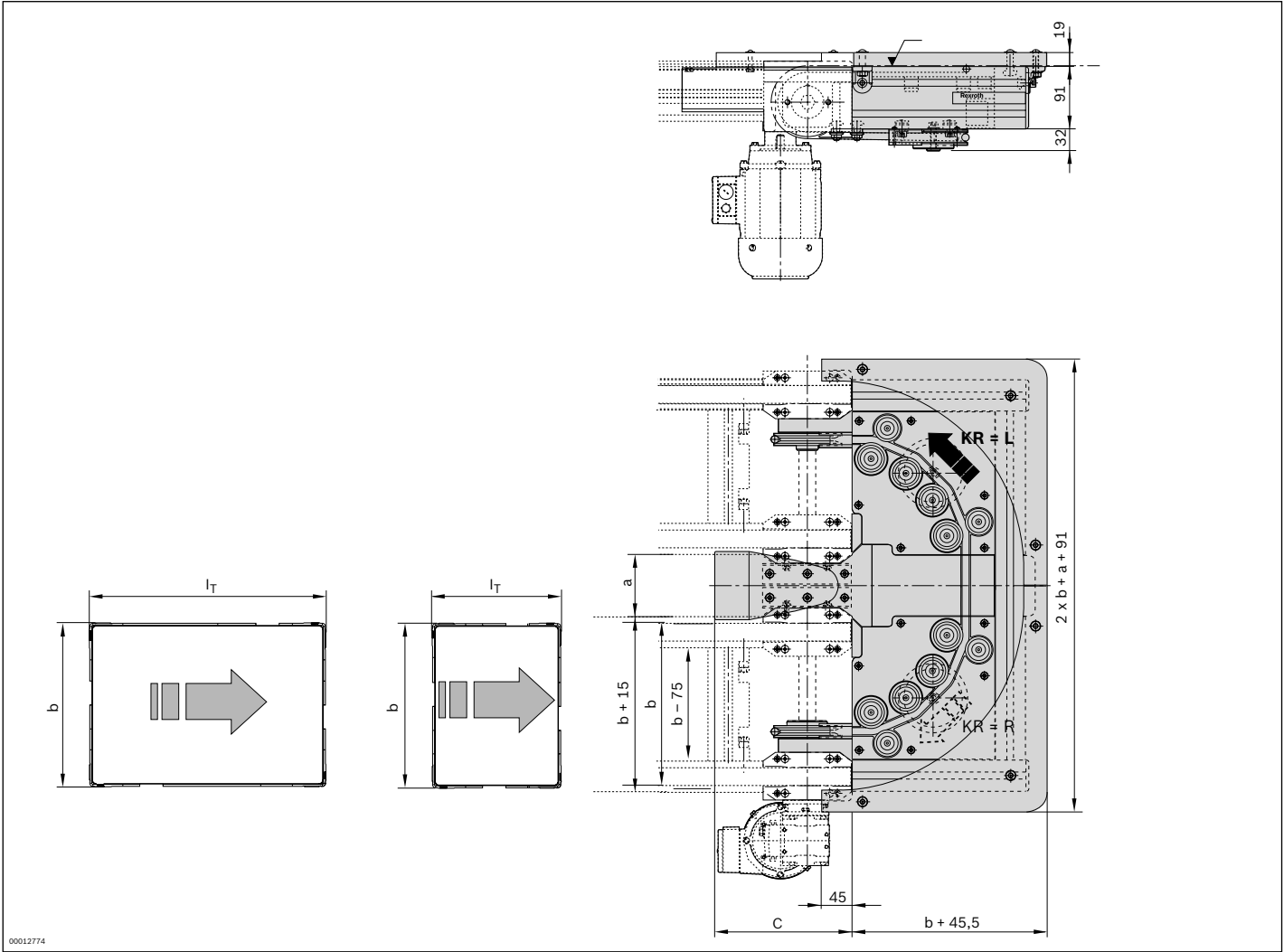
Material number		3842999726
b (mm)	Track width in direction of transport	160; 240; 320; 400
l _T (mm)	Length in direction of transport	160; 240; 320; 400
a (mm)	Distance between conveyors ¹⁾	90; 135
w x l _d (mm x mm)	Combination options	b x l _T 160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400

¹⁾ b x l_T is possible in all combinations

Technical data

Material number		3842999726
Load		
Max. total weight of workpiece pallet	m _G	kg 20
Features		
ESD		yes

Dimensions

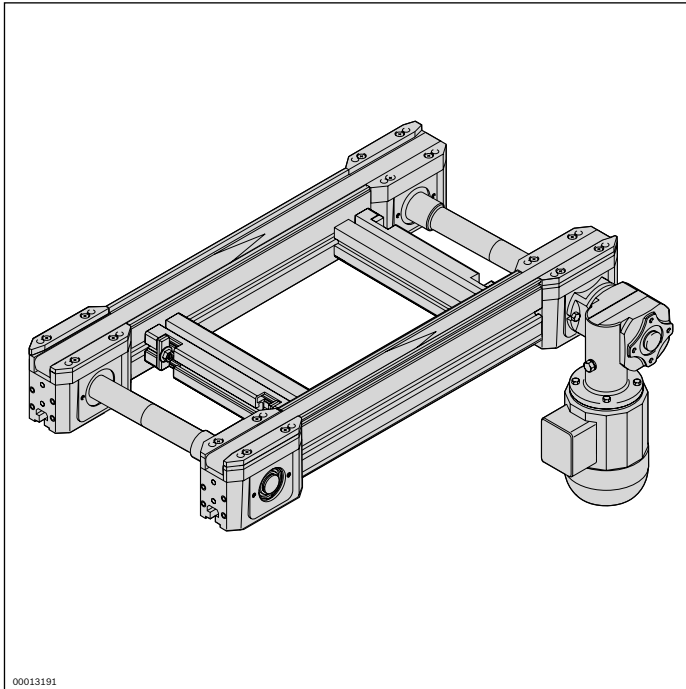


b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)	Distance between conveyors a (mm)
160	160	170	90; 135
160	240	170	90; 135
240	160	200	90; 135
240	240	200	90; 135
240	320	200	90; 135
320	240	290	90; 135
320	320	290	90; 135
320	400	290	90; 135
400	320	355	90; 135
400	400	355	90; 135

BS 2/K belt section



- ▶ To drive a KE 2/O... curve
- ▶ Conveyor medium: Toothed belt
- ▶ Max. permissible section load up to 60 kg in accumulation operation (incl. the driven curve section)
- ▶ Can be combined with WT 2 and WT 2/F

Note: Drive by subsequent BS 2/K belt section (pulling operation).

The BS 2/K belt section is a conveyor section that is ready for operation with conveyor medium toothed belts and own. It is used to drive the KE 2/O... curves and to

longitudinally convey workpiece pallets in the infeed and outfeed sections.

Delivery note

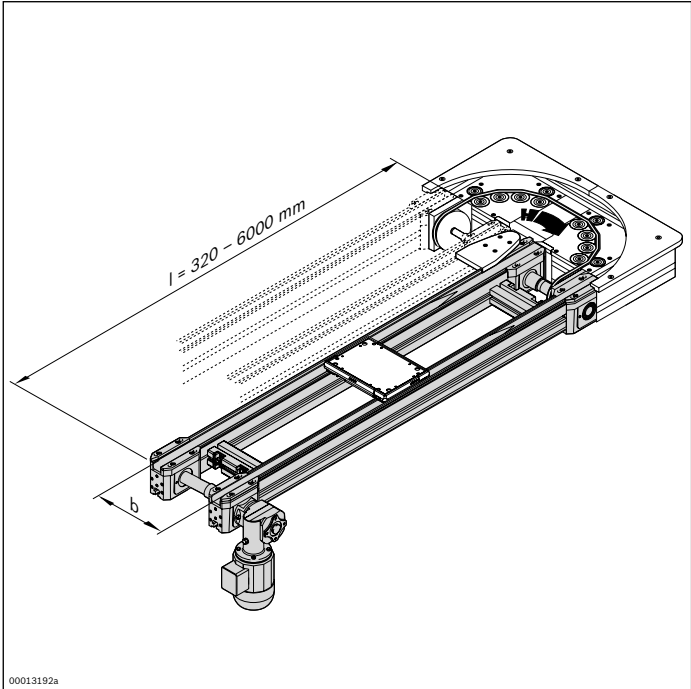
Scope of delivery

- ▶ Belt section, complete with drive motor

Condition on delivery

- ▶ Partially assembled
- ▶ Motor included

Ordering information



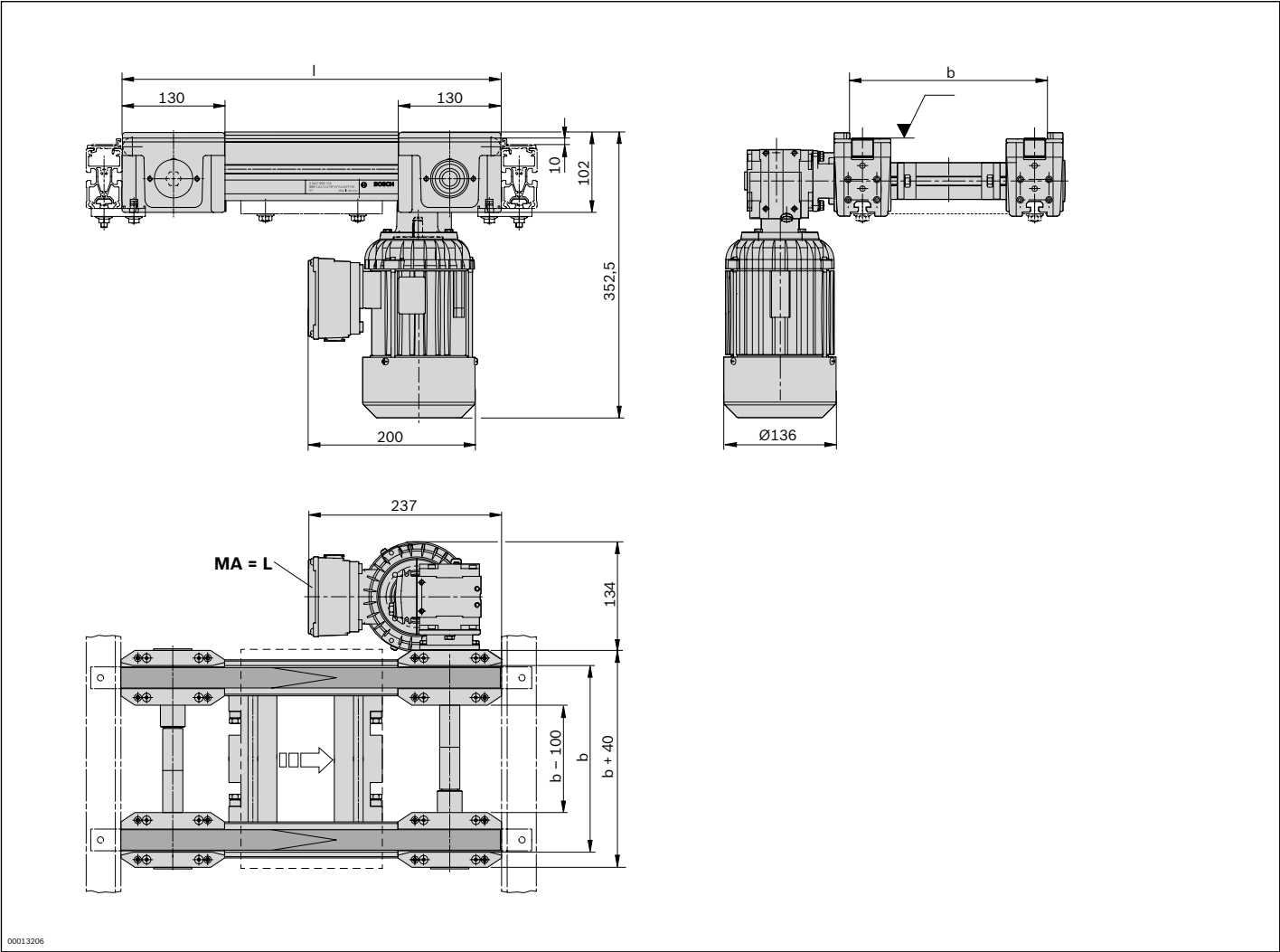
Material number		3842999715
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480
l (mm)	Length	320 ... 6000
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center ¹⁾	R; L; M)

¹⁾ MA = M only for b ≥ 320 mm

Technical data

Material number		3842999715
Load		
Max. section load in accumulation operation	kg	60
Features		
ESD		yes

Dimensions

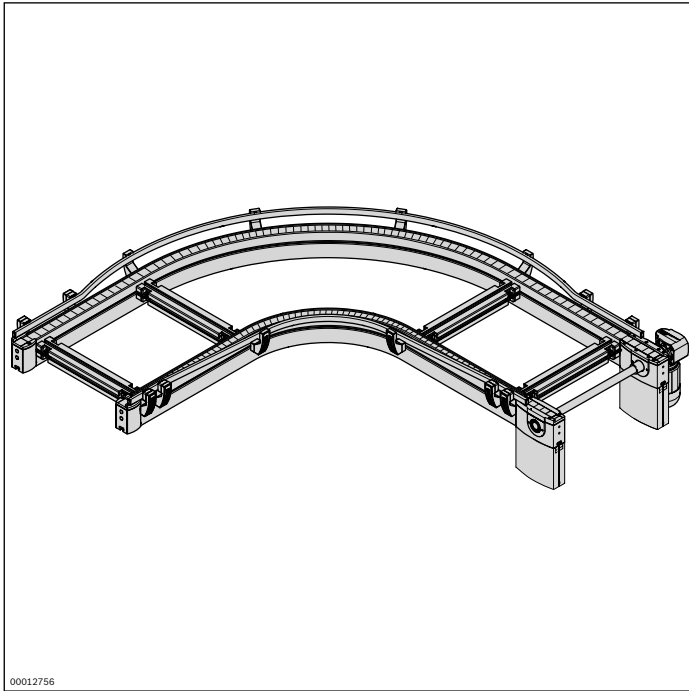


b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length l (mm)
160	320 ... 6000
240	320 ... 6000
320	320 ... 6000
400	320 ... 6000
480	320 ... 6000

KU 2/90 curve



- ▶ 90° curve conveying of the workpiece pallet
- ▶ Curve with own drive
- ▶ Section loads up to 90 kg in accumulation operation
- ▶ Conveyor medium: Flat top chain
- ▶ Accumulation operation possible
- ▶ Plastic chain guides
- ▶ Automatic chain tensioning system
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note:

- ▶ Flat top chain in ESD version is not permitted
- ▶ The LU 2 automatic lubrication unit is highly recommended for flat top chains:

The KU 2/... curves with flat top chain conveyor medium have their own drive. They are suitable for use with high section loads in accumulation operation.

Accessories

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Accumulation pressure control, e.g. with WI/M rocker, see p. 8-120
- ▶ Connection kits, see p. 4-40
- ▶ LU 2 automatic lubrication unit, see p. 3-150

Delivery note

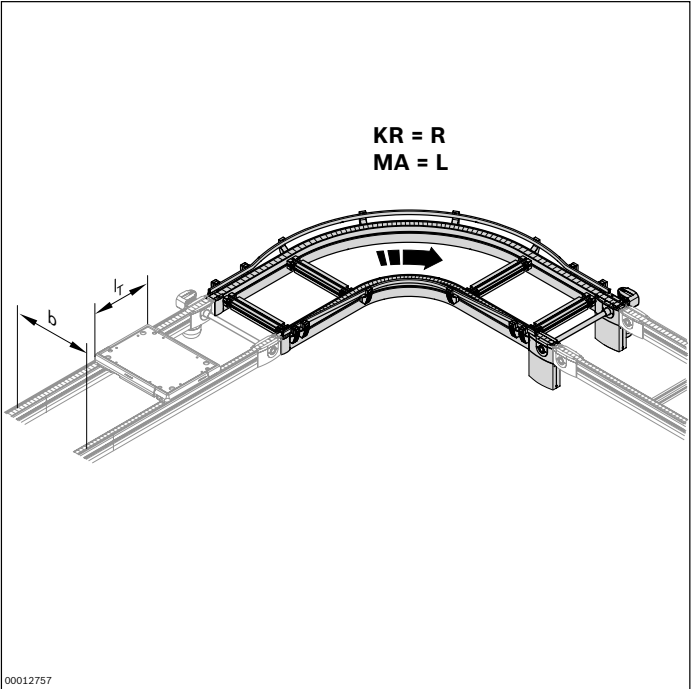
Scope of delivery

- ▶ Curve, complete

Condition on delivery

- ▶ Fully assembled

Ordering information



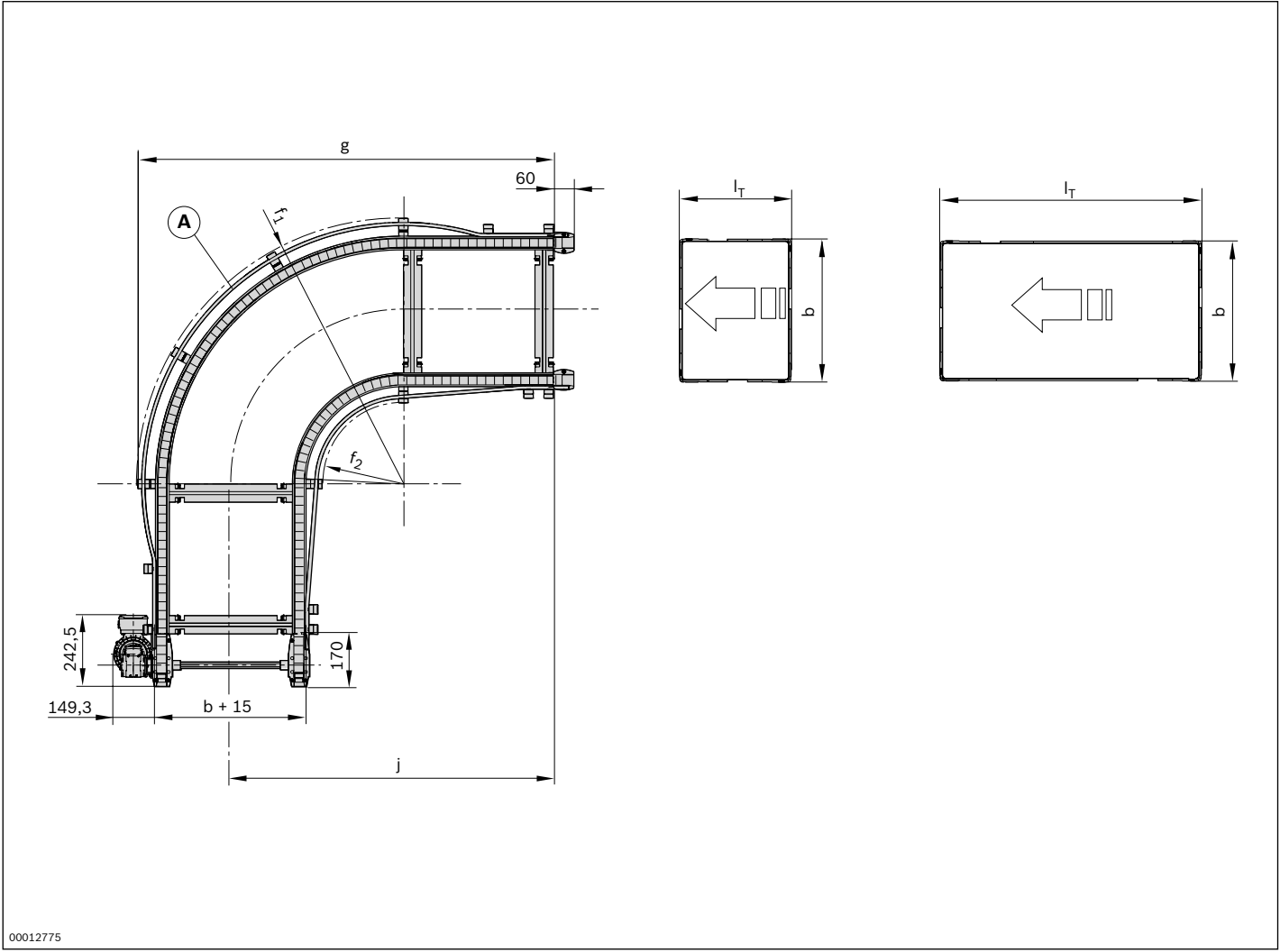
Material number		3842998098
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l _T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
w x l _T (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400; 480 400 x 240; 320; 400; 480; 640 480 x 320; 400; 480; 640; 800 640 x 400; 480; 640; 800; 1040 800 x 480; 640; 800; 1040
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center ¹⁾	R; L; M)
KR	Curve direction R = right L = left	R; L

¹⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998098
Load		
Max. section load in accumulation operation	kg	90
Features		
Max. operating temperature	T °C	+ 40 °C

Dimensions



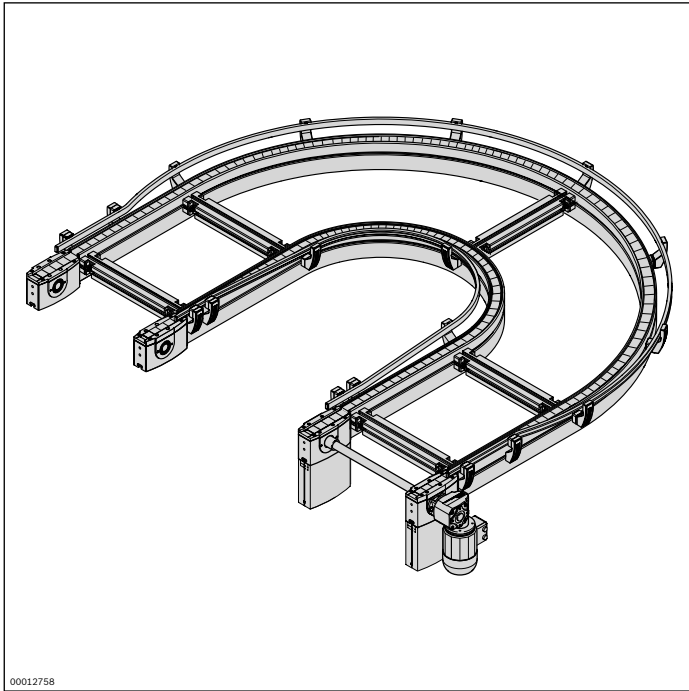
- Ⓐ Workpiece pallet outer guide from $l_T = 640$ mm
- b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l _T (mm)	Curve radius f ₁ ¹⁾ (mm)	Curve radius f ₂ ¹⁾ (mm)	Dimension g (mm)	Dimension j (mm)
160	160	493	286	755	667
160	240	493	287	835	747
160	320	493	266	915	827
240	160	573	287	835	707
240	240	573	280	915	787
240	320	573	270	995	867
240	400	573	256	1075	947
240	480	573	240	1155	1027
320	160	653	288	915	747
320	240	653	282	995	827
320	320	653	273	1075	907
320	400	653	261	1155	987
320	480	653	247	1235	1067
400	240	733	283	1075	867
400	320	733	275	1155	947
400	400	733	265	1235	1027
400	480	733	252	1315	1107
400	640	770	260	1299	1032
480	320	813	277	1235	987
480	400	813	268	1315	1067
480	480	813	256	1395	1147
480	640	850	267	1366	1060
480	800	930	319	1695	1289
640	400	973	272	1475	1147
640	480	973	263	1555	1227
640	640	1010	278	1503	1117
640	800	1090	333	1733	1347
640	1040	1090	277	1973	1587
800	480	1133	267	1715	1307
800	640	1170	285	1642	1176
800	800	1250	344	1872	1406
800	1040	1250	296	2112	1646

¹⁾ f₁, f₂ = guideline value

KU 2/180 curve



- ▶ 180° curve conveying of the workpiece pallet
- ▶ Curve with own drive
- ▶ Section loads up to 70 kg in accumulation operation
- ▶ Conveyor medium: Flat top chain
- ▶ Automatic chain tensioning system
- ▶ Plastic chain guides
- ▶ Accumulation operation possible
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note:

- ▶ Flat top chain in ESD version is not permitted
- ▶ The LU 2 automatic lubrication unit is highly recommended for flat top chains:

The KU 2/... curves with flat top chain conveyor medium have their own drive. They are suitable for use with high section loads in accumulation operation.

Accessories

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ Accumulation stop gate, e.g. with WI/M rocker, see p. 8-120
- ▶ Connection kits, see p. 4-40
- ▶ LU 2 automatic lubrication unit, see p. 3-150

Delivery note

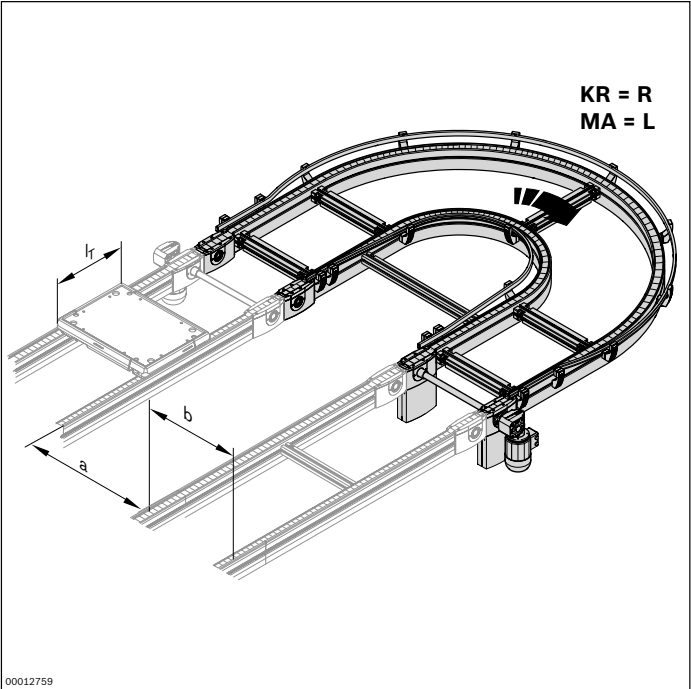
Scope of delivery

- ▶ Curve, complete

Condition on delivery

- ▶ Fully assembled

Ordering information



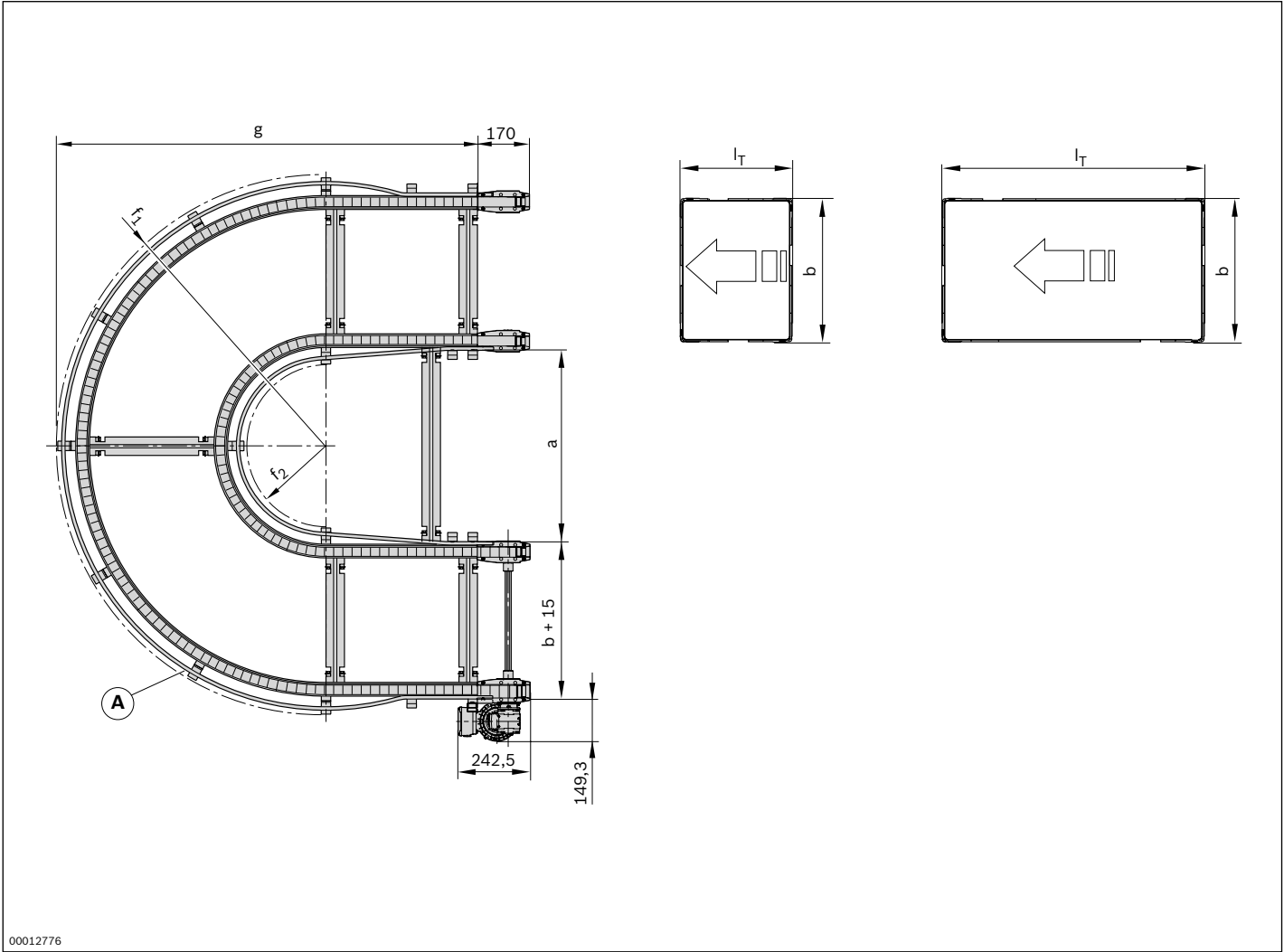
Material number		3842998099
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l _T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
w x l _T (mm x mm)	Combination options a = 640 mm	b x l _T
		160 x 160; 240; 320
		240 x 160; 240; 320; 400
		320 x 160; 240; 320; 400; 480
		400 x 240; 320; 400; 480; 640
		480 x 320; 400; 480; 640
	a = 800 mm	640 x 400; 480; 640
		800 x 480; 640
		480 x 800
		640 x 800; 1040
800 x 800; 1040		
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center ¹⁾	R; L; M)
KR	Curve direction R = right L = left	R; L

¹⁾ MA = M only for b ≥ 240 mm

Technical data

Material number		3842998099
Load		
Max. section load in accumulation operation	kg	70
Features		
Max. operating temperature	T	°C
		+ 40 °C

Dimensions



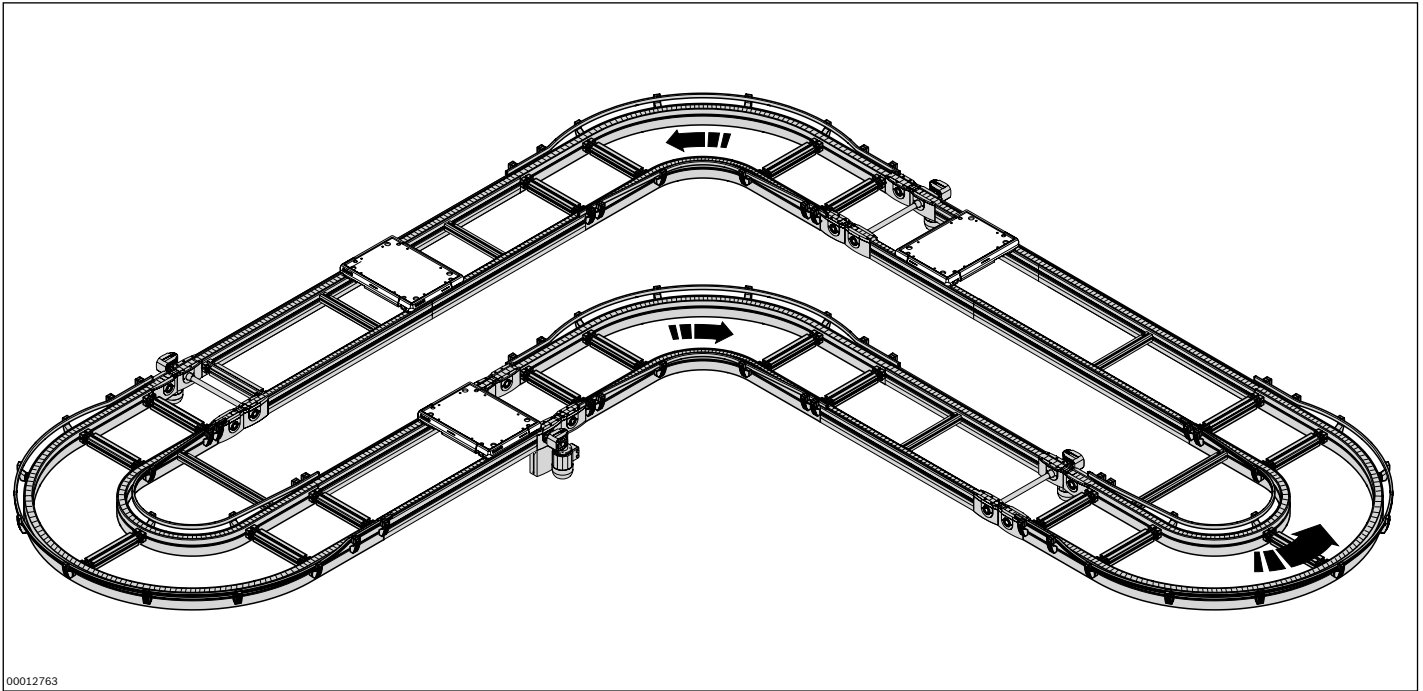
- Ⓐ Workpiece pallet outer guide from $l_T = 640$ mm
- b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Curve radius f₁¹⁾ (mm)	Curve radius f₂¹⁾ (mm)	Dimension g (mm)	Distance between conveyors a (mm)
160	160	493	286	755	640
160	240	493	287	835	640
160	320	493	266	915	640
240	160	573	287	835	640
240	240	573	280	915	640
240	320	573	270	995	640
240	400	573	256	1075	640
240	480	573	240	1155	640
320	160	653	288	915	640
320	240	653	282	995	640
320	320	653	273	1075	640
320	400	653	261	1155	640
320	480	653	247	1235	640
400	240	733	283	1075	640
400	320	733	275	1155	640
400	400	733	265	1235	640
400	480	733	252	1315	640
400	640	770	260	1299	640
480	320	813	277	1235	640
480	400	813	268	1315	640
480	480	813	256	1395	640
480	640	850	267	1366	640
480	800	930	319	1595	800
640	400	973	272	1475	640
640	480	973	263	1555	640
640	640	1010	278	1503	640
640	800	1090	333	1733	800
640	1040	1090	277	1973	800
800	480	1133	267	1715	640
800	640	1170	285	1642	640
800	800	1250	344	1872	800
800	1040	1250	296	2112	800

¹⁾ f₁, f₂ = guideline value

KU 2/O-... curve arcs



The construction principle of KU 2/O-... curves with the conveyor medium flat top chain allows smooth integration into longer conveyor units driven by a single drive.

In order to mount such units, the KU 2/O-... curve arcs are offered without the conveyor medium, and drive and return heads. The following guidelines must be taken into account when designing sections with integrated curves.

The AS 2/...-C and UM 2/...-C on the conveyor units can be used for driving and returning purposes. The overall length of the flat top chain results from the sum of the required length of the conveyor belt for each component.

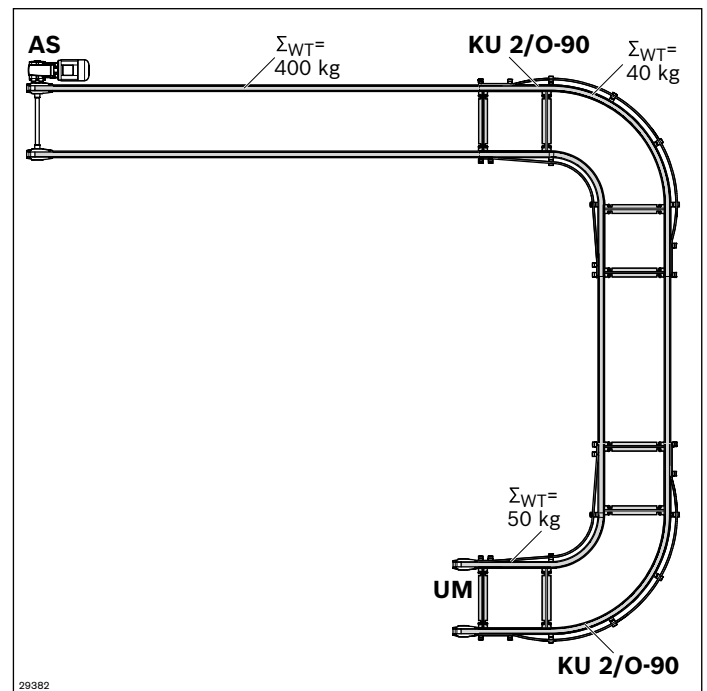
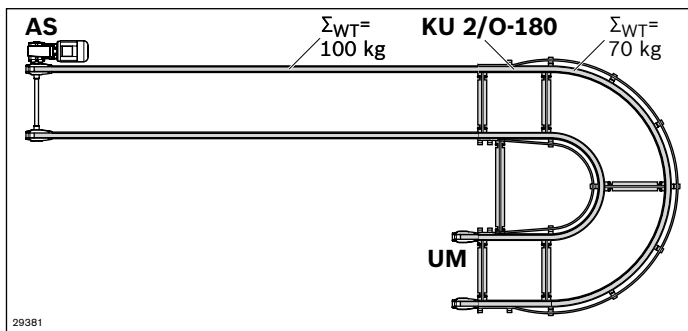
Drive layout

Each change in the direction of the conveyor medium on the transport level, such as with KU 2 curves, results in a loss through friction which must be compensated by the drive.

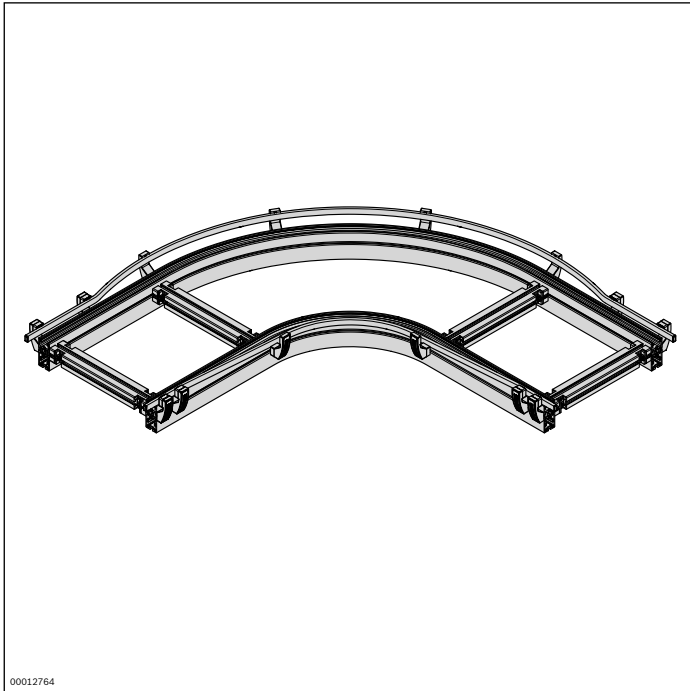
This increase in stress on the drive is taken into account by the curve factor. Multiplying the workpiece pallet load that arises before the curve with the curve factor results in the necessary load carrying capacity of the drive. The curve factor is 1.5 for every 90° curve angle.

The following applies as a general guideline:

- For each AS 2/C... drive module, max. 2x curve arc of 90° or max. 1x curve arc of 180°
- Mount curve arc directly on a UM 2/C-170 return unit
- For permitted total workpiece pallet weights in a 90° curve arc: 90 kg
- 180° curve arc: 70 kg
- The workpiece pallet loads before and in a 180° curve is 70 kg and an additional 100 kg after the curve. From this arises the minimum required load capacity of $(70 \text{ kg} * 1.5 * 1.5) + 100 \text{ kg} = 257.5 \text{ kg}$. The AS 2/C-400 drive module must be selected for this section.
- The workpiece pallet loads before and in the 1st 90° curve are 50 kg before and in the 2nd 90° curve, 40 kg before and in the 2nd curve a further 400 kg. From this arises the minimum required load capacity of $(50 \text{ kg} * 1.5 * 1.5) + (40 \text{ kg} * 1.5) + 400 \text{ kg} = 572.5 \text{ kg}$. The AS 2/C-700 drive module must be selected for this section.



KU 2/O-90 curve arc



- ▶ Curve arc without own drive
- ▶ Accumulation operation possible
- ▶ Plastic chain guides
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note:

- ▶ Flat top chain in ESD version is not permitted
- ▶ The LU 2 automatic lubrication unit is highly recommended for flat top chains:

The arcs KU 2/O... curve arcs without drive are used for setting up sections with integrated curves to transport the

workpiece pallets in accumulation operation.

Accessories

Required accessories

- ▶ Conveyor medium plastic flat top chain 3842551226
- ▶ AS 2/C-... drive module, see p. 3-68
- ▶ UM 2/C-... return unit, see p. 3-80

Delivery note

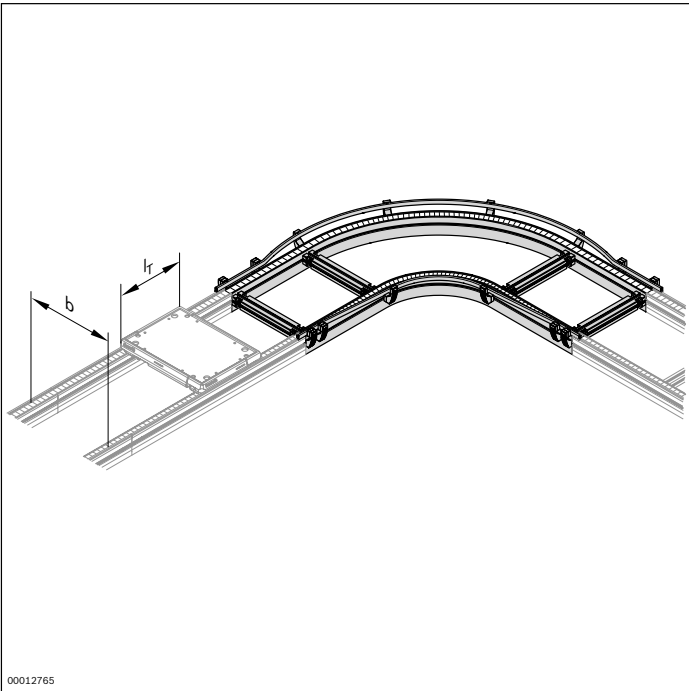
Condition on delivery

- ▶ Fully assembled

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ ST 2/C-100 section, see p. 3-226
- ▶ Profile connector, see p. 3-40

Ordering information



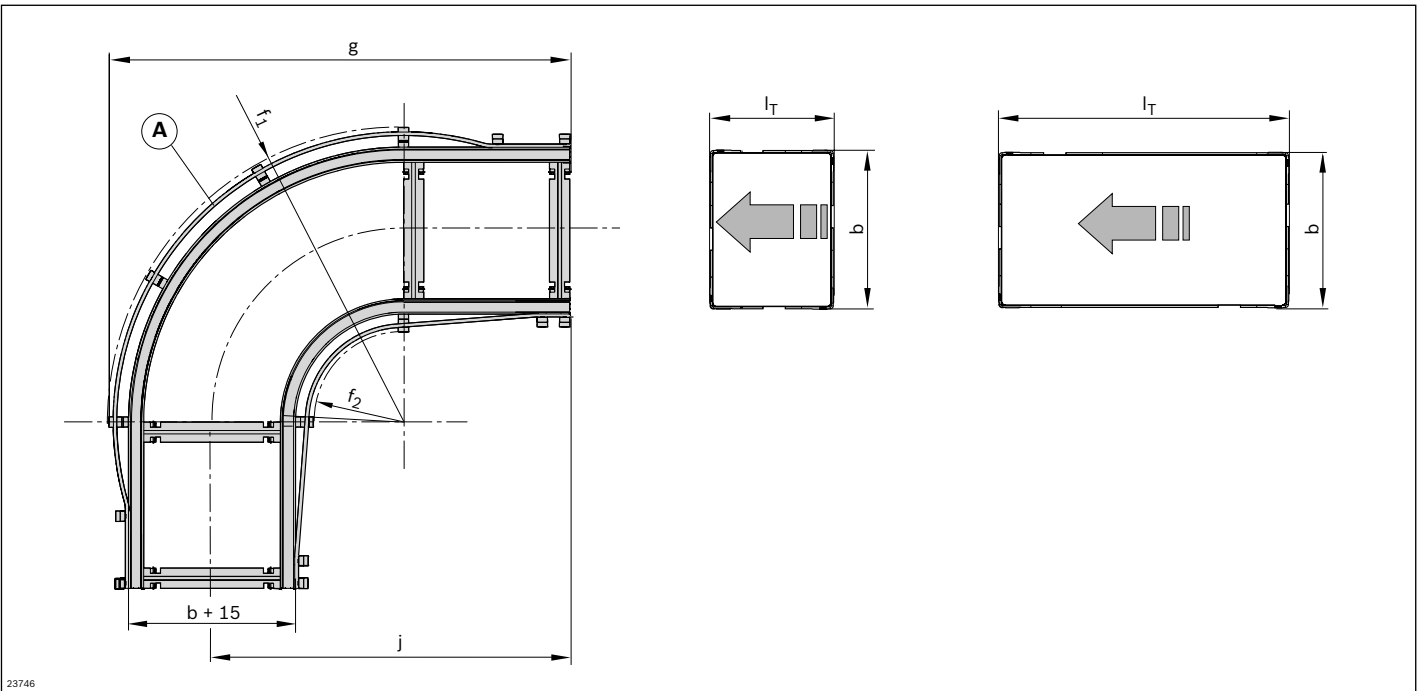
Material number		3842999994
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l _T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
w x l _T (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400; 480 400 x 240; 320; 400; 480; 640 480 x 320; 400; 480; 640; 800 640 x 400; 480; 640; 800; 1040 800 x 480; 640; 800; 1040

4

Technical data

Material number		3842999994
Features		
Max. operating temperature	T	+40 °C

Dimensions



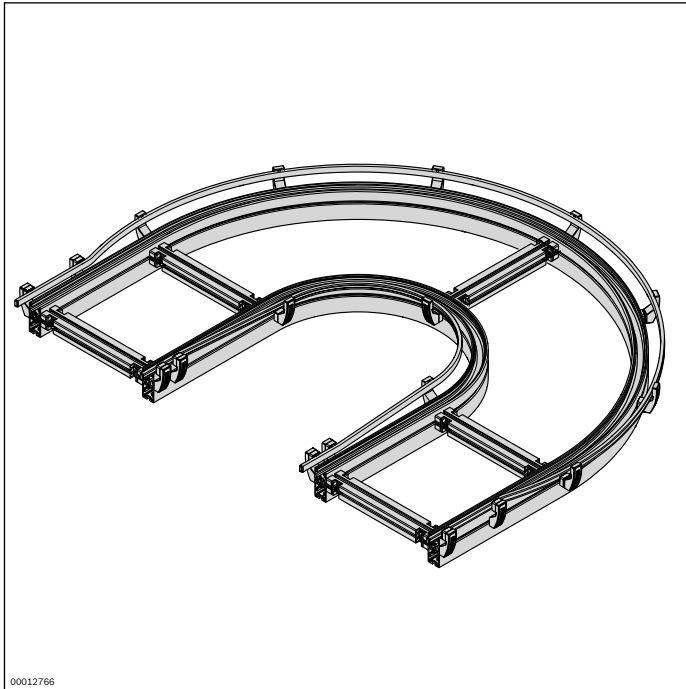
Ⓐ Workpiece pallet outer guide from l_T = 640 mm
b Track width in direction of transport

l_T Length in conveyor direction

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Curve radius f₁¹⁾ (mm)	Curve radius f₂¹⁾ (mm)	Dimension g (mm)	Dimension j (mm)	Required conveyor media length l_k (mm)
160	160	493	286	755	667	4640
160	240	493	287	835	747	5280
160	320	493	266	915	827	5920
240	160	573	287	835	707	4892
240	240	573	280	915	787	5532
240	320	573	270	995	867	6172
240	400	573	256	1075	947	6812
240	480	573	240	1155	1027	7452
320	160	653	288	915	747	5143
320	240	653	282	995	827	5783
320	320	653	273	1075	907	6423
320	400	653	261	1155	987	7063
320	480	653	247	1235	1067	7703
400	240	733	283	1075	867	6034
400	320	733	275	1155	947	6674
400	400	733	265	1235	1027	7314
400	480	733	252	1315	1107	7954
400	640	770	260	1299	1032	7355
480	320	813	277	1235	987	6926
480	400	813	268	1315	1067	7566
480	480	813	256	1395	1147	8206
480	640	850	267	1366	1060	7508
480	800	930	319	1695	1289	9197
640	400	973	272	1475	1147	8068
640	480	973	263	1555	1227	8708
640	640	1010	278	1503	1117	7827
640	800	1090	333	1733	1347	9524
640	1040	1090	277	1973	1587	11444
800	480	1133	267	1715	1307	9211
800	640	1170	285	1642	1176	8161
800	800	1250	344	1872	1406	9864
800	1040	1250	296	2112	1646	11784

¹⁾ f₁, f₂ = guideline value

KU 2/O-180 curve arc



- ▶ Curve arc without own drive
- ▶ Accumulation operation possible
- ▶ Plastic chain guides
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note:

- ▶ Flat top chain in ESD version is not permitted
- ▶ The LU 2 automatic lubrication unit is highly recommended for flat top chains:

The arcs KU 2/O... curve arcs without drive are used for setting up sections with integrated curves to transport the

workpiece pallets in accumulation operation.

Accessories

Required accessories

- ▶ Conveyor medium plastic flat top chain 3842551226
- ▶ AS 2/C-... drive module, see p. 3-68
- ▶ UM 2/C-... return unit, see p. 3-80

Delivery note

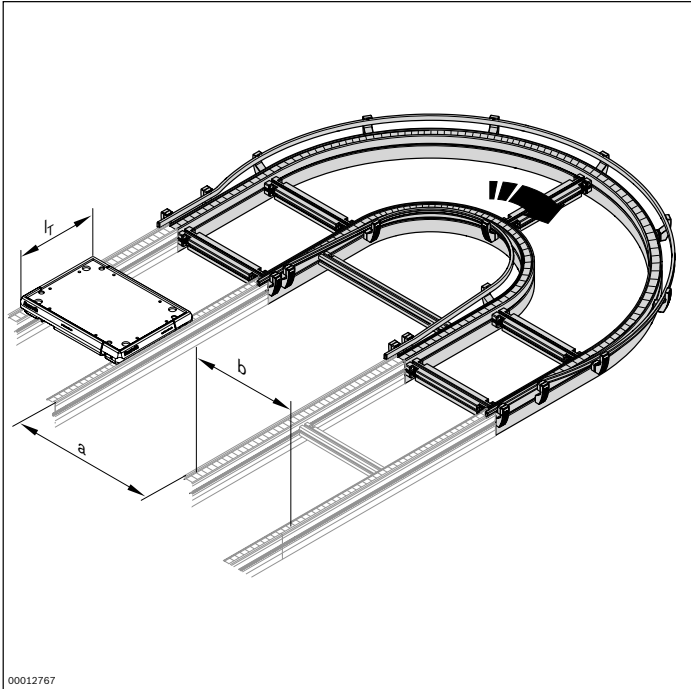
Condition on delivery

- ▶ Fully assembled

Recommended accessories

- ▶ SZ 2 leg sets/..., see p. 6-2
- ▶ ST 2/C-100 section, see p. 3-226
- ▶ Profile connector, see p. 3-40

Ordering information

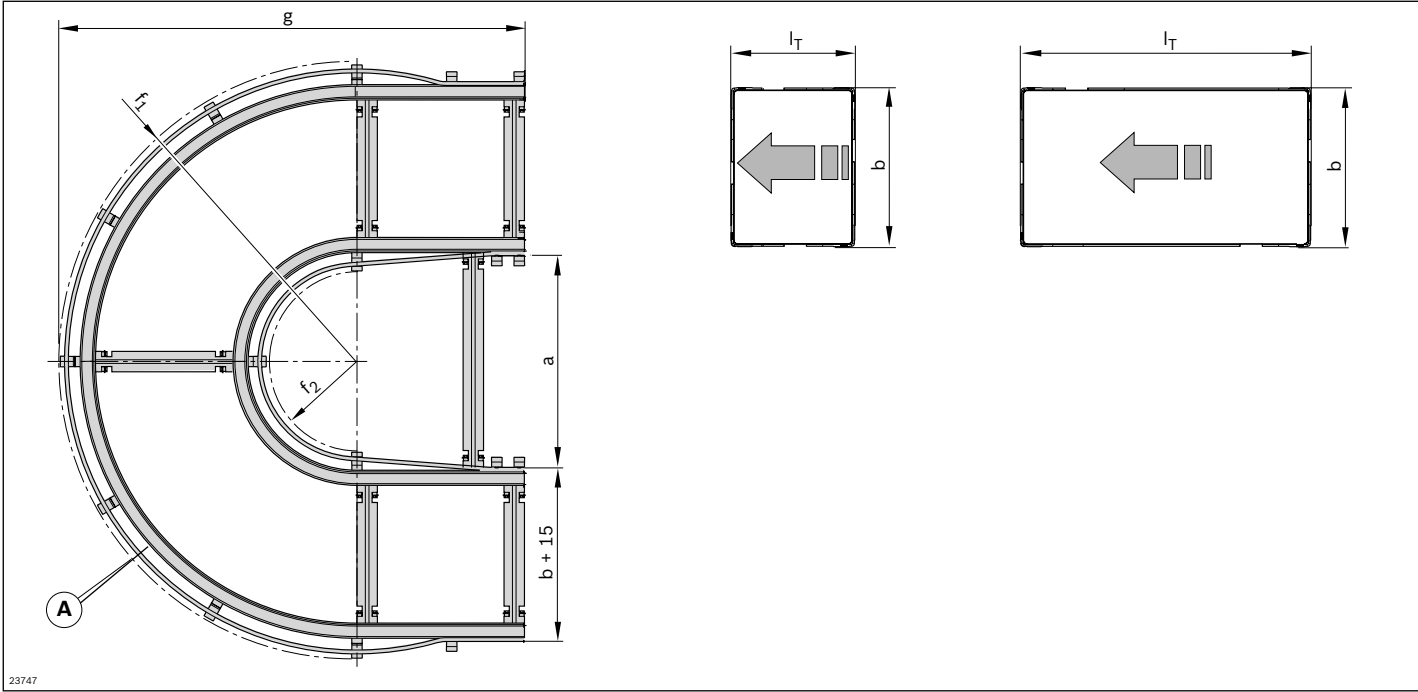


Material number		3842999995
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l_T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
w x l_T (mm x mm)	Combination options a = 640 mm	b x l_T 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400; 480 400 x 240; 320; 400; 480; 640 480 x 320; 400; 480; 640 640 x 400; 480; 640 800 x 480; 640
	a = 800 mm	480 x 800 640 x 800; 1040 800 x 800; 1040

Technical data

Material number		3842999995
Features		
Max. operating temperature	T	°C +40 °C

Dimensions



- Ⓐ Workpiece pallet outer guide from $l_T = 640$ mm
b Track width in direction of transport

l_T Length in conveyor direction

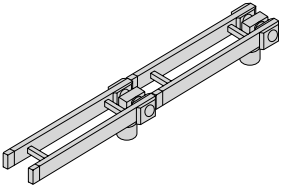
Track width in direction of transport b	Length in direction of transport l_r	Curve radius f₁¹⁾	Curve radius f₂¹⁾	Dimension g	Distance between conveyors a	Required conveyor media length l_k
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
160	160	493	286	755	640	7201
160	240	493	287	835	640	7841
160	320	493	266	915	640	8481
240	160	573	287	835	640	7704
240	240	573	280	915	640	8344
240	320	573	270	995	640	8984
240	400	573	256	1075	640	9624
240	480	573	240	1155	640	10264
320	160	653	288	915	640	8206
320	240	653	282	995	640	8846
320	320	653	273	1075	640	9486
320	400	653	261	1155	640	10126
320	480	653	247	1235	640	10766
400	240	733	283	1075	640	9349
400	320	733	275	1155	640	9989
400	400	733	265	1235	640	10629
400	480	733	252	1315	640	11269
400	640	770	260	1299	640	10669
480	320	813	277	1235	640	10491
480	400	813	268	1315	640	11131
480	480	813	256	1395	640	11771
480	640	850	267	1366	640	11074
480	800	930	319	1595	800	13265
640	400	973	272	1475	640	12137
640	480	973	263	1555	640	12777
640	640	1010	278	1503	640	11896
640	800	1090	333	1733	800	14095
640	1040	1090	277	1973	800	16015
800	480	1133	267	1715	640	13782
800	640	1170	285	1642	640	12732
800	800	1250	344	1872	800	14938
800	1040	1250	296	2112	800	16858

¹⁾ f₁, f₂ = guideline value

Connection kits for longitudinal conveyor

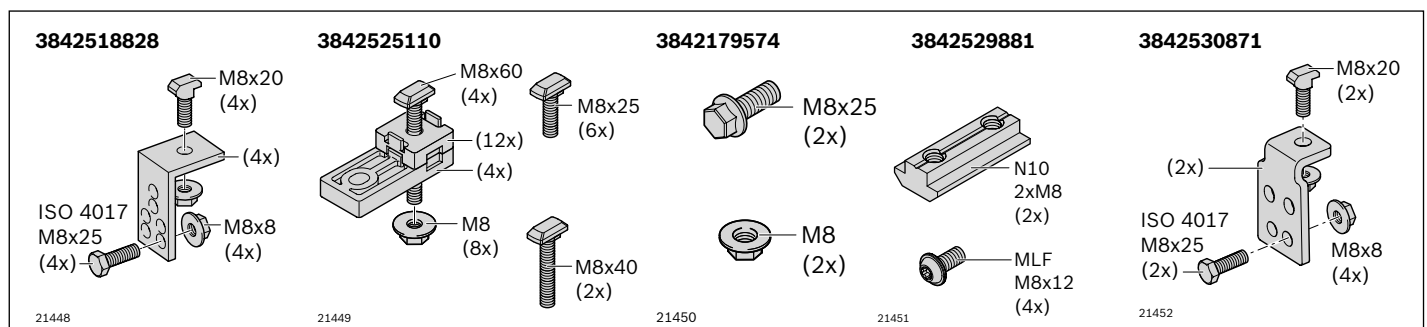


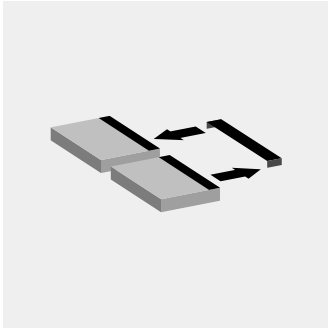
Use: For connecting the TS 2plus modules on a longitudinal conveyor at the ends (end-to-end)

	Return unit (return side)						
	UM 2/B	UM 2/C-60 UM 2/C-170 UM 2/R-60 UM 2/R-170	BS 2	BS 2/C BS 2/C-H BS 2/R BS 2/R-H	KE 2	KU 2	CU 2
Drive Unit (drive side)							
AS 2/B-150, AS 2/-250	3842179574 ¹⁾	3842530871	3842518828	3842530871	3842518828	3842530871	3842518828
AS 2/C-100, AS 2/C-250, KU 2/90, KU 2/180	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
AS 2/C-400, AS 2/C-700	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
AS 2/R-300, AS 2/R-700	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
AS 2/R-1200, AS 2/R-2200	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
BS 2	3842518828	3842525110	3842525110	3842525110	3842525110	3842525110	3842525110
BS 2/C BS 2/R	3842530871	3842529881	3842525110	3842179574 or 3842529881	— ²⁾	3842179574 or 3842529881	3842525110
BS 2/C-H BS 2/R-H	3842179574 ¹⁾	3842530871	3842518828	3842530871	— ²⁾	3842530871	3842518828
KE 2/90 KE 2/180	3842518828	— ²⁾	3842525110	— ²⁾	3842525110	— ²⁾	3842525110

¹⁾ Included in the UM 2/B scope of delivery

²⁾ Connection not permitted



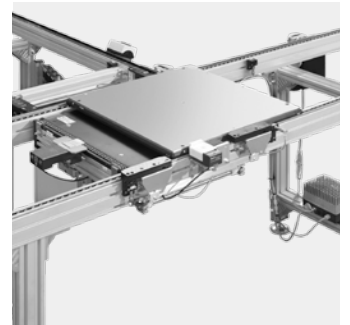
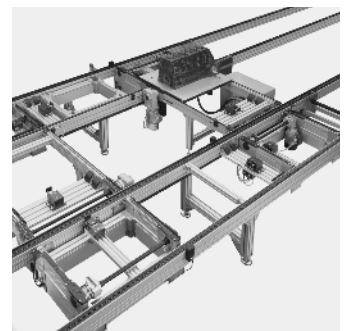
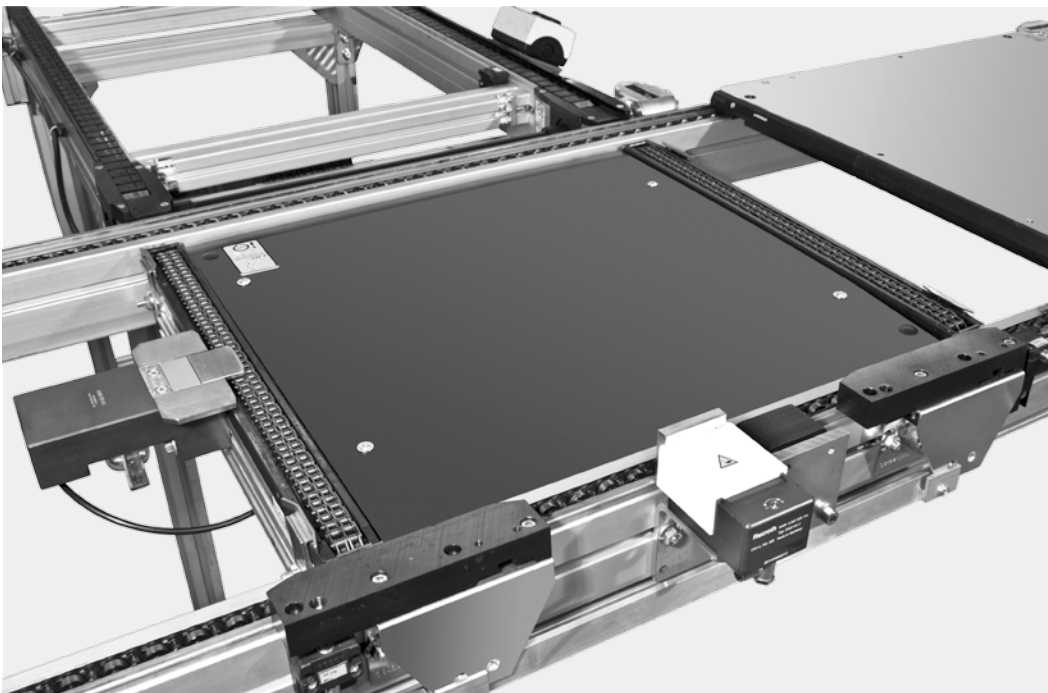


Transverse conveyor

5

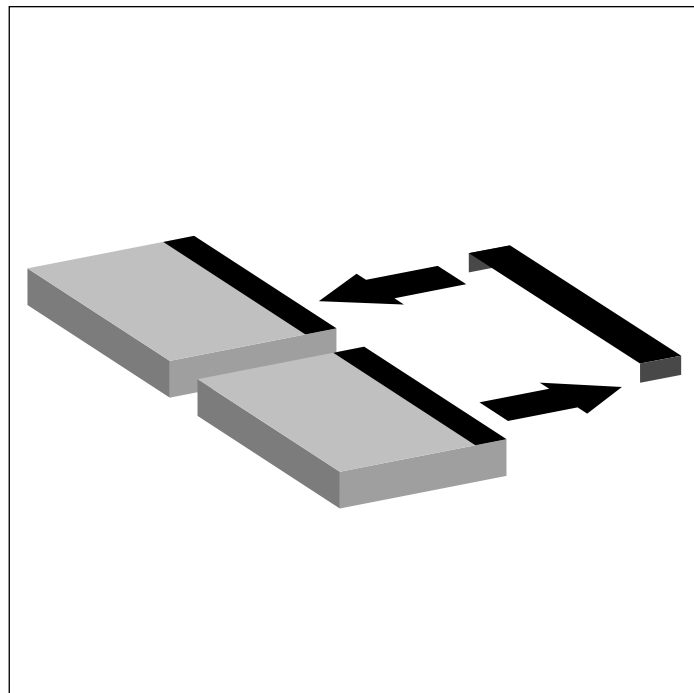
Selection of transverse conveyors

5-2



Selection of transverse conveyors

Transverse conveyors are used to change the workpiece pallet direction of transport. They are used to create a branch in the workpiece pallet paths to the individual processing stations. The orientation of the workpiece pallet relative to its conveying direction changes when it is moved from longitudinal conveying to transverse conveying and vice versa.



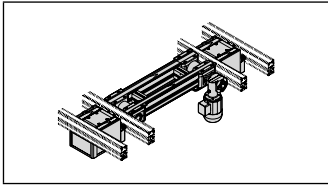
Transverse conveyors can be implemented in the TS 2plus transfer system in two different ways:

- ▶ **EQ 2/... electrical transverse conveyors** (see p. 5-4) (e.g. EQ 2/TR version with roller section) or
- ▶ **HQ 2/... lift transverse units** (see p. 5-26) in combination with BS 2/... belt sections or conveyor units.

The EQ 2/... electrical transverse conveyors are complete macro modules. They consist of one or two HQ 2/... and additional transverse conveyor sections (BS 2../RS 2).

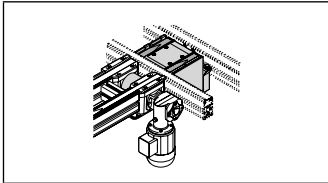
The transverse transport level is 10 mm above the transport level of the longitudinal section.

Note: The lift transverse units lift the workpiece pallet out of the longitudinal section and transport it transversely into the transverse section, which is situated 10 mm higher.



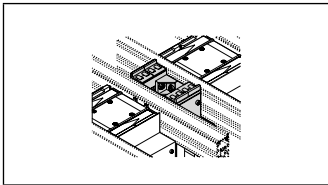
EQ 2/... electrical transverse conveyors

5-4



HQ 2/... lift transverse units

5-26



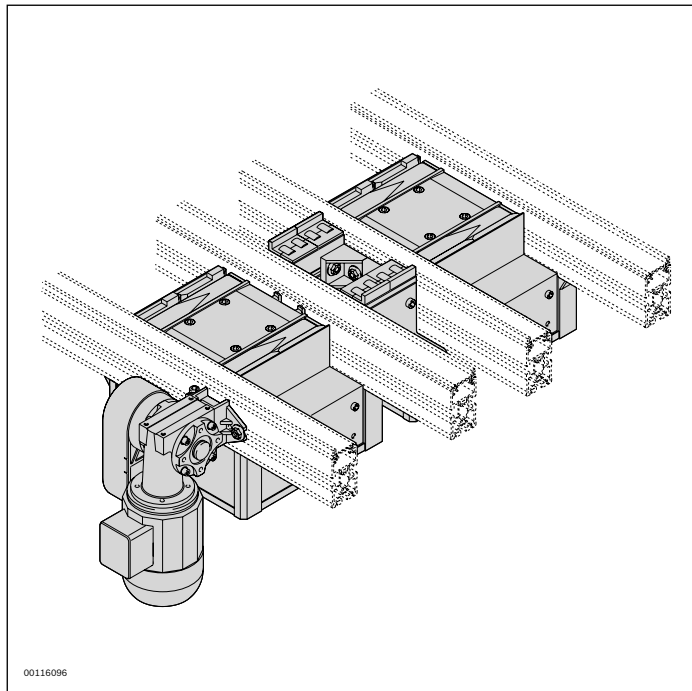
RS 2/... track rollers

5-78

EQ 2/... electrical transverse conveyors

EQ 2 electrical transverse conveyors are used to move workpiece pallets from a longitudinal conveyor section onto a second, parallel longitudinal section. EQ 2 are complete macro modules which consist of one or two HQ 2 lift transverse units and one transverse conveyor section (BS 2.../RS 2).

All the transport belts are driven by a motor.



For the transfer system TS 2*plus* electrical transverse conveyors are available with the following transport function:

EQ 2/TR

Moving workpiece pallets from one longitudinal section to a second one, which runs parallel a small distance away, across a roller section.

EQ 2/T

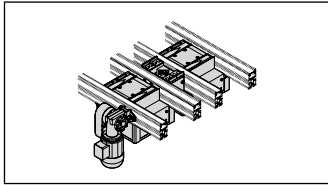
Moving workpiece pallets from one longitudinal section to a second one, which runs parallel a large distance away, across a transverse belt section.

EQ 2/TE

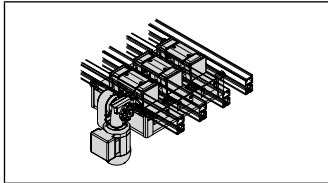
Moving pallets from a longitudinal section to a transverse belt section and vice versa.

Note: Accumulation on the HQ 2... is not permitted.

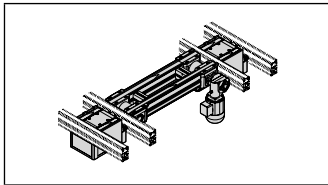
All EQ 2 designs are delivered with pneumatic connections, optionally for the center and top lift position, or for the bottom, center and top lift position. Pneumatic valves are not included in the delivery.


EQ 2/TR electrical transverse conveyors

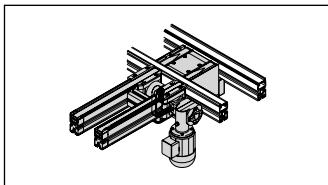
160 x 160 ... 800 x 480


5-6

EQ 2/TR-90 electrical transverse conveyors

160 x 160; 240 x 160


5-11

EQ 2/T electrical transverse conveyors

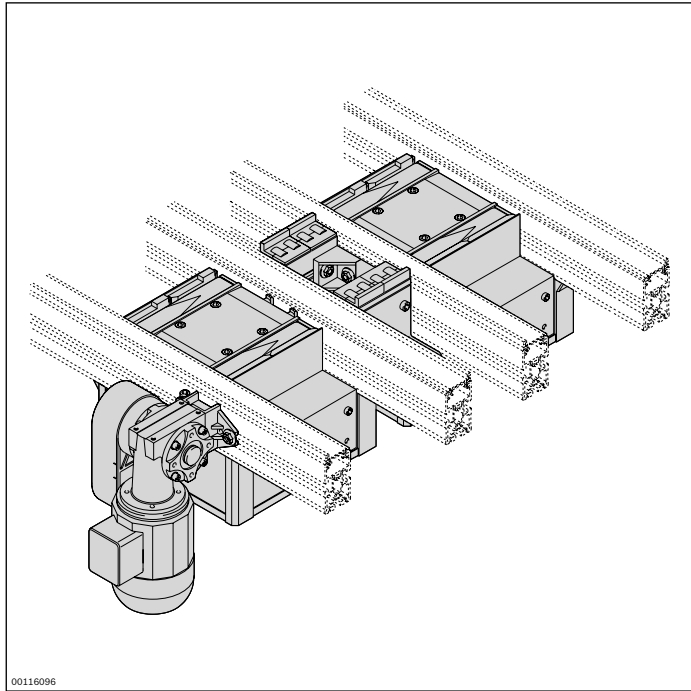
160 x 160 ... 800 x 480


5-15

EQ 2/TE electrical transverse conveyors

160 x 160 ... 800 x 480


5-20

EQ 2/TR electrical transverse conveyor



- ▶ Complete macro module for connecting two parallel longitudinal sections at a short distance from each other
- ▶ In tandem design with RS 2 roller section at a distance of $a = 45 \dots 135 \text{ mm}$
- ▶ Size 2 with two lifting cylinders from $\geq 480 \times 480 \text{ mm}$
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Note:

- ▶ Reversible operation possible
- ▶ Accumulation operation not permitted

Accessories

Required accessories

- ▶ 1x M12x1 sensor with rated sensing range $S_N = 4 \text{ mm}$ for each (top/bottom) position inquiry, see p. 8-108

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry (2x sensors)
- ▶ Housing element

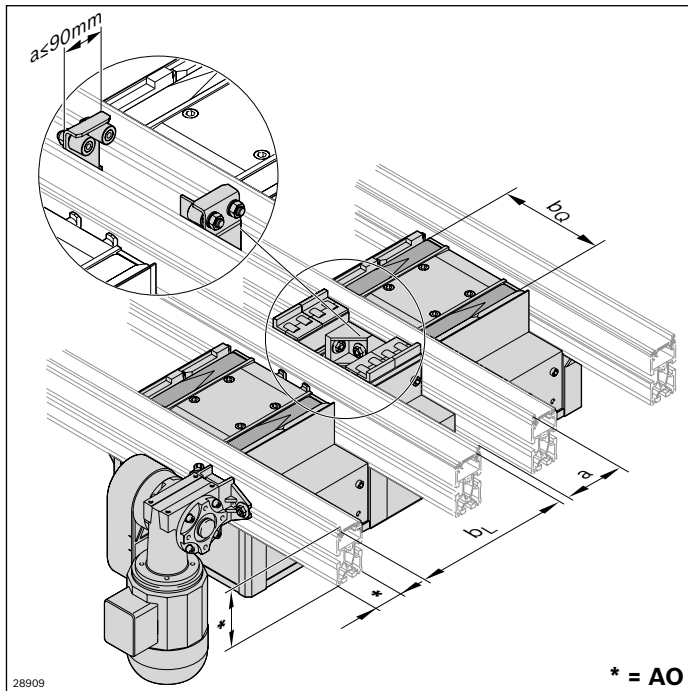
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9 \text{ m/min}$
- ▶ WI 2/... rockers (see p. 8-126ff), WI/M (see p. 8-120), DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65), DA 2/100-C dampers for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- ▶ HQ 2/O and HQ 2/T lift transverse unit assembled
- ▶ Connection kit
- ▶ Motor attachment kit, drive motor enclosed
- ▶ Track roller with roller elements
- ▶ Housing elements: not assembled

Ordering information



Material number		3842999894
b _Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _Q x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400; 480 480 x 320; 400 BG 2: 480 x 480 640 x 400; 480 800 x 400; 480
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
a (mm)	Distance between conveyors	45; 90 ³⁾ ; 135 ³⁾

¹⁾ PN = 2: Lift position upper and middle position

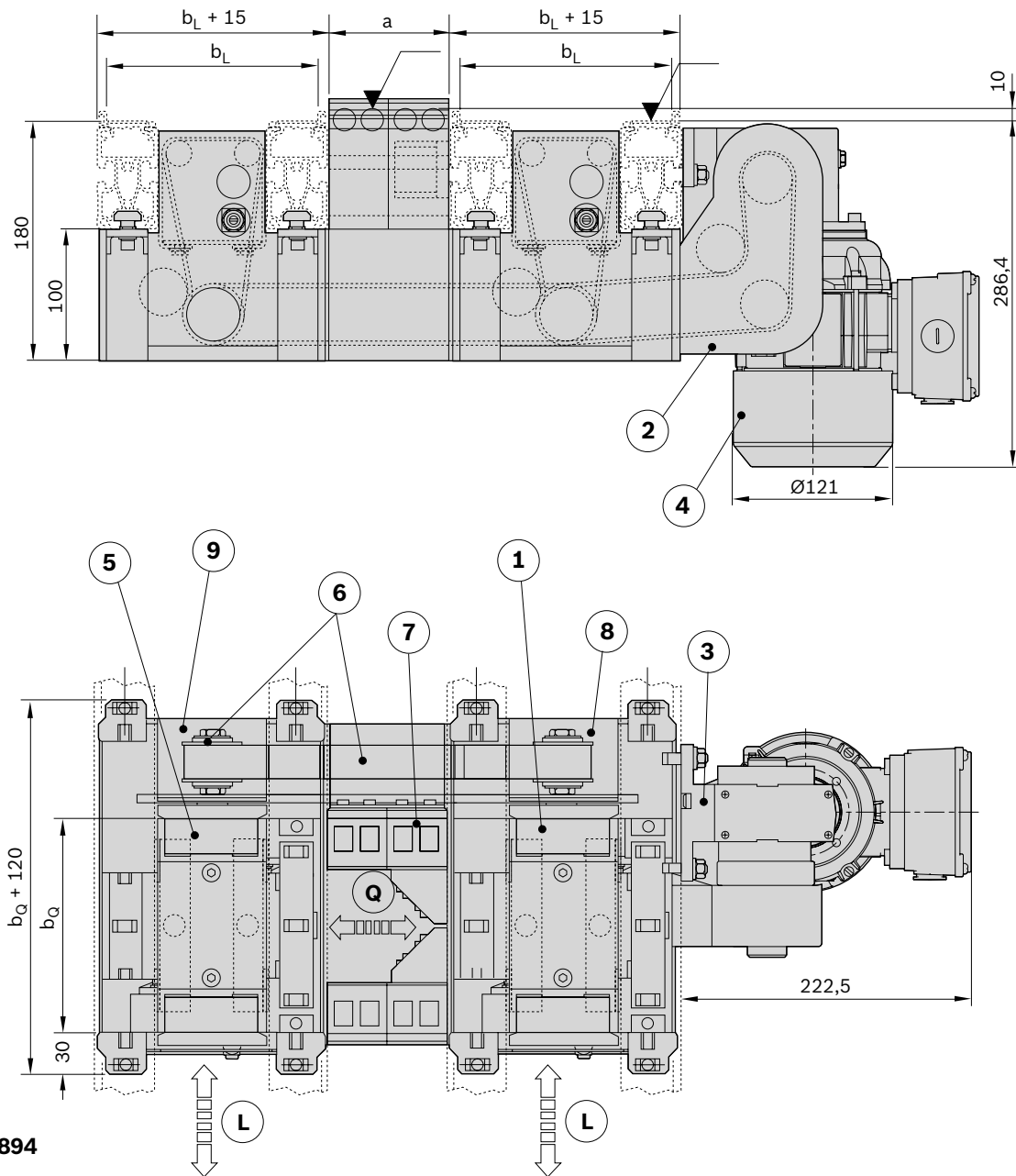
²⁾ PN = 3: Lift position upper, middle and lower position

³⁾ a = 90 mm only for b_L ≥ 240 mm; a = 135 mm only for b_L ≥ 320 mm

Technical data

Material number		3842999894
Load		
Max. total weight of workpiece pallet	m _G	kg 30
Features		
ESD		yes
Design		
Baugröße/Size/Taille	BG	BG 1; BG 2
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	Ø	mm 6

Dimensions

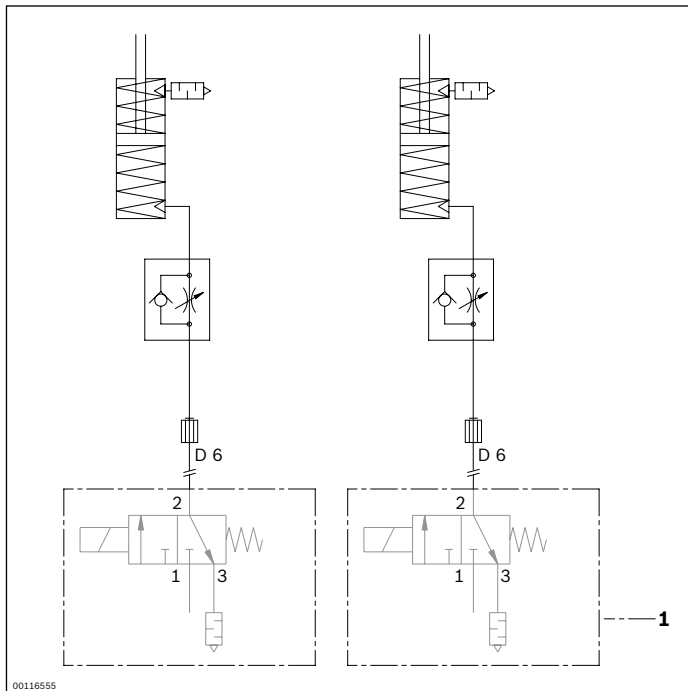


00116077

- L Longitudinal conveyor transport direction
- Q Transport direction of transverse conveyor
- 1 HQ 2/O lift transverse unit
- 2 Connecting kit
- 3 Motor attachment kit
- 4 Drive motor
- 5 HQ 2/T lift transverse unit

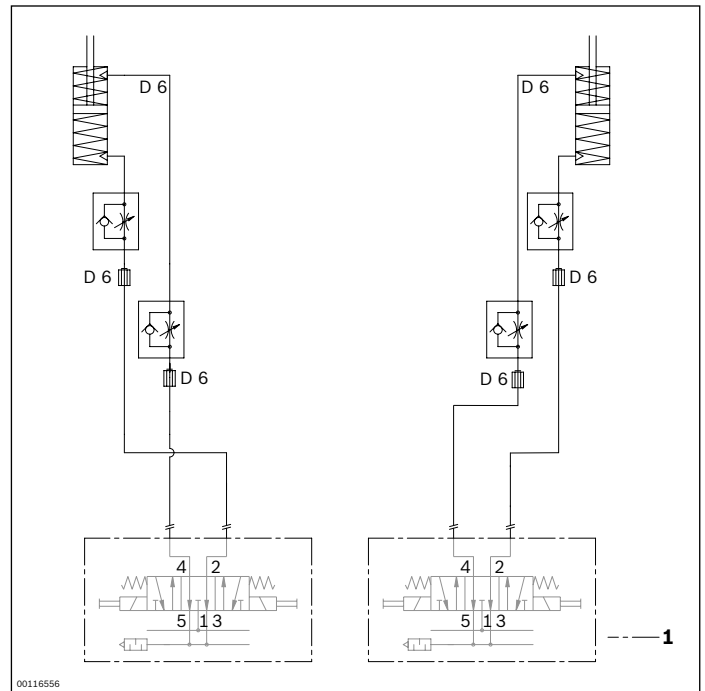
- 6 Drive kit
- 7 Intermediate section with roller elements and housing
- 8 Housing element for lift transverse unit HQ 2/O combined with HQ 2/T
- 9 Housing element for lift transverse unit HQ 2/T

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



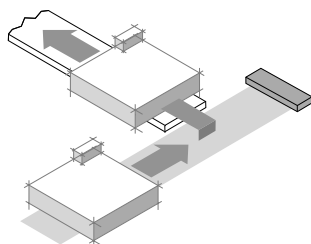
1 Not included in scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

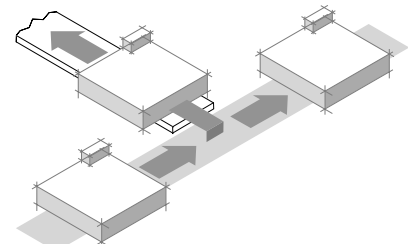


1 Not included in scope of delivery

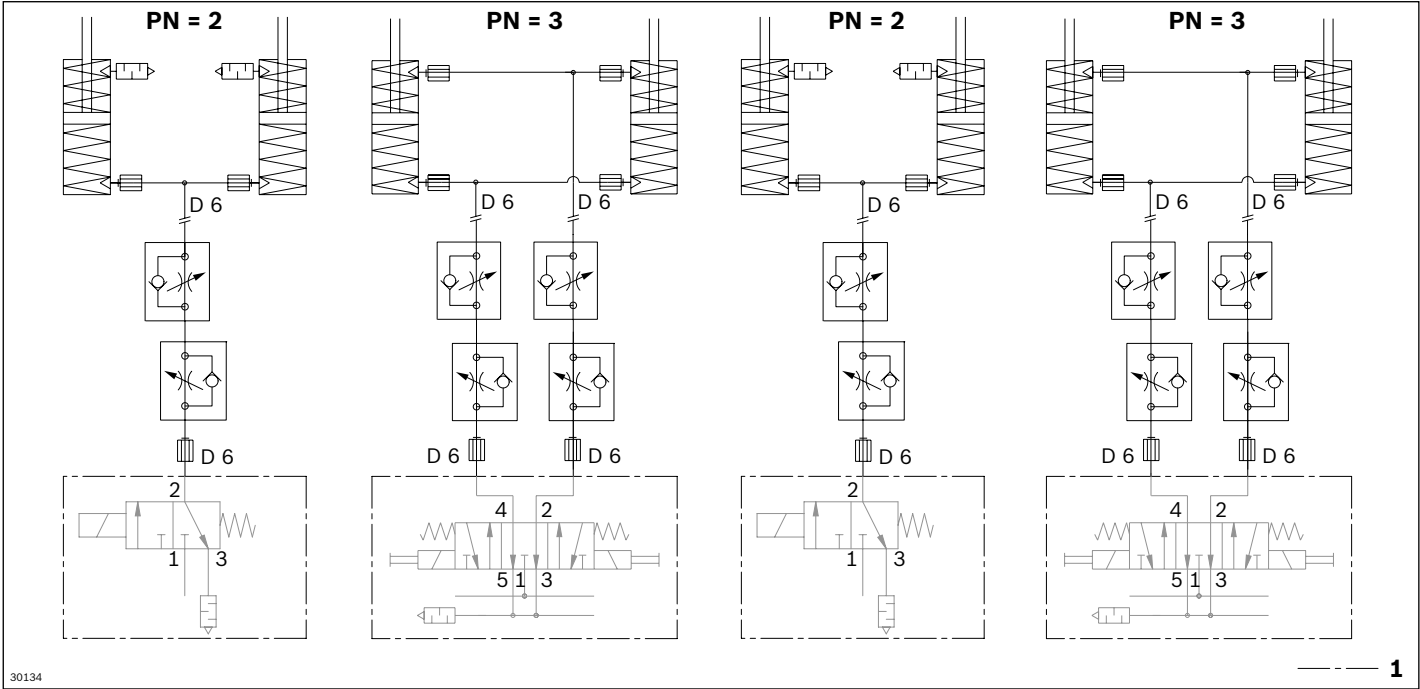
PN = 2



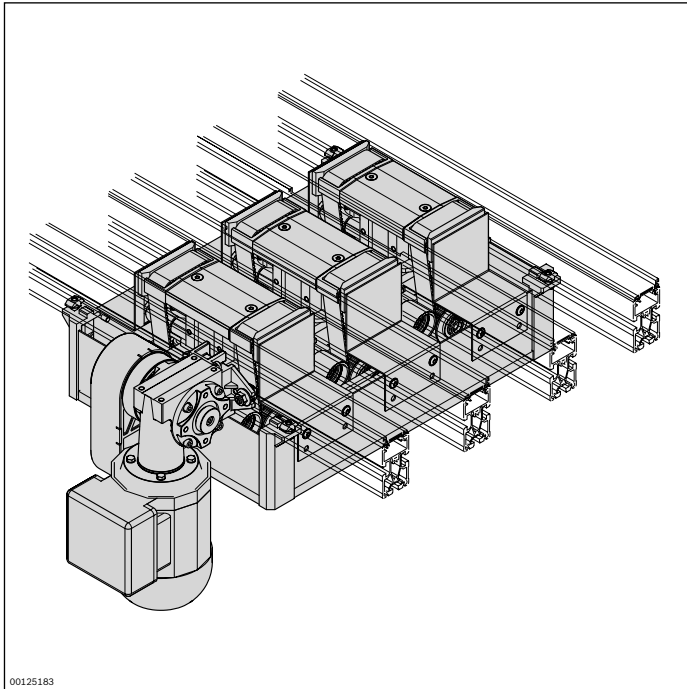
PN = 3



Circuit diagram for unit with pneumatic equipment, BG 2



EQ 2/TR-90 electrical transverse conveyor



- ▶ Complete macro module for connecting two parallel longitudinal sections at a distance of 90 mm from each other
- ▶ With driven intermediate sections
- ▶ Modular unit with three lifting cylinders
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2 and WT 2/E

Note:

- ▶ Reversible operation possible
- ▶ Accumulation operation not permitted

Accessories

Required accessories

- ▶ 1x M12x1 sensor with rated sensing range $S_N = 4$ mm for each (top/bottom) position inquiry, see p. 8-108

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry (2x sensors)
- ▶ Connection kit
- ▶ Housing element

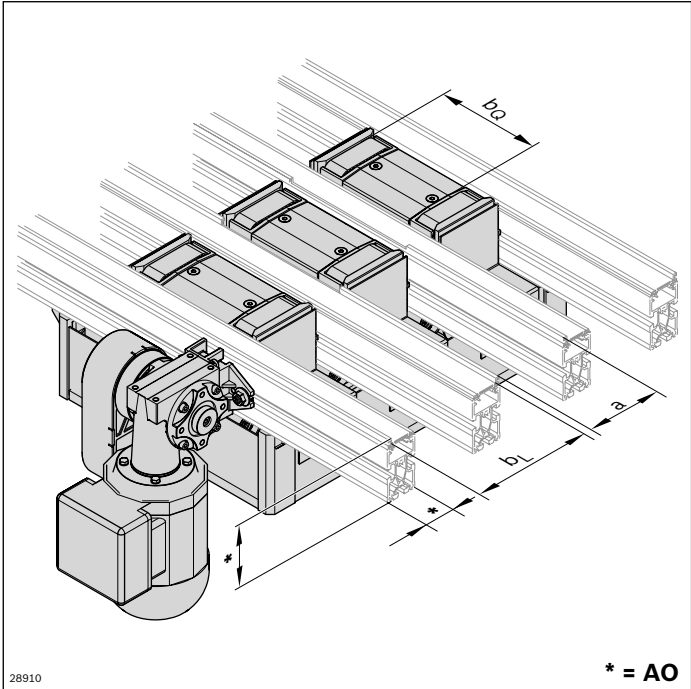
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the WT 2 and WT 2/E workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rocker (see p. 8-118), WI/M rocker (see p. 8-120) and damper DA 2/10 (see p. 8-60), damper DA 2/30 (see p. 8-65) for infeeding the WT 2 and WT 2/E workpiece pallets

Condition on delivery

- ▶ HQ 2/O and HQ 2/T lift transverse unit assembled
- ▶ Drive kit, assembled
- ▶ Motor attachment kit, drive motor enclosed
- ▶ Connection kit included
- ▶ Housing element, not assembled

Ordering information



Material number		3842998289
b _Q (mm)	Track width in the transverse conveyor	160; 240
b _L (mm)	Track width in the longitudinal conveyor	160
b _Q x b _L (mm x mm)	Combination options	160 x 160 240 x 160
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K

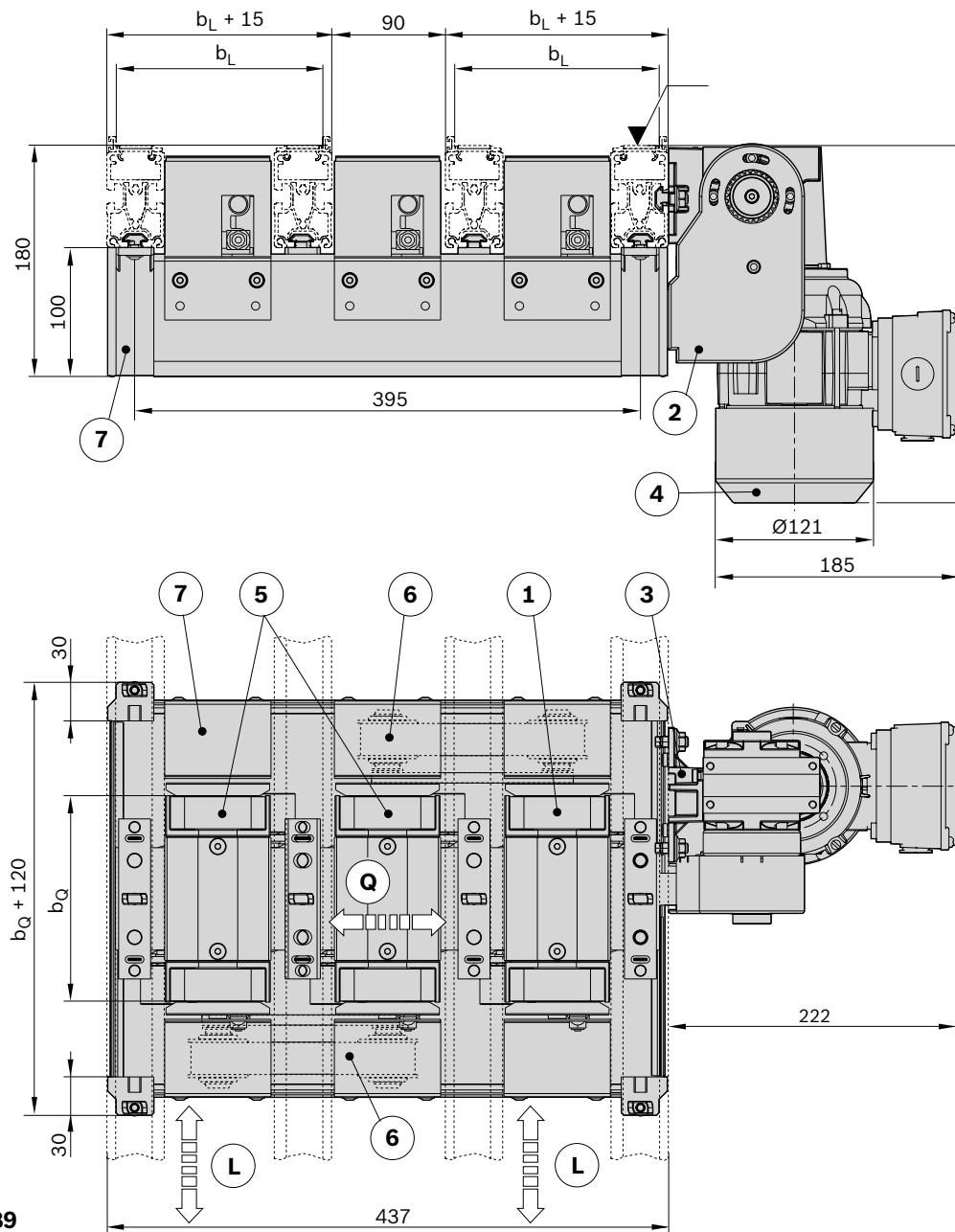
¹⁾ PN = 2: Lift position upper and middle position
²⁾ PN = 3: Lift position upper, middle and lower position

Technical data

Material number			3842998289
Load			
Max. total weight of workpiece pallet	m _G	kg	30
Features			
ESD			yes
Dimensions			
Distance between conveyors	a	mm	90
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

Dimensions

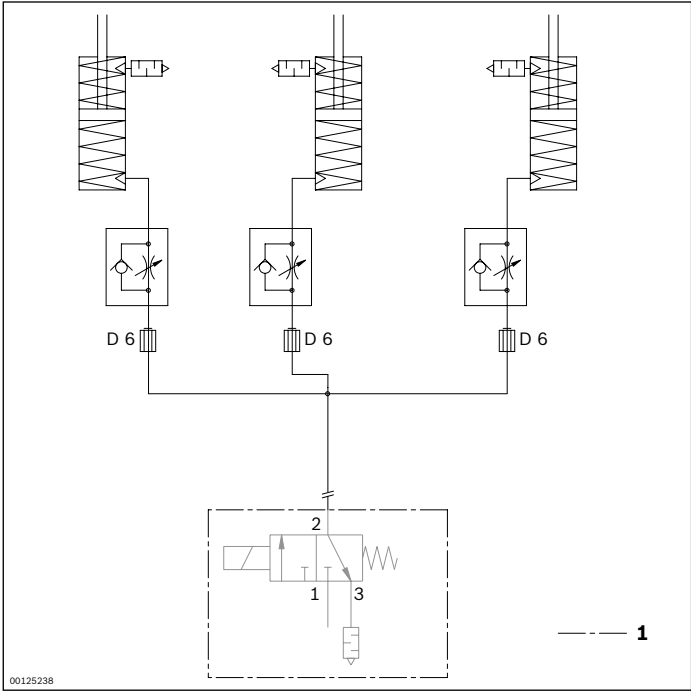
Presentation for AO = 0



00125237

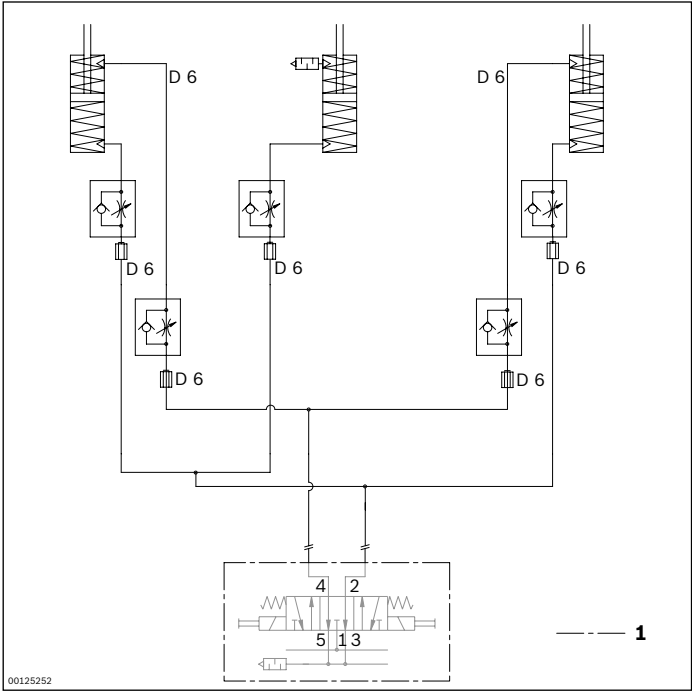
- L Longitudinal conveyor transport direction
- Q Transport direction of transverse conveyor
- 1 HQ 2/O lift transverse unit
- 2 Connecting kit
- 3 Motor attachment kit
- 4 Drive motor
- 5 HQ 2/T lift transverse unit
- 6 Drive kit
- 7 Housing element

Circuit diagram for unit with pneumatic equipment for two positions PN = 2

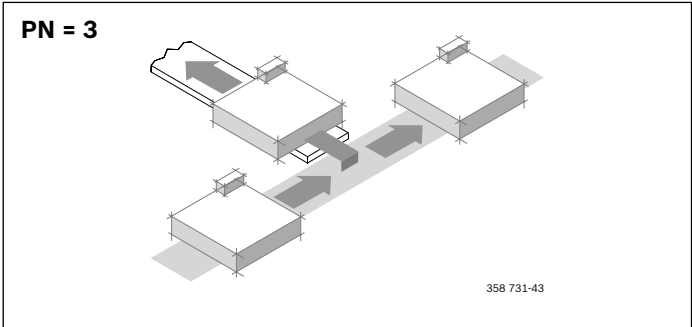
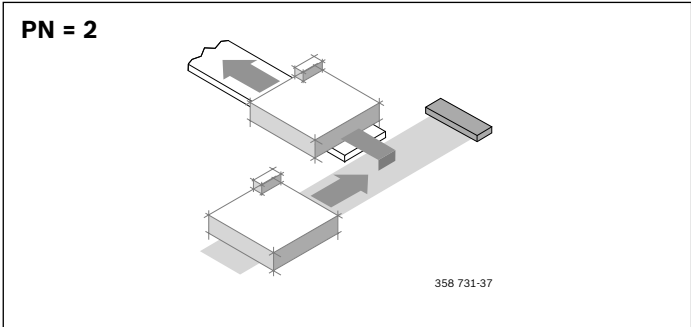


1 Not included in scope of delivery

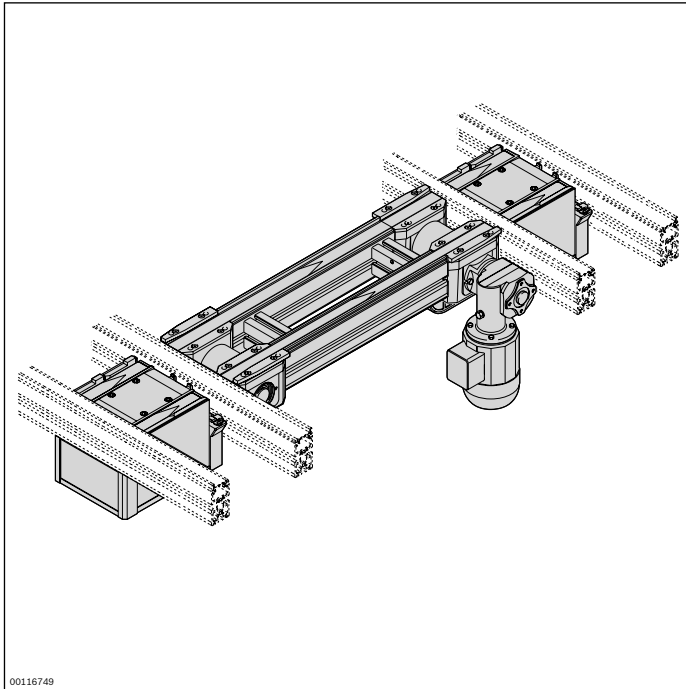
Circuit diagram for unit with pneumatic equipment for three positions PN = 3



1 Not included in scope of delivery



EQ 2/T electrical transverse conveyor



- Pre-assembled assembly for connecting two parallel longitudinal sections
- In tandem design with driven belt section for greater distances from 320 mm
- Size 2 from $\geq 480 \times 480$ mm with two lifting cylinders per lift transverse unit
- Conveyor medium: toothed belt
- Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- Can be combined with WT 2, WT 2/E and WT 2/F

Note:

- Reversible operation possible
- Accumulation operation not permitted on the lift transverse units.

Accessories

Required accessories

- 1x M12x1 sensor with rated sensing range $S_N = 4$ mm for each (top/bottom) position inquiry, see p. 8-110/8-112

Delivery note

Scope of delivery

- Incl. mounting material
- 2x HQ 2/O
- 1x BS 2/T tandem design belt section
- 2x connection kit
- 2x SK 2/B housing elements
- Pneumatic equipment for two or three positions
- Kit for electrical position inquiry

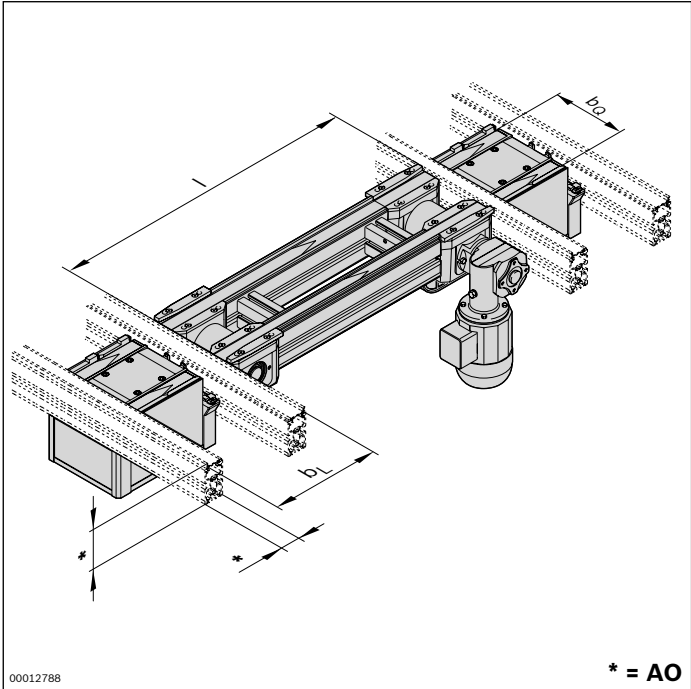
Recommended accessories

- DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9$ m/min
- WI 2/... rockers (see p. 8-118), WI /M (see p. 8-120) DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65), DA 2/100-C dampers for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- Pre-assembled in modular units

Ordering information



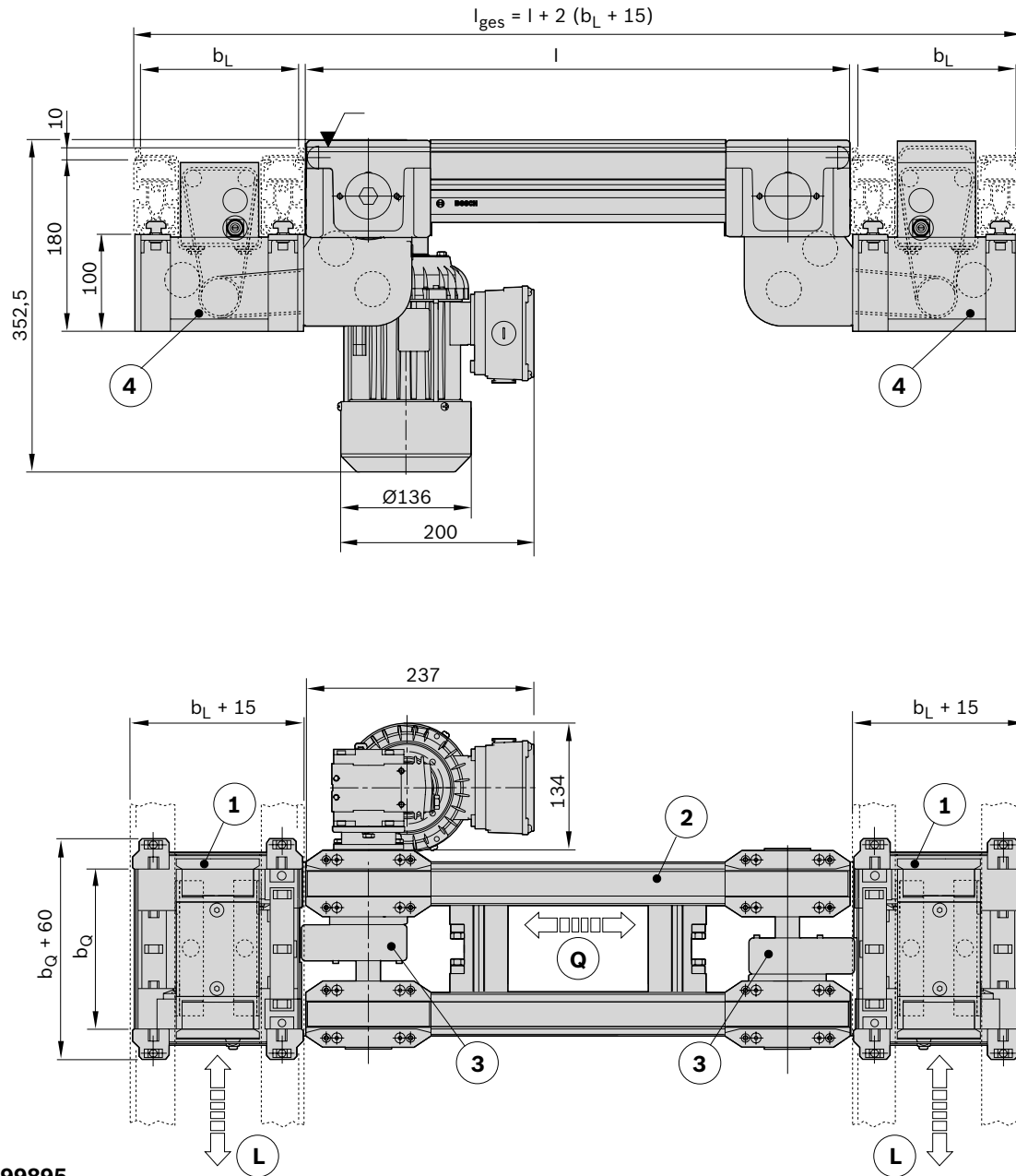
Material number		3842999895
b _Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _Q x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400; 480 480 x 320; 400 BG 2: 480 x 480 640 x 400; 480 800 x 400; 480
l (mm)	Length	320 ... 6000
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ³⁾

1) PN = 2: Lift position upper and middle position
2) PN = 3: Lift position upper, middle and lower position
3) MA = M from b_Q ≥ 320 mm

Technical data

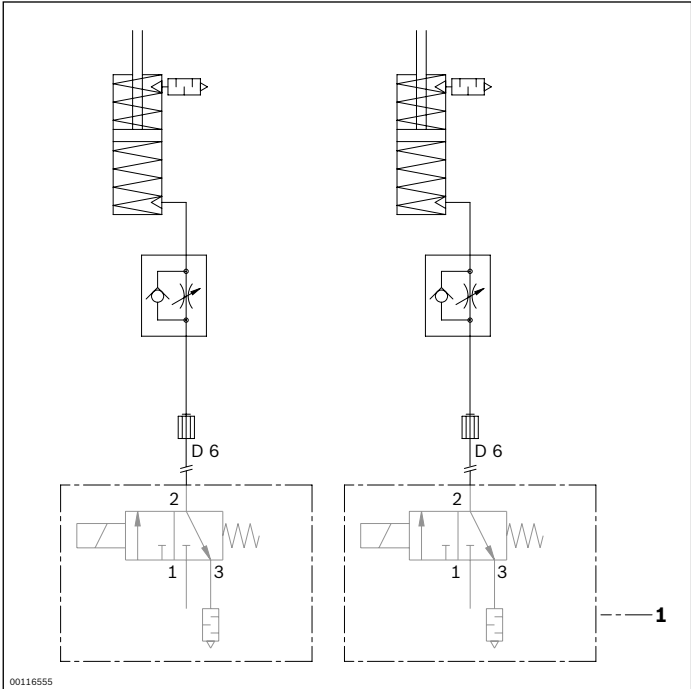
Material number		3842999895
Load		
Max. section load in accumulation operation	kg	60
Max. total weight of workpiece pallet m _G	kg	30
Features		
ESD		yes
Design		
Baugröße/Size/Taille	BG	BG 1; BG 2
Additional information		
Required compressed air connection p	bar	4 ... 6
Pneumatic push-in fitting Ø	mm	6

Dimensions



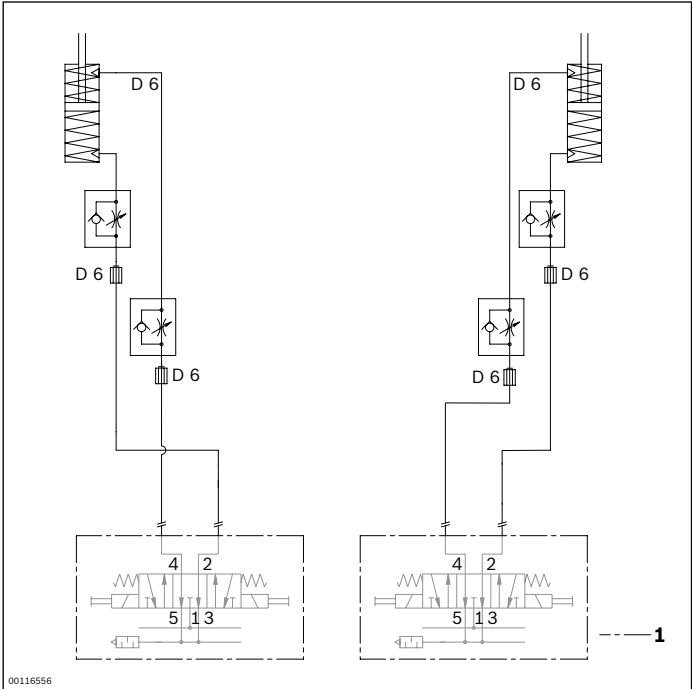
- L Longitudinal conveyor transport direction
- Q Transport direction of transverse conveyor
- 1 HQ 2/O lift transverse unit
- 2 Tandem design belt section BS 2/T
- 3 Connecting kit
- 4 Housing element

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1

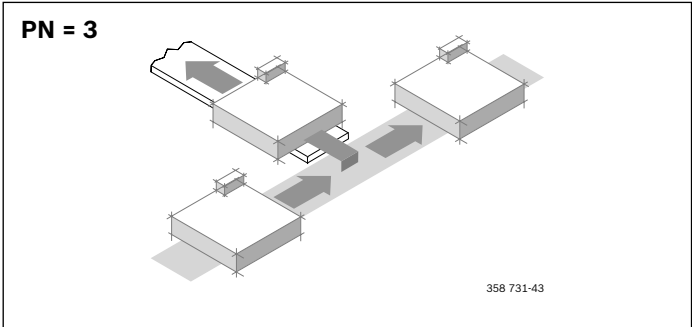
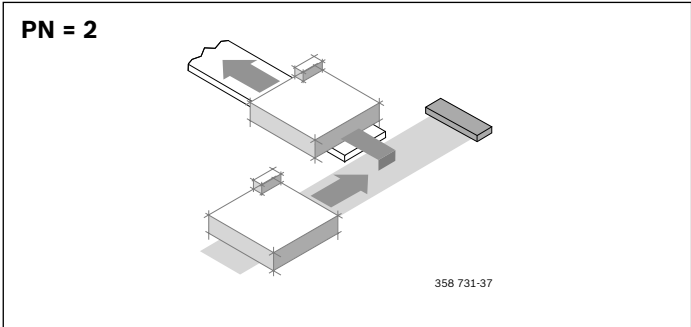


1 Not included in scope of delivery

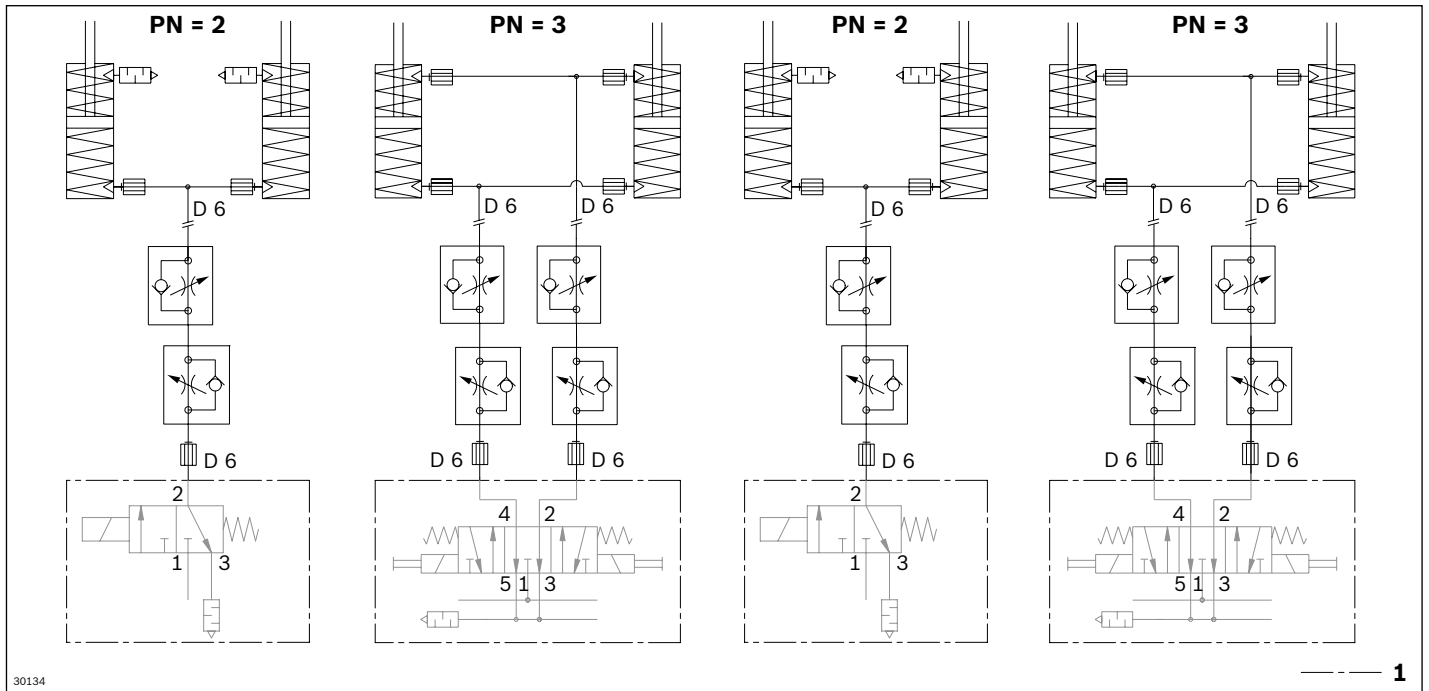
Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1



1 Not included in scope of delivery



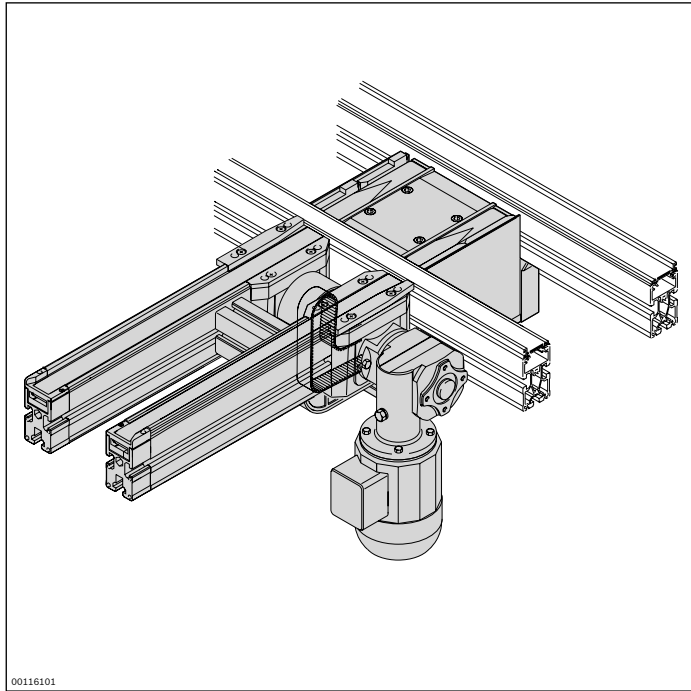
Circuit diagram for unit with pneumatic equipment, BG 2



30134

1

EQ 2/TE electrical transverse conveyor



- ▶ Pre-assembled assembly for branching off into a transverse section in which the second end does not lead to a further transverse section (dead end)
- ▶ Size 2 from $\geq 480 \times 480$ mm with two lifting cylinders per lift transverse unit
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Note:

- ▶ Reversible operation possible
- ▶ Accumulation operation not permitted on the lift transverse unit

Accessories

Required accessories

- ▶ 1x M12x1 sensor with rated sensing range $S_N = 4$ mm for each (top/bottom) position inquiry, see p. 8-110/8-112

Delivery note

Scope of delivery

- ▶ 1x HQ 2/O lift transverse unit
- ▶ 1x BS 2/TE belt section
- ▶ 1x connection kit
- ▶ 1x SK 2/B housing element
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry

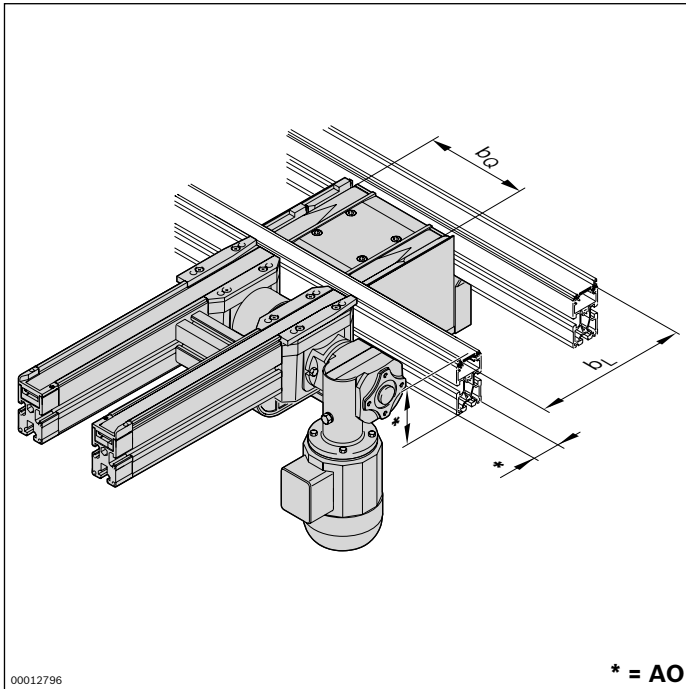
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rockers (see p. 8-118), WI /M (see p. 8-120) DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65), DA 2/100-C dampers for BG 2 (see p. 8-74) for infeding the workpiece pallet

Condition on delivery

- ▶ HQ 2/O lift transverse unit, assembled
- ▶ BS 2/TE belt section, assembled
- ▶ Connection kit included
- ▶ Housing element, not assembled

Ordering information



Material number		3842999896
b _Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _Q x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400; 480 480 x 320; 400 BG 2: 480 x 480 640 x 400; 480 800 x 400; 480
l (mm)	Length	240 ... 6000
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; M ³⁾ ; L

¹⁾ PN = 2: Lift position upper and middle position

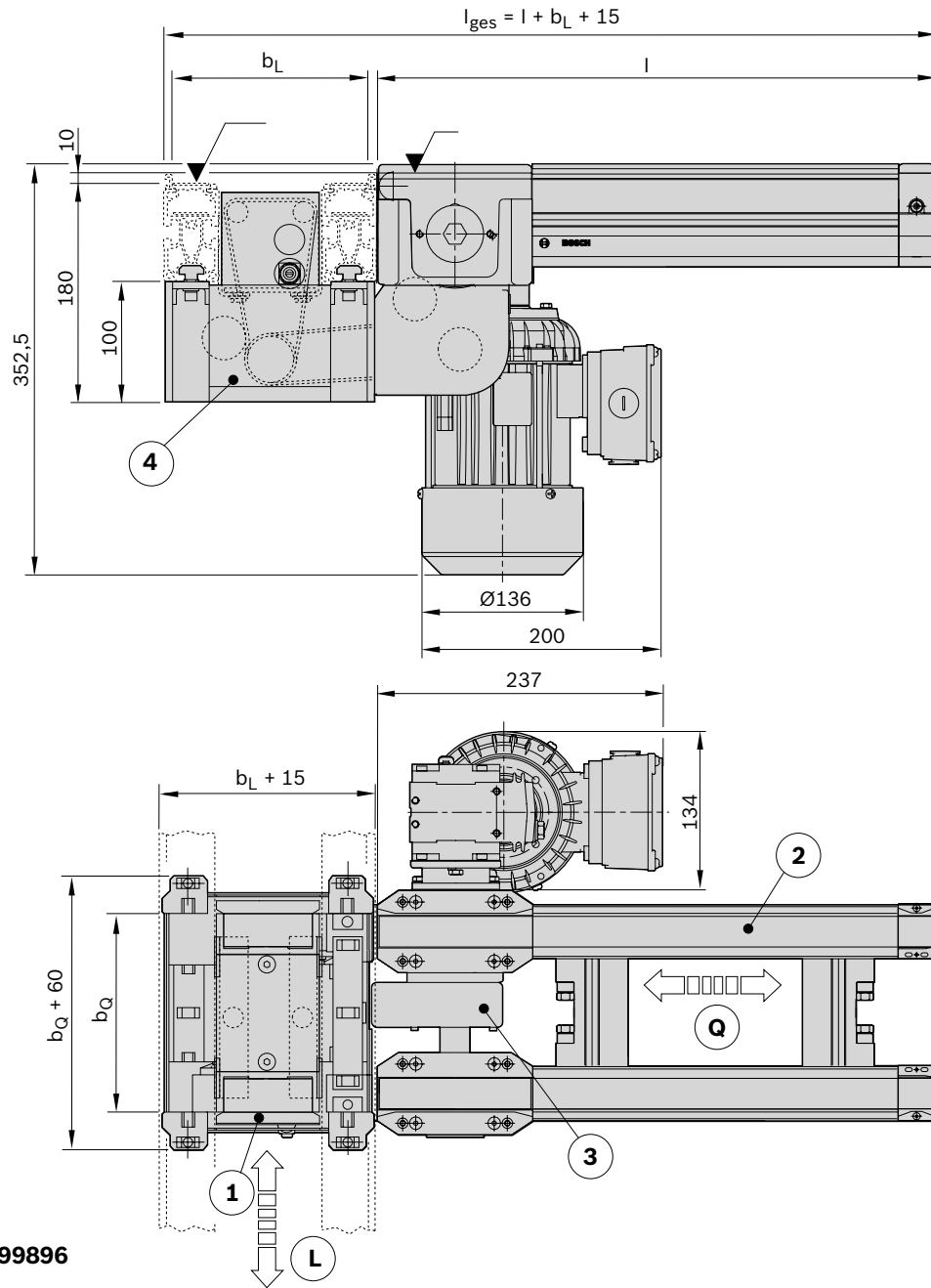
²⁾ PN = 3: Lift position upper, middle and lower position

³⁾ MA = M from b_Q ≥ 320 mm

Technical data

Material number		3842999896
Load		
Max. section load in accumulation operation	kg	60
Max. total weight of workpiece pallet m _G	kg	30
Features		
ESD		yes
Design		
Baugröße/Size/Taille	BG	BG 1; BG 2
Additional information		
Required compressed air connection p	bar	4 ... 6
Pneumatic push-in fitting	Ø	6

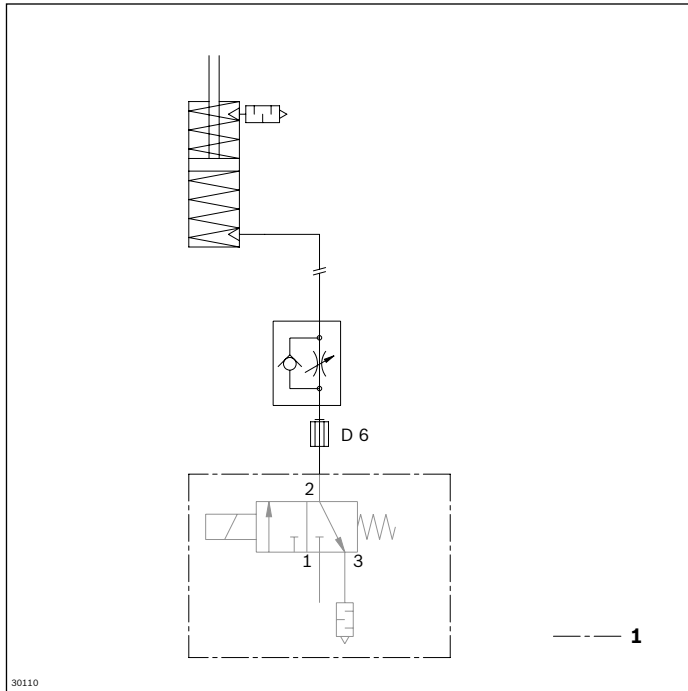
Dimensions



00116082

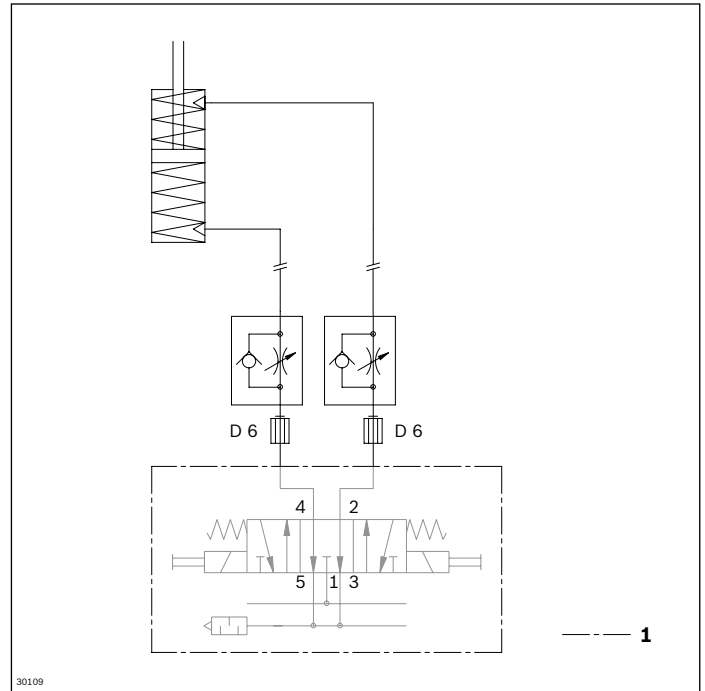
- L Longitudinal conveyor transport direction
- Q Transport direction of transverse conveyor
- 1 HQ 2/O lift transverse unit
- 2 BS 2/TE belt section
- 3 Connecting kit
- 4 Housing element

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



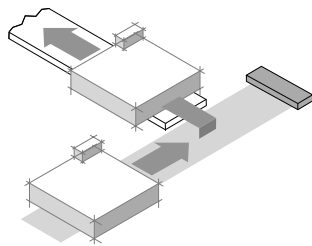
1 Not included in scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

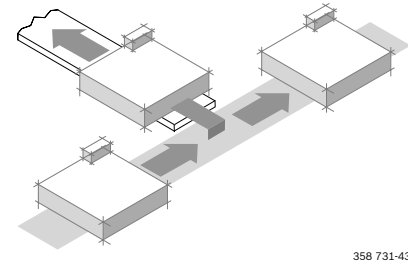


1 Not included in scope of delivery

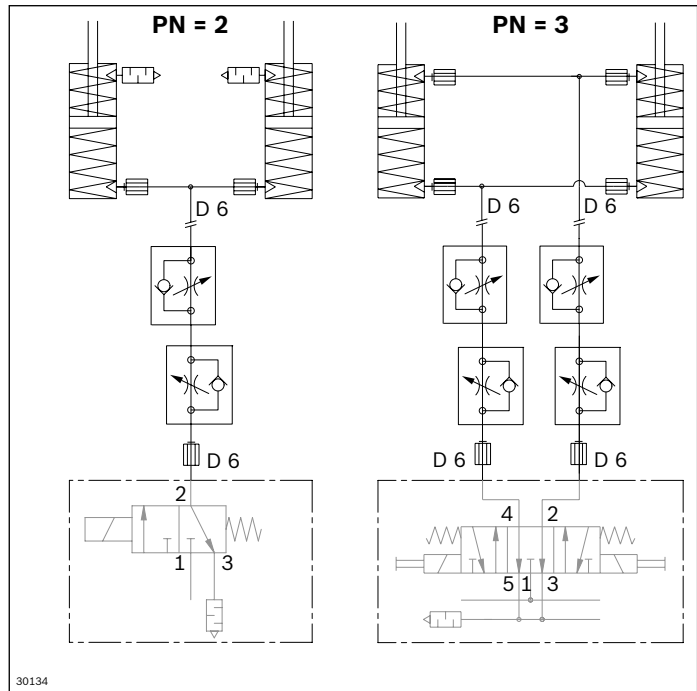
PN = 2



PN = 3



Circuit diagram for unit with pneumatic equipment, BG 2



HQ 2/... lift transverse units

The lift transverse units have to:

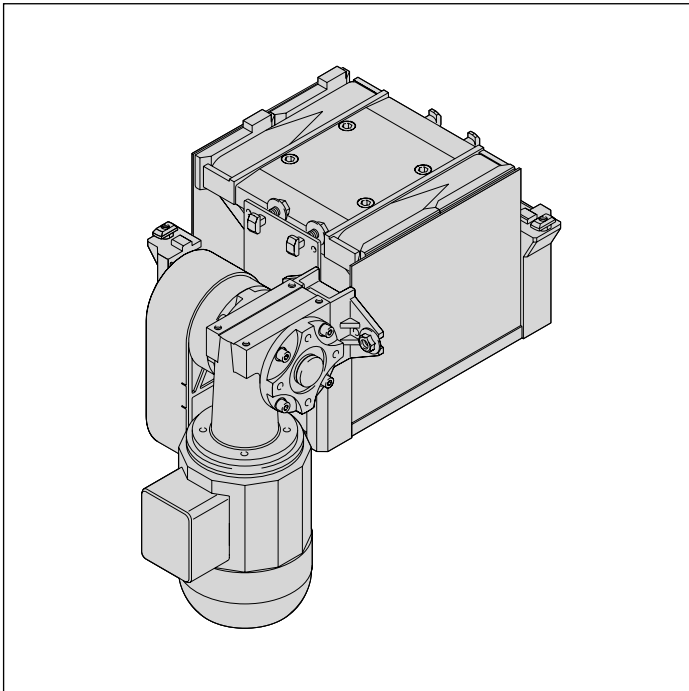
- Move the workpiece pallets from a longitudinal conveyor section to a transverse conveyor section,
- To move the workpiece pallets from a transverse conveyor onto a longitudinal conveyor section.

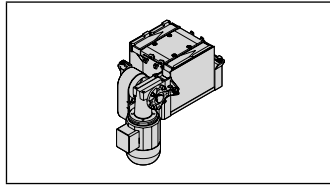
Lift transverse units for overall workpiece pallet weights up to 240 kg are available for the TS 2plus transfer system.

All lift transverse units have one thing in common – the vertical pneumatic movement and horizontal transportation action.

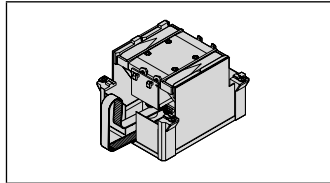
The vertical movement can be positioned in three positions:

- Spring-centered middle position
(basic position, 1 mm below transport level).
It serves as the transport position when the lug cam is lowered and as the locked position when the lug cam is raised
- Transverse conveying position
(10 mm above transport level of longitudinal conveyor)
- Lower transport position
(11 mm below conveying level).
In this low position a workpiece pallet is also released onto a longitudinal conveyor section when the lug cam is raised

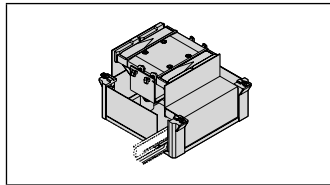


**HQ 2/S lift transverse units**

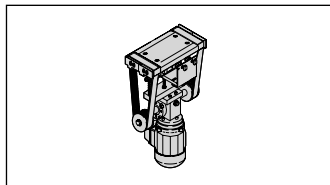
160 x 160 ... 800 x 480

**5-28****HQ 2/O lift transverse units**

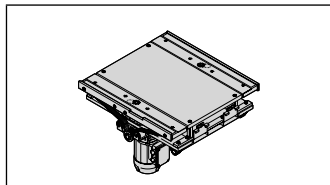
160 x 160 ... 800 x 480

**5-33****HQ 2/T lift transverse units**

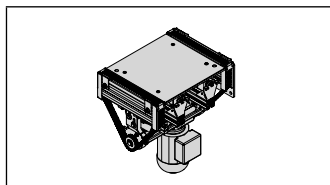
160 x 160 ... 800 x 480

**5-49****HQ 2/U lift transverse units**

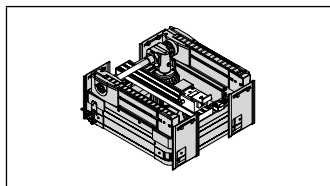
160 x 160 ... 400 x 400; 480 x 320

**5-57****HQ 2/U2 lift transverse units**

400 x 400 ... 800 x 640

**5-61****HQ 2/U-H lift transverse units**

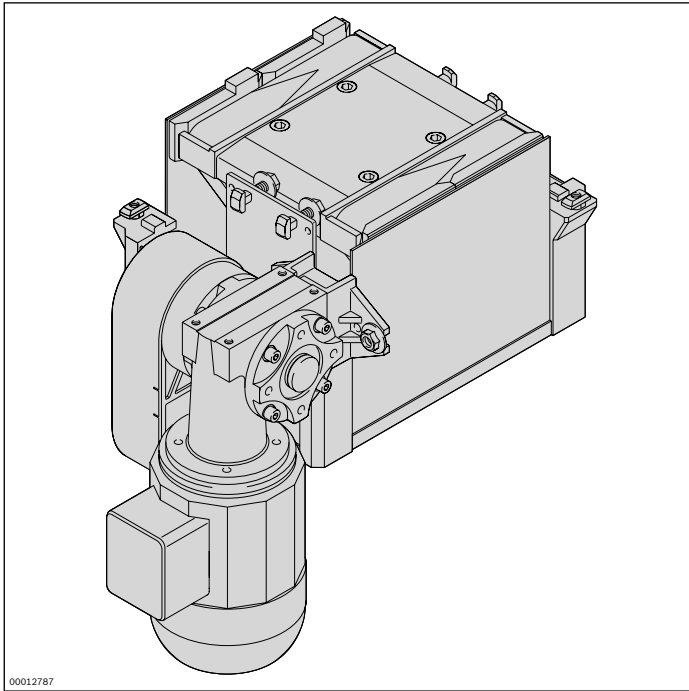
240 x 240 ... 640 x 640

**5-65****HQ 2/C-H lift transverse units**

480 x 640 ... 1200 x 1200

**5-71**

HQ 2/S lift transverse unit



The vertical movement is delivered by pneumatic cylinders. Two sizes are available:
Size 1 (BG 1) for total weights (workpiece pallet + load) up to 30 kg by one lifting cylinder.

Accessories

Required accessories

- ▶ 1x M12x1 sensor with $S_N = 4$ mm rated sensing range for each position inquiry, see p. 8-110/8-112

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry
- ▶ Housing element

- ▶ Lift transverse unit for feeding out from a longitudinal section into a transverse section and vice versa
- ▶ Low height with motor mounted on side. It is therefore suitable for the operation of double-deck conveyor sections
- ▶ In two sizes with one or two lifting cylinders
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Note: Reversible operation possible

Size 2 (BG 2) for total weights (workpiece pallet + load) up to 50 kg by two lifting cylinder for workpiece pallet dimensions from 400 x 480 mm.

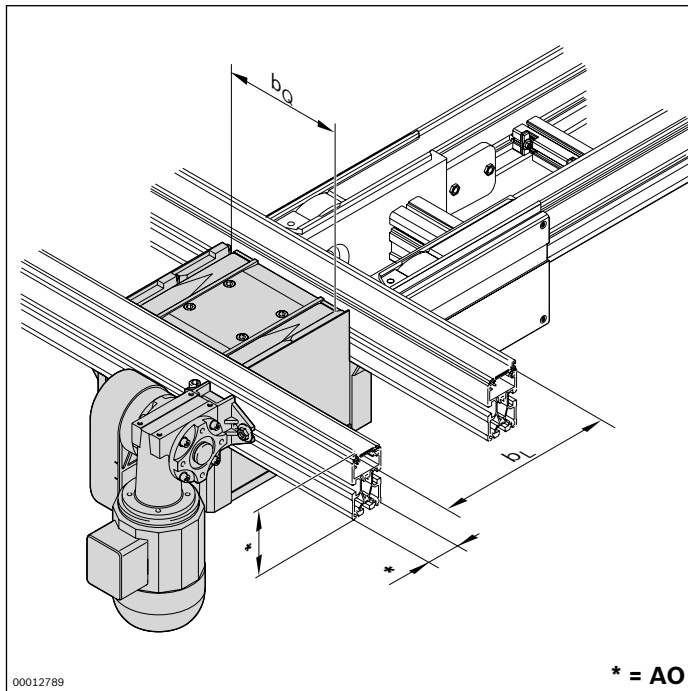
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rockers (see p. 8-126ff), WI/M (see p. 8-120)
DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65),
DA 2/100-C dampers for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- ▶ Pre-assembled in modular units
- ▶ Housing element, not assembled

Ordering information



Material number		3842999888
b _Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _Q x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400 480 x 320 BG 2: 400 x 480 480 x 400; 480 640 x 400; 480 800 x 400; 480
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K

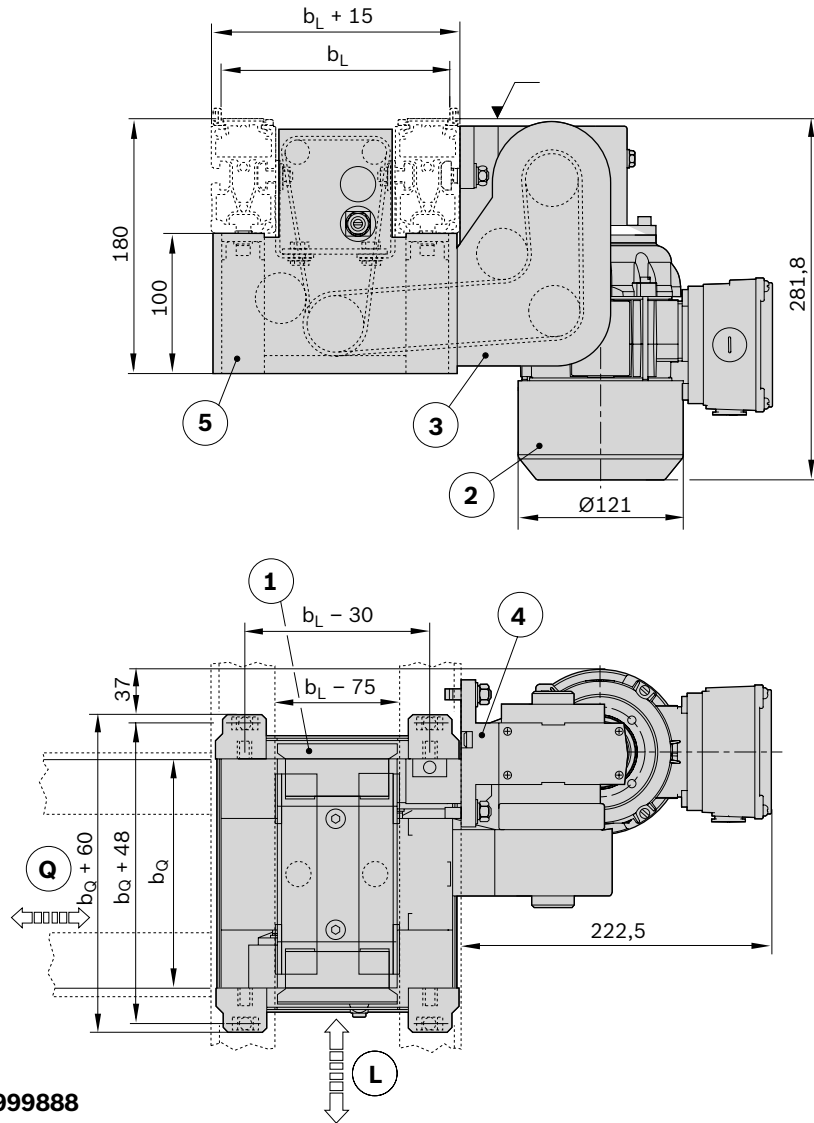
¹⁾ PN = 2: Lift position upper and middle position

²⁾ PN = 3: Lift position upper, middle and lower position

Technical data

Material number		3842999888
Load		
Max. total weight of workpiece pallet	m _G	kg
		BG 1: 30 BG 2: 50
Features		
ESD		yes
Design		
Baugröße/Size/Taille	BG	BG 1; BG 2
Additional information		
Required compressed air connection	p	bar
		4 ... 6
Pneumatic push-in fitting	Ø	mm
		6

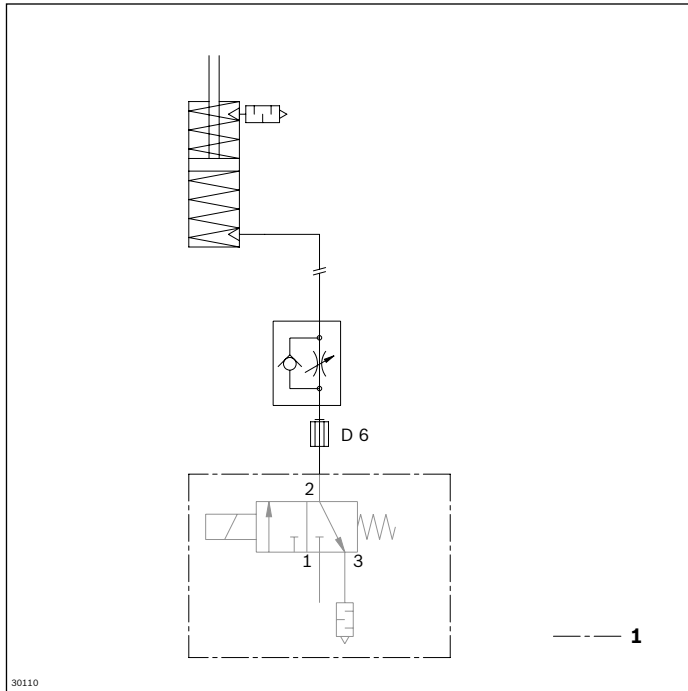
Dimensions



00116035

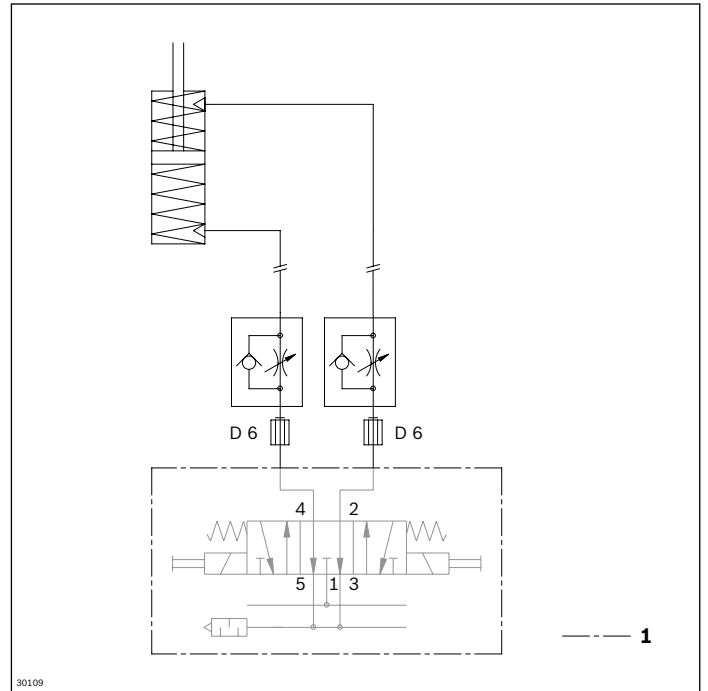
- 1 HQ 2/S lift transverse unit
- 2 Drive motor
- 3 Connecting kit
- 4 Motor attachment kit
- 5 Housing element

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



1 Not included in scope of delivery

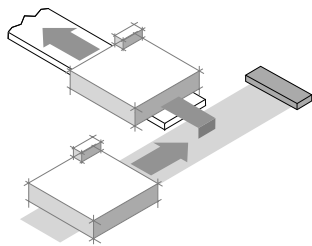
Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1



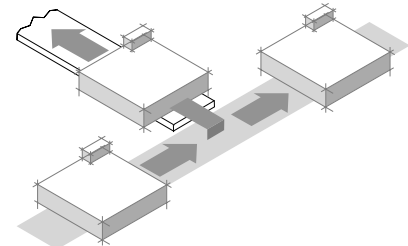
1 Not included in scope of delivery

5

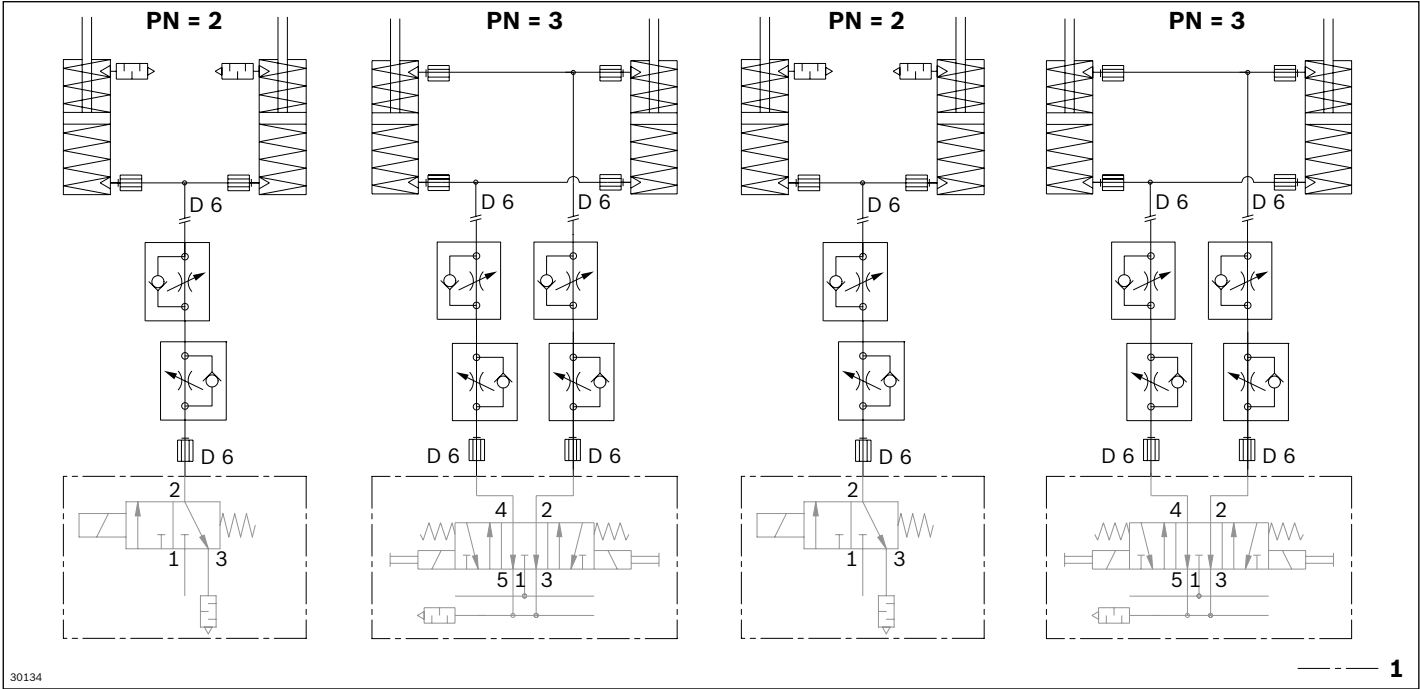
PN = 2



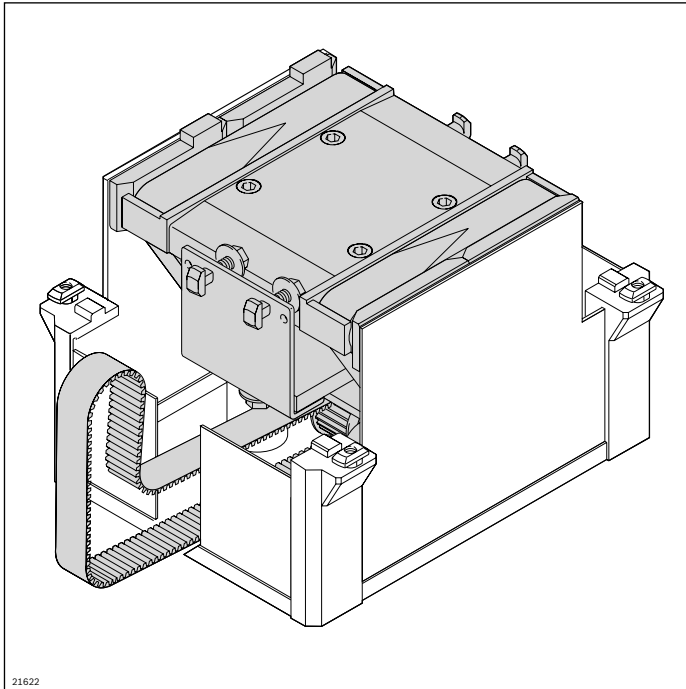
PN = 3



Circuit diagram for unit with pneumatic equipment, BG 2



HQ 2/O lift transverse unit



- ▶ Lift transverse unit without own drive for feeding out from a longitudinal section into a transverse section and vice versa
- ▶ Drive by toothed belt coupling
- ▶ The low height is suitable for the operation of double-deck conveyor sections
- ▶ Suitable for use in special designs
- ▶ In two sizes with one or two lifting cylinders
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2 and WT 2/F

Note: Reversible operation possible

The HQ 2/O does not have its own drive. Driven by a toothed belt coupled with a BS 2/T, BS 2/TE belt section or by a separate drive motor. It is a part of all electrical transverse conveyors EQ 2/... and can also be used in special system designs. The vertical movement is delivered by pneumatic cylinders.

Two sizes are available:

Size 1 (BG 1) for total weights (workpiece pallet + load) up to 30 kg by one lifting cylinder.

Size 2 (BG 2) for total weights (workpiece pallet + load) up to 50 kg by two lifting cylinder for workpiece pallet dimensions from 400 x 480 mm.

Accessories

Required accessories

- ▶ 1x M12x1 sensor with $S_N = 4$ mm rated sensing range for each position inquiry, see p. 8-110/8-112
- ▶ BS 2/T belt section (see p. 5-43), BS 2/TE belt section (see p. 5-46) for driving
- ▶ HQ 2/T (s. S. 5-49) in the tandem version
- ▶ Connection belt set for HQ 2/O drive (see p. 5-38) via a belt section
- ▶ SK 2/... housing element, see p. 5-39

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry

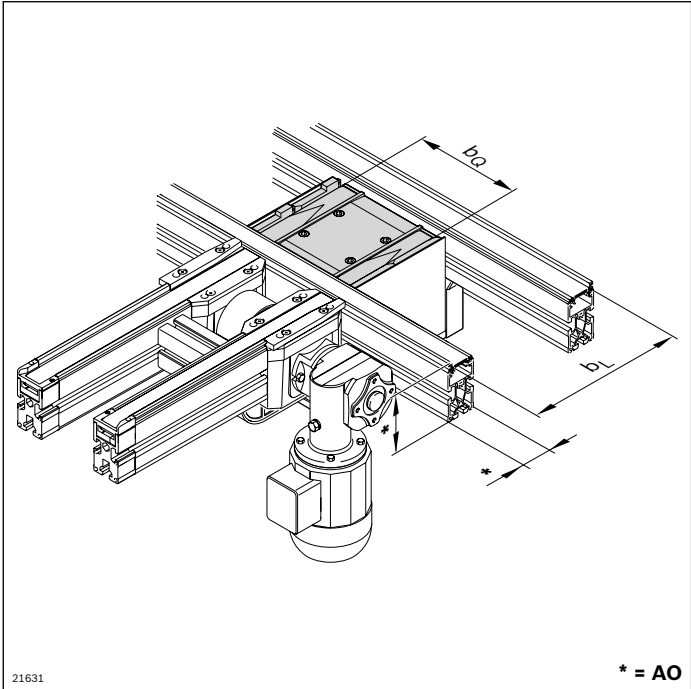
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rockers (see p. 8-126ff), WI/M (see p. 8-120)
- ▶ DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65), DA 2/100-C dampers for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- ▶ Fully assembled

Ordering information



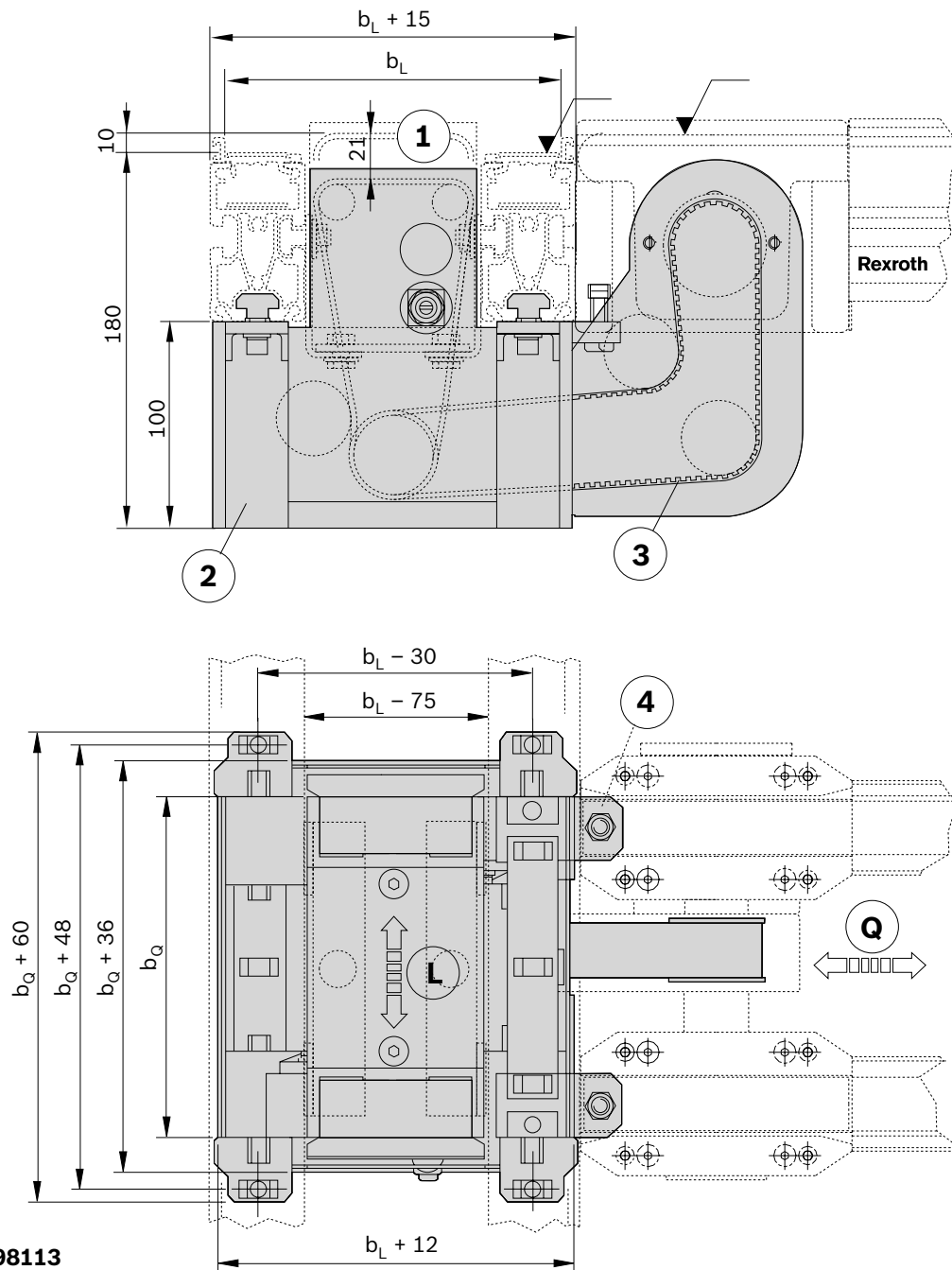
Material number		3842998113
b _G (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _G x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400 480 x 320 BG 2: 400 x 480 480 x 400; 480 640 x 400; 480 800 x 400; 480
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾

¹⁾ PN = 2: Lift position upper and middle position
²⁾ PN = 3: Lift position upper, middle and lower position

Technical data

Material number			3842998113
Load			
Max. total weight of workpiece pallet	m _G	kg	BG 1: 30 BG 2: 50
Features			
ESD			yes
Design			
Baugröße/Size/Taille	BG		BG 1; BG 2
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

Dimensions



L Transport direction of longitudinal conveyor section

Q Transport direction of transverse conveyor section

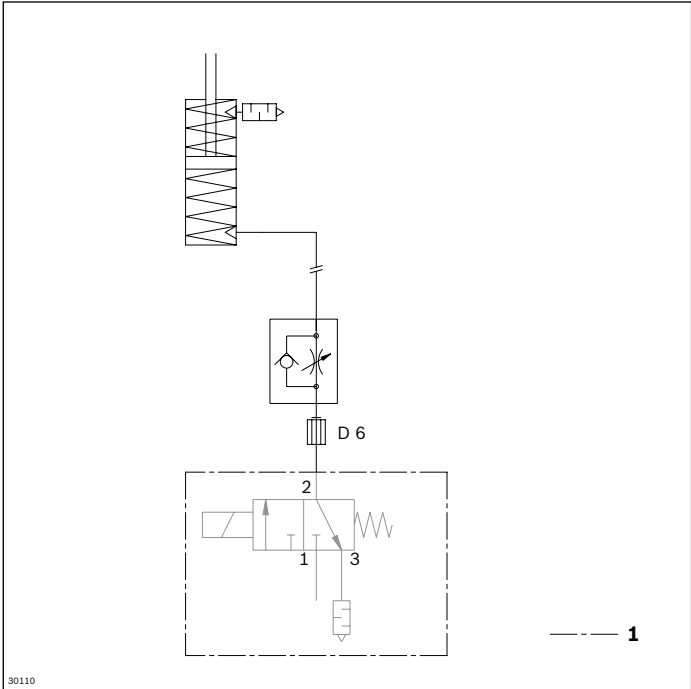
1 Stroke

2 Housing element

3 Toothed belt for drive

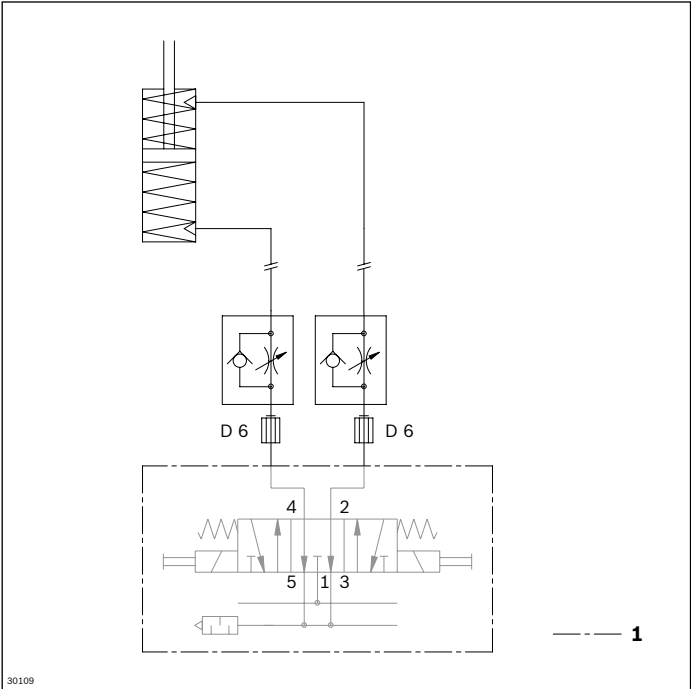
4 Attachment for BS 2/T

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1

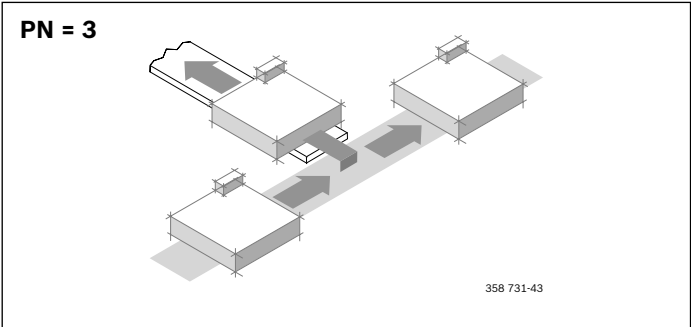
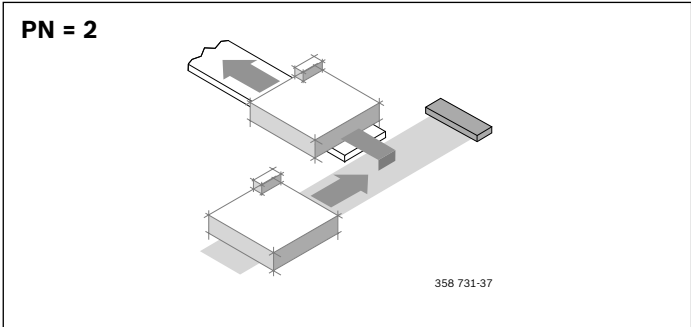


1 Not included in scope of delivery

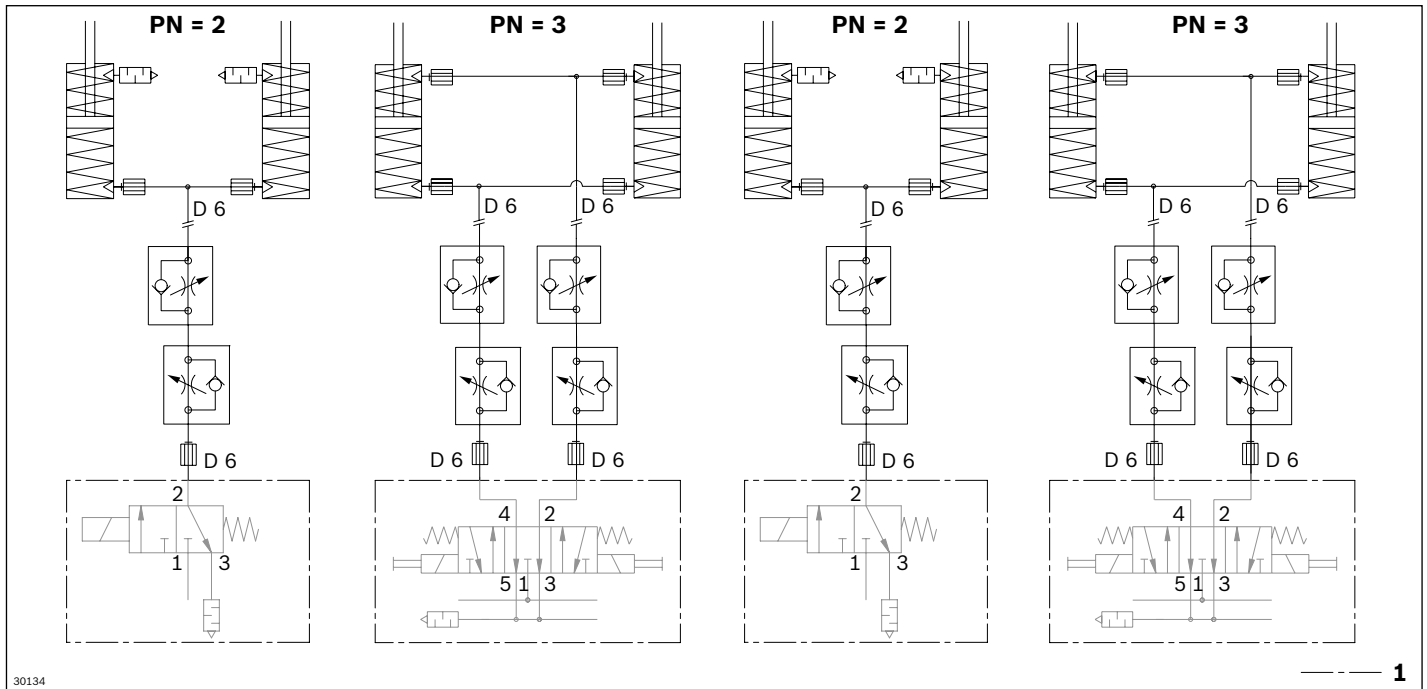
Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1



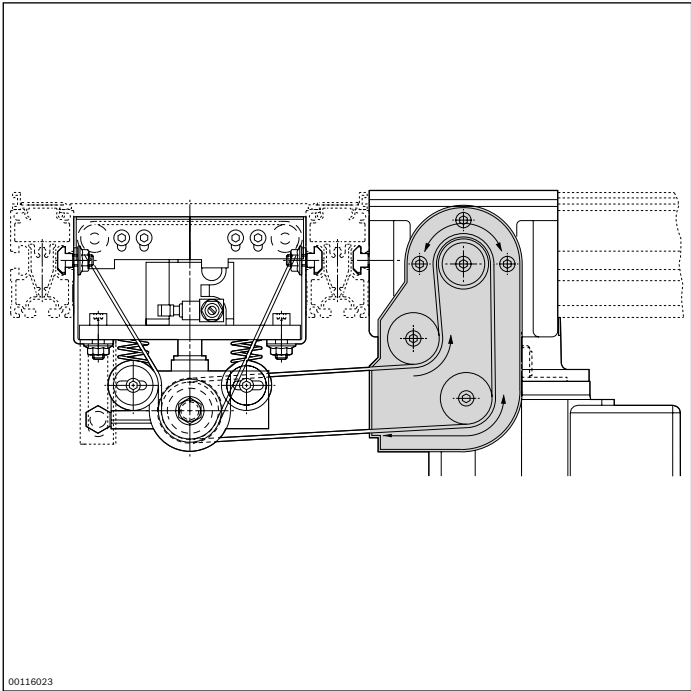
1 Not included in scope of delivery



Circuit diagram for unit with pneumatic equipment, BG 2



Connection belt for HQ 2/O



If the HQ 2/O lift transverse unit is driven via a belt section, a connection belt set is required. The HQ 2/O (BG 1 or BG 2) can be combined with BS 2/TE or BS 2/T using the

connection belt set. The b_Q and b_L parameters are decisive for selection of the connection belt set.

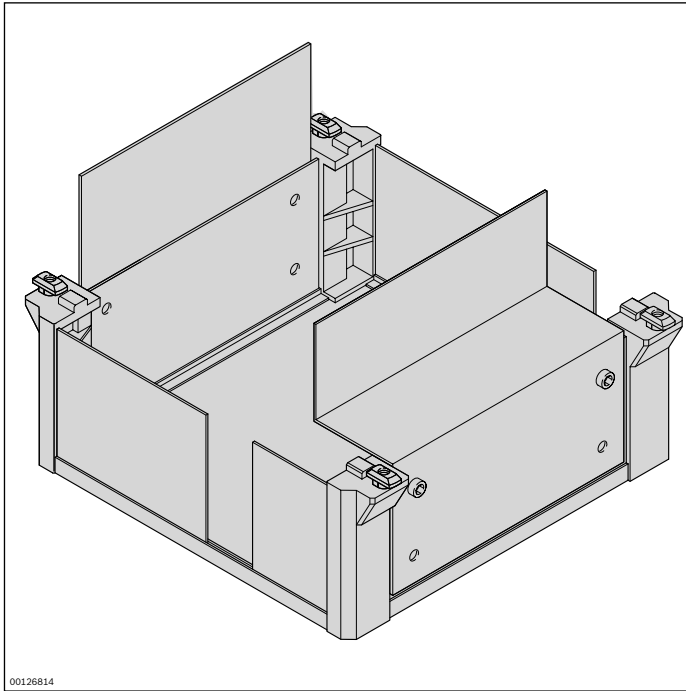
Ordering information

Material number		3842328196	3842328197
$b_Q \times b_L$ (mm x mm)	HQ 2/O combination possibilities	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400 480 x 320	BG 2: 400 x 480 480 x 400; 480 640 x 400; 480 800 x 400; 480

Technical data

Material number		3842328196	3842328197
Design			
Baugröße/Size/Taille	BG	BG 1	BG 2

Housing element for SK 2



► Housing element for HQ 2/O in connection with HQ 2/T

5

Ordering information

Product designation	b ₀ x b _L (mm)	Material number
Housing element for SK 2	160 x 160	3842345100
Housing element for SK 2	160 x 240	3842345105
Housing element for SK 2	160 x 320	3842345110
Housing element for SK 2	240 x 160	3842345101
Housing element for SK 2	240 x 240	3842345106
Housing element for SK 2	240 x 320	3842345111
Housing element for SK 2	240 x 400	3842345116
Housing element for SK 2	320 x 160	3842345102
Housing element for SK 2	320 x 240	3842345107
Housing element for SK 2	320 x 320	3842345112
Housing element for SK 2	320 x 400	3842345117
Housing element for SK 2	400 x 240	3842345108
Housing element for SK 2	400 x 320	3842345113
Housing element for SK 2	400 x 400	3842345118
Housing element for SK 2	400 x 480	3842345126
Housing element for SK 2	480 x 320	3842345114
Housing element for SK 2	480 x 400	3842345121
Housing element for SK 2	480 x 480	3842345127
Housing element for SK 2	640 x 400	3842345123
Housing element for SK 2	640 x 480	3842345129
Housing element for SK 2	800 x 400	3842345125
Housing element for SK 2	800 x 480	3842345131

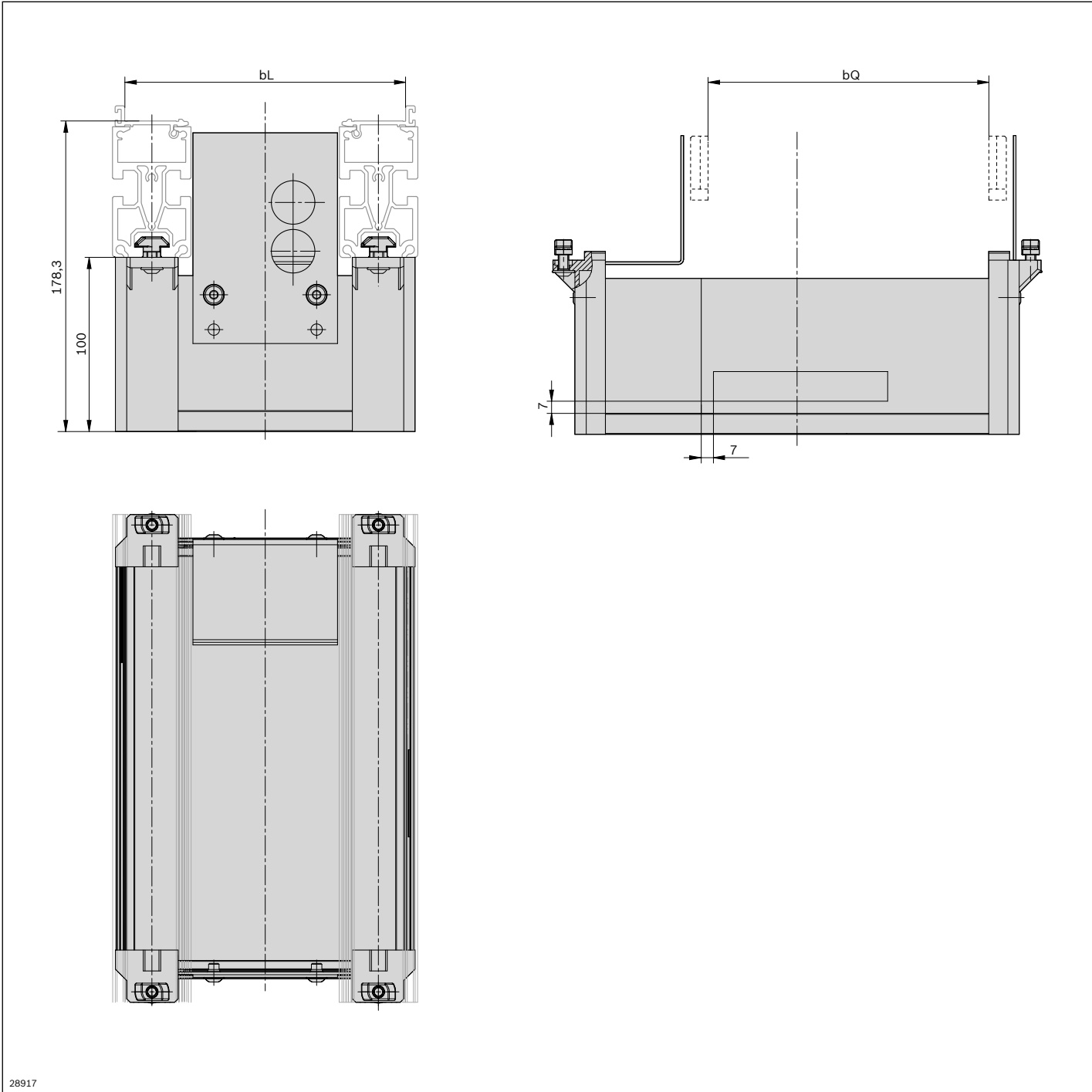
Technical data

Material number	3842345100	3842345107	3842345113	3842345118	3842345126
	3842345101	3842345108	3842345114	3842345121	3842345127
	3842345102	3842345110	3842345116	3842345123	3842345129
	3842345105	3842345111	3842345117	3842345125	3842345131
	3842345106	3842345112			

Features

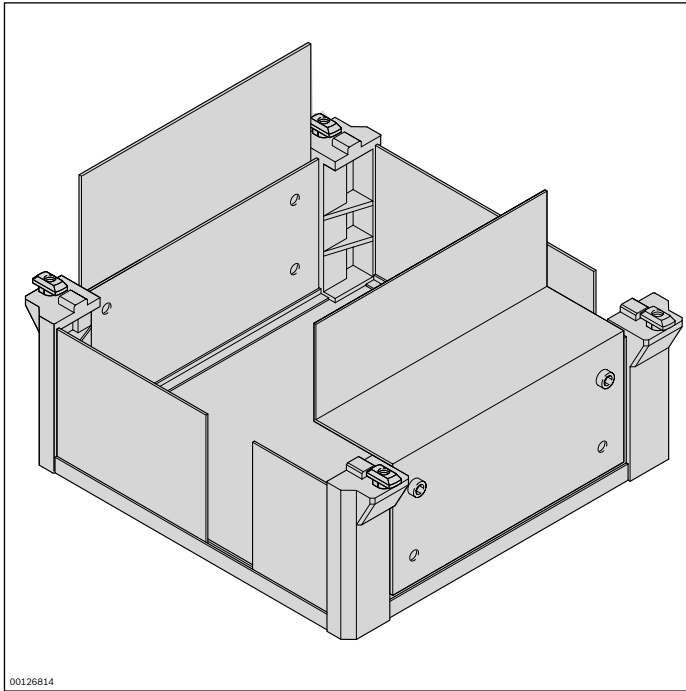
Material specification	Aluminum; anodized PA 66; black
------------------------	------------------------------------

Dimensions



28917

Housing element for SK 2/B



- Housing element for HQ 2/O in conjunction with BS 2/T, BS 2/TE

5

Ordering information

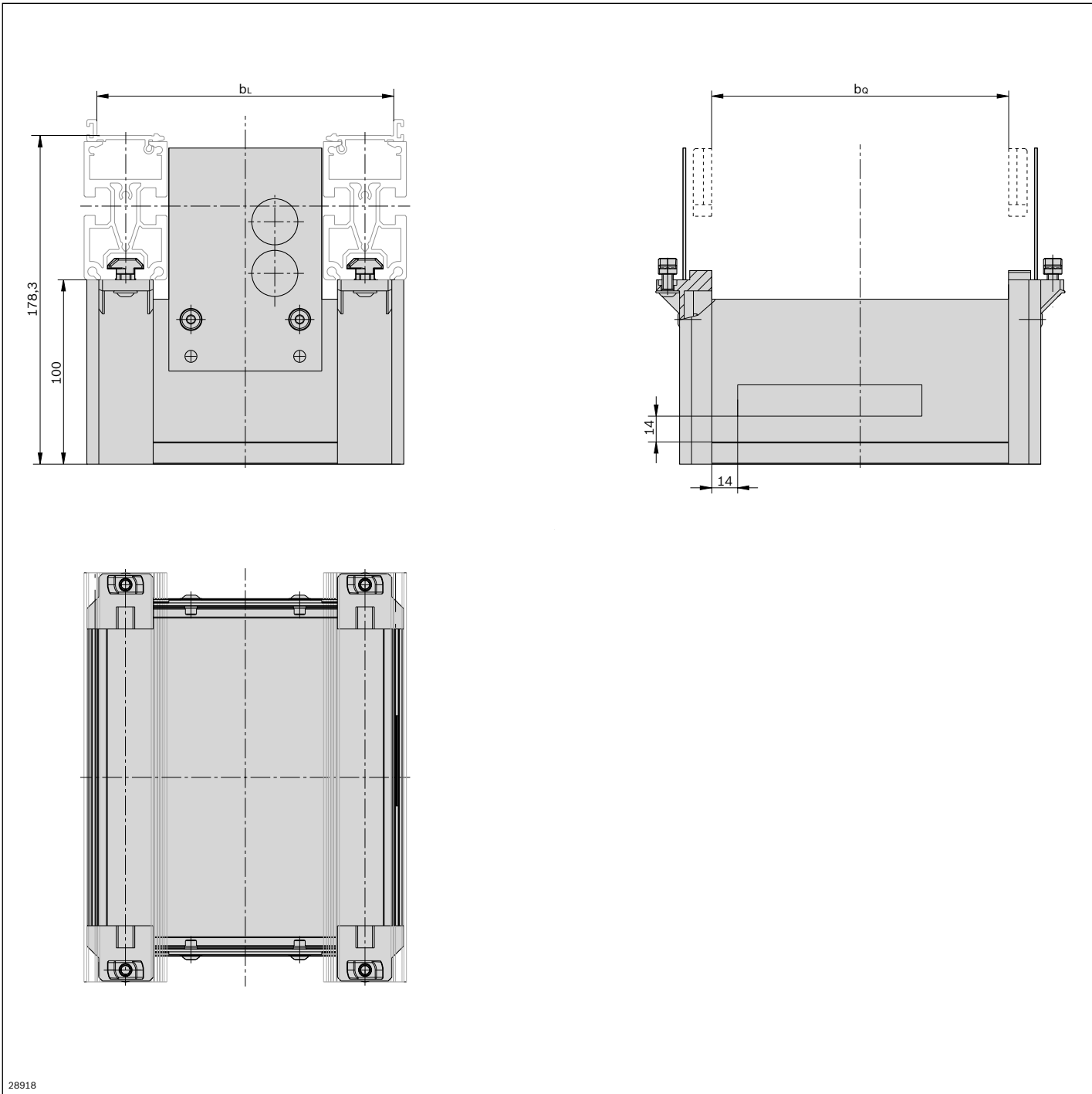
Product designation	b ₀ x b _L (mm)	Material number
Housing element for SK 2/B	160 x 160	3842338750
Housing element for SK 2/B	160 x 240	3842338755
Housing element for SK 2/B	160 x 320	3842338760
Housing element for SK 2/B	240 x 160	3842338751
Housing element for SK 2/B	240 x 240	3842338756
Housing element for SK 2/B	240 x 320	3842338761
Housing element for SK 2/B	240 x 400	3842338766
Housing element for SK 2/B	320 x 160	3842338752
Housing element for SK 2/B	320 x 240	3842338757
Housing element for SK 2/B	320 x 320	3842338762
Housing element for SK 2/B	320 x 400	3842338767
Housing element for SK 2/B	400 x 240	3842338758
Housing element for SK 2/B	400 x 320	3842338763
Housing element for SK 2/B	400 x 400	3842338768
Housing element for SK 2/B	400 x 480	3842338776
Housing element for SK 2/B	480 x 320	3842338764
Housing element for SK 2/B	480 x 400	3842338771
Housing element for SK 2/B	480 x 480	3842338777
Housing element for SK 2/B	640 x 400	3842338773
Housing element for SK 2/B	640 x 480	3842338779
Housing element for SK 2/B	800 x 400	3842338775
Housing element for SK 2/B	800 x 480	3842338781

Technical data

Material number	3842338750	3842338757	3842338763	3842338768	3842338776
	3842338751	3842338758	3842338764	3842338771	3842338777
	3842338752	3842338760	3842338766	3842338773	3842338779
	3842338755	3842338761	3842338767	3842338775	3842338781
	3842338756	3842338762			

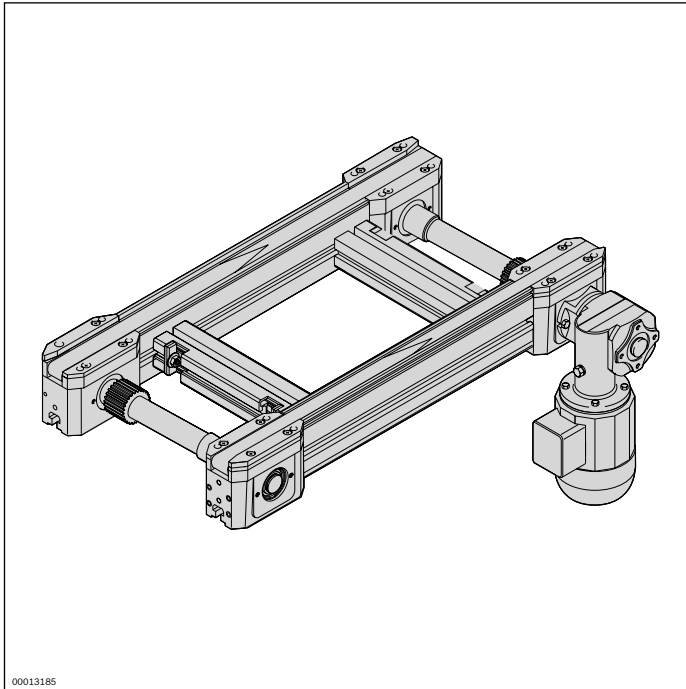
Features	
Material specification	Aluminum, anodized PA66. black

Dimensions



28918

BS 2/T belt section



- Conveyor section ready for operation with drive for transverse conveyor between parallel conveyor sections
- Additional toothed gears to drive an HQ 2/Q lift transverse unit each on both ends
- Reversible operation possible
- Conveyor medium: toothed belt
- Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

5

Additional toothed gears to drive an HQ 2/Q lift transverse unit each on both ends.

Position of the gears depend on the size of the HQ 2/O (ordering parameter UB).

Accessories

Recommended accessories

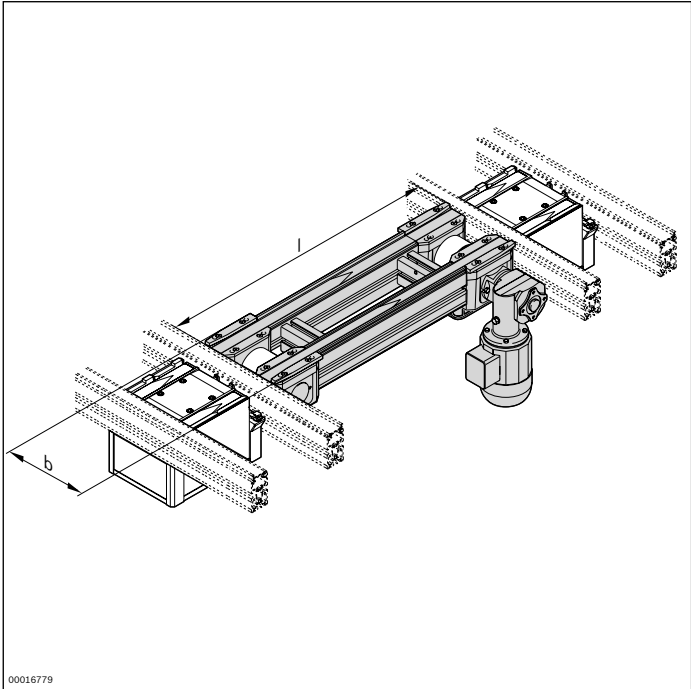
- 3842525110 connection kit (see p. 3-229) for installing the belt section between the ST 2/... conveyor sections
- SZ 2 leg sets/..., see p. 6-2

Delivery note

Condition on delivery

- Fully assembled

Ordering information



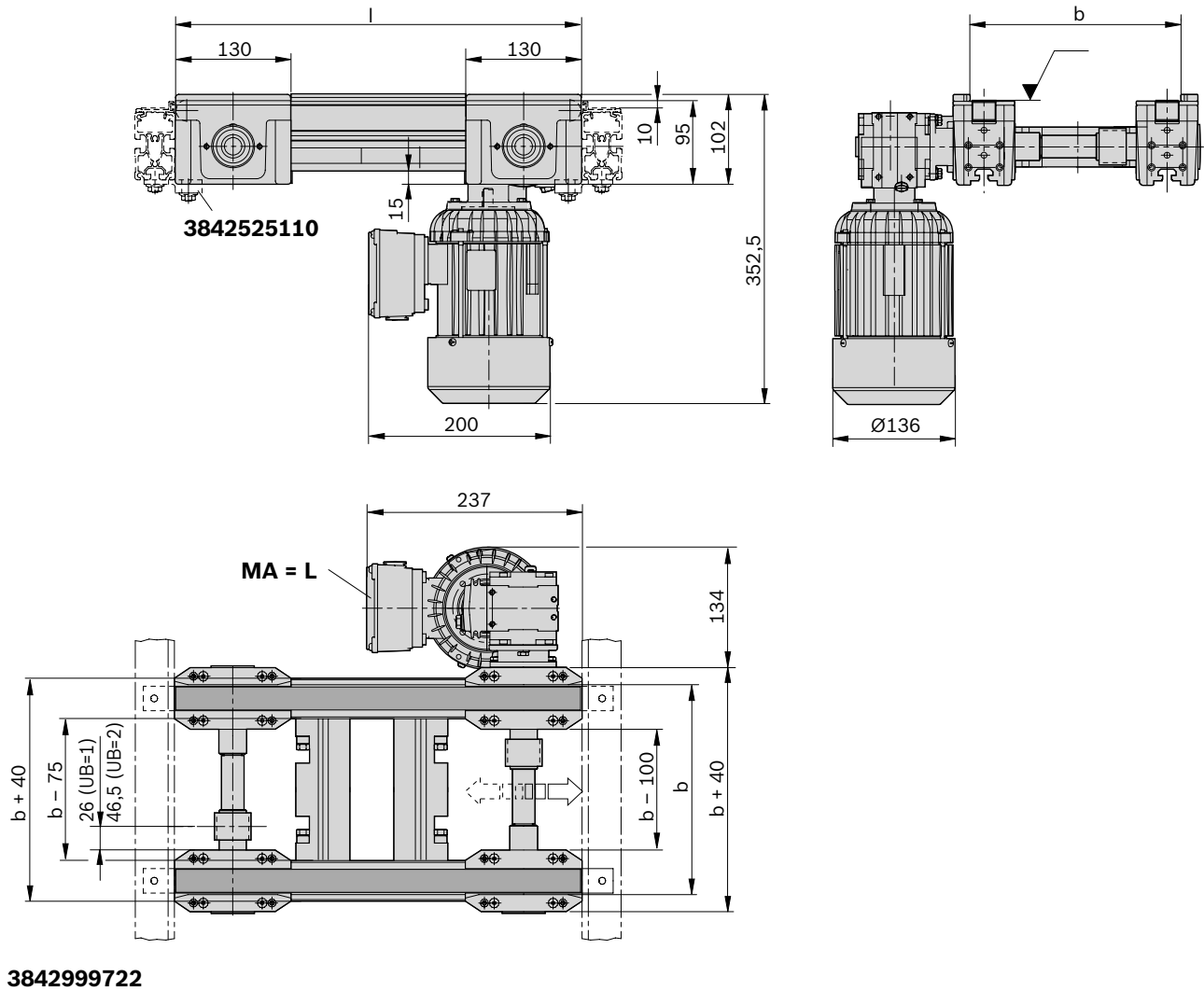
Material number		3842999722
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l (mm)	Length	320 ... 6000
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ²⁾
UB ¹⁾	Connection belt UB = 1 UB = 2	1; 2

¹⁾ UB: Connection belt for HQ 2/O size BG 1 ($b_Q \times b_L \leq 480 \times 320$ mm) or BG 2 ($b_Q \times b_L \geq 400 \times 480$ mm)
²⁾ MA = M from $b_Q \geq 320$ mm

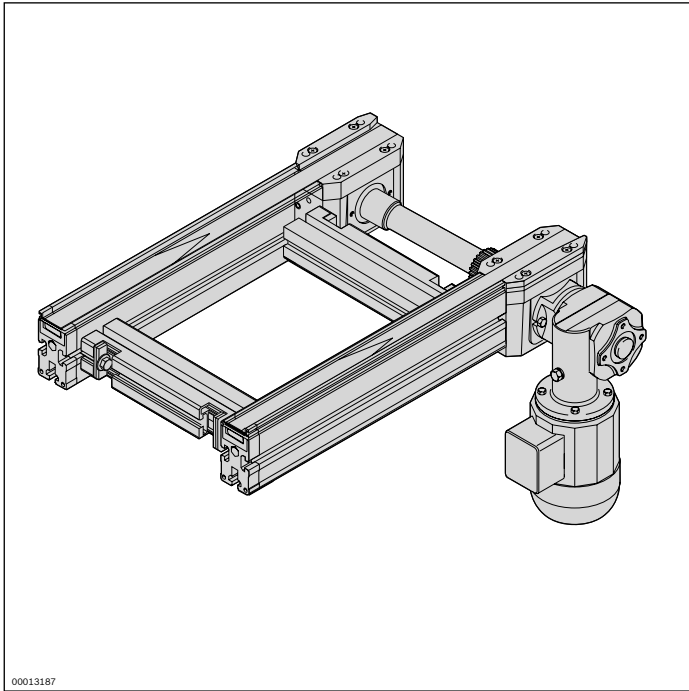
Technical data

Material number		3842999722
Load		
Max. section load in accumulation operation	kg	60
Features		
ESD		yes

Dimensions



BS 2/TE belt section



- Ready for operation with drive for transverse conveyor into a dead end
- Additional toothed gear to drive an HQ 2/O lift transverse unit
- Reversible operation possible
- Conveyor medium: toothed belt
- Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

Accessories

Recommended accessories

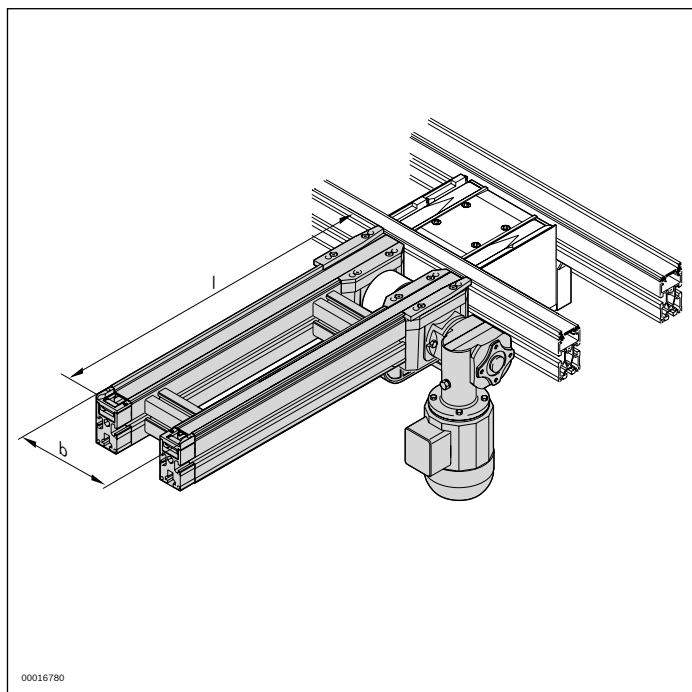
- 3842525110 connection kit (see p. 3-229) for installing the belt section between the ST 2/... conveyor sections
- SZ 2 leg sets/..., see p. 6-2

Delivery note

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999723
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l (mm)	Length	240 ... 6000
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M ²⁾
UB ¹⁾	Connection belt UB = 1 UB = 2	1; 2

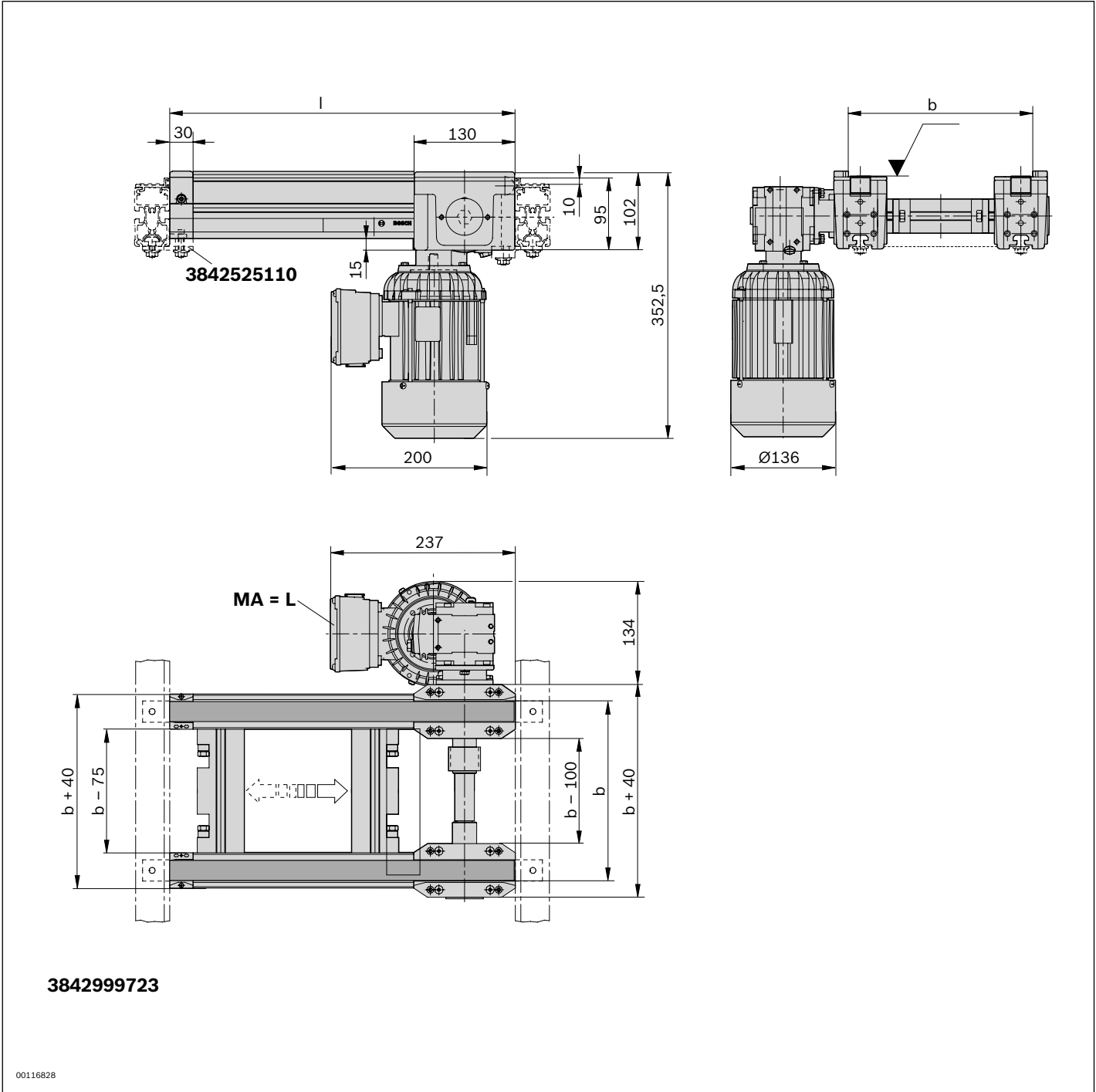
¹⁾ UB: Connection belt for HQ 2/O size BG 1 ($b_Q \times b_L \leq 480 \times 320$ mm) or BG 2 ($b_Q \times b_L \geq 400 \times 480$ mm)

²⁾ MA = M from $b_Q \geq 320$ mm

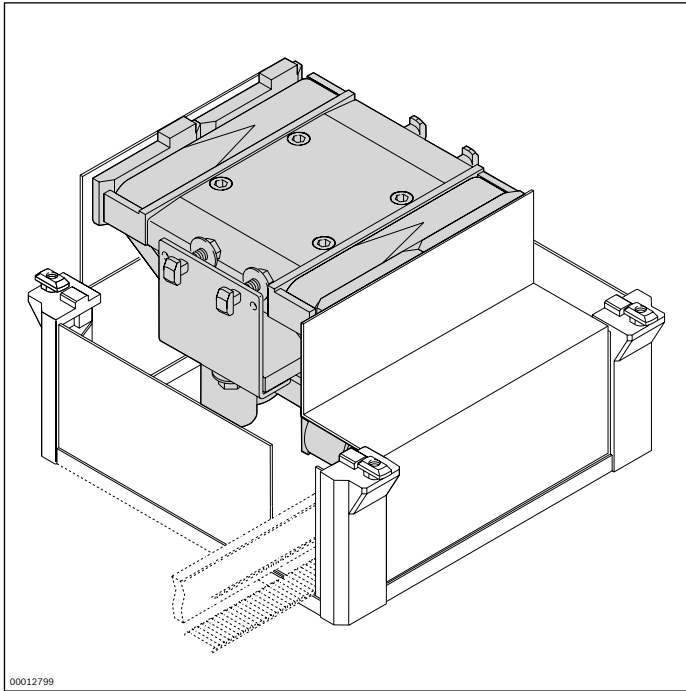
Technical data

Material number		3842999723
Load		
Max. section load in accumulation operation	kg	60
Features		
ESD		yes

Dimensions



HQ 2/T lift transverse unit



- ▶ Lift transverse unit without own drive for feeding out from a longitudinal section into a transverse section with a roller section and vice versa
- ▶ Used together with the HQ 2/O as a tandem design
- ▶ Drive by toothed belt coupling
- ▶ Suitable for use in special designs
- ▶ In two sizes with one or two lifting cylinders
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Note: Reversible operation possible

The vertical movement is delivered by pneumatic cylinders. Two sizes are available:
Size 1 (BG 1) for total weights (workpiece pallet + load) up to 30 kg by one lifting cylinder.

Size 2 (BG 2) for total weights (workpiece pallet + load) up to 50 kg by two lifting cylinder for workpiece pallet dimensions from 400 x 480 mm.

Accessories

Required accessories

- ▶ 1x M12x1 sensor with $S_N = 4$ mm rated sensing range for each position inquiry, see p. 8-110/8-112
- ▶ SK 2/H housing element (for HQ 2/O in conjunction with HQ 2/T) (see p. 5-49), SK 2/T housing element (for HQ 2/O in conjunction with BS 2/T, BS 2/TE), see p. 5-55

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry

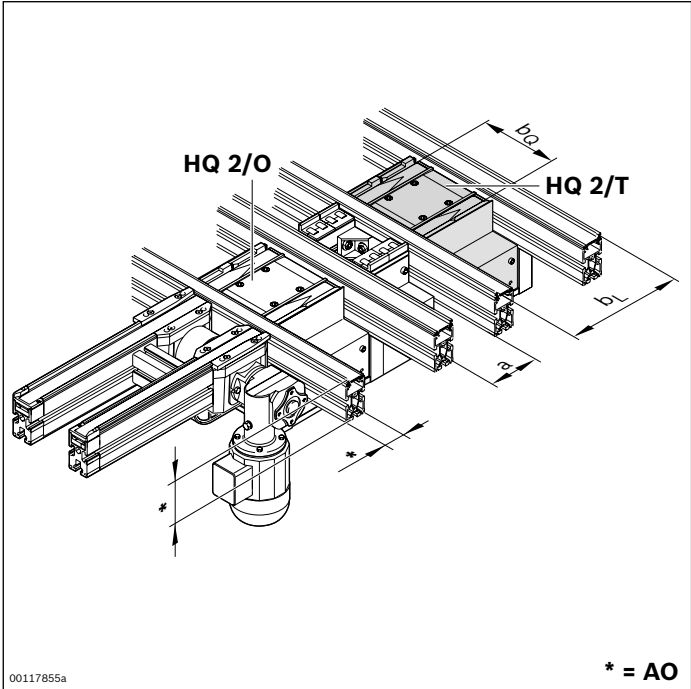
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rocker (see p. 8-118), WI/M rocker (see p. 8-120) and dampers DA 2/10, DA 2/30, DA 2/100-C for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- ▶ Fully assembled

Ordering information



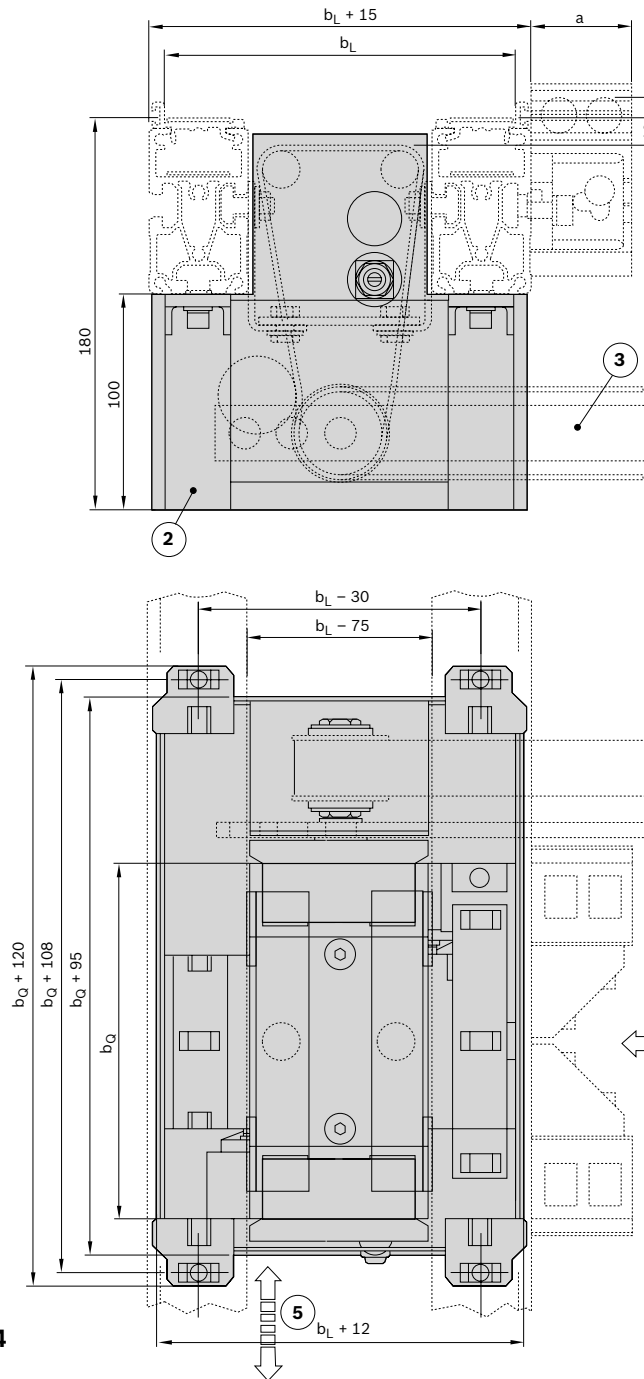
Material number		3842998114
b _Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480
b _Q x b _L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400 480 x 320 BG 2: 400 x 480 480 x 400; 480 640 x 400; 480 800 x 400; 480
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾

1) PN = 2: Lift position upper and middle position
2) PN = 3: Lift position upper, middle and lower position

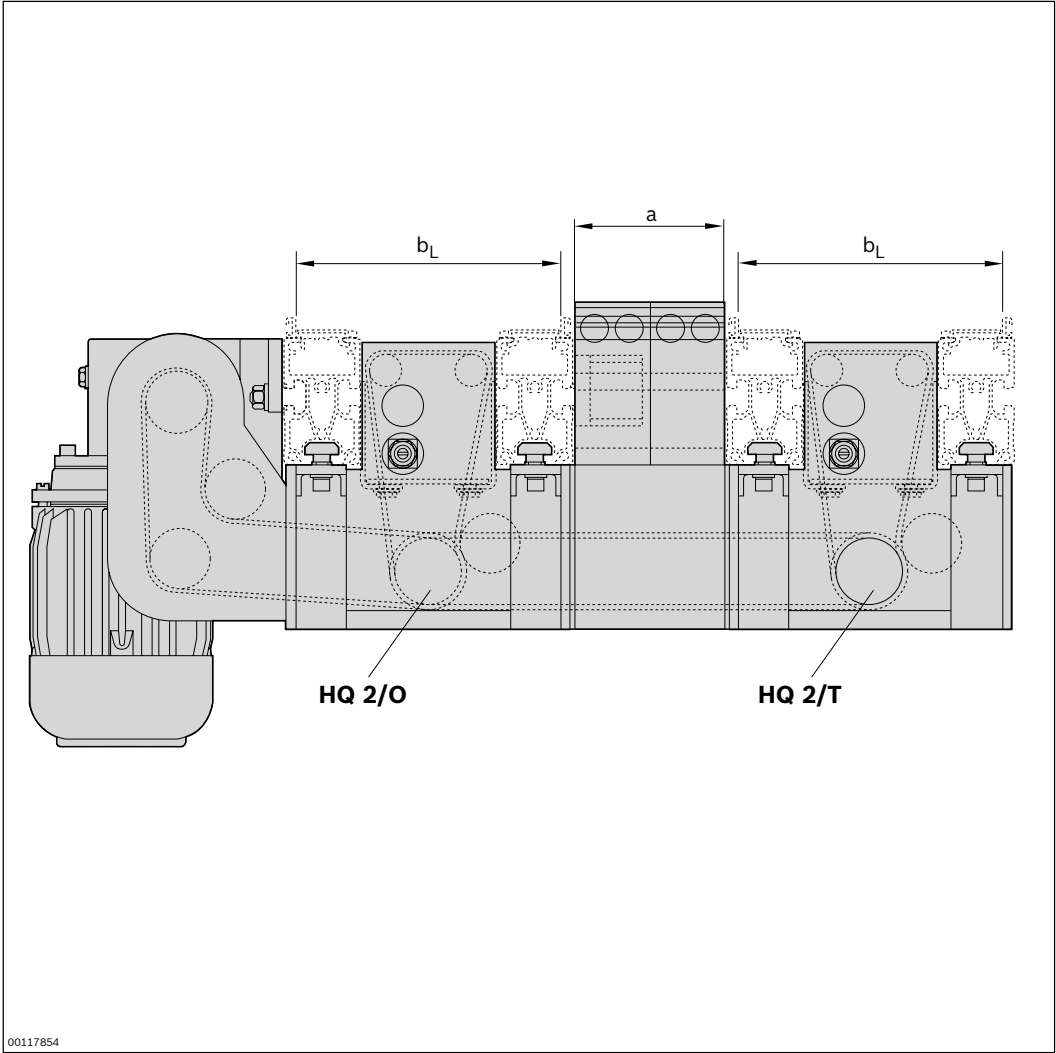
Technical data

Material number			3842998114
Load			
Max. total weight of workpiece pallet	m _G	kg	BG 1: 30 BG 2: 50
Features			
ESD			yes
Design			
Baugröße/Size/Taille	BG		BG 1; BG 2
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

Dimensions

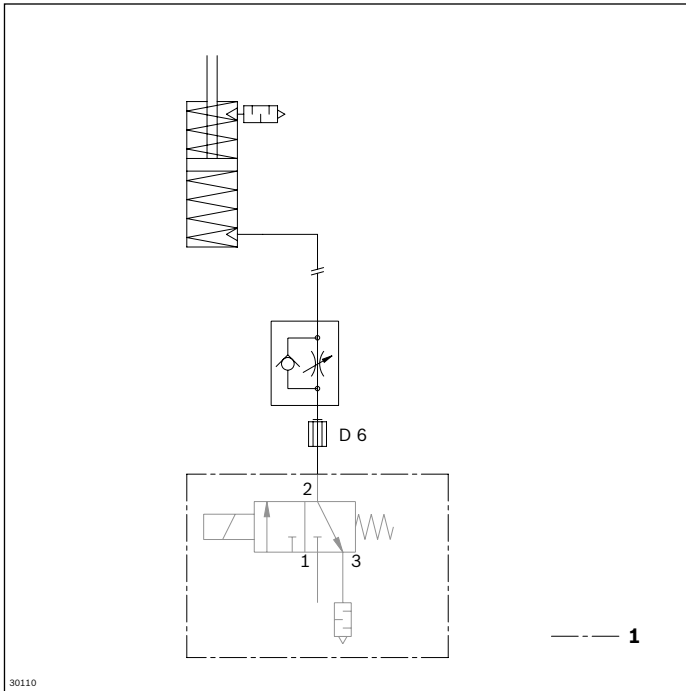


- 1 Stroke
- 2 Housing element
- 3 Drive kit for HQ 2/O-HQ 2/T
- 4 Transport direction of longitudinal conveyor section
- 5 Transport direction of transverse conveyor section



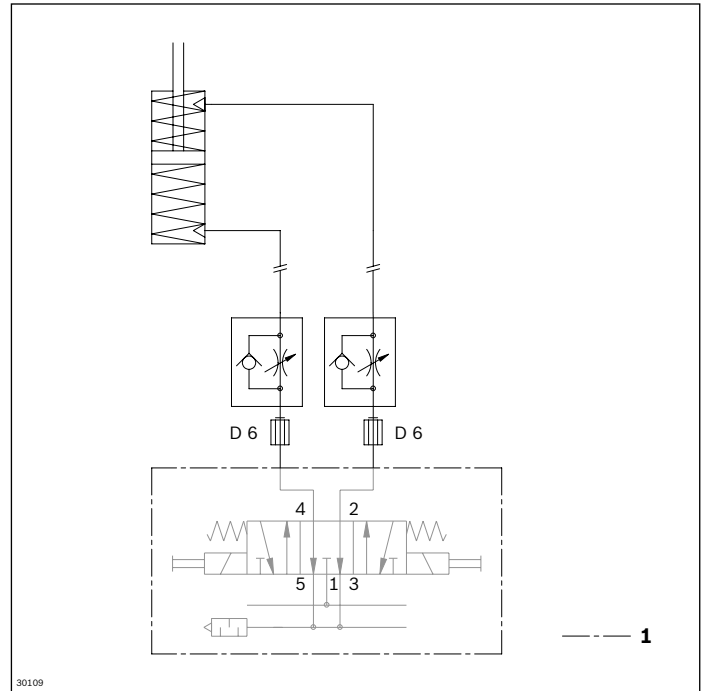
00117854

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



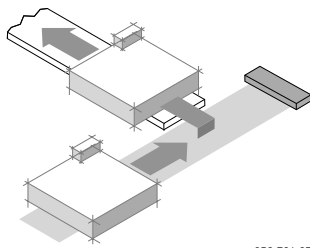
1 Not included in scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

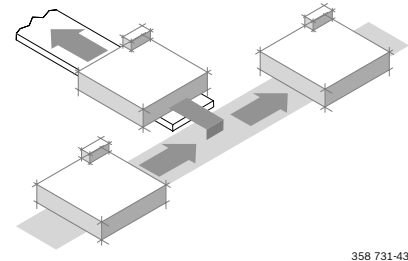


1 Not included in scope of delivery

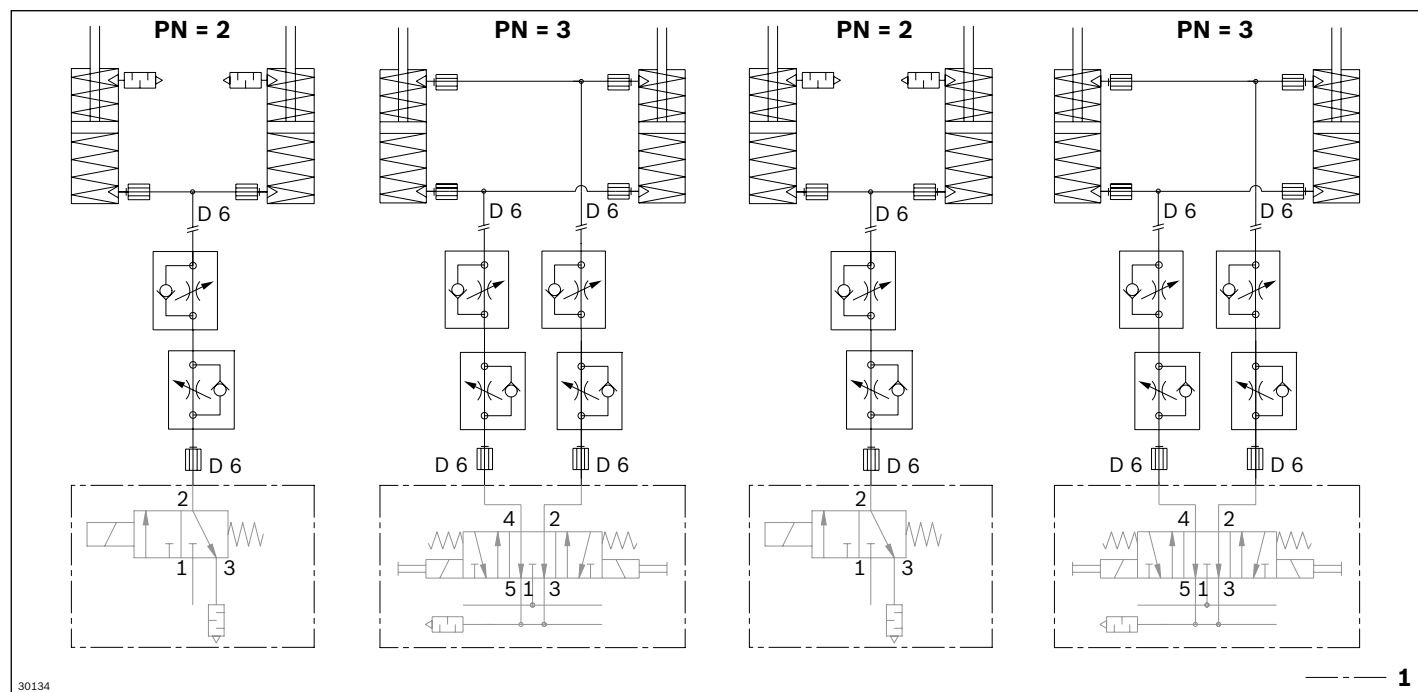
PN = 2



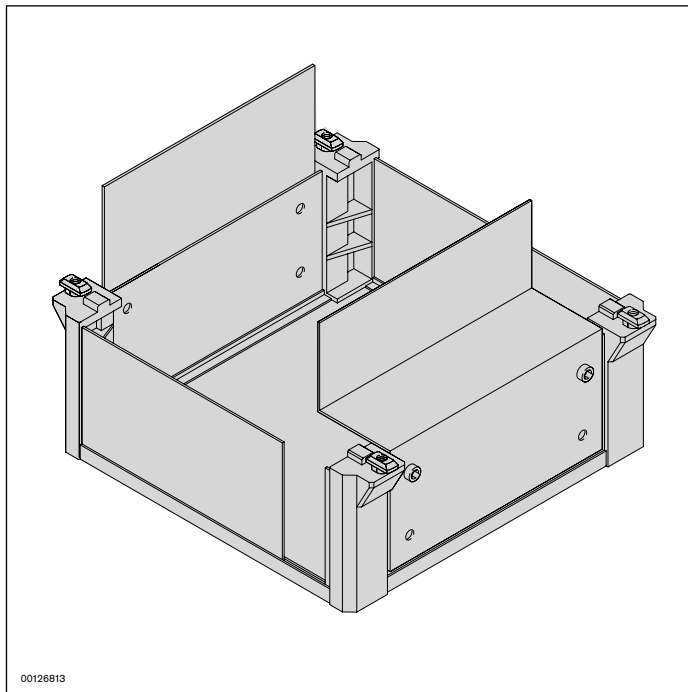
PN = 3



Circuit diagram for unit with pneumatic equipment, BG 2



SK 2/T housing element



► SK 2/T housing element for HQ 2/T

5

Ordering information

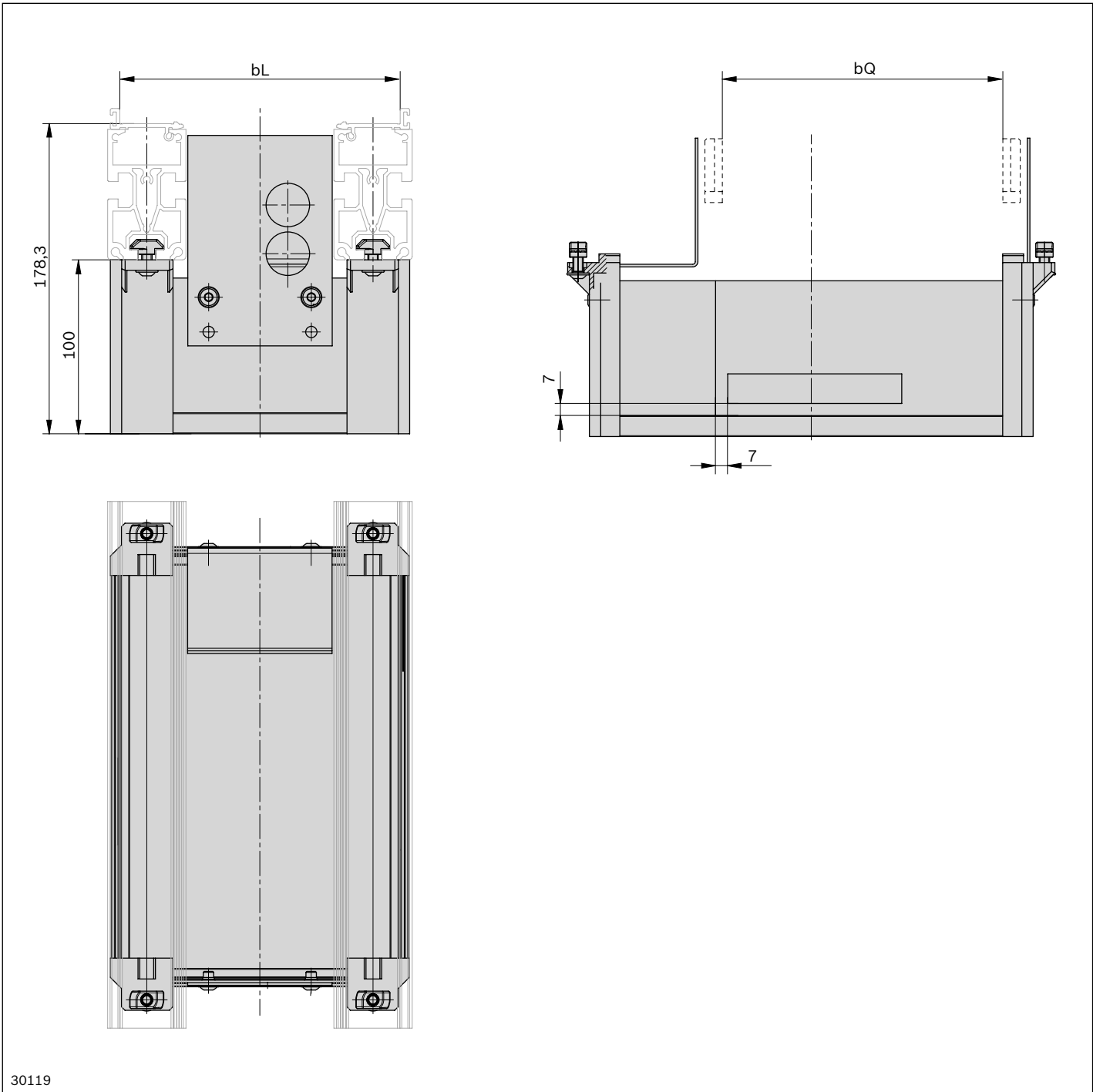
Product designation	b ₀ x b _L (mm)	Material number
Housing element for SK 2/T	160 x 160	3842345100
Housing element for SK 2/T	160 x 240	3842345105
Housing element for SK 2/T	160 x 320	3842345110
Housing element for SK 2/T	240 x 160	3842345101
Housing element for SK 2/T	240 x 240	3842345106
Housing element for SK 2/T	240 x 320	3842345111
Housing element for SK 2/T	240 x 400	3842345116
Housing element for SK 2/T	320 x 160	3842345102
Housing element for SK 2/T	320 x 240	3842345107
Housing element for SK 2/T	320 x 320	3842345112
Housing element for SK 2/T	320 x 400	3842345117
Housing element for SK 2/T	400 x 240	3842345108
Housing element for SK 2/T	400 x 320	3842345113
Housing element for SK 2/T	400 x 400	3842345118
Housing element for SK 2/T	400 x 480	3842345126
Housing element for SK 2/T	480 x 320	3842345114
Housing element for SK 2/T	480 x 400	3842345121
Housing element for SK 2/T	480 x 480	3842345127
Housing element for SK 2/T	640 x 400	3842345123
Housing element for SK 2/T	640 x 480	3842345129
Housing element for SK 2/T	800 x 400	3842345125
Housing element for SK 2/T	800 x 480	3842345131

Technical data

Material number	3842345100	3842345107	3842345113	3842345118	3842345126
	3842345101	3842345108	3842345114	3842345121	3842345127
	3842345102	3842345110	3842345116	3842345123	3842345129
	3842345105	3842345111	3842345117	3842345125	3842345131
	3842345106	3842345112			

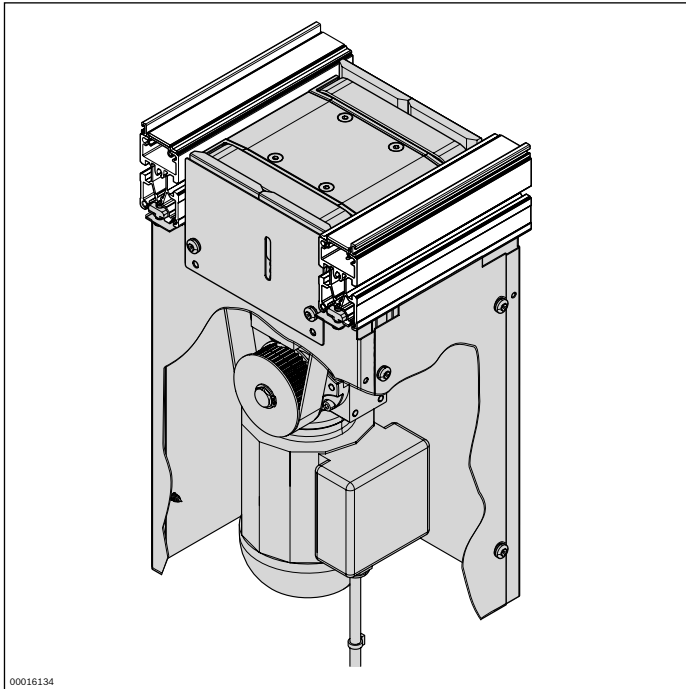
Features	
Material specification	Natural aluminum, anodized PA; black

Dimensions



30119

HQ 2/U lift transverse unit



- ▶ Lift transverse unit for feeding out of a from longitudinal section into a transverse section and vice versa
- ▶ Use in tight spaces by means of suspended drive motor (outside dimensions must be no wider than the section)
- ▶ Drive by toothed belt coupling is not possible because of the compact design
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Note: Reversible operation possible

Accessories

Required accessories

- ▶ 1x M12x1 sensor with $S_N = 4$ mm rated sensing range for each position inquiry, see p. 8-110/8-112

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry
- ▶ Housing element

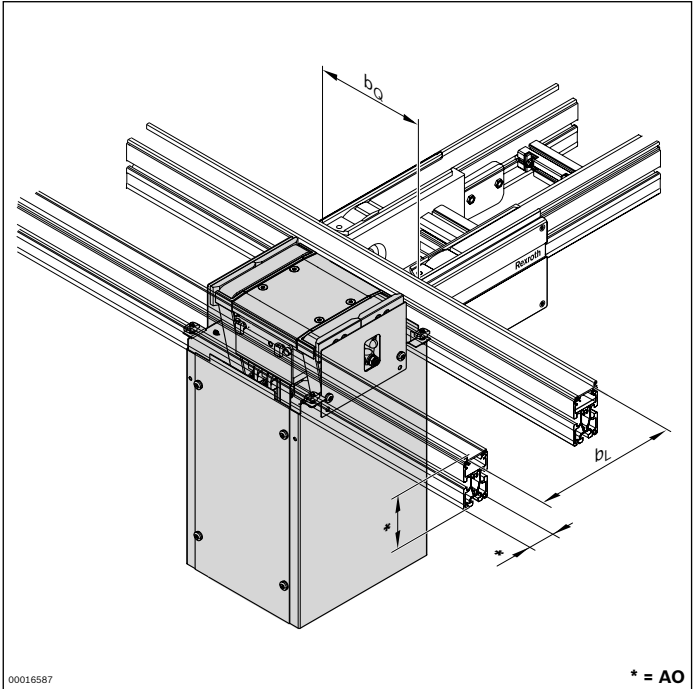
Recommended accessories

- ▶ DA 2/10 damper (see p. 8-60), DA 2/30 damper (see p. 8-65) for outfeeding the workpiece pallets at $v_N > 9$ m/min
- ▶ WI 2/... rockers (see p. 8-126ff), WI/M (see p. 8-120) DA 2/10 (see p. 8-60), DA 2/30 (see p. 8-65), DA 2/100-C dampers for BG 2 (see p. 8-74) for infeeding the workpiece pallet

Condition on delivery

- ▶ Fully assembled
- ▶ Kit for electrical position inquiry included

Ordering information



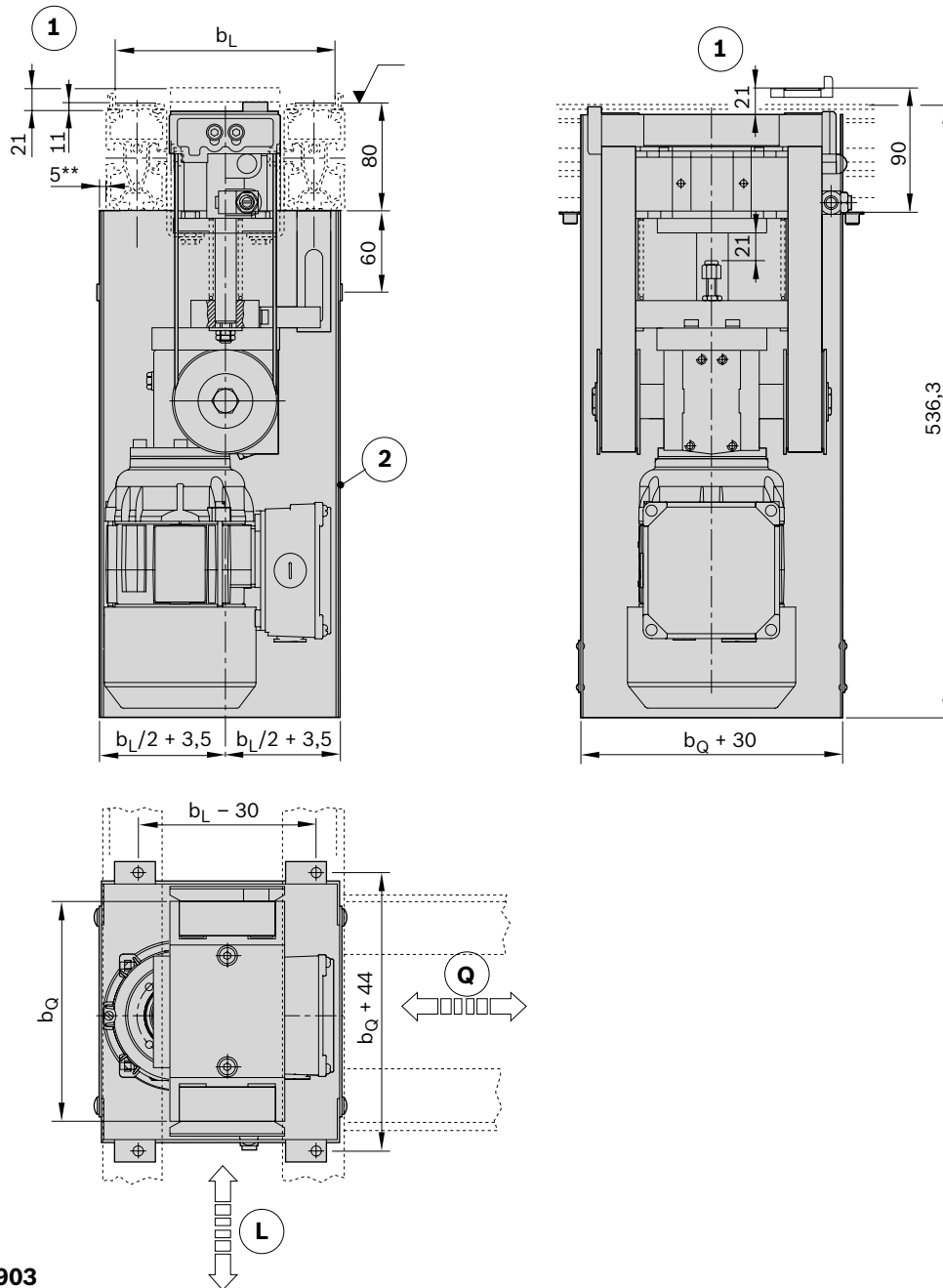
Material number		3842999903
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400
$b_Q \times b_L$ (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400 480 x 320
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K

1) PN = 2: Lift position upper and middle position
2) PN = 3: Lift position upper, middle and lower position

Technical data

Material number		3842999903
Load		
Max. total weight of workpiece pallet	m_G	kg 30
Features		
ESD		yes
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	$\varnothing$	mm 6

Dimensions



00116036

L Transport direction of longitudinal conveyor section

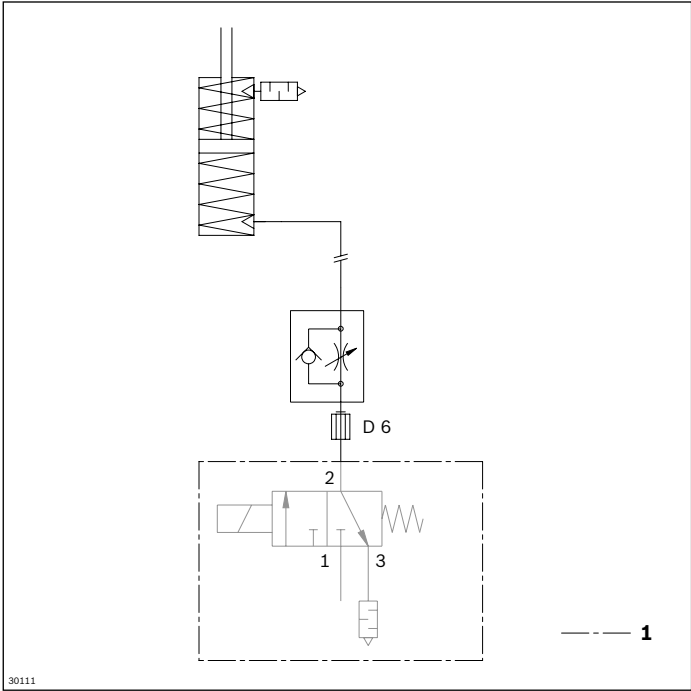
Q Transport direction of transverse conveyor section

1 Stroke

2 Housing element

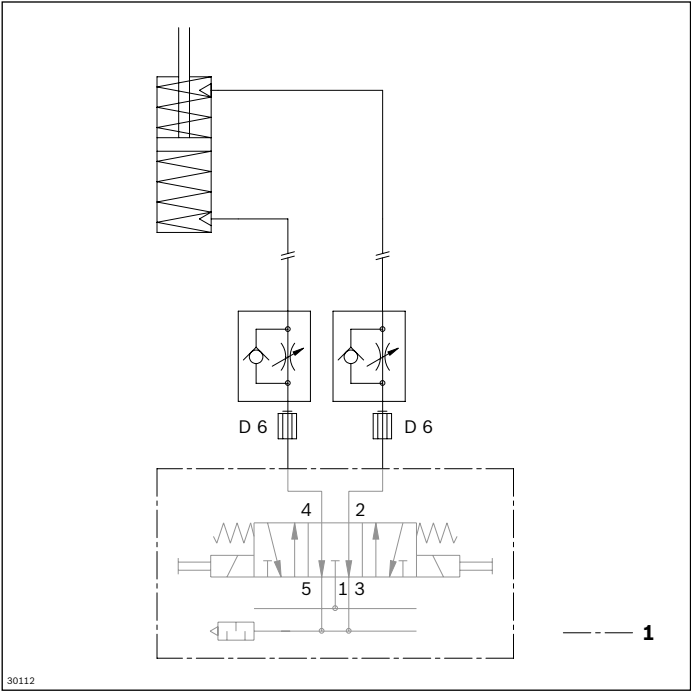
** Only for $b_L = 160$ mm

Circuit diagram for unit with pneumatic equipment for two positions PN = 2

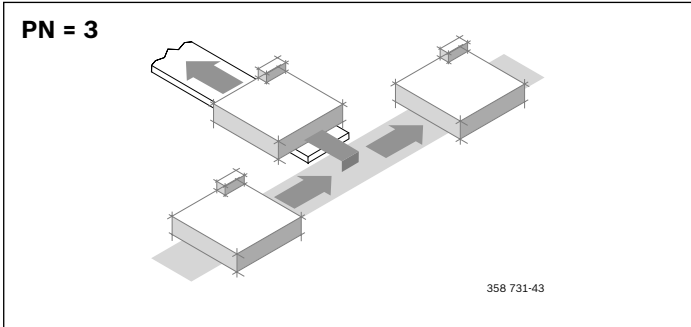
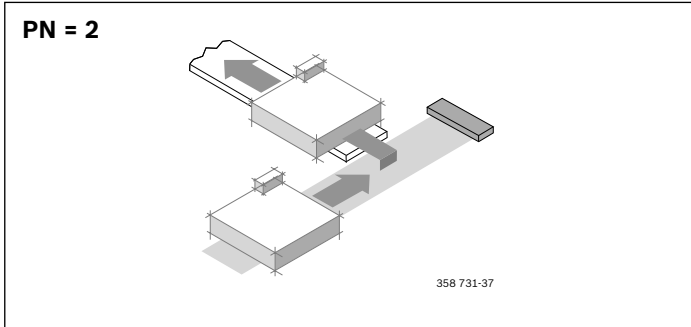


1 Not included in scope of delivery

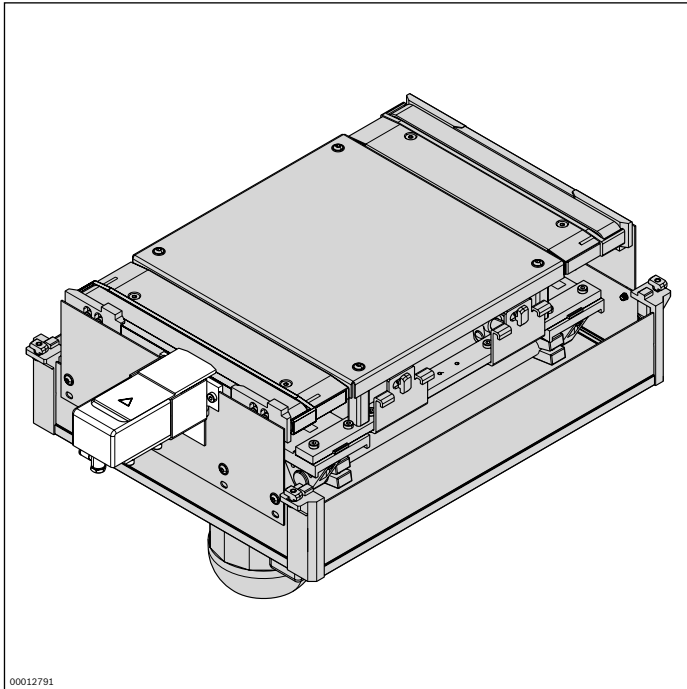
Circuit diagram for unit with pneumatic equipment for three positions PN = 3



1 Not included in scope of delivery



HQ 2/U2 lift transverse unit



- ▶ Lift transverse unit for feeding out of a from longitudinal section into a transverse section and vice versa
- ▶ Use in tight spaces by means of suspended drive motor (outside dimensions must be no wider than the section)
- ▶ Reinforced version of HQ 2/U with two lift cylinders for large workpiece pallet dimensions
- ▶ Drive by toothed belt coupling is not possible because of the compact design
- ▶ Conveyor medium: toothed belt
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note: Reversible operation possible

Accessories

Required accessories

- ▶ 1x M12x1 sensor with $S_N = 4$ mm rated sensing range for each position inquiry, see p. 8-110/8-112

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry
- ▶ Housing element

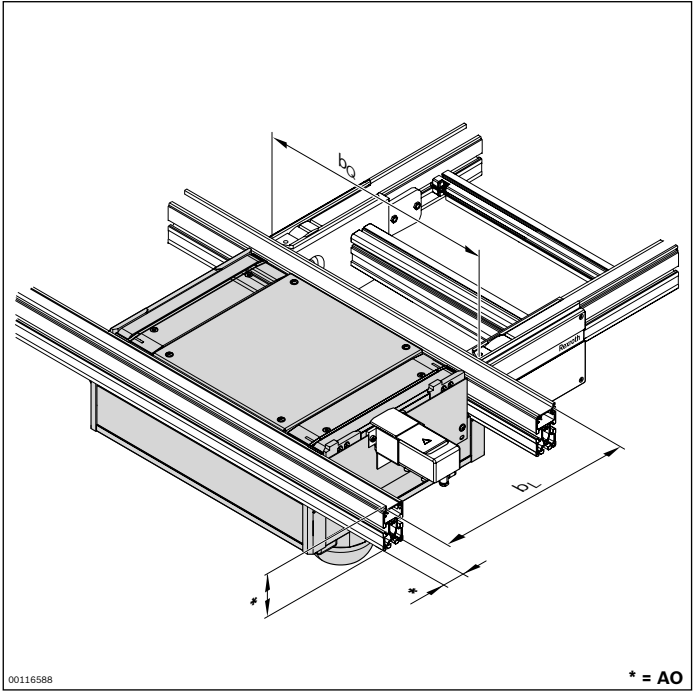
Recommended accessories

- ▶ DA 2/100-B (see p. 8-70) damper for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets, required at $v_N > 12$ m/min or total weight of the workpiece pallet ≥ 30 kg
- ▶ WI 2/... rocker (see p. 8-126) WI/M rocker (see p. 8-120) and damper DA 2/100-C (see p. 8-74) for infeeding the WT 2 and WT 2/F workpiece pallets

Condition on delivery

- ▶ Fully assembled
- ▶ Kit for electrical position inquiry included
- ▶ Kit for housing element included

Ordering
 information



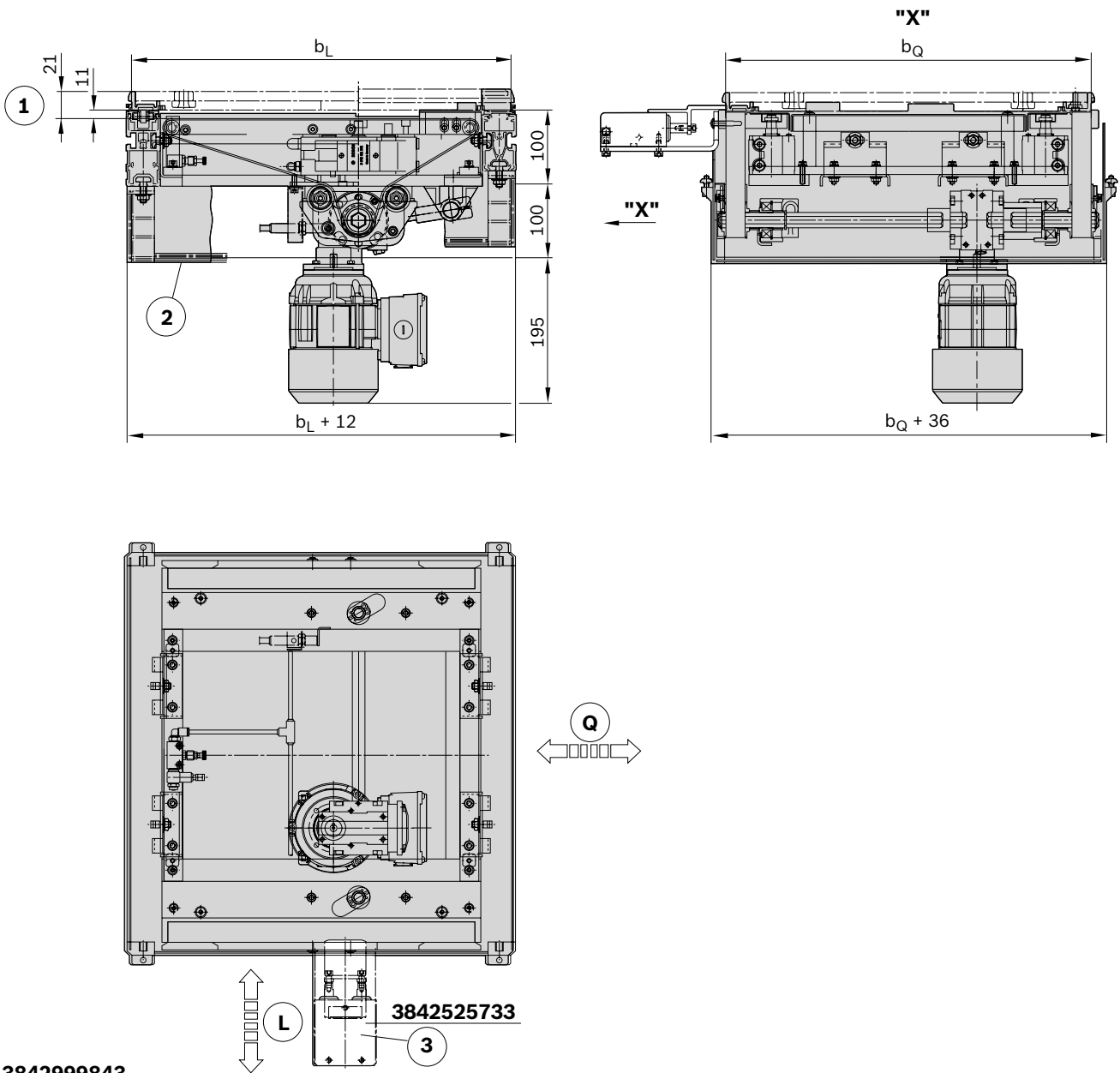
Material number		3842999843
b _Q (mm)	Track width in the transverse conveyor	400; 480; 640; 800
b _L (mm)	Track width in the longitudinal conveyor	400; 480; 640
b _Q x b _L (mm x mm)	Combination options	400 x 400; 480; 640 480 x 400; 480; 640 640 x 400; 480; 640 800 x 400; 480; 640
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K

¹⁾ PN = 2: Lift position upper and middle position
²⁾ PN = 3: Lift position upper, middle and lower position

Technical data

Material number		3842999843
Load		
Max. total weight of workpiece pallet	m _G	kg 50
Features		
ESD		yes
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	Ø	mm 6

Dimensions

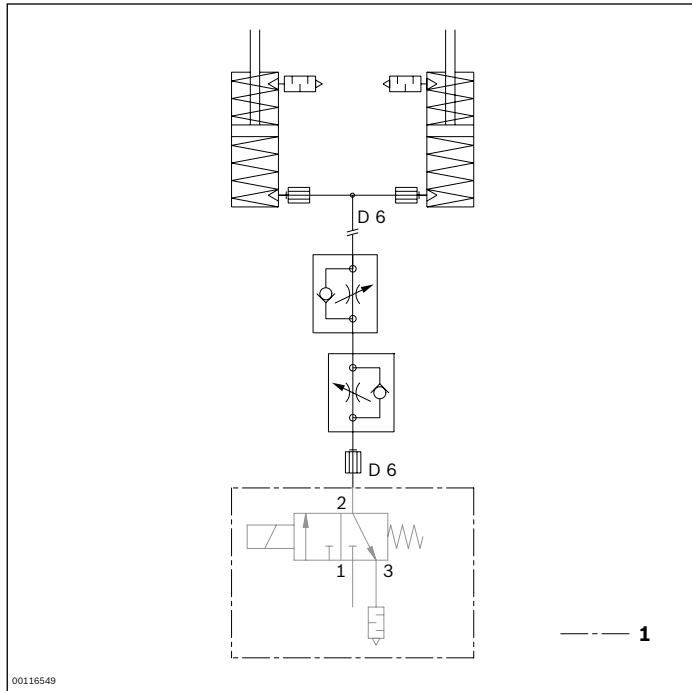


3842999843

00116066

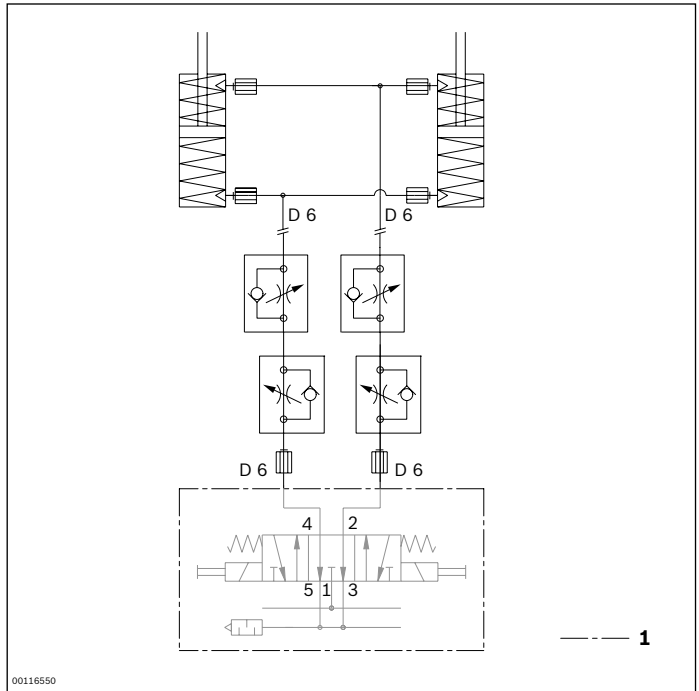
- L Transport direction of longitudinal conveyor section
- Q Transport direction of transverse conveyor section
- 1 Stroke
- 2 Housing element
- 3 Damped stop

Circuit diagram for unit with pneumatic equipment for two positions PN = 2



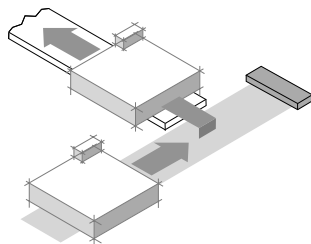
1 Not included in scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3



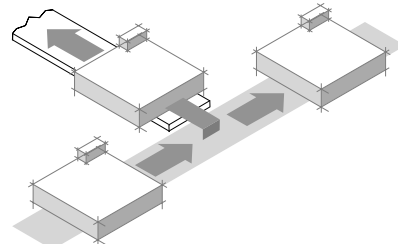
1 Not included in scope of delivery

PN = 2



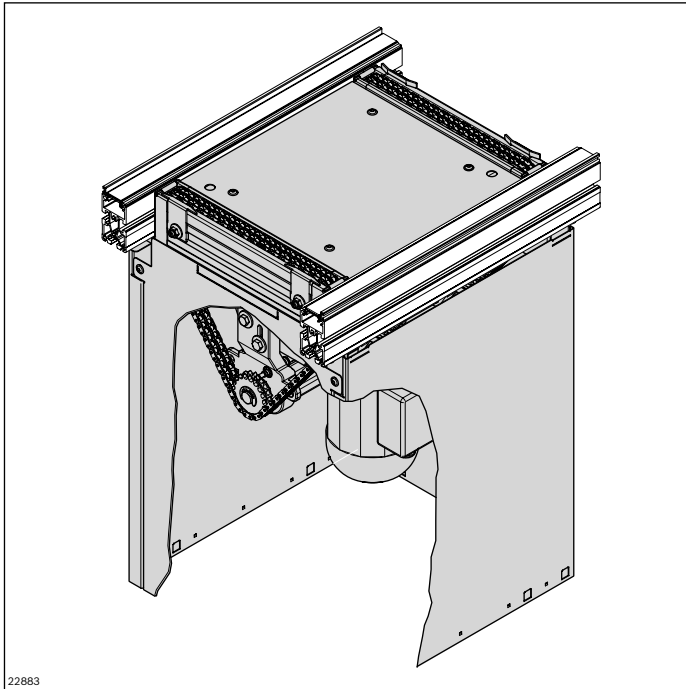
358 731-37

PN = 3



358 731-43

HQ 2/U-H lift transverse unit



22883

- ▶ Lift transverse unit for feeding out of a from longitudinal section into a transverse section and vice versa
- ▶ Use for high total weights up to 2 kg/cm on the smallest side of the workpiece pallet
- ▶ Sensor mounting for speed control during infeeding possible
- ▶ Lifting movements through two to four block cylinders according to size
- ▶ Conveyor medium: duplex chain
- ▶ Pneumatic equipment for two (top, center) or three (top, center, bottom) lift positions
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note: Reversible operation possible

In combination with HQ 2/U-H, only PE wear pads are recommended for use on the workpiece pallets.

Accessories

Required accessories

- ▶ 1x M12x1 sensor with rated sensing range $S_N = 4$ mm for each (top/bottom) position inquiry, see p. 8-110/8-112

Recommended accessories

- ▶ DA 2/150-E damper (see p. 8-82), DA 2/100-E damper (see p. 8-78) for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets, required at $v_N > 9$ m/min or total weight of the workpiece pallet > 30 kg/cm
- ▶ WI 2/... rockers (see p. 8-126) WI/M rocker (see p. 8-120) and damper DA 2/100-C (see p. 8-74) for infeeding the WT 2 and WT 2/F workpiece pallets

Delivery note

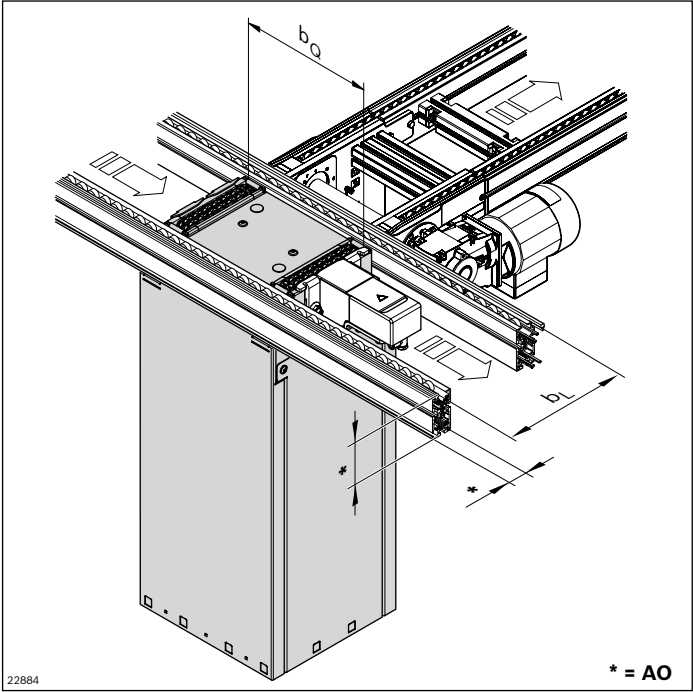
Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic equipment for two or three positions
- ▶ Kit for electrical position inquiry
- ▶ Housing element

Condition on delivery

- ▶ Pre-assembled incl. pneumatic equipment
- ▶ Housing element, not assembled

Ordering
 information



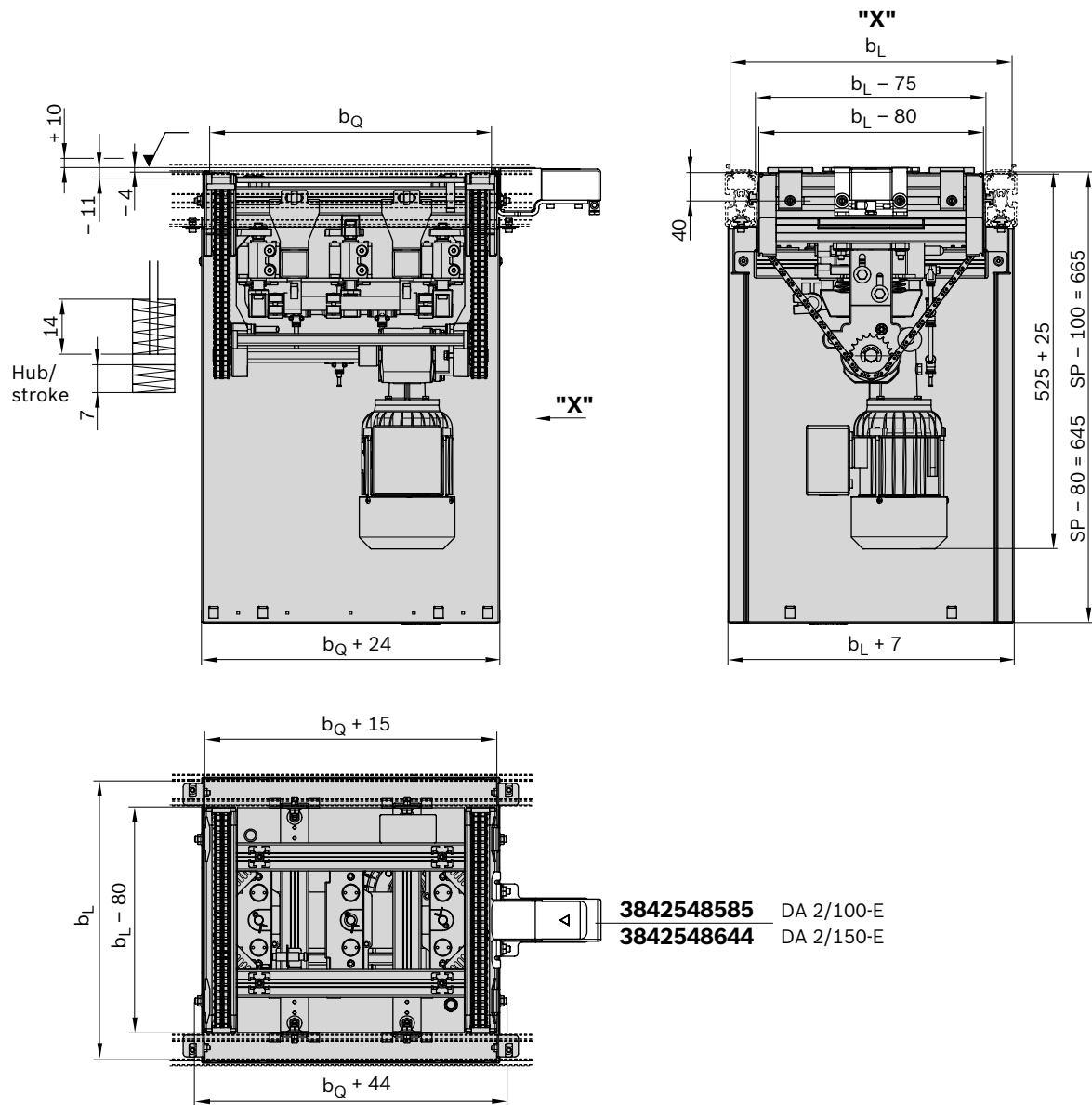
Material number		3842998750
b _Q (mm)	Track width in the transverse conveyor	240; 320; 400; 480; 640
b _L (mm)	Track width in the longitudinal conveyor	240; 320; 400; 480; 640
b _Q x b _L (mm x mm)	Combination options	240 x 240; 320; 400 320 x 240; 320; 400; 480 400 x 240; 320; 400; 480; 640 480 x 320; 400; 480; 640 640 x 400; 480; 640
AO	Installation location, profile 0 = profile 45x80 1 = profile 45x100 2 = profile 50x100	0; 1; 2
PN	Pneumatic equipment	2 ¹⁾ ; 3 ²⁾
v _N (m/min)	Nominal speed	6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K

¹⁾ PN = 2: Lift position upper and middle position
²⁾ PN = 3: Lift position upper, middle and lower position

Technical data

Material number		3842998750
Load		
Max. total weight of workpiece pallet	m _G	kg 128
Features		
ESD		yes
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	Ø	mm BG 1, 2: 6 BG 3: 8

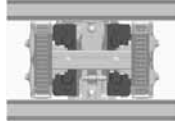
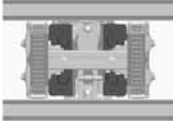
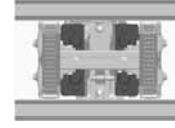
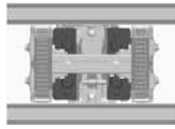
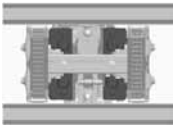
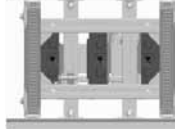
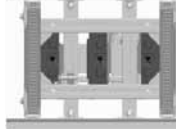
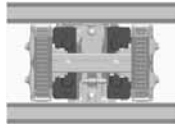
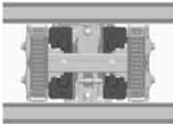
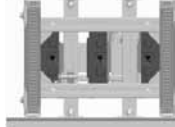
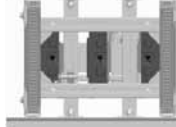
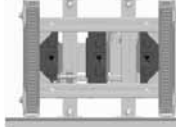
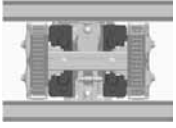
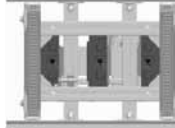
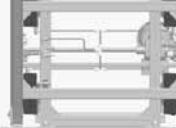
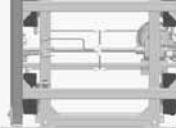
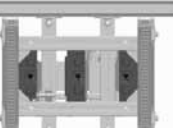
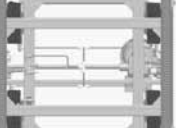
Dimensions



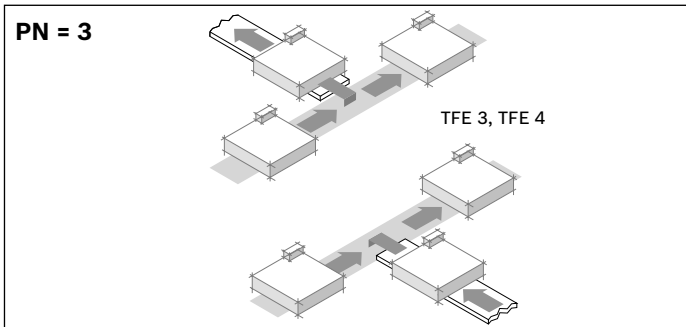
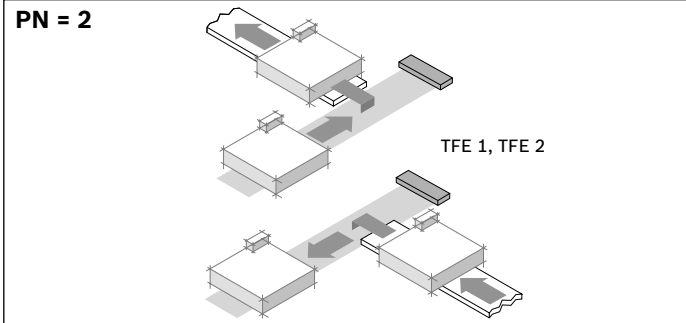
3842998750

Cylinder arrangement

Schematic view of the cylinder arrangement according to size

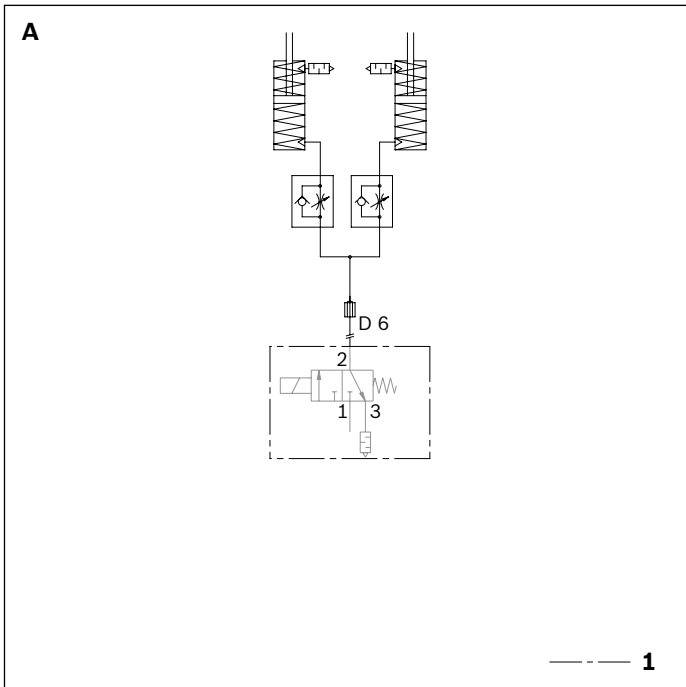
	b_q 240	b_q 320	b_q 400	b_q 480	b_q 640
					
b_L 240	2 cylinders	2 cylinders	2 cylinders		
Load	48	48	48		
					
b_L 320	2 cylinders	2 cylinders	3 cylinders	3 cylinders	
Load	48	64	64	64	
					
b_L 400	2 cylinders	2 cylinders	3 cylinders	3 cylinders	3 cylinders
Load		64	80	96	96
					
b_L 480		2 cylinders	3 cylinders	4 cylinders	4 cylinders
Load		64	80	96	96
					
b_L 640			3 cylinders	4 cylinders	4 cylinders
Load			80	96	128

Pneumatic diagram



Pneumatic diagram $b_Q \times b_L$ (mm) 240 x ..., 2 lift units

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



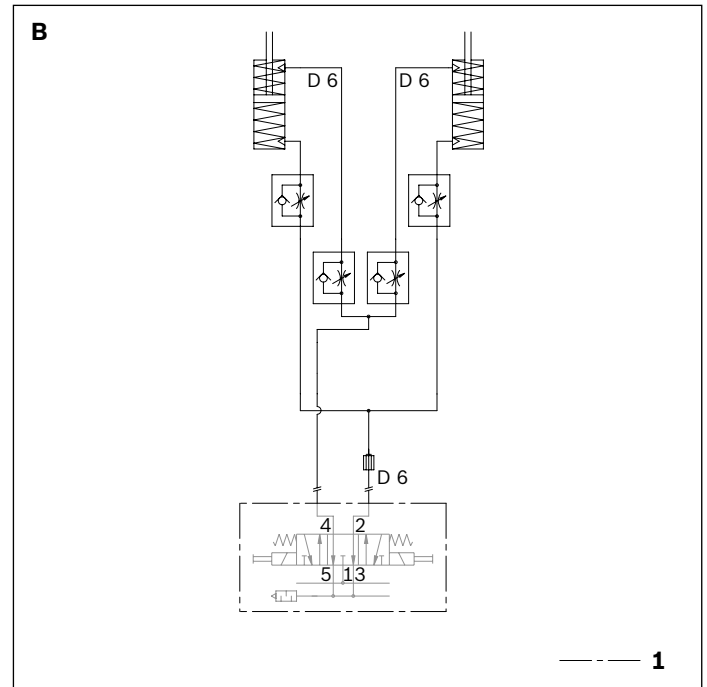
1 Not included in scope of delivery

Use pneumatic diagram:

A (for pneumatic equipment PN = 2) if you want to transfer the WT from the longitudinal section to the transverse section (TFE 1) or from the transverse section to the longitudinal section (TFE 2).

B (for pneumatic equipment PN = 3), if you want to outfeed the WT from the longitudinal section to the transverse section (TFE 3) or infeed from the transverse section to the longitudinal section (TFE 4).

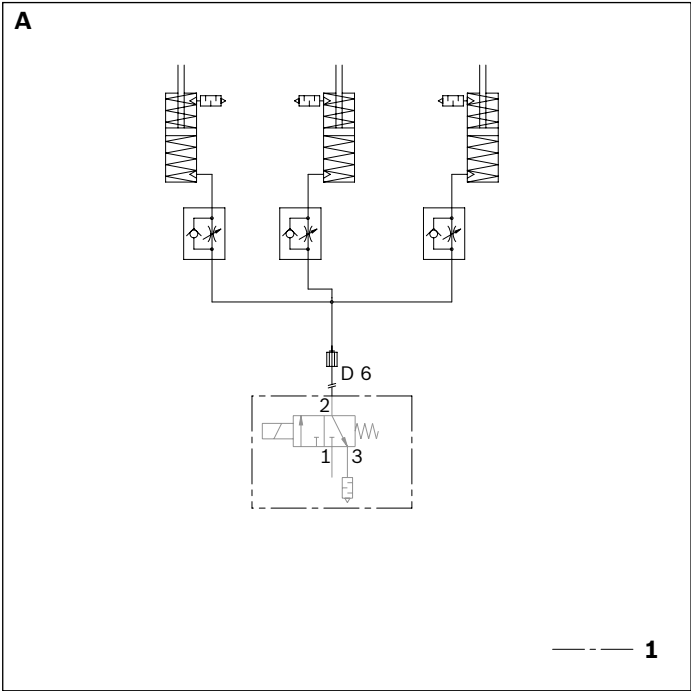
Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1



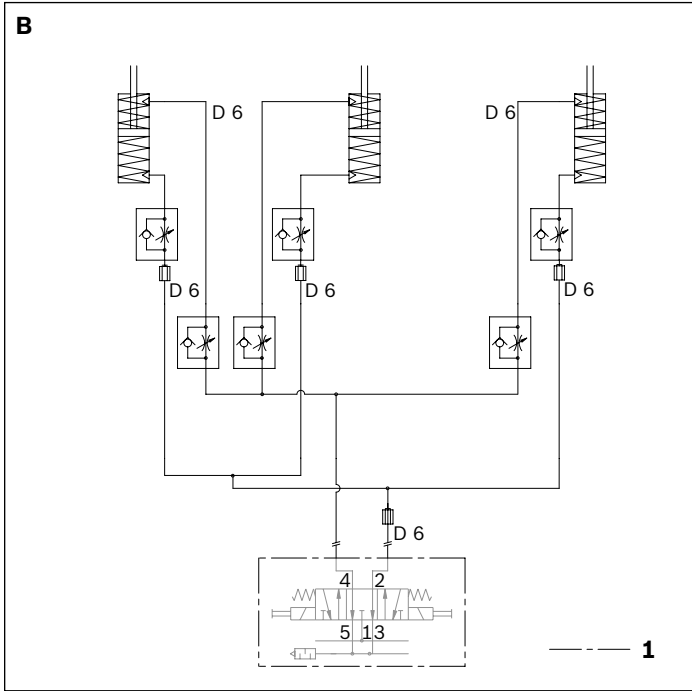
1 Not included in scope of delivery

Pneumatic diagram $b_Q \times b_L$ (mm) 320 x ..., 400 x..., 3 lift units

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 2

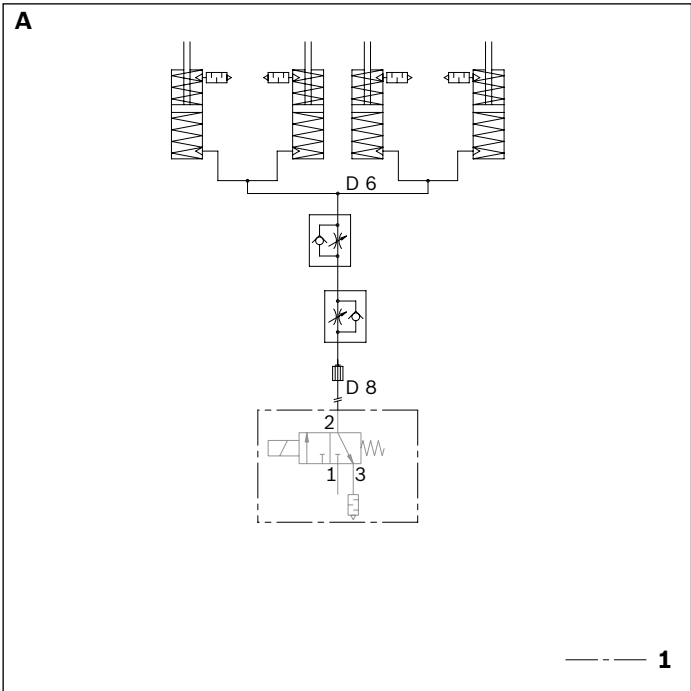


Circuit diagram for unit with pneumatic equipment for two positions PN = 3, BG 3

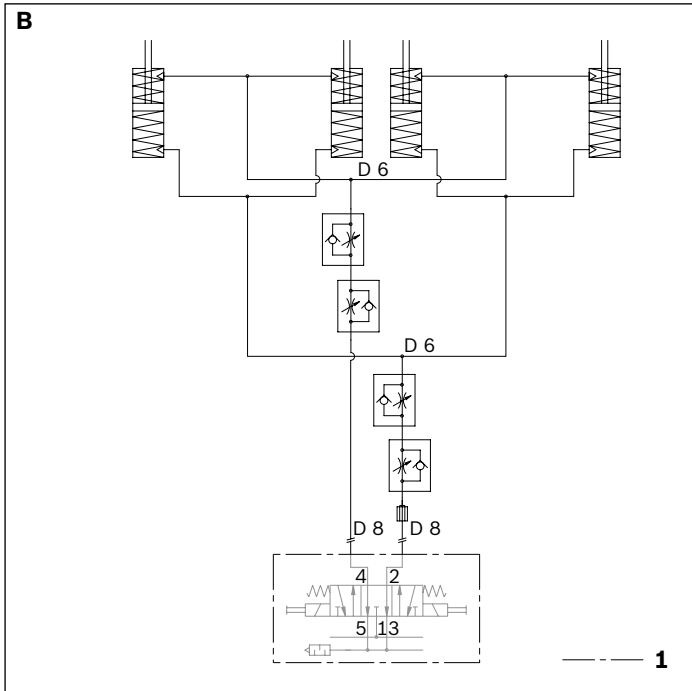


Pneumatic diagram $b_Q \times b_L$ (mm) 480 x ..., 640 x..., 4 lift units

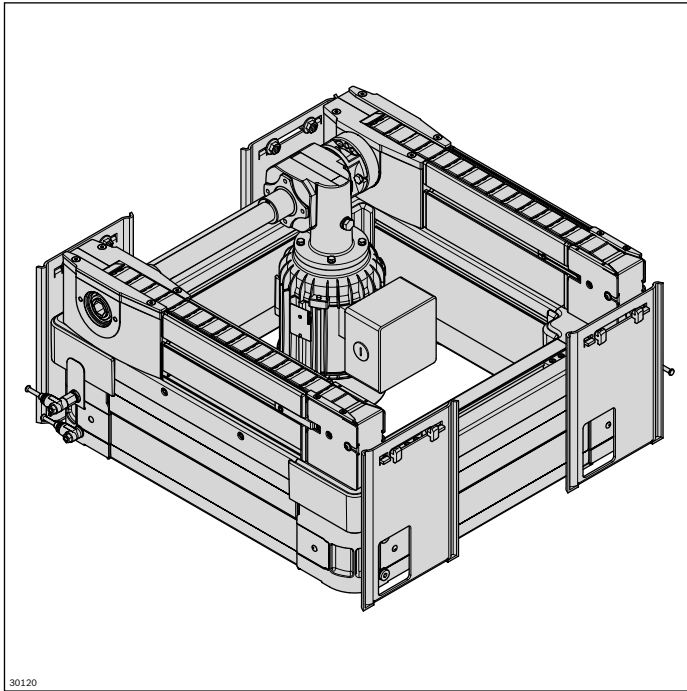
Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 3



Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 3



HQ 2/C-H lift transverse unit



- ▶ Lift transverse unit for feeding out of a from longitudinal section into a transverse section and vice versa
- ▶ Use for high total weights up to 2 kg/cm on the smallest side of the workpiece pallet and up to 240 kg
- ▶ Flat design permits system layouts on several levels
- ▶ Synchronized lifting movement of the four block cylinders for uniform and parallel lifting movement
- ▶ Conveyor medium flat top chain
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Note:

- ▶ Reversible operation possible
- ▶ Accumulation operation not permitted

Accessories

Required accessories

- ▶ M12x1 sensor for position inquiry, see p. 8-110/8-112
- ▶ Dampers for outfeeding and infeeding workpiece pallets, see p. 8-58

Recommended accessories

- ▶ DA 2/100-H damper (see p. 8-85), DA 2/250-H damper (see p. 8-88) for outfeeding a WT 2/H or WT 2/F-H
- ▶ DA 2/100-C damper (see p. 8-74), DA 2/100-E damper (s. S. 8-78), DA 2/150-E (s. S. 8-82) for outfeeding a WT 2 or WT 2/F; required at $v_N > 9$ m/min or workpiece pallet total weight > 30 kg
- ▶ DA 2/100-H, DA 2/250-H damper for damped infeeding of the WT 2/H and WT 2/F-H workpiece pallets
- ▶ WI 2/... rocker (see p. 8-118) or WI/M rocker (see p. 8-120) and damper DA 2/100-B (see p. 8-70) for infeeding the WT 2 and WT 2/F workpiece pallets

Delivery note

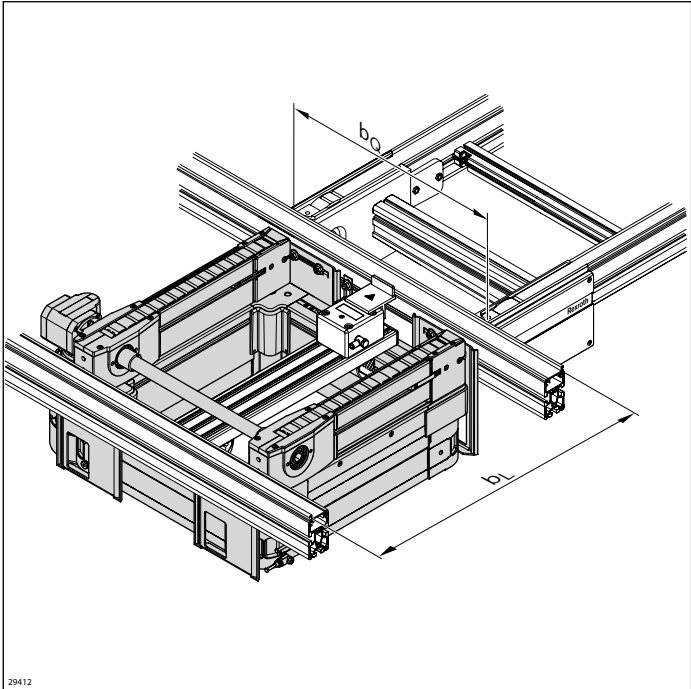
Scope of delivery

- ▶ Incl. mounting material
- ▶ Switch holder for 12 mm sensor for position inquiry
- ▶ Kit for electrical position inquiry

Condition on delivery

- ▶ Fully assembled

Ordering information



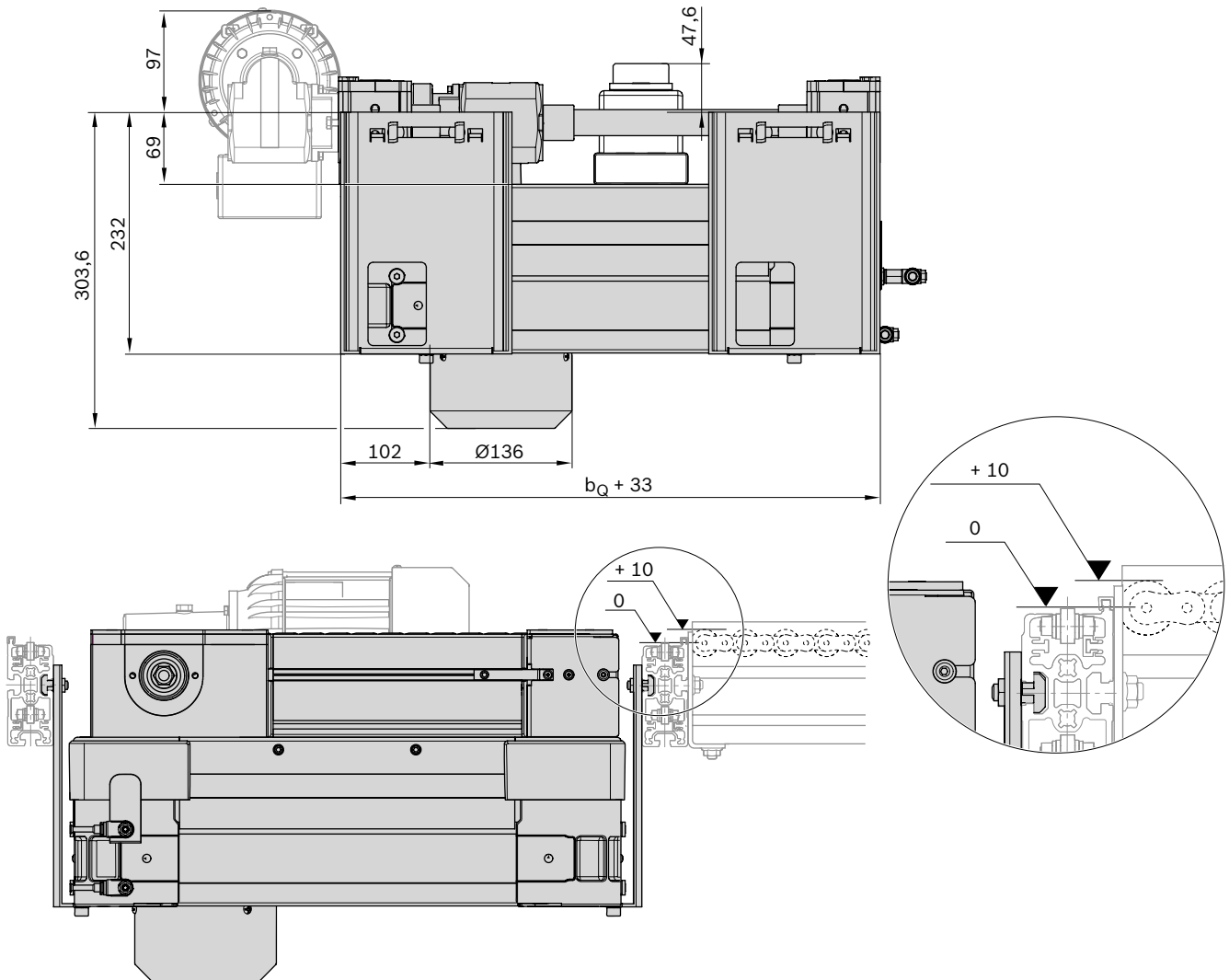
Material number		3842999002
b_Q (mm)	Track width in the transverse conveyor	640; 800; 1040; 1200
b_L (mm)	Track width in the longitudinal conveyor	640; 800; 1040; 1200
$b_Q \times b_L$ (mm x mm)	Combination options	640 x 640; 800; 800 x 640; 800; 1040; 1200; 1040 x 800; 1040; 1200; 1200 x 800; 1040; 1200
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left M = center	R; L; M)

Technical data

Material number			3842999002
Load			
Max. total weight of workpiece pallet	m _G	kg	240
Features			
ESD			yes
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	8

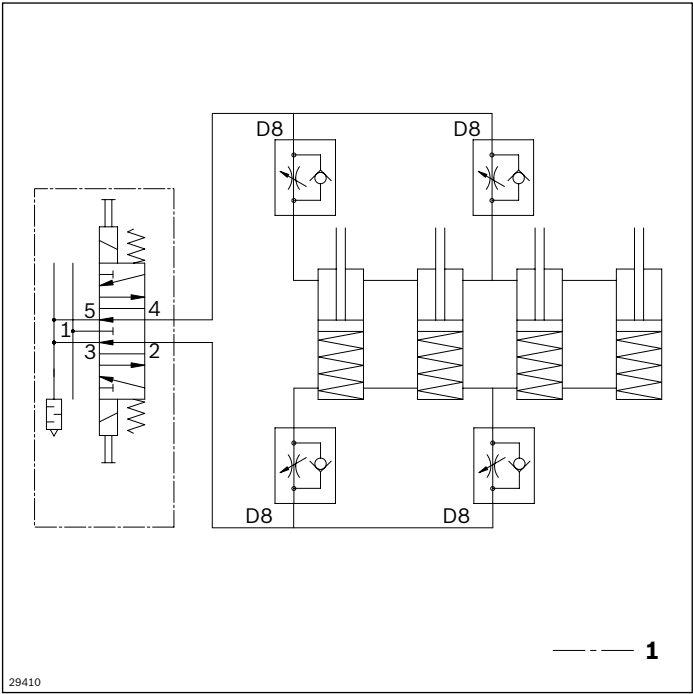
Dimensions

5



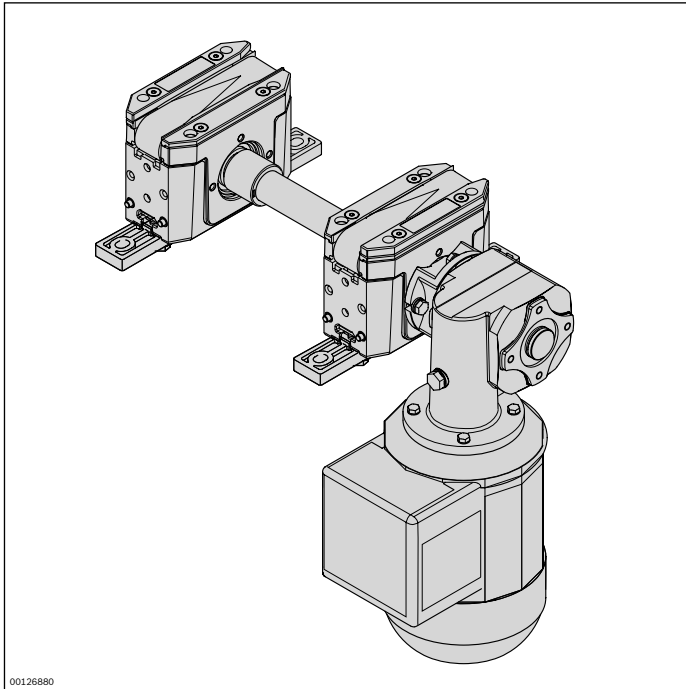
3842999002

Circuit diagram



1 Not included in scope of delivery

BS 2/130 belt section



- ▶ Fully mounted belt section for workpiece pallet transverse conveyor belt parallel conveyor sections at a distance of $a = 135 \text{ mm}$
- ▶ With own drive.
- ▶ Use in connection with two HQ 2 lift transverse units
- ▶ Conveyor medium: toothed belt
- ▶ Reversible operation possible
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

5

Accessories

Recommended accessories

- ▶ 2x HQ 2 for transverse conveyor, see p. 5-26

Delivery note

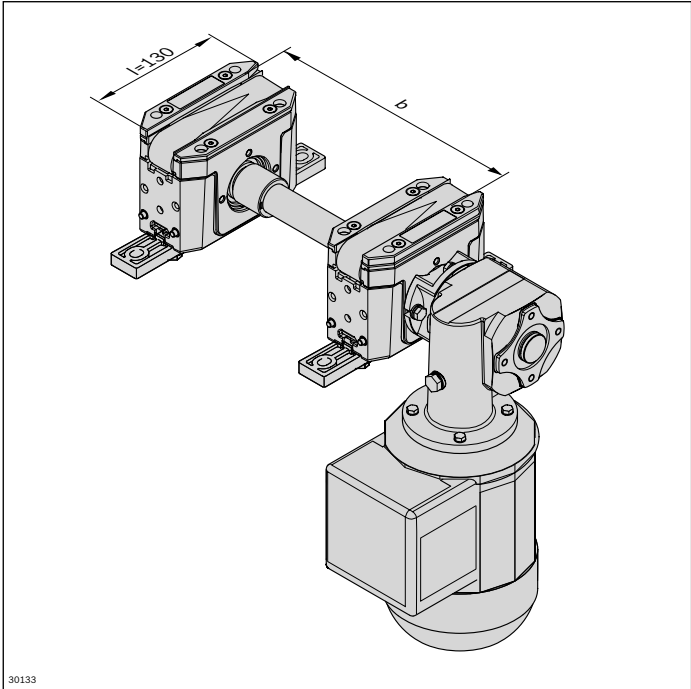
Scope of delivery

- ▶ Incl. mounting material

Condition on delivery

- ▶ Fully assembled

Ordering information

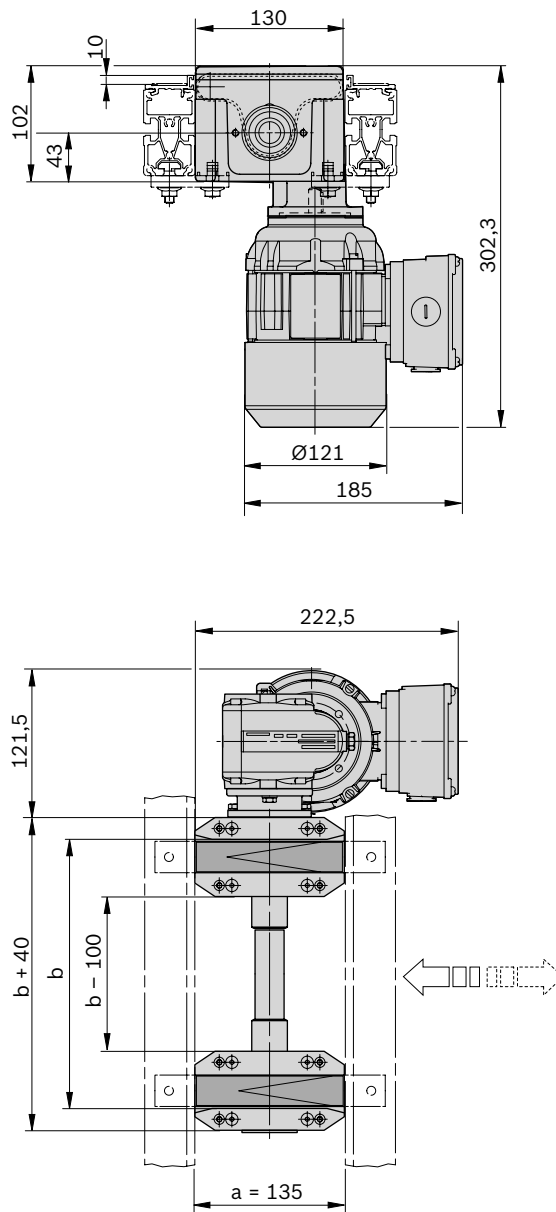


Material number		3842999743
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040; 1200
b (mm)	Track width in direction of transport	160 ... 1200
v _N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, p. 11-18ff
f (Hz)	Frequency	see motor data, p. 11-18ff
AT	Motor connection S = cable/plug K = clamping profile	S; K
MA	Motor mounting R = right L = left	R; L
v _N = 0: without motor or gear		

Technical data

Material number		3842999743
Load		
Max. section load in accumulation operation	kg	30
Features		
ESD		yes
Dimensions		
Length	l	mm
		130

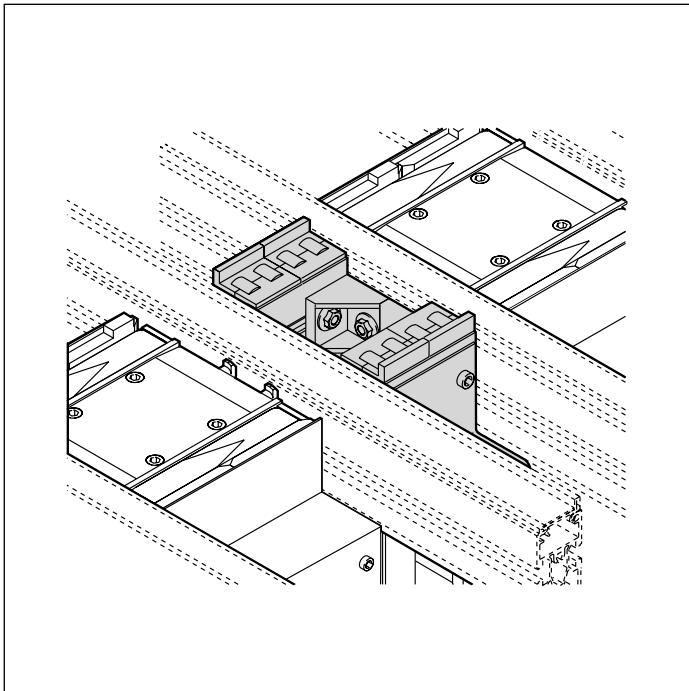
Dimensions



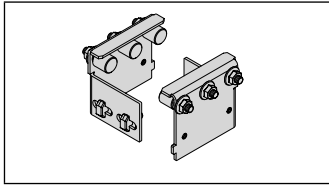
3842999743

00117866

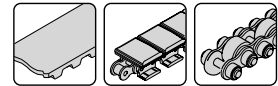
Roller sections



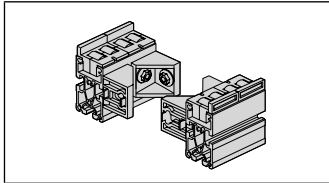
Roller sections in conjunction with two lift transverse units permit workpiece pallets to be conveyed between parallel conveyor sections.



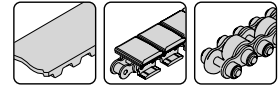
Intermediate section with roller



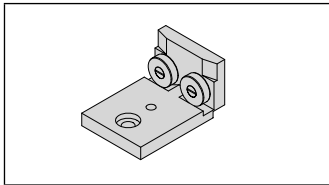
5-80



RS 2 track roller

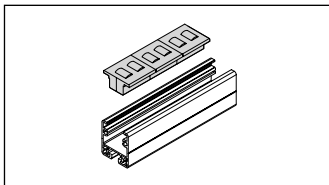


5-82



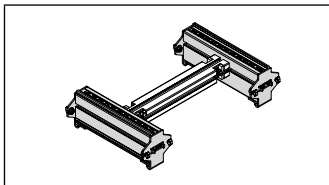
RE roller elements

5-84



RB 2 roller conveyor

5-86

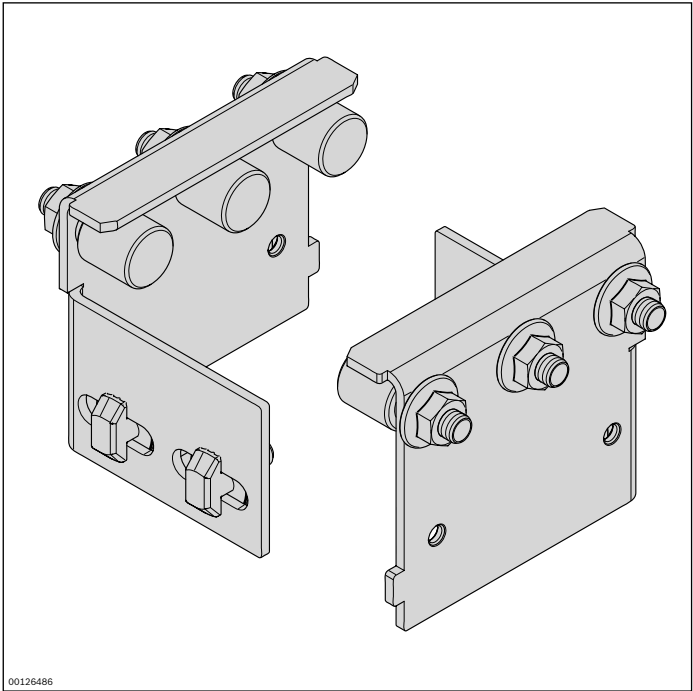


RS 2/H track roller



5-88

Intermediate section with roller



- Unmounted roller section for workpiece pallet transverse conveyor belt parallel conveyor sections at a distance of a = 45 to 135 mm
- Use in connection with two HQ 2 lift transverse units
- Without own drive
- Conveyor medium rollers, galvanized steel
- Reversible operation possible
- Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Installation between two ST 2 conveyor units or BS 2 belt sections.
Alternative use as an inclined passive conveyor section.

Delivery note

Scope of delivery

- Incl. mounting material

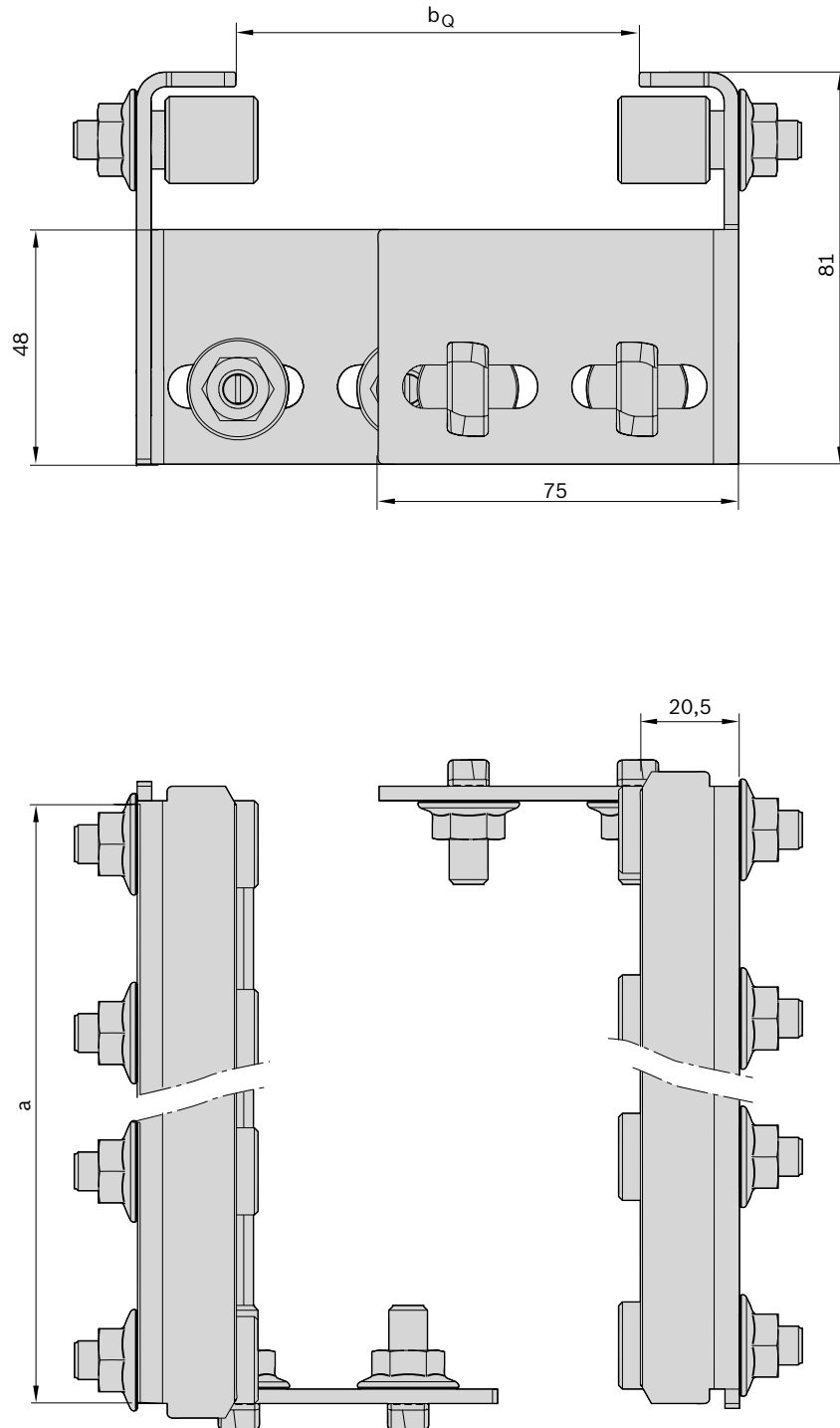
Condition on delivery

- Not assembled

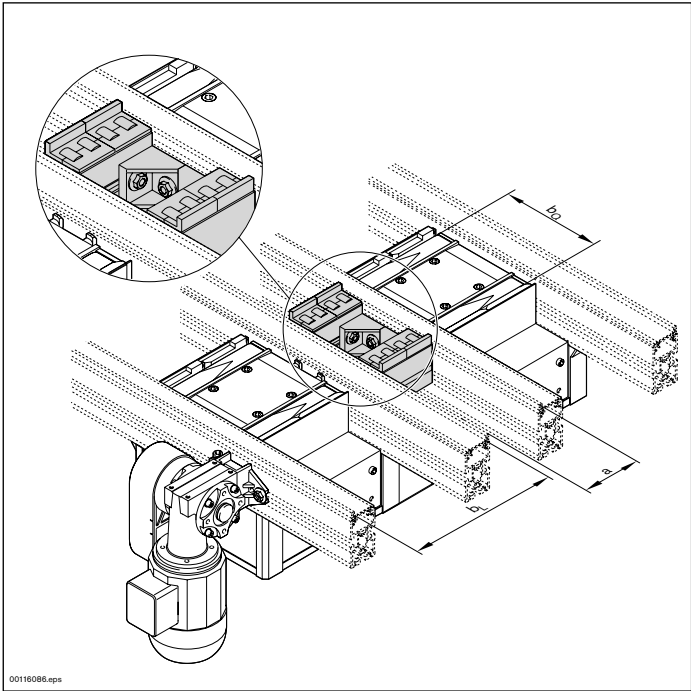
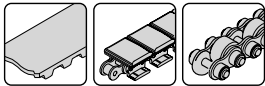
Ordering information

Product designation	Material number
Intermediate section with roller a = 45	3842554657
Intermediate section with roller a = 90	3842554658
Intermediate section with roller a = 135	3842554659

Dimensions



RS 2 track roller



- Unmounted roller section for workpiece pallet transverse conveyor belt parallel conveyor sections at a distance of $a = 90$ to 200 mm
- Use in connection with two HQ 2 lift transverse units
- Use as an inclined passive conveyor section is possible
- Without own drive
- Conveyor medium rollers, PA6
- Reversible operation possible
- Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

Installation between two ST 2 conveyor units or BS 2 belt sections.
Alternative use as an inclined passive conveyor section.

Delivery note

Scope of delivery

- Incl. mounting material

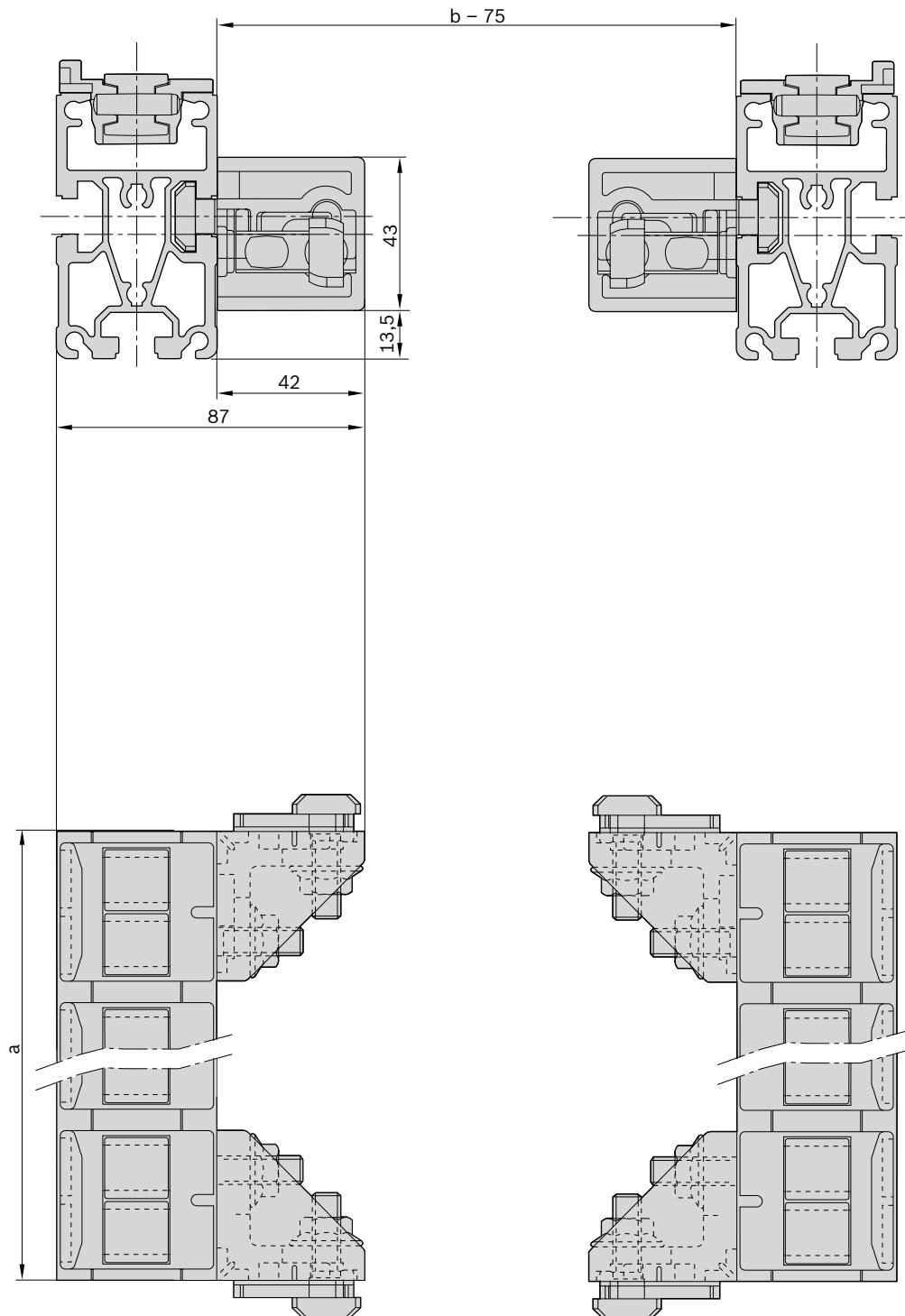
Condition on delivery

- Not assembled

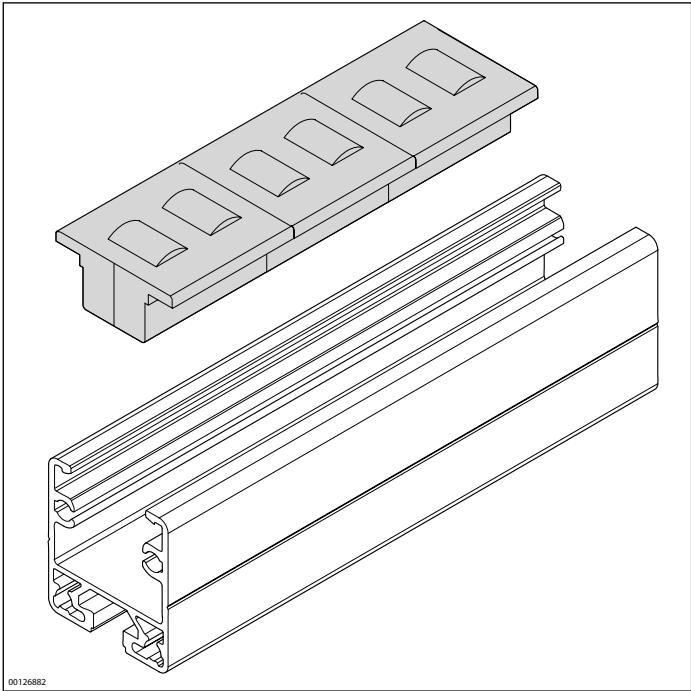
Ordering information

Product designation	Material number
RS 2 track roller $a = 90$	3842522140
RS 2 track roller $a = 135$	3842522141
RS 2 track roller $a = 160$	3842522142
RS 2 track roller $a = 200$	3842522143

Dimensions



RE roller element



- ▶ Assembled roller elements for the manual transportation of workpiece pallets
- ▶ Use as an inclined passive conveyor section is possible
- ▶ Without own drive
- ▶ Conveyor medium rollers, PA66
- ▶ Reversible operation possible
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

Roller elements can be clipped into conveyor section profile SP 2/B instead of driven belts. Track rollers constructed in this way are an economical solution for moving workpiece pallets or other similar pallets manually on a transfer system.

The number of roller elements is calculated from the conveyor section length. The remaining measurement < 45 mm has to be distributed by spacing the roller elements accordingly.

Accessories

Required accessories

- ▶ SP 2/B section profile, see p. 3-4

Delivery note

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Packaging unit	Material number
RB 39 roller element	10	3842520000
RE 39 ESD roller element ¹⁾	10	3842538245
RB 45 roller element	100	3842319501
RE 45 ESD roller element ¹⁾	100	3842538064
RE 45 roller element	100	3842319500
RE 45 SK ESD roller element ¹⁾	100	3842538065

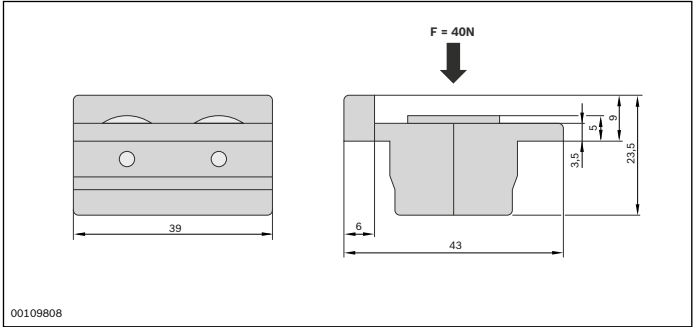
¹⁾ Conductive material version in accordance with DIN EN 61 340-5-1, suitable for ESD-sensitive sections.

Technical data

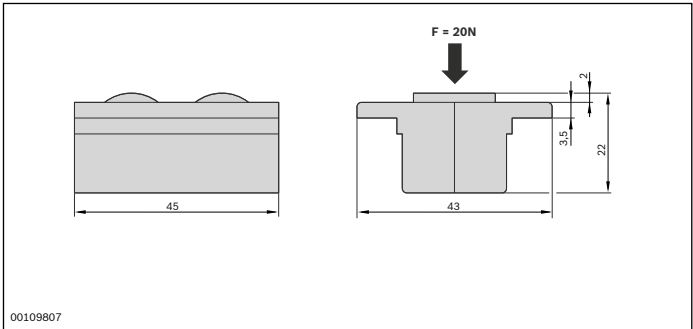
Material number	3842520000	3842538245
	3842319501	3842538064
	3842319500	3842538065
Features		
ESD	no	yes
Material specification	RE 39, RE 45, RE 45SK: Rollers: PA66 Housing: PA6 RE 39: Steel bolt bearing	RE 39, RE 45, RE 45SK: Rollers: PA66 Housing: PA6 RE 39: Steel bolt bearing

Dimensions

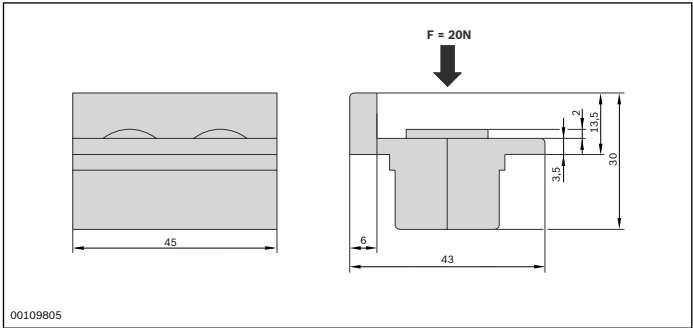
RE 39



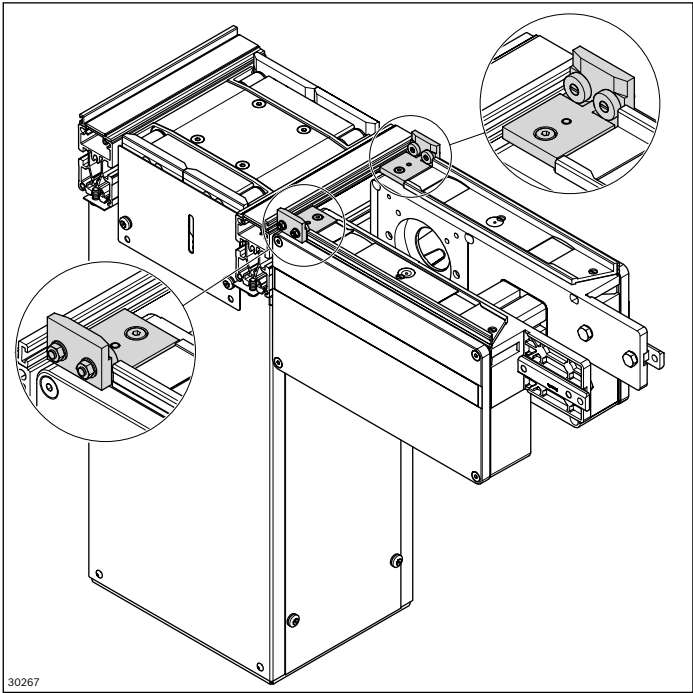
RE 45



RE 45 SK



RB 2 roller conveyor



- ▶ Mounted roller section for mounting on AS 2/B... or UM 2/B
- ▶ Additional workpiece pallet support on the front transition from AS 2/B... to UM 2/B or from AS 2/B... or UM 2/B to a lift transverse unit
- ▶ One kit is required for each AS 2/B... or UM 2/B
- ▶ Required for workpiece pallet lengths of 160 mm; recommended for longer lengths
- ▶ Without drive
- ▶ Reversible operation possible
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

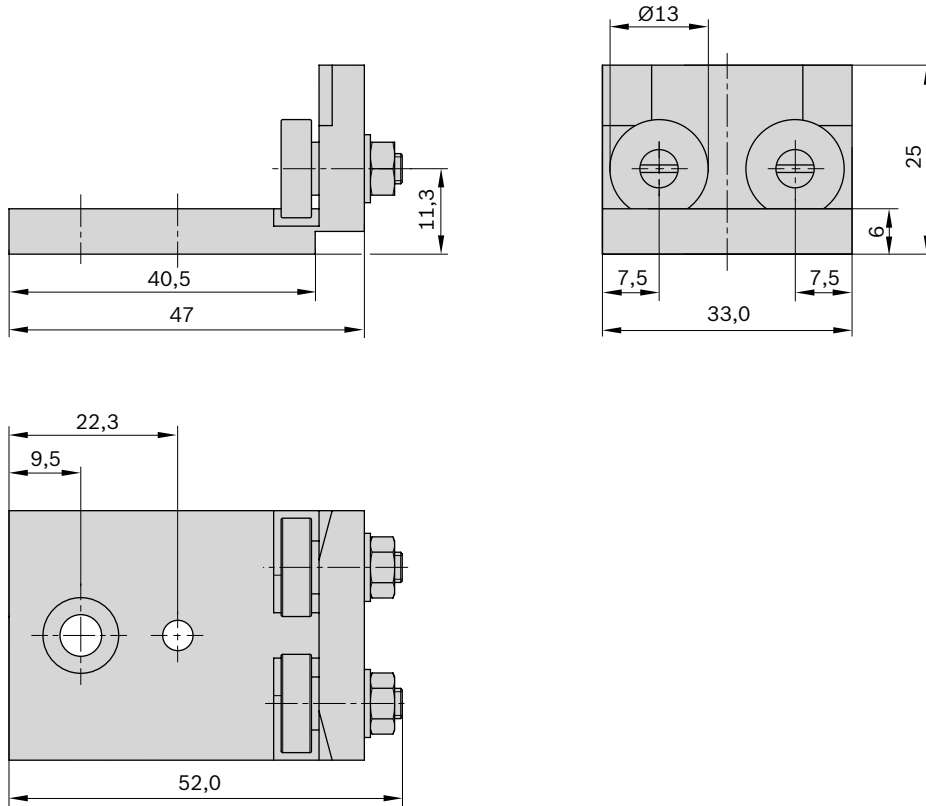
Delivery note
Condition on delivery
▶ Fully assembled

Ordering information

Product designation	Packaging unit	Material number
RB 2 roller conveyor	2	3842549774

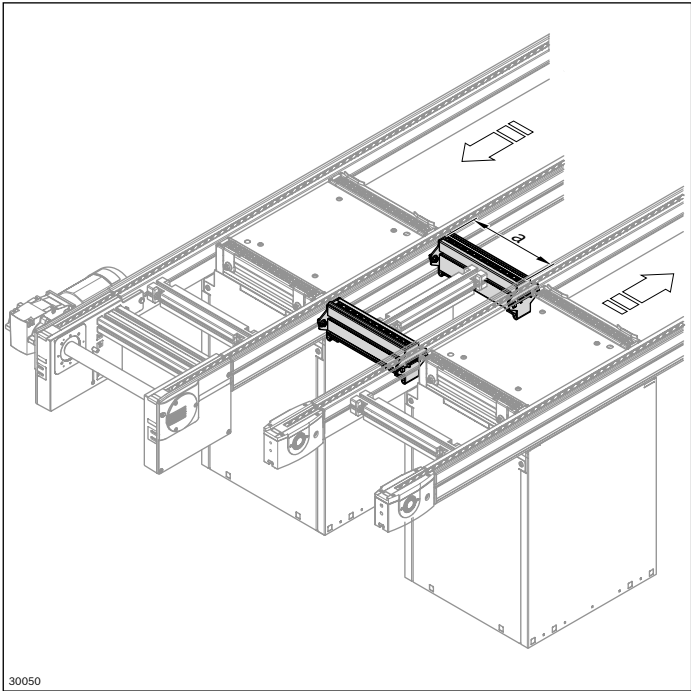
Technical data

Material number	3842549774
Features	
Material specification	Track: Aluminum rollers: Steel



29408

RS 2/H track roller



Installation between two ST 2/...-H conveyor units or
BS 2/...-H belt sections with HQ 2/U-H or HQ 2/C-H lift

- ▶ Mounted roller section for workpiece pallet transverse conveyor belt parallel conveyor sections at a distance of $a = 90$ to 690 mm
- ▶ Use in connection with two HQ 2 lift transverse units
- ▶ Without own drive
- ▶ Conveyor medium accumulation rollers, steel with parts protection
- ▶ Reversible operation possible
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H

transverse unit. Alternatively, used as an inclined conveyor section is possible.

Accessories

Recommended accessories

- ▶ Note on QV cross connectors: With conveyor section distances $a > 90$ mm, we recommend stabilizing the Roller Track RS 2/H using the cross-link QV, see p .5-90

Delivery note

Scope of delivery

- ▶ Section incl. accumulation roller chain, steel with parts protection
- ▶ Incl. mounting material

Condition on delivery

- ▶ Fully assembled

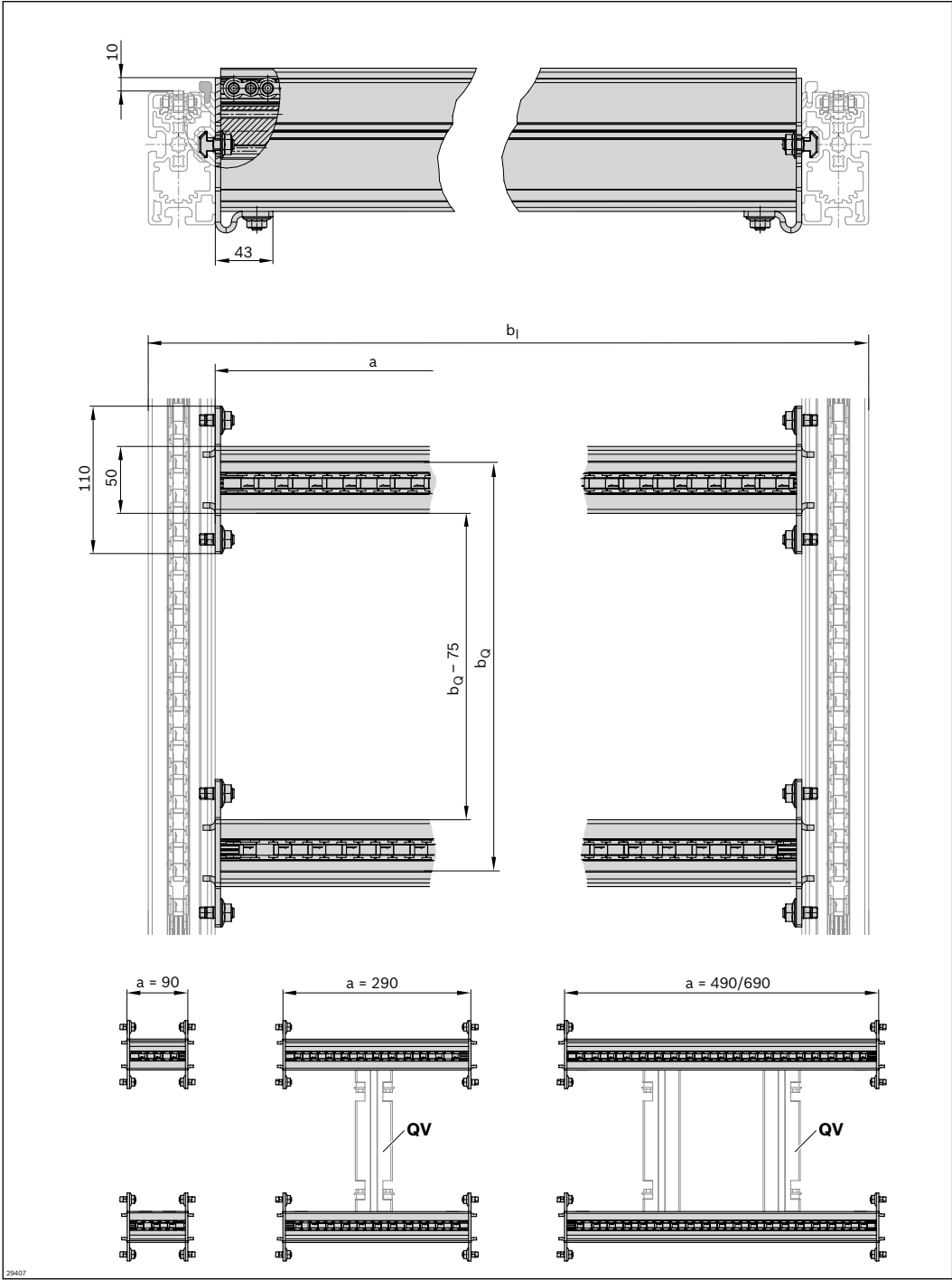
Ordering information

Product designation	a (mm)	b ₁ (mm)	Material number
RS 2/H roller section	90	480; 640; 800; 1040; 1200	3842998744
	290	640; 800; 1040; 1200	3842998744
	490	800; 1040; 1200	3842998744
	690	1040; 1200	3842998744

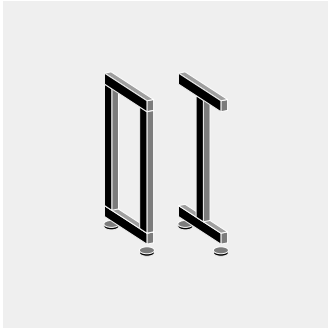
Technical data

Material number		3842998744
Features		
Material specification		Section profile: aluminum, natural; anodized Accumulation roller chain: Steel; with small parts protection
Dimensions		
a (mm)	Roller section length	90 ... 690

Dimensions



a (mm)	Number of QV	Material number of QV
90	–	–
290	1	3842993052/b = b _Q
490	2	3842994635/b = b _Q
690	2	3842994635/b = b _Q

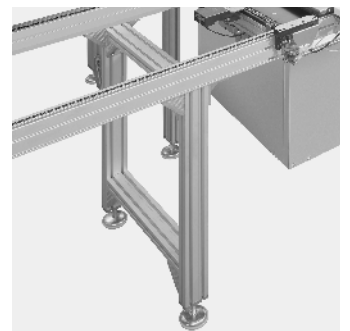


Leg sets

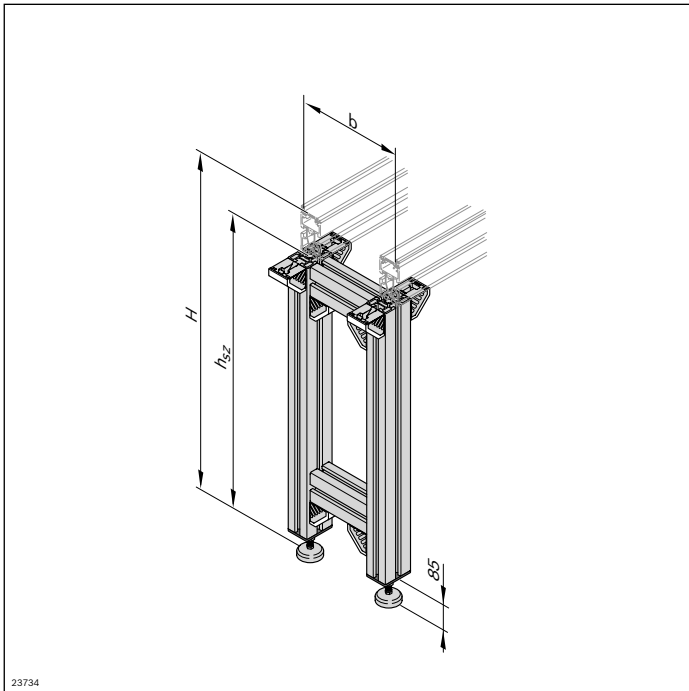
Selection of leg sets

6-2

6



Selection of leg sets

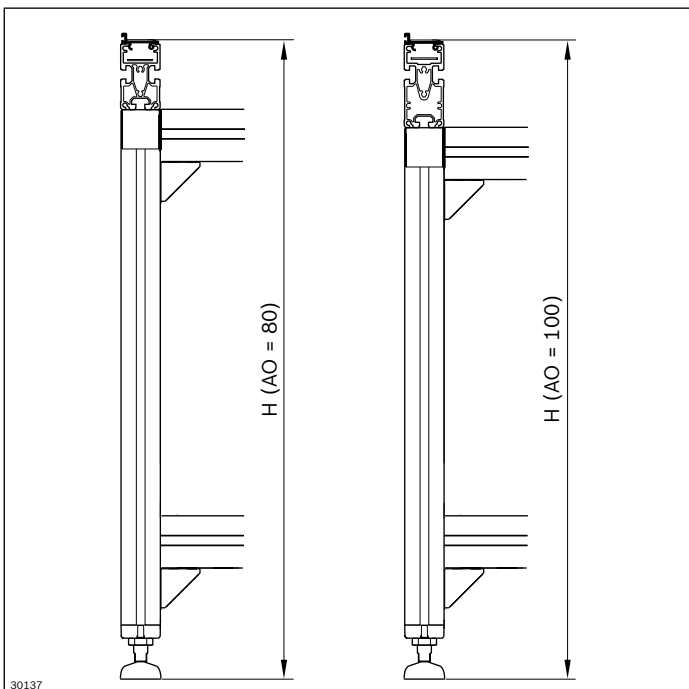


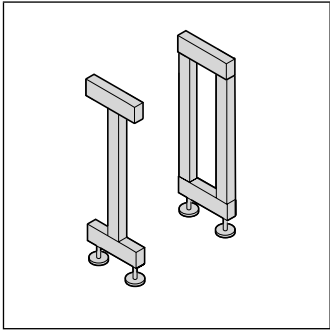
New leg set height H

Defines the height of the leg sets with the new parameter H, measured from floor to top of the conveyor medium (= transport level).

In addition, the height of the section profile is specified as an additional order parameter (AO).

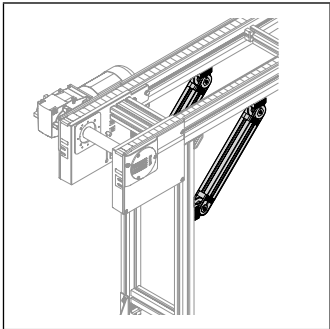
The height of the leg set to lower edge of section profile (= h_{sz}) is calculated as follows: $h_{sz} = H - AO$.





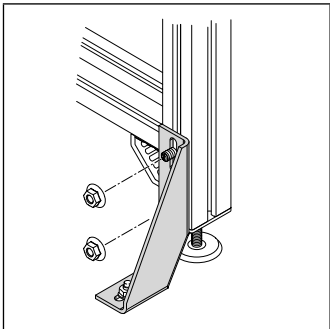
SZ 2/... leg sets

6-4



SZ 2 – ST 2 reinforcement

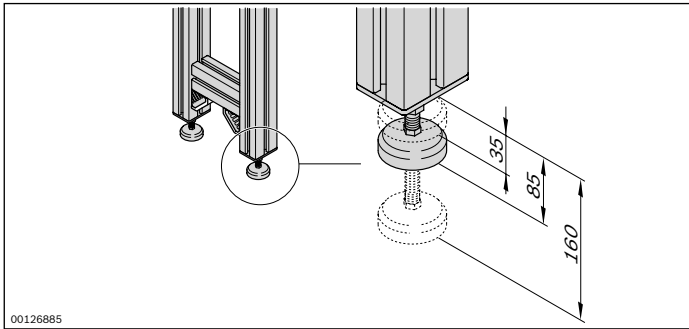
6-24



Foundation bracket, anchor bolts, T-bolt, flange nut, caps for bracket

6-25

SZ 2/... leg sets



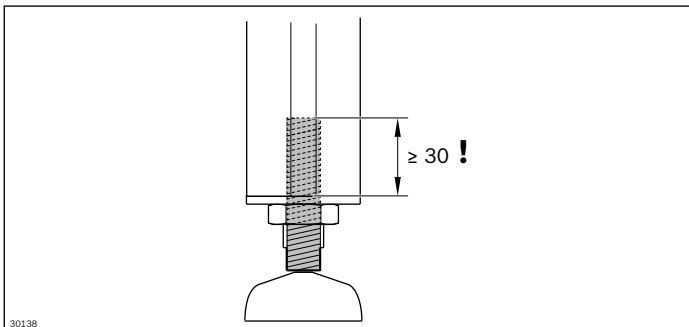
Leg sets

Leg sets support the conveyor section. They have to be mounted directly next to the drive, return units and underneath section joints. Conveyor units are to be supported with extra leg sets in equal distances of max. 2000 mm.

Fastening material

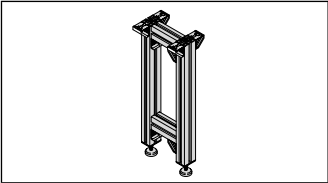
Leg sets must be anchored to the floor with foundation 3842146815 and anchor bolts 3842526560 .

Cover caps for the bracket are not included in the delivery for all leg sets.

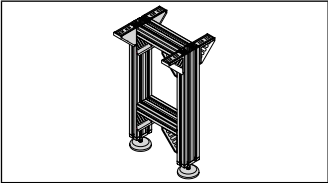


Leveling feet

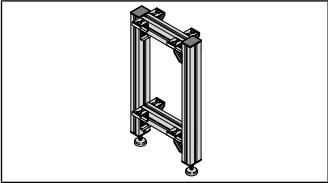
The height-adjustable leveling feet incl. fastening material) are included in the delivery. The engagement depth of the leveling feet must be at least 30 mm for all leg sets.



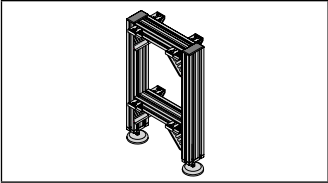
SZ 2 leg set 6-6



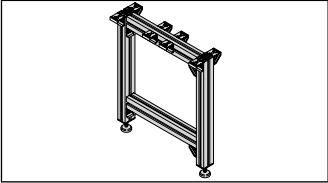
SZ 2/H leg set 6-8



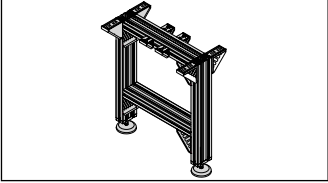
SZ 2/U leg set 6-10



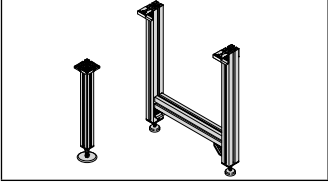
SZ 2/U-H leg set 6-12



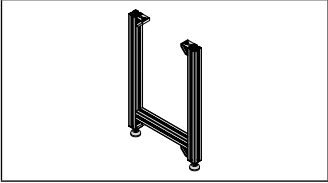
SZ 2/T leg set 6-14



SZ 2/T-H leg set 6-16

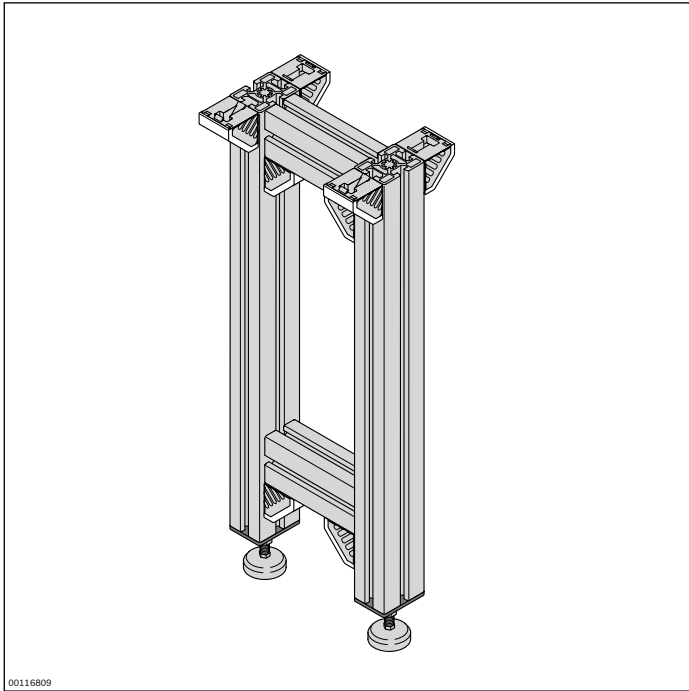


SZ 2/K-90, SZ 2/K-180 leg set 6-18



HD 2/H leg set 6-22

SZ 2 leg set



- ▶ Leg set for single-track conveyor sections on a single transport level
- ▶ Standard version

The leg sets support one belt section or one conveyor unit.

Accessories

Required accessories

- ▶ Foundation bracket 3842146815, see p. 6-25
- ▶ Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- ▶ Including height-adjustable leveling foot
- ▶ Incl. all fastening material to mount on the conveyor section, drive module or return unit

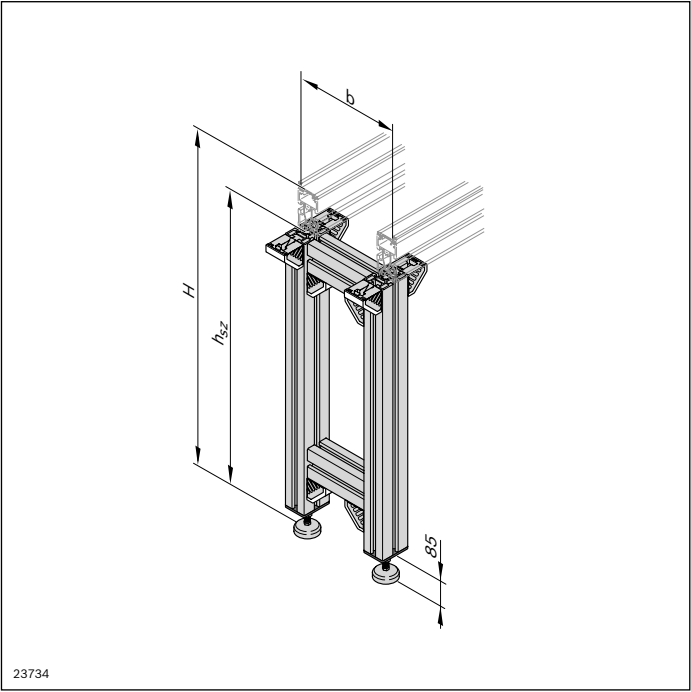
Recommended accessories

- ▶ Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



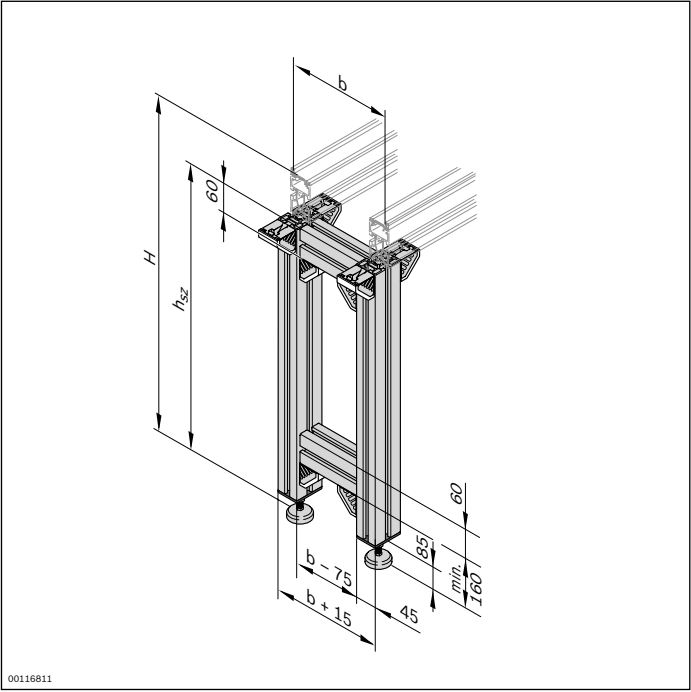
Material number		3842996320	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm)	Transportation height	ST 2/B-50:	350 ... 2100
$H = h_{SZ}^* + AO$		ST 2/B:	375 ... 2100
		ST 2/B-100:	395 ... 2100
AO	Installation location	55; 60; 80; 100	
	SP 2/B-50:	AO = 55	
	Lift gate:	AO = 60	
	ST 2/B; SP 2/BH		
	BS 2; BS 2/M:	AO = 80	
	ST 2/B-100; ST 2/C-100;		
	ST 2/R-100; ST 2/C-H;		
	ST 2/R-H; ST 2/R-V;		
MT	BS 2/C; BS 2/C-H;		
	BS 2/R; BS 2/R-H;		
	BS 2/R-V; CS/C:	AO = 100	
	Kit	0; 1	
	0 = not assembled		
	1 = assembled		

*h_{SZ} = leg set height

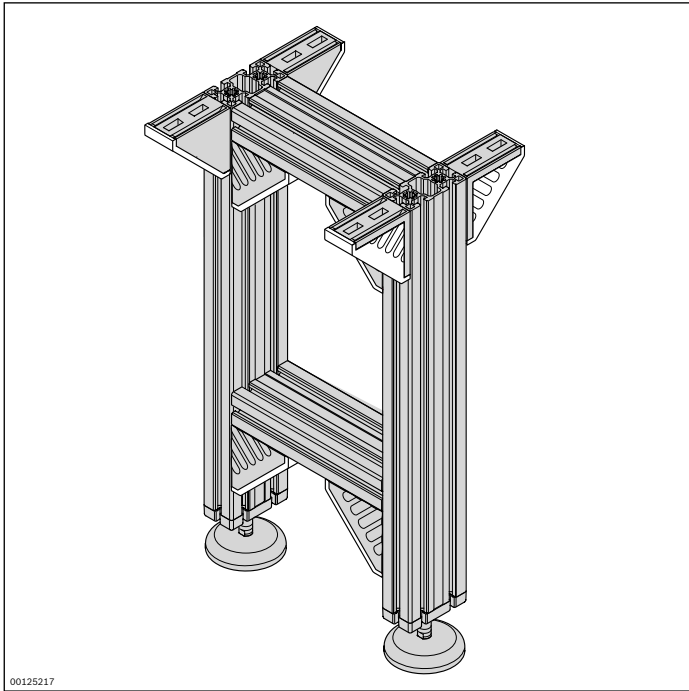
Technical data

Material number	3842996320
Features	
ESD	yes

Dimensions



SZ 2/H leg set



- ▶ Leg set for heavy-duty single-track conveyor sections on one transport level
- ▶ Standard version

The leg sets support one belt section or one conveyor unit with high loads. They are particularly suitable for BS 2/...-H

belt sections and conveyor units with SP 2/...-H section profile.

Accessories

Required accessories

- ▶ Foundation bracket 3842146815, see p. 6-25
- ▶ Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- ▶ Including height-adjustable leveling foot
- ▶ Incl. all fastening material to mount on the conveyor section, drive module or return unit

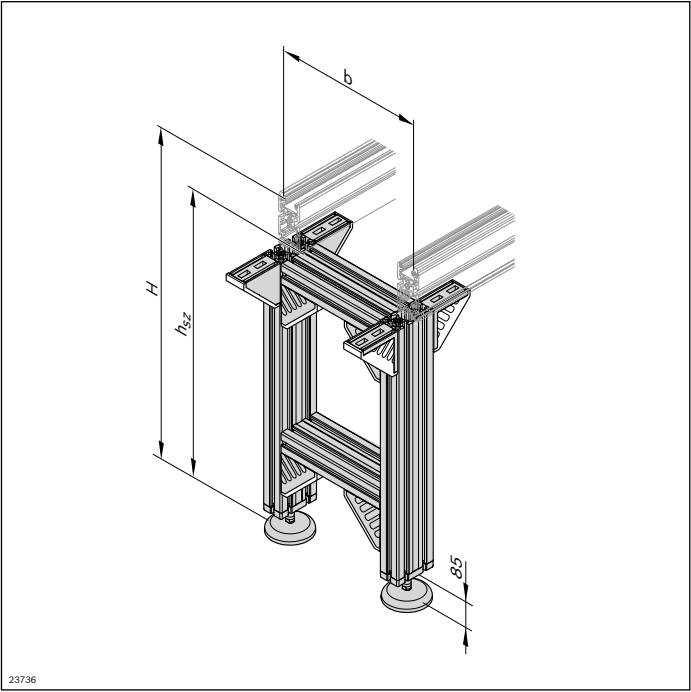
Recommended accessories

- ▶ Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



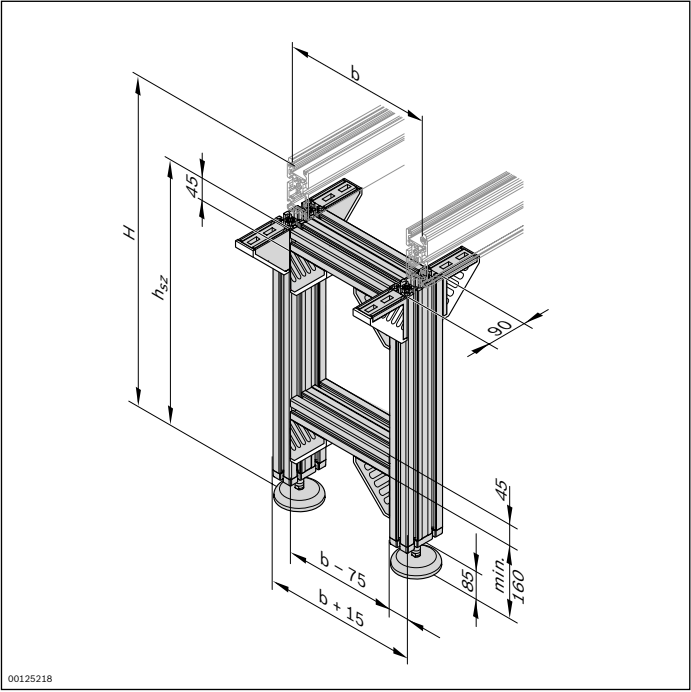
Material number		3842996321	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm)	Transportation height	ST 2/B-50:	410 ... 2100
$H = h_{SZ}^* + AO$		ST 2/B:	435 ... 2100
		ST 2/B-100:	455 ... 2100
AO	Installation location	55; 80; 100	
		55 = profile height 50 80 = profile height 80 100 = profile height 100	
MT	Kit	0; 1	
		0 = not assembled 1 = assembled	

* h_{SZ} = leg set height

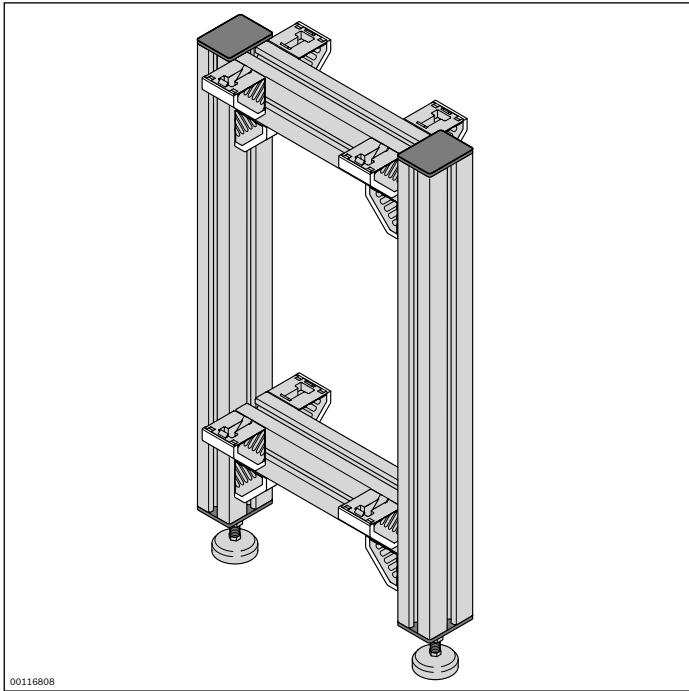
Technical data

Material number		3842996321
Features		
ESD		yes

Dimensions



SZ 2/U leg set



- Leg set for single-track conveyor sections on two transport levels

The leg sets support two belt sections or two conveyor units side by side, e.g. for a workpiece return.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material to mount on the conveyor section, drive module or return unit

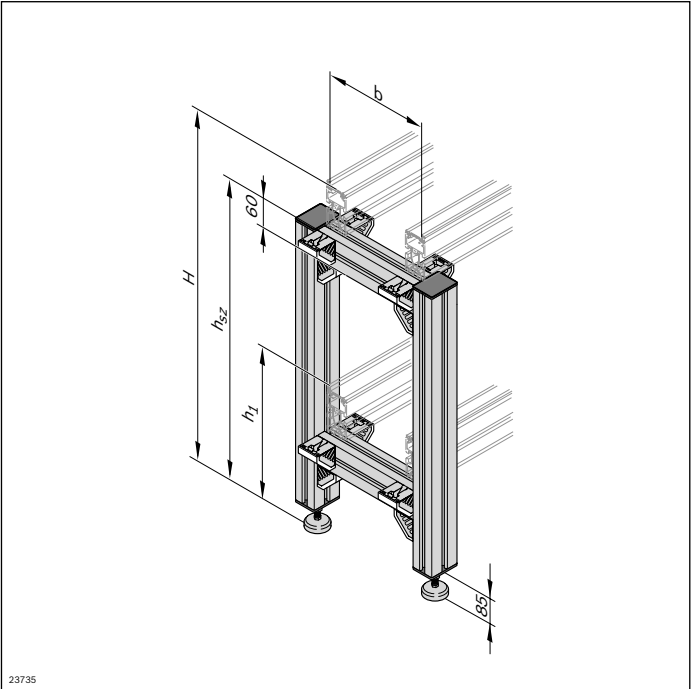
Recommended accessories

- Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



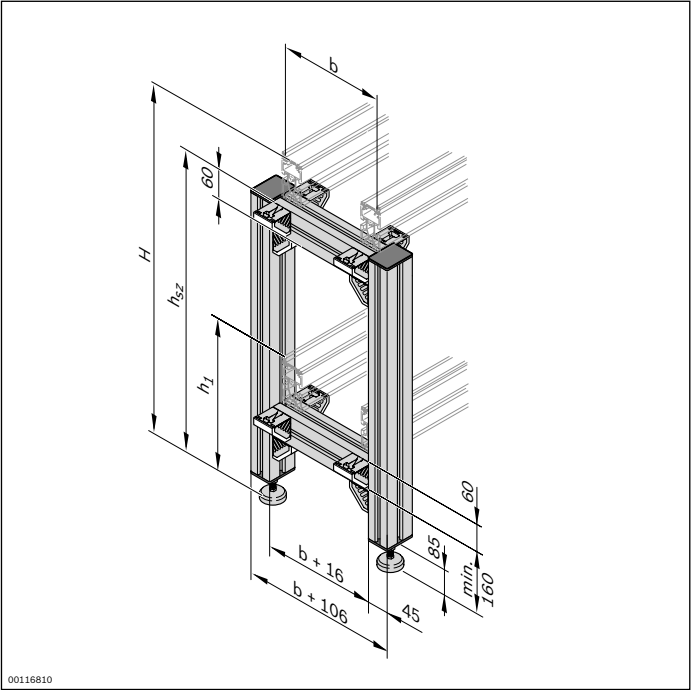
Material number		3842996322	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm)	Transportation height	ST 2/B-50:	475 ... 2100
$H = h_{SZ}^* + AO$		ST 2/B:	525 ... 2100
		ST 2/B-100:	565 ... 2100
h1 (mm)		ST 2/B-50:	245
		ST 2/B:	270
		ST 2/B-100:	290
AO	Installation location 55 = profile height 50 80 = profile height 80 100 = profile height 100	55; 80; 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{SZ} = leg set height

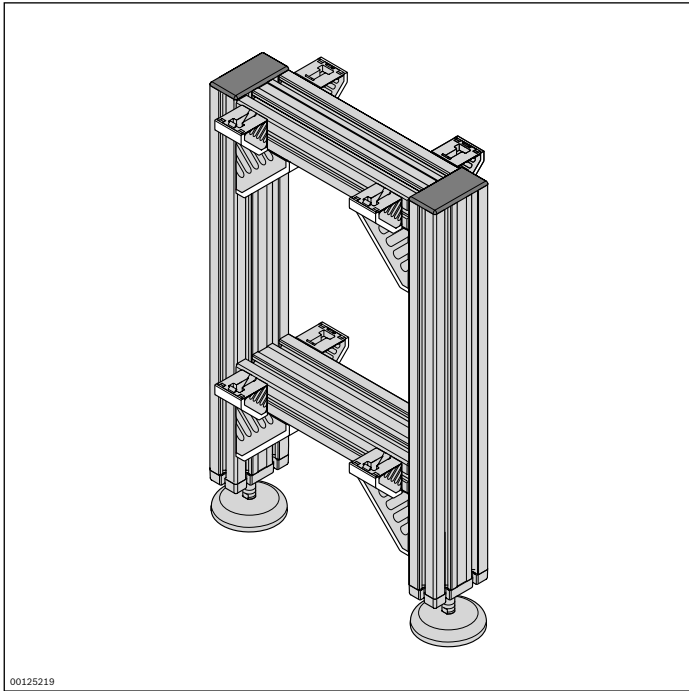
Technical data

Material number	3842996322
Features	
ESD	yes

Dimensions



SZ 2/U-H leg set



- Leg set for heavy-duty single-track conveyor sections on two transport levels

The leg sets support two belt sections or two conveyor units side by side, e.g. for a workpiece return. They are

particularly suitable for BS 2/...-H belt sections or conveyor units with SP 2/...-H section profile.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material to mount on the conveyor section, drive module or return unit

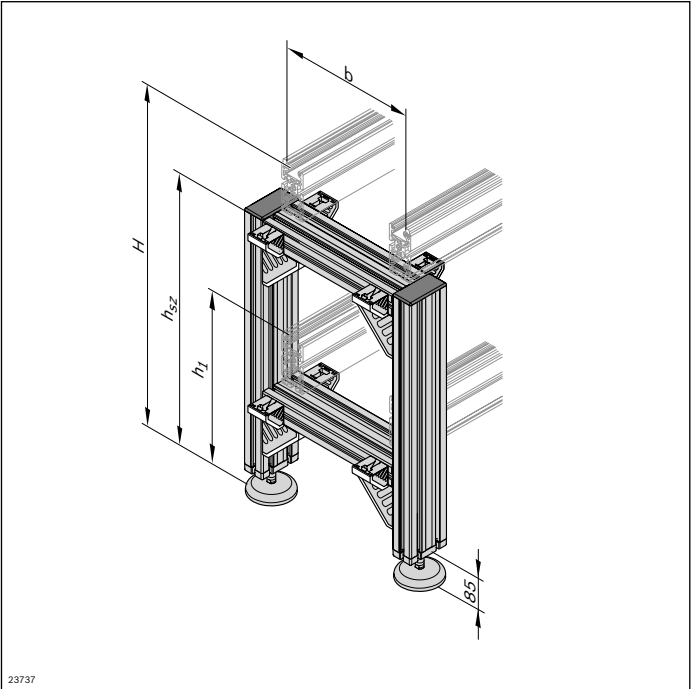
Recommended accessories

- Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



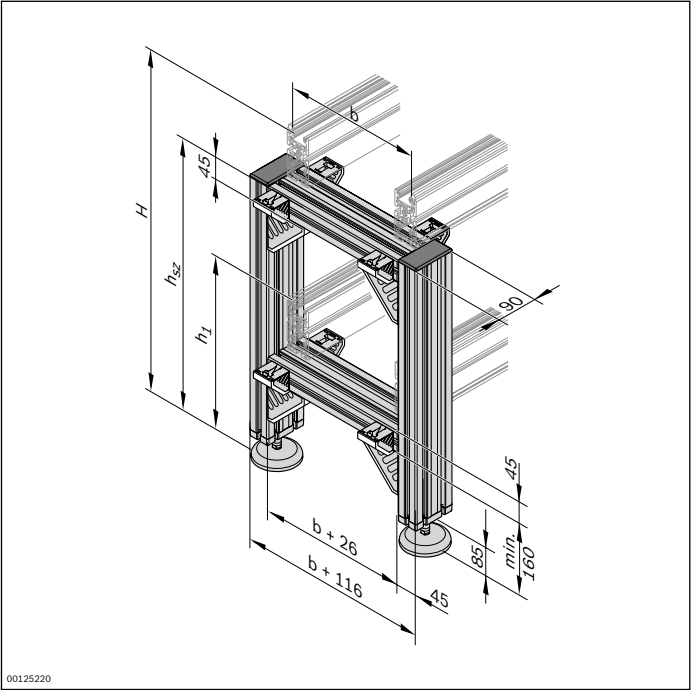
Material number		3842996323	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm)	Transportation height	ST 2/B-50:	535 ... 2100
$H = h_{sz}^* + AO$		ST 2/B:	585 ... 2100
		ST 2/B-100:	625 ... 2100
h1 (mm)		ST 2/B-50:	275
		ST 2/B:	300
		ST 2/B-100:	320
AO	Installation location 55 = profile height 50 80 = profile height 80 100 = profile height 100	55; 80; 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{sz} = leg set height

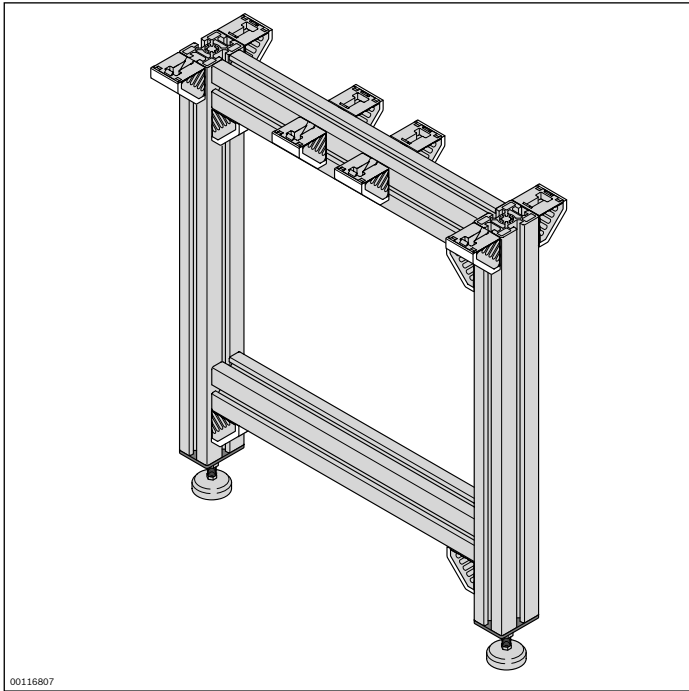
Technical data

Material number	3842996323
Features	
ESD	yes

Dimensions



SZ 2/T leg set



- Leg set for double-track conveyor sections on one transport level

The leg sets support two belt sections or two conveyor units side by side.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material to mount on the conveyor section, drive module or return unit

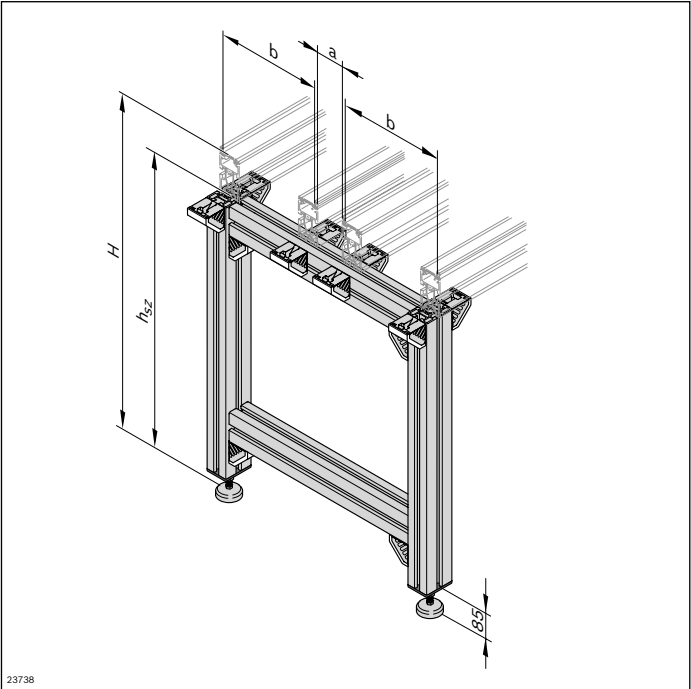
Recommended accessories

- Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



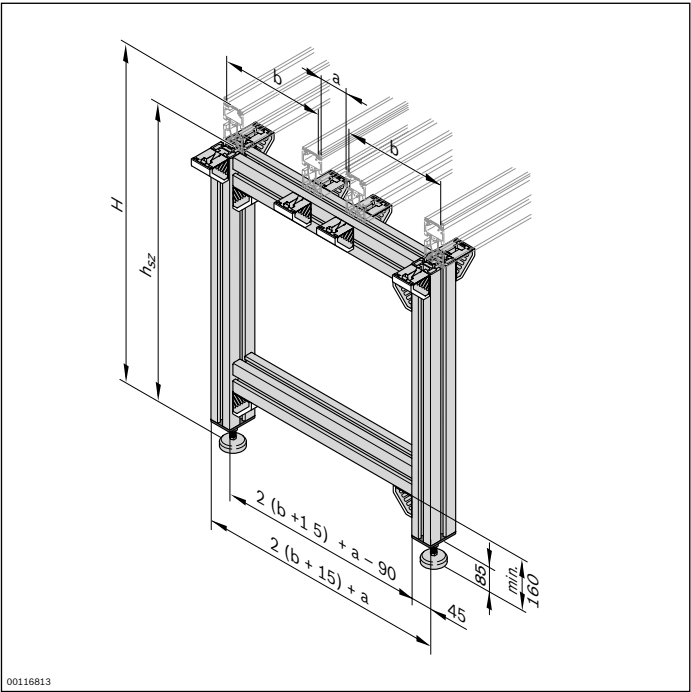
Material number		3842996324	
b (mm)	Track width in direction of transport	160 ... 400	
H (mm)	Transportation height	ST 2/B-50:	350 ... 2100
$H = h_{SZ}^* + AO$		ST 2/B:	375 ... 2100
		ST 2/B-100:	395 ... 2100
AO	Installation location 55 = profile height 50 80 = profile height 80 100 = profile height 100	55; 80; 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	
a (mm)	Distance between conveyors	45; 90; 135	

*h_{SZ} = leg set height

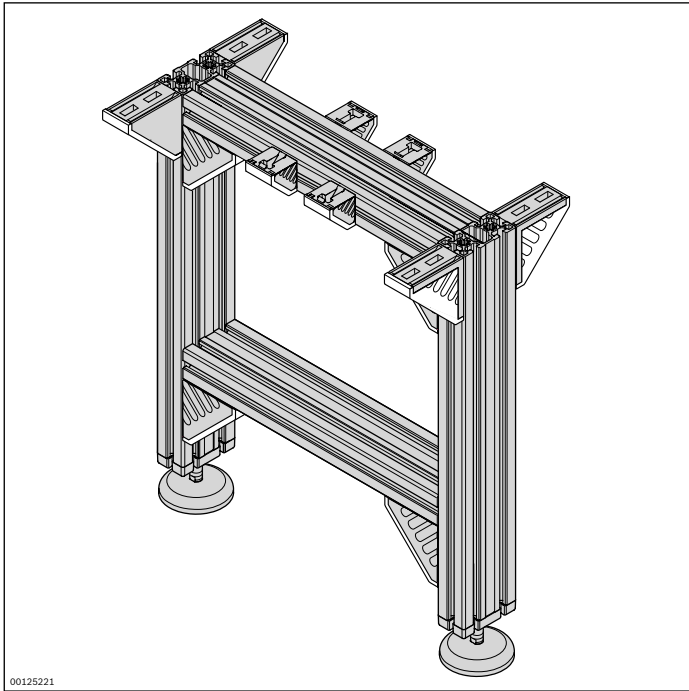
Technical data

Material number		3842996324
Features		
ESD		yes

Dimensions



SZ 2/T-H leg set



- Leg set for heavy-duty double-track conveyor sections on one transport level

The leg sets support two belt sections or two conveyor units side by side. They are particularly suitable for

BS 2/...-H belt sections or conveyor units with SP 2/...-H section profile.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Recommended accessories

- Caps for bracket, see p. 6-30

Delivery note

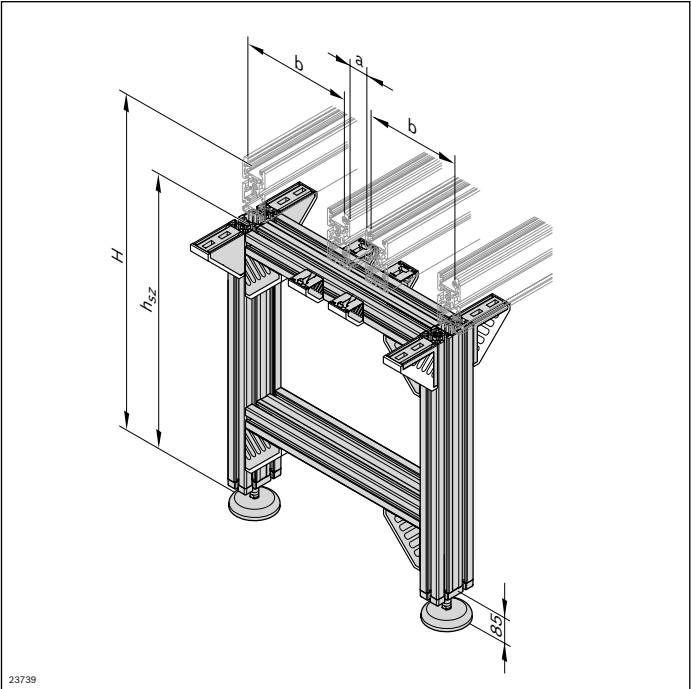
Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material to mount on the conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



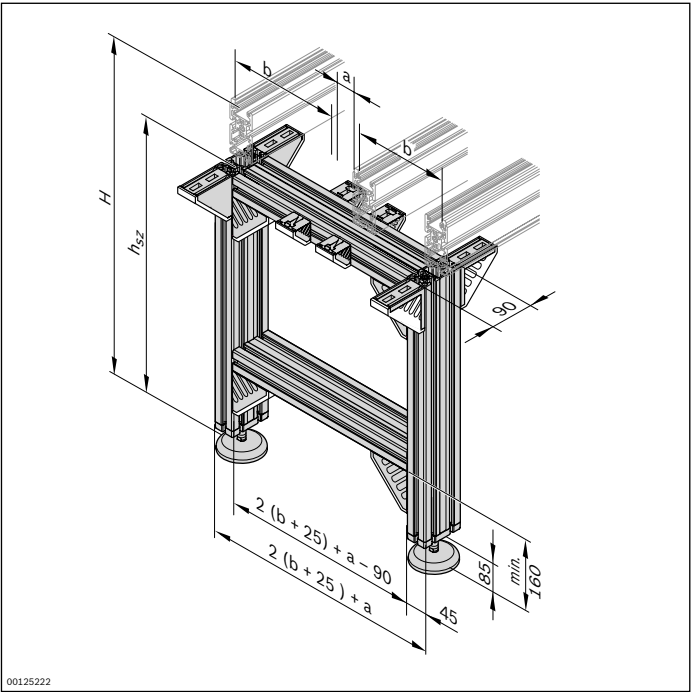
Material number		3842996325	
b (mm)	Track width in direction of transport	160 ... 400	
H (mm)	Transportation height	ST 2/B-50:	410 ... 2100
$H = h_{SZ}^* + AO$		ST 2/B:	435 ... 2100
		ST 2/B-100:	455 ... 2100
AO	Installation location 55 = profile height 50 80 = profile height 80 100 = profile height 100	55; 80; 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	
a (mm)	Distance between conveyors	45; 90; 135	

* h_{SZ} = leg set height

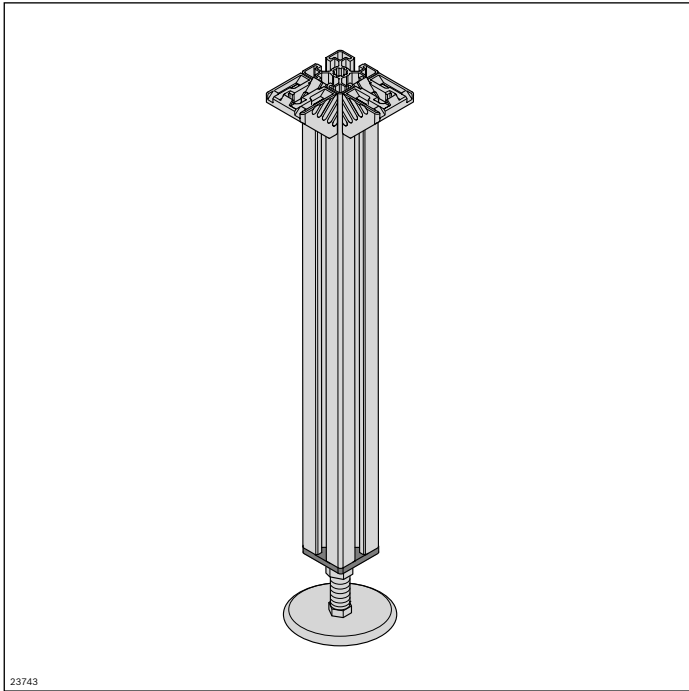
Technical data

Material number	3842996325
Features	
ESD	yes

Dimensions



SZ 2/K-90 leg set



- Leg set for K...-90 curves

The leg sets support a 90° curve.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material for mounting on the KE 2/90 curve

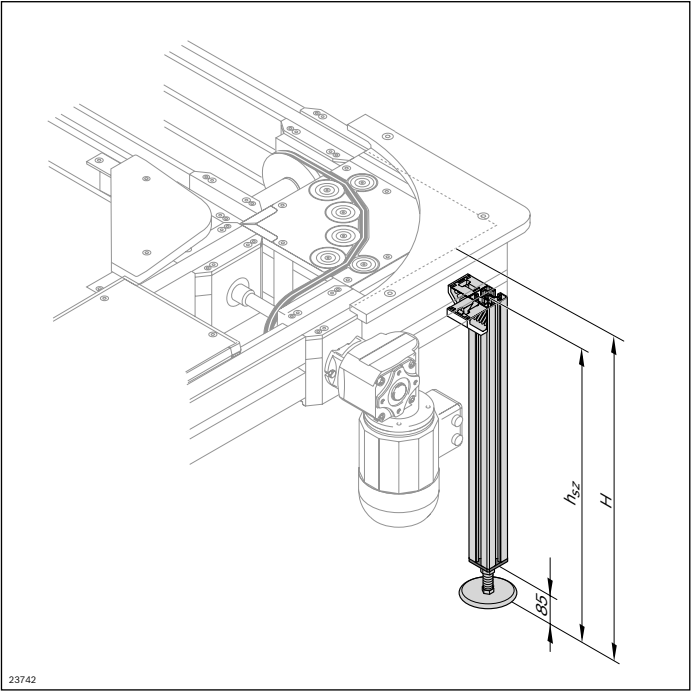
Recommended accessories

- Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



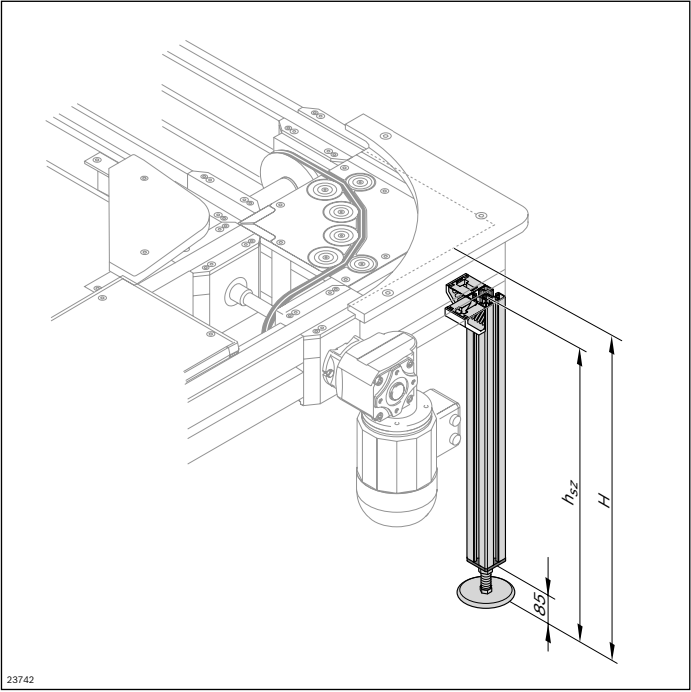
Material number		3842996326
H (mm)	Transportation height	221 ... 2000
$H = h_{SZ}^{*} + 91$		
MT	Kit	0; 1
	0 = not assembled	
	1 = assembled	

*h_{SZ} = leg set height

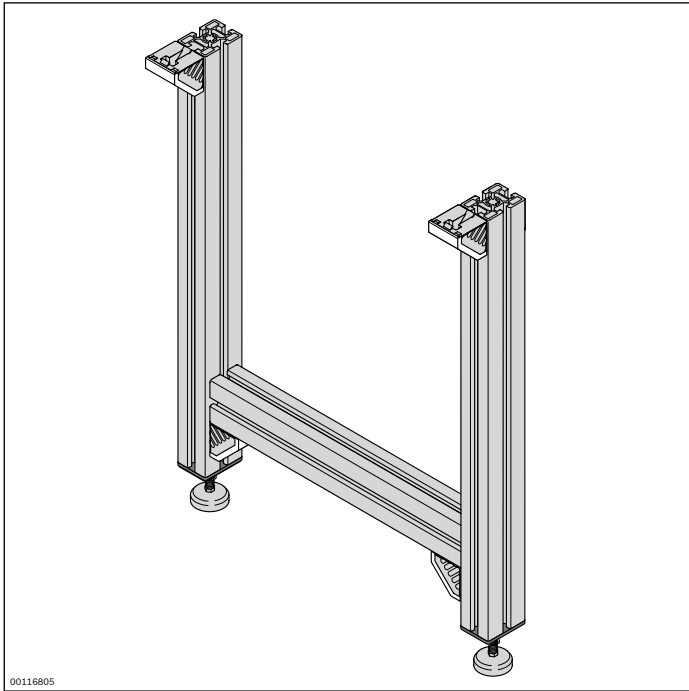
Technical data

Material number	3842996326
Features	
ESD	yes

Dimensions



SZ 2/K-180 leg set



- Leg set for K...-180 curves

The leg sets support a 180° curve.

Accessories

Required accessories

- Foundation bracket 3842146815, see p. 6-25
- Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- Including height-adjustable leveling foot
- Incl. all fastening material for mounting on the KE 2/180 curve

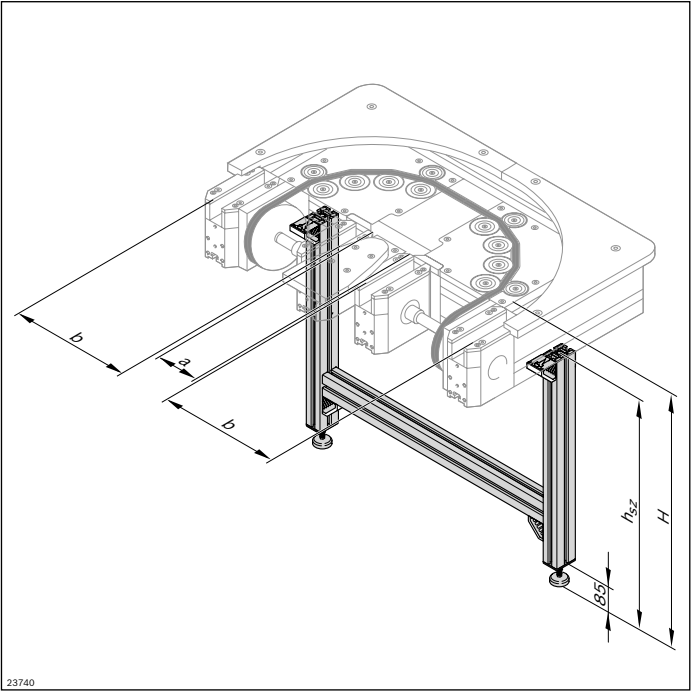
Recommended accessories

- Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



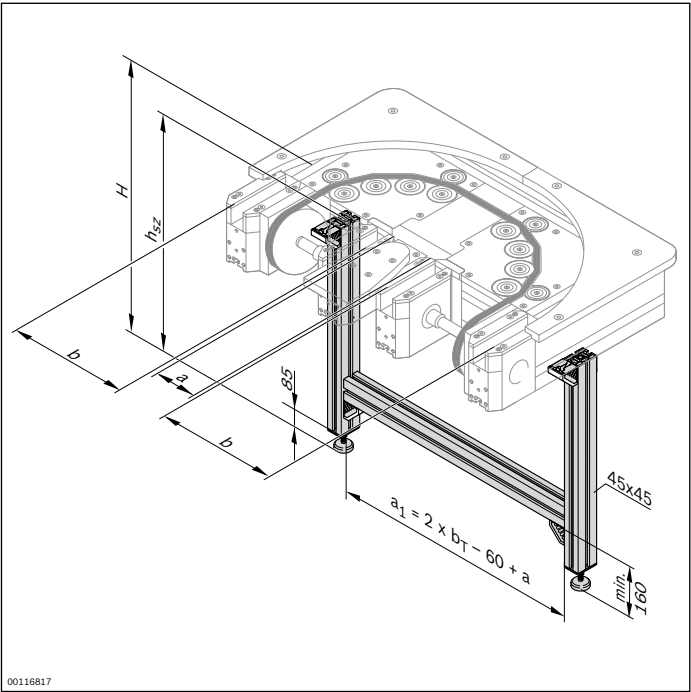
Material number		3842996327
b (mm)	Track width in direction of transport	160 ... 400
H (mm)	Transportation height	221 ... 2000
$H = h_{sz}^* + 91$		
MT	Kit 0 = not assembled 1 = assembled	0; 1
a (mm)	Distance between conveyors	90; 135

* h_{sz} = leg set height

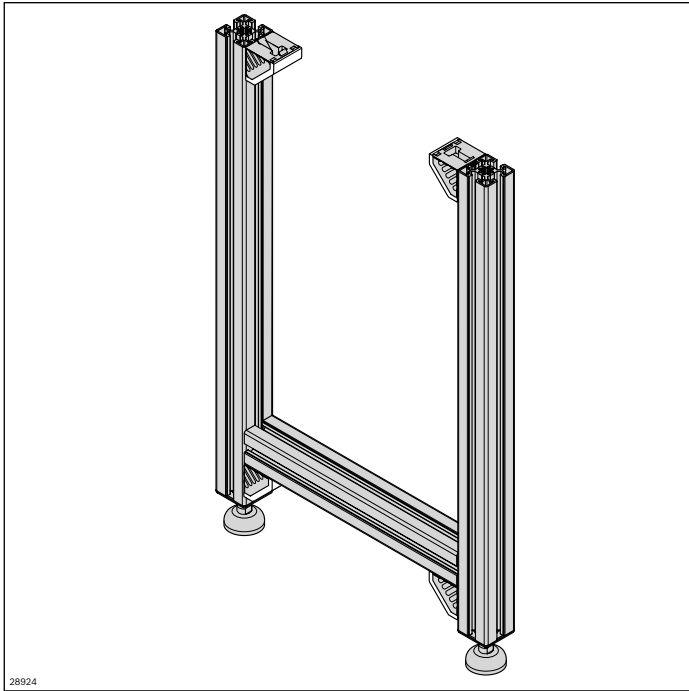
Technical data

Material number	3842996327
Features	
ESD	yes

Dimensions



HD 2/H leg set



- ▶ Leg sets for HD 2/H lift rotate unit
- ▶ For size 2 from 50 kg (Size 2)
- ▶ For size 3 generally (Size 3)

Accessories

Required accessories

- ▶ Foundation bracket 3842146815, see p. 6-25
- ▶ Anchor bolt 3842526560, see p. 6-27

Delivery note

Scope of delivery

- ▶ Including height-adjustable leveling foot
- ▶ Incl. mounting material

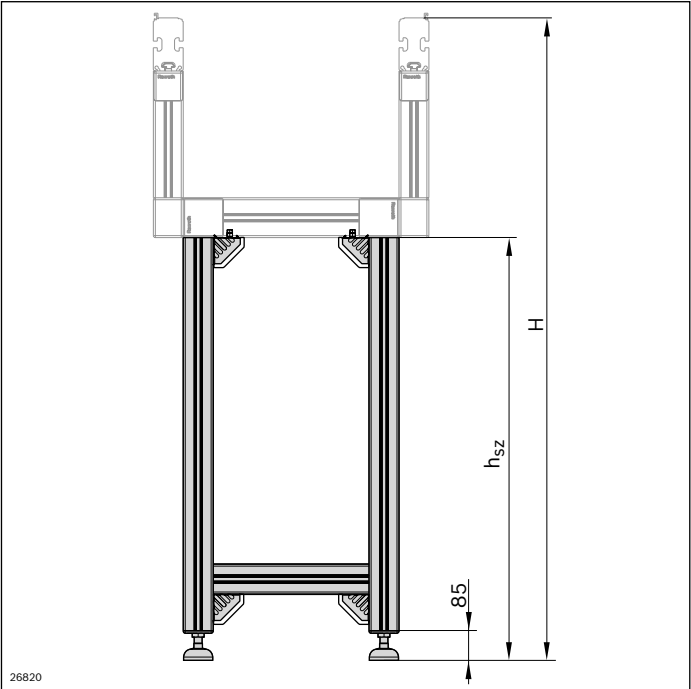
Recommended accessories

- ▶ Caps for bracket, see p. 6-30

Condition on delivery

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

Ordering information



HD 2/H leg set, size 2¹⁾

Material number		3842993324
H (mm)	Transportation height	570 ... 2000
$H = h_{sz}^{*} + AO$		
DW (°)	Rotation angle	90; 180
MT	Kit	0; 1
	0 = not assembled	
	1 = assembled	

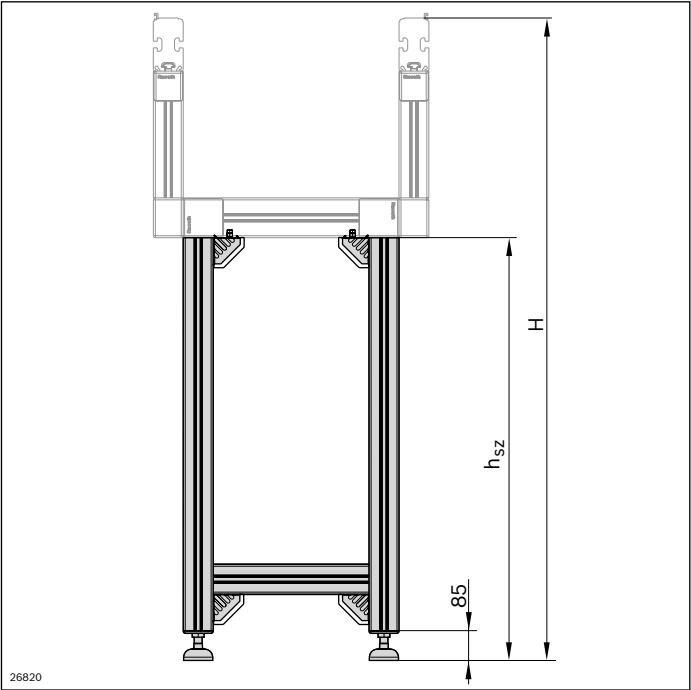
¹⁾ for size 2 from 50 kg
^{*}h_{sz} = leg set height

HD 2/H leg set, size 3²⁾

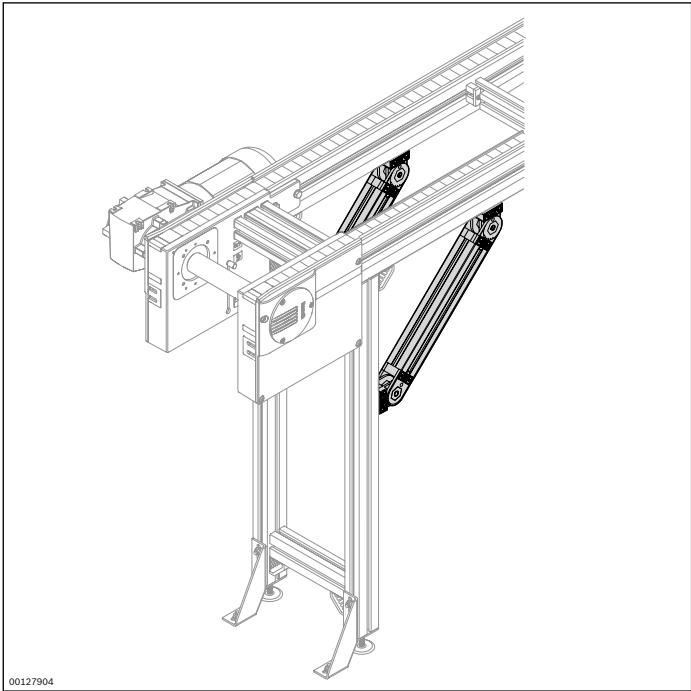
Material number		3842993325
H (mm)	Transportation height	600 ... 2000
$H = h_{sz}^{*} + AO$		
DW (°)	Rotation angle	90; 180
MT	Kit	
	0 = not assembled	
	1 = assembled	

²⁾ for size 3 generally
^{*}h_{sz} = leg set height

Dimensions



SZ 2 – ST 2 reinforcement



To absorb horizontal forces from the sections. Installation at the end of the section

Delivery note

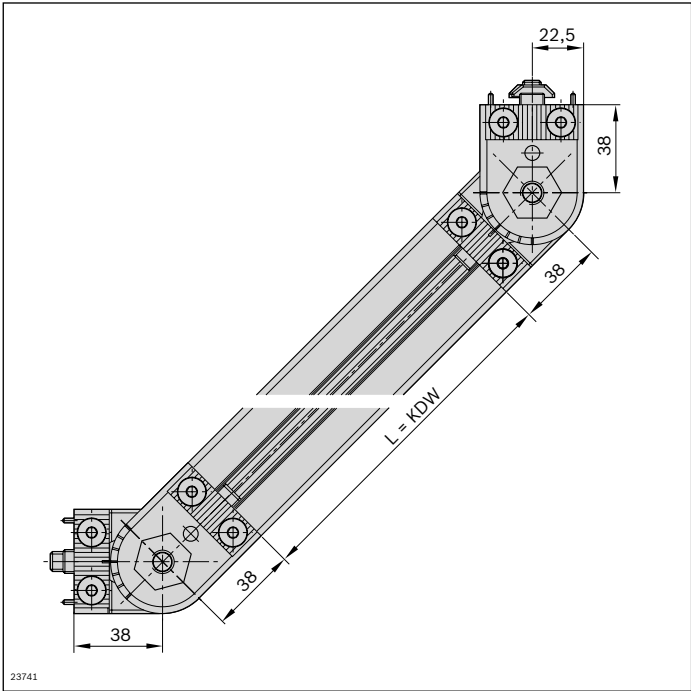
Scope of delivery

- Incl. mounting material

Condition on delivery

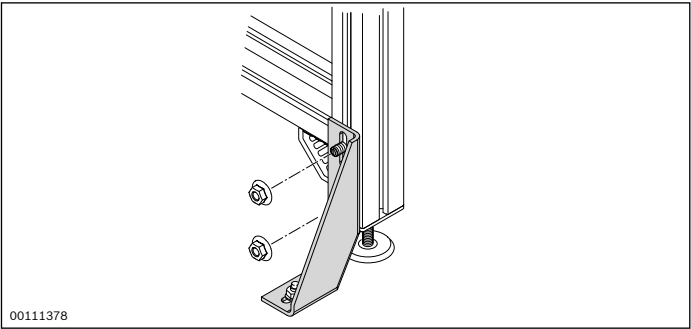
- Not assembled

Ordering information



Material number		3842994910
I (mm)	Length	300 ... 2000

Foundation bracket set, 160x90x42



Foundation bracket are used for securing frames to the floor.

A hole for the anchor bolt can be made without removing the foundation bracket.

Accessories

Required accessories

- ▶ Anchor bolt 3842526560, see p. 6-27
- ▶ M8x25 T-bolt 3842528718, see p. 6-28
- ▶ M8 flange nut 3842345081, see p. 6-29

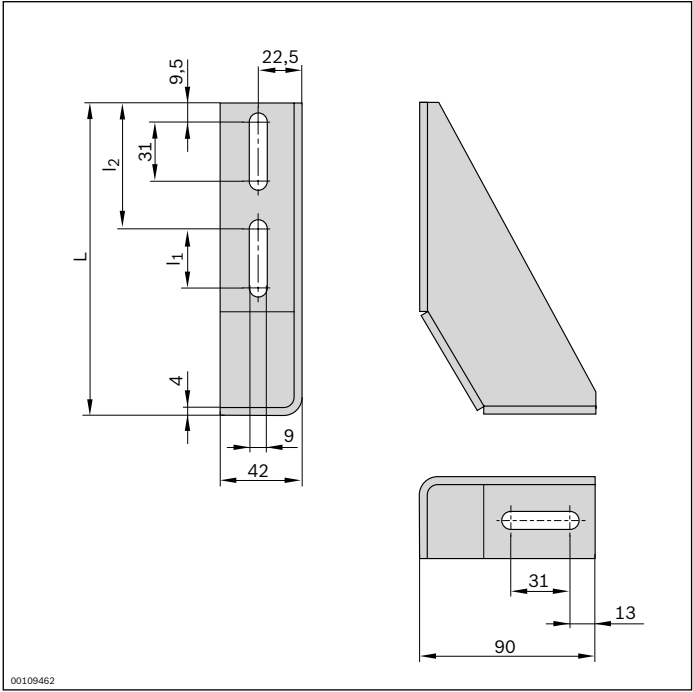
Ordering information

Product designation	Packaging unit	Material number
160x90x42 foundation bracket	20	3842146815

Technical data

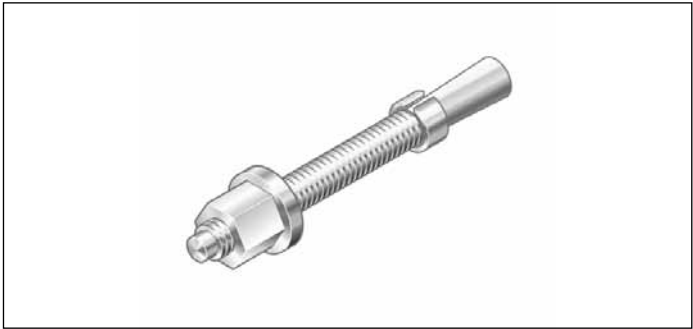
Material number	3842146815
Features	
Material specification	plate steel; galvanized, transparent chromated

Dimensions



Length l_1 (mm)	Length l_2 (mm)	Dimension L (mm)
31	64.5	160

Anchor bolts



► For anchoring foundation brackets to the floor

6

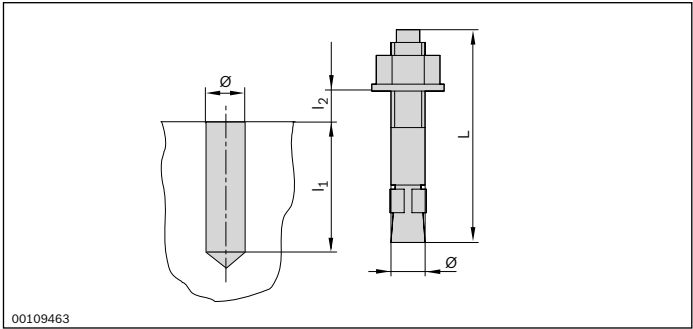
Ordering information

Product designation	Packaging unit	Material number
Anchor bolts	100	3842526560

Technical data

Material number	3842526560
Features	
Material specification	steel, galvanized

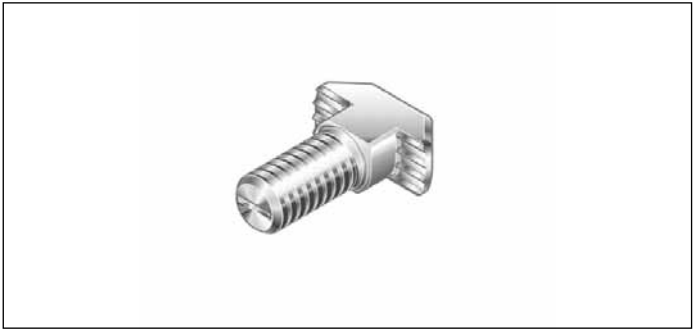
Dimensions



l_2 = maximum value

Length l_1 (mm)	Length l_2 (mm)	Dimension L (mm)
65	15	80

T-bolt HS10-M8x25



Accessories

Required accessories

- M8 flange nut 3842345081, see p. 6-29

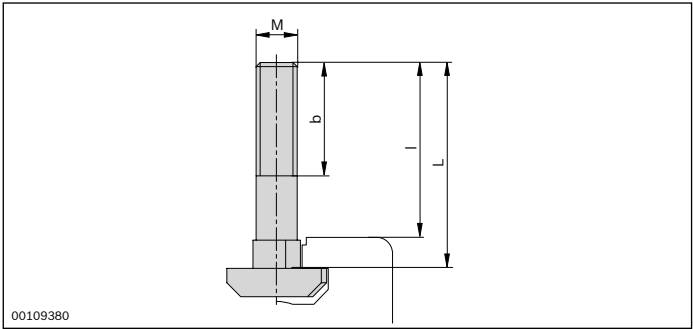
Ordering information

Product designation	Packaging unit	Material number
T-bolt M8x25	100	3842528718

Technical data

Material number	3842528718
Features	
ESD	yes
Material specification	steel, galvanized
Thread size	M8x25
Dimensions	
Length	l
	mm
	19

Dimensions



Dimension b (mm)	Dimension l (mm)	Dimension L (mm)
19	19	25

Flange nut M8



6

Accessories

Required accessories

- ▶ M8x25 T-bolt 3842528718, see p. 6-28

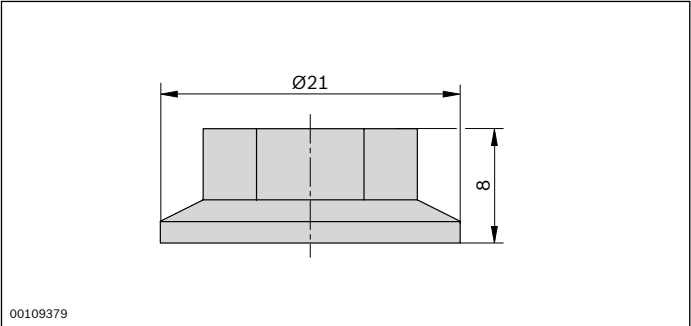
Ordering information

Product designation	Packaging unit	Material number
Flange nut M8	100	3842345081

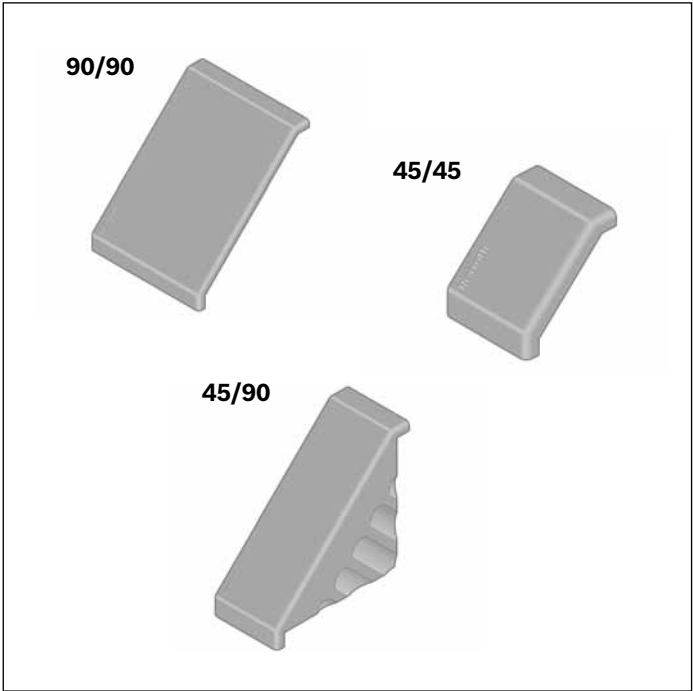
Technical data

Material number	3842345081
Features	
ESD	yes
Material specification	steel, galvanized
Thread size	M8

Dimensions



Cover cap for bracket



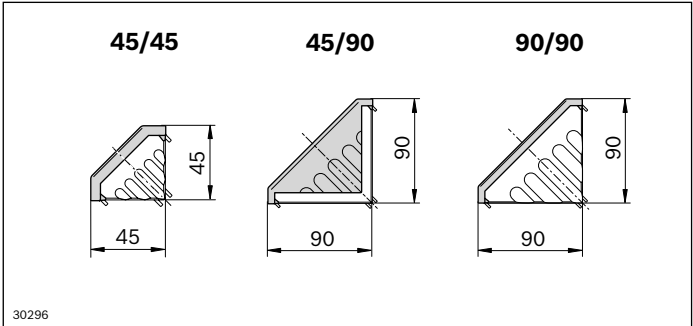
Ordering information

Product designation	Packaging unit	Material number
Cover cap 45x45, signal gray	100	3842548862
Cover cap 45x45, black	100	3842548863
Cover cap 45x90, signal gray	100	3842548864
Cover cap 45x90, black	100	3842548865
Cover cap 90x90, signal gray	20	3842548868
Cover cap 90x90, black	20	3842548869

Technical data

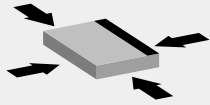
Material number	3842548862	3842548863	3842548864	3842548865	3842548868	3842548869
Features						
ESD	no	yes	no	yes	no	yes
Material specification	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene	Polypropylene

Dimensions



Combination matrix for leg set, bracket, cover cap

		Bracket	Number of cover caps (alternatively black or signal gray)						
			45x45	45x90	90x90	45x45	45x90	90x90	
			black	black	black	signal gray	signal gray	signal gray	
			3842548863	3842548865	3842548869	3842548862	3842548864	3842548868	
Leg set	SZ 2 3842996320	45x45	8				8		
	SZ 2/H 3842996321	45x90	4			4			
		90x90	4			4			
	SZ 2/U 3842996322	45x45	12				12		
	SZ 2/U-H 3842996323	45x45	8				8		
		90x90	4			4			
	SZ 2/T 3842996324	45x45	12				12		
	SZ 2/T-H 3842996325	45x45	4				4		
		45x90	4			4			
		90x90	4			4			
SZ 2/K-90 3842996326	45x45	2				2			
SZ 2/K-180 3842996327	45x45	4				4			
Leg set	HD 2/H Size 2 3842993324	45x45	4				4		
	HD 2/H Size 3 3842993325	45x45	4				4		

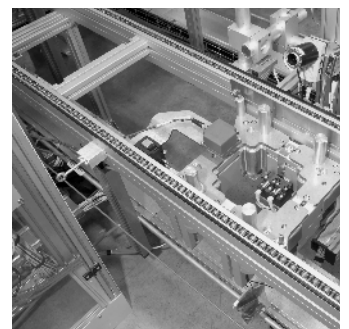


Positioning and orientation

Selection of positioning units

7-2

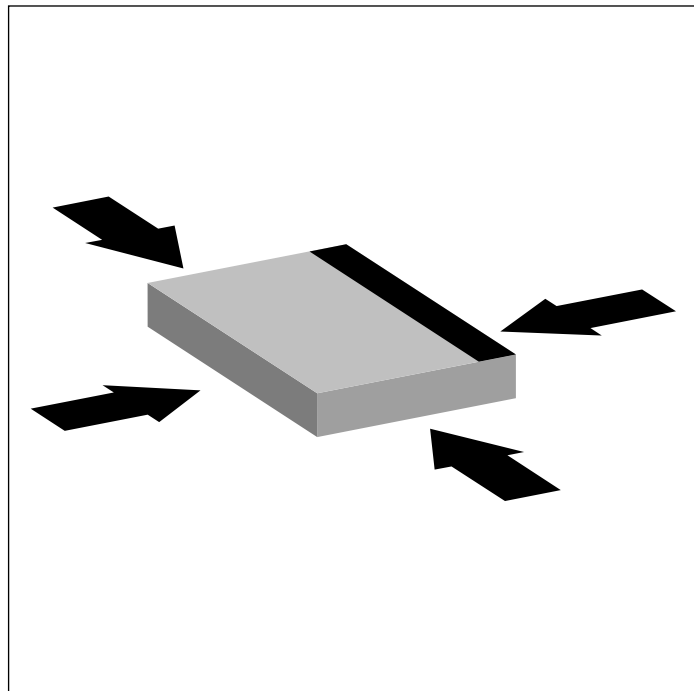
7



Selection of positioning units

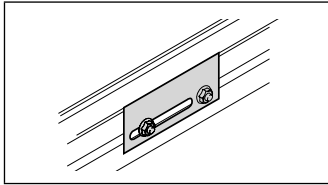
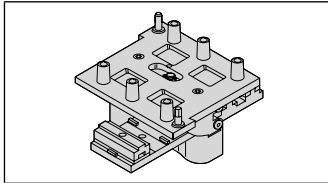
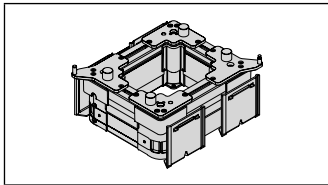
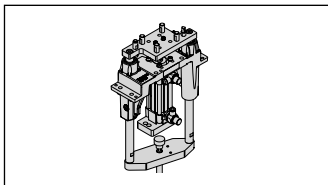
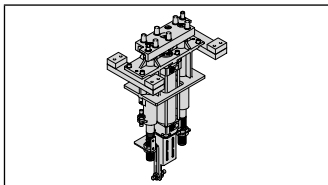
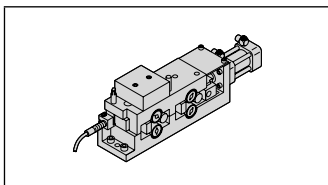
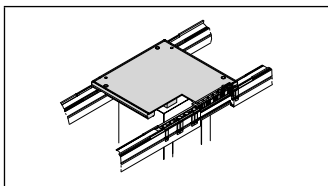
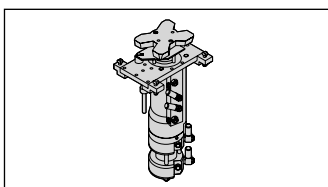
In order to process and maintain manufacturing tolerances, workpiece pallets must be stopped and positioned in the processing station.

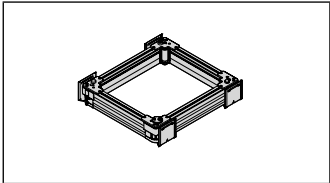
Depending on the design, the positioning unit can move the workpiece pallets with an accuracy of ± 0.05 mm. Vertical process forces of up to 100 kN can be taken up.



Intended use

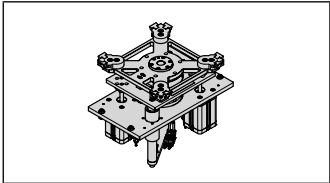
- ▶ A VE 2 stop gate (see p. 8-6) is sufficient for use with a manual workplace that has low requirements for positioning accuracy and if no forces act upon the workpiece pallet
- ▶ Transverse positioning accuracy can be improved using a workpiece pallet guide (see p. 7-5)
- ▶ To lift the workpiece pallet from the conveyor medium: PE 2 (see p. 7-7) and PE 2/X (see p. 7-12)
- ▶ For larger lifting distances: HP 2 (see p. 7-25) and HP 2/L (see p. 7-16)
- ▶ For high forces, e.g. in presses or in riveting machines: PE 2/XP, see p. 7-31
- ▶ For process force decoupling: PE 2/XX, see p. 7-38
- ▶ To change the workpiece pallet orientation: HD 2 lift rotate unit (see p. 7-46) and HD 2/H lift rotate unit (see p. 7-54)

**Workpiece pallet guide****7-5****PE 2 positioning unit****7-7****PE 2/X positioning unit****7-12****7****HP 2/L lift positioning unit****7-16****HP 2 lift positioning unit****7-25****PE 2/XP positioning unit****7-31****PE 2/XX process force decoupling****7-38****HD 2 lift rotate unit****7-46**



PE 2/H positioning unit

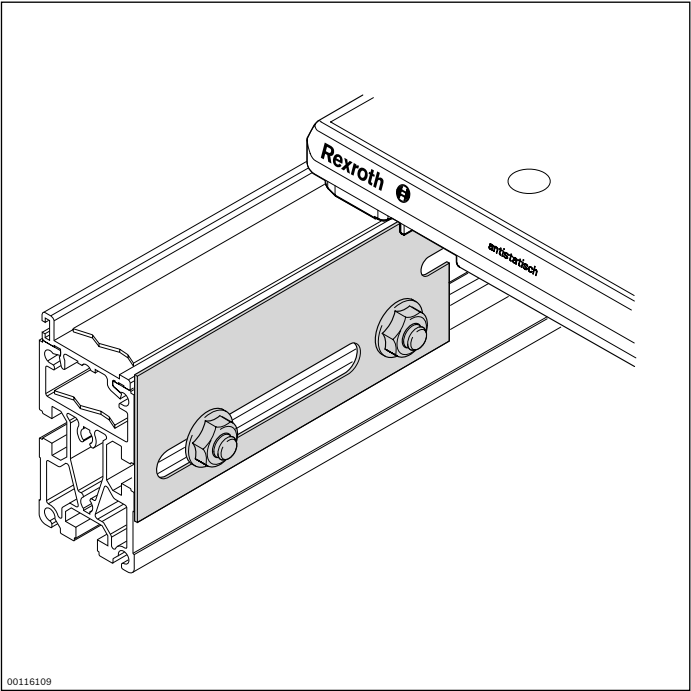
7-50



HD 2/H lift rotate unit

7-54

Workpiece pallet guide



- Easy mounting on conveyor sections
- Positioning with the guide groove on the WT 2/... workpiece pallet
- Can be combined with all WT 2, WT 2/F and WT 2/E workpiece pallets

7

Using a workpiece pallet guide and a VE 2/... stop gate, a workpiece pallet with low requirements can be positioned

at the repeat accuracy (± 0.5 mm), i.e. for manual assembly processes.

Accessories

Required accessories

- VE 2/... stop gate, see p. 8-4

Delivery note

Scope of delivery

- Including mounting material for installation on the ST 2/... conveyor section or BS 2/... belt section.

Condition on delivery

- Not assembled

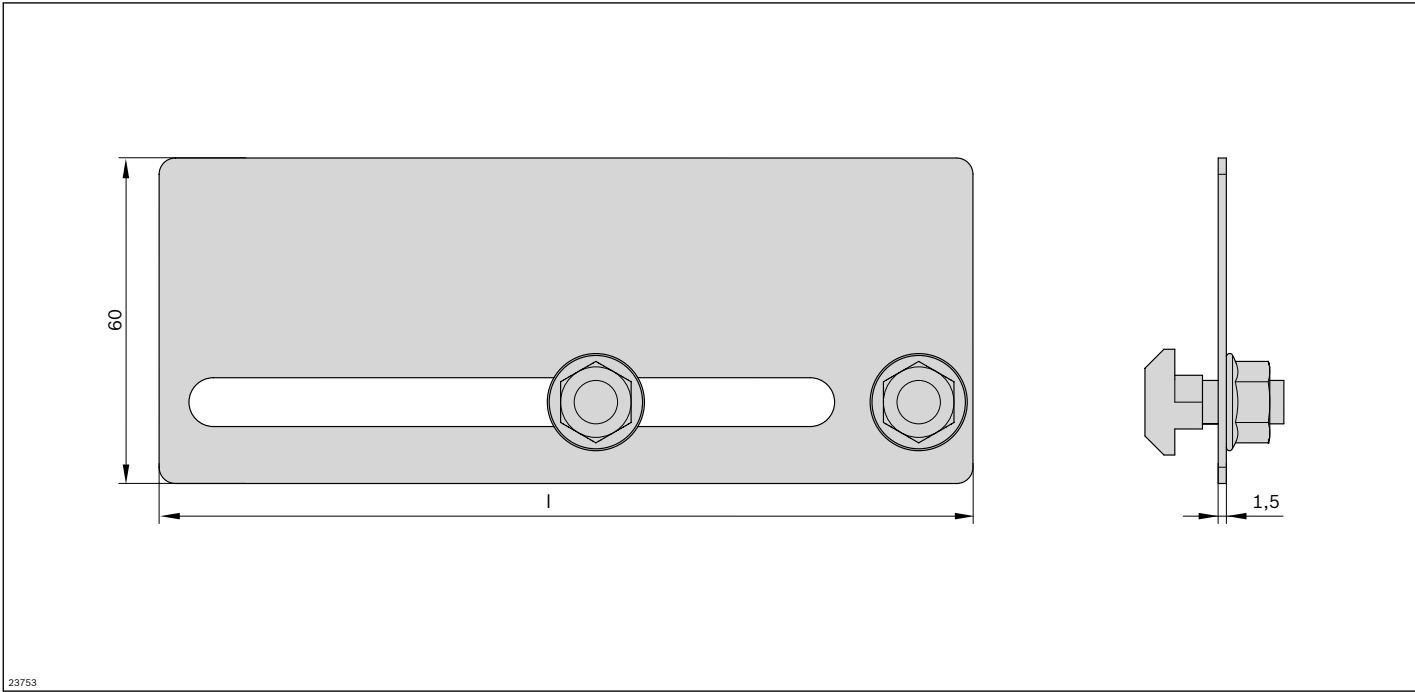
Ordering information

Product designation	Length l (mm)	Material number
Workpiece pallet guide	45	3842525634
Workpiece pallet guide	150	0842601001
Workpiece pallet guide	300	0842601003
Workpiece pallet guide	450	0842601004
Workpiece pallet guide	600	0842601006

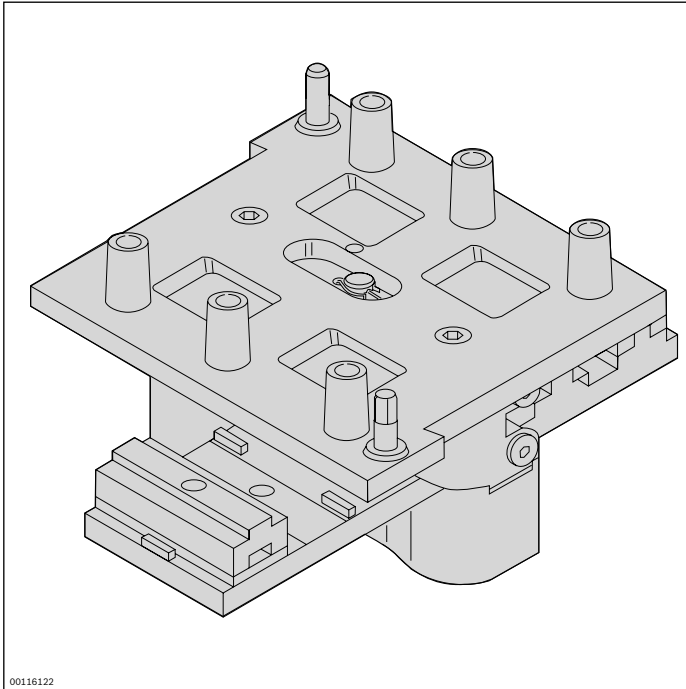
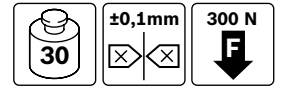
Technical data

Material number			0842601001	0842601003	0842601004	0842601006	3842525634
Features							
ESD			yes	yes	yes	yes	yes
Material specification			steel; stainless	steel; stainless	steel; stainless	steel; stainless	steel; stainless
Dimensions							
Length	l	mm	150	300	450	600	45
Additional information							
Reproducing accuracy		mm	±0.5	±0.5	±0.5	±0.5	±0.5

Dimensions



PE 2 positioning unit



00116122

- To position a workpiece pallet in a manual/automatic processing station
- For high positioning accuracy requirements up to ± 0.1 mm
- Can be combined with all WT 2 and WT 2/F workpiece pallets up to 400 x 400 mm

7

Accessories

Required accessories

- VE 2/... stop gate, see p. 8-4

Delivery note

Scope of delivery

- Incl. mounting material

Recommended accessories

- Position indication kit for PE 2, see p. 7-11

Condition on delivery

- Fully assembled

Ordering information

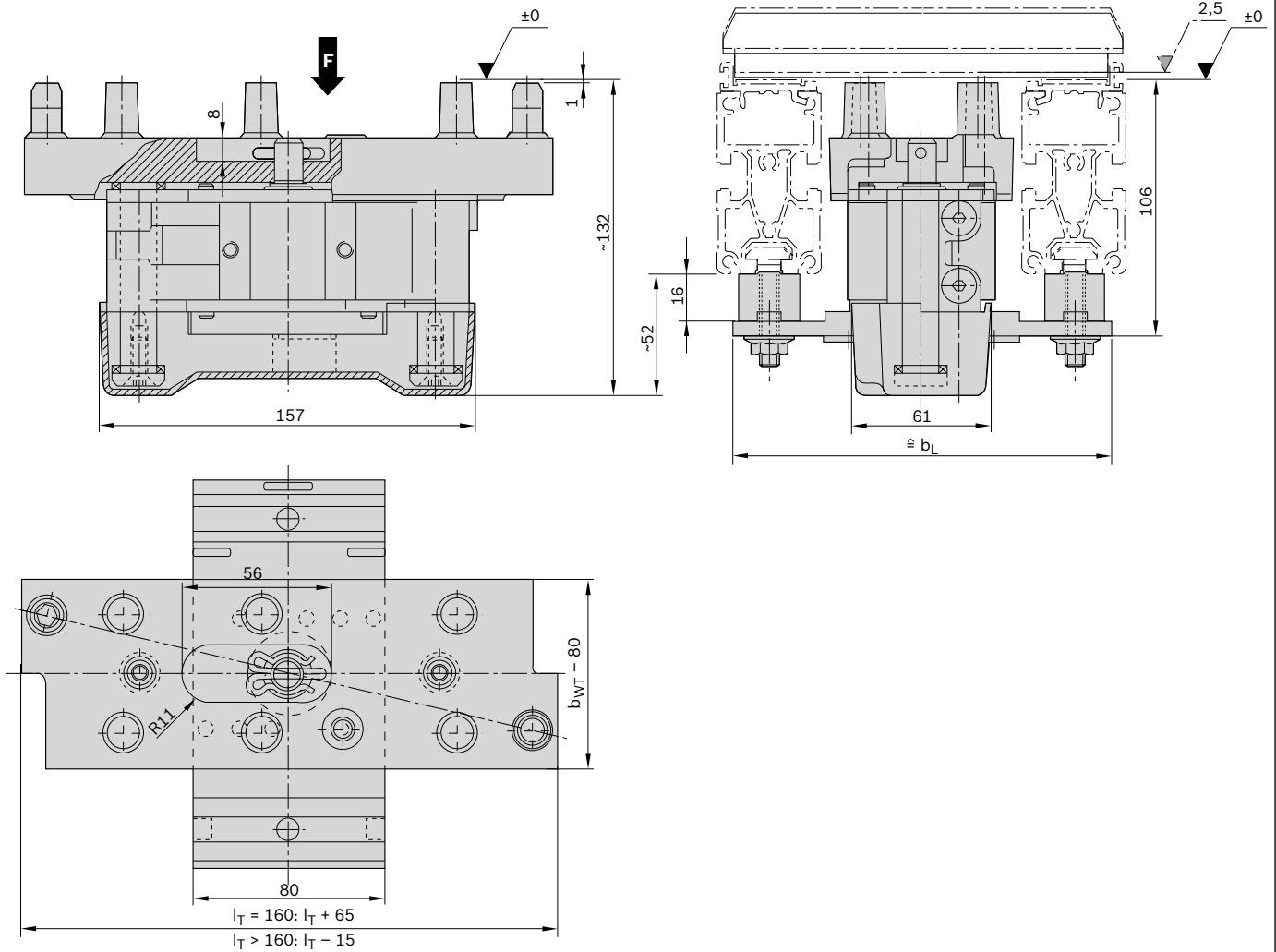
Product designation	Positioning unit w x l _d (mm)	Material number
PE 2 positioning unit	160 x 160	3842504706
PE 2 positioning unit	160 x 240	3842504707
PE 2 positioning unit	160 x 320	3842504708
PE 2 positioning unit	240 x 160	3842504710
PE 2 positioning unit	240 x 240	3842504711
PE 2 positioning unit	240 x 320	3842504712
PE 2 positioning unit	240 x 400	3842504713
PE 2 positioning unit	320 x 160	3842504714
PE 2 positioning unit	320 x 240	3842504715
PE 2 positioning unit	320 x 320	3842504716
PE 2 positioning unit	320 x 400	3842504717
PE 2 positioning unit	400 x 320	3842504718
PE 2 positioning unit	400 x 400	3842504719

Technical data

Material number			3842504706	3842504712	3842504716
			3842504707	3842504713	3842504717
			3842504708	3842504714	3842504718
			3842504710	3842504715	3842504719
			3842504711		
Load					
Max. total weight of workpiece pallet	m _G	kg	30		
Features					
ESD			yes		
Additional information					
Required compressed air connection	p	bar	4 ... 6		
Pneumatic push-in fitting	Ø	mm	G1/8"		
WT lift above conveying level		mm	2.5		
Reproducing accuracy		mm	±0.1		
Permissible vertical process forces ¹⁾		N	300		

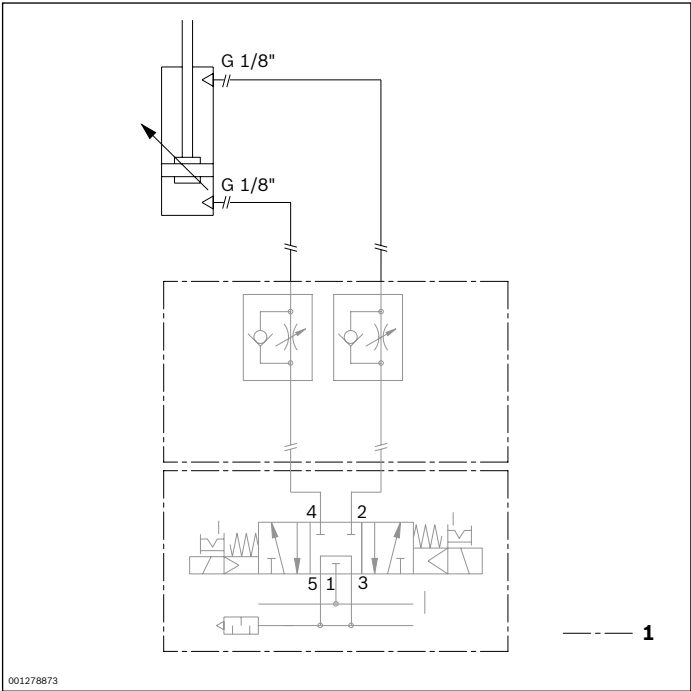
¹⁾incl. WT 2

Dimensions



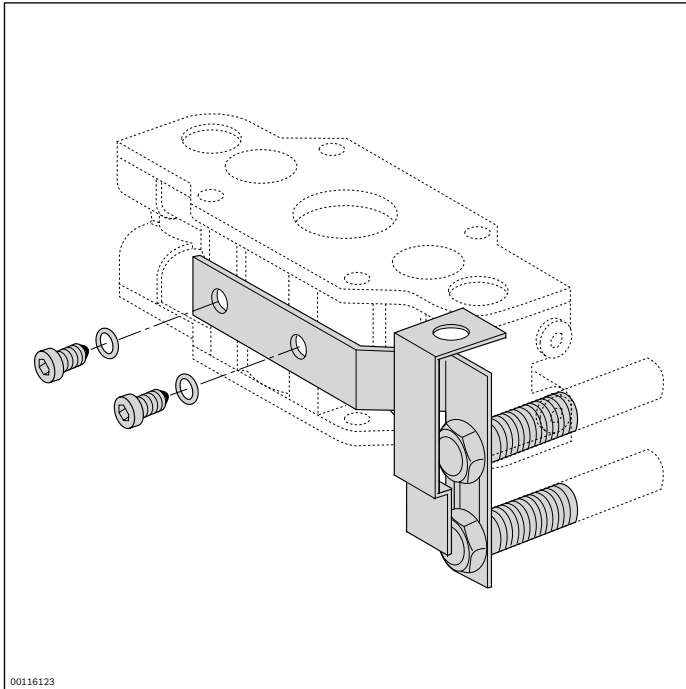
00116777a

Circuit diagrams



1 Not included in scope of delivery

Position indication kit for PE 2



► For position inquiry for PE 2 positioning unit

7

Accessories

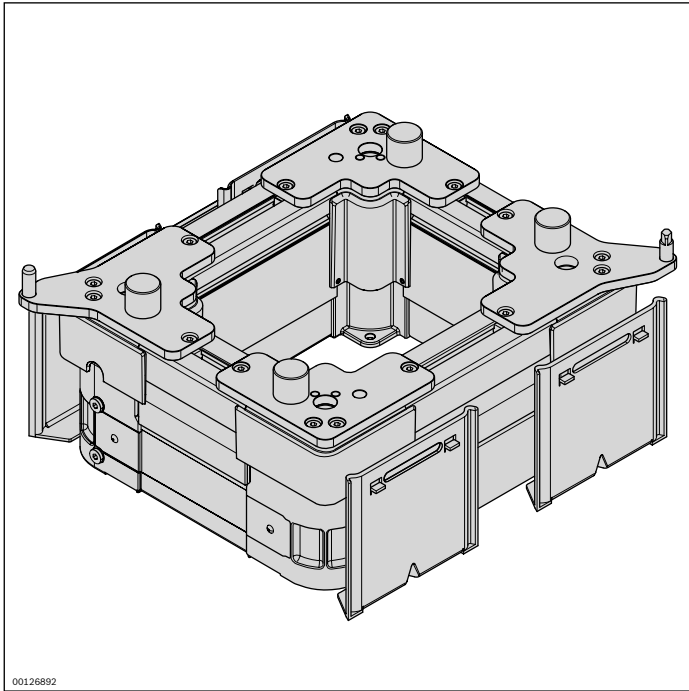
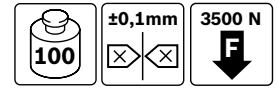
Required accessories

- PE 2 positioning unit, see p. 7-7
- M12x1 sensor with $S_N = 4$ mm rated sensing range, see p. 8-110

Ordering information

Product designation	Material number
Position inquiry kit for PE 2	3842508933

PE 2/X positioning unit



- ▶ To position a workpiece pallet in a manual/automatic processing station
- ▶ Positioning accuracy up to ± 0.1 mm when assembled on a separate machine frame
- ▶ WT lift above transportation level, about 9 mm
- ▶ Positioning via the PE 2 positioning pins and the positioning bushings on the WT 2/... workpiece pallet
- ▶ Mounting bores on lift frame as an optional fastening point for a separate machine stand
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2 and WT 2/F workpiece pallets

Accessories

Required accessories

- ▶ VE 2/... stop gate, see p. 8-4

Delivery note

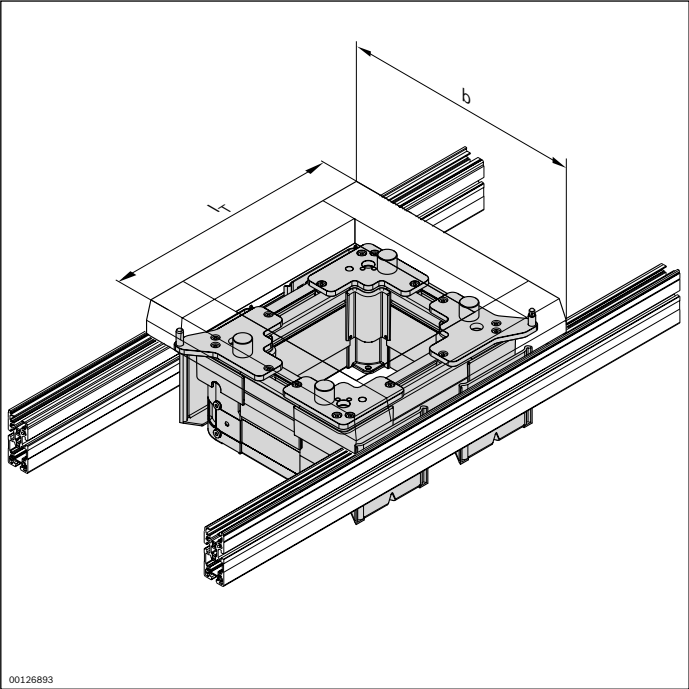
Scope of delivery

- ▶ Incl. mounting material
- ▶ Switch bracket for mounting of M12 sensors for position inquiry, top

Condition on delivery

- ▶ Fully assembled

Ordering information



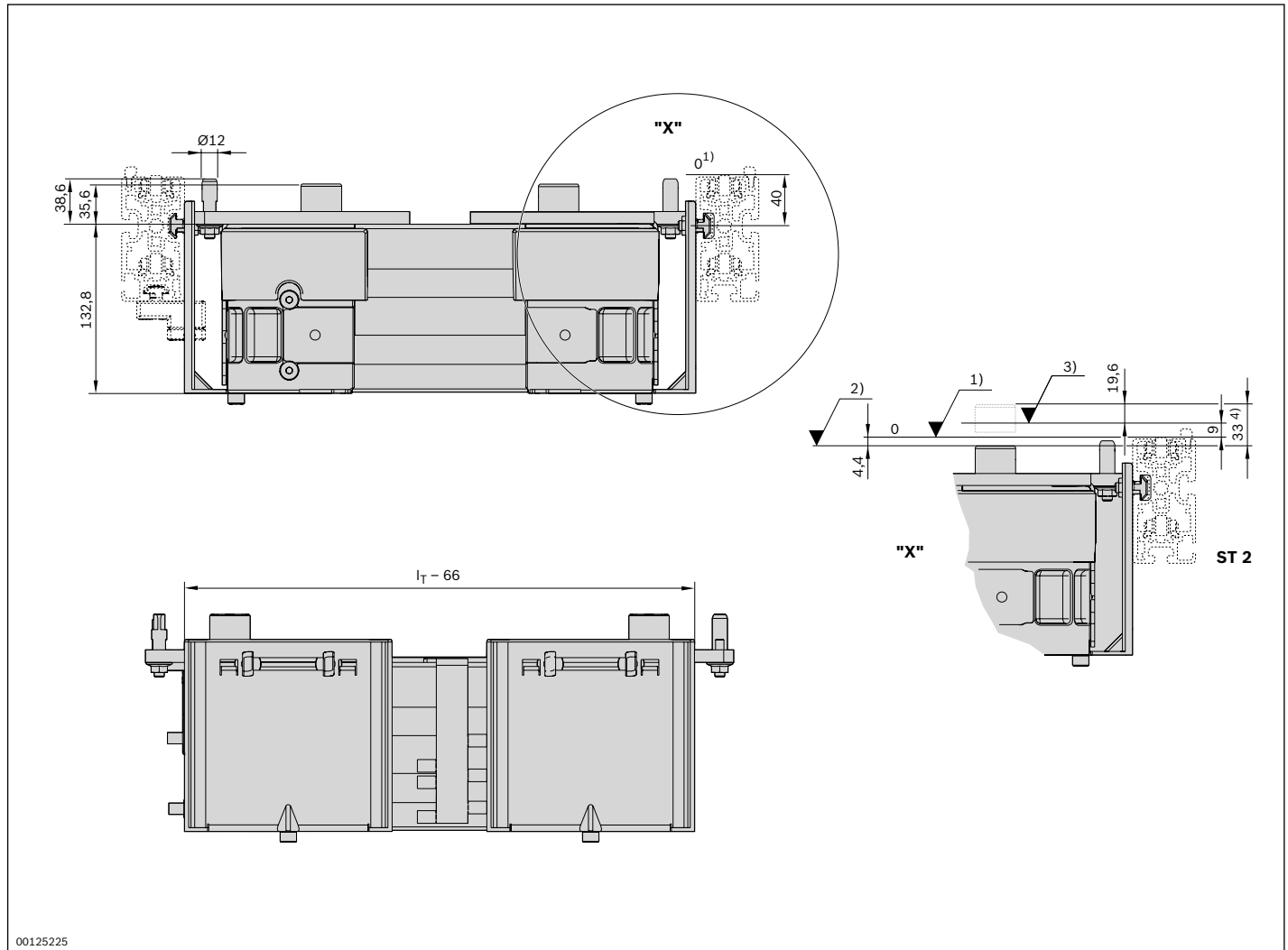
Material number		3842998324
b (mm)	Track width in direction of transport	480; 640; 800; 1040; 1200
l _T (mm)	Length in direction of transport	480; 640; 800; 1040; 1200
w x l _d (mm x mm)	Combination options	480 x 480; 640; 800 640 x 480; 640; 800 800 x 480; 640; 800; 1040; 1200 1040 x 640; 800; 1040; 1200 1200 x 800; 1040; 1200 480 ... 1200 x 480 x 1200

Technical data

Material number			3842998324
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Features			
ESD			yes
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	8
WT lift above conveying level		mm	9
Repeatability ¹⁾		mm	±0.1
Permissible vertical process forces ²⁾		N	3500

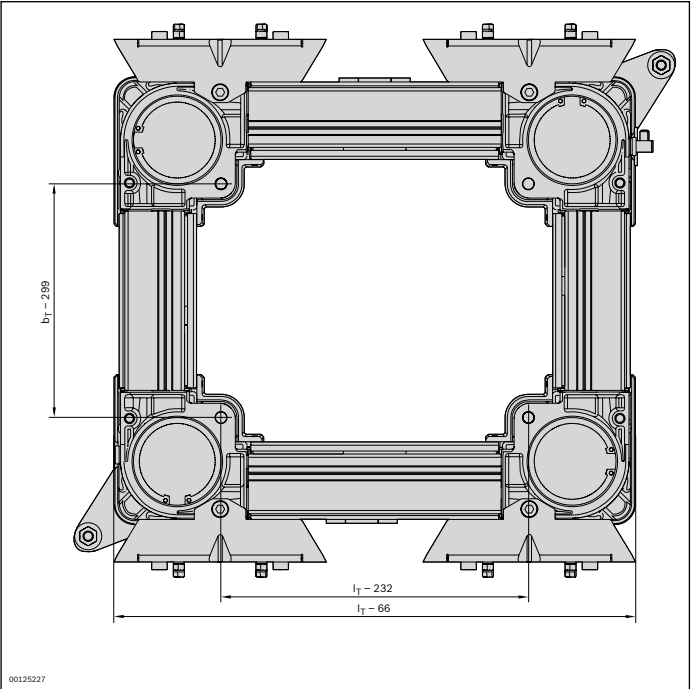
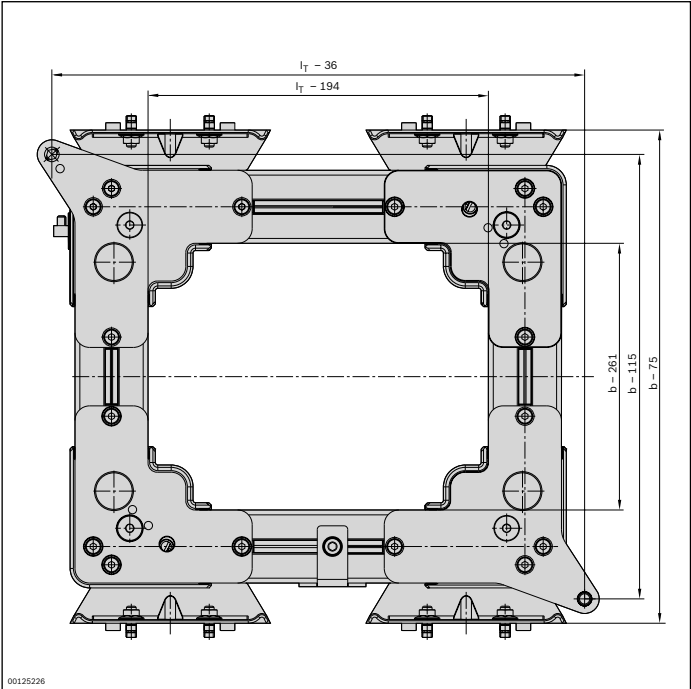
¹⁾ When assembled on a separate machine frame
²⁾ Incl. WT 2

Dimensions

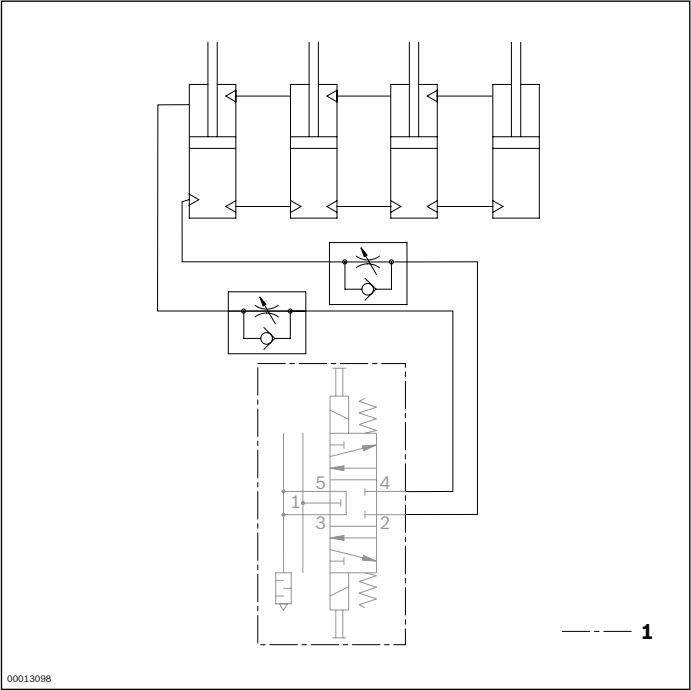


- 1) ST 2 conveyor level
- 2) PE 2/X, lower position: 4.4 mm below ST 2 conveyor level
- 3) PE 2/X, upper position: 9 mm above ST 2 conveyor level
- 4) Total stroke 33 mm

Dimensions

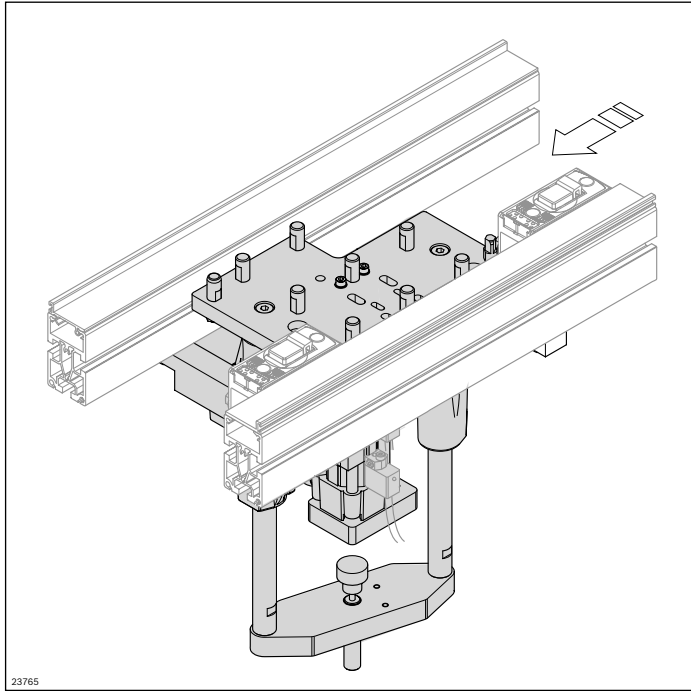
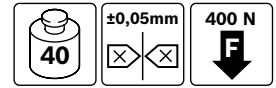


Circuit diagrams



1 Not included in scope of delivery

HP 2/L lift positioning unit



- ▶ Positions a workpiece pallet in a processing station with high positioning accuracy requirements
- ▶ Positioning with exchangeable positioning pins in the HP 2/L and positioning bushings in the WT 2 workpiece pallet
- ▶ Lifting cylinder Ø 40 mm with damping for the lower and upper end position
- ▶ Exchange of lifting cylinder possible without disassembling the lift plate
- ▶ 5 lift ranges h_0 from 0 ... 240 mm, infinitely adjustable central lift height within the lift range
- ▶ Optional lifting cylinder for $b = 240$ mm, center ($HA = 0$) or offset ($HA = 1$).
Space-saving arrangement made possible by inner WT stop
- ▶ Adjustment time at $H = 50$ mm without load:
Upward stroke = 0.5 s, downward stroke = 0.5 s
(= lift range from 0 to 28 mm)
- ▶ Can be combined with WT 2, WT 2/F, WT 2/E workpiece pallets

Accessories

Required accessories

- ▶ Position inquiry set for SA lifting cylinder, see p. 7-20
- ▶ Position inquiry with turret stop RA, see p. 7-24
- ▶ HP 2/L housing element, see p. 7-16

Delivery note

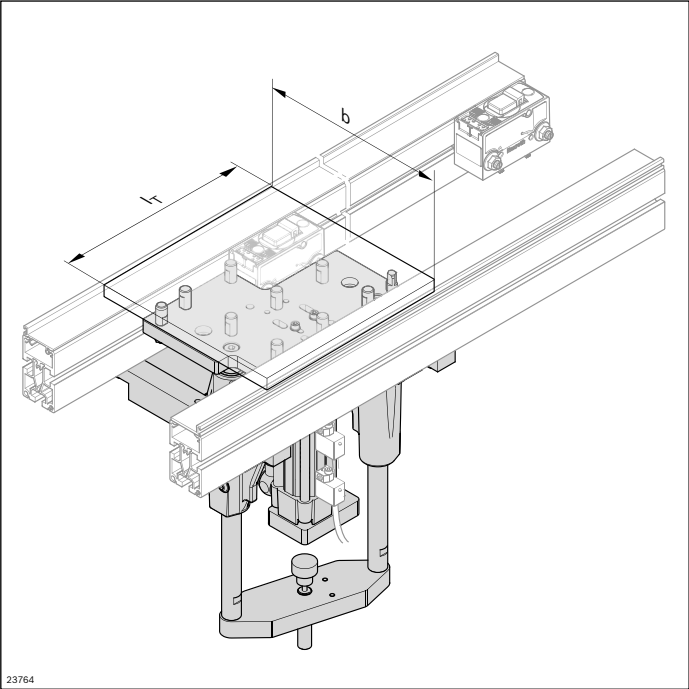
Scope of delivery

- ▶ Incl. mounting material
- ▶ Incl. throttle check valve

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998952
b (mm)	Track width in direction of transport	160; 240; 320
l _r (mm)	Length in direction of transport	160; 240; 320
w x l _d (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320 320 x 160; 240; 320
h _N (mm)	Nominal stroke	50; 100; 160; 200; 250
AO	Installation location under the conveyor section (AO = UB) on the machine table (AO = AT) for self-construction (AO = O)	UB; AT; O
HA	Lift arrangement centered (HA = 0) eccentric (HA = 1)	0; 1 ¹⁾

¹⁾ HA = 1 only for b = 240 mm

Technical data

Material number		3842998952
Load		
Max. total weight of workpiece pallet	m _G	kg 40
Features		
ESD		yes
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	Ø	mm 8
Repeatability ¹⁾		mm ±0.05
Permissible vertical process forces ²⁾		N 400

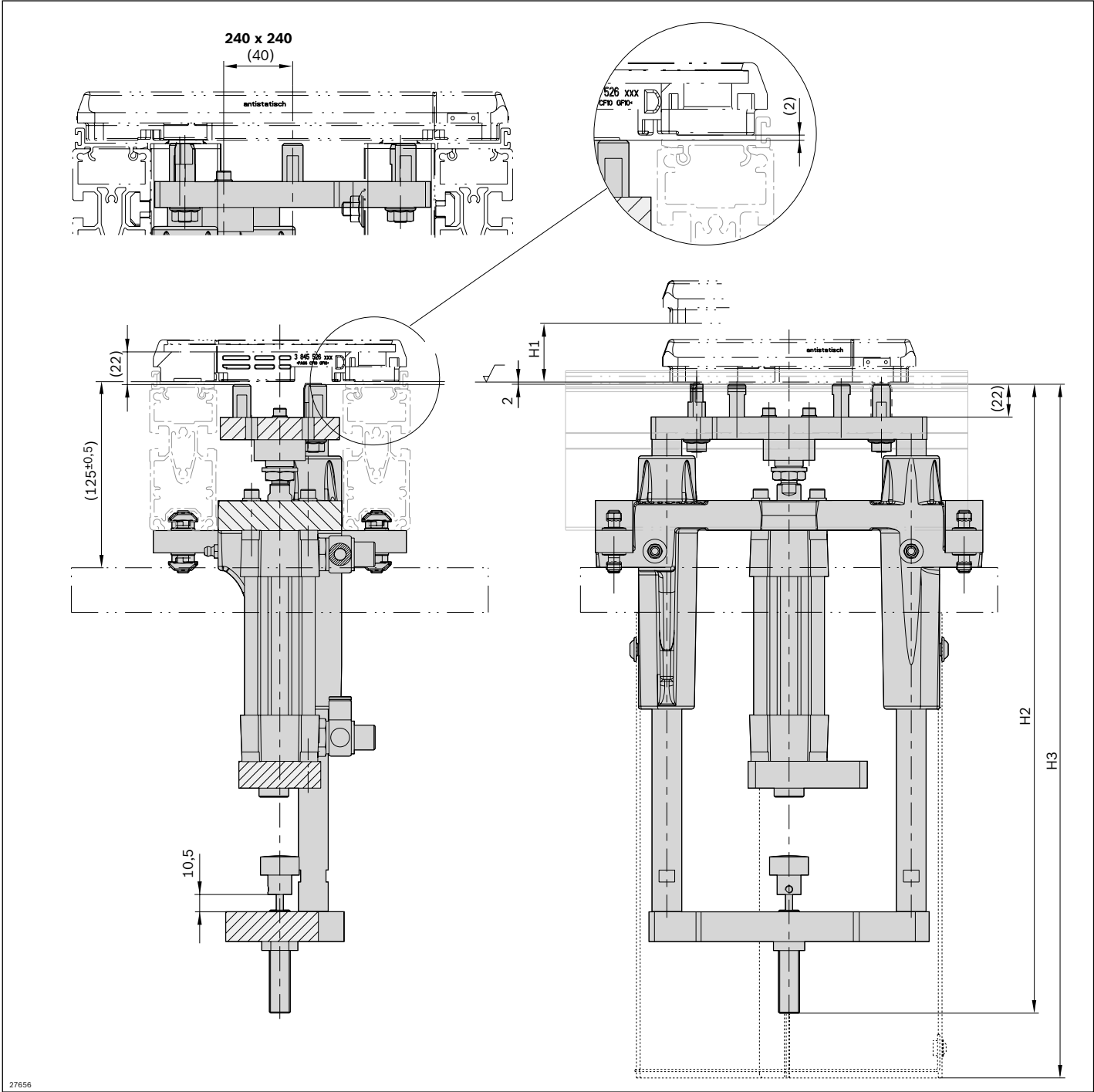
¹⁾ Applies only to lifts of up to 204 mm

²⁾ Incl. WT 2

Lift range

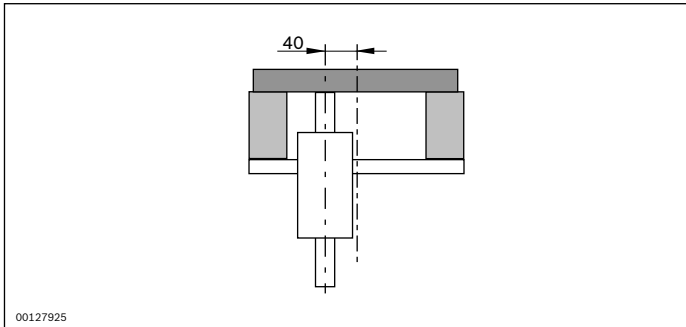
Nominal stroke h _N (mm)	WT lift above conveying level h ₀ (mm)
50	0 ... 28
100	35 ... 78
160	95 ... 138
200	135 ... 178
250	185 ... 228

Dimensions

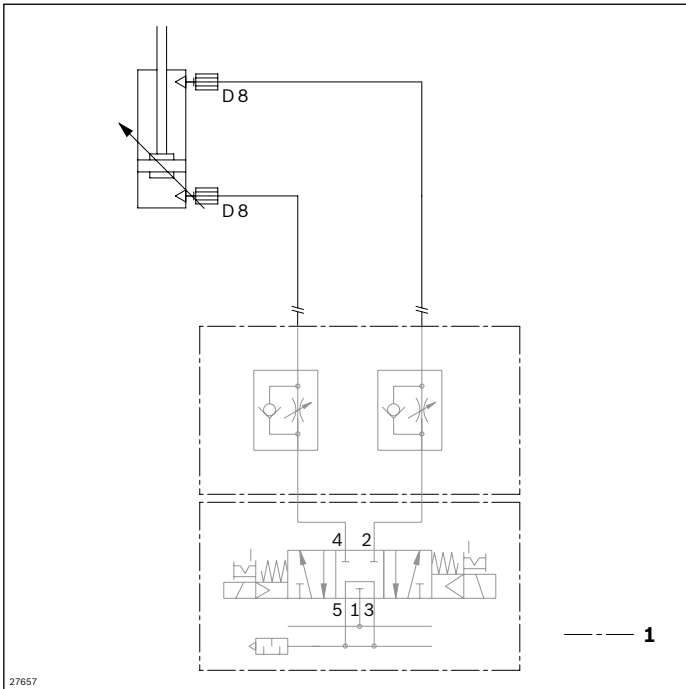


Compressed air (bar)	Lifting force (N)
4	350
5	450
6	550

Offset lifting cylinder (HA = 1)

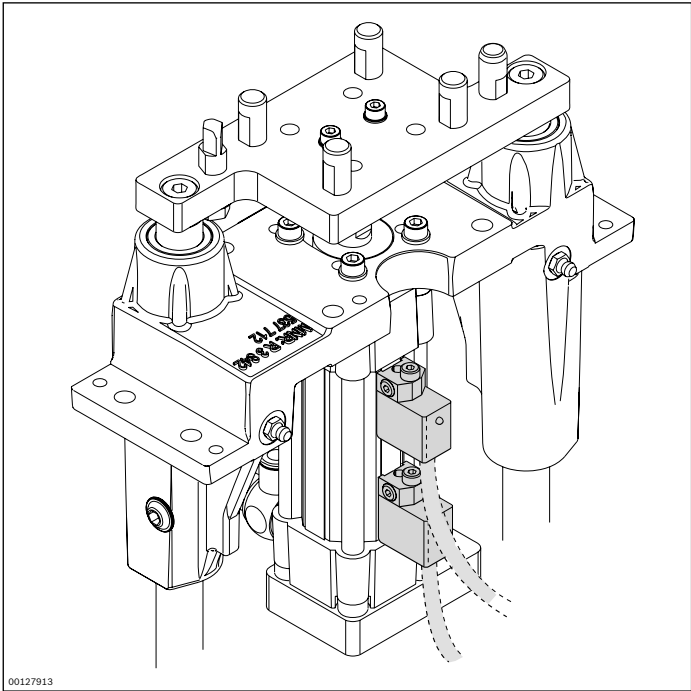


Circuit diagrams



1 Not included in scope of delivery

SA cylinder position inquiry



- Cylinder switch with clamping holder for lifting cylinder position inquiry

Accessories

Required accessories

- Connection cable with plug

Delivery note

Scope of delivery

- 2x SN2 series cylinder switch (cube)
- 2x clamping holder for cylinder switch

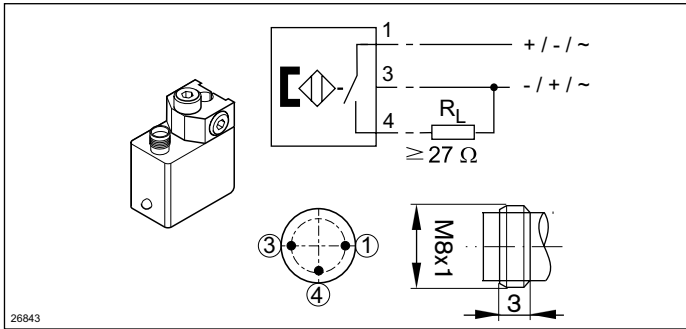
Ordering information

Product designation	Packaging unit	Material number
SA cylinder position inquiry	2	3842536974

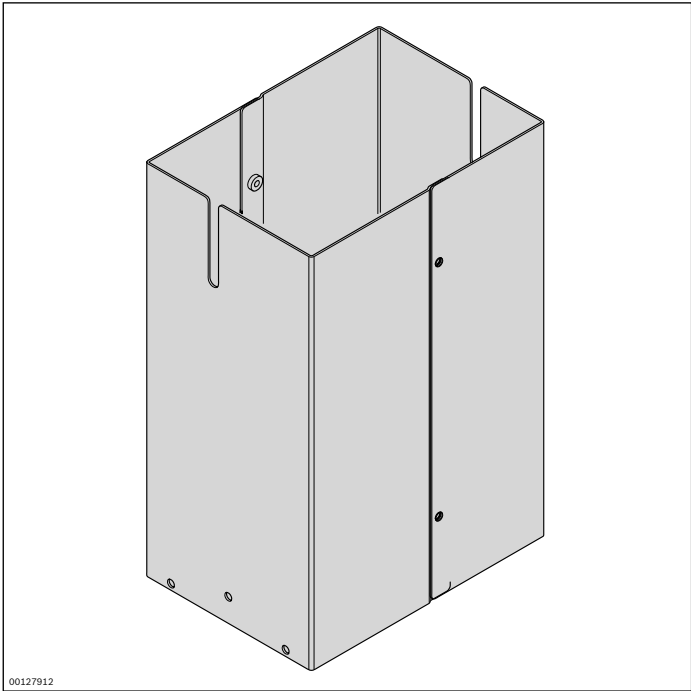
Technical data

Material number	3842536974 SN2 series cylinder switch (cube)
Features	
Push-in fitting	M8x1, without cable
Function display	LED
Additional information	
Contact type	Reed, 3 conductors
Operating voltage	AC 12-30, DC 12-36 V

Circuit diagrams



Housing element for HP 2/L

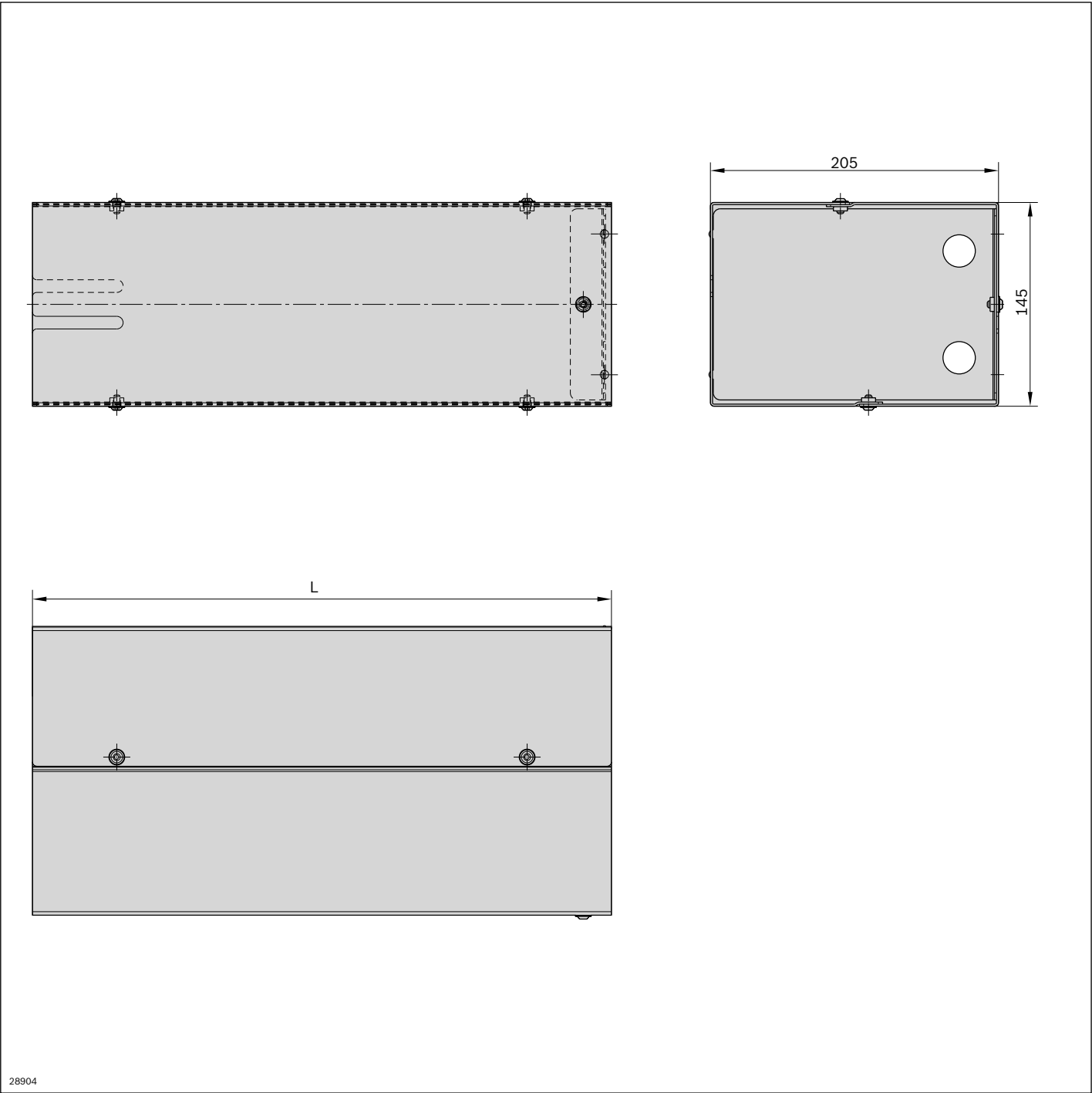


► Housing element for HP 2/L lift positioning unit

Ordering information

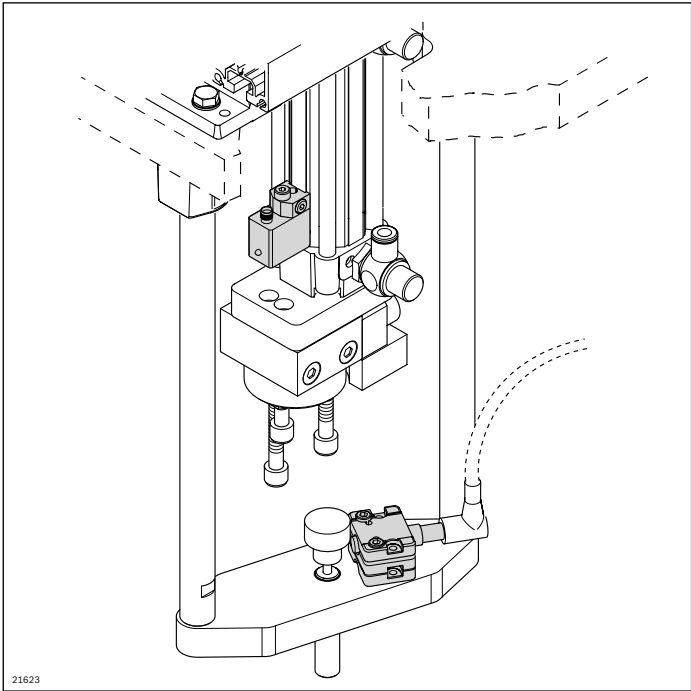
Product designation	Nominal stroke h_N (mm)	Length L (mm)	Material number
Housing element for HP 2/L	50	315	3842536977
Housing element for HP 2/L	100	353	3842536960
Housing element for HP 2/L	160	353	3842536960
Housing element for HP 2/L	200	715	3842536962
Housing element for HP 2/L	250	715	3842536962

Dimensions



Length L (mm)	Material number
315	3842536977
353	3842536960
715	3842536962

Position inquiry RA



- Position inquiry for HP 2/L special design with turret stop

For use with a turret stop (e.g. Somatec) the HP 2/L can be ordered with longer guide rails as a modification. An accompanying sensor is used instead of the cylinder

switch to query the upper positions on the turret stop (position inquiry set RA).

Delivery note

Scope of delivery

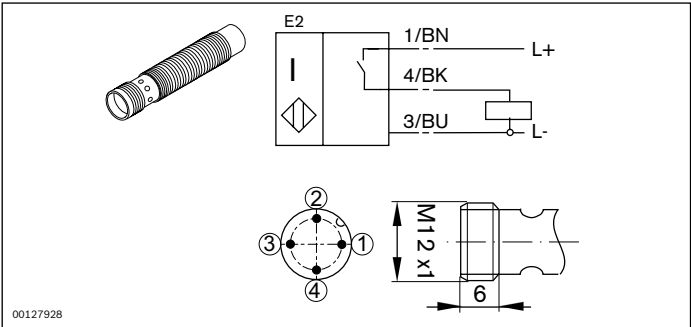
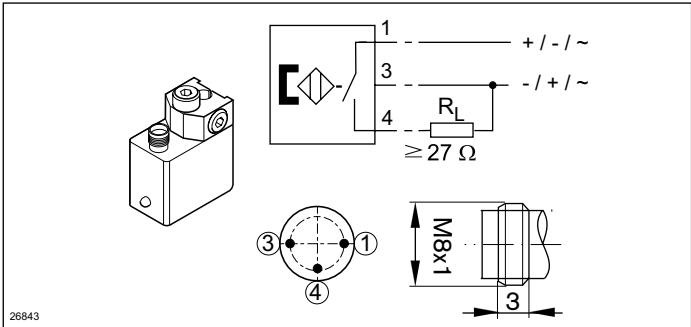
- 1x SN 2 series cylinder switch (cube)
- 1x clamping holder for cylinder switch
- 1x M12x1 sensor with $S_N=8\text{ mm}$ rated sensing range, length 50 mm (3842537995), see p. 8-110

- 1x switch bracket for mounting on the base plate

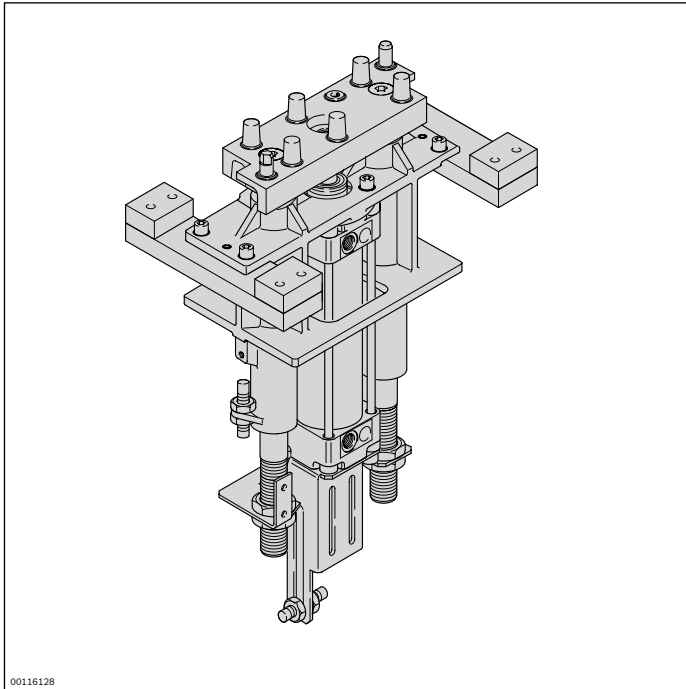
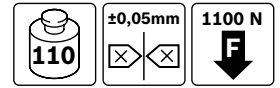
Ordering information

Product designation	Material number
Position inquiry RA	3842536975

Circuit diagrams



HP 2 lift positioning unit



00116128

- Positions a workpiece pallet in a processing station with high positioning accuracy requirements and higher workpiece pallet weights.
- Positioning via the HP 2 positioning pins and the positioning bushings on the WT 2 workpiece pallet
- Lifting cylinder with damper at the upper and lower end position (damping at upper end takes effect only under full lift).
- Infinitely adjustable lift height in 8 lift ranges h_N of 0 ... 404 mm
- Can be combined with WT 2, WT 2/F, WT 2/E workpiece pallets

7

Damping at the upper end takes effect only under full lift. With larger lifts, we recommend separately fixing the

workpiece pallet while the HP 2 is in the highest position, in order to improve positioning accuracy.

Accessories

Required accessories

- VE 2/... stop gate, see p. 8-4

Delivery note

Scope of delivery

- Incl. mounting material
- Switch bracket for mounting of M12 sensors top and bottom for lift position inquiry

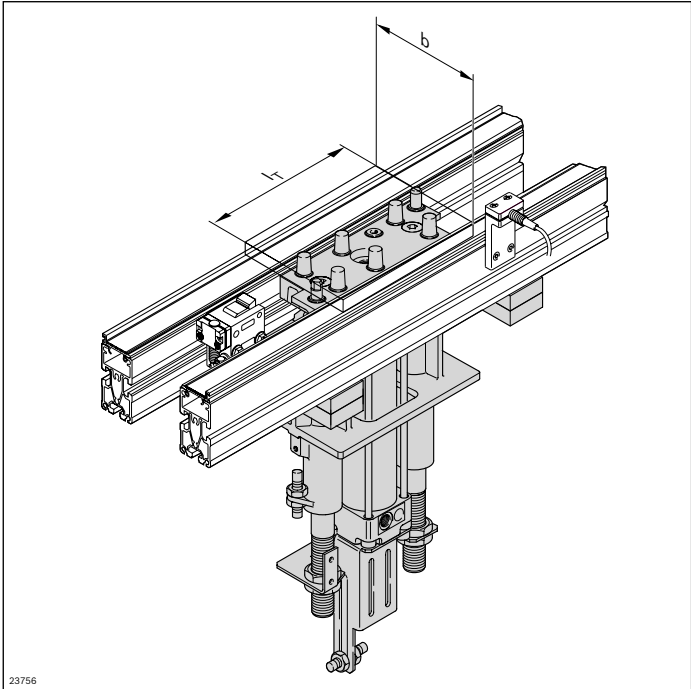
Recommended accessories

- Damping kit (3842211355) to set the WT on the conveyor medium without any shocks
- HP 2 housing element, see p. 7-29

Condition on delivery

- Fully assembled

Ordering information



Material number		3842999678
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480
l _T (mm)	Length in direction of transport	0 ¹⁾ ; 160; 240; 320; 400; 480; 640; 800
w x l _d (mm x mm)	Combination options	160 x 0 ¹⁾ ; 160; 240; 320 240 x 0 ¹⁾ ; 160; 240; 320 320 x 0 ¹⁾ ; 160; 240; 320; 400; 480 400 x 0 ¹⁾ ; 160; 240; 320; 400; 480 480 x 0 ¹⁾ ; 160; 240; 320; 400; 480 640 x 400; 480 800 x 400; 480
h _N (mm)	Nominal stroke	55; 100; 150; 200; 250; 300; 350; 400
AO	Installation location under the conveyor section on the machine table (AO = UB) for self-construction without fastening material (AO = O)	UB; AT; O

¹⁾ If the value “0” is listed, HP 2 will be delivered with a lift plate, 3842516048, see p. 7-28 instead of the lift position plate for self-construction of the lift positioning plate.

Technical data

Material number			3842999678
Load			
Max. total weight of workpiece pallet	m _G	kg	110
Features			
ESD			yes
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6
Reproducing accuracy		mm	±0.05
Permissible vertical process forces ¹⁾		N	1100

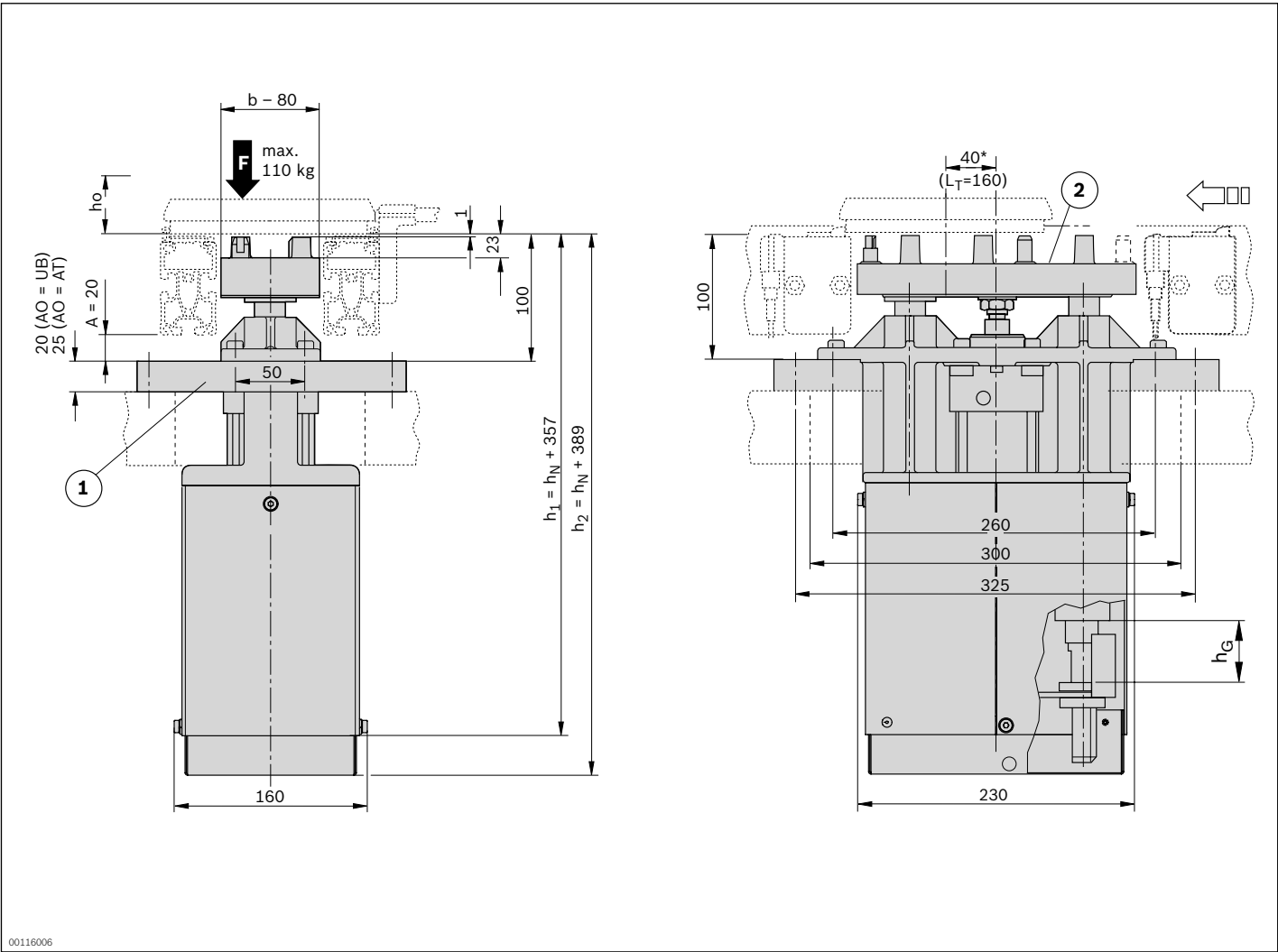
¹⁾ incl. WT 2

Lift range

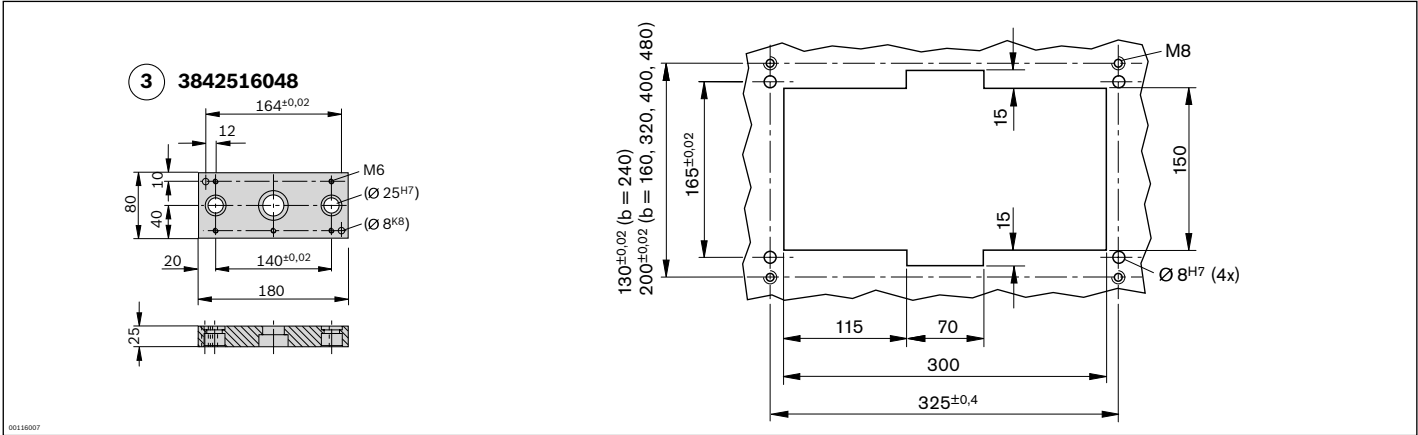
Nominal stroke h_N (mm)	WT lift above conveying level h_0 (mm)
55	0 ... 59
100	60 ... 104
150	105 ... 154
200	155 ... 204
250	205 ... 254
300	255 ... 304
350	305 ... 354
400	355 ... 404

7

Dimensions

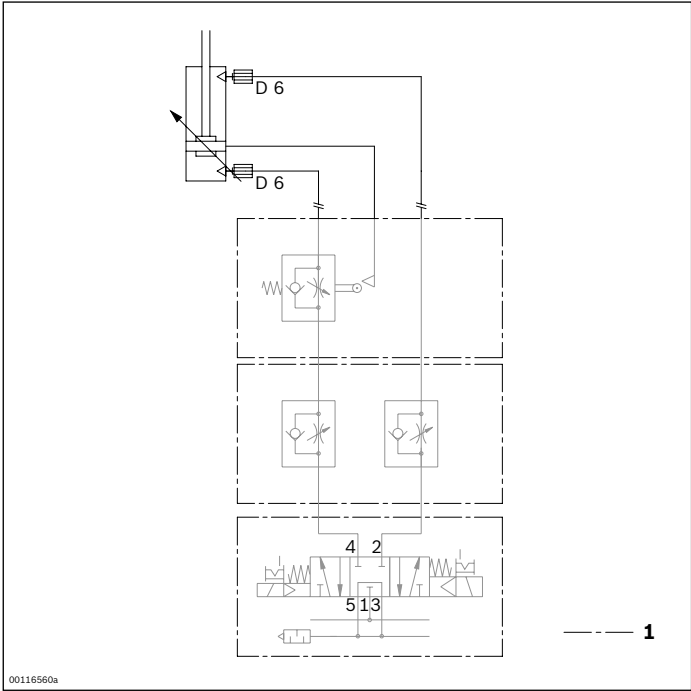


* eccentric position for WT $L_T = 160$ mm
1 Fastening kit (UB or AT)
2 Positioning plate
 h_0 WT lift above transportation level
 h_G Cylinder total lift



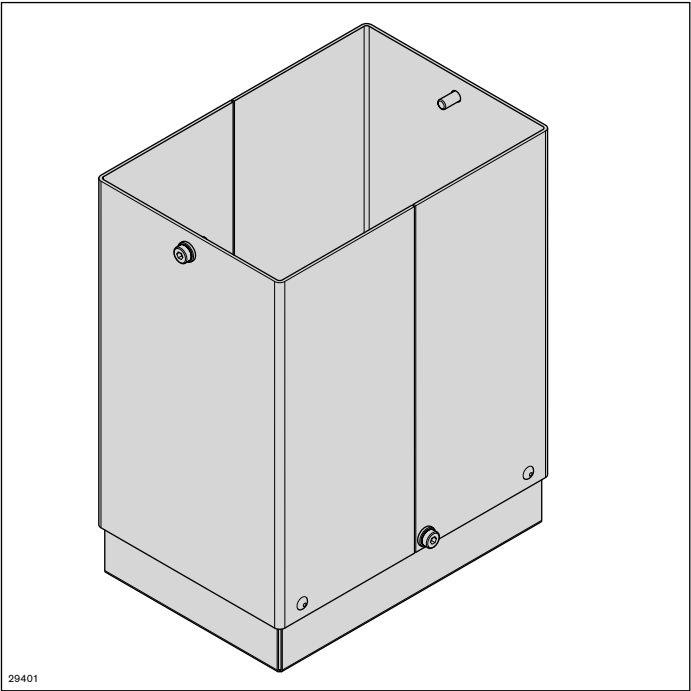
3 lift plate

Circuit diagrams



1 Not included in scope of delivery

Housing element for HP 2



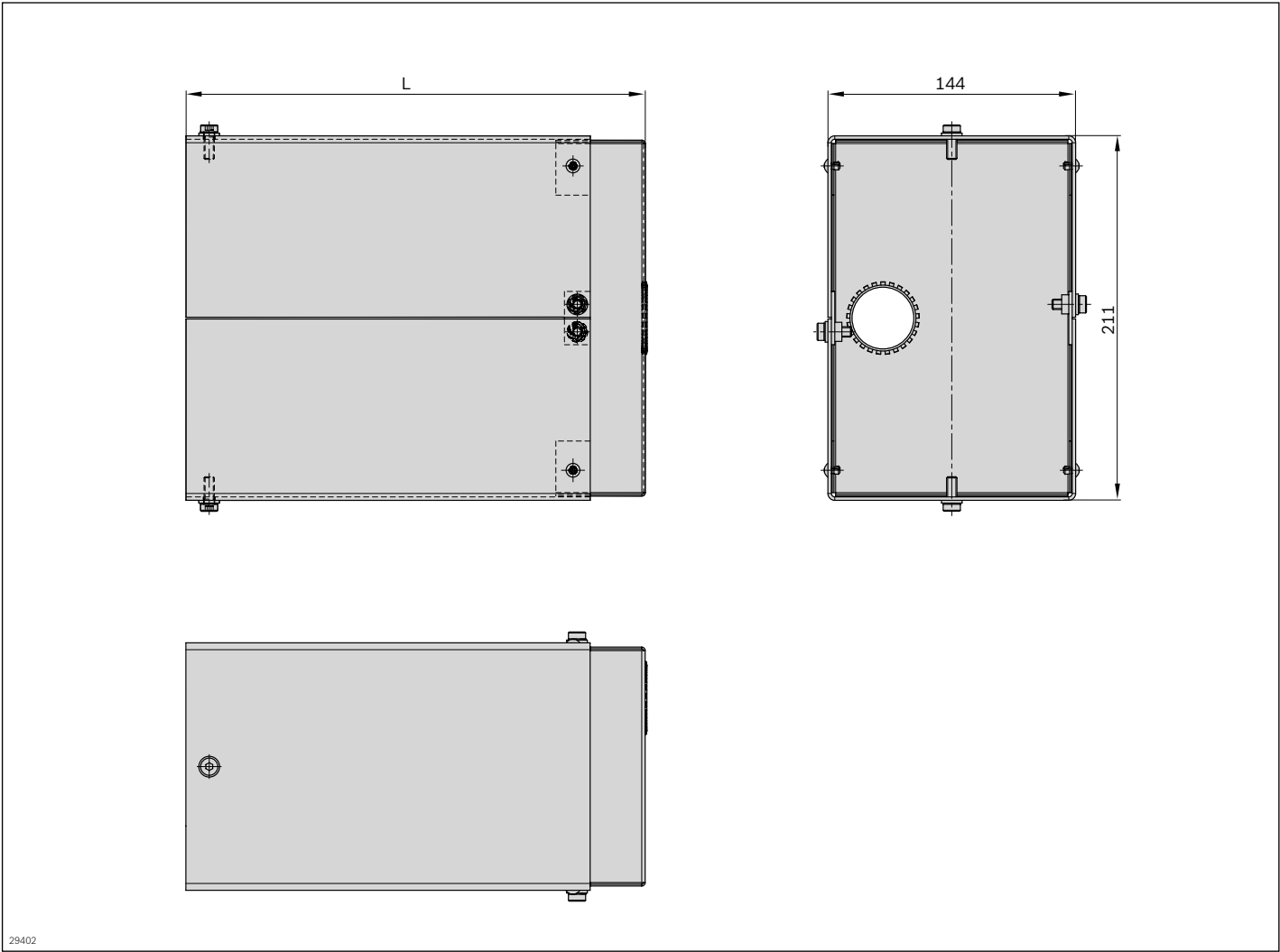
► Housing element for lift transverse unit HP 2

7

Ordering information

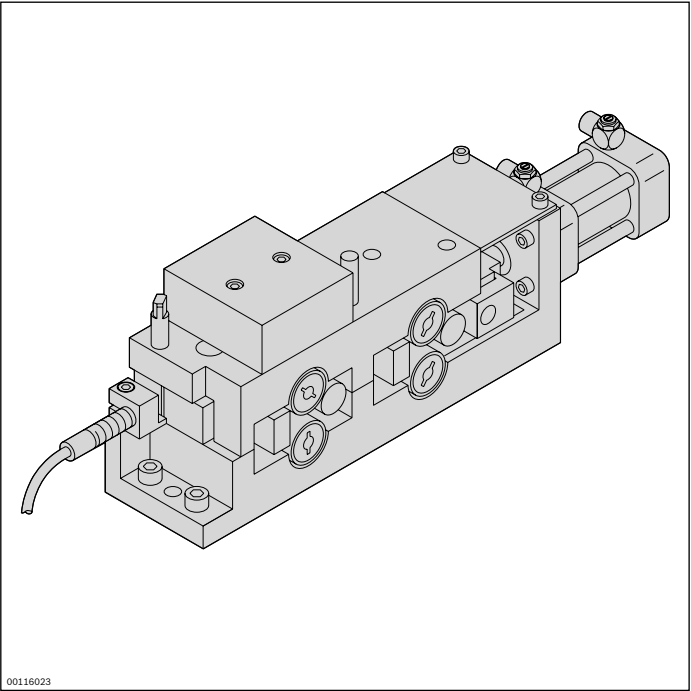
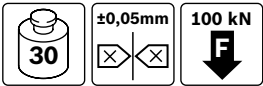
Product designation	Nominal stroke h_N (mm)	Length L (mm)	Material number
Housing element for HP 2	55	267	3842510157
Housing element for HP 2	100	312	3842510158
Housing element for HP 2	150	362	3842510159
Housing element for HP 2	200	412	3842510160
Housing element for HP 2	250	462	3842532409
Housing element for HP 2	300	512	3842532410
Housing element for HP 2	350	562	3842532411
Housing element for HP 2	400	612	3842532412

Dimensions



Length L (mm)	Material number
267	3842510157
312	3842510158
362	3842510159
412	3842510160
462	3842532409
512	3842532410
562	3842532411
612	3842532412

PE 2/XP positioning unit



- Positions a workpiece pallet in a processing station with especially high vertical process force requirements (100 kN/60 kN), such as those needed for press-fit or riveting work.
- Mounting in force cells, positive force introduction
- WT lift above transportation level, about 3 mm
- Can be combined with WT 2 workpiece pallets

7

Note: Maximum total weight of workpiece pallet m_G incl. anvil plate or positioning plate for BG 1 is: $m_G = 20$ kg and BG 2: $m_G = 30$ kg.

Accessories

Required accessories

- Anvil plate for standard sizes from 160 x 160 mm to 320 x 240 mm, see p 7-35
- Anvil plate for 320 x 240 mm workpiece pallet, see p. 7-34
- Positioning pins, round and flat-sided
 - $h = 30$ mm for standard anvil plate
 - $h = 21$ mm for special designs
- VE 2/... stop gate, see p. 8-4
- 2x M12x70 and M12x67 sensor with rated sensing range $S_N = 4$ mm, can be installed flush, see p. 8-110/8-112

Delivery note

Condition on delivery

- Fully assembled

Ordering information

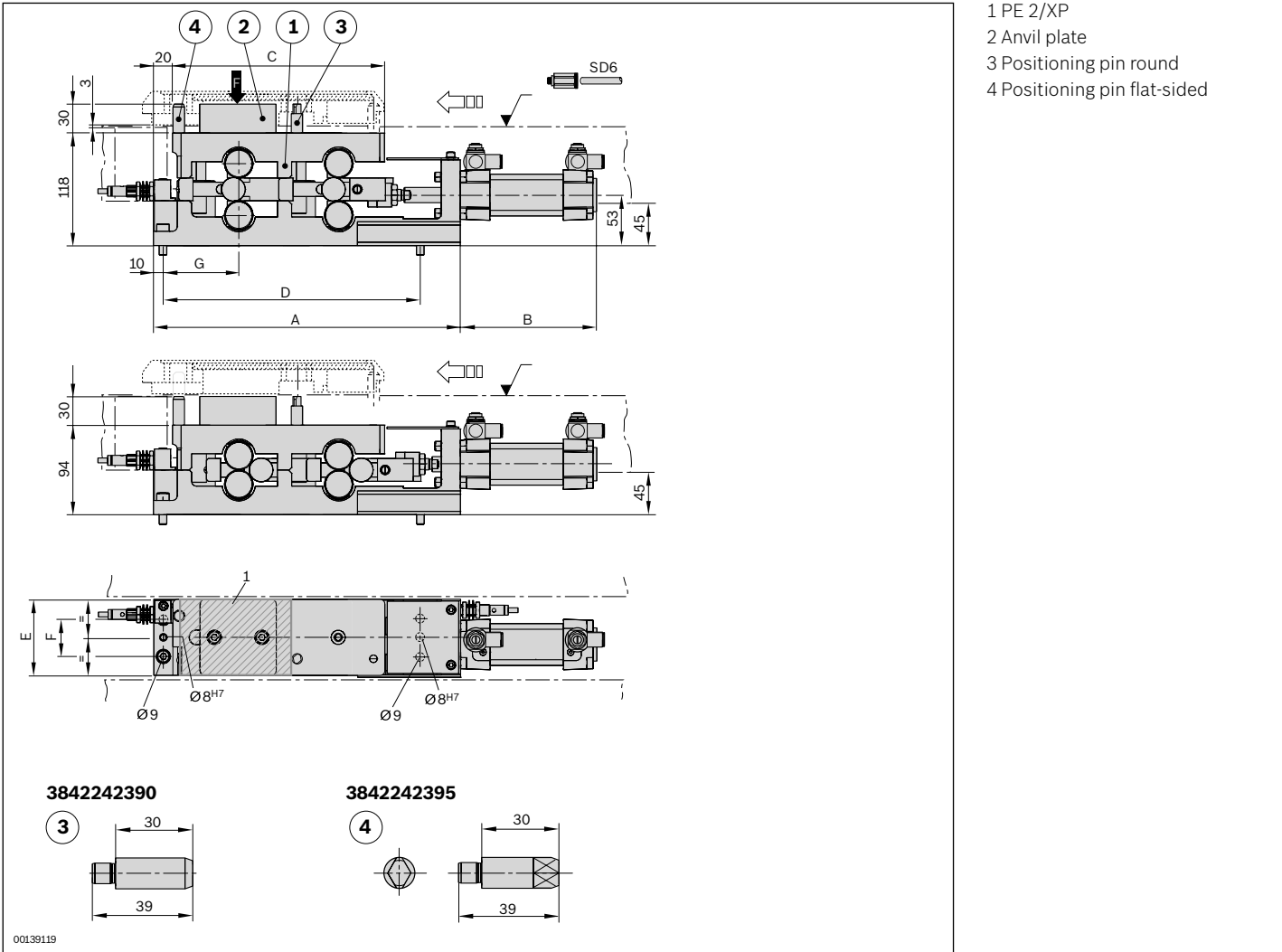
Product designation	Size	Width of workpiece pallet (mm)	Material number
PE 2/XP positioning unit	BG 1	160	3842242350
PE 2/XP positioning unit	BG 2	240	3842242351

Technical data

Material number			3842242350	3842242351
Load				
Max. total weight of workpiece pallet	m _G	kg	20	30
Features				
ESD			yes	yes
Design				
Size	BG		BG 1	BG 2
Additional information				
Reproducing accuracy		mm	±0.05	±0.05
Permissible vertical process forces ¹⁾		kN	60	100
WT lift above conveying level		mm	3	3

¹⁾ incl. WT 2/...

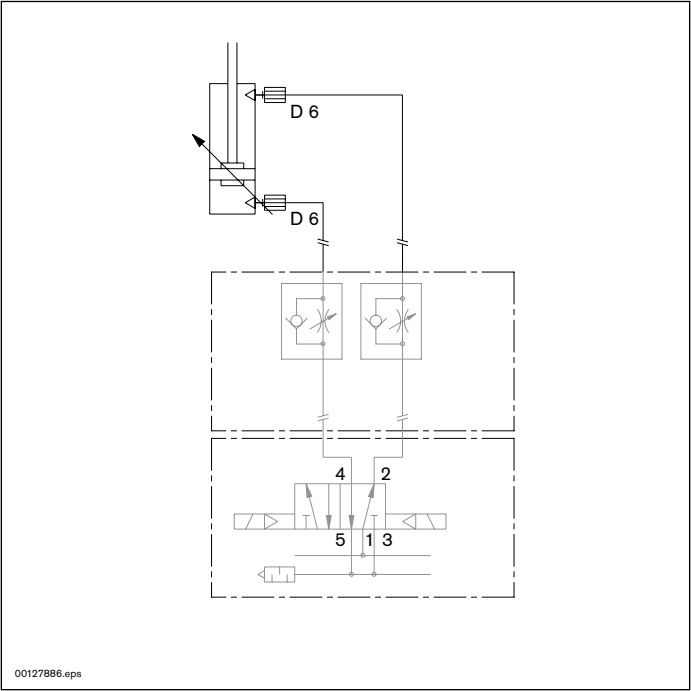
Dimensions



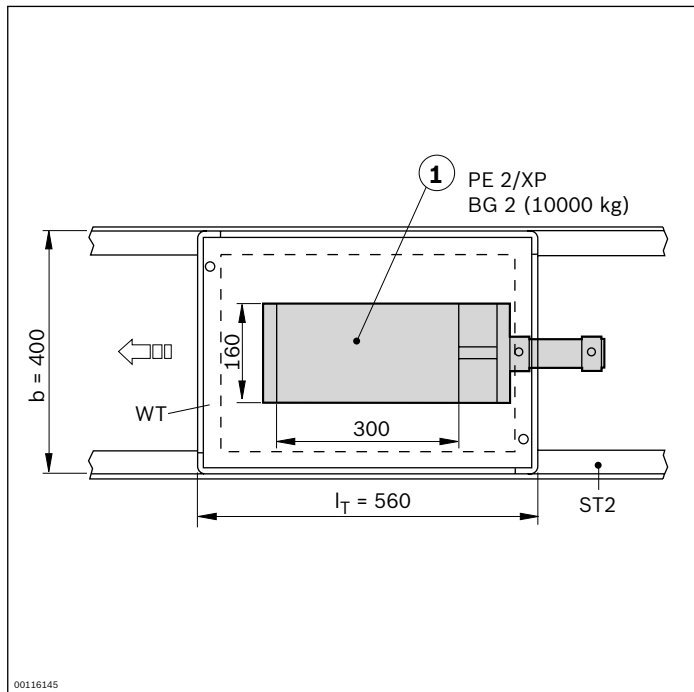
Dimensions

Size	Workpiece pallet size l _T (mm)	Workpiece pallet size b (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
BG 1	160	160	322	142	222	270	80	40±0.2	78.5
BG 1	240	160	322	142	222	270	80	40±0.2	118.5
BG 2	160	240	405	146	298	350	160	100±0.3	78.5
BG 2	240	240	405	146	298	350	160	100±0.3	118.5
BG 2	320	240	405	146	298	350	160	100±0.3	158.5

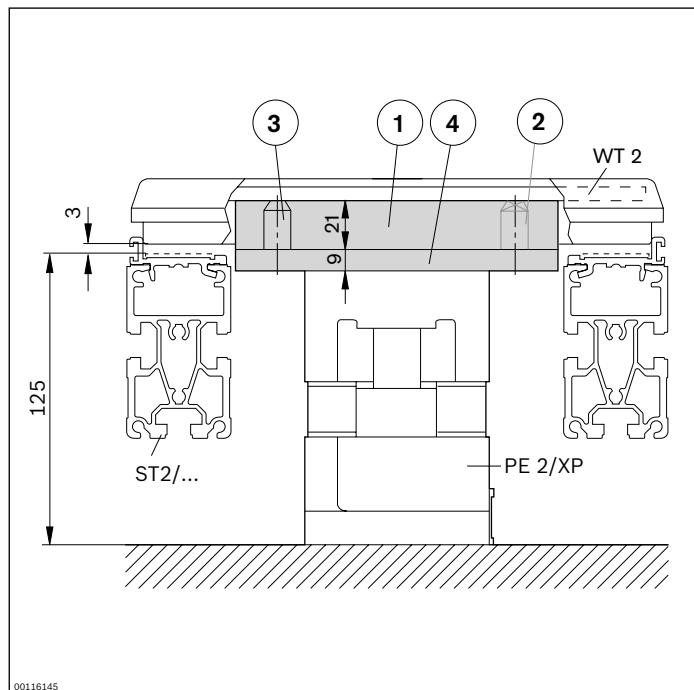
Circuit diagrams



Not included in the scope of delivery



- 1 Anvil plate, example:
Process forces applied at center of workpiece pallet



- 1 Anvil plate
2 Positioning pin, round
3 Positioning pin, flat-sided
4 Positioning plate

Use of positioning unit PE 2/XP with workpiece pallets larger than 320 x 240 mm

The positioning unit PE 2/XP, designed to take up forces, can also be used with workpiece pallets with large dimensions if the process forces are applied at certain points.

The PE 2/XP must then be arranged in such a manner that it can take up the forces directly.

The range of influence of the forces introduced may be eccentric.

However, the area over which the process forces are applied must be within the surface of the upper part of the PE 2/XP.

Construction notes

When the unit is used with workpiece pallets larger than $l_T \times b = 320 \times 240$ mm, a special anvil plate with a thickness of 21 mm and a positioning plate with a thickness of 9 mm must be constructed.

The positioning plate must take up the positioning pins here. The positioning plate must accommodate the positioning pins. The anvil plate is designed to support the WT carrying plate.

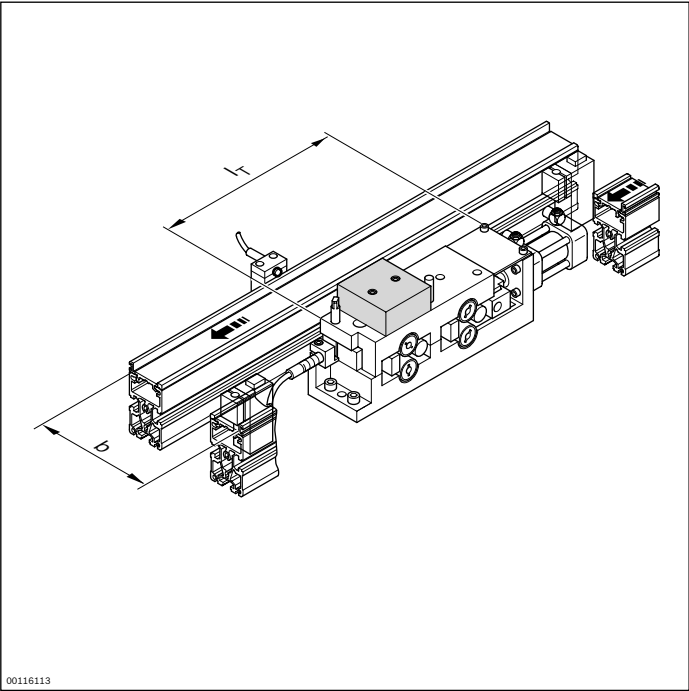
The anvil plate can also be replaced with several domes for workpiece pallet support and power transmission. Benefits: Weight reduction.

The maximum workpiece pallet total weight m_G incl. anvil plate or positioning plate is as follows with:

BG 1: $m_G = 20$ kg

BG 2: $m_G = 30$ kg

Anvil plate



► For PE 2/XP positioning unit

7

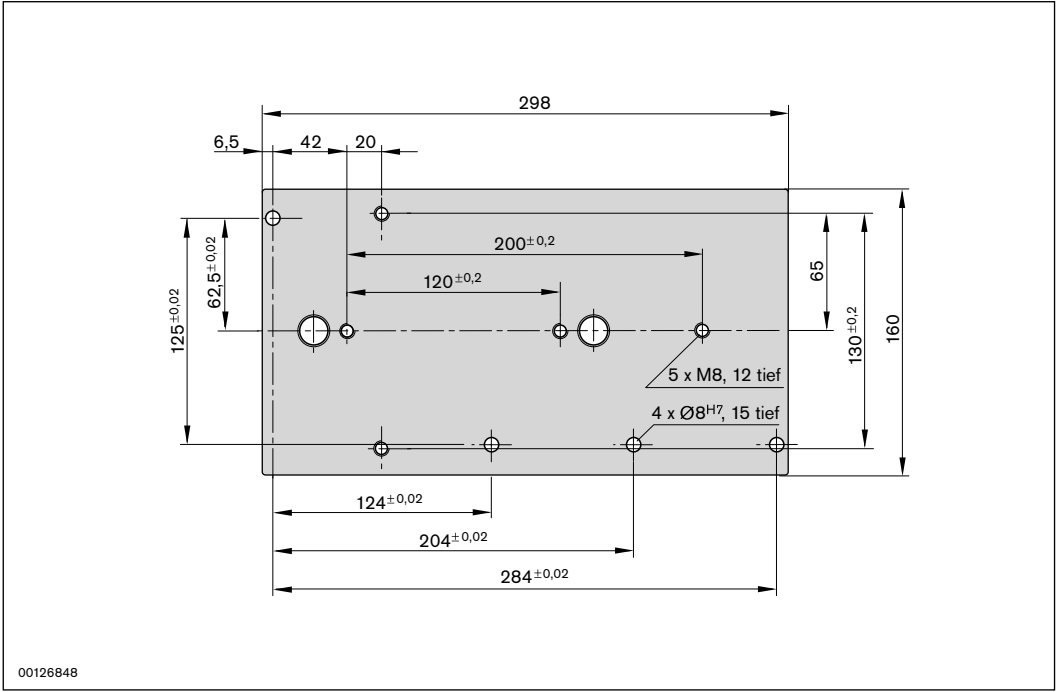
Ordering information

Product designation	BG	Track width in direc- tion of transport b (mm)	Length in direction of transport l _T (mm)	Material number
Anvil plate	BG 1	160	160	3842242375
Anvil plate	BG 2	240	160	3842242376
	BG 1	160	240	3842242376
Anvil plate	BG 2	240	240	3842242377
Anvil plate	BG 2	240	320	3842242378

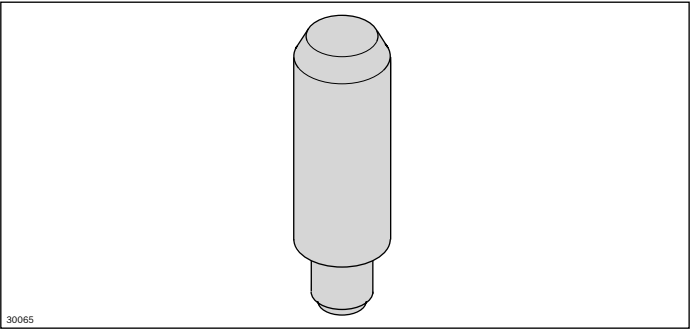
Technical data

Material number			3842242375	3842242376	3842242377	3842242378
Load						
Max. total weight of workpiece pallet	m _G	kg	BG 1: 20	BG 1; 2: 20; 30	BG 2: 30	BG 2: 30

Drilling plan for anvil plate



Positioning pin, round



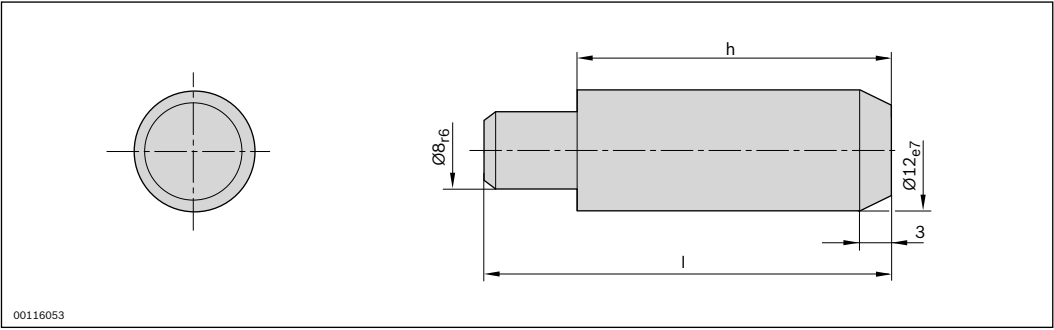
► For PE 2/XP positioning unit

Ordering information

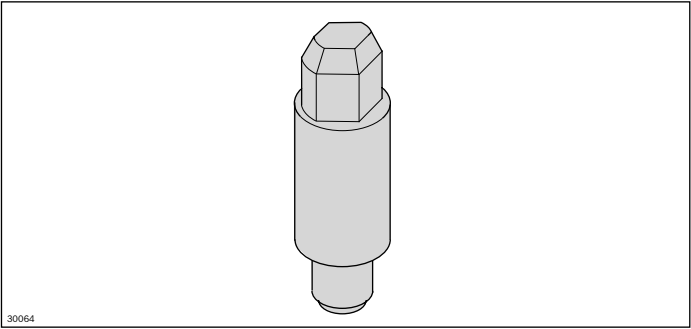
Product designation	Length l (mm)	Height h (mm)	Material number
Positioning pin, round	30	21	3842242391
Positioning pin, round	39	30	3842242390

7

Dimensions



Positioning pin, flat-sided

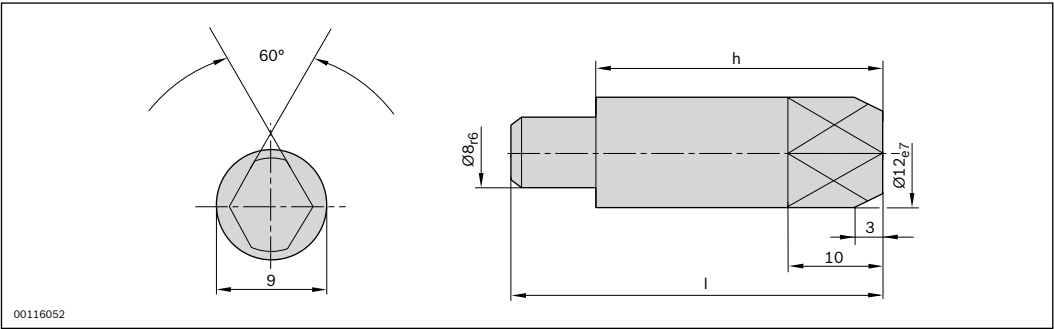


► For PE 2/XP positioning unit

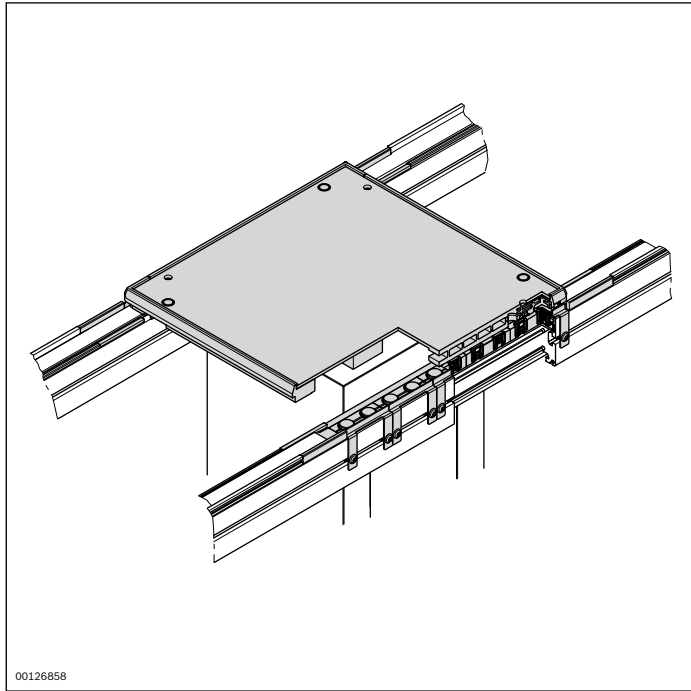
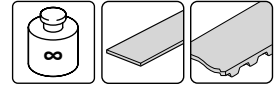
Ordering information

Product designation	Length l (mm)	Height h (mm)	Material number
Positioning pin, flat-sided	30	21	3842242396
Positioning pin, flat-sided	39	30	3842242395

Dimensions



PE 2/XX process force decoupling



- ▶ For mounting processes with especially high demands on vertical process forces
- ▶ To guide the belt or toothed belt near a force cell to be constructed by the customer.
- ▶ Permissible vertical process force depending on the construction by the customer
- ▶ Lift below conveying level about 1 mm.
- ▶ Prepositioning via VE (accessories)
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H, on which the customer must install spacer plates under the force introduction side

Accessories

Required accessories

- ▶ Anvil (customer force cell) to absorb process forces at the mounting location of the positioning unit
- ▶ Substructure plate for workpiece pallets to transfer the process forces to the anvil (provided by customer)
- ▶ VE 2/... stop gate, see p. 8-4

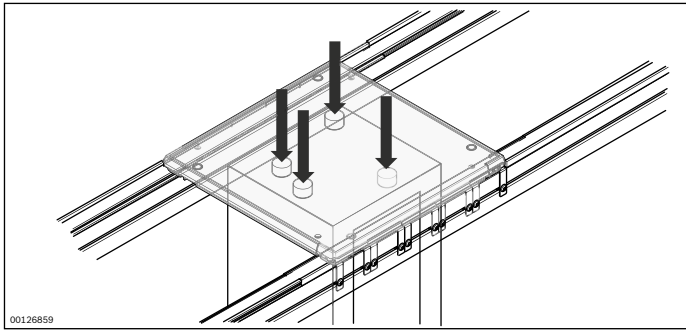
Delivery note

Scope of delivery

- ▶ Incl. mounting material for assembly in conveyor sections
- ▶ Spring element in designs with 5.8 N/cm and 10 N/cm surface load
- ▶ Transition pieces to and from the spring elements
- ▶ Lateral guides

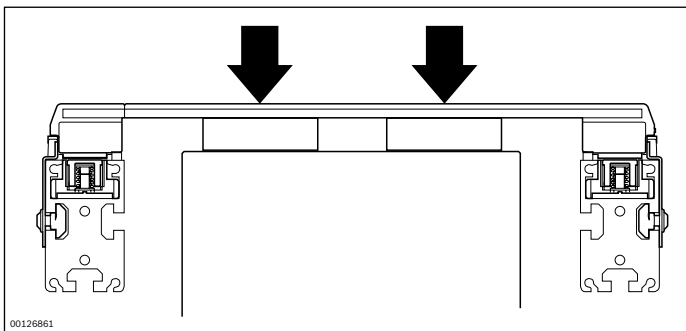
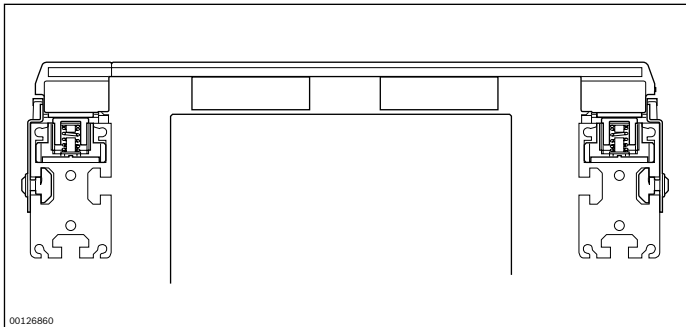
Condition on delivery

- ▶ Not assembled

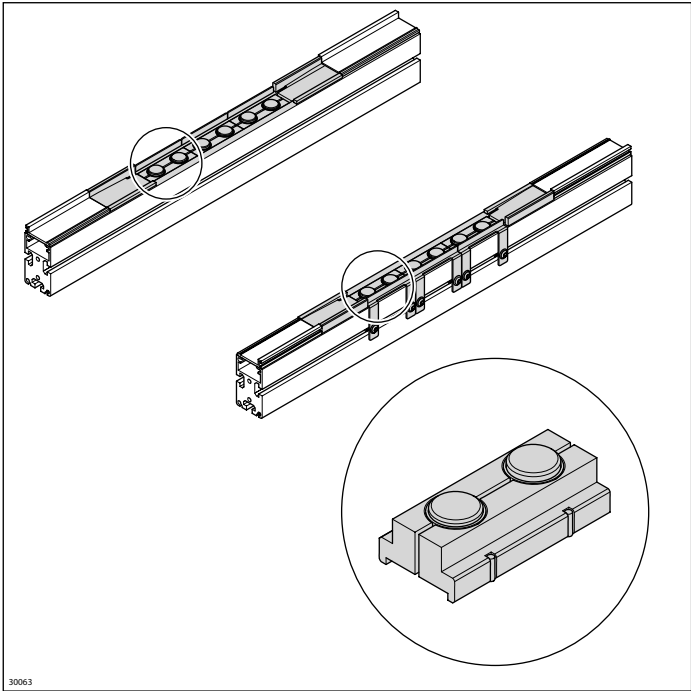
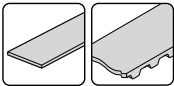


Mode of operation

Vertical process forces are deflected via a force cell constructed by the customer. In doing so, the plate of the workpiece pallet is supported via the spacer blocks on the anvil of the force cell. The guide profile is replaced by spring elements near the force cell to prevent the conveyor medium (belt or toothed belt) from getting jammed between the workpiece pallet and guide profile. The conveyor medium can thus be pushed down by up to 1.5 mm.



Spring element



- For mounting in sections where the workpiece pallet is stressed by the process forces
- For section loads of 5.8 N/cm and 10 N/cm

Ordering information

Product designation	Material number
Set spring element 10 N/cm	3842536930
Set spring element 5.8 N/cm	3842536931

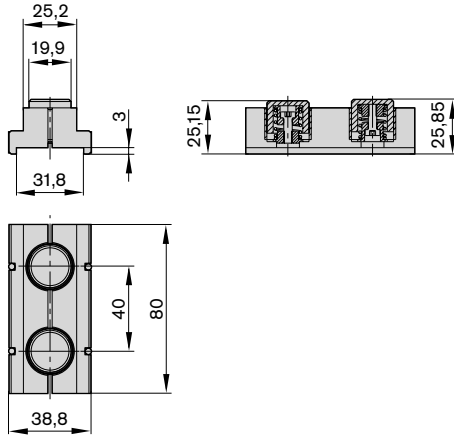
Technical data

Material number	3842536930	3842536931
Features		
ESD	yes	yes

Length of workpiece pallet	Quantity required per section	Section load 5.8 N/cm	Section load 10 N/cm
l_{WT} (mm)	profile X	3842536931 $m_{WT\ max}^{1)}$ (kg)	3842536930 $m_{WT\ max}^{1)}$ (kg)
160	2	9.3	16
240	3	14.0	23.1
320	4	18.7	31.9
400	5	23.3	40
480	6	28.0	48
640	8	37.3	64
800	10	46.7	70
1040	13	60.7	70

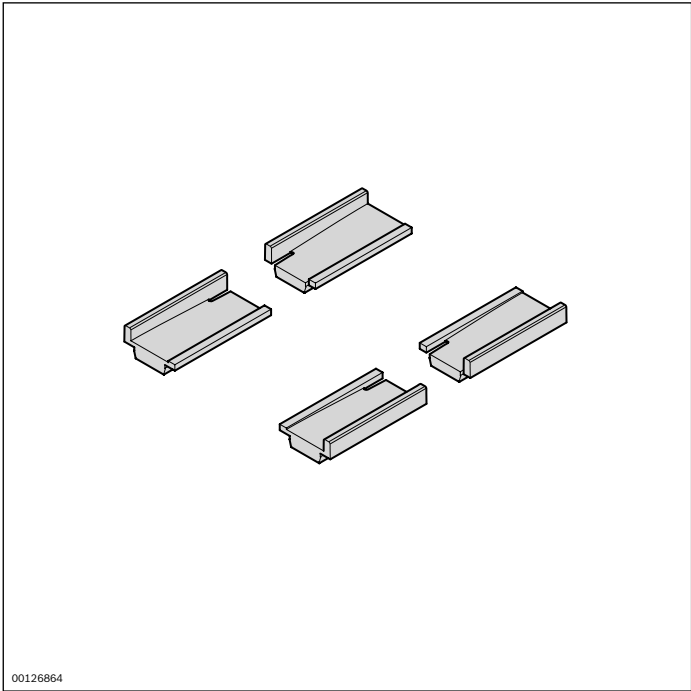
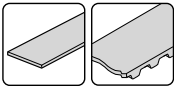
¹⁾ Maximum workpiece pallet weight incl. spacer block/base plate

Dimensions



00125247

Transition piece



- For the transition from the guide profile to spring elements and vice versa
- For use with the conveyor medium belt or with the conveyor medium toothed belt

Delivery note

Scope of delivery

► 1 pair

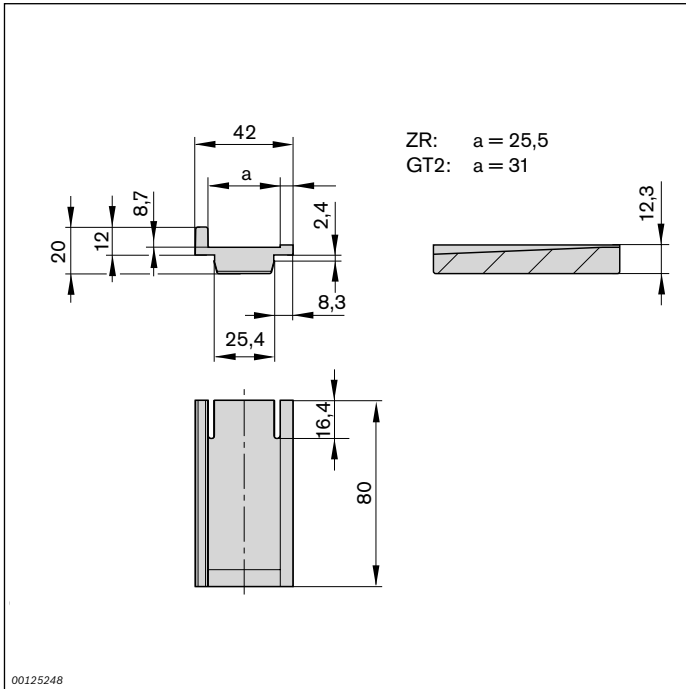
Ordering information

Product designation	Material number
Transition piece for belt	3842536932
Transition piece for toothed belt	3842536933

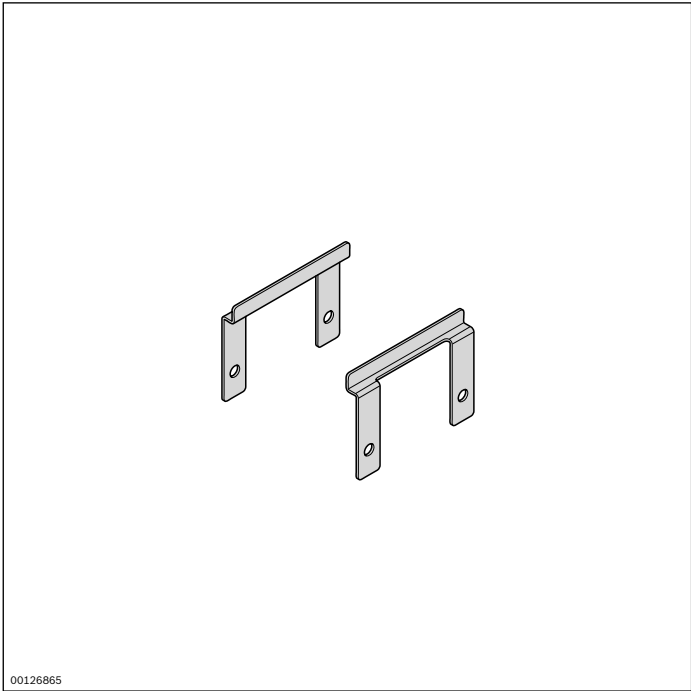
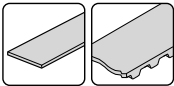
Technical data

Material number	3842536932	3842536933
Features		
ESD	yes	yes
Dimensions		
Length	l	mm
	80	80

Dimensions



Lateral guide



- For lateral guiding of workpiece pallets in the sections where the spring elements are mounted
- A WT 2 stop can be positioned diagonally the stop gate to prevent workpiece pallets from rotating and tilting

Delivery note

Scope of delivery

- 1 pair, incl. fastening material

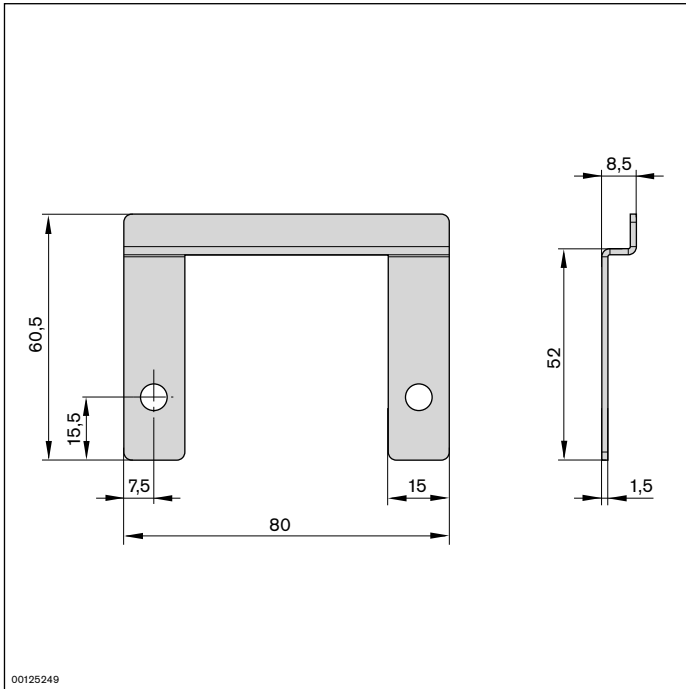
Ordering information

Product designation	Material number
	3842536926

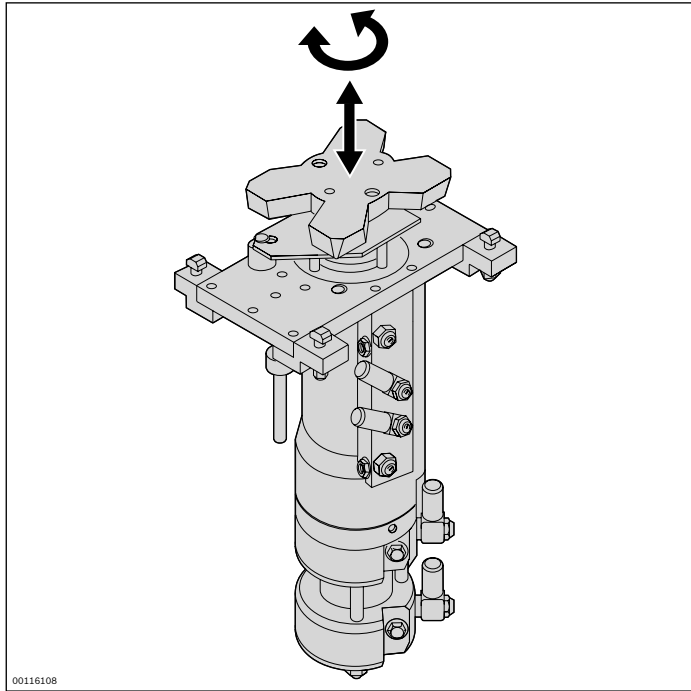
Technical data

Material number	3842536926
Features	
ESD	yes
Material specification	sheet steel; galvanized
Dimensions	
Length	l mm 80

Dimensions



HD 2 lift rotate unit



- ▶ Turning angles on the Z axis: 90° or 180°. The direction of rotation of the HD 2/90° can be individually selected for each workpiece pallet as required
- ▶ WT lift 40 mm or 90 mm above transportation level. The version with a 40 mm lift is suitable for turning workpiece pallets directly above the conveyor section. If there are any components mounted at the side of the workpiece pallet, e.g. identification and data storage modules, it may be necessary to select the version with a 90 mm lift
- ▶ Max. permitted total mass moment of inertia: 0.65 kgm²

The HD 2 lift rotate unit turns workpiece pallets to the required orientation. On circuits without curves it ensures that the workpiece pallet always runs with the correct orientation, i.e. front is always front.

Work on the HD 2 is permitted without additional forces.

Accessories

Required accessories

- ▶ VE 2/... stop gate, see p. 8-4

Delivery note

Scope of delivery

- ▶ Incl. mounting material

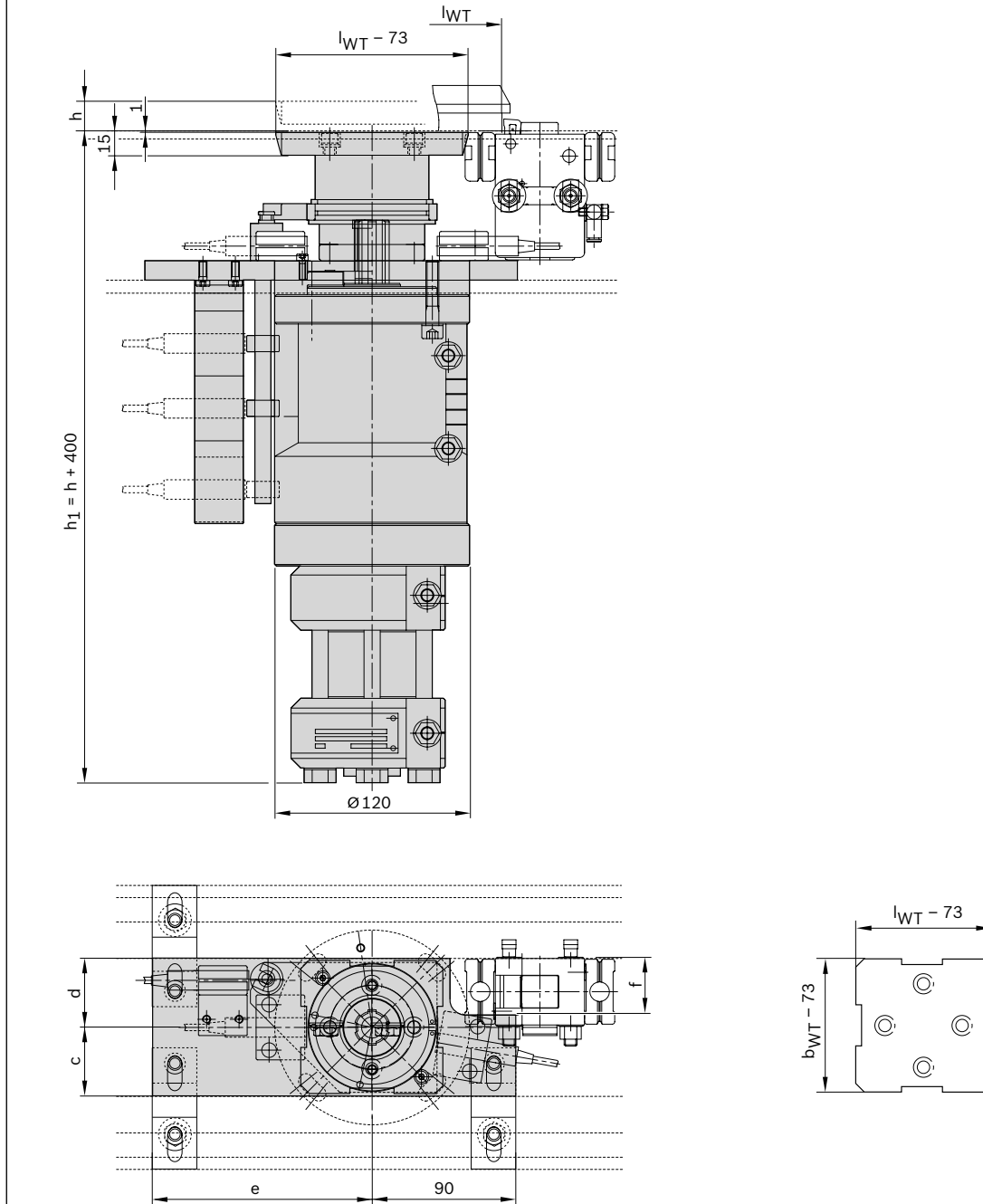
Ordering information

Product designation	l_T (mm)	b (mm)	DW (°)	h (mm)	Material number
HD 2 lift rotate unit	160	160	90	40	3842525847
HD 2 lift rotate unit	160	160	180	40	3842525848
HD 2 lift rotate unit	160	160	90	90	3842525849
HD 2 lift rotate unit	160	160	180	90	3842525850
HD 2 lift rotate unit	240	160	180	40	3842525851
HD 2 lift rotate unit	240	160	180	90	3842525852
HD 2 lift rotate unit	320	160	180	40	3842525853
HD 2 lift rotate unit	320	160	180	90	3842525854
HD 2 lift rotate unit	160	240	180	40	3842525855
HD 2 lift rotate unit	160	240	180	90	3842525856
HD 2 lift rotate unit	240	240	90	40	3842525857
HD 2 lift rotate unit	240	240	180	40	3842525858
HD 2 lift rotate unit	240	240	90	90	3842525859
HD 2 lift rotate unit	240	240	180	90	3842525860
HD 2 lift rotate unit	320	240	180	40	3842525861
HD 2 lift rotate unit	320	240	180	90	3842525862
HD 2 lift rotate unit	160	320	180	40	3842525863
HD 2 lift rotate unit	160	320	180	90	3842525864
HD 2 lift rotate unit	240	320	180	40	3842525865
HD 2 lift rotate unit	240	320	180	90	3842525866
HD 2 lift rotate unit	320	320	90	40	3842525867
HD 2 lift rotate unit	320	320	180	40	3842525868
HD 2 lift rotate unit	320	320	90	90	3842525869
HD 2 lift rotate unit	320	320	180	90	3842525870

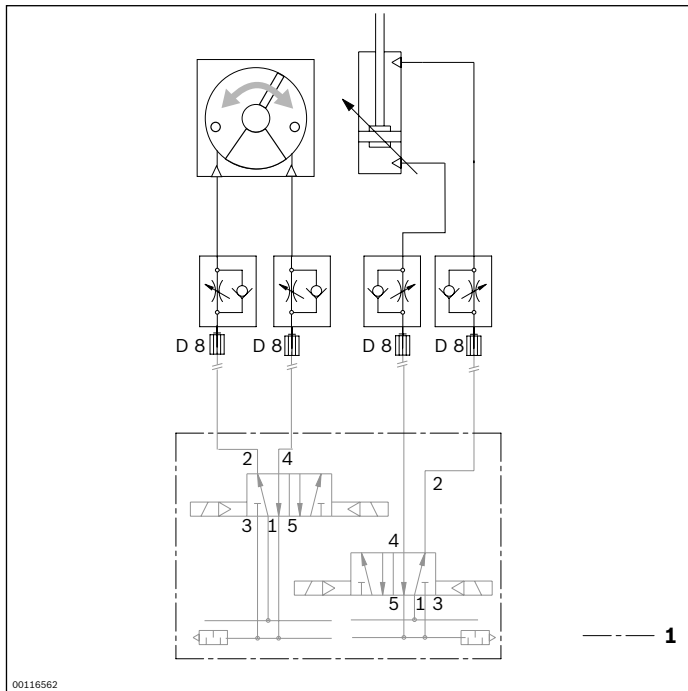
Technical data

Material number		3842525847	3842525853	3842525859	3842525865
		3842525848	3842525854	3842525860	3842525866
		3842525849	3842525855	3842525861	3842525867
		3842525850	3842525856	3842525862	3842525868
		3842525851	3842525857	3842525863	3842525869
		3842525852	3842525858	3842525864	3842525870
Load					
Max. total weight of workpiece pallet	m_G	kg			16
Features					
ESD					yes
Additional information					
WT lift above conveying level					40; 90

Dimensions

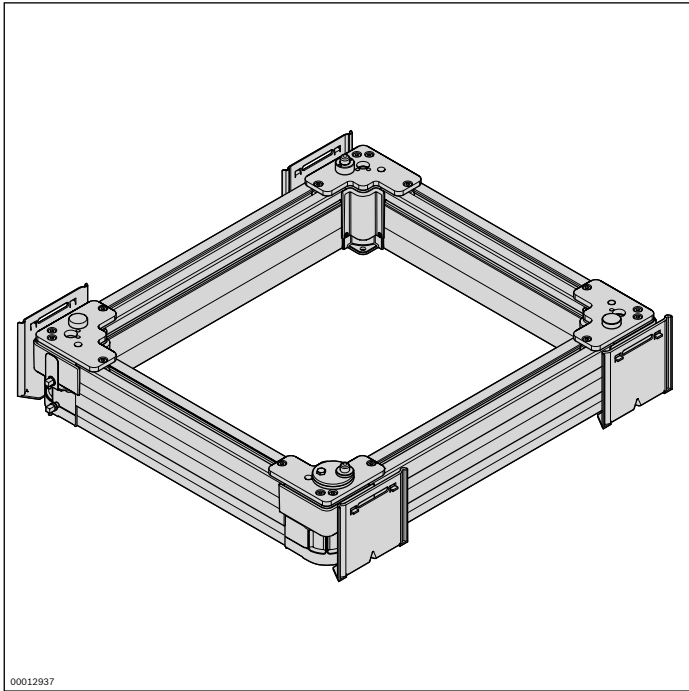
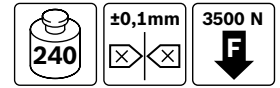


Circuit diagrams



1 Not included in scope of delivery

PE 2/H positioning unit



- ▶ To position a workpiece pallet in a manual/automatic processing station
- ▶ Positioning accuracy up to ± 0.1 mm when assembled on a separate machine frame
- ▶ WT lift above transportation level, about 16 mm
- ▶ Positioning via the PE 2 positioning pins and the positioning bushings on the WT 2/... workpiece pallet
- ▶ Mounting bores on lift frame as an optional fastening point for a separate machine stand
- ▶ Simple assembly in ST 2 (AO = ST 2) conveyor section element or BS 2 (AO = BS 2) belt sections
- ▶ Permissible vertical process forces: 3500 N incl. WT 2/...
- ▶ Can be combined with all WT 2/H and WT 2/F-H workpiece pallets

Accessories

Required accessories

- ▶ VE 2/D-100-H stop gate, see p. 8-33 or
VE 2/D-250-H stop gate, see p. 8-37

Delivery note

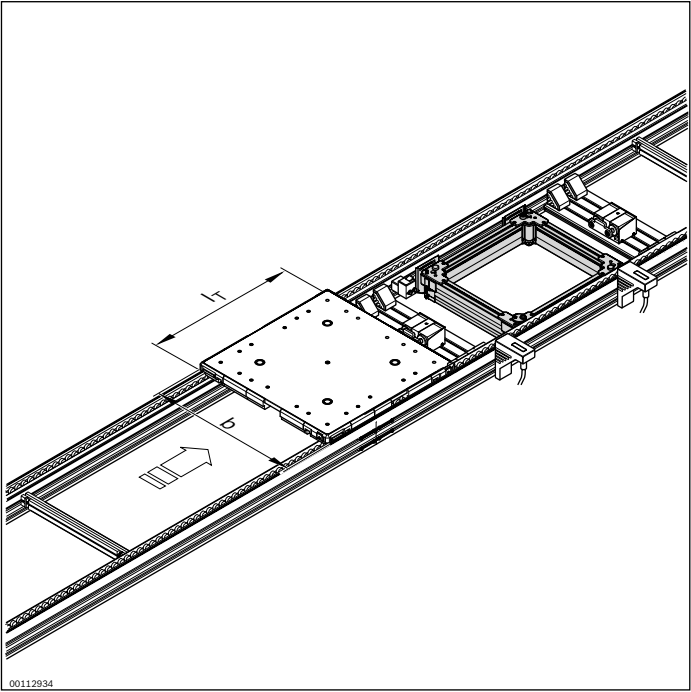
Scope of delivery

- ▶ Incl. mounting material
- ▶ Pneumatic elements

Condition on delivery

- ▶ Fully assembled

Ordering information



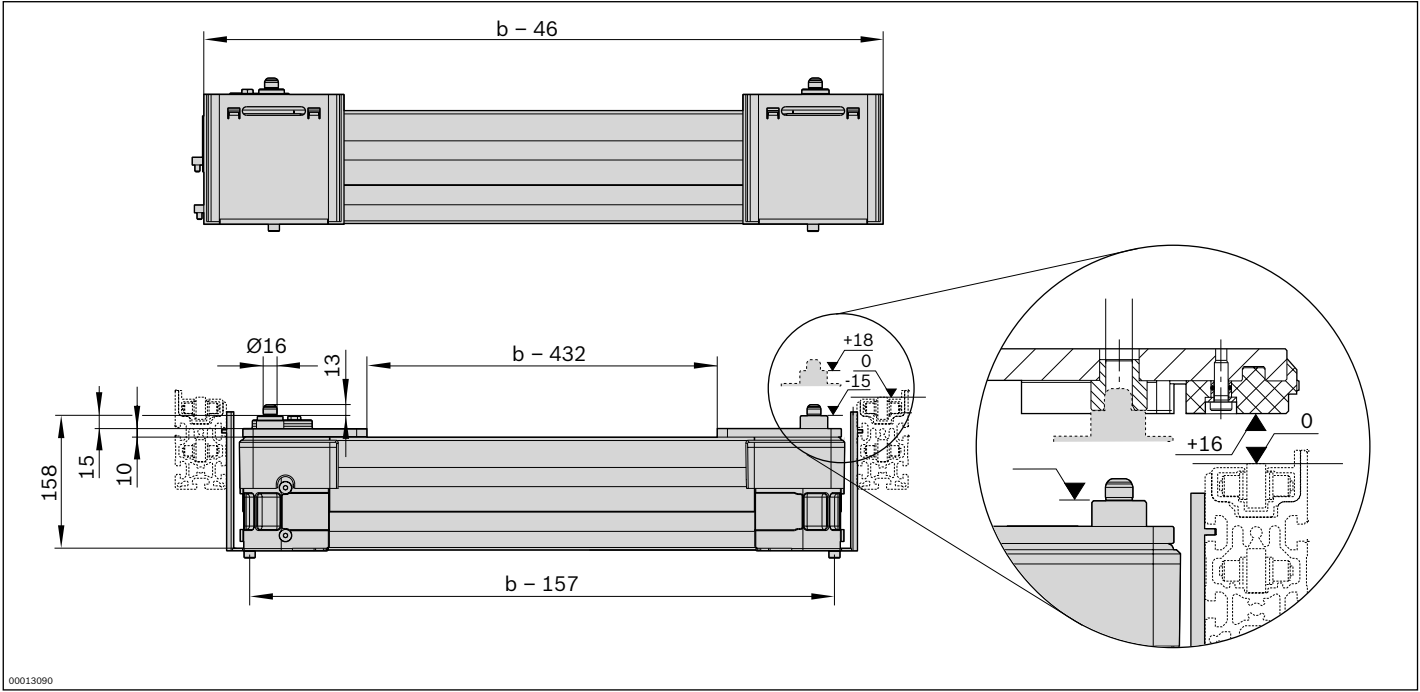
Material number		3842999000
b (mm)	Track width in direction of transport	480; 640; 800; 1040; 1200
l _T (mm)	Length in direction of transport	480; 640; 800; 1040; 1200
w x l _d (mm x mm)	Combination options	480 ... 1200 x 480 ... 1200

Technical data

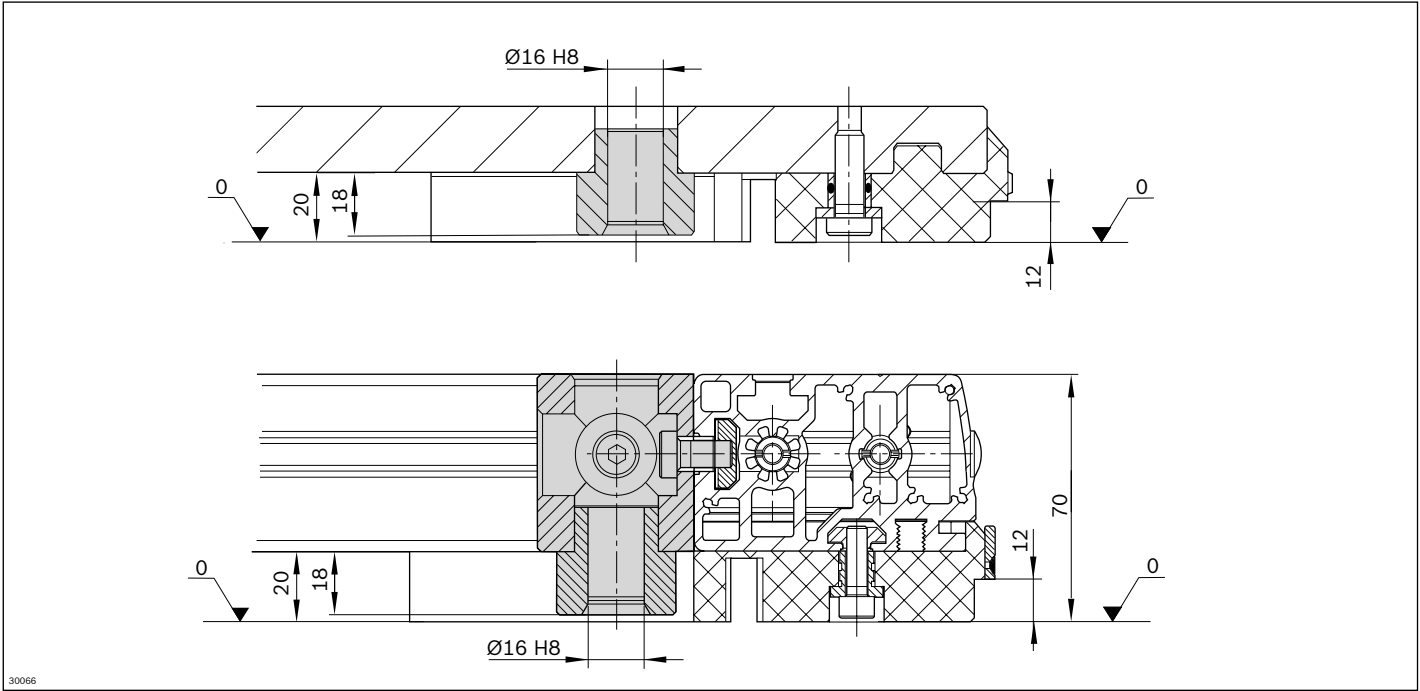
Material number		3842999000
Load		
Max. total weight of workpiece pallet	m _G	kg 240
Features		
ESD		yes
Additional information		
Required compressed air connection	p	bar 4 ... 6
Pneumatic push-in fitting	Ø	mm 8
WT lift above conveying level		mm 16
Repeatability ¹⁾		mm ±0.1
Permissible vertical process forces ²⁾		N 3500

¹⁾ When assembled on a separate machine frame
²⁾ Incl. WT 2

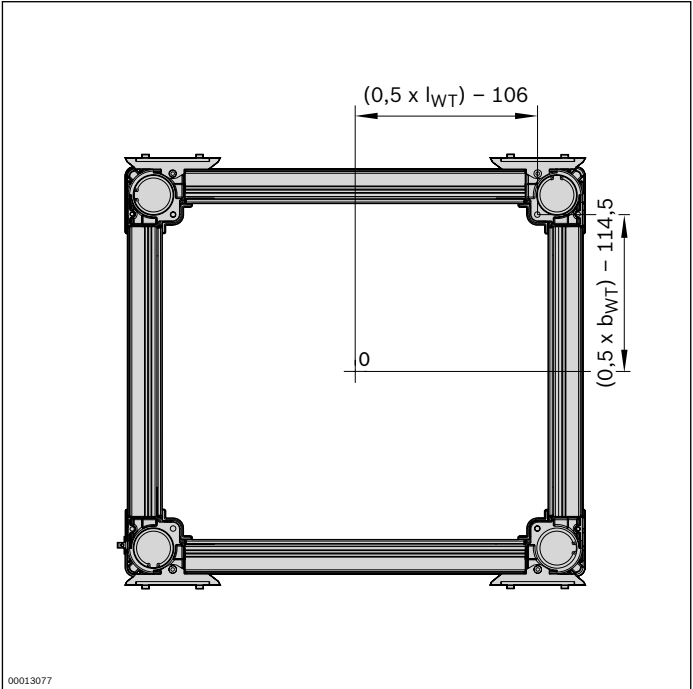
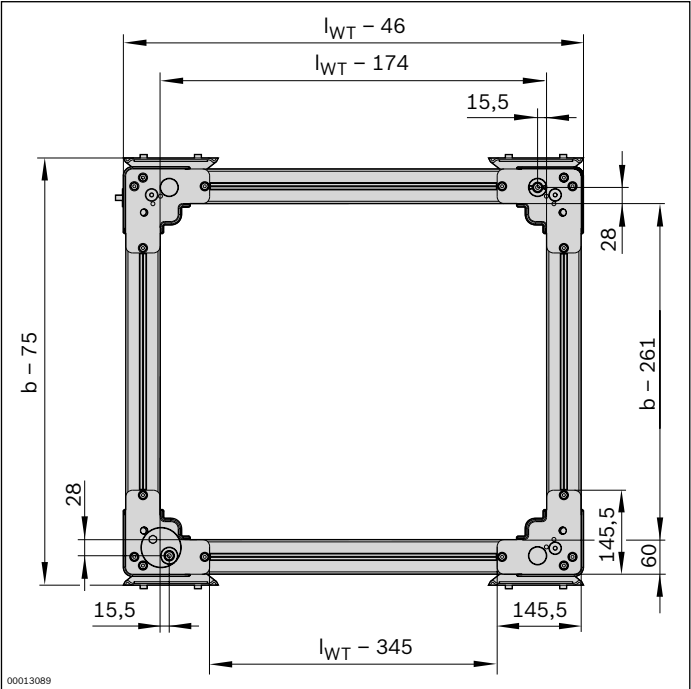
Dimensions



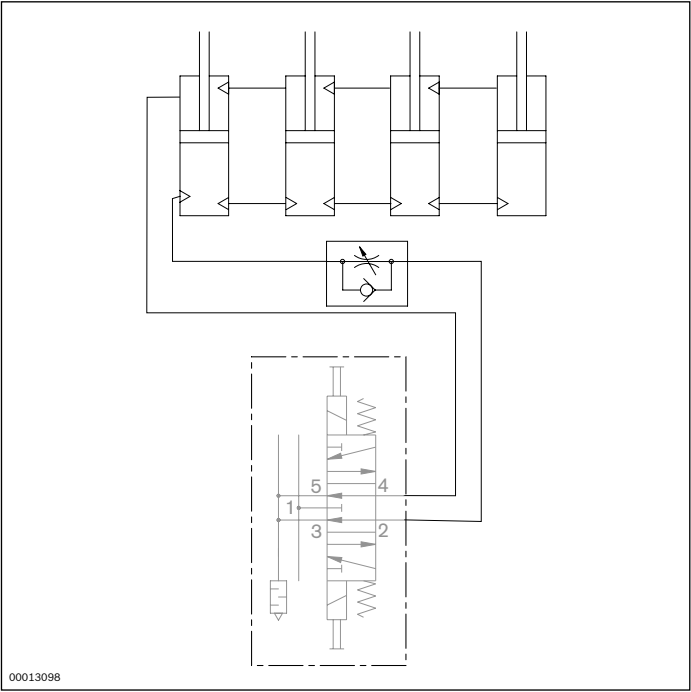
0 Transport level



Dimensions

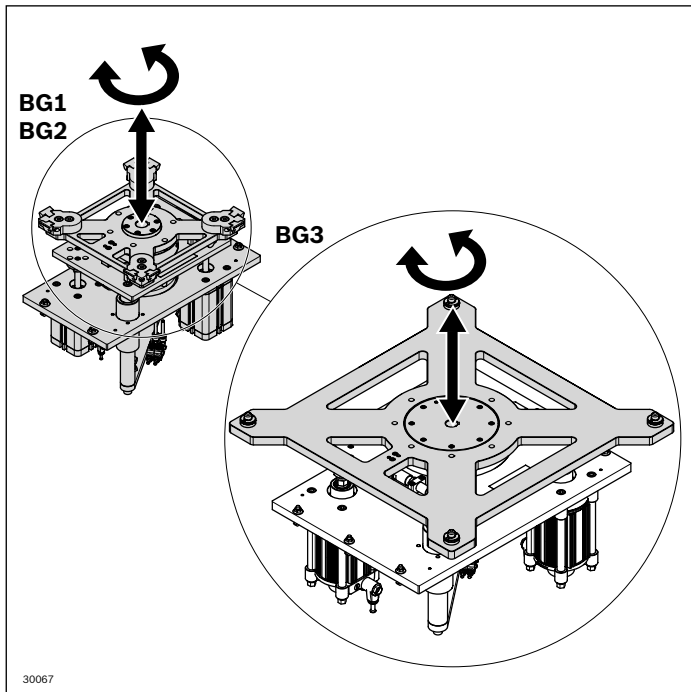


Circuit diagrams



1 Not included in scope of delivery

HD 2/H lift rotate unit



- ▶ WT lift above transportation level, about 50 mm
- ▶ Available in 3 sizes (BG) for WT total weights up to 240 kg
 - BG 1 and BG 2 for use with WT 2 and WT 2/F workpiece pallets
 - BG 3 for use with WT 2/H and WT 2/F-H workpiece pallets
- ▶ Rotation through 90° or 180°
 - For rotating quadratic workpiece pallets through 90° or 180°
 - For rotating non-quadratic workpiece pallets through 180°
 - In a 90° rotation, the reverse rotation occurs below the belt. Reduced cycle times by means of reverse rotation during workpiece pallet change
 - Center position for BG 1 and BG 2 in 90° version

The HD 2/H lift rotate unit turns workpiece pallets to the required orientation.

Accessories

Required accessories

- ▶ Housing element, see p. 7-58
- ▶ Leg sets for BG 2 from 50 kg, see p. 6-22
- ▶ Leg sets for BG 3 generally, see p. 6-22
- ▶ Cylinder switch (0830100433) for the top/center/bottom lift positions, see p. 7-55
- ▶ Sensor for the rotary movement at 0°/180° or 0°/90°, see p. 8-110

Delivery note

Scope of delivery

- ▶ 2x damper for end positions of the rotary movement
- ▶ Incl. fastening material for assembly on conveyor sections
- ▶ Pneumatic elements such as fittings, throttle check valves, etc. for the top/center/bottom lift positions

Recommended accessories

- ▶ VE 2 stop gate, see p. 8-6, or VE 2/D stop gate, see p. 8-24, for damped stopping of a workpiece pallet

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Size BG	Width b_{WT} (mm)	Length l_r (mm)	Angle of rotation DW (°)	Installation location AO* (mm)	Material number
HD 2/H lift rotate unit	BG 1	240	240; 320; 400	90; 180	80; 100	3842998760
		320	320	90; 180	80; 100	3842998760
		400	320	90; 180	80; 100	3842998760
HD 2/H lift rotate unit	BG 2	400	400; 480	90; 180	80; 100	3842998761
		480	400; 480; 640; 800	90; 180	80; 100	3842998761
		640	480; 640; 800; 1040	90; 180	80; 100	3842998761
		800	640	90; 180	80; 100	3842998761
HD 2/H lift rotate unit	BG 3	800	800; 1040	90; 180	80; 100	3842998762
		1040	800; 1040; 1200	90; 180	80; 100	3842998762
		1200	1200	90; 180	80; 100	3842998762

1) For use with WT 2 and WT 2/F-H workpiece pallets only

2) For use with WT 2/H and WT 2/F-H workpiece pallets only

Ordering information

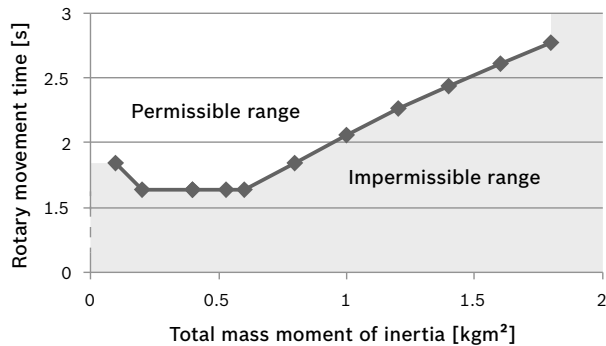
Product designation	Material number
Cylinder switch for ST6-PN-M12R-030 sensor top/center/bottom position inquiry	0830100433

Product designation	Material number
Sensor, short, for end position inquiry of the rotary movement, IEC/EN 60947-5-2-2004	3842549811

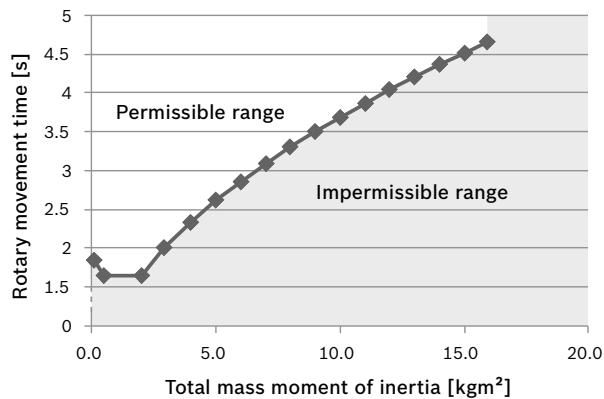
Technical data

Material number	3842998760	3842998761	3842998762
Additional information			
WT lift above conveying level	50	50	50

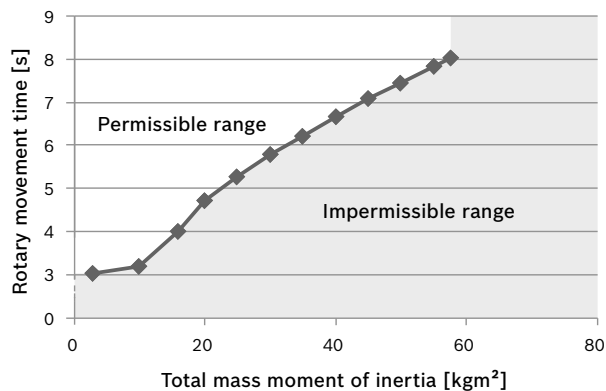
Size 1



Size 2



Size 3



Operating limits of the HD 2/H lift rotate unit

Mass moment of inertia

Note:

In the arrangement of supports and workpieces on the WT (= workpiece carrier) it must be ensured that the center of gravity of the loaded WT lies within the area $\frac{1}{3}$ of the length, respectively of the width, around the center of the WT.

It must also be ensured that the let the loading center of gravity at height h_s does not exceed $\frac{1}{2} b_{WT}$ (at $b_{WT} \leq l_{WT}$).

Size 1: Lift rotate unit HD 2/H, 3842998760

Mass max. 50 kg; mass moment of inertia max. 1.8 kgm²

Size 2: Lift rotate unit HD 2/H, 3842998761

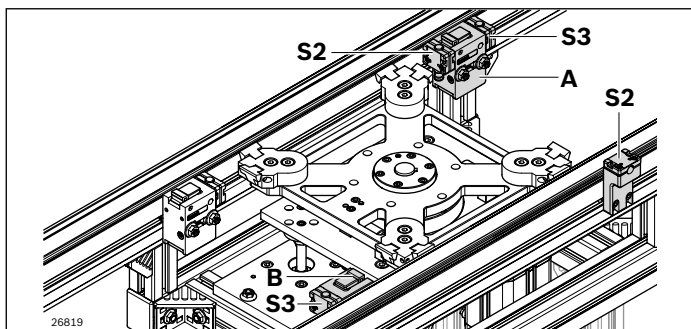
Mass max. 128 kg; mass moment of inertia max. 15.9 kgm²

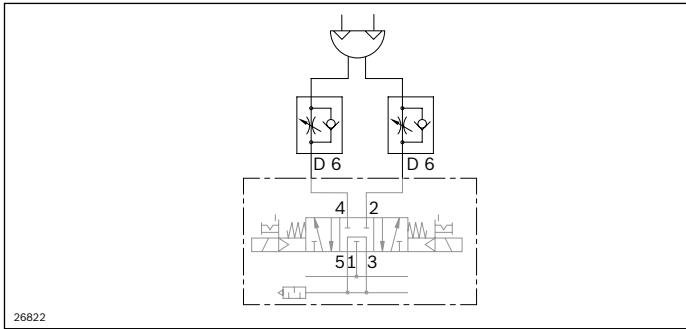
Size 3: Lift rotate unit HD 2/H, 3842998762

Mass max. 240 kg; mass moment of inertia max. 57.6 kgm²

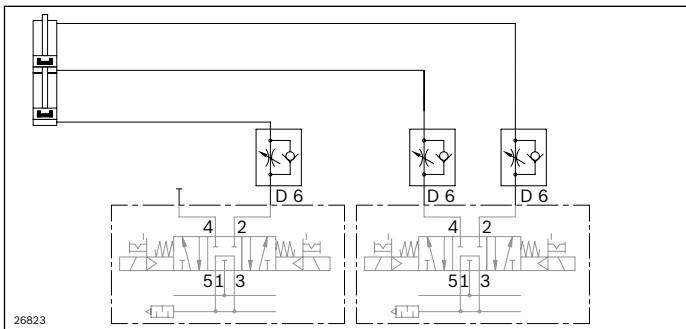
Additional Operating Limits

- Switch bracket mounting at $b_{WT} \times l_{WT}$ 240 mm x 240 mm is only possible from outside => see S2
- Reversible operation possible from $b_{WT} \times l_{WT}$ 320 mm x 320 mm => see A and B

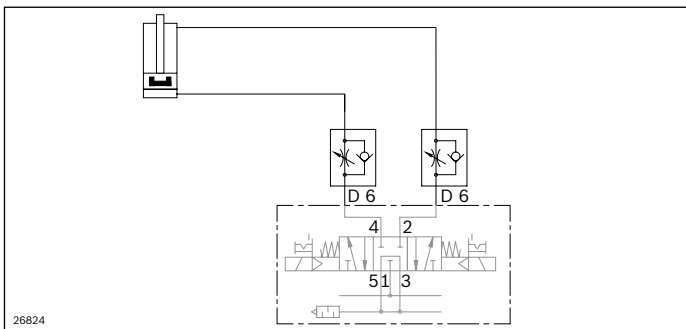




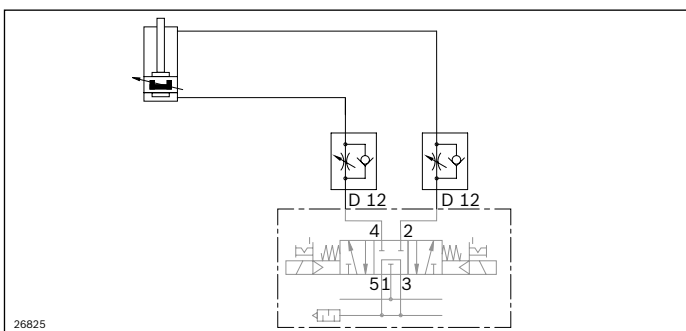
Pneumatic diagram of the HD 2/H lift rotate unit A, rotating cylinder for size 1/2/3, rotation angle 90° and 180°



Pneumatic diagram of the HD 2/H lift rotate unit Lifting cylinder for sizes 1/2, rotation angle 90° (multiple position cylinder)

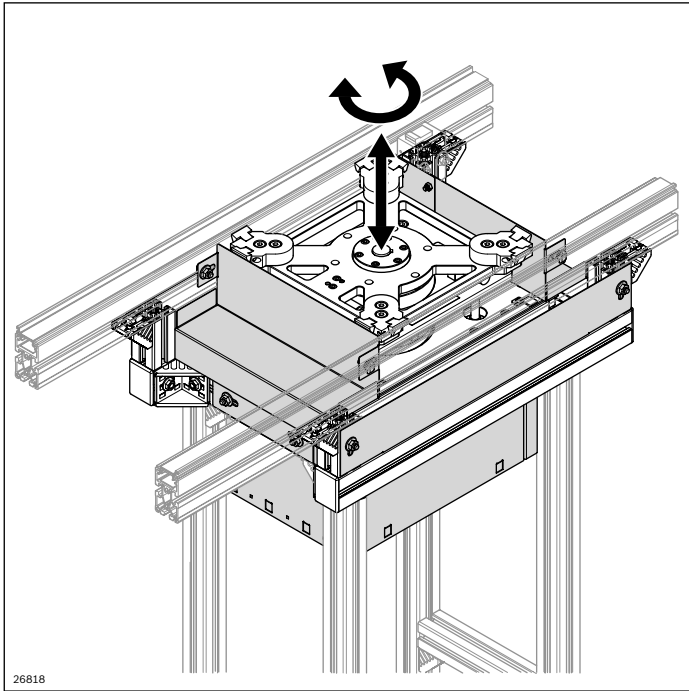


Pneumatic diagram of the HD 2/H lift rotate unit Lifting cylinder for sizes 1/2, rotation angle 180°



Pneumatic diagram of the HD 2/H lift rotate unit Rotating cylinder for size 3, rotation angle 90° and 180°

Housing element for HD 2/H

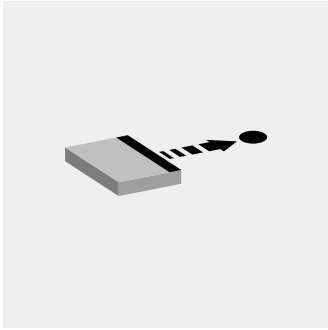


- For the safety of the unit and to protect against interference from outside below the conveying level
- Protection above the conveying level must be executed for specific applications

Ordering information

Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	Material number
240	240	90	3842552593
240	240	180	3842552601
240	320	180	3842552602
240	400	180	3842552603
320	240	180	3842552604
320	320	90	3842552594
320	320	180	3842552605
320	400	180	3842552606
320	480	180	3842552607
400	320	180	3842552609
400	400	90	3842552595
400	400	180	3842552611
400	480	180	3842552612
480	400	180	3842552613
480	480	90	3842552596
480	480	180	3842552614
480	640	180	3842552615
480	800	180	3842552616
640	480	180	3842552617
640	640	90	3842552597

Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	Material number
640	640	180	3842552618
640	800	180	3842552619
640	1040	180	3842552620
800	640	180	3842552622
800	800	90	3842552598
800	800	180	3842552624
800	1040	180	3842552625
1040	800	180	3842552626
1040	1040	90	3842552599
1040	1040	180	3842552627
1040	1200	180	3842552628
1200	1200	90	3842552600
1200	1200	180	3842552630

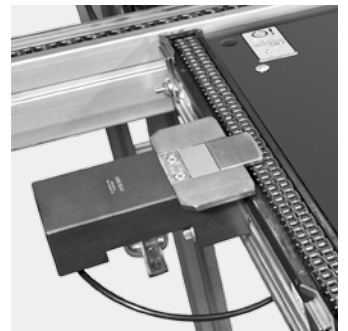
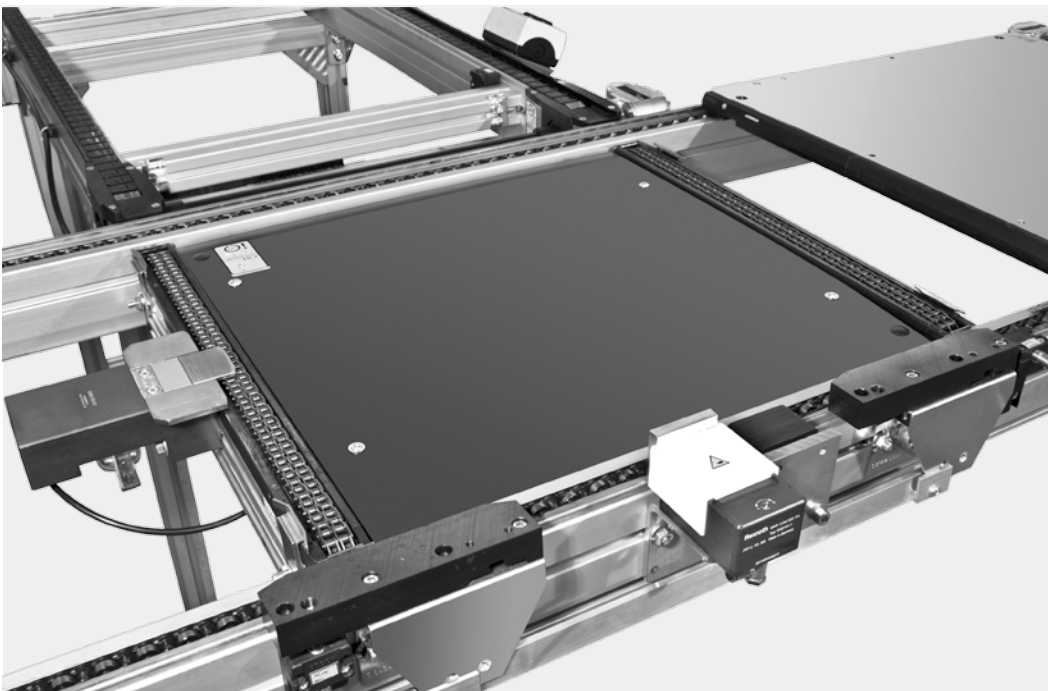


Transportation control

Transportation control selection

8-2

8



Transportation control selection

The modular units for transportation control are used to control the flow of the workpiece pallets on the transfer system. This involves stopping and separating pallets, inquiring the position of workpiece pallets, controlling all function processes, etc.

When WT 2/E, WT 2 and WT 2/F workpiece pallets are used, the VE 2/... stop gates are mounted directly on the section for lateral separation.

When WT 2/H and WT 2/F-H are used, the VE 2/D...-H stop gates are mounted by a cross strut for central separation.

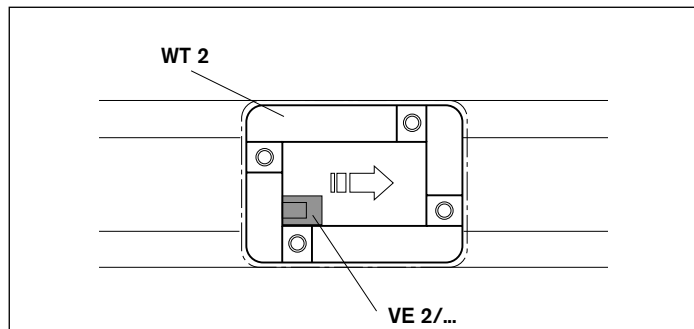
All VE 2/... (without VE 2/...-H) can be used for lateral separation.

All (without VE 2/D...-H) can be used for central separation.

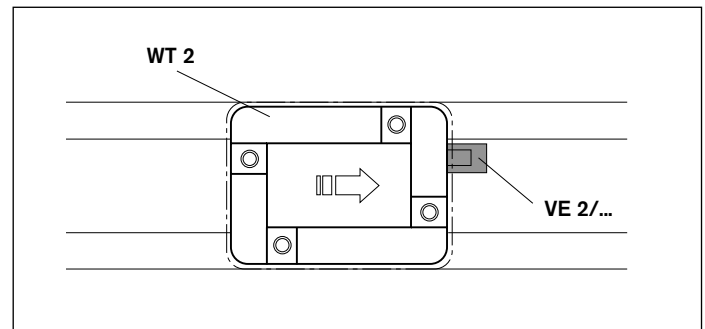
Depending on the application and available space, stop gates may be mounted inside or outside the workpiece pallet.

WT 2 workpiece pallet with lateral separation

Mounting in rear right position in the direction of transport, on the **inside** of the workpiece pallet surface

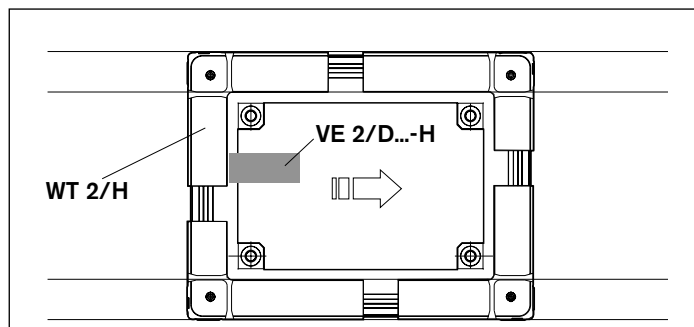


Mounting in front left position in the direction of transport, on the **outside** of the workpiece pallet surface

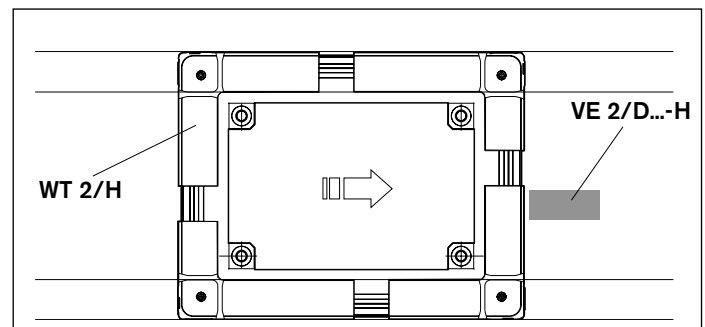


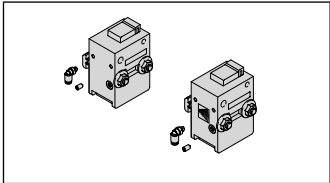
Workpiece pallet WT 2/H with central separation

Mounting inside the workpiece pallet surface



Mounting outside the workpiece pallet surface

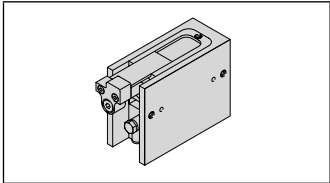




VE 2... stop gate



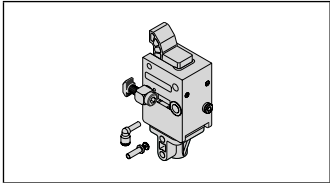
8-4



VE 2/D... dampened stop gate



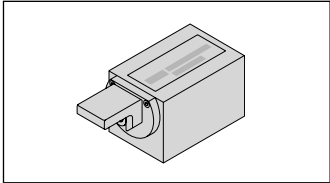
8-24



VA 2/... slide stops



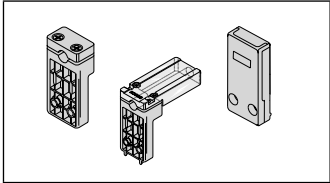
8-44



DA 2/... dampers

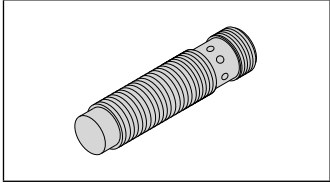


8-58



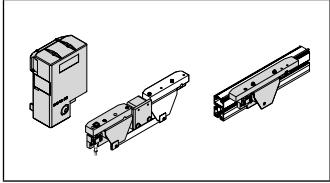
SH 2/... switch bracket

8-94



Sensors

8-108



WI 2/... rockers

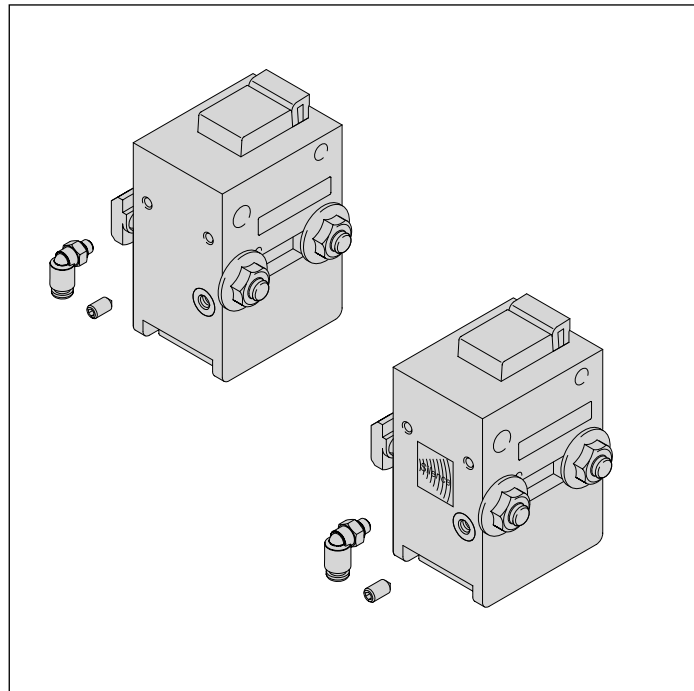


8-118

VE 2/... stop gate

The VE 2/... stop gates are used to stop and separate 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 integrated shock absorbers.

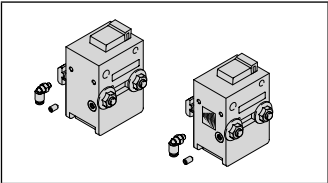


Depending on the application and available space, stop gates may be mounted inside or outside the workpiece pallet.

Stop gates have mounting areas for proximity switches which are used to monitor whether a workpiece pallet is standing at a stop gate or has passed it.

Dampened stop gates are used on conveyors where shock-sensitive and fragile parts are conveyed at speeds of up to 18 m/min.

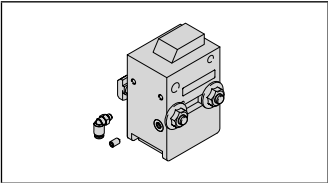
All versions are designed as pneumatic stop gate with infinitely adjustable damping. This reduces the force of impact by up to 80% compared to an uncushioned stop gate. Dampened stop gates are not suitable for accumulation stop.



Stop gate
VE 2, VE 2/L, VE 2/M



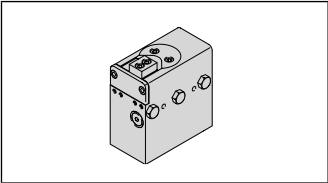
8-6



VE 2/S stop gate



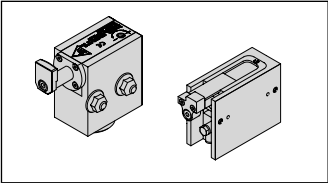
8-15



VE 2/X stop gate



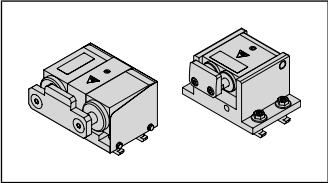
8-21



Stop gate
VE 2/D-60, VE 2/D-150, VE 2/D-200



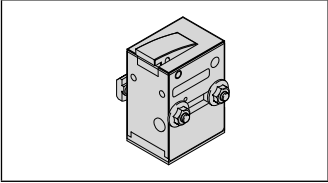
8-24



Stop gate
VE 2/D100-H, VE 2/D250-H



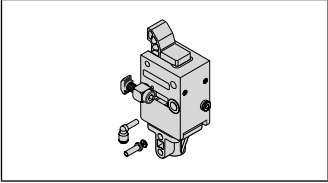
8-33



Return stops
VE 2/RS, VE 2/RS-H



8-40

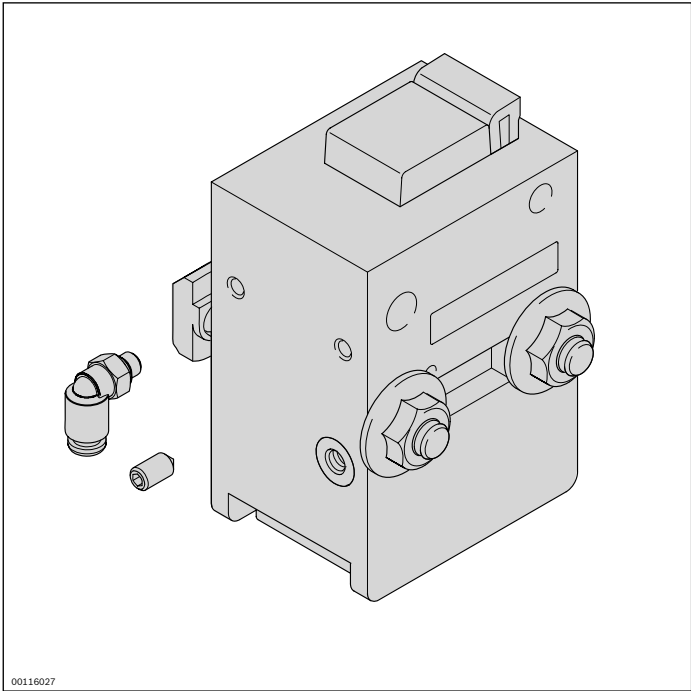


Slide stops
VA 2/50, VA 2/D-130, VA 2/D-250



8-44

VE 2 stop gate



- ▶ Pneumatic stop gate
- ▶ Tilting stop gate: Can be opened without causing abrasion on the surface of the workpiece pallet stop surface
- ▶ Reversible operation not permitted
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop gate is closed by a spring and

the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40
- ▶ SH 2/..., switch bracket, see p. 8-92
- ▶ Position sensor, see p. 8-18

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Pneumatic elements

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
VE 2 stop gate	0842900300

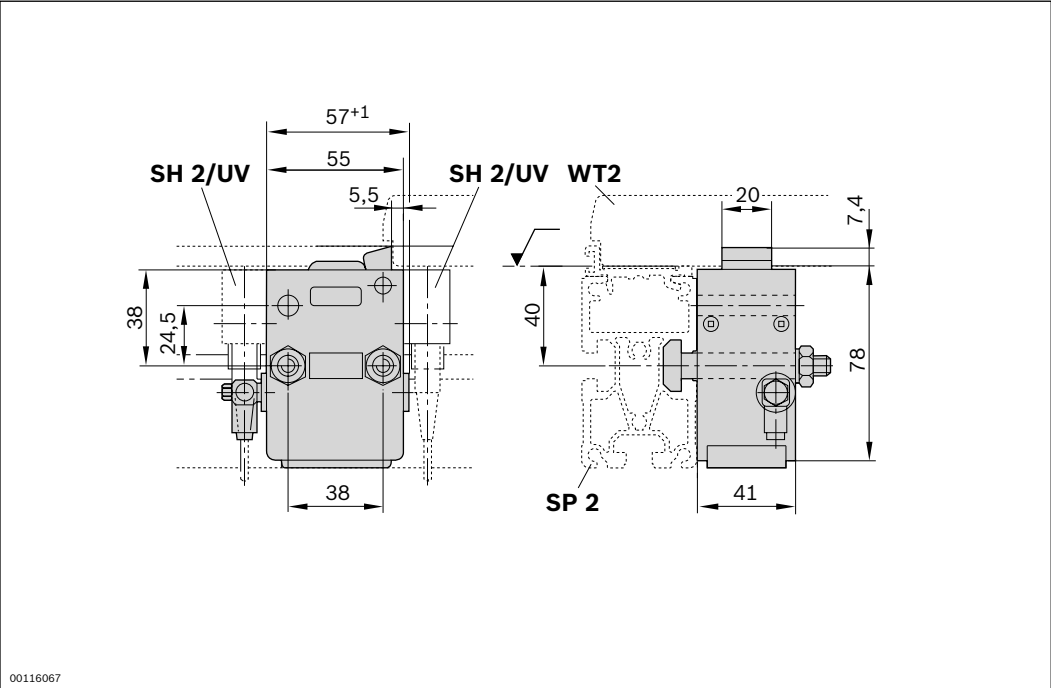
Technical data

Material number			0842900300
Load			
Max. total weight of workpiece pallet	m _G	kg	200
Features			
ESD			yes
Material specification			Housing: PA6 Safety catch: brass Lug cam: PA66
Max. operating temperature ¹⁾		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

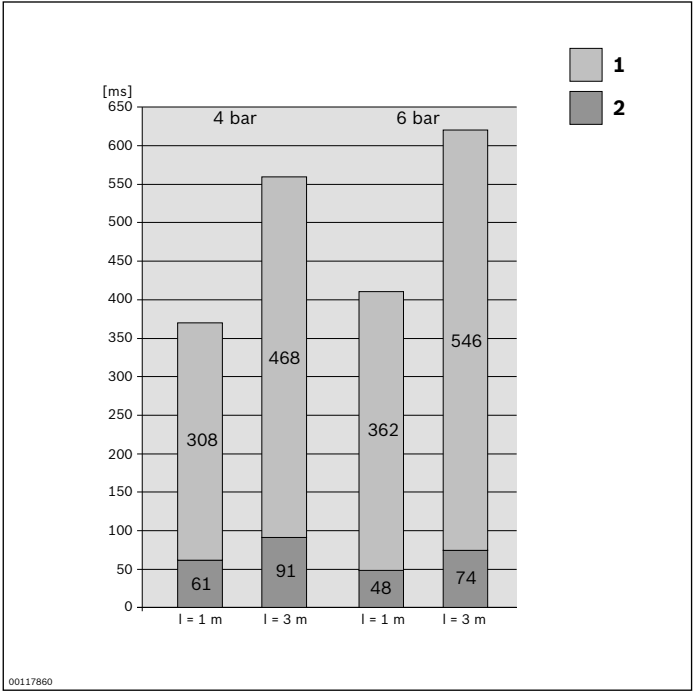
¹⁾ High-temperature stop gate on request

Permitted total weight of workpiece pallet m _G (kg)	Nominal speed v _N (m/min)
200	6
140	9
100	12
70	15
50	18

Dimensions

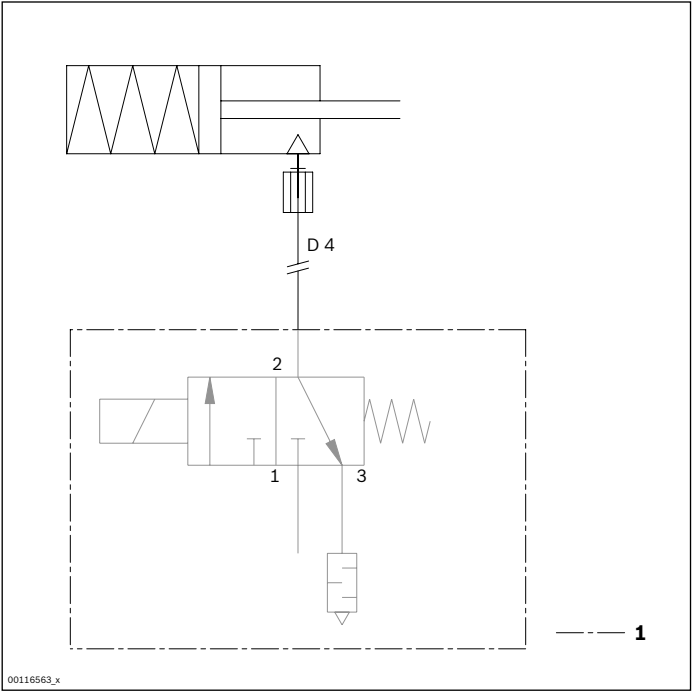


Circuit diagrams
Opening and shutting times



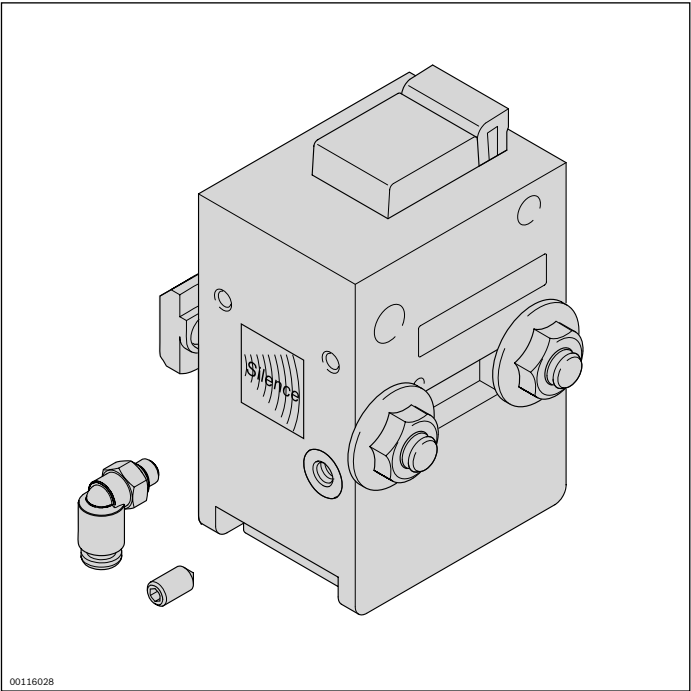
l = Hose length
1 Close
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

VE 2/L stop gate



- ▶ Pneumatic stop gate
- ▶ Low-noise; especially quiet operation during opening and closing, therefore especially suitable for manual workstations
- ▶ Tilting stop gate: Can be opened without causing abrasion on the surface of the workpiece pallet stop surface
- ▶ Reversible operation not permitted
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

8

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop gate is closed by a spring and

the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40
- ▶ SH 2/..., switch bracket, see p. 8-92
- ▶ Position sensor, see p. 8-18

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Pneumatic elements

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
Stop gate VE 2/L	3842530630

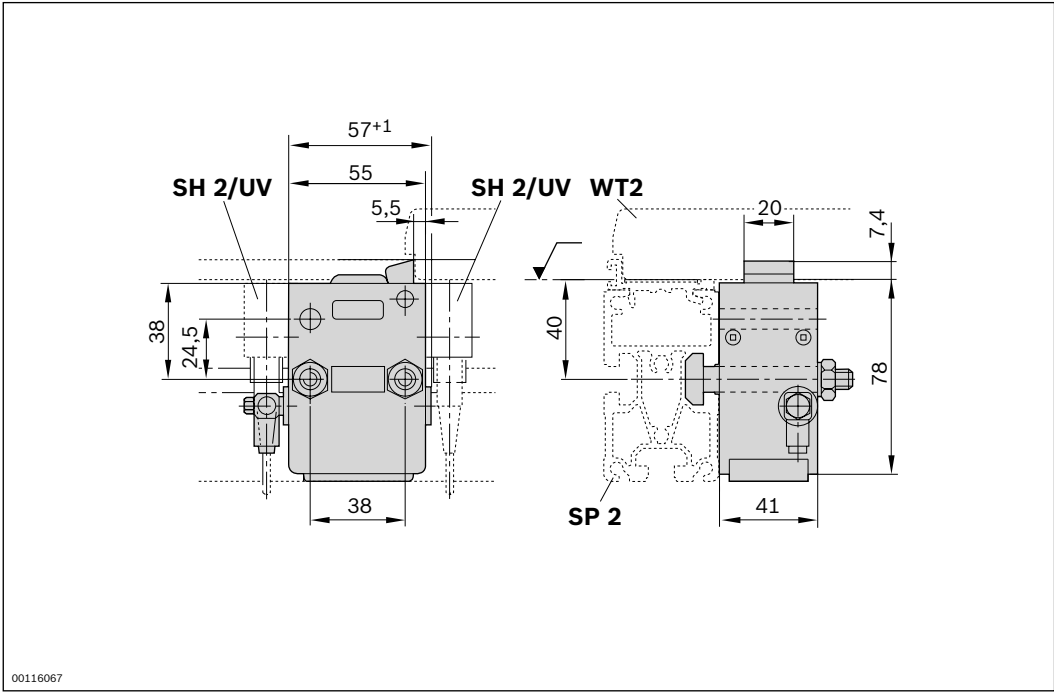
Technical data

Material number			3842530630
Load			
Max. total weight of workpiece pallet	m _G	kg	200
Features			
ESD			yes
Material specification			Housing: PA6 Safety catch: brass Lug cam: PA66
A-rated emission sound pressure level	L _{PA}	dB(A)	<60
Max. operating temperature ¹⁾		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

¹⁾ High-temperature stop gate on request

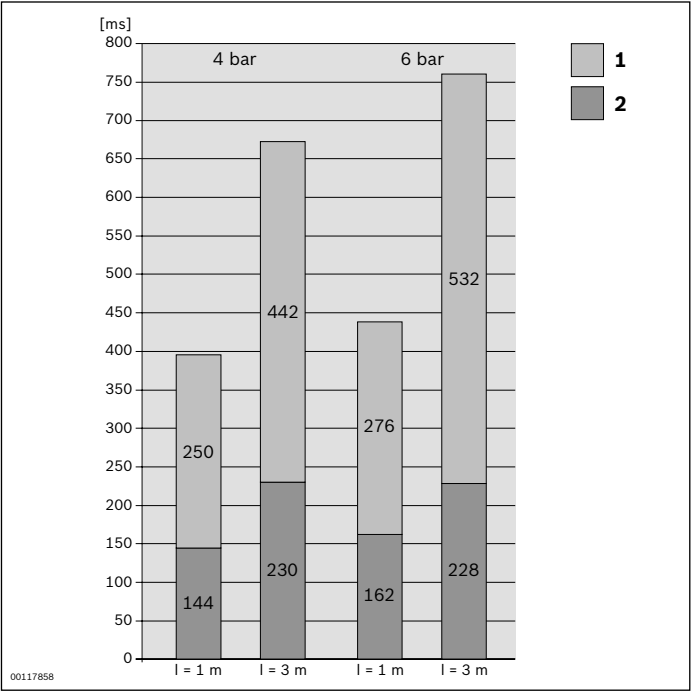
Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
200	6
140	9
100	12
70	15
50	18

Dimensions



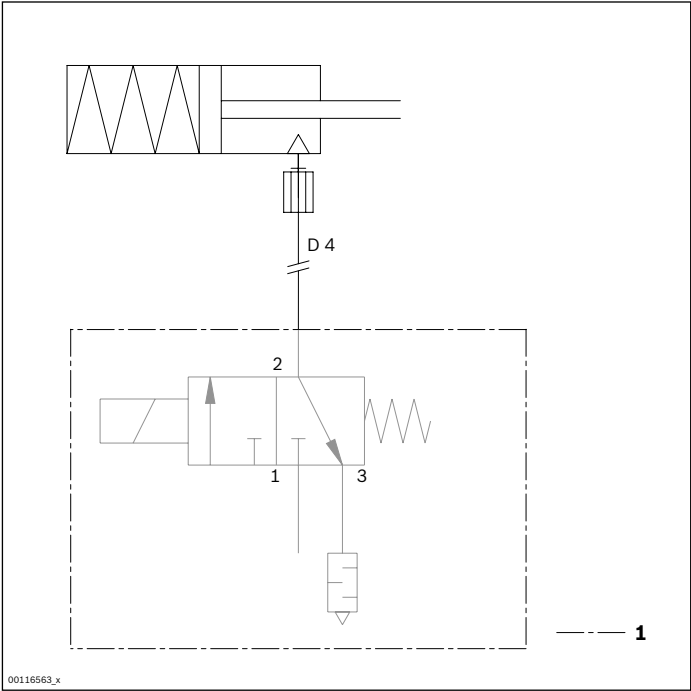
00116067

Circuit diagrams
Opening and shutting times



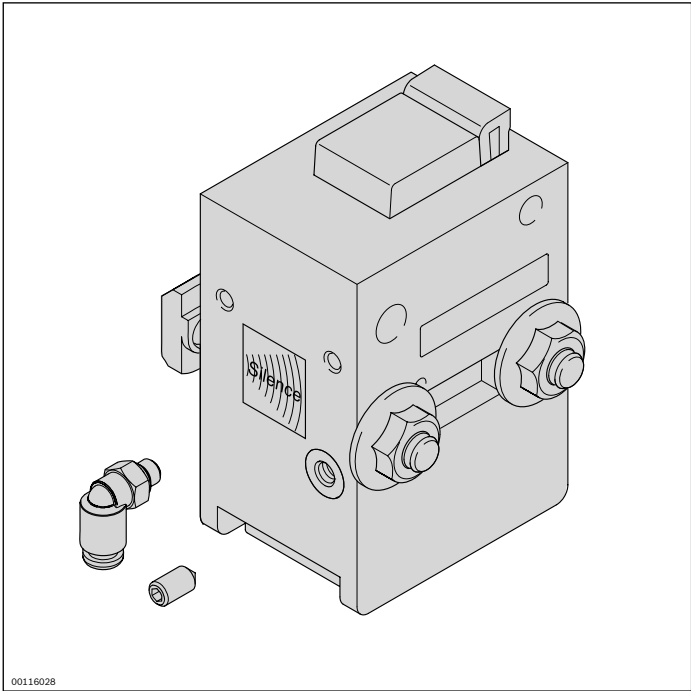
l = Hose length
1 Close
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

VE 2/M stop gate



- ▶ Pneumatic stop gate
- ▶ Media resistant
- ▶ Tilting stop gate: Can be opened without causing abrasion on the surface of the workpiece pallet stop surface
- ▶ Low-noise; especially quiet operation during opening and closing
- ▶ Reversible operation not permitted
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop gate is closed by a spring and

the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40
- ▶ SH 2/..., switch bracket, see p. 8-92
- ▶ Position sensor, see p. 8-18

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Pneumatic elements

Condition on delivery

- ▶ Fully assembled

Ordering information

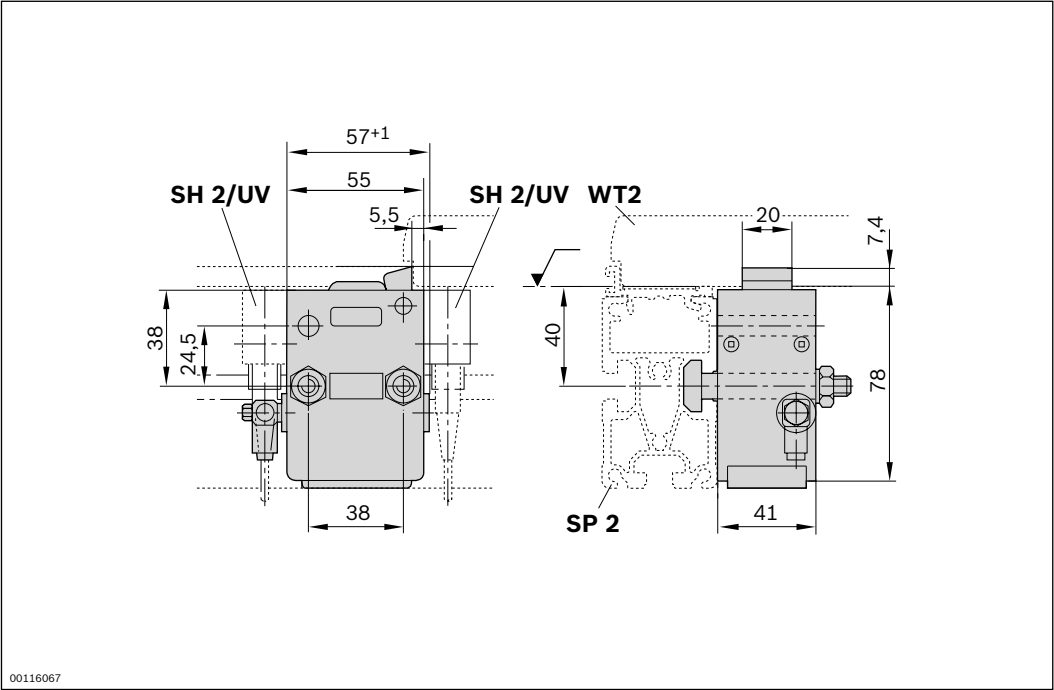
Product designation	Material number
Stop gate VE 2/M	3842531610

Technical data

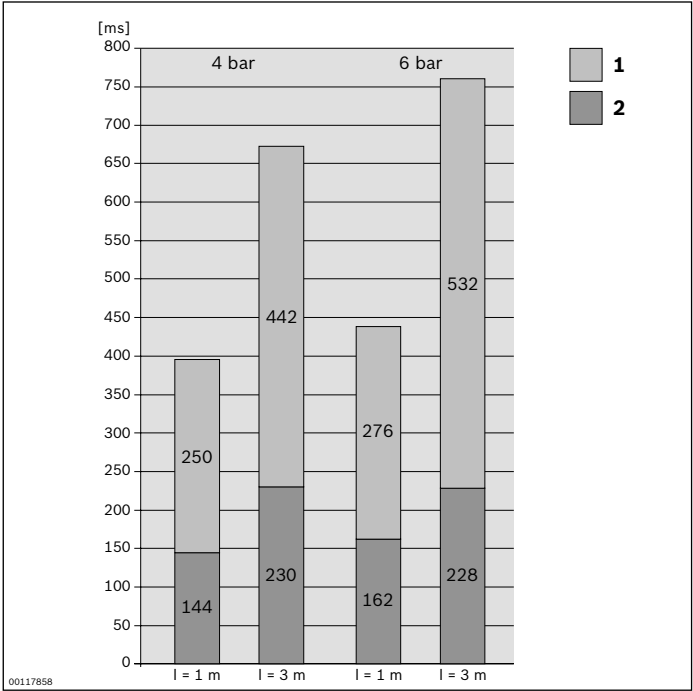
Material number			3842531610
Load			
Max. total weight of workpiece pallet	m _G	kg	200
Features			
ESD			yes
Material specification			Housing: PA6 Safety catch: brass Lug cam: PA66
A-rated Emission sound pressure level	L _{PA}	dB(A)	<60
Max. operating temperature ¹⁾		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4
¹⁾ High-temperature stop gate on request			

Permitted total weight of workpiece pallet	m _G (kg)	Nominal speed
		v _N (m/min)
	200	6
	140	9
	100	12
	70	15
	50	18

Dimensions

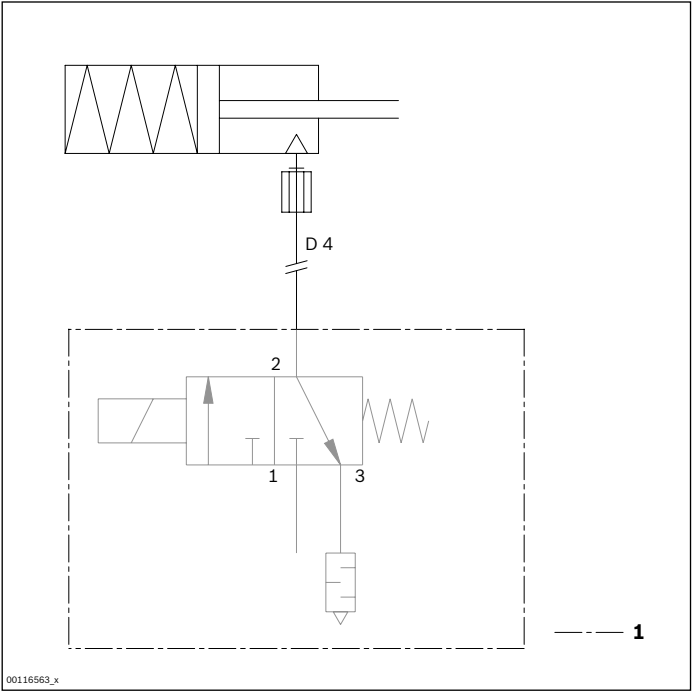


Circuit diagrams
Opening and shutting times



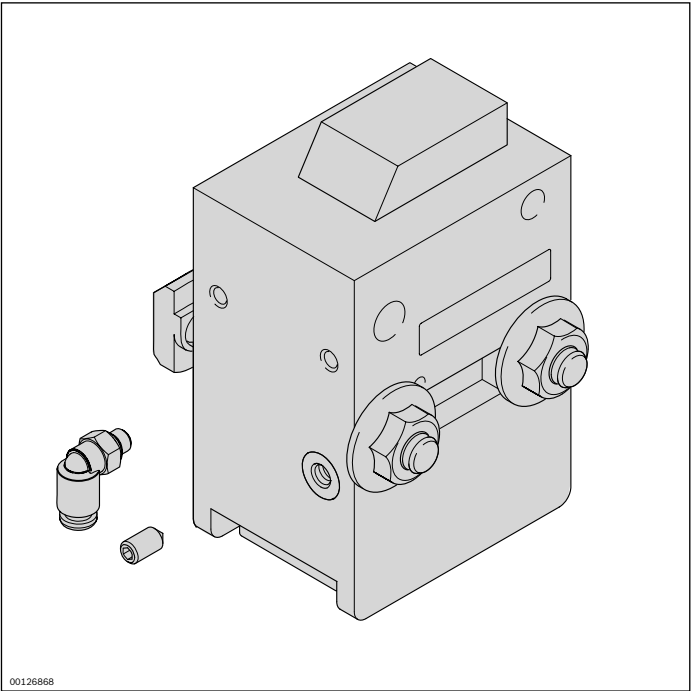
l = Hose length
1 Close
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

VE 2/S stop gate



- ▶ Pneumatic stop gate
- ▶ Used on sections with possible reversible operation
- ▶ Pressure must not be exerted on VE 2/S by pallets traveling in reverse
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

8

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. The VE 2/S can only stop workpiece pallets coming from one direction. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped. Two VE 2/S

stop gates are needed to stop pallets coming from both directions, since pressure must not be exerted on the stop gate by pallets traveling in reverse. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40
- ▶ SH 2/..., switch bracket, see p. 8-92
- ▶ Position sensor, see p. 8-18

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Pneumatic elements

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
VE 2/S stop gate	3842515844

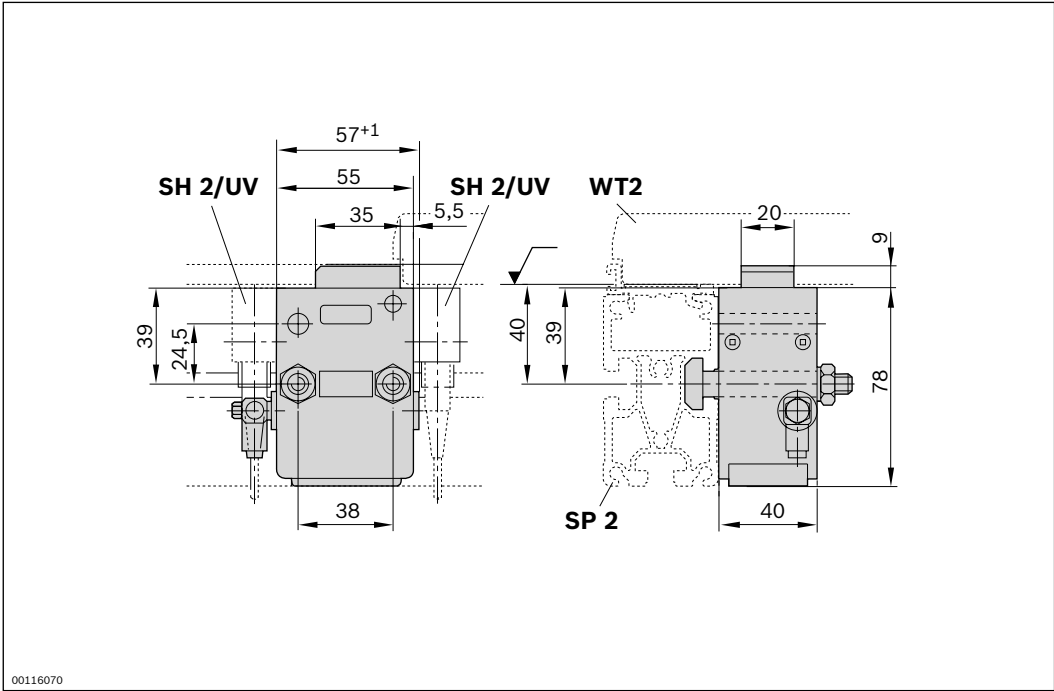
Technical data

Material number			3842515844
Load			
Max. total weight of workpiece pallet	m _G	kg	140
Features			
ESD			yes
Material specification			Housing: PA6 Lug cam: PA66
Max. operating temperature ¹⁾		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

¹⁾ High-temperature stop gate on request

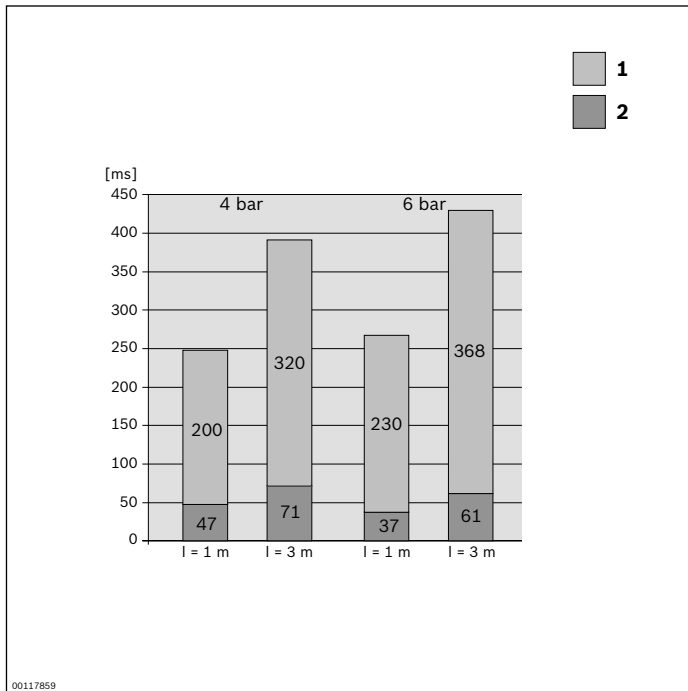
Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
140	6
90	9
70	12
50	15
30	18

Dimensions



Circuit diagrams

Opening and shutting times

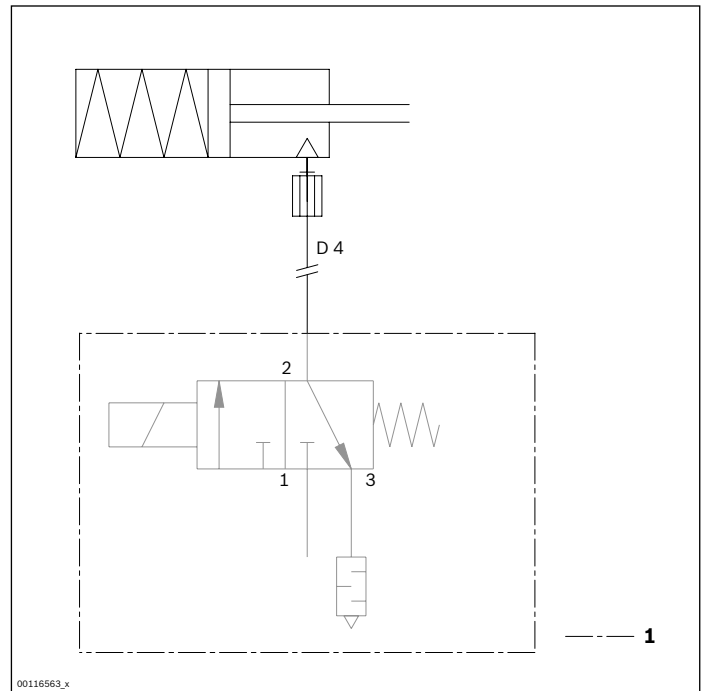


l = Hose length

1 Close

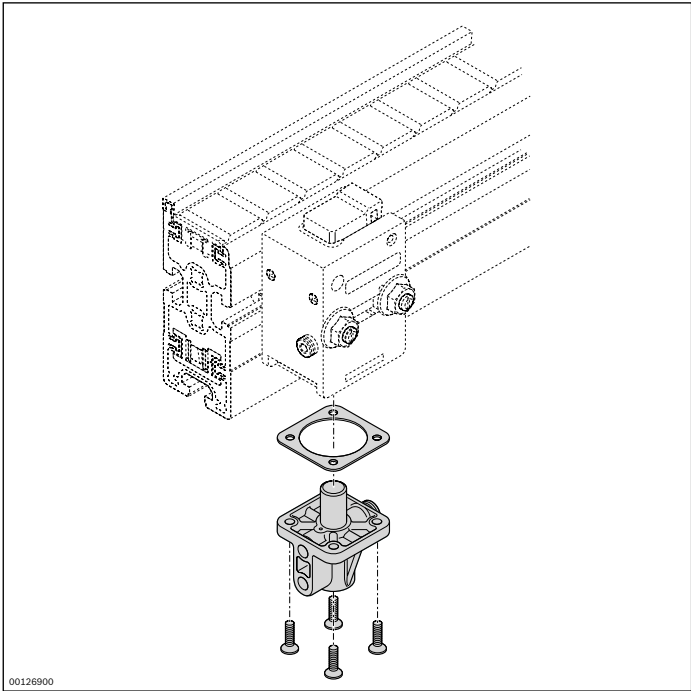
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

Position inquiry, stop gate



- For retrofitting on the VE 2, VE 2/M, VE 2/L, or VE 2/S stop gates
- Upper and lower position query possible, only suitable for upper position query with VE 2/S)
- Optional additional compressed air connection for double-action operation of the stop gate

The stop gate position inquiry is used for inquiry of the stop gate position via sensors and/or for active pneumatic

closing of the stop gate.

Accessories

Required accessories

- VE 2, VE 2/M, VE 2/L, or VE 2/S, stop gates
- 2x M8x1 sensor with rated sensing range $S_N \geq 2\text{ mm}$, can be installed flush

Delivery note

Scope of delivery

- Incl. mounting material

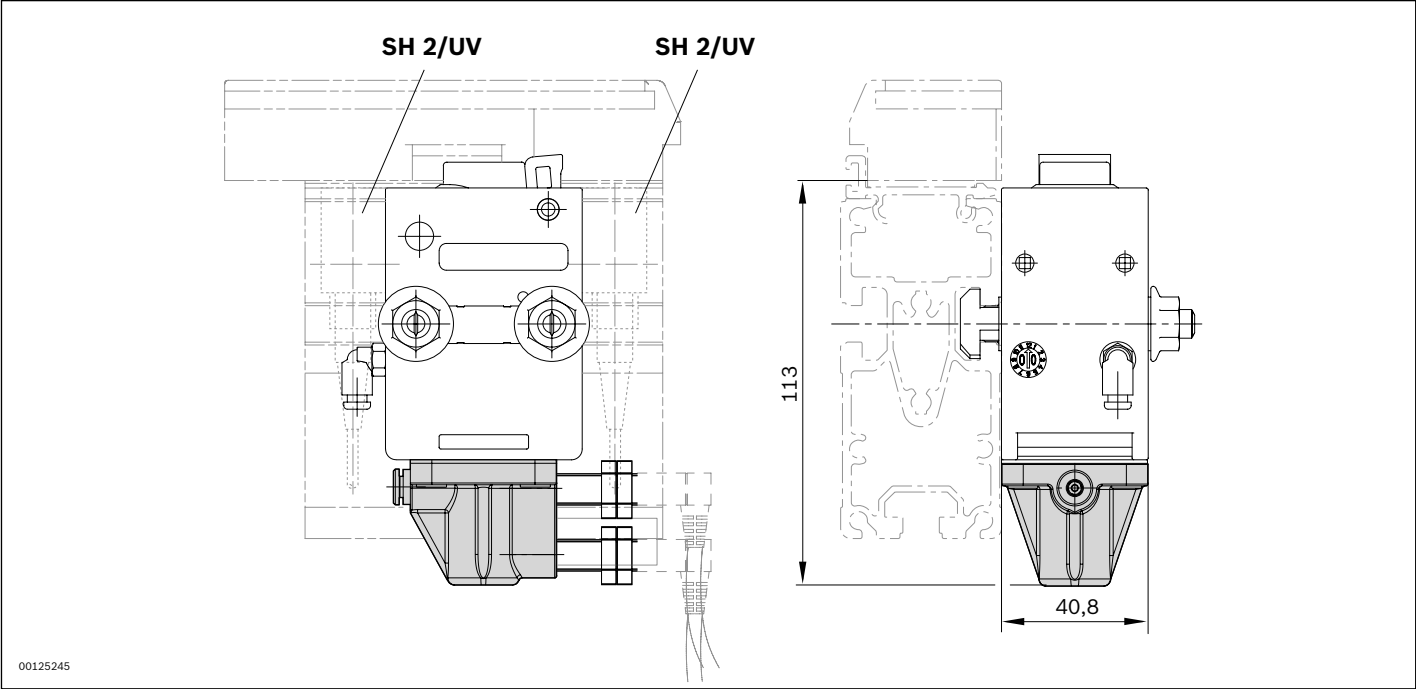
Ordering information

Product designation	Material number
Position inquiry, stop gate	3842528817

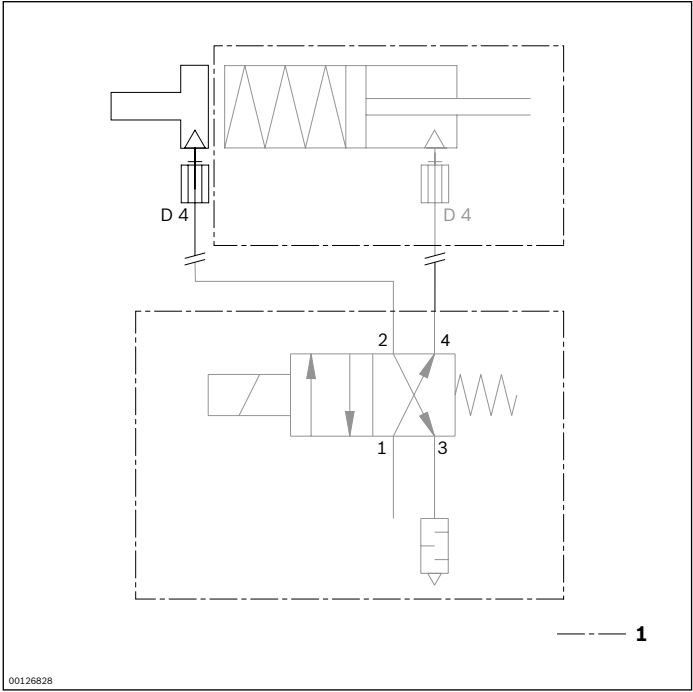
Technical data

Material number			3842528817
Features			
ESD			yes
Material specification			PA, black Housing: PA6
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

Dimensions

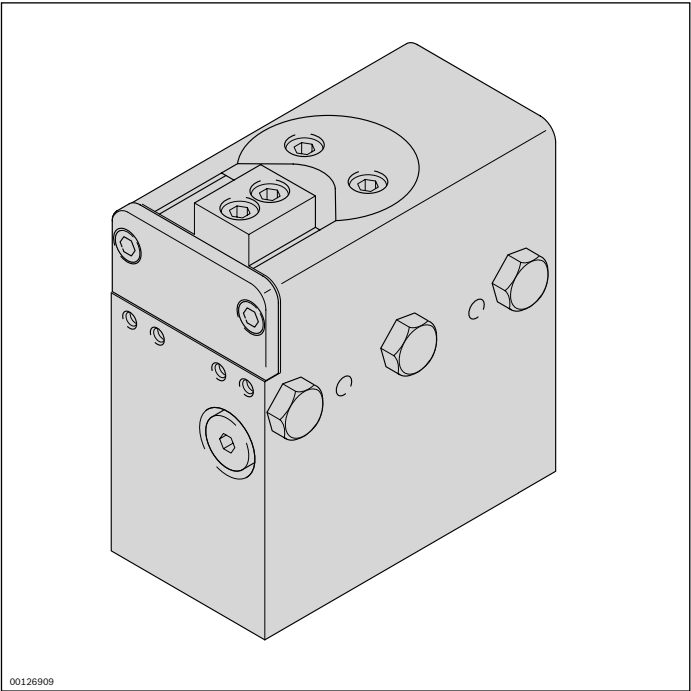


Circuit diagrams



1 Not included in scope of delivery

VE 2/X stop gate



- ▶ Pneumatic stop gate
- ▶ For high permitted total weight of the workpiece pallet up to 450 kg
- ▶ Can be combined with WT 2 and WT 2/F

8

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop gate is closed by a spring and

the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40
- ▶ SH 2/..., switch bracket, see p. 8-92

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
VE 2/X stop gate	3842547770

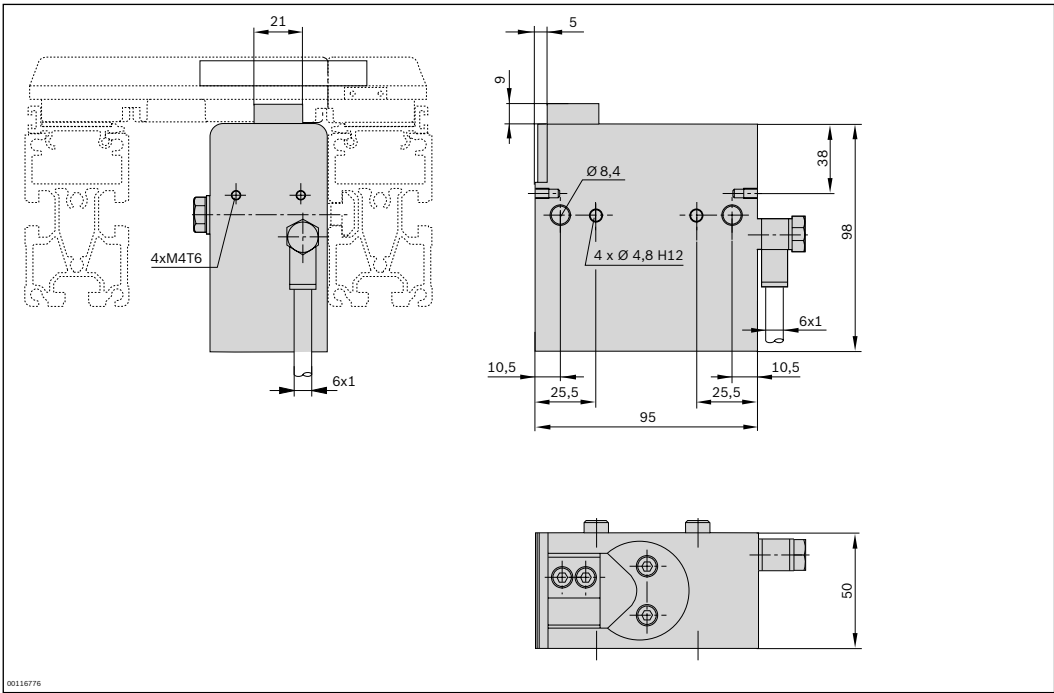
Technical data

Material number			3842547770
Load			
Max. total weight of workpiece pallet	m _G	kg	450
Features			
ESD			yes
Material specification		Housing: aluminum, hard anodized Lug cam: steel, hardened	
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

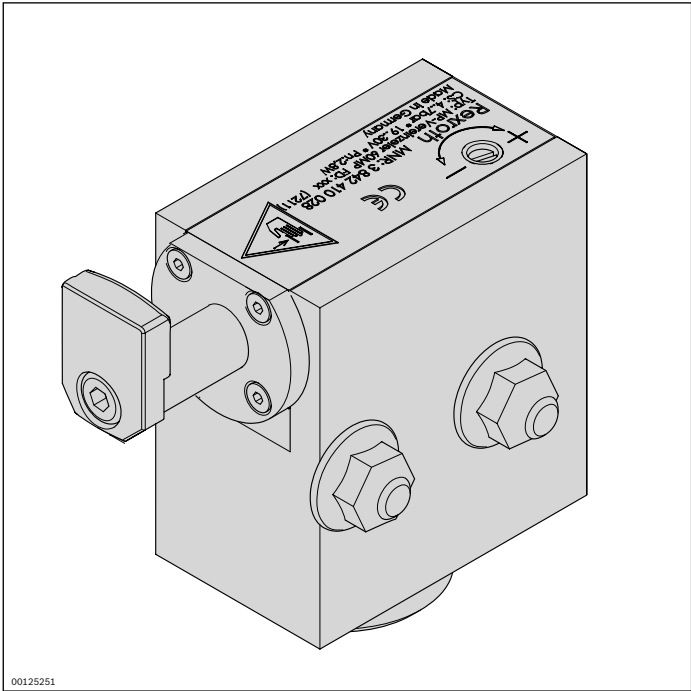
¹⁾ High-temperature stop gate on request

	Permitted total weight of workpiece pallet		Nominal speed
	m _G (kg)		v _N (m/min)
	450		6
	300		9
	220		12
	140		15
	100		18

Dimensions



VE 2/D-60 stop gate



- Pneumatic stop gate
- Optimal damping for workpiece pallet total weights up to 60 kg
- Infinitely adjustable damping
- Can be combined with WT 2/E, WT 2 and WT 2/F

Dampened stopping of the first accumulating workpiece pallet. The stop gate stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop

gate is closed by a spring and the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- VE 2/RS return stop, see p. 8-40

Delivery note

Scope of delivery

- Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- Fully assembled

Ordering information

Product designation	Material number
VE 2/D-60 stop gate	3842547785

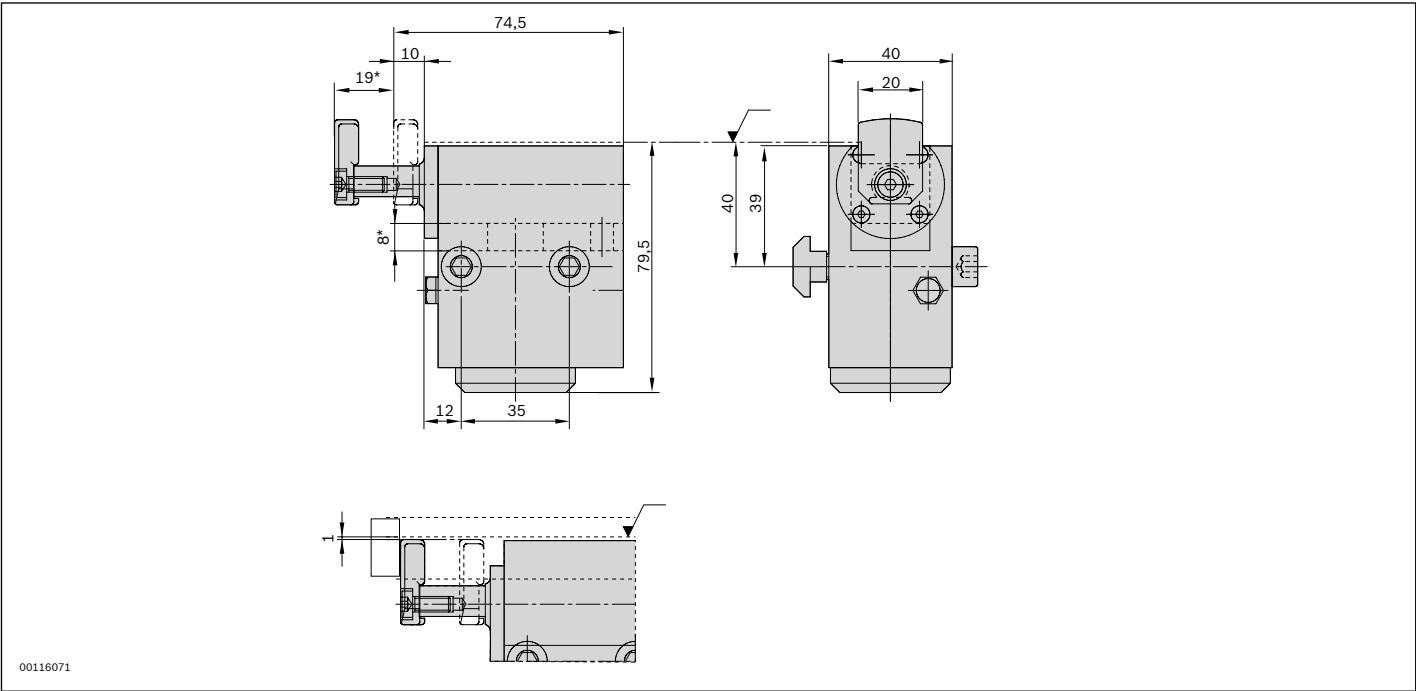
Technical data

Material number			3842547785
Load			
Max. total weight of workpiece pallet	m _G	kg	60
Workpiece pallet minimum weight	m	kg	1
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Lug cam: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

¹⁾ High-temperature stop gate on request

Permitted total weight of workpiece pallet m _G (kg)	Nominal speed v _N (m/min)
60	6
40	9
35	12
30	15
30	18
24	24

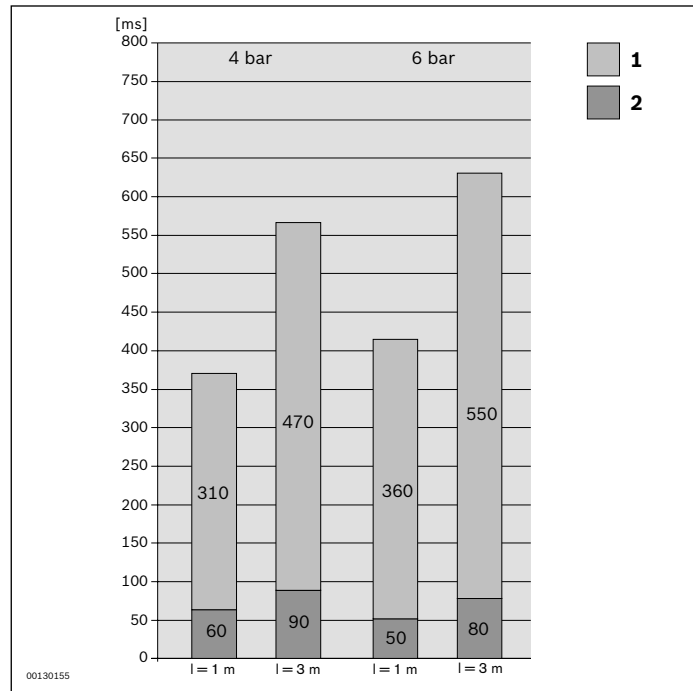
Dimensions



* Stroke

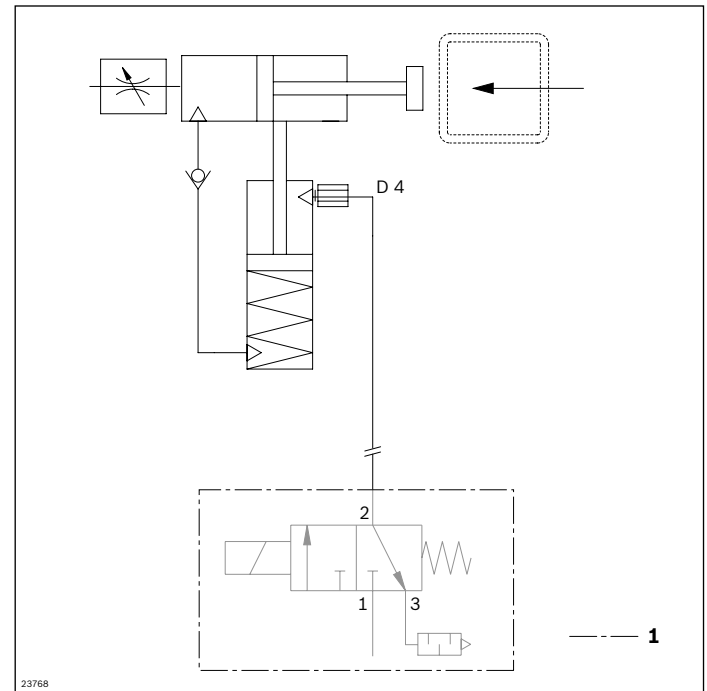
Circuit diagrams

Opening and shutting times



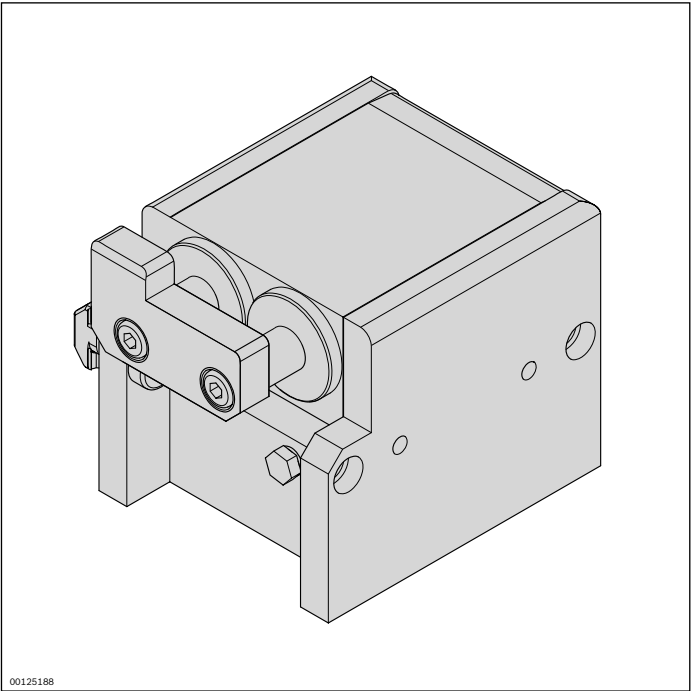
l = Hose length
1 Close
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

VE 2/D-150 stop gate



- ▶ Pneumatic stop gate
- ▶ Especially sturdy all-metal design with double piston damper
- ▶ Infinitely adjustable damping
- ▶ Short damping path of 20 mm
- ▶ Short damping time
- ▶ Short installation dimension
- ▶ Can be combined with WT 2 and WT 2/F

8

Dampened stopping of the first accumulating workpiece pallet. The stop gate stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When the pressure is released the stop

gate is closed by a spring and the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
VE 2/D-150 stop gate	3842536775

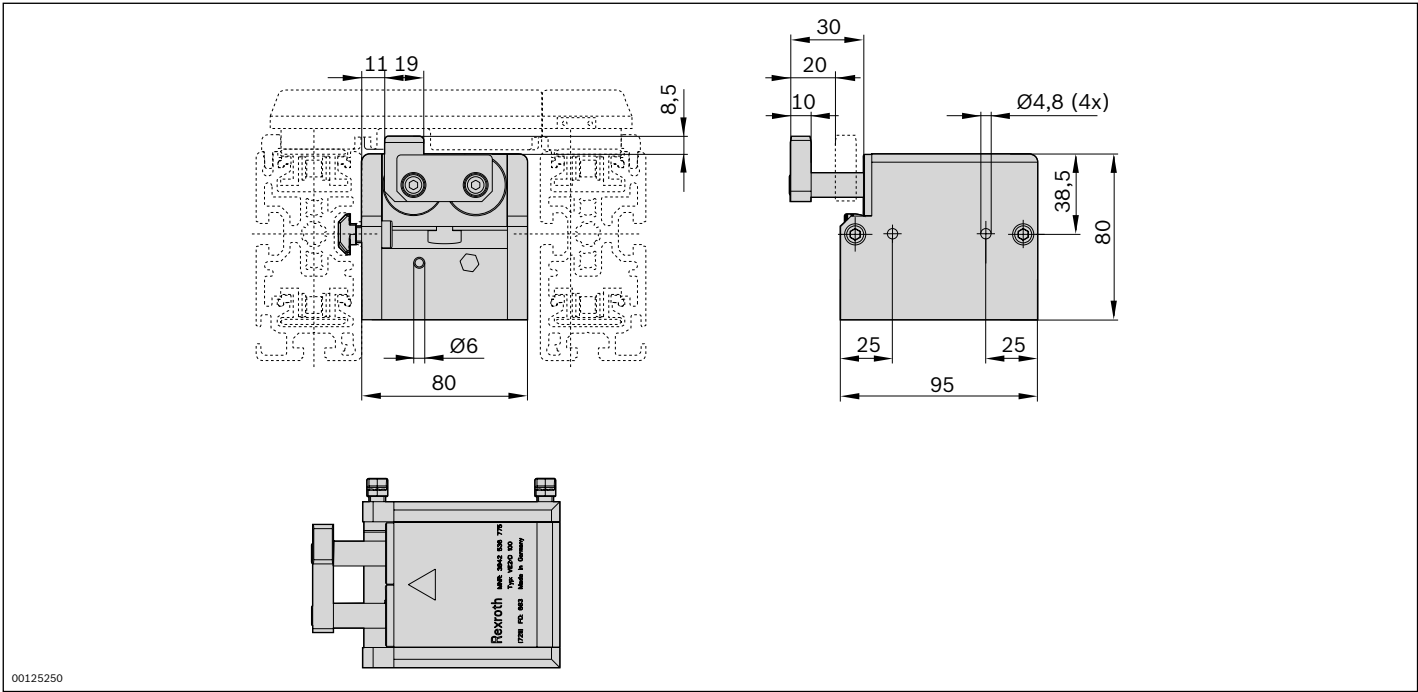
Technical data

Material number			3842536775
Load			
Max. total weight of workpiece pallet	m _G	kg	150
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum; hard anodized Lug cam: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

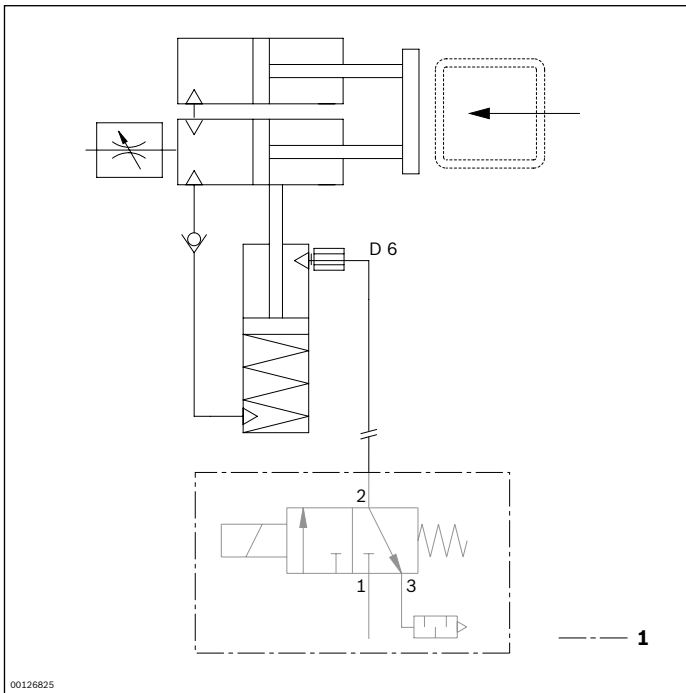
¹⁾ High-temperature stop gate on request

Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
150	6
120	9
110	12
100	15
100	18
55	24
35	30

Dimensions

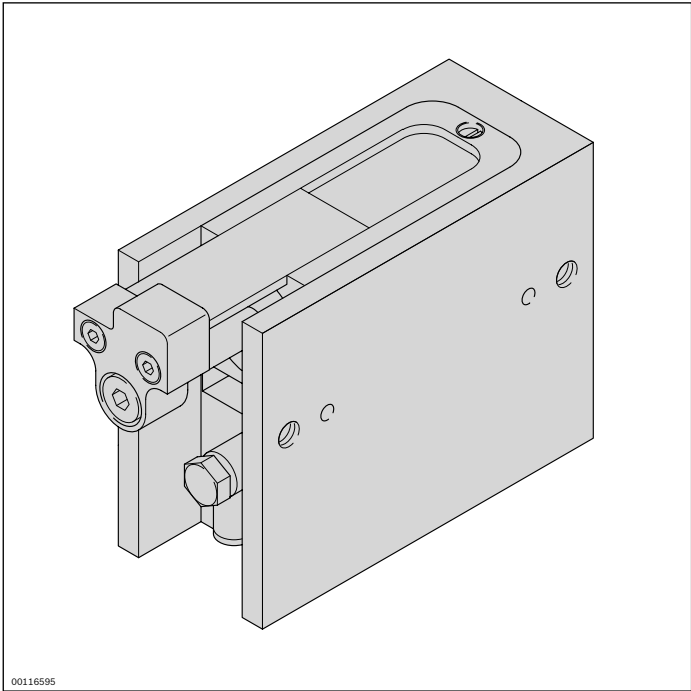


Circuit diagram



1 Not included in scope of delivery

VE 2/D-200 stop gate



- ▶ Pneumatic stop gate
- ▶ Infinitely adjustable damping
- ▶ Optimal damping for workpiece pallet total weights between 50 kg and 200 kg
- ▶ Can be combined with WT 2 and WT 2/F

Dampened stopping of the first accumulating workpiece pallet. Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. When

the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ VE 2/RS return stop, see p. 8-40

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information

Product designation	Material number
VE 2/D-200 stop gate	3842524895

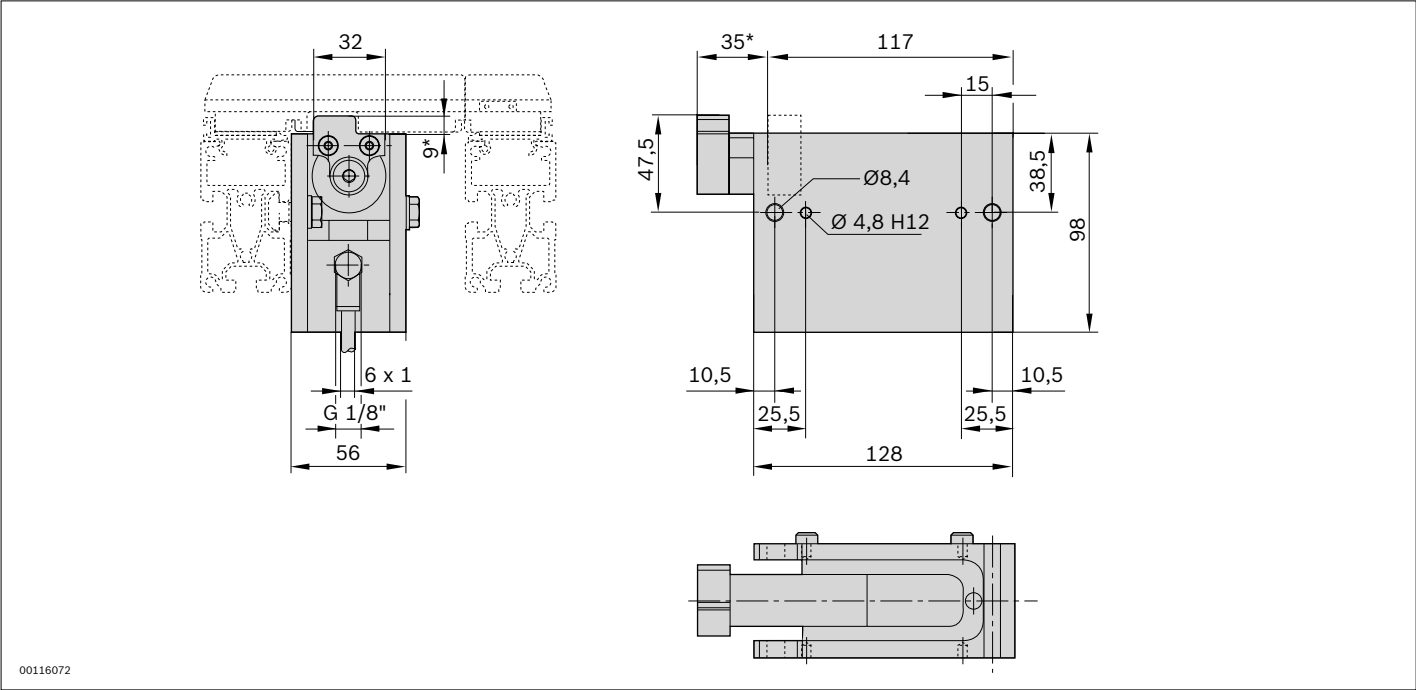
Technical data

Material number			3842524895
Load			
Max. total weight of workpiece pallet	m _G	kg	200
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Lug cam: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature stop gate on request

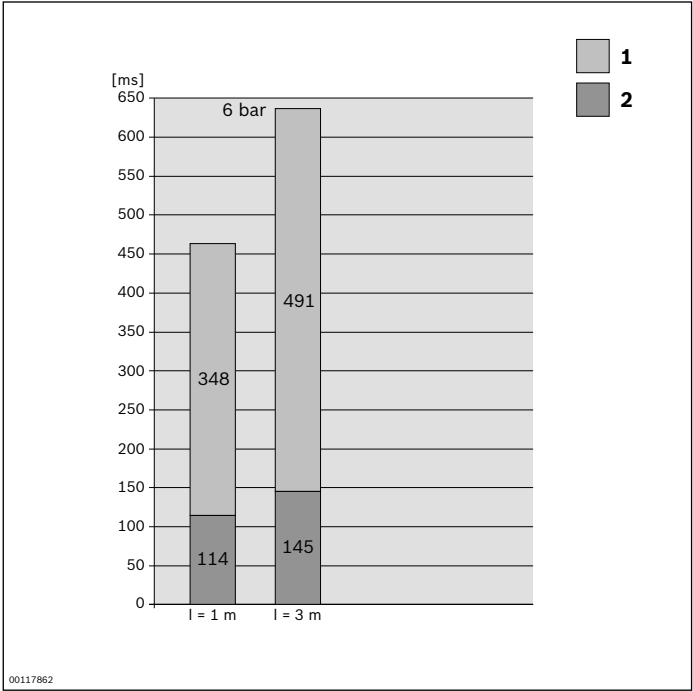
Permitted total weight of workpiece pallet		Nominal speed
m _G (kg)		v _N (m/min)
200		6
140		9
100		12
100		15
100		18
55		24
35		30

Dimensions



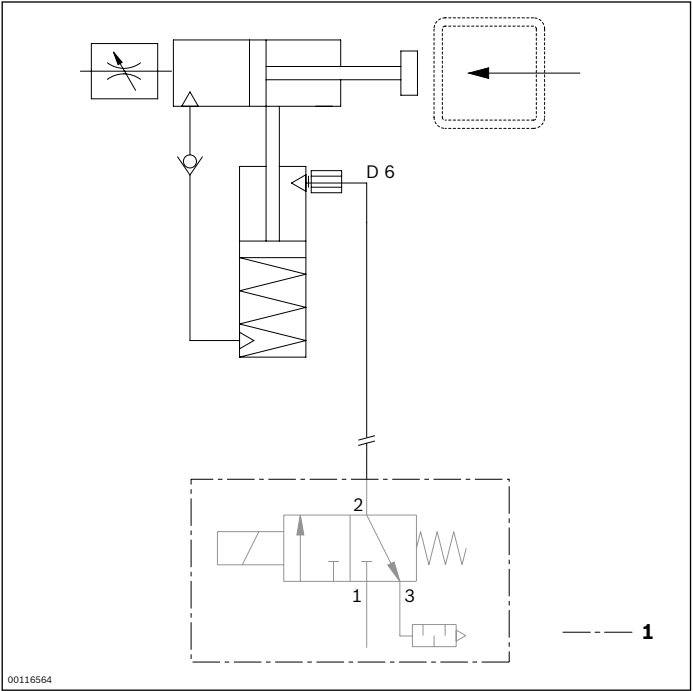
* Stroke

Circuit diagrams
Opening and shutting times



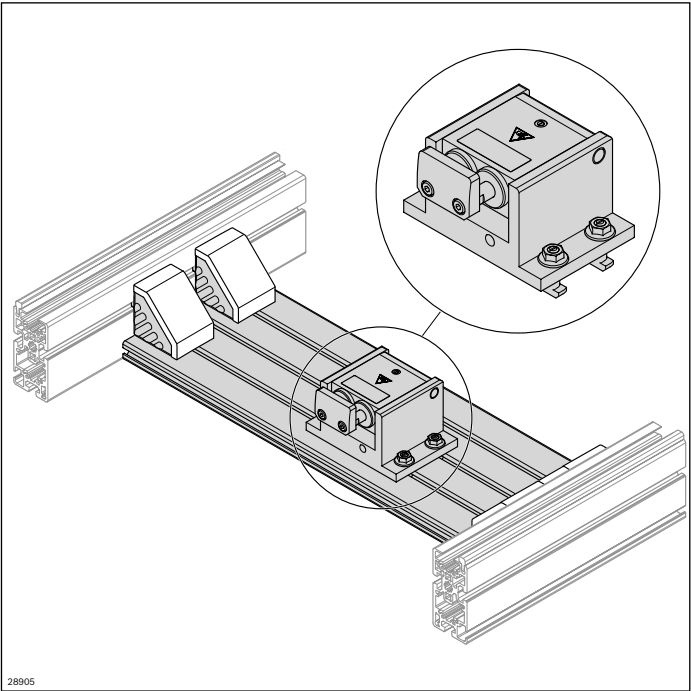
l = Hose length
1 Close
2 Open 4 bar

Circuit diagram



1 Not included in scope of delivery

VE 2/D100-H stop gate



- ▶ Pneumatic stop gate
- ▶ For central separation of the WT 2/H and WT 2/F-H workpiece pallets
- ▶ Suitable for accumulation loads up to 1000 kg
- ▶ Infinitely adjustable damping
- ▶ Optimal damping for total weights up to 100 kg
- ▶ Can be combined with WT 2/H and WT 2/F-H

8

Dampened stopping of the first accumulating workpiece pallet. The stop gate stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. For central separation the stop gate is mounted inside the tracks on the conveyor section using

the supplied cross connectors. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.

Accessories

Recommended accessories

- ▶ VE 2/RS-H return stop, see p. 8-40

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor sections

Condition on delivery

- ▶ Not assembled

Ordering information

Material number		3842998747
b (mm)	Track width	400; 480; 640; 800; 1040; 1200
b (mm)	Track width	400 ... 1200 ¹⁾

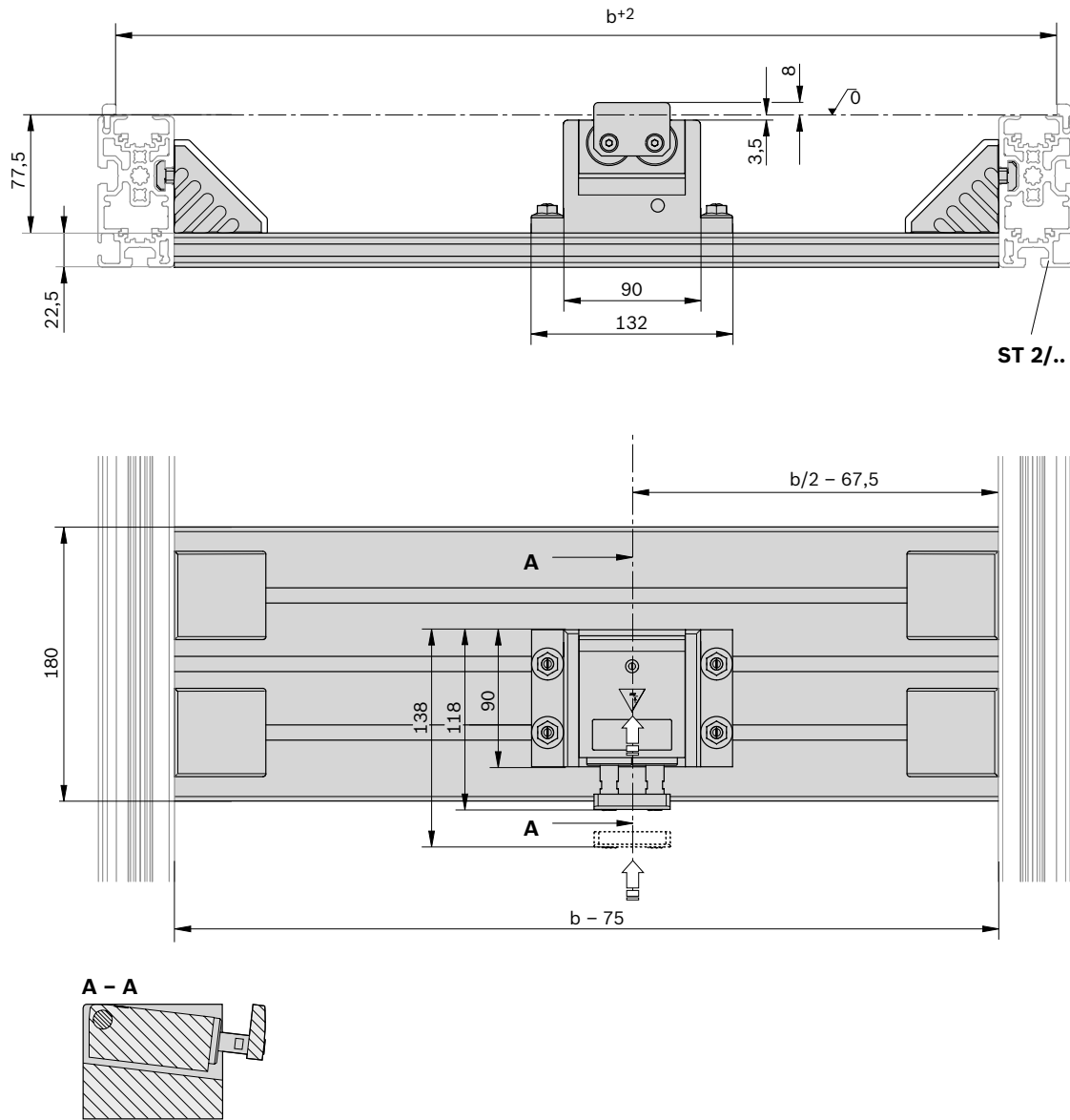
¹⁾ Individual width variants possible

Technical data

Material number		3842998747
Load		
Max. total weight of workpiece pallet	m _G	kg 100
Workpiece pallet minimum weight	m	kg 5
Features		
ESD		yes
Material specification		Housing: steel Lug cam: steel Transverse section: aluminum
Max. operating temperature ¹⁾	°C	60

¹⁾ High-temperature stop gate on request

Dimensions

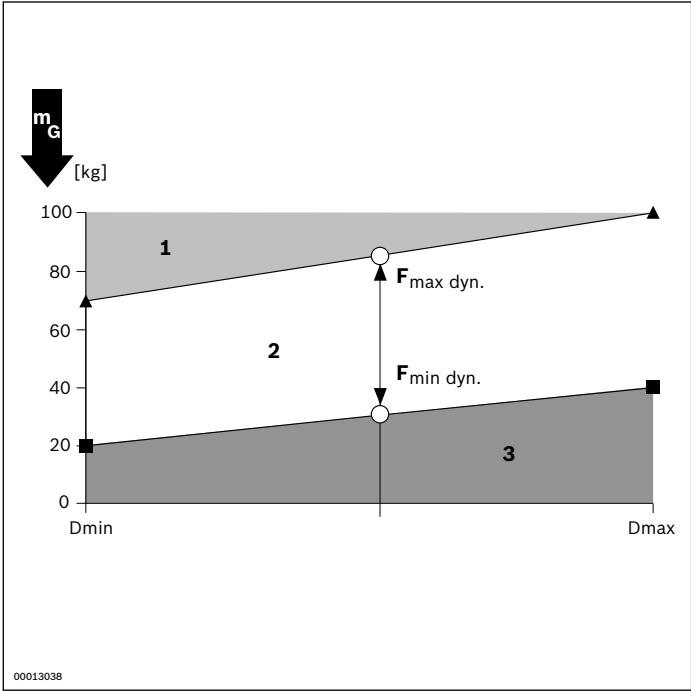


28907

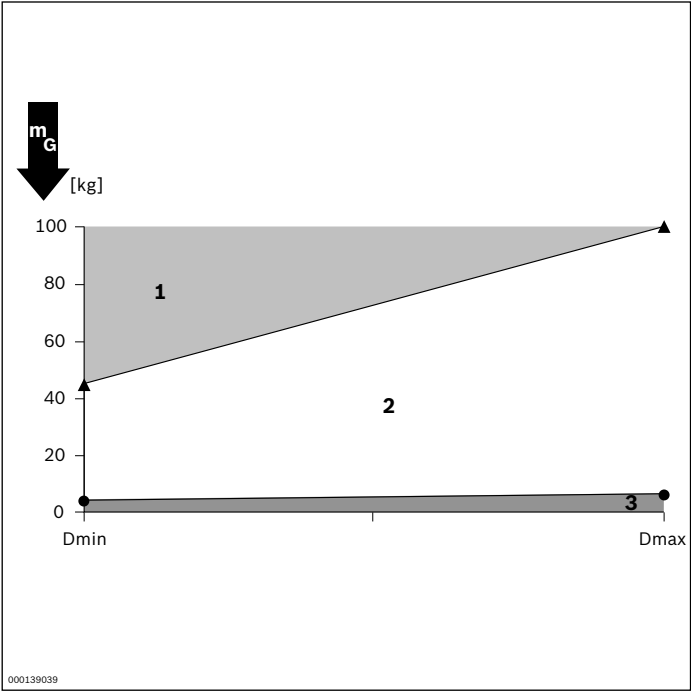
0 Transport level

Characteristic curve diagram

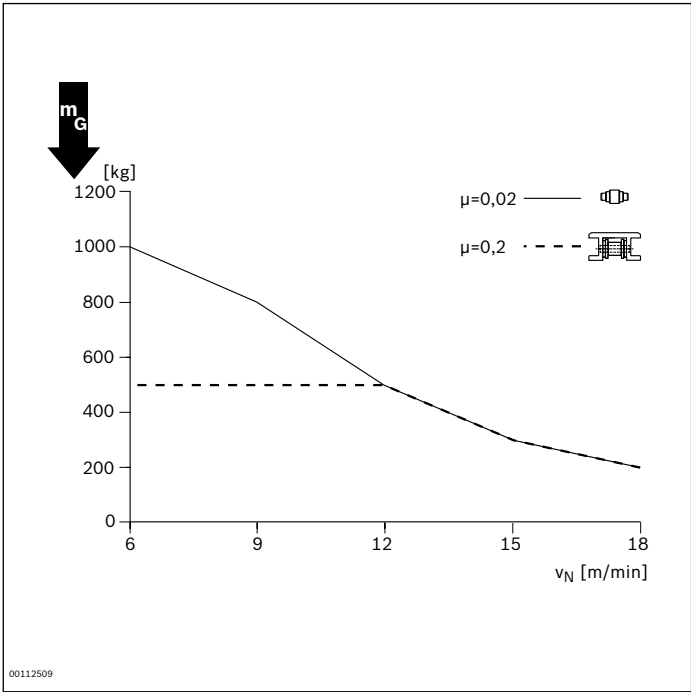
Damping setting, accumulation roller chain $\mu = 0.02$



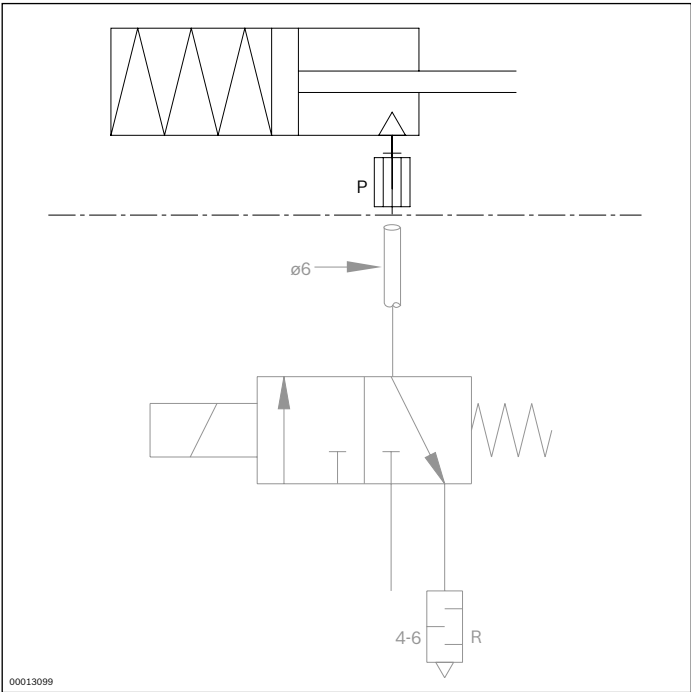
Damping setting, flat top chain $\mu = 0.2$



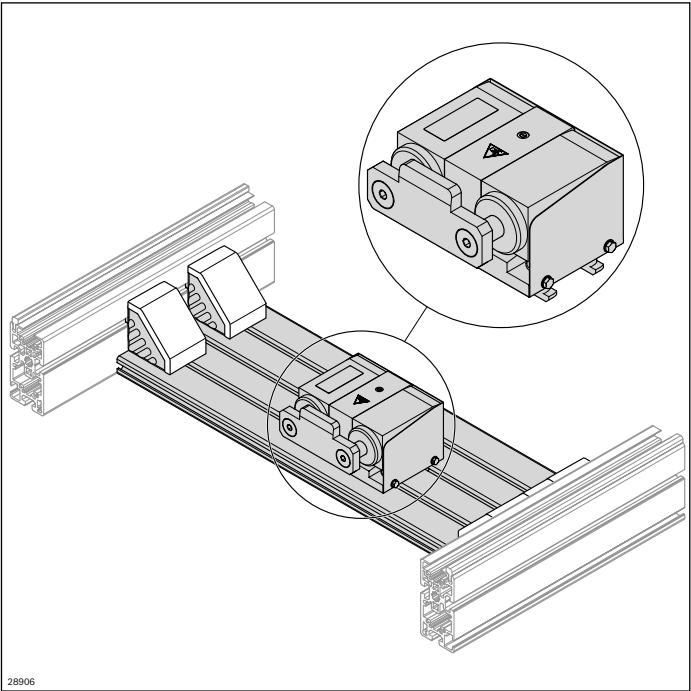
Max. permitted total weight



Circuit diagram



VE 2/D250-H stop gate



- ▶ Pneumatic stop gate
- ▶ For central separation of the WT 2/H and WT 2/F-H workpiece pallets
- ▶ Suitable for accumulation loads up to 2250 kg
- ▶ Infinitely adjustable damping
- ▶ Optimal damping for total weights up to 250 kg
- ▶ Can be combined with WT 2/H and WT 2/F-H

8

Dampened stopping of the first accumulating workpiece pallet. The stop gate stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet. For central separation the stop gate is

mounted inside the tracks on the conveyor section using the supplied cross connectors. When the pressure is released the stop gate is closed by a spring and the workpiece pallet is stopped.

Accessories

Recommended accessories

- ▶ VE 2/RS-H return stop, see p. 8-42

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor sections

Condition on delivery

- ▶ Not assembled

Ordering information

Material number		3842998748
b (mm)	Track width	400; 480; 640; 800; 1040; 1200
b (mm)	Track width	400 ... 1200 ¹⁾

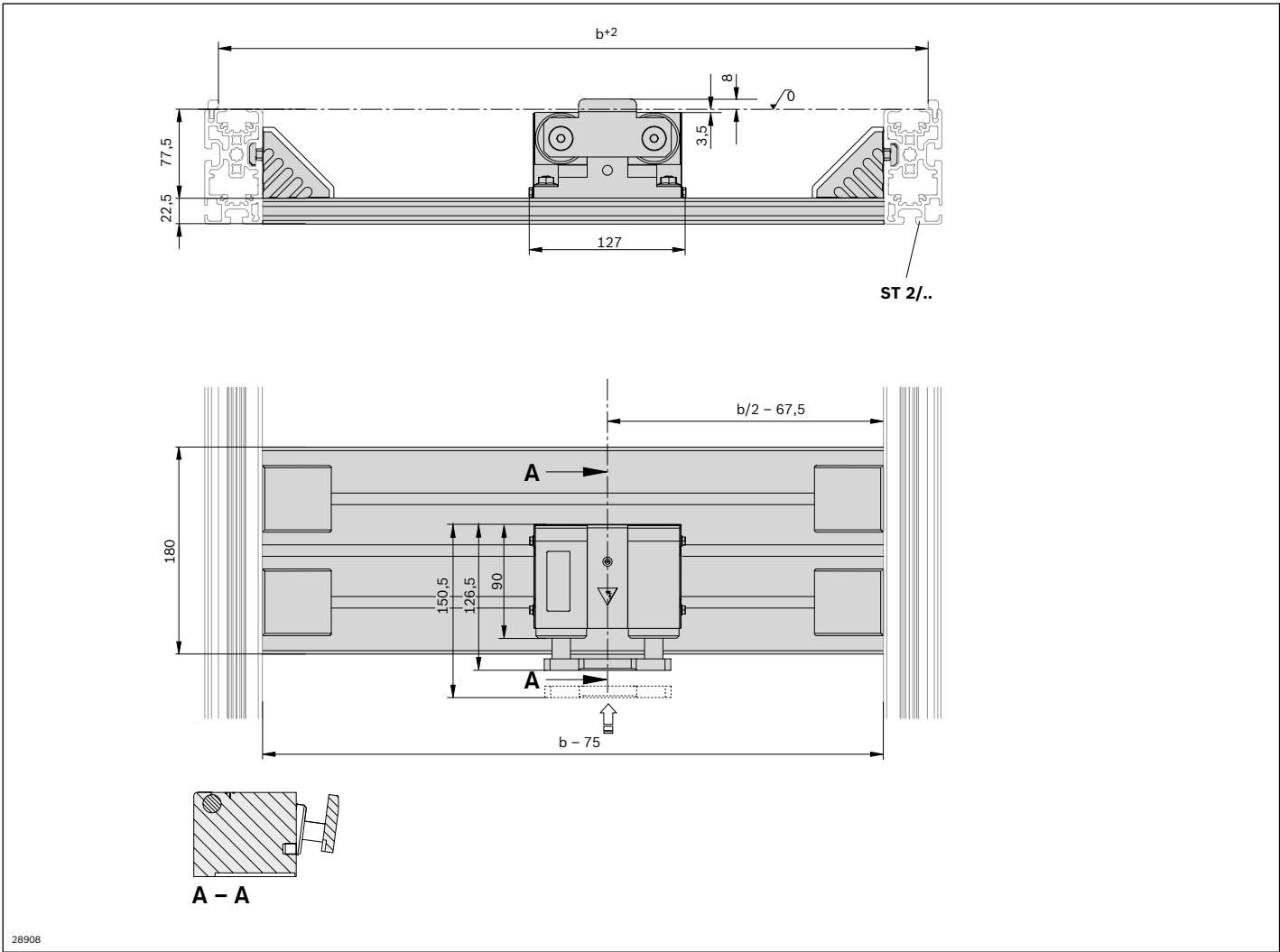
¹⁾ Individual width variants possible

Technical data

Material number			3842998748
Load			
Max. total weight of workpiece pallet	m_G	kg	250
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: steel; coated Lug cam: steel; coated Transverse section: aluminum, natural; anodized
Operating temperature ¹⁾		°C	-20 ... +80

¹⁾ High-temperature stop gate on request

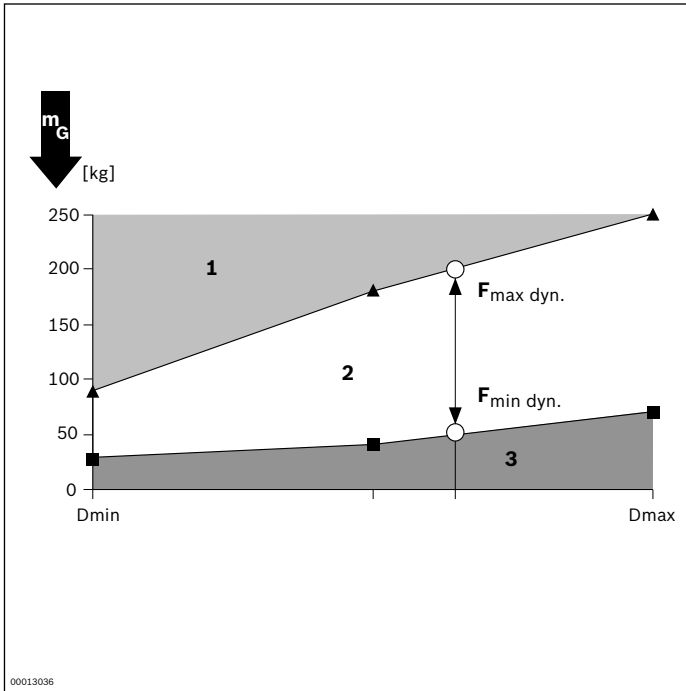
Dimensions



0 Transport level

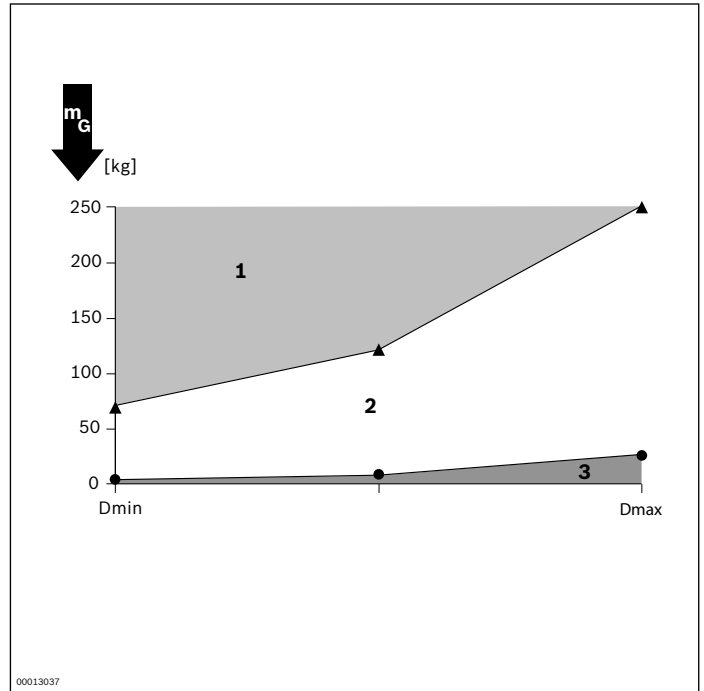
Characteristic curve diagram

Damping setting, accumulation roller chain $\mu = 0.02$



- 1 Damping effect limited, use of a VE 2/RS-H return stop recommended
 - 2 Recommended range
 - 3 Not possible
- Dmax/min damping setting

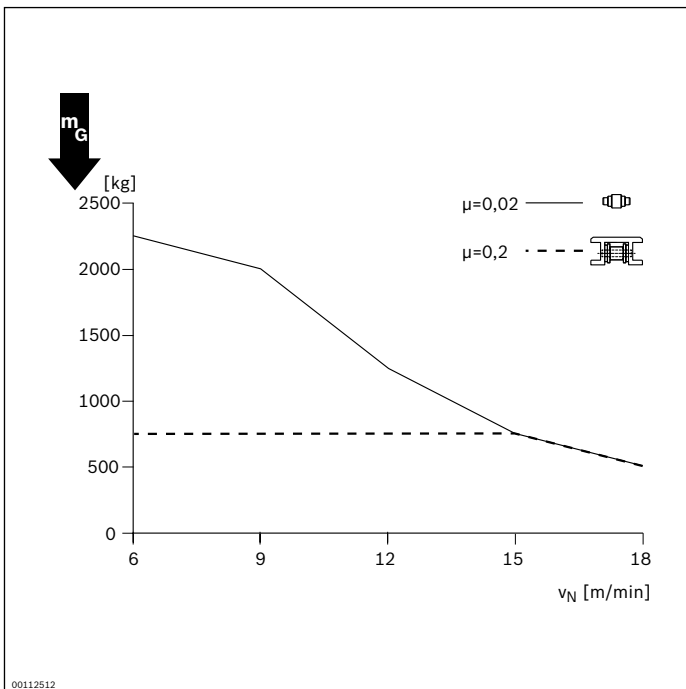
Damping setting, flat top chain $\mu = 0.2$



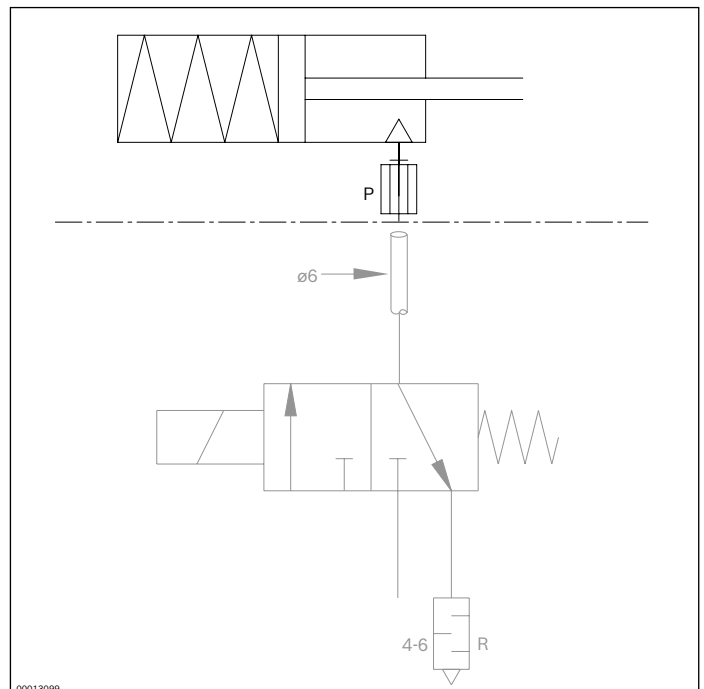
- 1 Damping effect limited, use of a VE 2/RS-H return stop recommended
 - 2 Recommended range
 - 3 Not possible
- Dmax/min damping setting

8

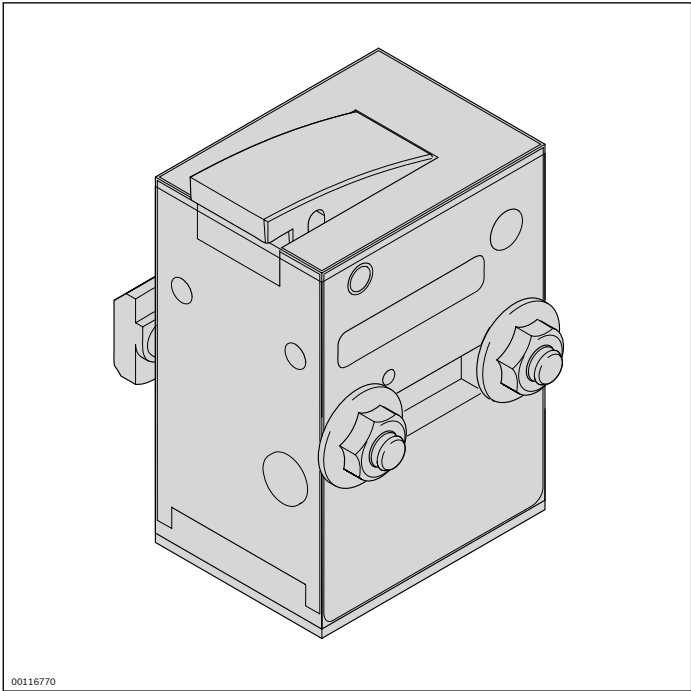
Max. permitted total weight



Circuit diagram



VE 2/RS return stop



- ▶ Spring-loaded safety catch
- ▶ Can be used on the left or right
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

The return stop prevents the rebound impact of the workpiece pallet from the stop gate. The use of the VE 2/RS return stop is especially recommended when the accumulation roller chain is used as conveyor medium in connection with undamped stop gates. In normal condition

the stop gate is moved into the lock position by a spring and the workpiece pallet overtravels the VE 2/RS in the direction of transport and is stopped against the transport direction. Mounted inside the tracks directly on the conveyor section.

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section

Condition on delivery

- ▶ Fully assembled

Ordering information

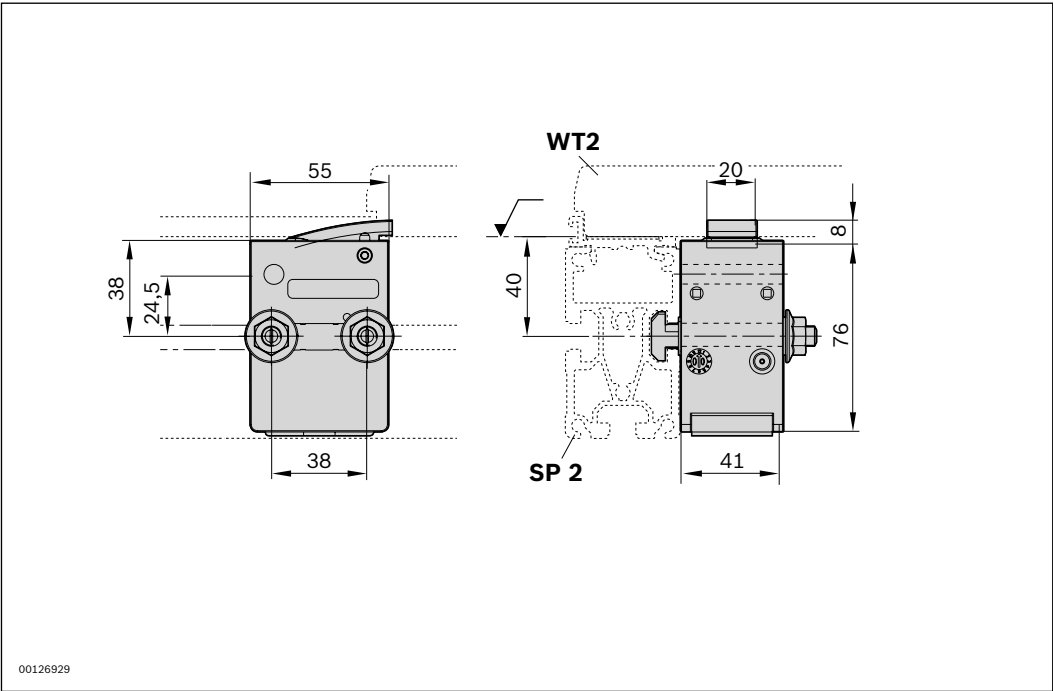
Product designation	Material number
VE 2/RS return stop	3842531696

Technical data

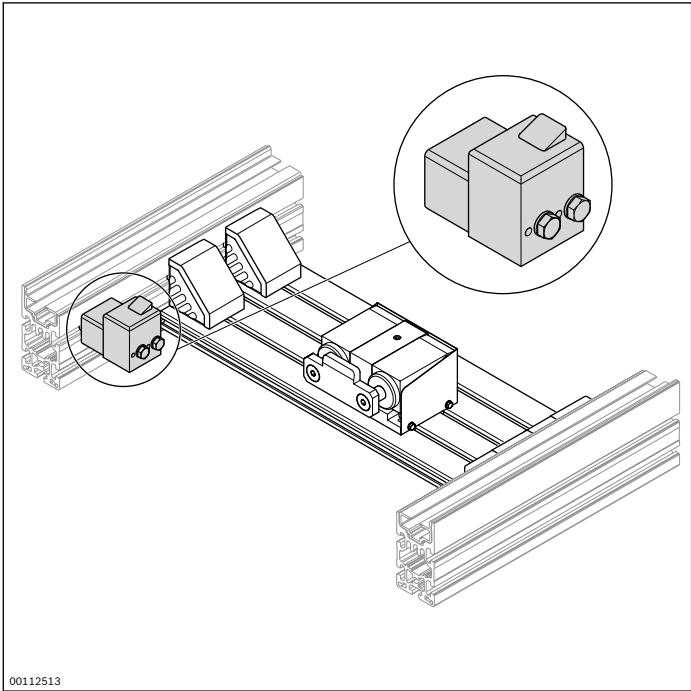
Material number			3842531696
Load			
Max. total weight of workpiece pallet	m _G	kg	250
Workpiece pallet minimum weight	m	kg	3
Features			
ESD			yes
Material specification			Housing: PA6 Lug cam: PA66
Max. operating temperature ¹⁾		°C	60

¹⁾ High-temperature stop gate on request

Dimensions



VE 2/RS return stop



- Spring-loaded safety catch
- Can be used on the left or right
- Can be combined with WT 2/H and WT 2/F-H

The return stop prevents the rebound impact of the workpiece pallet from the stop gate. The use of the VE 2/RS is especially recommended for high total weights and low damping. In normal condition the stop gate is moved into

the lock position by a spring and the workpiece pallet overtravels the VE 2/RS in the direction of transport and is stopped against the transport direction. Mounted inside the tracks directly on the conveyor section.

Delivery note

Condition on delivery

- Not assembled

Ordering information

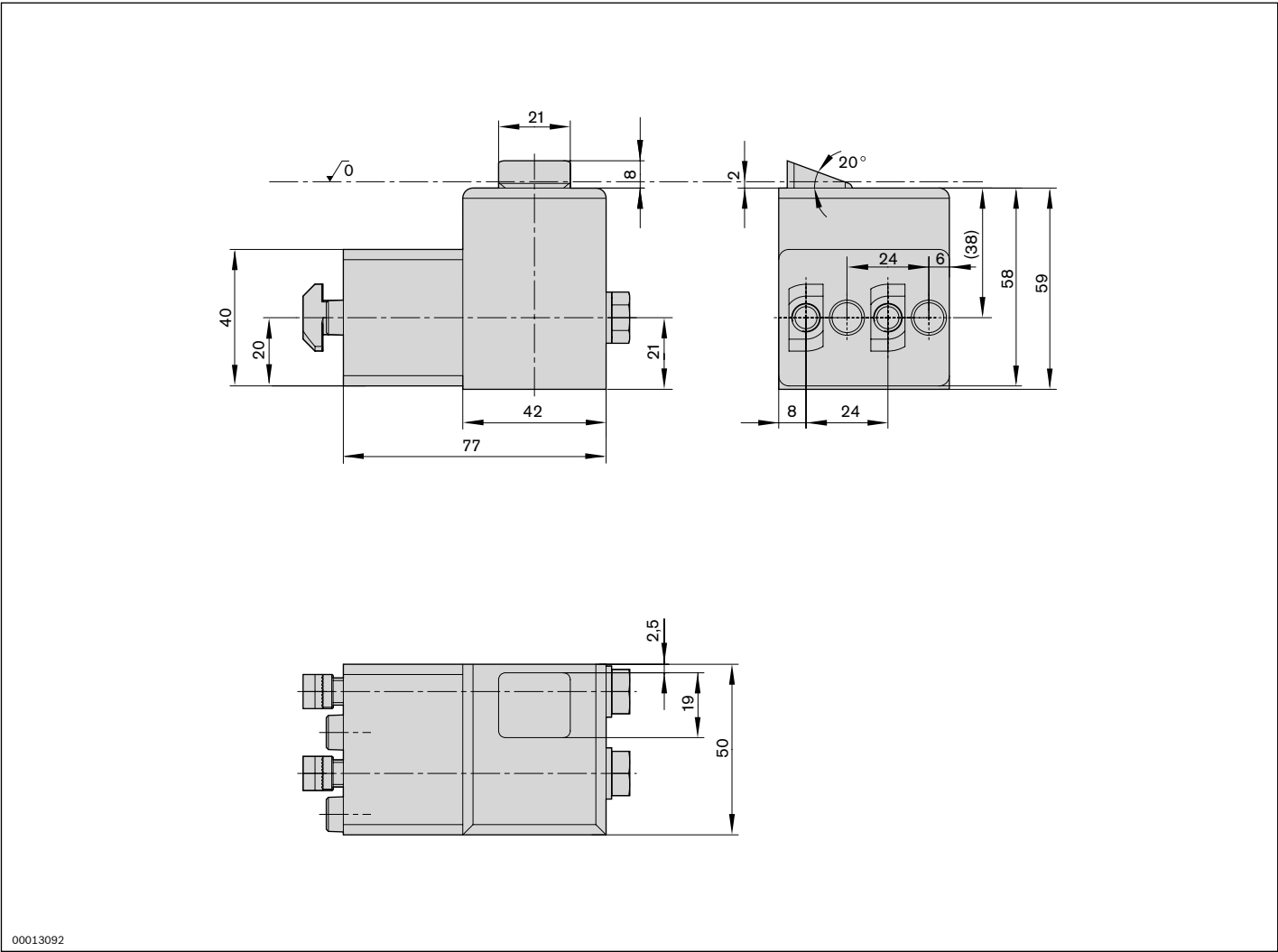
Product designation	Material number
VE 2/RS-H return stop, pneumatic	3842549696

Technical data

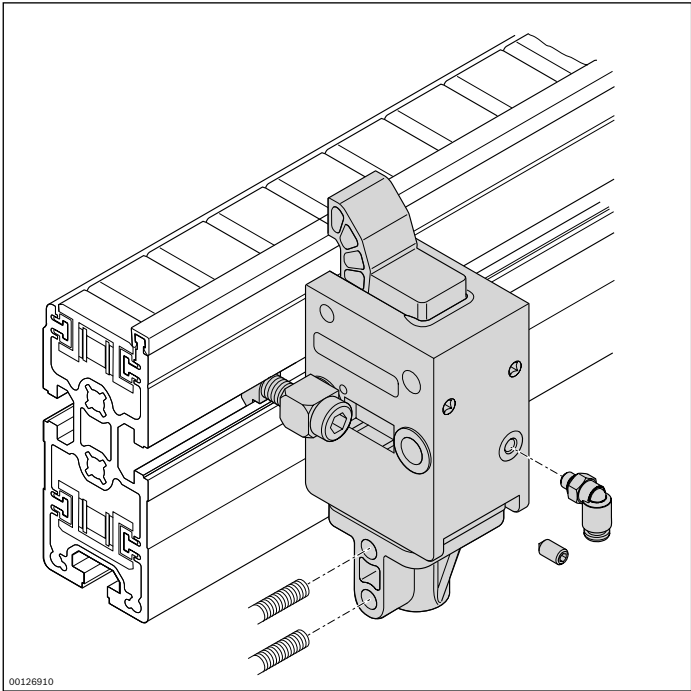
Material number			3842549696
Load			
Max. total weight of workpiece pallet	m _G	kg	250
Workpiece pallet minimum weight	m	kg	3
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Lug cam: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80

¹⁾ High-temperature stop gate on request

Dimensions



VA 2/50 slide stop



- ▶ Slide stop, can be lowered pneumatically
- ▶ Reversible operation not permitted
- ▶ Detachable position inquiry of the slide stop position using sensors.
- ▶ Not suitable for ST 2...-H sections
- ▶ Can be combined with WT 2/E, WT 2 and WT 2/F

The slide stop is used in a transverse section that connects more than two longitudinal sections and that requires supplementary stops. A lift transverse unit can feed in the workpiece pallet onto the longitudinal section when the slide stop is activated.

The pneumatically lowerable slide stop is extended at the upper end position when the system is pressure-free. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ 2x M8x1 sensors, see p. 8-114

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Position inquiry

Ordering information

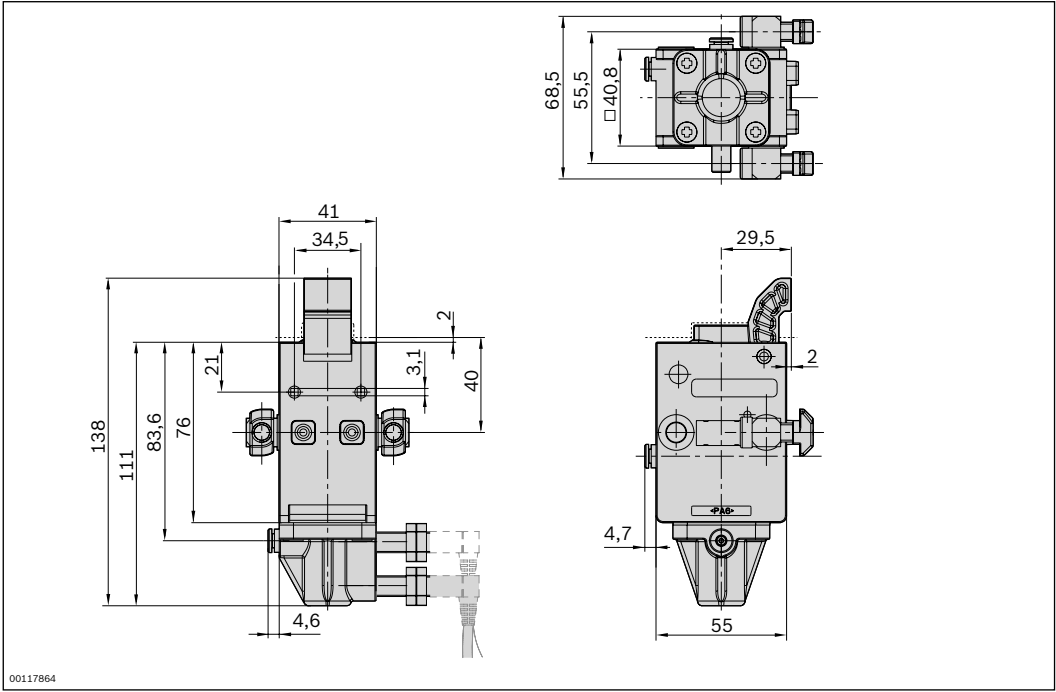
Product designation	Material number
VA 2/50 slide stop	3842528808

Technical data

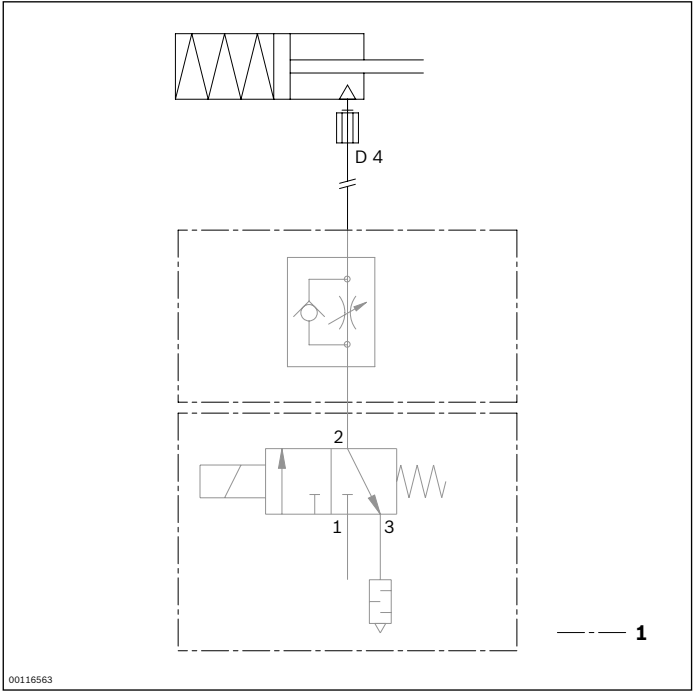
Material number			3842528808
Load			
Max. total weight of workpiece pallet	m_G	kg	50
Features			
ESD			yes
Material specification			Housing: PA6 Safety catch: brass Lug cam: PA66
Max. operating temperature		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	4

	Permitted total weight of workpiece pallet m_G (kg)	Nominal speed v_N (m/min)
	50	6
	50	9
	35	12
	25	15
	20	18

Dimensions

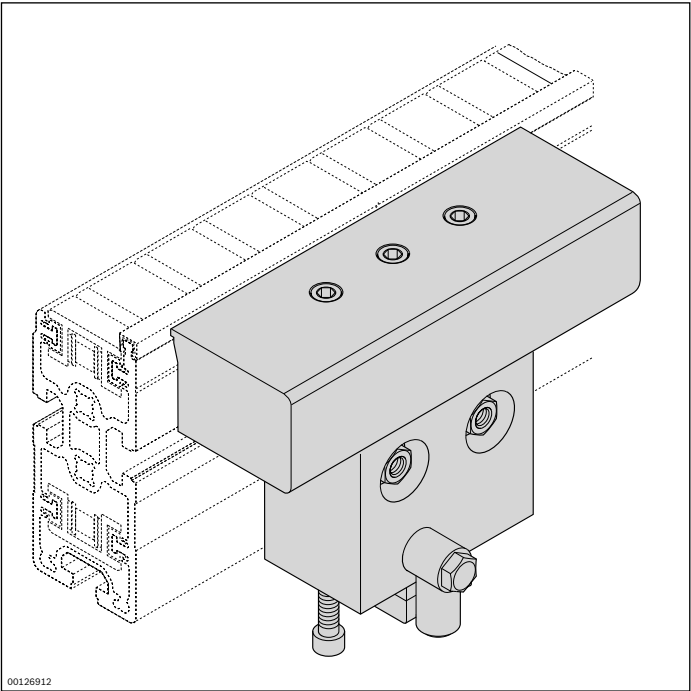


Circuit diagrams



1 Not included in scope of delivery

VA 2/50 slide stop – reversible



- ▶ Slide stop, can be raised pneumatically
- ▶ Integrated switch bracket
- ▶ Reversible operation possible
- ▶ Not suitable for ST 2...-H sections
- ▶ Inquiry of the slide stop upper position via sensors
- ▶ Can be combined with WT 2 and WT 2/F

8

The slide stop is used in a transverse section that connects more than two longitudinal sections and that requires supplementary stops. A lift transverse unit can feed in the workpiece pallet onto the longitudinal section when the slide stop is activated.

The pneumatically extendable slide stop is lowered at the lower end position when the system is pressure-free. Inquiry of the slide stop upper position via sensors is possible Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ M12x1 sensor, see p. 8-110

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Bracket pivoting screw fitting

Ordering information

Product designation	Material number
VA 2/50 slide stop – reversible	3842191721

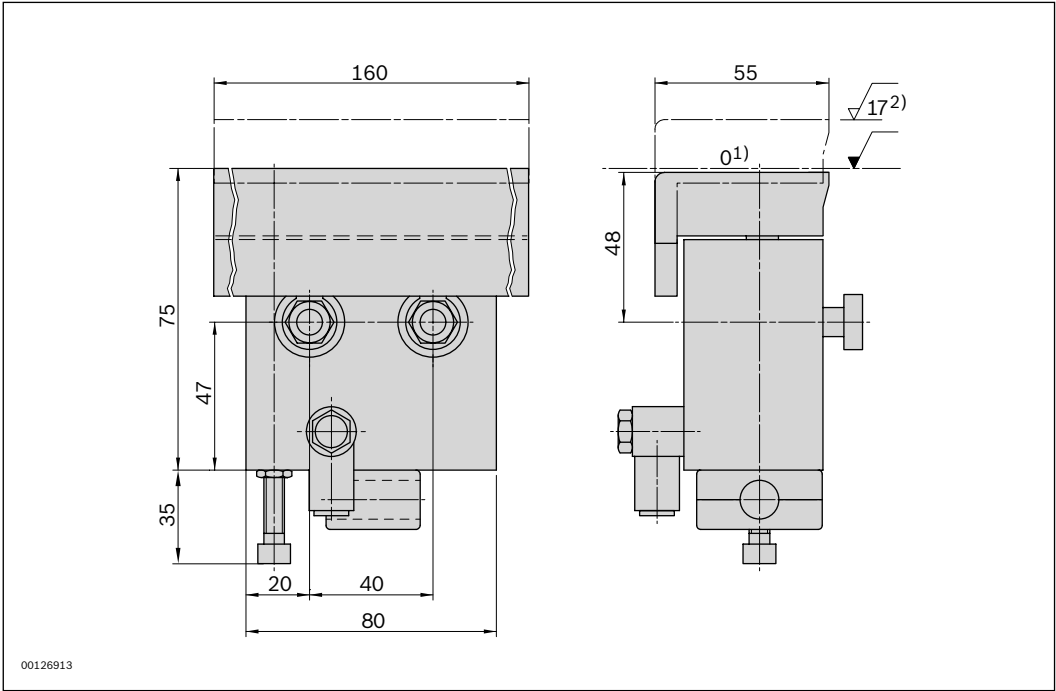
Technical data

Material number			3842191721
Load			
Max. total weight of workpiece pallet	m _G	kg	50
Features			
ESD			yes
Material specification			Housing: aluminum Stop: aluminum
Max. operating temperature ¹⁾		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature stop gate on request

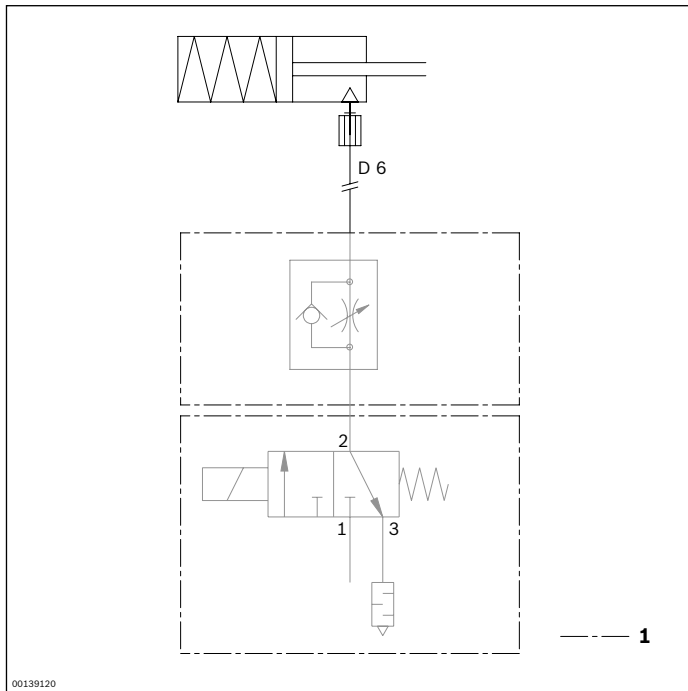
Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
50	6
50	9
35	12
25	15
20	18

Dimensions

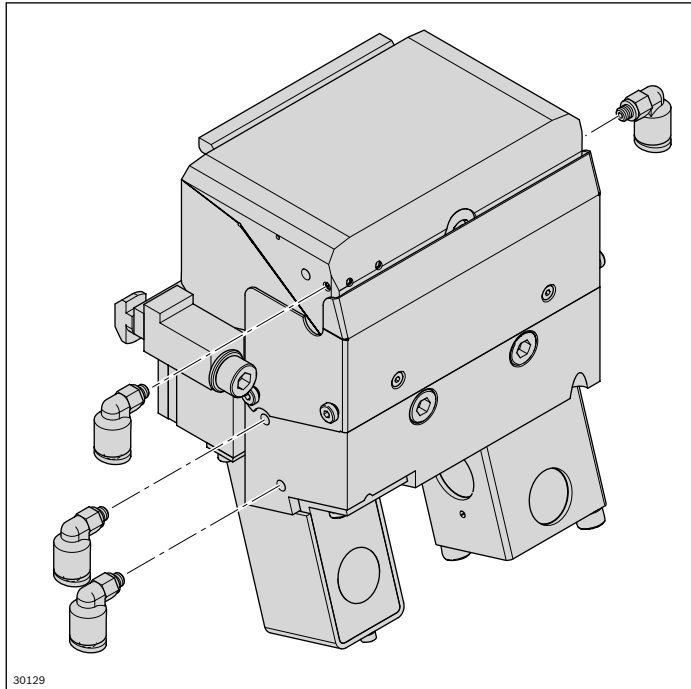


1) Transport level
2) Limit stop activated

Circuit diagrams



VA 2/D-130 slide stop



- ▶ Slide stop; can be lowered pneumatically, dampened stop
- ▶ Stopping on the outside of the frame module
- ▶ Can be used in reversible operation
- ▶ Mechanical construction permits installation to $a = 90 \text{ mm}$ where space is limited
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ 4 positions, pneumatically startable:
 - Upper, lower position and latch in the extended and retracted state
- ▶ 3 positions can be queried:
 - Top, bottom and extended stop rail
 - Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

The slide stop is used in a transverse section that connects more than two longitudinal sections and that requires supplementary stops. A lift transverse unit can feed in the workpiece pallet onto the longitudinal section when the slide stop is activated.

The pneumatically adjustable slide stop is extended at the upper end position when the system is pressure-free. Mounted inside the tracks directly on the conveyor section.

Accessories

Recommended accessories

- ▶ M12x1 sensor, see p. 8-110
- ▶ Clamping holder, see p. 8-53

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Right-angle connector for the air connections in Quickfix design
- ▶ Position sensor

Condition on delivery

- ▶ Fully assembled

Ordering information

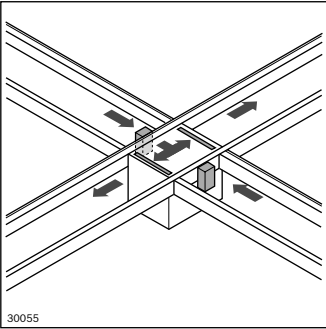
Product designation	Material number
VA 2/D-130 slide stop	3842549503

Technical data

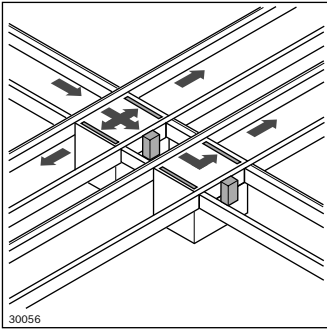
Material number			3842549503
Load			
Max. total weight of workpiece pallet	m _G	kg	130
Workpiece pallet minimum weight	m	kg	15
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Latch: steel
Max. operating temperature		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

Permitted total weight of workpiece pallet m _G (kg)	Nominal speed v _N (m/min)
130	6
110	9
110	12
100	15
100	18

Possible installation location for VA2/D-130

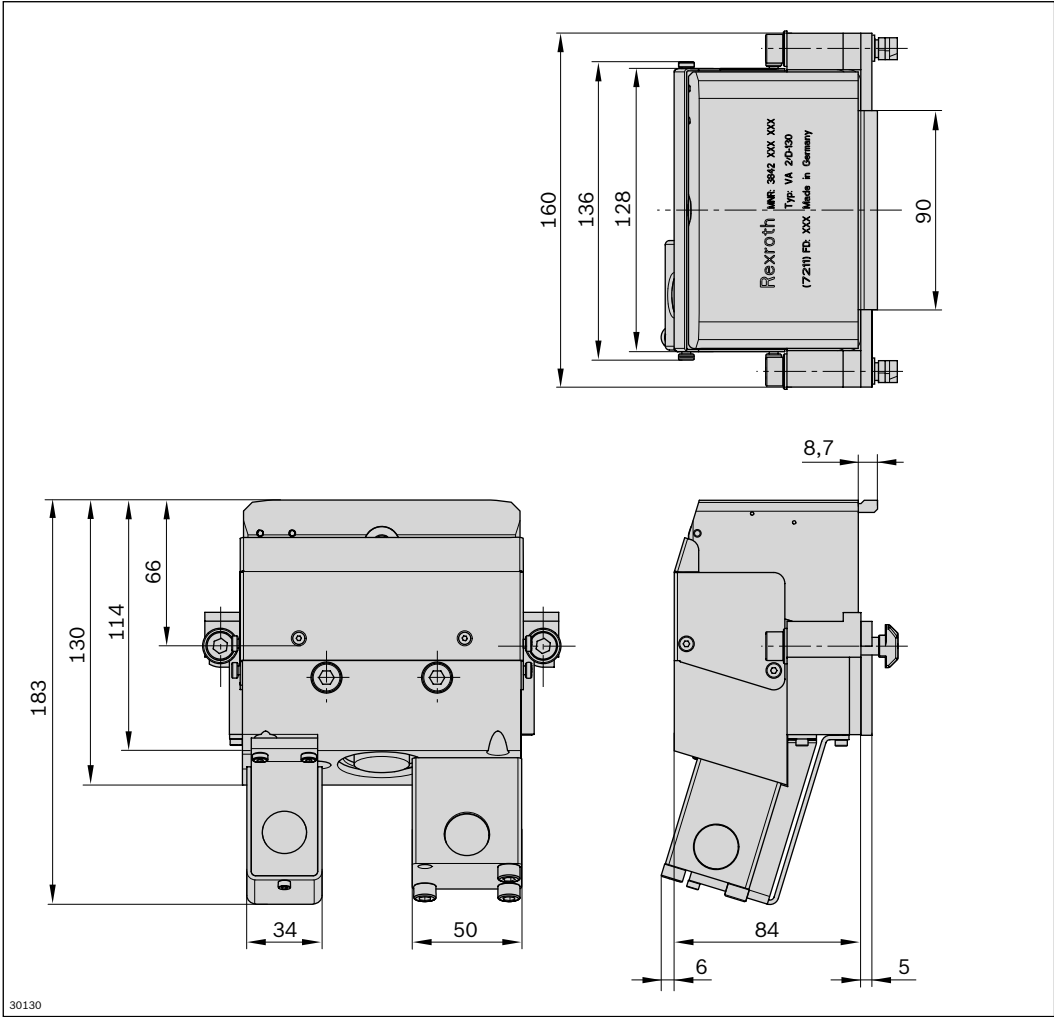


As a node point

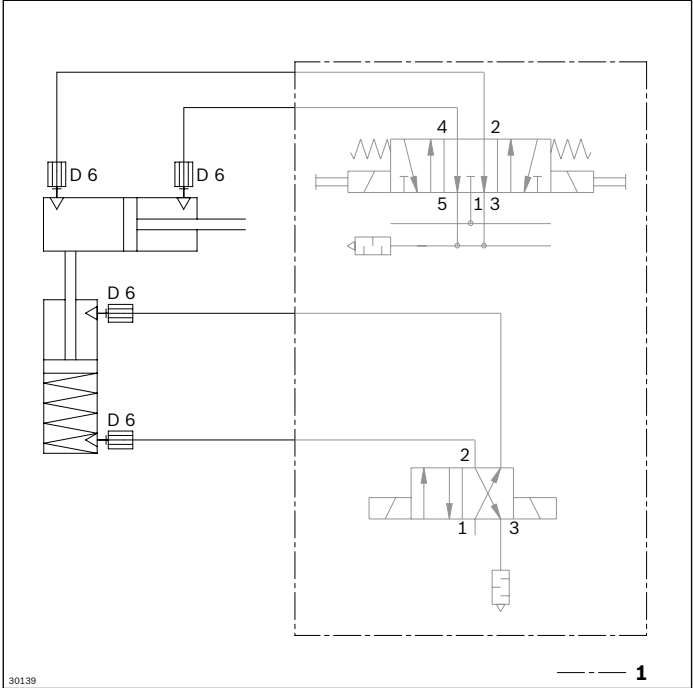


During outfeeding on parallel section

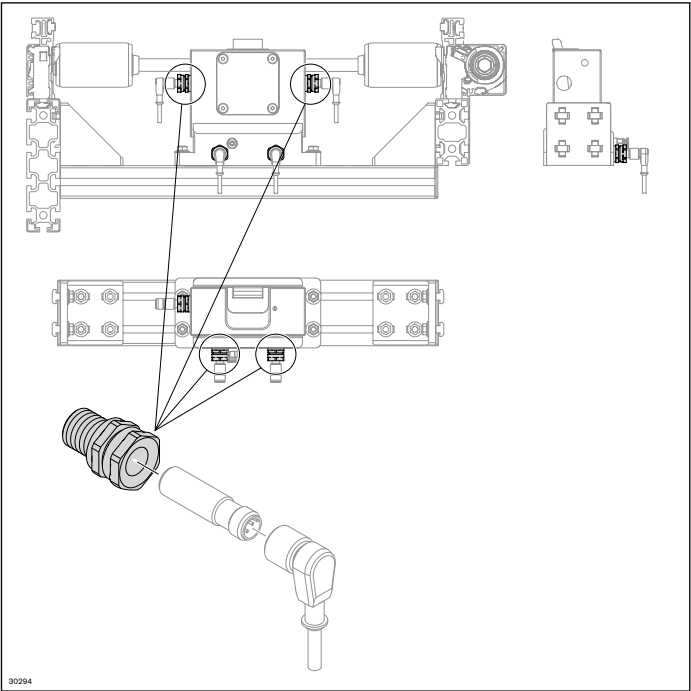
Dimensions



Circuit diagram



Clamping holder

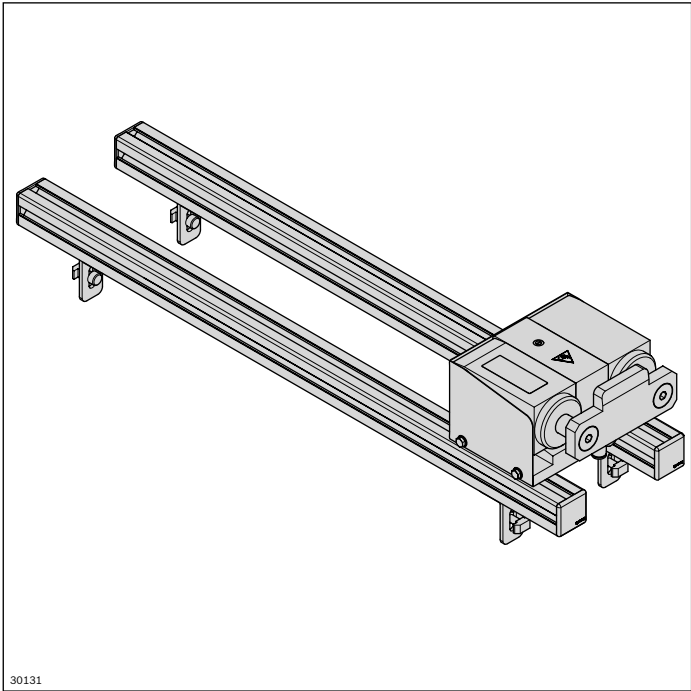


- ▶ Clamping holder for sensor for screwing into VA 2/D-130 slide stop, Ø 12 mm
- ▶ Adapter for variable positioning of the sensor

Ordering information

Product designation	Packaging unit	Material number
Clamping holder	1	3842545974

VA 2/D-250 slide stop



- ▶ Slide stop; can be lowered pneumatically, dampened stop, for use with HQ 2/C-H
- ▶ Stopping on the inside of the WT frame module
- ▶ Infinitely adjustable damping
- ▶ When the pressure is released by a spring into the lock position
- ▶ Can be combined with WT 2/H and WT 2/F-H

The slide stop is used in a transverse section that connects more than two longitudinal sections and that requires supplementary stops. A lift transverse unit can feed in the workpiece pallet onto the longitudinal section when the slide stop is activated.

The pneumatically adjustable slide stop is extended at the upper end position when the system is pressure-free. Mounting inside the HQ 2/C-H lift transverse unit.

Accessories

Recommended accessories

- ▶ M8x1 sensor, see p. 8-112

Delivery note

Scope of delivery

- ▶ Incl. all fastening material to mount on the ST 2/... conveyor section
- ▶ Right-angle connector for the Quickfix design air connection
- ▶ Position sensor

Condition on delivery

- ▶ Not assembled

Ordering information

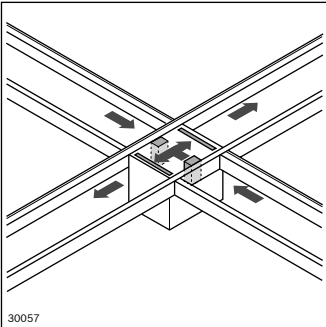
Material number		3842998796
b _L (mm)	Track width in the longitudinal conveyor	480; 640; 800; 1040; 1200
b _L (mm)	Track width in the longitudinal conveyor	480 ... 1200

Technical data

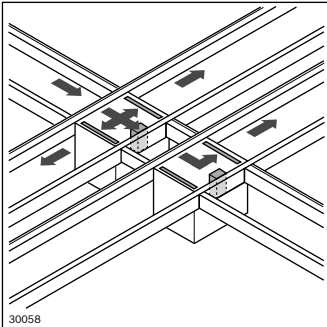
Material number			3842998796
Load			
Max. total weight of workpiece pallet	m _G	kg	250
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾			°C -20 ... +80
Dimensions			
Minimum length of workpiece pallet	l _{wt}		400
Additional information			
Required compressed air connection	p	bar	4 ... 6
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature stop gate on request

Possible installation location for VA2/D-250

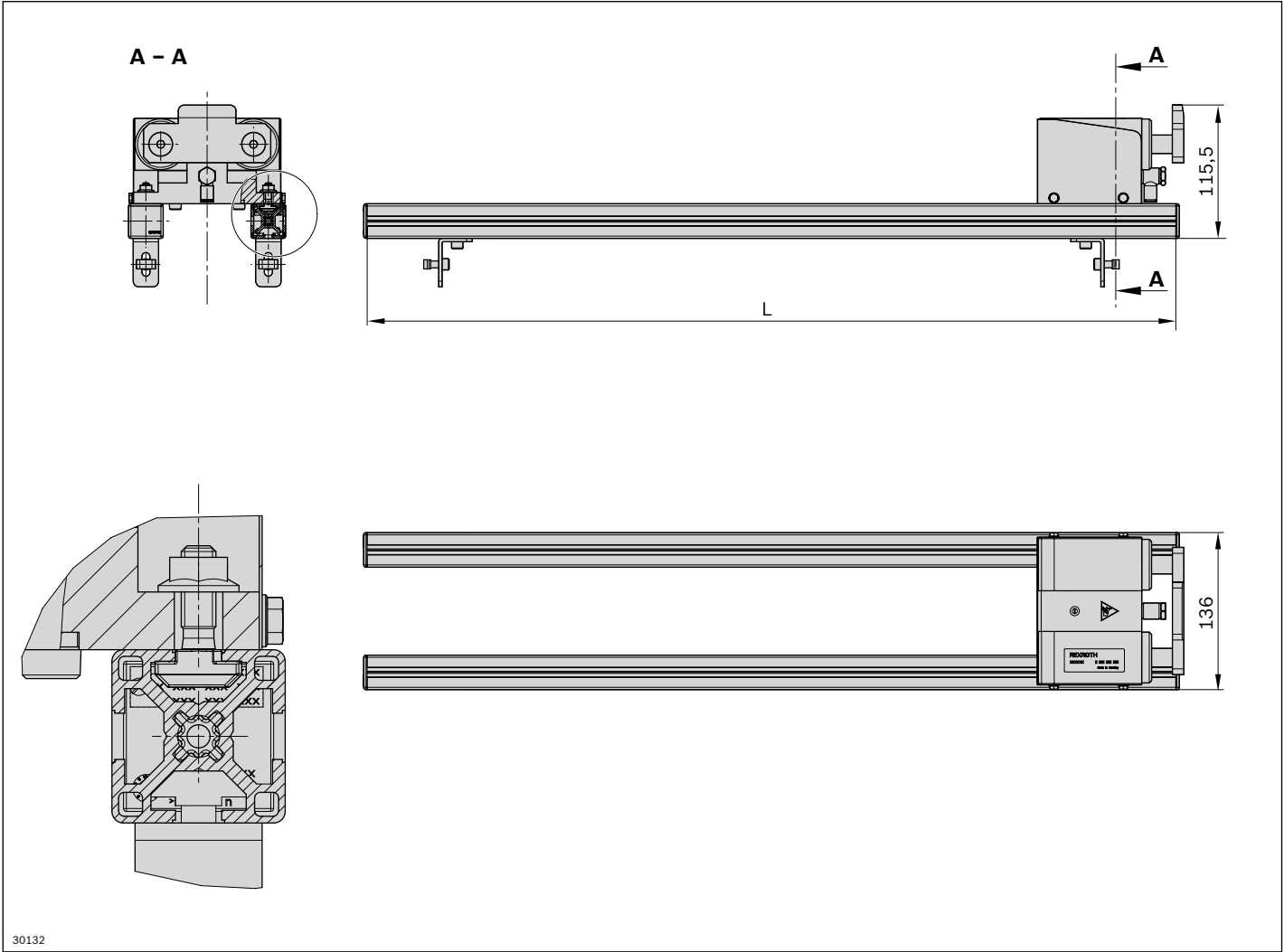


As a node point



During outfeeding on parallel section

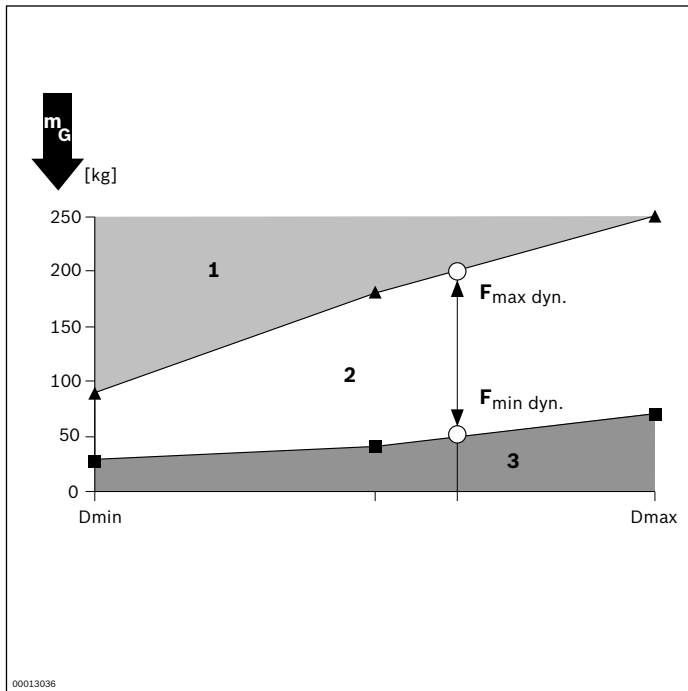
Dimensions



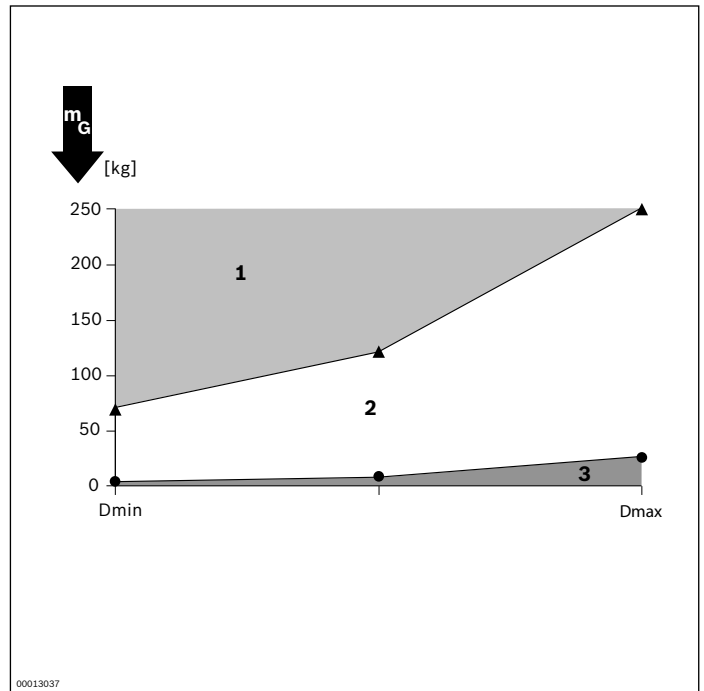
Track width in the longitudinal conveyor		Dimension
b_L (mm)		L (mm)
480		359
640		519
800		679
1040		919
1200		1079

Characteristic curve diagram

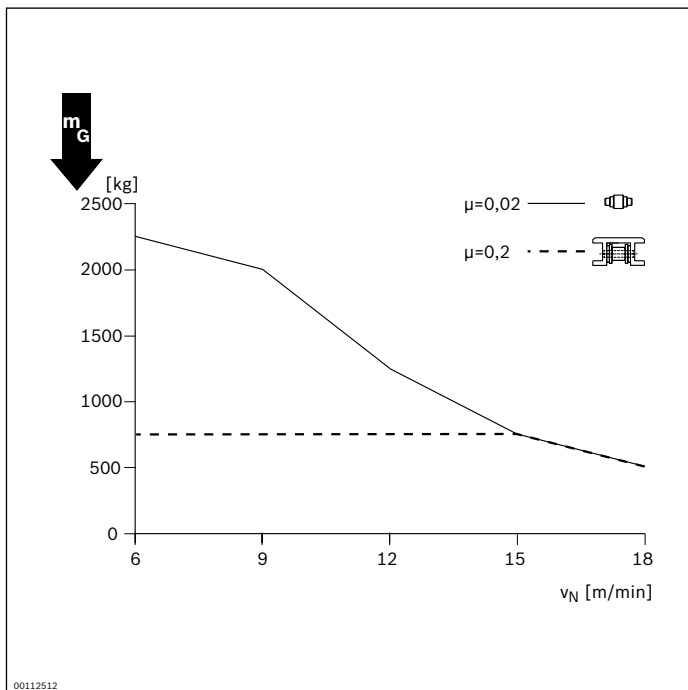
Damping setting, accumulation roller chain $\mu = 0.02$



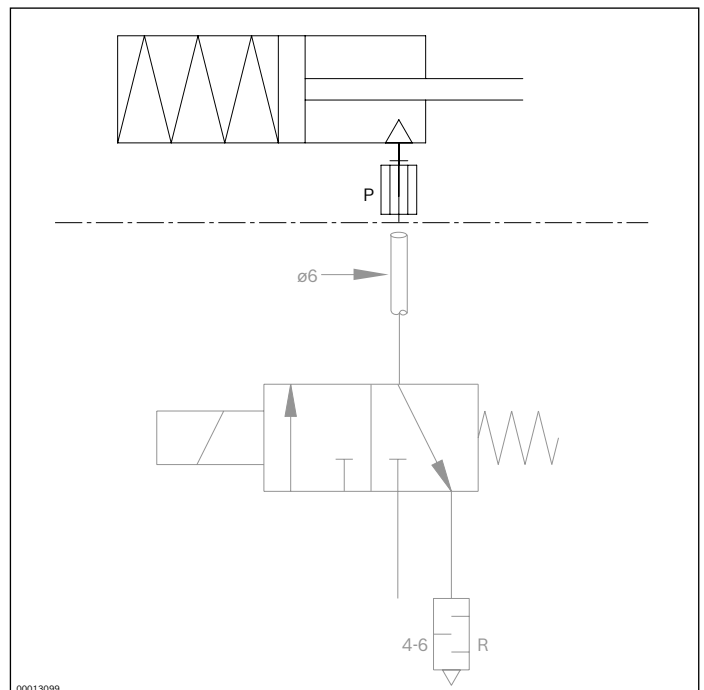
Damping setting, flat top chain $\mu = 0.2$



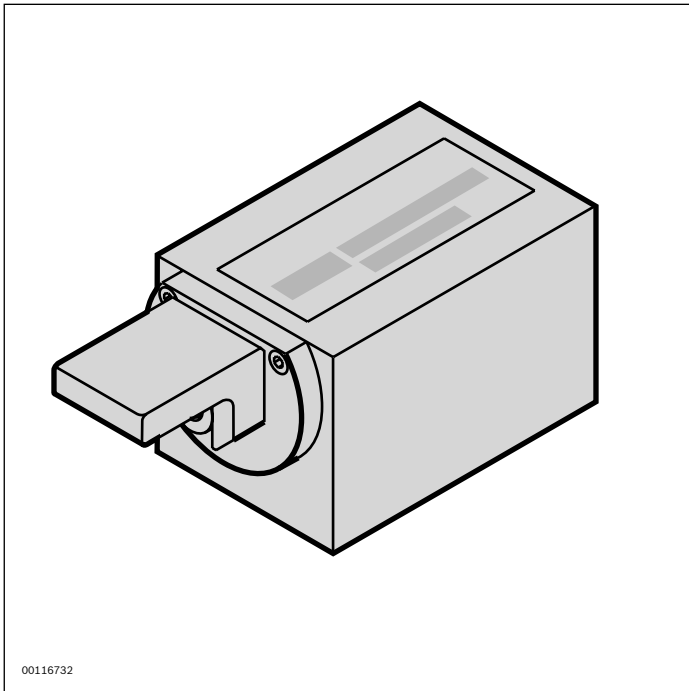
Max. permitted total weight



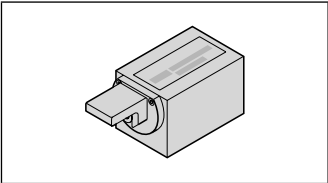
Circuit diagram



Damper



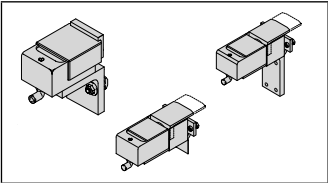
DA 2/... dampers are used to cushion the impact of work-piece pallets when they are moved from a transverse conveyor section into a longitudinal conveyor section or vice versa.



DA 2/10, DA 2/30 dampers



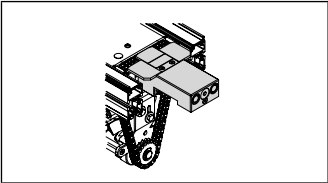
8-60



DA 2/100, DA 2/100-B, DA 2/100-C dampers



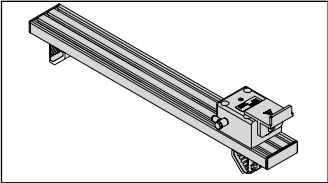
8-70



DA 2/150-E damper



8-82

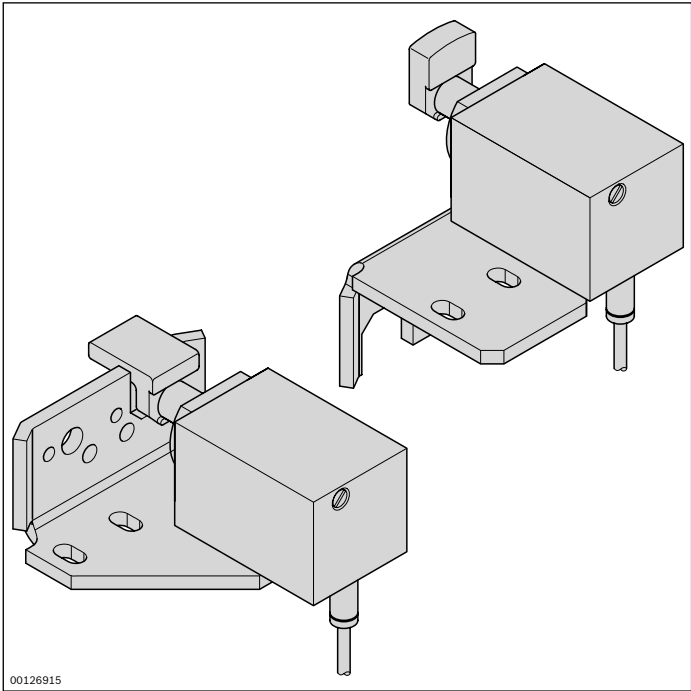


DA 2/100-H, DA 2/250-H dampers



8-85

DA 2/10 damper



- For permitted total weight of workpiece pallets up to 20 kg
- Pneumatic damper
- Infinitely adjustable
- Optimal damping at a ratio of 2:1 between heavy and light workpiece pallets
- Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H
- Installation location: ST 2/... section, BS 2/... belt section and HQ 2... lift transverse unit
- Not suitable for HQ 2/U2 and HQ 2/..-H

The damper cushions the impact of workpiece pallets when they are moved from a transverse conveyor section into a longitudinal section and vice versa. The pneumatic return is

parallel to opening of the stop gate, which permits the workpiece pallet to move towards the damper.

Delivery note

Scope of delivery

- Includes fastening material for mounting on an ST 2/... or BS 2/, ...EQ 2/... or HQ 2/U, HQ 2/T, HQ 2/S, HQ 2/O
- DA 2/10 damper with two different stops for optional use infeeding or outfeeding use

Condition on delivery

- Not assembled

Ordering information

Product designation	Material number
DA 2/10 damper	3842515349

Technical data

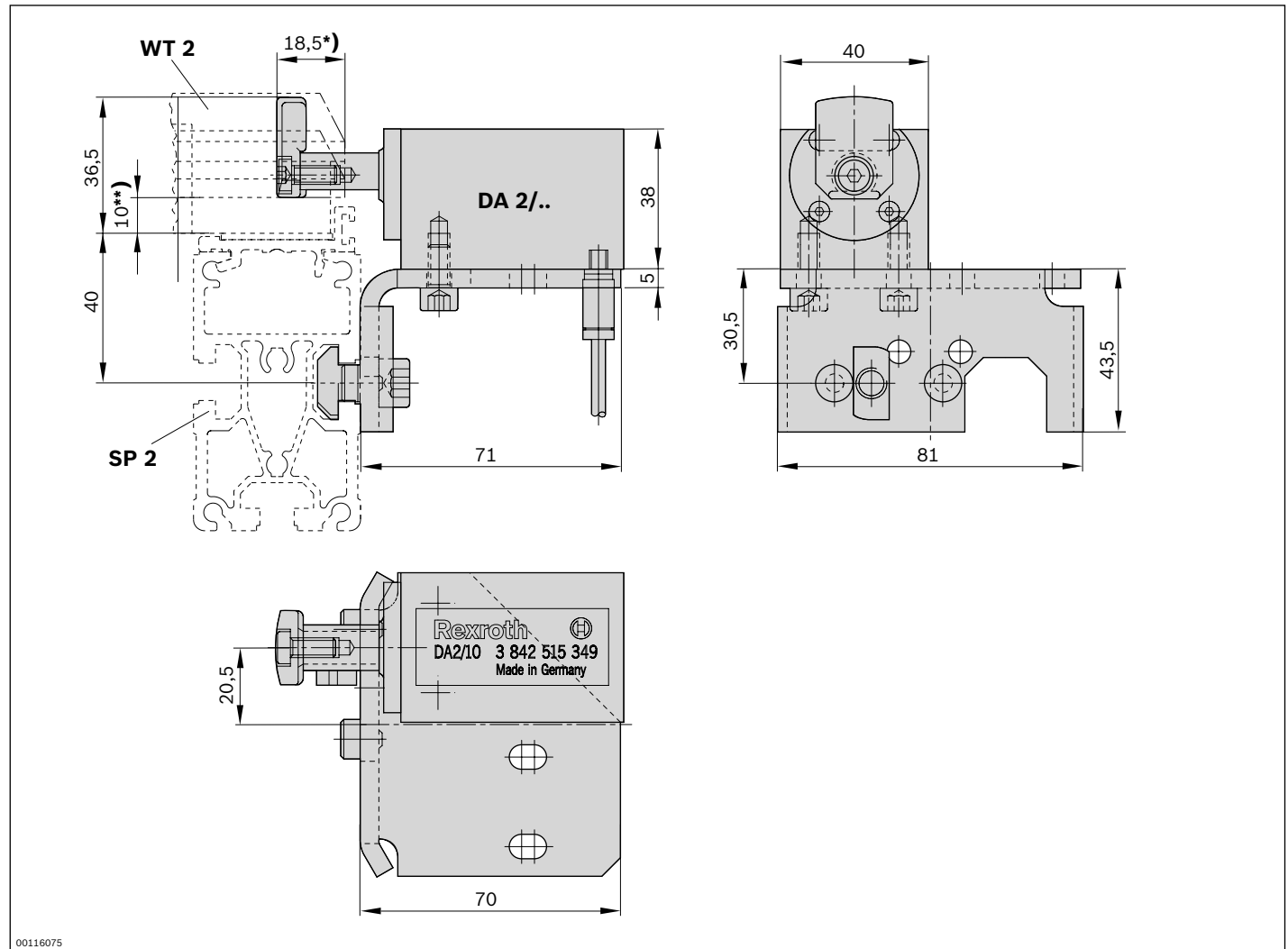
Material number			3842515349
Load			
Max. total weight of workpiece pallet	m _G	kg	20
Workpiece pallet minimum weight	m	kg	1
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	4

¹⁾ High-temperature damper on request

Permitted total weight of workpiece pallet		Nominal speed
m _G		v _N
(kg)		(m/min)
20		6
15		9
10		12
10		15
10		18

Dimensions

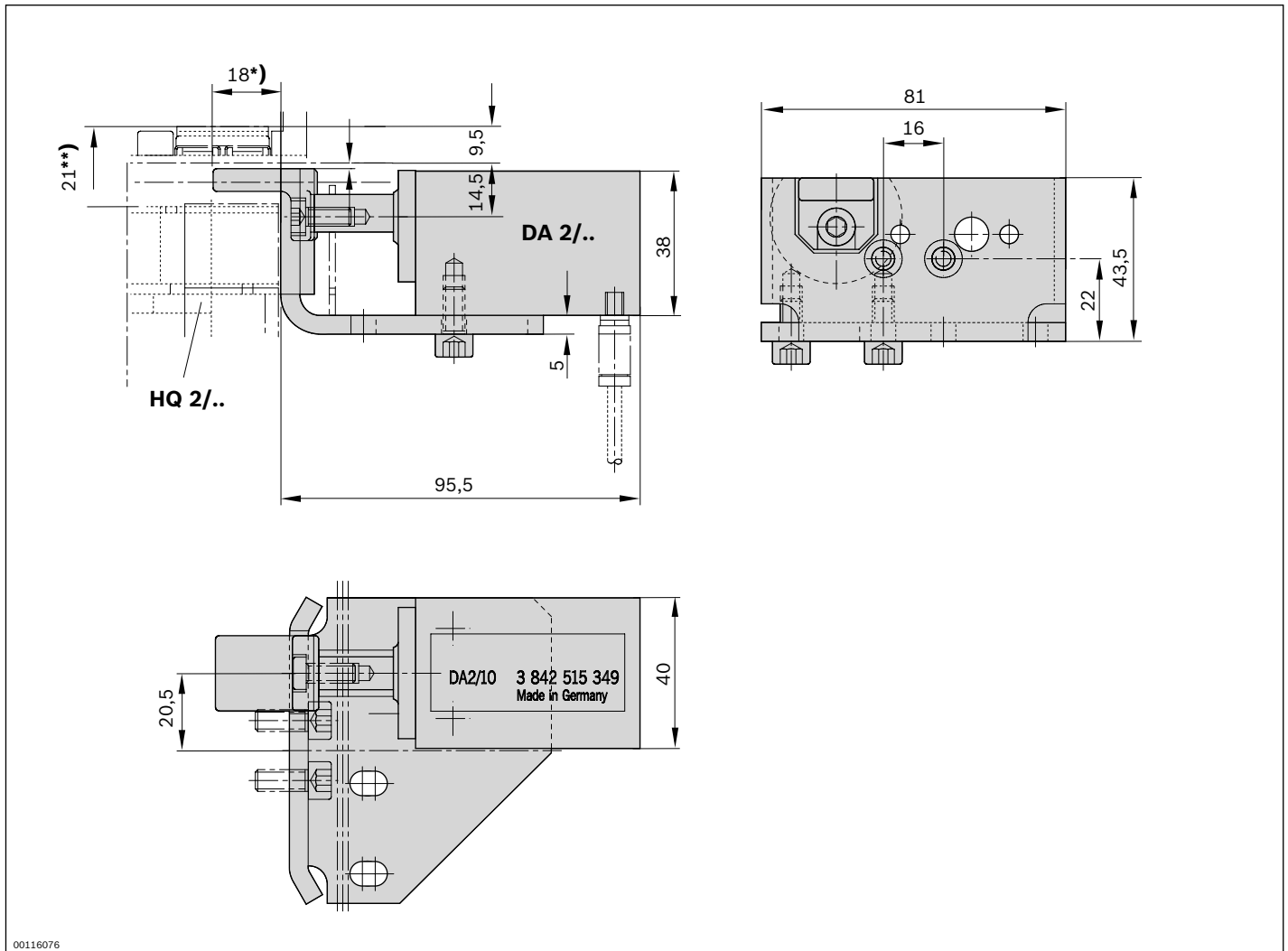
DA 2/... – SP 2/...



*) = Stroke of damper

**) = Stroke of WT 2

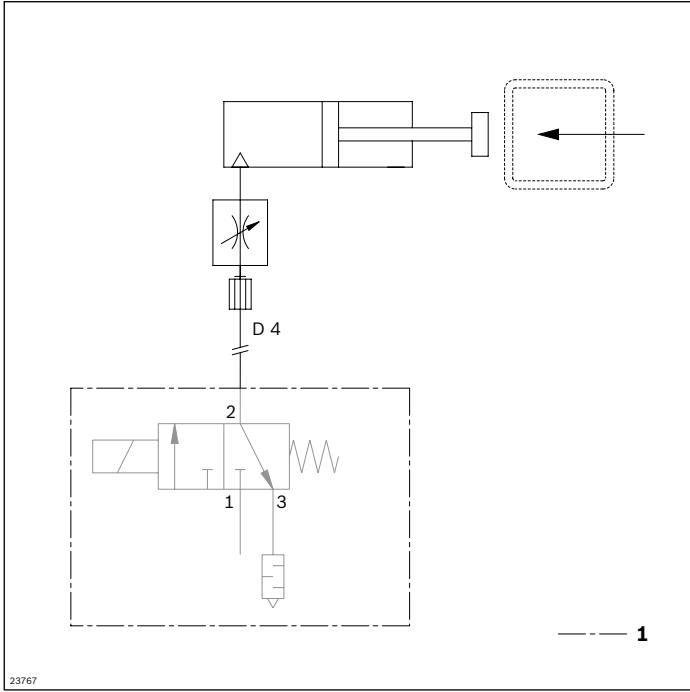
DA 2/... - HQ 2/...



*) = Stroke of damper

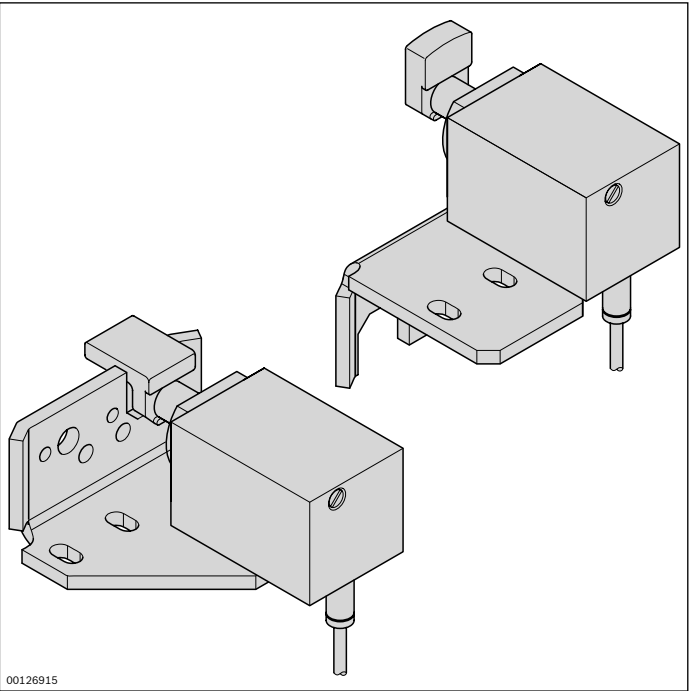
**) = Stroke of HQ 2/...

Circuit diagrams



1 Not included in scope of delivery

DA 2/30 damper



- ▶ For permitted total weight of workpiece pallets up to 60 kg
- ▶ Pneumatic damper
- ▶ Infinitely adjustable
- ▶ Optimal damping at a ratio of 2:1 between heavy and light workpiece pallets
- ▶ Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H and WT 2/F-H
- ▶ Installation location: ST 2/... section, BS 2/... belt section and HQ 2... lift transverse unit
- ▶ Not suitable for HQ 2/U2 and HQ 2/..-H

The damper cushions the impact of workpiece pallets when they are moved from a transverse conveyor section into a longitudinal section and vice versa. The pneumatic return is

parallel to opening of the stop gate, which permits the workpiece pallet to move towards the damper.

Delivery note

Scope of delivery

- ▶ Includes fastening material for mounting on an ST 2/... or BS 2/, ...EQ 2/... or HQ 2/U, HQ 2/T, HQ 2/S, HQ 2/O
- ▶ DA 2/30 damper with two different stops for optional use infeeding or outfeeding use

Condition on delivery

- ▶ Not assembled

Ordering information

Product designation	Material number
DA 2/30 damper	3842515351

Technical data

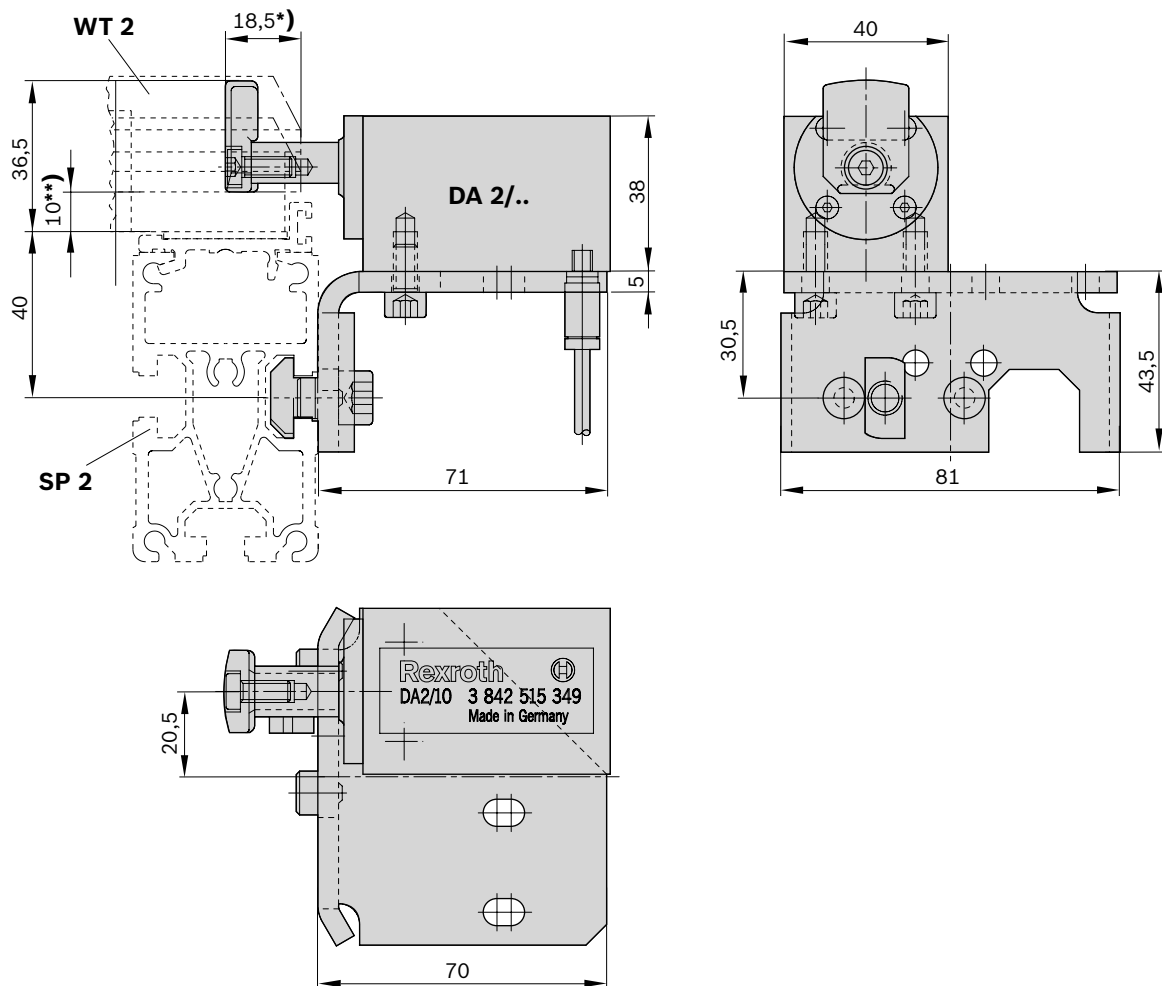
Material number			3842515351
Load			
Max. total weight of workpiece pallet	m _G	kg	60
Workpiece pallet minimum weight	m	kg	1
Features			
ESD			yes
Material			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	4

¹⁾ High-temperature damper on request

Permitted total weight of workpiece pallet		Nominal speed
	m _G (kg)	v _N (m/min)
	60	6
	50	9
	35	12
	30	15
	30	18

Dimensions

DA 2/... – SP 2/...

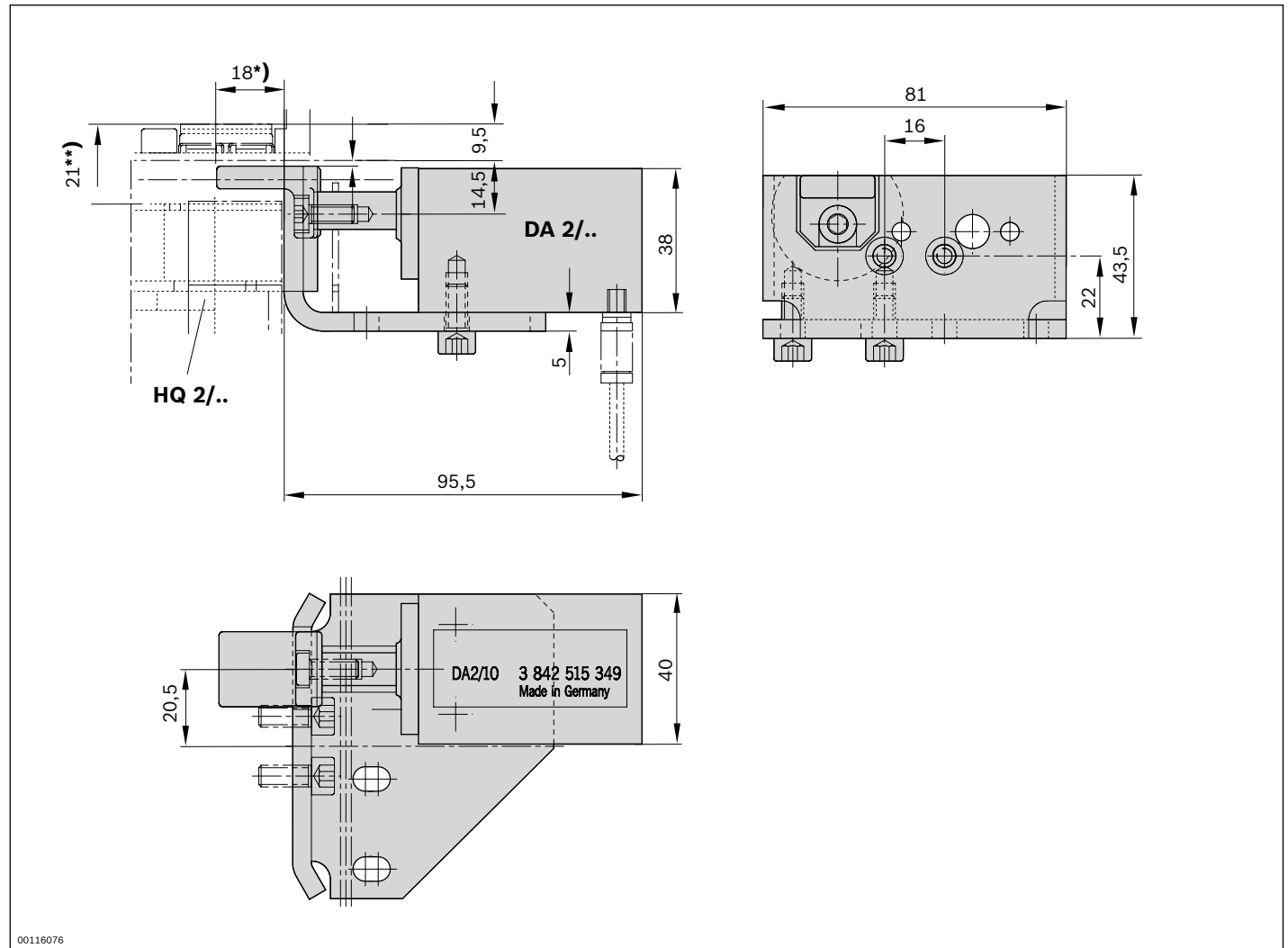


00116075

*) = Stroke of damper

**) = Stroke of WT 2

DA 2/... - HQ 2/...

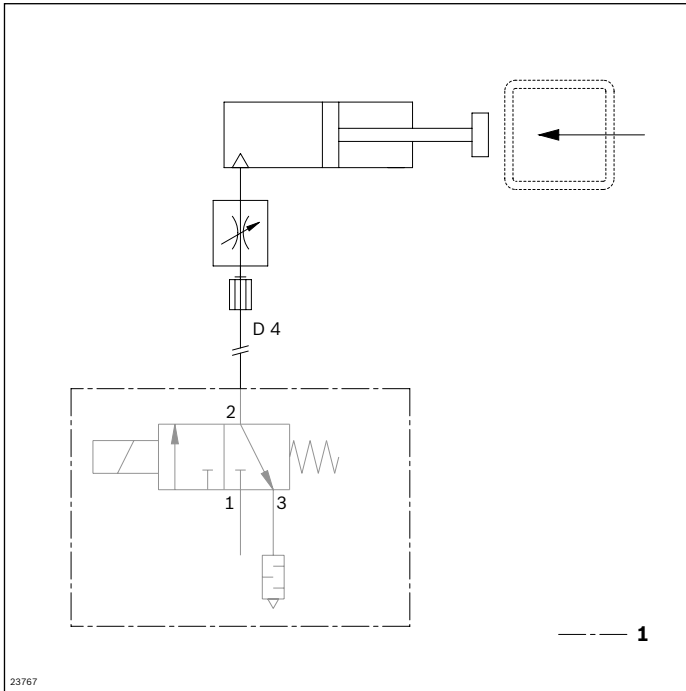


*) = Stroke of damper

**) = Stroke of HQ 2/...

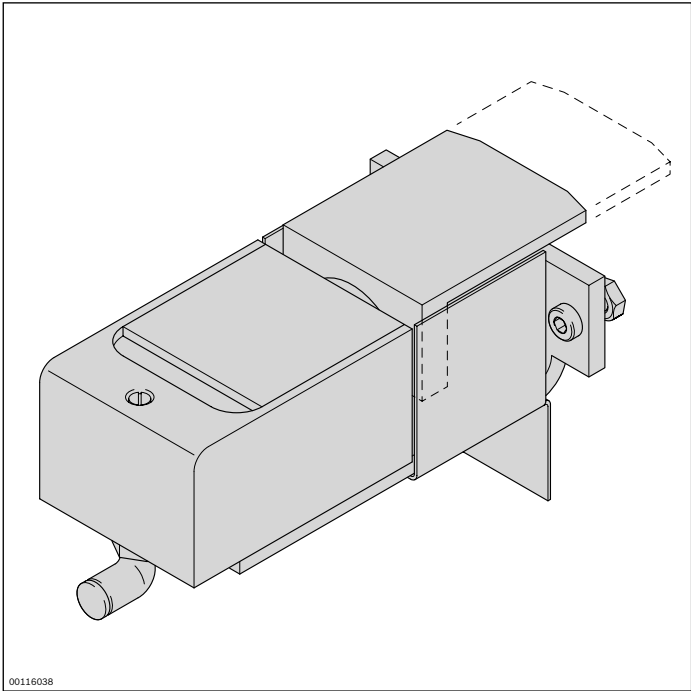
**) = Center HQ 2/...

Circuit diagrams



1 Not included in scope of delivery

DA 2/100-B damper



The damper damps the impact of the arriving workpiece pallet. The DA 2/100 is suitable for outfeeding via an HQ 2/U2 lift transverse unit. The pneumatic return is parallel to opening of the stop

Delivery note

Scope of delivery

- Incl. mounting material
- DA 2/100-B damper for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets, via an HQ 2/U2, required at $v_N > 12$ m/min or total weight of the workpiece pallet > 1 kg/cm

- For permitted total weight of workpiece pallets up to 100 kg
- Pneumatic damper
- Infinitely adjustable
- Before outfeeding via an HQ 2/U2 lift transverse unit
- Optimal damping at a ratio of 2:1 between heavy and light workpiece pallets
- Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H
- Installation location: HQ 2/U2... lift transverse unit

gate, which permits the workpiece pallet to move towards the damper. Mounted at the end or in the transverse conveyor directly on the conveyor section, since the damper is not traversable.

Condition on delivery

- Not assembled

Ordering information

Product designation	Material number
DA 2/100-B damper	3842525733

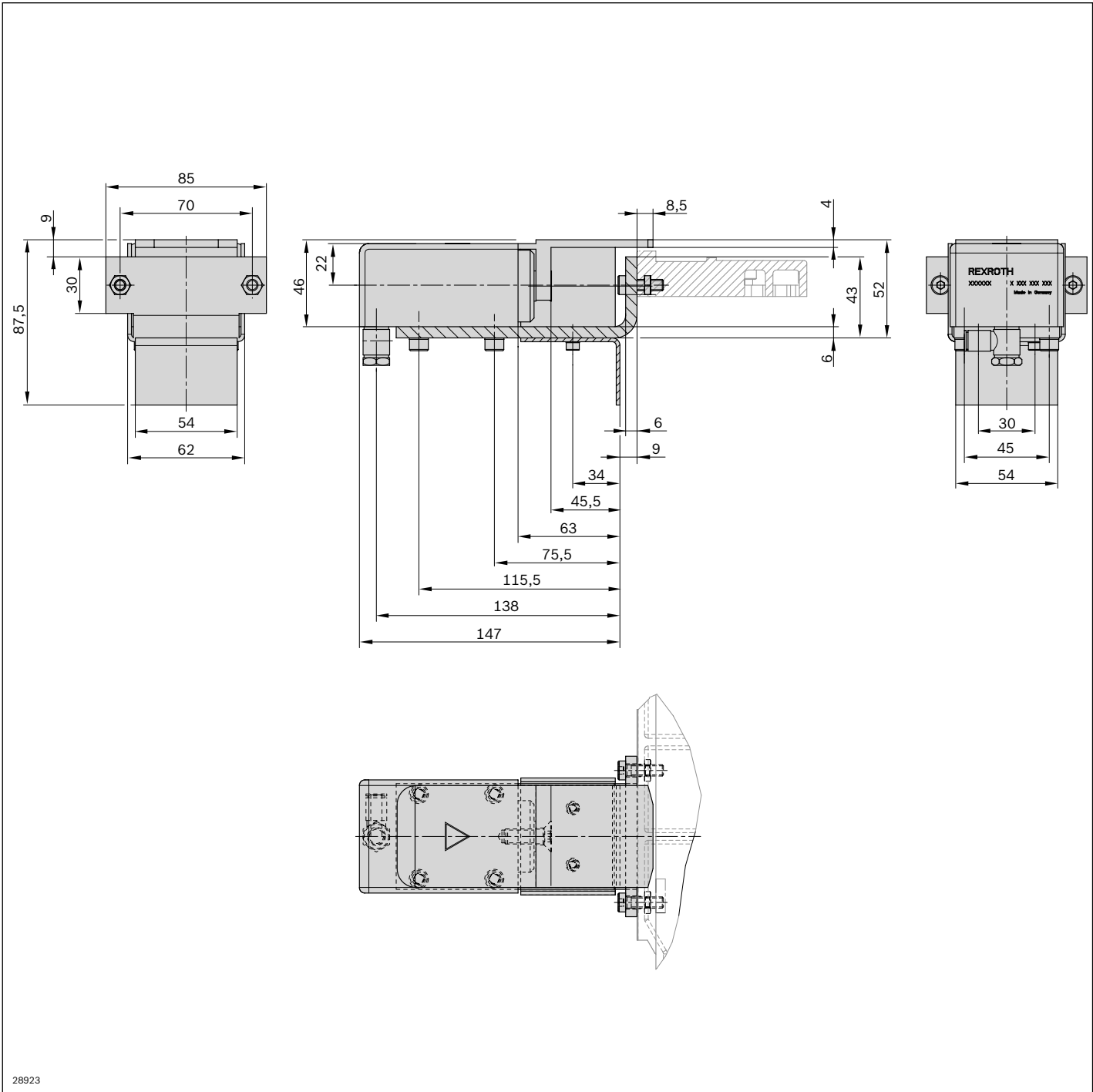
Technical data

Material number			3842525733
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature damper on request

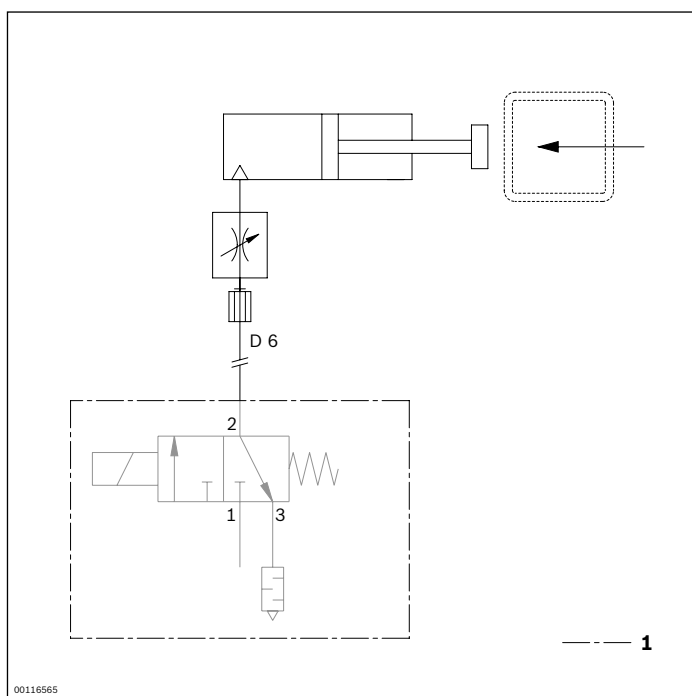
Permitted total weight of workpiece pallet		Nominal speed
m _G (kg)		v _N (m/min)
100		6
100		9
100		12
95		15
55		18

Dimensions



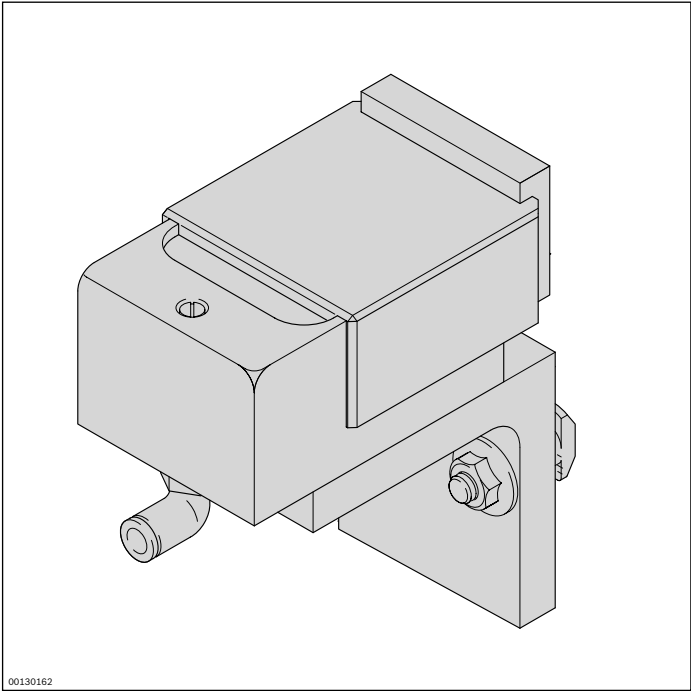
28923

Circuit diagrams



1 Not included in scope of delivery

DA 2/100-C damper



- ▶ For permitted total weight of workpiece pallets up to 100 kg
- ▶ Pneumatic damper
- ▶ Infinitely adjustable
- ▶ During infeeding in a longitudinal section
- ▶ Optimal damping at a ratio of 2:1 between heavy and light workpiece pallets
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H
- ▶ Installation location: ST 2/... section or BS 2/... belt section

The damper damps the impact of the arriving workpiece pallet. The DA 2/100-C is suitable for infeeding from a transverse section into a longitudinal section. It is mounted directly on the section profile of the longitudinal section.

The pneumatic return is parallel to opening of the stop gate, which permits the workpiece pallet to move towards the damper. The damper is not traversable.

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ DA2/100-C damper for infeeding the WT 2 and WT 2/F workpiece pallets

Condition on delivery

- ▶ Not assembled

Ordering information

Product designation	Material number
DA 2/100-C damper	3842525734

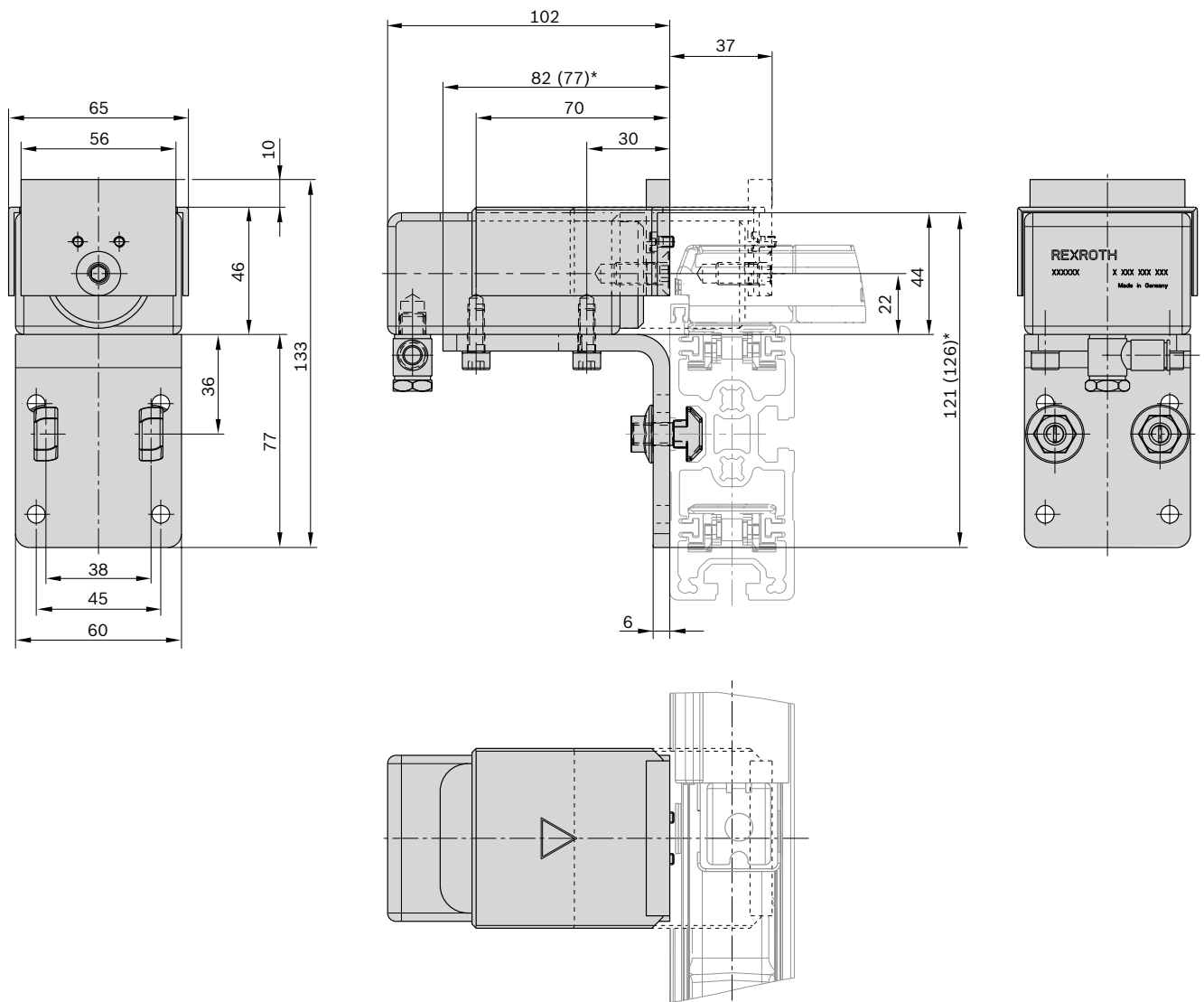
Technical data

Material number			3842525734
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature damper on request

Permitted total weight of workpiece pallet		Nominal speed
m _G		v _N
(kg)		(m/min)
100		6
100		9
100		12
95		15
55		18

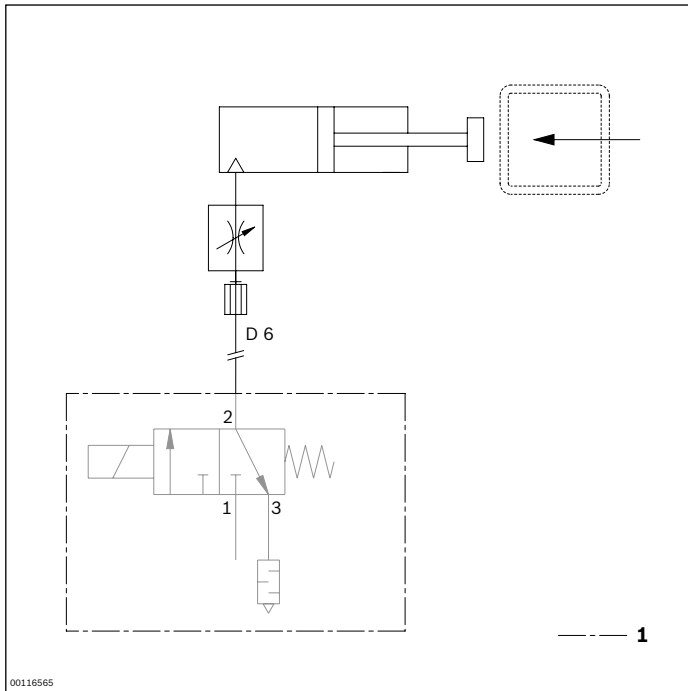
Dimensions



28922

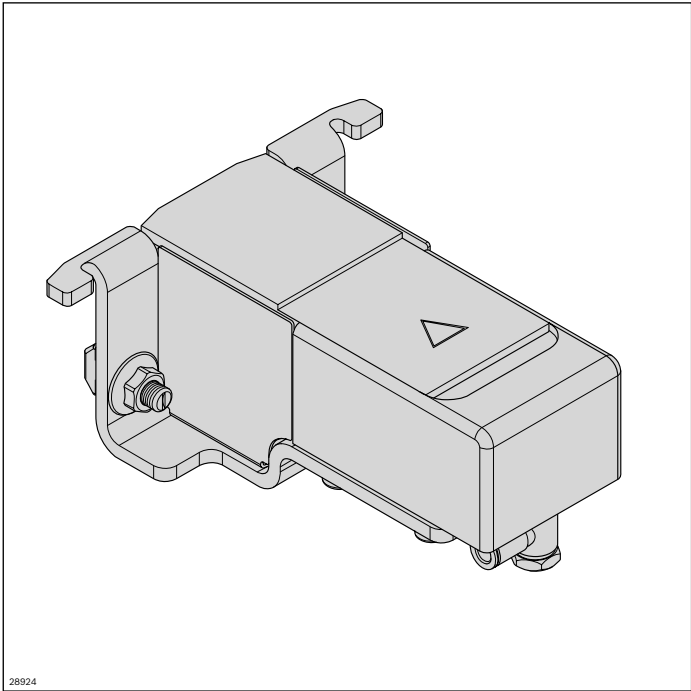
* Dimension in brackets apply to mounting on ST 2/...-H section profile

Circuit diagrams



1 Not included in scope of delivery

DA 2/100-E damper



- For permitted total weight of workpiece pallets up to 100 kg
- Pneumatic damper
- Infinitely adjustable
- Optimal damping at a ratio of 2:1 between heavy and light workpiece pallets
- Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H
- Installation location: HQ 2/U-H lift transverse unit

The damper damps the impact of the arriving workpiece pallet. The DA 2/100-E is suitable for discharging via an HQ 2/U-H. The pneumatic return is parallel to opening of

the stop gate, which permits the workpiece pallet to move towards the damper. The damper is traversable.

Delivery note

Scope of delivery

- Incl. mounting material
- DA 2/100-E damper for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets via an HQ 2/U-H

Condition on delivery

- Not assembled

Ordering information

Product designation	Material number
DA 2/100-E damper	3842548585

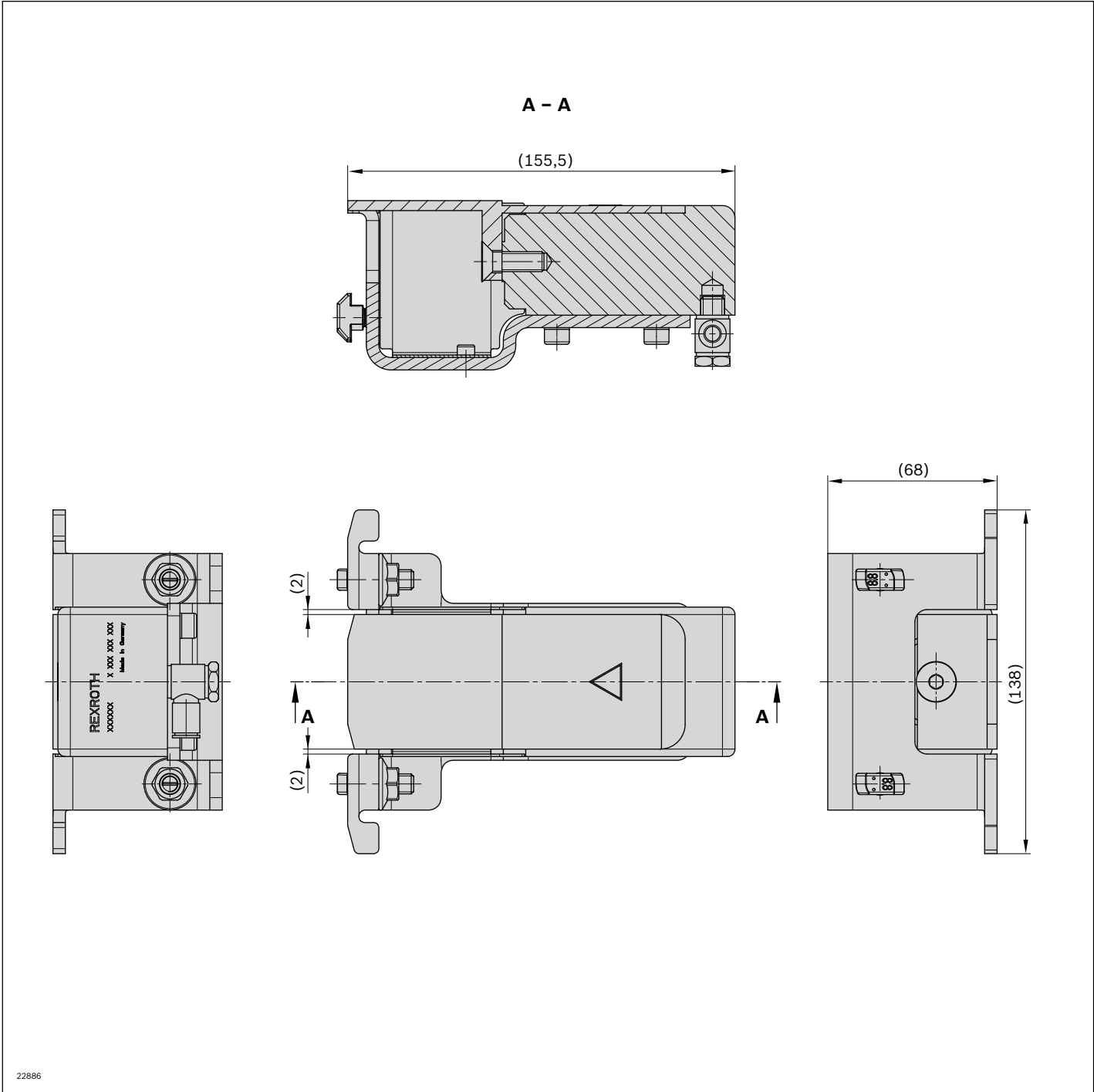
Technical data

Material number			3842548585
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	6

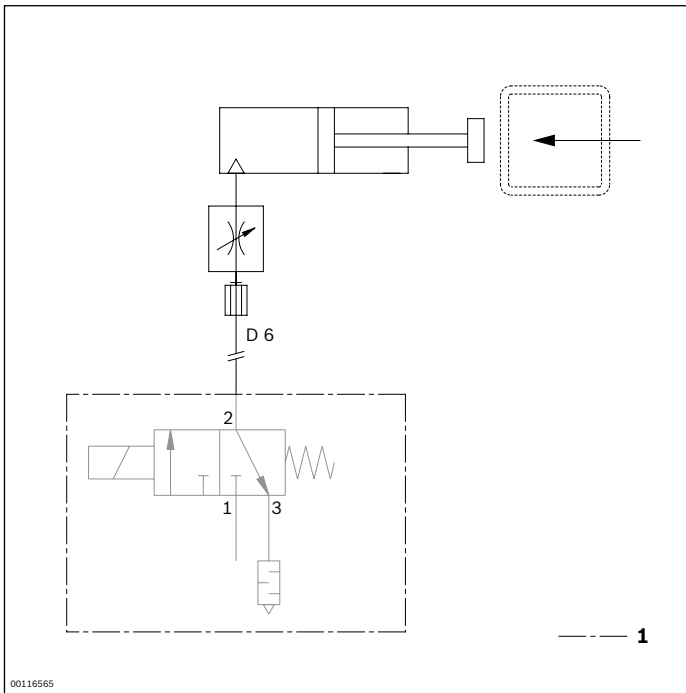
¹⁾ High-temperature damper on request

Permitted total weight of workpiece pallet		Nominal speed
m _G		v _N
(kg)		(m/min)
100		6
100		9
100		12
95		15
55		18

Dimensions

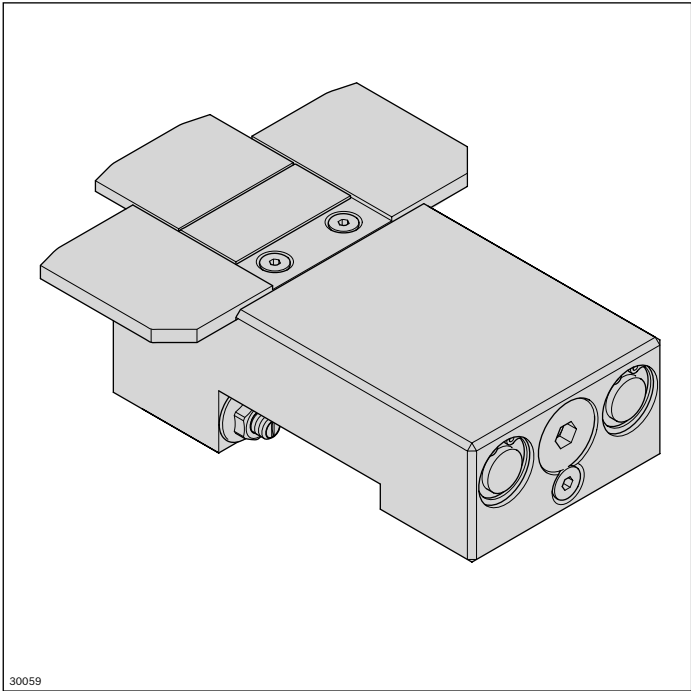


Circuit diagrams



1 Not included in scope of delivery

DA 2/150-E damper



- ▶ Hydraulic damper with closed damping system
- ▶ Before outfeeding via an HQ 2/U-H lift transverse unit
- ▶ For permitted total weight of workpiece pallets up to 130 kg with belts, toothed belts or flat top chains
- ▶ For permitted total weight of workpiece pallets up to 150 kg with accumulation roller chains
- ▶ Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H
- ▶ Installation location: HQ 2/U-H lift transverse unit

The damper damps the impact of the arriving workpiece pallet. The DA 2/100-E damper is suitable for discharging a workpiece pallet via an HQ 2/U-H. The pneumatic return is

parallel to opening of the stop gate, which permits the workpiece pallet to move towards the damper. The damper is traversable.

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ DA 2/100-E damper for outfeeding the WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets, via an HQ 2/U-H

Condition on delivery

- ▶ Not assembled

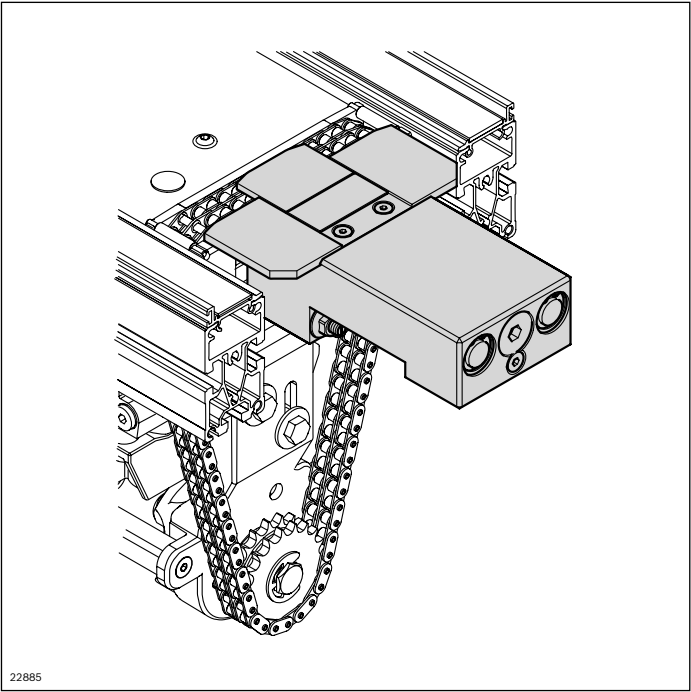
Ordering information

Product designation	Material number
DA 2/150-E damper	3842548644

Technical data

Material number			3842548644
Load			
Max. total weight of workpiece pallet	m _G	kg	belt, toothed belt, flat top chain 130 accumulation roller chain 150
Workpiece pallet minimum weight	m	kg	belt, toothed belt, flat top chain 15 accumulation roller chain 40
Features			
Material specification			Housing: aluminum, hard anodized Stop: steel, hardened
Operating temperature ¹⁾		°C	-20 ... +80
Additional information			
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature damper on request



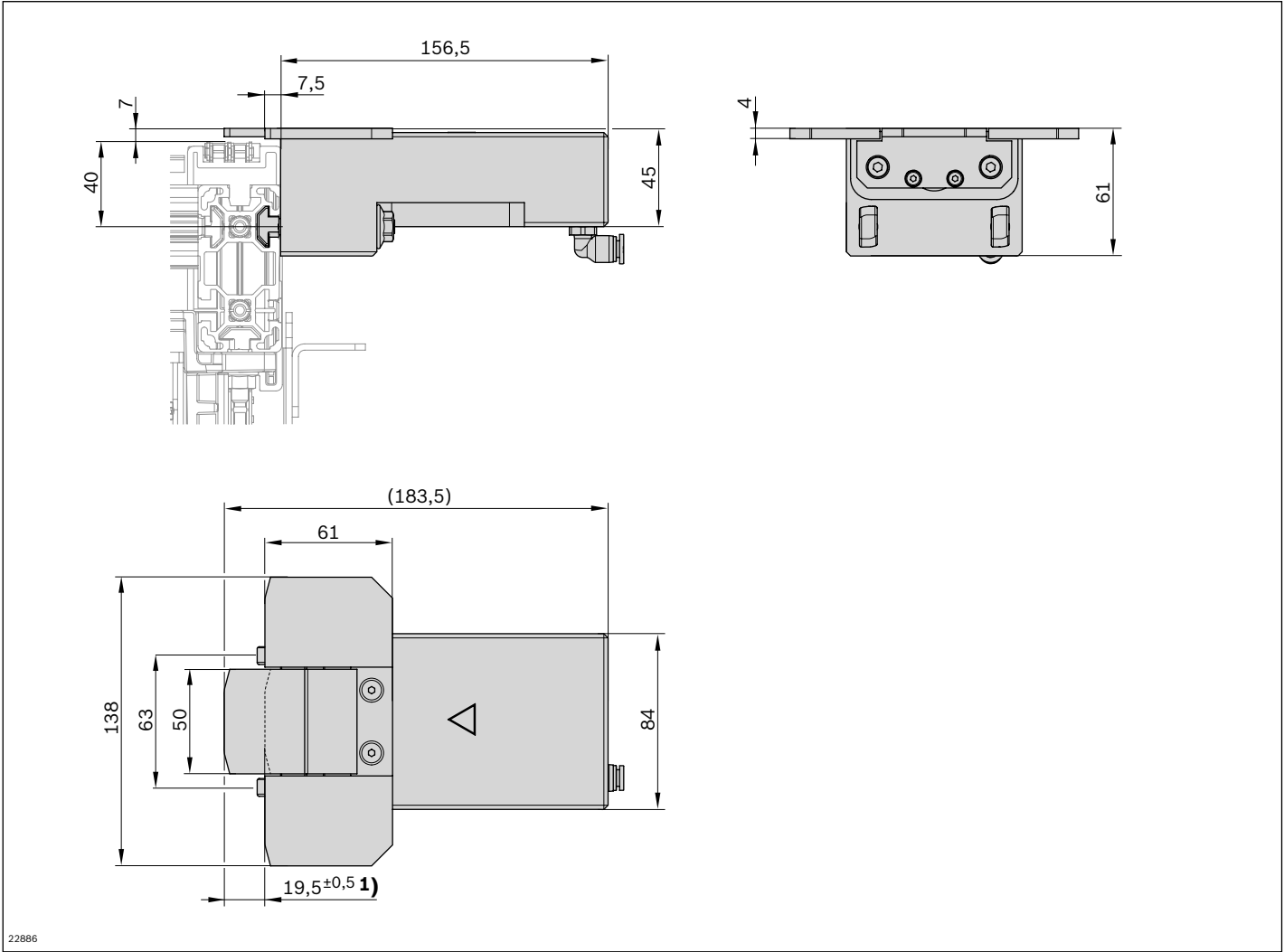
Belt, toothed belt, or flat top chain

Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
130	6
130	9
130	12
130	15
130	18

Accumulation roller chain

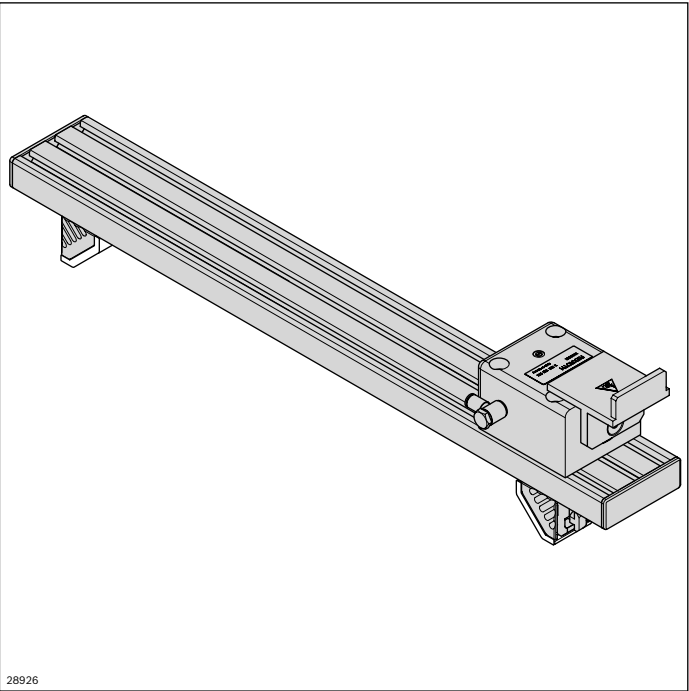
Permitted total weight of workpiece pallet	Nominal speed
m _G (kg)	v _N (m/min)
150	6
150	9
150	12
150	15
150	18

Dimensions



1) Stroke

DA 2/100-H damper



- For permitted total weight of workpiece pallets up to 100 kg
- Pneumatic damper
- Infinitely adjustable
- Installation location: HQ 2/C-H lift transverse unit
- Can be combined with WT 2/H and WT 2/F-H

8

The damper cushions the impact of workpiece pallets when they are moved from a transverse conveyor section into a longitudinal section and vice versa. The pneumatic return is parallel to opening of the stop gate, which permits the

workpiece pallet to move towards the damper. For installation in a HQ 2/C-H lift transverse unit. The damper is traversable.

Delivery note

Scope of delivery

- Incl. mounting material
- DA 2/100-H damper for infeeding or outfeeding the WT 2/H or WT 2/F-H workpiece pallets via an HQ 2/C-H

Condition on delivery

- Not assembled

Ordering information

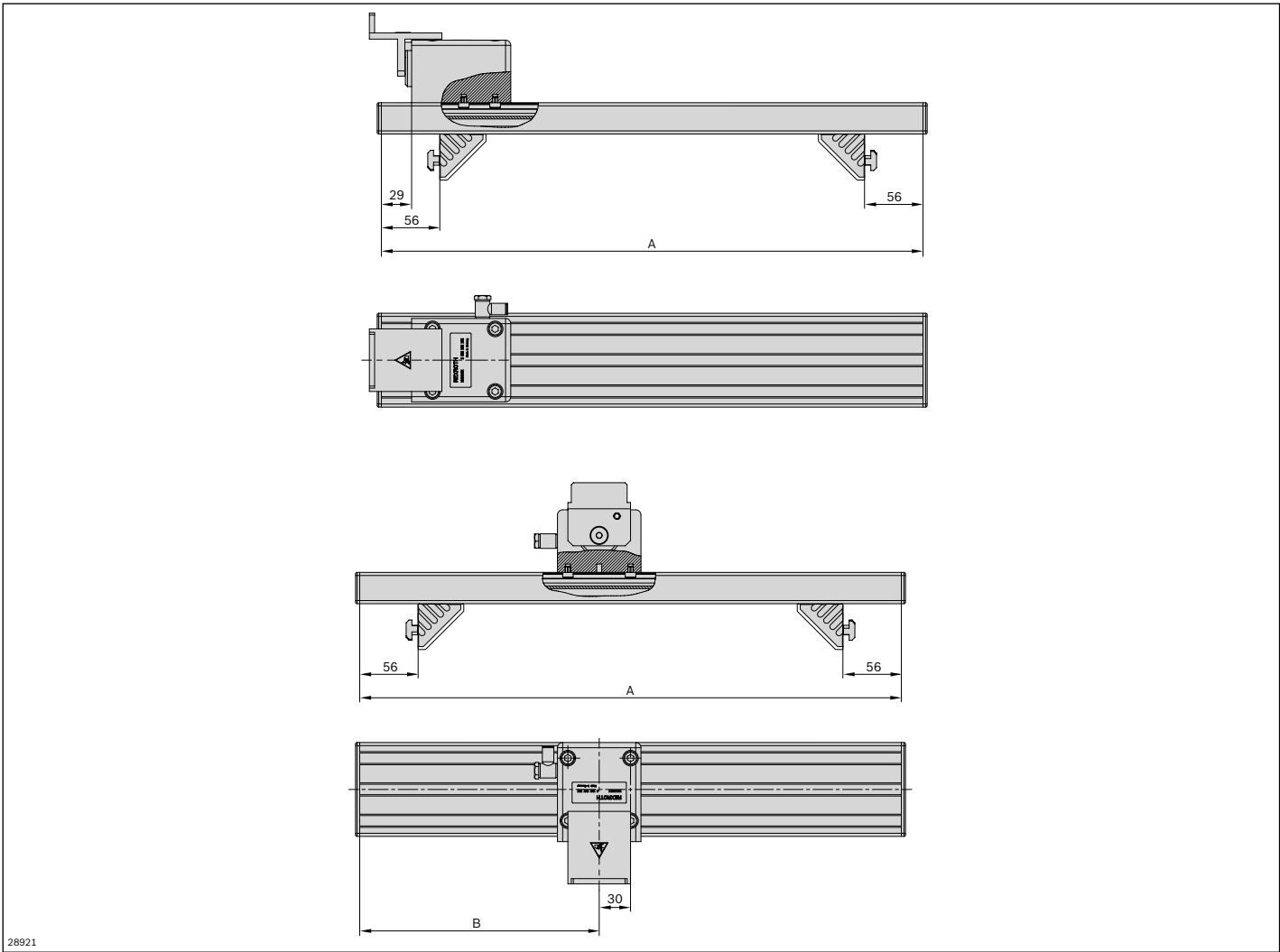
Material number		3842998745
b ₀ (mm)	Track width in the transverse conveyor	400, 480, 640, 800, 1040, 1200
b ₀ (mm)	Track width in the transverse conveyor	400 ... 1200

Technical data

Material number			3842998745
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	5
Features			
ESD			yes
Material specification			Housing: aluminum, stop hard anodized: steel; hardened section profile: aluminum, natural; anodized
Operating temperature ¹⁾		°C	-20 ... +80
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature damper on request

Dimensions

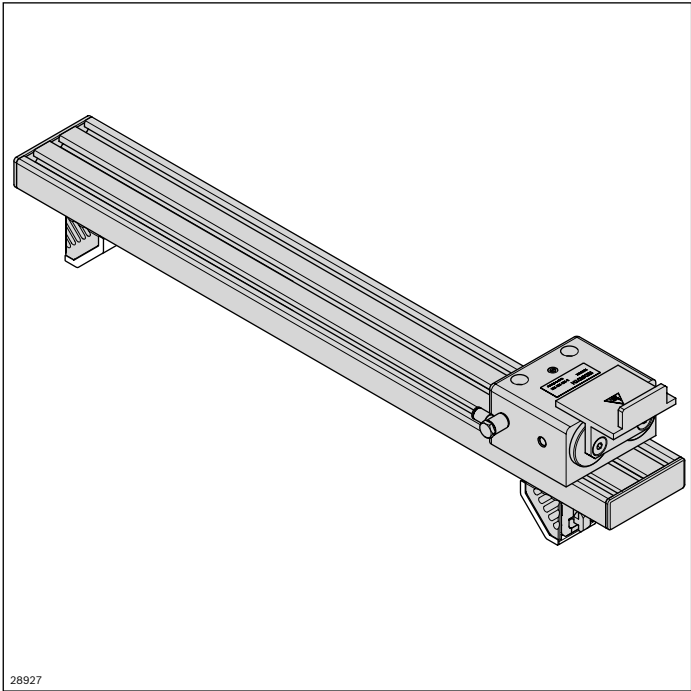


28921

Track width in the transverse conveyor b_a (mm)	Dimension A (mm)
480	359
640	519
800	679
1040	919
1200	1079

Track width in the longitudinal conveyor b_L (mm)	Dimension B (mm)
480	149.5
640	229.5
800	309.5
1040	429.5
1200	509.5

DA 2/250-H damper



- For permitted total weight of workpiece pallets up to 250 kg
- Pneumatic damper
- Infinitely adjustable
- Installation location: HQ 2/C-H lift transverse unit
- Can be combined with WT 2/H and WT 2/F-H

The damper cushions the impact of workpiece pallets when they are moved from a transverse conveyor section into a longitudinal section and vice versa. The pneumatic return is parallel to opening of the stop gate, which permits the

workpiece pallet to move towards the damper. For installation in a HQ 2/C-H lift transverse unit. The damper is traversable.

Delivery note

Scope of delivery

- Incl. mounting material
- DA 2/100-H damper for infeeding or outfeeding the WT 2/H or WT 2/F-H workpiece pallets via an HQ 2/C-H

Condition on delivery

- Not assembled

Ordering information

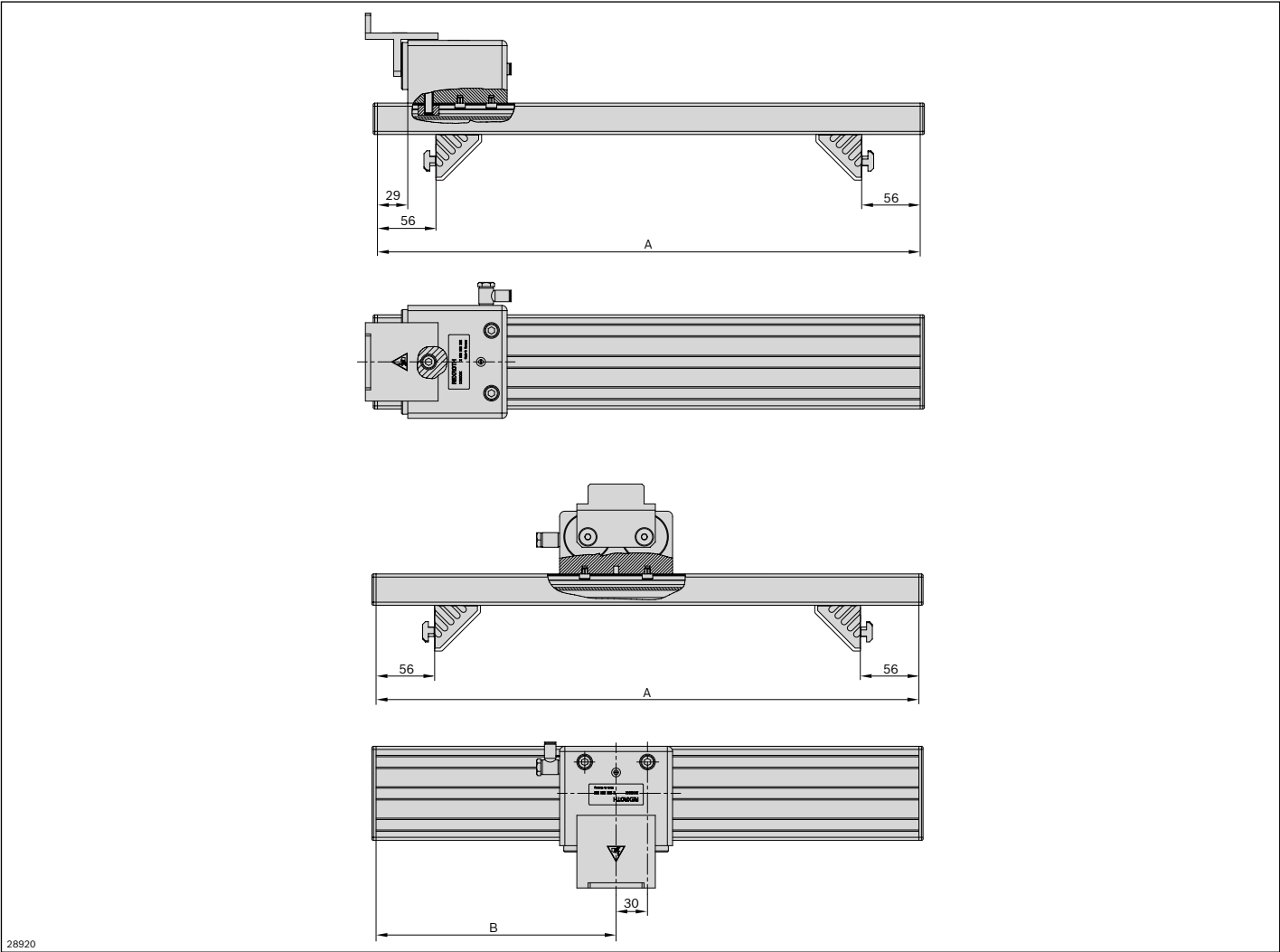
Material number		3842998746
b _Q (mm)	Track width in the transverse conveyor	400, 480, 640, 800, 1040, 1200
b _Q (mm)	Track width in the transverse conveyor	400 ... 1200

Technical data

Material number			3842998746
Load			
Max. total weight of workpiece pallet	m _G	kg	250
Workpiece pallet minimum weight	m	kg	25
Features			
ESD			yes
Material specification			Housing: aluminum, hard anodized stop: steel; hardened section profile: aluminum, natural; anodized
Max. operating temperature ¹⁾		°C	60
Pneumatic push-in fitting	Ø	mm	6

¹⁾ High-temperature damper on request

Dimensions

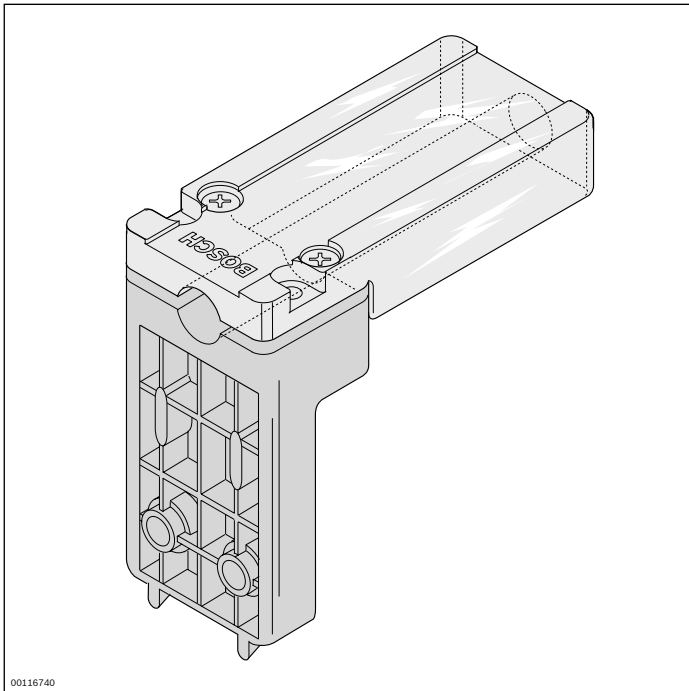


28920

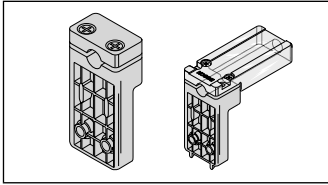
Track width in transverse conveyor b _o (mm)	Dimension A (mm)
480	359
640	519
800	679
1040	919
1200	1079

Track width in the longitudinal conveyor b _L (mm)	Dimension B (mm)
480	149.5
640	229.5
800	309.5
1040	429.5
1200	509.5

SH 2/... switch bracket

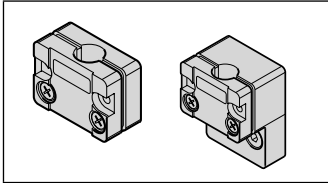


There are 5 types of sensor switch brackets available for use in the TS *2plus* transfer system.



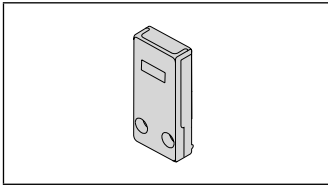
SH 2/S, SH 2/ST, SH 2/S-H switch bracket

8-94



SH 2/U, SH 2/UV, SH 2/U-H switch bracket

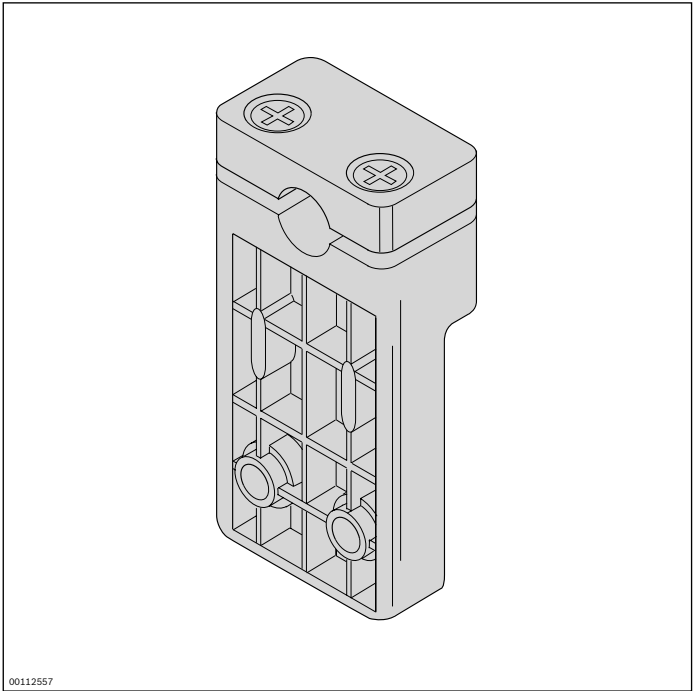
8-100



SH 2/SF switch bracket

8-106

SH 2/S switch bracket



- For fastening a sensor
- Suitable for lateral inquiry of the workpiece pallet position
- Mounted in the upper groove on the side of a conveyor section

The switch bracket is used fastening an M12x1 sensor for lateral inquiry of the workpiece pallet position.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, length 50 mm, see p. 8-110

Delivery note

Scope of delivery

- Incl. all fastening material to mount on the ST 2/... conveyor sections

Condition on delivery

- Not assembled

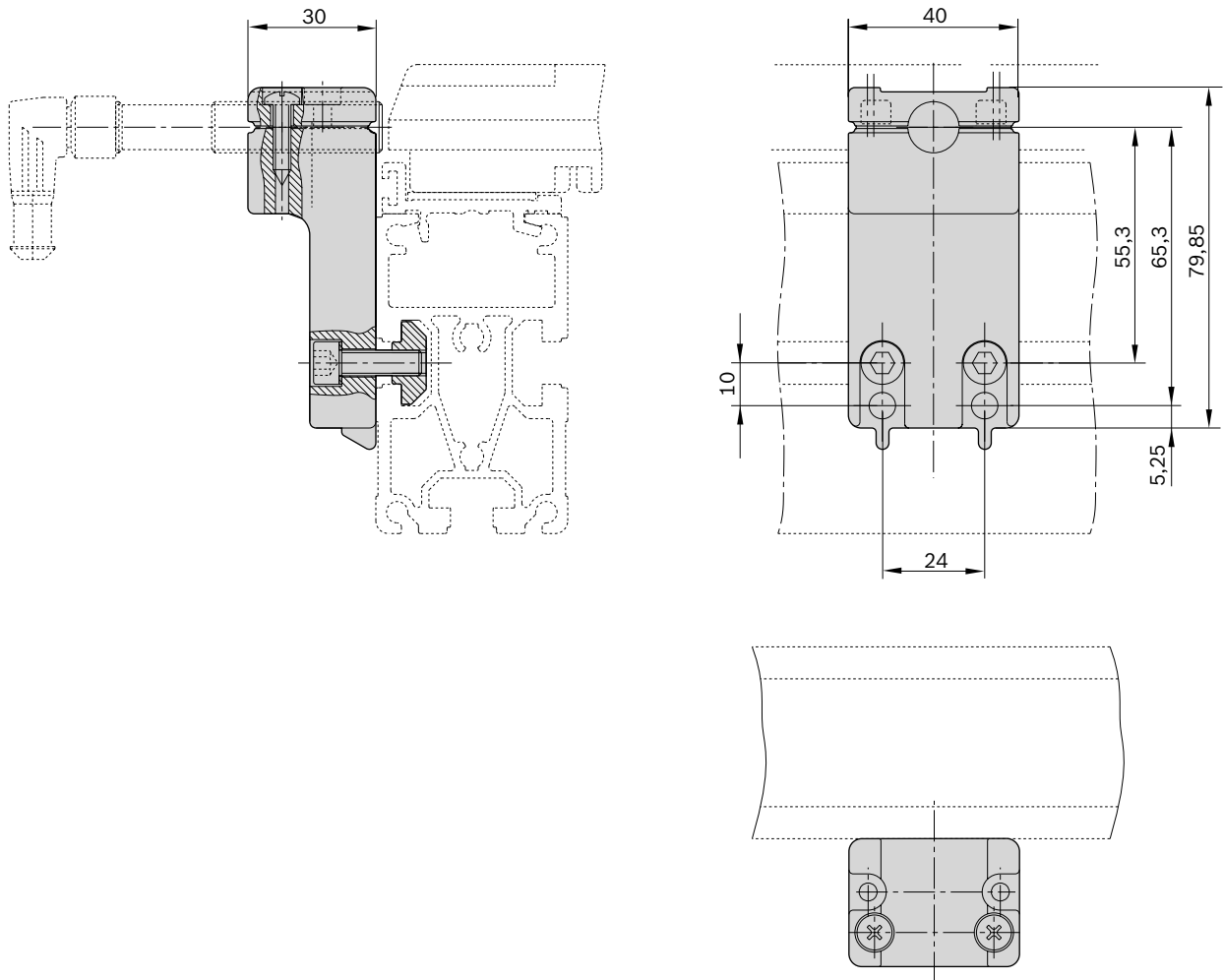
Ordering information

Product designation	Material number
SH 2/S switch bracket	3842168830

Technical data

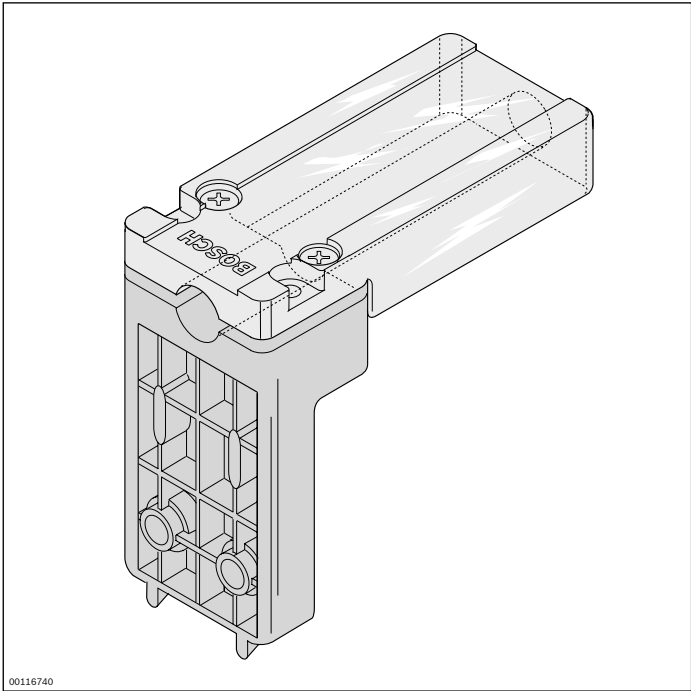
Material number			3842168830
Features			
Material specification			Housing: PA 6; black Switch cover: PA 6; black
Dimensions			
Length	l	mm	30

Dimensions



00012825

SH 2/ST switch bracket



- For fastening a sensor
- Switch cover to protect switches and cables
- Suitable for lateral inquiry of the workpiece pallet position
- Mounted in the upper groove on the side of a conveyor section

The switch bracket is used fastening an M12x1 sensor for lateral inquiry of the workpiece pallet position.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, length 70 mm, see p. 8-110

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

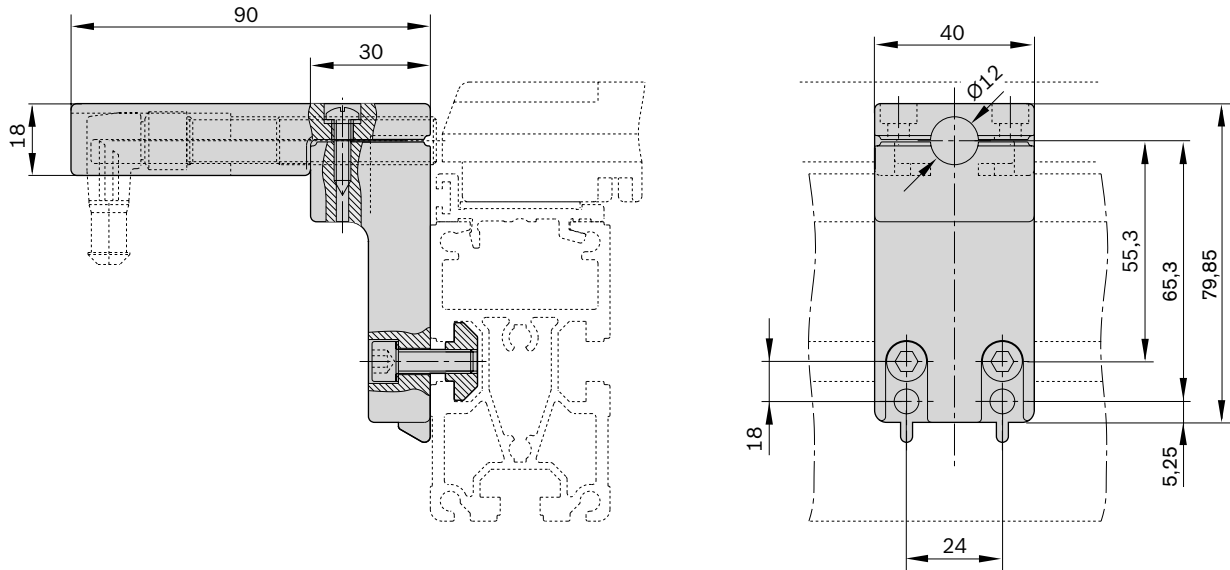
Ordering information

Product designation	Material number
SH 2/ST switch bracket	3842168850

Technical data

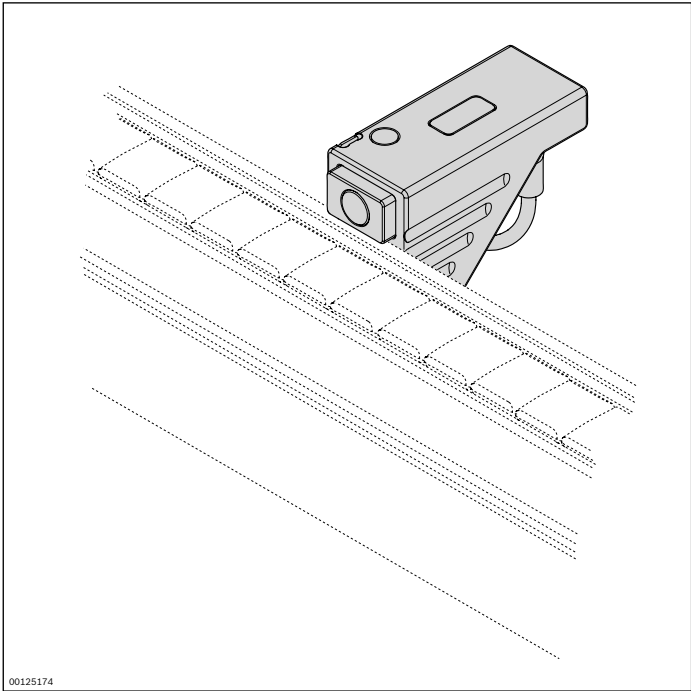
Material number	3842168850
Features	
Material specification	Housing: PA 6; black Switch cover: ABS; transparent
Dimensions	
Length	lmm90

Dimensions



00012826

SH 2/S-H switch bracket



- For fastening a sensor
- Especially sturdy metal design
- Able to bear loads of up to 100 kg
- Centering lugs for pre-positioning and quick assembly in the profile groove
- Integrated stop for 12 mm sensor
- Integrated cable guide
- Mounting on the outer profile groove of the section profile.

The switch bracket is used fastening an M12x1 sensor for lateral inquiry of the workpiece pallet position.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 7$ mm rated sensing range, see p. 8-110

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

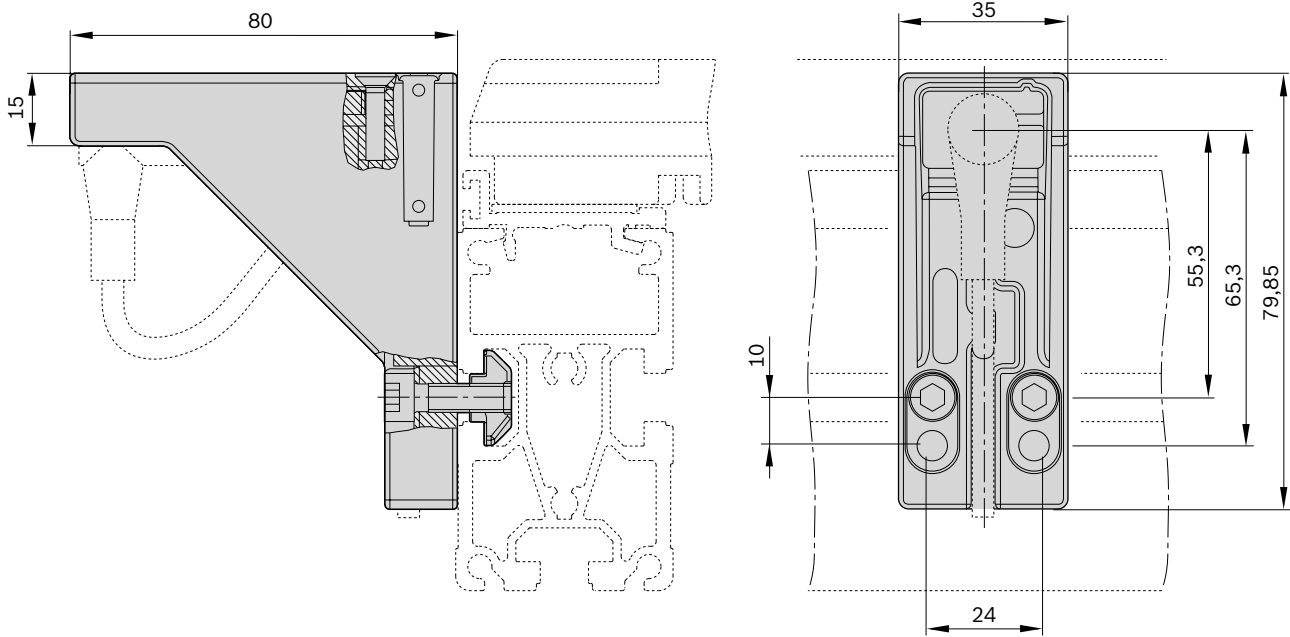
Ordering information

Product designation	Material number
SH 2/S-H switch bracket	3842537280

Technical data

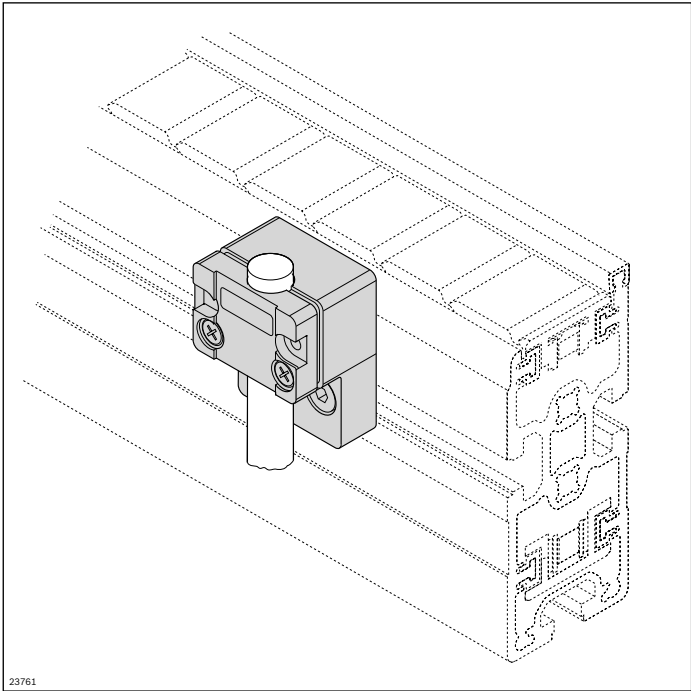
Material number	3842537280
Features	
Material specification	Die-cast aluminum

Dimensions



00125239

SH 2/U switch bracket



- For fastening a sensor
- Installation location in the upper groove on the side of a conveyor section
- For inquiry of the workpiece pallet position from below

The switch bracket is used fastening an M12x1 sensor for inquiry of the workpiece pallet position from below.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, see p. 8-110

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

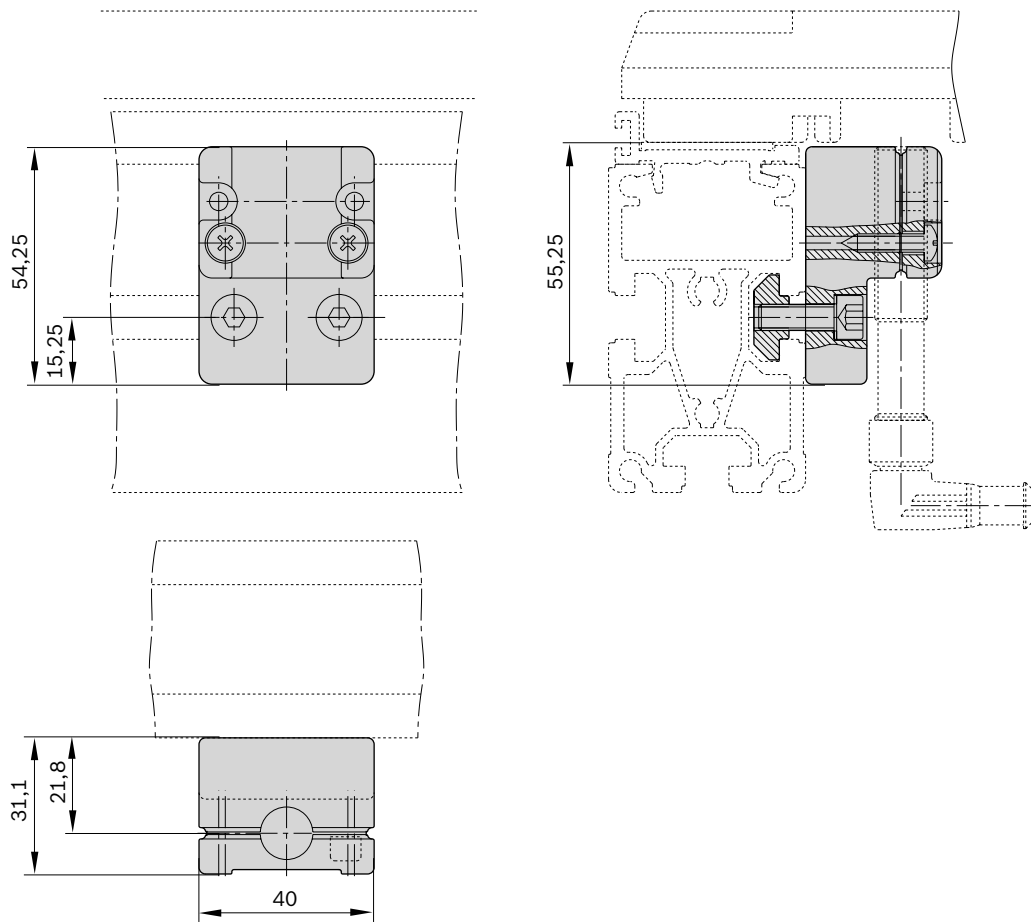
Ordering information

Product designation	Material number
SH 2/U switch bracket	3842168820

Technical data

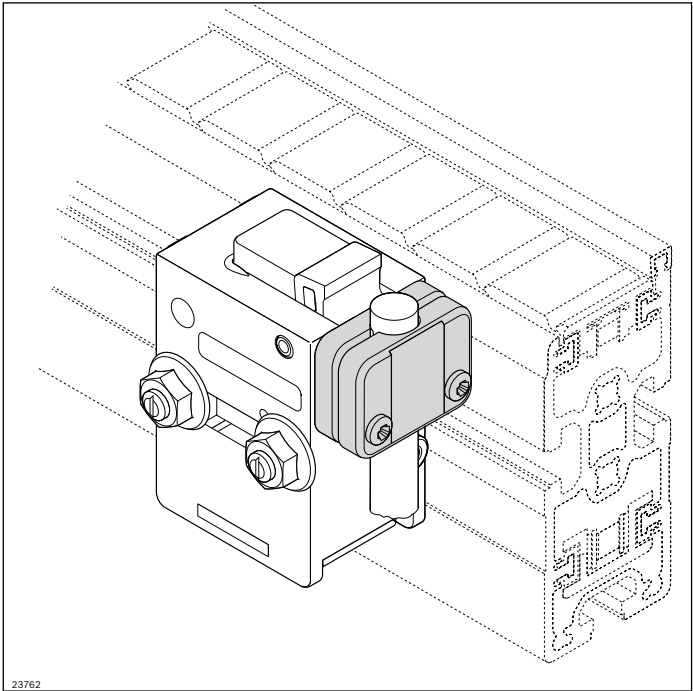
Material number	3842168820
Features	
Material specification	PA6

Dimensions



00012823

SH 2/UV switch bracket



- For fastening a sensor
- Installation location on the VE 2 stop gate
- For inquiry of the workpiece pallet position from below

The switch bracket is used fastening an M12x1 sensor for inquiry of the workpiece pallet position from below.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 4$ mm rated sensing range, see p. 8-110

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

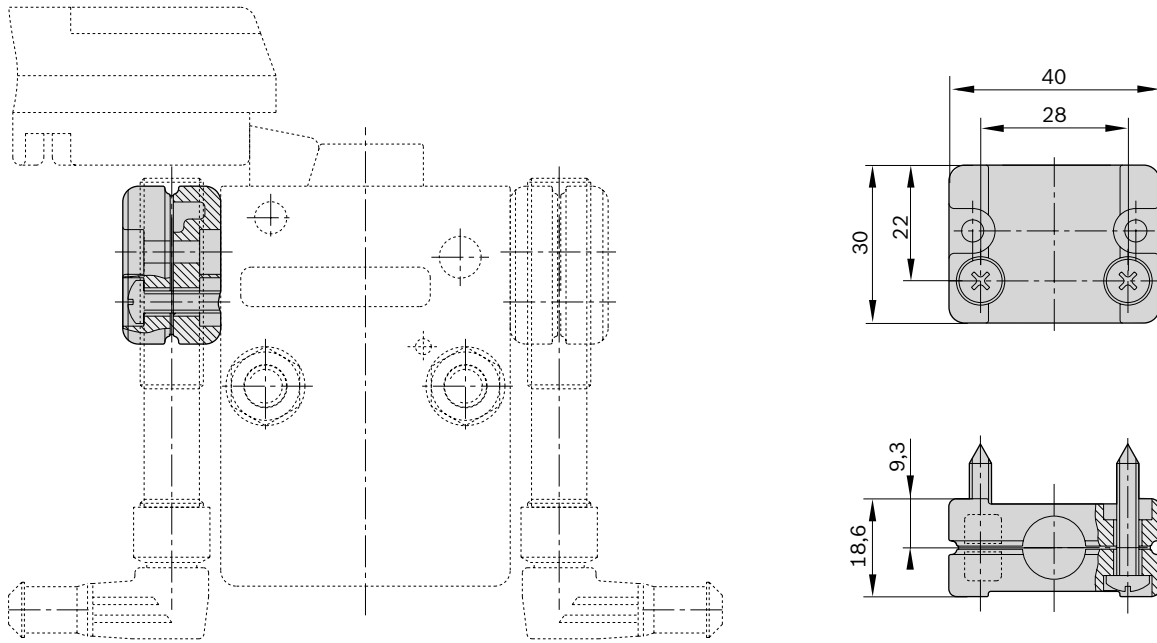
Ordering information

Product designation	Material number
SH 2/UV switch bracket	3842168600

Technical data

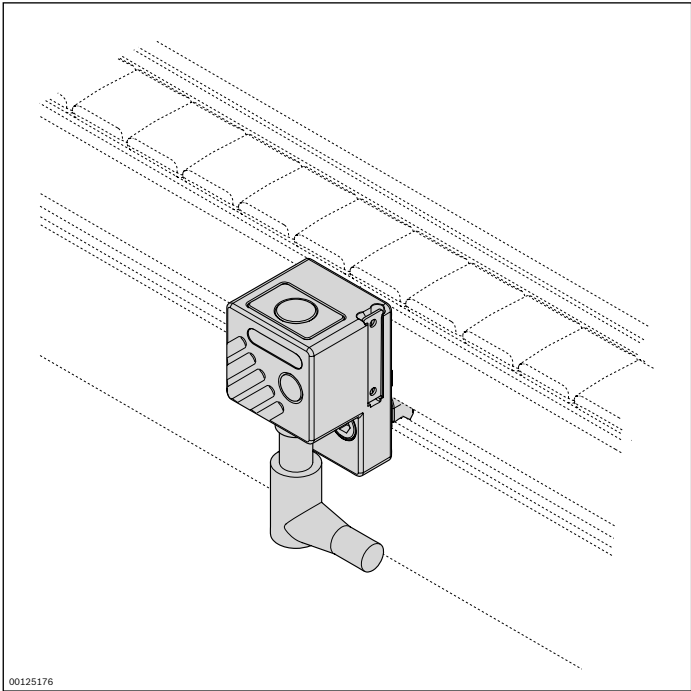
Material number	3842168600
Features	
Material specification	PA6

Dimensions



00012824

SH 2/U-H switch bracket



- For fastening a sensor
- For inquiry of the workpiece pallet position from below
- Especially sturdy metal design
- Able to bear loads of up to 100 kg
- Centering lugs for pre-positioning and quick assembly in the profile groove
- Installation location on the inner profile groove of the section profile
- Integrated stop for 12 mm sensor

The switch bracket is used fastening an M12x1 sensor for inquiry of the workpiece pallet position from below.

Accessories

Required accessories

- M12x1 sensor with $S_N \geq 7$ mm rated sensing range, see p. 8-110

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

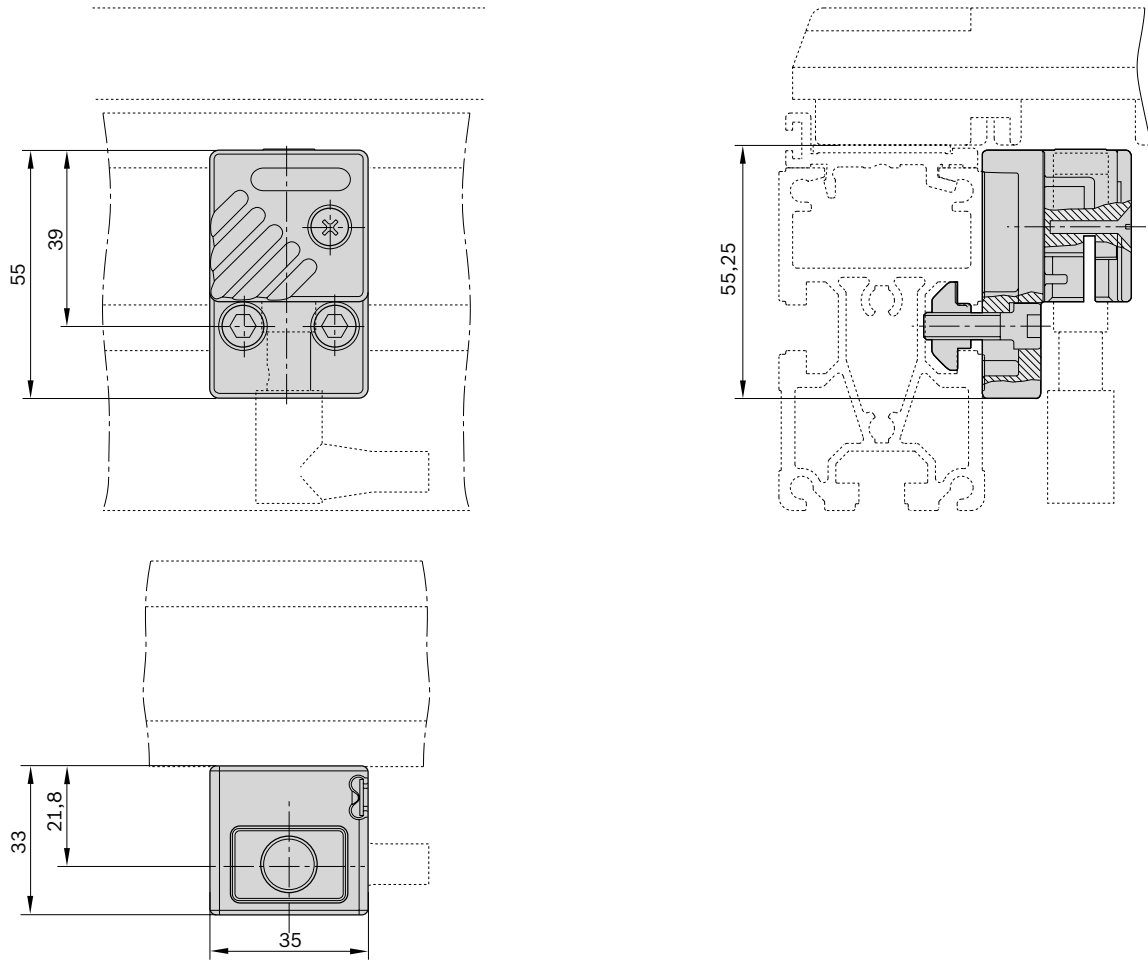
Ordering information

Product designation	Material number
SH 2/U-H switch bracket	3842537289

Technical data

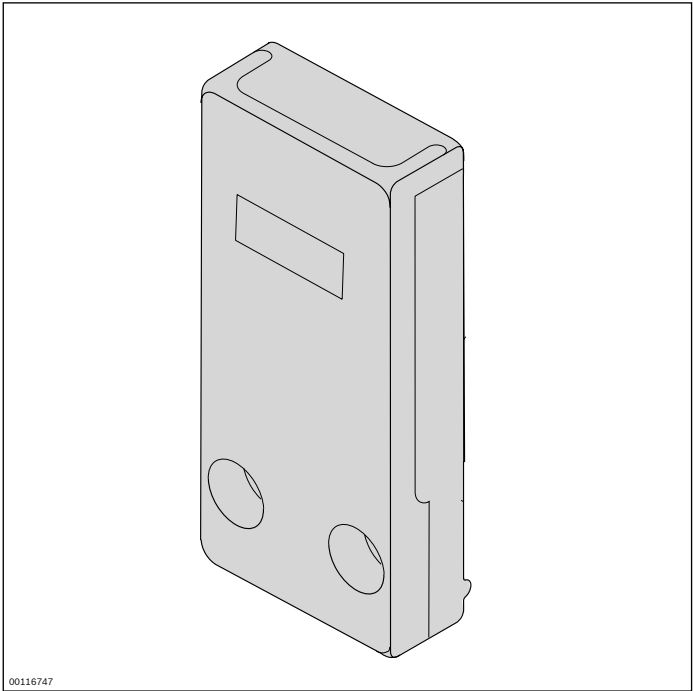
Material number	3842537289
Features	
Material specification	Die-cast aluminum

Dimensions



00125240

SH 2/SF switch bracket



- For fastening a sensor with special flat design
- Installation in the upper groove on the side of a conveyor section

The switch bracket is used fastening a sensor with special flat design for lateral inquiry of the workpiece pallet position.

Accessories

Required accessories

- Sensor with special flat design, rated sensing range $S_N \geq 4\text{ mm}$, e. g. Balluff BES 516-347-SA-2-03

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

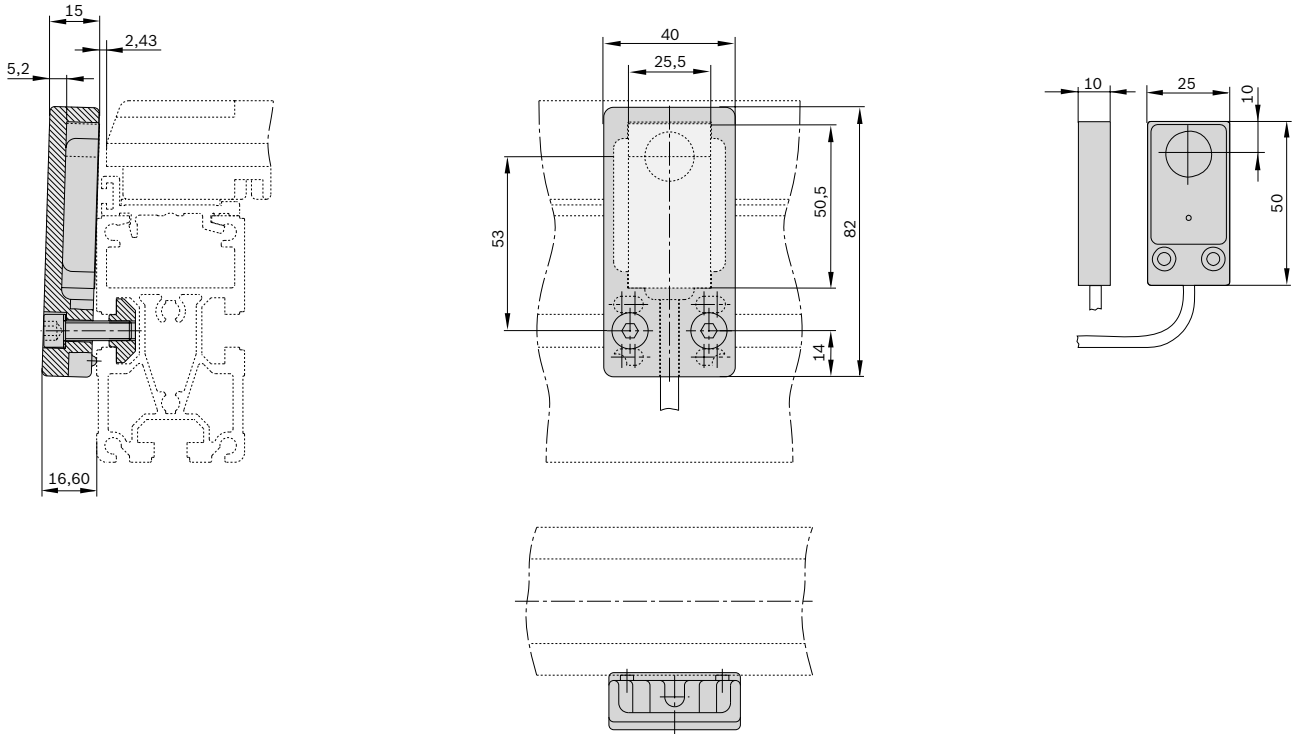
Ordering information

Product designation	Material number
SH 2/SF switch bracket	3842168840

Technical data

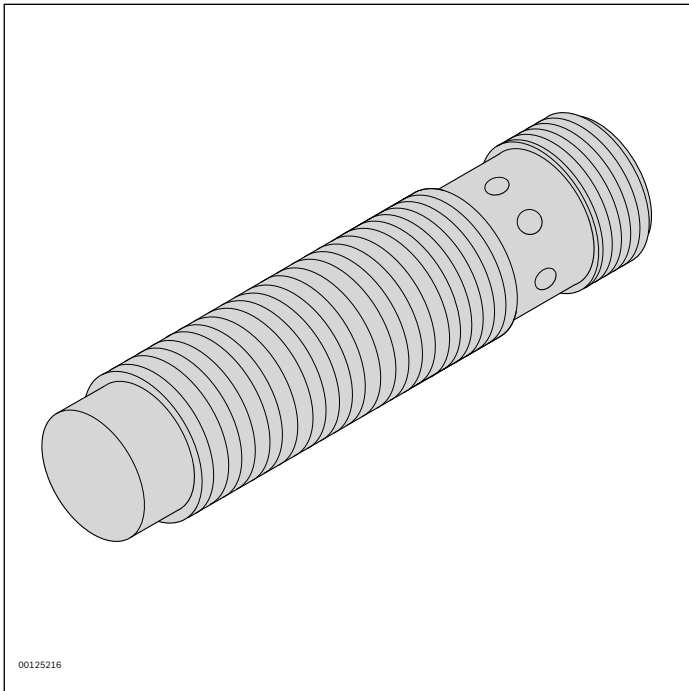
Material number	3842168840
Features	
Material specification	PA6

Dimensions

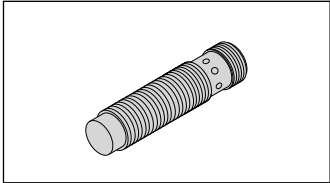


00012827

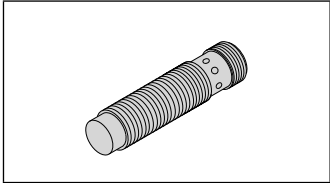
Sensors



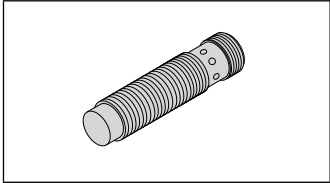
M12 and M8 inductive sensors with M12 or M8 push-in fitting for workpiece pallet detection, position inquiry for lift/transverse units, positioning units, and rotate units.



M12 inductive sensors with M12 push-in fitting **8-110**

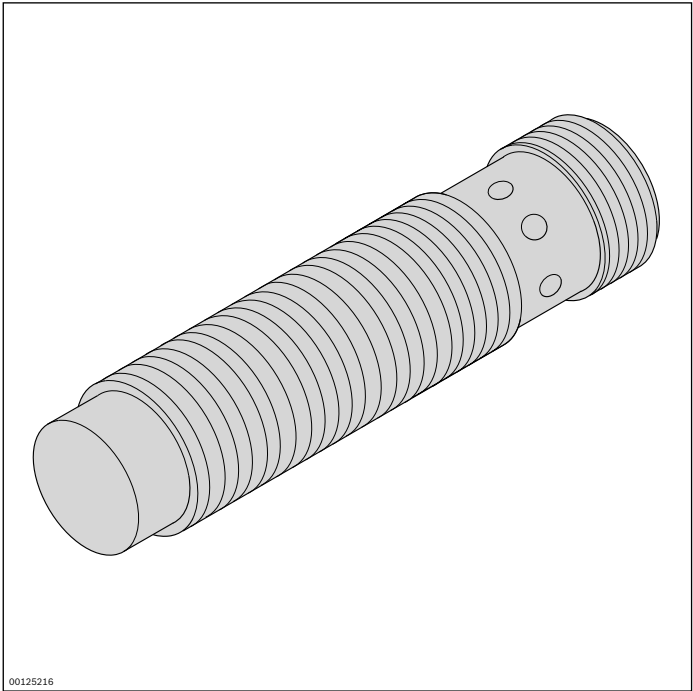


M12 inductive sensors with M8 push-in fitting **8-112**



M8 inductive sensors with M8 push-in fitting **8-114**

M12 inductive sensors with M12x1 push-in fitting



Workpiece pallet position detection of a workpiece pallet, Lift position units and lift transverse units.
position inquiry of lift/transverse units,

Accessories

Required accessories

- Switch bracket, see p. 8-94

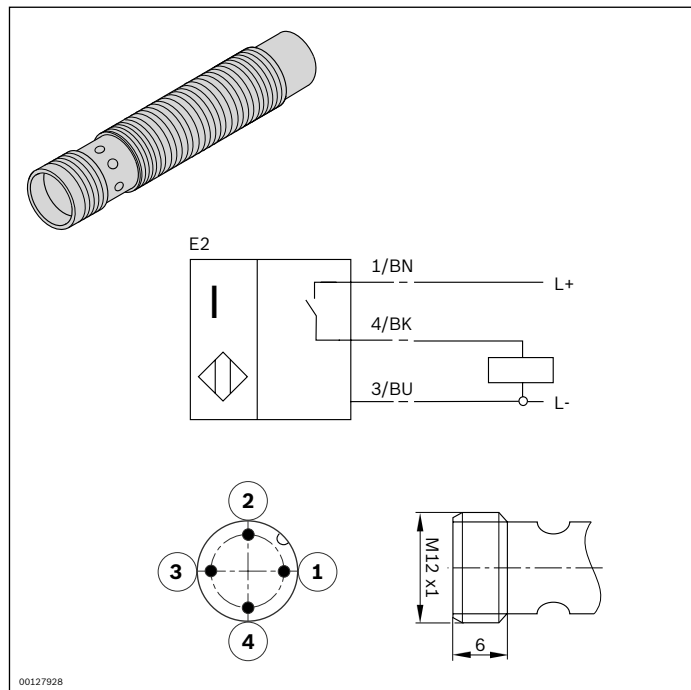
Ordering information

Product designation	Material number
M12x50 sensor	3842537995
M12x45 sensor	3842549814
M12x70 sensor	3842501548

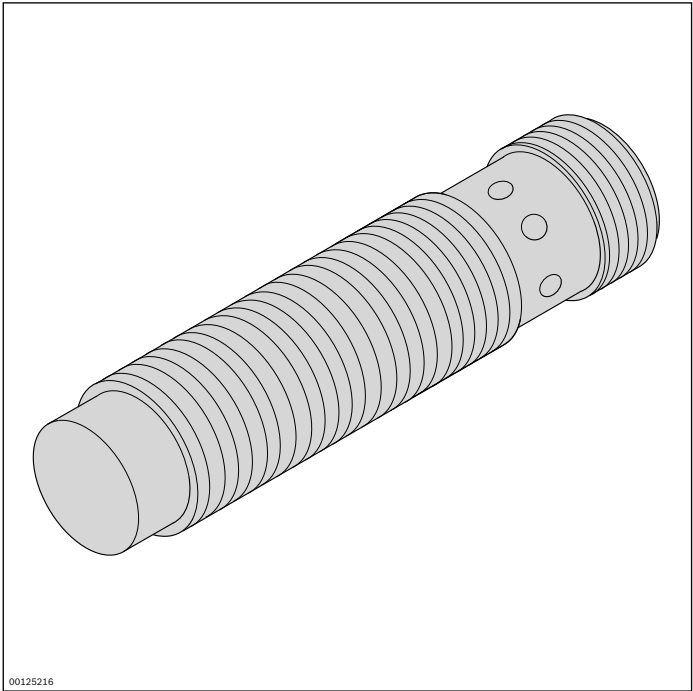
Technical data

Material number			3842537995	3842549814	3842501548
Conformity with standards			IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2
Material number			3842537995	3842549814	3842501548
Features					
Protection class			IP 67	IP 67	IP 68
Material specification			Housing: coated with CuZn, PBT	Housing: coated with CuZn, LCP	Housing: stainless; PA 12
Max. operating temperature	T	°C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
Dimensions		mm	M12 x 50	M12 x 45	M12 x 70
Push-in fitting			M12x1	M12x1	M12x1
Additional information					
Rated sensing range	S _N	mm	7	4	4
Switching frequency		Hz	800	300	1500
Operating current		mA	200	200	200
Mechanical installation			Not flush	Flush	Not flush
Function display			LED	LED	LED
Switching output			PNP	PNP	PNP
Switching function			Normally open (NO)	Normally open (NO)	Normally open (NO)
Operating voltage		V DC	10 ... 30	10 ... 30	10 ... 30
Approvals			CE, UL, CSA	CE, UL, CSA	CE, UL, CSA

Circuit diagrams



M12 sensors with M8x1 push-in fitting



Workpiece pallet position detection of a workpiece pallet, position inquiry of lift/transverse units, Lift position units and lift transverse units.

Accessories

Required accessories

- Switch bracket, see p. 8-94

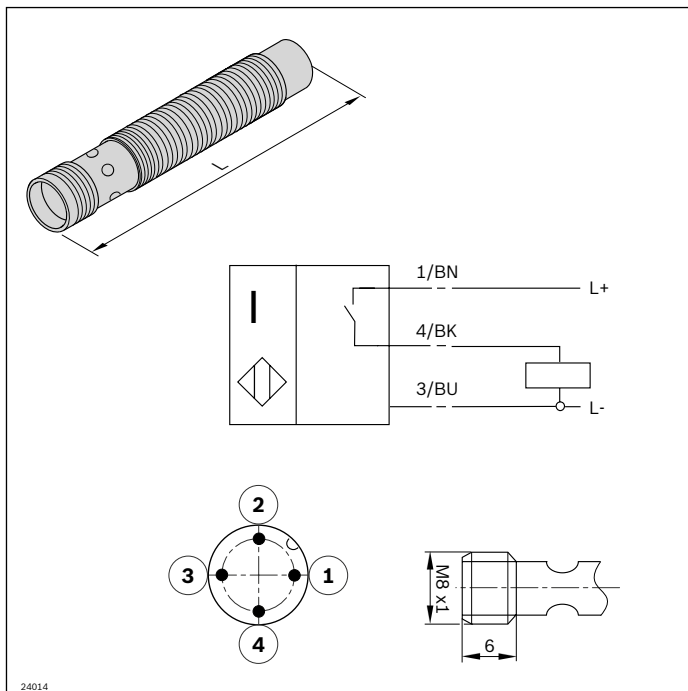
Ordering information

Product designation	Material number
M12x44 sensor	3842549813
M12x67 sensor	3842549812
M12x44 sensor	3842549811

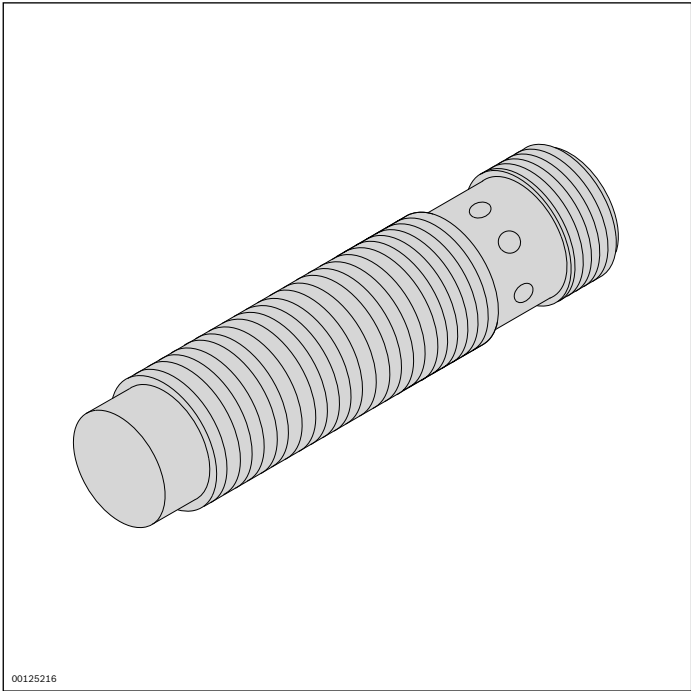
Technical data

Material number			3842549813	3842549812	3842549811
Features					
Protection class			IP 67	IP 67	IP 67
Material specification			Housing: coated with CuZn, PBT	Housing: coated with CuZn, LCP	Housing: coated with CuZn, LCP
Max. operating temperature	T	°C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
Dimensions		mm	M12 x 44	M12 x 67	M12 x 44
Push-in fitting			M8x1	M8x1	M8x1
Additional information					
Rated sensing range	S _N	mm	8	4	4
Switching frequency		Hz	800	2500	2500
Operating current		mA	200	200	200
Mechanical installation			Not flush	Flush	Flush
Function display			LED	LED	LED
Switching output			PNP	PNP	PNP
Switching function			Normally open (NO)	Normally open (NO)	Normally open (NO)
Operating voltage		V DC	10...30	10...30	10...30
Approvals			CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Conformity with standards			IEC 60947-5-2	IEC 60947-5-2	IEC 60947-5-2

Circuit diagrams



M8 inductive sensors with M8x1 push-in fitting



For VE 2, VE 2/L, VE 2/M or VE 2/S position inquiry in connection with 3842528817 (see p. 8-18). For VA 2/50

position inquiry or for chain tensioner inquiry with AS/BS 2/C-100, -250, AS/BS 2/R-300, -700, KU 2/...

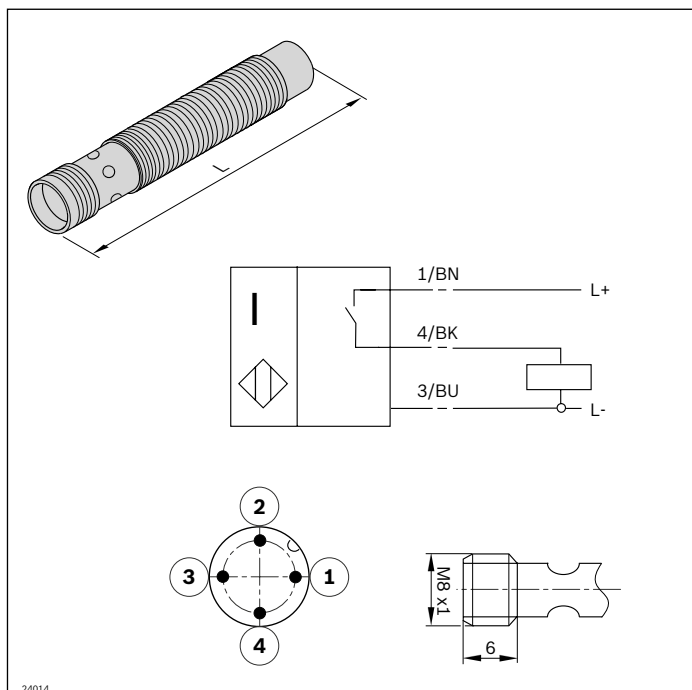
Ordering information

Product designation	Material number
M8x30 sensor	3842551761

Technical data

Material number			3842551761
Features			
Protection class			IP 68
Material specification			Housing: steel; stainless
Operating temperature	T	°C	-25 ... +70 °C
Dimensions			M8 x 30
Push-in fitting			M8x1
Additional information			
Rated sensing range	S _N	mm	2
Switching frequency		Hz	1500
Operating current		mA	200
Mechanical installation			Flush
Function display			LED
Switching output			PNP
Switching function			Normally open (NO)
Operating voltage		V DC	10 ... 30
Approvals			CE, cULus
Conformity with standards			IEC 60947-5-2

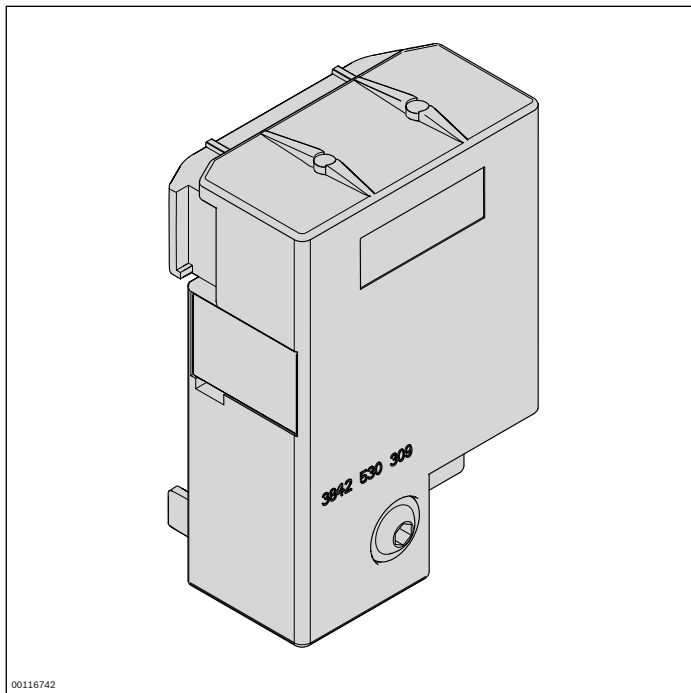
Circuit diagrams



Sensor application matrix

	Diameter with push-in fitting		Sensor	
	M12 with M12	3842537995	3842501548	3842549814
	M12 with M8	3842549813	3842549812	3842549811
	M8 with M8			3842551761
Position inquiry	AS 2/C-100, AS 2/C-250			X
	AS 2/R-300, AS 2/R-700			X
	BS 2/R-300, BS 2/R-700			X
	BS 2/C-100, BS 2/C-250			X
	EQ 2/TR		X	
	EQ 2/TR-90		X	
	EQ 2/T		X	
	EQ 2/TE		X	
	HQ 2/S		X	
	HQ 2/O		X	
	HQ 2/T		X	
	HQ 2/U		X	
	HQ 2/U2		X	
	HQ 2/H			X
	HQ 2/U-H			X
	KU 2/...			X
	PE 2			X
	PE 2/X		X	
	RA (HP 2/L)	X		
	HP 2			X
	Position inquiry			X
WT position inquiry	SH 2/S	X		
	SH 2/ST		X	
	SH 2/S-H	X		
	SH 2/U	X		
	SH 2/UV	X		
	SH 2/U-H	X		
	WI/M		X	
	WI 2		X	
	WI 2/H		X	
	WI 2/D		X	
	HQ 2/U-H			X

WI/M, WI 2/... rockers



Rockers are used for the following areas:

- for area monitoring
- as a stop for transverse transportation of workpiece pallets,
- for workpiece pallet recognition

Depending on the desired function the WI/M, WI 2/... rockers should be fitted with either one or two sensors (see p. 8-116).

Function of the rockers



Area monitoring

The stop rail leans slightly to one side and, together with a sensor, signals the presence of a workpiece pallet in the area of this rail. The length of the monitored area depends on the length of the stop rail.

The sensor for the stop rail is damped when the rocker is deactivated. For WI/M, the sensor is damped when the rocker is activated.



Stop

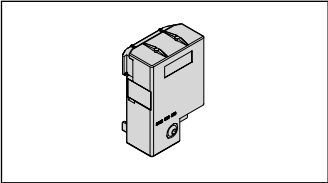
At the end of a lift transverse unit the workpiece pallet is stopped by the slide stop or by the rocker in its capacity as a stop.

Damped WI 2/D rockers are recommended for workpiece pallet total weights of > 35 kg.

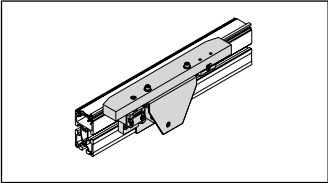


Workpiece pallet recognition

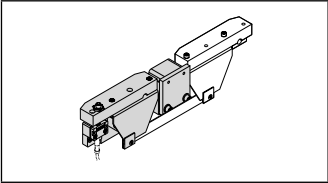
If a WI 2 rocker is fitted with a second sensor, not only can an area be monitored, but the position of a WT 2 workpiece pallet –in position on the lift transverse unit– can also be recognized. This is, for example, necessary if rockers are used together with EQ 2 reversible lift transverse units. The second sensor, which can be fitted later whenever required, is attenuated if the workpiece pallet is positioned centrally in front of the activated rocker.



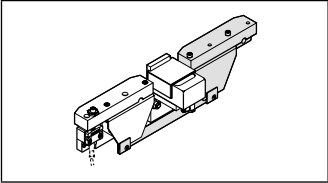
WI/M rockers **8-120**



WI 2 rockers **8-126**



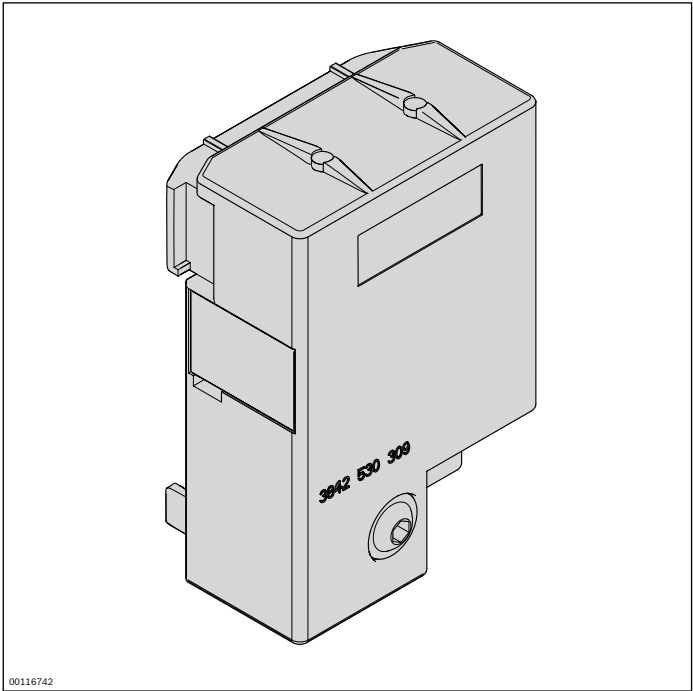
2/X rockers **8-130**



WI 2/D rockers **8-132**



WI/M rocker



- For area monitoring
- For workpiece pallet recognition
- For accumulation pressure control
- Simple and compact construction
- Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- Can be combined with WT 2, WT 2/F, WT 2/H and WT 2/F-H

The WI/M rocker is used for area monitoring on transfer systems. The WI/M rocker is unsuitable for use as a stop for workpiece pallets arriving from the transverse conveyor. In addition, a stop or damper must be installed to absorb the impact impulse corresponding to the workpiece pallet weight. The spring-mounted rocker switch permits the mechanical detection of workpiece pallets. The metal

element in the rocker switch permits inquiry via a sensor. Alternatively, a pneumatic cylinder switch can be used to convert the rocker activation directly into a pneumatic signal. Simple, purely pneumatic accumulation pressure regulation can be established in conjunction with a stop gate VE 2.

Accessories

Recommended accessories

- M12x1 proximity switch with $S_N \geq 4$ mm rated sensing range, length 70 mm, see p. 8-110
- Pneumatic cylinder switch, see p. 8-123

Delivery note

Scope of delivery

- Including mounting material for installation on ST 2/... conveyor sections or BS 2/... belt sections.

Ordering information

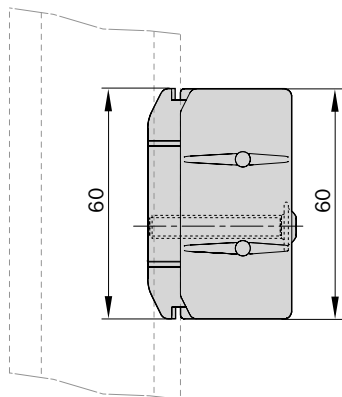
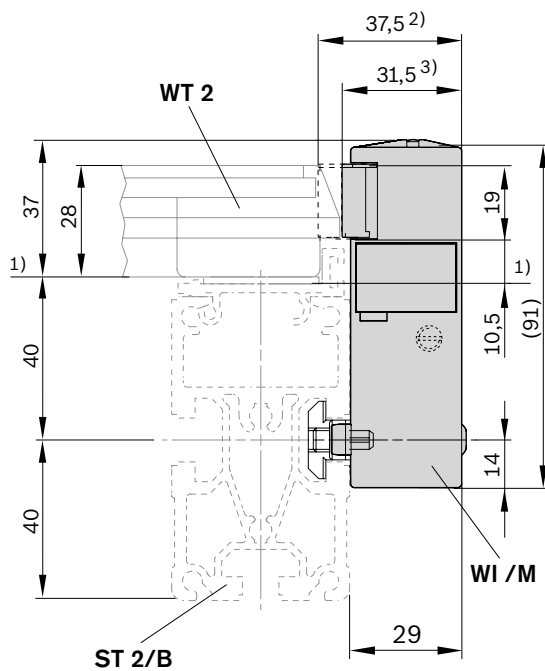
Product designation	Material number
WI/M rocker	3842530797

Technical data

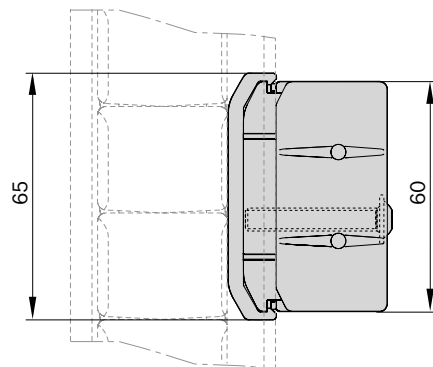
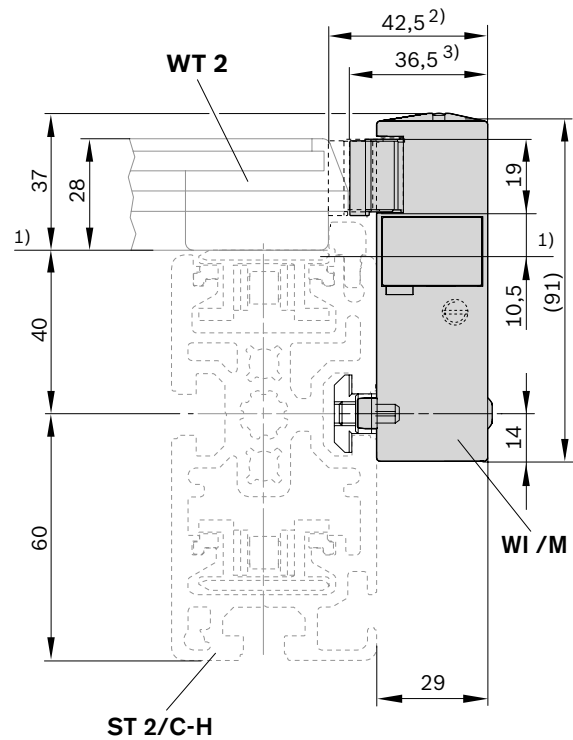
Material number		3842530797
Features		
Monitoring range	mm	60

Dimensions

Mounting on ST 2/...



Mounting on ST 2/...-H

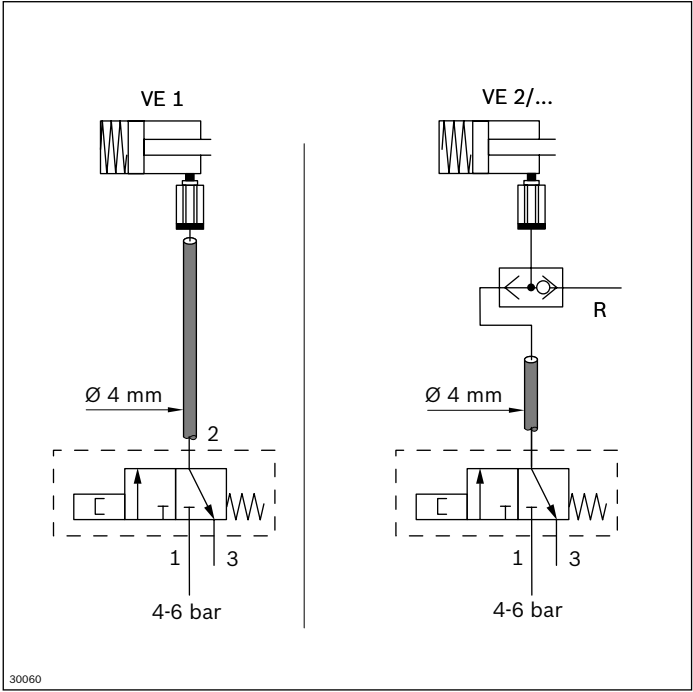


00012816

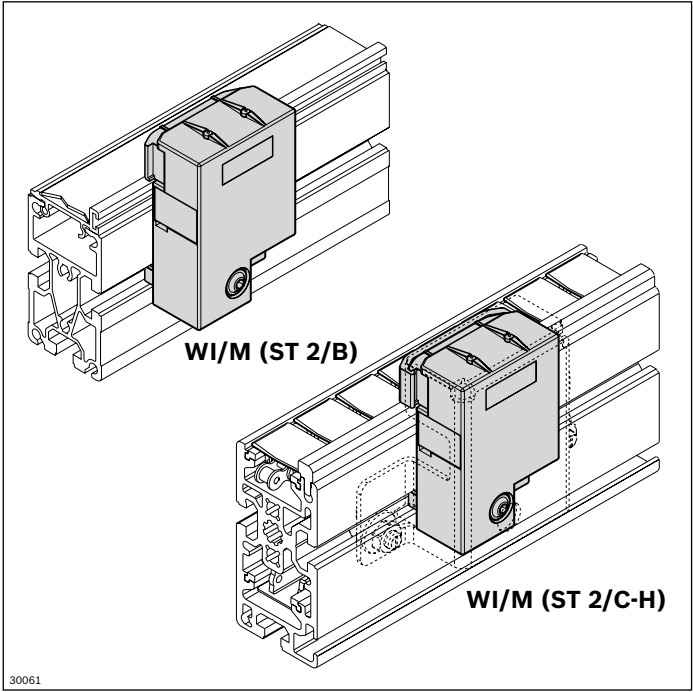
- 1) Transport level
- 2) Limit stop not activated
- 3) Limit stop activated

Note: Rocker activated, electrical sensor damped

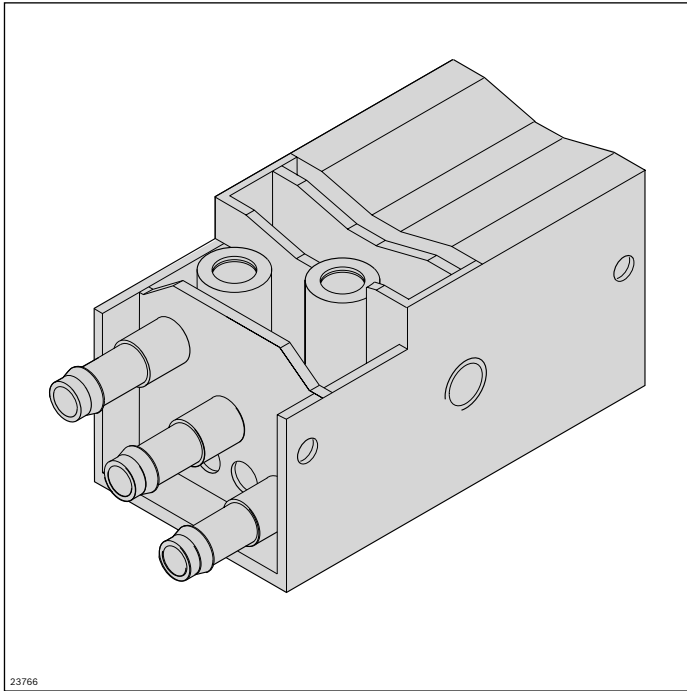
Circuit diagrams



Installation locations on ST 2/... or ST 2/...-H



Pneumatic cylinder switch



8

The pneumatic cylinder switch is used for direct conversion of the slide activation into a pneumatic signal. Simple,

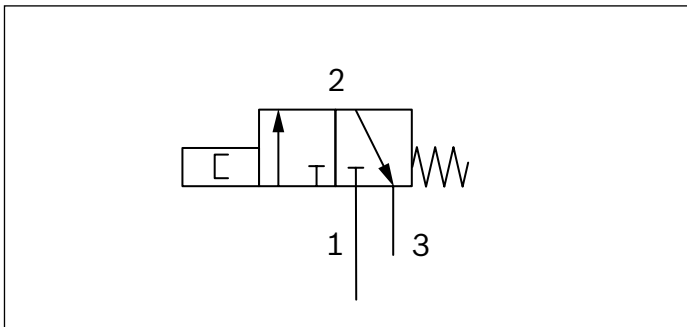
purely pneumatic accumulation pressure regulation can be established in conjunction with a stop gate VE 2.

Ordering information

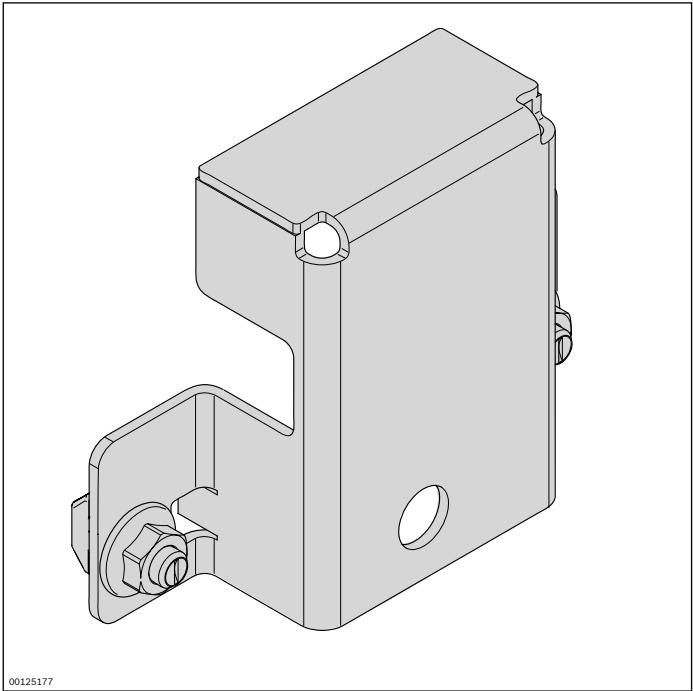
Product designation	Material number
Pneumatic cylinder switch	3842532151

Note: Rocker not activated, pneumatic cylinder switch in operating position.

Circuit diagrams



WI/M protective cover



The protective cover enables the WI/M rocker to be used in harsh industrial environments.

Delivery note

Scope of delivery

- Incl. mounting material

Condition on delivery

- Not assembled

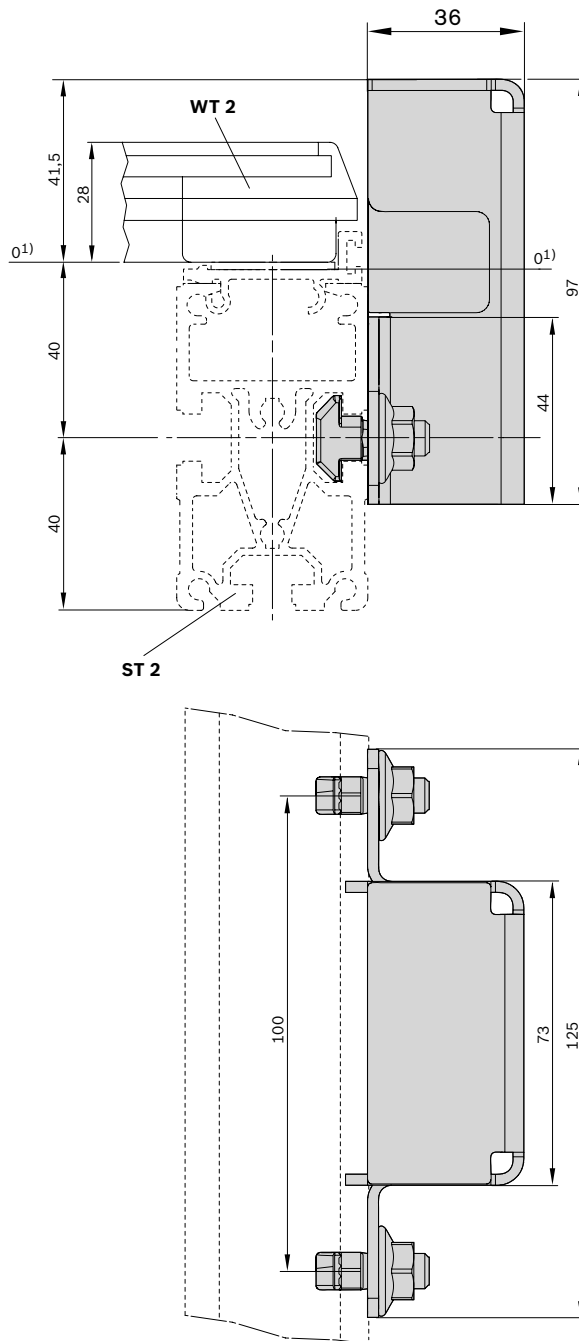
Ordering information

Product designation	Material number
WI/M protective cover	3842537855

Technical data

Material number	3842537855
Features	
Material specification	Sheet steel, corrosion-resistant

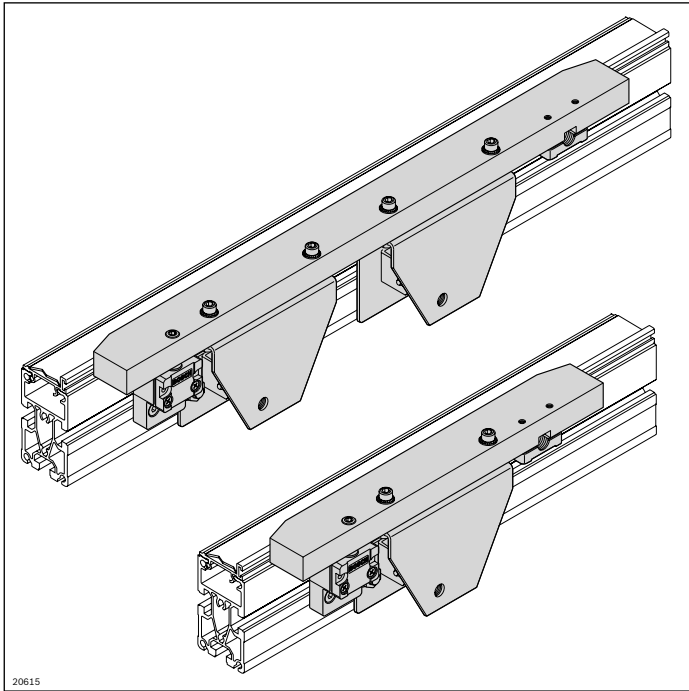
Dimensions



00125241

1) Transport level

WI 2 rocker



- ▶ For area monitoring
- ▶ For workpiece pallet recognition
- ▶ As a stop for transverse transportation of workpiece pallets
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2 and WT 2/F

One basic rocker element for workpiece pallet lengths of ≤ 480 mm

Two basic rocker elements for workpiece pallet lengths of ≥ 640 mm

Delivery note

Scope of delivery

- ▶ Including mounting material for installation on the ST 2/... conveyor section or BS 2/... belt section.

Ordering information

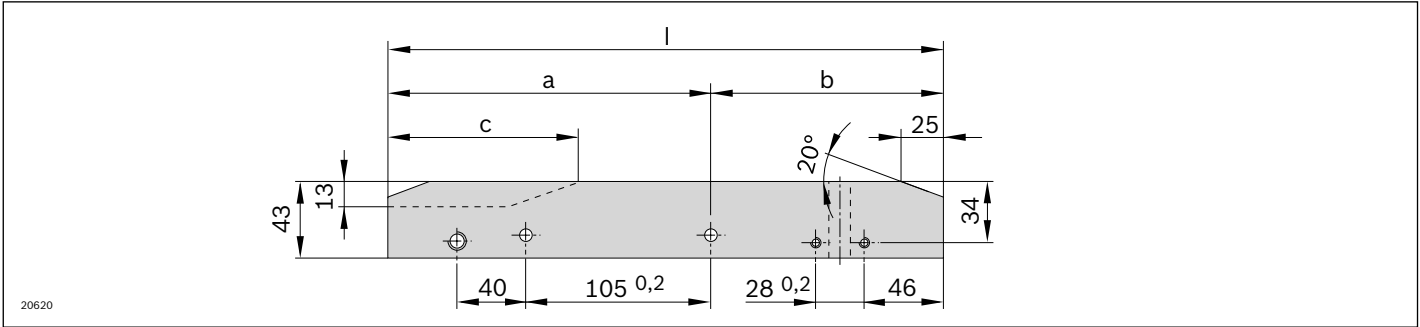
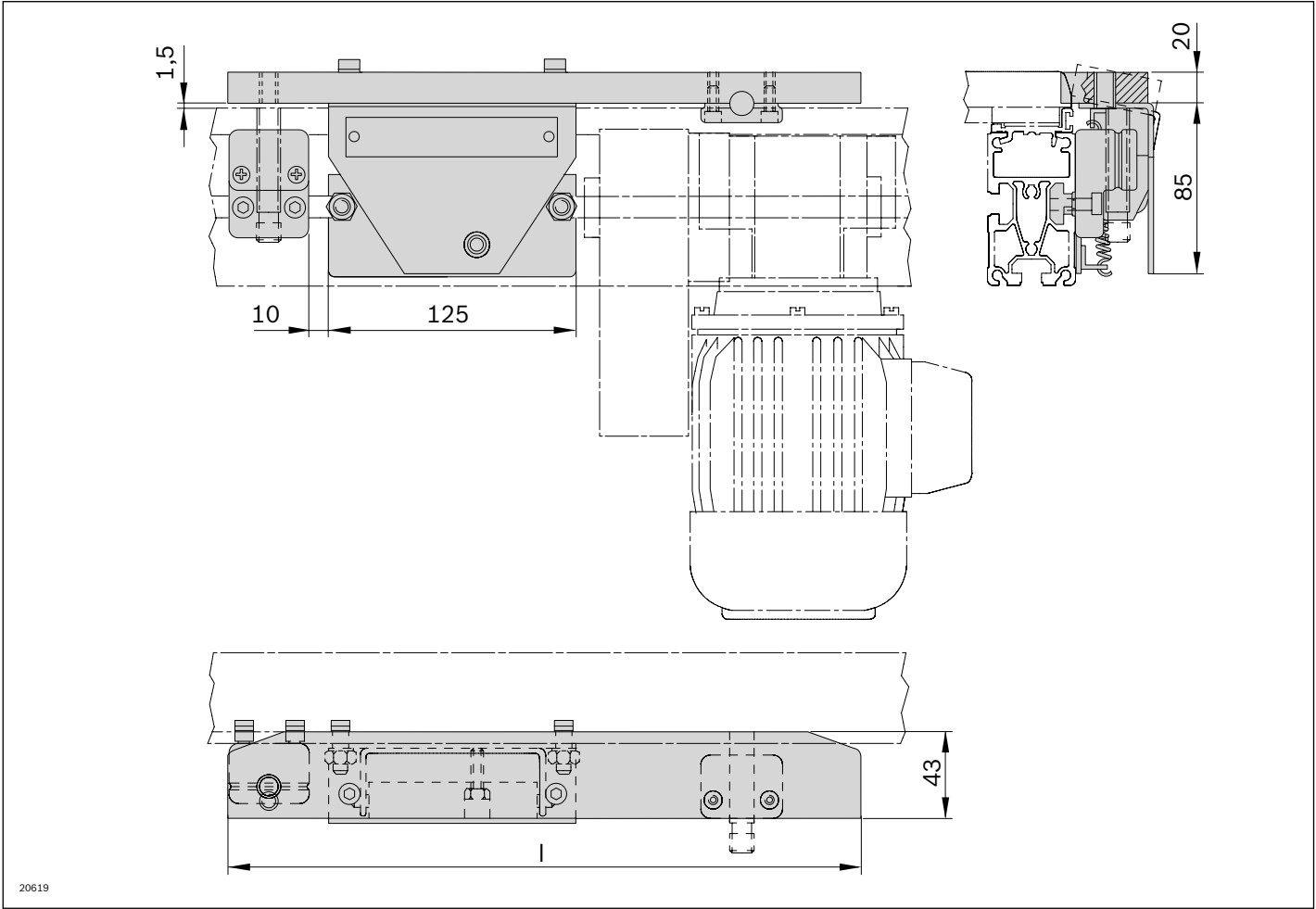
Product designation	Material number
Rocker, WI 2 b ₀ = 160	3842348780
Rocker, WI 2 b ₀ = 240	3842348781
Rocker, WI 2 b ₀ = 320	3842348782
Rocker, WI 2 b ₀ = 400	3842348783
Rocker, WI 2 b ₀ = 480	3842348784
Rocker, WI 2 b ₀ = 640	3842348786
Rocker, WI 2 b ₀ = 800	3842348788

Technical data

Material number			3842348780	3842348781	3842348782	3842348783
Load						
Max. total weight of workpiece pallet	m _G	kg	30	30	30	30
Workpiece pallet minimum weight	m	kg	1.5	1.5	1.5	1.5
Features						
Monitoring range		mm	160 ... 480	160 ... 480	160 ... 480	160 ... 480
Dimensions						
Length	l	mm	320	320	400	480

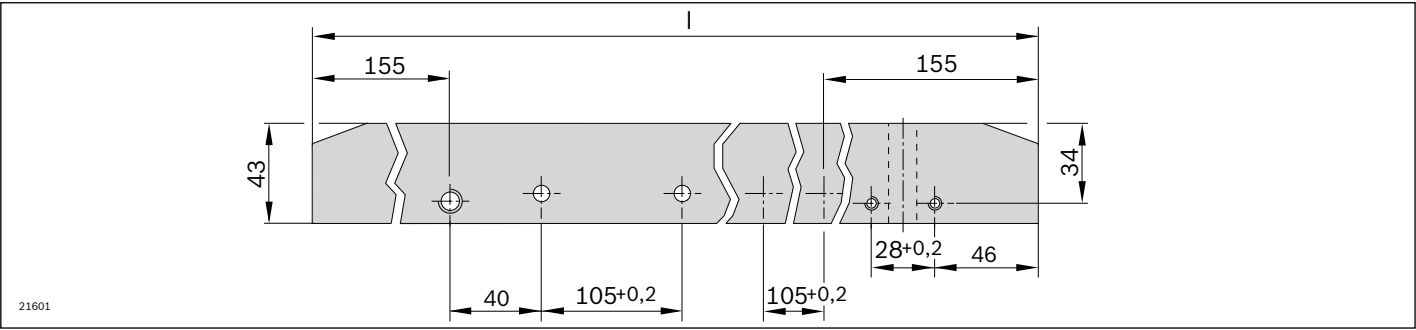
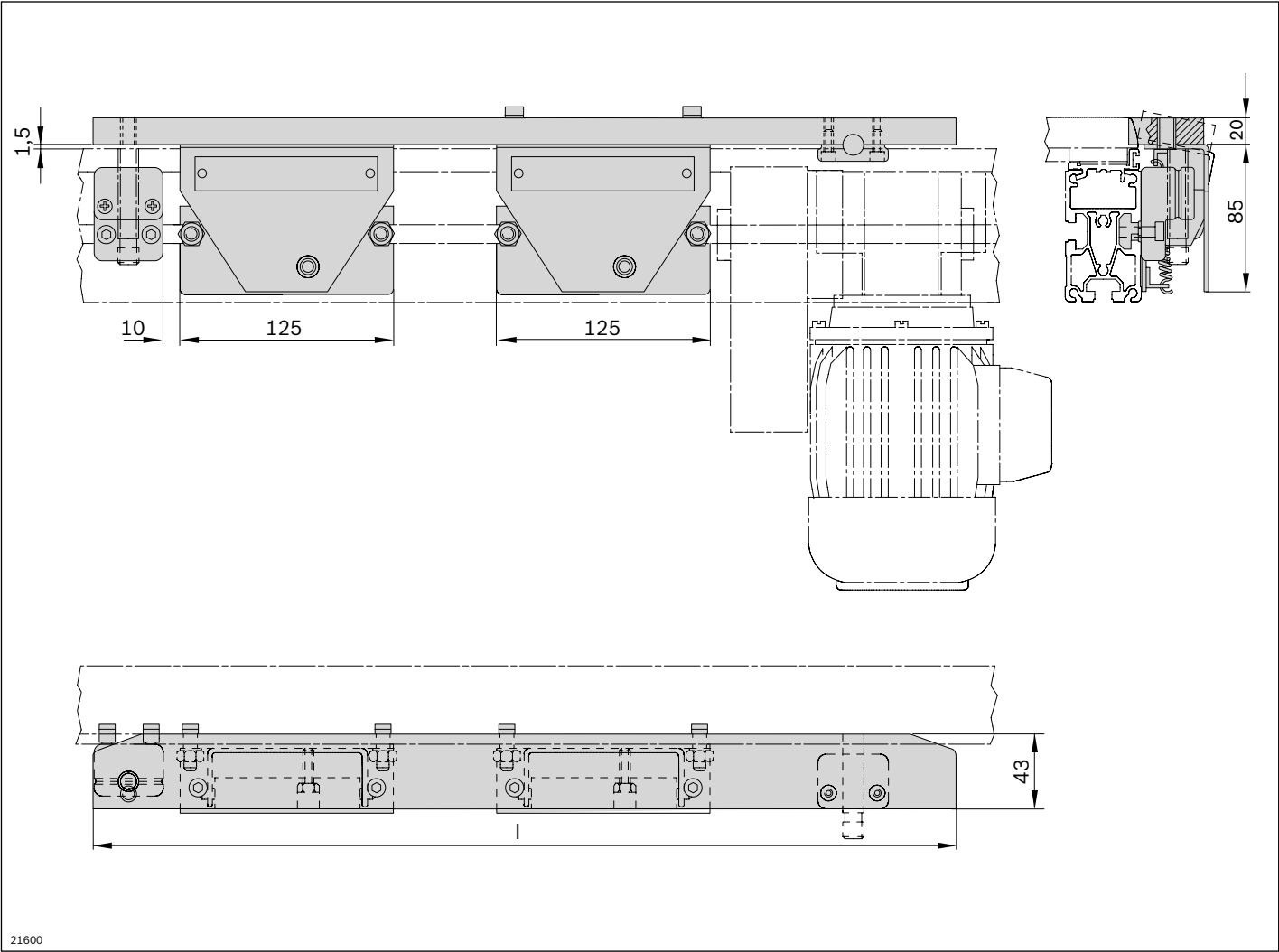
Material number			3842348784	3842348786	3842348788
Load					
Max. total weight of workpiece pallet	m _G	kg	30	30	30
Workpiece pallet minimum weight	m	kg	1.5	3.0	3.0
Features					
Monitoring range		mm	160 ... 480	640 ... 800	640 ... 800
Dimensions					
Length	l	mm	560	720	880

For workpiece pallet lengths of ≤ 480 mm



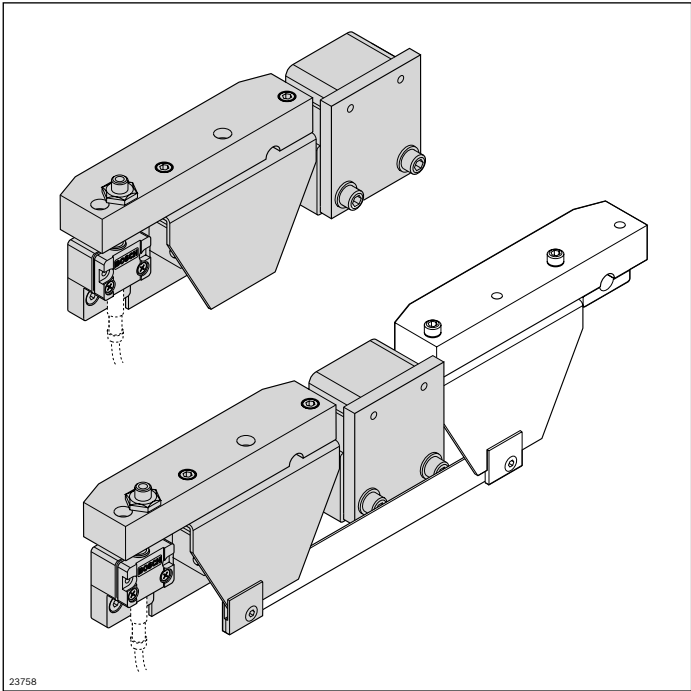
Track width in the transverse conveyor b _o (mm)	Dimension a (mm)	Dimension b (mm)	Dimension c (mm)	Dimension l (mm)
160	165	155	105	320
240	165	155	25	320
320	245	155	25	400
400	292	188	25	480
480	332	228	25	560

Dimensions
For workpiece pallet lengths of ≥ 640 mm



Track width in the transverse conveyor b_0 (mm)	Dimension I (mm)
640	720
800	880

WI 2/X rocker



- Fixed stop for workpiece pallet in the transverse conveyor
- For area monitoring
- For workpiece pallet recognition
- For permitted total weight of workpiece pallets > 30 kg
- Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- Can be combined with WT 2 and WT 2/F

Accessories

Required accessories

- M12 sensor with rated sensing range $S_N \geq 4\text{ mm}$, see p. 8-110

Recommended accessories

- Additional rocker extension MS with second rocker and connecting strip for installation of a rocker positioned between the start and end of the conveyor section.

Delivery note

Scope of delivery

- Including mounting material for fastening to ST 2/.. conveyor sections or BS 2/... belt sections.

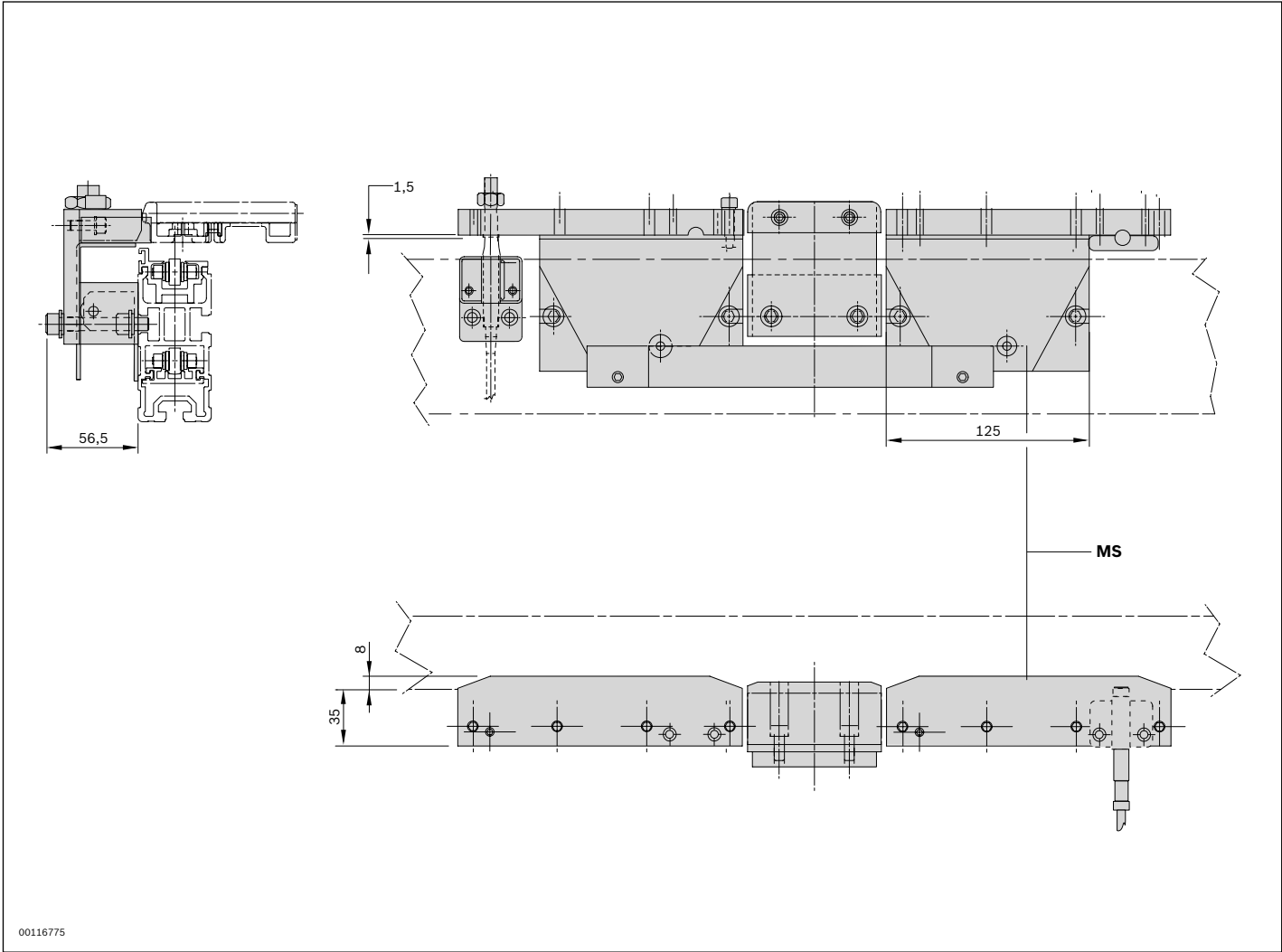
Ordering information

Product designation	Material number
WI 2/X rocker	3842524447
Rocker extension, MS $l_{wt} = 400$	3842524449
Rocker extension, MS $l_{wt} = 480$	3842524450
Rocker extension, MS $l_{wt} = 640$	3842524451
Rocker extension, MS $l_{wt} = 800$	3842524452
Rocker extension, MS $l_{wt} = 1040; 1200$	3842524453

Technical data

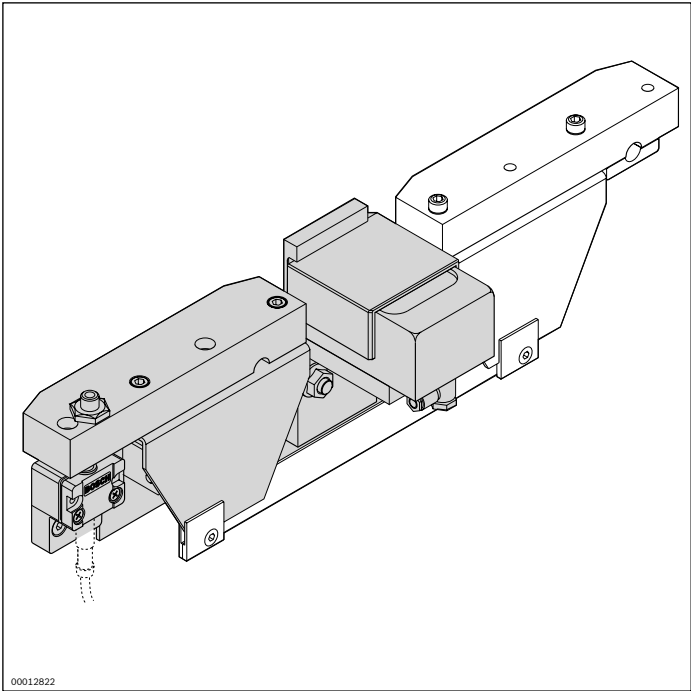
Material number			3842524447
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	30
Features			
Monitoring range		mm	400 ... 1200

Dimensions



MS Additional rocker extension

WI 2/D rocker



- ▶ As a damped stop for workpiece pallets in the transverse conveyor
- ▶ For area monitoring
- ▶ For workpiece pallet recognition
- ▶ For permitted total weight of workpiece pallets > 35 kg
- ▶ Suitable for mounting on an ST 2/... section with a profile width of 45 mm or an ST 2/...-H section with a profile width of 50 mm
- ▶ Can be combined with WT 2 and WT 2/F

Accessories

Required accessories

- ▶ M12 sensor with rated sensing range $S_N \geq 4$ mm, see p. 8-110

Recommended accessories

- ▶ Additional rocker extension MS with second rocker and connecting strip for installation of a rocker positioned between the start and end of the conveyor section from a monitoring range of 400 mm.

Delivery note

Scope of delivery

- ▶ Incl. mounting material
- ▶ Including DA 2/100 damper

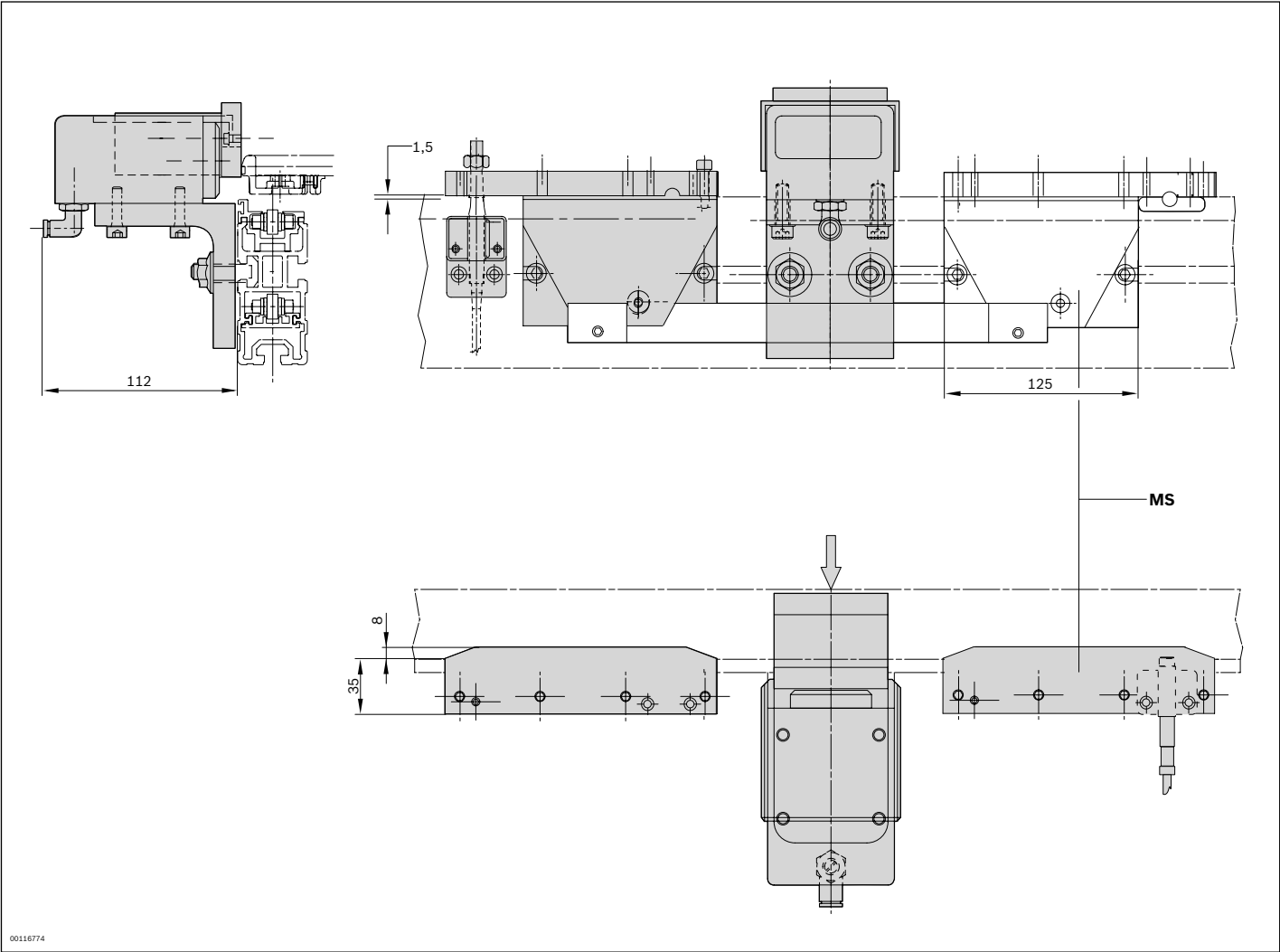
Ordering information

Product designation	Material number
WI 2/D rocker	3842524448

Technical data

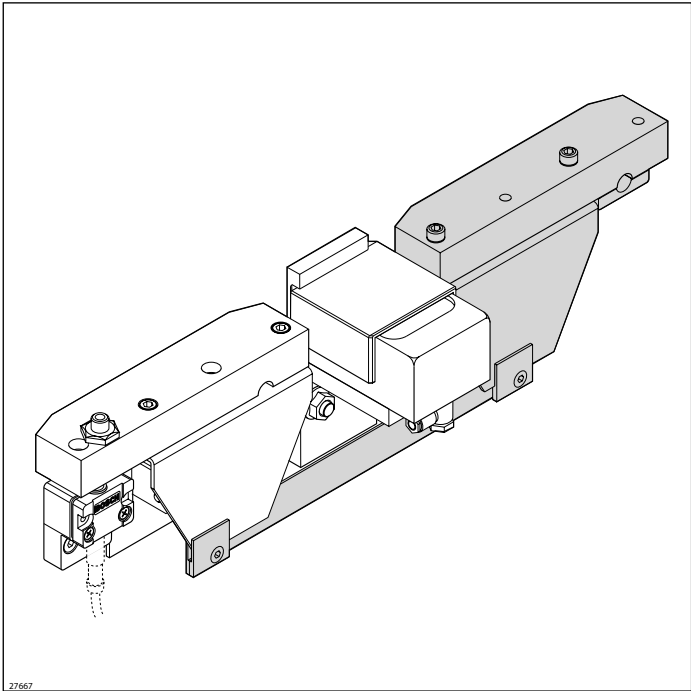
Material number			3842524448
Load			
Max. total weight of workpiece pallet	m _G	kg	100
Workpiece pallet minimum weight	m	kg	5
Features			
Monitoring range		mm	160 ... 320

Dimensions



MS Additional rocker extension

MS rocker extension



Rocker extension as a second rocker with connecting strip for installation of a rocker positioned between the start and end of the conveyor section.

Required accessories

- WI 2/X WI 2/D rocker, see p. 8-130/8-132

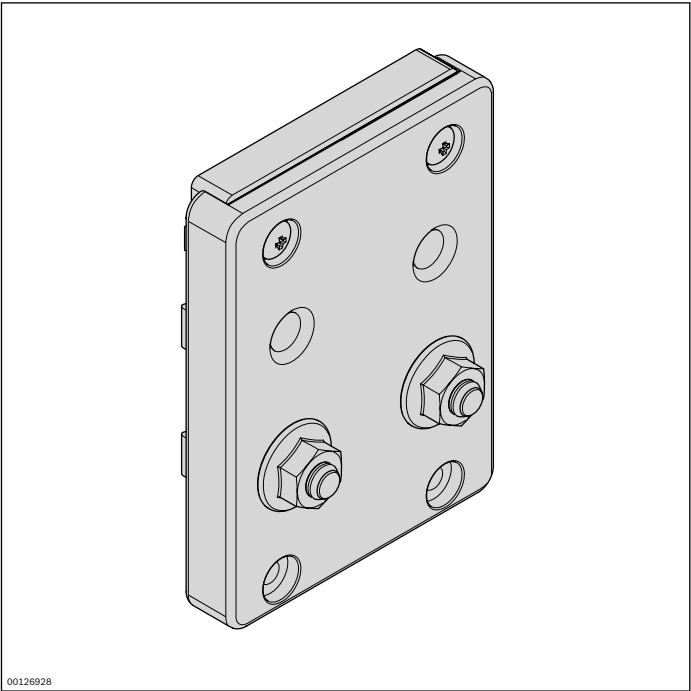
Ordering information

Product designation		Material number
Rocker extension, MS l _{WT} = 400		3842524449
Rocker extension, MS l _{WT} = 480		3842524450
Rocker extension, MS l _{WT} = 640		3842524451
Rocker extension, MS l _{WT} = 800		3842524452
Rocker extension, MS l _{WT} = 1040; 1200		3842524453

Technical data

Material number		3842524449	3842524450	3842524451	3842524452	3842524453
Dimensions						
Length of workpiece	l _{WT}	mm	400	480	640	800
pallet						1040; 1200
Features						
Monitoring range	mm	400 ... 1200	400 ... 1200	400 ... 1200	400 ... 1200	400 ... 1200

WT 2 stop



- ▶ Fixed stop in the transverse conveyor
- ▶ Installation location: ST 2/... section and BS 2/... belt section
- ▶ Not suitable for mounting on ST 2/...-H or BS 2/...-H sections

The WT 2 stop is used as a fixed stop for workpiece pallets entering a longitudinal section from a transverse section.

Delivery note

Scope of delivery

- ▶ Including mounting material for installation between two ST 2 conveyor sections or BS 2 belt sections.

Condition on delivery

- ▶ Not assembled

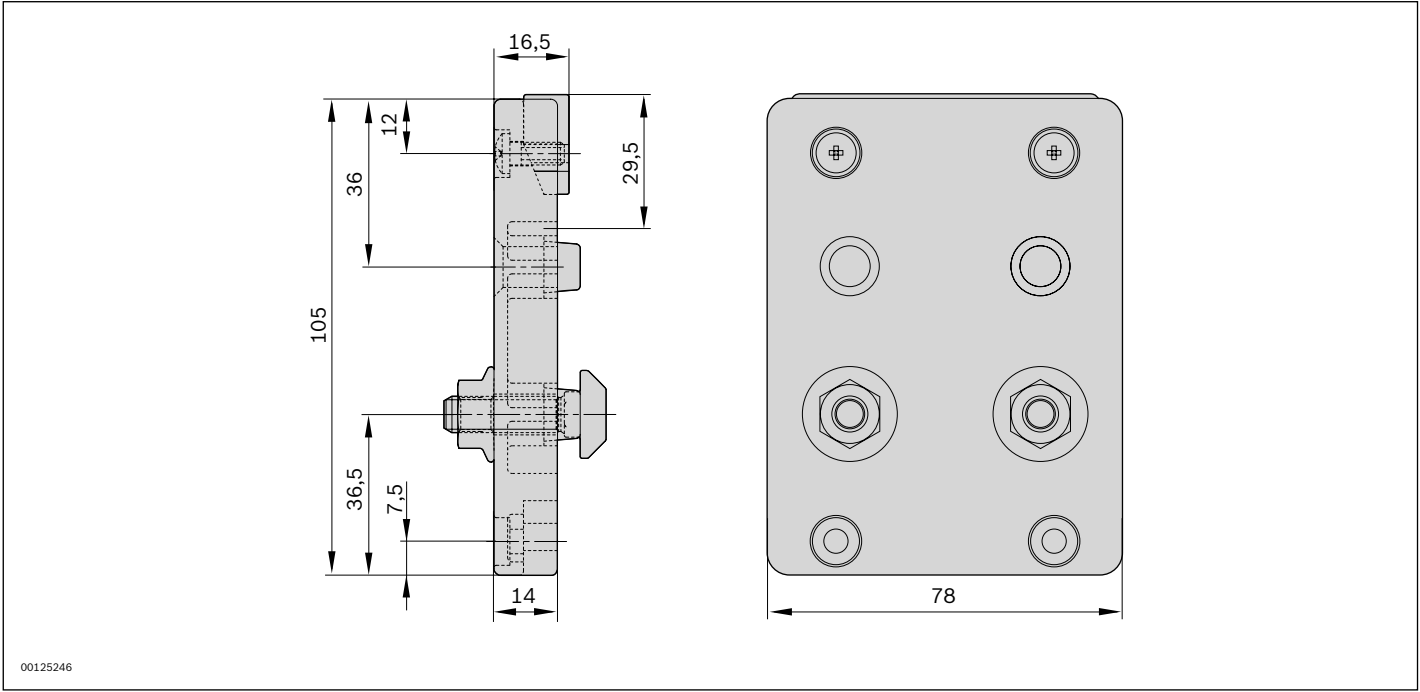
Ordering information

Product designation	Material number
WT 2 stop	3842519717

Technical data

Material number	3842519717
Load	
Max. total weight of workpiece pallet	m _G kg 30
Features	
ESD	yes
Material specification	PA66

Dimensions



Identification systems

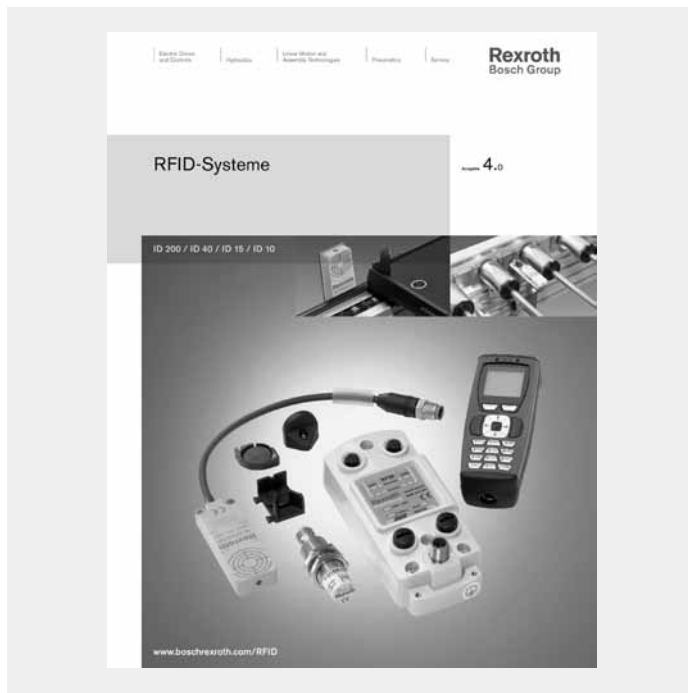
Identification systems

9-3

9



Identification systems



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

- ▶ VE, VE 2/M, VE 2/L or VE 2/S stop gates
- ▶ M8x1 sensor with rated sensing range $S_N \geq 2 \text{ mm}$, can be installed flush

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

Catalog: 3842541003

www.boschrexroth.de/mediadirectory



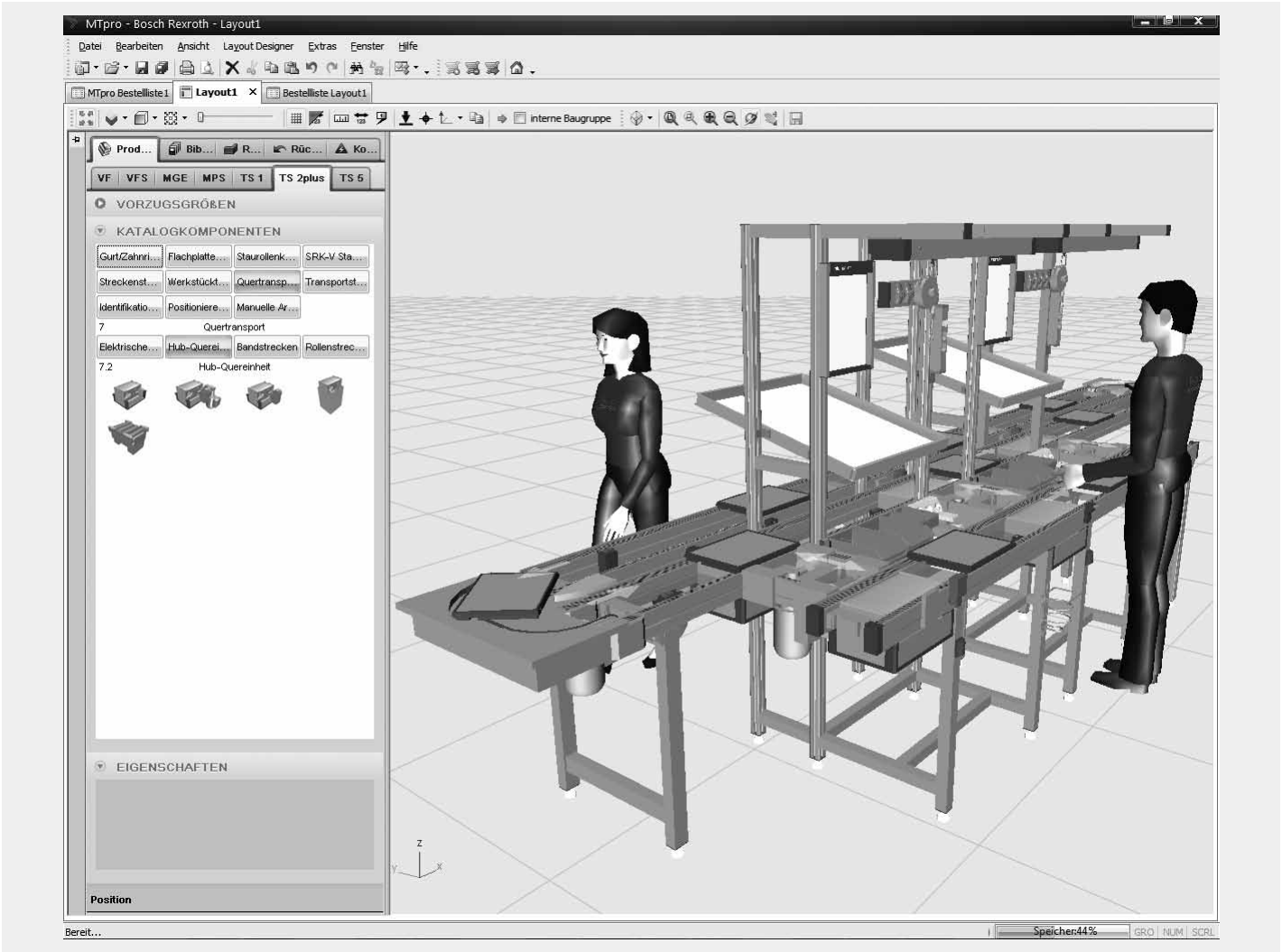
MTpro – planning software

MTpro – planning software

10-3

10





MTpro – planning software

MTpro 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

10



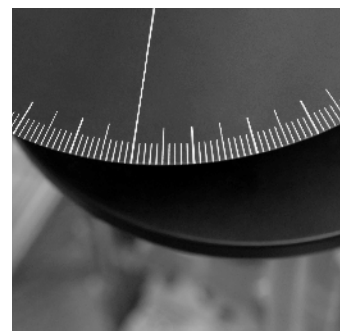
Catalog: 3842539057
www.boschrexroth.de/mediadirectory

Technical data

System specifications

11-2

11



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 (the combination of components into a modular system), 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 doing so guarantees special functional safety or if installing them at a later point would require a disproportionate 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 declaration of incorporation. 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 – 3842527147 – must be followed.

Media resistance

Our products are guaranteed to be resistant to numerous media common to manufacturing, 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 long-term contact with acidic or basic reacting materials.

Contamination

Wear may increase dramatically if the system is contaminated due to environmental factors, particularly with abrasive media such as sand and silicates, 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.

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 that is caused by friction if they are transported on systems with belts or round belts.
- ▶ The chain lubricant used on conveyor chains can be washed away with solvents or detergents.

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

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 material and the possibility to take the components apart.

Pneumatic connection data

Oiled or non-oiled, filtered, dry compressed air
Operating pressure 4 to 6 bar
Performance data is for an operating pressure of 5 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, over night, on the weekend.
- ▶ Do not select conveyor section speeds that are higher than those required for the particular function
- ▶ Minimize the weight of the workpiece pallet – do not overload workpiece supports with material.
- ▶ Avoid unnecessary accumulation section, e.g. by reducing the number of workpiece pallets
- ▶ Switch off accumulation sections carrying heavy workpiece pallets if transport is not necessary.
- ▶ Very important: Avoid contamination by abrasive media or reduce contamination with regular cleaning

Load specifications

Permitted loads apply for conveyor sections under the condition that only workpiece pallets with the maximum total permitted weight have accumulated.

Higher loads are permitted if accumulation can be safely avoided.

Accumulation operation is not permitted on lift-transverse units.

Wear and conveyor speed

Nominal data for the permitted workpiece pallet weight describe operation at standard speeds and under normal operating conditions.

Wear on the workpiece pallet wear pads and the conveyor medium will not influence system function throughout the service life.

Wear and higher/lower loads

Higher loads may lead to more wear and thus require, among other measures, shorter maintenance intervals. A linear decrease in wear can be calculated for lower loads (half load = half the wear = twice the service life).

System specifications

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 damped stop gates, and also for accumulation in curves.

Function is usually not limited if the weight ratio is 2:1 between heavy (loaded with a workpiece) and light workpiece pallets (empty).

Loading the workpiece pallet, minimum weight

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 (on the rocker), or if a lighter workpiece pallet does not run smoothly when changing directions, e.g. jumps out of the guide on the HQ. In such unusual cases, additional weight should be added when designing the workpiece pallet.

Overloading

Overloading the conveyor sections may damage the conveyor medium and cause the motor and gears to break down.

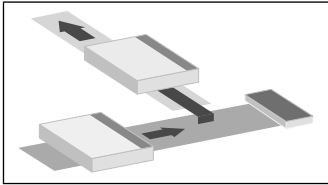
When overloading of pneumatic components occurs function cannot be guaranteed.

Transportation speed, Influence on wear

Wear on the conveyor medium, slide rails, workpiece pallet wear pads and the like is proportional to the conveying speed. This means that, in comparison to the standard speed of 12 m/min, when running at 18 m/min the wear limit is already reached at $12/18 = 2/3$ of the running time.

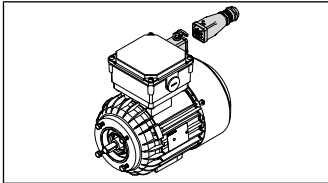
Transportation speed, dynamic influences

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. If accumulation roller chains are the conveyor medium a return stop combined with stop gates is recommended for operation at higher speeds.



Function plans

11-12



Motor data/motor connection

11-18

Transportation and nominal speeds v_N

11-22

Compressed air consumption of the TS 2plus units

Function plans

On the following pages, you can find proven fundamental function plans for control tasks in transfer systems.

Characters are used in the action blocks that deviate from DIN IEC 61131-3. They are explained in the following table.

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 2 stop gates are used to stop workpiece pallets. The position of the workpiece pallets is queried with separate sensors.

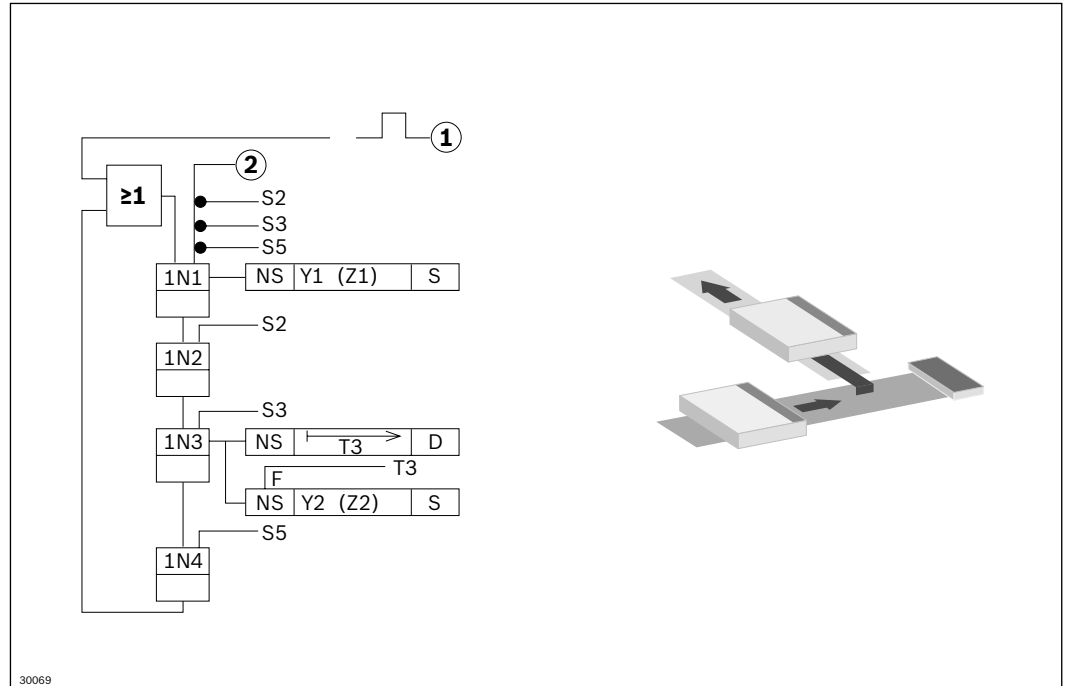
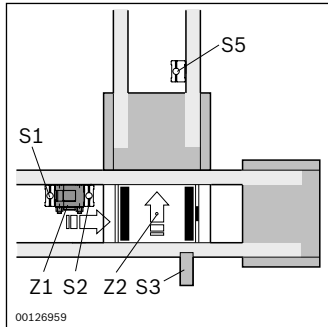
The function plans are simplified accordingly if using stop gates with integrated sensors and internal switching logic.

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)
- ① = Start pulse after end of start-up
- ② = Release cyclic travel

Function plans

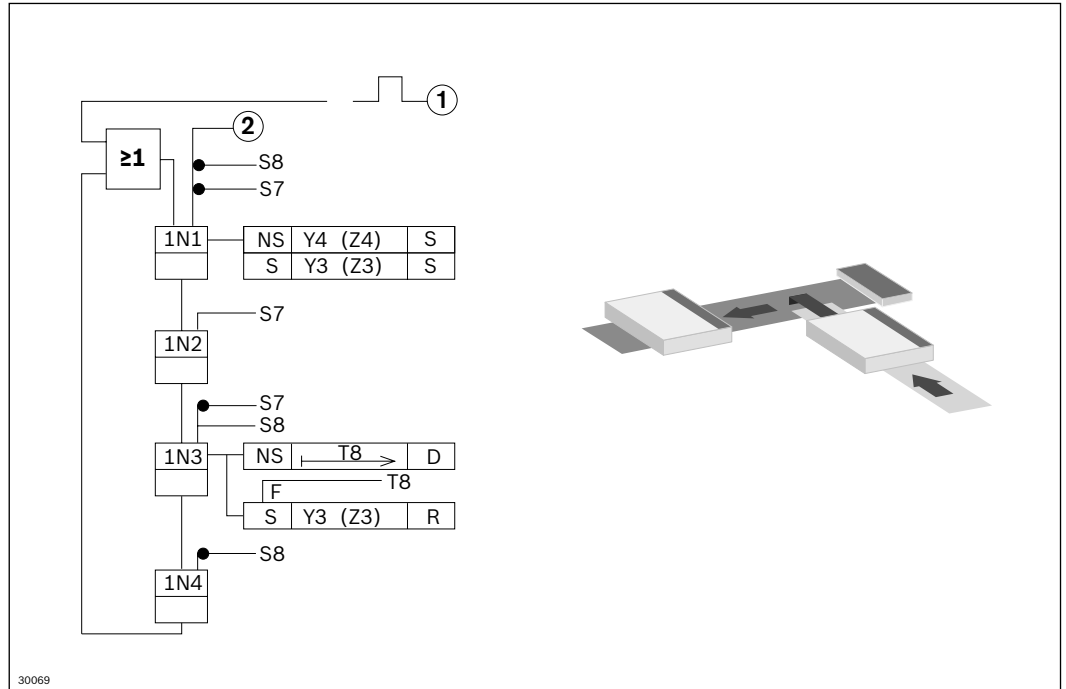
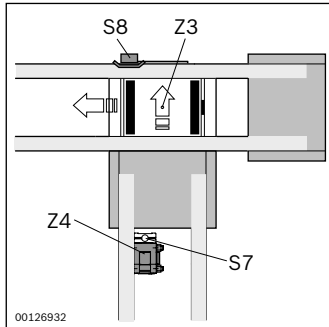
Transfer to transverse section (TFE 1)



- S2 = WT to VE1 (Z1)
S3 = WT in position on HQ (Z2) (WI/M rocker)
T3 = Delaying time 100 ... 200 ms
S5 = Enable main section 1
Y1 = Main section VE (Z1)
Y2 = Lifting cylinder HQ (Z2)

Function plans

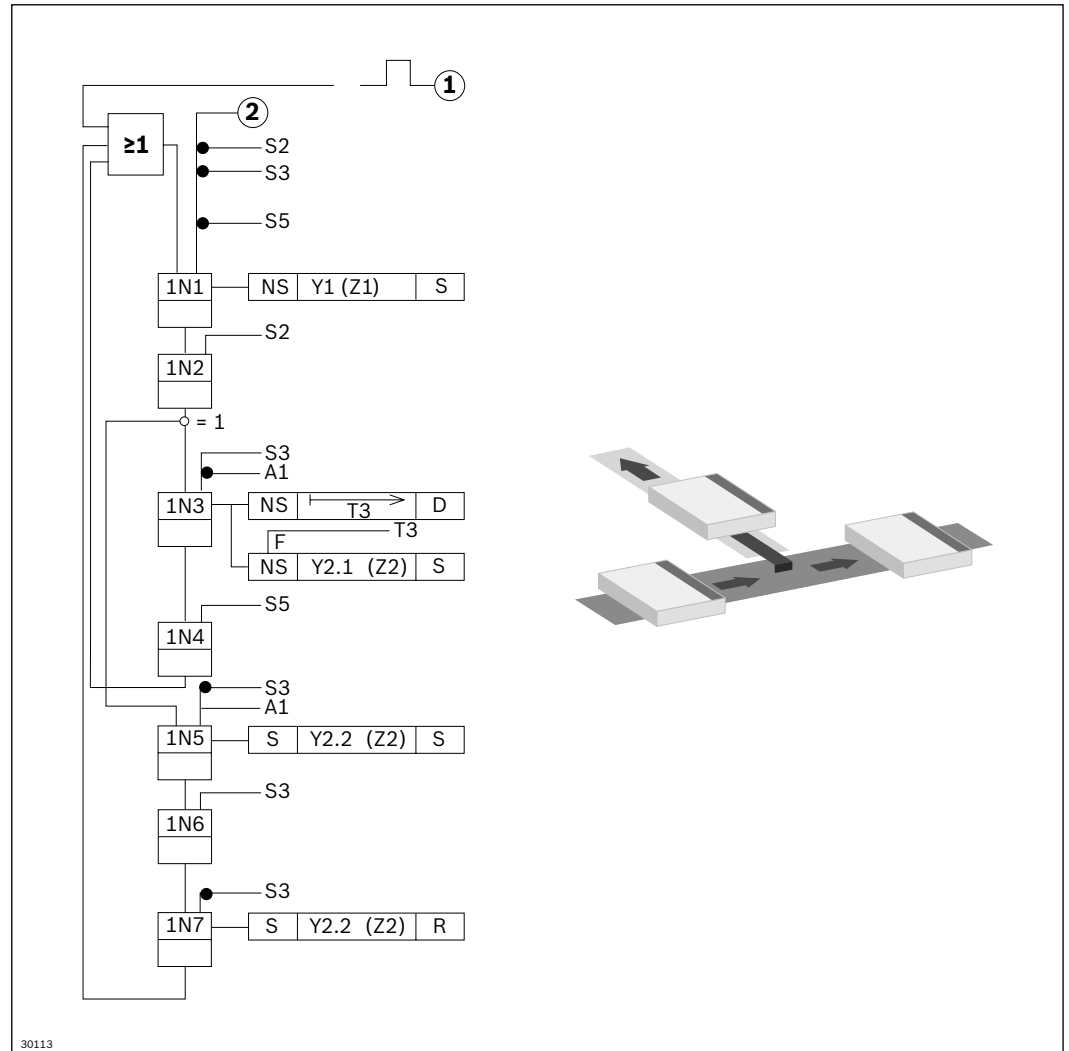
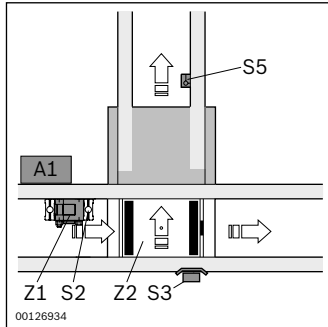
Transfer to longitudinal section (TFE 2)



- S7 = WT after VE4 (Z4)
- S8 = WT in position on HQ (WI/M rocker)
- T8 = Delaying time 100 ... 200 ms
- Y3 = Lifting cylinder EQ (Z3)
- Y4 = Adjacent section VE (Z4)

Function plans

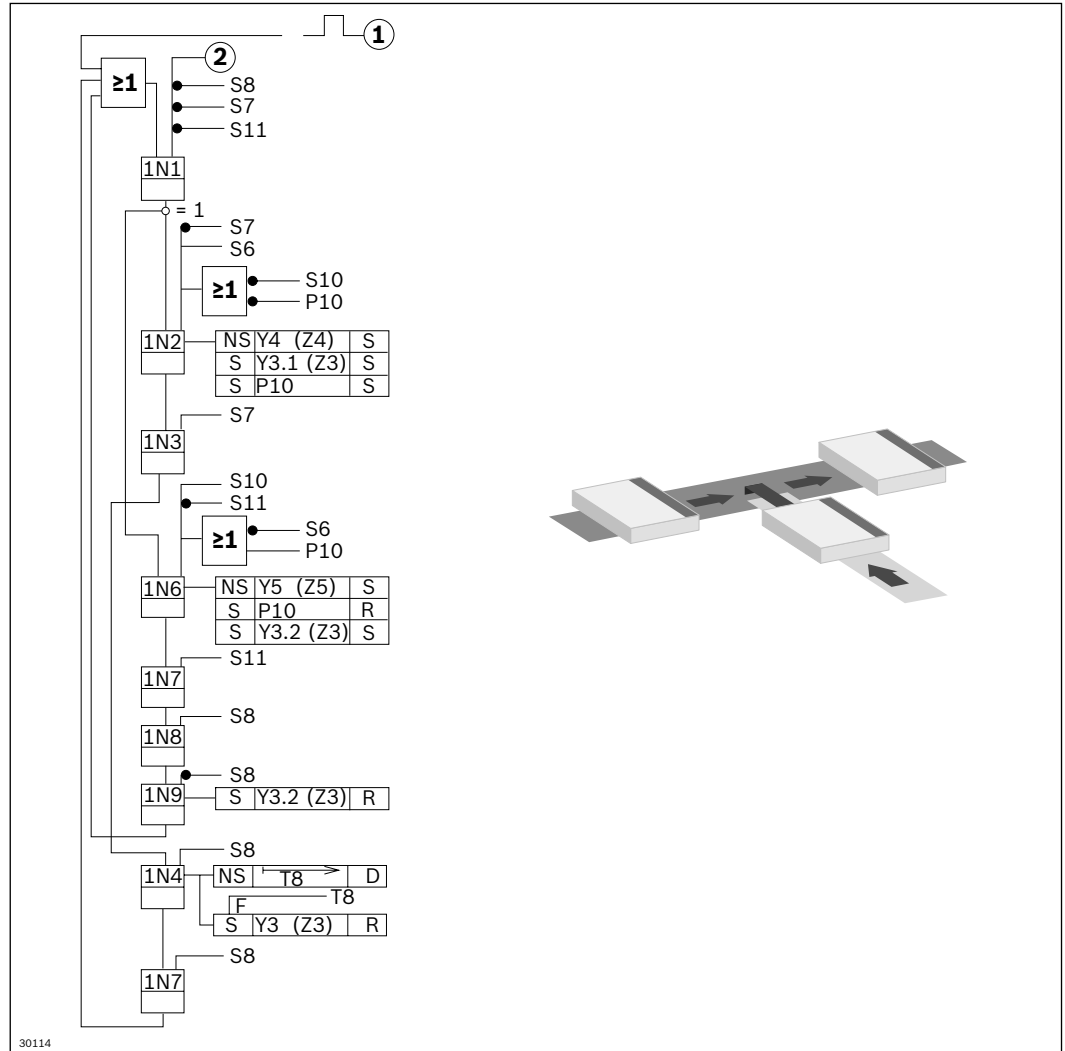
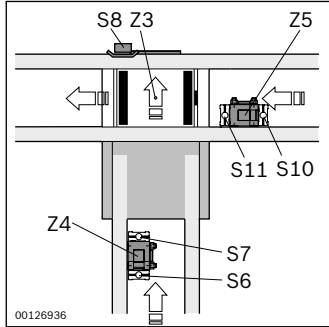
Transverse conveyor (separating, discharging) (TFE 3)



- S2 = WT to VE1 (Z1)
- S3 = WT in position on HQ
- T3 = Delaying time 100 ... 200 ms
- S5 = Enable branch section
- Y1 = Main section VE (Z1)
- Y2 = Lifting cylinder HQ (Z2)
- P10 = Priority main section
- A1 = Identification system with straight-ahead signal
(0 = branching
1 = straight)

Function plans

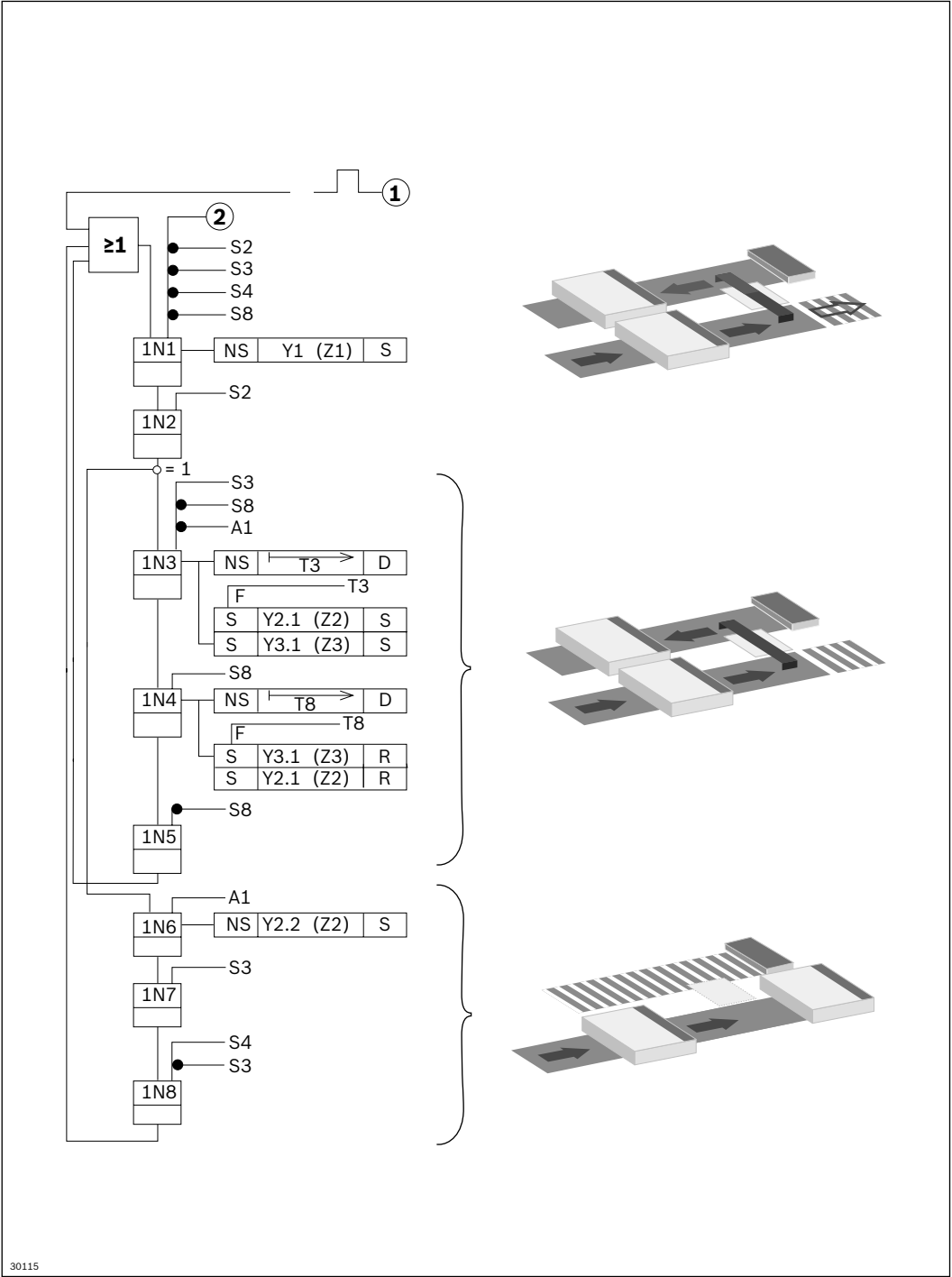
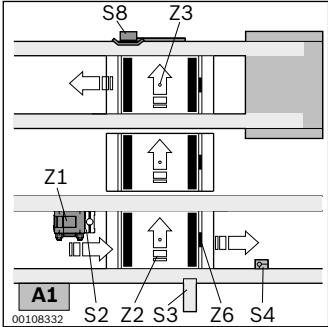
Transverse conveyor (separating, feeding) (TFE 4)



- T8 = Delaying time 100 ... 200 ms
- S6 = WT before VE4 (Z4)
- S7 = WT after VE4(enable branch section)
- S8 = WT in position on HQ (WI/M rocker)
- S10 = WT before VE5 (Z5)
- S11 = WT after VE5 (Z5)
- Y3 = Lifting cylinder HQ (Z3)
- Y4 = Adjacent section VE (Z4)
- Y5 = Main section (Z5)
- Y6 = VE in EQ (Z6)
- P10 = Priority main section

Function plans

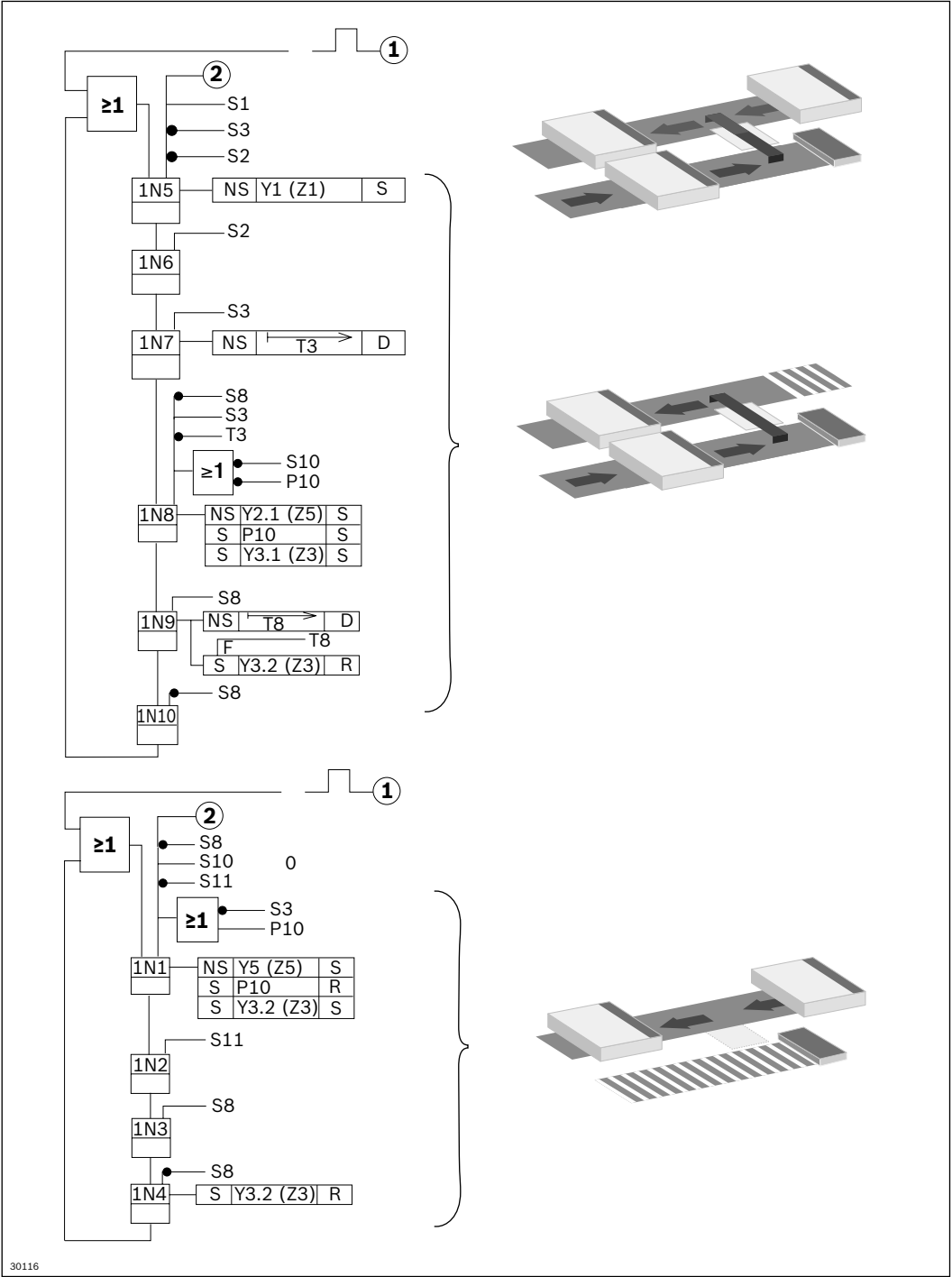
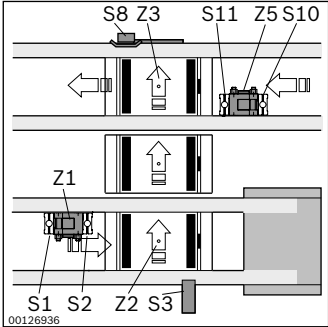
Transverse conveyor EQ 2/TR (separating, discharging) (TFE 5)



S1	=	WT in position at VE1 (Z1)
S2	=	WT to VE1 (Z1)
S3	=	WT in position on EQ-part 1
T3	=	Switch-on delay 100 ... 200 ms
T8	=	Switch-on delay 100 ... 200 ms
S4	=	Enable main section 1
S6	=	WT before VE4 (Z4)
S7	=	WT after VE4
S8	=	WT on EQ-part 2 (WI/M rocker)
Y1	=	Main section VE (Z1)
Y2.1/2.2	=	Lifting cylinder EQ (Z2)
Y3.1/3.2	=	Lifting cylinder EQ (Z3)
A1	=	Straight-ahead signal (0 = branching 1 = straight)

Function plans

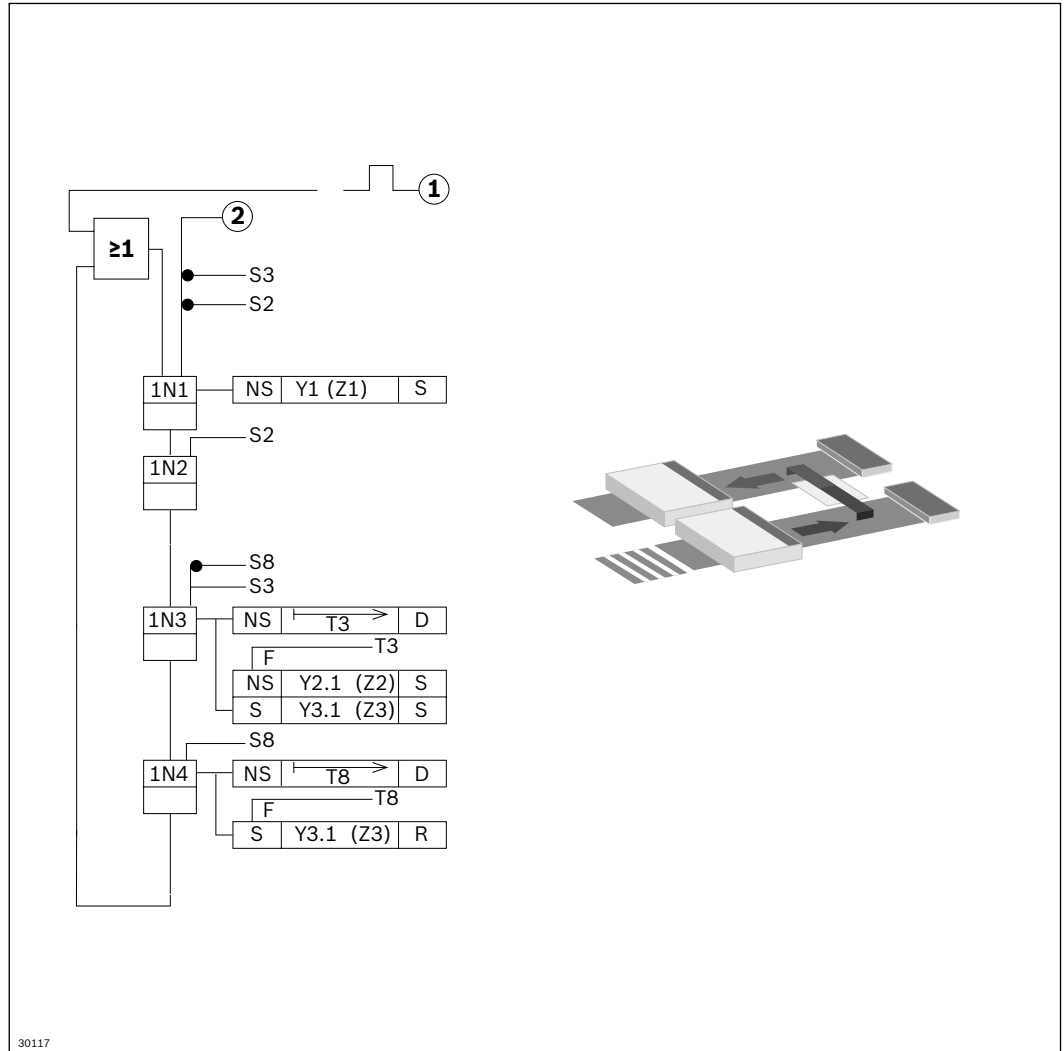
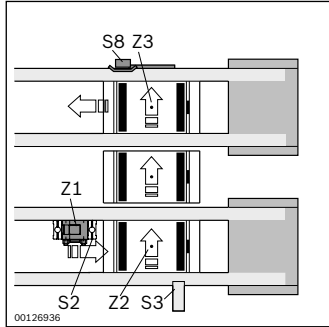
Transverse conveyor EQ 2/TR (feeding) (TFE 6)



S1	=	WT in position at VE1 (Z1)
S2	=	WT to VE1 (Z1)
S3	=	WT in position on EQ-part 1
T3	=	Switch-on delay 100 ... 200 ms
T8	=	Switch-on delay 100 ... 200 ms
S8	=	WT on EQ-part 2
S10	=	WT before VE5 (Z5)
S11	=	WT after VE5 (Z5)
Y1	=	Main section VE (Z1)
Y2.1/2.2	=	Lifting cylinder EQ (Z2)
Y3.1/3.2	=	Lifting cylinder EQ (Z3)
Y5	=	Main section (Z5)
P10	=	Priority

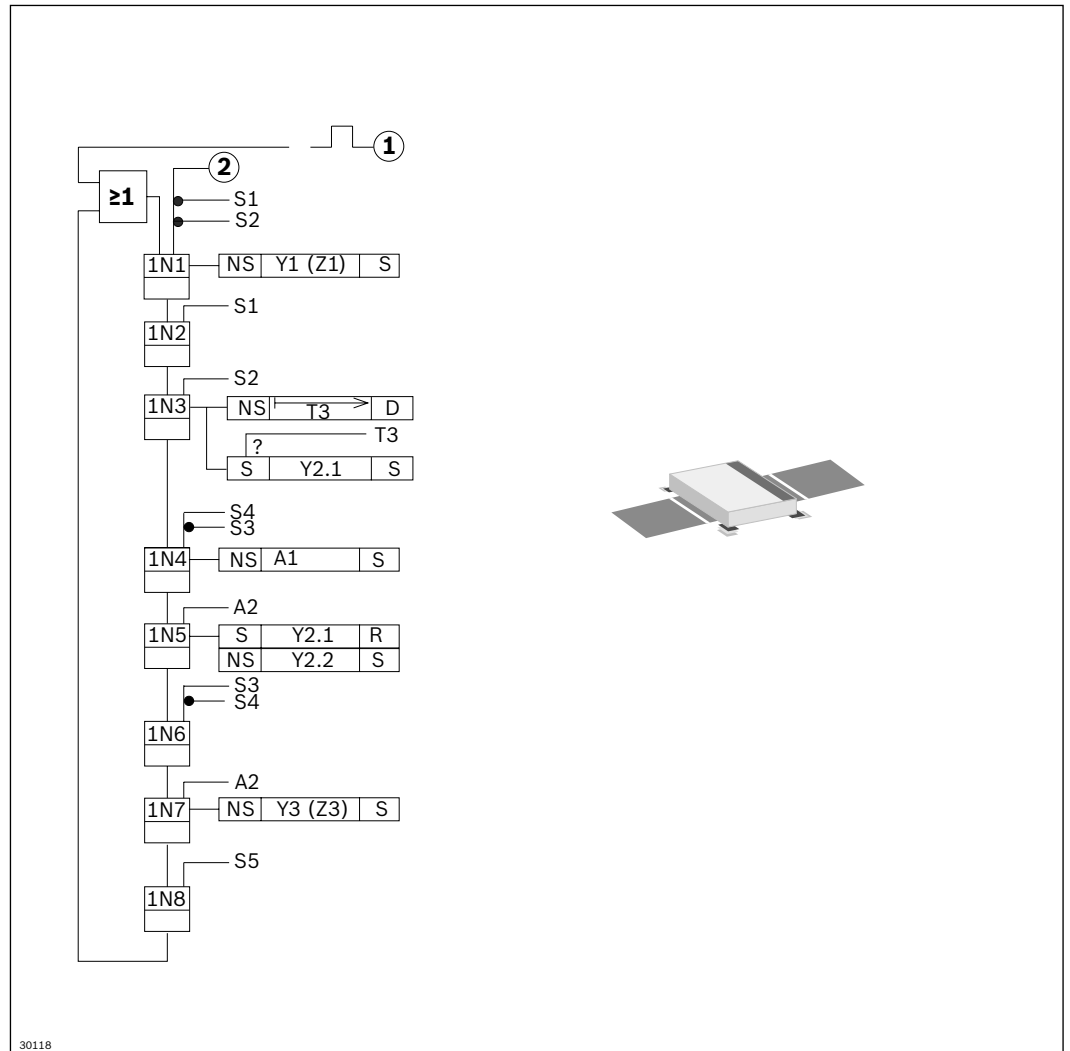
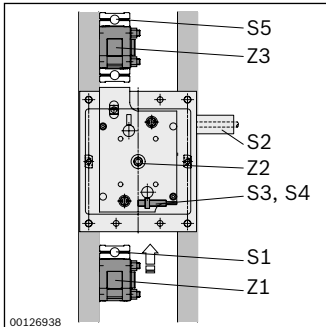
Function plans

Transverse conveyor EQ 2/TR (transfer) (TFE 7)



- S1 = WT in position at VE1 (Z1)
- S2 = WT to VE1 (Z1)
- S3 = WT in position on EQ-part 1
- T3 = Switch-on delay 100 ... 200 ms
- T8 = Switch-on delay 100 ... 200 ms
- S8 = WT on EQ-part 2
Main section 1 approval (WI/M rocker)
- Y1 = Main section VE (Z1)
- Y2.1/2.2 = Lifting cylinder EQ (Z2)
- Y3.1/3.2 = Lifting cylinder EQ (Z3)

PE conveyor function unit



- S1 = WT after VE1
- S2 = WT arrival
- S3 = End position of lift bottom
- S4 = End position of lift top
- S5 = WT after VE2
- Y1 = Open VE1 (Z1)
- Y2 = WT lift
- Y3 = Open VE (Z3)
- A1 = Start process
- A2 = Process ended

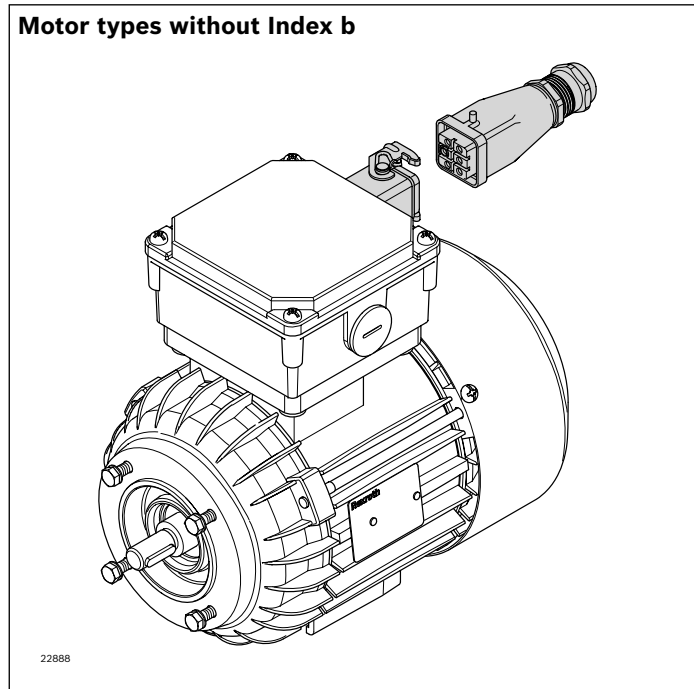
Motor data

Electrical connection requirements:

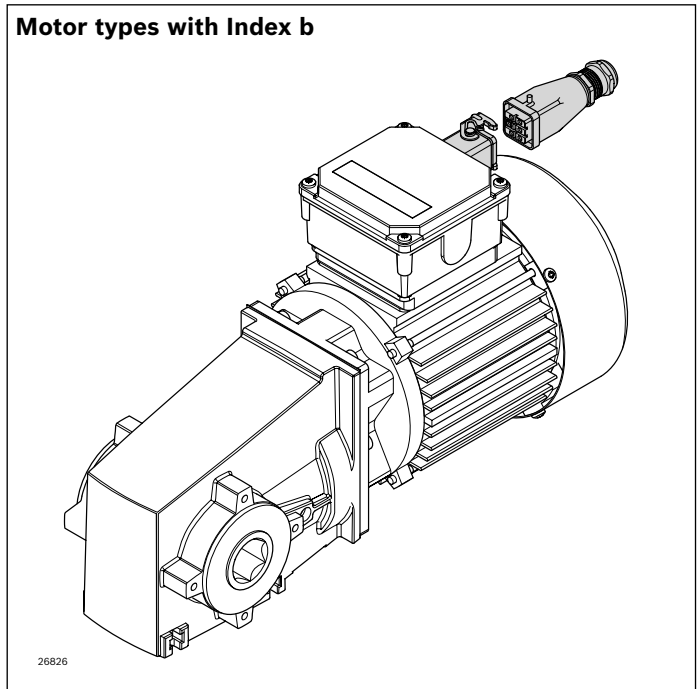
Connection to a 3-phase five-wire system (L1, L2, L3, N, PE), a connection plan is included with the terminal box.

All motors are equipped with a thermal contact^{*)}, which has to be connected to an overload switch-off.

^{*)} Bi-metal thermal contact, tripping at $150\text{ °C} \pm 5\text{ °C}$



Motor connection with plug (AT = S) and 3A metal industrial plug-in connector for motor types without Index b, e.g. B. 734



Motor connection with plug (AT = S) and 3A metal industrial plug-in connector for motor types with Index b, e.g. B 734b

Motor data

Performance data

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

Voltage class		A		B		D	
Circuit		Δ		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%		

Motor type	IE3 ²⁾	Current consumption at rated power				Power factor	Power output for	
		I _N (A)	I _N (A)	I _N (A)	I _N (A)	cos φ	(50Hz) P (kW)	(60Hz) P (kW)
524	x	0.65	0.35	0.32	0.24	0.6	0.09	0.1
614b ¹⁾	–	–	–	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 ¹⁾	–	–	–	–	0.75	0.6	0.25	0.29
714b ¹⁾	–	1.75	1	0.8	–	0.64	0.25	0.3
716b ¹⁾	–	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 ¹⁾	–	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⁾	–	1.4	0.8	0.55	0.5	0.60 ... 0.63	0.12	0.14
744b ¹⁾	–	–	–	1.4	–	0.77	0.55	0.68
814b ¹⁾	–	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

¹⁾ Suitable for continuous operation S1 and frequency converter

²⁾ Suitable for stop-start and continuous operation due to the nominal operating mode S3-70% (periodic intermittent operation) and frequency converter operation

Certification for the motor, cable and plug components:

IE3 motors: CE, cURUS, 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

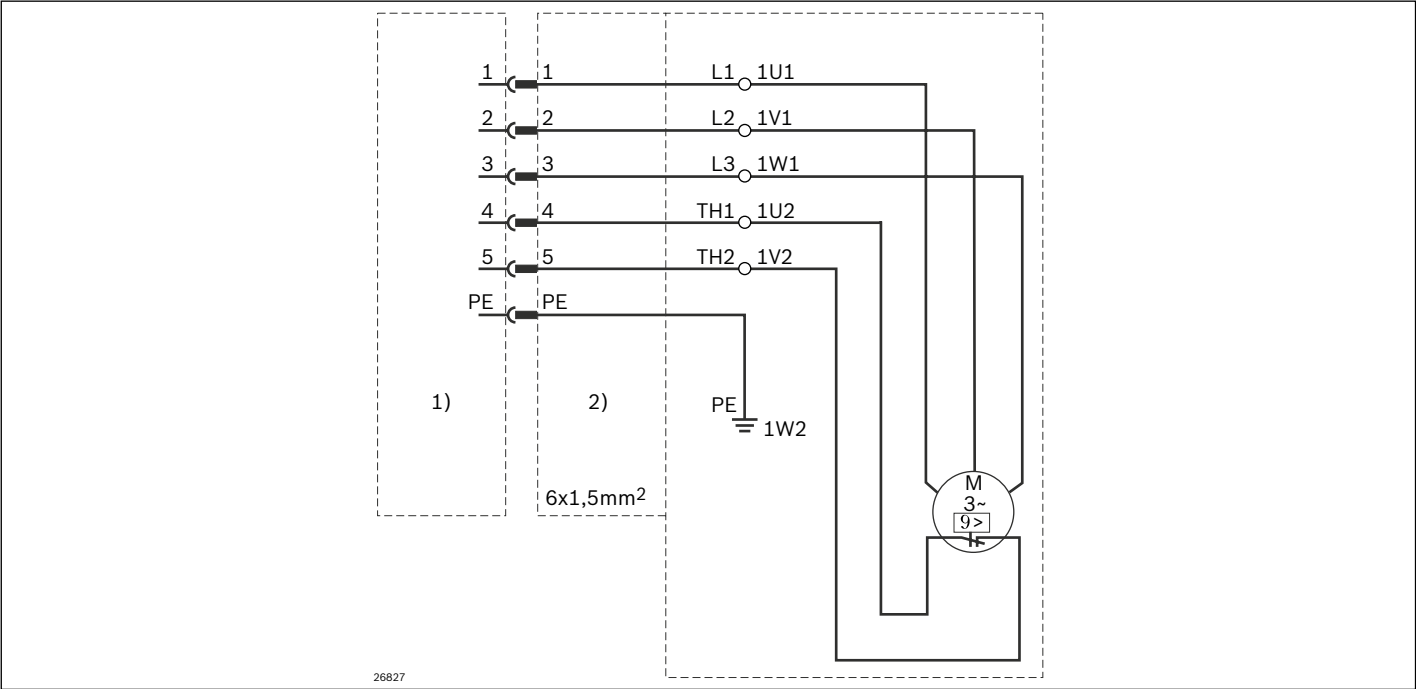
¹⁾ Rated motor power (0.37; 0.25; 0.12 kW)

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

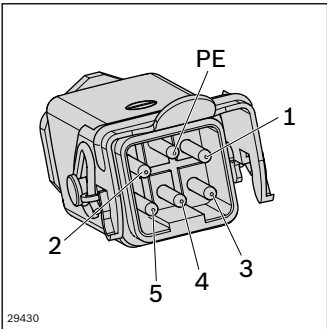


- 1) Connection cable side
- 2) Motor side

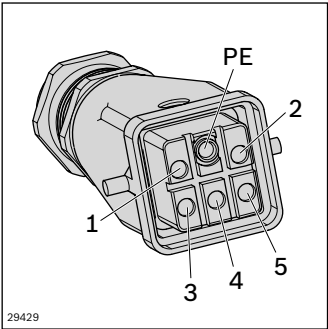
The plug connection consists of UL components.

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

Motor protection switch

Motor type	50 Hz			60 Hz			Motor protection switch	
	Rated output	Voltage		Rated output	Voltage			
		Δ (V)	Y (V)		Δ (V)	Y (V)	Δ (A)	Y (A)
524	0.09	200	N/A	0.10	220	400	0.75	0.43
		N/A	400		N/A	460	N/A	0.37
		N/A	N/A		N/A	575	N/A	0.30
624	0.18	200	N/A	0.22	220	400	1.30	0.75
		N/A	400		N/A	460	N/A	0.65
		N/A	N/A		N/A	575	N/A	0.55
634	0.25	200	N/A	0.29	220	400	1.90	1.10
		N/A	400		N/A	460	N/A	1.00
		N/A	N/A		N/A	575	N/A	0.80
734	0.37	200	N/A	0.42	220	400	2.15	1.25
		N/A	400		N/A	460	N/A	1.10
		N/A	N/A		N/A	575	N/A	0.90
734a	0.45	200	N/A	0.52	220	400	2.75	1.60
		N/A	400		N/A	460	N/A	1.40
		N/A	N/A		N/A	575	N/A	1.15
814	0.55	200	N/A	0.63	220	400	3.30	1.95
		N/A	400		N/A	460	N/A	1.70
		N/A	N/A		N/A	575	N/A	1.30
824	0.75	200	N/A	0.86	220	400	4.40	2.55
		N/A	400		N/A	460	N/A	2.25
		N/A	N/A		N/A	575	N/A	1.90
716	0.18	200	N/A	0.22	220	400	1.50	0.85
		N/A	400		N/A	460	N/A	0.70
		N/A	N/A		N/A	575	N/A	0.60

11

Country applicability

	Europe	Switzerland	USA	Canada	Brazil	Australia	New Zealand	South Korea	China	India
Line voltage (3x....)	400 V	400 V	480 V	480 V 575 V	220 V 380 V 440 V	400 V 415 V	400 V 415 V	220 V 380 V 440 V	380 V	415 V
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

Transportation and nominal speeds v_N

Unit	Motor type		Motor type
	v_N (m/min)	50 Hz v (m/min)	60 Hz v (m/min)
AS 2/B-150	18	18.5	734a
	15	15.7	734
	12	11.2	734
	9	8.5	734
	6	5.7	716
AS 2/B-250	18	18.5	824
	15	15.7	824
	12	10.9	824
	9	9.2	814
	6	5.9	734
AS 2/C-100	18	18.5	634
BS 2/C-100	15	13.9	624
AS 2/R-300	12	11.1	624
BS 2/R-300	9	9.2	624
KU 2/90	6	5.5	624
KU 2/180			
BS 2/C-H	18	16.8	744b ¹⁾ / 814b ²⁾
AS 2/C-400	15	13.2	734b
BS 2/R-H	12	10.4	734b
AS 2/R-1200	9	8.1	714b
	6	5.4	716b
AS 2/C-700	18	16.8	824
AS 2/R-2200	15	14.4	824
	12	11.9	824
	9	8.4	814
	6	5.4	734
AS 2/C-250	18	18.5	734b
BS 2/C-250	15	14.6	734b
AS 2/R-700	12	12.0	734b
BS 2/R-700	9	9.6	734b
	6	5.9	734b
BS 2	18	18.0	634
BS 2/M, BS 2/M...	15	15.0	634
BS 2/T, BS 2/TE	12	12.0	634
CU 2/90	9	9.0	624
BS 2/K	6	6.0	624
EQ 2/T, EQ 2/TE			
EQ 2/M...			
BS 2/130			
HQ 2/U-H			

v_N = Nominal speed

v = Conveyor medium speed

¹⁾ For voltage class: A, D (see page 11-19)

²⁾ For voltage class: B (See page 11-19)

Transportation and nominal speeds v_N

Unit	50 Hz		Motor type	60 Hz		Motor type
	v_N (m/min)	v (m/min)		v (m/min)	v (m/min)	
HQ 2/U	18	15.8	524	19.0	524	
	15	13.2	524	15.8	524	
	12	10.6	524	12.7	524	
	9	8.3	524	10.0	524	
	6	5.7	524	6.8	524	
KE 2	18	18.0	524	18.0	524	
EQ 2/TR, EQ 2/TR-90	15	15.0	524	14.4	524	
	12	12.0	524	10.8	524	
	9	9.0	524	9.0	524	
HQ 2/S, HQ2/U2	6	6.0	524	5.7	524	
HQ 2/C-H	18	18.5	634	16.6	624	
	15	13.9	624	13.3	624	
	12	11.1	624	11.1	624	
	9	9.2	624	8.3	624	
	6	5.5	624	6.7	624	

v_N = Nominal speed

v = Conveyor medium speed

Unit	50 Hz		Motor type	60 Hz		Motor type
	v_N (m/min)	v (m/min)		v (m/min)	v_T (m/min)	
BS 2/R-V-1200	18	16.8	42.0	744b ¹⁾ / 814b ²⁾	–	–
AS 2/R-V-1200	15	13.2	33.0	734b	15.8	39.5
	12	10.4	26.0	734b	12.5	31.3
	9	8.1	20.3	714b	9.8	24.5
	6	5.4	13.5	716b	6.5	16.3
	18	16.8	42.0	824	17.2	43.0
AS 2/R-V-2200	15	14.4	36.0	824	14.3	35.8
	12	11.9	29.8	824	12.0	30.0
	9	8.4	21.0	814	8.1	20.3
	6	5.4	13.5	734	6.5	16.3
	18	16.8	42.0	824	17.2	43.0

v_N = Nominal speed

v = Conveyor medium speed

v_T = Max. transportation speed

¹⁾ For voltage class: A, D (see page 11-19)

²⁾ For voltage class: B (See page 11-19)

Compressed air consumption of the TS 2plus units

Unit	Type	Rotation angle (°)	Diameter Ø (mm)	Lift (mm)	Volume ^{*)} (cm³)
Block cylinder	PE 2, HQ 2 (BG 1)	—	50	25	59
	EQ 2/..., HQ 2/... (BG 2) HQ 2/U2	—	2 x 50	25	118
	HQ 2/U-H	—	2 x 50	25	118
		—	3 x 50	25	117
		—	4 x 50	25	236
HP 2 lift position unit		—	63	80	249
				125	390
				175	546
				225	701
				275	856
				325	1011
				375	1166
				425	1321
PE 2/X, PE 2/H position unit, HQ 2/C-H lift transverse unit		—	4 x 63	33	103
PE 2/XP position unit	BG 1	—	40	34	43
	BG 2	—	50	34	67
HD 2 lift rotate unit		—	50	40	201
		—	50	90	452
		90	80	125	628
		180	80	180	905
Stop gate	VE 2, VE 2/L, VE 2/M	—	32	20	16
	VE 2/X	—	44	9	11
	VE 2/D-60	—	34	8	5
	VE 2/D-150	—	38	6	5
	VE 2/D-200	—	50	10	16
	VE 2/D-100H	—	25	20	10
	VE 2/D-250H	—	40	24	30
	DA 2/100H	—	35	24	20
	DA 2/250H, VA 2/250-H	—	40	24	30
Damper	DA 2/10, DA 2/30	—	20	18	6
	DA 2/100	—	35	35	34
VA 2 slide stop	3 842 528 808	—	32	20	16
	3 842 191 721	—	20	17	5

^{*)} Details on request

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