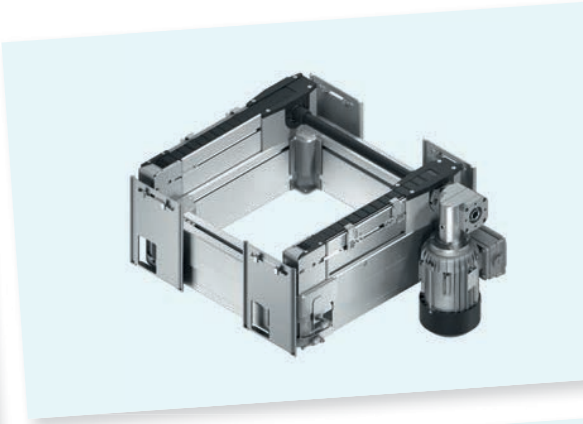
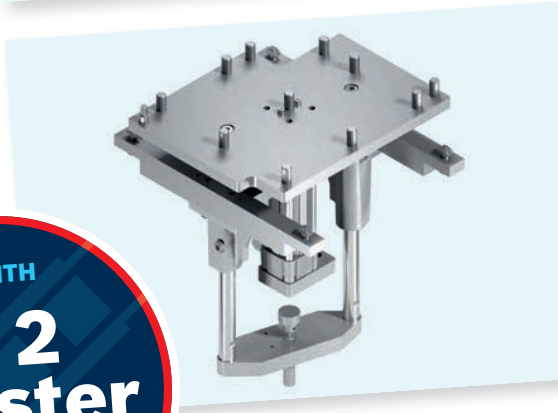
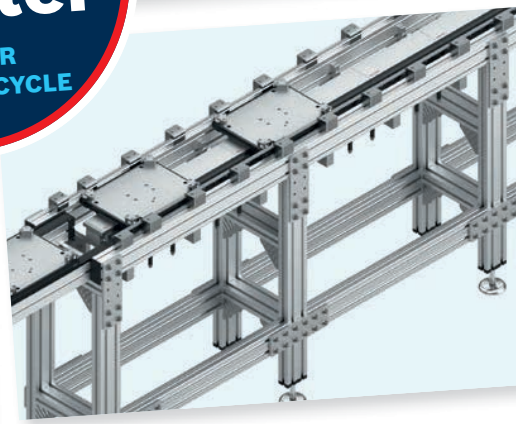
rexroth
A Bosch Company







NOW WITH
TS 2 Booster
10X FASTER IN SHORT CYCLE



TS 2*plus* transfer system:
TS 2 Booster components

1.0

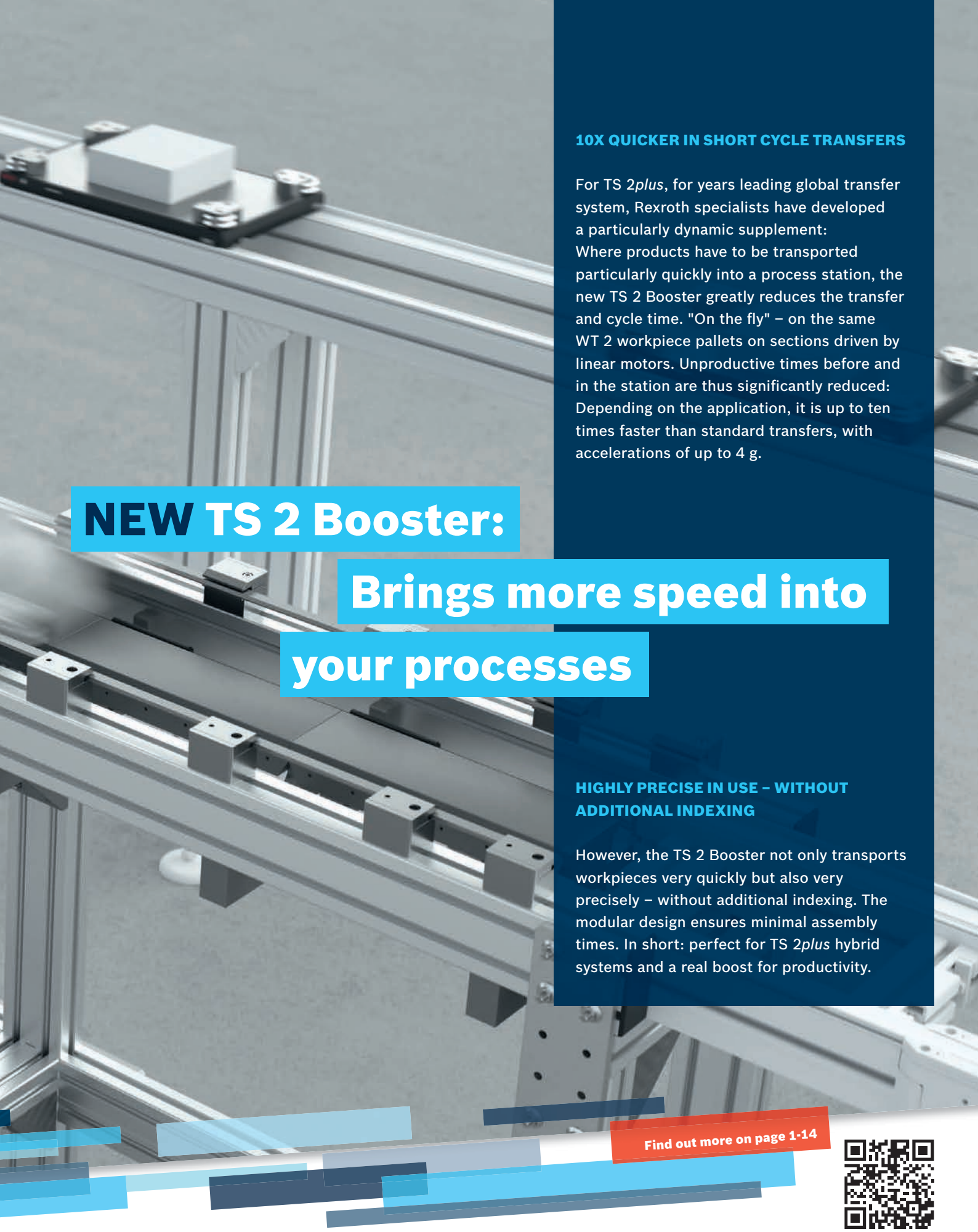
www.boschrexroth.com



WE MOVE. YOU WIN.

ADVANTAGES

- **Fast:** Reduced cycle times in TS 2*plus* systems thanks to the continuous use of the same workpiece pallets and their takeover "on the fly" on the linear motor-driven sections
- **Precise:** Exact positioning of the workpiece pallet without additional indexing – no additional positioning unit or handling system necessary
- **Compatible:** Savings in assembly time and costs as it is a standardized and preconfigured assembly
- **Modular:** versatile assembly of TS 2*plus*



NEW TS 2 Booster: Brings more speed into your processes

10X QUICKER IN SHORT CYCLE TRANSFERS

For TS 2*plus*, for years leading global transfer system, Rexroth specialists have developed a particularly dynamic supplement: Where products have to be transported particularly quickly into a process station, the new TS 2 Booster greatly reduces the transfer and cycle time. "On the fly" – on the same WT 2 workpiece pallets on sections driven by linear motors. Unproductive times before and in the station are thus significantly reduced: Depending on the application, it is up to ten times faster than standard transfers, with accelerations of up to 4 g.

HIGHLY PRECISE IN USE – WITHOUT ADDITIONAL INDEXING

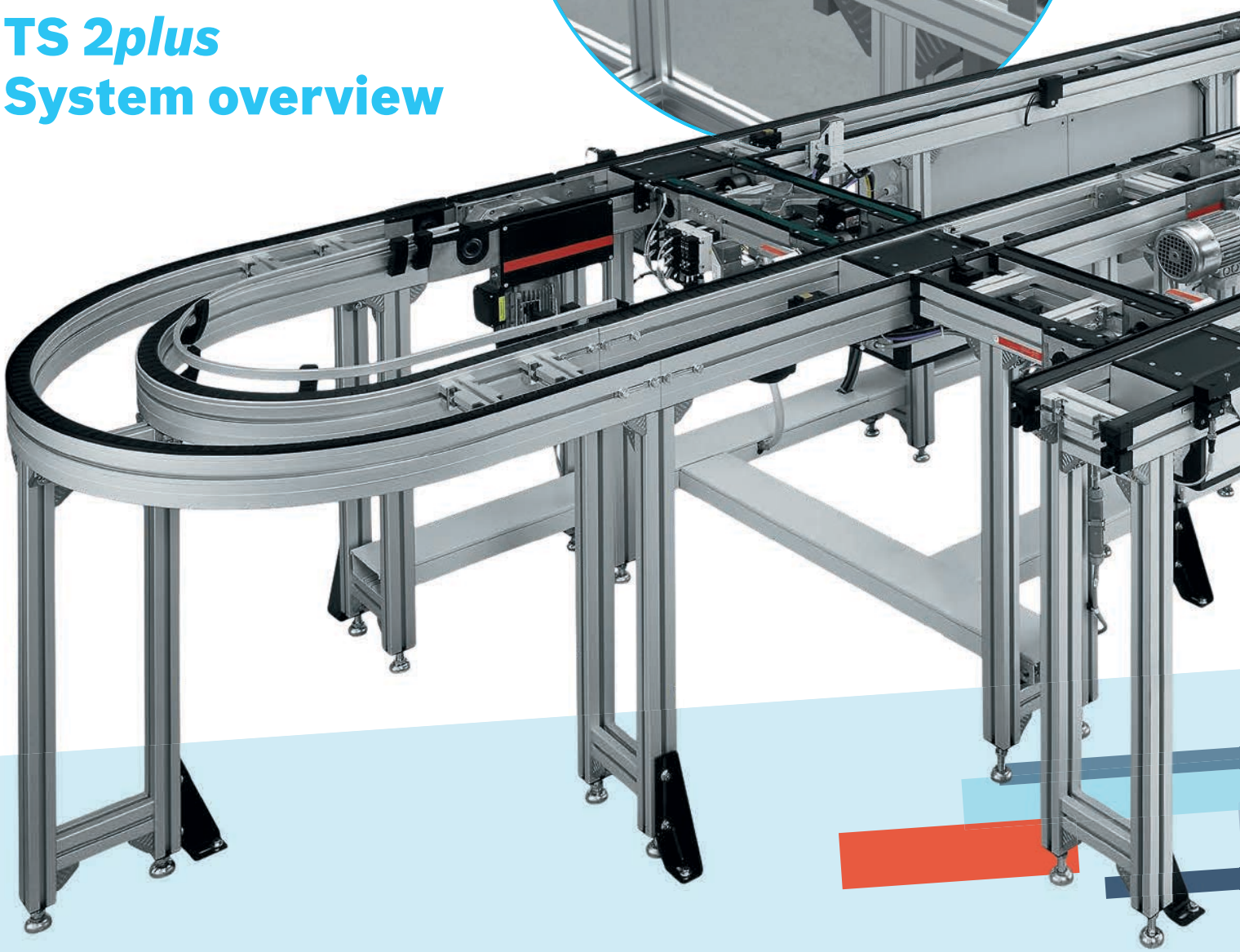
However, the TS 2 Booster not only transports workpieces very quickly but also very precisely – without additional indexing. The modular design ensures minimal assembly times. In short: perfect for TS 2*plus* hybrid systems and a real boost for productivity.

Find out more on page 1-14

R999002038 (2020-10), **Bosch Rexroth AG**

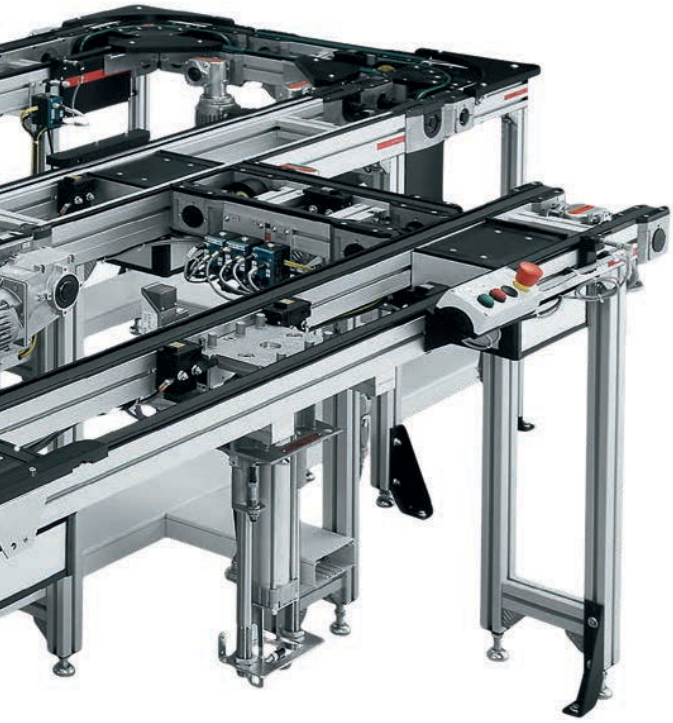
NOW WITH
TS 2 Booster
10X FASTER IN SHORT CYCLE

TS 2*plus*
System overview



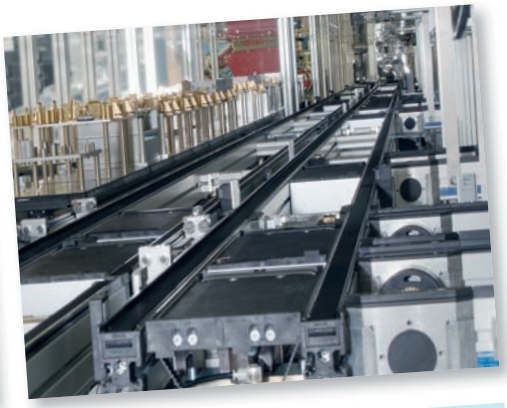
Bosch Rexroth AG, R999002038 (2020-10)

	1-2	**TS 2*plus* transfer system**	**1**
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		Curves	**4**
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TS 2*plus* – in thousands of plants in use worldwide









ADVANTAGES OF THE TS 2*plus* TRANSFER SYSTEM

Versatile
Flexible modular system with standardized modular units that meets the requirements of a wide range of different products

Robust
High maximum load of up to 240 kg per workpiece pallet

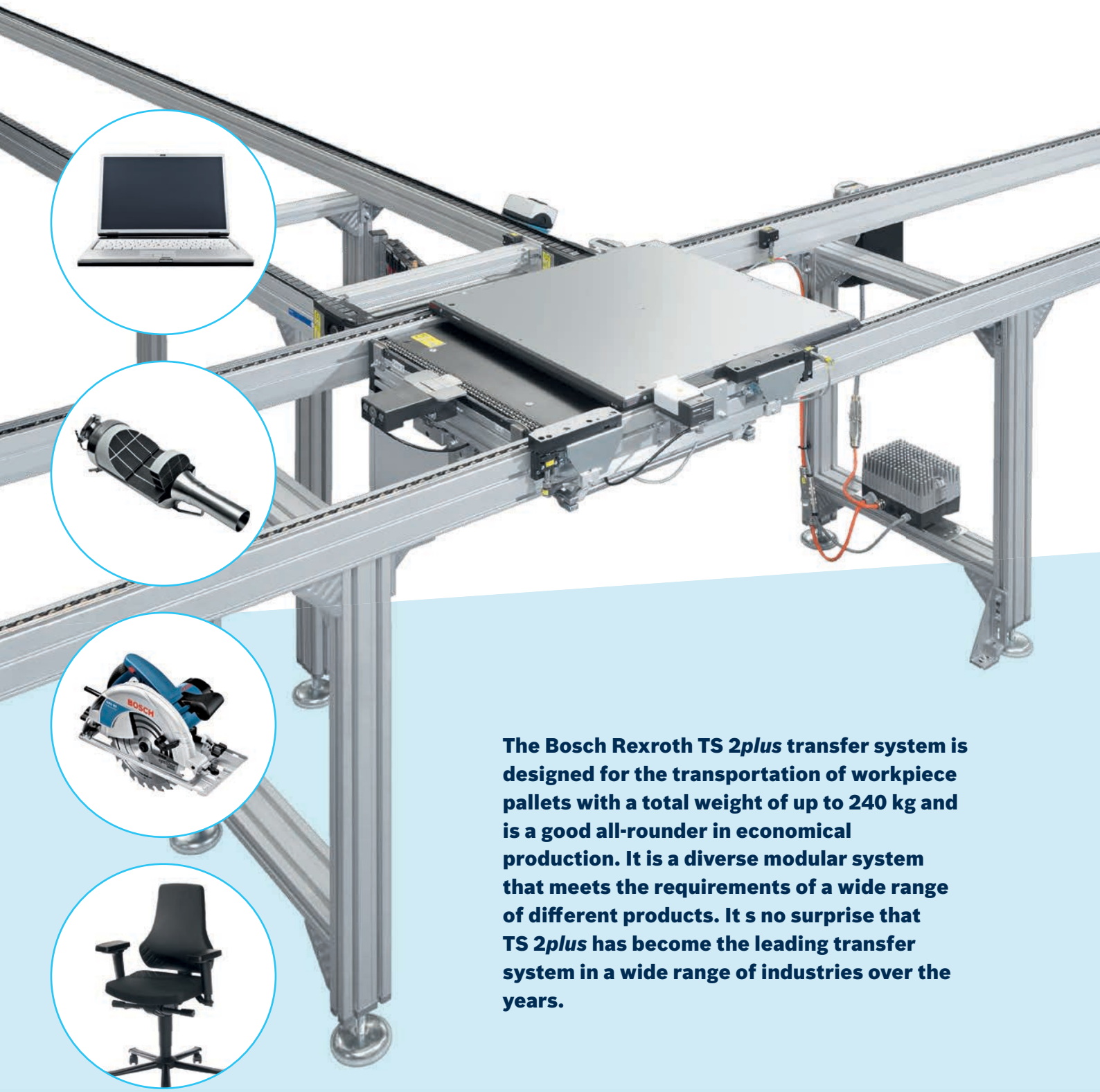
Adaptable
All-rounder for cost-effective production, workpiece pallet dimensions tailored to the product size

Bosch Rexroth AG, R999002038 (2020-10)

Welcome to the world market leader for transfer systems!



TS 2*plus* transfer system: features



The Bosch Rexroth TS 2*plus* transfer system is designed for the transportation of workpiece pallets with a total weight of 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. It s no surprise that TS 2*plus* has become the leading transfer system in a wide range of industries over the years.



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, accumulation roller chains or round belts convey the workpiece pallets (WT) by means of friction – with the TS 2 Booster, transport is carried out precisely with linear motors.

The WT hold the workpieces. All workpiece finishing takes place on the WT. Information about destination and processing stage are carried in the WT memory. The stop gate (VE) stops the WT at the stations (areas for manual work or automated stations), while the conveyor medium continues moving.

Several WT can build up in front of individual stations to form small buffers. Once a processing stage is completed at the station, the WT is released to travel on to the next work station. The pneumatic stop gate is opened, either manually controlled or with a station control. At the end of the assembly process the workpiece is removed from the WT.



TS 2*plus* 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 construction kit 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.
- In addition, the new linear motor system TS 2 Booster for the ultra-fast short cycle
- Workpiece pallets dimensions (from 160 x 160 mm up to 1200 x 1200 mm) specifically designed for the product sizes.
- High maximum load of up to 240 kg per workpiece pallet

Special TS 2*plus* modular units
Apart from the different types of conveyor media, the TS 2*plus* 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 2*plus*.
For special applications, additional material combinations are available. Your Rexroth representative will be pleased to support you in choosing an appropriate solution where required.

AN OPTIMUM SOLUTION IN JUST SIX STEPS

1 CHOICE OF SYSTEM



2 WORKPIECES TO BE TRANSPORTED



3 LAYOUT PLANNING



4 CONVEYOR MEDIA



5 COMBINATION OF WORKPIECE PALLETS AND MODULES



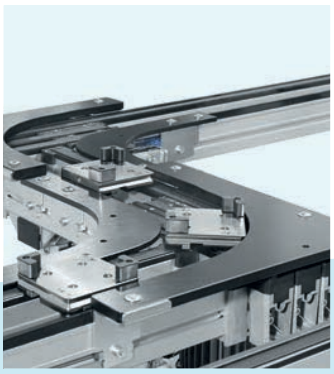
6 AMBIENT CONDITIONS



Operating principle: 1. Choice of system

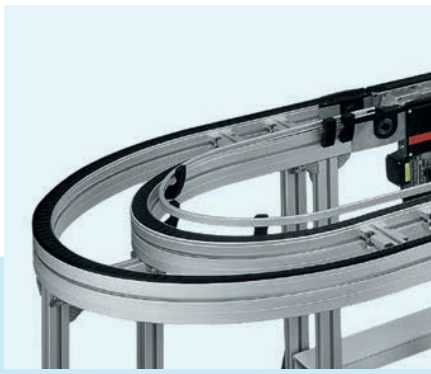
To ensure the most economical operation possible, an assembly line requires precise forward planning. Later conversions must be as simple and cost-effective to execute as possible in order to be able to respond to future market demand. The key factors when selecting a suitable transfer system are the weight and quality of the workpieces to be conveyed as well as the particular production environment.

The flexible construction kit of the TS 2*plus* transfer system from Bosch Rexroth covers a very wide range of requirements: With the wide range of mutually compatible modular 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 2*plus* transfer systems are designed for high availability, even under the harshest conditions.



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.

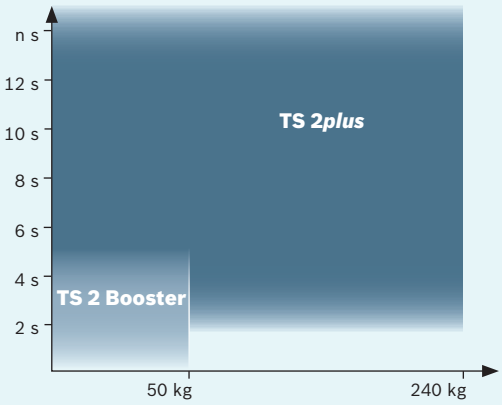


TS 2*plus*: 0 – 240 KG

From the automotive and the electrical industry to household and electrical device production, the TS 2*plus* assembly lines are suitable for use in a wide range of industries with their versatile system components.

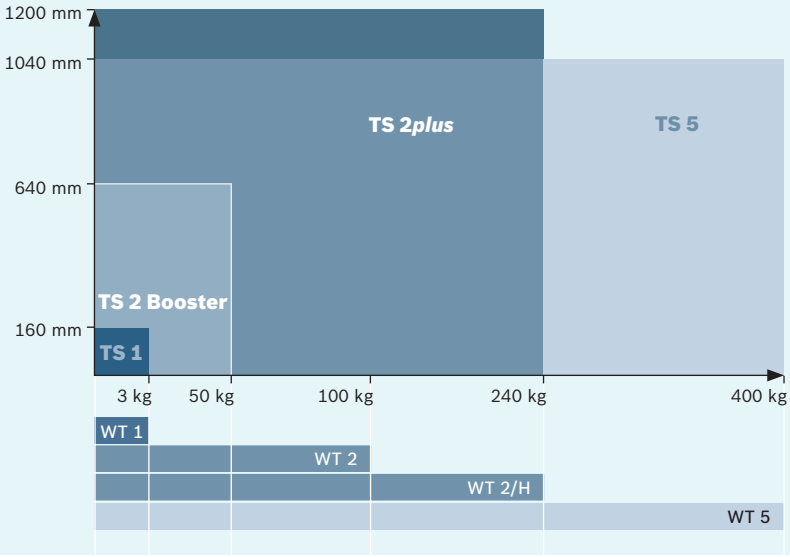
Bosch Rexroth AG, R999002038 (2020-10)

Choice of system
Cycle time (s)/total weight of WT (kg)

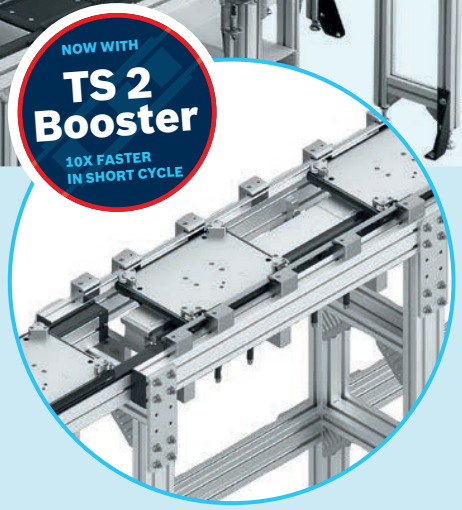


Advantageous cycle times:
TS 2*plus* from 2 s, TS 2 Booster below 5 s
(Longer cycle times possible without problems)

Choice of system
WT length (mm)/total weight of WT (kg)









TS 2 Booster: 0 – 50 KG

The TS 2 Booster supplements the TS 2*plus* in the short-cycle range for such sections of an assembly line that should be particularly fast or where parallel process stations would otherwise be required – particularly advantageous for cycle times of less than 4 to 5 seconds.

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, Its robust construction makes it particularly suitable for harsh environments.

Operating principle: 2. Workpieces to be transported

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.
WT 2/LS for use in the TS 2 Booster allows a total weight of up to 50 kg.

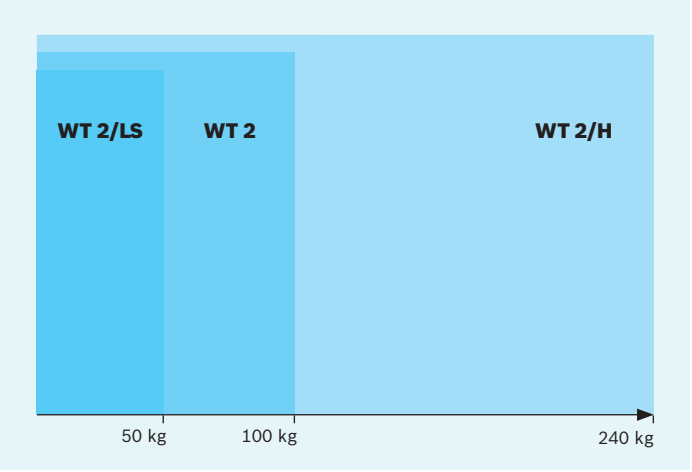
The WT 2 series workpiece pallets can be configured from components for the individual workpieces. A selection of various frame modules and carrying plates is available for this purpose.

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 permissible surface pressure is not exceeded.

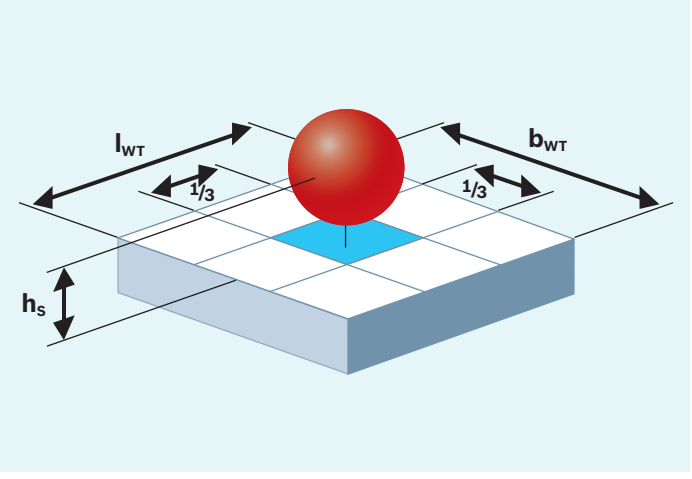
The total weight of the WT results from the following:
- Workpiece pallet weight
- WT load (workpiece, pick-up, etc.)
- Weight of the special equipment (data storage, etc.)



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

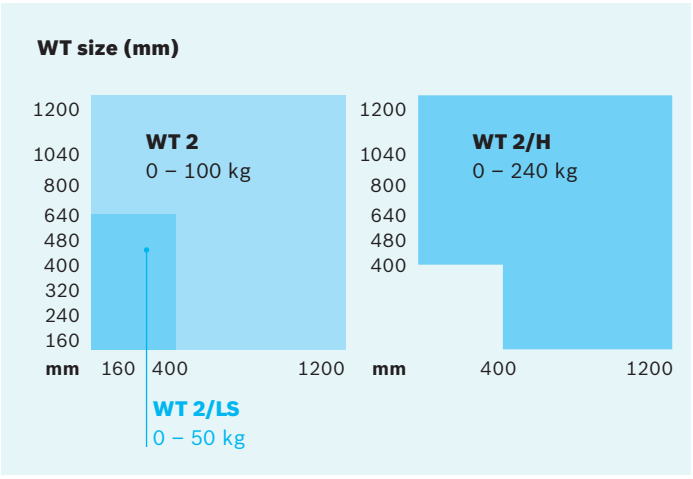
When separating pallets or changing directions, it is important to observe the position of the load center of gravity on the workpiece pallet to ensure that the acceleration forces can be absorbed without any interferences. We generally recommend that:
- the load should be positioned in the center of the workpiece pallet
- the load center of gravity should not exceed a height h_s of 1/2 b_{WT} (with $b_{WT} \leq l_{WT}$).

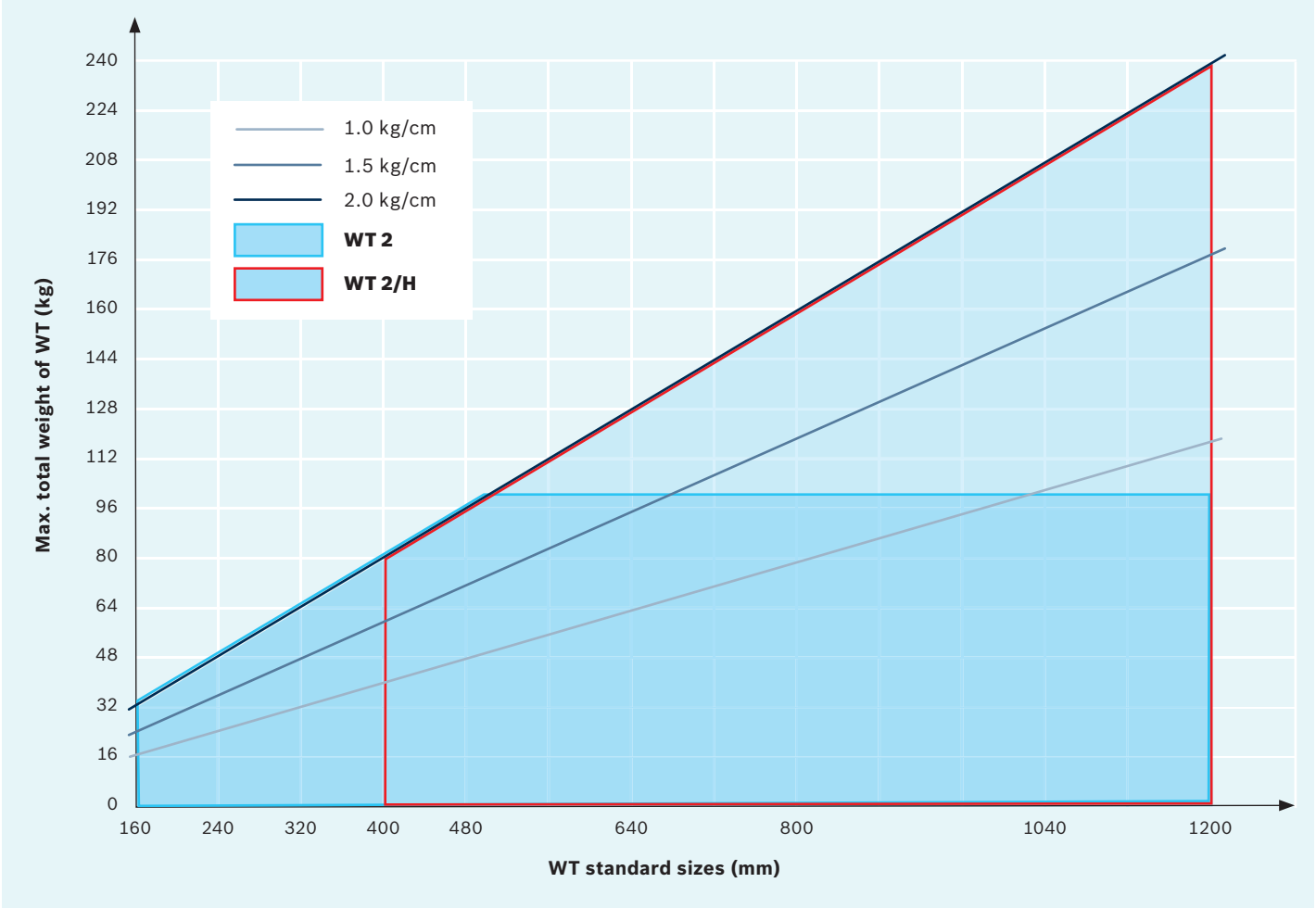


The specified performance data relate to the illustrated gravity center position.

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



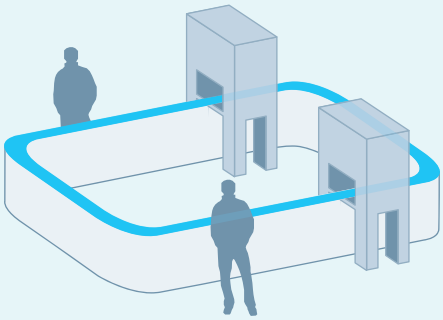
When planning the system layout, it is very important to take into account the individual requirements, targets and priorities of the company. A very flexible system is often required for complex assembly procedures. This may be due to:

- 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

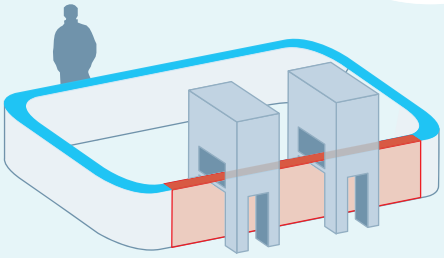
In cases like this, it is practical to outfeed the WT off the main conveyor (main circuit) into a shunt system which is independent of the main cycle. The term main circuit is used to describe workplaces or stations arranged in series. A shunt is when WT are fed out of the main circuit for processing independently of the main cycle, and then fed back into the main circuit.

SYSTEM LAYOUTS

Rectangular circuit

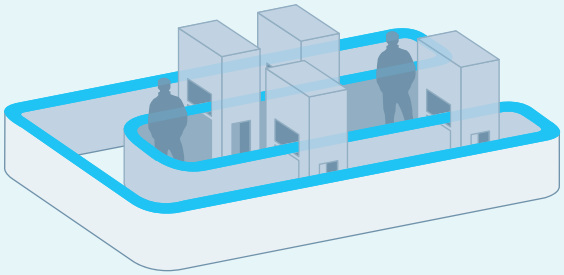


Rectangular circuit with inline statio

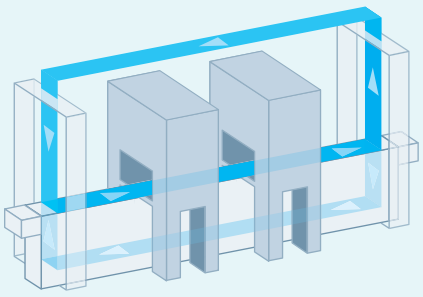


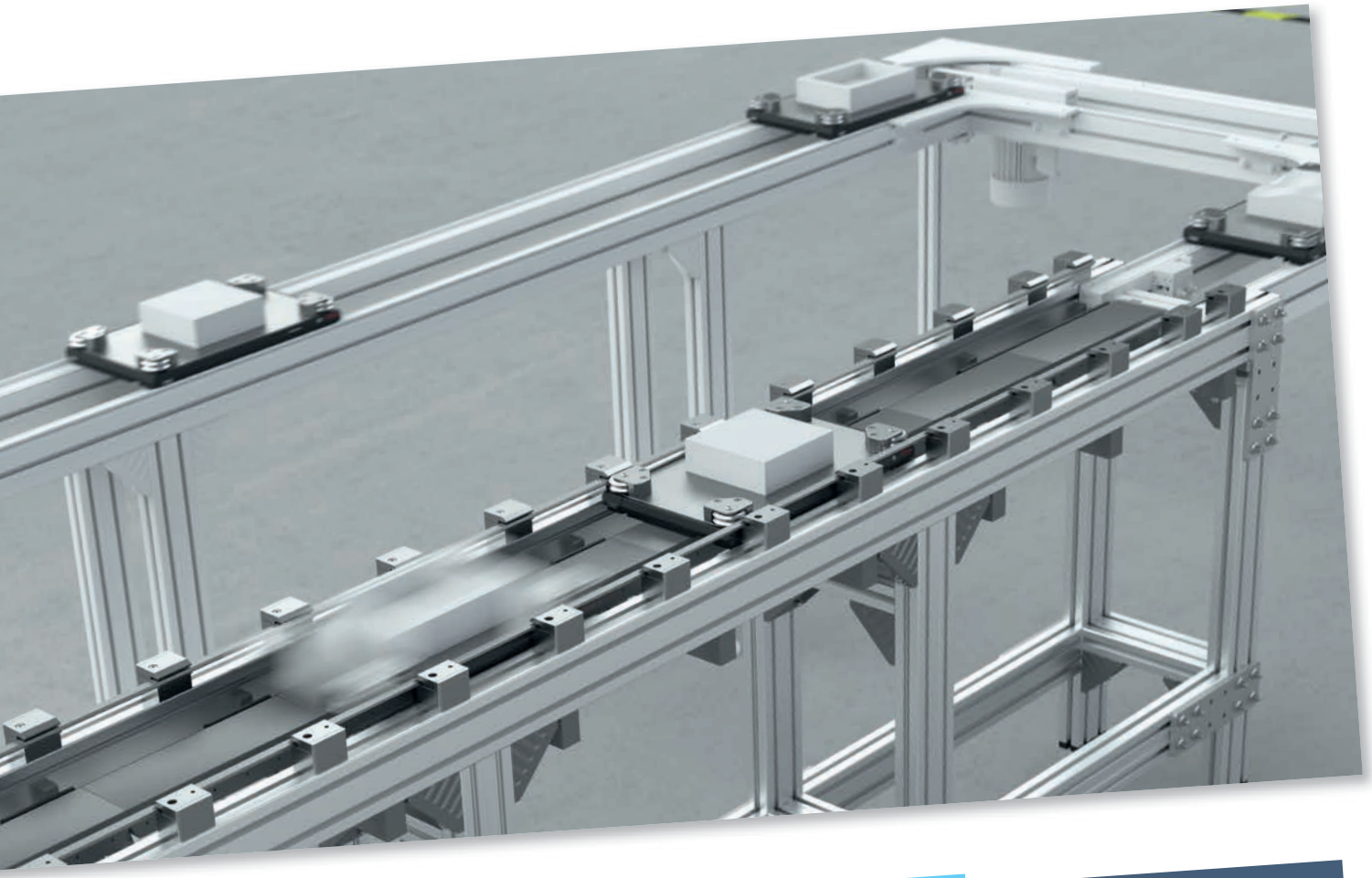
MAIN CIRCUIT

U-shape



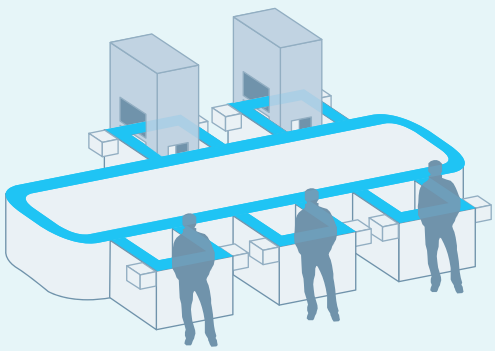
Linear circuit with lift





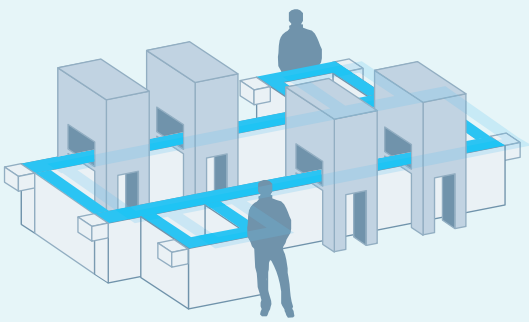
SHUNT

Parallel workplaces

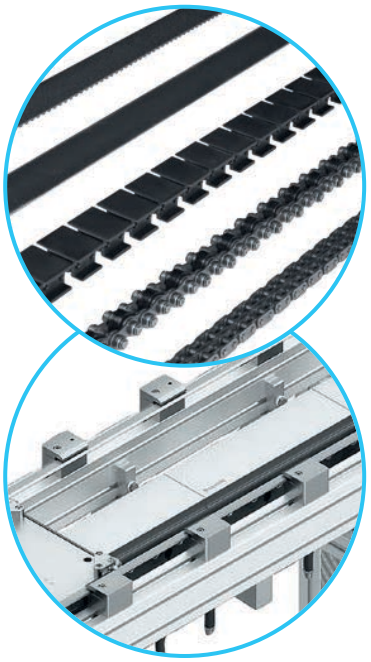


MIXED SYSTEMS

Rectangular circuits with parallel workplaces



Operating principle: 4. TS 2*plus* conveyor media



Toothed belt, belt, plastic flat-top chain, roller chain, duplex chain as standard – linear motors and electromagnets in the TS 2 Booster

The load carrying capacity for 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.

Specific section load/cm = overall WT mass /support surface length

	PA	Standard wear pad			TS 2 Booster	PE	Special wear pad		
Conveyor medium						Vplus		St	
Steel glide profile			1,5 kg / 1 cm			1,5 kg / 1 cm	1,5 kg / 1 cm	2,0 kg / 1 cm	
Plastic glide profile	1,0 kg / 1 cm	1,0 kg / 1 cm	1,0 kg / 1 cm	1,0 kg / 1 cm		1,0 kg / 1 cm	1,5 kg / 1 cm	1,5 kg / 1 cm	2,0 kg / 1 cm
Linear guide with rollers					*				

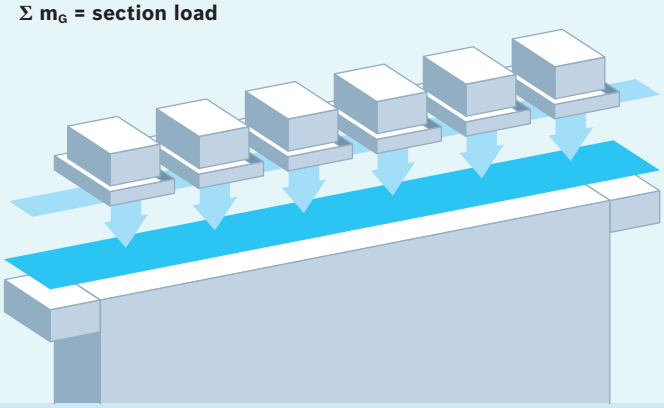
* Observe the specifications of the individual modular units for the technical data of the workpiece pallets

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 section load for the conveyor section.

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

Σm_G = section load



Operating principle: 5. Combination of workpiece pallets, components and modules

ASSIGNMENT OF WEIGHT CLASSES – PRODUCTS

Workpiece pallets	WT 2 ≤ 400 mm	WT 2	WT 2/H	WT 2/H
Typical total weights of the WT in the application	Small total weights 0 – 30 kg	Medium total weights 30 – 100 kg	Medium total weights 30 – 100 kg	High total weights 100 – 240 kg
Suitable (lift) positioning units	PE 2			
		PE 2/X	PE 2/H	PE 2/H
	HP 2/L	HP 2/L		
	HP 2	HP 2		
	PE 2/XX	PE 2/XX	PE 2/XX	PE 2/XX
	PE 2/XP			
Suitable stop gates	VE 2	VE 2	VE 2/D100-H	VE 2/D100-H
	VE 2/L	VE 2/L	VE 2/D250-H	VE 2/D250-H
	VE 2/M	VE 2/M		
	VE 2/S	VE 2/S		
	VE 2/X	VE 2/X		
	VE 2/D-60	VE 2/D-60		
	VE 2/D-175	VE 2/D-175		
	VE 2/D-200	VE 2/D-200		
Suitable dampers	DA 2/10			
	DA 2/30			
	DA 2/100	DA 2/100		
			DA 2/100-H	DA 2/100-H
			DA 2/250-H	DA 2/250-H
		DA 2/150-E	DA 2/150-E	
Suitable switch brackets	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		
Suitable rockers	WI 2	WI 2		

NOW WITH TS 2 Booster 10X FASTER IN SHORT CYCLE

Operating principle: 6. Combination with TS 2 Booster (linear motor section LS 2)

The Rexroth TS 2 Booster transfer system is designed for limited short-cycle applications within the TS 2*plus* system: ideal for sections in front of and in process stations that require a particularly fast WT change of up to 0.3 s.

Properties
Workpiece pallets with a total weight of up to 50 kg are transported via a system driven by a linear motor that seamlessly fits into a TS 2*plus* line. Without stopping, the WT is transferred from the TS 2*plus* into the TS 2 Booster section.

Standardized modular units deliver the WT maximum precision of up to ±10 µm. Flexible control and with accelerations of up to 4 g. The dynamics can be individually adjusted for each WT, stopping without collision and jerk-free start-up can be guaranteed even for the most sensitive products.

Use in TS 2*plus* system
The various WT variants up to a size of 400 x 640 mm, the high total weight of up to 50 kg, the modular design plus the interaction of extreme dynamics and precision make the TS 2 Booster very versatile. This smart sprinter can use its strengths directly in many TS 2*plus* systems, especially in the automotive, electronics, medical technology, acoustics and optics sectors and accelerate processes.

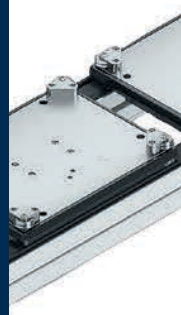
PRODUCT RANGE

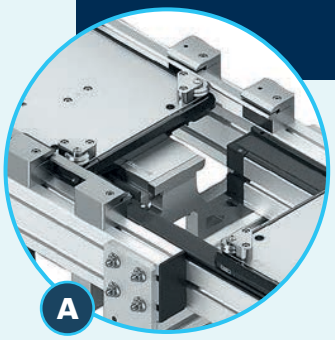
Linear section LS 2
- Linear motors
- Measuring system
- Guide
- Fastening elements with tolerance compensation

Workpiece pallet WT 2/LS
- WT 2 up to 400 x 640 mm (b_{WT} x l_{WT})
- Guide system with corner modules
- Feed magnet
- Measuring magnet

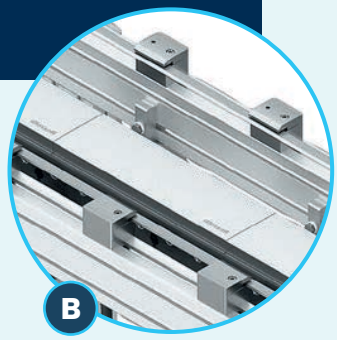
Leg sets SZ 2/LS
- SZ 2/LS MID, SZ 2/LS END

LU 2/LS lubrication unit

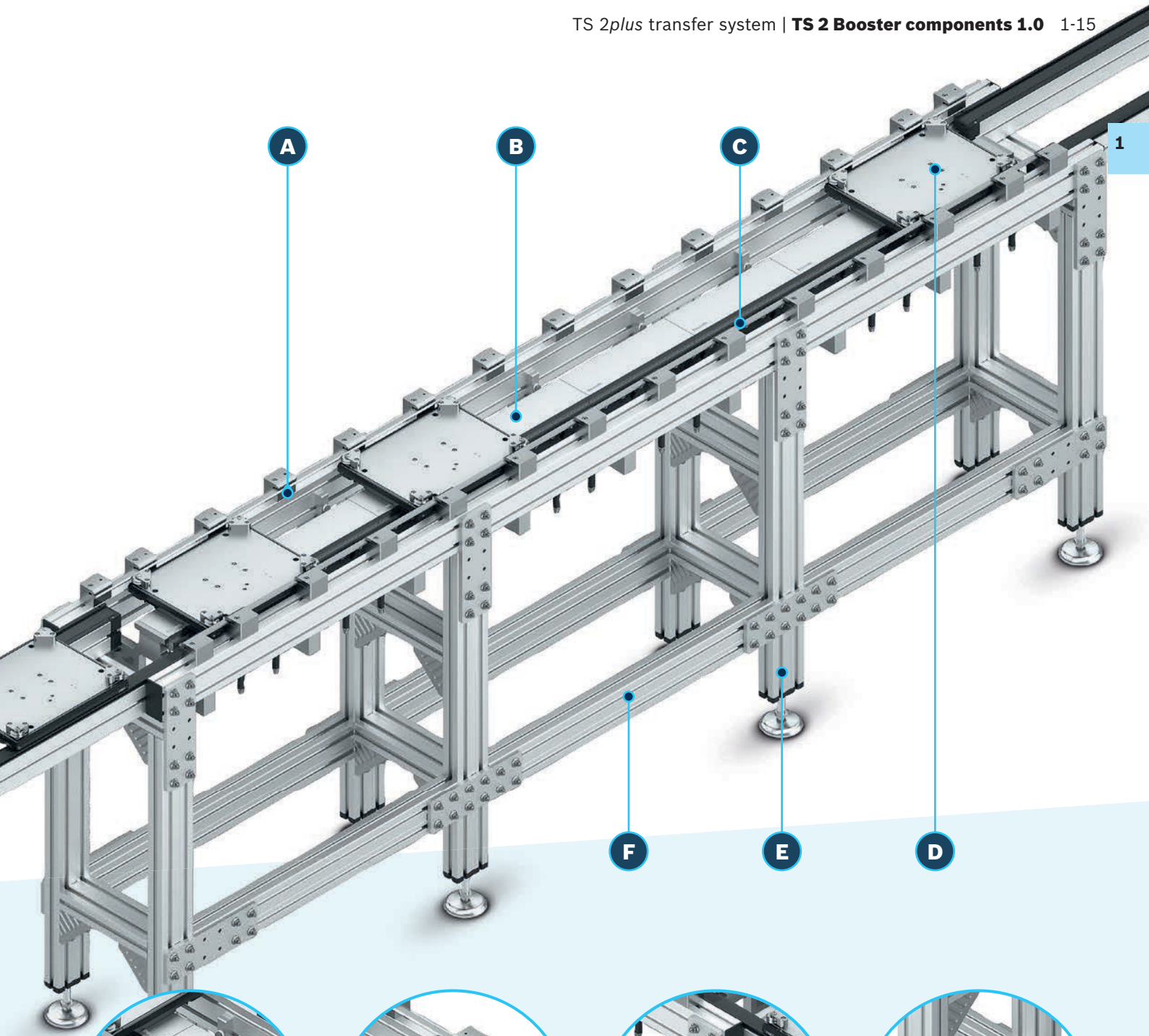


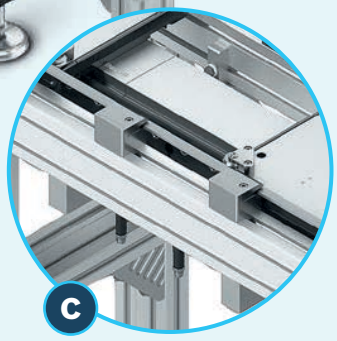


GUIDE RAIL
The low-wear roller guide rail enables precise and zero-clearance positioning of the workpiece pallet on the linear section (LS 2)

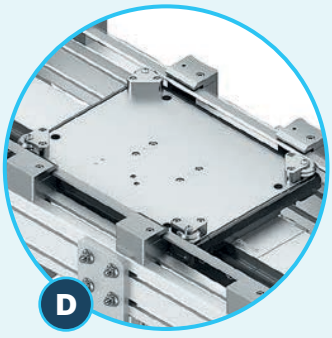


MOTOR
Stationary electromagnet – contrary to the circular arrangement in the rotary motor, the electromagnets are placed next to each other in the linear motor

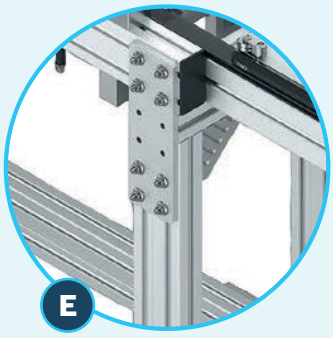




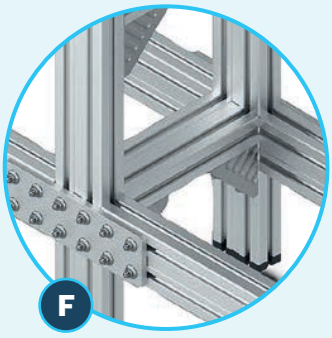
SENSOR SYSTEM
Contactless, dirt-resistant absolute measuring system for detecting WT positions on the linear section using measuring magnets (Hall sensor system)



WORKPIECE PALLET
Permanent magnets mounted on the bottom of the WT 2/LS ensure the required feed according to the "moving magnet motor" principle



LEG SET
The section supports are suitable for accommodating heavy-duty, single-track LS 2 linear sections



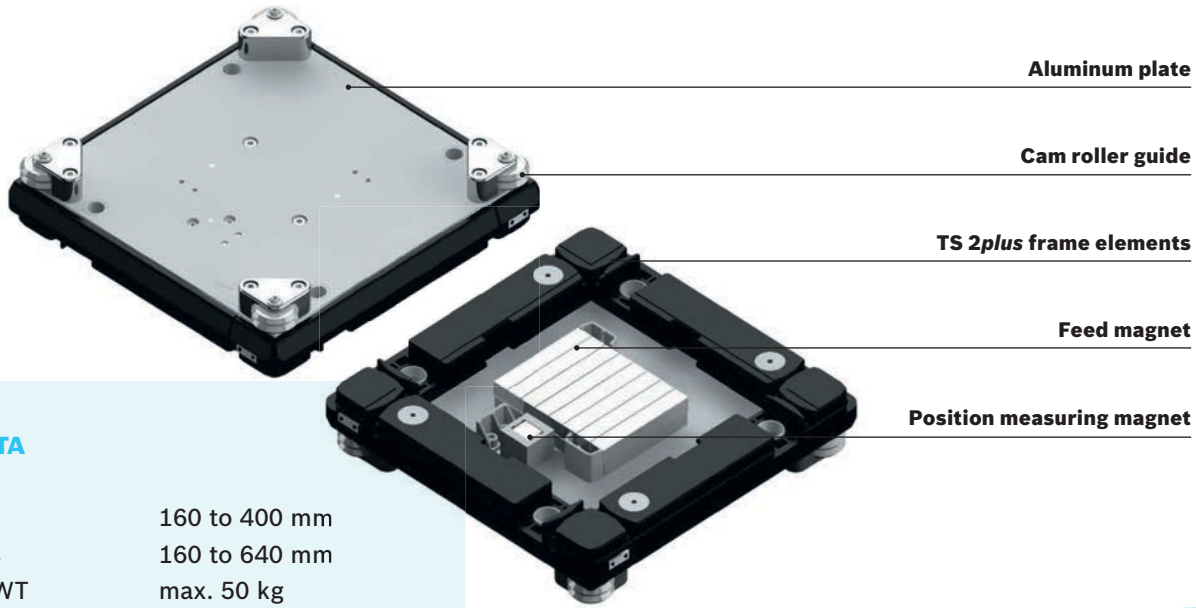
LONGITUDINAL/CROSS CONNECTORS
To compensate for the higher dynamics of the system, e.g. by fast stop or acceleration, all construction elements are designed accordingly stable

NOW WITH TS 2 Booster 10X FASTER IN SHORT CYCLE

The linear motor principle in the TS 2 Booster
A linear motor is an uncoiled rotary motor – the electromagnets are not arranged in a circular form but linearly. With the TS 2 Booster, a stationary electromagnet with moved permanent magnets is the basis ("moving magnet motor"). For this purpose, the workpiece pallet is equipped with a permanent magnet on the bottom side and the linear section itself contains the stationary electromagnets. With this design principle, there is no need for power feed to the WT.

With roller guide and absolute measuring system
A guide and a measuring system are required to transport the workpiece pallet precisely and to position it exactly. The TS 2 Booster is guided via rollers on the WT with a lateral guide on the linear section. The measurement is carried out using a contactless absolute measuring system with Hall sensor technology. The measuring system is integrated into the linear section. Therefore, in addition to the feed magnet, each WT has another (smaller) position magnet on the bottom side for position detection on the linear section. Each WT can be individually moved on the linear section – reversible, at different speeds with a special sequence. You have free reign.

Workpiece pallet WT 2/LS
The WT 2/LS consists of the WT 2 standard carrier with the defined parameters PA wear pad and aluminum carrying plate in standard dimensions as well as a feed magnet, a measuring magnet and guide rollers. In addition, the workpiece pallet is also specified by its defined orientation.



TECHNICAL DATA

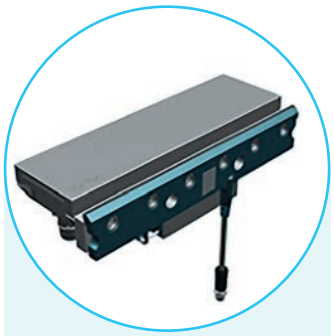
WT 2/LS widths	160 to 400 mm
WT 2/LS lengths	160 to 640 mm
Total weight of WT	max. 50 kg
Speed	max. 4 m/s (240 m/min)
Acceleration	max. 40 m/s^2 (4 g)
WT changeover time	up to 0.5 s
Accuracy for 1 WT	up to ±10 µm
Additional process force in x/y/z direction	0/500/100 N
Section lengths	306 to 3672 mm

MOTOR VARIANTS

Equipping options

The LS 2 conveyor section driven by a linear motor is perfectly matched to the TS 2*plus* system with a length division of 306 mm of the motors and 4 standard widths. The desired dynamics and feed force depends, among other things, on the load and the number of magnet assemblies. Important: only one magnet assembly can be individually moved per segment. The selection of the motor combination is therefore essential for the distances between the workpiece pallets and for performance.

Linear sections with track widths up to 320 mm are equipped with a motor module, two parallel motor series are used at a track width of 400 mm.



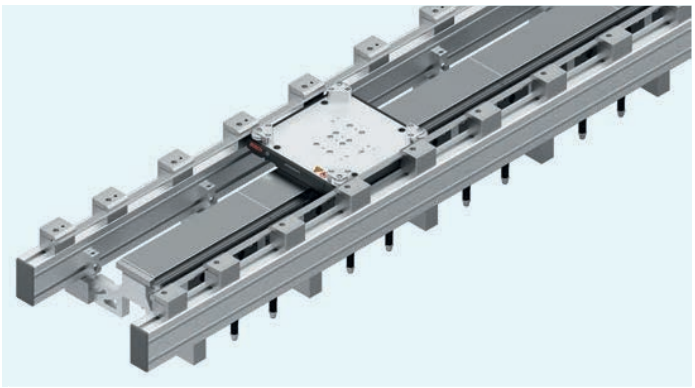
Motor 306-1
1 motor with 306 mm
1 segment, each 306 mm
1 sensor, each 306 mm

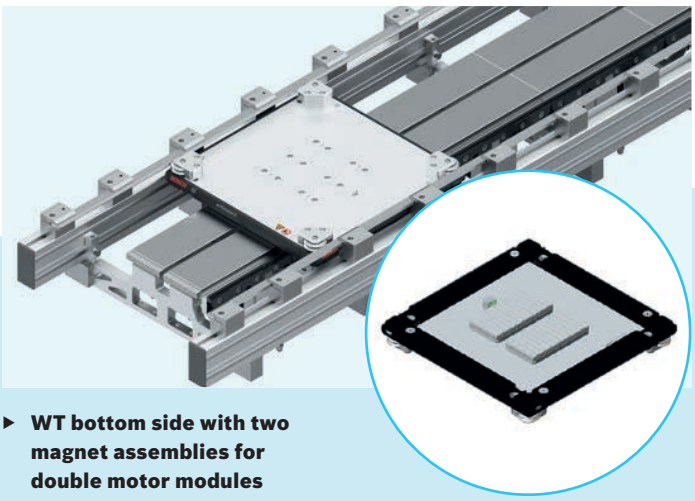
+ lower costs
+ minimum installation work
– larger WT distance required (recommended for WT lengths of 400 mm and in mixed operations)



Motor 306-3
1 motor with 306 mm
3 segments, each 102 mm
3 sensors, each 102 mm

+ better performance
+ higher load capacity
– increased effort (hardware, installation, commissioning)





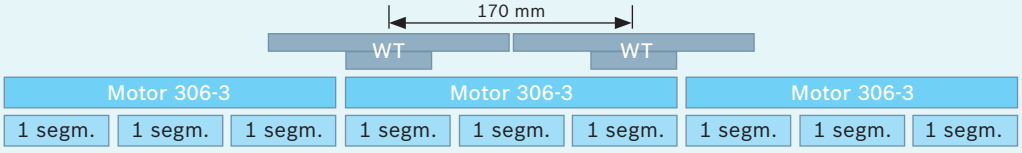
▸ **WT bottom side with two magnet assemblies for double motor modules**

WT type b_{WT} x l_{WT} (mm)	Track width (mm)	Pure 306-1	Pure 306-3	Mixed 306-1/ 306-3	Double track 306-1
160 x 160	160	o	●	●●	–
160 x 240	160	o	●	●●	–
160 x 320	160	●●	●	●●	–
240 x 160	240	●	●	●●	–
240 x 240	240	●	●	●●	–
240 x 320	240	●●	●	●●	–
240 x 400	240	●●	●	●●	–
320 x 240	320	●	●	●●	–
320 x 320	320	●●	o	●	–
320 x 400	320	●●	o	●	–
320 x 480	320	●●	o	●	–
400 x 320	400	–	–	–	●●
400 x 400	400	–	–	–	●●
400 x 480	400	–	–	–	●●
400 x 640	400	–	–	–	●●

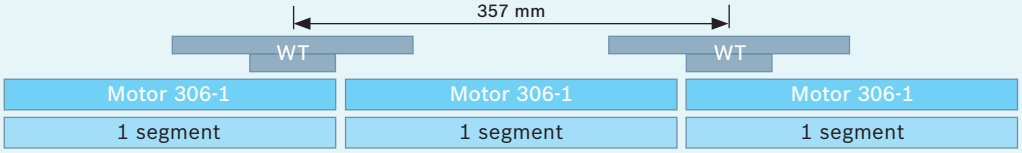
●● recommended
● possible, depending on application
o not recommended, required/practical in exceptional cases
– not possible

Three examples of the layout of motor equipment for a conveyor section (WT length 160 mm, magnetic assembly length 51 mm)

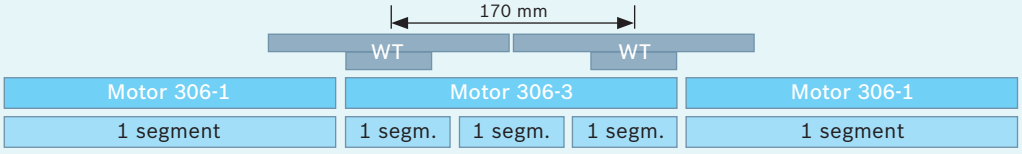
Motor 306-3
Sorted equipment
(1 stator magnet per segment)



Motor 306-1
Sorted equipment
(1 stator magnet per segment)



Motor 306-3 and 306-1
Mixed equipment
(1 stator magnet per segment)





IMPORTANT NOTES FOR SELECTING THE COMPONENTS

Motor/WT:

- Only 1 magnet assembly can be moved independently per segment
- The workpiece pallets must maintain a minimum distance between each other, which depends on the WT length: Distance between WT and WT = segment length + magnet length
- Systems with a pure 1-segment motor equipment need a larger workpiece pallet distance than lines with 3-segment motors
- Mixed equipment possible

Dynamics:

- Short cycle times can only be achieved with short WT changeover times, which in turn depend on the load, the travel acceleration and the WT load of the line.
- Excessive dynamics and load lead to thermal problems.
- To ensure that the motor does not overheat even in continuous operation, the following must apply for every segment: $F_{eff} \leq F_{nom}$.
- Synchronous WT changeover is time-optimized.
- A workpiece pallet must always be on the first, so-called check-in position with the entire magnet in order to achieve the maximum possible dynamics in the TS 2 Booster system

Sizes/lengths:

- The LS section, i.e. the TS 2 Booster section, is mechanically limited to 3,672 mm via the guide. Longer sections are possible – please contact us for further information.
- The smallest practical layout is 2 WT lengths.
- In terms of control, the maximum number of segments must be taken into account. By default, 24 segments are specified in the catalog by configuration numbers. Greater lengths are, of course, also possible. Please contact us or your system provider.

Critical segments:

- Sections with frequent acceleration and/or deceleration, as well as segments in the process station are referred to as "critical". It is recommended to always carry out a rough calculation of F_{eff} for these "critical segments".

TS 2*plus* COMPONENTS FOR WT 2/LS

Longitudinal conveyor	
AS 2/B, UM 2/B, ST 2/B	●
BS 2, BS 2/M, BS 2/K	●
LG 2/H from b = 400 mm	●
AS 2/C..., UM 2/C..., ST 2/C...	● **
BS 2/C	● **
Curves	
KE 2/... LS	● *
KU 2/...	●
Transverse conveyor	
EQ 2/... LS	● *
HQ 2/... LS	● *
Roller sections	●
EL 2 from b = 320 mm	●
Positioning and orientation	
Inner guide from b = 240 mm	●
PE 2/LS	● *
HP 2/L LS, HP 2/LS	● *
HD 2-LS, HD 2/H LS	● *
DE 2	●
Transportation control	
VE 2, VE 2/L, VE 2/M, VE 2/S, VE 2/RS	●
VE 2/D60-LS, VE 2/175-LS	● *
VA 2/50	●
WI 2/..., WI/M	●
Leg sets	
SZ 2 ...	●

- * These components are available in an adapted version (LS version). The LS version is specifically designed for the WT 2/LS. However, it can also be combined with the same components as your standard version.
- ** The WT 2/LS cannot be inserted into the transverse conveyor on these components.

Operating principle:
7. Ambient conditions



Materials used, media resistance
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.

AMBIENT CONDITIONS

Climatic

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

- Operating temperature: +5 ... +40 °C, −5 ... +60 °C at 20 % reduced load
- Storage temperature: −25 °C ... +70 °C
- Relative humidity: 5 ... 85 %, non-condensing; 1 ... 2 % (dry room) on request
- Air pressure: > 84 kPa appropriate for an installation height < 1400 m above mean sea level. Load values are reduced by 15 % when the system is set up at a location that is > 1400 m above sea level.

Biological

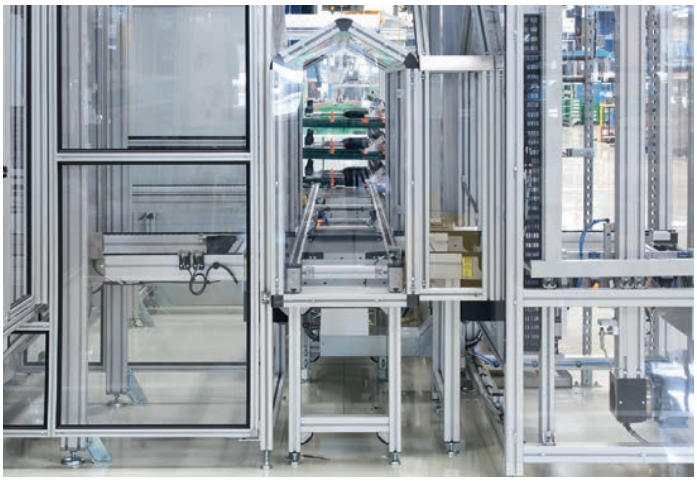
Avoid molds, fungi, rodents, and other vermin

Chemical

Do not set up near industrial systems with chemical emissions

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.









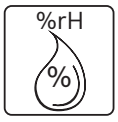
Suitability for electrostatically sensitive areas
Almost all of the components and parts in Rexroth transfer systems are ESD-compatible or available in an ESD-compatible version. They can thus principally be used in EPA (ESD-protected areas). We do, however, recommend that you contact your Rexroth representative.



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, V*plus* chains or flat top chains). We do, however, recommend that you contact your Rexroth representative.





Use in dry rooms

TS 2*plus* has been tested and approved with all conveyor media for use in dry rooms with a relative humidity of 1 to 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

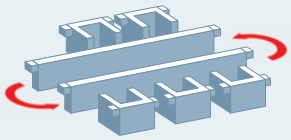
Almost all the components have been approved by the IPA* for use in cleanrooms and for cleanroom class 7 according to DIN EN ISO 14644-1. Please note that some cleanroom-compatible components have been specially modified. Please contact your Rexroth representative if you require cleanroom components.

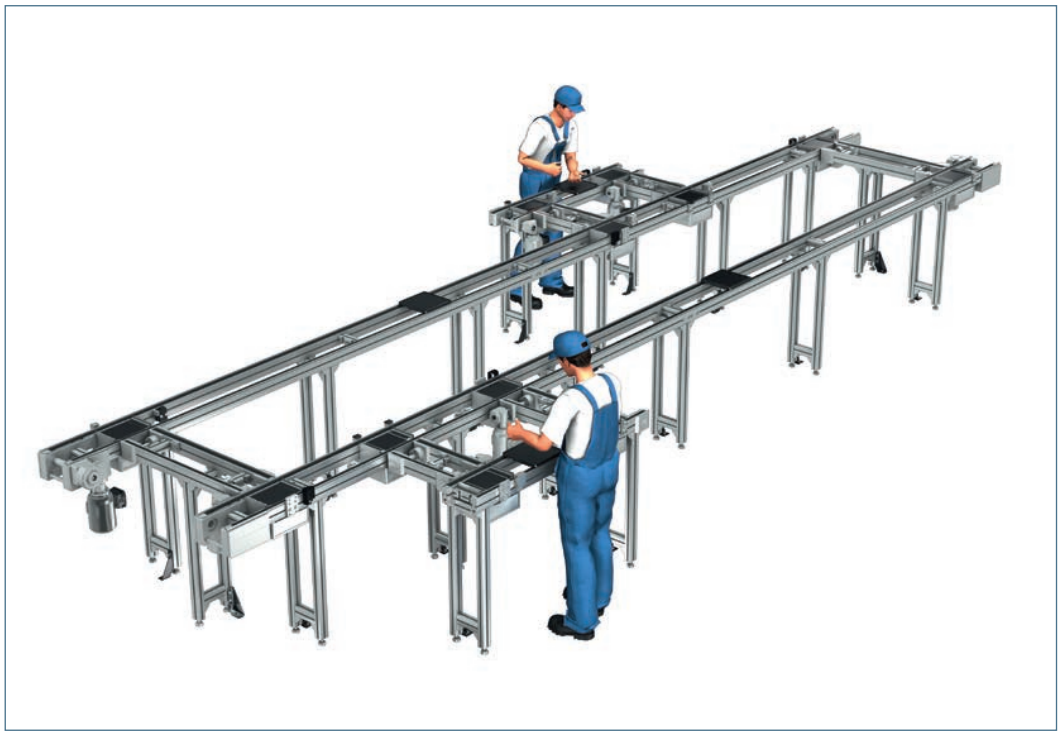
* Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany

Design ideas

Layout example with 240 x 240 mm workpiece pallets

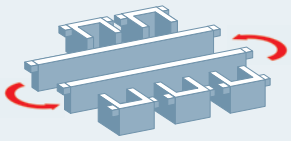
conveyor medium: belt, toothed belt

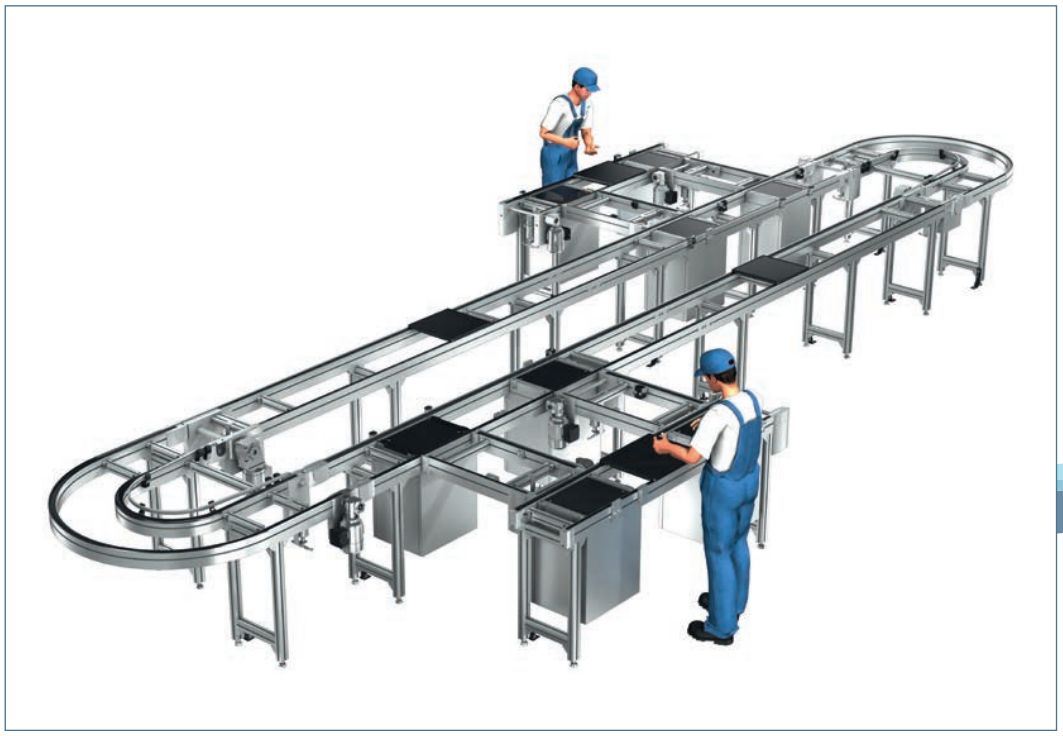




Layout example with 640 x 640 mm workpiece pallets

conveyor medium: accumulation roller chain, flat top chain





Identification and data tag systems

Identification and data tag systems store all data related to products and processes 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.

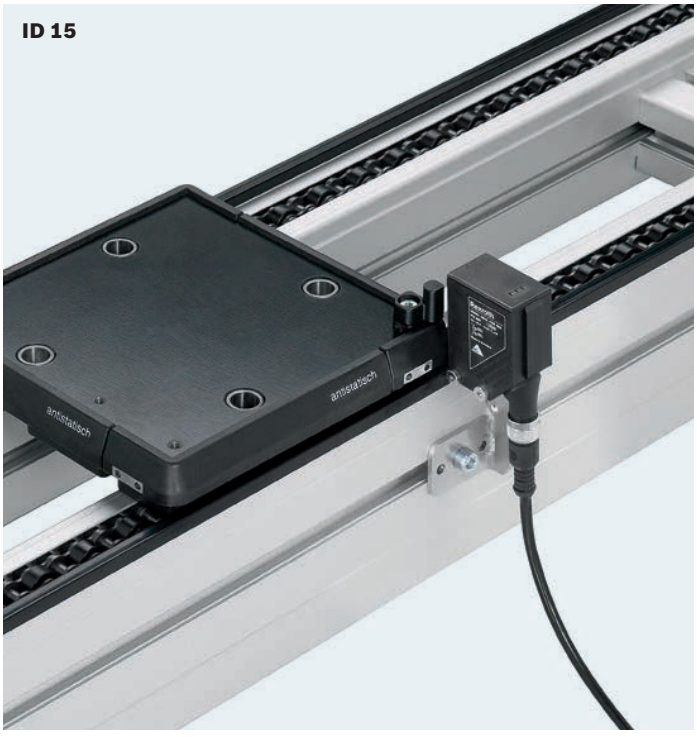
Data related to objects is the basis for

- 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.

RFID systems catalog

Here you can find the current range of Rexroth identification and data tag systems:
Identification systems catalog DE no. 3842541003

ID 15



ID 200



Energy efficiency – Rexroth 4EE

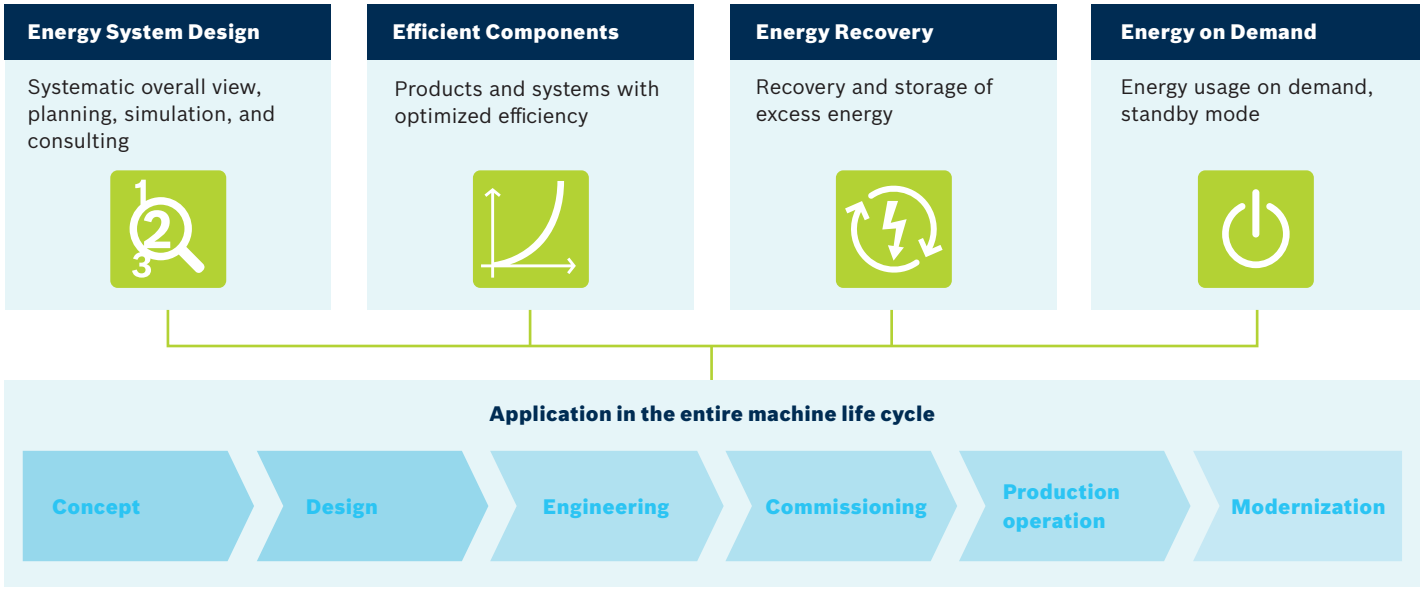
4EE ENERGY EFFICIENCY

ENERGY EFFICIENCY IS A KEY FACTOR FOR CORPORATE SUCCESS

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

All potentials for optimization are used effectively when not only the details of a system but the system as a whole is optimized.

The 4EE system features four levers:



Efficient system layout
To achieve high energy efficiency, the system must be examined as a whole as early as in the planning phase. The TS 2*plus* construction kit 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 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 2*plus* system are designed for start-stop operation and frequency converter operation.

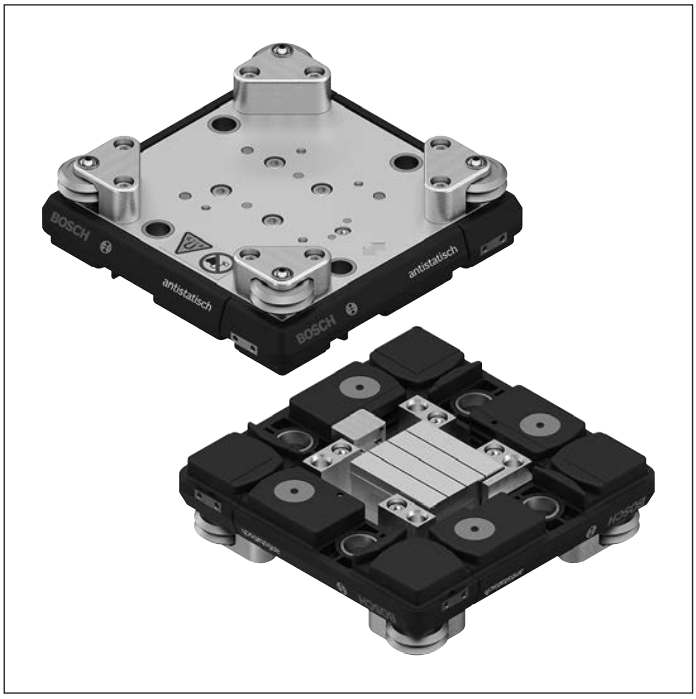
Energy-efficient modules
The TS 2*plus* modules are equipped with particularly energy-efficient drives. The efficiency of most of the motors already exceed future requirements. The interplay of friction-optimized materials, e.g., on sliding rails, friction-minimizing gear oils and numerous further design details ensures perfect coordination in the overall system.

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



Workpiece pallets

Workpiece pallet WT 2/LS



- Suitable for belt, toothed belt, and flat top chain
- Plastic frame modules with PA wear pad and aluminum carrying plate
- Suitable for use in an EPA
- Integrated roller carrier with guide rollers
- Integrated feed magnet with magnetic protection plate
- Integrated measuring magnet
- Magnet stop protection

Note:
- Observe the travel direction of the WT 2/LS on the LS 2 linear section, shown by arrow on the carrying plate
- Observe the notes in the assembly instructions WB 2 workpiece pallet booster 3842562367:
  - Guidelines for processing the carrying plate
  - Warning notice "Strong magnetic field!"; remove magnetic protection plate for shielding the magnetic field only upon commissioning

WT 2/LS workpiece pallet based on WT 2 with all WT 2 functions in 15 standard sizes.
The MDT 1/2K-H and MDT 21/28-L mobile data tags are fastened to the roller carrier. Other data tags can be mounted analogously to WT 2.

Delivery information

Scope of delivery
- Carrying plate
- Frame modules
- Connection elements
- Positioning bushings
- Roller carrier with guide rollers
- Feed magnet with magnetic protection plate
- Measuring magnet
- Magnet stop protection

Condition on delivery
- Assembled, individually packed with magnetic protection plate

Ordering information

Product description	Magnetic rows	Guide size BG	Material number
Workpiece pallet WT 2/LS 160 x 160	1	2	3842562346
Workpiece pallet WT 2/LS 160 x 240	1	2	3842562347
Workpiece pallet WT 2/LS 160 x 320	1	2	3842562348
Workpiece pallet WT 2/LS 240 x 160	1	2	3842562349
Workpiece pallet WT 2/LS 240 x 240	1	2	3842562350
Workpiece pallet WT 2/LS 240 x 320	1	2	3842562351
Workpiece pallet WT 2/LS 240 x 400	1	3	3842562352
Workpiece pallet WT 2/LS 320 x 240	1	2	3842562353
Workpiece pallet WT 2/LS 320 x 320	1	3	3842562354
Workpiece pallet WT 2/LS 320 x 400	1	3	3842562355
Workpiece pallet WT 2/LS 320 x 480	1	3	3842562356
Workpiece pallet WT 2/LS 400 x 320	2	3	3842562357
Workpiece pallet WT 2/LS 400 x 400	2	3	3842562358
Workpiece pallet WT 2/LS 400 x 480	2	3	3842562359
Workpiece pallet WT 2/LS 400 x 640	2	3	3842562360

Technical data

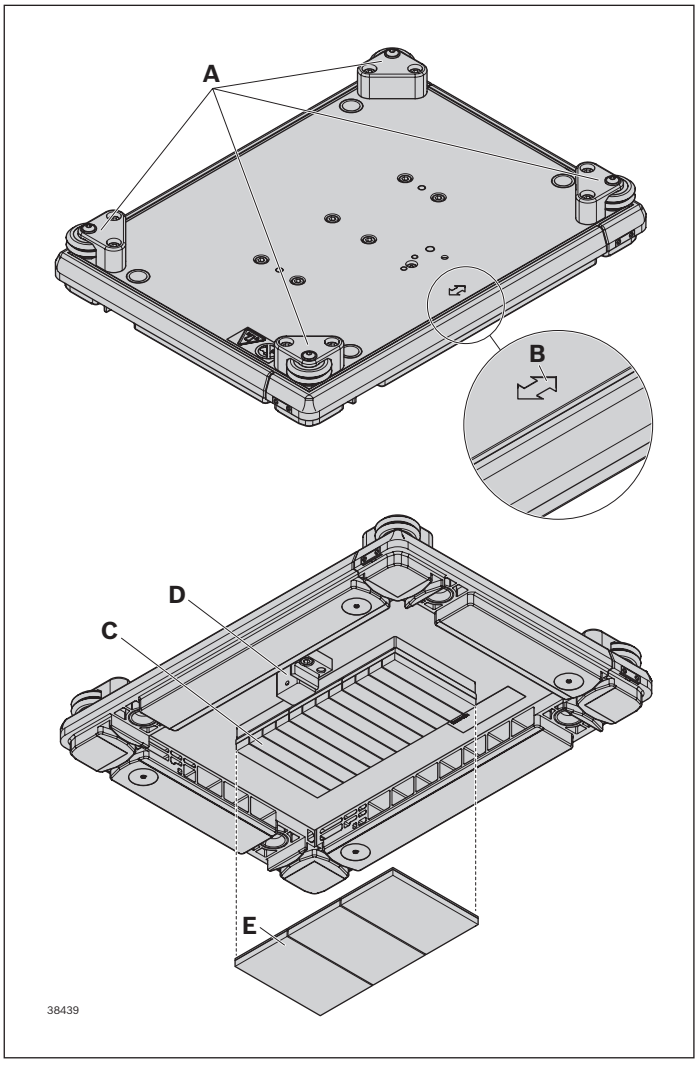
Workpiece pallet b_{WT} x l_{WT}	WT mass	Max. load per WT	Max. acceleration with load of		Max. speed	Max. feed force at		Continuous feed force (= nominal force)[1] at	Solenoid assembly length	Process force			Material number
			0 kg	max.		v = 0 m/s	v = 4 m/s	v = 0 m/s		Fx	Fy	Fz	
(mm)	(kg)	(kg)	(m/s^2)	(m/s^2)	(m/s)	(N)	(N)	(N)	(mm)	(N)	(N)	(N)	
160 x 160	1.64	10	23.2	3.3	4	38	21	12.0	51	0	500	[2]	3842562346
160 x 240	1.93	10	19.7	3.2	4	38	21	12.0	51	0	500	[2]	3842562347
160 x 320	2.58	10	29.8	6.1	4	77	41	23.0	102	0	500	[2]	3842562348
240 x 160	2.1	10	24.3	4.2	4	51	26	15.0	51	0	500	[2]	3842562349
240 x 240	3.01	20	33.9	4.4	4	102	52	31.0	102	0	500	[2]	3842562350
240 x 320	3.89	20	39.3	6.4	4	153	77	46.0	153	0	500	[2]	3842562351
240 x 400	4.98	20	30.7	6.1	4	153	77	46.0	153	0	500	[2]	3842562352
320 x 240	3.44	20	26.5	3.9	4	91	40	28.0	102	0	500	[2]	3842562353
320 x 320	5.14	20	26.5	5.4	4	136	60	42.0	153	0	500	[2]	3842562354
320 x 400	6.17	30	29.3	5.0	4	181	81	56.0	204	0	500	[2]	3842562355
320 x 480	6.53	30	27.7	5.0	4	181	81	56.0	204	0	500	[2]	3842562356
400 x 320	6.17	30	24.8	4.2	4	153	106	49.0	102	0	500	[2]	3842562357
400 x 400	7.87	35	29.2	5.4	4	230	126	73.0	153	0	500	[2]	3842562358
400 x 480	8.6	35	26.7	5.3	4	230	126	73.0	153	0	500	[2]	3842562359
400 x 640	13.03	35	20.9	5.7	4	272	139	83.0	153	0	500	[2]	3842562360

[1] Nominal force refers to room temperature.

[2] Fz = 100 + maximum payload - current payload

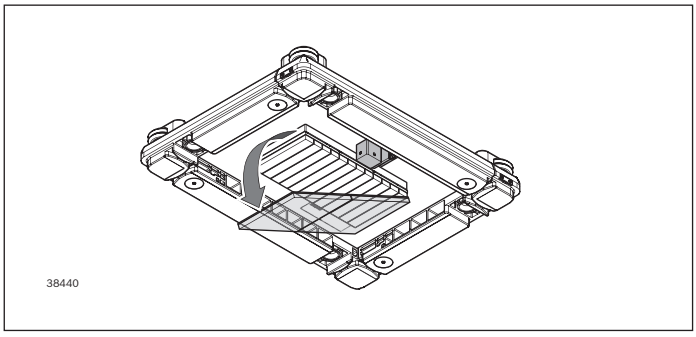
The process force Fz can be increased by using the maximum possible load as a process force.

Notice: Performance depends on the ambient temperature.



WT 2/LS overview

A Rollers
B Identification of travel direction on LS 2
C Feed magnet
D Measuring magnet
E Magnetic protection plate



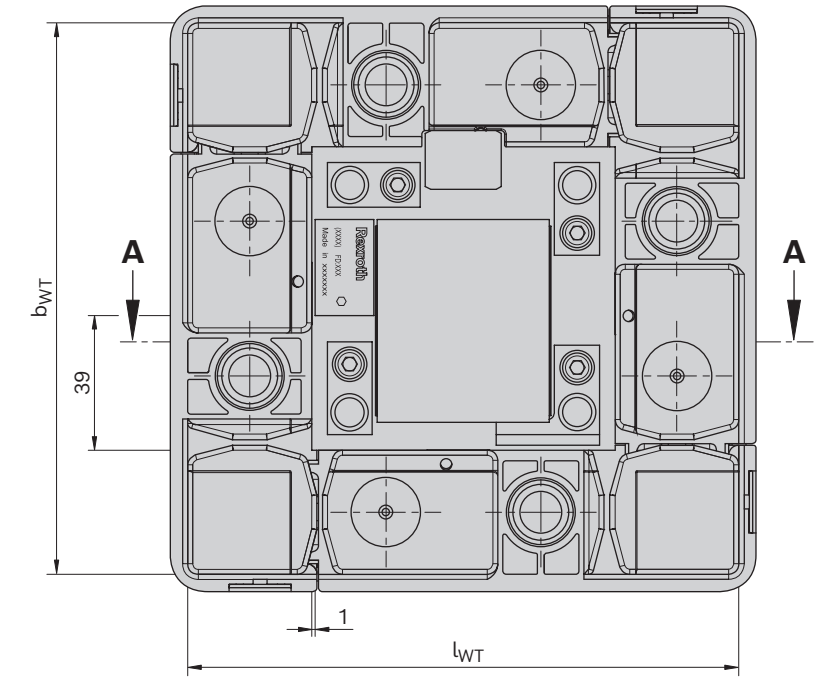
Notice:



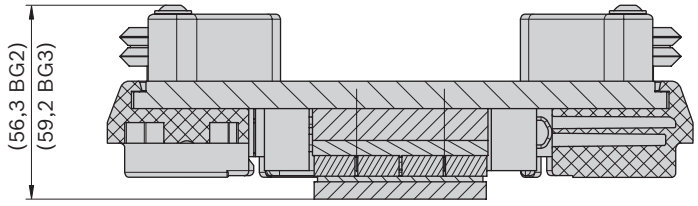
Please note that the WT 2/LS workpiece pallet has a strong magnetic field and take appropriate precautions.
Observe the corresponding information in the assembly instructions.

- The magnetic protection plate must be placed immediately after the WT 2/LS is removed from the conveyor section
- Magnetic field < 6 mT at a distance of 20 mm from the top side of the WT
  Please refer to the assembly instructions for details
- With electronic implants (pacemaker, pump, etc.), a minimum distance of 0.3 m from the magnets must be maintained
- Further information on assembly/disassembly, functions and settings can be found in the assembly instructions WB 2 workpiece pallet booster 3842562367

Dimensions



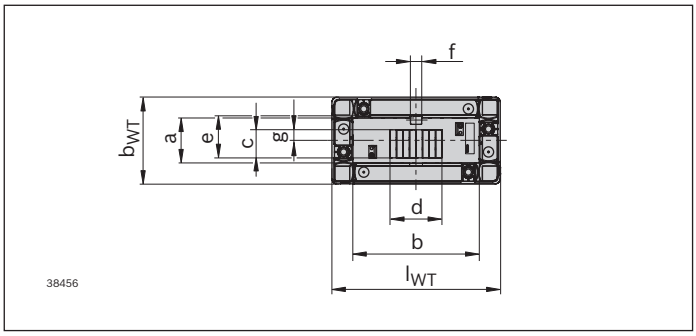
A – A



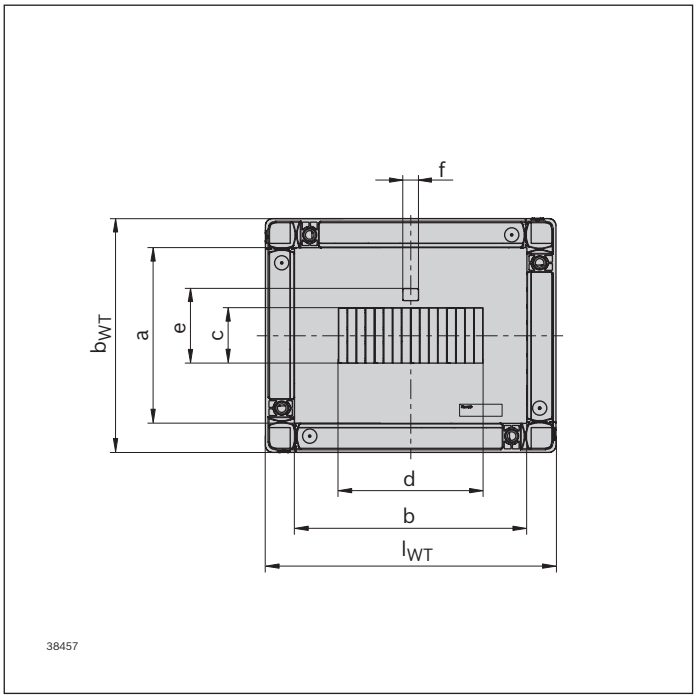
38441

For size information for b_{WT} and l_{WT}, see page 2-3

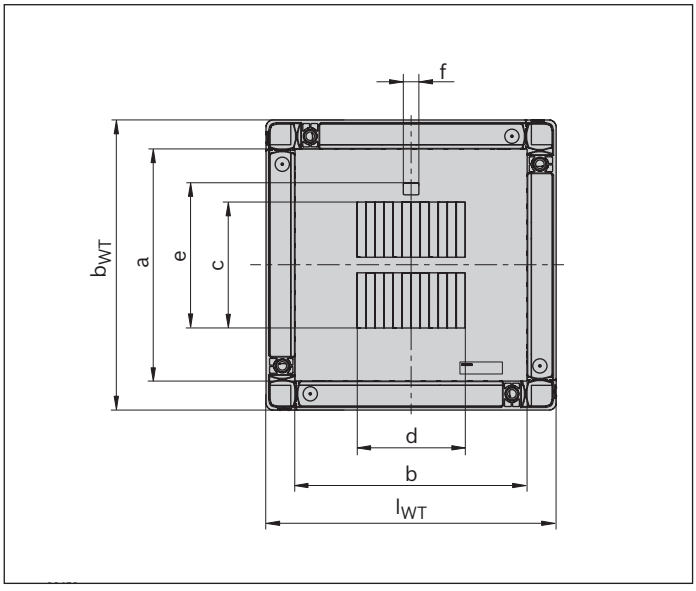
Dimensions
of the workpiece pallet WT 2/LS: Feed and measuring magnet position



Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)
160	160	88	88	55	51	82.75	22	21
	240	88	168	55	51	82.75	22	21
	320	88	248	55	102	82.75	22	21

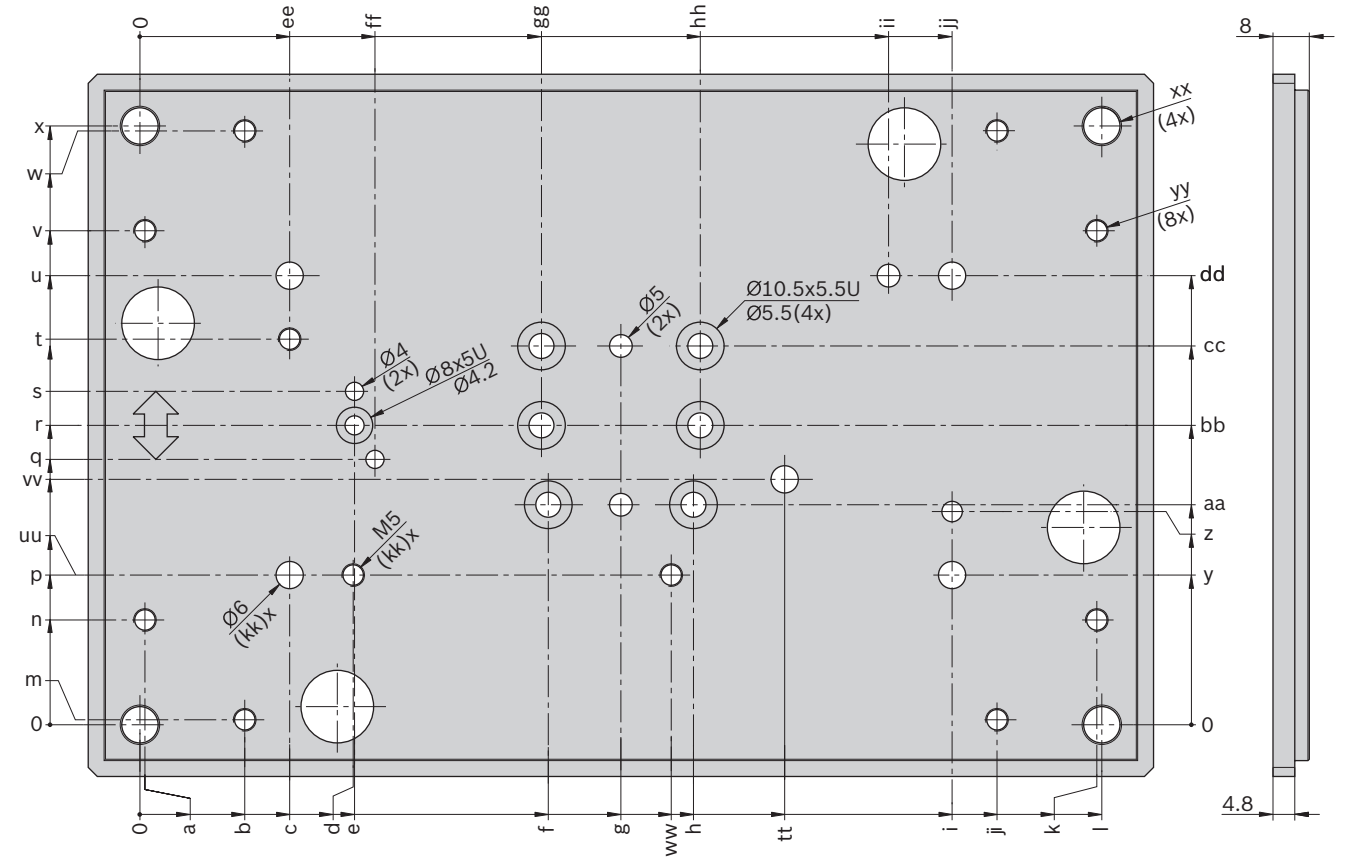


Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)
240	160	168	88	78	51	105.2	22	–
	240	168	168	78	102	105.2	22	–
	320	168	248	78	153	105.2	22	–
	400	168	328	78	153	105.2	22	–
320	240	248	168	78	102	105.2	22	–
	320	248	248	78	153	105.2	22	–
	400	248	328	78	204	105.2	22	–
	480	248	408	78	204	105.2	22	–



Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)
400	320	328	248	178	102	205.2	22	–
	400	328	328	178	153	205.2	22	–
	480	328	408	178	153	205.2	22	–
	640	328	568	178	153	205.2	22	–

Dimensions b_{WT} x l_{WT}: 160 x 160/240, 240 x 160/320/400, 320 x 240/320



Further information, see carrying plate in the TS 2*plus* catalog 7.0 on page 2-26ff.

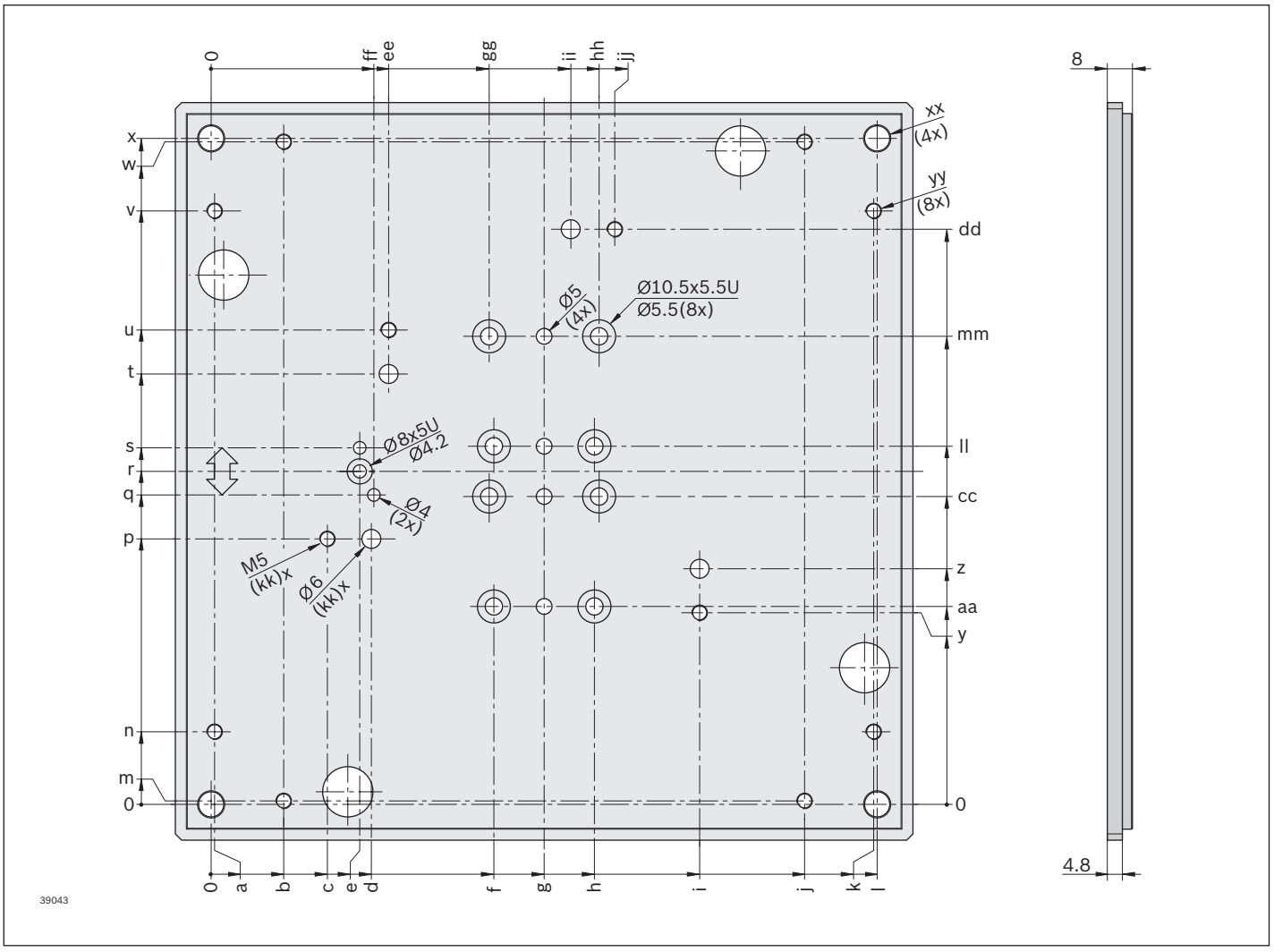
Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Width ab (mm)	Length al (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)
160	160	154.8	154.8	1.1	23.1	33	47	24.75	56.5	72.5
	240	154.8	234.8	1.1	23.1	51	37	24.75	56.5	72.5
240	160	234.8	154.8	1.1	23.1	33	47	47.3	90	106
	320	234.8	314.8	1.1	23.1	37	51	47.3	90	106
	400	234.8	394.8	9.31	29.01	29.45	43.45	39.75	82.45	98.45
320	240	314.8	234.8	1.1	23.1	–	–	87.3	130	146
	320	314.8	314.8	9.31	29.01	–	–	79.75	122.45	138.45

h (mm)	i (mm)	j (mm)	k (mm)	l (mm)	m (mm)	n (mm)	p (mm)	q (mm)	r (mm)	s (mm)	t (mm)
88.5	–	108.9	130.9	132	1.1	23.1	33	58.5	66	73.5	85
88.5	–	108.9	130.9	132	1.1	23.1	70	98.5	106	113.5	–
122	179	188.9	210.9	212	1.1	23.1	33	58.5	66	73.5	85
122	–	188.9	210.9	212	1.1	23.1	124.5	138.5	146	153.5	–
114.45	–	167.89	187.59	196.9	9.31	29.01	156.95	170.95	178.45	185.95	–
162	195.5	268.9	290.9	292	1.1	23.1	–	98.5	106	113.5	137.18
154.45	–	247.89	267.59	276.9	9.31	29.01	–	130.95	138.45	145.95	–

u (mm)	v (mm)	w (mm)	x (mm)	y (mm)	z (mm)	aa Ø (mm)	bb Ø (mm)	cc Ø (mm)	dd Ø (mm)	ee Ø (mm)	ff Ø (mm)
99	108.9	130.9	132	–	–	48.5	–	83.5	99	33	29.25
–	188.9	210.9	212	–	–	88.5	–	123.5	142	–	29.25
99	108.9	130.9	132	33	47	48.5	66	83.5	99	33	51.8
–	268.9	290.9	292	–	–	77.5	146	214.5	–	–	51.8
–	327.89	347.59	356.9	–	–	109.95	178.45	246.95	–	–	44.25
151.18	188.9	210.9	212	61.02	75.02	63	–	149	–	96.5	91.8
–	247.89	267.59	276.9	–	–	69.95	138.45	206.95	–	–	84.25

gg Ø (mm)	hh Ø (mm)	ii Ø (mm)	jj Ø (mm)	tt Ø (mm)	uu Ø (mm)	vv Ø (mm)	ww Ø (mm)	xx Ø (mm)	yy Ø (mm)	kk Ø(mm) Ø6	kk Ø(mm) M5
55	90	85	99	104.75	33	51	86	8	M5	4x	4x
55	90	95	81	–	–	–	–	8	M5	2x	2x
88.5	123.5	165	179	–	–	–	–	8	M5	4x	4x
88.5	123.5	–	–	–	–	–	–	8	M5	1x	1x
80.95	115.95	–	–	–	–	–	–	10	M6	1x	1x
128.5	163.5	–	–	–	–	–	–	8	M5	2x	2x
120.95	155.95	–	–	–	–	–	–	10	M6	–	–

Dimensions b_{WT} x l_{WT}: 160 x 320, 240 x 240, 320 x 400/480



Further information, see carrying plate in the TS 2*plus* catalog 7.0 on page 2-26ff.

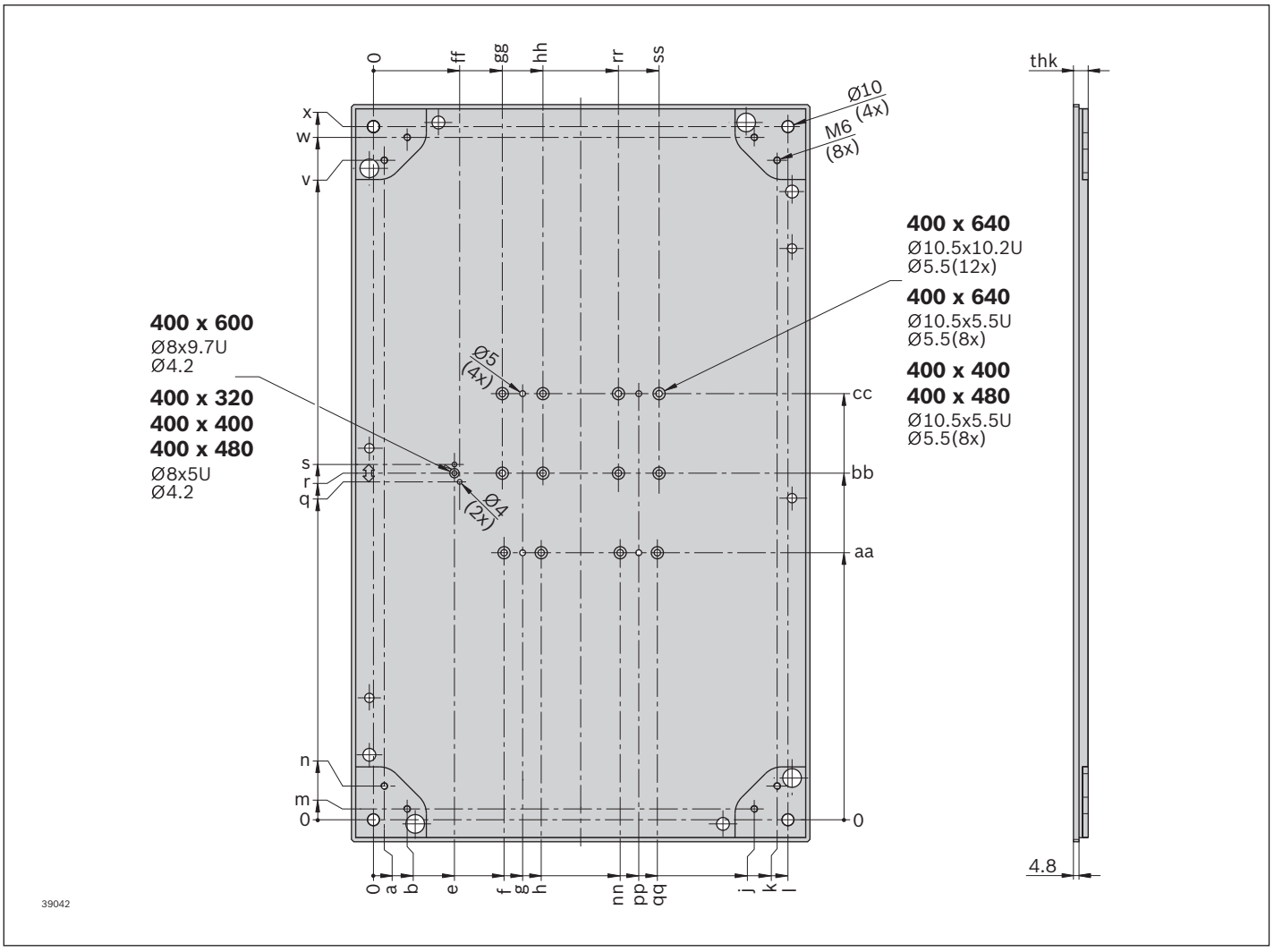
Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Width ab (mm)	Length al (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)
160	320	154.8	314.8	1.1	23.1	37	51	24.75	56.5	72.5
240	240	234.8	234.8	1.1	23.1	37	51	47.3	90	106
320	400	314.8	394.8	9.3	29.01	–	–	79.75	122.45	138.45
	480	314.8	474.8	9.31	29.01	–	–	79.75	122.45	138.45

h (mm)	i (mm)	j (mm)	k (mm)	l (mm)	m (mm)	n (mm)	p (mm)	q (mm)	r (mm)	s (mm)	t (mm)
88.5	–	108.9	130.9	132	1.1	23.1	59	138.5	146	153.5	–
122	155.5	188.9	210.9	212	1.1	23.1	84.5	98.5	106	113.5	137
154.45	–	247.89	267.59	276.9	9.31	29.01	–	170.95	178.45	185.95	–
154.45	–	247.89	267.59	276.9	9.31	29.01	–	210.95	218.45	225.95	–

u (mm)	v (mm)	w (mm)	x (mm)	y (mm)	z (mm)	aa Ø (mm)	cc Ø (mm)	dd Ø (mm)	ee Ø (mm)	ff Ø (mm)	gg Ø (mm)
–	268.9	290.9	292	–	–	103	138	233	–	29.25	55
151	188.9	210.9	212	61	75	63	98	–	51.8	56.5	88.5
–	327.89	347.59	356.9	–	–	84.45	170.45	–	–	84.25	120.95
–	407.89	427.59	436.9	–	–	124.45	210.45	–	–	84.25	120.95

hh Ø (mm)	ii Ø (mm)	jj Ø (mm)	ll Ø (mm)	mm Ø (mm)	xx Ø (mm)	yy Ø (mm)	kk Ø(mm) Ø6	kk Ø(mm) M5
90	81	95	154	189	8	M5	2x	2x
123.5	–	–	114	149	8	M5	3x	3x
155.95	–	–	186.45	272.45	10	M6	–	–
155.95	–	–	226.45	312.45	10	M6	–	–

Dimensions b_{WT} 400



Further information, see carrying plate in the TS 2*plus* catalog 7.0 on page 2-26ff.

Width of workpiece pallet b_{WT} (mm)	Length of workpiece pallet l_{WT} (mm)	Width ab (mm)	Length al (mm)	a (mm)	b (mm)	e (mm)	f (mm)	g (mm)	h (mm)	j (mm)
400	320	394.8	314.8	9.3	29.01	69.75	112.45	128.45	144.45	327.89
	400	394.8	394.8	9.3	29.01	69.75	112.45	128.45	144.45	327.89
	480	394.8	474.8	9.3	29.01	69.75	112.45	128.45	144.45	327.89
	640	394.8	634.8	9.3	29.01	69.73	112.45	128.45	144.45	327.89

k (mm)	l (mm)	m (mm)	n (mm)	q (mm)	r (mm)	s (mm)	v (mm)	w (mm)	x (mm)	aa (mm)	bb (mm)
347.59	356.9	9.31	29.01	130.95	138.45	145.95	247.89	267.59	276.9	95.45	–
347.59	356.9	9.31	29.01	170.95	178.45	185.95	327.89	347.59	356.9	109.95	178.45
347.59	356.9	9.31	29.01	210.95	218.45	225.95	407.89	427.59	436.9	149.95	218.45
347.59	356.9	9.31	29.01	290.95	298.45	305.95	567.89	587.59	596.9	229.95	298.45

cc (mm)	ff (mm)	gg (mm)	hh (mm)	nn (mm)	pp (mm)	qq (mm)	rr (mm)	ss (mm)	thk (mm)
181.45	74.25	110.95	145.95	212.45	228.45	244.45	210.95	245.95	8
246.95	74.25	110.95	145.95	212.45	228.45	244.45	210.95	245.95	8
286.95	74.25	110.95	145.95	212.45	228.45	244.45	210.95	245.95	8
366.95	74.23	110.95	145.95	212.45	228.45	244.45	210.95	245.95	12.7

WT 2/LS workpiece pallet combination options with TS 2*plus* components

Due to the strong magnets below the WT 2/LS, magnetically active parts must have a minimum distance from the magnets. Attached elements (feed magnet, measuring magnet and stopper) can represent an interfering contour for different TS 2*plus* components.
Some TS 2*plus* components can be used without any changes, others have been adapted to ensure that the WT 2/LS is used. However, there are also components that cannot be used.

Article numbers and parameters can be found in the relevant components/standard components.

- Components with toothed belt or belt can be used without any problems
- Components with roller chain cannot be used.
- The KU 2/... curve for larger WTs can be used from the FPK construction kit

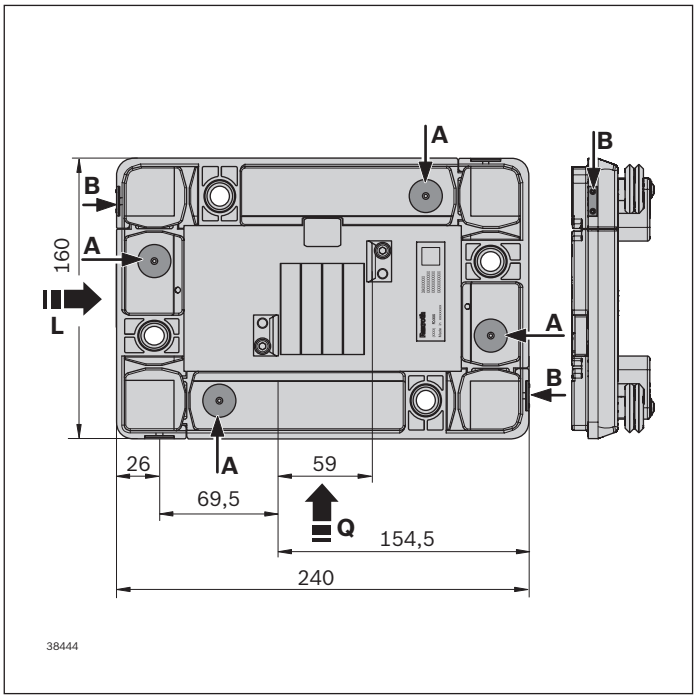
TS 2*plus* components for WT 2/LS workpiece pallets

Longitudinal conveyor	
AS 2/B, UM 2/B, ST 2/B	●
BS 2, BS 2/M, BS 2/K	●
LG 2/H from b = 400 mm	●
AS 2/C..., UM 2/C..., ST 2/C...	● **
BS 2/C	● **
Curves	
KE 2/... LS	● *
KU 2/...	●
Transverse conveyor	
EQ 2/... LS	● *
HQ 2/... LS	● *
Roller sections	●
EL 2 from b = 320 mm	●
Positioning and orientation	
Inner guide from b = 240 mm	●
PE 2/LS	● *
HP 2/L LS, HP 2/LS	● *
HD 2-LS, HD 2/H LS	● *
DE 2	●
Transportation control	
VE 2, VE 2/L, VE 2/M, VE 2/S, VE 2/RS	●
VE 2/D60-LS, VE 2/175-LS	● *
VA 2/50	●
WI 2/..., WI/M	●
Leg sets	
SZ 2...	●

- * These components are available in an adapted version (LS version). The LS version is specially designed for the WT 2/LS, but it can also be combined with the same components as your standard version.
- ** The WT 2/LS cannot be inserted into the transverse conveyor on these components.

The following TS 2*plus* components cannot be used:

- CU 2
- HQ 2/U-H, HQ 2/C-H
- PE 2/X, PE 2/XP, PE 2/XX, PE 2/H
- VE 2/X, VE 2/D-200, VE 2/D100-H, VE 2/D250-H, VE 2/RS-H
- VA 2/50 rev., VA 2/D-130, VA 2/D-250
- All components with accumulation roller chain and V*plus* chain



L = Longitudinal conveyor
Q = Transverse conveyor

Sensor query options

The following workpiece pallet sizes cannot be queried from below:

- 160 x 160
- 160 x 240
- 160 x 320
- 240 x 160

A = Exciter plate, bottom
B = Exciter plate, side

Query from below in the longitudinal conveyor

WT 2/LS

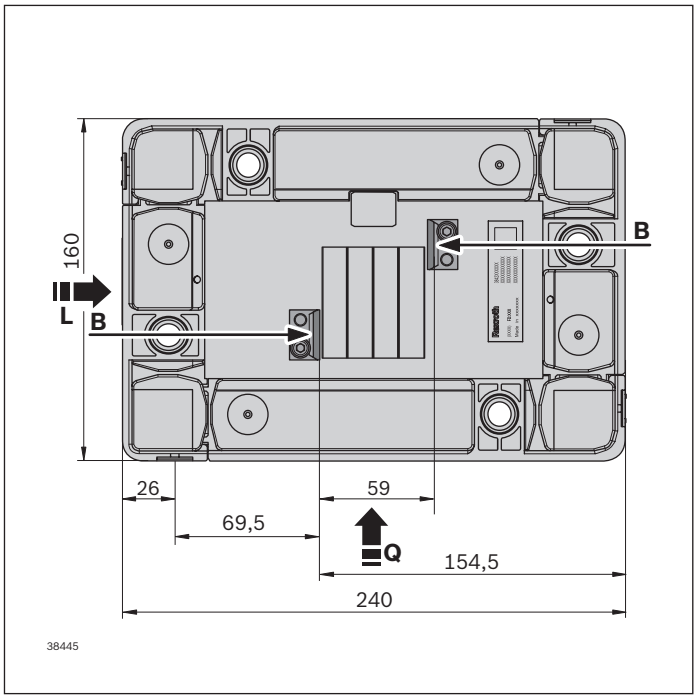
Length of workpiece pallet l_{WT} (mm)	Width of workpiece pallet b_{WT} (mm)			
	160	240	320	400
160	N	N	–	–
240	N	1	0	–
320	N	1	0	0
400	–	1	0	0
480	–	–	0	0
640	–	–	–	0

0	Query without restriction possible
N	Query only possible at side
1	Inquiry from below possible with restriction Not on the side of the measuring magnet

Query from below in the transverse conveyor

WT 2/LS

Length of workpiece pallet l_{WT} (mm)	Width of workpiece pallet b_{WT} (mm)			
	160	240	320	400
160	N	N	–	–
240	0	0	0	–
320	0	0	0	0
400	–	0	0	0
480	–	–	0	0
640	–	–	–	0



L = Longitudinal conveyor
Q = Transverse conveyor

Possible combination for separating the WT 2/LS

B = Stop gate feed-through

Use stop gate tunnels to stop the WT 2/LS in longitudinal conveyors on the inner edge of the frame module

VE 2

Length of workpiece pallet l_{WT} (mm)	Width of workpiece pallet b_{WT} (mm)			
	160	240	320	400
160	D	D	–	–
240	D	VE	0	–
320	D	VE	0	0
400	–	0	0	0
480	–	–	0	0
640	–	–	–	0

0	No restrictions
D	A double stop gate combination is required for separation
VE	Stop gate mounting on the side of the measuring magnet is not permissible

Use stop gate tunnels to stop the WT 2/LS in the transverse conveyor at the inside edge of the frame module

VE 2

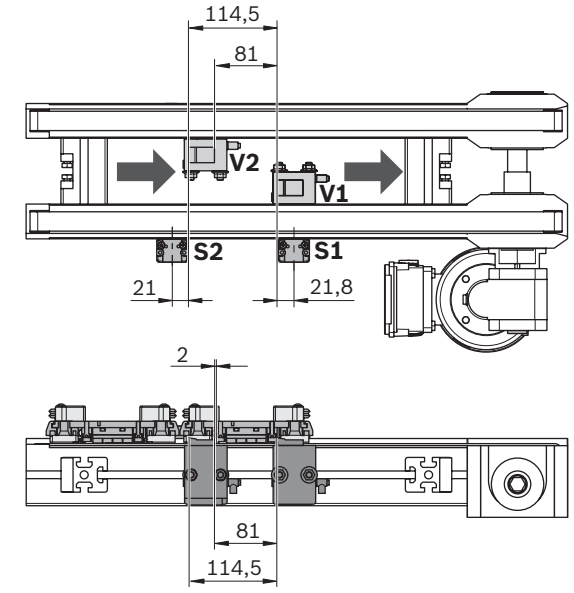
Length of workpiece pallet l_{WT} (mm)	Width of workpiece pallet b_{WT} (mm)			
	160	240	320	400
160	D	D	–	–
240	0	0	0	–
320	0	0	0	0
400	–	0	0	0
480	–	–	0	0
640	–	–	–	0

Double separation

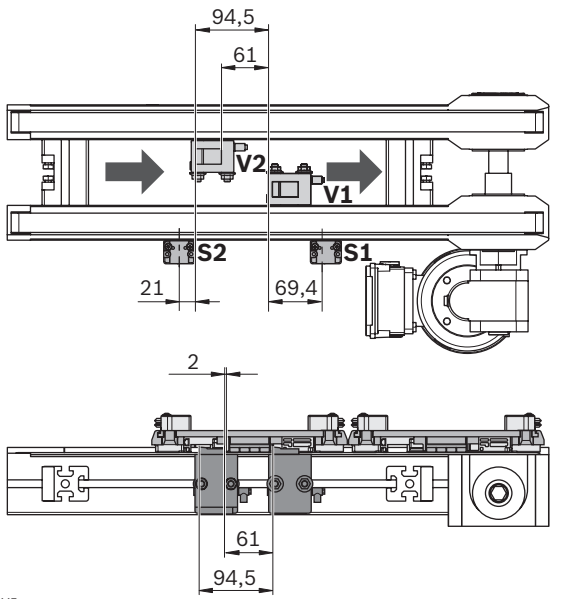
- Double separation is required for safe accumulation separation with short WTs.
- With a double stop gate, two stop gates are used to separate the workpiece pallets. The first stop gate stops the WT inside, the second stop gate stops the WT outside.
- Double stop gates are used to protect the magnets
- Double separation is required for the following WTs: 160 x 160; 160 x 240; 160 x 320; 240 x 160
- With a width of 320 mm and 400 mm, no special measures are required. A double stop gate does not need to be used here

Installation of double stop gate

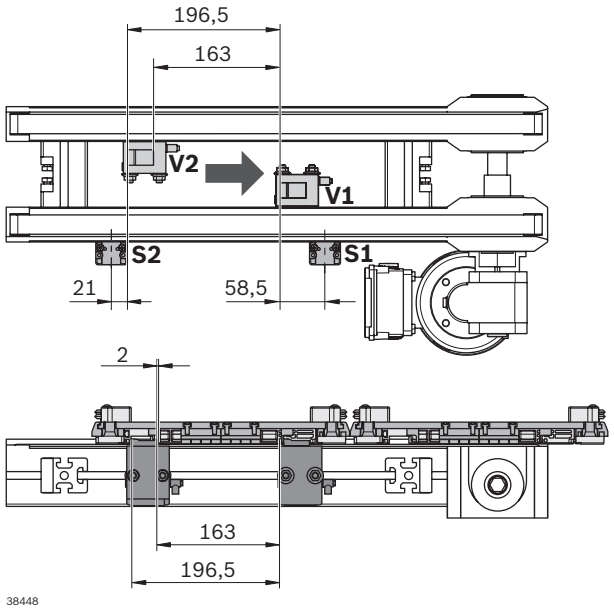
160 x 160



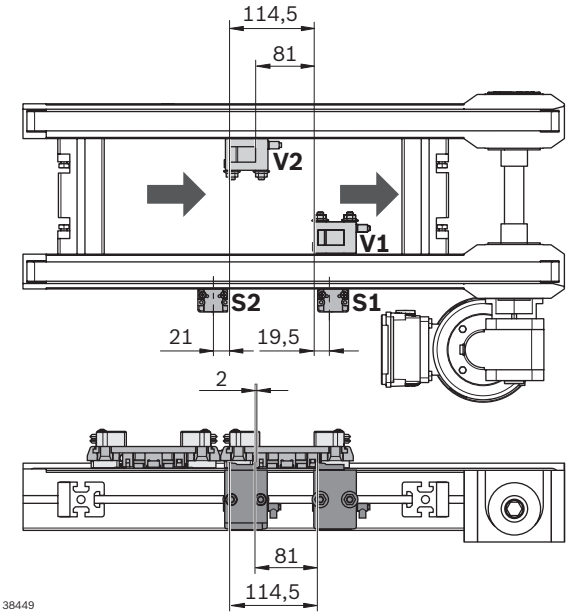
160 x 240



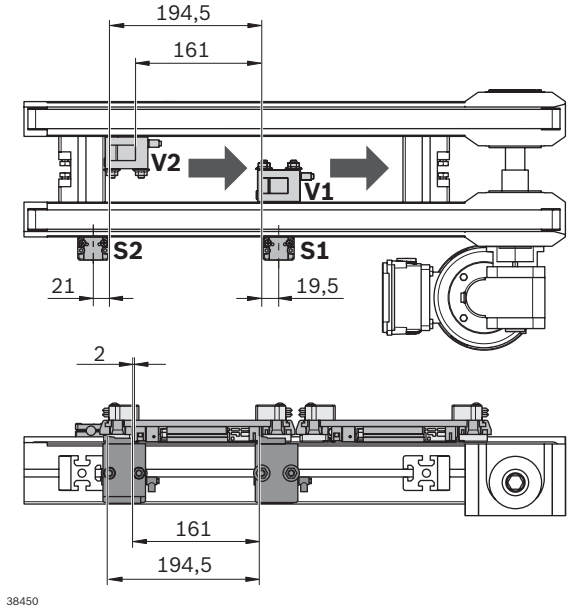
160 x 320



240 x 160

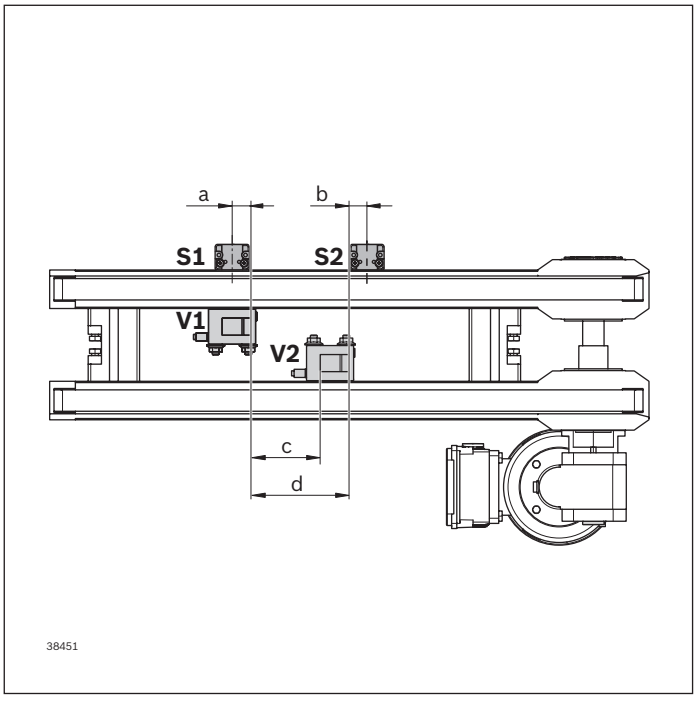


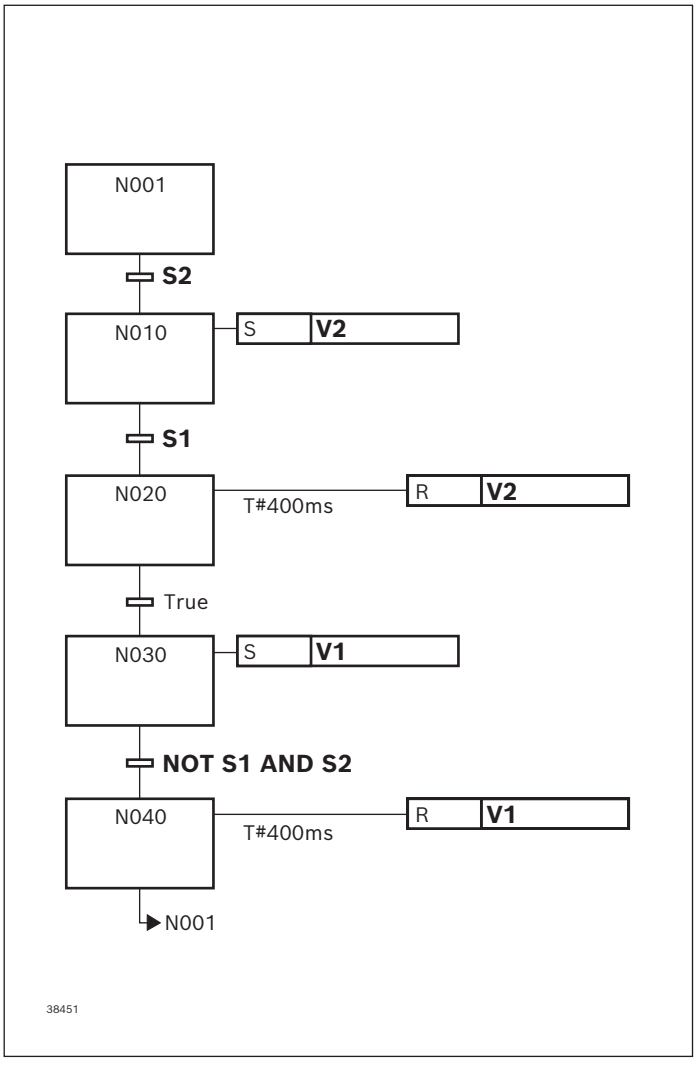
240 x 320



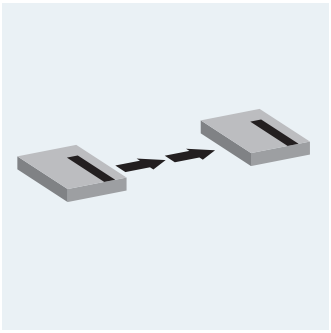
Function plan

Sequence of double stop gate, double stop gate





N001 = Initial step
S1 = Sensor 1
S2 = Sensor 2
V1 = Stop gate 1
V2 = Stop gate 2
S, V2 = VE2 is actuated (S = setting)
R, V2 = VE2 is not actuated (R = reset)
S, V1 = VE1 is actuated (S = setting)
R, V1 = VE1 is not actuated (R = reset)



Longitudinal conveyor

BS 2 belt section



- Ready for operation conveyor section with own drive
- Accumulation operation possible
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Reversible operation possible
- Suitable for mounting between KE 2 and linear section LS 2
- Can be combined with WT 2, WT 2/E, WT 2/F and WT 2/LS
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box
- 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

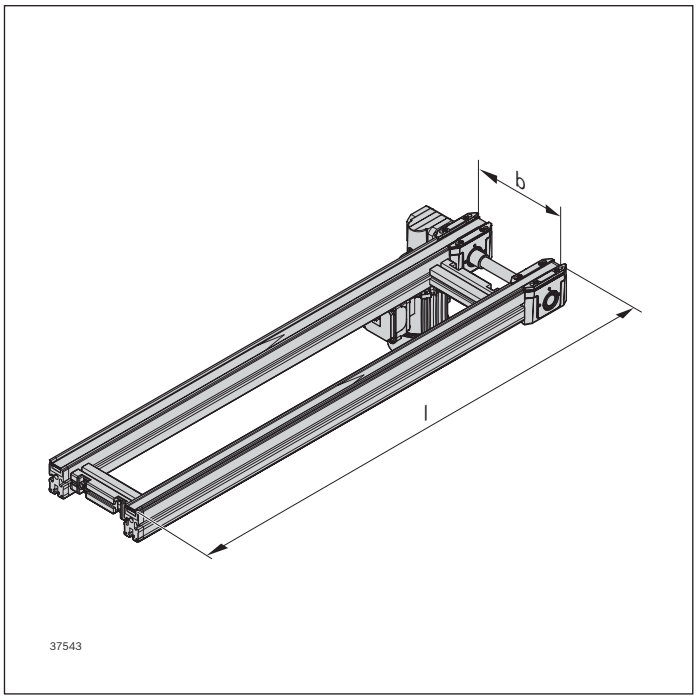
- Connection kit, see p. 3-236 in the TS 2*plus* catalog 7.0
- Leg sets SZ 2/..., see p. 6-2

Delivery information

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[4]

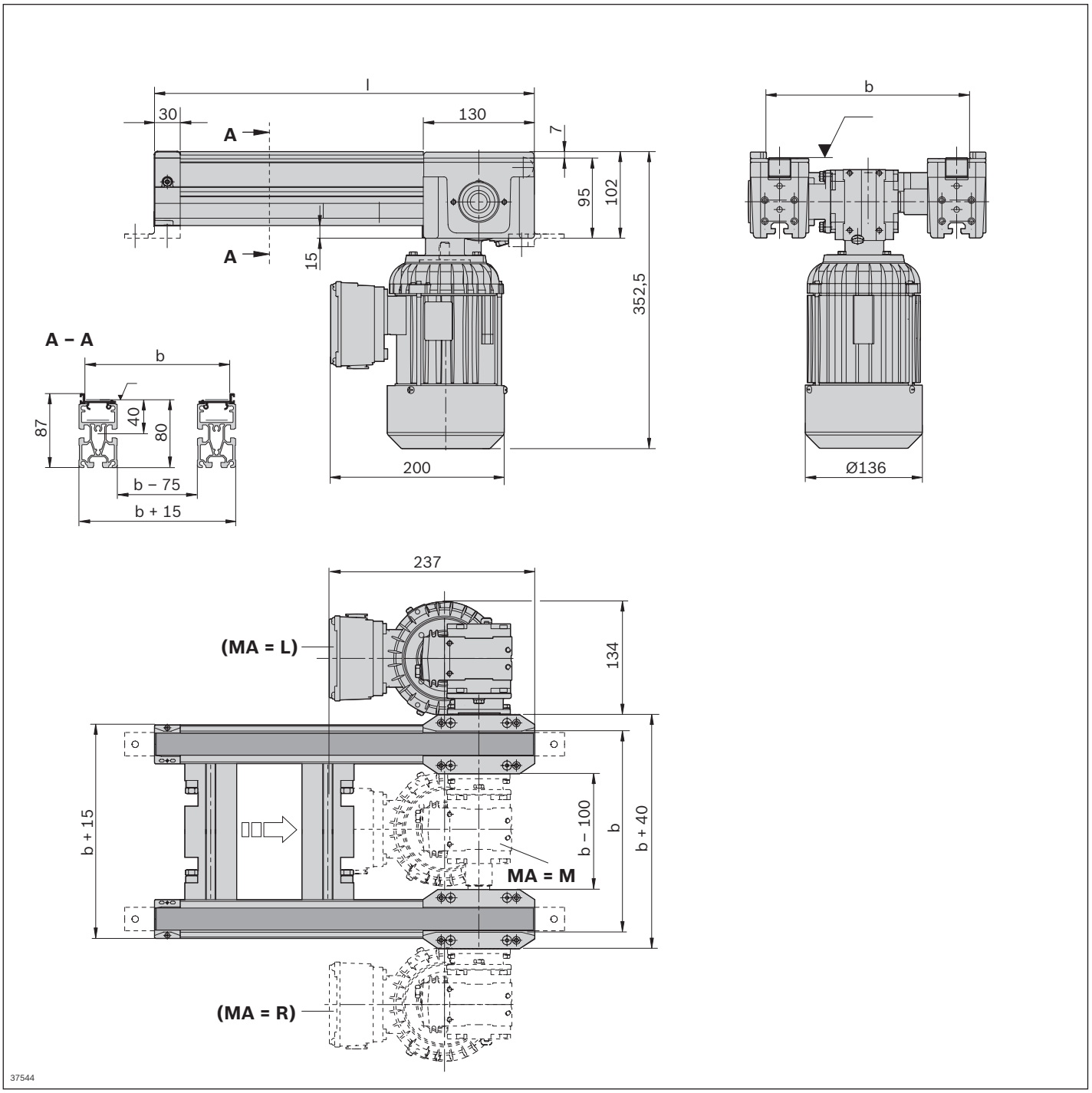
[1] Individual width variants available
[2] l is rounded in accordance with the toothed belt pitch
[3] v_N = 0: without motor or gear
[4] When MA = M and b = 160 mm, the max. section load is only 30 kg

Technical data

Material number			3842999716
Load			
Max. section load in accumulation operation		kg	60[5]
Properties			
ESD			yes
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Material			Section profile: Aluminum, natural; anodized Guide profile: Polyamide Glide profile: Polyamide
Dimensions			
Length	l	mm	240 ... 6000

[5] When MA = M and b = 160 mm, the max. section load is only 30 kg

Dimensions


l
30
130
7
A
A
95
102
15
352,5
200
b
Ø136
A – A
b
87
40
80
b – 75
b + 15
237
(MA = L)
134
b + 15
b – 100
b
b + 40
MA = M
(MA = R)
37544

BS 2/M belt section



- Functional operation conveyor section complete with drive
- Accumulation operation possible
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Reversible operation possible
- Can be combined with WT 2, WT 2/E, WT 2/F and WT 2/LS
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box
- 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

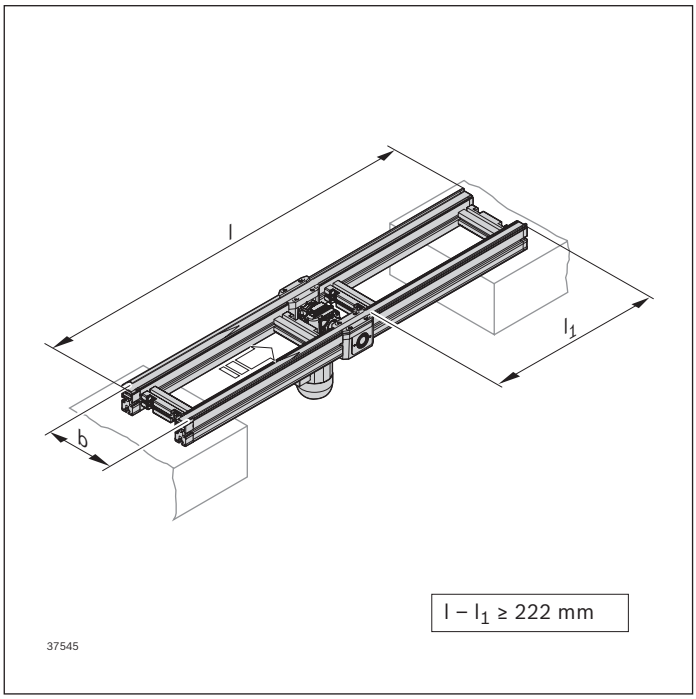
- Connection kit, see p. 3-236 in the TS 2*plus catalog 7.0*
- Leg sets SZ 2/..., see p. 6-2

Delivery information

Condition on delivery

- 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	312 ... 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[4]

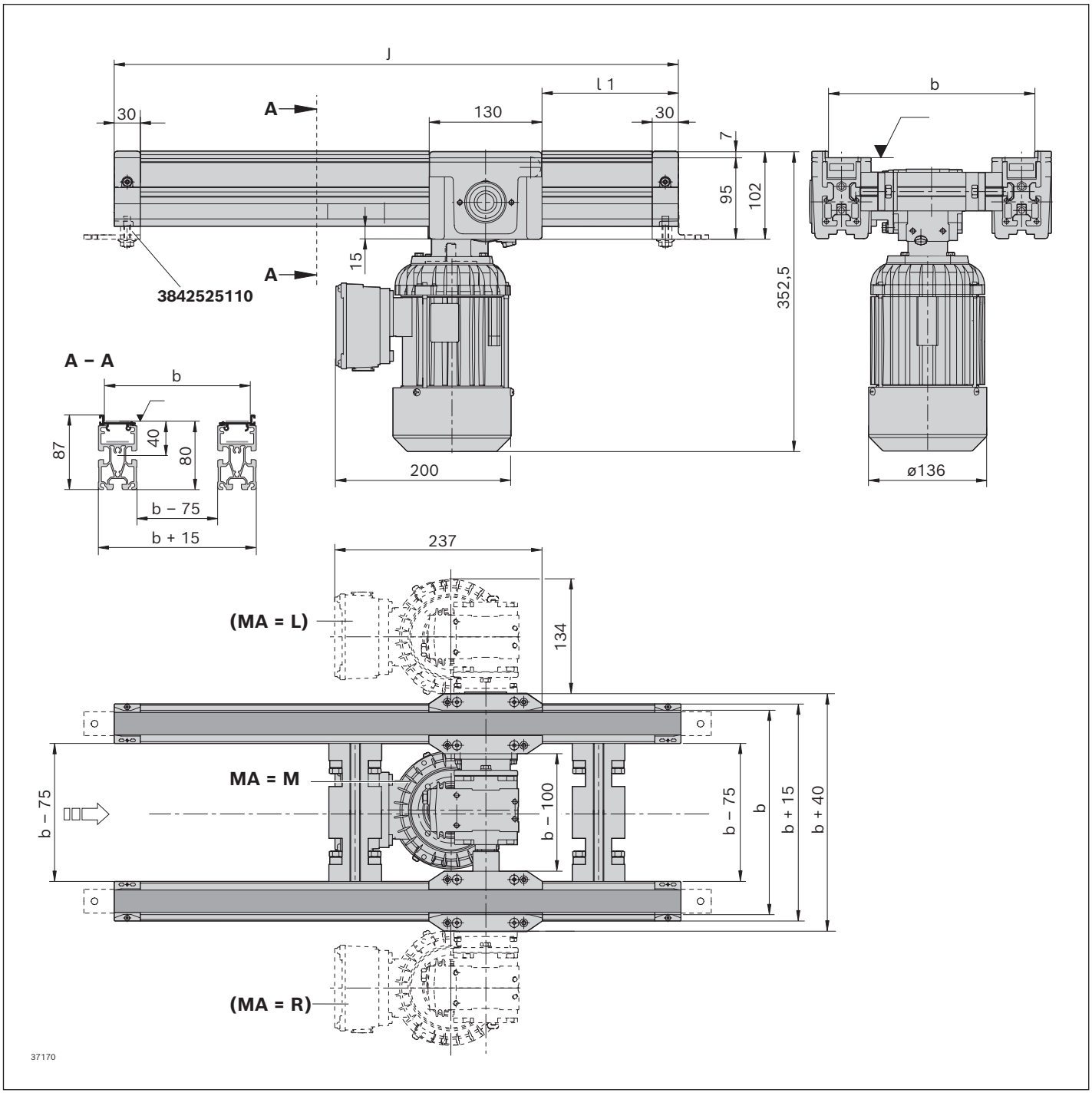
[1] Individual width variants available
[2] l is rounded in accordance with the toothed belt pitch
l – l_1 ≥ 222 mm
[3] v_N = 0: without motor or gear
[4] When MA = M and b = 160 mm, the max. section load is only 30 kg

Technical data

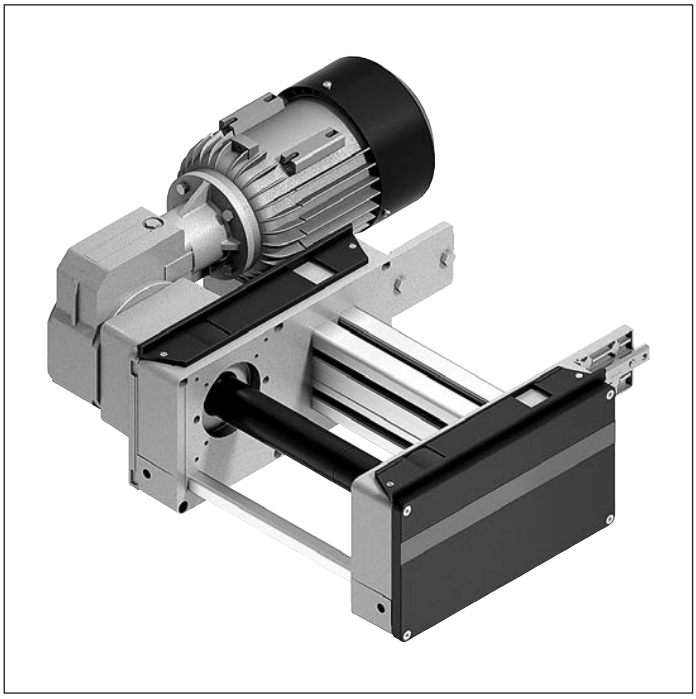
Material number			3842999717
Load			
Max. section load in accumulation operation		kg	60[5]
Properties			
ESD			yes
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Material			Section profile: Aluminum, natural; anodized Guide profile: Polyamide Glide profile: Polyamide
Dimensions			
Length	l	mm	312 ... 6000

[5] When MA = M and b = 160 mm, the max. section load is only 30 kg

Dimensions


J
l 1
30
130
30
A
A
7
95
102
352,5
15
3842525110
b
200
ø136
A – A
b
87
40
80
b – 75
b + 15
237
134
(MA = L)
MA = M
(MA = R)
b – 75
b – 100
b – 75
b
b + 15
b + 40
37170

AS 2/B-150 drive module



- Conveyor medium: Belt (suitable for use in an EPA)
- Motor connection: optionally with cable/plug or terminal box
- Motor mounting in center, only 0° and 90° position possible.
  In case of motor mounting on the right or left, the installation angle can be as desired
- Special models on request
- Accumulation operation possible

Notice: Can be combined with WT 2/LS workpiece pallet

The AS 2/B-... drive module drives the conveyor medium belt in self-built conveyor units with lines, return unit and conveyor belt or serves as a transverse section.

Accessories

Required accessories

- Roller track RB 2 3842532822, (see p. 3-27 in the TS 2*plus catalog 7.0) with adjacent longitudinal sections and workpiece pallet lengths of < 320 mm*
- RB 2/UM 2 roller track set 3842558657 (see p. 5-41) for use in transverse sections with adjacent longitudinal sections

Delivery information

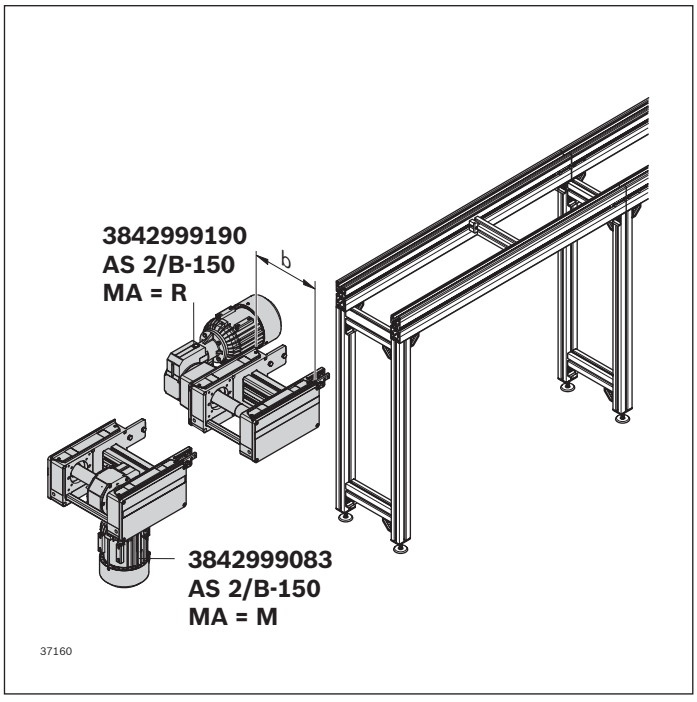
Scope of delivery

- 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

- Assembled

Ordering information



Material number		3842999083 MA = M	3842999190 MA = R, L
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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	S; K
MA	Motor mounting R = right L = left M = center	M[4]	R[5]; L[5]

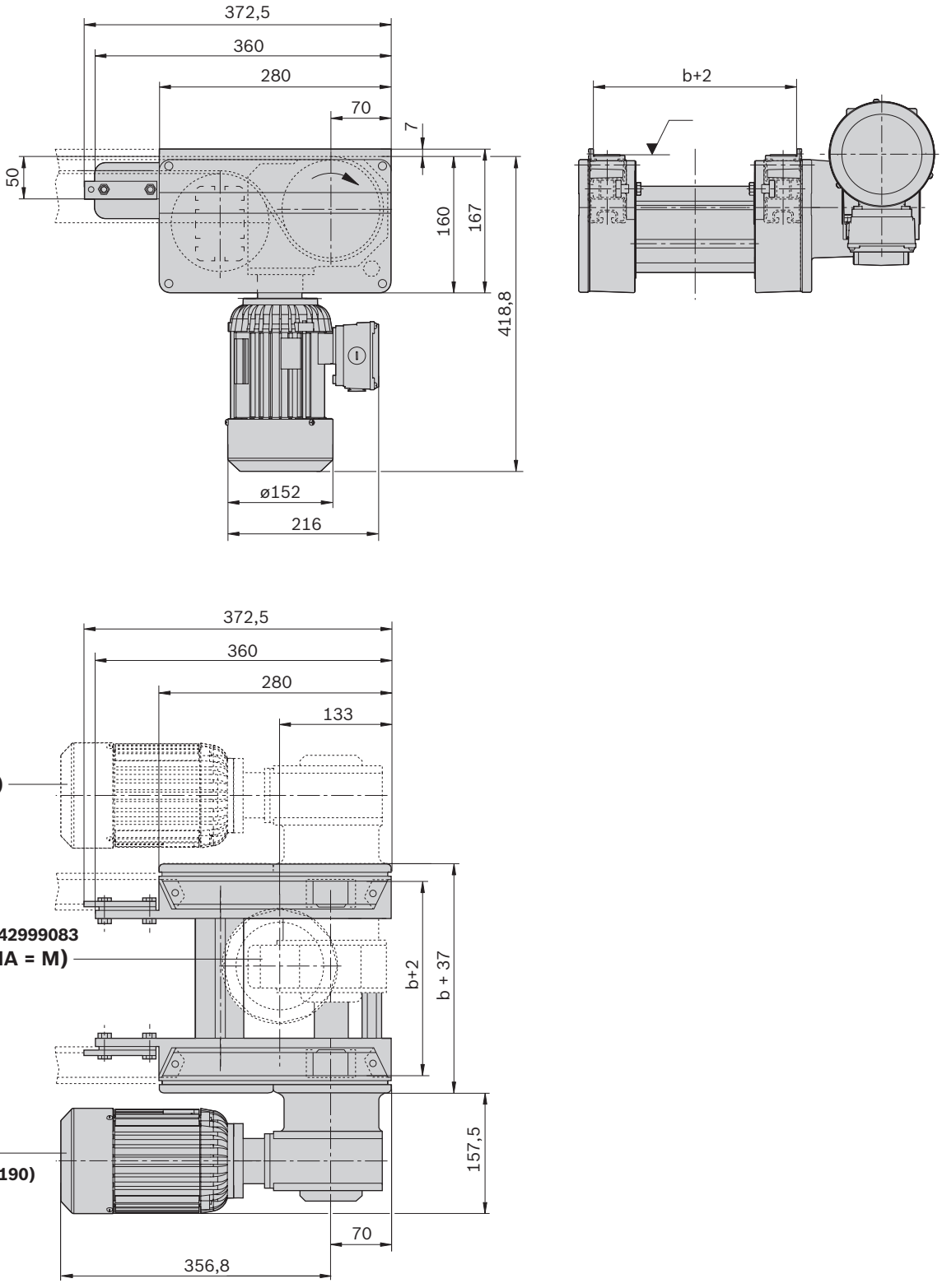
[1] Individual width variants available
[2] v_N = 0: without motor or gear
[3] Not possible at f = 60 Hz
[4] Only MA = M possible for 3842999083
[5] The following applies to 3842999190: MA = R; L

Technical data

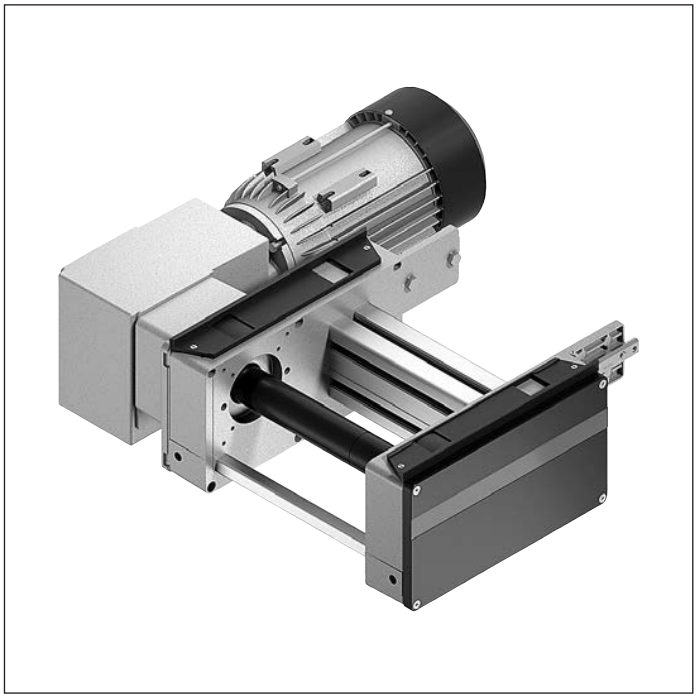
Material number Motor mounting			**3842999083** MA = M	**3842999190** MA = R, L
Load				
Max. section load in accumulation operation		kg	150	150
Properties				
ESD			yes	yes
Cleanroom class			ISO class 7	ISO class 7
Dry room	rF	%	<1	<1
Additional information				
Required conveyor medium length*)	l_{AS}	mm	660	660

*) Formula for calculating the conveyor medium, see p. 3-46 in the TS 2*plus* catalog 7.0

Dimensions


372,5
360
280
70
7
50
160
167
418,8
ø152
216
b+2
372,5
360
280
133
(MA = L)
3842999083
(MA = M)
b+2
b + 37
MA = R
(3842999190)
157,5
70
356,8
37171

AS 2/B-250 drive module



- Conveyor medium: Belt (suitable for use in an EPA)
- Motor connection: optionally with cable/plug or terminal box
- Special models on request
- Accumulation operation possible

Notice:
Can be combined with WT 2/LS workpiece pallet

The AS 2/B-... drive module drives the conveyor medium belt in self-built conveyor units with lines, return unit and conveyor belt or serves as a transverse section.

Accessories

Required accessories

- Roller track RB 2 3842532822, (see p. 3-27 in the TS 2*plus catalog 7.0) with adjacent longitudinal sections and workpiece pallet lengths of < 320 mm*
- RB 2/UM 2 roller track set 3842558657 (see p. 5-41) for use in transverse sections with adjacent longitudinal sections

Delivery information

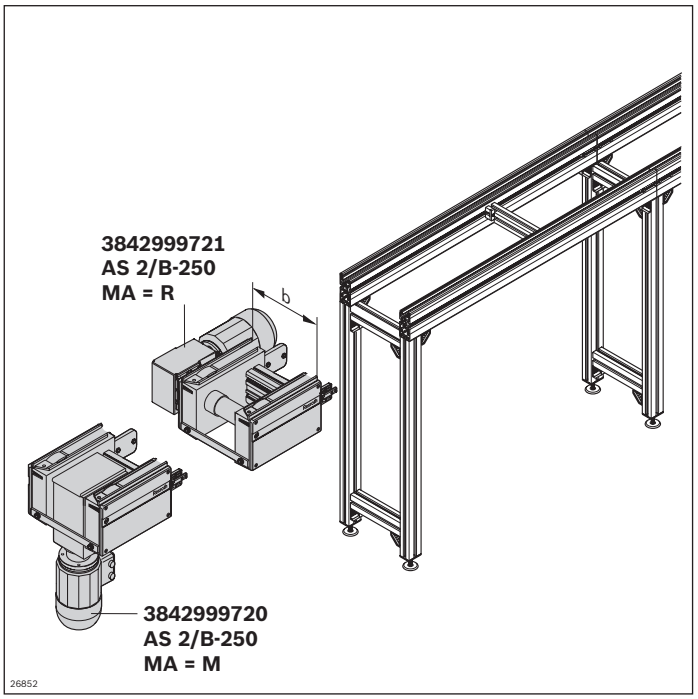
Scope of delivery

- 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

- Assembled

Ordering information



Material number		3842999720 MA = M for b ≥ 240 mm	3842999721 MA = R, L
b (mm)	Track width in direction of transport	160; 240[1]; 320; 400; 480; 640; 800; 1040; 1200	
		240 ... 1200[2]	
v_N (m/min)	Nominal speed	0[3]; 6; 9; 12; 15; 18	
U (V)	Voltage	see motor data, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	
MA	Motor mounting R = right L = left M = center	M[1]	R; L

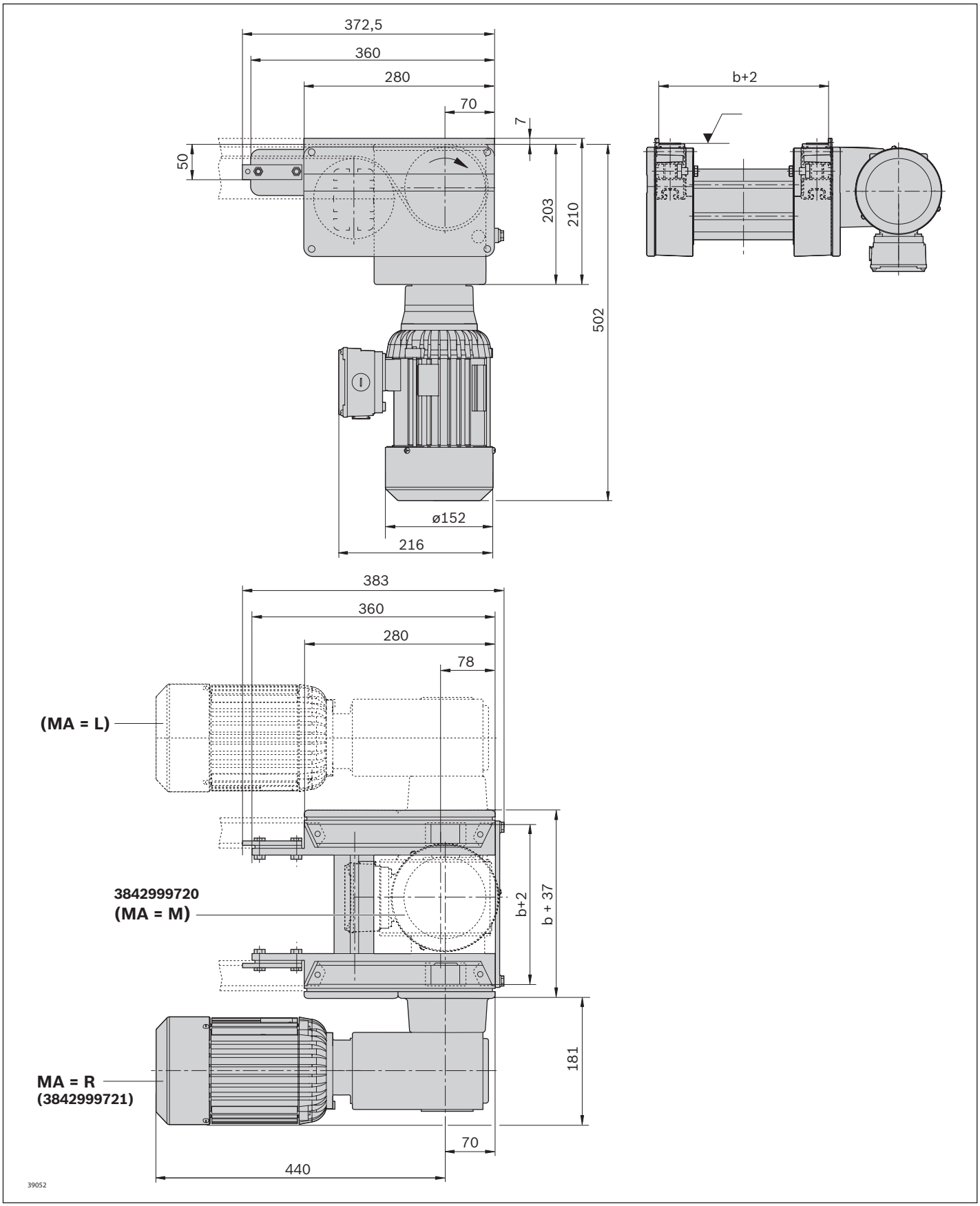
[1] The following applies to 3842999720: MA = M and b ≥ 240 mm
[2] Individual width variants available
[3] v_N = 0: without motor or gear

Technical data

Material number Motor mounting			**3842999720** MA = M for b ≥ 240 mm	**3842999721** MA = R, L
Load				
Max. section load in accumulation operation		kg	250	250
Properties				
ESD			yes	yes
Cleanroom class			ISO class 7	ISO class 7
Dry room	rF	%	<1	<1
Additional information				
Required conveyor medium length*)	l_{AS}	mm	660	660

*) Formula for calculating the conveyor medium, see p. 3-46 in the TS 2*plus* catalog 7.0

Dimensions


372,5
360
280
70
7
50
203
210
502
b+2
ø152
216
383
360
280
78
(MA = L)
3842999720
(MA = M)
b+2
b + 37
181
MA = R
(3842999721)
70
440
39052

UM 2/B return unit



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

Notice:
Can be combined with WT 2/LS workpiece pallet

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 information

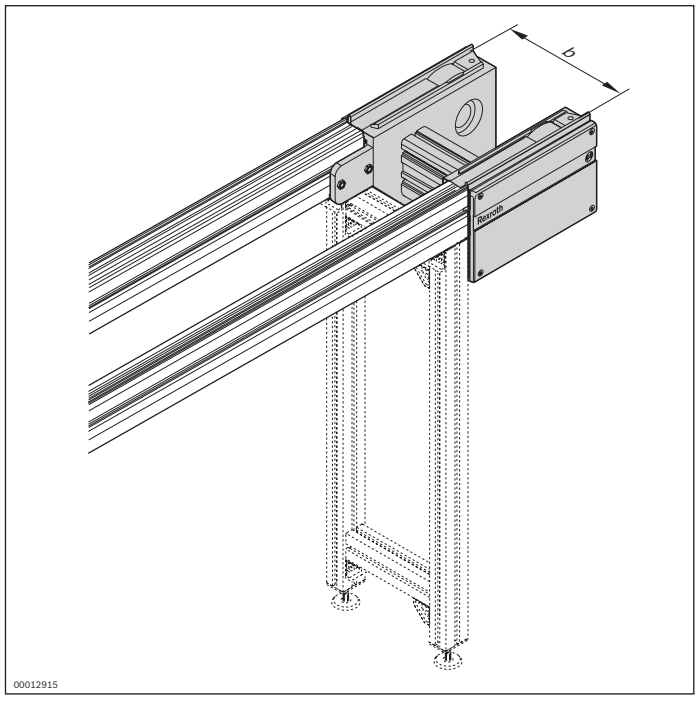
Scope of delivery

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

Condition on delivery

- 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)]

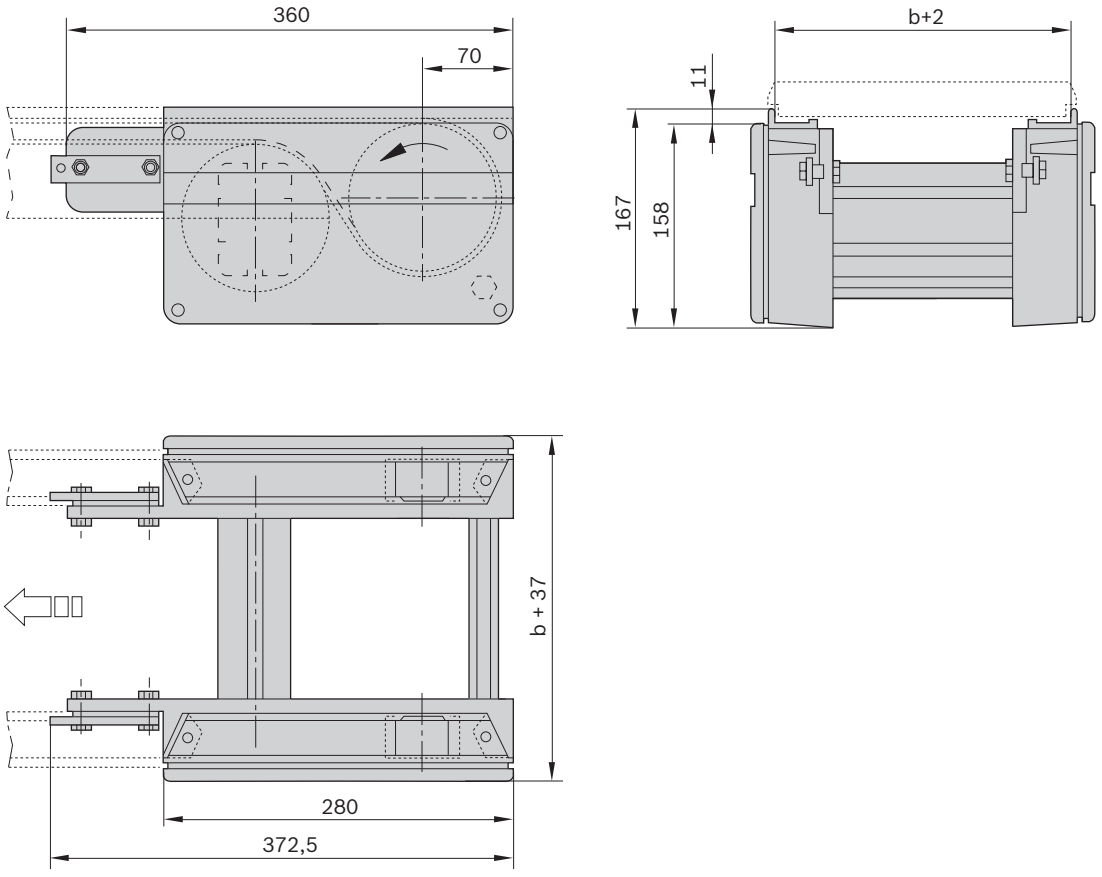
[1)] Individual width variants available

Technical data

Material number			3842999090
Properties			
ESD			yes
Additional information			
Required conveyor medium length*)	l_{UM}	mm	660

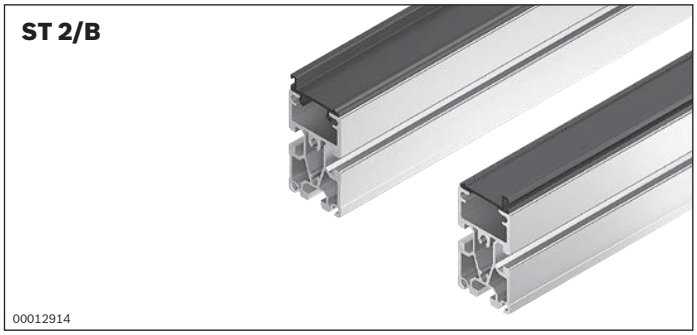
*) Formula for calculating the conveyor medium, see p. 3-46 in the TS 2*plus* catalog 7.0

Dimensions

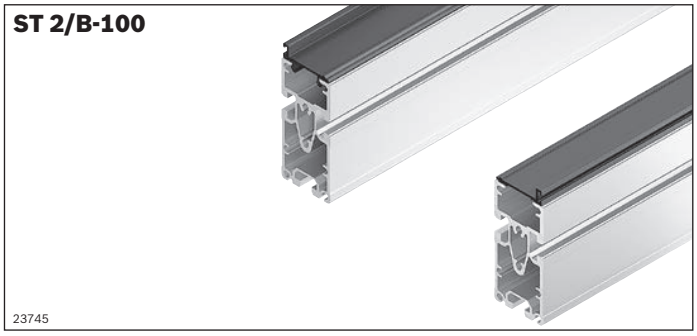


ST 2/B section, ST 2/B-100 section

ST 2/B



ST 2/B-100



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.

- For conveyor unit self-assembly
- Easy insertion of the guide profile into the section profile
- Easily replaceable when worn out
- Conveyor medium: Belt (suitable for use in an EPA)

Notice:
Can be combined with WT 2/LS workpiece pallet

3

Accessories

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2
- Profile connector, see p. 3-40 in the TS 2*plus catalog 7.0*
- Cross connector, see page 3-41 in the TS 2*plus* catalog 7.0

Delivery information

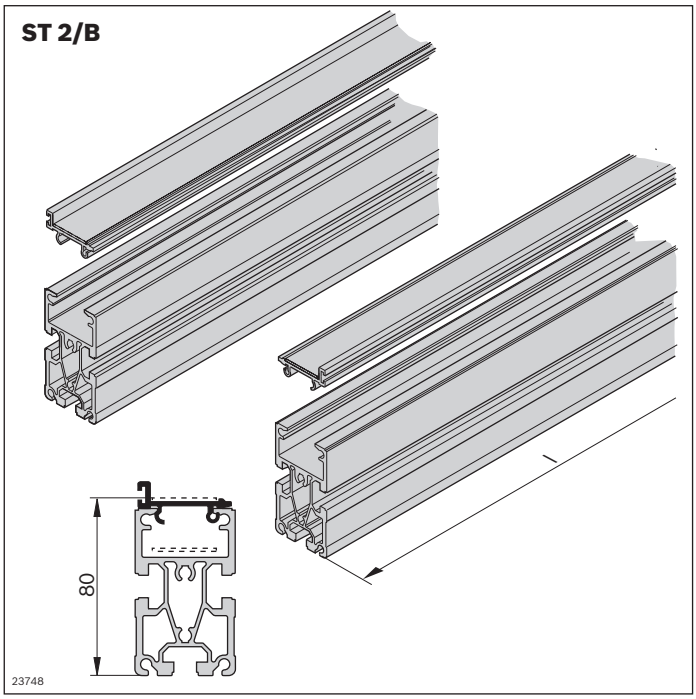
Scope of delivery

- 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

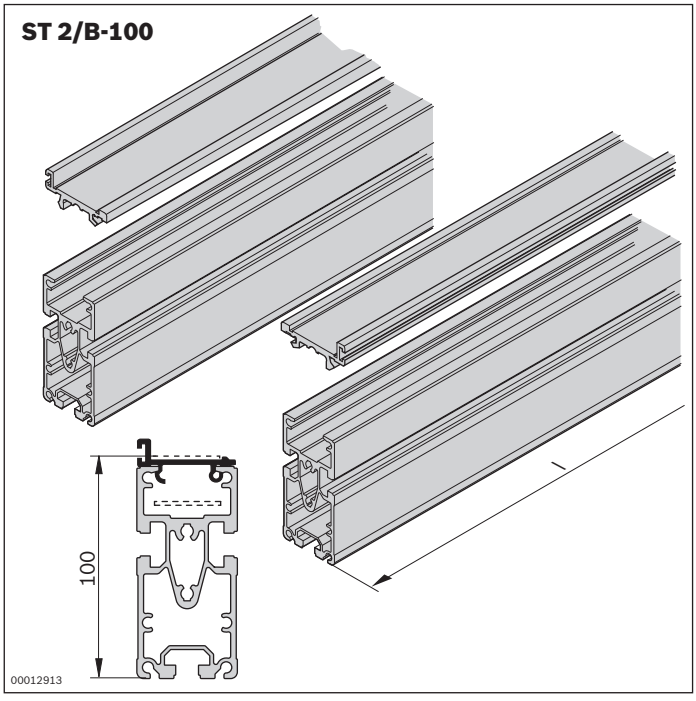
- Assembly required

Ordering information



ST 2/B section

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



ST 2/B-100 section

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

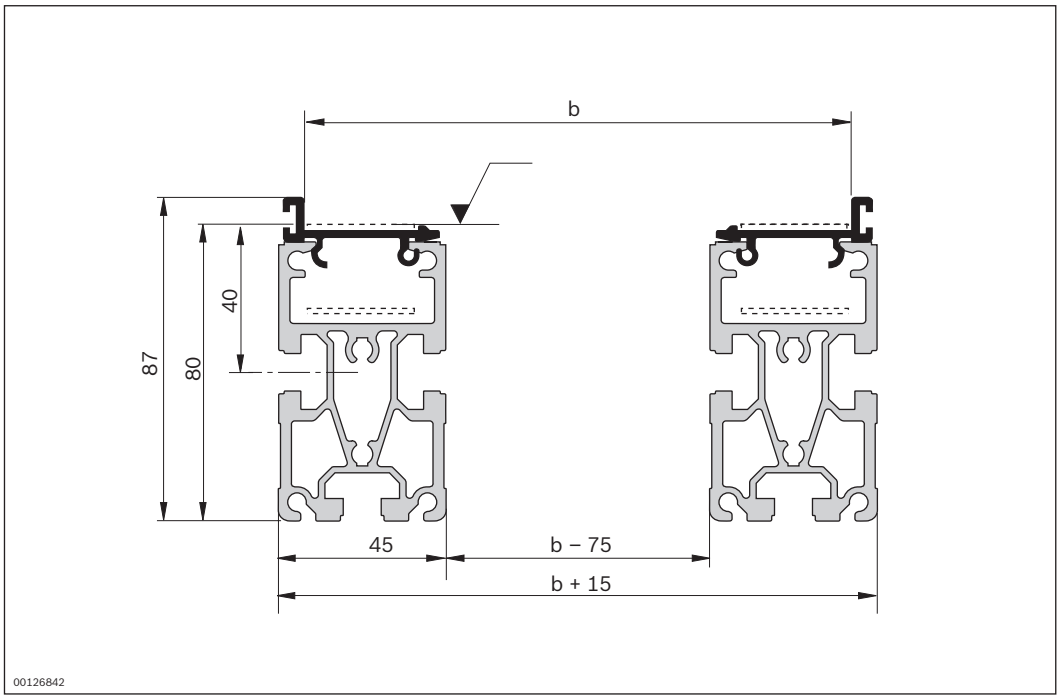
Technical data

Material number Product description			**3842992650** ST 2/B section	**3842994927** ST 2/B-100 section
Properties				
ESD			yes	yes
Cleanroom class			ISO class 7	ISO class 7
Dry room	rF	%	<1	<1
Material			Section profile: Aluminum; anodized Guide profile: Polyamide	Section profile: Aluminum; anodized Guide profile: Polyamide

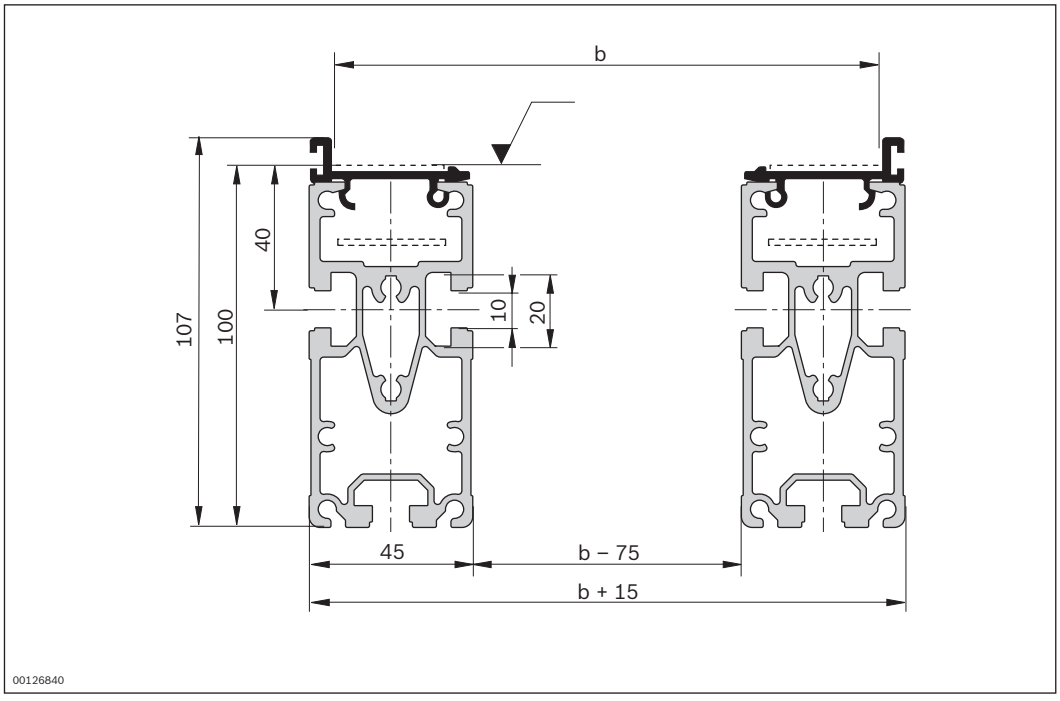
Material number Product description			**3842992650** ST 2/B section	**3842994927** ST 2/B-100 section
Dimensions				
Length	l	mm	60 ... 6000	60 ... 6000
Height to conveying level	h	mm	80	100

Dimensions

ST 2/B



ST 2/B-100



BS 2/C-100 belt section





- Functional operation conveyor section 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 (with KA = A suitable for use in an EPA)
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box
- Special models on request
- Reversible operation not permitted
- Use with medium accumulation loads
- The LU 2 automatic lubrication unit is highly recommended

Notice: The WT 2/LS can be used for longitudinal conveyors with this component.
It is not possible to cross over.

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

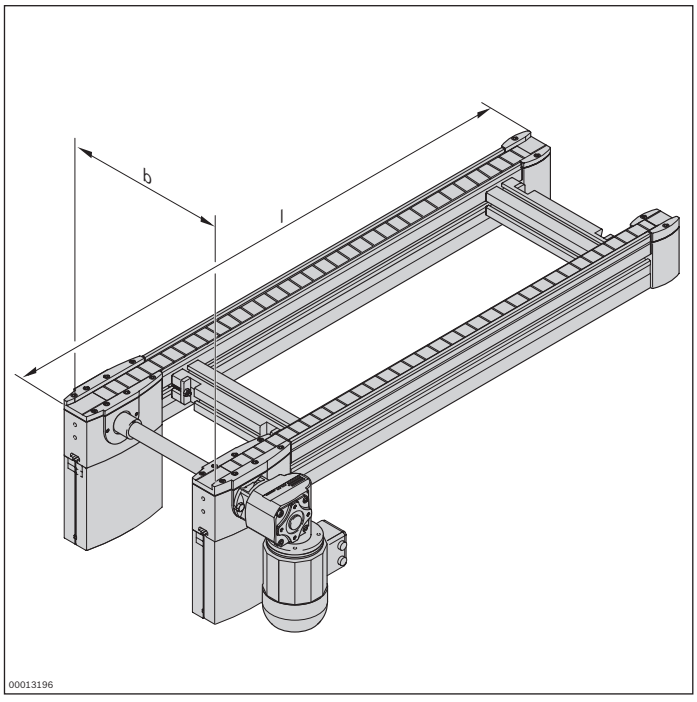
- Connection kits, see p. 3-236 in the TS 2*plus catalog 7.0*
- Leg sets SZ 2/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[3)]
KA	Chain version N = chain in standard version A = Chain suitable for use in an EPA	N; A

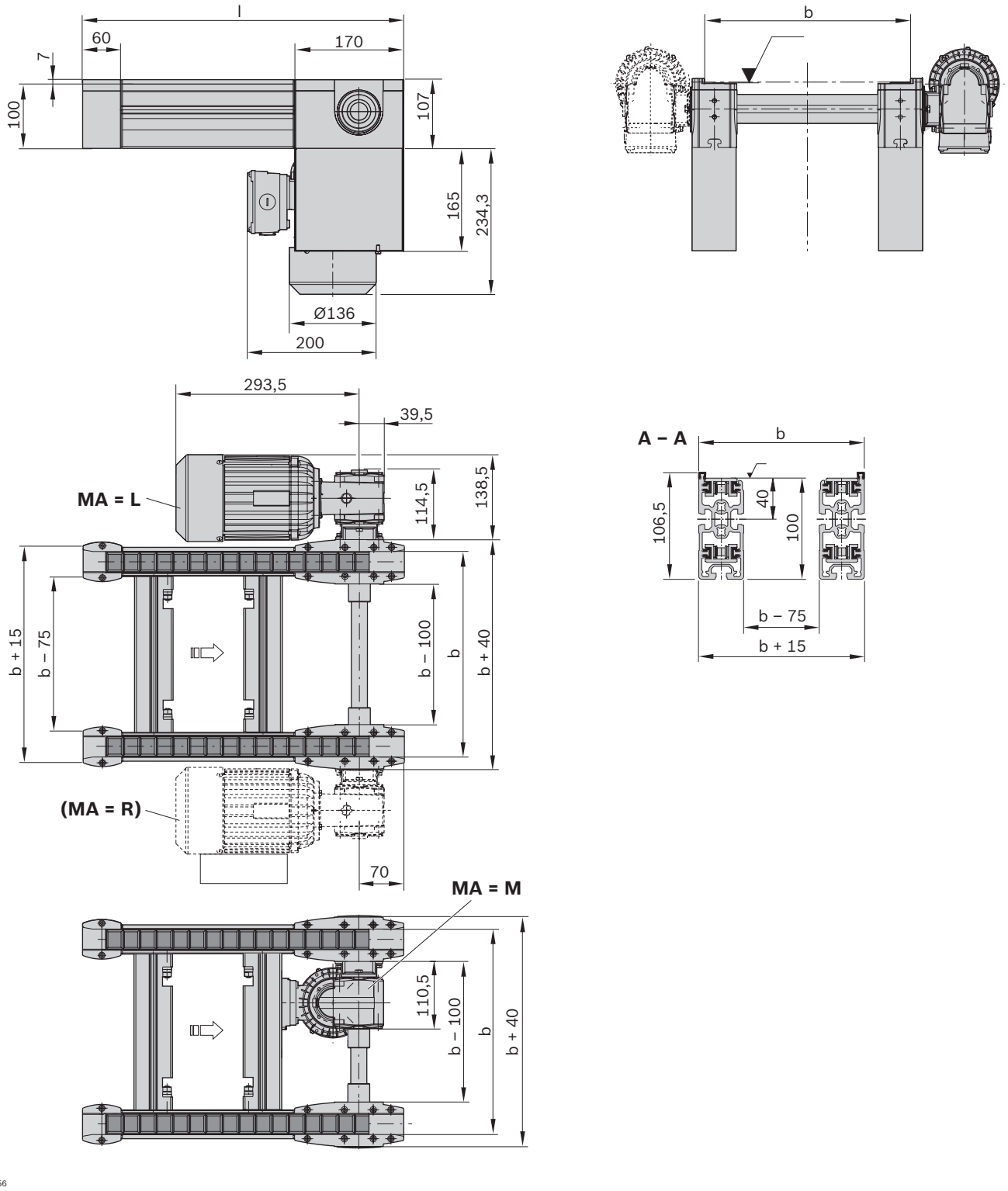
[1)] Individual width variants available
[2)] v_N = 0: without motor or gear
[3)] MA = M only for b ≥ 240 mm

Technical data

Material number			3842999917
Load			
Max. section load in accumulation operation		kg	100
Properties			
ESD			yes, with KA = A*)
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Material			Section profile: Aluminum, natural; anodized Guide profile: Polyamide Glide profile: Polyamide
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	300 ... 6000

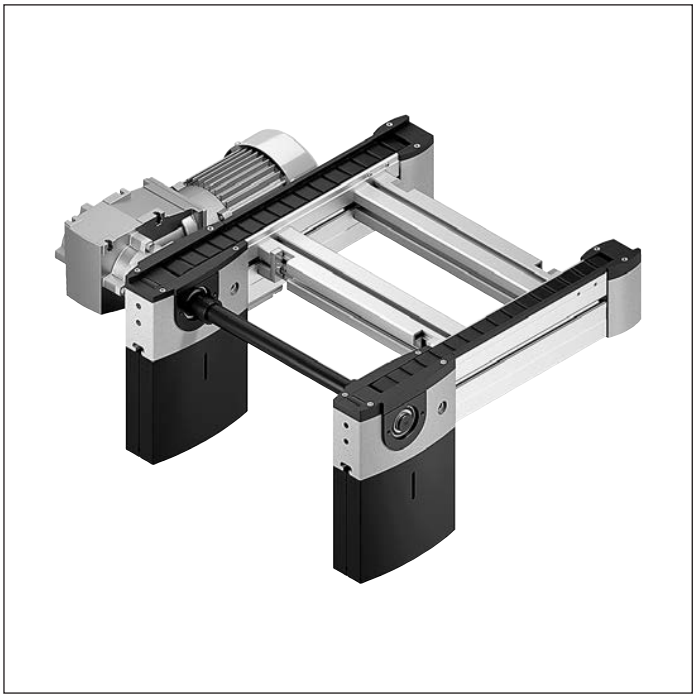
*) Chain suitable for use in an EPA (KA = A)

Dimensions


l
60
170
7
100
107
165
234,3
Ø136
200
b
293,5
39,5
MA = L
114,5
138,5
b + 15
b – 75
b – 100
b
b + 40
(MA = R)
70
MA = M
110,5
b – 100
b
b + 40
A – A
b
106,5
40
100
b – 75
b + 15
39056

BS 2/C-250 belt section





- Functional operation conveyor section 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 (with KA = A suitable for use in an EPA)
- Motor mounting right or left
- Motor connection: optionally with cable/plug or terminal box
- Special models on request
- Reversible operation not permitted
- Use with medium accumulation loads
- The LU 2 automatic lubrication unit is highly recommended

Notice: The WT 2/LS can be used for longitudinal conveyors with this component.
It is not possible to cross over.

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

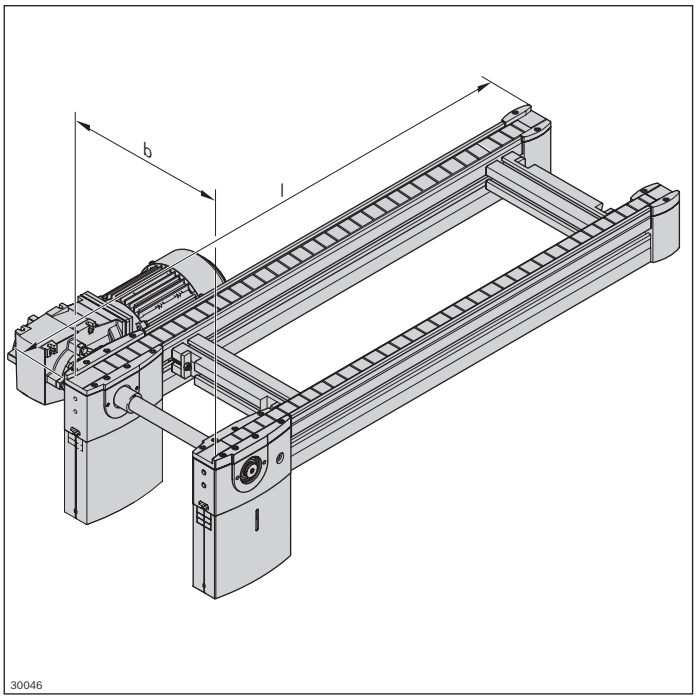
- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- Leg sets SZ 2/..., see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting[2] R = right L = left	R; L
KA	Chain version N = chain in standard version A = Chain suitable for use in an EPA	N; A

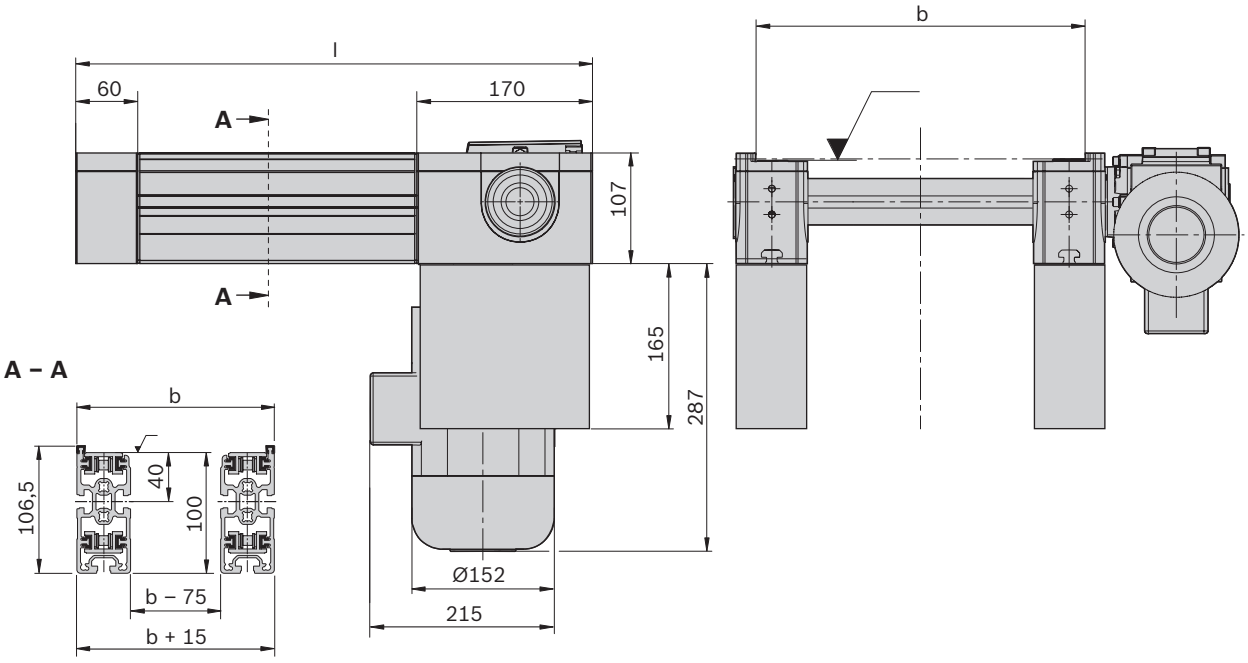
[1] v_N = 0: without motor or gear
[2] Geometry does not permit MA = M

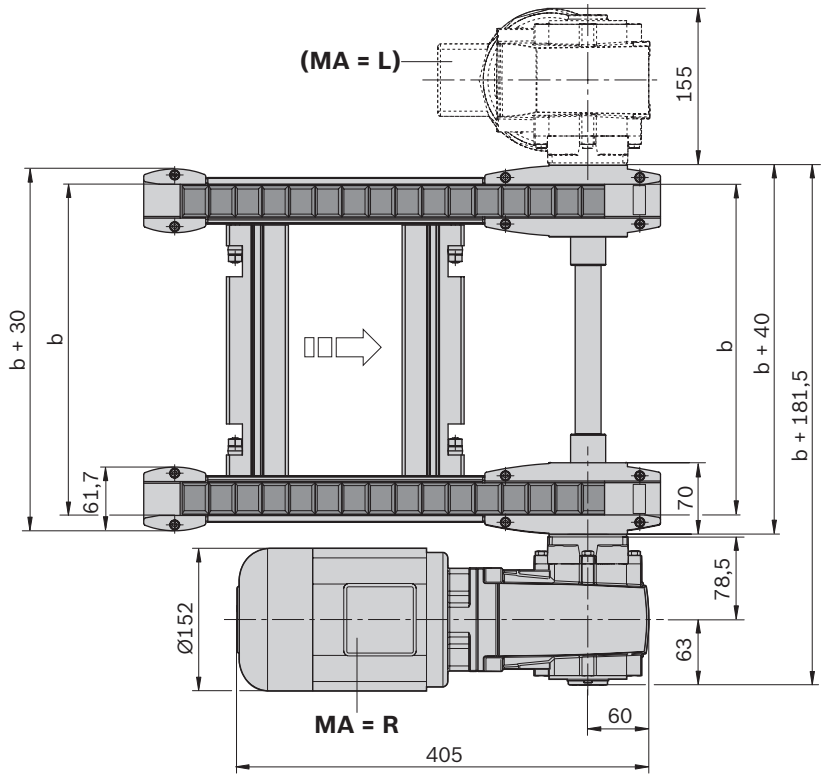
Technical data

Material number			3842999985
Load			
Max. section load in accumulation operation		kg	250
Properties			
ESD			yes, with KA = A*)
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Material			Section profile: Aluminum, natural; anodized Guide profile: Polyamide Glide profile: Polyamide
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	300 ... 6000

* Chain suitable for use in an EPA (KA = A)

Dimensions





33436

BS 2/C-H belt section



- Functional operation conveyor section complete with drive
- Sturdy version 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 (with KA = A suitable for use in an EPA)
- Motor mounting right, left or central
- Motor connection: optionally with cable/plug or terminal box
- 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.

Notice: The WT 2/LS can be used for longitudinal conveyors with this component.
It is not possible to cross over.

Accessories

Recommended accessories

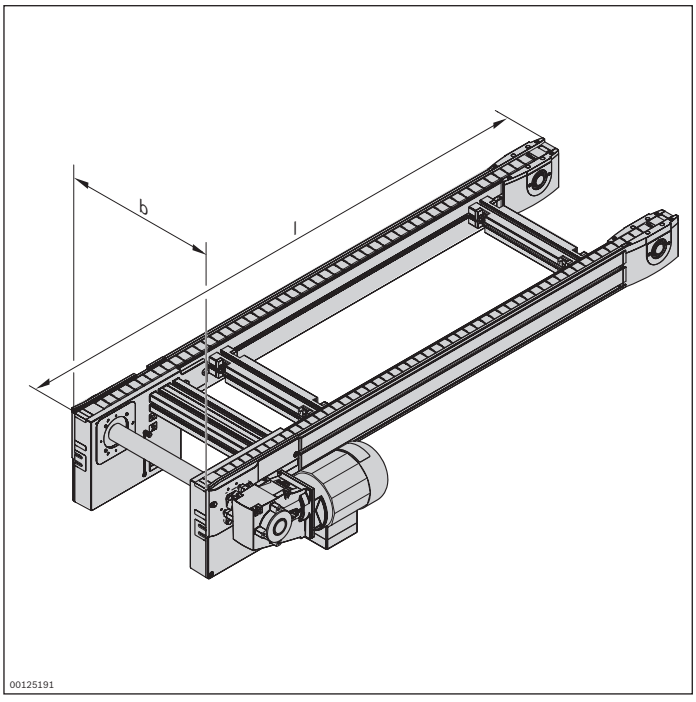
- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- Leg sets SZ 2/...-H, see p. 6-2
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M
KA	Chain version N = chain in standard version A = Chain suitable for use in an EPA	N; A
GP	Glide profile 1 = corrosion-resistant steel 0 = plastic	0; 1

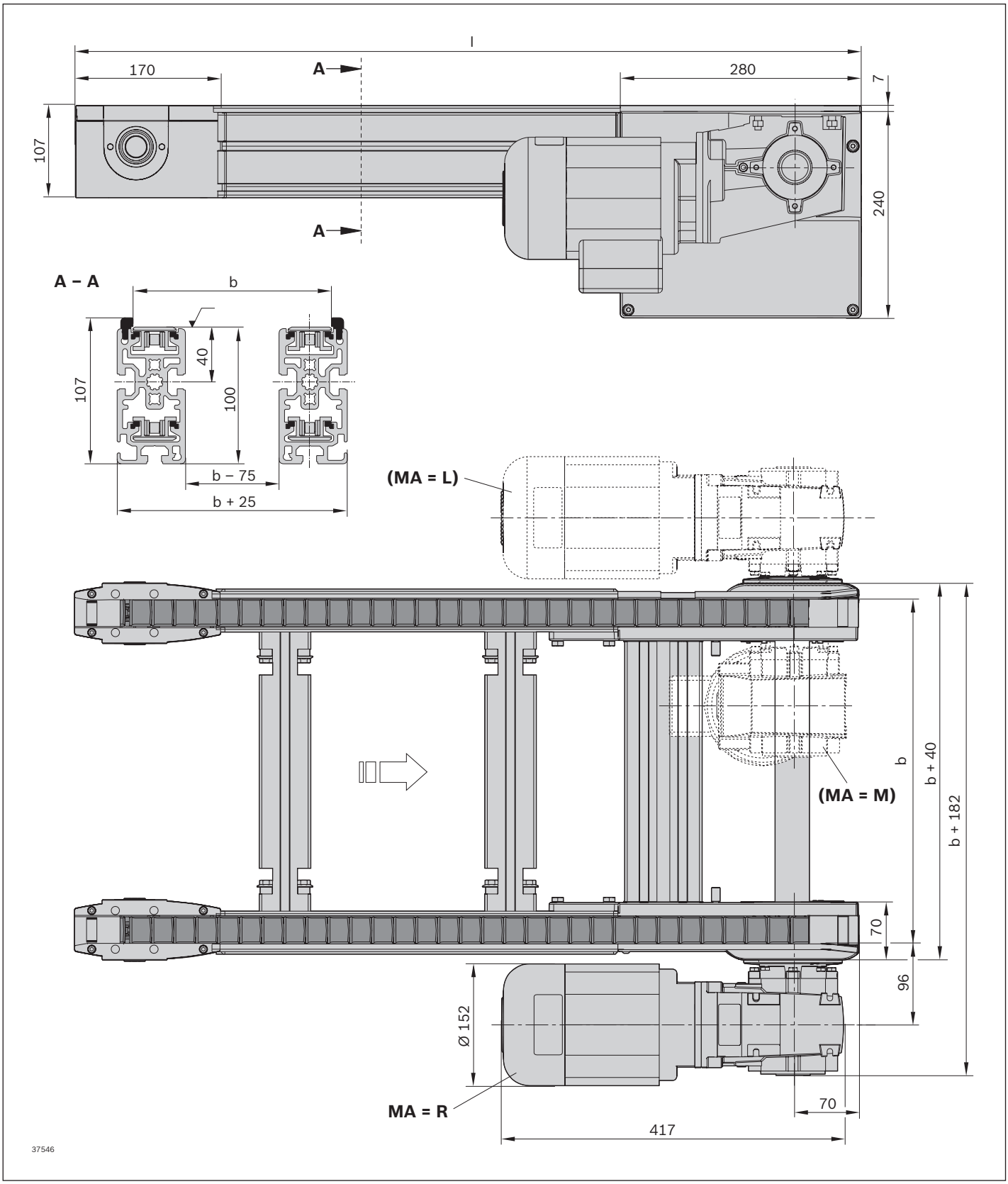
[1] v_N = 0: without motor or gear
[2] Not possible if f = 60 Hz

Technical data

Material number			3842998239
Load			
Max. section load in accumulation operation		kg	400
Properties			
ESD			yes, with KA = A*)
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Material			Section profile: Aluminum, natural; anodized Lateral guide: Stainless steel glide profile: Steel/plastic; corrosion-resistant
Dimensions			
Length	l	mm	650 ... 6000

* Chain suitable for use in an EPA (KA = A)

Dimensions


l
170
A
280
7
107
240
A
A – A
b
40
107
100
b – 75
b + 25
(MA = L)
(MA = M)
b
b + 40
b + 182
70
96
Ø 152
MA = R
70
417
37546

AS 2/C-100 drive module



- Drive for conveyor unit self-assembly
- Conveyor medium: flat top chain (with KA = A suitable for use in an EPA)
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box
- 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 unit elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

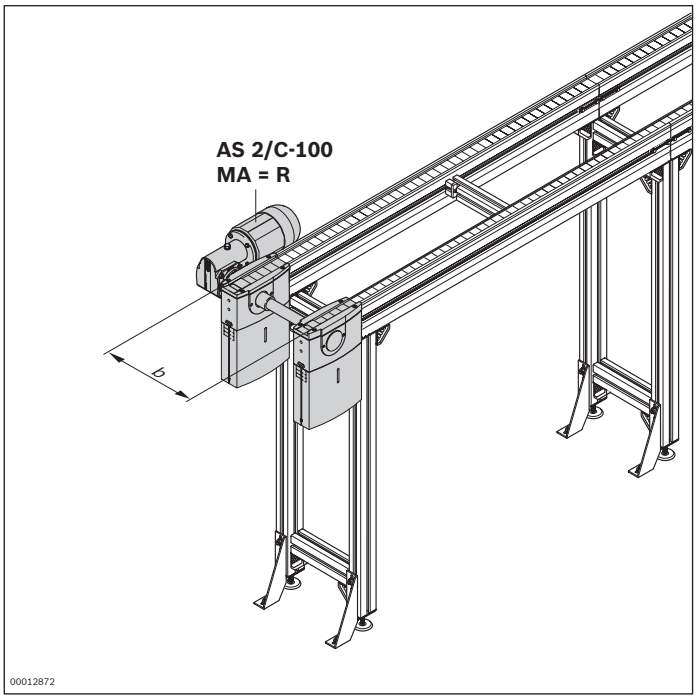
Scope of delivery

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

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[3)]

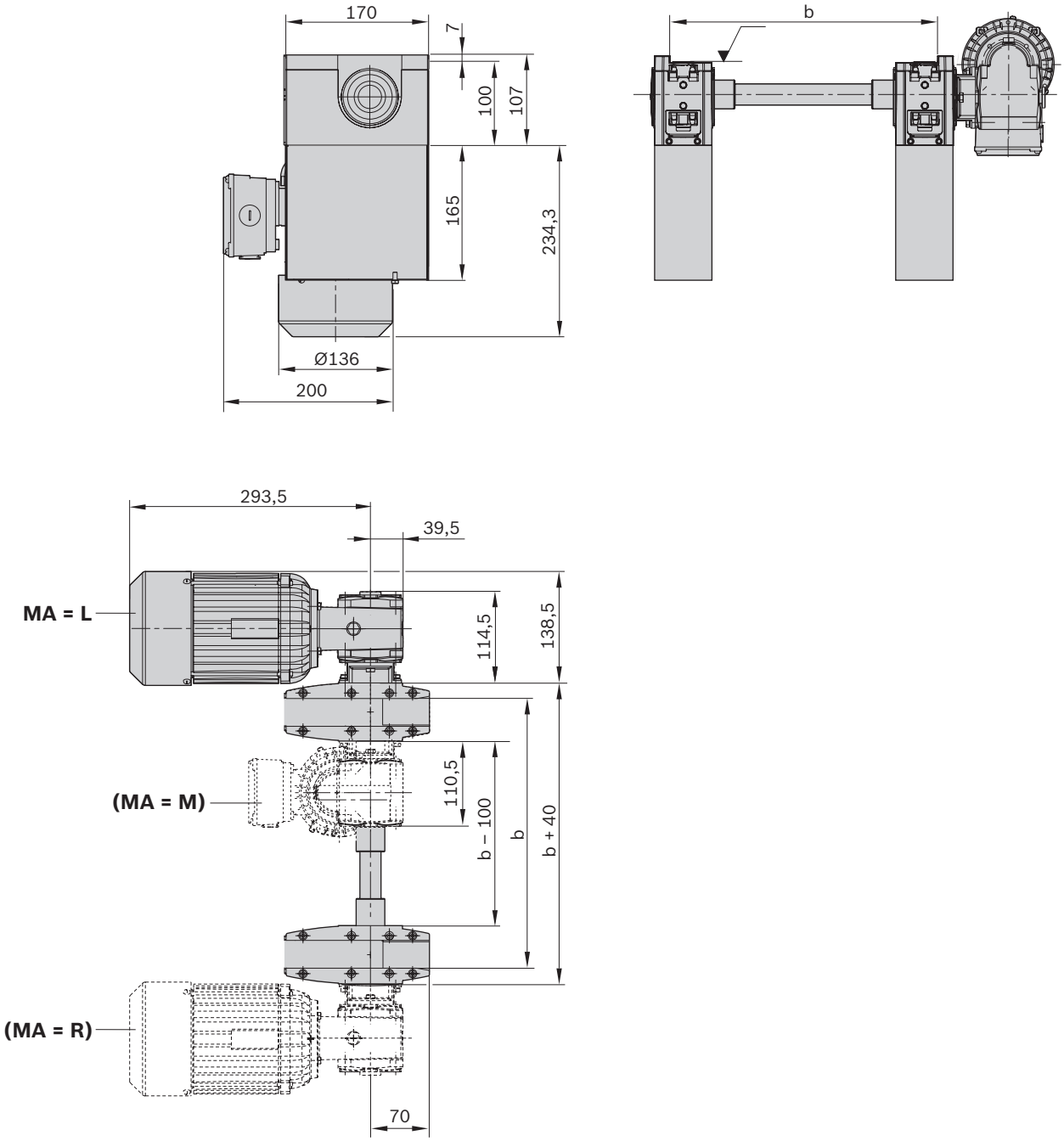
[1)] Individual width variants available
[2)] v_N = 0: without motor or gear
[3)] MA = M only for b ≥ 240 mm

Technical data

Material number			3842998053
Load			
Max. section load in accumulation operation		kg	100
Properties			
ESD			yes, with KA = A*[)]
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Additional information			
Required conveyor medium length**[)]	l_{AS}	mm	475

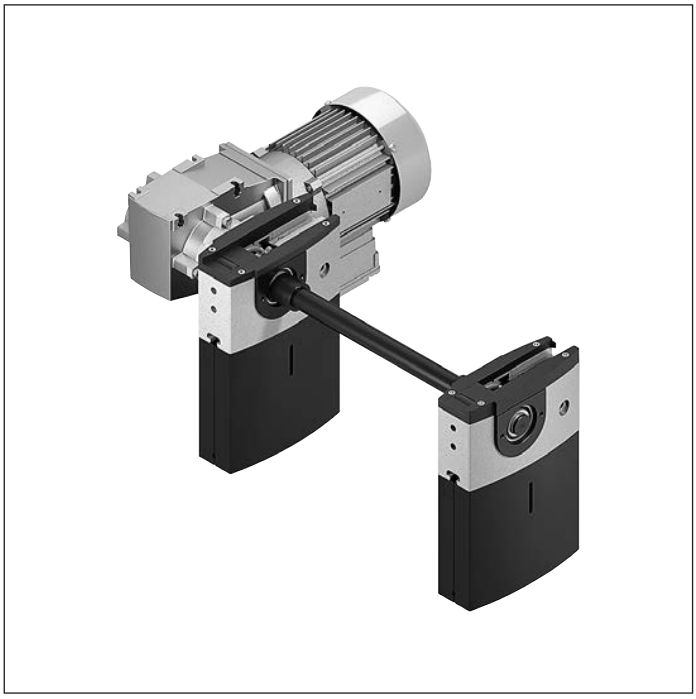
[*)] Chain suitable for use in an EPA (KA = A)
[**)] Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

Dimensions


170
7
100
107
165
234,3
Ø136
200
b
293,5
39,5
MA = L
114,5
138,5
(MA = M)
110,5
b – 100
b
b + 40
(MA = R)
70
39054

AS 2/C-250 drive module





- Drive for conveyor unit self-assembly
- Conveyor medium: flat top chain (with KA = A suitable for use in an EPA)
- Motor mounting right or left
- Motor connection: optionally with cable/plug or terminal box
- 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 unit elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

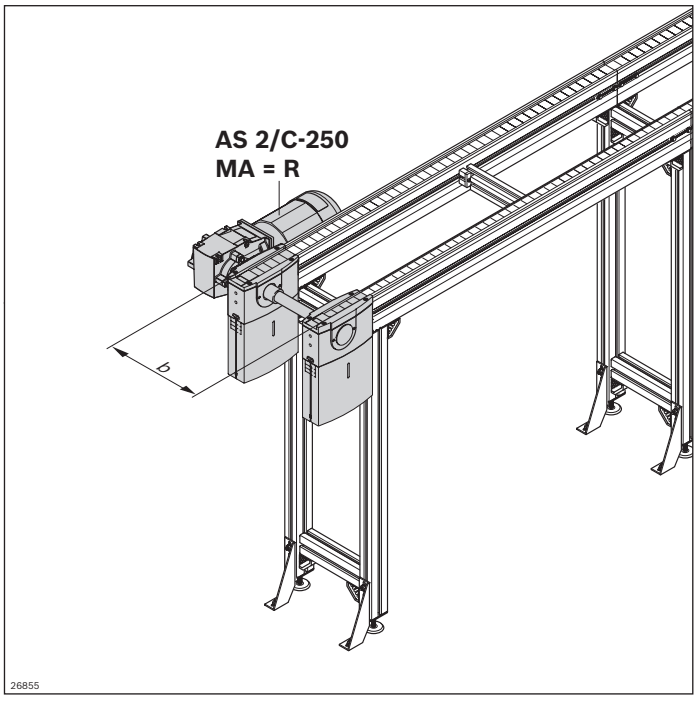
Scope of delivery

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

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left	R; L

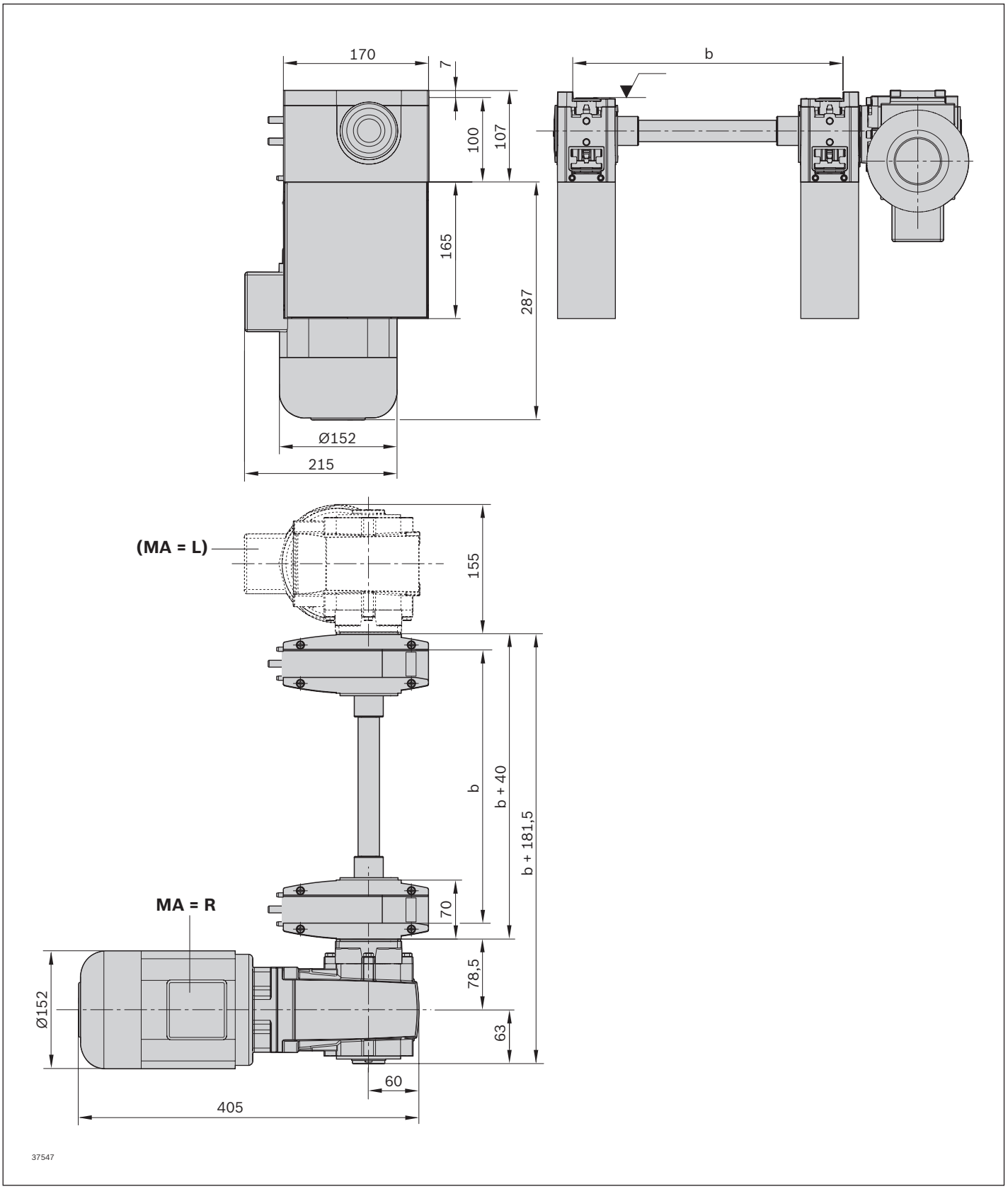
[1)] Individual width variants available
[2)] v_N = 0: without motor or gear

Technical data

Material number			3842998087
Load			
Max. section load in accumulation operation		kg	250
Properties			
ESD			yes, with KA = A*)
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Additional information			
Required conveyor medium length**)	l_{AS}	mm	475

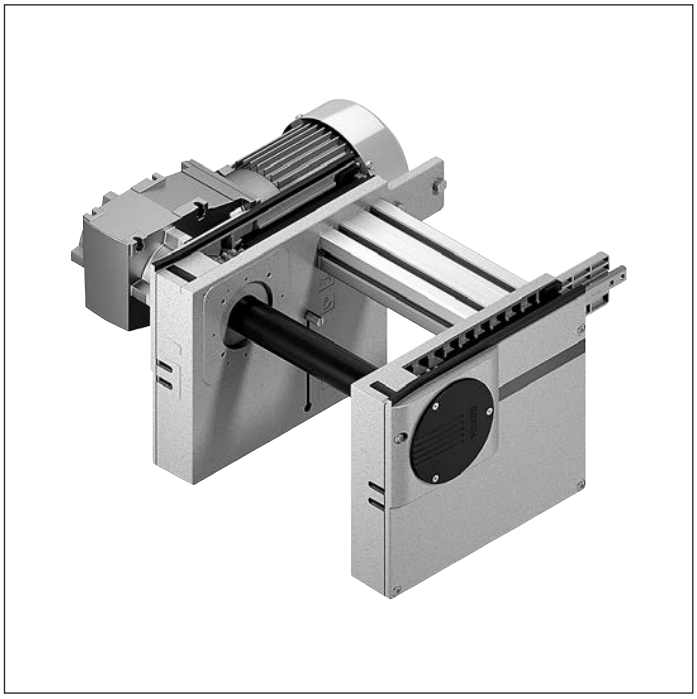
*) Chain suitable for use in an EPA (KA = A)
**) Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

Dimensions


170
7
100
107
165
287
b
Ø152
215
(MA = L)
155
b
b + 40
b + 181,5
MA = R
70
78,5
63
Ø152
60
405
37547

AS 2/C-400 drive module





- Drive for conveyor unit self-assembly
- Conveyor medium: Flat top chain (with KA = A suitable for use in an EPA)
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box
- 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 unit elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

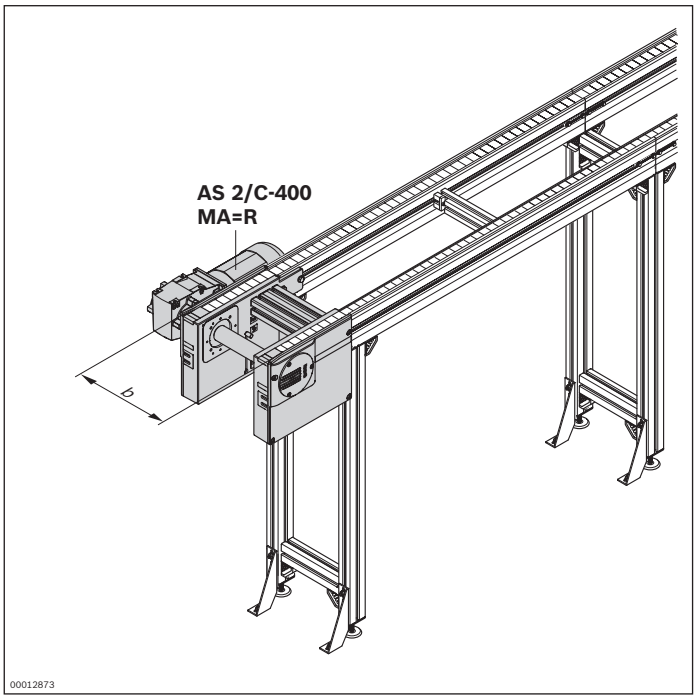
Scope of delivery

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

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[4)]

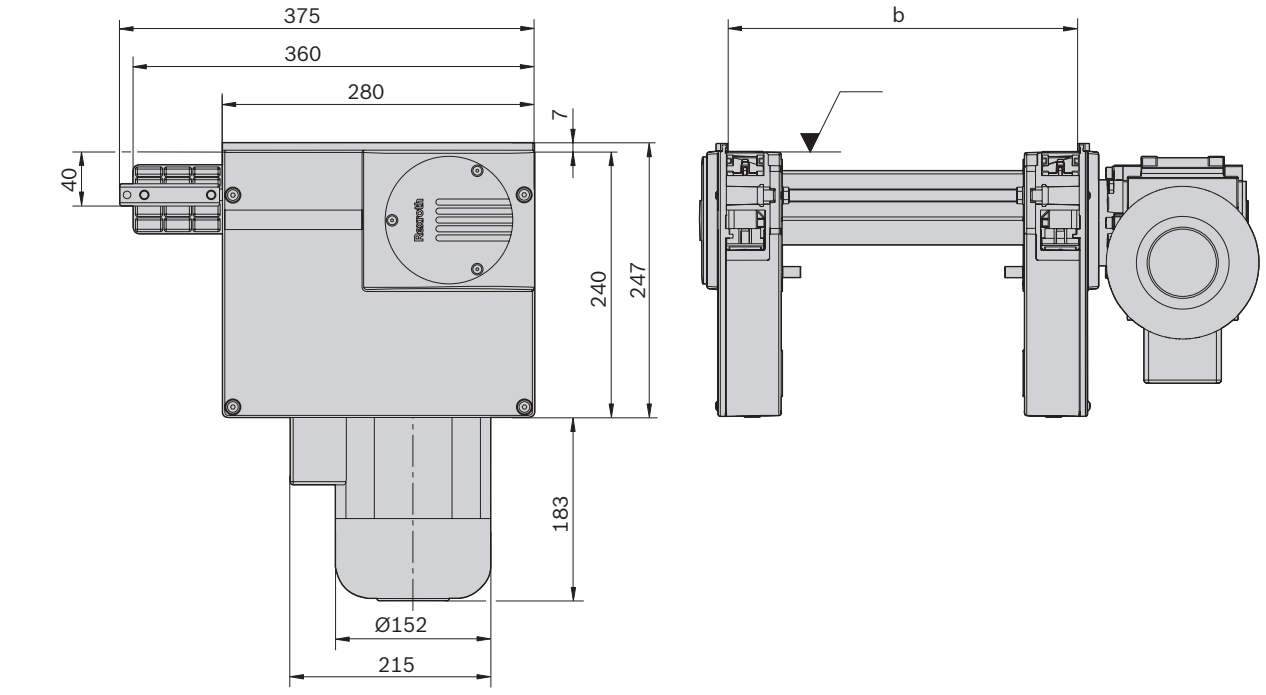
[1)] Individual width variants available
[2)] v_N = 0: without motor or gear
[3)] Not possible if f = 60 Hz
[4)] MA = M only when b ≥ 240 mm

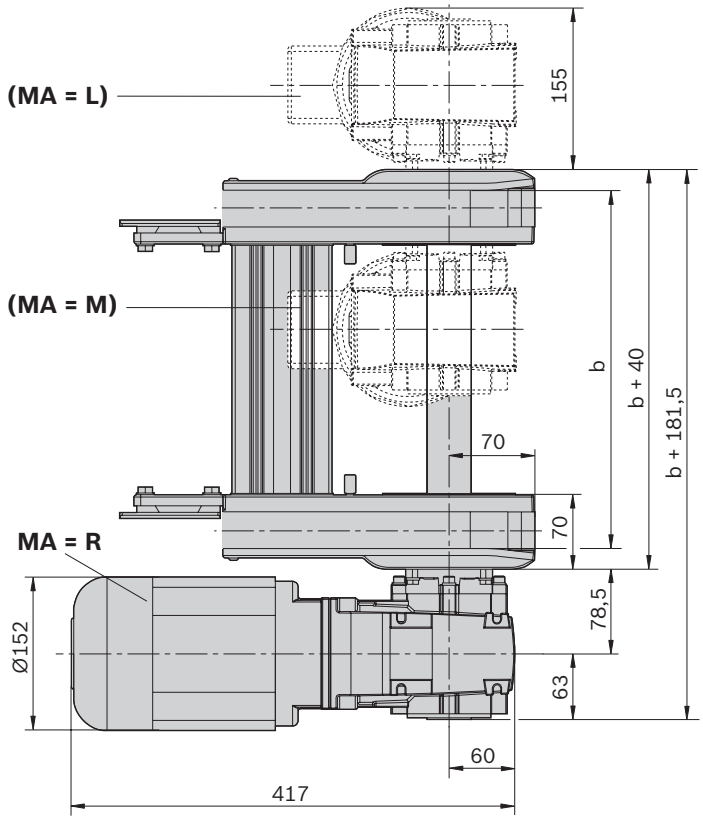
Technical data

Material number			3842998038
Load			
Max. section load in accumulation operation		kg	400
Properties			
ESD			yes, with KA = A*[)]
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Additional information			
Required conveyor medium length**[)]	l_{AS}	mm	625

[*)] Chain suitable for use in an EPA (KA = A)
[**)] Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

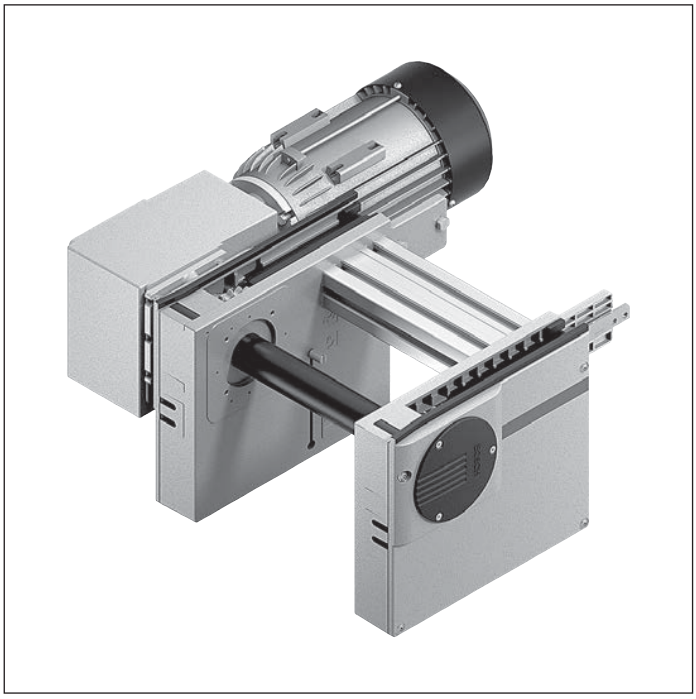
Dimensions





37162

AS 2/C-700 drive module



- Drive for conveyor unit self-assembly
- Conveyor medium: Flat top chain (with KA = A suitable for use in an EPA)
- Motor mounting right, left or central (central from track width of 240 mm)
- Motor connection: optionally with cable/plug or terminal box
- 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 unit elements with section, return unit and flat top chain.

Accessories

Recommended accessories

- Connection kits, see p. 3-236 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-84 in the TS 2*plus* catalog 7.0

Delivery information

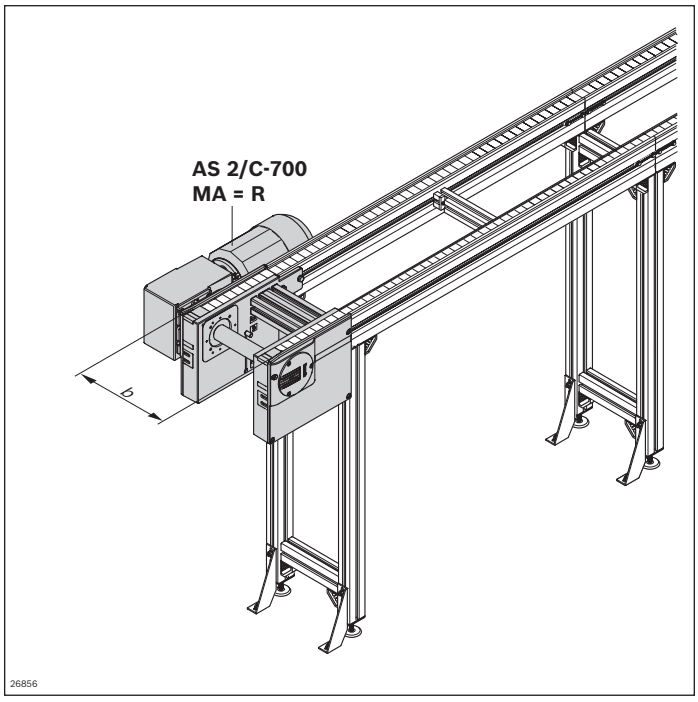
Scope of delivery

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

Condition on delivery

- 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[4)]

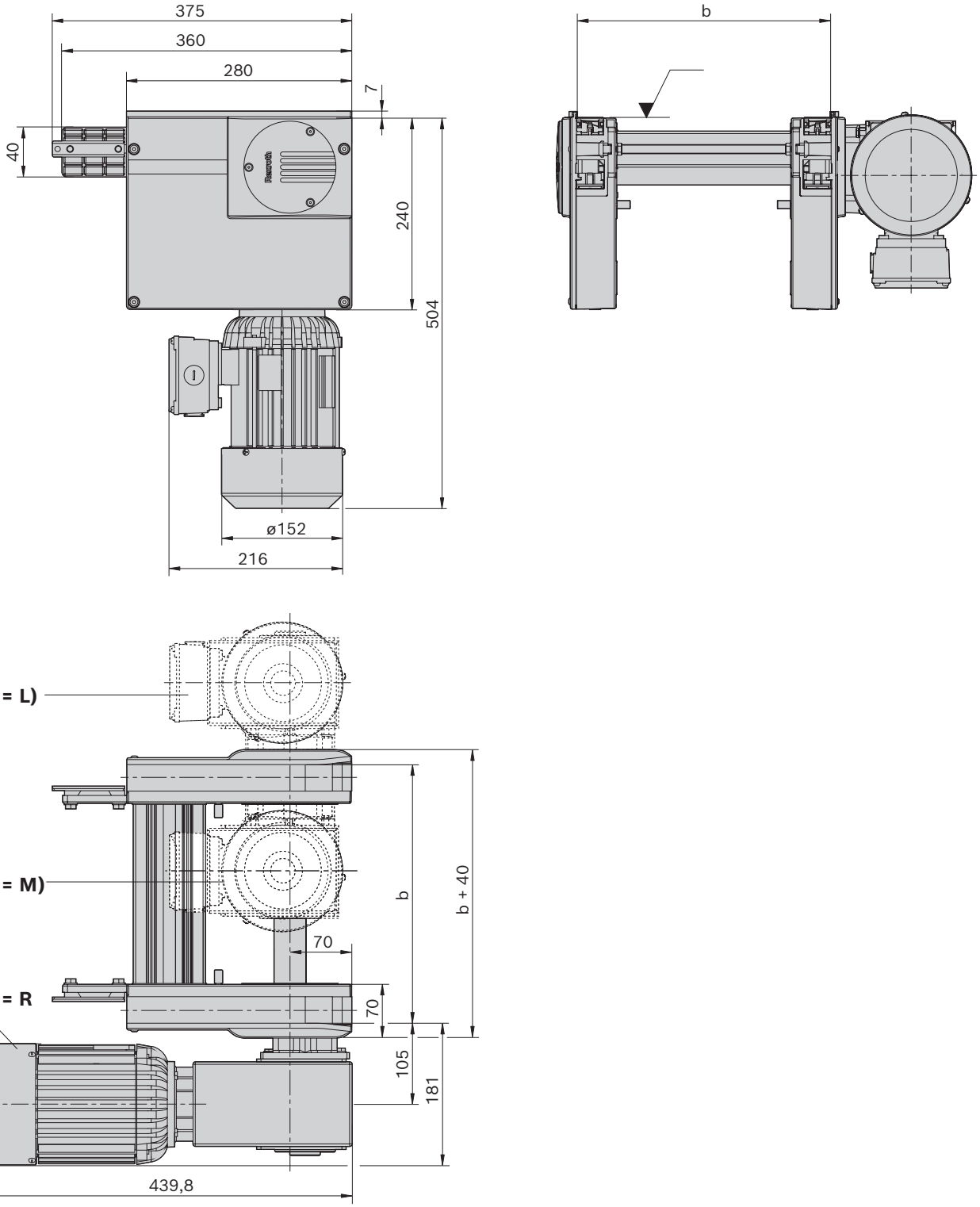
[1)] Individual width variants available
[2)] v_N = 0: without motor or gear
[3)] Reduced load to 600 kg
[4)] MA = M only when b ≥ 240 mm

Technical data

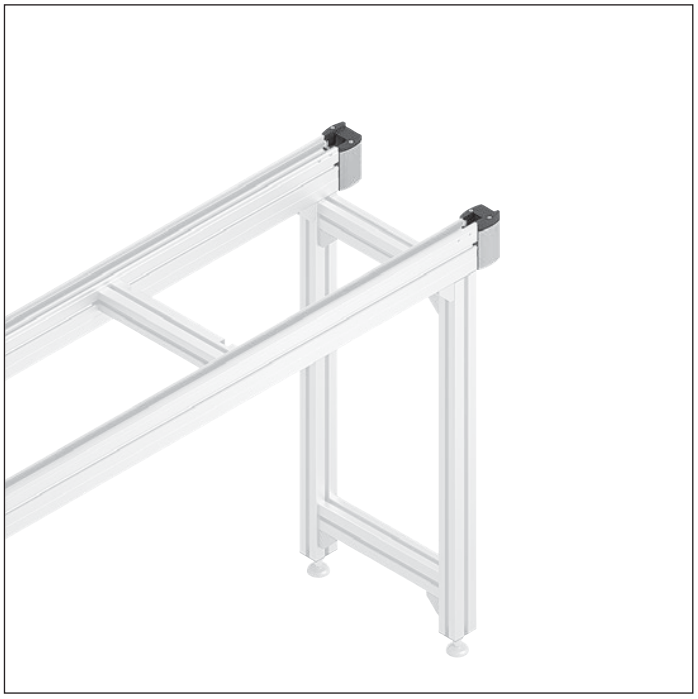
Material number			3842998039
Load			
Max. section load in accumulation operation		kg	700
Properties			
ESD			yes, with KA = A*)
Cleanroom class			ISO class 7
Dry room	rF	%	<1
Additional information			
Required conveyor medium length**)	l_{AS}	mm	625

*) Chain suitable for use in an EPA (KA = A)
**) Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

Dimensions


375
360
280
7
40
240
504
ø152
216
b
(MA = L)
(MA = M)
MA = R
b
b + 40
70
70
105
181
ø152
439,8
38753

UM 2/C-60 return unit



- Conveyor medium: Flat top chain (suitable for use in an EPA)
- 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. 3-236 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

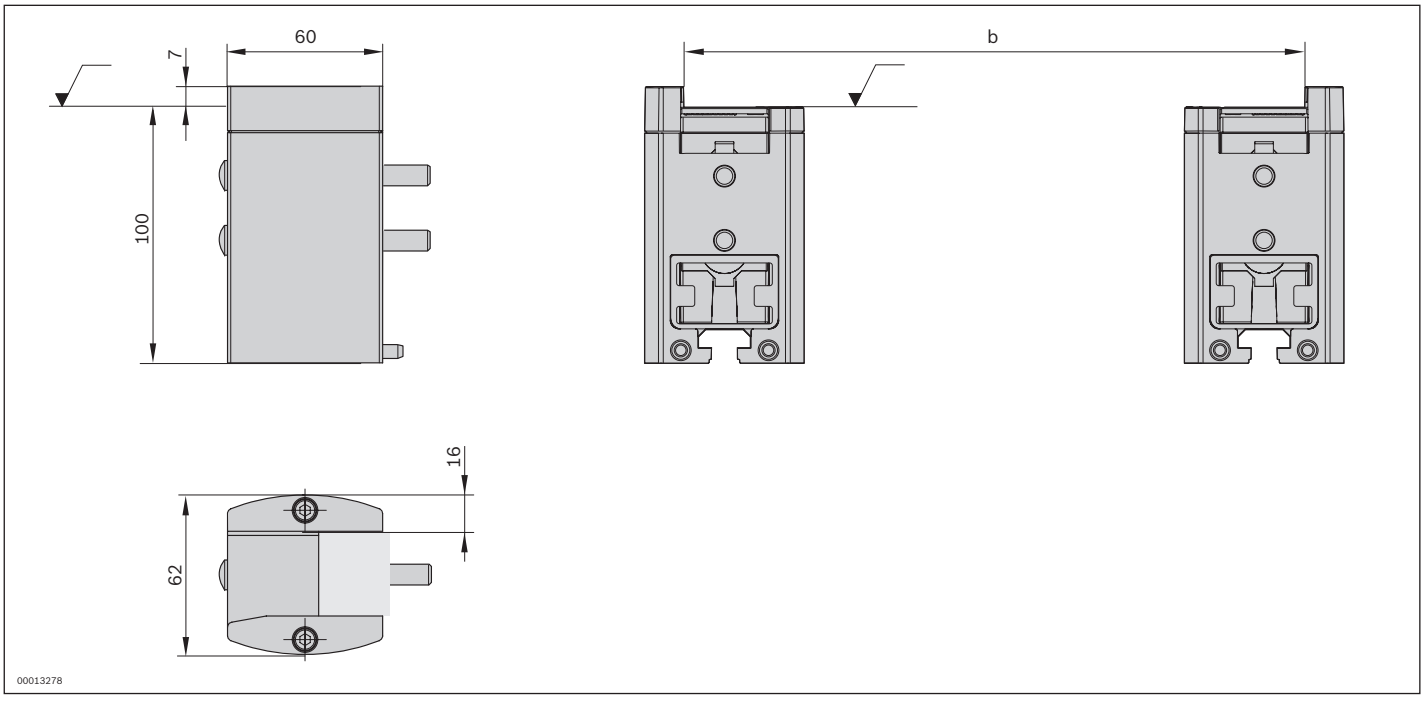
Product description	Material number
UM 2/C-60 return unit	3842528802

Technical data

Material number			**3842528802**
Properties			
ESD			yes
Additional information			
Required conveyor medium length*)	l_{UM}	mm	150

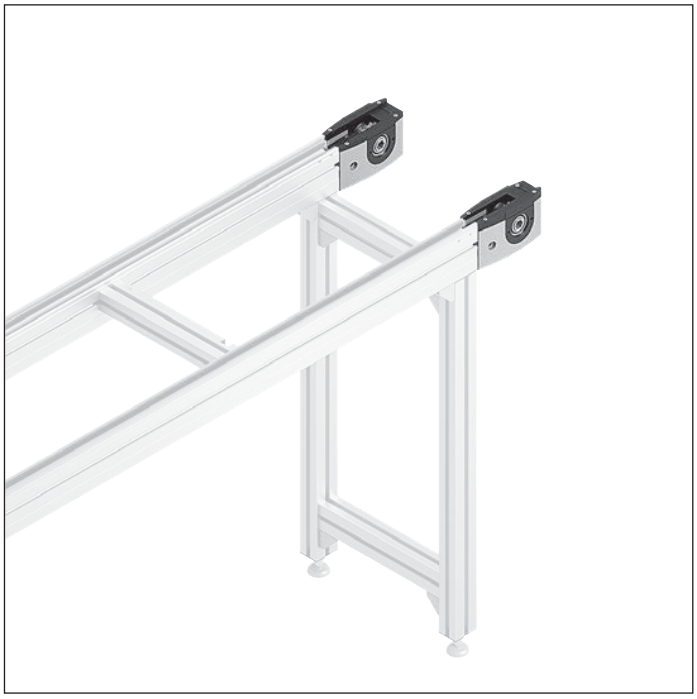
*) Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

Dimensions



UM 2/C-170 return unit





- Conveyor medium: Flat top chain (suitable for use in an EPA)
- 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. 3-236 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

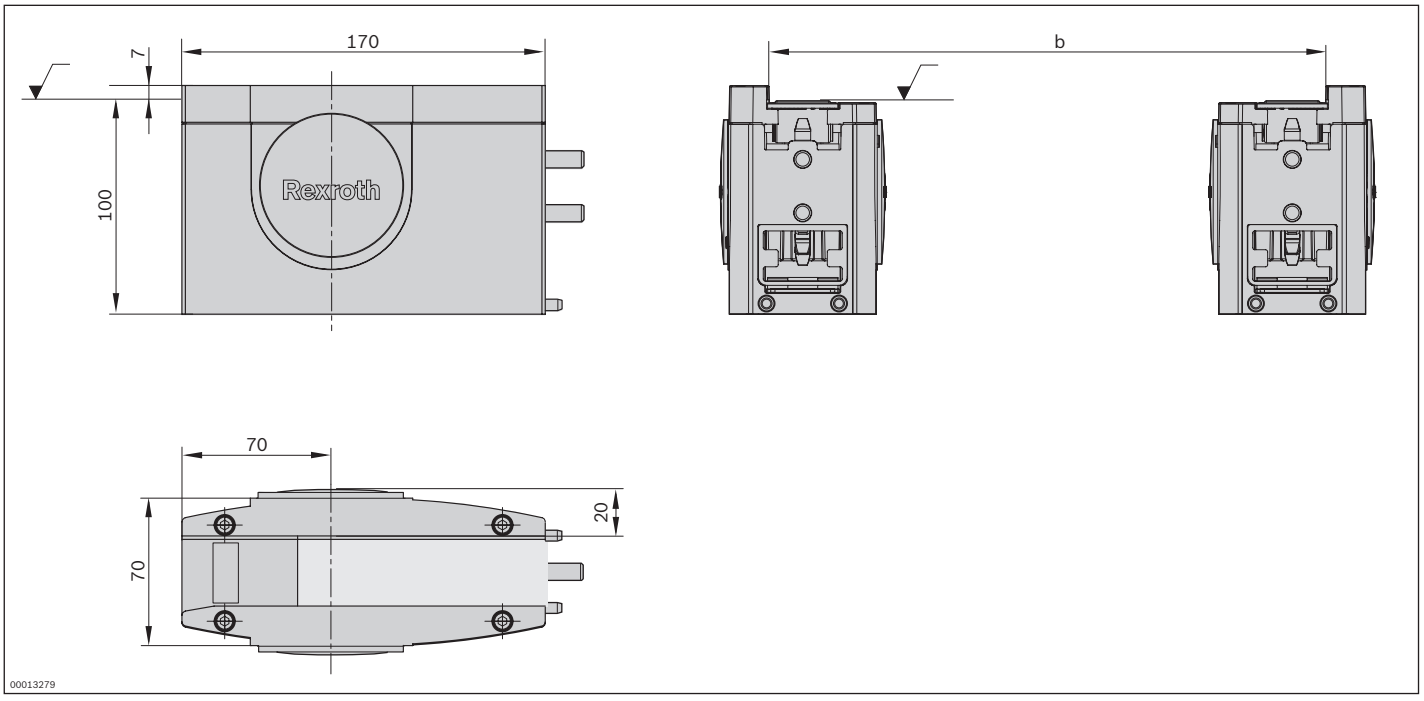
Product description	Material number
UM 2/C-170 return unit	3842528806

Technical data

Material number			**3842528806**
Properties			
ESD			yes
Additional information			
Required conveyor medium length*)	l_{UM}	mm	310

*) Formula for calculating the conveyor medium, see p. 3-117 in the TS 2*plus* catalog 7.0

Dimensions



ST 2/C-100 section





- 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

Notice: The WT 2/LS can be used for longitudinal conveyors with this component.
It is not possible to cross over.

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

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2
- Profile connector, see p. 3-107 in the TS 2*plus catalog 7.0*
- Cross connector, see p. 3-108 in the TS 2*plus* catalog 7.0

Delivery information

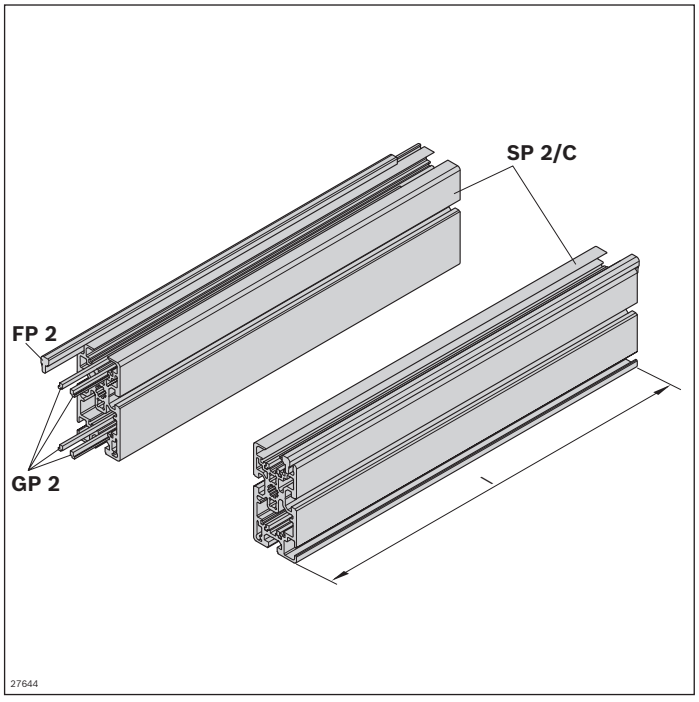
Scope of delivery

- 2x SP 2/C section profiles with assembled FP 2 and GP 2 guide profiles and glide profiles
- 8x lock bolts

Condition on delivery

- Assembled

Ordering information

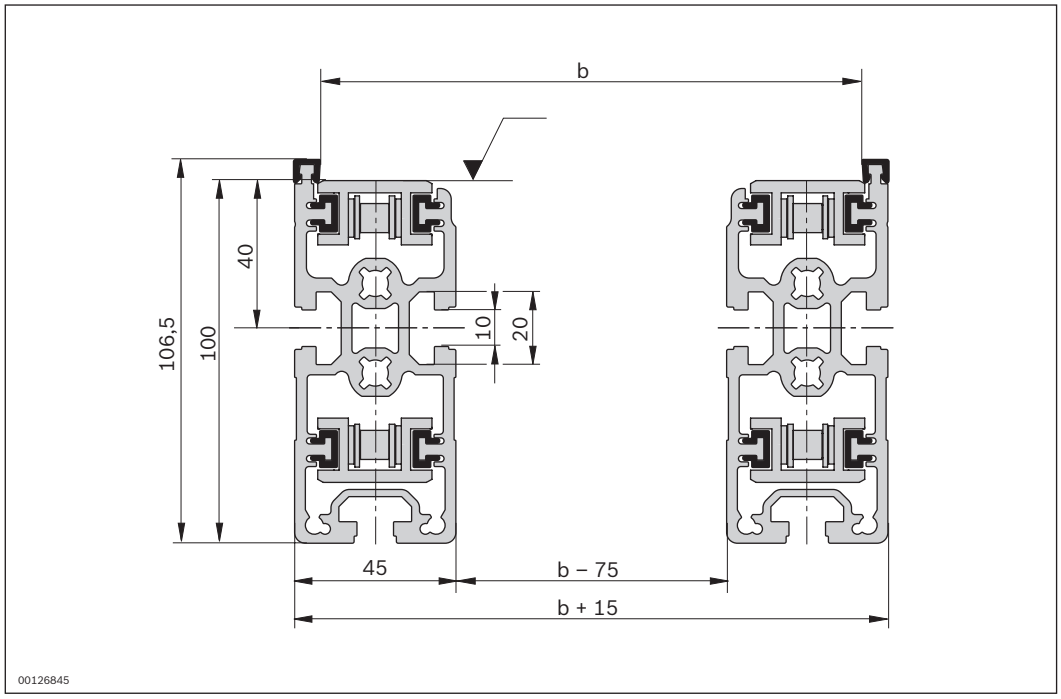


Material number		3842994890
l (mm)	Length	60 ... 6000

Technical data

Material number			3842994890
Properties			
Material			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



ST 2/C-H section





- 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 an especially sturdy version for section loads of up to 30 % higher
- Conveyor medium: Plastic flat-top chain
- Optional steel or plastic GP 2 glide profiles

Notice: The WT 2/LS can be used for longitudinal conveyors with this component.
It is not possible to cross over.

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. 3-102 in the TS 2*plus* catalog 7.0
- If GP = 0, then adapter plates are to be fitted between each section joint.

Recommended accessories

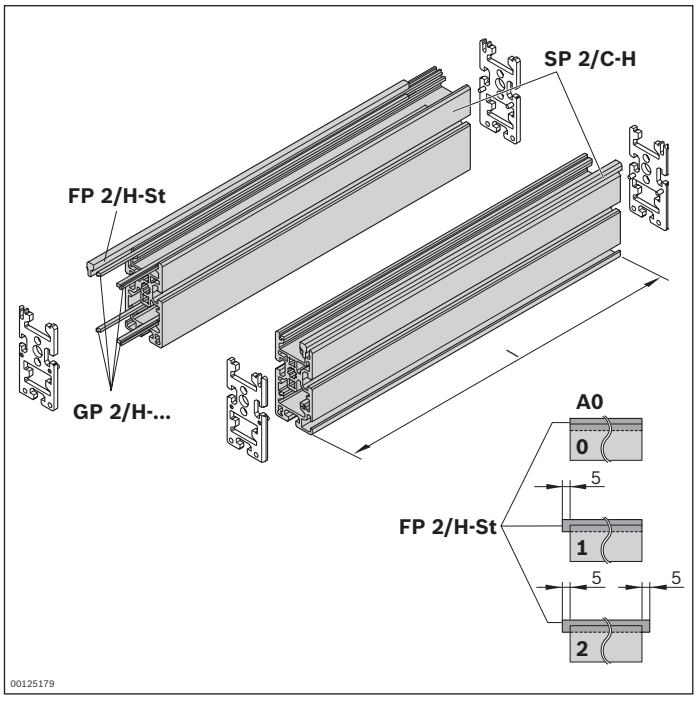
- Leg sets SZ 2/..., see p. 6-2
- Profile connector, see p. 3-107 in the TS 2*plus* catalog 7.0
- Cross connector, see p. 3-108 in the TS 2*plus* catalog 7.0
- Cover rail for cable duct, see p. 3-94 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

- 2x SP 2/C-H section profiles with assembled FP 2/H-St and GP 2/H-... guide profiles and glide profiles

Ordering information



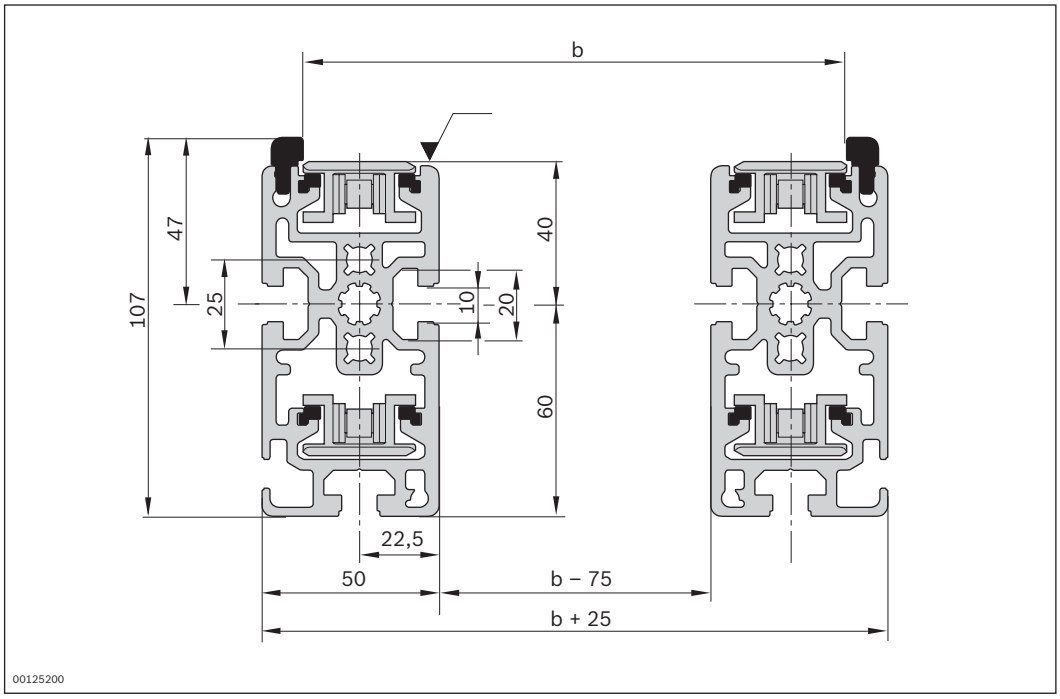
Material number		3842994973
l (mm)	Length	200 ... 6000
AO	Installation location 2 = plasticglide profile installation location 0; 1; 2 = steel glide profile installation location	0; 1; 2
GP	Glide profile 1 = corrosion-resistant steel 0 = plastic	0[1)]; 1

[1)] With GP = 0, only AO = 2 is possible

Technical data

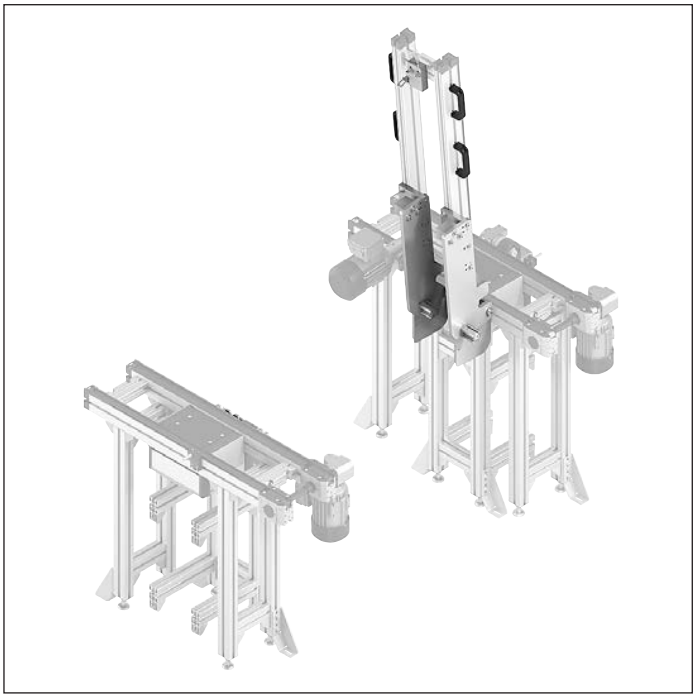
Material number			3842994973
Properties			
Material			Section profile: Aluminum; anodized Guide profile: Steel; corrosion-resistant Glide profile: Plastic or steel; corrosion-resistant
Max. operating temperature	T	°C	+40
Dimensions			
Length	l	mm	200 ... 6000

Dimensions



LG 2/H lift gate





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 close it from 85° to 0°.

- 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 transverse section

Notice:

- 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
- Can be used with WT 2/LS at b ≥ 400 mm and with all conveyor media except accumulation roller chain

Accessories

Required accessories

- 1x BS 2 belt section, see p. 3-2, or conveyor unit
- 2x SZ 2 leg set, see p. 6-2
- 2x 4 45x60 strut profiles, see p. 3-57
- 16x 45x45 bracket, see p. 3-57
- 2x foundation bracket, see p. 3-56
- Extension cable for safety switch

Recommended accessories

- PN mounting kit, see p. 3-57

Delivery information

Scope of delivery

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

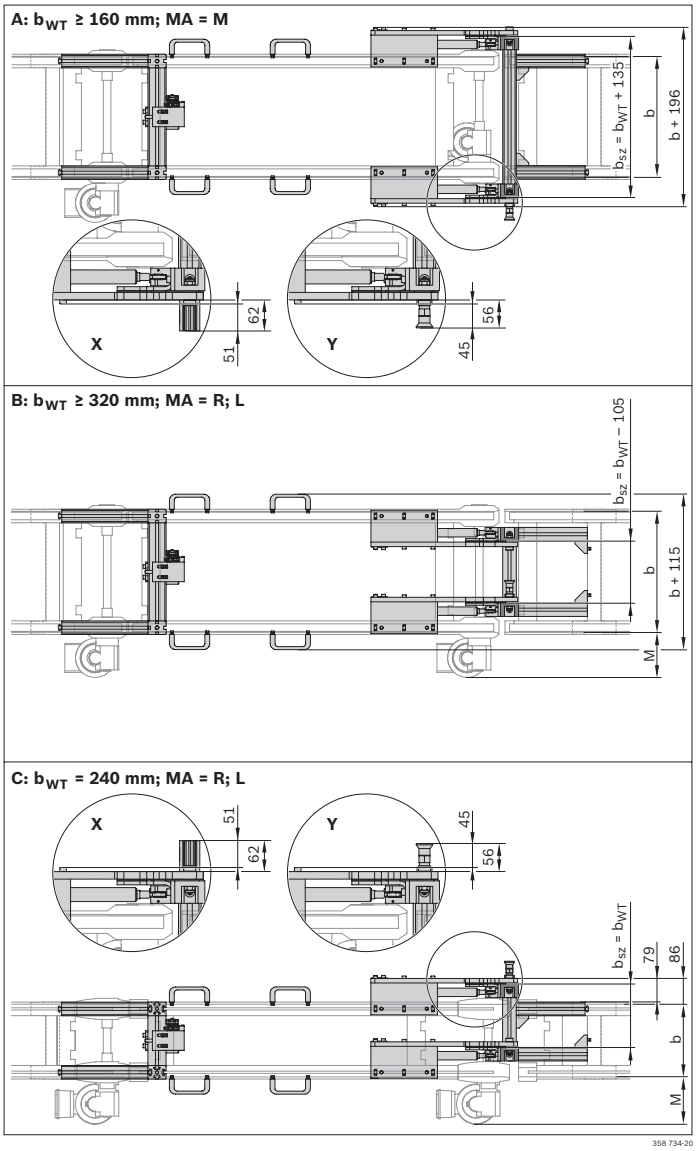
Condition on delivery

- Assembly required

The effort required to do this is reduced with the aid of a gas pressure spring.

Overall width of the different lift gate assembly variants

Lift gate interfering contours



The following applies to the BS 2: When MA = M and b = 160 mm, the max. section load is only 30 kg

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/interfering contours

	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

Interfering contours A
If both plates are mounted outside of the belt section, the minimum width of the workpiece pallet is b_{WT} = 240 mm.

Interfering contours B
If both plates are mounted in the center of the belt section, the minimum width of the workpiece pallet is b_{WT} = 320 mm.
For mounting a locking bolt (not included) or mounting the PN locking mechanism b_{WT} = 320 mm.

Interfering contours C
If one plate is mounted in outside or inside of the belt section, the minimum width of the workpiece pallet is b_{WT} = 240 mm.

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. 3-55)

Notice:

- 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

BS 2

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

BS 2 C-100

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

x*) Mounting not possible

BS 2 R-300 ks

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

x*) Mounting not possible

BS 2 R-300 st

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

x*) Mounting not possible

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

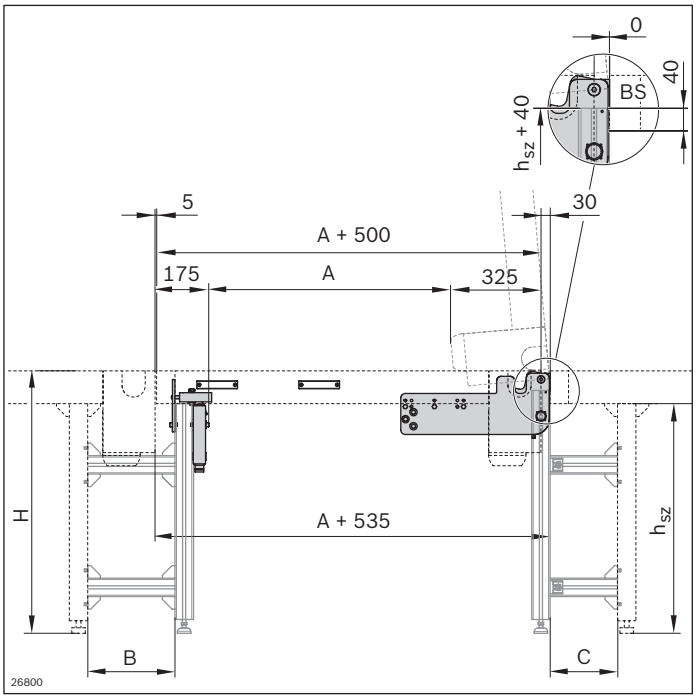
Passage width A	Width of workpiece pallet b_{WT}								
	160	240	320	400	480	640	800	1040	1200
600	x*)	2	2	3	3	3	3	3	3
700	x*)	3	3	3	3	3	3	3	4
800	x*)	3	3	3	3	3	4	4	4
900	x*)	3	3	3	4	4	4	4	4
1000	x*)	4	4	4	4	4	5	5	5
1100	x*)	4	4	5	5	5	5	5	5
1200	x*)	5	5	5	5	5	5	5	5
1300	x*)	5	5	5	5	5	5	5	6
1400	x*)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

x*) 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*)	2	3	3	3	3	3	3	3
700	x*)	3	3	3	3	3	3	4	4
800	x*)	3	3	3	3	4	4	4	4
900	x*)	3	3	4	4	4	4	4	4
1000	x*)	4	4	4	4	5	5	5	5
1100	x*)	4	5	5	5	5	5	5	5
1200	x*)	5	5	5	5	5	5	5	5
1300	x*)	5	5	5	5	5	5	6	6
1400	x*)	5	5	5	6	6	6	6	6
1500	x*)	6	6	6	6	6	6	6	6
1600	x*)	6	6	6	6	6	6	7	7
1700	x*)	6	6	6	7	7	7	7	7
1800	x*)	6	6	6	7	7	7	7	7

x*) Mounting not possible



Mounting kit LG 2/H

- Determine the LG 2/H mounting kit reference number using the tables and the description "Selection of the LG 2/H mounting kit for the belt section type" on page 3-53f.
  The reference number is also the mounting kit number. For example, if the reference number is 2, the mounting kit number is also 2.

Minimum length of the leg connection:

Minimum length B/C (mm)	Connection
145*)	BS 2 return unit
175*)	UM 2/C-60, UM 2/R-60
245	BS 2 drive
285	AS 2/C-100, AS 2/C-250, AS 2/R-300, AS 2/R-700, UM 2/C-170, UM 2/R-170
395	AS 2/C-400, AS 2/C-700, AS 2/R-1200, AS 2/R-220

*) Optimal leg connection for ideal support: 220 mm

Required accessories:

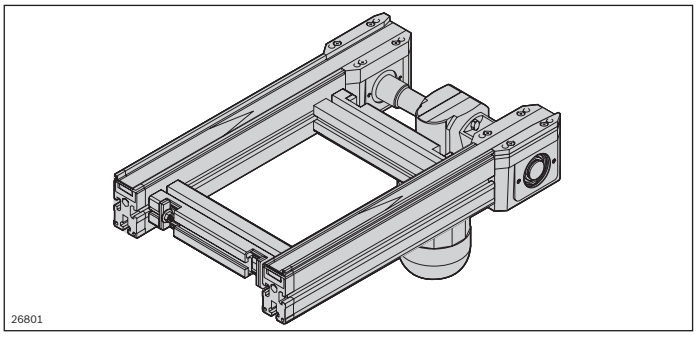
- 1x BS 2 belt section, see p. 3-2, or conveyor unit
- 2x SZ 2 leg set, see p. 6-2
- 2x 4 45x60 strut profiles, see p. 3-57
- 16x 45x45 bracket, see p. 3-57
- 2x foundation bracket, see p. 3-56

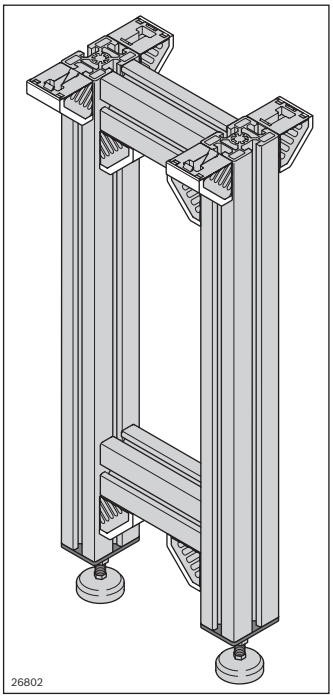
Recommended accessories:

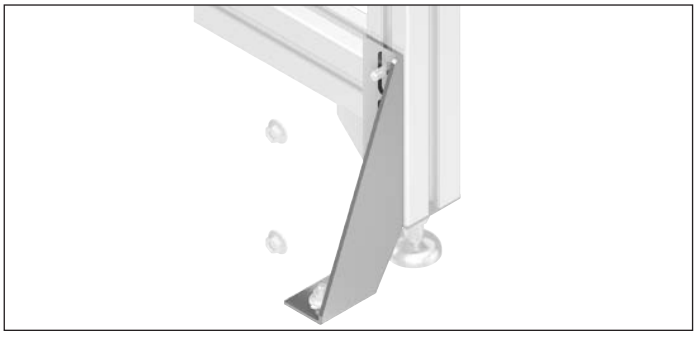
- PN kit for unlocking in the top end position, see p. 3-57

Ordering information

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. 3-2
- BS 2/C-100, see p. 3-20
- BS 2/R-300 plastic chain and steel chain, see p. 3-122 in the TS 2*plus* catalog 7.0
- Conveyor unit: ST 2/R-H (see p. 3-161 in the TS 2*plus* catalog 7.0), AS 2/R-300 (see p. 3-136 in the TS 2*plus* catalog 7.0), UM 2/R-60 (see p. 3-148 in the TS 2*plus* catalog 7.0) Conveyor unit: ST 2/C-H (see p. 3-48), AS 2/C-100 (see p. 3-29), UM 2/C-60 (see p. 3-41)

To construct a lift gate, you need:

- one SZ 2 leg set (3842996320) with AO = profile height of a BS 2
- one SZ 2 leg set with parameters, see table below: AO = 60 mm and support width b_{sz}

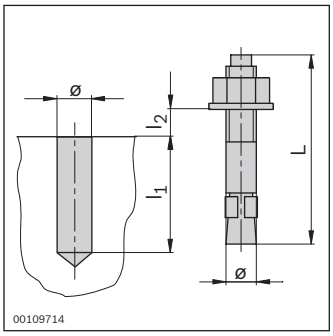
BS 2/...	SZ 2[1] leg sets	Material number
A b ≥ 160, MA = M	b_{sz}[3] = b[4] + 120, AO[2] = 60 mm	**3842996320**
B b ≥ 320, MA = L; R	b_{sz}[3] = b[4] – 120, AO[2] = 60 mm	**3842996320**
C b = 240 MA = L; R	b = b[4] AO[2] = 60 mm	**3842996320**

[1] See also page 6-2
[2] AO = installation location
[3] b_{sz} = width b for leg
[4] b = width of belt section
See also p. 3-52:
for **A:** If both plates are mounted outside of the belt section
For **B:** If both plates are mounted in the middle of the belt section
For **C:** If one plate is mounted outside or inside the belt section

Ordering information

Product description	Packaging unit	Material number
Foundation bracket	20	3842146848

See also p. 6-28 in the TS 2*plus* catalog 7.0



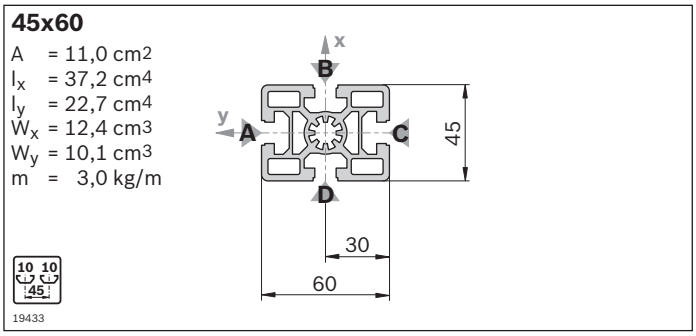
Ordering information

Product description	Packaging unit	Material number
Floor dowel	100	3842526560

See also p. 6-30 in the TS 2*plus* catalog 7.0

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

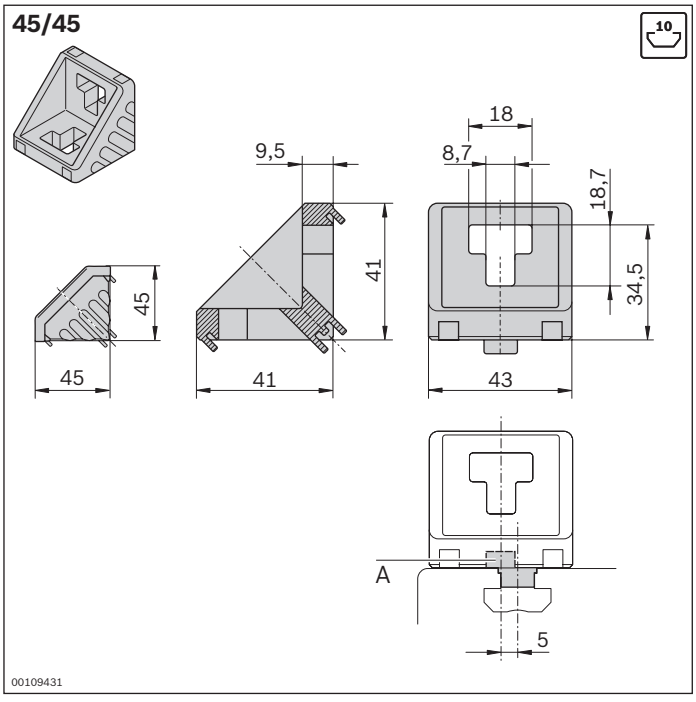


Ordering information

Material number	3842990570
l (mm)	15 ... 5600
Packaging unit	1

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

45/45

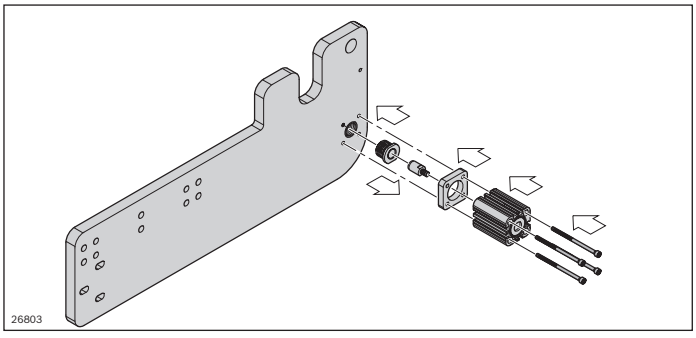


Ordering information

Product description	Packaging unit	Material number
45/45 bracket set	1	3842523561
Scope of delivery:	Incl. fastening material	

Technical data

Material number	3842523561
Properties	
ESD	yes
Dimensions	
Slot	10/10



Ordering information

Product description	Packaging unit	Material number
PN kit	1	3842549509

Safety switch

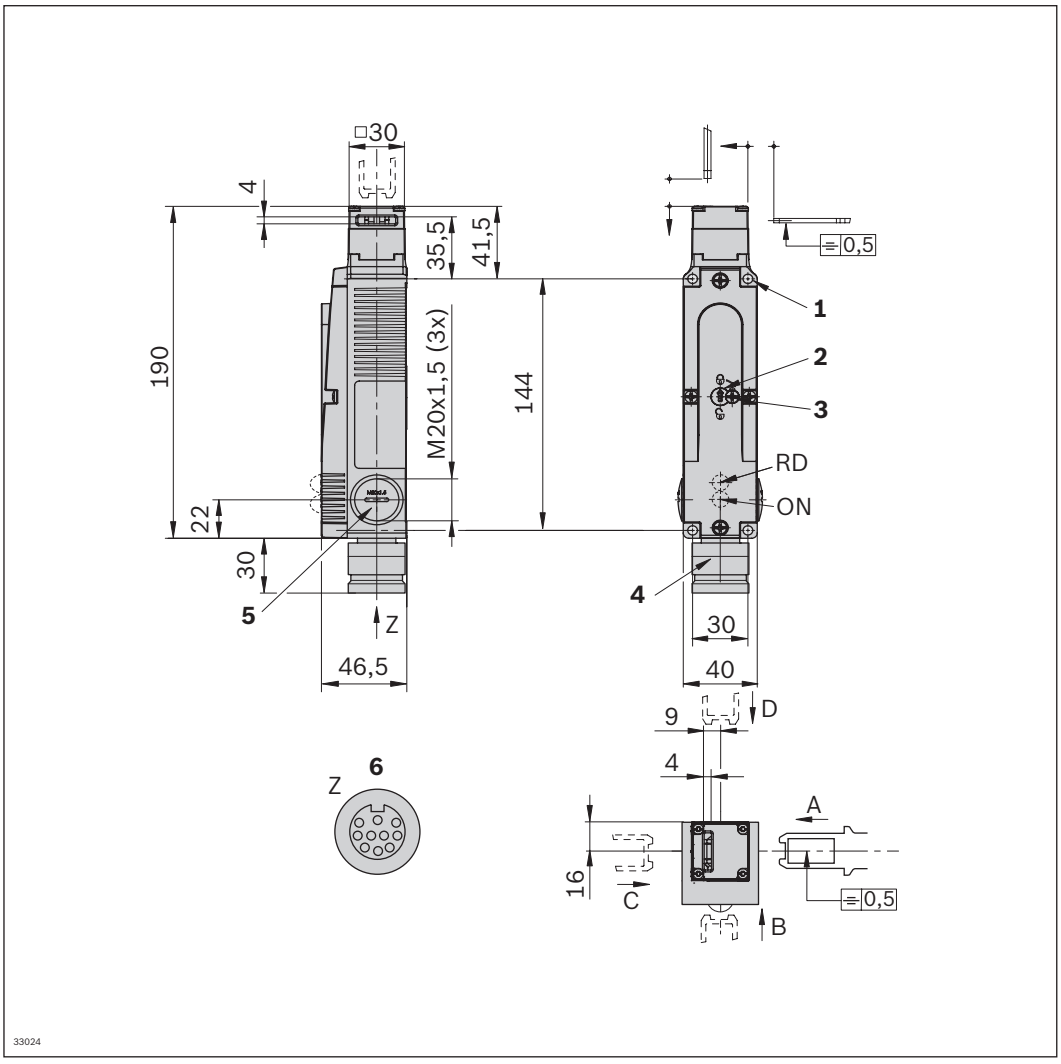
- Connection of safety switch: 10-pin socket, cable with plug not included in the scope of delivery
- Actuator locking type: inserted

Technical data

Properties			
Safety switch*)			STA3A-2131A024L024BHA10C2090
Protection rating			IP 65
Material			Housing: Die-cast aluminum alloy
Additional information			
Actuation/extraction/retention force		N	35; 30; 20
Max. closing force		N	3000
Closing force Fzh acc. to testing principle GS-ET-19		N	2300
Actuation frequency		1/h	1200
Switching functions**)			1 Mechanically locked. 2 Unlocked by applying a voltage. 3 Opened when the actuator is pulled.
Solenoid operating voltage	10 %	AC/DC V	24
Duty cycle	ED	%	100
Connection power		W	8
Connection type			BHA10 integrated plug (9-pin + PE)
Approvals			CE, UL, CCC

*) Standardized extension cable with socket plug for RPS...MR10 pull-wire switches
**) See also "Switching function" on page 3-60.

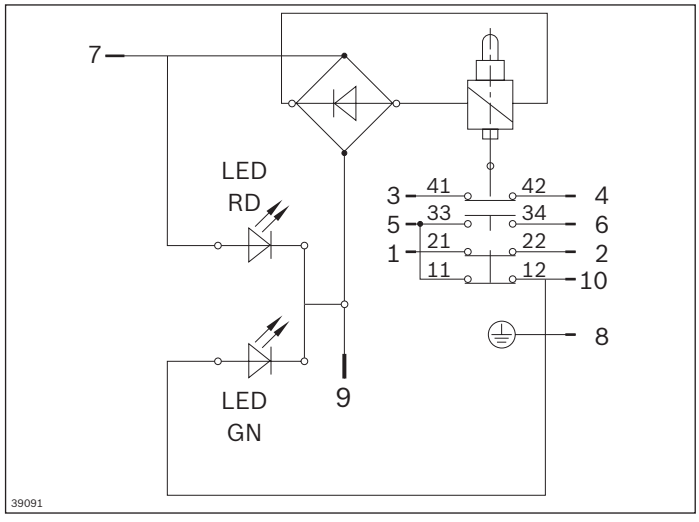
Dimensions



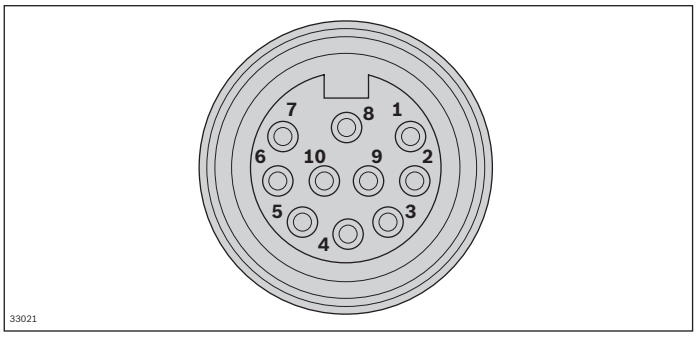
Note on direction of actuation:
After undoing the fastening screws, you can switch the fastening knob to the desired direction of approach.

1 Ø5.3 (4x) for M5x35 mm ISO 1207/100 47
2 Auxiliary release
3 Locking screw
4 Integrated plug
5 M20x1.5 screw plug (2x)
6 BHA10 integrated plug, not aligned

Circuit diagrams

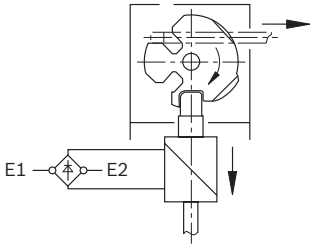
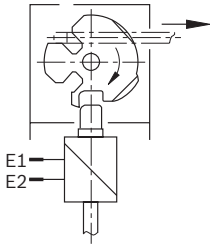
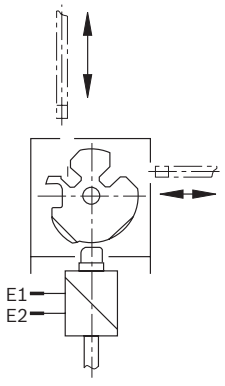
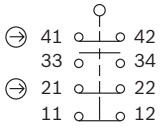
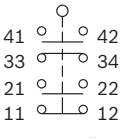
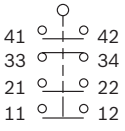


Plug assignment; MR10 socket plug, 10-pin



1 OG
2 BU
3 WH/BK
4 RD/BK
5 GN/BL
6 OG/BK
7 RD
8 GN/YE
9 BK
10 WH

Switching function

Actuator	inserted	inserted	pulled
Switch position	**locked**	**unlocked**	**opened**
762	1	2	3
			
Contact element 3NC* + 1NO			

* 2x positively driven NC contacts + 1x delayed NC contact as a door monitoring contact

Linear section LS 2



- The linear section LS 2 is a high-speed section driven by linear motors, fully assembled including guides for WT 2/LSworkpiece pallets
- For the design of a hybrid system by integrating the LS 2 section driven by linear motors in layouts of TS 2*plus* systems
- Fast WT changeover times and thus reduced cycle times
- Positioning without additional indexing
- Transition to linear motor range "on the fly"
- Impact-free stopping for gentle transport of sensitive products
- Independent control of the WT 2/LS workpiece pallets with various motion profiles, also reversing

Notes when using the WT 2/LS workpiece pallet in conjunction with standard TS 2*plus* components:

- It is possible to use the toothed belt, belt, and FPK conveyor media for curves
- Due to the strong magnets below the WT 2/LS, magnetically active parts must have a minimum distance of at least 30 mm from the magnets. Please also note that the attached elements (feed magnet, measuring magnet and stopper) represent an interfering contour for different TS 2*plus* components
- Some TS 2*plus* components have been adapted to enable the use of the WT 2/LS. Material numbers and parameters can be found in the relevant components/standard components. On page 2-14 you will find an overview of the TS 2*plus* components suitable for the TS 2 Booster

Notice:

Please note that the WT 2/LS workpiece pallet has a strong magnetic field and take appropriate precautions.
Observe the corresponding information in the assembly instructions.

Delivery information

Scope of delivery

- Conveyor section LS 2:
  - Guide with mounting elements (C)
  - Holder for linear motor
  - Linear motor (A)
  - Measuring system (B)

Condition on delivery

- Assembled

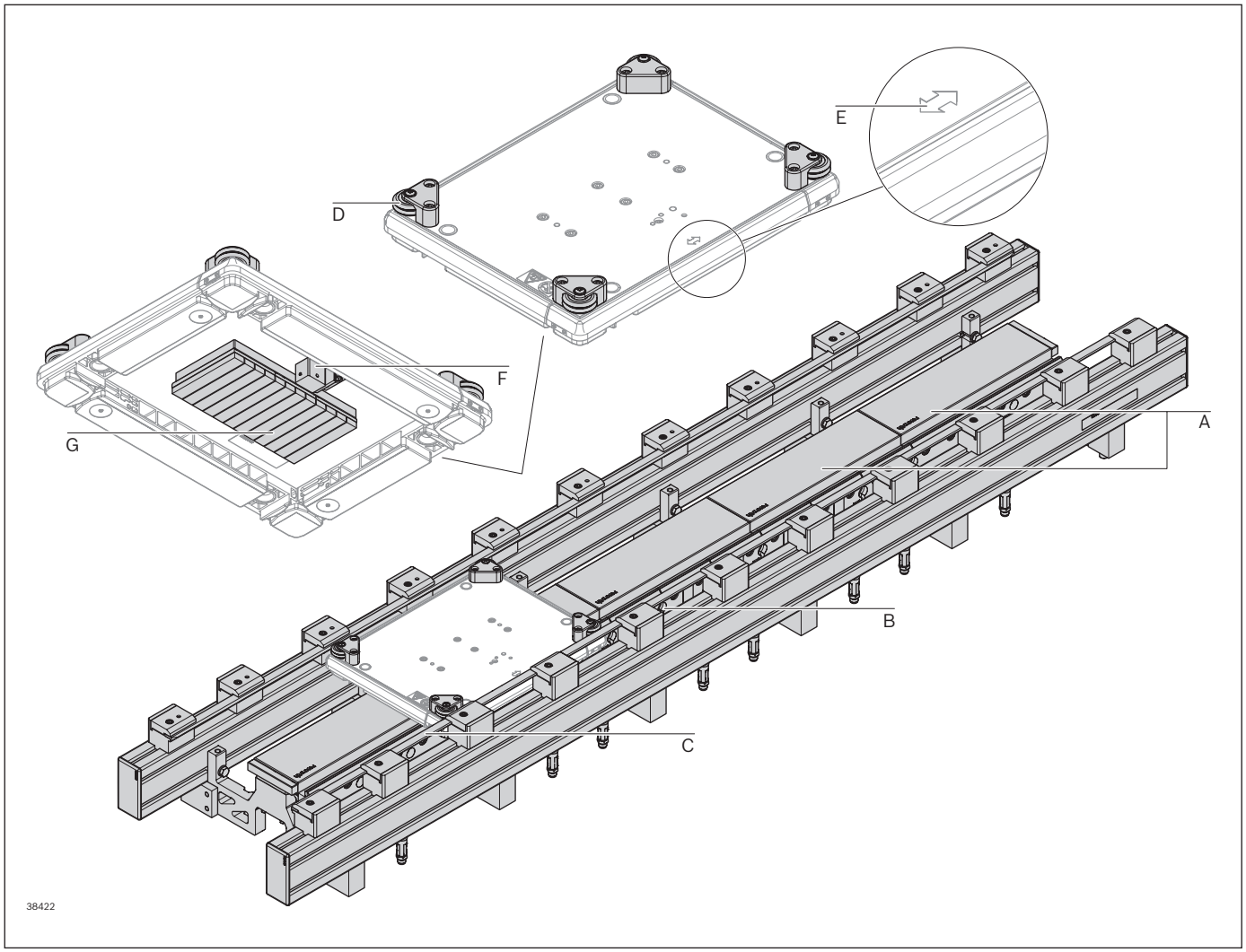
Required accessories:

- WT 2/LS workpiece pallet, see p. 2-2
- Motor cable, see p. 3-73
- Sensor cable, see p. 3-73

Recommended accessories:

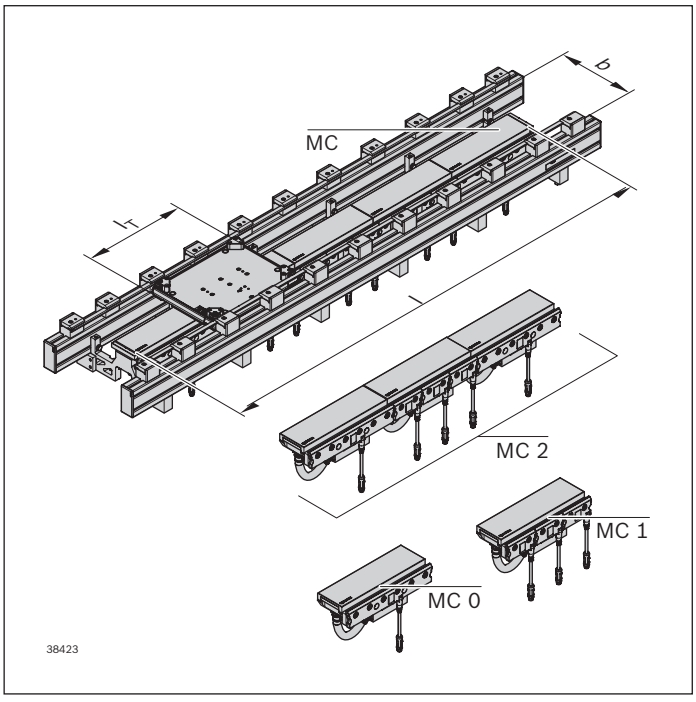
- SZ 2/LS END/MID leg set, see p. 6-22
- LV 2 longitudinal connector, see p. 6-24
- 2x LU 2/LS lubrication unit, see p. 3-76,
  2x LC 2/LS grease cartridge, see p. 3-76
- Adjustment set LS 2, see p. 3-77
- Adjustment set BS 2 - LS 2, see p. 3-77

Linear section LS 2



A Linear motor
B Measuring system
C Guide with mounting elements
D Rollers
E Marking/travel direction
F Measuring magnet
G Feed magnet

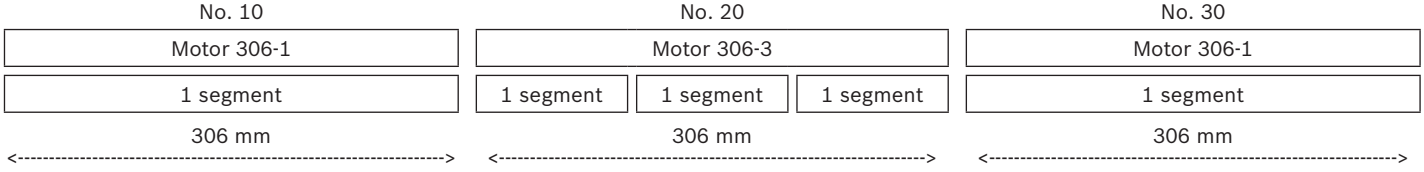
Ordering information



Material number		3842998905
b (mm)	Track width in direction of transport	160; 240; 320; 400
l_T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640
b x l_T	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 240; 320; 400; 480 400 x 320; 400; 480; 640
l (mm)	Length	MC = 0[2] or 2[2]: 306; 612; 918; 1224; 1530; 1836; 2142; 2448; 2754; 3060; 3366; 3672
		MC = 1[2]: 306; 612; 918; 1224; 1530; 1836; 2142; 2448
MC	Motor type/equipment 0 = FLM-306-1 1 = FLM-306-3 2[1] = mixed	MC = 0 for b = 160; 240; 320; 400 MC = 1 for b = 160; 240; 320 MC = 2 for l ≥ 612, b = 160; 240; 320

[1] Mixed equipment = motor 306-3 and 306-1
Specification of the desired motor type per position
(see example mixed equipment)
[2] Other lengths upon request

Example of mixed equipment

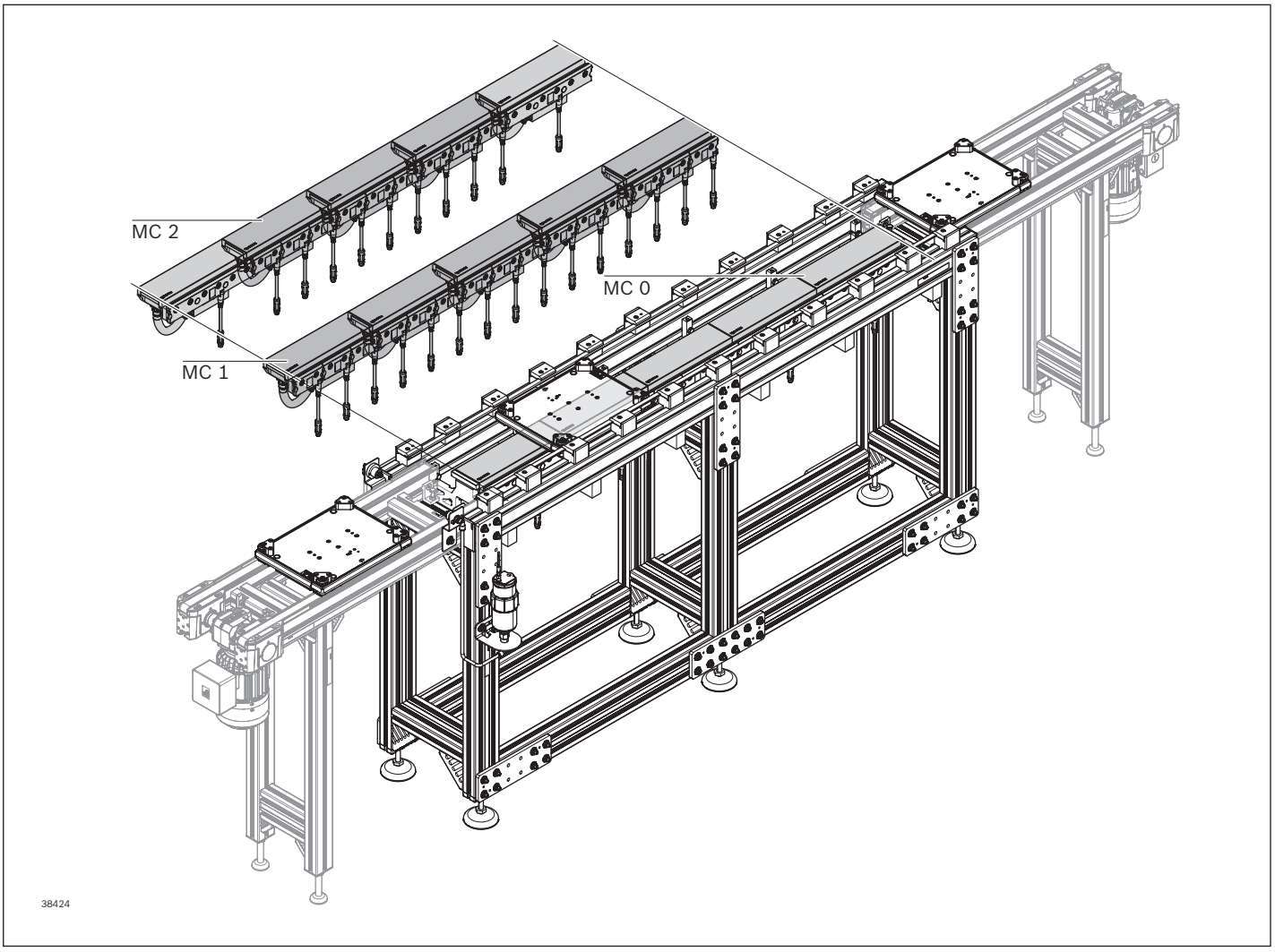


A linear section is made up of linear motors.
A distinction is made between three motor types.

Motor type	Length (mm)	Number of independent segments
306-1	306	1
306-3	306	3
306-1 in double track	306	1

Depending on the track width (= WT width), the following section configurations are recommended.

Track width	Motor type 306-1	Motor type 306-3	Motor types 306-1 and -3	306-1 in double track
160	x	x	x	
240	x	x	x	
320	x	x	x	
400				x



MC = 2: Mixed equipment:
Motors with 1 segment and motors with 3 segments are installed together in the section.

MC = 0/1: Sorted equipment:
Either only motors with 1 segment or with 3 segments are installed in the section.

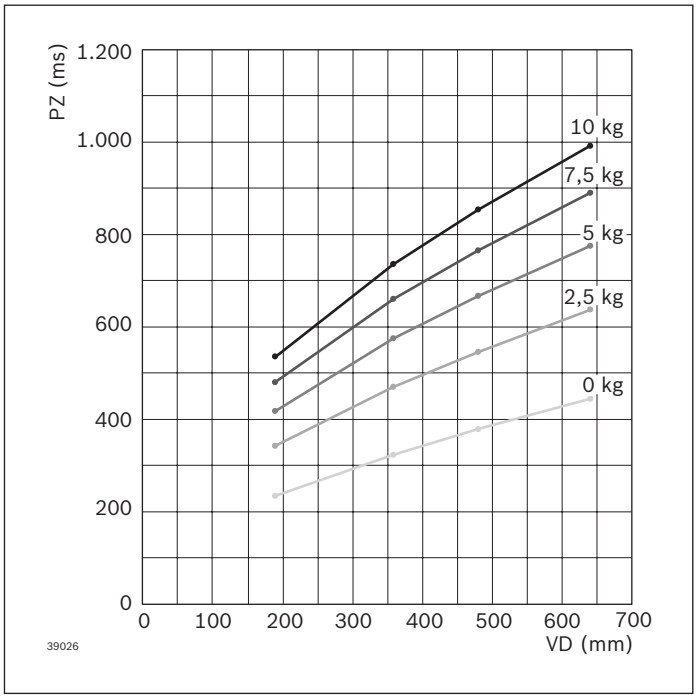
Positioning time diagram

The following diagrams show the achievable positioning times depending on the travel distance and load.
The diagram values were determined under the following conditions:

- Jerk = unlimited
- Setting time = 30 ms
- With maximum dynamics (acceleration)

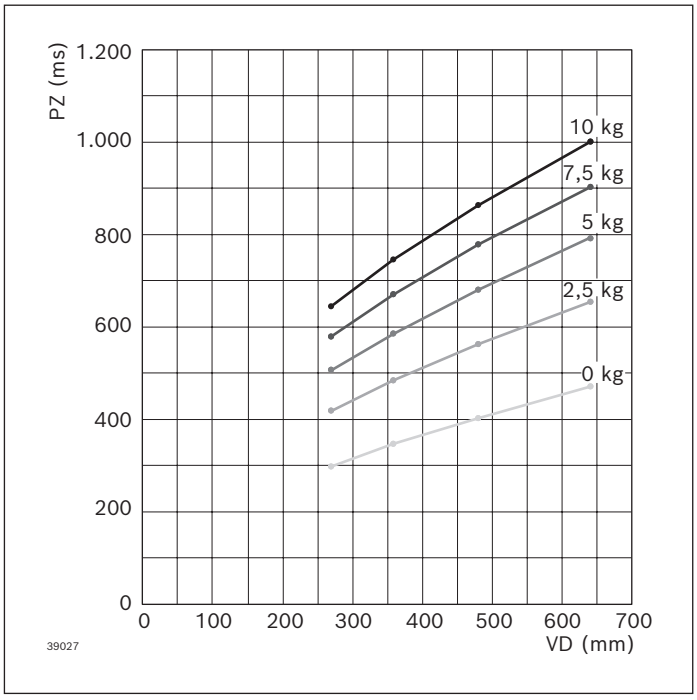
Notice:
Depending on the application, the positioning times depend on the following:
Tuning, standstill limit, PLC cycle time, etc.
Application-specific load cycle must be thermally checked

Positioning time diagram 160 x 160



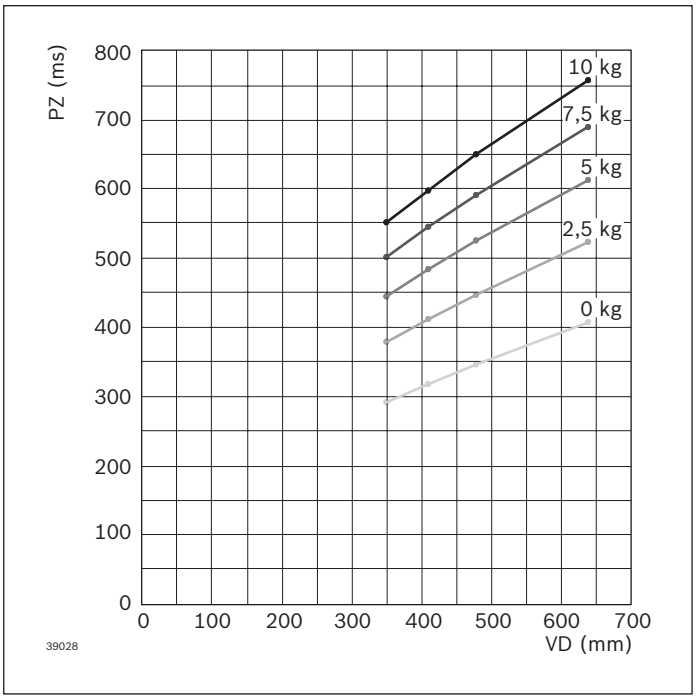
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 160 x 240



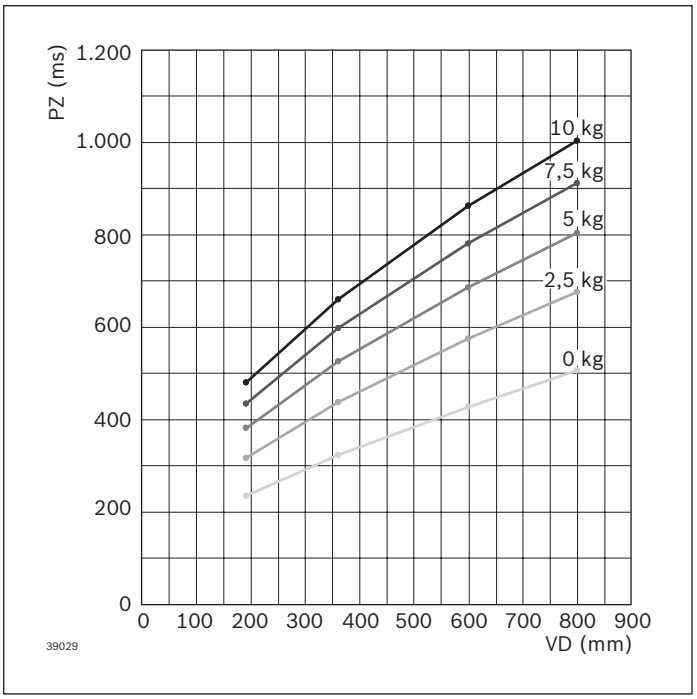
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 160 x 320



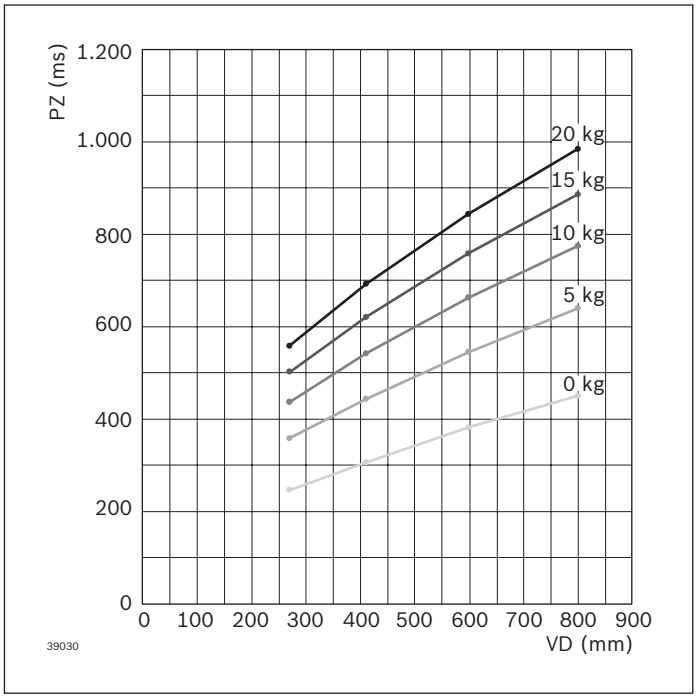
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 240 x 160



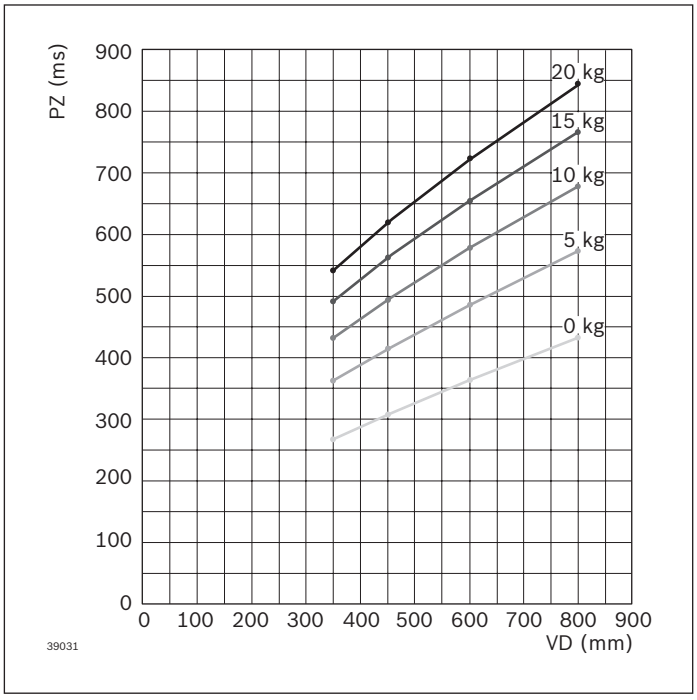
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 240 x 240



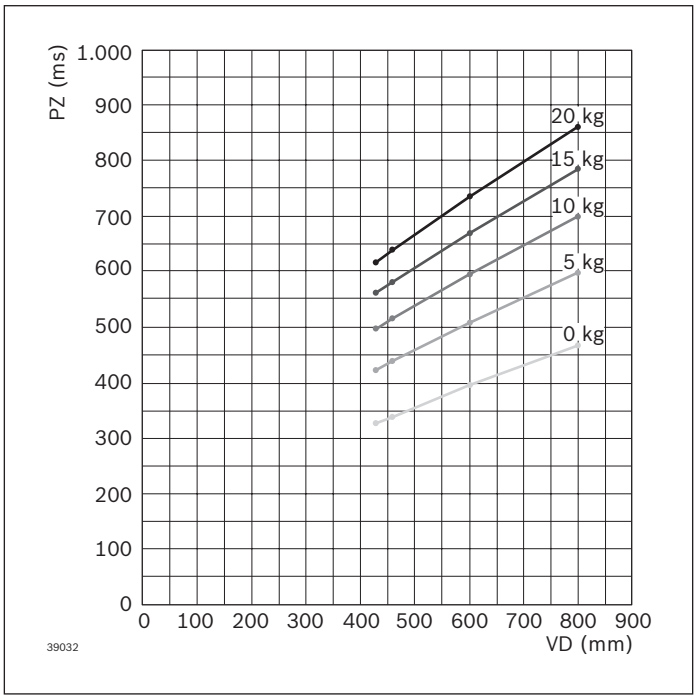
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 240 x 320



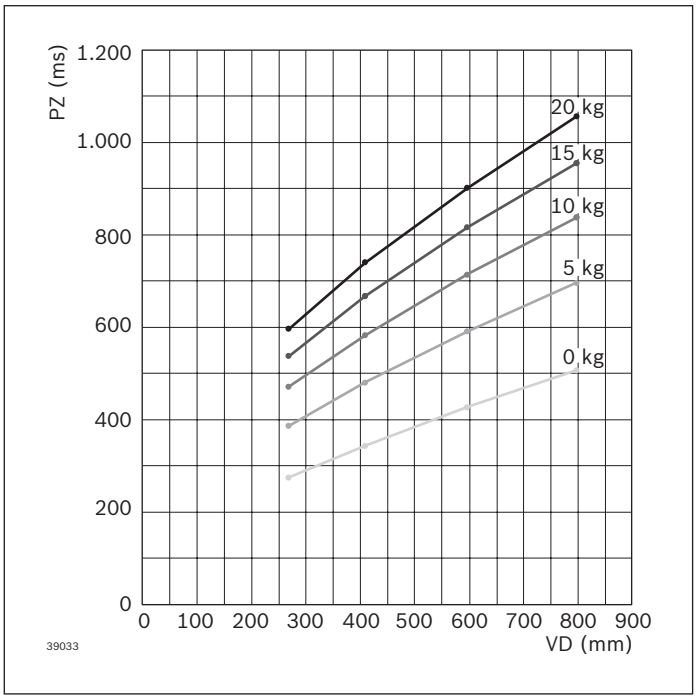
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 240 x 400



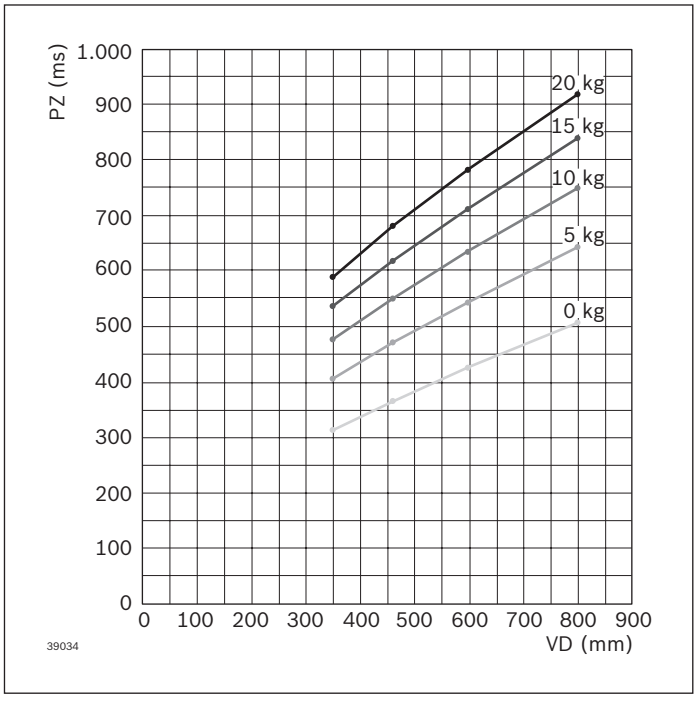
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 320 x 240



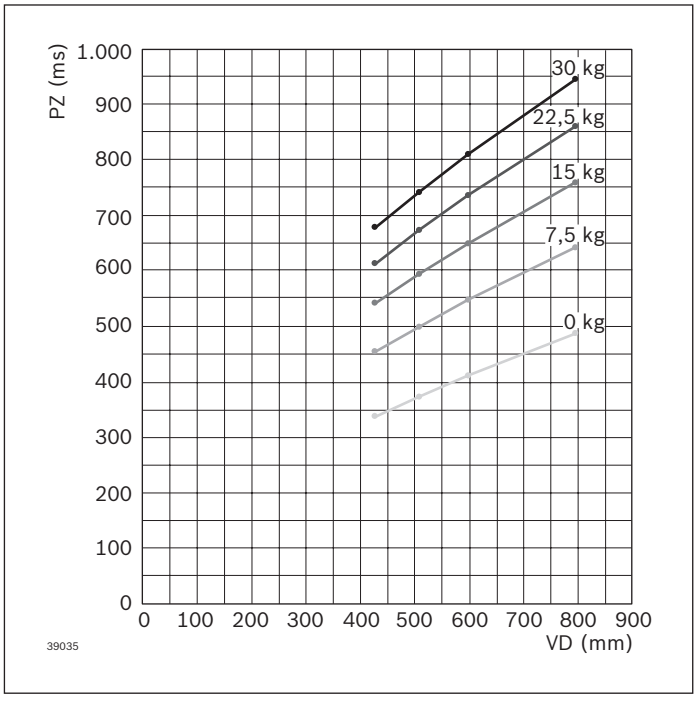
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 320 x 320



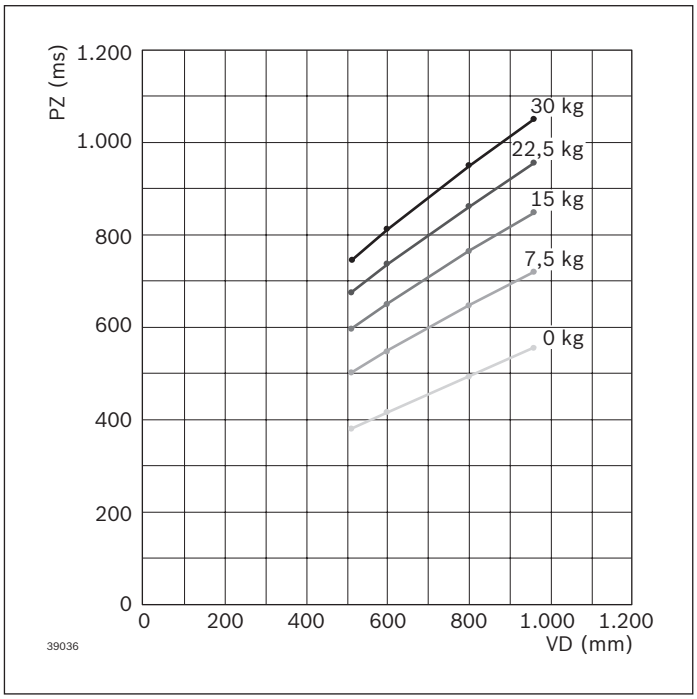
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 320 x 400



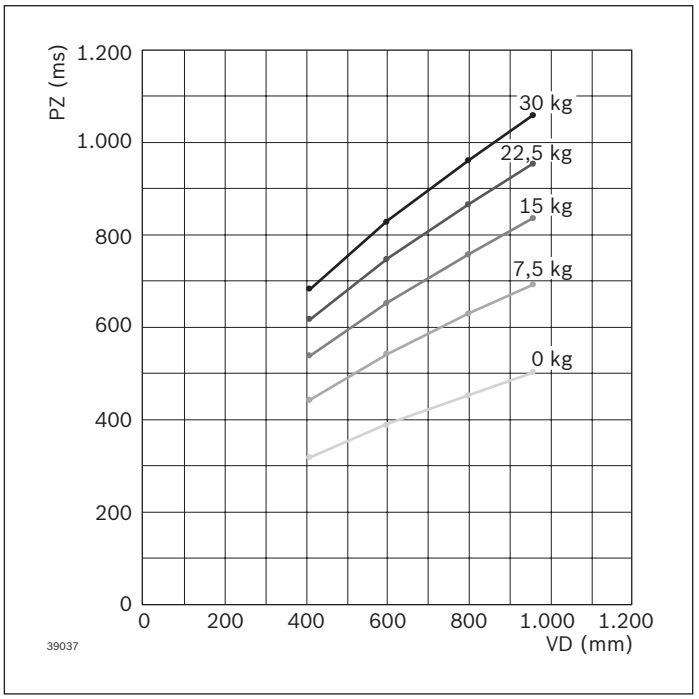
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 320 x 480



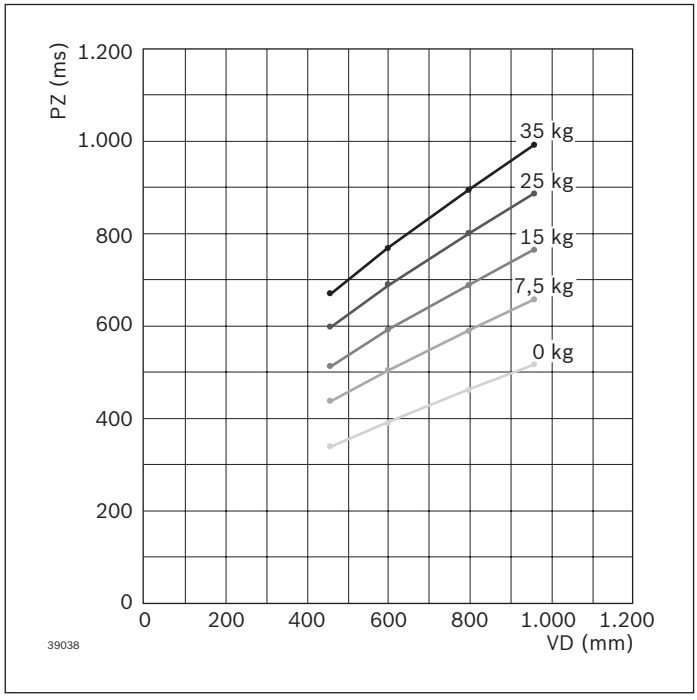
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 400 x 320



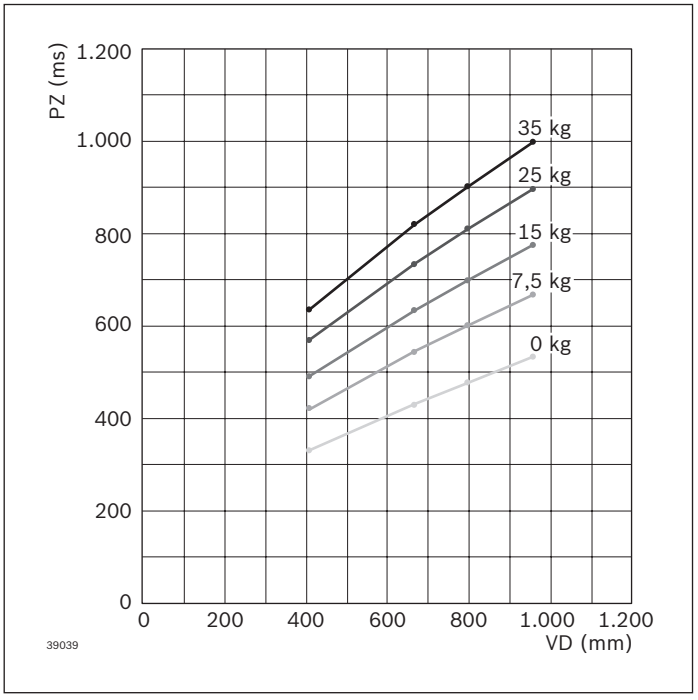
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 400 x 400



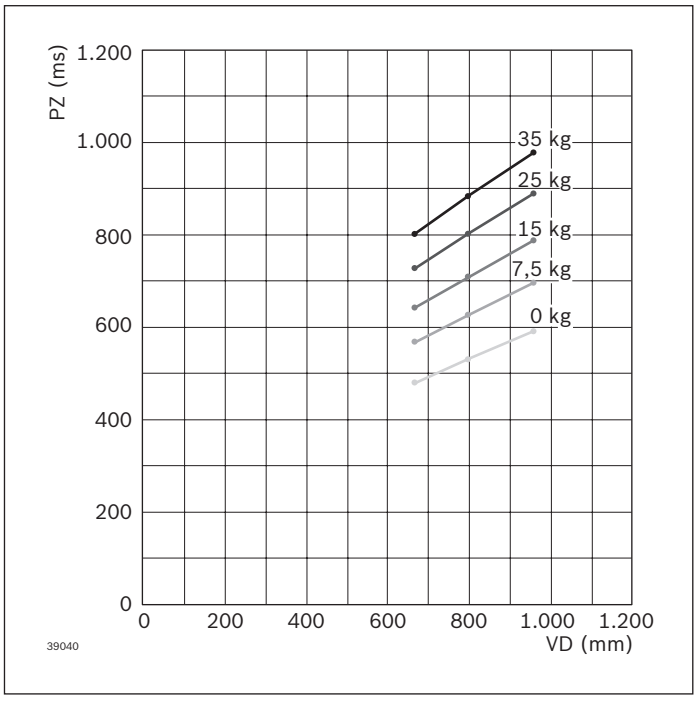
PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 400 x 480



PZ = positioning time in ms
VD = travel distance in mm

Positioning time diagram 400 x 640



PZ = positioning time in ms
VD = travel distance in mm

Combination options of LS 2 and WT 2/LS with the following TS 2*plus* components:

Note on combination with linear section LS 2:

- Before and after the linear section LS 2, a belt section with a small return head and a minimum length of one WT must be installed.
  => BS 2 or BS 2/M

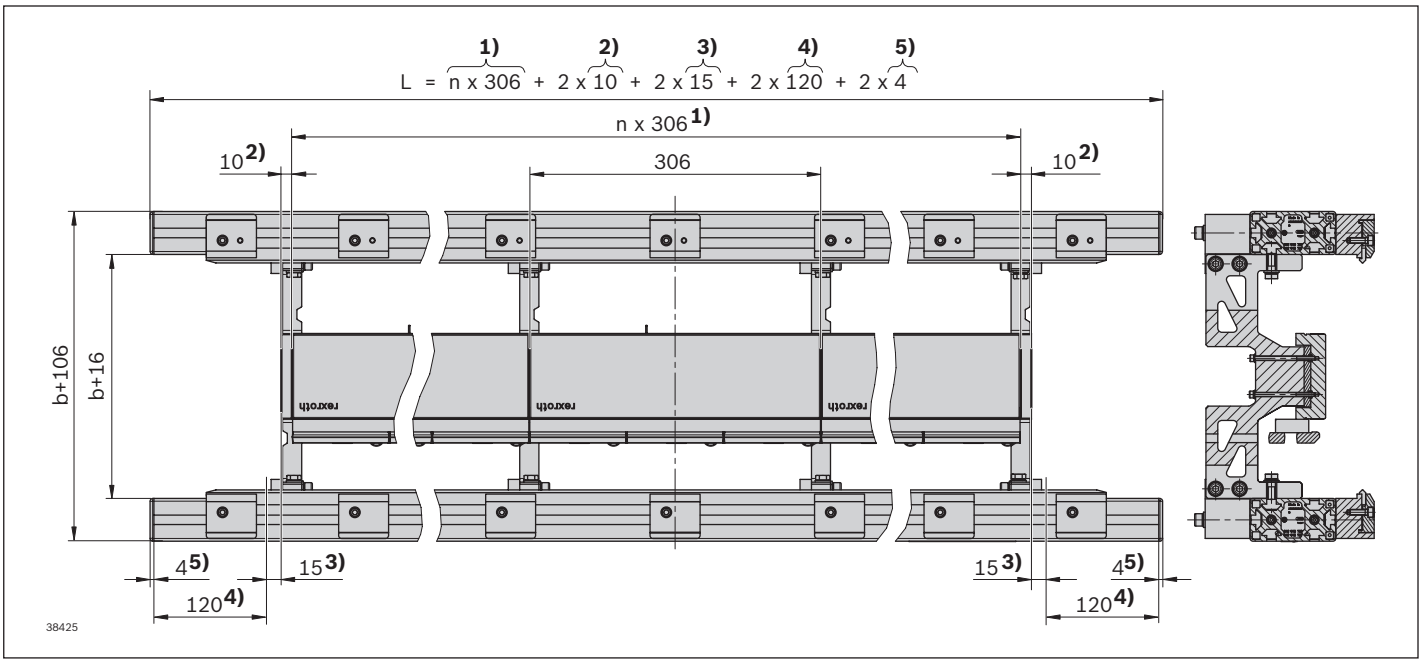
Information on the combination option of the WT 2/LS workpiece pallet:

- Components with toothed belt or belt can be used without any problems
- Components with roller chain cannot be used
- The KU 2/... curve for larger WTs can be used from the FPK construction kit

WT 2/LS workpiece pallet combination matrix with TS 2*plus* components, see page 2-14

Dimensions

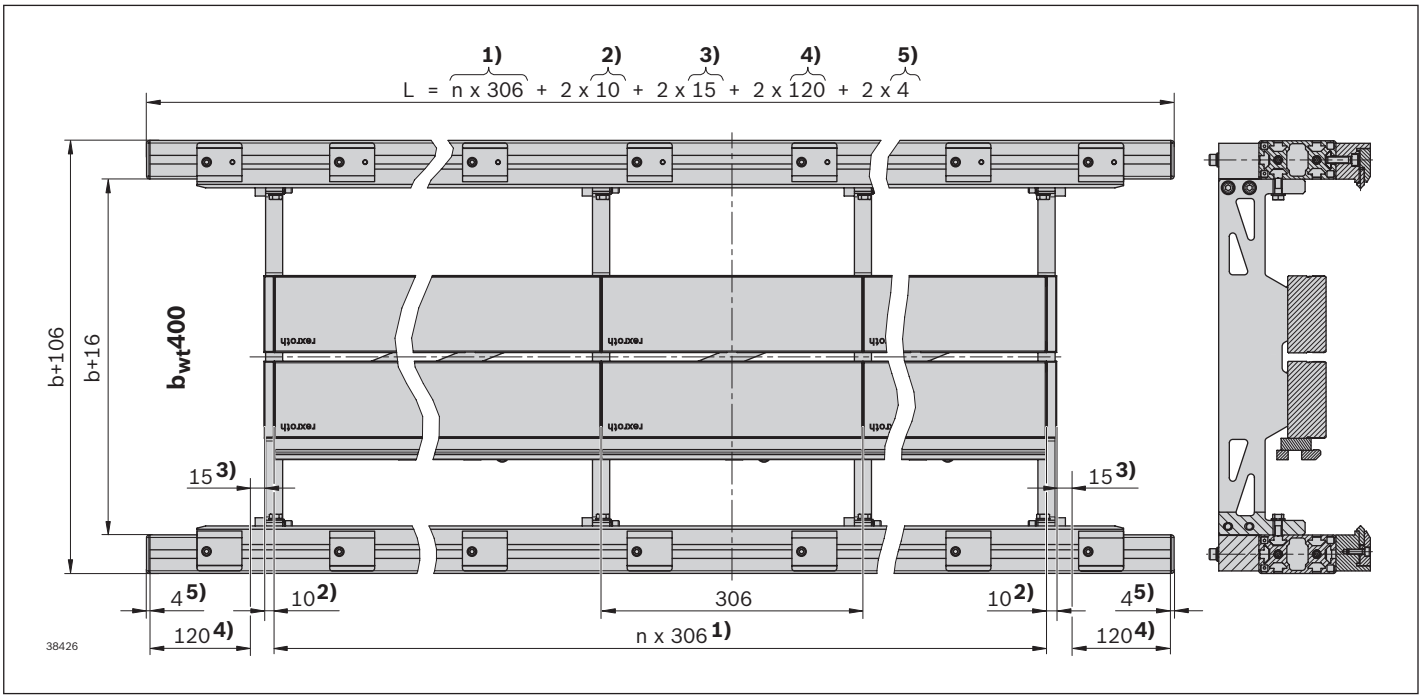
Single track



1) Number of 306 motors
2) 1/2 bridge, bridge = 20 mm
3) Safety clearance
4) Overlap with TS 2 section
5) Cover cap

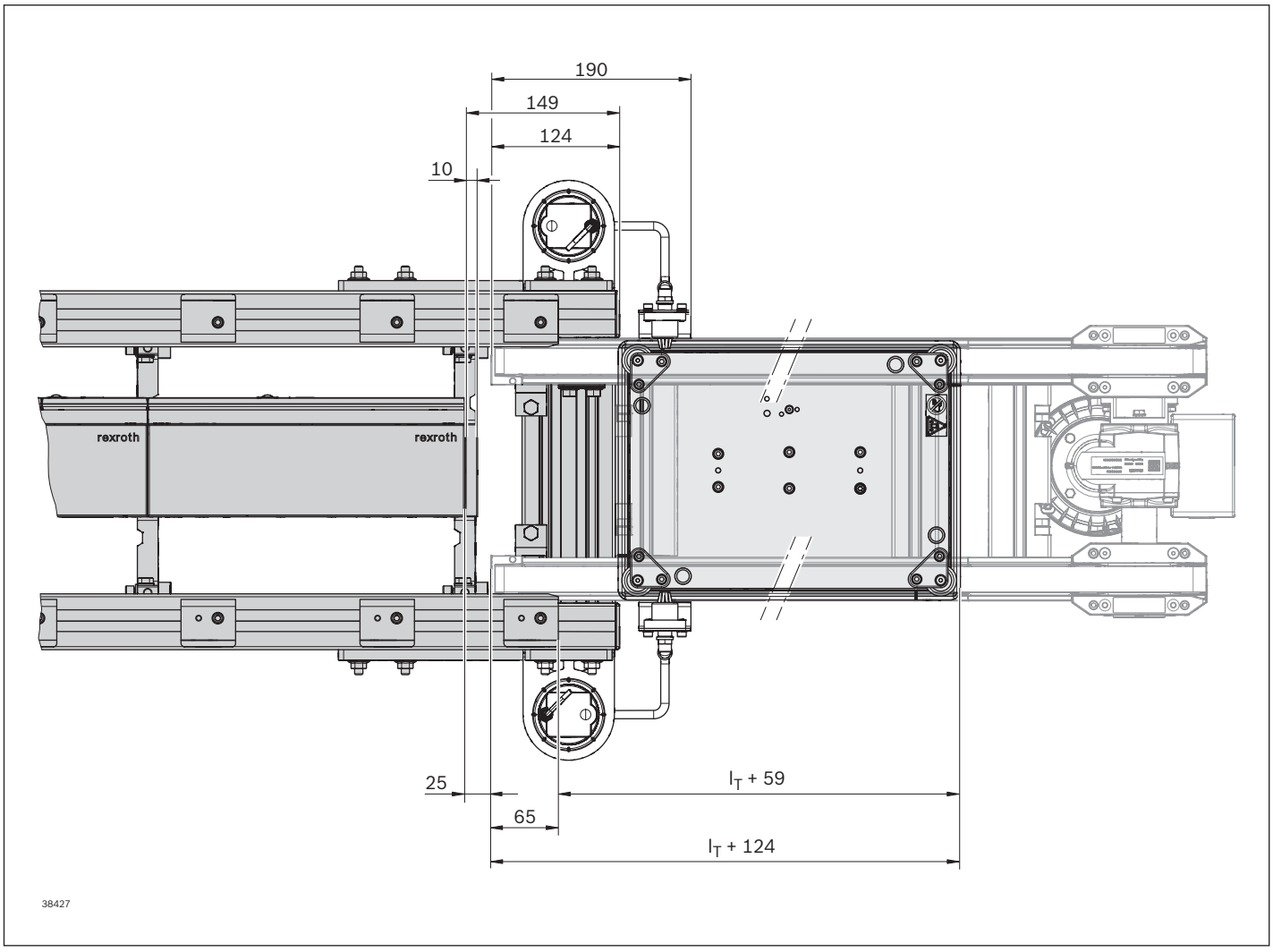
Double track (only for b_{WT} = 400 mm)

Installation situation: Clear dimension between BS 2 belt sections

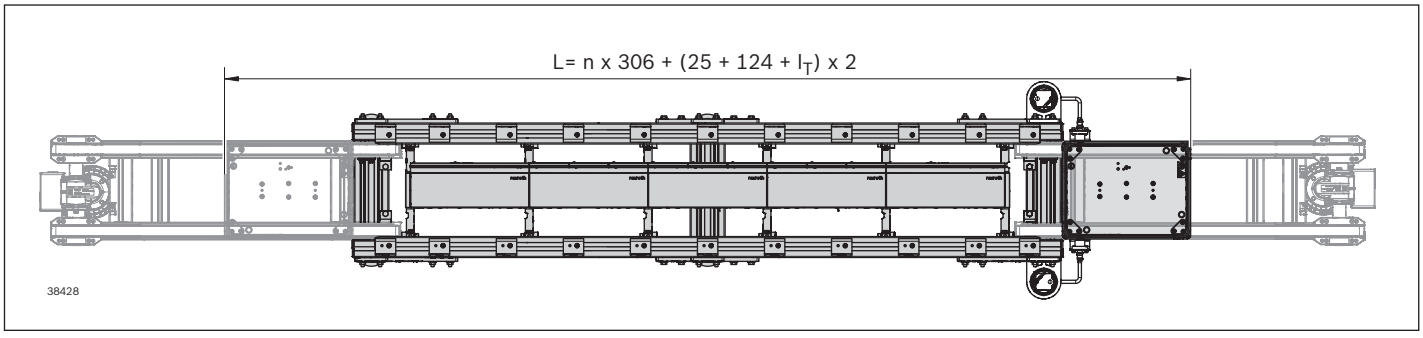


1) Number of 306 motors
2) 1/2 bridge, bridge = 20 mm
3) Safety clearance
4) Overlap with TS 2 section
5) Cover cap

Transition of conveyor section LS 2 and BS 2



Total length of linear section LS 2 with check-in and check-out section on the BS 2 belt section

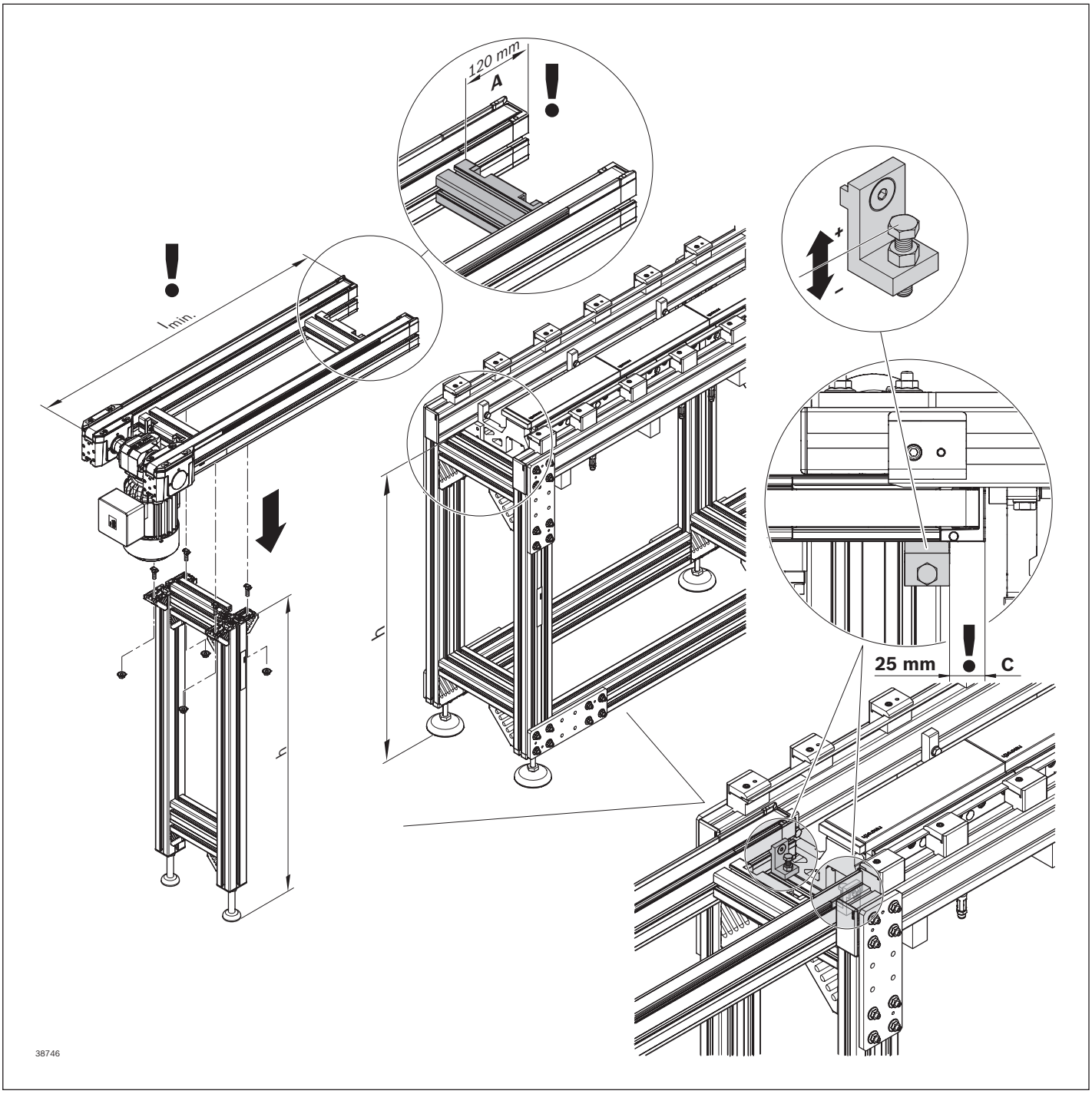


Height adjustment between SZ 2/LS END/BS 2 belt section and LS 2 linear section

The SZ 2/LS END leg set, the BS 2 belt section and the linear section LS 2 must be adjusted to the same height/orientation so that the curve is not offset.

Observe the minimum length of the BS 2 belt section which connects to the linear section LS 2:

Length of workpiece pallet l_{WT} (mm)	Minimum length of belt section l_{min} (mm)
160	310
240	320
320	400
400	480
480	560
640	720



Motor cable FMK, sensor cable FSK



- Motor cable FMK for connecting the motor to the control cabinet
- Sensor cable FSK for connecting the measuring system to the control cabinet

Ordering information

Product description	Length (m)	Material number
Motor cable, FMK M23 FG8 E5 CPL	5	3842562400
Motor cable, FMK M23 FG8 E10 CPL	10	3842562401
Motor cable, FMK M23 FG8 E15 CPL	15	3842562402
Sensor cable, FSK M12 DQ E5	5	3842562404
Sensor cable, FSK M12 DQ E10	10	3842562405
Sensor cable, FSK M12 DQ E15	15	3842562406

Delivery information

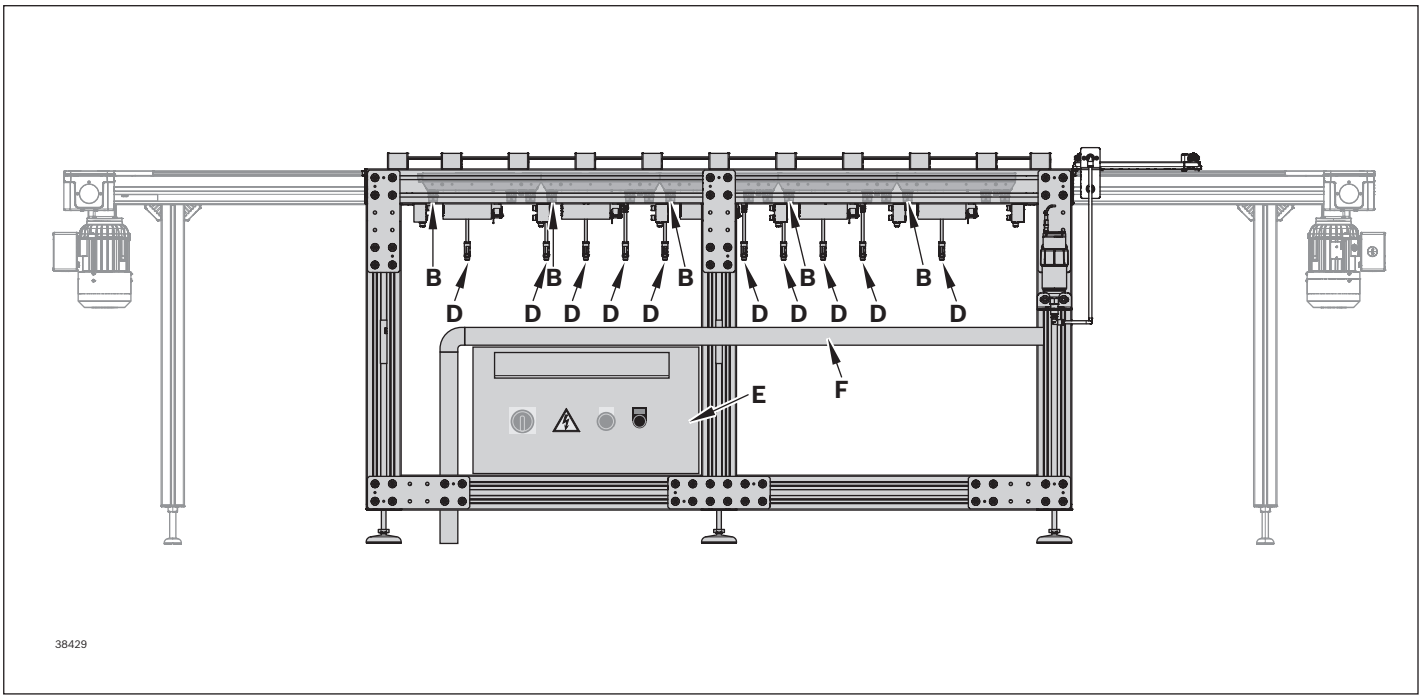
Scope of delivery

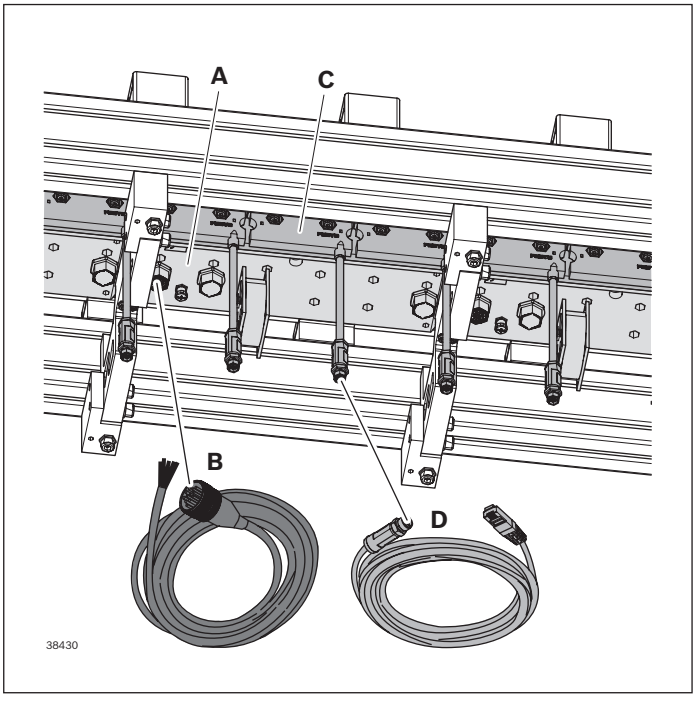
- Cable with connector and socket, cable length depending on the version

Condition on delivery

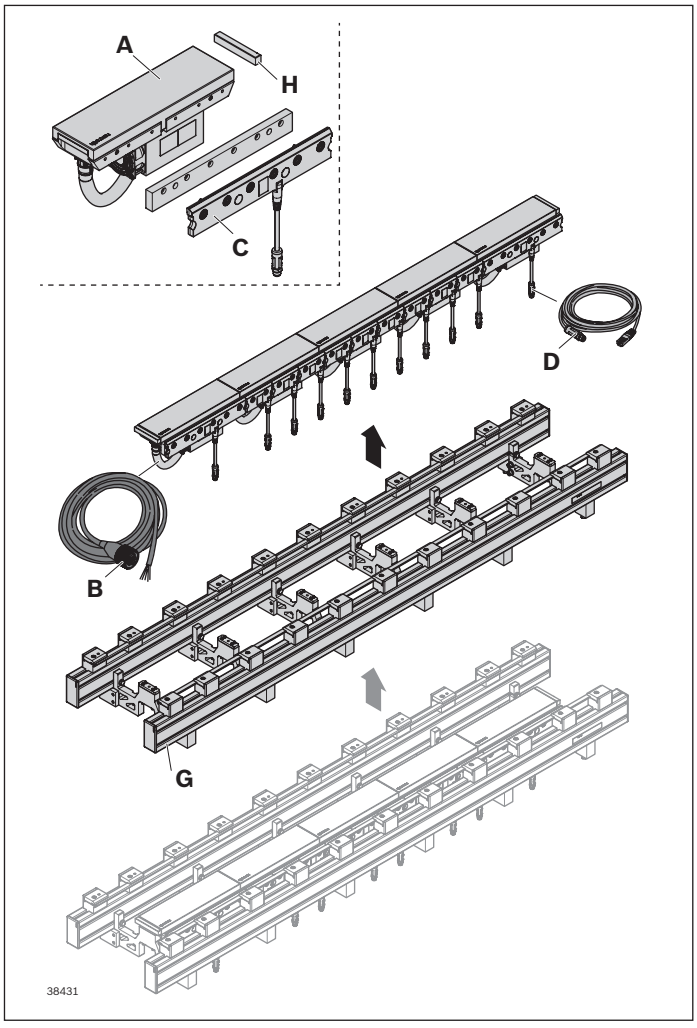
- Assembled
- Configured

Connections for measuring system and motor to the control cabinet





A Linear motor
B Motor cable FMK...;
connection of motor to control cabinet
C Measuring system
D Sensor cable FSK...;
connection of measuring system to control cabinet
E Control cabinet
F Cable duct



A Linear motor
B Motor cable FMK...;
connection of motor to control cabinet
C Measuring system
D Sensor cable FSK...;
connection of measuring system to control cabinet
G guide
H End piece

Lubrication unit for linear section LS 2

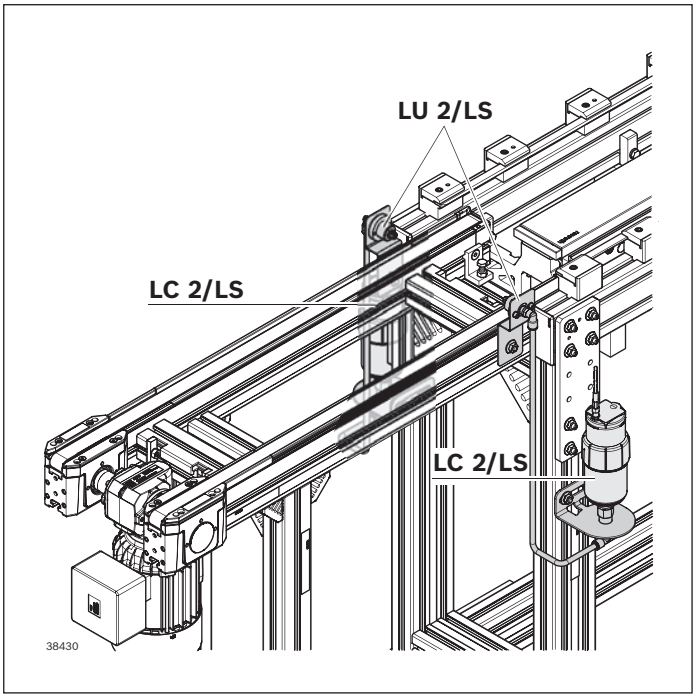


- Lubrication unit can be mounted on standard TS 2*plus* conveyor unit

Notice: 2x lubrication units are required for each section routing (1x left, 1x right)

Ordering information

Product description	Material number
LU 2/LS lubrication unit	3842562436
LC 2/LS grease cartridge	3842562441



Note:
For further information on the assembly, functions and settings of the lubrication unit, please refer to the LU 2/LS 3842562440 automatic lubrication unit assembly instructions.

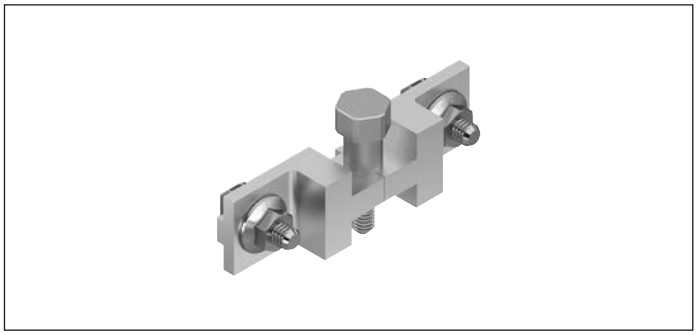
Delivery information
Scope of delivery

- Incl. adapter set

Condition on delivery

- Not assembled, fastening material enclosed

Adjustment set LS 2



The LS 2 adjustment set is a tool for adjusting the motors in a linear section. 2 adjustment sets are required respectively.

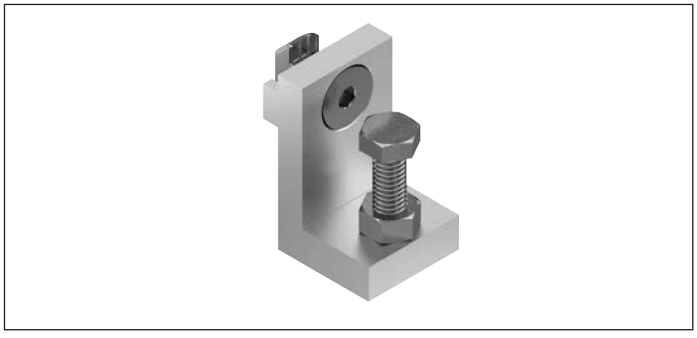
- For motor alignment and height adjustment

Delivery information
Scope of delivery
- Adjustment set incl. holding body, centering piece, tightening spindle and fastening material

Ordering information

Product description	Material number
Adjustment set LS 2	3842562442

Adjustment set BS 2 – LS 2



The adjustment set BS 2 – LS 2 is required if the linear section is not installed on SZ 2/LS END standard supports.

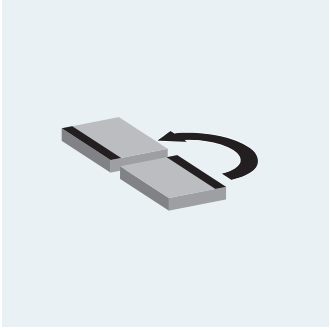
- Used for fine adjustment of the adjacent BS 2 belt sections to LS 2

Notice:
The adjustment set BS 2 – LS 2 is included in the scope of delivery of the SZ 2/END support

Delivery information
Scope of delivery
- Set containing 2x adjustment set

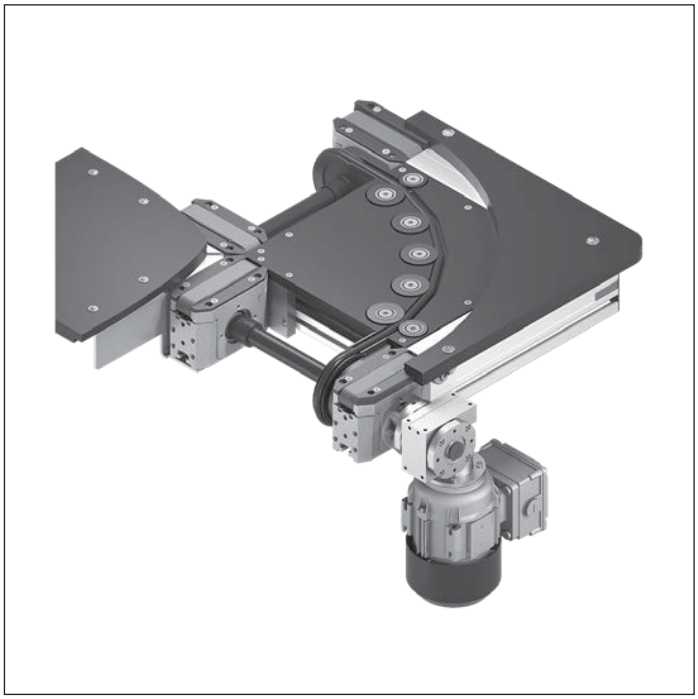
Ordering information

Product description	Material number
Adjustment set BS 2 – LS 2	3842562433



Curves

Curve KE 2/90...



- 90° curve conveying of the workpiece pallet
- Max. total workpiece pallet weight = 20 kg
- Conveyor medium: Round belt (suitable for use in an EPA)
- Intended for grease-free and oil-free environments
- Can be combined with WT 2, WT 2/F and WT 2/LS (only with LS version)

Notice: Accumulation operation not permitted.

The KE 2/... curves with round belt conveyor medium have a built-in drive at the curve end. They can be used to combine the longitudinal section with belts or toothed belts.

Accessories

Recommended accessories

- Connection kits, see p. 4-40 in the TS 2*plus* catalog 7.0
- Leg sets SZ 2/..., see p. 6-2

Delivery information

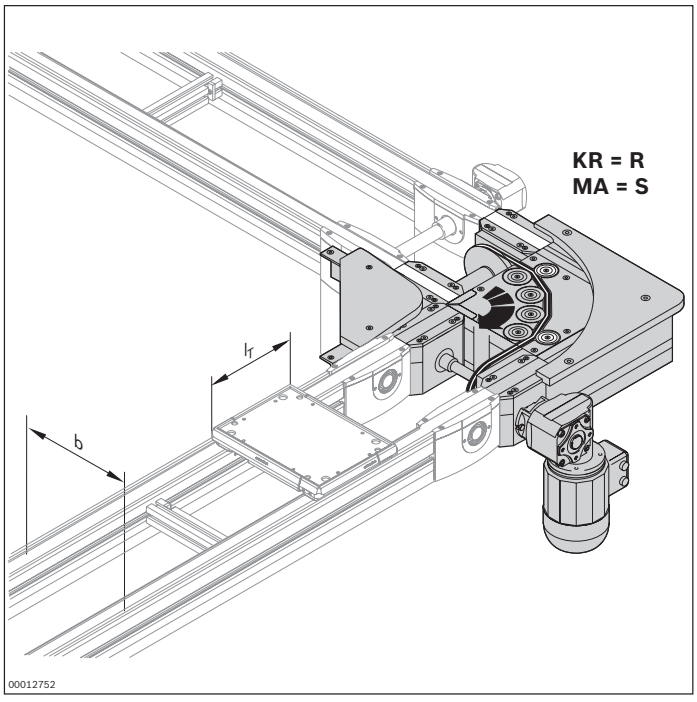
Scope of delivery

- Curve; complete with drive motor

Condition on delivery

- Some assembly required
- Inner guide and motor included

Ordering information



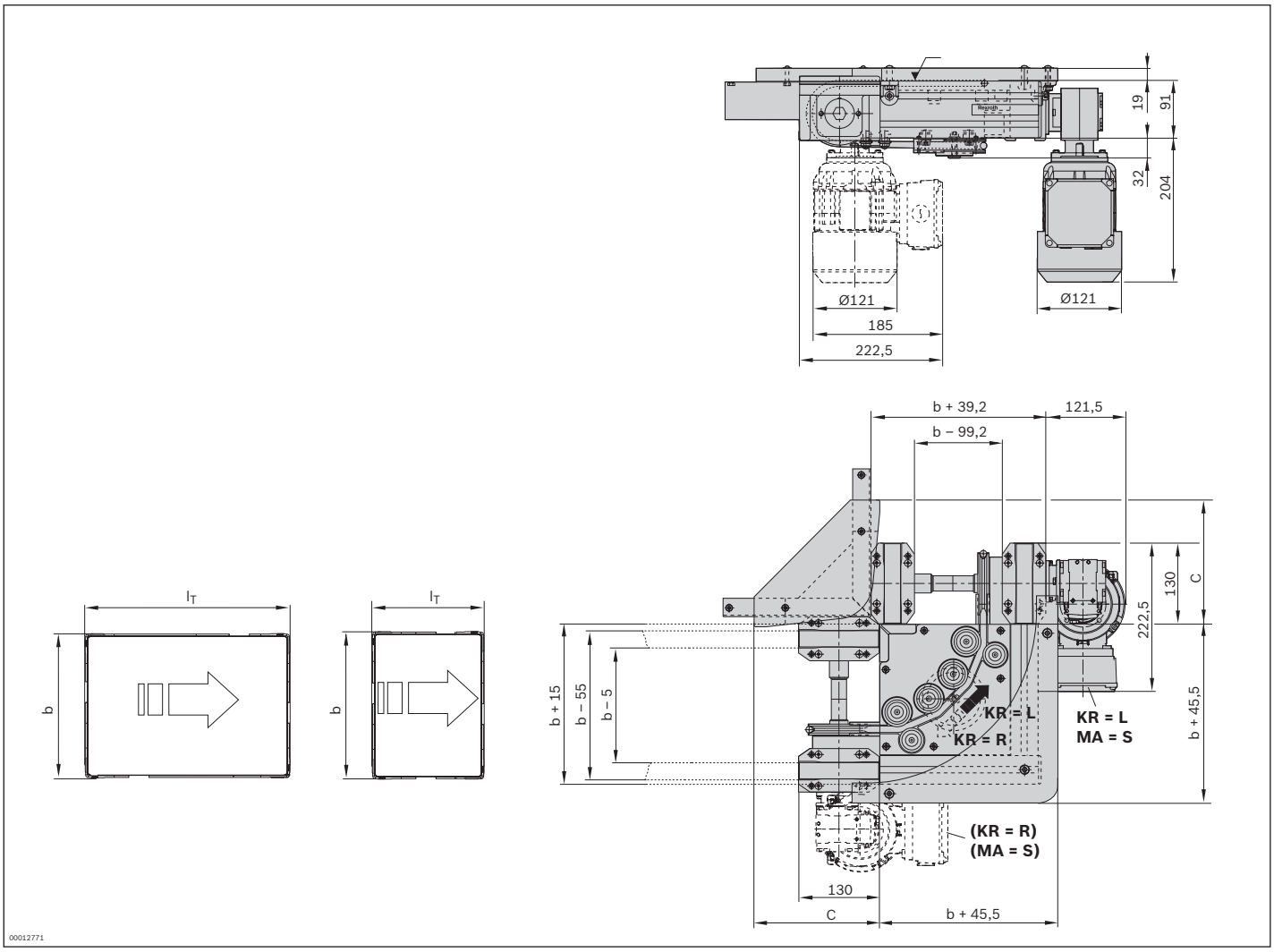
Material number		3842999727 KE 2/90	3842999036 KE 2/90 LS
b (mm)	Track width in direction of transport	160; 240; 320; 400	
l_T (mm)	Length in direction of transport	160; 240; 320; 400	
b x l_T (mm x mm)	Combination options	160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400	
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18	
U (V)	Voltage	see motor data, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	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 when b ≥ 320 mm

Technical data

Material number			3842999727 KE 2/90	3842999036 KE 2/90 LS
Load				
Max. total workpiece pallet weight	m_G	kg	20	20
Properties				
ESD			yes	yes

Dimensions



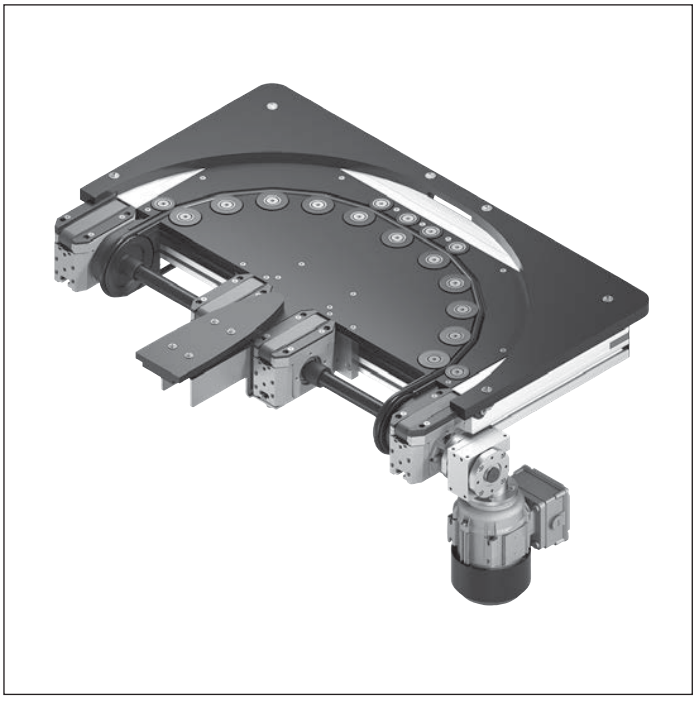
b Track width in direction of transport

l_T Length in direction of transport

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)
160	160	170
160	240	225
240	160	200
240	240	200
240	320	200
320	240	290
320	320	290
320	400	290
400	320	355
400	400	355

Curve KE 2/180...





- 180° curve conveying of the workpiece pallet
- Curve module with built-in drive
- Max. total workpiece pallet weight = 20 kg
- Conveyor medium: Round belt (suitable for use in an EPA)
- Intended for grease-free and oil-free environments
- Can be combined with WT 2, WT 2/F and WT 2/LS (only with LS version)

Notice: Accumulation operation not permitted.

The KE 2/... curves with round belt conveyor medium have a built-in drive at the curve end. They can be used to combine the longitudinal section with belts or toothed belts.

Accessories

Recommended accessories

- Connection kits, see p. 4-40 in the TS 2*plus* catalog 7.0
- Leg sets SZ 2/..., see p. 6-2

Delivery information

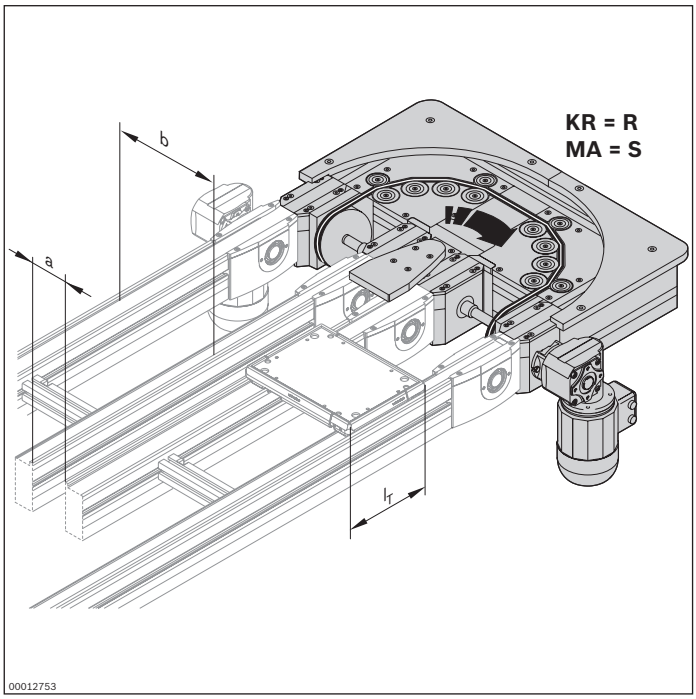
Scope of delivery

- Curve; complete with drive motor

Condition on delivery

- Some assembly required
- Inner guide and motor included

Ordering information



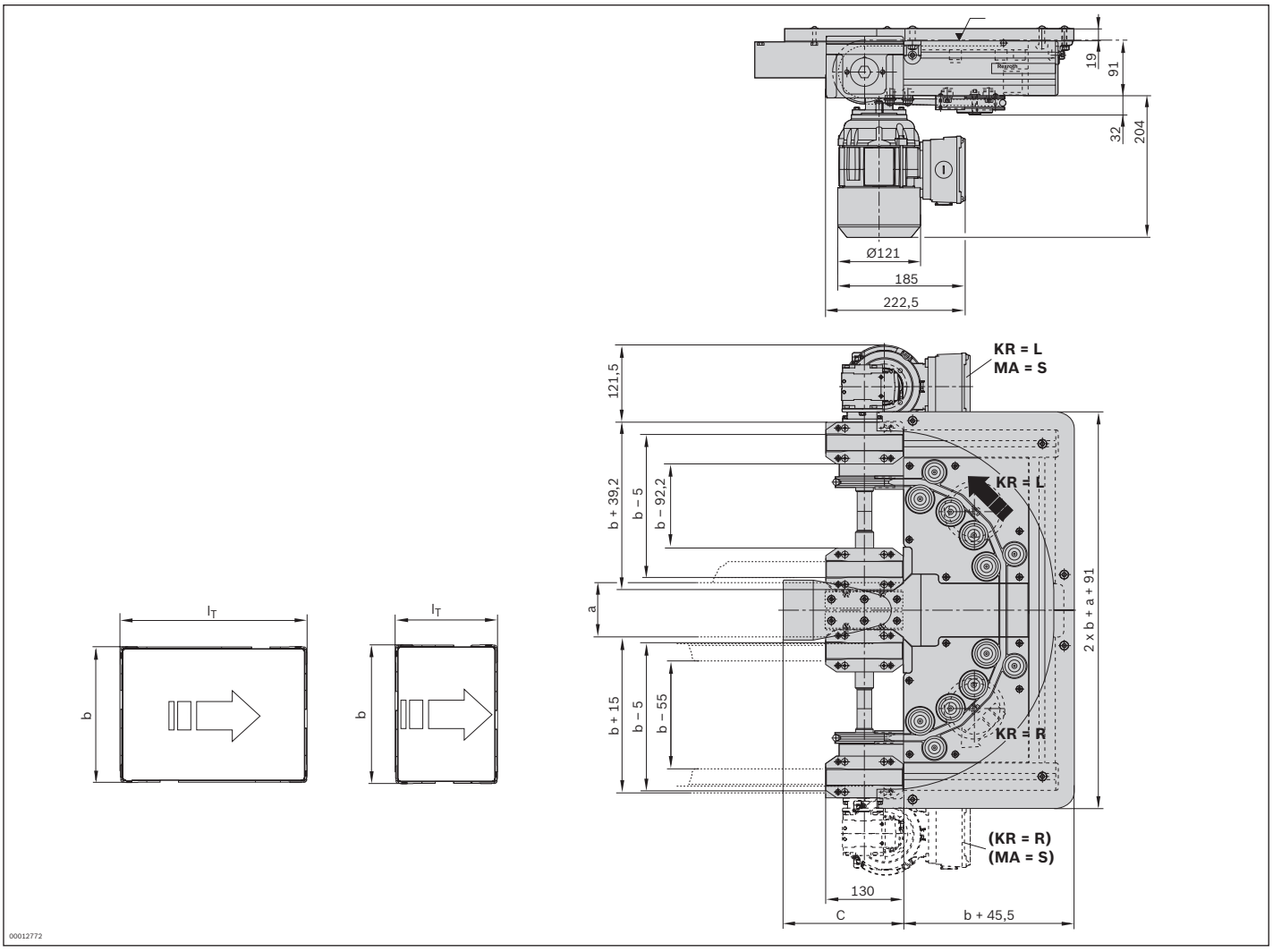
Material number		3842999728 KE 2/180	3842999037 KE 2/180 LS
b (mm)	Track width in direction of transport	160; 240; 320; 400	
l_T (mm)	Length in direction of transport	160; 240; 320; 400	
a (mm)	Distance between conveyors[1)]	90; 135	
b x l_T (mm x mm)	Combination options	b x l_T 160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400	
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18	
U (V)	Voltage	see motor data, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	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_T is possible in all combinations
[2)] MA = M only when b ≥ 320 mm

Technical data

Material number			3842999728 KE 2/180	3842999037 KE 2/180 LS
Load				
Max. total workpiece pallet weight	m_G	kg	20	20
Properties				
ESD			yes	yes

Dimensions



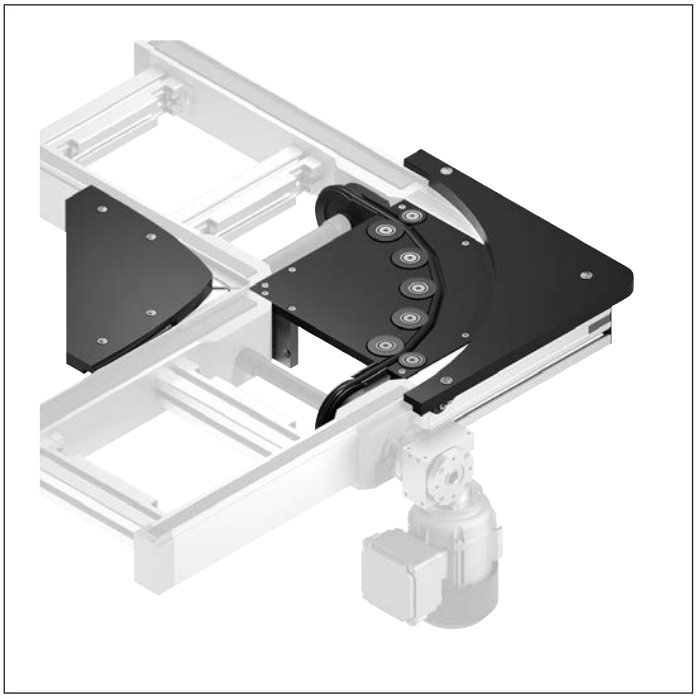
b Track width in direction of transport

l_T Length in direction of transport

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

Curve KE 2/O-90





- 90° curve conveying of the workpiece pallet
- Suitable for combination with BS 2 or BS 2/K
- Curve without built-in drive
- Max. total workpiece pallet weight = 20 kg
- Conveyor medium: Round belt (suitable for use in an EPA)
- Can be combined with WT 2, WT 2/F and WT 2/LS (only with LS version)

Notice:

- Accumulation operation not permitted
- Drive by BS 2 or BS 2/K belt section (pulling operation)

Accessories

Required accessories

- 2x BS 2/K belt section, see p. 4-14

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2

Delivery information

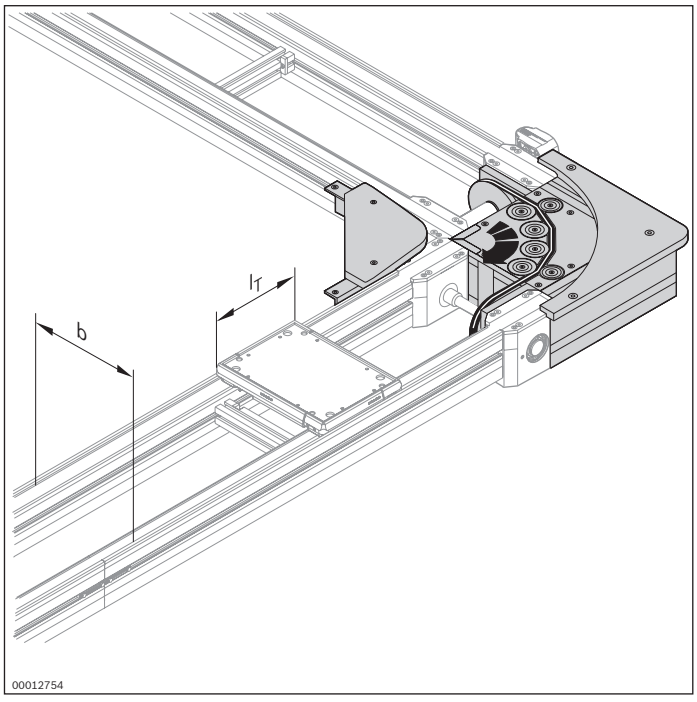
Scope of delivery

- Curve, complete with fastening parts

Condition on delivery

- Some assembly required
- Inner guide included

Ordering information

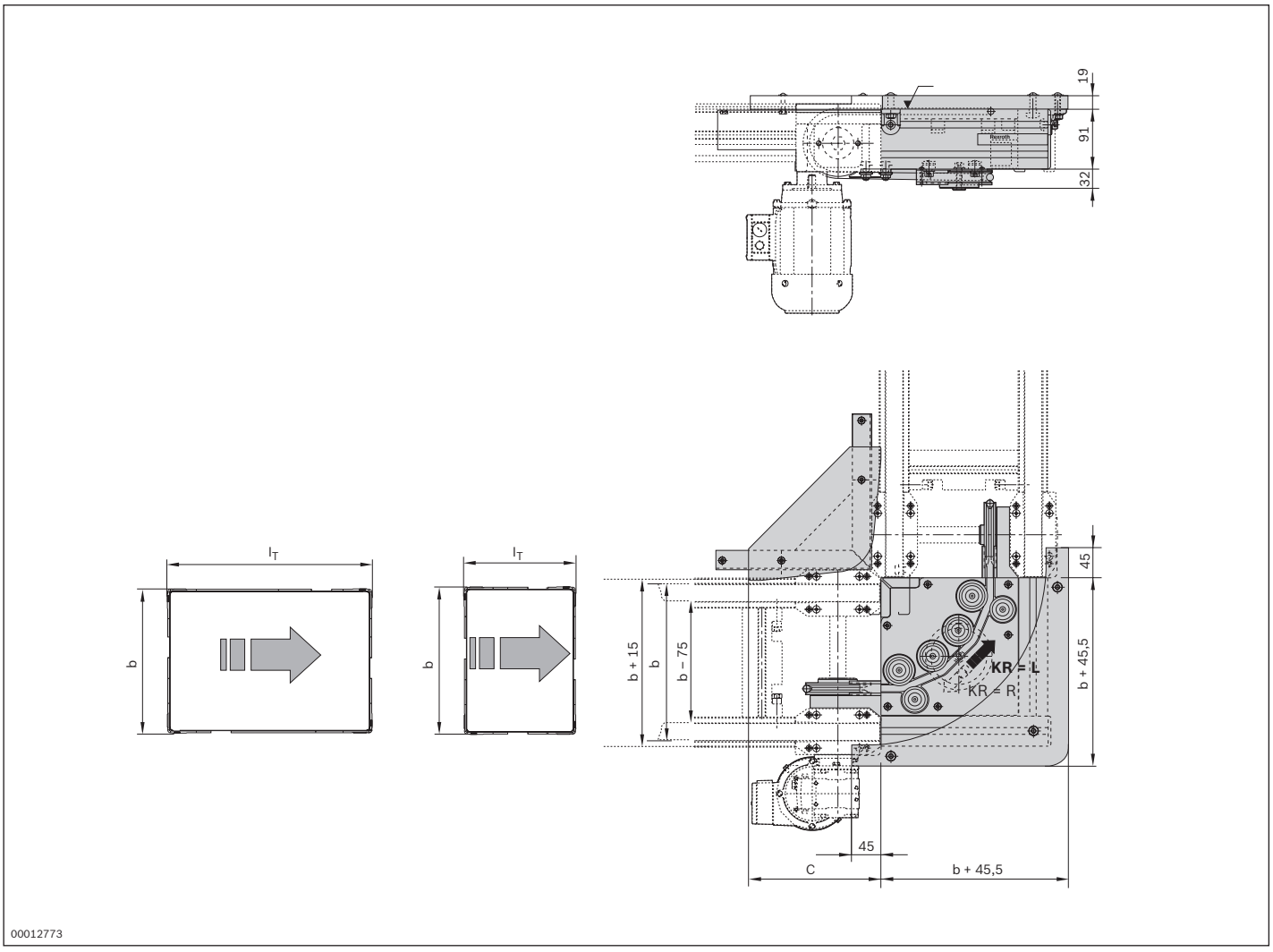


Material number		3842999725 KE 2/O-90	3842999034 KE 2/O-90 LS
b (mm)	Track width in direction of transport	160; 240; 320; 400	
l_T (mm)	Length in direction of transport	160; 240; 320; 400	
b x l_T (mm x mm)	Combination options	160 x 160; 240 240 x 160; 240; 320 320 x 240; 320; 400 400 x 320; 400	

Technical data

Material number			3842999725 KE 2/O-90	3842999034 KE 2/O-90 LS
Load				
Max. total workpiece pallet weight	m_G	kg	20	20
Properties				
ESD			yes	yes

Dimensions



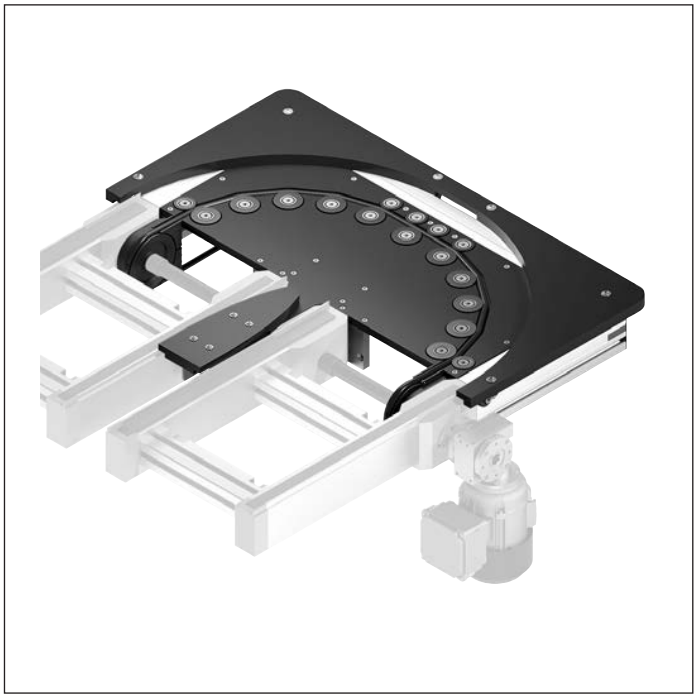
b Track width in direction of transport

l_T Length in direction of transport

Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Dimension C (mm)
160	160	170
160	240	225
240	160	200
240	240	200
240	320	200
320	240	290
320	320	290
320	400	290
400	320	355
400	400	355

Curve KE 2/O-180...





- 180° curve conveying of the workpiece pallet
- Suitable for combination with BS 2 or BS 2/K
- Curve module without built-in drive
- Max. total workpiece pallet weight = 20 kg
- Conveyor medium: Round belt (suitable for use in an EPA)
- Can be combined with WT 2, WT 2/F and WT 2/LS (only with LS version)

Notice:

- Accumulation operation not permitted
- Drive by BS 2 or BS 2/K belt section (pulling operation)

4

Accessories

Required accessories

- 2x BS 2/K belt section, see p. 4-14

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2

Delivery information

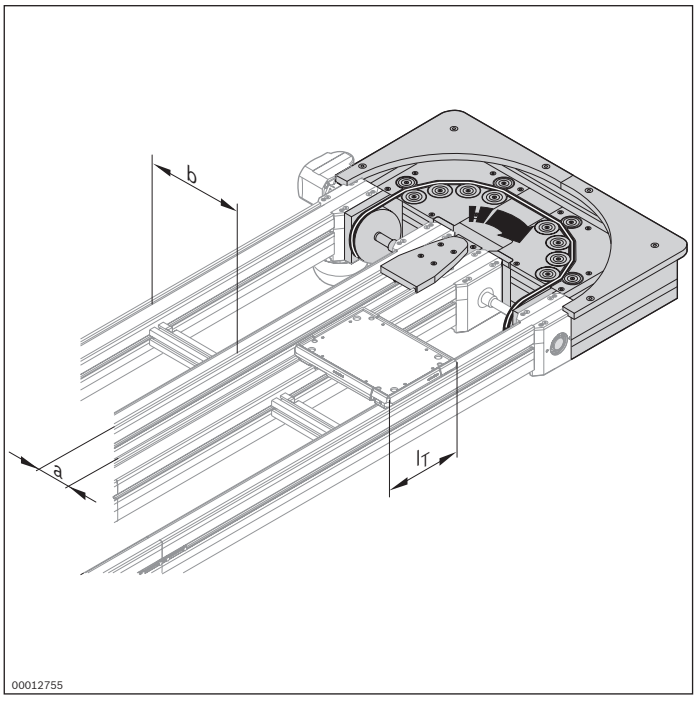
Scope of delivery

- Curve, complete with fastening parts

Condition on delivery

- Some assembly required
- Inner guide included

Ordering information



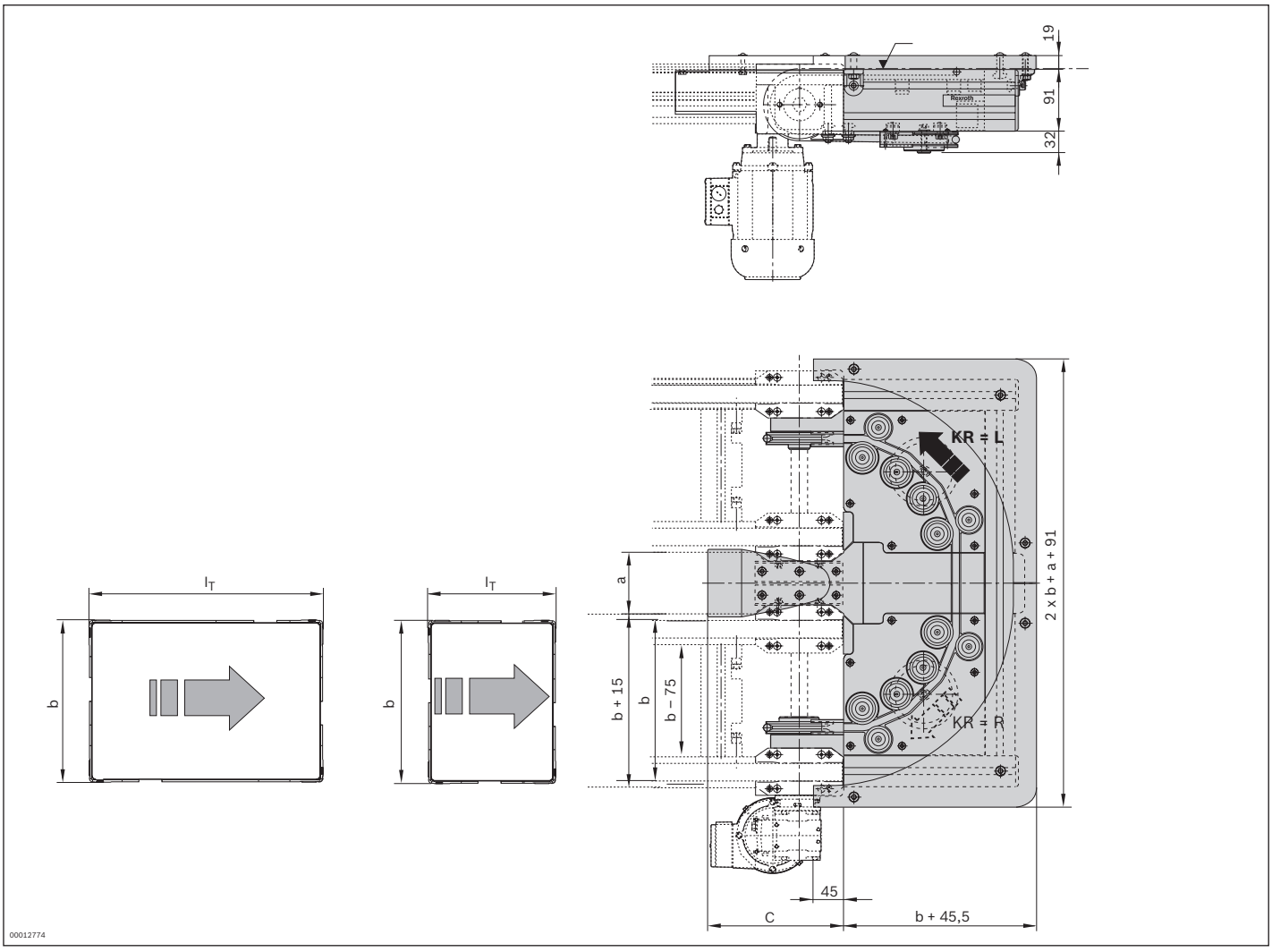
Material number		3842999726 KE 2/O-180	3842999035 KE 2/O-180 LS
b (mm)	Track width in direction of transport	160; 240; 320; 400	
l_T (mm)	Length in direction of transport	160; 240; 320; 400	
a (mm)	Distance between conveyors[1)]	90; 135	
b x l_T (mm x mm)	Combination options	b x l_T 160 x 160; 240 240 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 KE 2/O-180	3842999035 KE 2/O-180 LS
Load				
Max. total workpiece pallet weight	m_G	kg	20	20
Properties				
ESD			yes	yes

Dimensions



b Track width in direction of transport

l_T Length in direction of transport

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 (suitable for use in an EPA)
- Max. permissible section load up to 60 kg in accumulation operation (incl. the driven curve section)
- Can be combined with WT 2, WT 2/F and WT 2/LS

The BS 2/K belt section is a conveyor section that is ready for operation with the toothed belt conveyor medium and a built-in drive.It is used to drive the KE 2/O curves and to longitudinally convey workpiece pallets in the infeed and outfeed sections.

Delivery information

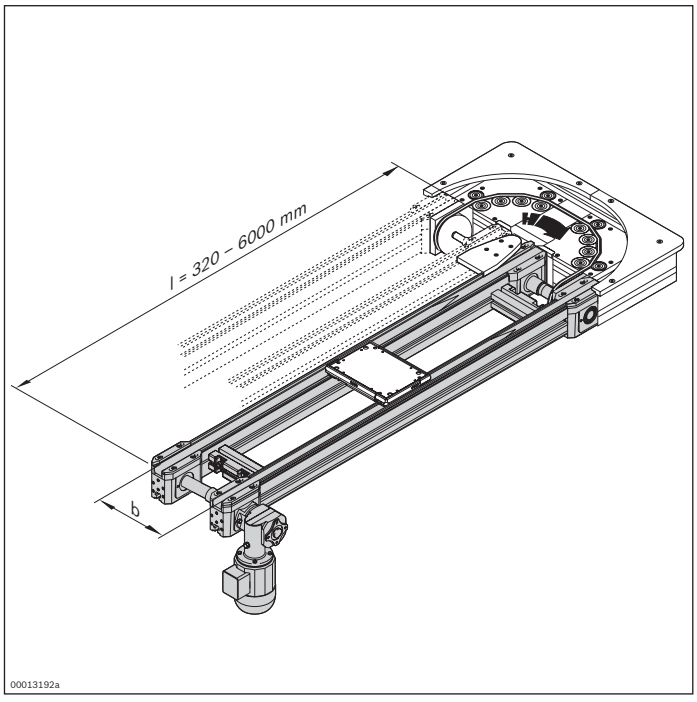
Scope of delivery

- Belt section, complete with drive motor

Condition on delivery

- Some assembly required
- Motor included

Ordering information



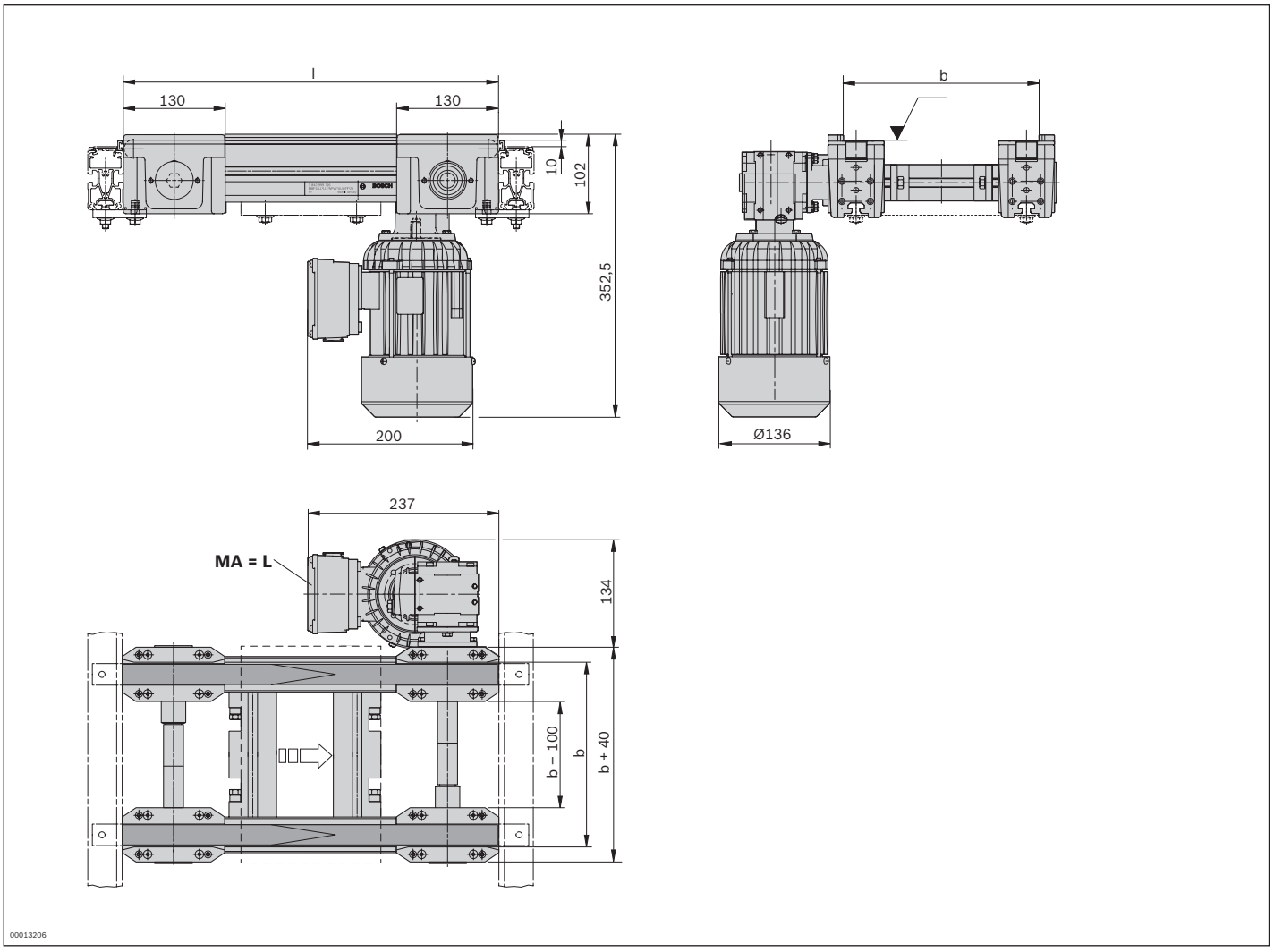
Material number		3842999715
b (mm)	Track width in direction of transport MA = R, L	160; 240; 320; 400; 480; 640; 800; 1040
		160 ... 1040
	Track width in direction of transport MA = M	320; 400; 480; 640; 800; 1040
		320 ... 1040
l (mm)	Length	320 ... 6000
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M[1)]

[1)] MA = M only when b ≥ 320 mm

Technical data

Material number		3842999715
Load		
Max. section load in accumulation operation	kg	60
Properties		
ESD		yes

Dimensions



b Track width in direction of transport

l_T Length in direction of transport

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
640	320 ... 6000
800	320 ... 6000
1040	320 ... 6000

Curve KU 2/90





- 90° curve conveying of the workpiece pallet
- Curve with built-in 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, WT 2/F-H and WT 2/LS

Notice:

- The LU 2 automatic lubrication unit is highly recommended for flat top chains
- Use in EPA only possible with additional measures (conductive brushes)

The KU 2/... curves with flat top chain conveyor medium have a built-in drive. They are suitable for use with high section loads in accumulation operation.

Accessories

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2
- Accumulation pressure regulation, e.g. with WI/M rocker, see p. 8-25
- Connection kits, see p. 4-40 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-152 in the TS 2*plus* catalog 7.0

Delivery information

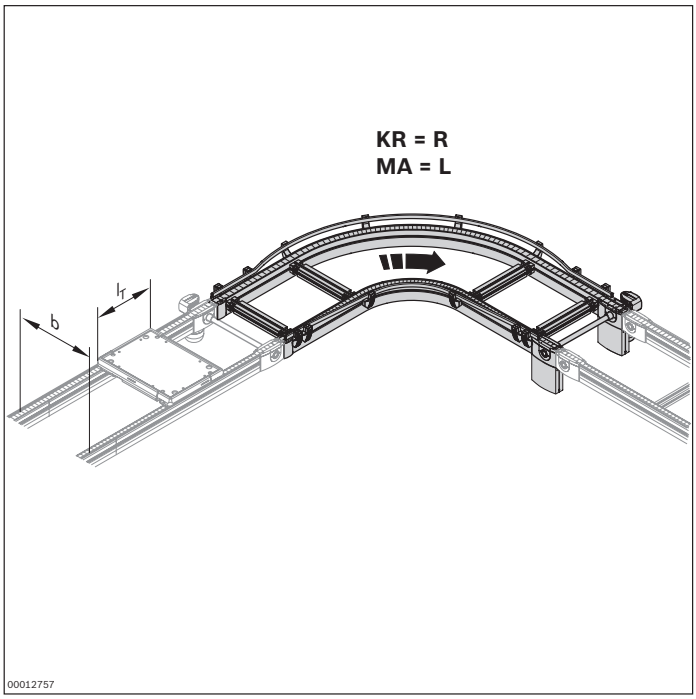
Scope of delivery

- Curve, complete

Condition on delivery

- Assembled

Ordering information



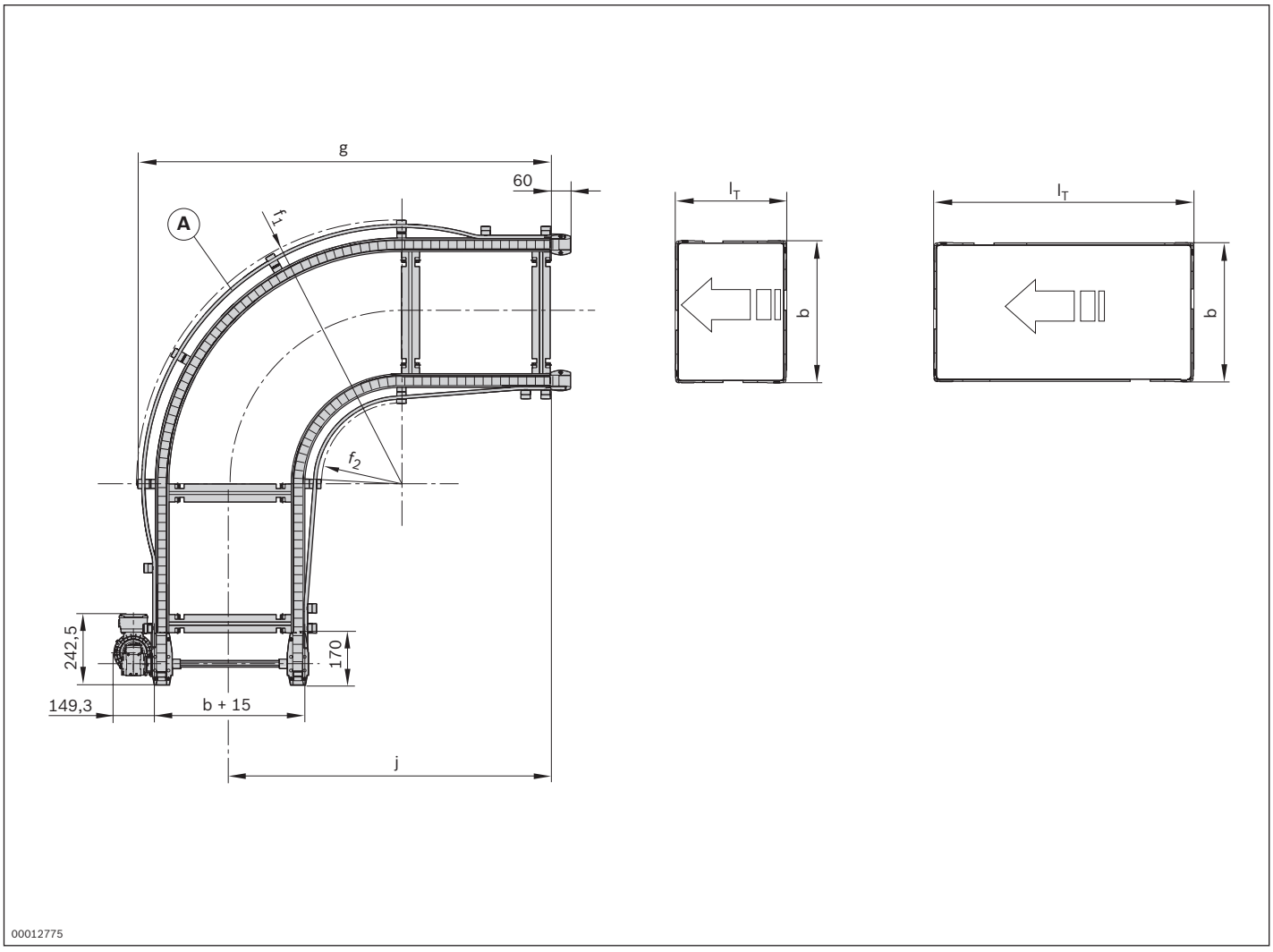
Material number		3842998098
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l_T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
b x l_T (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 400; 480 400 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, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	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 when b ≥ 240 mm

Technical data

Material number			3842998098
Load			
Max. section load in accumulation operation		kg	90
Properties			
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 direction of transport

Curve KU 2/90

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] f_1, f_2 = reference value

Curve KU 2/180





- 180° curve conveying of the workpiece pallet
- Curve with built-in 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, WT 2/F-H and WT 2/LS

Notice:

- The LU 2 automatic lubrication unit is highly recommended for flat top chains
- Use in EPA only possible with additional measures (conductive brushes)

The KU 2/... curves with flat top chain conveyor medium have a built-in drive. They are suitable for use with high section loads in accumulation operation.

Accessories

Recommended accessories

- Leg sets SZ 2/..., see p. 6-2
- Accumulation pressure regulation, e.g. with WI/M rocker, see p. 8-25
- Connection kits, see p. 4-40 in the TS 2*plus* catalog 7.0
- LU 2 automatic lubrication unit, see p. 3-152 in the TS 2*plus* catalog 7.0

Delivery information

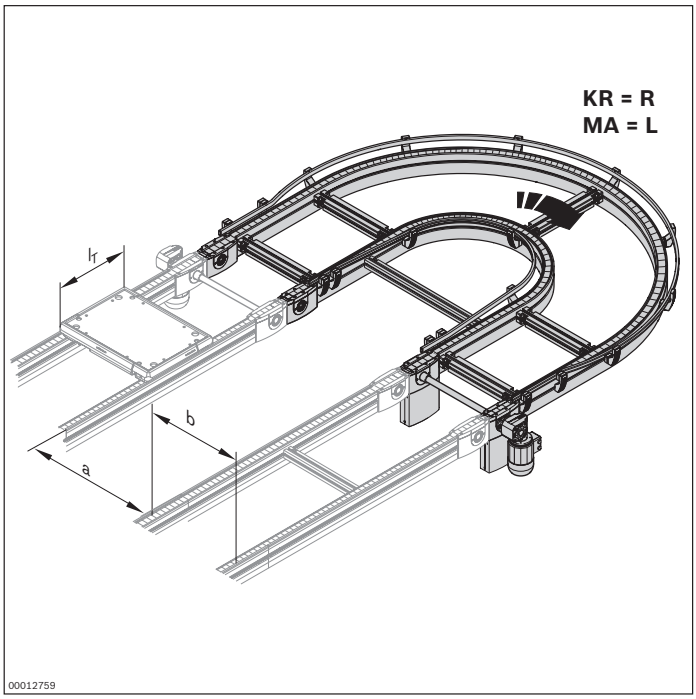
Scope of delivery

- Curve, complete

Condition on delivery

- Assembled

Ordering information



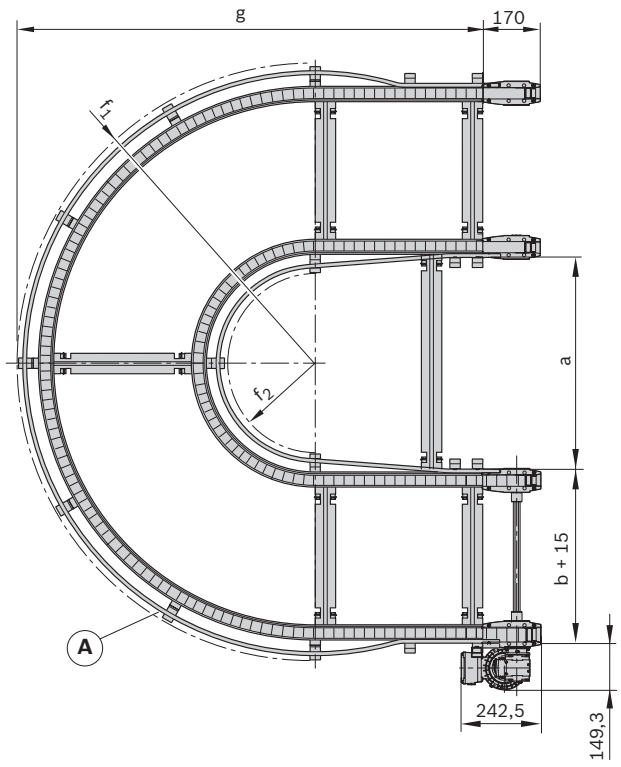
Material number		3842998099
b (mm)	Track width in direction of transport	160; 240; 320; 400; 480; 640; 800
l_T (mm)	Length in direction of transport	160; 240; 320; 400; 480; 640; 800; 1040
b x l_T (mm x mm)	Combination options a = 640 mm	b x l_T 160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 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
v_N (m/min)	Nominal speed	0; 6; 9; 12; 15; 18
U (V)	Voltage	see motor data, TS 2*plus* 7.0
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	*Motor mounting* R = right L = left M = center[1)]	R; L; M
KR	Curve direction R = right L = left	R; L

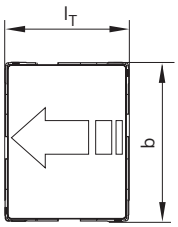
[1)] MA = M only when b ≥ 240 mm

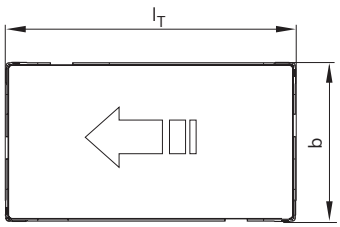
Technical data

Material number			3842998099
Load			
Max. section load in accumulation operation		kg	70
Properties			
Max. operating temperature	T	°C	+40 °C

Dimensions







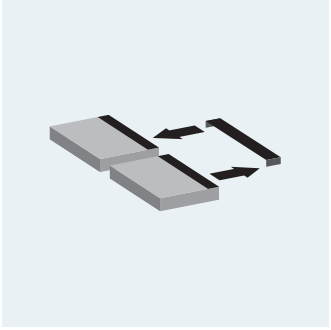
00012776

Ⓐ Workpiece pallet outer guide from l_T = 640 mm
b Track width in direction of transport
l_T Length in direction of transport

Curve KU 2/180

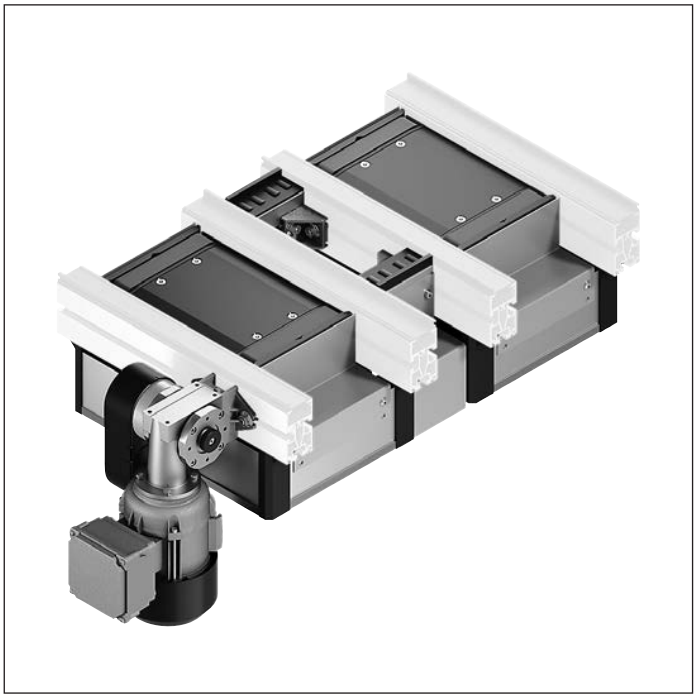
Track width in direction of transport b (mm)	Length in direction of transport l_T (mm)	Curve radius f_1[1)] (mm)	Curve radius f_2[1)] (mm)	Dimension g (mm)	Distance between conveyors a (mm)
160	160	493	286	755	640
160	240	493	287	835	640
160	320	493	266	915	640
240	160	573	287	835	640
240	240	573	280	915	640
240	320	573	270	995	640
240	400	573	256	1075	640
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)] f_1, f_2 = reference value



Transverse conveyor

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 ... 135 mm
- Size 2 with two lifting cylinders from ≥ 480 x 480 mm
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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
- Suspended motor mounting only. Other motor mounting variants available on request
- Can be combined with WT 2/E, WT 2, WT 2/F and WT 2/LS (only with LS version) workpiece pallets

Notice:

- Reversible operation possible
- Accumulation operation not permitted

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding workpiece pallets at v_N > 9 m/min
- WI 2/... rockers (see p. 8-28ff), WI/M (see p. 8-25) and DA 2/60 dampers (see p. 8-62 in the TS 2*plus* catalog 7.0), DA 2/100-C for BG 2 (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding the workpiece pallets

Delivery information

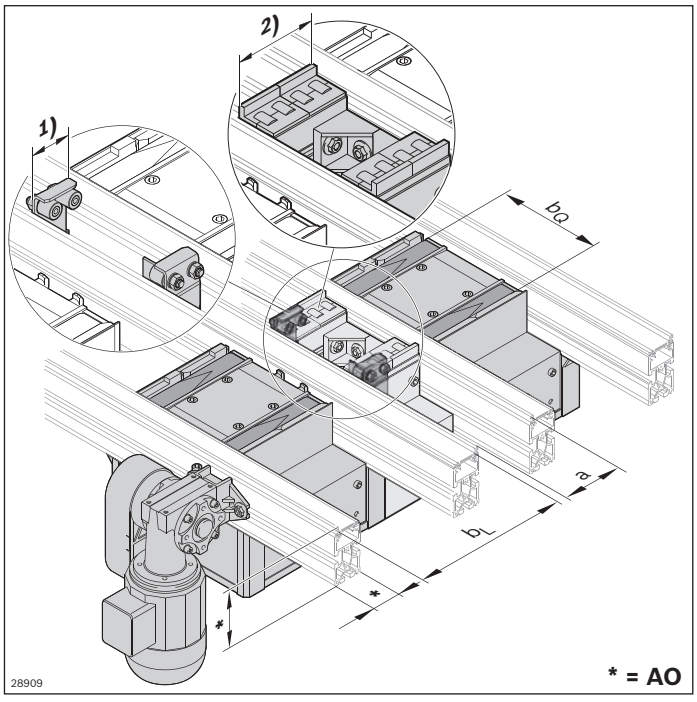
Scope of delivery

- Incl. fastening material
- Pneumatic equipment for two or three positions
- Kit for electrical position inquiry (2x sensors)
- Protective case

Condition on delivery

- HQ 2/O and HQ 2/T lift transverse unit assembled
- Connection kit
- Motor mounting kit, drive motor enclosed
- Roller section with roller elements
- Housing elements: not assembled

Ordering information



1 = intermediate section with roller:
applies when a = 45
applies when a = 90 and b_L = 240 mm
2 = roller section:
applies when a = 90 and b_L > 240 mm
applies when a = 135 and b_L ≥ 320 mm

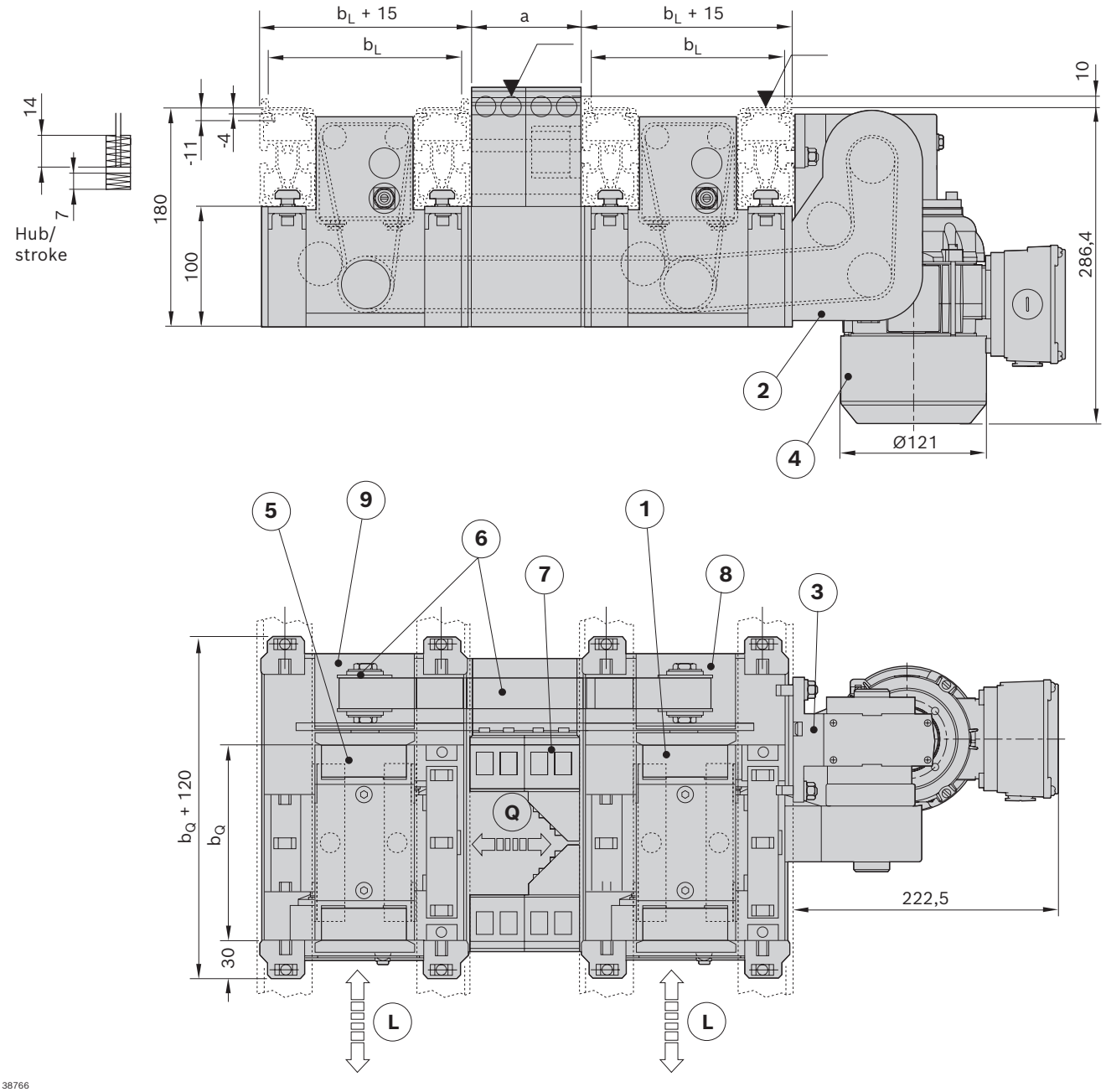
Material number		**3842999894** *EQ 2/TR*	**3842999040** **EQ 2/TR LS**
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800	
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480	
b_Q x b_L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160: 240; 320; 400 320 x 160; 240; 320; 400 400 x 240; 320; 400; 480 480 x 320 BG 2: 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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	
a (mm)	Distance between conveyors	45; 90[3]; 135[3]	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position
[3] a = 90 mm only when b_L ≥ 240 mm; a = 135 mm only when b_L ≥ 320 mm

Technical data

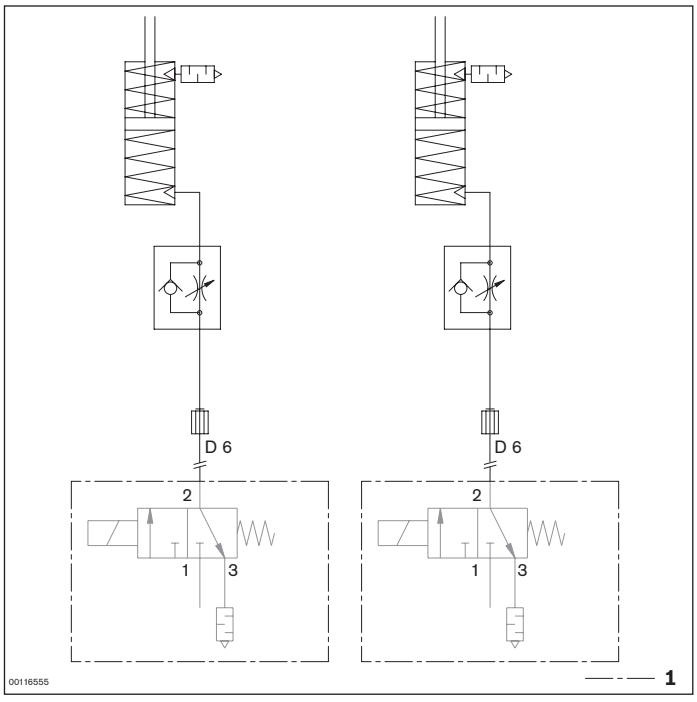
Material number			**3842999894** **EQ 2/TR**	**3842999040** **EQ 2/TR LS**
Load				
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Version				
Size	BG		BG 1; BG 2	BG 1; BG 2
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions



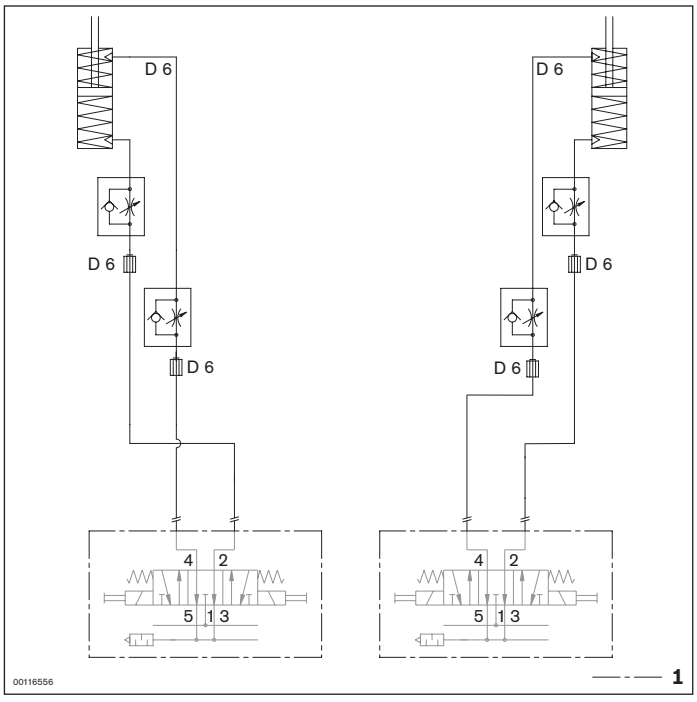
L Longitudinal conveyor conveying direction
Q Conveying direction of transverse conveyor
1 HQ 2/O lift transverse unit
2 Connection kit
3 Motor mounting kit
4 Drive motor
5 HQ 2/T lift transverse unit
6 Drive kit
7 Intermediate section with roller elements and protective case
8 Protective case for HQ 2/O lift transverse unit combined with HQ 2/T
9 Protective case for HQ 2/T lift transverse unit

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



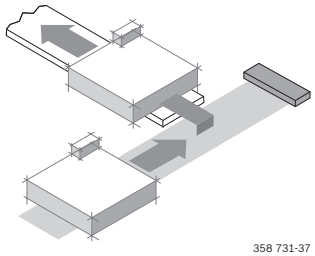
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

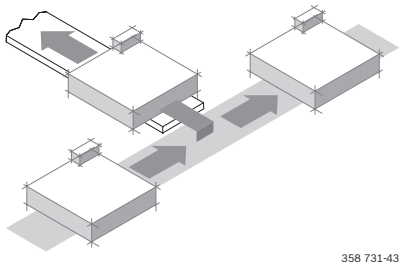


1 Not included in the scope of delivery

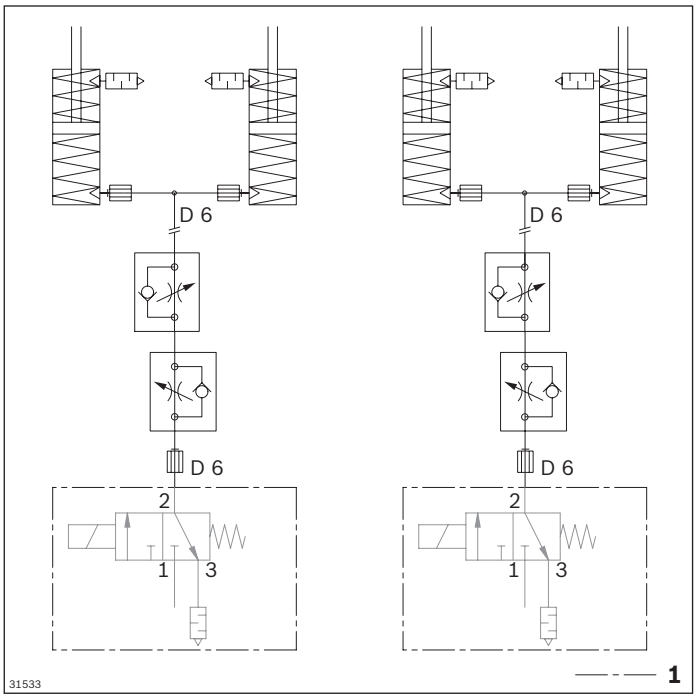
PN = 2



PN = 3

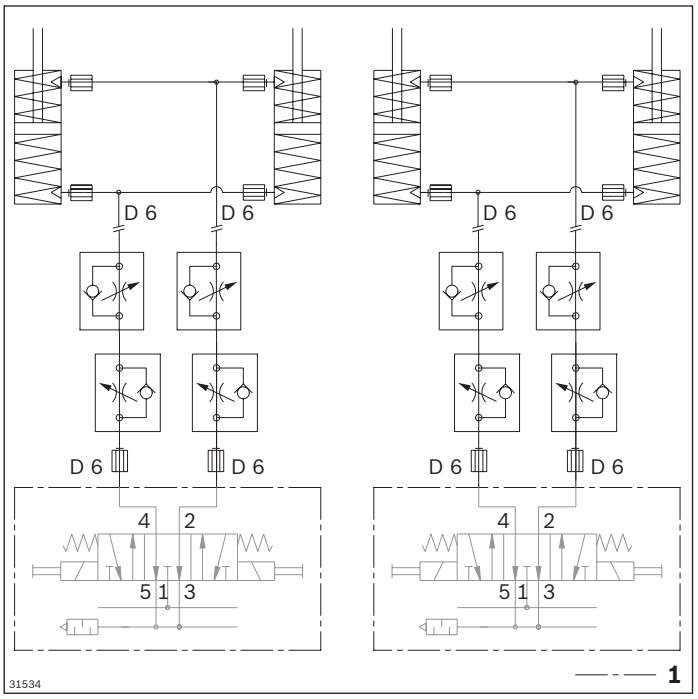


Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 2



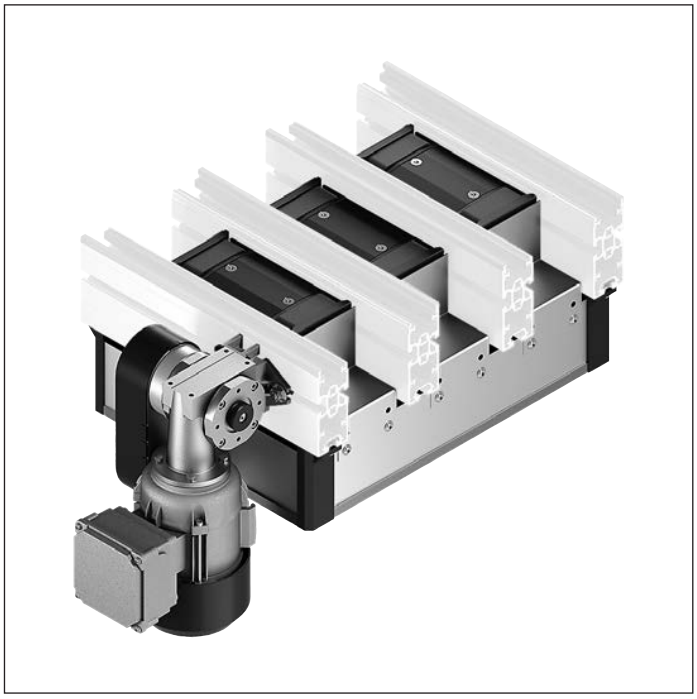
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 2



1 Not included in the scope of delivery

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 section
- Modular unit with three lifting cylinders
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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/LS (only with LS version)

Notice:
- Reversible operation possible
- Accumulation operation not permitted

5

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding WT 2 and WT 2/E workpiece pallets at v_N > 9 m/min
- WI 2/... rockers (see p. 8-28ff) WI/M rocker (see p. 8-25) and DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for infeeding WT 2 and WT 2/E workpiece pallets

Delivery information

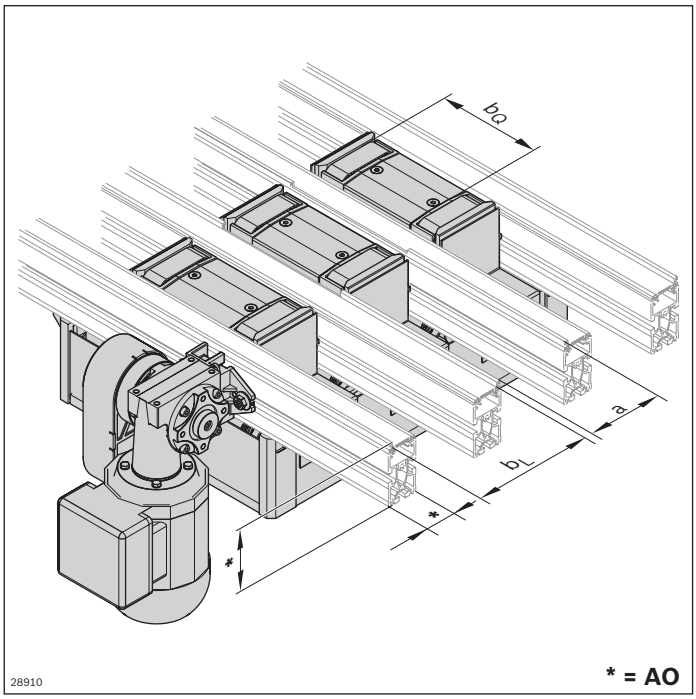
Scope of delivery

- Incl. fastening material
- Pneumatic equipment for two or three positions
- Kit for electrical position inquiry (2x sensors)
- Connection kit
- Protective case

Condition on delivery

- HQ 2/O and HQ 2/T lift transverse unit assembled
- Drive kit, assembled
- Motor mounting kit, drive motor enclosed
- Connection kit included
- Protective case, not assembled

Ordering information



Material number		3842998289 EQ 2/TR-90	3842999041 EQ 2/TR-90 LS
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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	

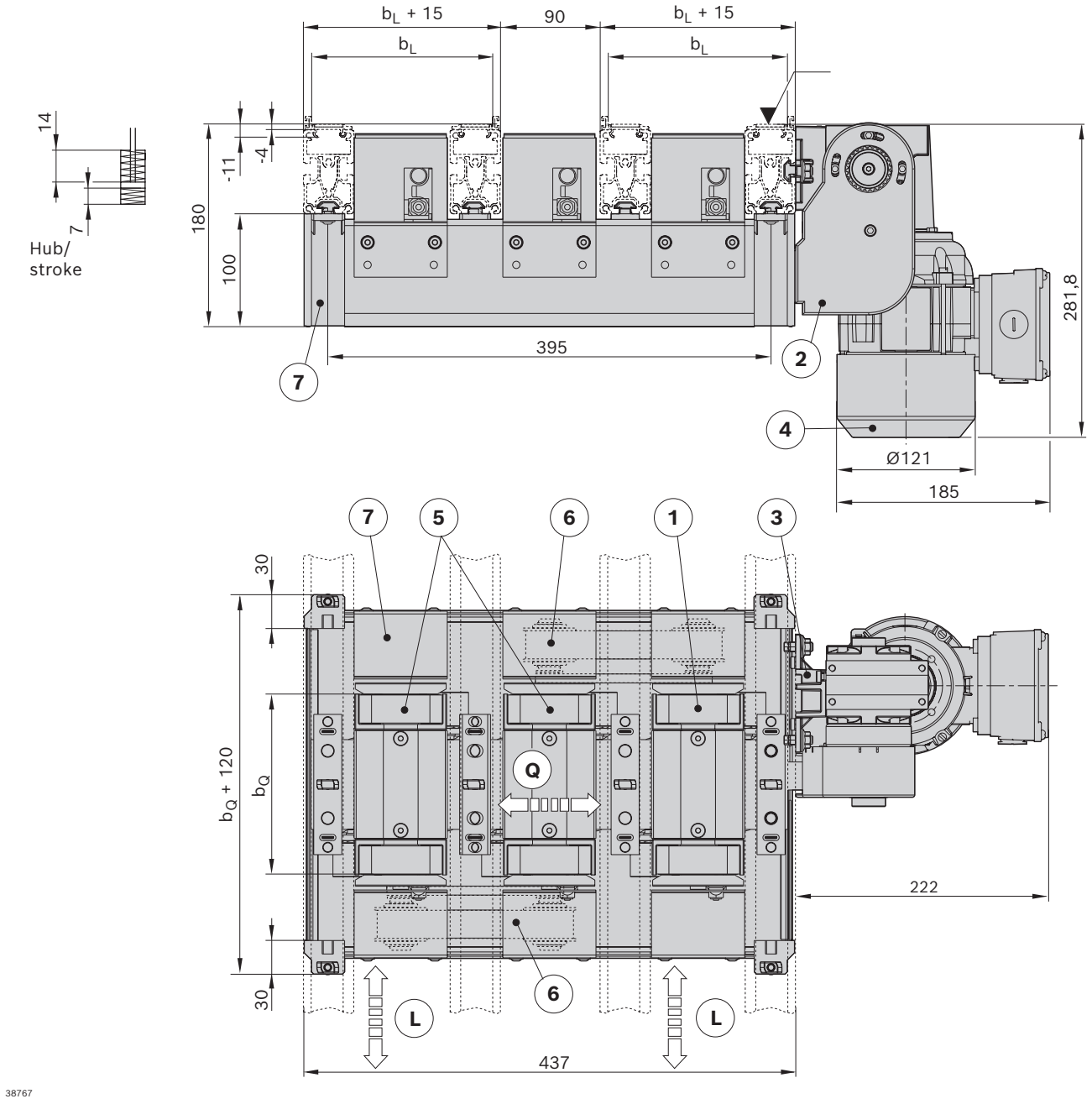
[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position

Technical data

Material number			3842998289 EQ 2/TR-90	3842999041 EQ 2/TR-90 LS
Load				
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Dimensions				
Distance between conveyors	a	mm	90	90
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

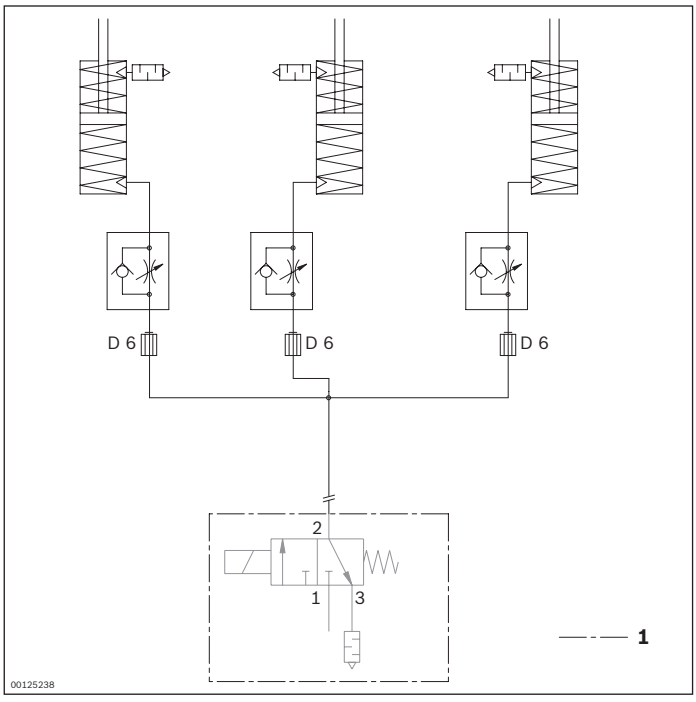
Dimensions

AO = 0 referenced



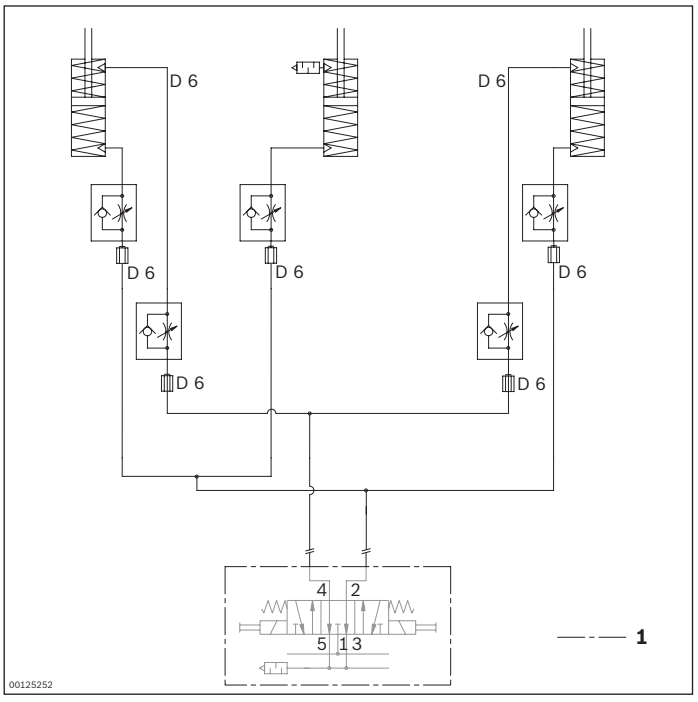
L Longitudinal conveyor conveying direction
Q Conveying direction of transverse conveyor
1 HQ 2/O lift transverse unit
2 Connection kit
3 Motor mounting kit
4 Drive motor
5 HQ 2/T lift transverse unit
6 Drive kit
7 Protective case

Circuit diagram for unit with pneumatic equipment for two positions PN = 2



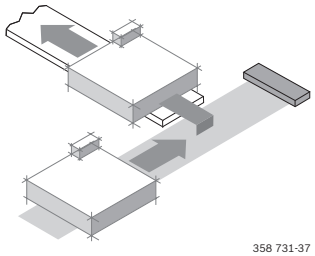
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3

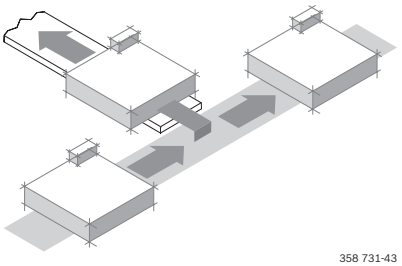


1 Not included in the scope of delivery

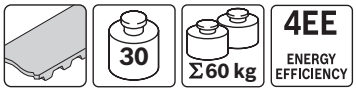
PN = 2



PN = 3



EQ 2/T... electrical transverse conveyor





- Pre-assembled module for connecting two parallel longitudinal sections
- Tandem design with driven belt section for greater distances from 320 mm
- Size 2 from ≥ 480 x 480 mm with two lifting cylinders per lift transverse unit
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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, WT 2/F and WT 2/LS (only with LS version)

Notice:

- Reversible operation possible
- Accumulation operation not permitted on the lift transverse units.

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding workpiece pallets at v_N > 9 m/min
- WI 2/... rockers ... (see p. 8-28ff), WI/M (see p. 8-25) and DA 2/60 (see p. 8-62 in the TS 2*plus* catalog 7.0), DA 2/100-C for BG 2 (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding the workpiece pallets

Delivery information

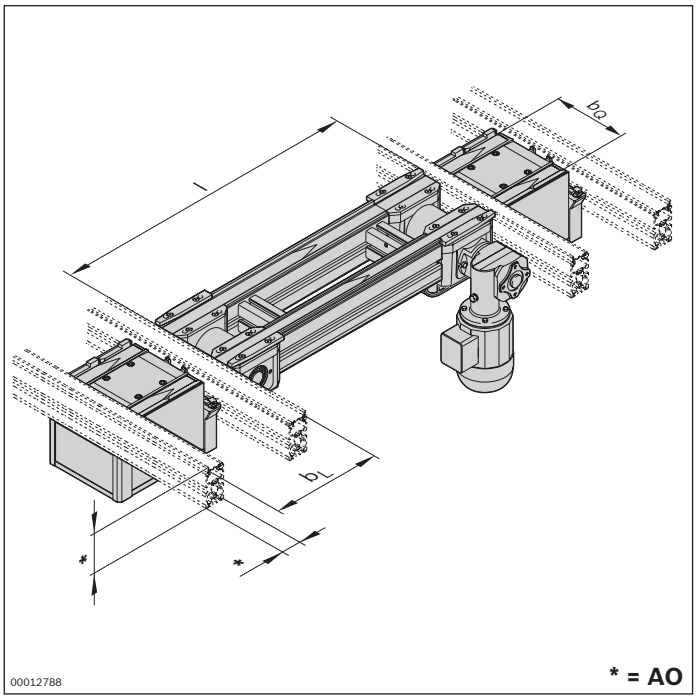
Scope of delivery

- Incl. fastening material
- 2x HQ 2/O
- 1x BS 2/T tandem design belt section
- 2x connection kit
- 2x SK 2/B protective case
- Pneumatic equipment for two or three positions
- Assembly kit for electrical position sensing

Condition on delivery

- Pre-assembled in modular units

Ordering information



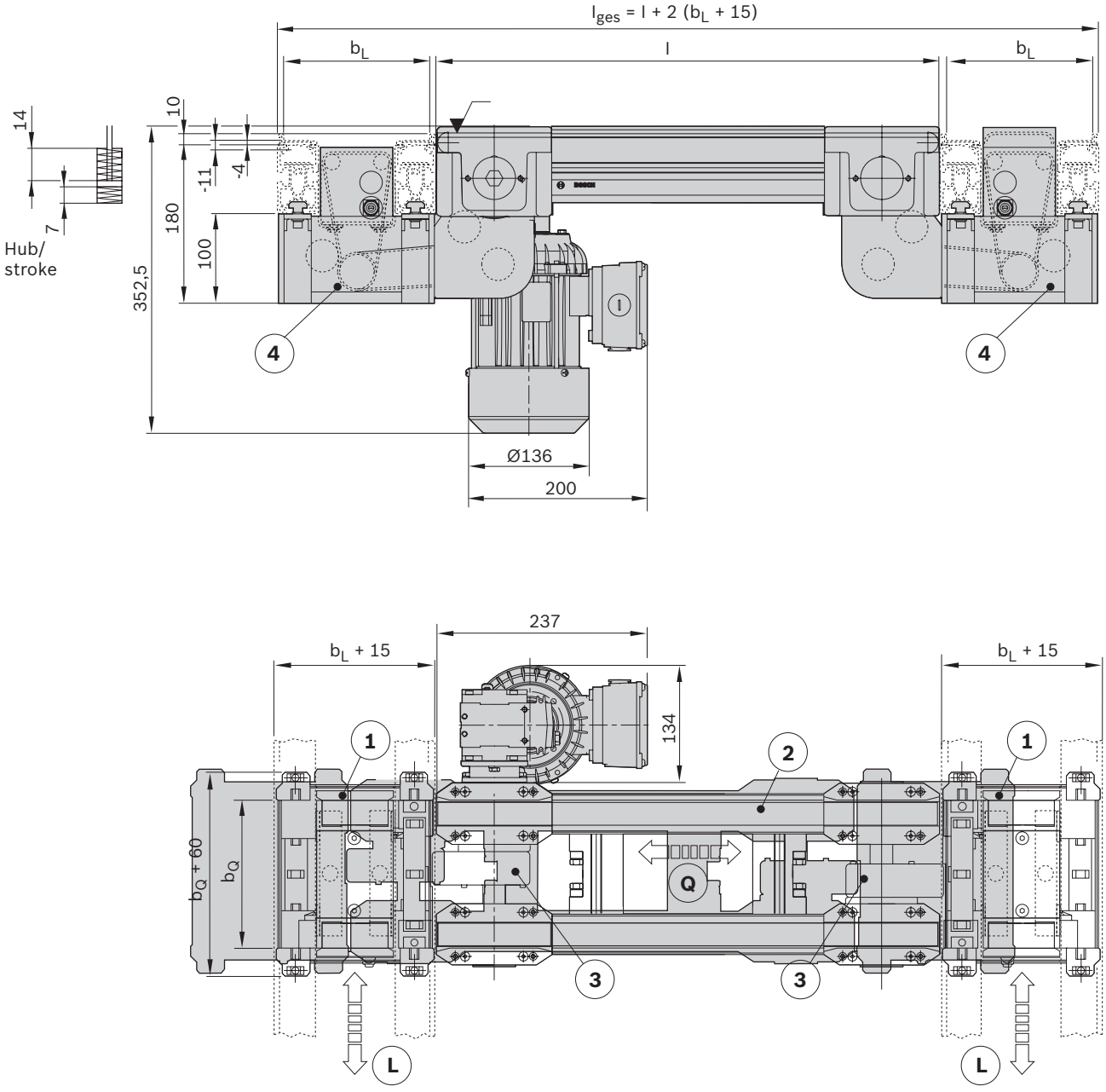
Material number		3842999895 EQ 2/T	3842999038 EQ 2/T LS
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800	
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480	
b_Q x b_L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	
MA	Motor mounting R = right L = left M = center	R; L; M[3]	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position
[3] MA = M when $b_Q \geqq 320$ mm

Technical data

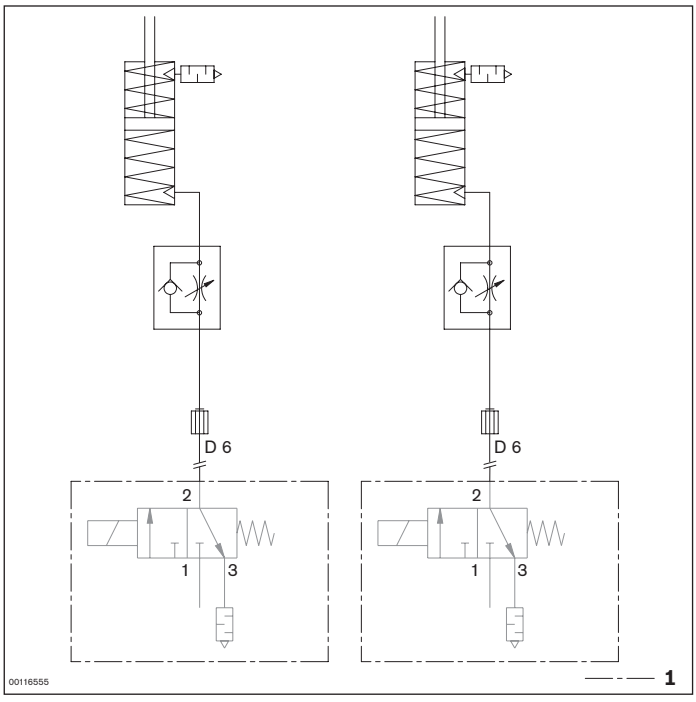
Material number			3842999895 EQ 2/T	3842999038 EQ 2/T LS
Load				
Max. section load in accumulation operation		kg	60	60
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Version				
Size	BG		BG 1; BG 2	BG 1; BG 2
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions



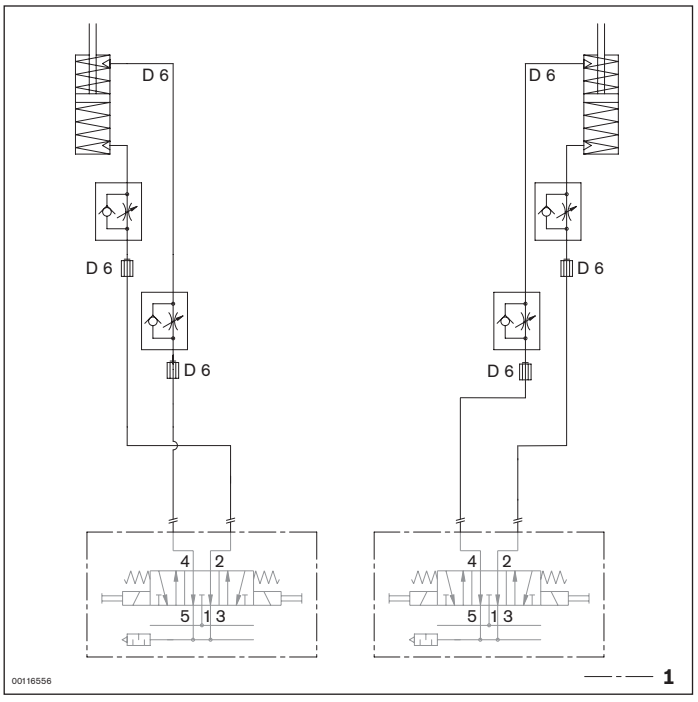
L Longitudinal conveyor conveying direction
Q Conveying direction of transverse conveyor
1 HQ 2/O lift transverse unit
2 BS 2/T tandem design belt section
3 Connection kit
4 Protective case

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



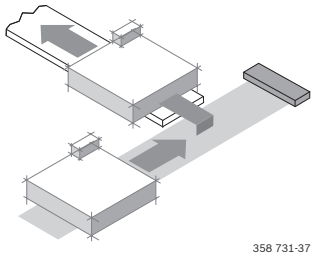
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

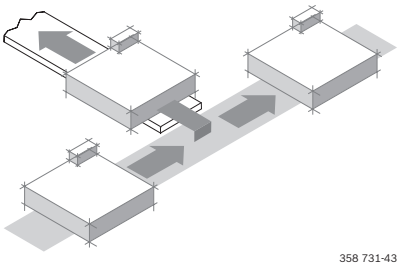


1 Not included in the scope of delivery

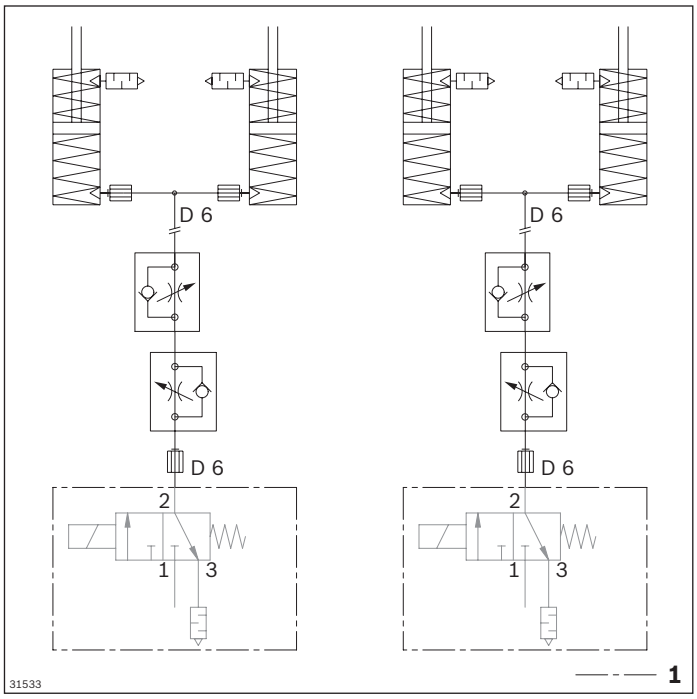
PN = 2



PN = 3

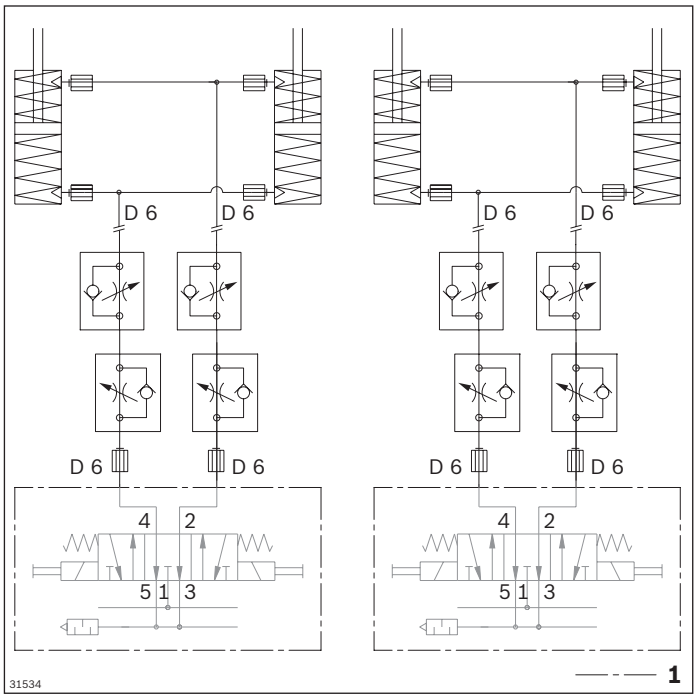


Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 2



1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 2



1 Not included in the scope of delivery

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 ≥ 480 x 480 mm with two lifting cylinders per lift transverse unit
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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, WT 2/F and WT 2/LS (only with LS version) workpiece pallets

Notice:
- Reversible operation possible
- Accumulation operation on the lift transverse unit is not permitted

Accessories

Required accessories
- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

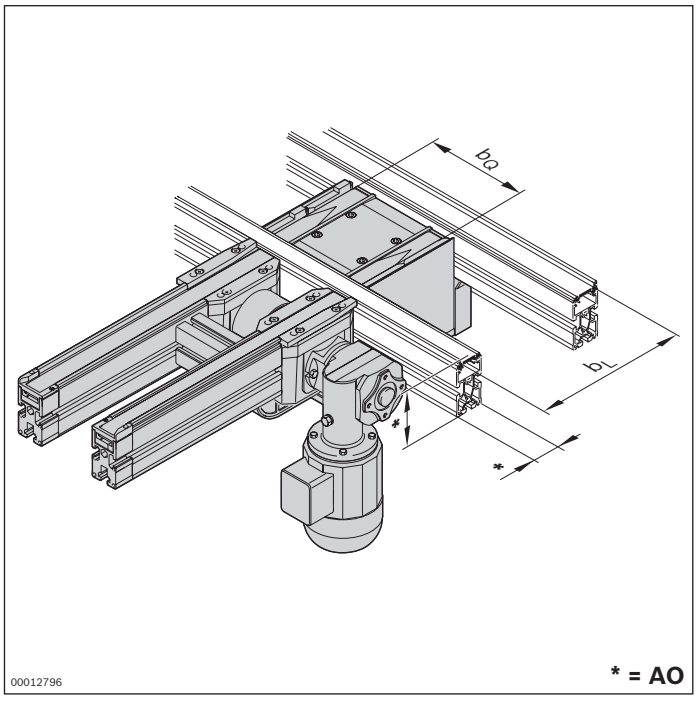
Recommended accessories
- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets at v_N > 9 m/min
- WI 2/... rockers (see p. 8-28ff), WI/M (see p. 8-25) and DA 2/60 dampers (see p. 8-62 in the TS 2*plus* catalog 7.0), DA 2/100-C for BG 2 (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding the workpiece pallets

Delivery information

Scope of delivery
- 1x HQ 2/O lift transverse unit
- 1x BS 2/TE belt section
- 1x connection kit
- 1x SK 2/B protective cases
- Pneumatic equipment for two or three positions
- Assembly kit for electrical position sensing

Condition on delivery
- HQ 2/O lift transverse unit, assembled
- BS 2/TE belt section, assembled
- Connection kit included
- Protective case, not assembled

Ordering information



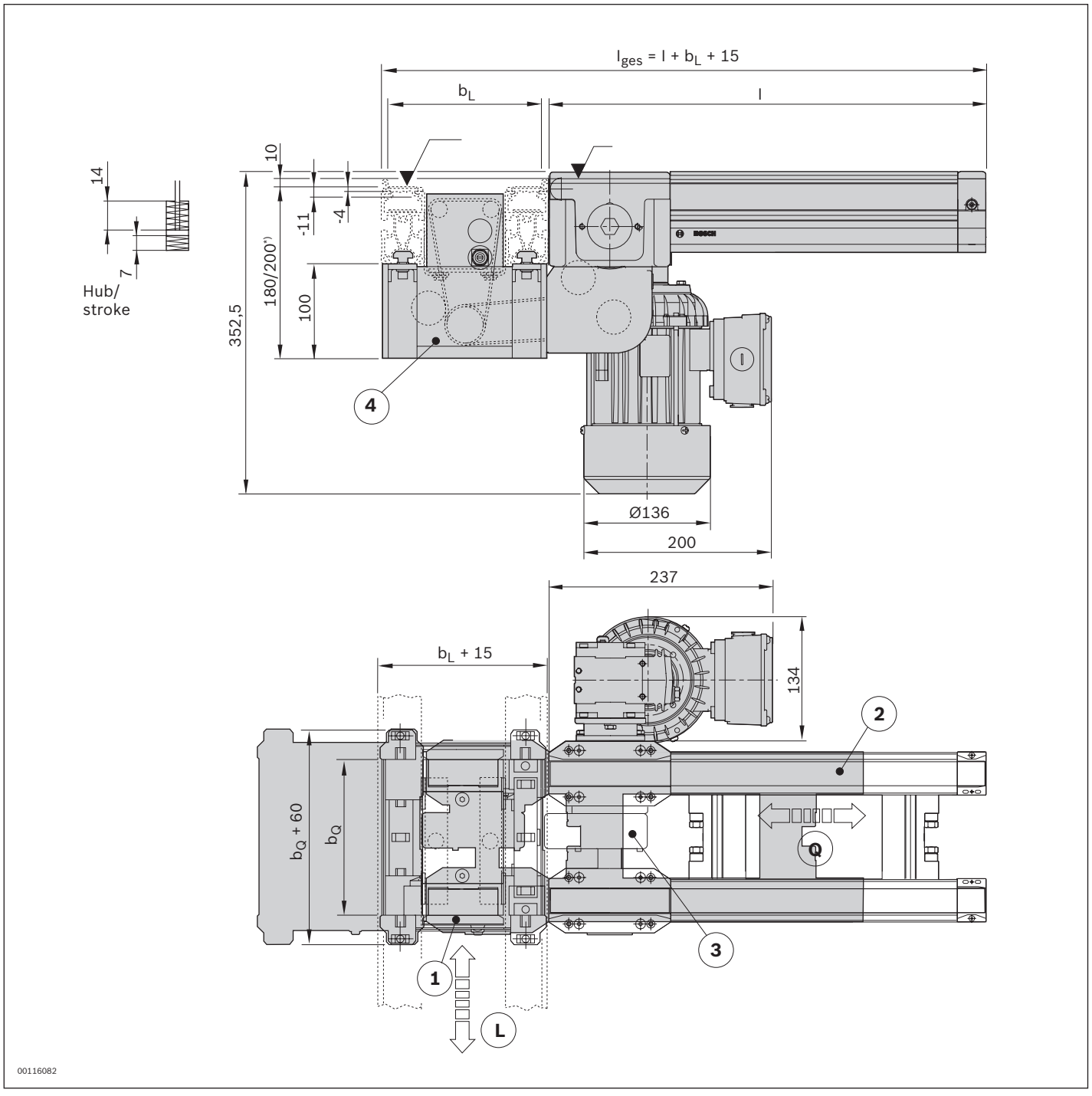
Material number		3842999896 EQ 2/TE	3842999039 EQ 2/TE LS
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800	
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480	
b_Q x b_L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	
MA	Motor mounting R = right L = left M = center	R; M[3]; L	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position
[3] MA = M when $b_Q \geq 320$ mm

Technical data

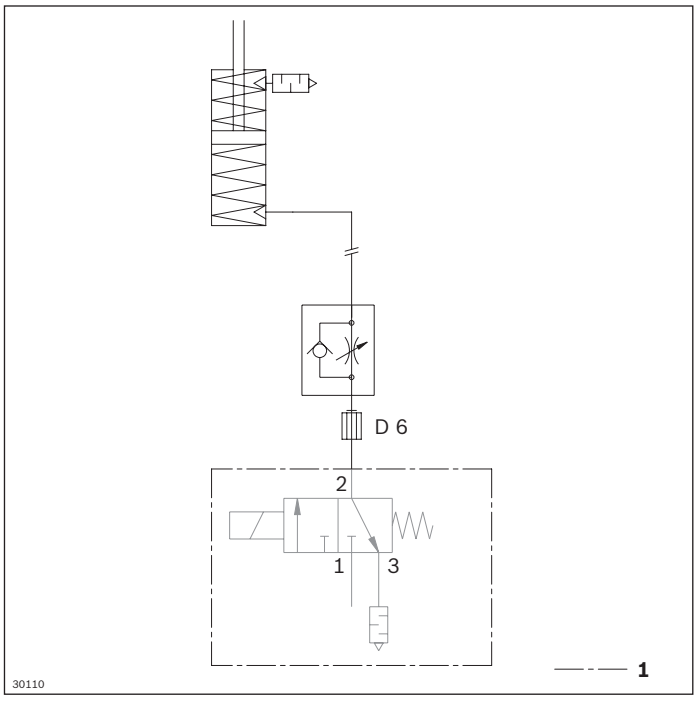
Material number			3842999896 EQ 2/TE	3842999039 EQ 2/TE LS
Load				
Max. section load in accumulation operation		kg	60	60
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Version				
Size	BG		BG 1; BG 2	BG 1; BG 2
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions



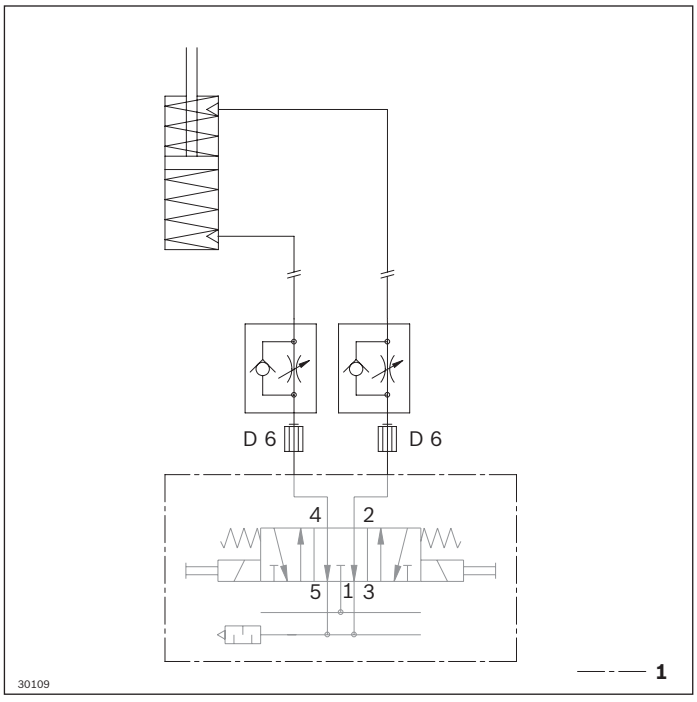
L Longitudinal conveyor conveying direction
Q Conveying direction of transverse conveyor
1 HQ 2/O lift transverse unit
2 BS 2/TE belt section
3 Connection kit
4 Protective case
*) 180 mm for 80 mm profile height, 200 mm for 100 mm profile height

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



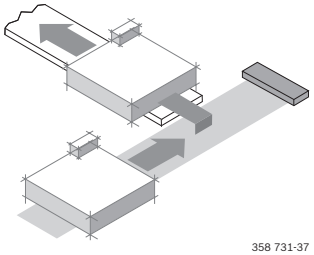
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

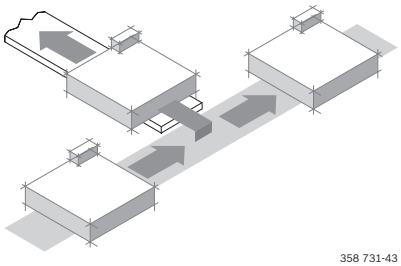


1 Not included in the scope of delivery

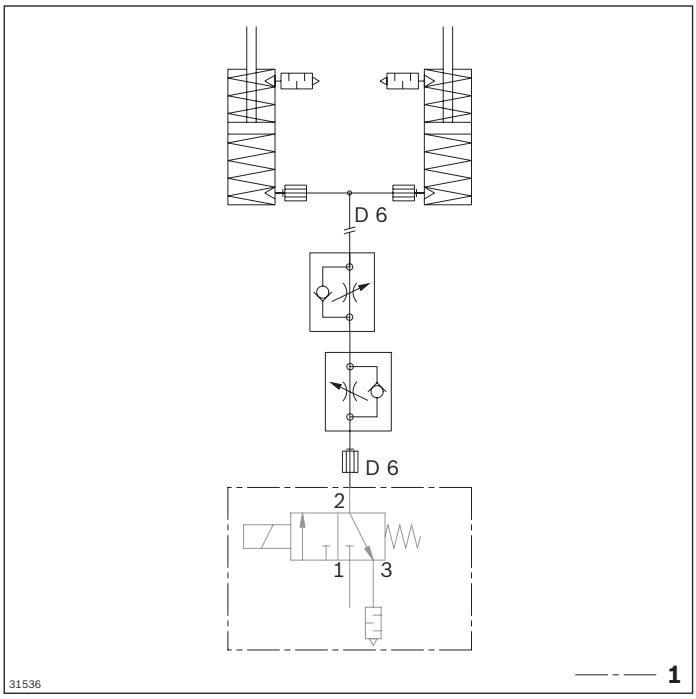
PN = 2



PN = 3

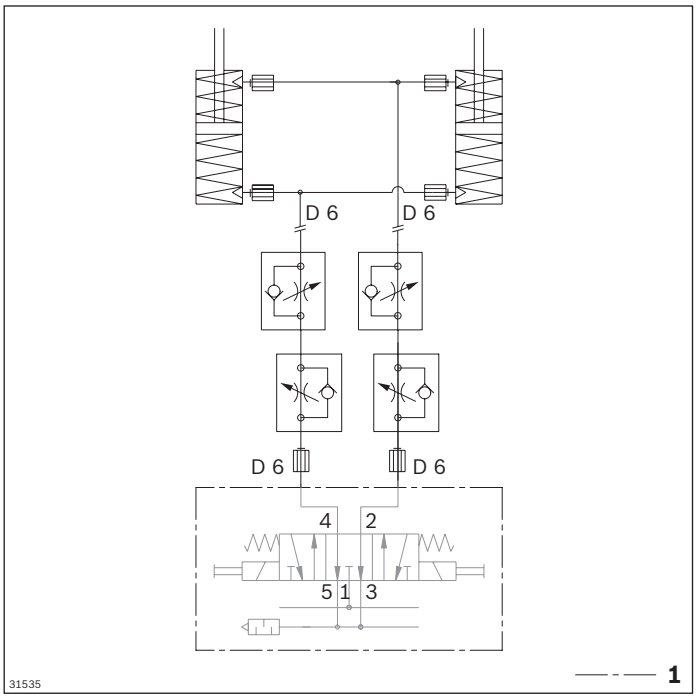


Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 2



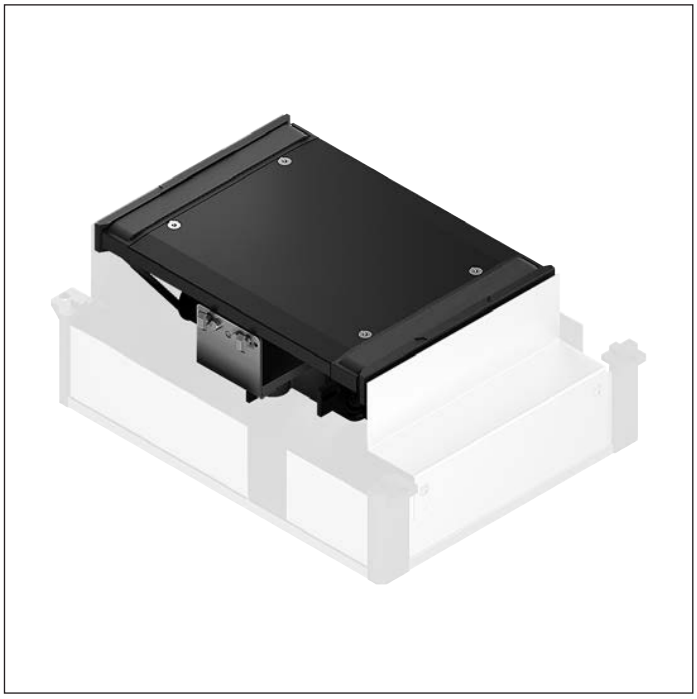
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 2



1 Not included in the scope of delivery

HQ 2/T lift transverse unit...



- Lift transverse unit without built-in drive for outfeeding from a longitudinal section into a transverse section with a roller section and vice versa
- Used in tandem version with the HQ 2/O
- Drive by toothed belt coupling
- Suitable for use in special designs
- In two sizes with one or two lifting cylinders
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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, WT 2/F and WT 2/LS (only with LS version) workpiece pallets

Notice: Reversible operation possible

Vertical movement is delivered by pneumatic cylinders.
Two sizes are available:
Size 1 for total weights (workpiece pallet + load) up to 30 kg.

Size 2 for workpiece pallet dimensions from 400 x 480 mm.

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0
- SK 2 protective case, see p. 5-54 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding workpiece pallets at v_N > 9 m/min
- WI 2/... rockers (see p. 8-28ff), WI/M (see p. 8-25) and DA 2/60 dampers (see p. 8-62 in the TS 2*plus* catalog 7.0), DA 2/100-C for BG 2 (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding the workpiece pallets

Delivery information

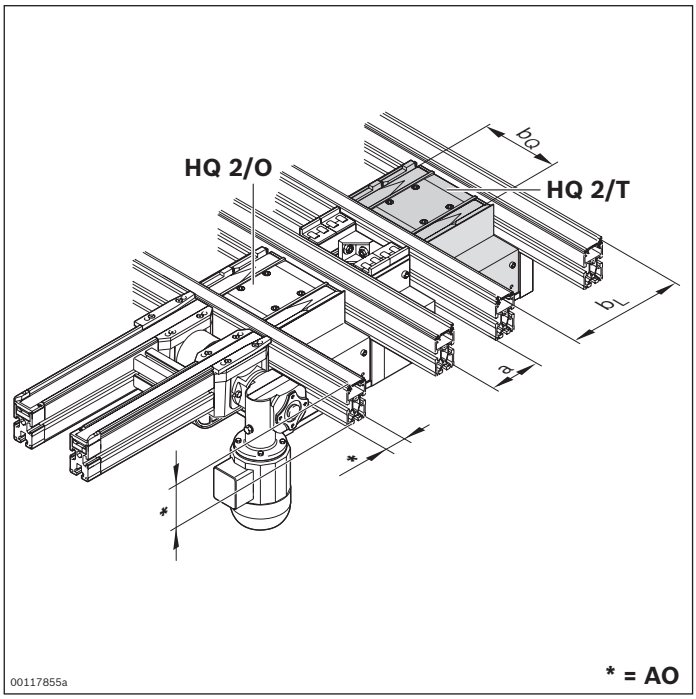
Scope of delivery

- Incl. fastening material
- Pneumatic equipment for two or three positions
- Assembly kit for electrical position sensing
- Incl. drive kit (required to drive an HQ 2/T)

Condition on delivery

- Assembled

Ordering information



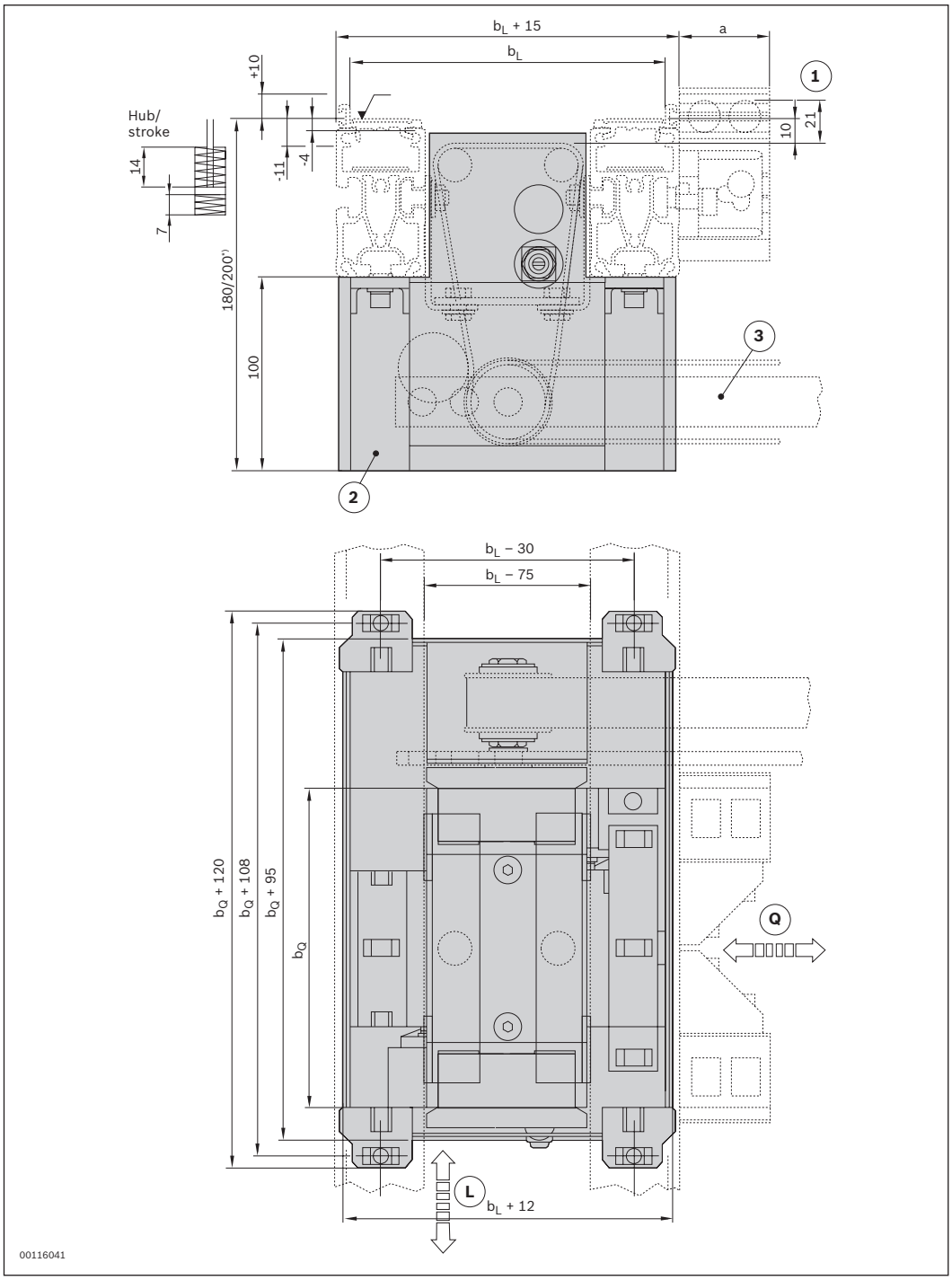
Material number		3842998114 HQ 2/T	3842999031 HQ 2/T LS
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480; 640; 800	
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400; 480	
b_Q x b_L (mm x mm)	Combination options	BG 1: 160 x 160; 240; 320 240 x 160; 240; 320; 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	
a (mm)	Distance between conveyors	45; 90; 135	
PN	Pneumatic equipment	2[1]; 3[2]	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position

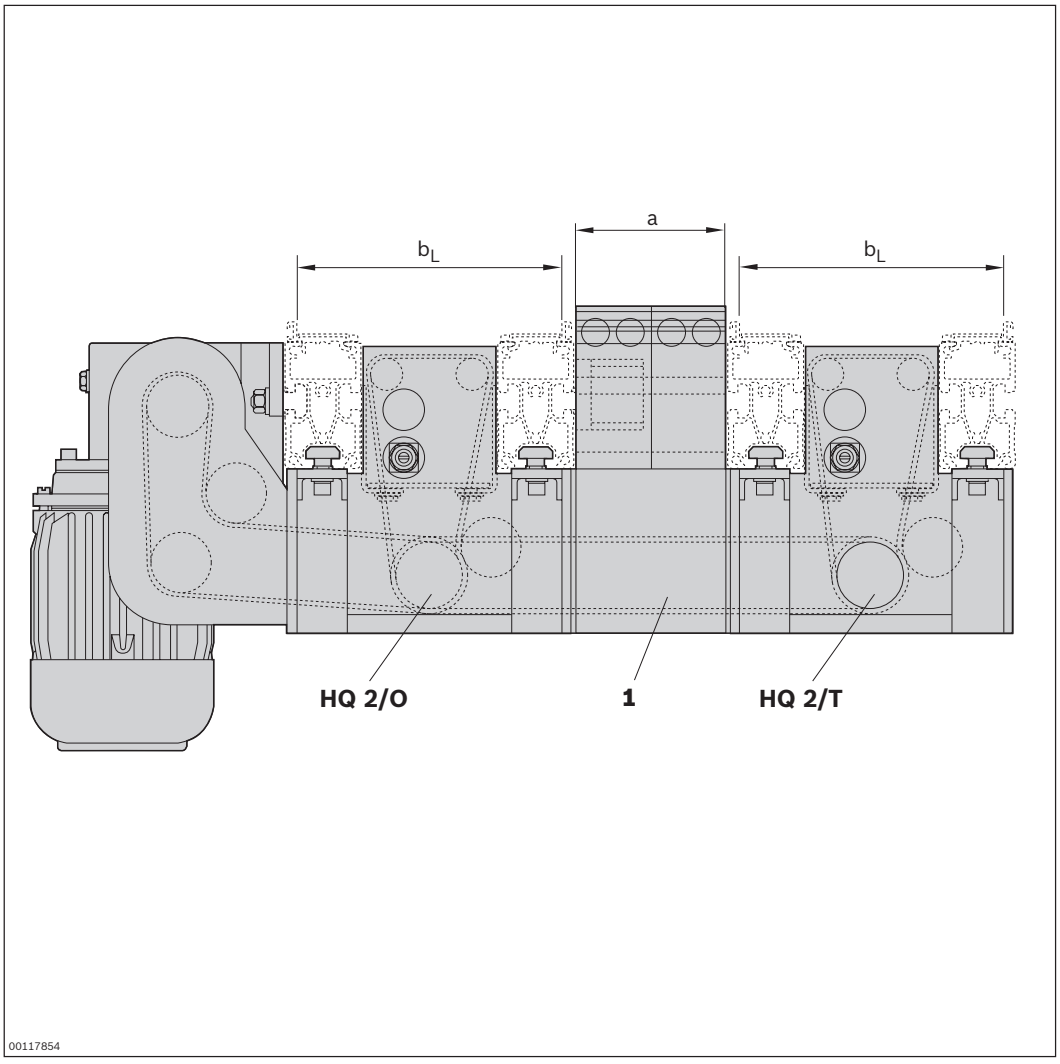
Technical data

Material number			3842998114 HQ 2/T	3842999031 HQ 2/T LS
Load				
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Version				
Size	BG		BG 1; BG 2	BG 1; BG 2
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions

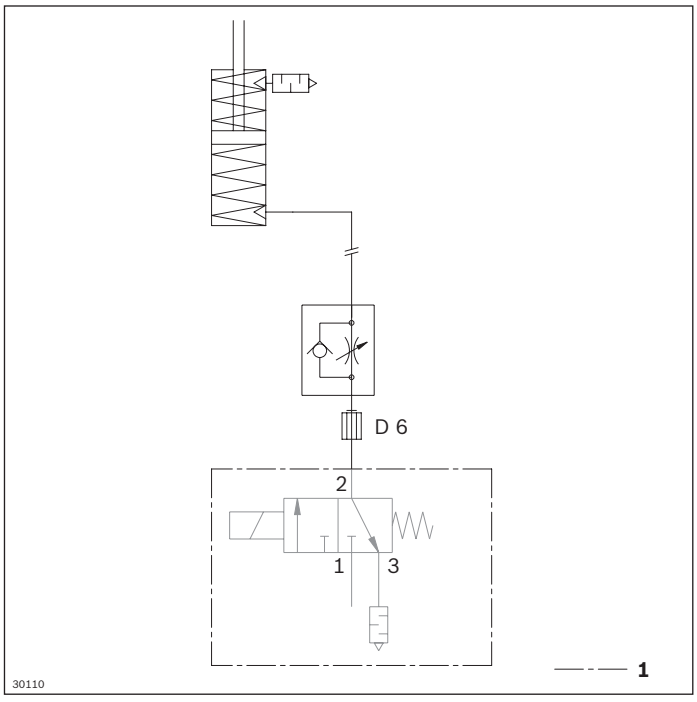


L Conveying direction of longitudinal section
Q Conveying direction of transverse section
1 Stroke
2 Protective case
3 Drive kit for HQ 2/O-HQ 2/T
*) 180 mm for 80 mm profile height, 200 mm for 100 mm profile height



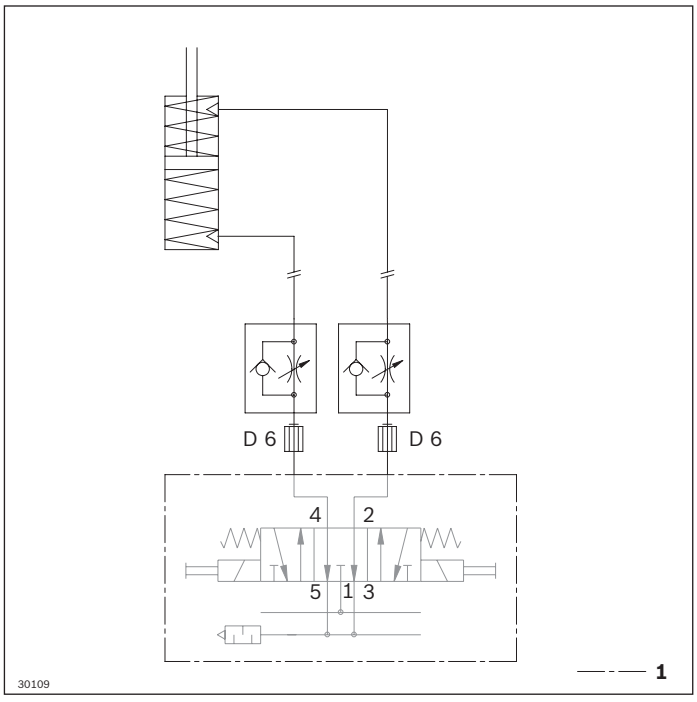
1 Drive kit

Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 1



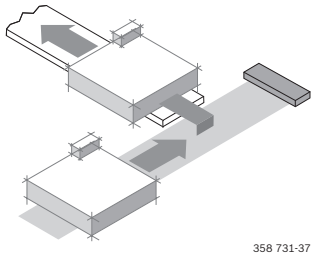
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 1

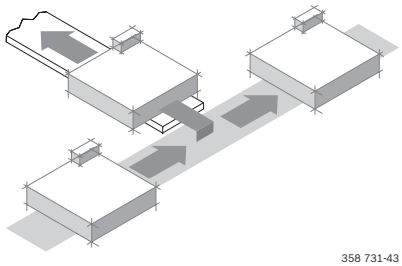


1 Not included in the scope of delivery

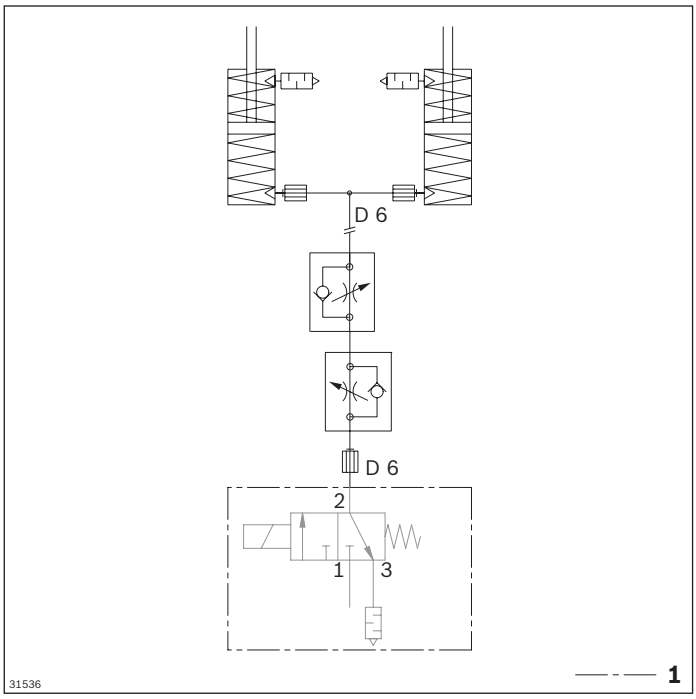
PN = 2



PN = 3

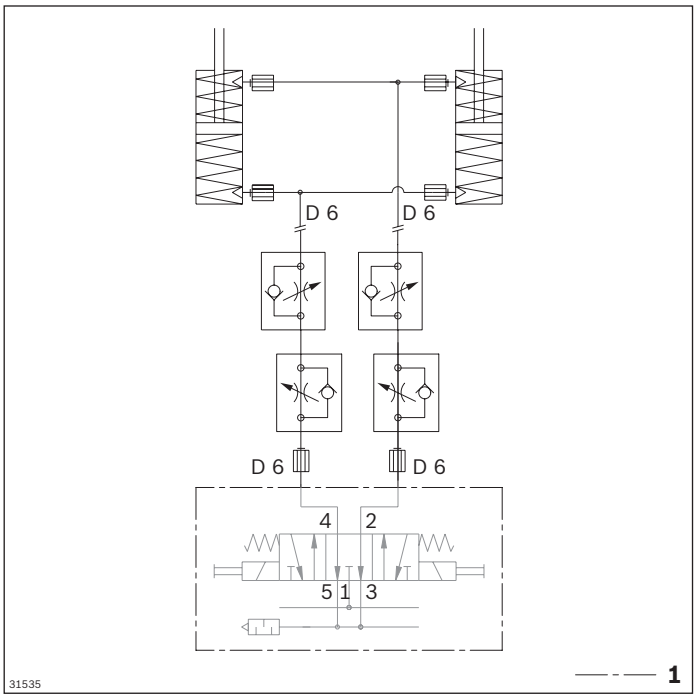


Circuit diagram for unit with pneumatic equipment for two positions PN = 2, BG 2



1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3, BG 2



1 Not included in the scope of delivery

HQ 2/U lift transverse unit...



- Lift transverse unit for outfeeding from a 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 construction
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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, WT 2/F and WT 2/LS (only with LS version) workpiece pallets

Notice: Reversible operation possible

5

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/60 damper (see p. 8-62 in the TS 2*plus* catalog 7.0) for outfeeding workpiece pallets at v_N > 9 m/min
- WI 2/... rockers (see p. 8-28ff), WI/M (see p. 8-25) and DA 2/60 dampers (see p. 8-62 in the TS 2*plus* catalog 7.0), DA 2/100-C for BG 2 (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding the workpiece pallets

Delivery information

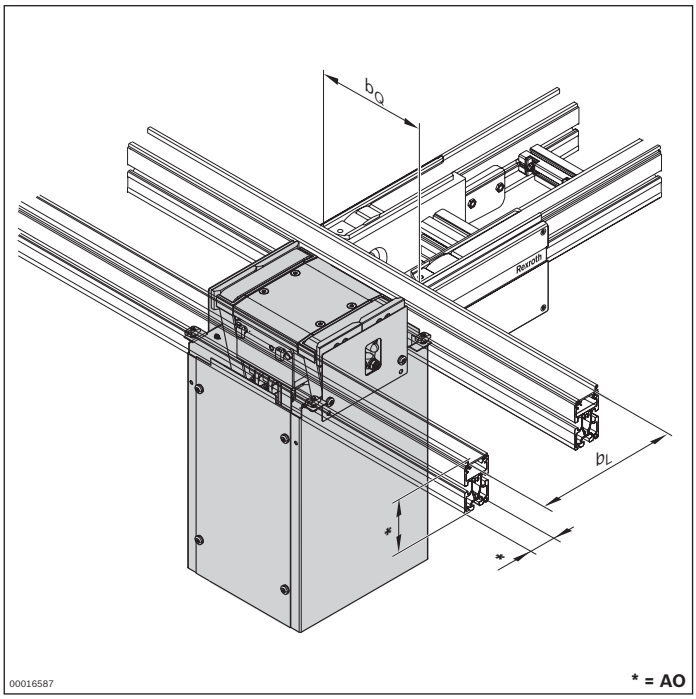
Scope of delivery

- Incl. fastening material
- Pneumatic equipment for two or three positions
- Kit for electric position sensing
- Protective case

Condition on delivery

- Assembled
- Kit for electric position sensing included

Ordering information



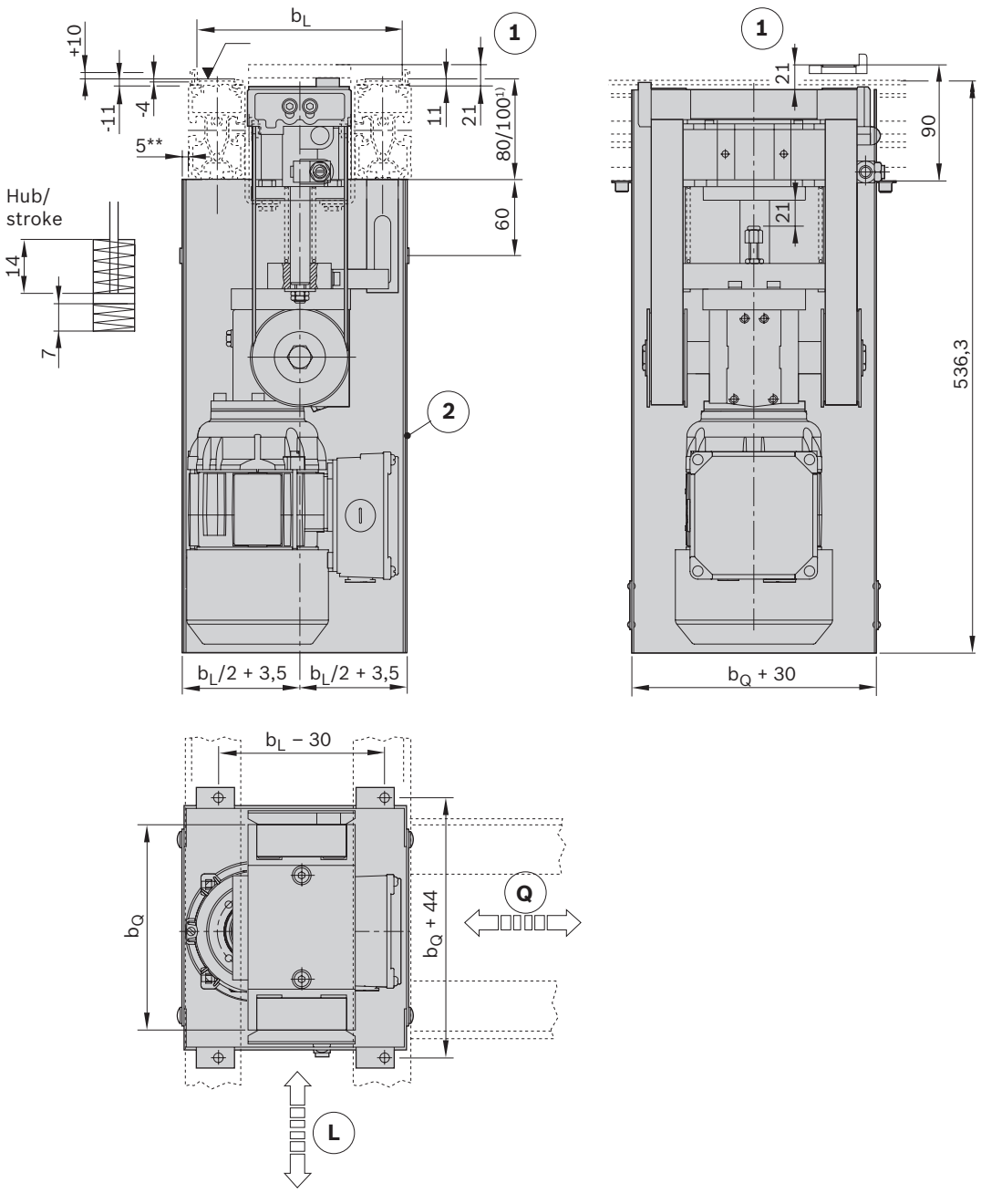
Material number		3842999903 HQ 2/U	3842999032 HQ 2/U LS
b_Q (mm)	Track width in the transverse conveyor	160; 240; 320; 400; 480	
b_L (mm)	Track width in the longitudinal conveyor	160; 240; 320; 400	
b_Q x b_L (mm x mm)	Combination options	160 x 160; 240; 320 240 x 160; 240; 320; 400 320 x 160; 240; 320; 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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position

Technical data

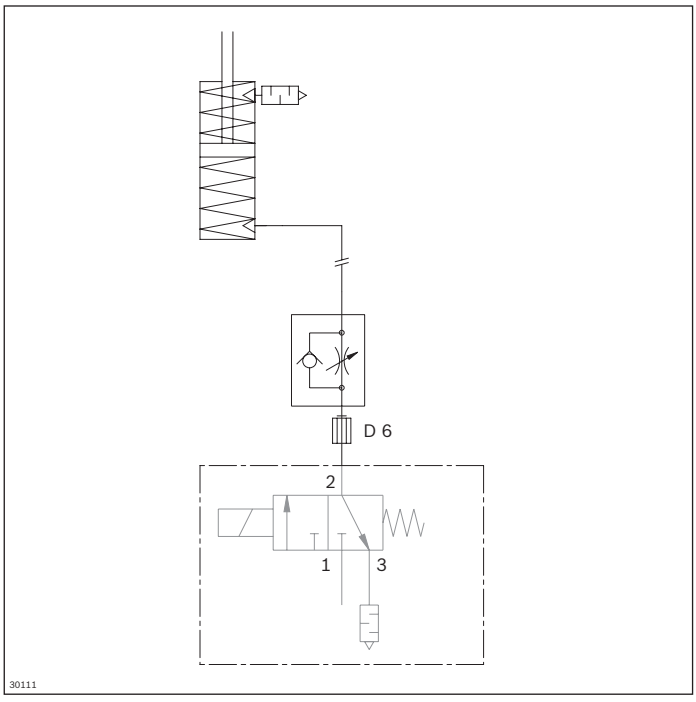
Material number			3842999903 HQ 2/U	3842999032 HQ 2/U LS
Load				
Max. total workpiece pallet weight	m_G	kg	30	30
Properties				
ESD			yes	yes
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions



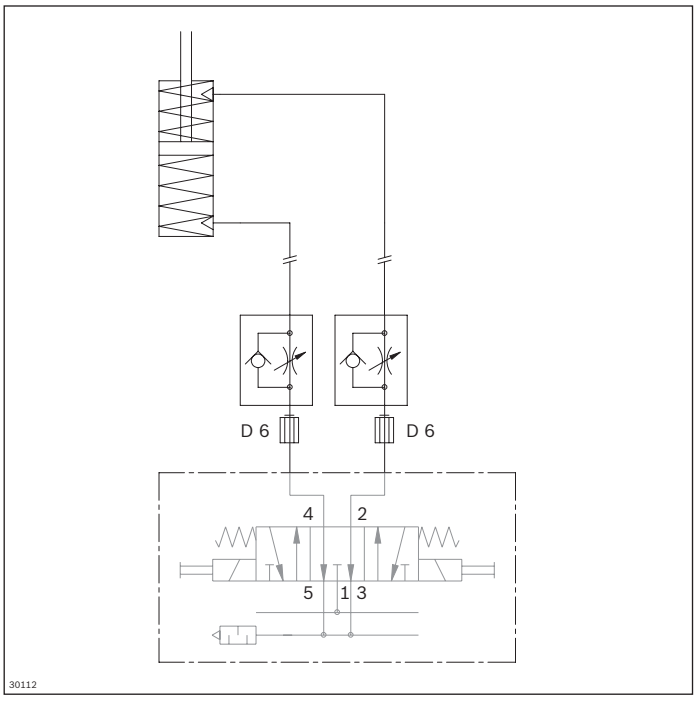
L Conveying direction of longitudinal section
Q Conveying direction of transverse section
1 Stroke
2 Protective case
** Only for b_L = 160 mm
[1] Profile height

Circuit diagram for unit with pneumatic equipment for two positions PN = 2



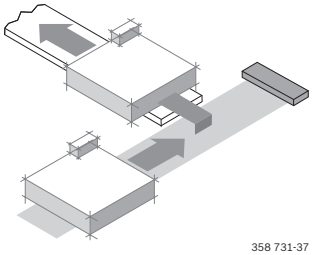
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3

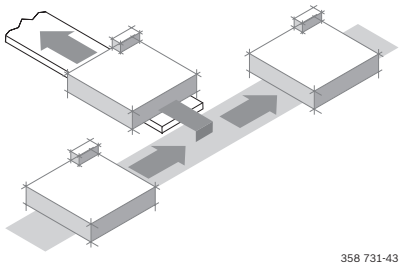


1 Not included in the scope of delivery

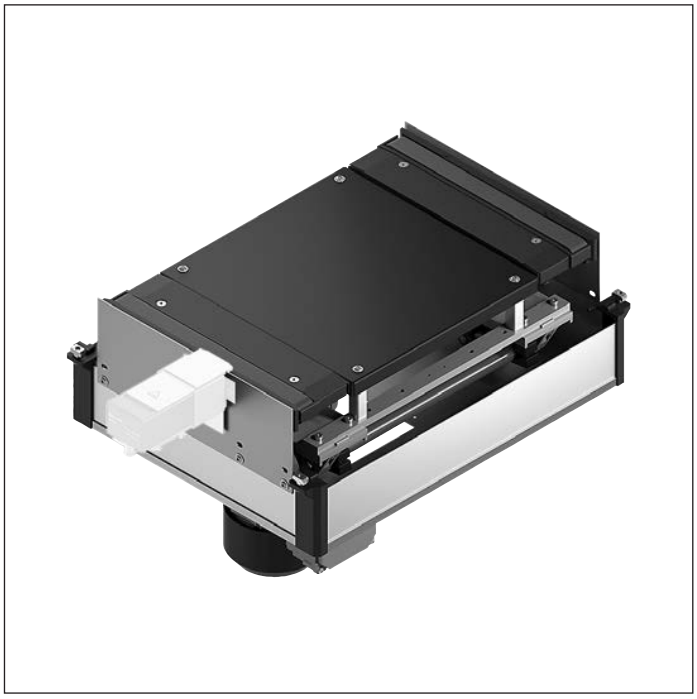
PN = 2



PN = 3



HQ 2/U2 lift transverse unit...



- Lift transverse unit for outfeeding from a 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 construction
- Conveyor medium: Toothed belt (suitable for use in an EPA)
- Pneumatic equipment for 2 (top, center) or 3 (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, WT 2/F-H and WT 2/LS (only with LS version)

Notice: Reversible operation possible

5

Accessories

Required accessories

- 1x M12x1 sensor with rated switching distance S_N = 4 mm for each (top/bottom) position sensing location, see p. 8-106 in the TS 2*plus* catalog 7.0

Recommended accessories

- DA 2/100-B (see p. 8-67 in the TS 2*plus* catalog 7.0) damper for outfeeding WT 2, WT 2/F, WT 2/H or WT 2/F-H workpiece pallets, required when v_N > 12 m/min or total weight of the workpiece pallet ≥ 30 kg
- WI 2/... rockers (see p. 8-28ff) WI/M rocker (see p. 8-25) and DA 2/100-C damper (see p. 8-71 in the TS 2*plus* catalog 7.0) for infeeding WT 2 and WT 2/F workpiece pallets

Delivery information

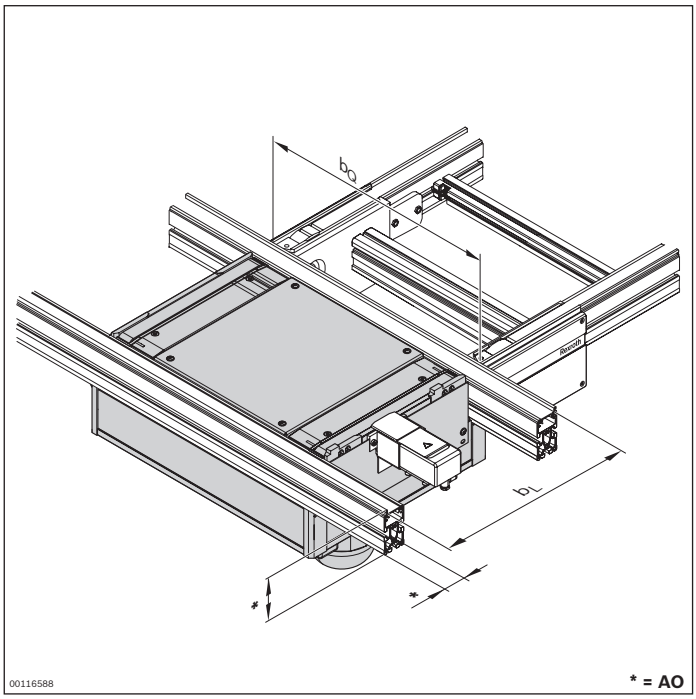
Scope of delivery

- Incl. fastening material
- Pneumatic equipment for two or three positions
- Kit for electric position sensing
- Protective case

Condition on delivery

- Assembled
- Kit for electric position sensing included
- Kit for protective case included

Ordering information



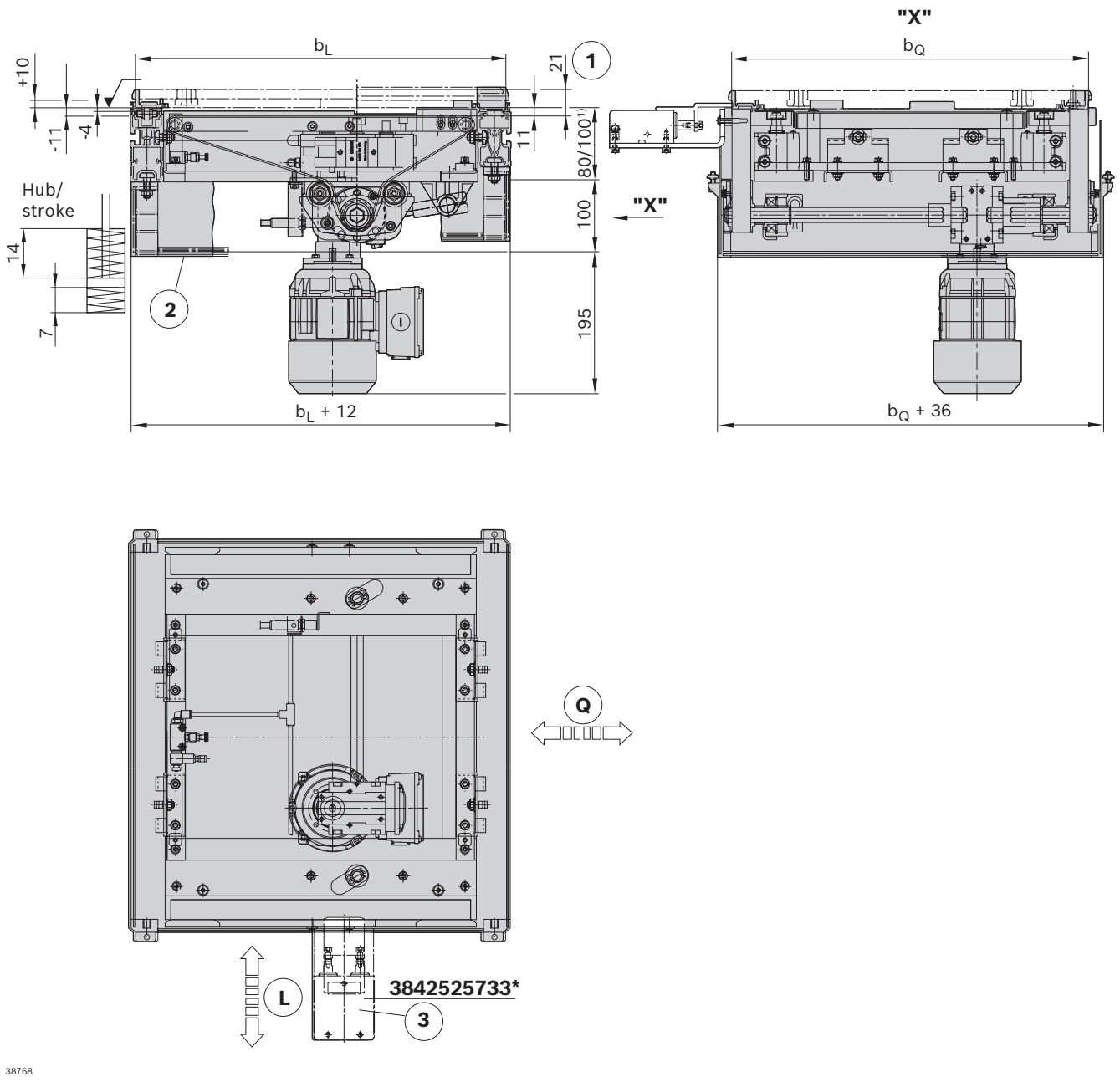
Material number		3842999843 HQ 2/U2	3842999033 HQ 2/U2 LS
b_Q (mm)	Track width in the transverse conveyor	400; 480; 640; 800	
b_L (mm)	Track width in the longitudinal conveyor	400; 480; 640	
b_Q x b_L (mm x mm)	Combination options	400 x 400; 480; 640 480 x 400; 480; 640 640 x 400; 480; 640 800 x 400; 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, TS 2*plus* 7.0	
f (Hz)	Frequency	see motor data, TS 2*plus* 7.0	
AT	Motor connection S = cable/plug K = terminal box	S; K	

[1] PN = 2: Upper and middle lift position
[2] PN = 3: Upper, middle and lower lift position

Technical data

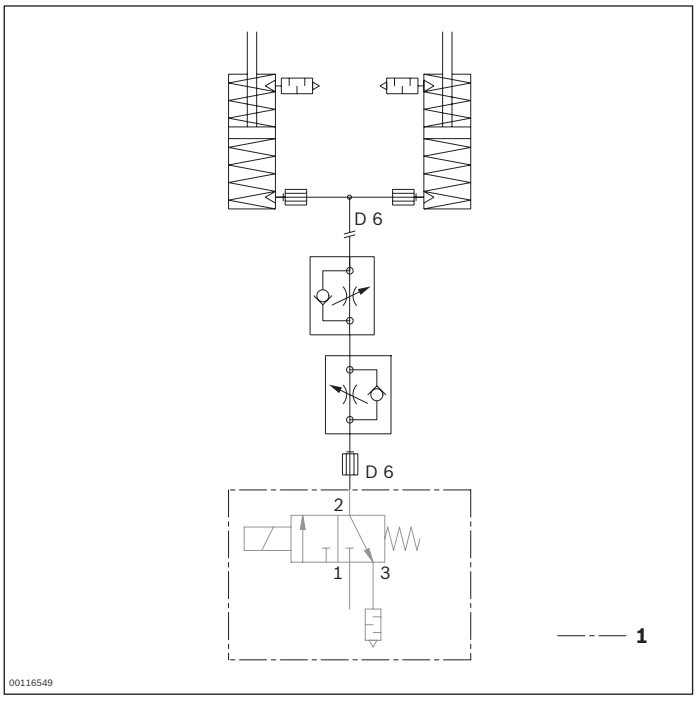
Material number			3842999843 HQ 2/U2	3842999033 HQ 2/U2 LS
Load				
Max. total workpiece pallet weight	m_G	kg	50	50
Properties				
ESD			yes	yes
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

Dimensions



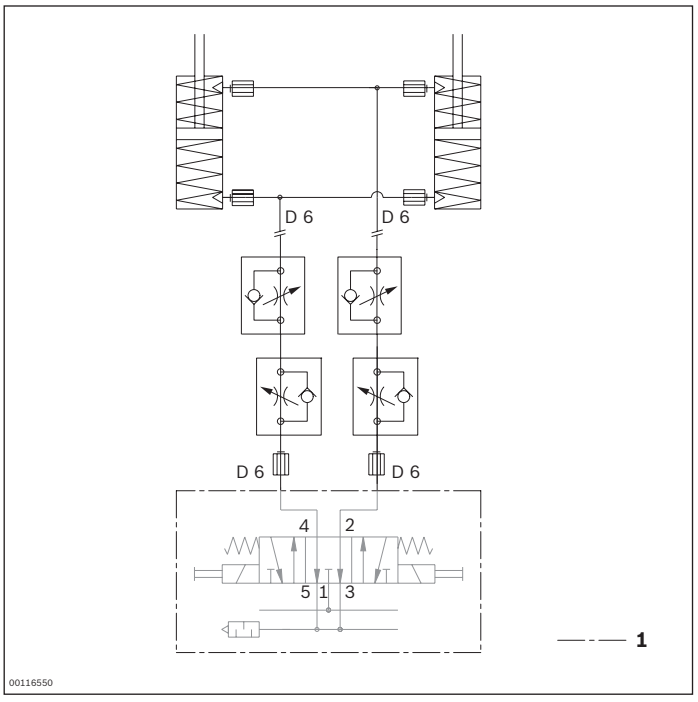
L Conveying direction of longitudinal section
Q Conveying direction of transverse section
1 Stroke
2 Protective case
3 Damped stop
[1] Profile height
* See TS 2*plus*catalog 7.0 on page 8-67

Circuit diagram for unit with pneumatic equipment for two positions PN = 2



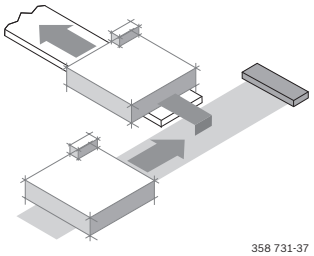
1 Not included in the scope of delivery

Circuit diagram for unit with pneumatic equipment for three positions PN = 3

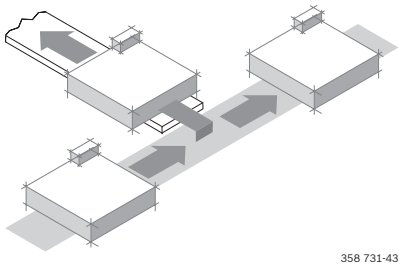


1 Not included in the scope of delivery

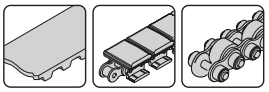
PN = 2

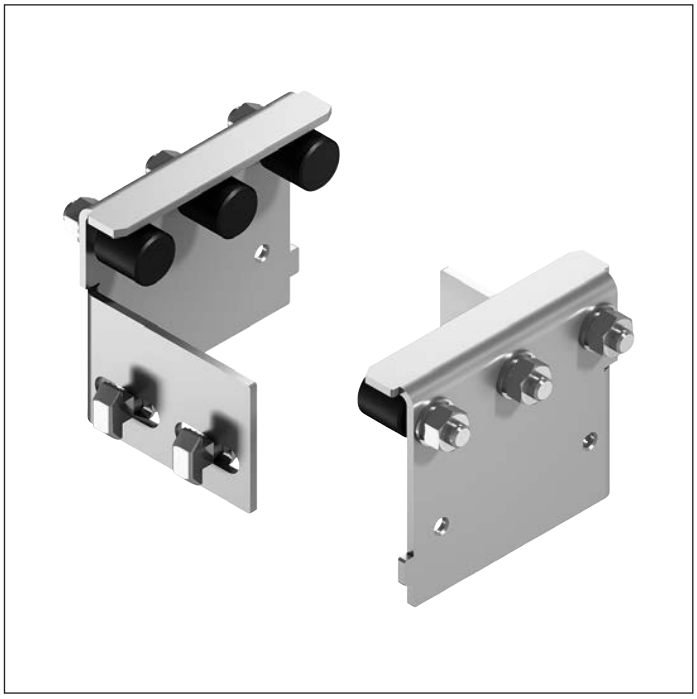


PN = 3



Intermediate section with roller





- Unmounted roller section for transverse conveying of workpiece pallets between parallel conveyor sections at a distance of a = 45 to 135 mm
- Use with two HQ 2 lift transverse units
- Without built-in drive
- Conveyor medium: Rollers made of 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, WT 2/F-H and WT 2/LS

Installation between two ST 2 conveyor units or BS 2 belt sections for transverse conveying.
Alternatively, use as an inclined passive conveyor section.

5

Delivery information

Scope of delivery

- Incl. fastening material

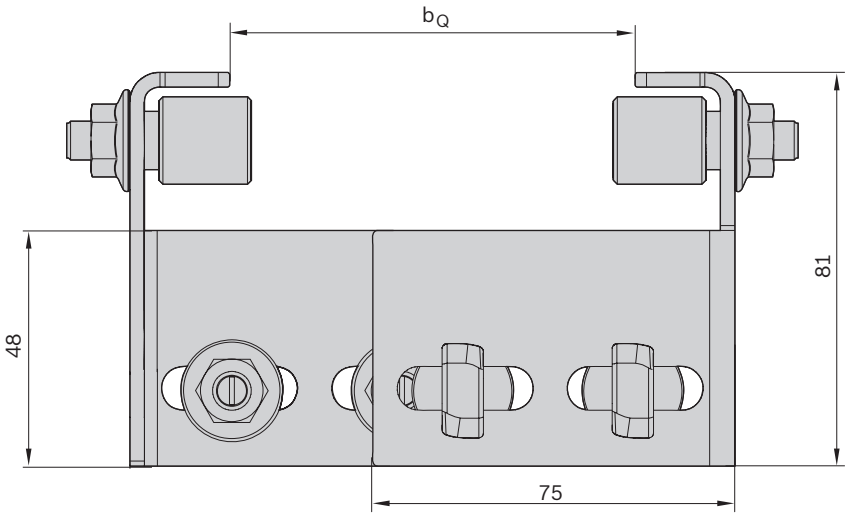
Condition on delivery

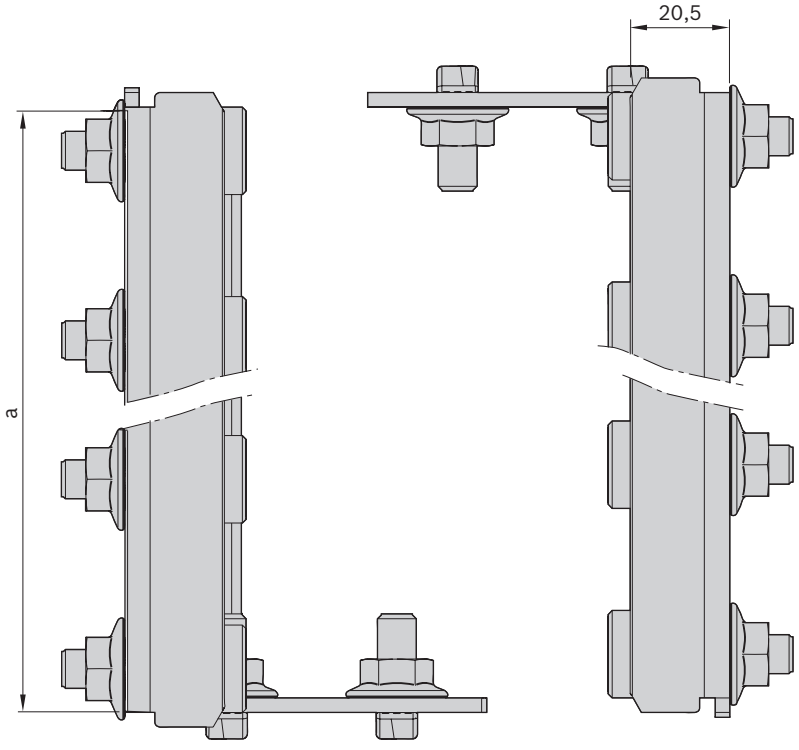
- Assembly required

Ordering information

Product description	Material number
Intermediate section with roller a = 45	3842553814
Intermediate section with roller a = 90	3842554658
Intermediate section with roller a = 135	3842554659

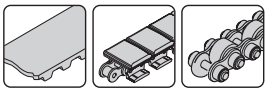
Dimensions





00126487

RS 2 roller section





- Unmounted roller section for transverse conveying of workpiece pallets between parallel conveyor sections at a distance of a = 90 to 200 mm
- Use with two HQ 2 lift transverse units
- Use as an inclined passive conveyor section is possible
- Without built-in drive
- Conveyor medium: PA6 rollers
- 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, WT 2/F-H and WT 2/LS

5

Installation between two ST 2 conveyor units or BS 2 belt sections for transverse conveying.
Alternatively, use as an inclined passive conveyor section.

Delivery information

Scope of delivery

- Incl. fastening material

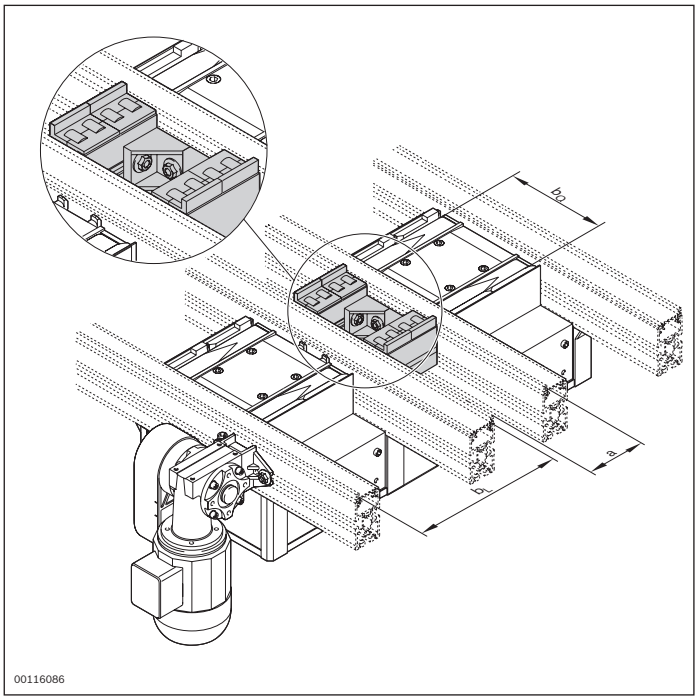
Condition on delivery

- Assembly required

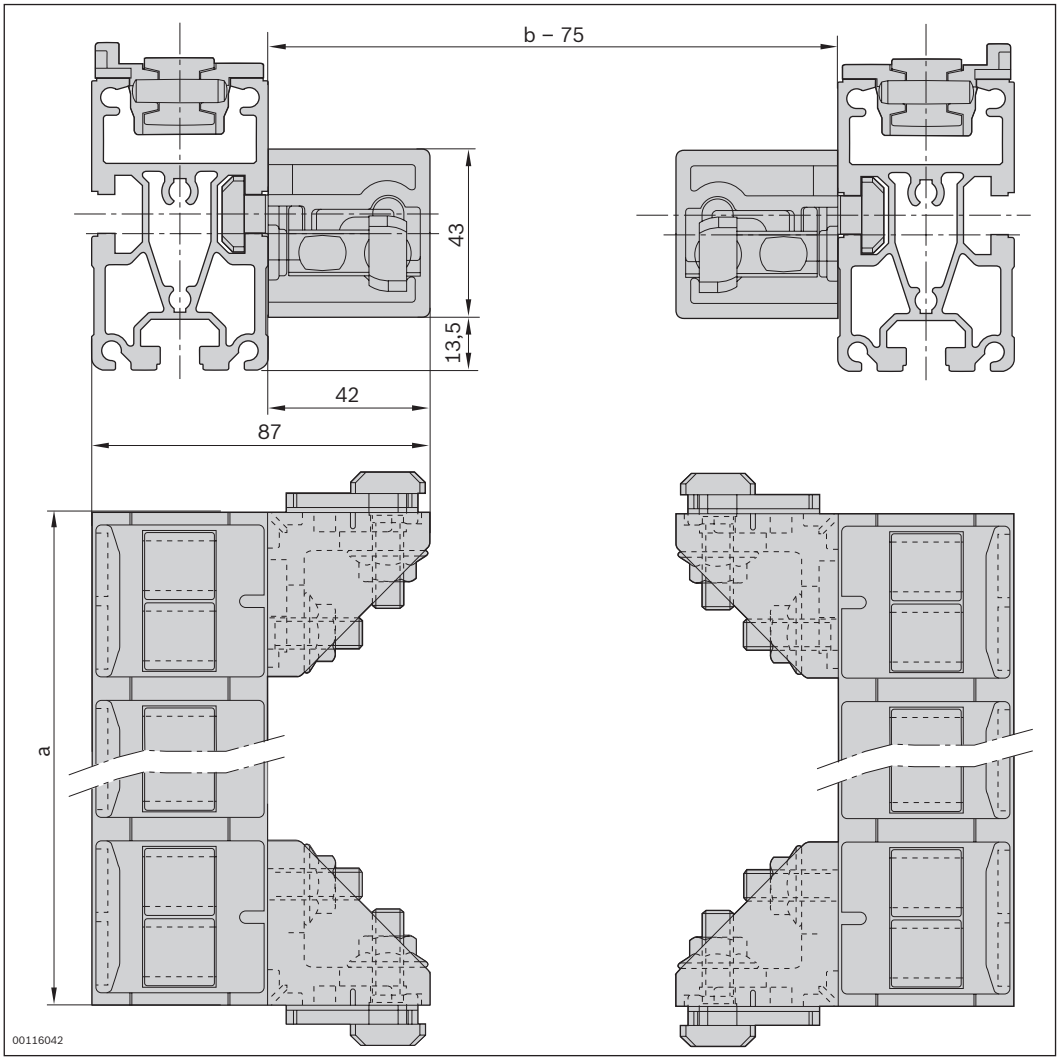
Ordering information

Product description	Material number
RS 2 roller section a = 90	3842522140
RS 2 roller section a = 135	3842522141
RS 2 roller section a = 160	3842522142
RS 2 roller section a = 200	3842522143

Technical data



Dimensions



RE roller element



- Assembled roller elements for the manual transportation of workpiece pallets
- Use as an inclined passive conveyor section is possible
- Without built-in drive
- Conveyor medium: rollers made of PA66
- Reversible operation possible
- Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H, WT 2/F-Hand WT 2/LS

Roller elements can be clipped into SP 2/B section profiles instead of driven belts. Roller sections 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 based on the 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. 3-31 in the TS 2*plus* catalog 7.0

Delivery information

Condition on delivery

- Assembled

Ordering information

Product description	Packaging unit	Material number
RB 39 roller element	10	3842520000
ESD RE 39 roller element[1)]	10	3842538245
RE 45 roller element	100	3842319501
ESD RE 45 roller element[1)]	100	3842538064
RE 45 roller element	100	3842319500
ESD SK RE 45 roller element[1)]	100	3842538065

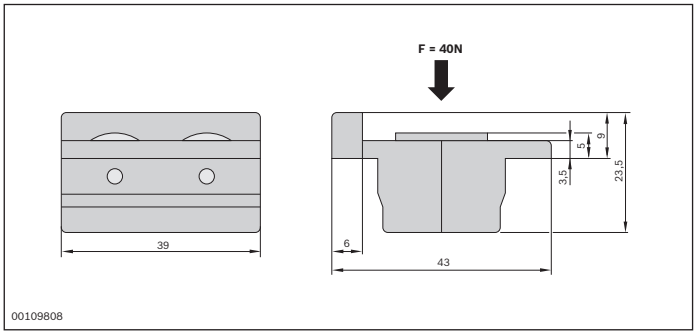
[1)] Version with conductive material in accordance with DIN EN 61 340-5-1, suitable for ESD-sensitive areas.

Technical data

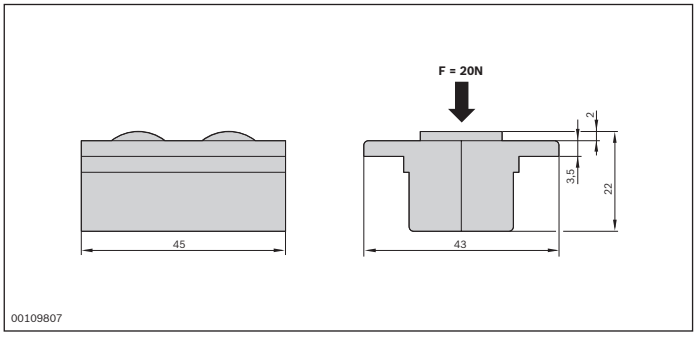
Material number	RE 39	3842520000	3842538245
	RE 45	3842319501	3842538064
	RE 45SK	3842319500	3842538065
Properties			
ESD		no	yes
Material		RE 39, RE 45, RE 45SK: Rollers: PA66 Housing: PA6 RE 39: Bearing: Steel bolt	RE 39, RE 45, RE 45SK: Rollers: PA66 Housing: PA6 RE 39: Bearing: Steel bolt

Dimensions

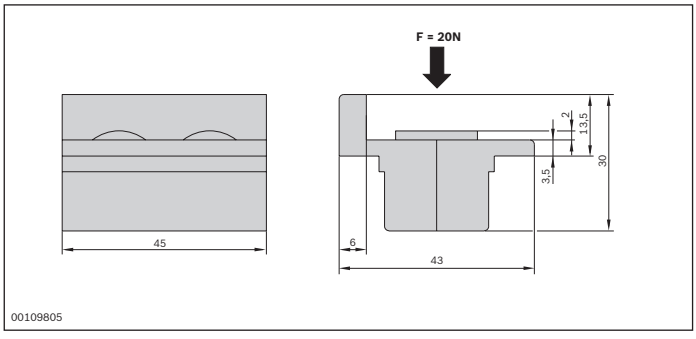
RE 39



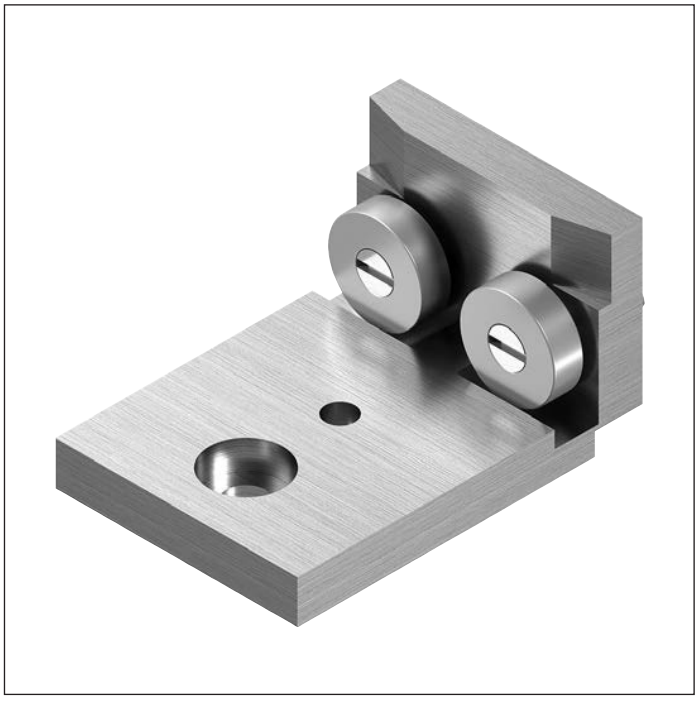
RE 45



RE 45 SK



RB 2/UM 2 roller track set



- Mounted roller section for mounting on AS 2/B or UM 2/B for transverse conveying
- 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 set 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 and WT 2/LS

Delivery information

Scope of delivery

- Set (containing 2x roller track, 2x guide profile, 2x fastening kit)

Condition on delivery

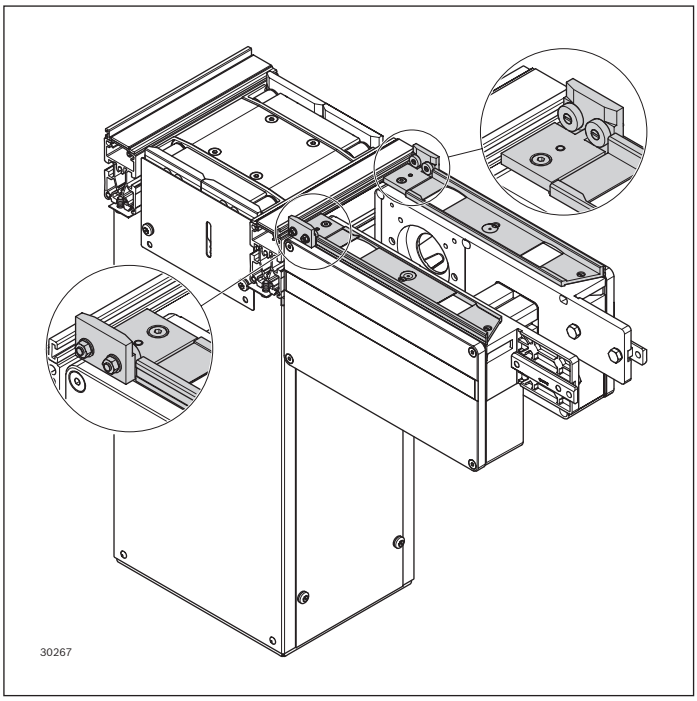
- Assembled

Ordering information

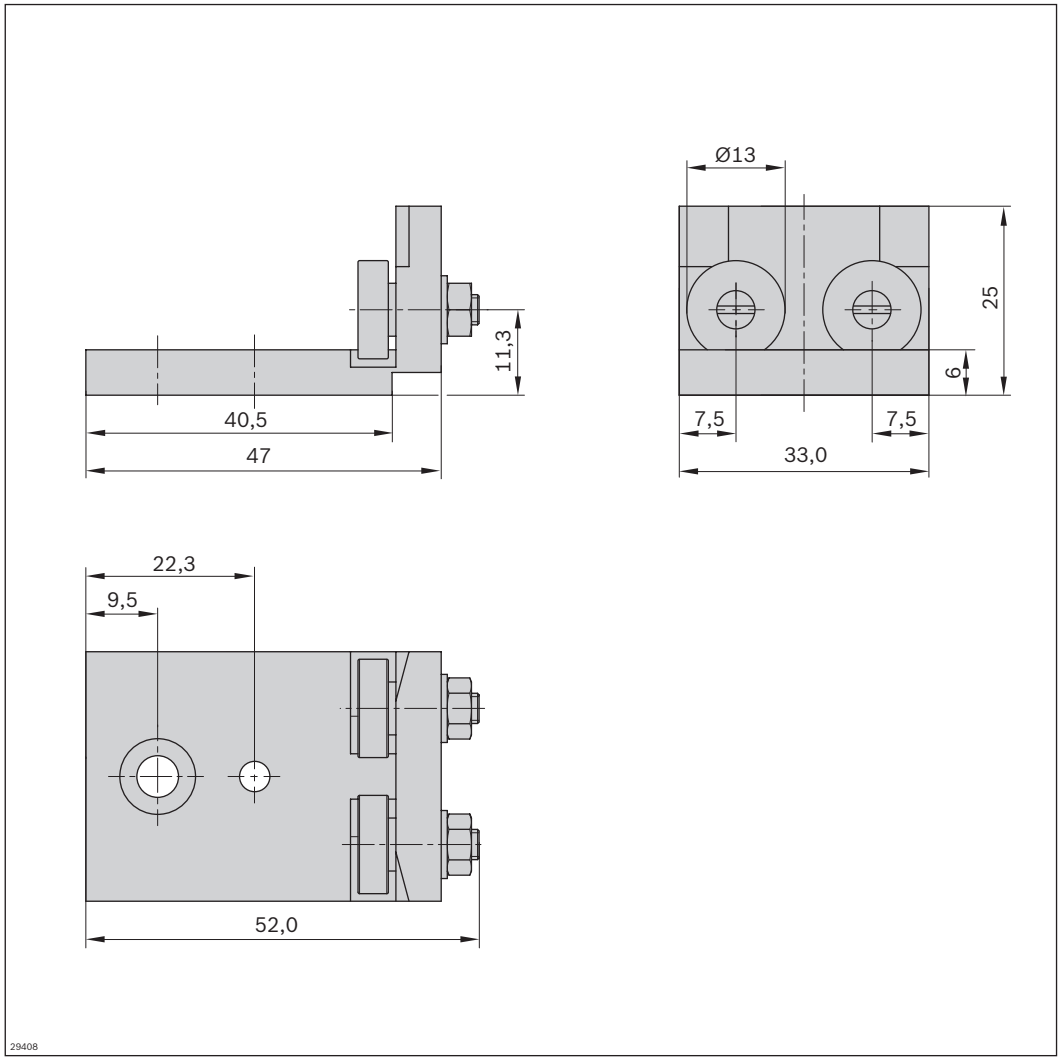
Product description	Packaging unit	Material number
RB 2/UM 2 roller track set	Set	3842558657

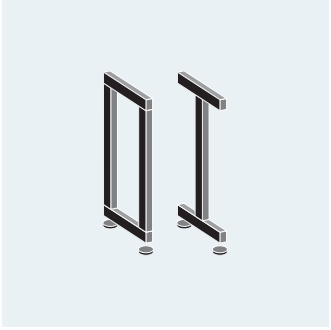
Technical data

Material number	3842558657
Properties	
Material	Track: Aluminum rollers: Steel



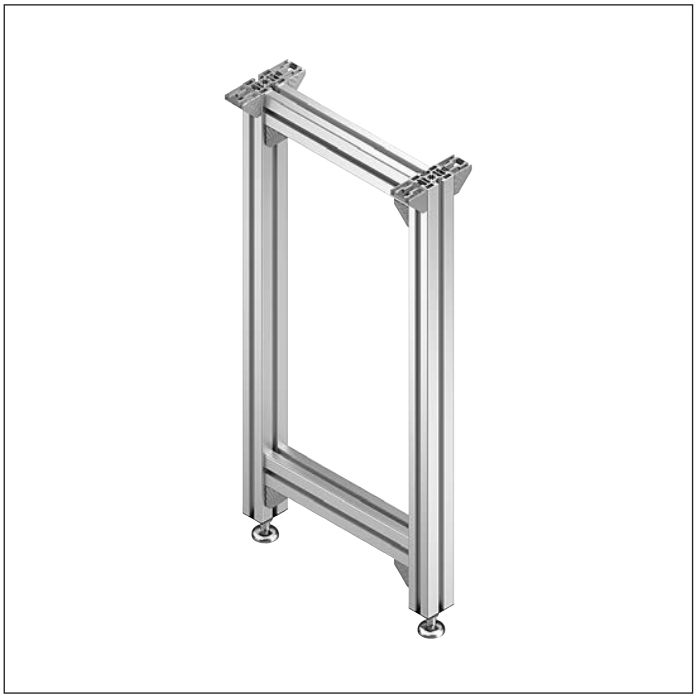
Dimensions





Leg sets

Leg set SZ 2



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

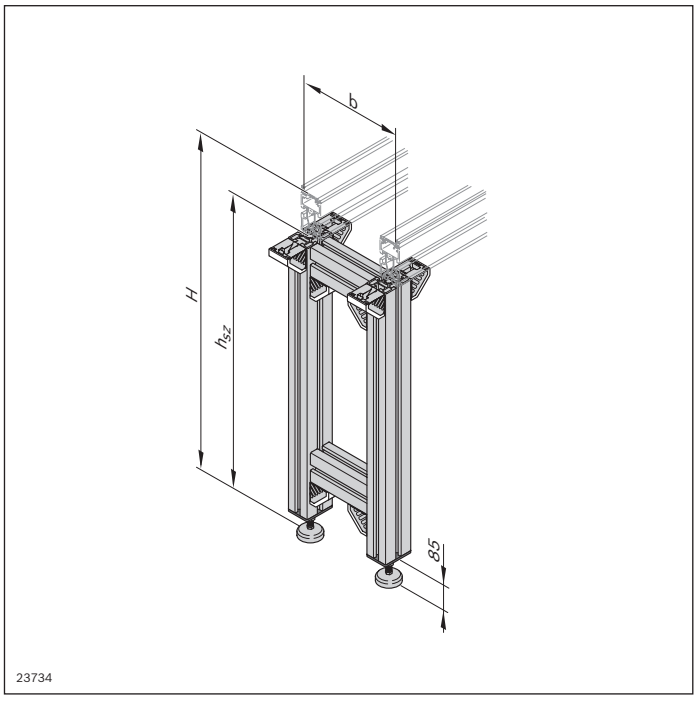
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



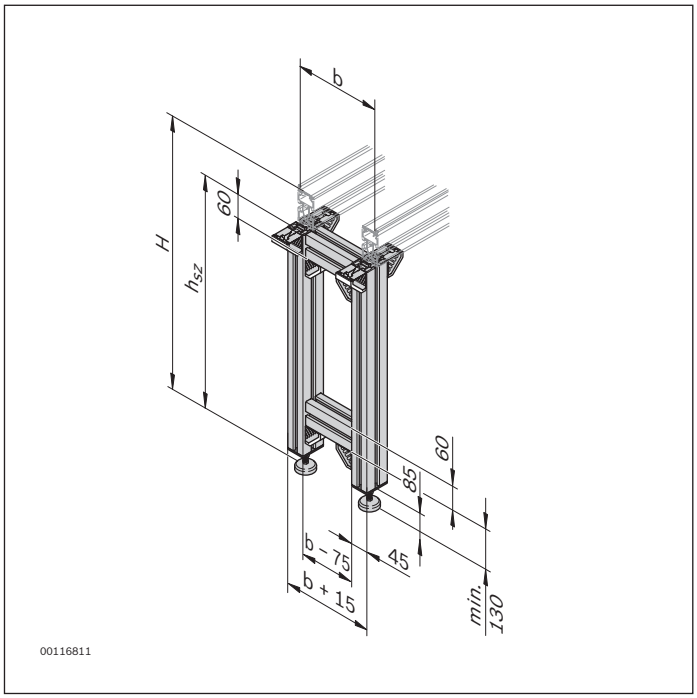
Material number		3842996320	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm) *H = h_{SZ}*+ AO*	Transportation height	ST 2/B-50: Lift gate: ST 2/B: ST 2/B-100:	350 ... 2000 355 ... 2000 375 ... 2000 395 ... 2000
AO	Installation location SP 2/B-50: Lift gate: ST 2/B; SP 2/BH BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 60; 80; 100 AO = 55 AO = 60 AO = 80 AO = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{SZ} = leg set height

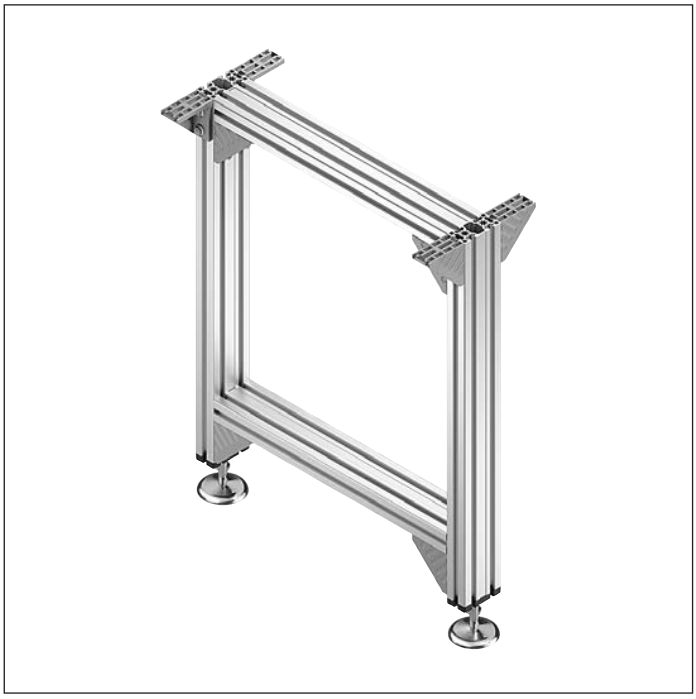
Technical data

Material number	3842996320
Properties	
ESD	yes

Dimensions



Leg set SZ 2/H



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

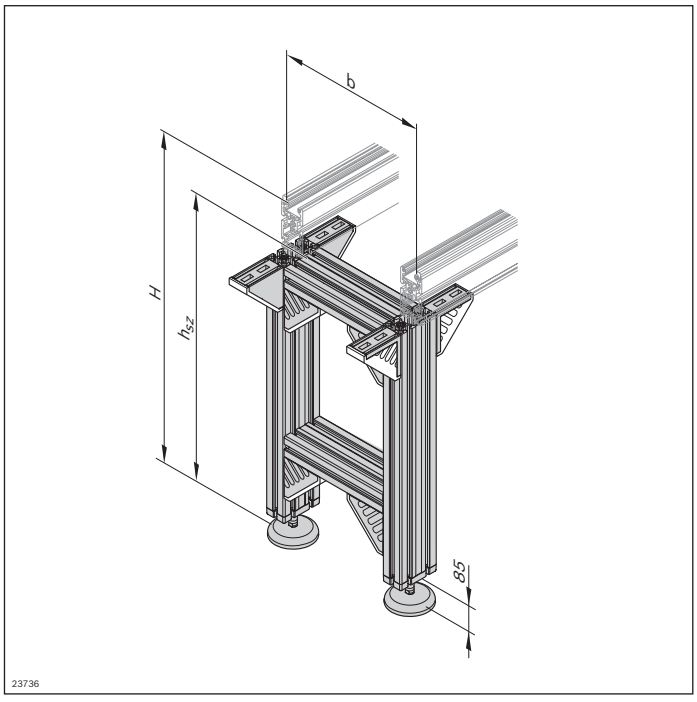
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



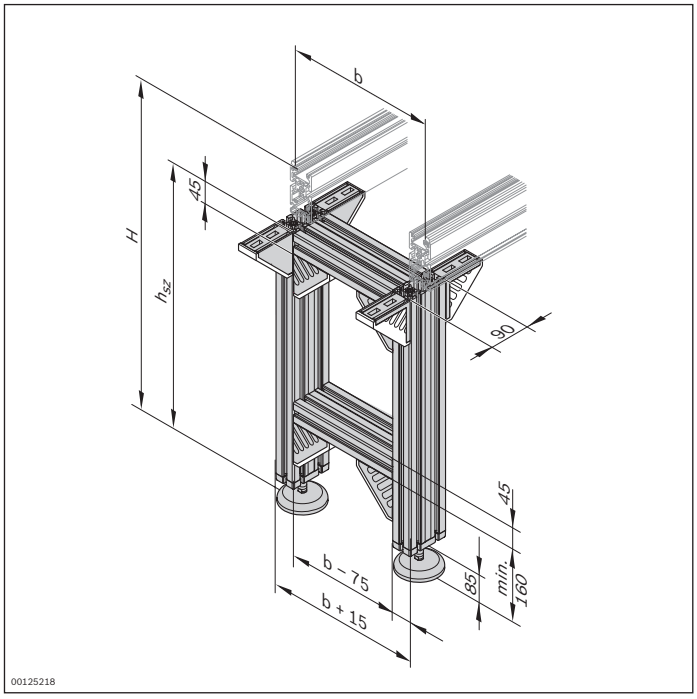
Material number		3842996321	
b (mm)	Track width in direction of transport	400 ... 1200	
H (mm) *H = h_{SZ}*+ AO*	Transportation height	ST 2/B-50: ST 2/B: ST 2/B-100:	410 ... 2000 435 ... 2000 455 ... 2000
AO	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO = 55 AO = 80 AO = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{SZ} = leg set height

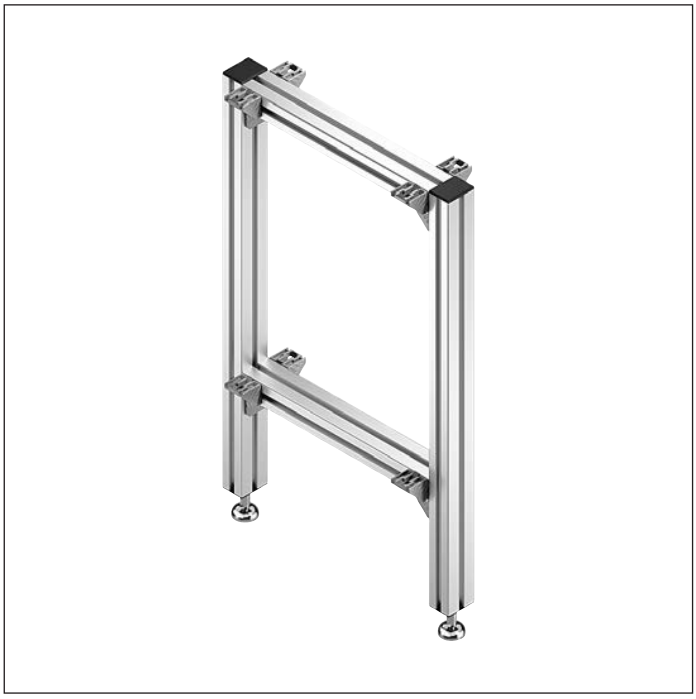
Technical data

Material number	3842996321
Properties	
ESD	yes

Dimensions



Leg set SZ 2/U



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

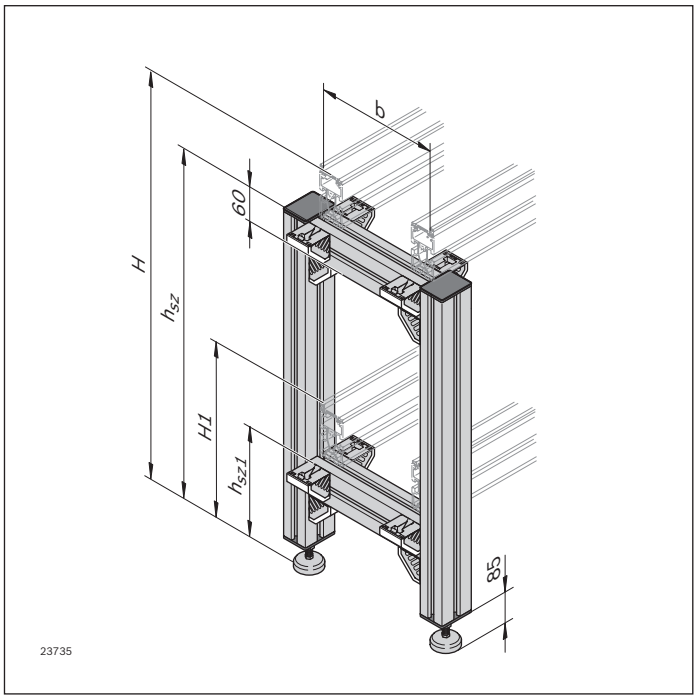
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



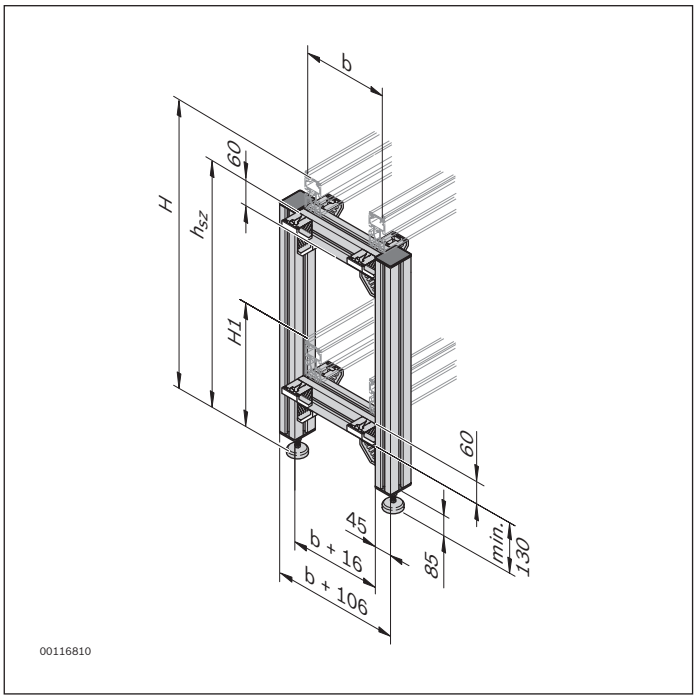
Material number		3842996322	
b (mm)	Track width in direction of transport	160 ... 1200	
H (mm) *H = h_{SZ}*+ AO*[1]	Transportation height	ST 2/B-50: ST 2/B: ST 2/B-100:	475 ... 2000 525 ... 2000 565 ... 2000
H1 (mm) *H1 = h_{SZ1}**+ AO1*[2]		ST 2/B-50: ST 2/B: ST 2/B-100:	245 ... 1770 270 ... 1745 290 ... 1725
AO[1]	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO = 55 AO = 80 AO = 100	
AO1[2]	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO1 = 55 AO1 = 80 AO1 = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{SZ} = leg set height at upper transport level
** h_{SZ1} = leg set height at lower transport level
[1] Upper transport level
[2] Lower transport level

Technical data

Material number	3842996322
Properties	
ESD	yes

Dimensions



Leg set SZ 2/U-H



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

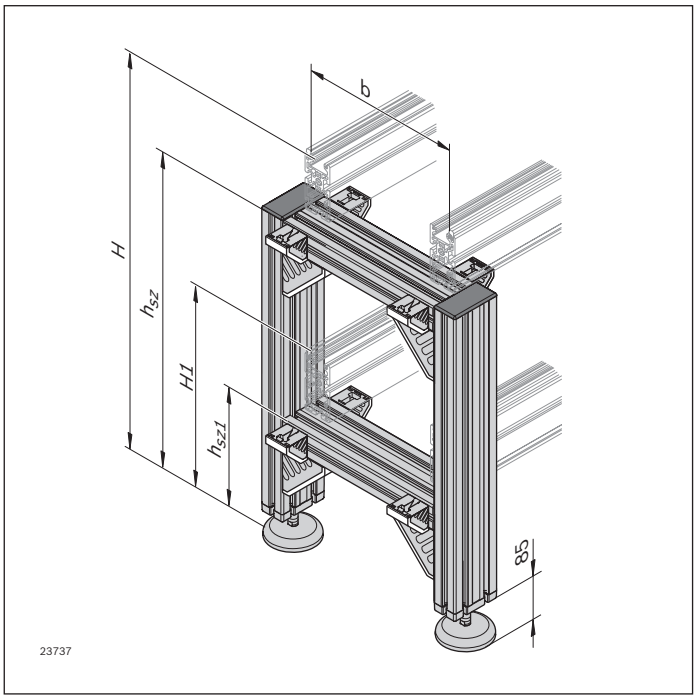
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



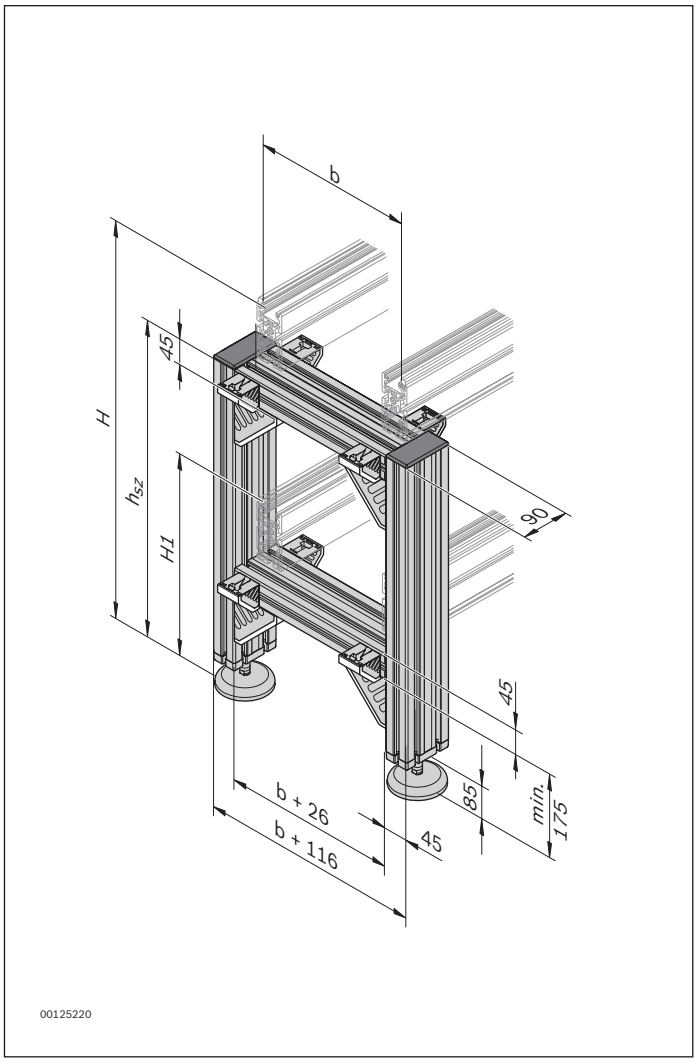
Material number		3842996323	
b (mm)	Track width in direction of transport	400 ... 1200	
H (mm) *H = h_{SZ}*+ AO*[1]	Transportation height	ST 2/B-50: ST 2/B: ST 2/B-100:	535 ... 2000 585 ... 2000 625 ... 2000
H1 (mm) *H1 = h_{SZ1}**+ AO1*[2]		ST 2/B-50: ST 2/B: ST 2/B-100:	275 ... 1740 300 ... 1715 320 ... 1695
AO[1]	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO = 55 AO = 80 AO = 100	
AO1[2]	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO1 = 55 AO1 = 80 AO1 = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	

*h_{SZ} = leg set height at upper transport level
*h_{SZ1} = leg set height at lower transport level
[1] Upper transport level
[2] Lower transport level

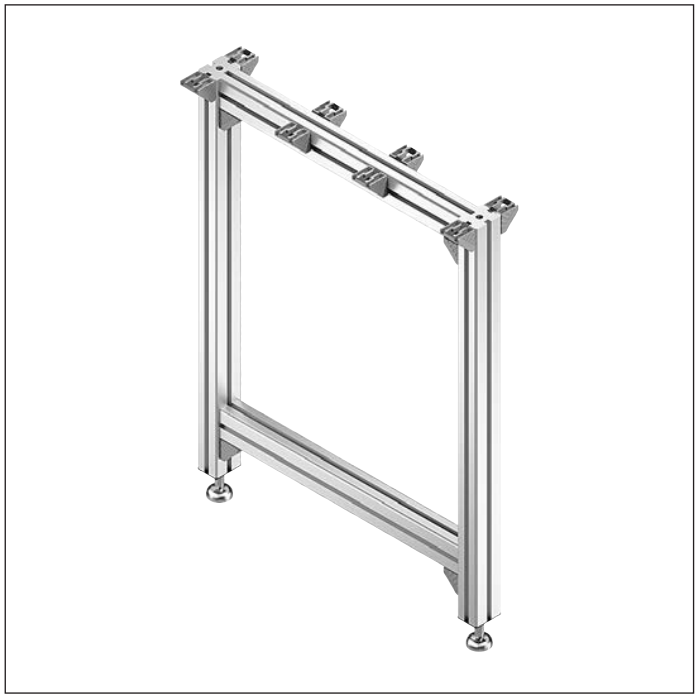
Technical data

Material number	3842996323
Properties	
ESD	yes

Dimensions



Leg set SZ 2/T



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

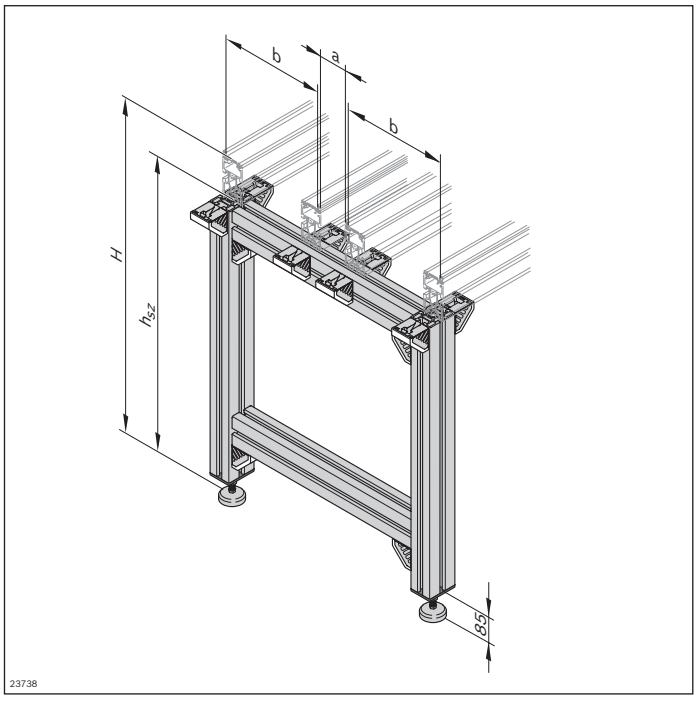
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on conveyor section, drive module or return unit

Condition on delivery

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

Ordering information



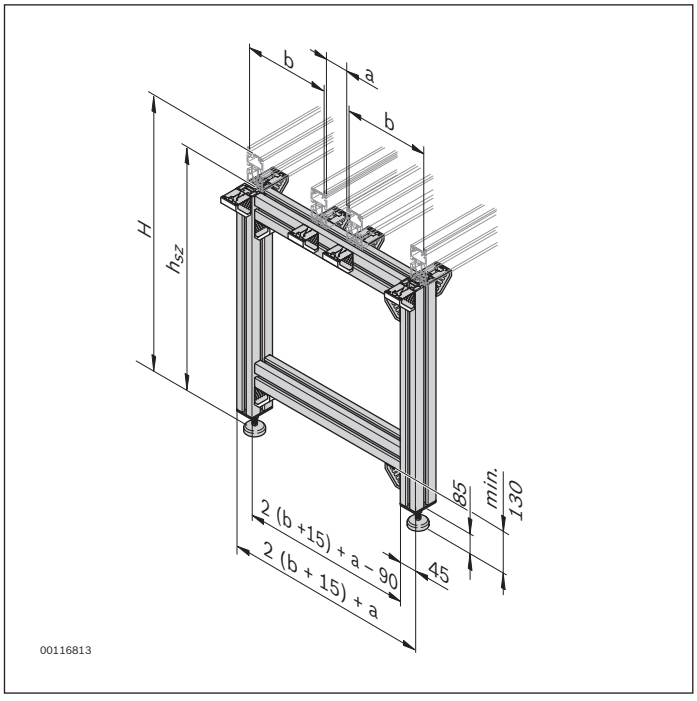
Material number		3842996324	
b (mm)	Track width in direction of transport	160 ... 480	
H (mm) *H = h_{SZ}*+ AO*	Transportation height	ST 2/B-50: ST 2/B: ST 2/B-100:	350 ... 2000 375 ... 2000 395 ... 2000
AO	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO = 55 AO = 80 AO = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	
a (mm)	Distance between conveyors	45; 90; 135	

*h_{SZ} = leg set height

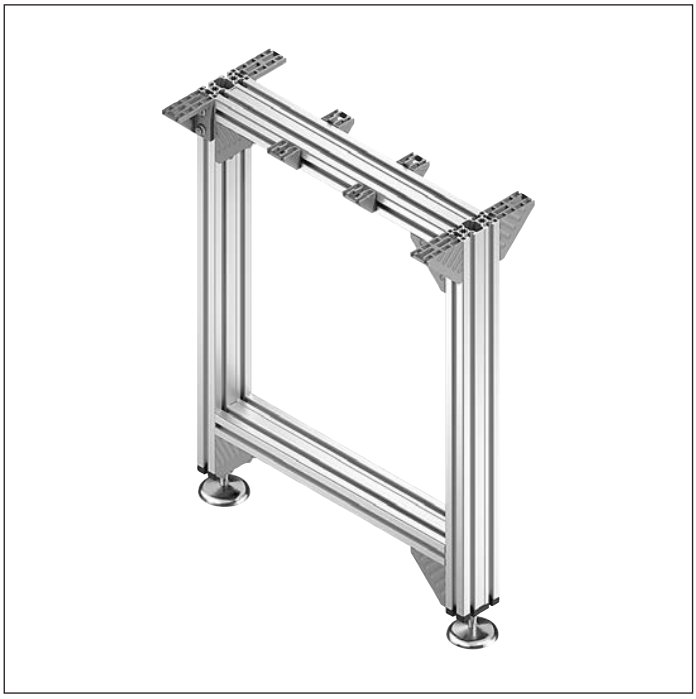
Technical data

Material number	3842996324
Properties	
ESD	yes

Dimensions



Leg set SZ 2/T-H



- 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 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

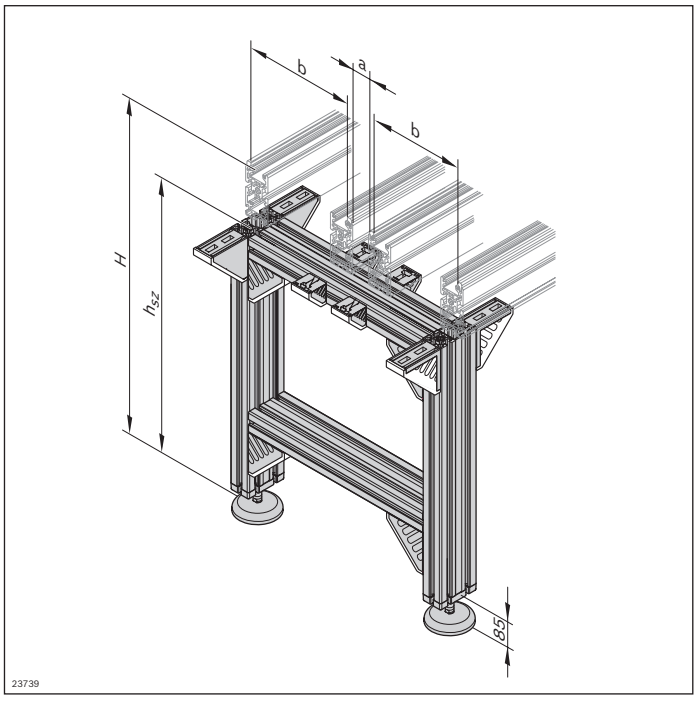
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material to mount on 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 ... 480	
H (mm) $H = h_{SZ}^{*} + AO$	Transportation height	ST 2/B-50: ST 2/B: ST 2/B-100:	410 ... 2000 435 ... 2000 455 ... 2000
AO	Installation location SP 2/B-50: ST 2/B; SP 2/BH; BS 2; BS 2/M: ST 2/B-100; ST 2/C-100; ST 2/R-100; ST 2/C-H; ST 2/R-H; ST 2/R-V; BS 2/C; BS 2/C-H; BS 2/R; BS 2/R-H; BS 2/R-V; CS/C:	55; 80; 100 AO = 55 AO = 80 AO = 100	
MT	Kit 0 = not assembled 1 = assembled	0; 1	
a (mm)	Distance between conveyors	45; 90; 135	

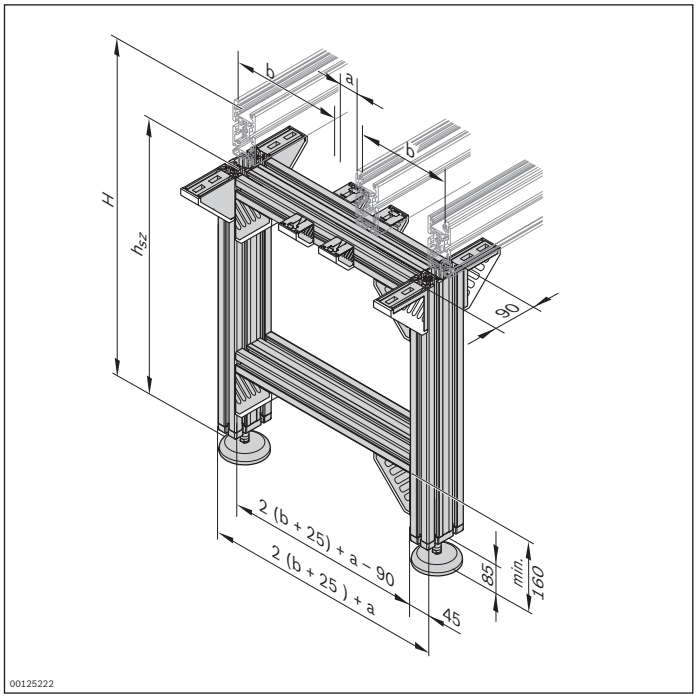
*h_{SZ} = leg set height

6

Technical data

Material number	3842996325
Properties	
ESD	yes

Dimensions



Leg set SZ 2/K-90



- Leg set for K...-90 curves

The leg sets support a 90° curve.

Accessories

Required accessories

- Foundation bracket 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

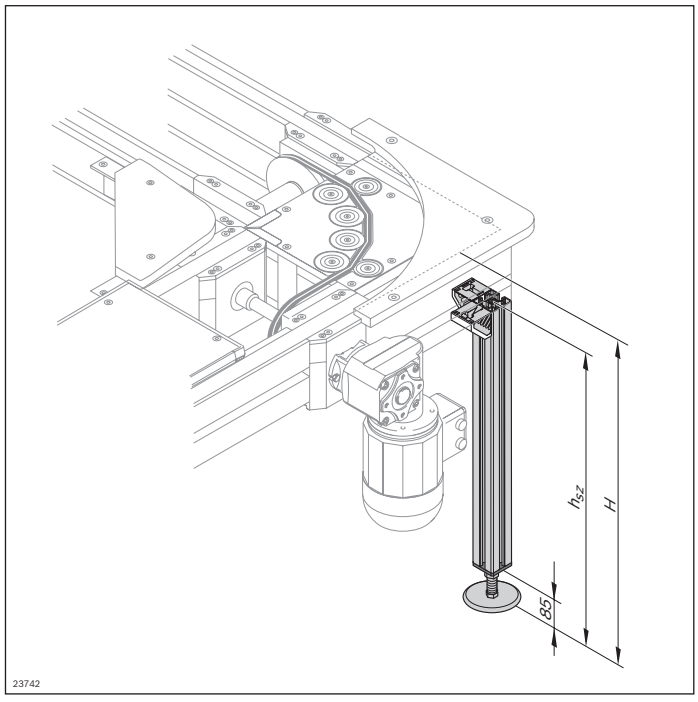
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material for mounting on the KE 2/90 curve

Condition on delivery

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

Ordering information



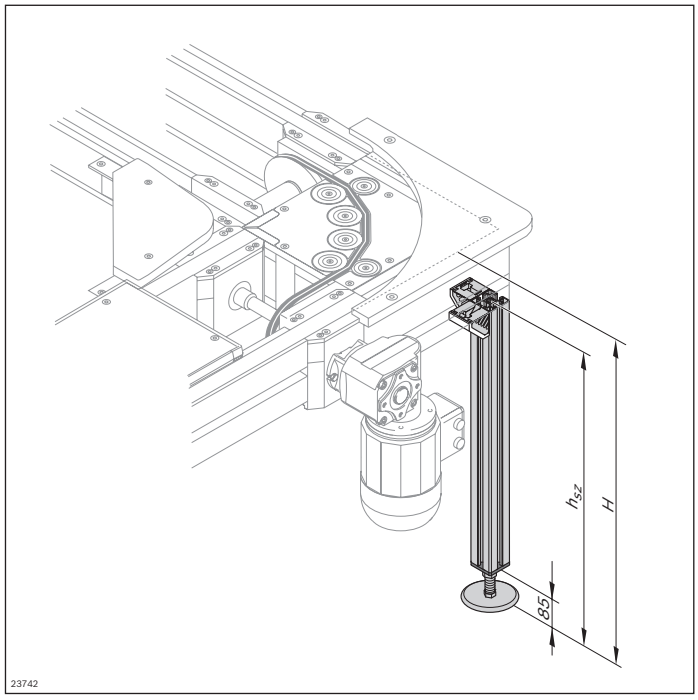
Material number		3842996326
H (mm) *H = h_{SZ}*+ AO*	Transportation height	376 ... 2000
AO	Installation location	91
MT	Kit 0 = not assembled 1 = assembled	0; 1

*h_{SZ} = leg set height

Technical data

Material number	3842996326
Properties	
ESD	yes

Dimensions



Leg set SZ 2/K-180



- Leg set for K...-180 curves

The leg sets support a 180° curve.

Accessories

Required accessories

- Foundation bracket 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

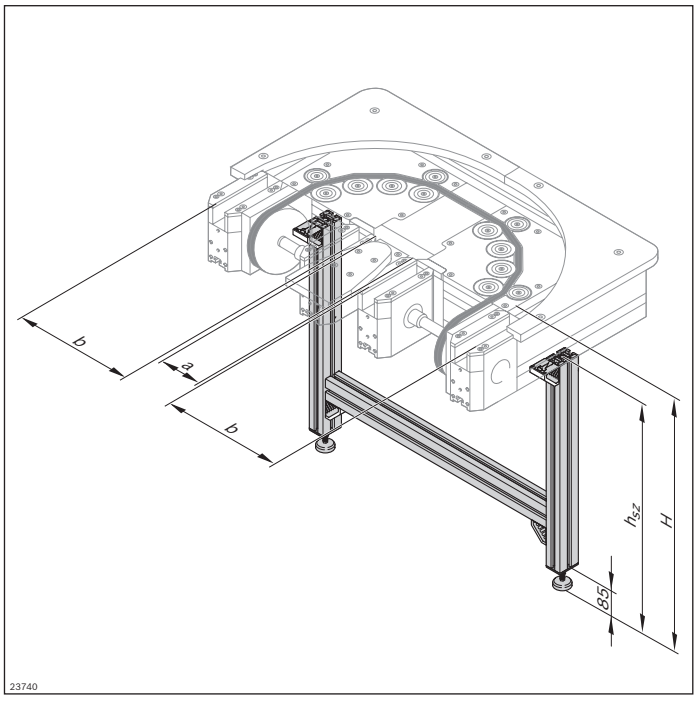
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. all fastening material for mounting on the KE 2/180 curve

Condition on delivery

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

Ordering information



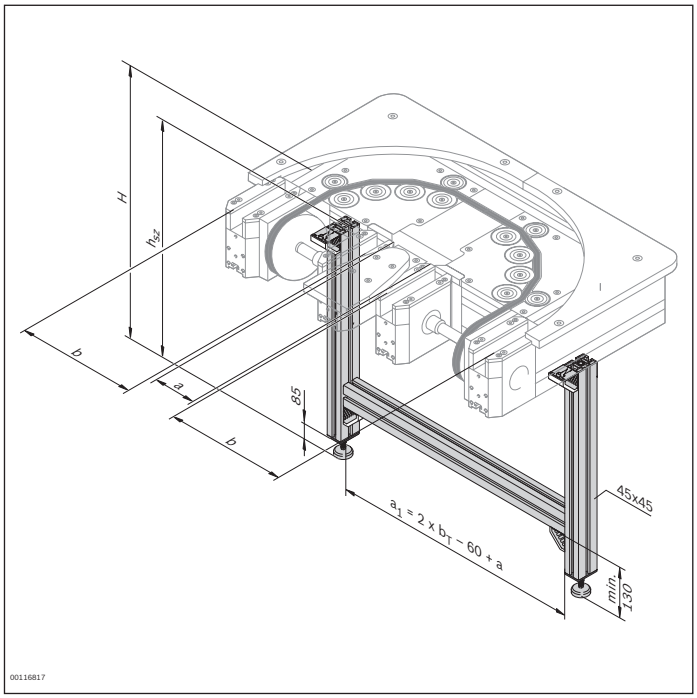
Material number		3842996327
b (mm)	Track width in direction of transport	160 ... 400
H (mm) *H = h_{SZ}*+ AO*	Transportation height	376 ... 2000
AO	Installation location	91
MT	Kit 0 = not assembled 1 = assembled	0; 1
a (mm)	Distance between conveyors	90; 135

*h_{SZ} = leg set height

Technical data

Material number	3842996327
Properties	
ESD	yes

Dimensions



Leg set HD 2/H



- Leg set for HD 2/H lift rotary unit
- For size 2 over 50 kg (Size 2)
- For size 3 generally (Size 3)

Accessories

Required accessories

- Foundation bracket 3842146848, see p. 3-56
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

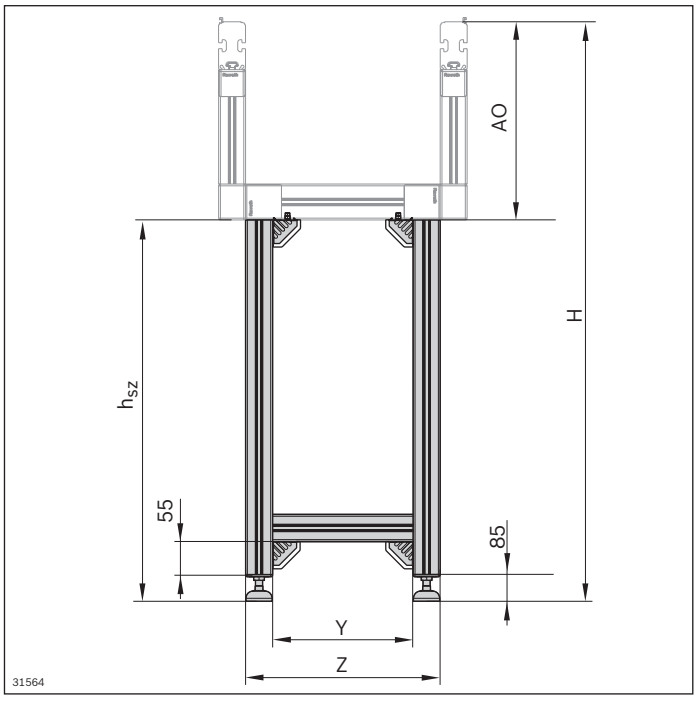
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. fastening material

Condition on delivery

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

Ordering information



HD 2/H leg set, Size 2[1)]

Material number		3842993324
H (mm) *H = h_{SZ}*+ AO*	Transportation height	595 ... 2000
DW (°)	Rotation angle	90; 180
MT	Kit 0 = not assembled 1 = assembled	0; 1

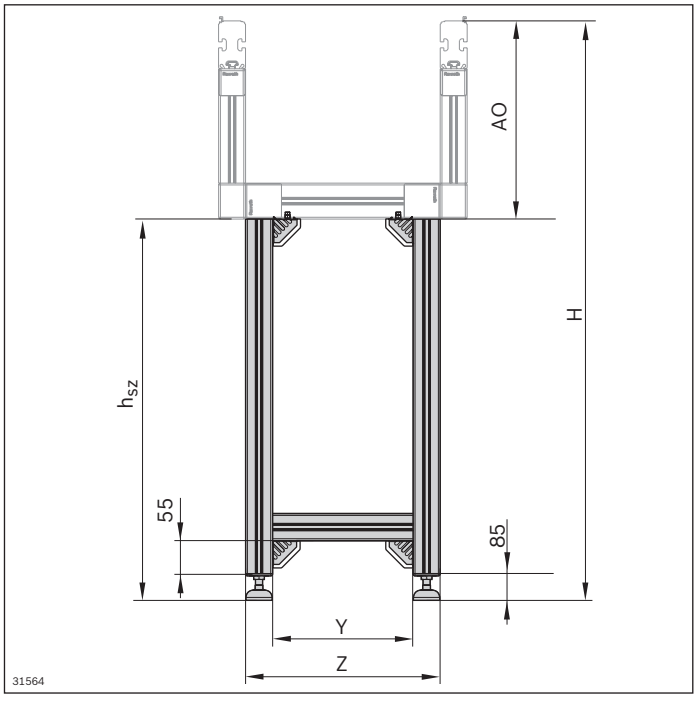
[1)] for size 2 over 50 kg
*h_{SZ} = leg set height

HD 2/H leg set, Size 3[2)]

Material number		3842993325
H (mm) *H = h_{SZ}*+ AO*	Transportation height	625 ... 2000
DW (°)	Rotation angle	90; 180
MT	Kit 0 = not assembled 1 = assembled	0; 1

[2)] for size 3 generally
*h_{SZ} = leg set height

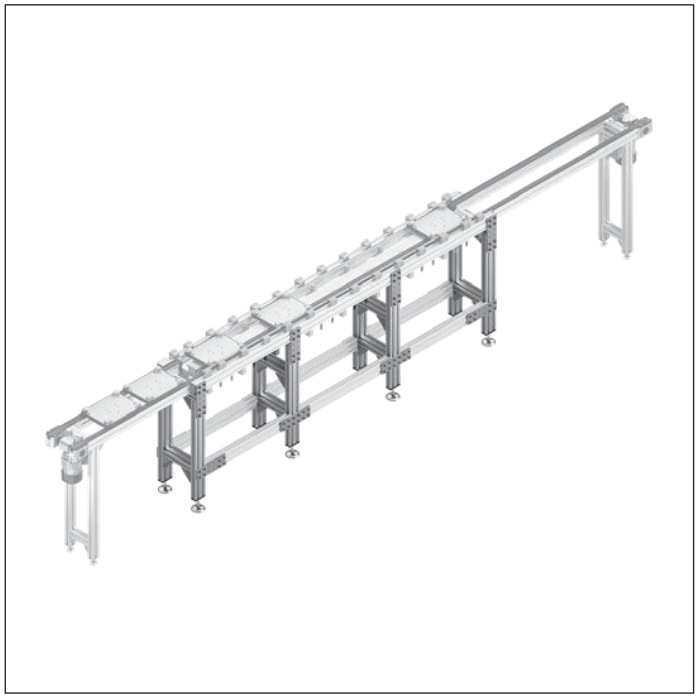
Dimensions



	Size 2, DW = 90°	Size 2, DW = 180°	Size 3, DW = 90°	Size 3, DW = 180°
AO	331	226	362	257
Y	235	235	480	480
Z	325	325	570	570

6

Leg set SZ 2/LS...



- Leg set for mounting LS 2 linear sections
- Standard version in 2 variants:
  - SZ 2/LS END:
    for installation at the beginning and end of a linear section LS 2 and for connecting LS 2 linear sections with BS 2 belt sections
  - SZ 2/LS MID:
    for mounting a linear section LS 2 between two SZ 2/LS END leg sets for conveyor sections > 918 mm

The leg sets support belt sections or linear section units with high loads and dynamics. They are only suitable for linear sections LS 2.

Accessories

Required accessories

- LV 2 longitudinal connector, see p. 6-24
- Foundation bracket 3842146848, see p. 3-56
- T-bolt 3842528718, see p. 6-31 in the TS 2*plus* catalog 7.0
- Flange nut 3842345081, see p. 6-32 in the TS 2*plus* catalog 7.0
- Floor dowel 3842526560, see p. 3-57

Recommended accessories

- Bracket cover caps, see p. 6-33 in the TS 2*plus* catalog 7.0

Delivery information

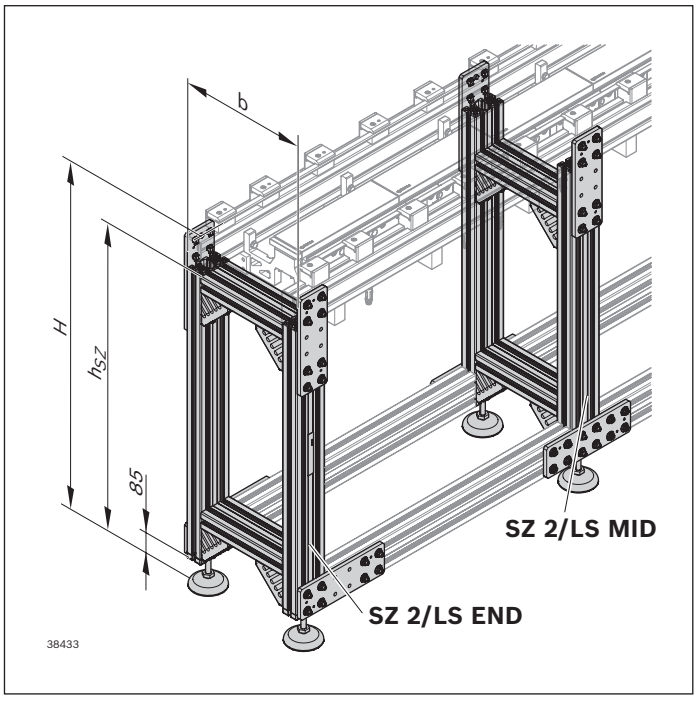
Scope of delivery

- Incl. height-adjustable leveling foot
- Incl. fastening material for assembly on LS 2 conveyor sections
- SZ 2/LS END: incl. adjustment kit BS 2 - LS 2

Condition on delivery

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

Ordering information



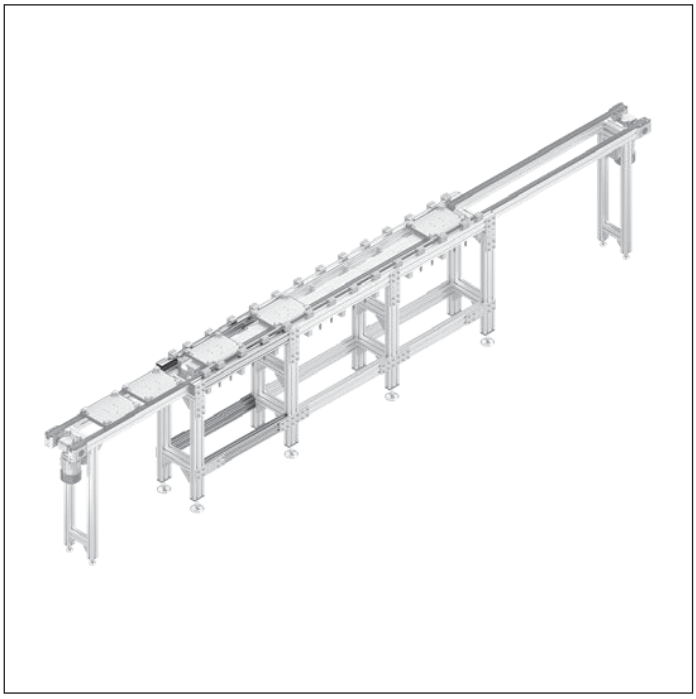
Material number		3842998906 SZ 2/LS END	3842998907 SZ 2/LS MID
b (mm)	Track width in direction of transport	160 ... 400	160 ... 400
H (mm)	Transportation height	435... 1000	435... 1000
MT	Kit 0 = not assembled 1 = assembled	0; 1	0; 1

*h_{SZ} = leg set height

Technical data

Material number	3842998906 SZ 2/LS END	3842998907 SZ 2/LS MID
Properties		
ESD	yes	yes

Longitudinal connector LV 2



- For establishing a stable connection between the leg sets SZ 2/LS END and SZ 2/LS MID
- For accommodating high loads and dynamics

Accessories

Required accessories

- SZ 2/LS END and SZ 2/LS MID leg sets, see p. 6-22

Delivery information

Scope of delivery

- Incl. fastening material for mounting on the SZ 2/LS END and SZ 2/LS MID leg sets

Condition on delivery

- Assembly required

Ordering information

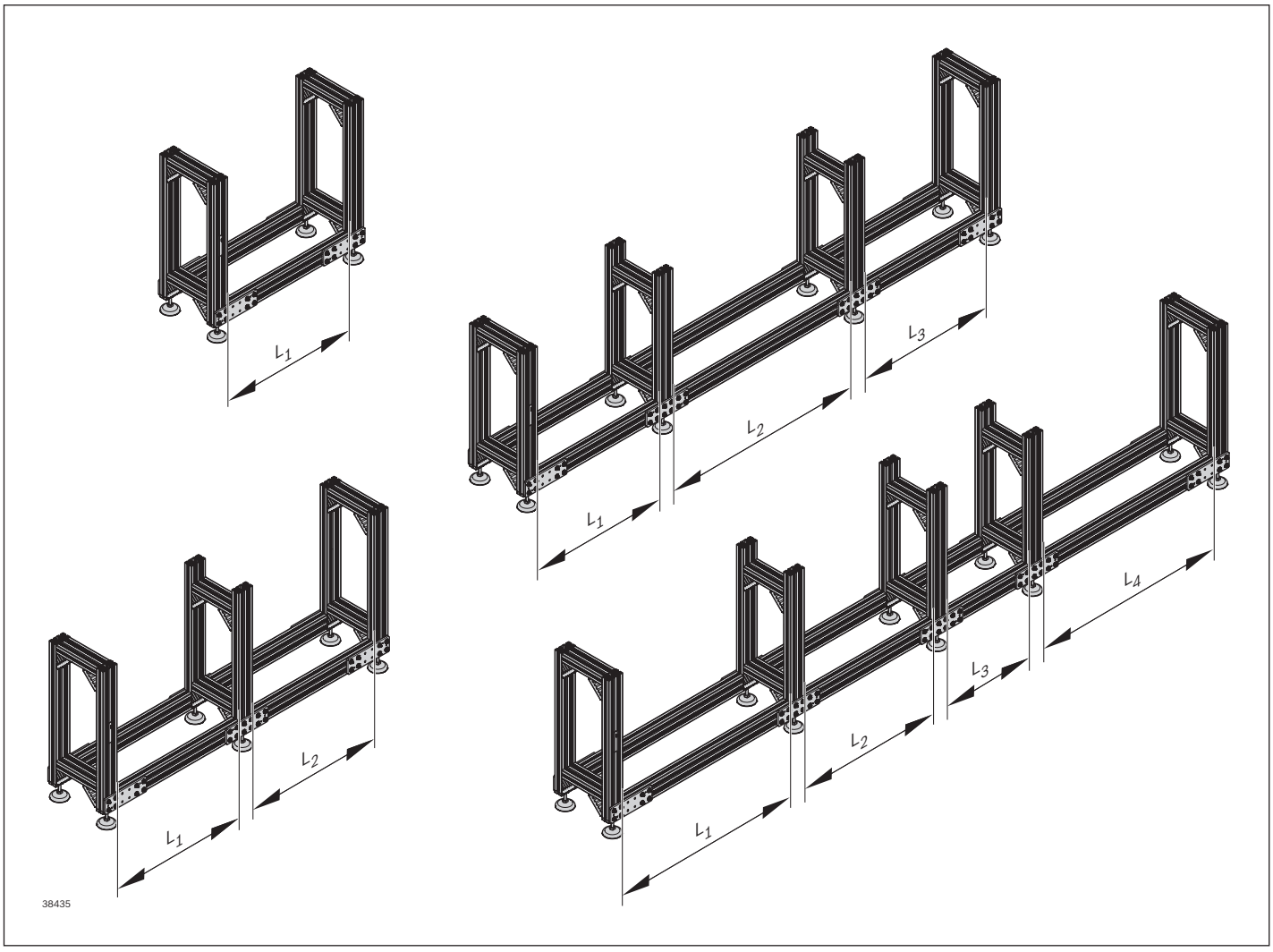
Material number		3842998908
l[1)] (mm)	Length	306; 612; 918; 1224; 1530; 1836; 2142; 2448; 2754; 3060; 3366; 3672

[1)] l = n x motor length of 306 mm

Technical data

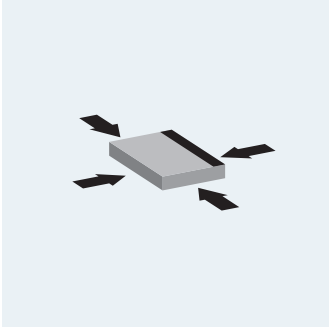
Material number	3842998908
Properties	
ESD	yes

Dimensions



Lengths of LV 2 longitudinal connectors

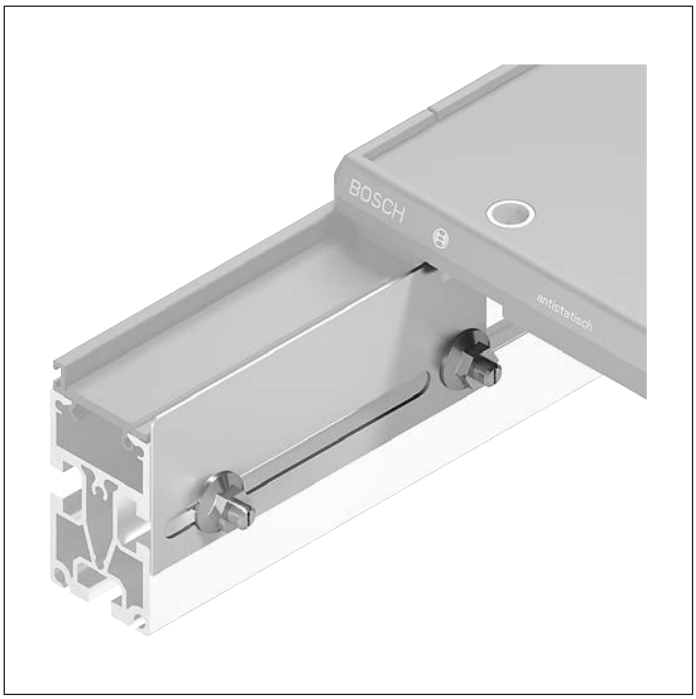
Number of leg sets	Version	Total length of motor modules l (mm)	Number of longitudinal connectors by length	Lengths of LV 2 longitudinal connectors			
				L_1 (mm)	L_2 (mm)	L_3 (mm)	L_4 (mm)
2	SZ 2/LS END	306	2	416	–	–	–
		612	2	722	–	–	–
		918	2	1028	–	–	–
2	SZ 2/LS END	1224	2	775	469	–	–
1	SZ 2/LS MID	1530	2	775	775	–	–
		1836	2	1081	775	–	–
		2142	2	1081	1081	–	–
2	SZ 2/LS END	2448	2	775	828	775	–
2	SZ 2/LS MID	2754	2	775	1134	775	–
		3060	2	1081	828	1081	–
		3366	2	1081	1134	1081	–
2	SZ 2/LS END	3672	2	1081	828	522	1081
3	SZ 2/LS MID						



Positioning and orientation

Workpiece pallet inner 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, WT 2/E and WT 2/LS workpiece pallets (from b ≥ 240 mm)

Using a workpiece pallet inner 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. 8-2

Delivery information

Scope of delivery

- Including fastening material for installation on the ST 2/... conveyor section or BS 2/... belt section.

Condition on delivery

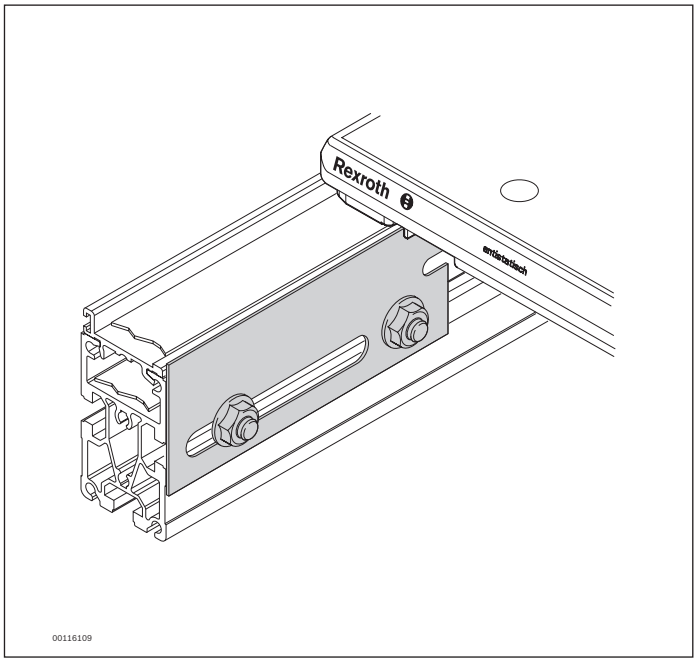
- Assembly required

Ordering information

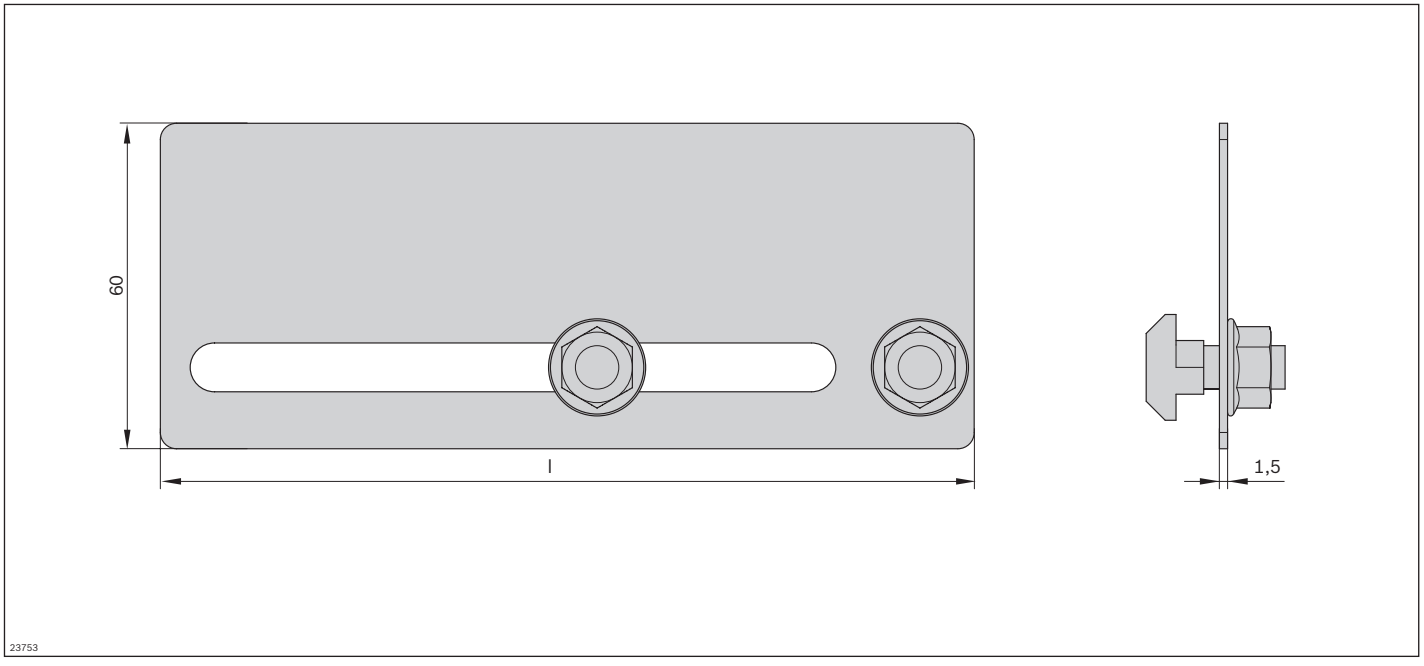
Product description	Length l (mm)	Material number
Workpiece pallet inner guide	45	3842525634
Workpiece pallet inner guide	150	0842601001
Workpiece pallet inner guide	300	0842601003
Workpiece pallet inner guide	450	0842601004
Workpiece pallet inner guide	600	0842601006

Technical data

Material number			0842601001	0842601003	0842601004	0842601006	3842525634
Properties							
ESD			yes	yes	yes	yes	yes
Material			Steel; stainless	Steel; stainless	Steel; stainless	Steel; stainless	Steel; stainless
Dimensions							
Length	l	mm	150	300	450	600	45
Additional information							
Repeat accuracy		mm	±0.5	±0.5	±0.5	±0.5	±0.5

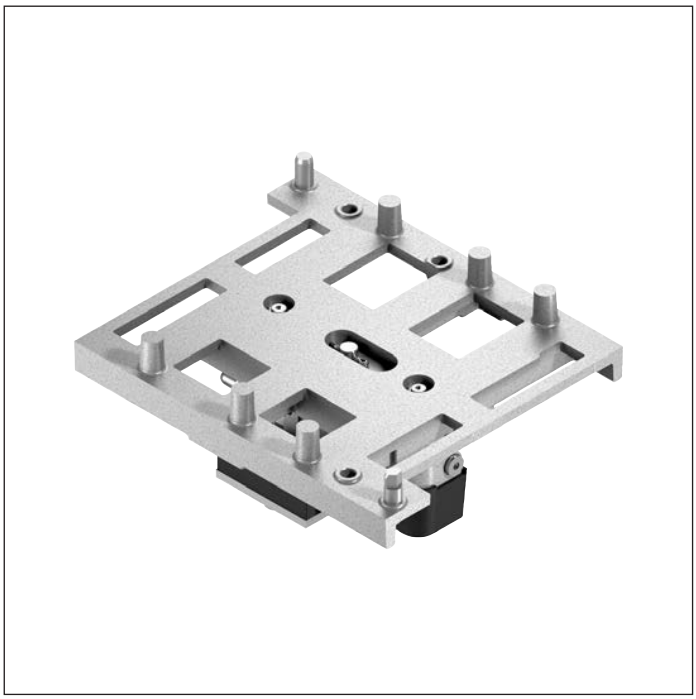


Dimensions



Positioning unit PE 2...





- To position a workpiece pallet in a manual/automatic processing station
- For high repeat 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
- The sizes 160x160 mm up to 240x400 mm can only be combined with WT 2/LS in the LS version.
  All other sizes (320x160 mm to 400 x 400 mm) can be combined with WT 2/LS without restrictions

Accessories

Required accessories

- VE 2/... stop gate, see p. 8-2
- Pneumatic equipment, connectors

Recommended accessories

- Position sensor kit for PE 2, see p. 7-12 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

- Incl. fastening material

Condition on delivery

- Assembled

Ordering information

Product description	Positioning unit b x l_T (mm)	Material number
PE 2 positioning unit	160 x 160	3842504706
PE 2 positioning unit/*LS*	160 x 160	3842563400
PE 2 positioning unit	160 x 240	3842504707
PE 2/LS positioning unit	160 x 240	3842563401
PE 2 positioning unit	160 x 320	3842504708
PE 2/LS positioning unit	160 x 320	3842563402
PE 2 positioning unit	240 x 160	3842504710
PE 2/LS positioning unit	240 x 160	3842563403
PE 2 positioning unit	240 x 240	3842504711
PE 2/LS positioning unit	240 x 240	3842563404
PE 2 positioning unit	240 x 320	3842504712
PE 2/LS positioning unit	240 x 320	3842563405
PE 2 positioning unit	240 x 400	3842504713
PE 2/LS positioning unit	240 x 400	3842563406
PE 2[1)] positioning unit	320 x 160	3842504714
PE 2[1)] positioning unit	320 x 240	3842504715
PE 2[1)] positioning unit	320 x 320	3842504716
PE 2[1)] positioning unit	320 x 400	3842504717
PE 2[1)] positioning unit	400 x 320	3842504718
PE 2[1)] positioning unit	400 x 400	3842504719

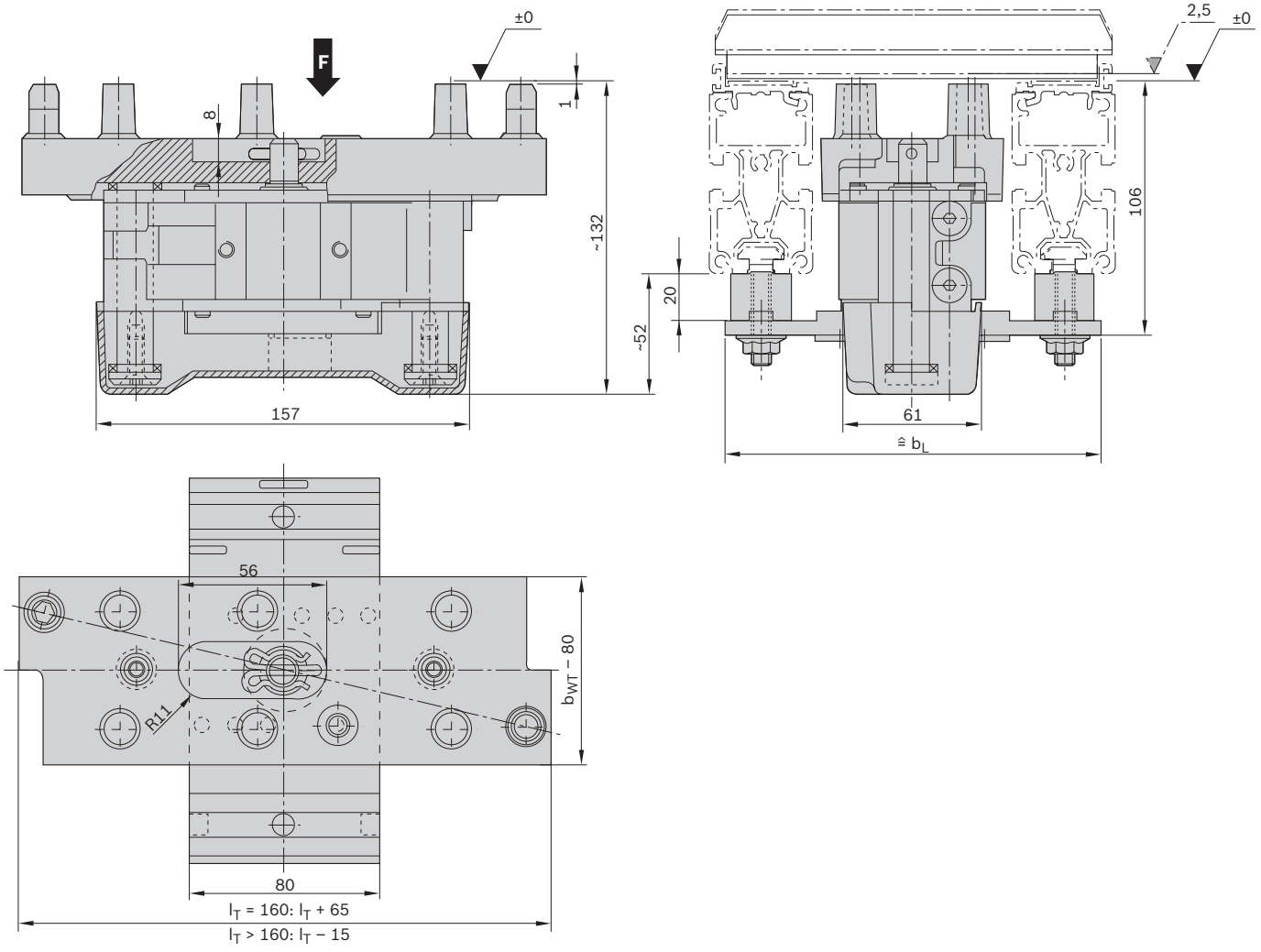
1) Can be combined with WT 2/LS, no special LS version required

Technical data

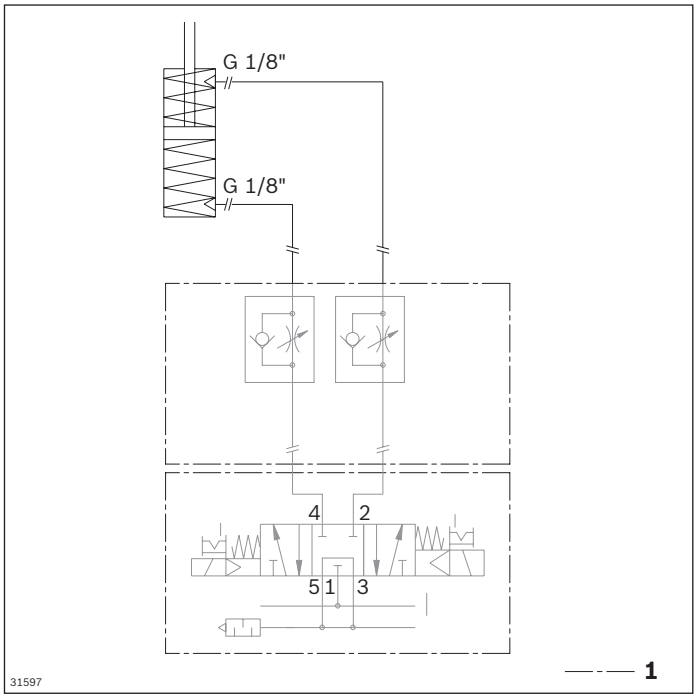
Material number			3842504706 3842563403 3842504714 3842563400 3842504711 3842504715 3842504707 3842563404 3842504716 3842563401 3842504712 3842504717 3842504708 3842563405 3842504718 3842563402 3842504713 3842504719 3842504710 3842563406
Load			
Max. total workpiece pallet weight	m_G	kg	30
Properties			
ESD			yes
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection[1]	Ø	mm	G1/8"
WT lift above conveying level		mm	2.5
Repeat accuracy		mm	±0.1
Permissible vertical process forces[2]		N	300

[1)] Push-in fitting for thread G1/8" must be attached by the customer
[2)] Incl. WT 2

Dimensions

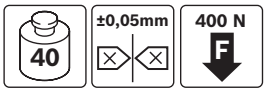

±0
F
8
1
~132
157
~52
20
2,5
±0
106
61
≙ b_L
56
R11
b_{WT} – 80
80
l_T = 160: l_T + 65
l_T > 160: l_T – 15
37556

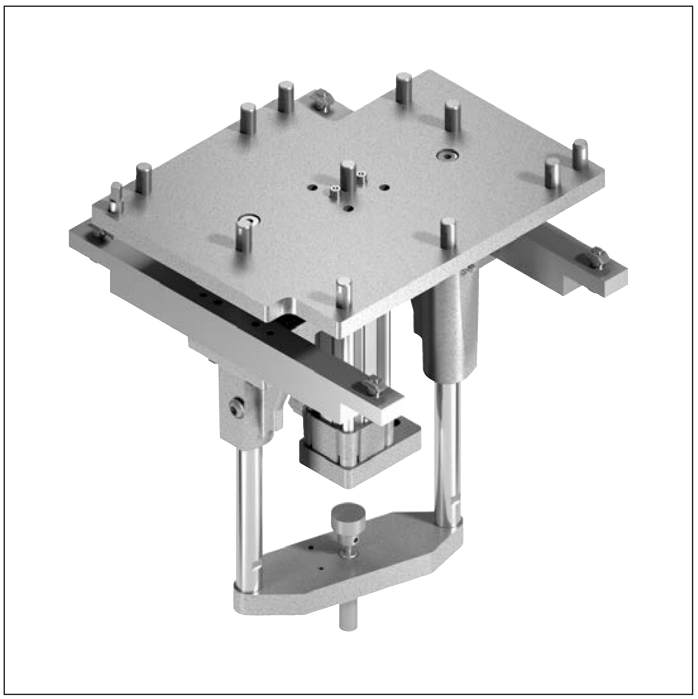
Circuit diagram



1 Not included in the scope of delivery

Lift positioning unit HP 2/L...





- Positions a workpiece pallet in a processing station with high repeat 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 lifting plate
- 5 stroke ranges h_0 from 0 ... 240 mm, continuously 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 and WT 2/LS (only with LS version) workpiece pallets

Accessories

Required accessories

- Position inquiry set for SA lifting cylinder, see p. 7-22 in the TS 2*plus* catalog 7.0
- Position inquiry with turret stop RA, *see p. 7-26 in the TS 2plus* catalog 7.0
- HP 2/L protective case, see p. 7-24 in the TS 2*plus* catalog 7.0

Delivery information

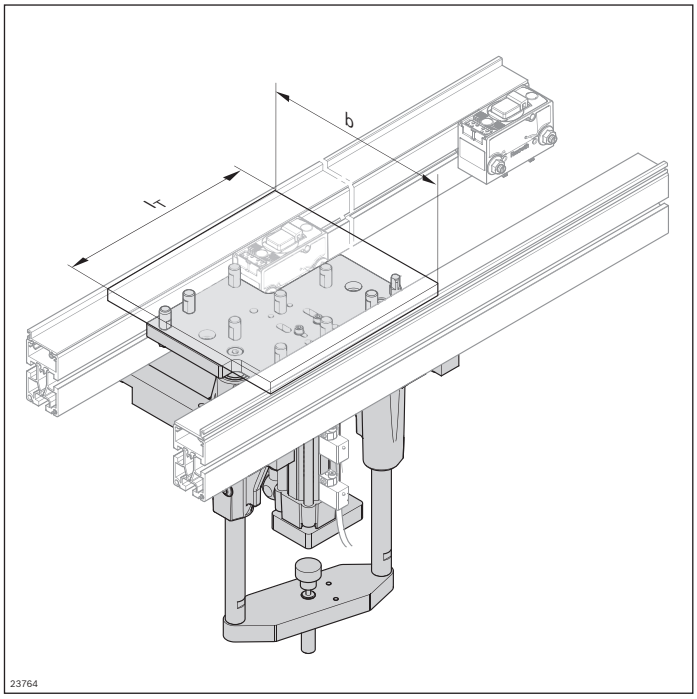
Scope of delivery

- Incl. fastening material
- Incl. throttle check valve

Condition on delivery

- Assembled

Ordering information



Material number		3842998952 HP 2/L	3842999027 HP 2/L LS
b (mm)	Track width in direction of transport	160; 240; 320	
l_T (mm)	Length in direction of transport	160; 240; 320	
b x l_T (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	UB = installation locationunder the conveyor section AT = installation location on the machine table O = installation location for in-house construction	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

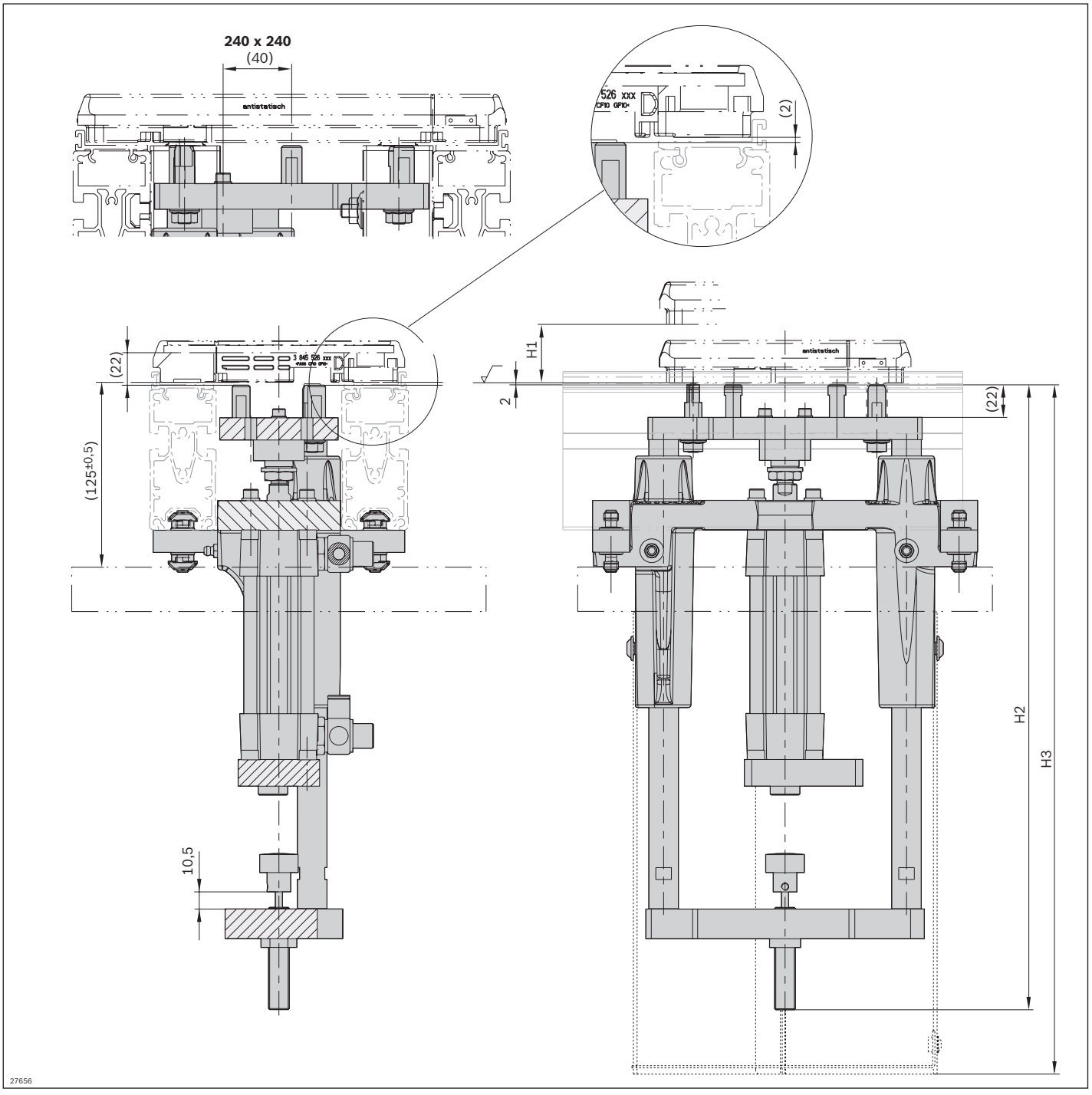
Material number			3842998952 HP 2/L	3842999027 HP 2/L LS
Load				
Max. total workpiece pallet weight	m_G	kg	40	40
Properties				
ESD			yes	yes
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	8	8
Repeat accuracy[1]		mm	±0.05	±0.05
Permissible vertical process forces[2]		N	400	400

[1)] Applies only to lifts of up to 204 mm
[2)] Incl. WT 2

Lift range

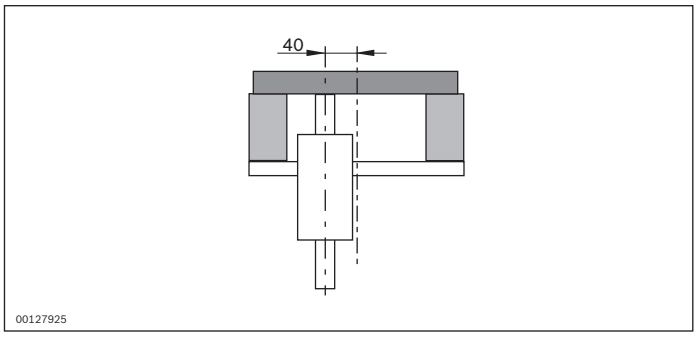
Nominal stroke h_N (mm)	WT lift above conveying level h_0 (mm)
50	0 ... 28
100	35 ... 78
160	95 ... 138
200	135 ... 178
250	185 ... 228

Dimensions

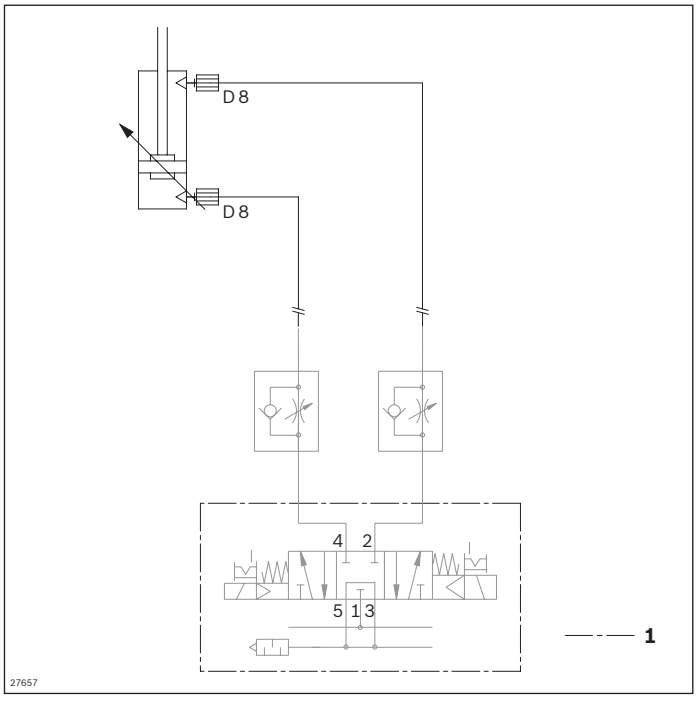


Compressed air (bar)	Lifting force (N)
4	350
5	450
6	550

Offset lifting cylinder (HA = 1)



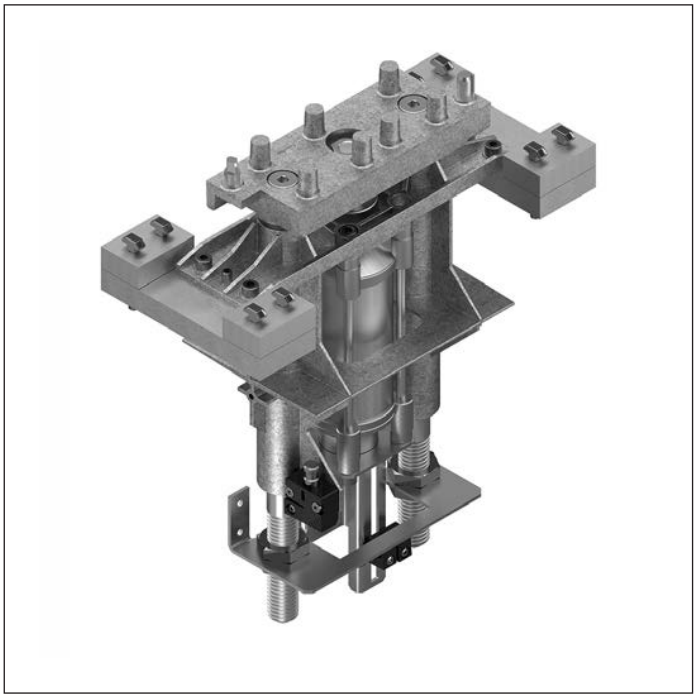
Circuit diagrams



1 Not included in the scope of delivery

Lift positioning unit HP 2...





- Positions a workpiece pallet in a processing station with high repeat 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 adjustable top-end and bottom stop-end damping
- Upper end position damping takes effect only under full lift.
- Continuously 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 and WT 2/LS (only with LS version) workpiece pallets

Upper end position damping of the cylinder 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 repeat accuracy.

Accessories

Required accessories

- VE 2/... stop gate, see p. 8-2
- Throttle check valve, exhaust air, G3/8", diameter d = 6 mm
- Sensor

Recommended accessories

- Throttle kit (3842211355) to lower the WT gently onto the conveyor medium
- HP 2 protective case, see p. 7-34 in the TS 2*plus* catalog 7.0

Delivery information

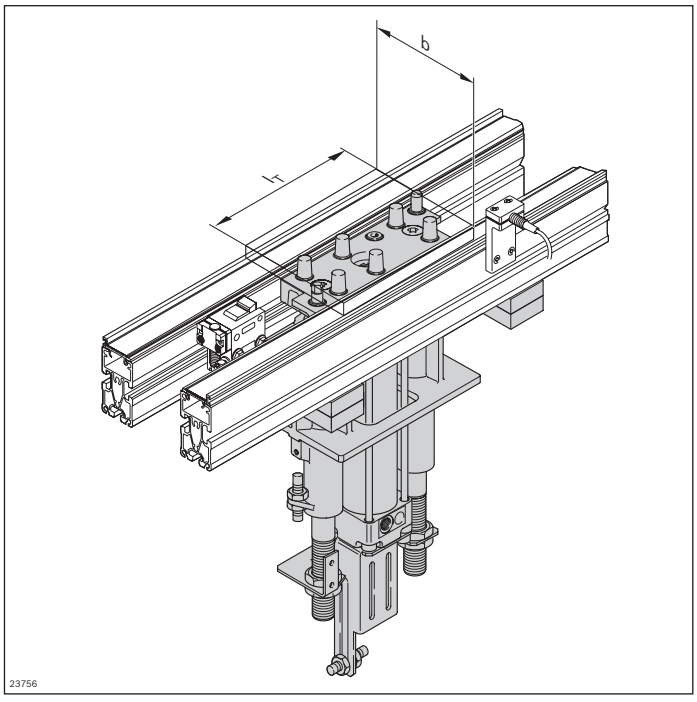
Scope of delivery

- Incl. fastening material
- Switch bracket for mounting of M12 sensors for top and bottom lift position sensing

Condition on delivery

- Assembled

Ordering information



Material number		3842999678 HP 2	3842999028 HP 2 LS
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	
b x l_T (mm x mm)	Combination options	160 x 0[1]; 160; 240; 320; 400; 480 240 x 0[1]; 160; 240; 320; 400; 480 320 x 0[1]; 160; 240; 320; 400; 480 400 x 0[1]; 320; 400; 480; 640; 800 480 x 0[1]; 320; 400; 480; 640; 800	
h_N (mm)	Nominal stroke	55; 100; 150; 200; 250; 300; 350; 400	
AO	UB = Installation location under the conveyor section AT = Installation location on the machine table O = Installation location for in-house construction without fastening material	UB; AT; O	

[1] If the value is "0", HP 2 will be delivered with a lifting plate (3842516048, see p. 7-15) instead of the lift position plate for custom designing of the lift positioning plate.

Technical data

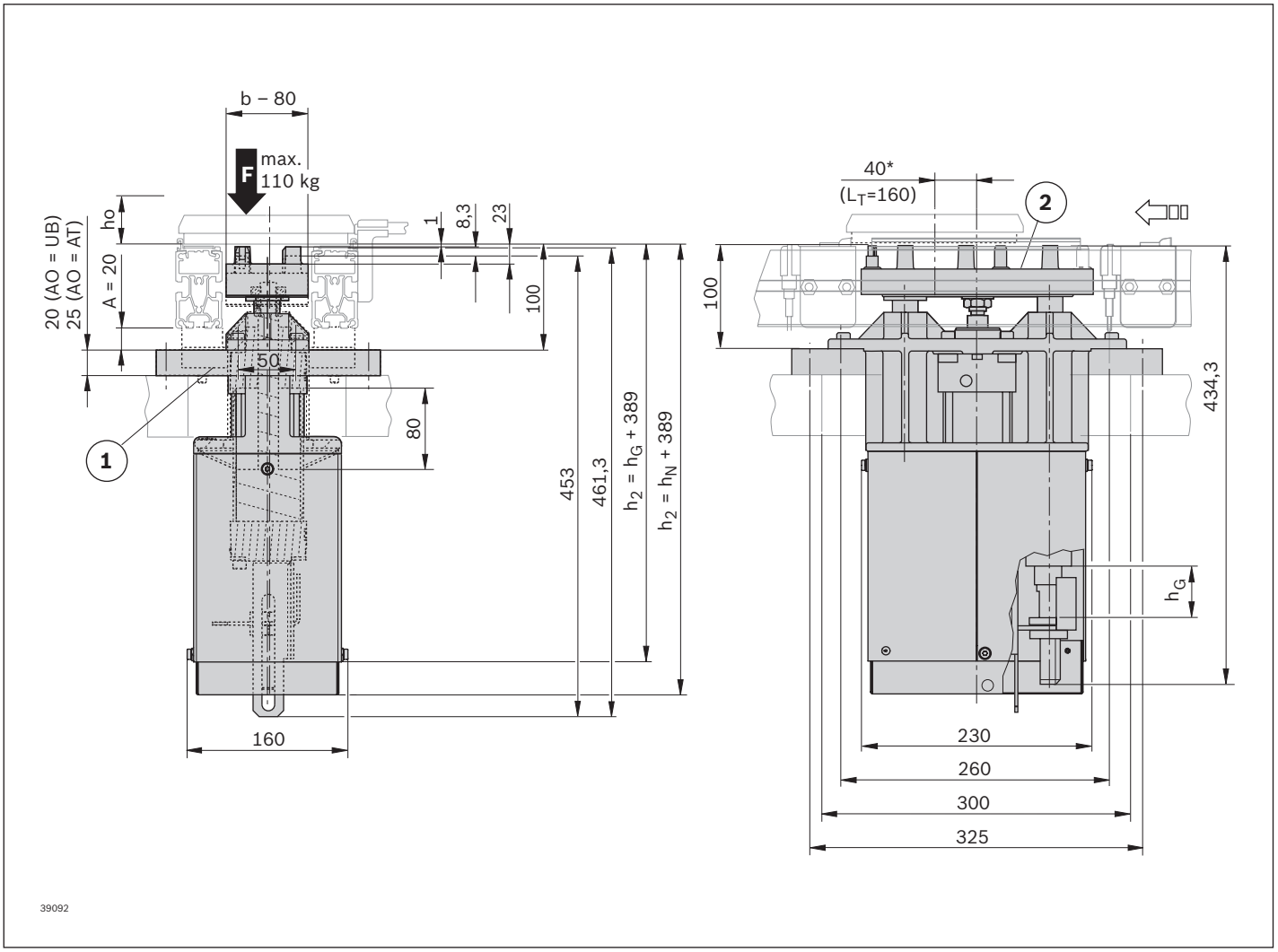
Material number			3842999678 HP 2	3842999028 HP 2 LS
Load				
Max. total workpiece pallet weight	m_G	kg	110	110
Properties				
ESD			yes	yes
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection[2]	Ø	mm	6	6
Repeat accuracy		mm	±0.05	±0.05
Permissible vertical process forces[1]		N	1100	1100

[1] Incl. WT 2
[2] Throttle check valve, exhaust air with connector, diameter d = 6 mm, for thread G 3/8" must be attached by the customer

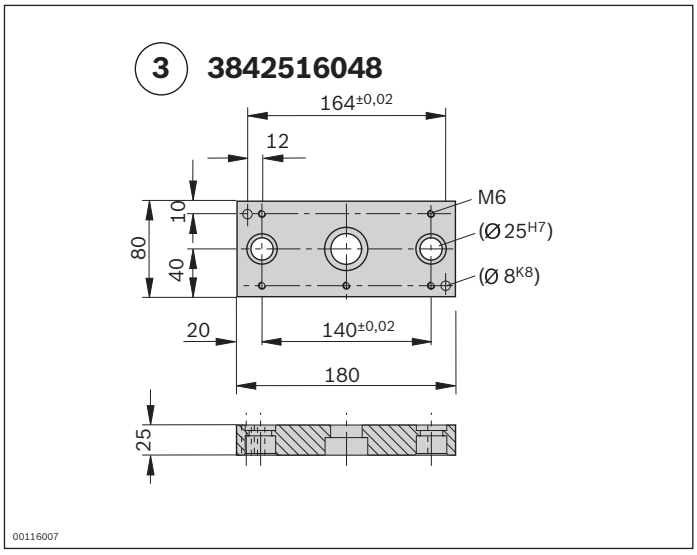
Lift range

Cylinder total lift h_G (mm)	Nominal stroke max. h_N (mm)	WT lift above conveying level h_0 (mm)
80	55	0 ... 59
125	100	0 ... 104
175	150	0 ... 154
225	200	0 ... 204
275	250	0 ... 254
325	300	0 ... 304
375	350	0 ... 354
425	400	0 ... 404

Dimensions



* eccentric position for WT L_T = 160 mm
1 Mounting kit (UB or AT)
2 Positioning plate
h_0 WT lift above transportation level
h_G Cylinder total lift



3 Lifting plate

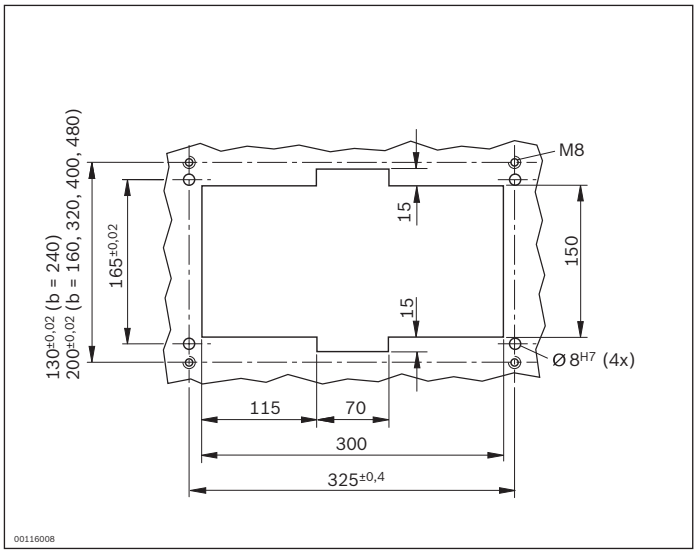
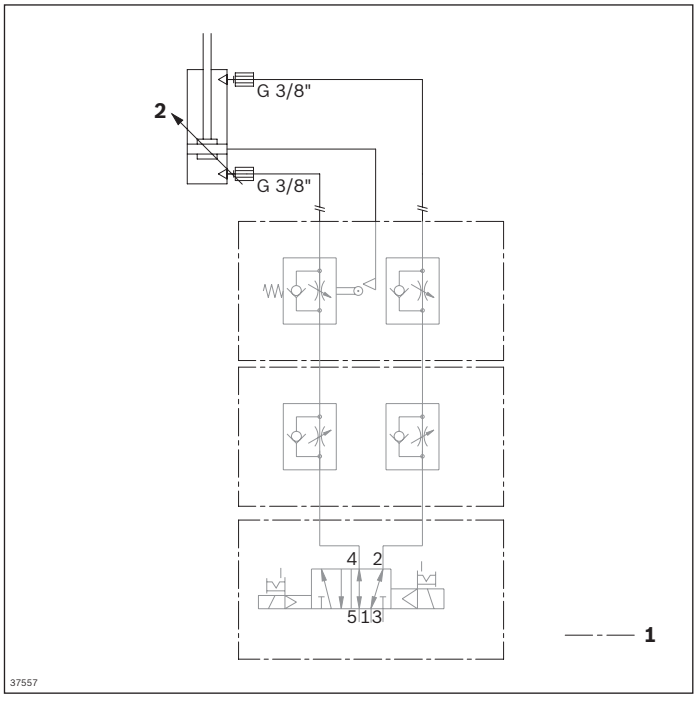


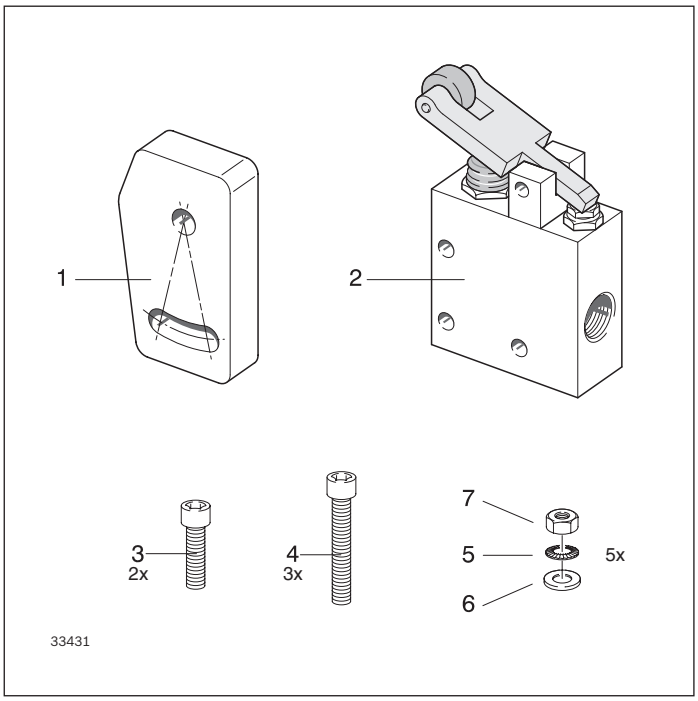
Table cut-out for installation location "on table"

Circuit diagrams



1 Not included in the scope of delivery
2 Throttle

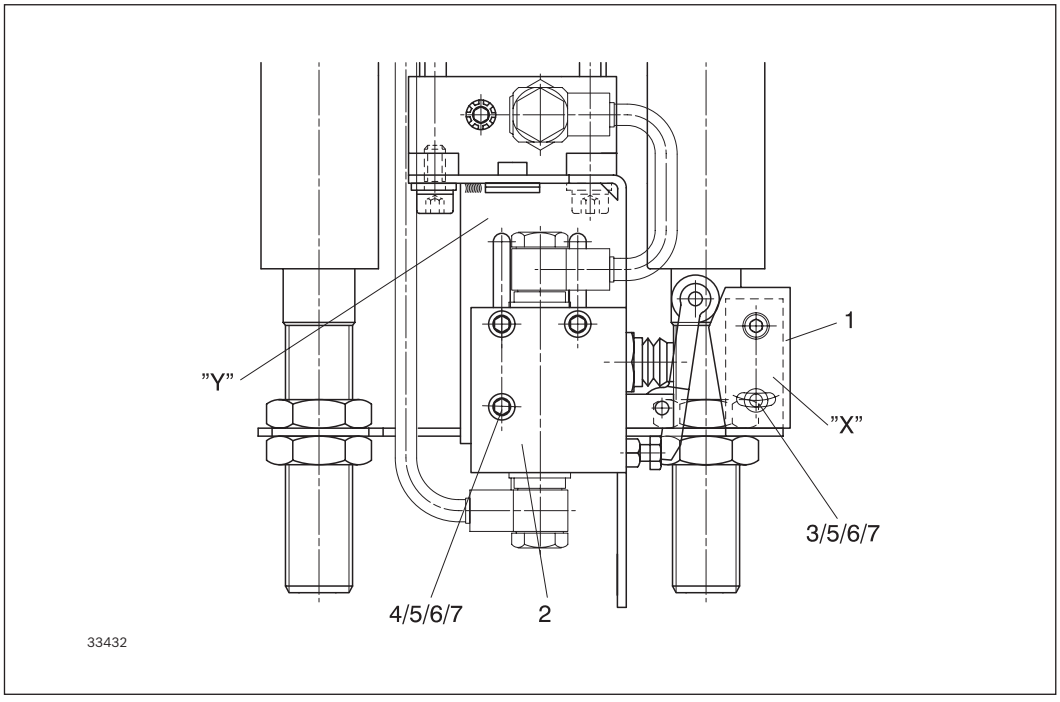
Kit for throttling the storage speed

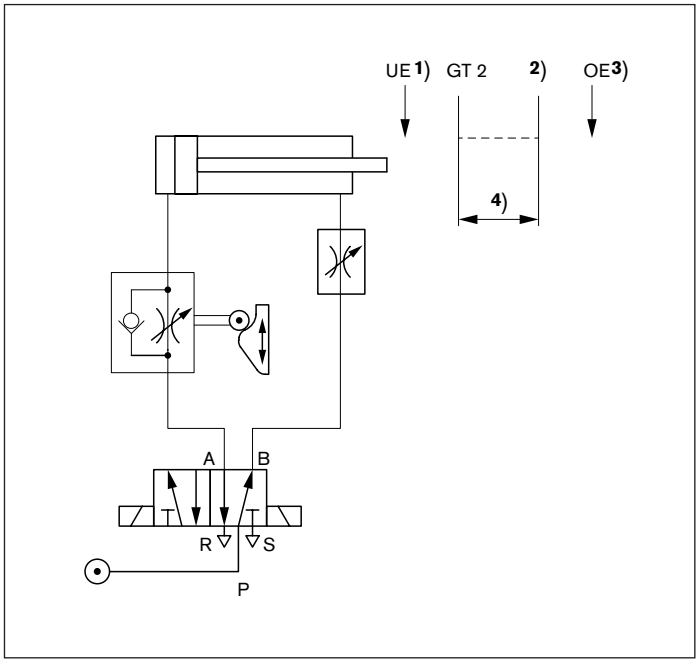


- Fasten each switching tappet (1) to the metal bracket "X" with two cylinder head screws M6x20 (3), lock washers (6) and hexagon nuts (7)
- Fasten throttle for the storage speed (DRV) (2) with three cylinder head screws M6x35 (4), lock washers (5), washers (6) and hexagon nuts (7) in each case to the limit switch bracket "Y"

Ordering information

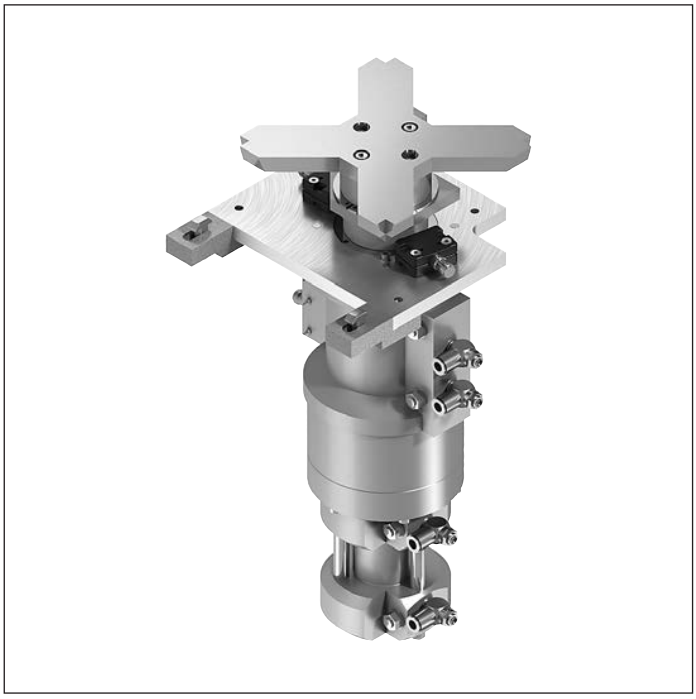
Product description	Material number
Kit for throttling the storage speed	3842211355





1 Lower end position
2 Tappet
3 Upper end position
4 Damping (adjustable)

Lift rotary unit HD 2...



- Angle of rotation around the Z axis: 90° or 180°. The rotational direction 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 mass moment of inertia: 0.65 kgm^2
- Can be combined with WT 2 and WT 2/LS (only with LS version)

The HD 2 lift rotary 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. 8-2
- M12x1 sensor with rated switching distance $S_N \geq 4$ mm, can be installed at 0.5 mm rather than being installed flush, see p. 8-108 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

- Incl. fastening material

Ordering information

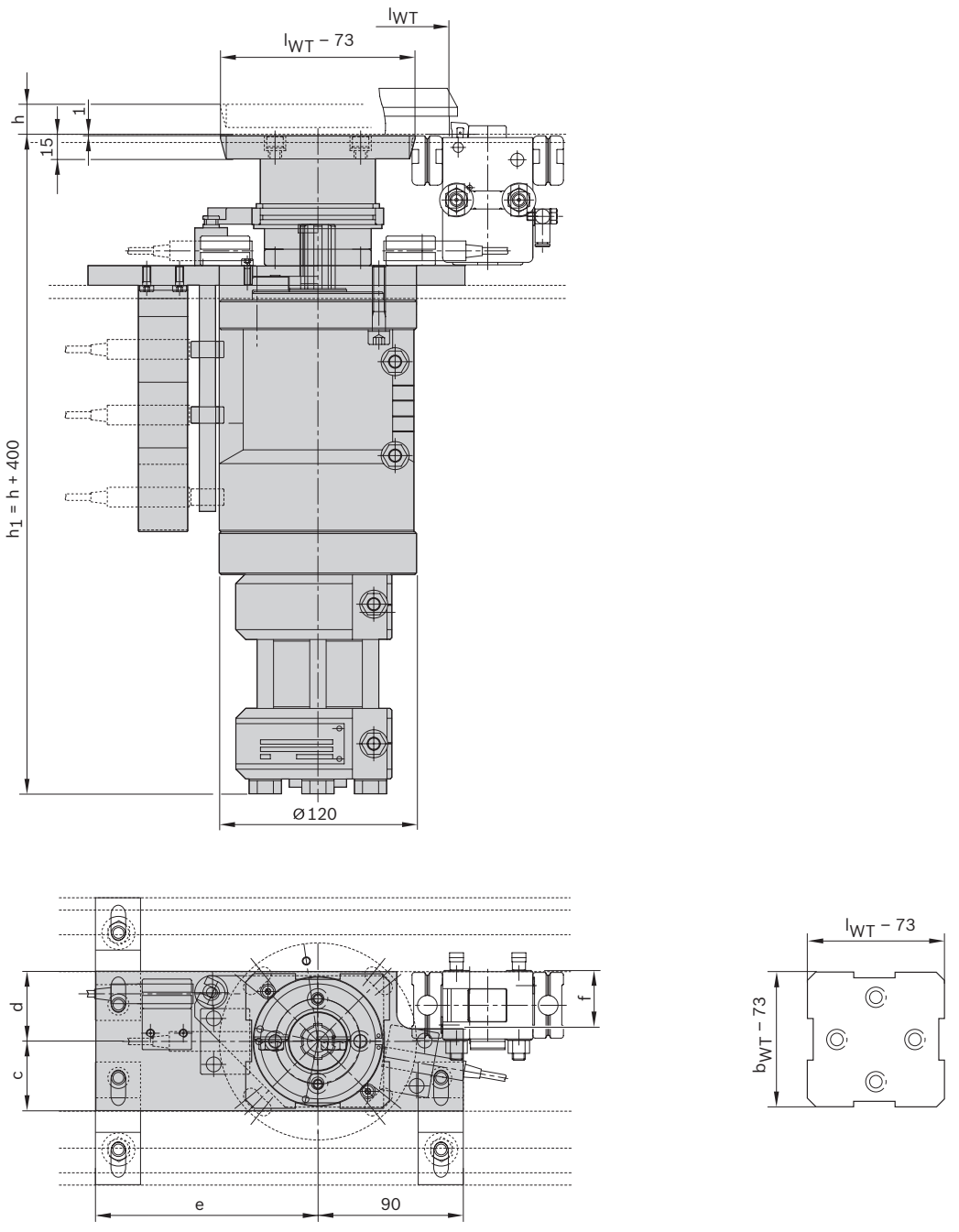
Product description	b (mm)	l (mm)	DW (°)	h (mm)	Material number
HD 2 lift rotary unit	160	160	90	40	3842525847
HD 2 lift rotary unit	160	160	180	40	3842525848
HD 2 lift rotary unit	160	160	90	90	3842525849
HD 2 lift rotary unit	160	160	180	90	3842525850
HD 2 lift rotary unit	160	240	180	40	3842525851
HD 2 lift rotary unit	160	240	180	90	3842525852
HD 2 lift rotary unit	160	320	180	40	3842525853
HD 2 lift rotary unit	160	320	180	90	3842525854
HD 2 lift rotary unit	240	160	180	40	3842525855
HD 2 lift rotary unit	240	160	180	90	3842525856
HD 2 lift rotary unit	240	240	90	40	3842525857
HD 2 lift rotary unit	240	240	180	40	3842525858
HD 2 lift rotary unit	240	240	90	90	3842525859
HD 2 lift rotary unit	240	240	180	90	3842525860
HD 2 lift rotary unit	240	320	180	40	3842525861
HD 2 lift rotary unit	240	320	180	90	3842525862
HD 2 lift rotary unit	320	160	180	40	3842525863
HD 2 lift rotary unit	320	160	180	90	3842525864
HD 2 lift rotary unit	320	240	180	40	3842525865
HD 2 lift rotary unit	320	240	180	90	3842525866
HD 2 lift rotary unit	320	320	90	40	3842525867
HD 2 lift rotary unit	320	320	180	40	3842525868
HD 2 lift rotary unit	320	320	90	90	3842525869
HD 2 lift rotary unit	320	320	180	90	3842525870

Product description	w x l (mm)	Material number
Changeover kit HD 2-LS	160 x 160	3842563535
Changeover kit HD 2-LS	160/240 x 160/240	3842563536
Changeover kit HD 2-LS	160/320 x 160/320	3842563537
Changeover kit HD 2-LS	240 x 240	3842563538
Changeover kit HD 2-LS	240/320 x 240/320	3842563539
Changeover kit HD 2-LS	320 x 320	3842563540

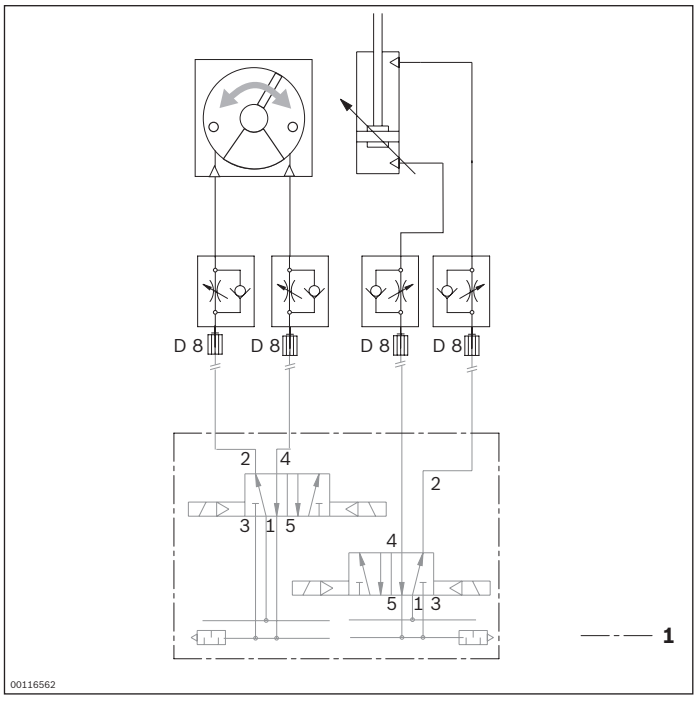
Technical data

Material number			3842525847 3842525848 3842525849 3842525850 3842525851 3842525852	3842525853 3842525854 3842525855 3842525856 3842525857 3842525858	3842525859 3842525860 3842525861 3842525862 3842525863 3842525864	3842525865 3842525866 3842525867 3842525868 3842525869 3842525870
Load						
Max. total workpiece pallet weight	m_G	kg				16
Properties						
ESD						yes
Additional information						
WT lift above conveying level						40; 90

Dimensions

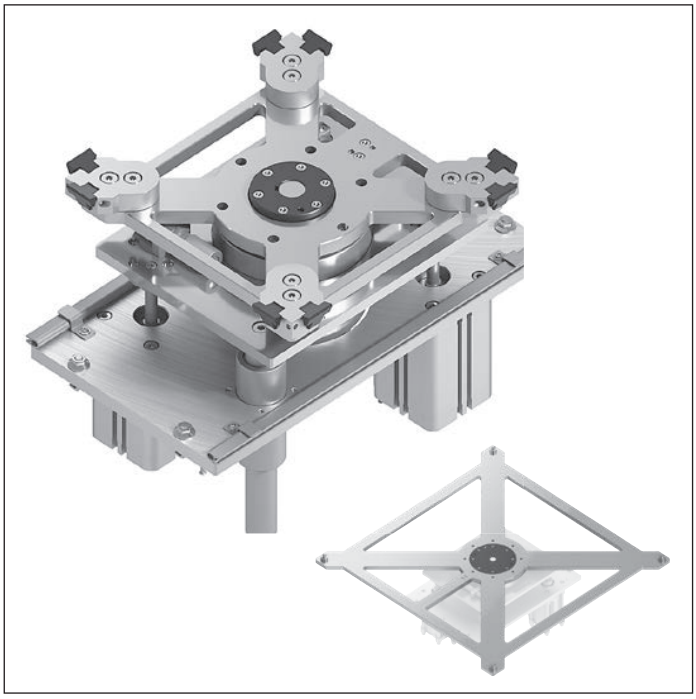


Circuit diagrams



1 Not included in the scope of delivery

Lift rotary unit HD 2/H...



The HD 2/H lift rotary unit turns workpiece pallets to the required orientation.

- WT lift above transportation level, approx. 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, WT 2/F and WT 2/LS workpiece pallets (only with LS version)
  - BG 3 for use with WT 2/H and WT 2/F-H workpiece pallets
- Rotation 90° or 180°
  - For rotating quadratic workpiece pallets 90° or 180°
  - For rotating non-quadratic workpiece pallets 180°
  - For BG 1 and BG 2 at a 90° rotation, the reverse rotation occurs below the belt. Reduced cycle times by means of reverse rotation during workpiece pallet change
    For BG 3 at a 90° rotation, the reverse rotation occurs below the belt
  - Center position only with BG 1 and BG 2 in 90° version

Accessories

Required accessories

- Housing elements, see p. 7-67 in the TS 2*plus* catalog 7.0
- Leg sets for BG 2 over 50 kg, see p. 6-20
- Leg sets for BG 3 generally, see p. 6-20
- Cylinder switch (R412022863) for the top/center/bottom lift positions, see p. 7-23
- Sensor for rotary movement at 0°/180° or 0°/90°, see p. 7-23

Recommended accessories

- VE 2 stop gate, see p. 8-2, or VE 2/D stop gate, see p. 8-14, for damped stopping of a workpiece pallet
- Recommended accessories for BG3: VE 2/D-100 or VE 2/D-250 stop gate

Delivery information

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

Condition on delivery

- Assembled

Ordering information

Product description	Size BG	Max. total workpiece pallet weight m_G (kg)	Width b_{WT} (mm)	Length l_T (mm)	Angle of rotation DW[4] (°)	Installation location AO[5]	Material number
HD 2/H lift rotary unit	BG 1[1]	50	240	240; 320; 400	90; 180	0; 1	**3842998760**
			320	240; 320; 400; 480	90; 180	0; 1	**3842998760**
			400	320	180	0; 1	**3842998760**
HD 2/H lift rotary unit*LS*	BG 1[2]	50					**3842999023**
HD 2/H lift rotary unit	BG 2[1]	128	400	400; 480	90; 180	0; 1	**3842998761**
			480	400; 480; 640; 800	90; 180	0; 1	**3842998761**
			640	480; 640; 800; 1040	90; 180	0; 1	**3842998761**
			800	640	180	0; 1	**3842998761**
HD 2/H LS lift rotary unit	BG 2[2]	128					**3842999024**
HD 2/H lift rotary unit	BG 3[3]	240	800	800; 1040	90; 180	0; 1	**3842998762**
			1040	800; 1040; 1200	90; 180	0; 1	**3842998762**
			1200	1200	90; 180	0; 1	**3842998762**

1) For use with WT 2 and WT 2/F-H workpiece pallets only
2) For use with WT 2/LS workpiece pallets only
3) For use with WT 2/H and WT 2/F-H workpiece pallets only
4) Only possible for DW = 90° quadratic workpiece pallets
5) Installation location: 0 = 80 mm and 1 = 100 mm

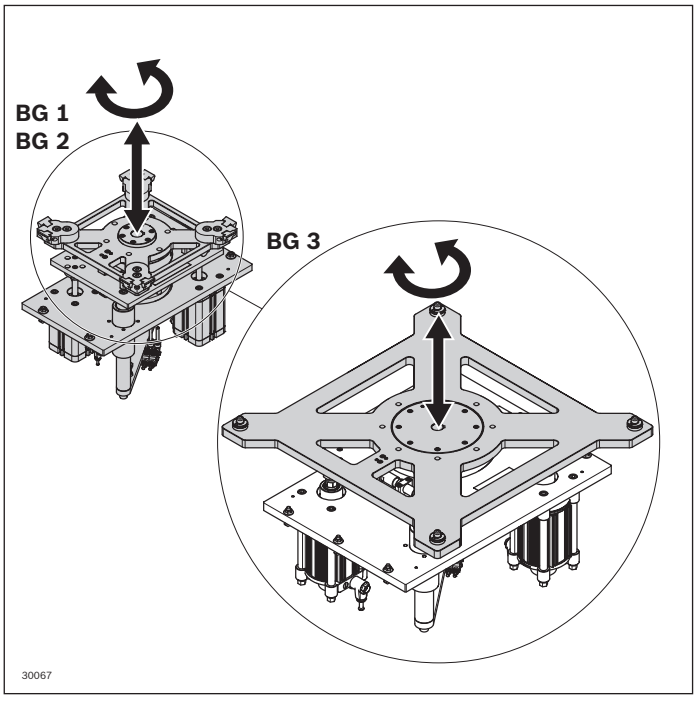
Ordering information

Product description	Material number
Cylinder switch for top/center/bottom position sensing ST6-PN-M12R-030 sensor	R412022863

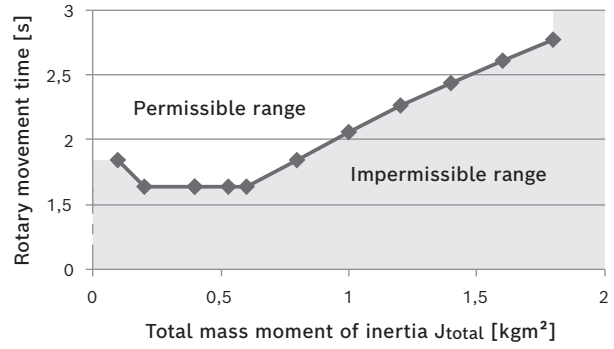
Product description	Material number
Sensor, short, for rotary movement end position sensing IEC/EN 60947-5-2:-2004	3842549811

Technical data

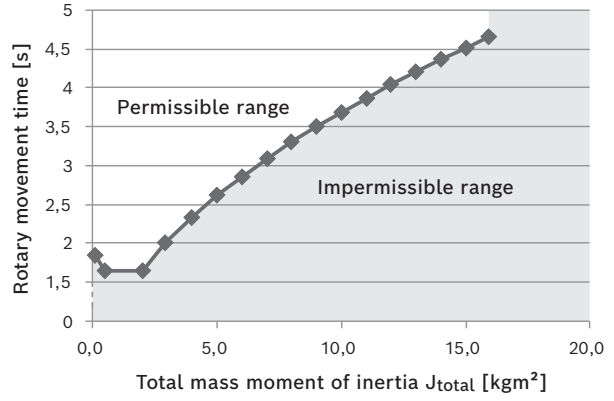
Material number	3842998760	3842999023	3842998761	3842999024	3842998762
Properties					
ESD	yes	yes	yes	yes	yes
Additional information					
WT lift above conveying level	50	50	50	50	50



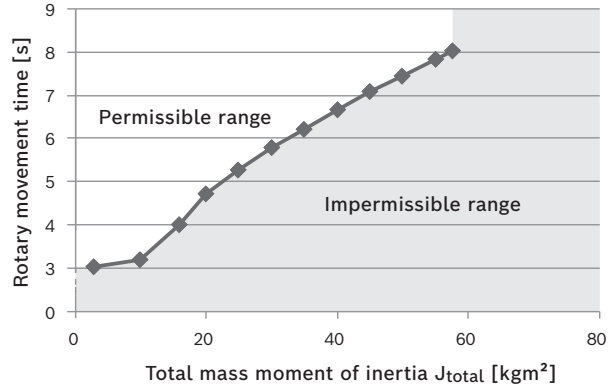
Size 1



Size 2



Size 3



Operating limits of the HD 2/H lift rotary unit

Mass moment of inertia

Notice:

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 is within ⅓ of the length/width of the WT around the center of the WT.

It must also be ensured that the load center of gravity at height h_S does not exceed ½ b_{WT} (with $b_{WT} \leq l_{WT}$).

Size 1: HD 2/H lift rotary unit, 3842998760

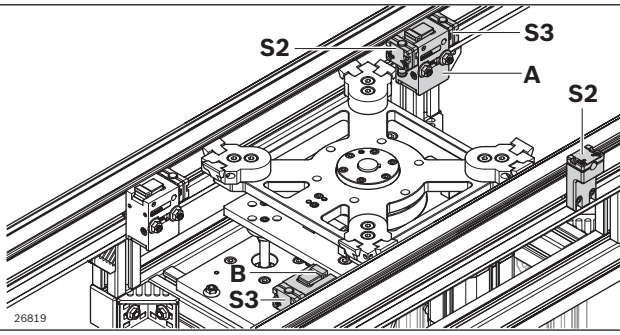
Mass max. 50 kg; mass moment of inertia max. 1.8 kgm²

Size 2: HD 2/H lift rotary unit, 3842998761

Mass max. 128 kg; mass moment of inertia max. 15.9 kgm²

Size 3: HD 2/H lift rotary unit, 3842998762

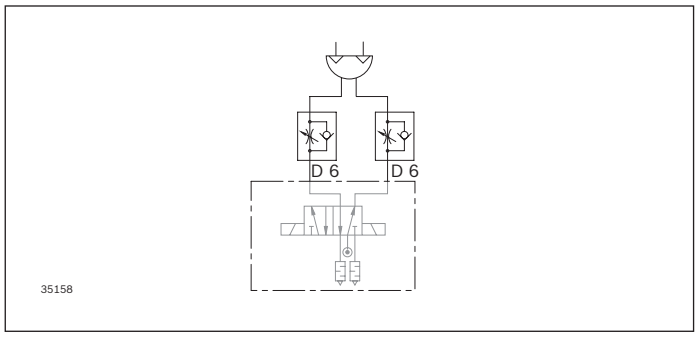
Mass max. 240 kg; mass moment of inertia max. 57.6 kgm²

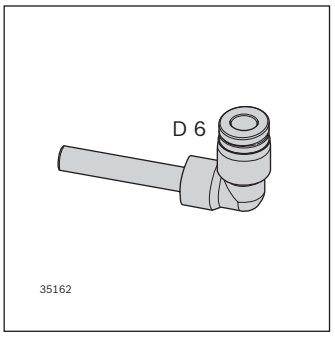


Additional operating limits

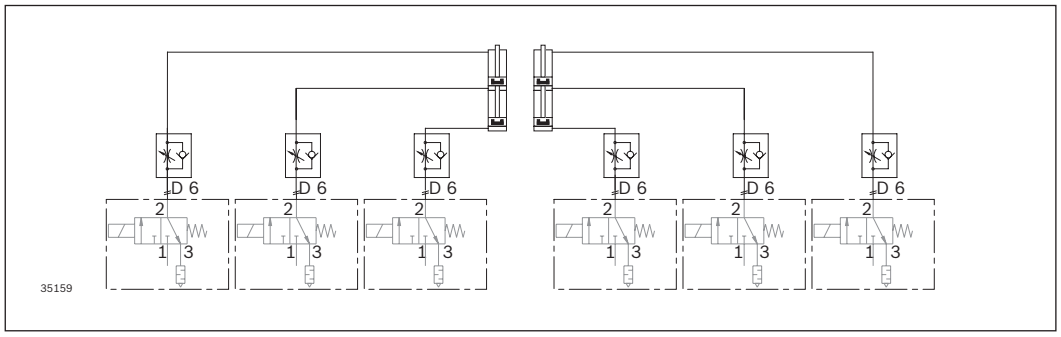
- Switch bracket mounting at b_{WT} x l_{WT} 240 mm x 240 mm is only possible from outside => see S2
- Reversible operation possible from b_{WT} x l_{WT} 320 mm x 320 mm => see A and B

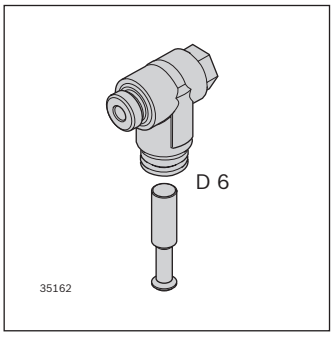
Pneumatic diagram of the HD 2/H lift rotary unit
Rotary cylinder for Size 1/2/3, rotation angle 90° and 180°



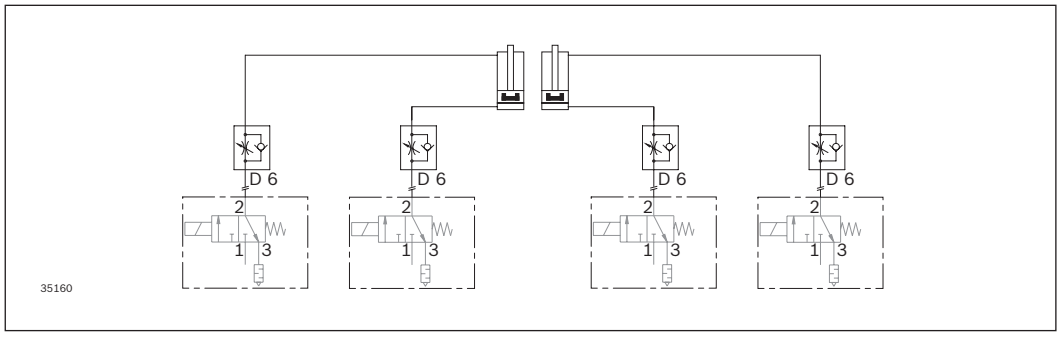


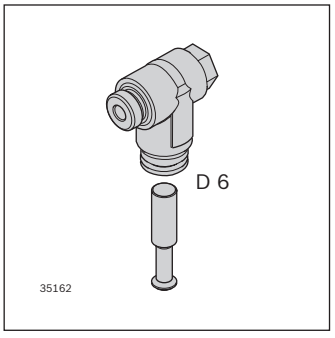
Pneumatic diagram of the HD 2/H lift rotary unit
Lifting cylinder for Size 1/2, rotation angle 90° (multiple position cylinder)



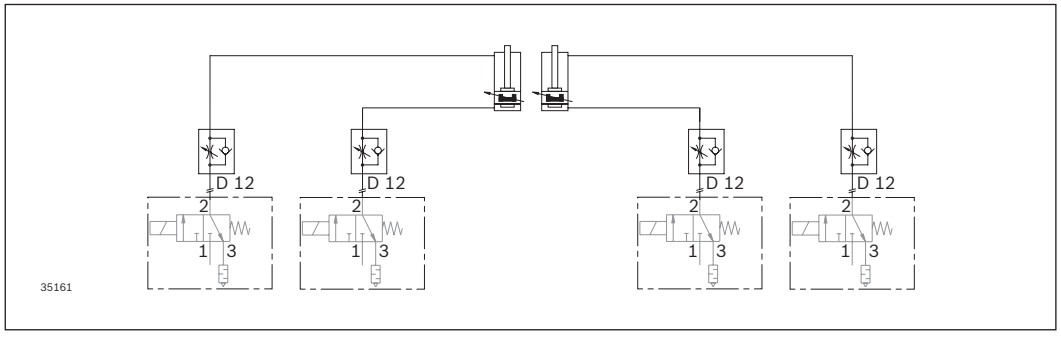


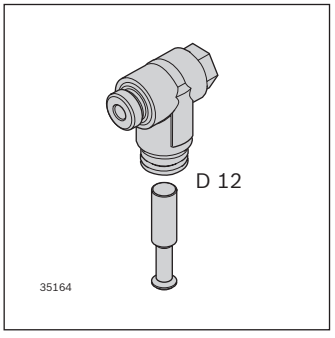
Pneumatic diagram of the HD 2/H lift rotary unit
Lifting cylinder for Size 1/2, rotation angle 180°





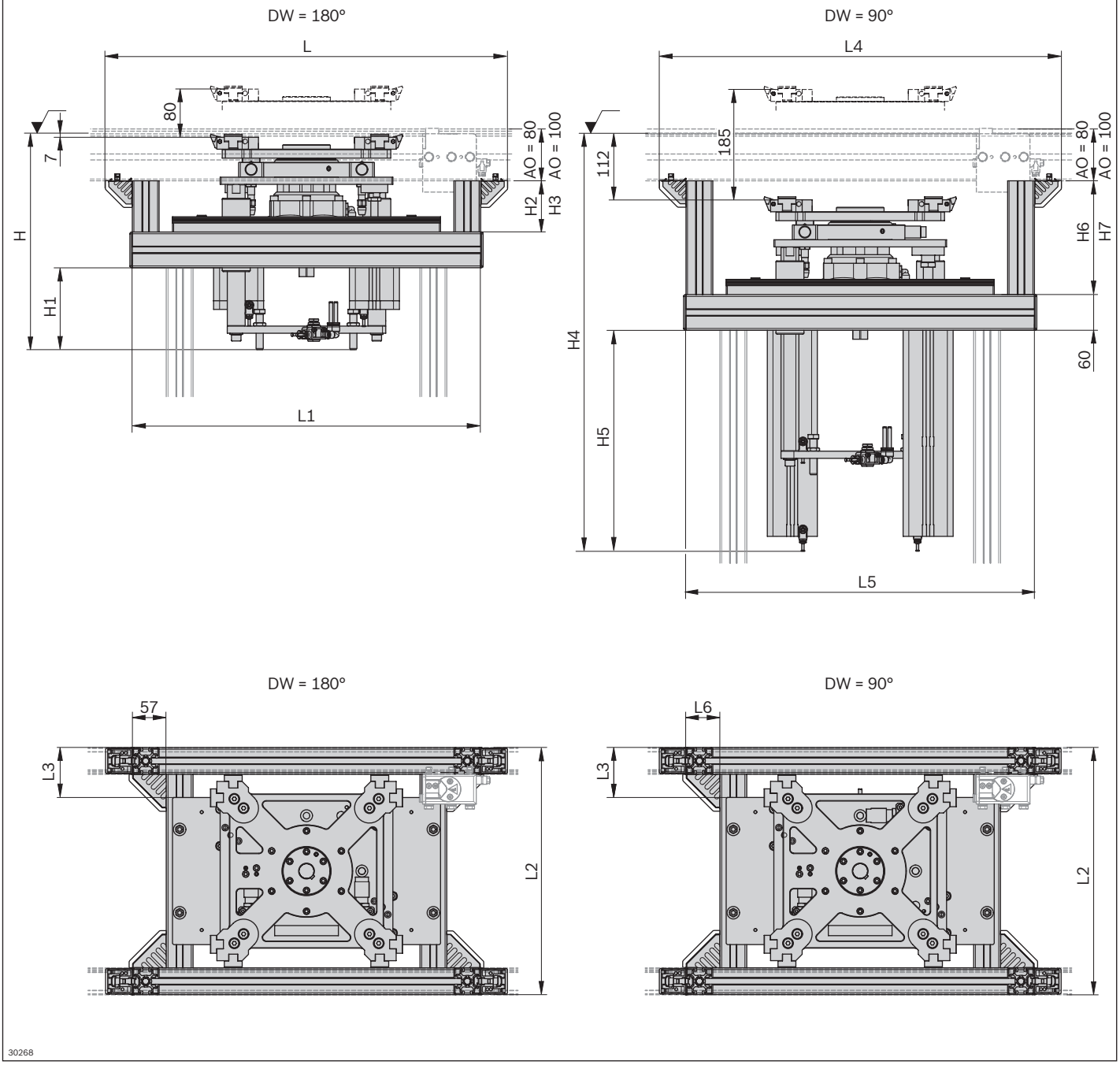
Pneumatic diagram of the HD 2/H lift rotary unit
Lifting cylinder for Size 3, rotation angle 90° and 180°





Dimensions for BG 1 (3842998760)/BG 2 (3842998761)

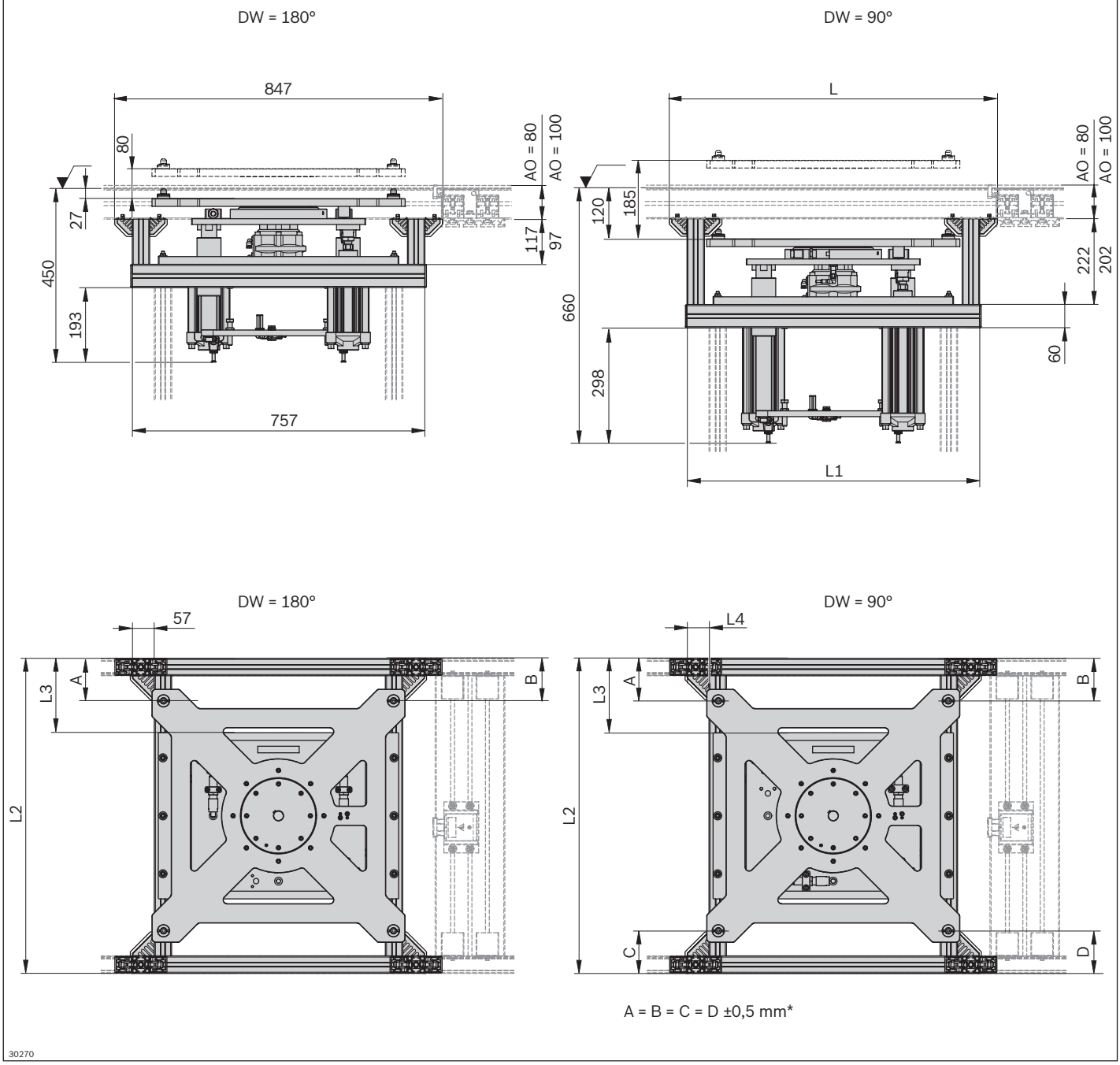
BG 1
BG 2



BG	Width b_{WT} (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H6 (mm)	H7 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)
BG 1	240	336.4	120.4	76	56	672.2	351.2	181	161	597	507	255	47.5	597	507	57
BG 1	320	336.4	120.4	76	56	672.2	351.2	181	161	597	507	335	87.5	597	507	57
BG 1	400	336.4	120.4	76	56	672.2	351.2	181	161	597	507	415	127.5	597	507	57
BG 2	400	363.5	137.5	86	66	701.9	370.9	191	171	675	585	415	84.0	675	585	57
BG 2	480	363.5	137.5	86	66	701.9	370.9	191	171	675	585	495	124.0	675	585	57
BG 2	640	363.5	137.5	86	66	701.9	370.9	191	171	675	585	655	204.0	725	635	82
BG 2	800	363.5	137.5	86	66	701.9	370.9	191	171	675	585	815	284	725	635	82

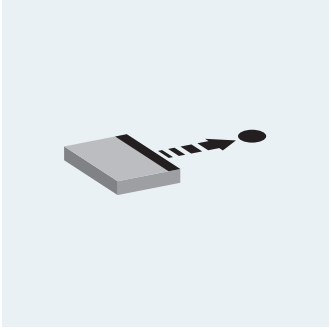
Dimensions for BG3 (3842998762)

BG 3



*Rotation angle setting

BG	Width b_{WT} (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
BG 3	800	847	757	815	192.5	57.0
BG 3	1040	1040	950	1055	312.5	153.5
BG 3	1200	1190	1100	1215	392.5	228.5



Transportation control

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, WT 2/F and WT 2/LS

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet stop surface. When the pressure is released, the stop gate is held in the lock position 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. 8-20
- SH 2/... switch bracket, see p. 8-88 in the TS 2*plus* catalog 7.0
- Stop gate position inquiry, see p. 8-18 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2 stop gate	0842900300

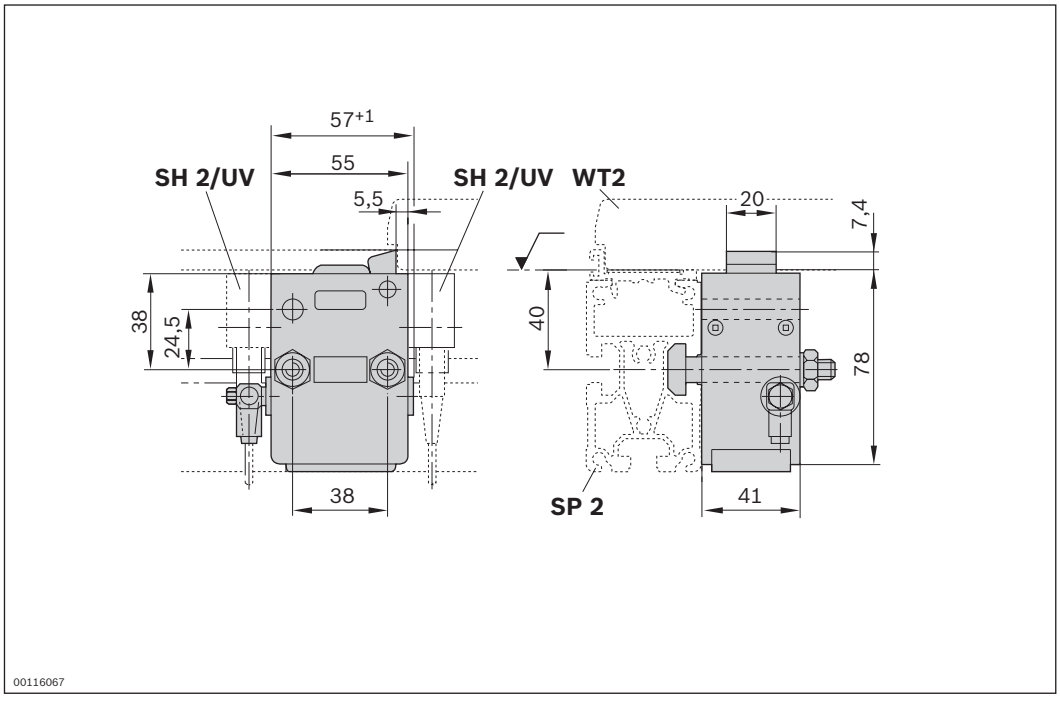
Technical data

Material number			**0842900300**
Load			
Max. total workpiece pallet weight	m_G	kg	200
Properties			
Material			Housing: PA6 Safety catch: Brass Stop cam: PA66
Operating temperature[1)]		°C	0 ... +60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection	Ø	mm	4

[1)] High-temperature stop gate on request

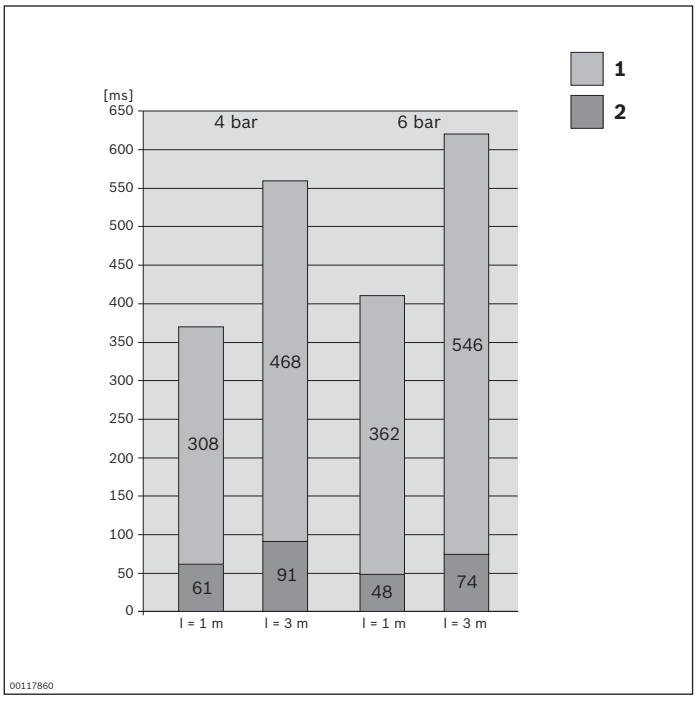
Permitted total weight of workpiece pallet m_G (kg)	**Nominal speed v_N (m/min)**
200	6
140	9
100	12
70	15
50	18

Dimensions



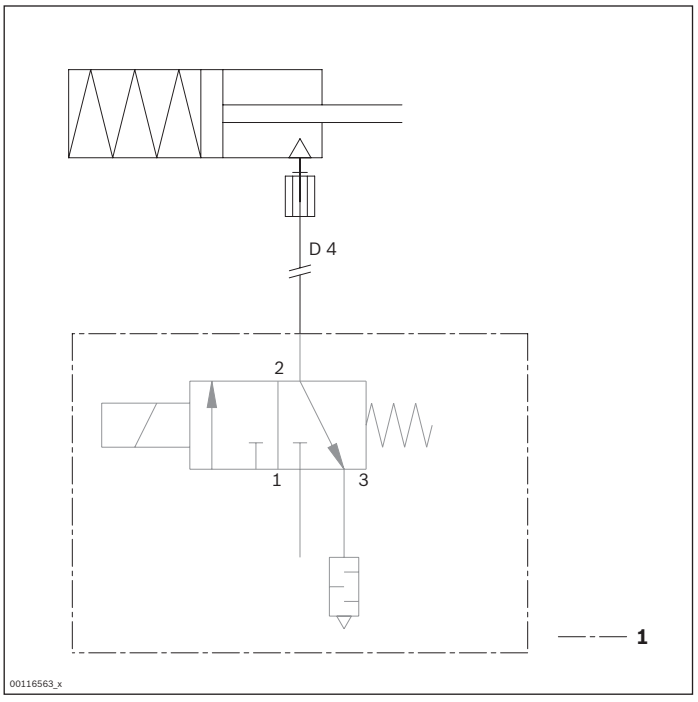
Circuit diagrams

Opening and shutting times



l = hose length
1 Close
2 Open at 4 bar

Circuit diagram



1 Not included in the 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, WT 2/F and WT 2/LS

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet stop surface. When the pressure is released, the stop gate is held in the lock position by a spring and the workpiece pallet is stopped. Mounted inside the tracks, directly on the conveyor section.

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Accessories

Recommended accessories

- VE 2/RS return stop, see p. 8-20
- SH 2/... switch bracket, see p. 8-88 in the TS 2*plus* catalog 7.0
- Stop gate position inquiry, see p. 8-18 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2/L stop gate	3842530630

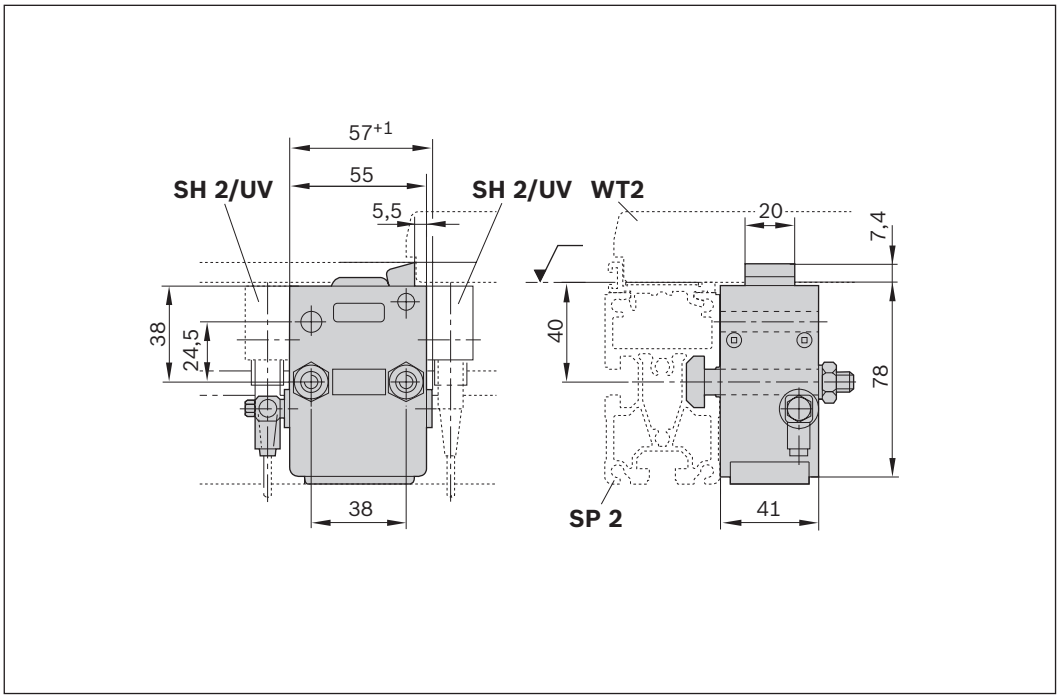
Technical data

Material number			**3842530630**
Load			
Max. total workpiece pallet weight	m_G	kg	200
Properties			
Material			Housing: PA6 Safety catch: Brass Stop cam: PA66
A-rated emission sound pressure level	L_{PA}	dB(A)	<60
Operating temperature[1)]		°C	0 ... +60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection	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

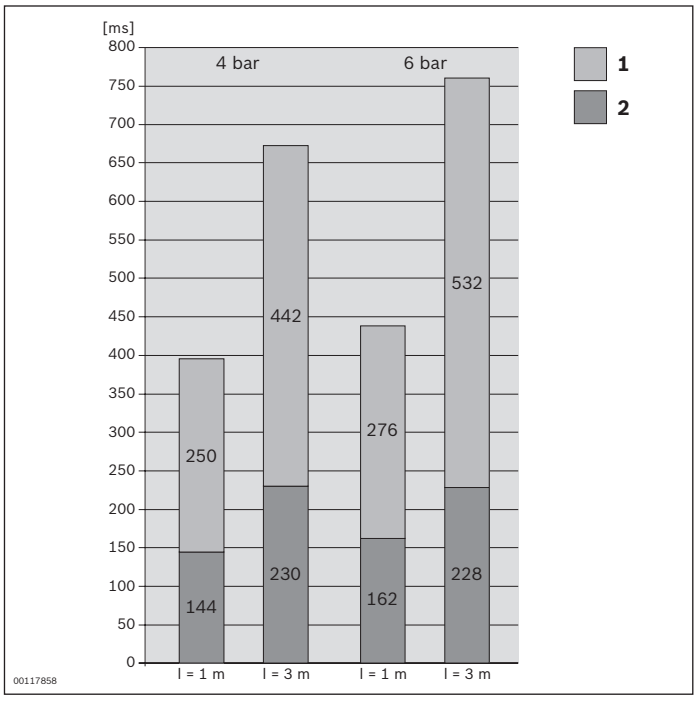
Dimensions



00116067

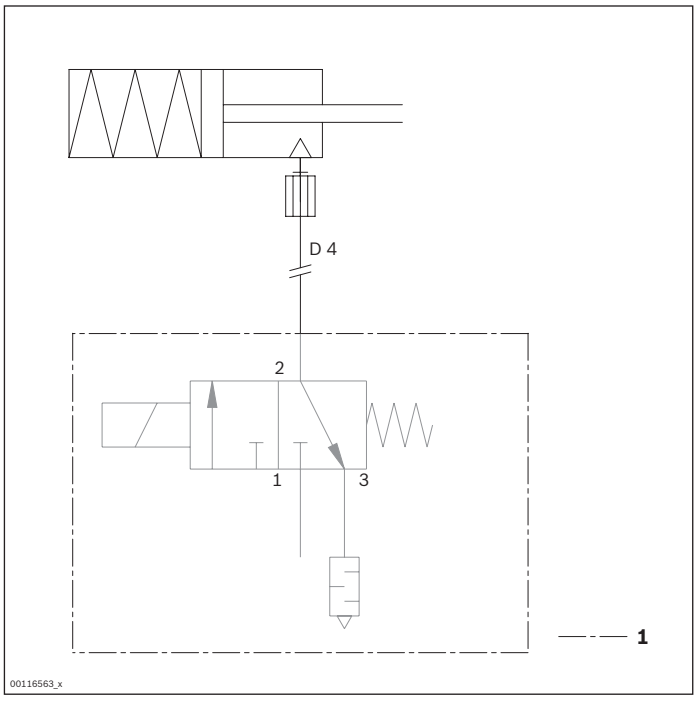
Circuit diagrams

Opening and shutting times



l = hose length
1 Close
2 Open at 4 bar

Circuit diagram



1 Not included in the scope of delivery

8

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, WT 2/F and WT 2/LS

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet stop surface. When the pressure is released, the stop gate is held in the lock position 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. 8-20
- SH 2/... switch bracket, see p. 8-88 in the TS 2*plus* catalog 7.0
- Stop gate position inquiry, see p. 8-18 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2/M stop gate	3842531610

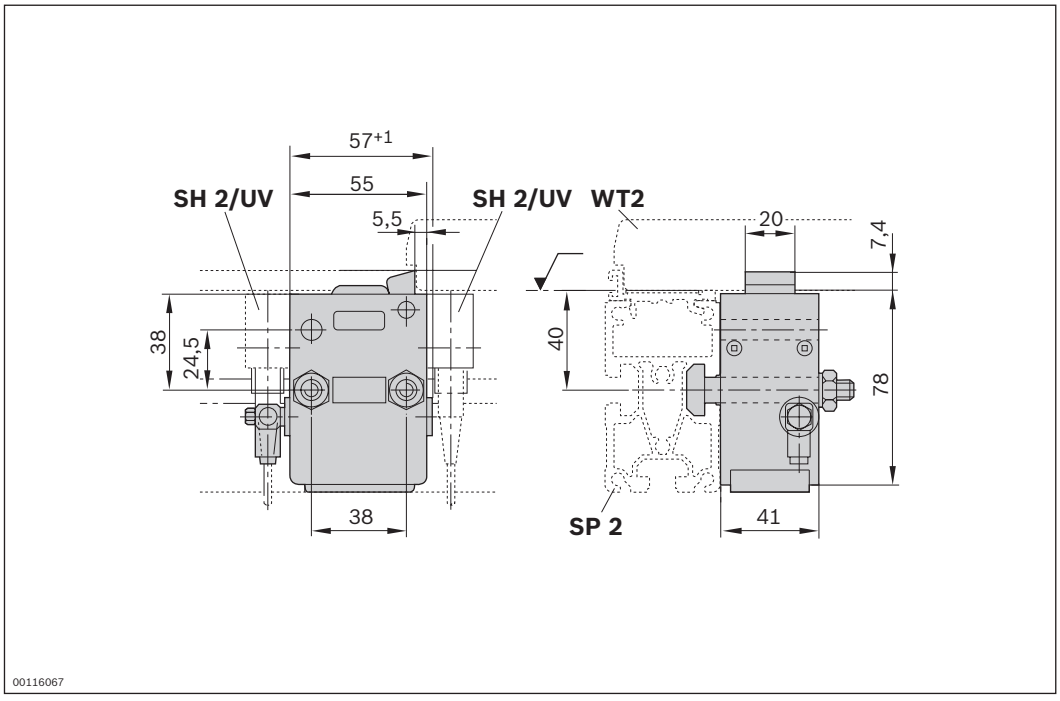
Technical data

Material number			**3842531610**
Load			
Max. total workpiece pallet weight	m_G	kg	200
Properties			
Material			Housing: PA6 Safety catch: Brass Stop cam: PA66
A-rated emission sound pressure level	L_{PA}	dB(A)	<60
Operating temperature[1)]		°C	0 ... +60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection	Ø	mm	4

[1)] High-temperature stop gate on request

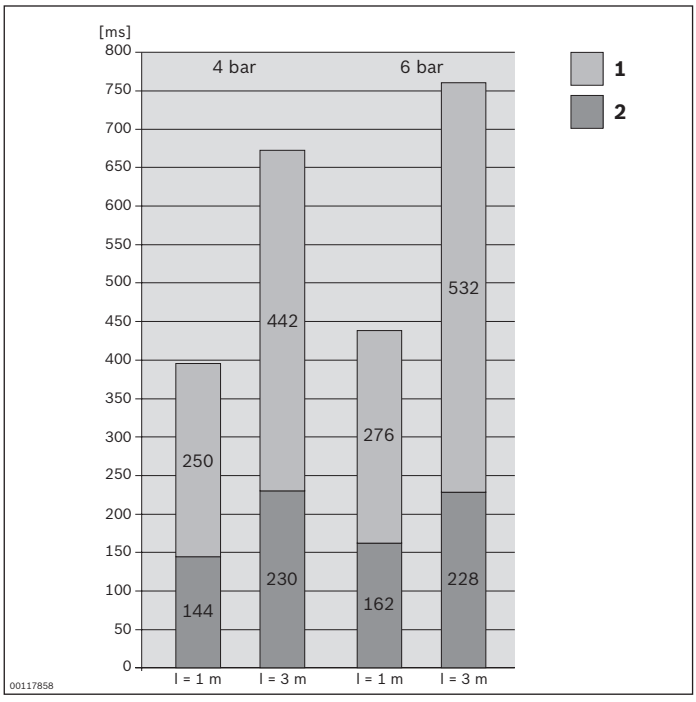
Permitted total weight of workpiece pallet m_G (kg)	**Nominal speed v_N (m/min)**
200	6
140	9
100	12
70	15
50	18

Dimensions



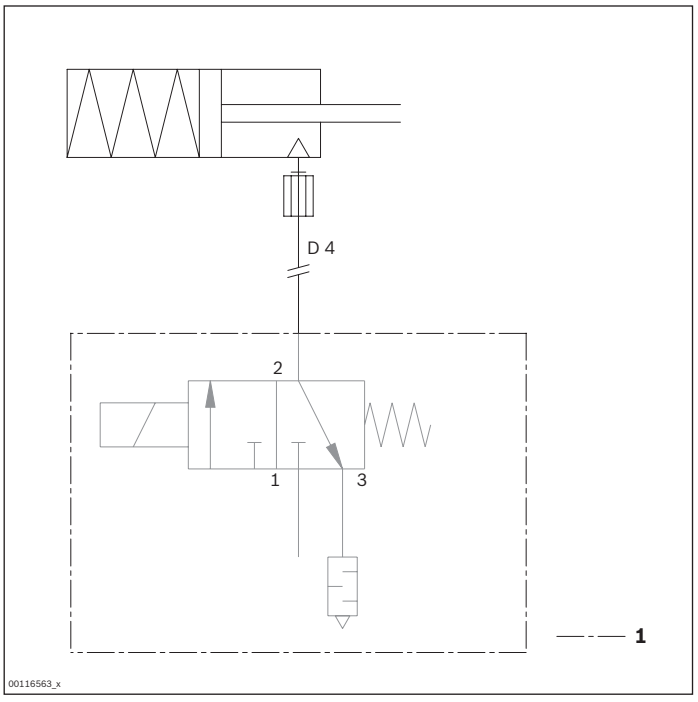
Circuit diagrams

Opening and shutting times



l = hose length
1 Close
2 Open at 4 bar

Circuit diagram



1 Not included in the 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, WT 2/F and WT 2/LS

Notice: Safe transition from both directions is possible by actively (pneumatically) opening the safety catch.

Stops one or more accumulating workpiece pallets at the defined stop surface of the workpiece pallet stop surface. The VE 2/S can only stop workpiece pallets coming from one direction. When the pressure is released, the stop gate is held in the lock position by a spring and the workpiece pallet is stopped. Two VE 2/S stop gates are needed to stop workpiece pallets coming from both directions of transport, 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. 8-20
- SH 2/... switch bracket, see p. 8-88 in the TS 2*plus* catalog 7.0
- Stop gate position inquiry, see p. 8-18 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2/S stop gate	3842515844

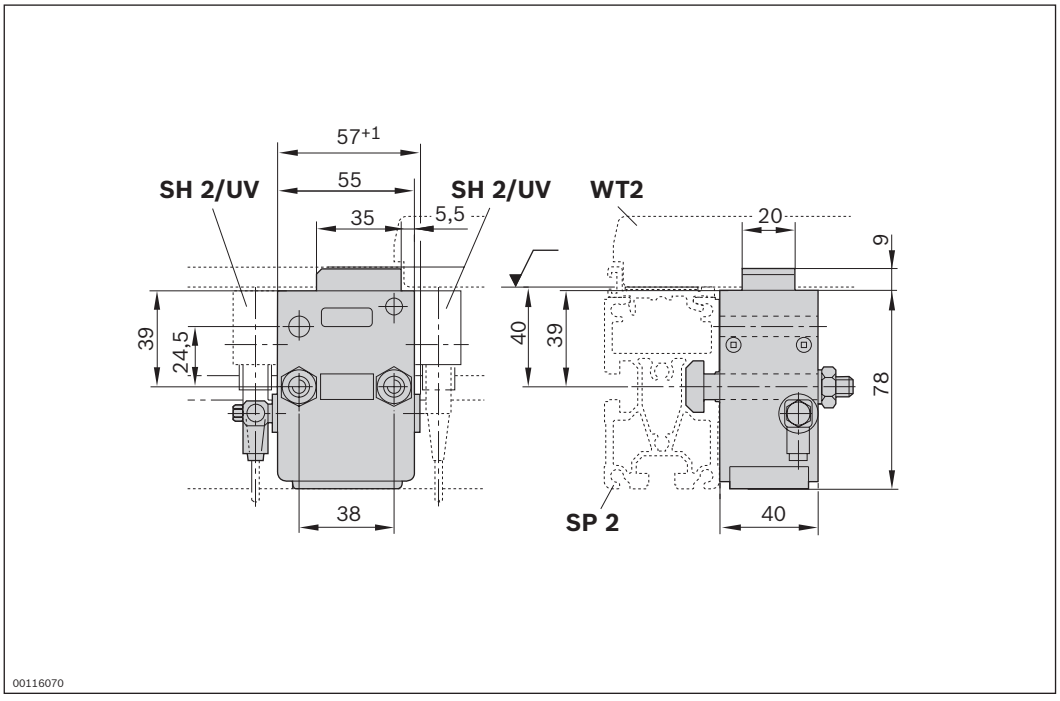
Technical data

Material number			**3842515844**
Load			
Max. total workpiece pallet weight	m_G	kg	140
Properties			
Material			Housing: PA6 Stop cam: PA66
Operating temperature[1)]		°C	0 ... +60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection	Ø	mm	4

[1)] High-temperature stop gate on request

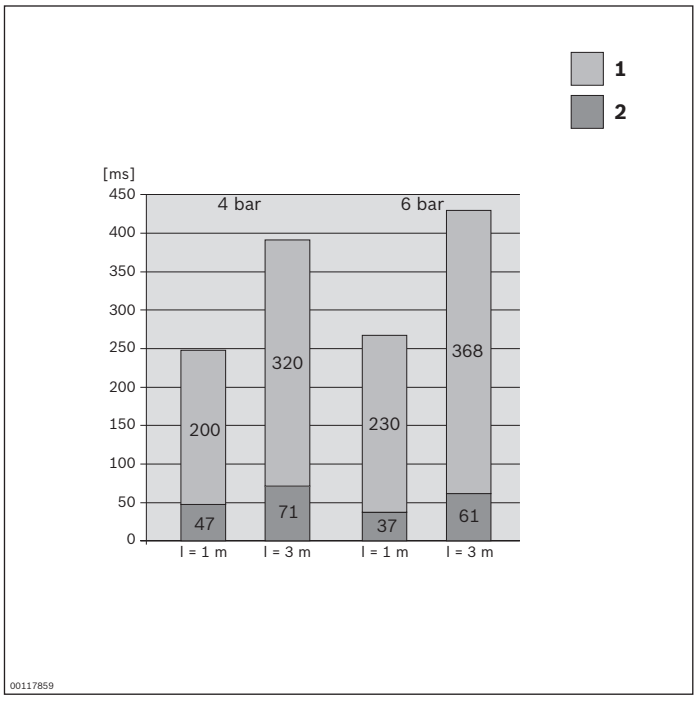
	Permitted total weight of workpiece pallet m_G (kg)	**Nominal speed v_N (m/min)**
	140	6
	90	9
	70	12
	50	15
	30	18

Dimensions



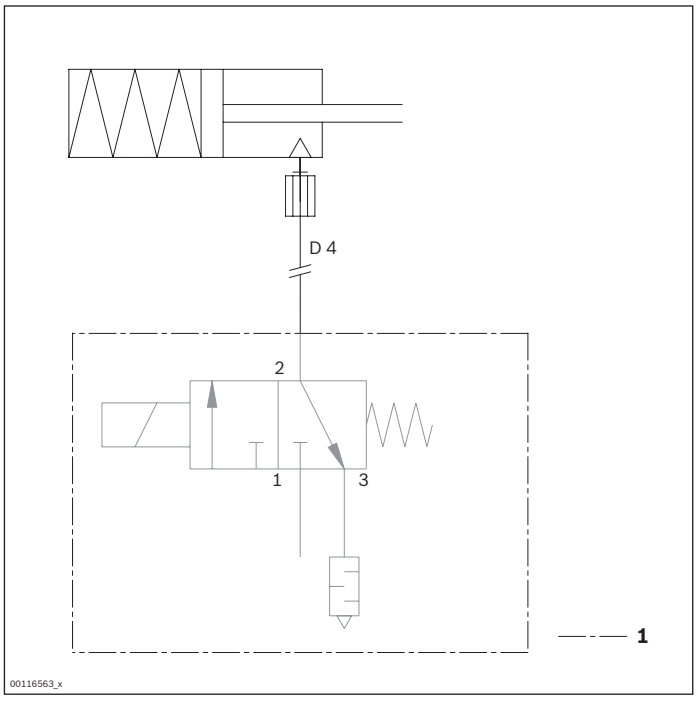
Circuit diagrams

Opening and shutting times



l = hose length
1 Close
2 Open at 4 bar

Circuit diagram



1 Not included in the scope of delivery

8

VE 2/D-60, VE 2/D60-LS stop gates



- Pneumatic stop gate
- Optimal damping for workpiece pallet total weights up to 60 kg
- Continuously adjustable damping
- Can be combined with WT 2/E, WT 2, WT 2/F and WT 2/LS (only with LS version)
- Suitable for use in an EPA

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 stop surface. When the pressure is released, the stop gate is held in the lock position 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. 8-20

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2/D-60 stop gate	3842547785
VE 2/D60-LS stop gate	3842563510

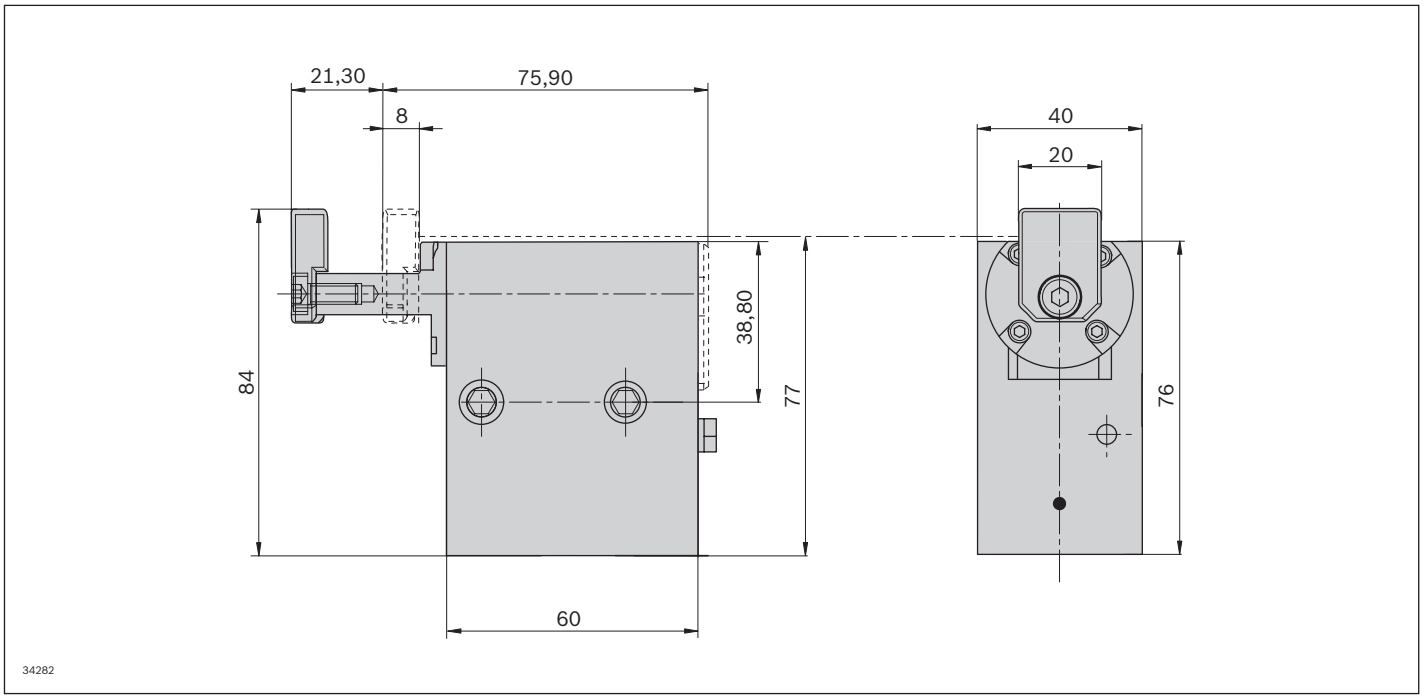
Technical data

Material number			**3842547785** **VE 2/D-60**	**3842563510** **VE 2/D60-LS**
Load				
Max. total workpiece pallet weight	m_G	kg	60	60
Min. workpiece pallet weight	m	kg	1	1
Properties				
ESD			yes	yes
Material			Housing: Aluminum, hard anodized Stop cam: Steel; hardened	Housing: Aluminum, hard anodized Stop cam: non-magnetic stainless steel; hardened
Operating temperature[1)]		°C	0 ... +60	0 ... +60
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	4	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

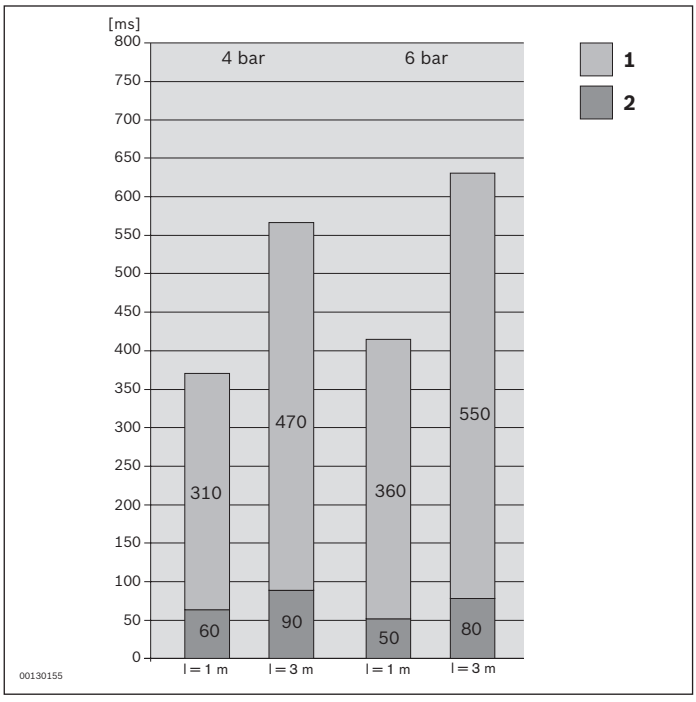
Dimensions



* Stroke

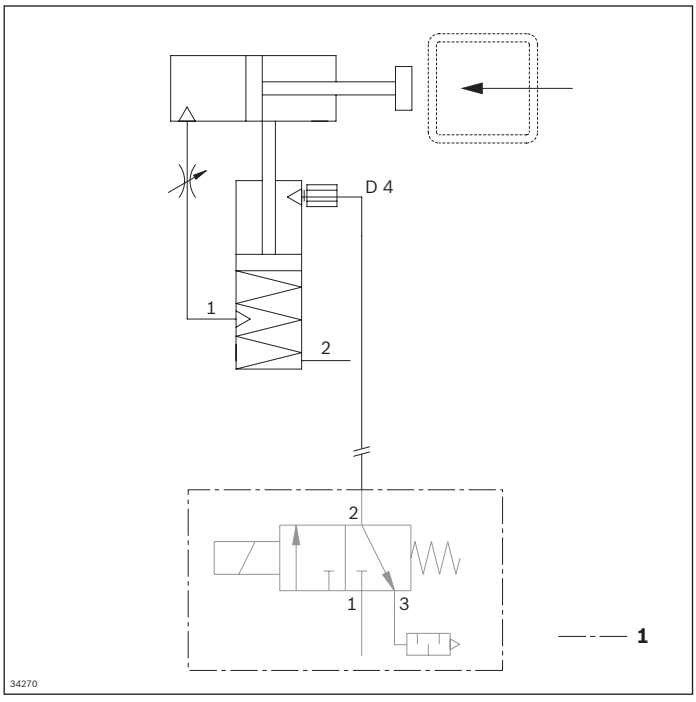
Circuit diagrams

Opening and shutting times



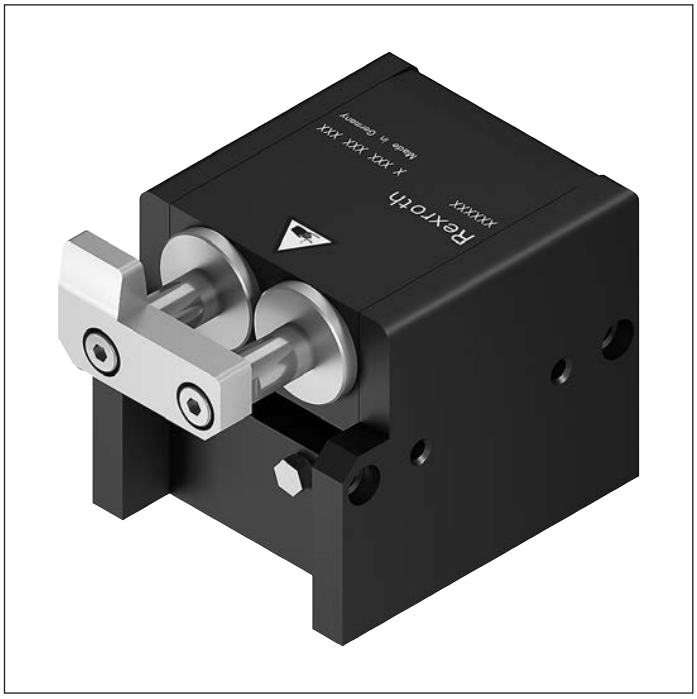
l = hose length
1 Close
2 Open at 4 bar

Circuit diagram



1 Not included in the scope of delivery

VE 2/D-175, VE 2/D175-LS stop gate



- Pneumatic stop gate
- Especially sturdy all-metal design with double piston damper
- Continuously adjustable damping
- Optimal damping for total WT weights up to 175 kg
- Short damping path of 20 mm
- Short damping time
- Short installation dimension
- Can be combined with WT 2, WT 2/F and WT 2/LS (only with LS version)
- Suitable for use in an EPA

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 stop surface. When the pressure is released, the stop gate is held in the lock position by a spring and the workpiece pallet is stopped. Mounted inside the tracks, directly on the conveyor section.

8

Accessories

Recommended accessories

- VE 2/RS return stop, see p. 8-20

Delivery information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

Product description	Material number
VE 2/D-175 stop gate	3842558795
VE 2/D175-LS stop gate	3842563511

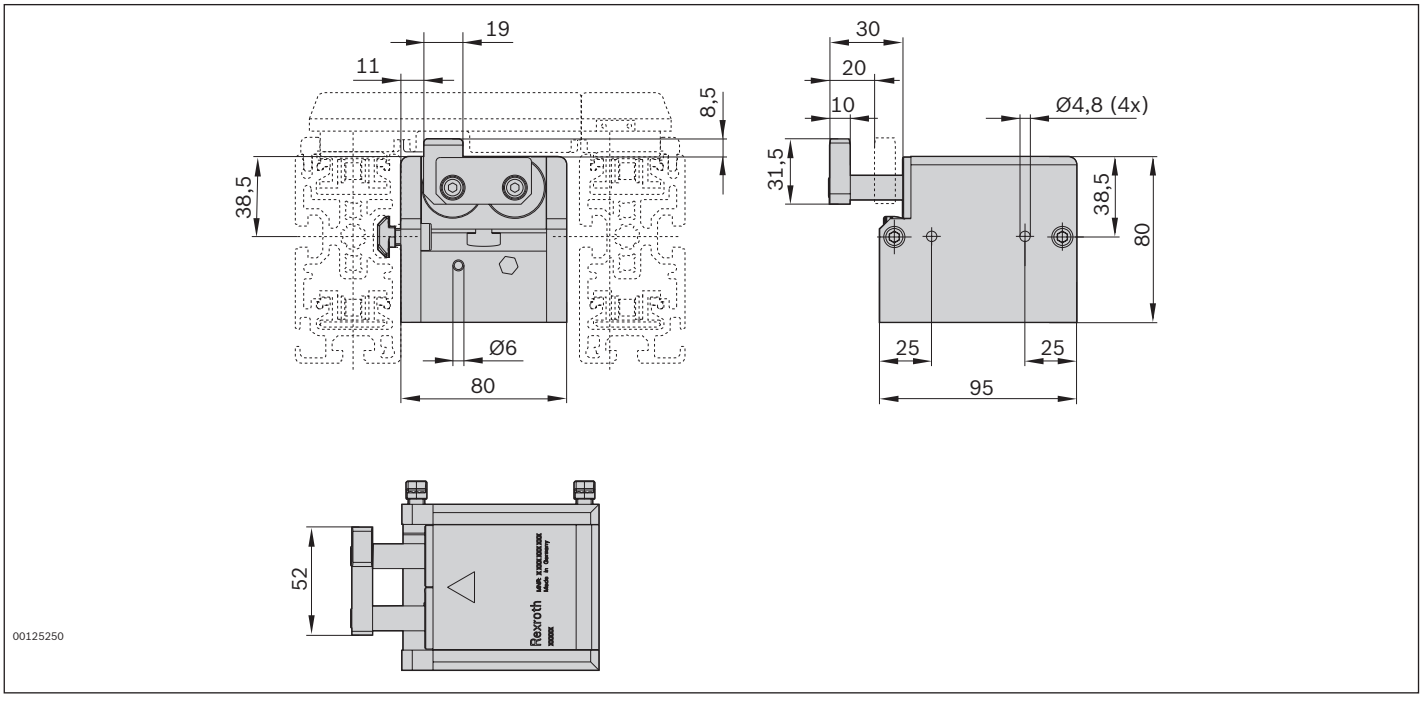
Technical data

Material number			3842558795 VE 2/D-175	3842563511 VE 2/D175-LS
Load				
Max. total workpiece pallet weight	m_G	kg	175	175
Min. workpiece pallet weight	m	kg	5	5
Properties				
ESD			yes	yes
Material			Housing: Aluminum; hard anodized Stop cam: Steel; hardened	Housing: Aluminum; hard anodized Stop cam: non-magnetic stainless steel; hardened
Operating temperature[1)]		°C	0 ... +60	0 ... +60
Additional information				
Required compressed air connection	p	bar	4 ... 6	4 ... 6
Push in air connection	Ø	mm	6	6

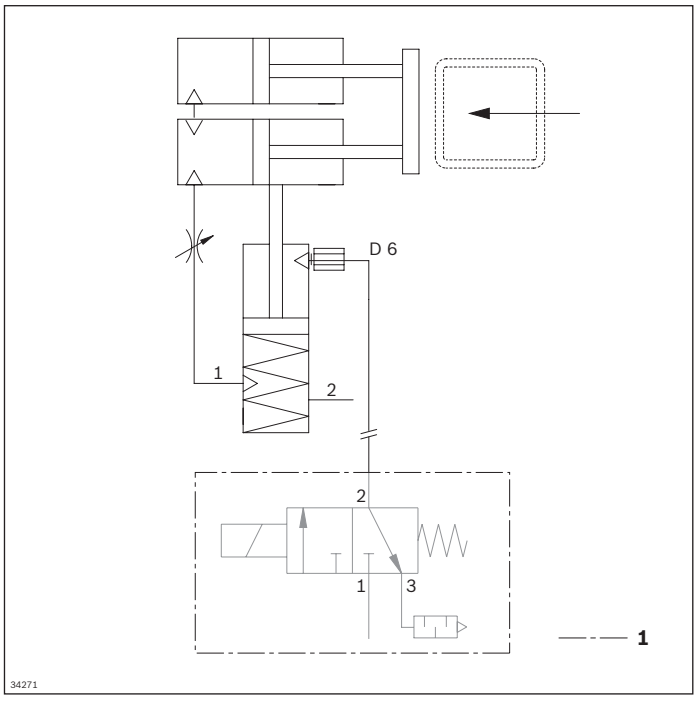
[1)] High-temperature stop gate on request

Permitted total weight of workpiece pallet m_G (kg)	Nominal speed v_N (m/min)
175	6
160	9
145	12
110	15
90	18
50	24
35	30

Dimensions



Circuit diagram



1 Not included in the scope of delivery

VE 2/RS return stop



- Spring-loaded safety catch
- Can be used on the left or right
- Use for one direction of transport, reversible operation not permitted
- Can be combined with WT 2/E, WT 2, WT 2/F, WT 2/H, WT 2/F-Hand WT 2/LS

Notice: The VE 2/RS return stop can only be installed outside the workpiece pallet surface on the 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 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 information

Scope of delivery

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

Condition on delivery

- Assembled

Ordering information

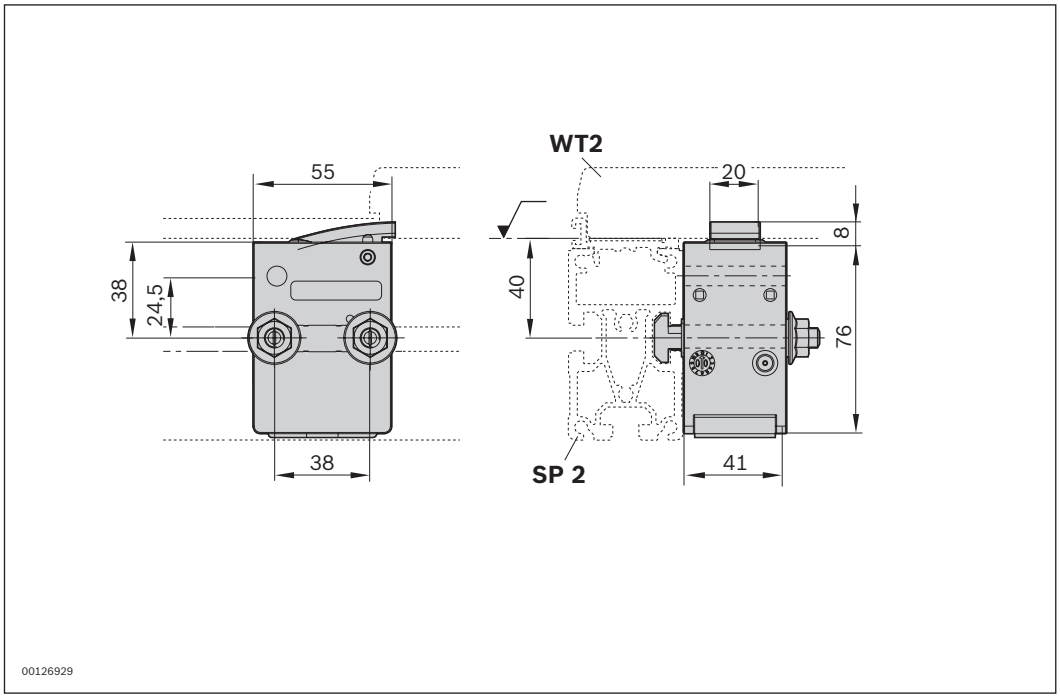
Product description	Material number
VE 2/RS return stop	3842531696

Technical data

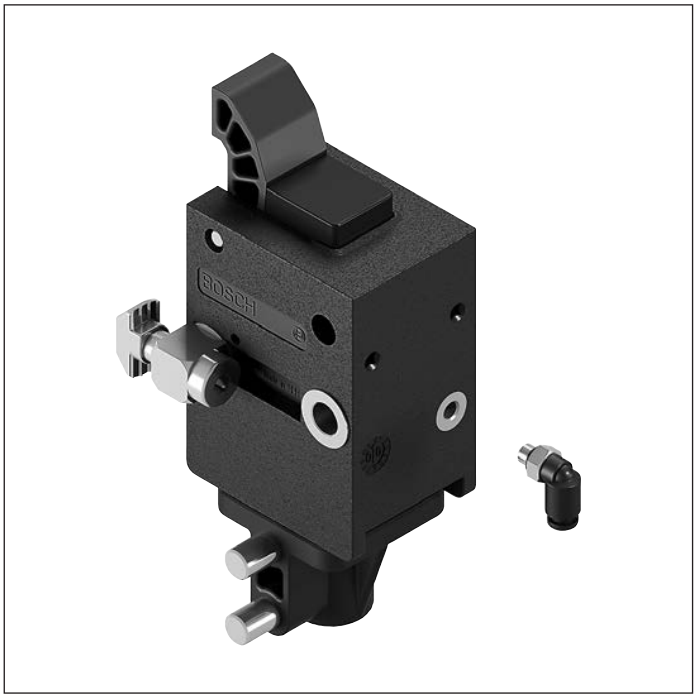
Material number			**3842531696**
Load			
Max. total workpiece pallet weight	m_G	kg	250
Min. workpiece pallet weight	m	kg	3
Properties			
Material			Housing: PA6 Stop cam: PA66
Operating temperature[1)]		°C	0 ... +60

[1)] High-temperature stop gate on request

Dimensions



VA 2/50 slide stop



- Slide stop, can be lowered pneumatically
- Reversible operation not permitted
- Removable slide stop position sensors
- Not suitable for ST 2...-H sections
- Can be combined with WT 2/E, WT 2, WT 2/F and WT 2/LS

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.
When depressurized, the pneumatically lowered slide stop is extended to the upper end position. Mounted inside the tracks, directly on the conveyor section.

Accessories

Recommended accessories

- 2x M8x1 sensor, see p. 8-112 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

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

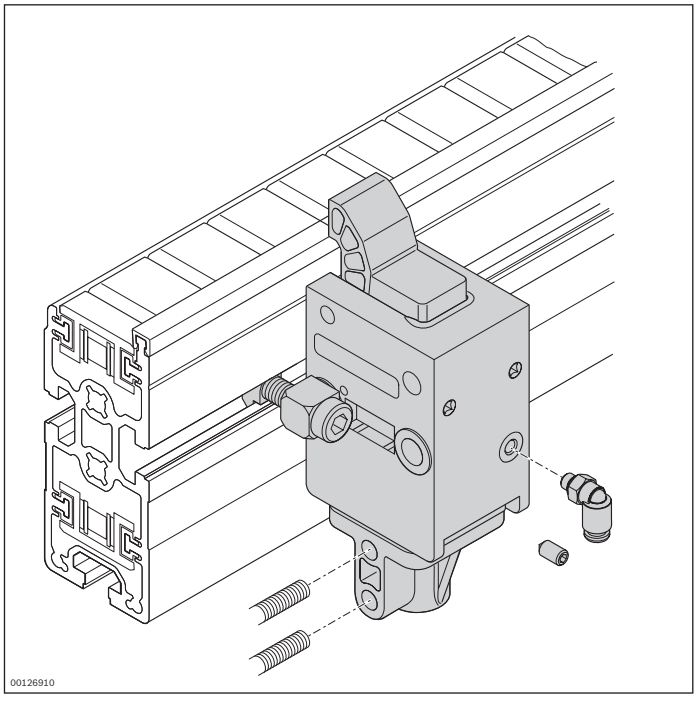
Ordering information

Product description	Material number
VA 2/50 slide stop	3842528808

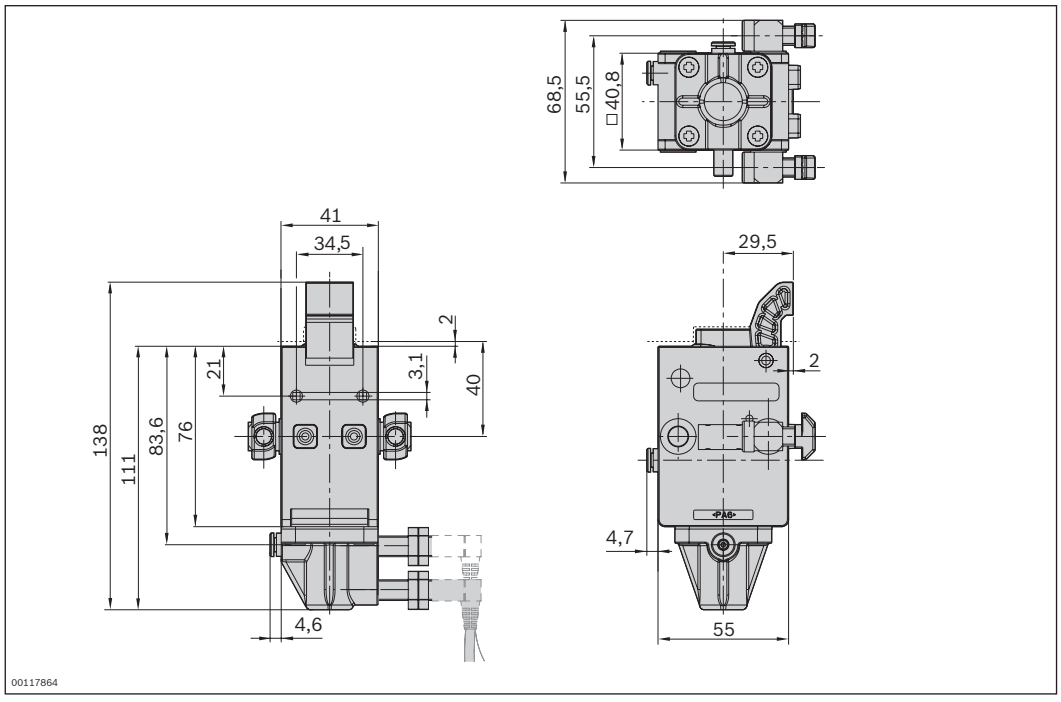
Technical data

Material number			**3842528808**
Load			
Max. total workpiece pallet weight	m_G	kg	50
Properties			
Material			Housing: PA6 Safety catch: PA66 Stop cam: PA66
Max. operating temperature		°C	60
Additional information			
Required compressed air connection	p	bar	4 ... 6
Push in air connection	Ø	mm	4

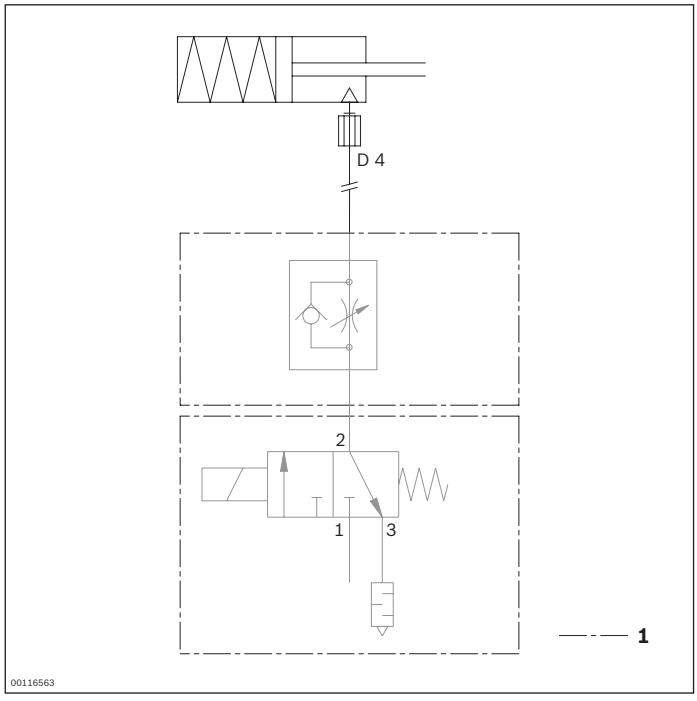
	Permitted total weight of workpiece pallet m_G (kg)	**Nominal speed v_N (m/min)**
	50	6
	50	9
	35	12
	25	15
	20	18



Dimensions



Circuit diagrams



1 Not included in the scope of delivery

WI/M rocker



- For area monitoring
- For workpiece pallet recognition
- For accumulation pressure regulation
- 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 and WT 2/LS
- Suitable for use in an EPA

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 pulse corresponding to the workpiece pallet weight. The spring-mounted rocker switch physically detects workpiece pallets. The metal element in the rocker switch engages a sensor to enable detection. 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 VE 2 stop gate.

Accessories

Recommended accessories

- M12x1 sensor with rated switching distance S_N = 4 mm (for rated switching distance ≥ 4 or ≤ 4 a correct query is not possible), overall length 70 mm, see p. 8-108 in the TS 2*plus* catalog 7.0
- Pneumatic cylinder switch, see p. 8-136 in the TS 2*plus* catalog 7.0

Delivery information

Scope of delivery

- Including fastening material for installation on ST 2/... conveyor sections or BS 2/... belt section.

Ordering information

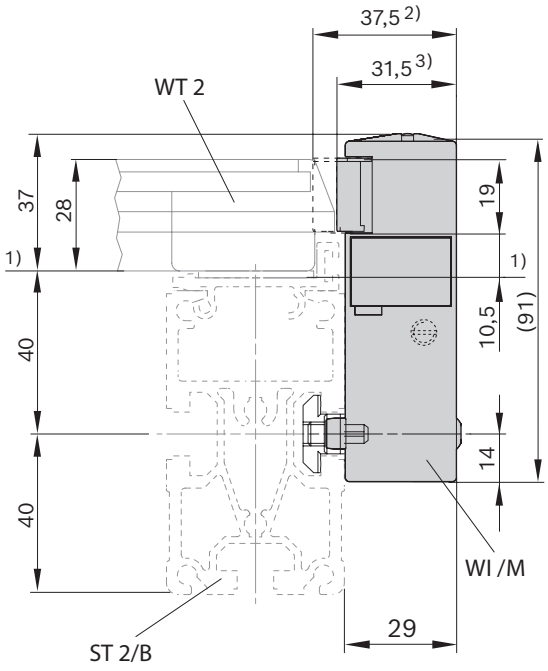
Product description	Material number
WI/M rocker	3842530797

Technical data

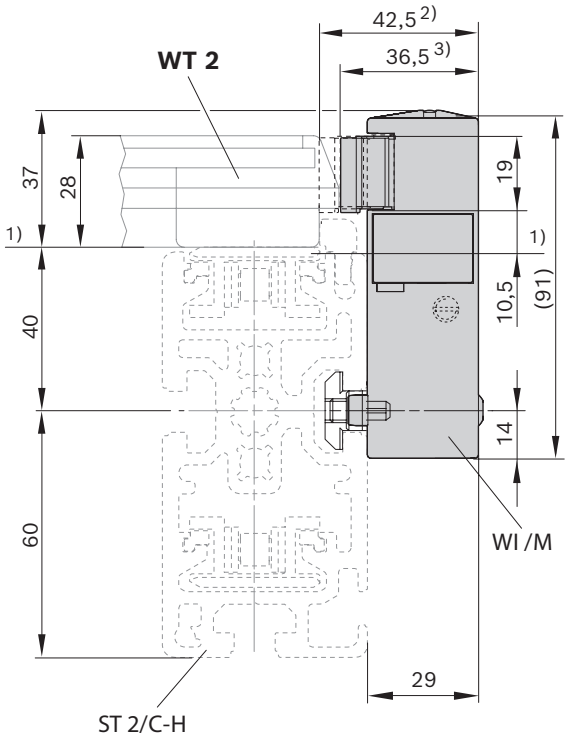
Material number		3842530797
Properties		
ESD		yes
Monitoring range	mm	60

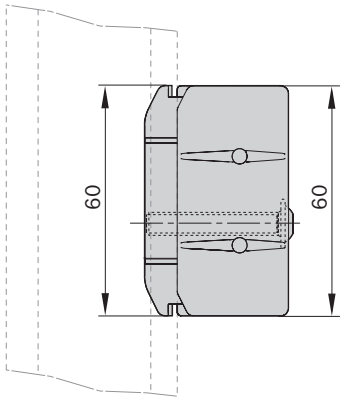
Dimensions

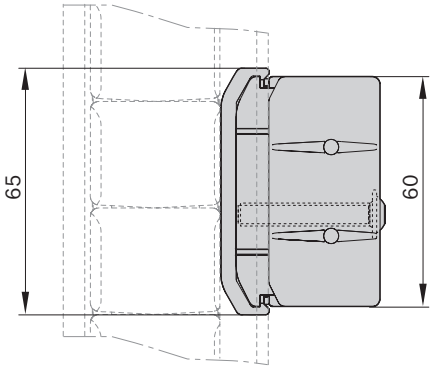
Mounting on ST 2/...



Mounting on ST 2/...-H





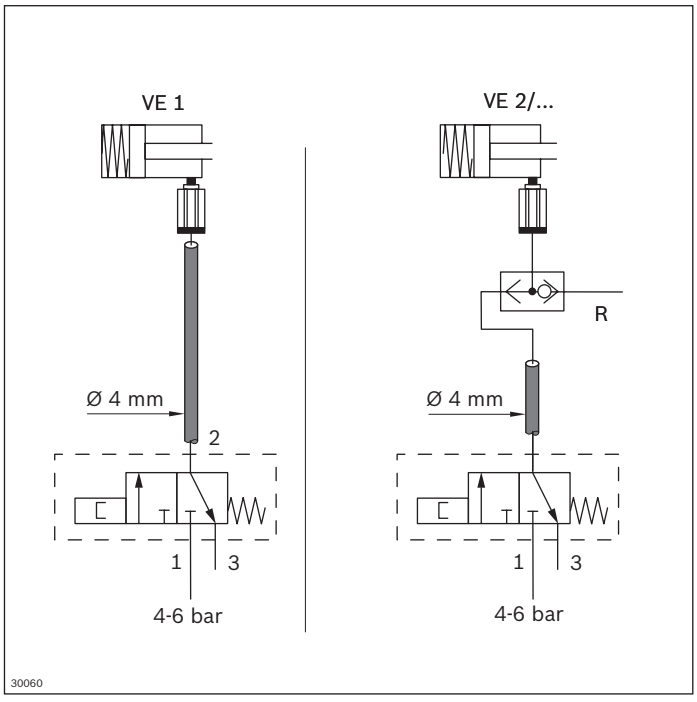


00012816

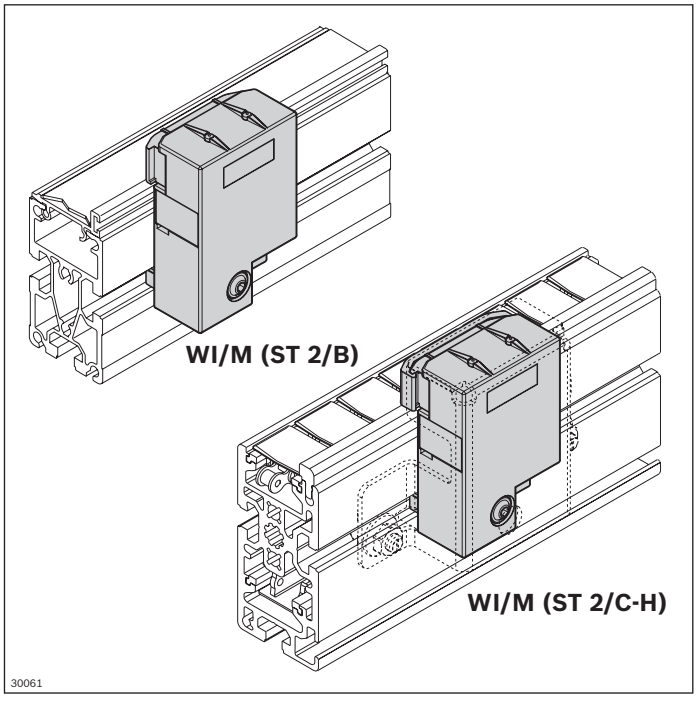
[1] Transport level
[2] Limit stop not activated
[3] Limit stop activated

Notice: Rocker activated, electrical sensor dampened

Circuit diagrams

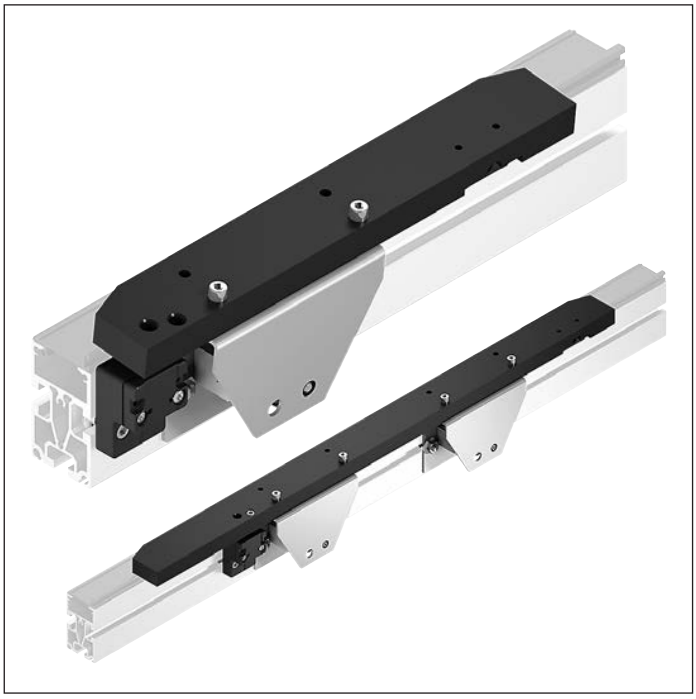


Installation locations on ST 2 or ST 2/...-H



8

WI 2 rocker



- For area monitoring
- For workpiece pallet recognition
- As a stop for transverse conveying 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, WT 2/F and WT 2/LS
- Suitable for use in an EPA

Note:
In horizontal installation, WI 2 requires a flush sensor with rated switching distance S_N = 8 mm.
The sensor (3842559541) must not be clamped in the front area.

One basic rocker body for workpiece pallet lengths of ≤ 480 mm

Two basic rocker body for workpiece pallet lengths of ≥ 640 mm

Delivery information

Scope of delivery

- Including fastening material for installation on the ST 2/... conveyor section or BS 2/... belt section.

Ordering information

Product description	Material number
Rocker, WI 2 b_Q = 160	3842348780
Rocker, WI 2 b_Q = 240	3842348781
Rocker, WI 2 b_Q = 320	3842348782
Rocker, WI 2 b_Q = 400	3842348783
Rocker, WI 2 b_Q = 480	3842348784
Rocker, WI 2 b_Q = 640	3842348786
Rocker, WI 2 b_Q = 800	3842348788

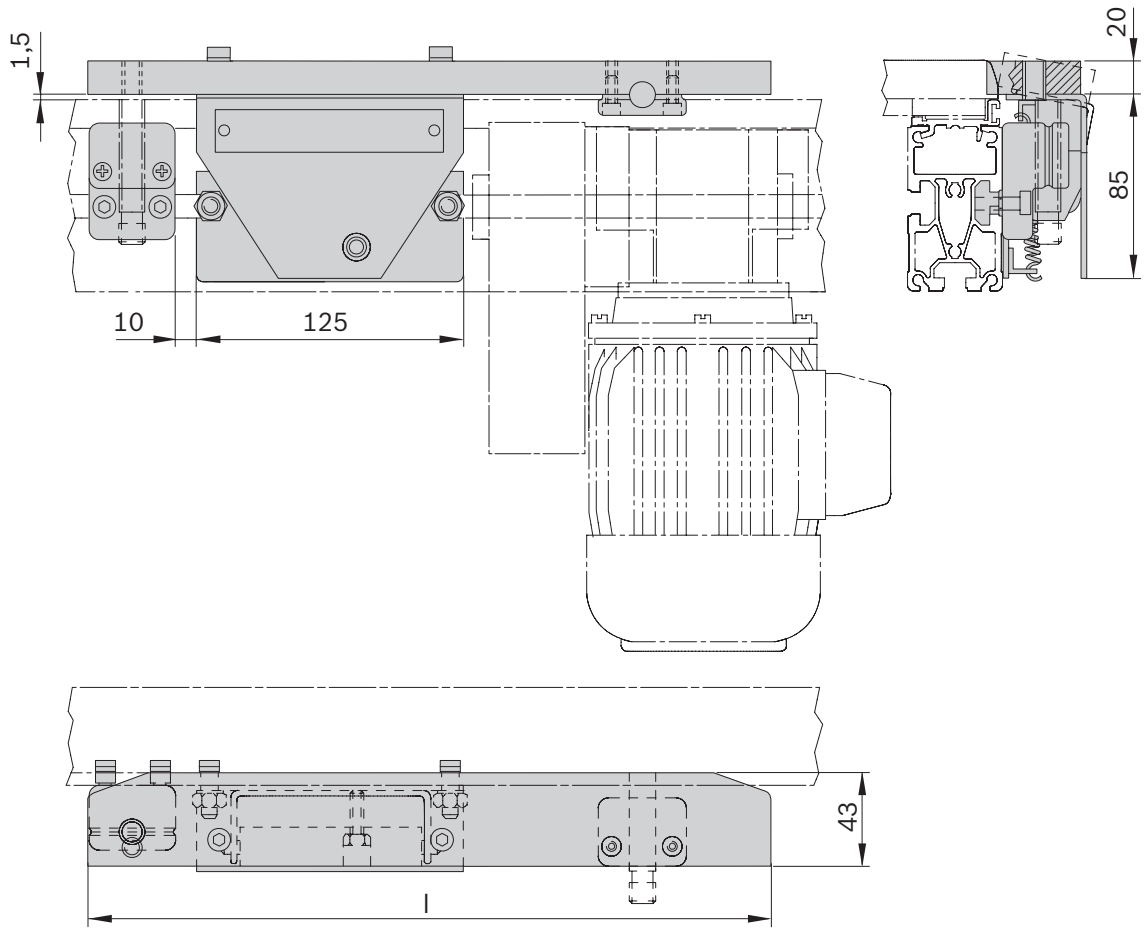
Technical data

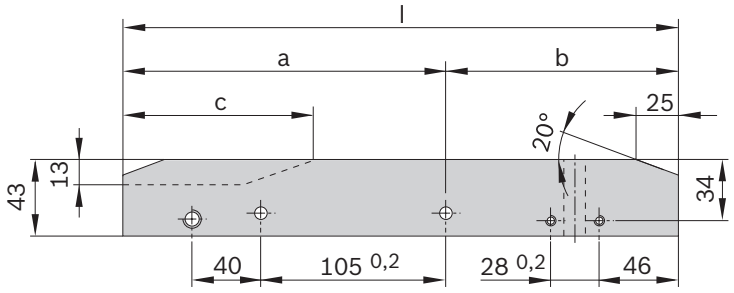
Material number			3842348780	3842348781	3842348782	3842348783
Load						
Max. total workpiece pallet weight[1)]	m_G	kg	30	30	30	30
Min. workpiece pallet weight[2)]	m	kg	1.5	1.5	1.5	1.5
Properties						
ESD			yes	yes	yes	yes
Monitoring range		mm	165	270	350	430
Dimensions						
Length	l	mm	320	320	400	480

Material number			3842348784	3842348786	3842348788
Load					
Max. total workpiece pallet weight[1)]	m_G	kg	30	30	30
Min. workpiece pallet weight[2)]	m	kg	1.5	3.0	3.0
Properties					
ESD			yes	yes	yes
Monitoring range		mm	510	670	830
Dimensions					
Length	l	mm	560	720	880

[1)] Max. total WT weight applies when infeeding from a transverse section into a main section; for area monitoring, only the max. system weight of 240 kg cannot be exceeded.
[2)] Min. WT weight applies per rocker body

For workpiece pallet lengths of ≤ 480 mm

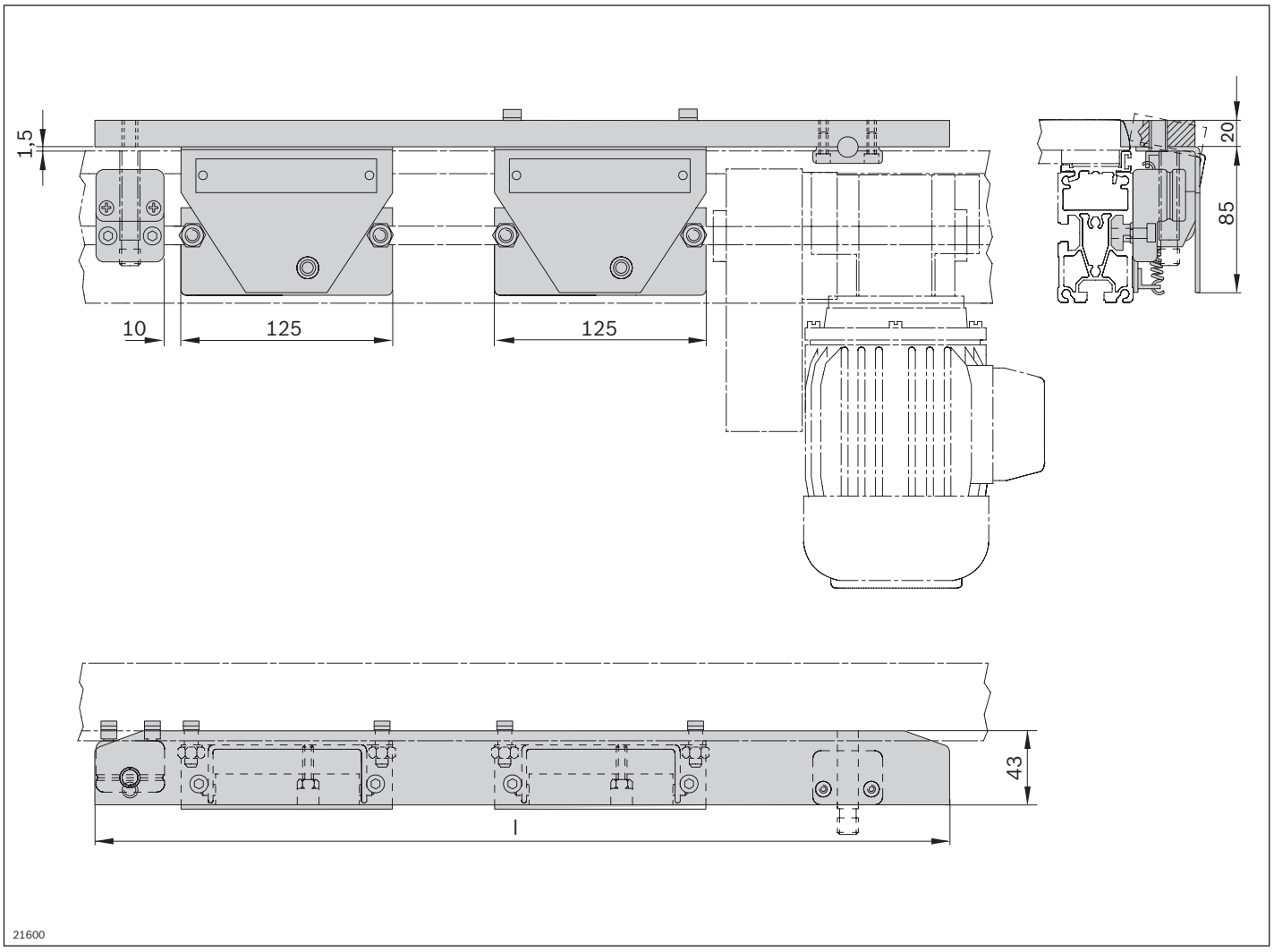


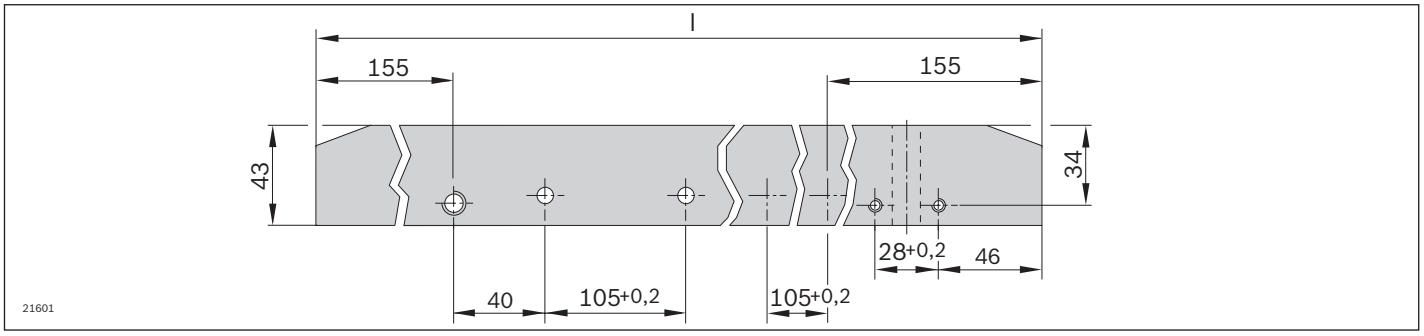


Track width in the transverse conveyor b_Q (mm)	Dimension a (mm)	Dimension b (mm)	Dimension c (mm)	Dimension l (mm)
160	165	155	105	320
240	165	155	25	320
320	245	155	25	400
400	292	188	25	480
480	332	228	25	560

Dimensions

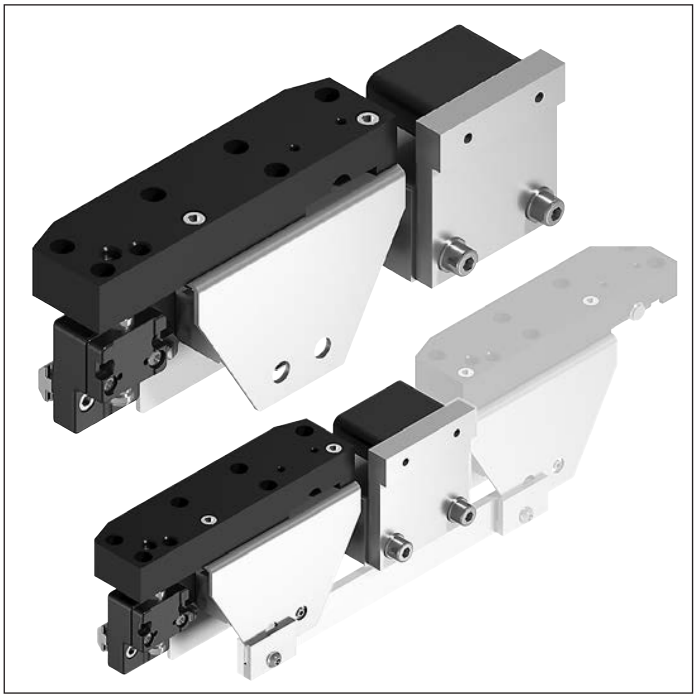
For workpiece pallet lengths of ≥ 640 mm





Track width in the transverse conveyor b_Q (mm)	Dimension l (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, WT 2/F and WT 2/LS
- Suitable for use in an EPA

Accessories

Required accessories

- M12 round sensor with rated switching distance $S_N \geq 4$ mm, see p. 8-108 in the TS 2*plus* catalog 7.0

Recommended accessories

- Additional MS rocker extension with second rocker body and connecting strip for installation of a rocker positioned between the start and end of the conveyor section.

Delivery information

Scope of delivery

- Including fastening material for fastening to ST 2/.. conveyor sections or BS 2/... belt sections

Ordering information

Product description	Material number
WI 2/X rocker	3842524447
MS rocker extension l_{WT} = 400	3842524449
MS rocker extension l_{WT} = 480	3842524450
MS rocker extension l_{WT} = 640	3842524451
MS rocker extension l_{WT} = 800	3842524452
MS rocker extension l_{WT} = 1040; 1200	3842524453

Technical data

Material number			3842524447
Load			
Max. total workpiece pallet weight[1]	m_G	kg	100
Min. workpiece pallet weight[2]	m	kg	1.5
Properties			
ESD			yes
Monitoring range		mm	430 ... 1230

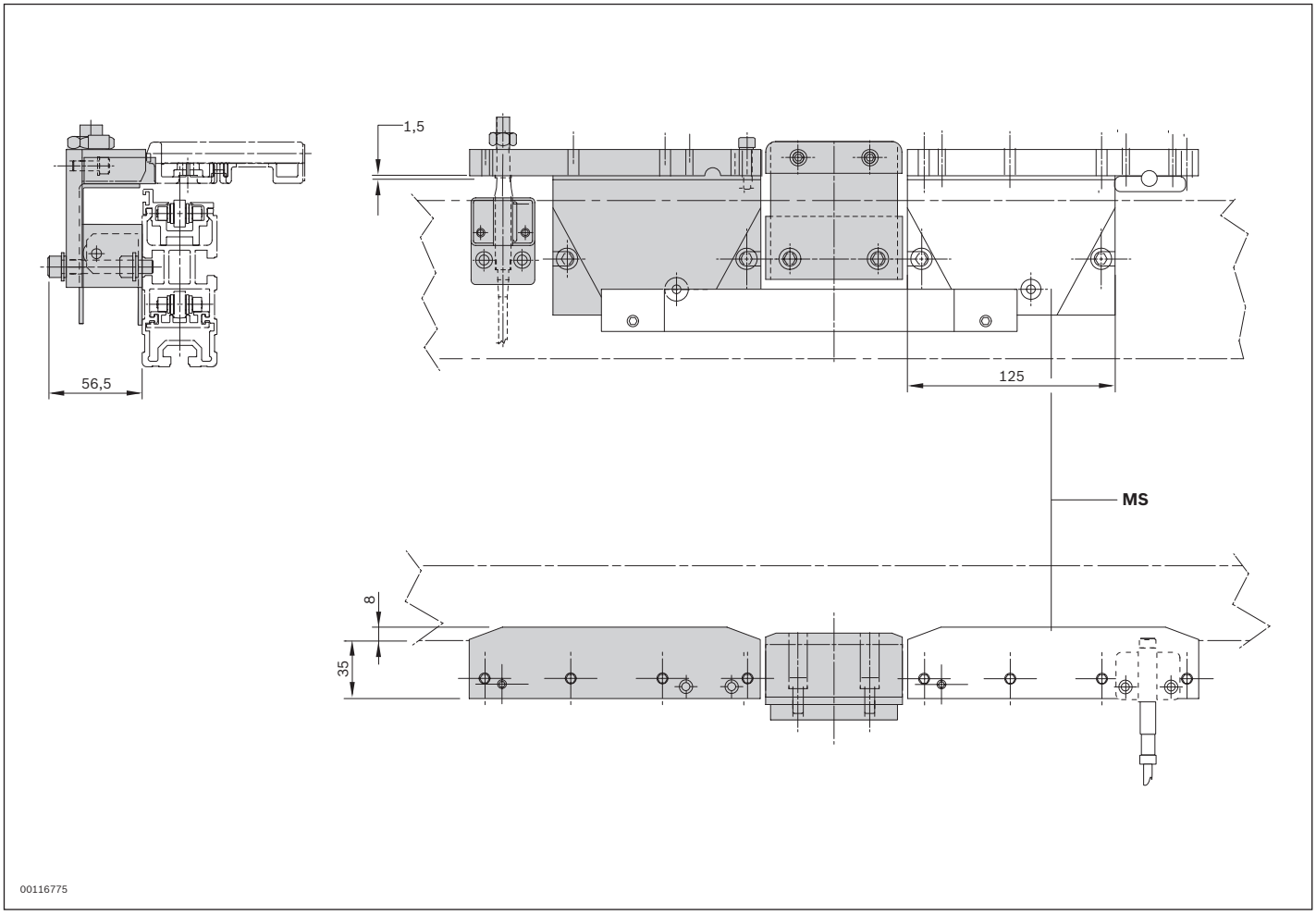
[1] Max. total WT weight applies when infeeding from a transverse section into a main section; for area monitoring, only the max. system weight of 240 kg cannot be exceeded.

[2] Min. WT weight applies per rocker body

MS rocker extension

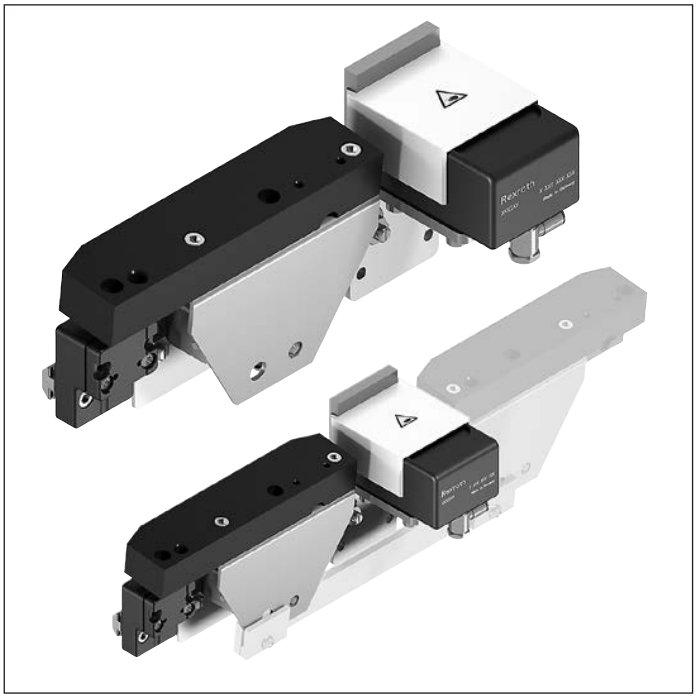
Material number			3842524449	3842524450	3842524451	3842524452	3842524453
Dimensions							
Length of workpiece pallet	l_{WT}	mm	400	480	640	800	1040; 1200
Properties							
ESD			yes	yes	yes	yes	yes
Monitoring range		mm	430	510	670	830	1230

Dimensions



MS Additional rocker extension

WI 2/D rocker



- As a dampened 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, WT 2/F and WT 2/LS
- Suitable for use in an EPA

Accessories

Required accessories

- M12 round sensor with rated switching distance $S_N \geq 4$ mm, see p. 8-108 in the TS 2*plus* catalog 7.0

Recommended accessories

- Additional MS rocker extension with second rocker body 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 information

Scope of delivery

- Incl. fastening material
- Including DA 2/100 damper

Ordering information

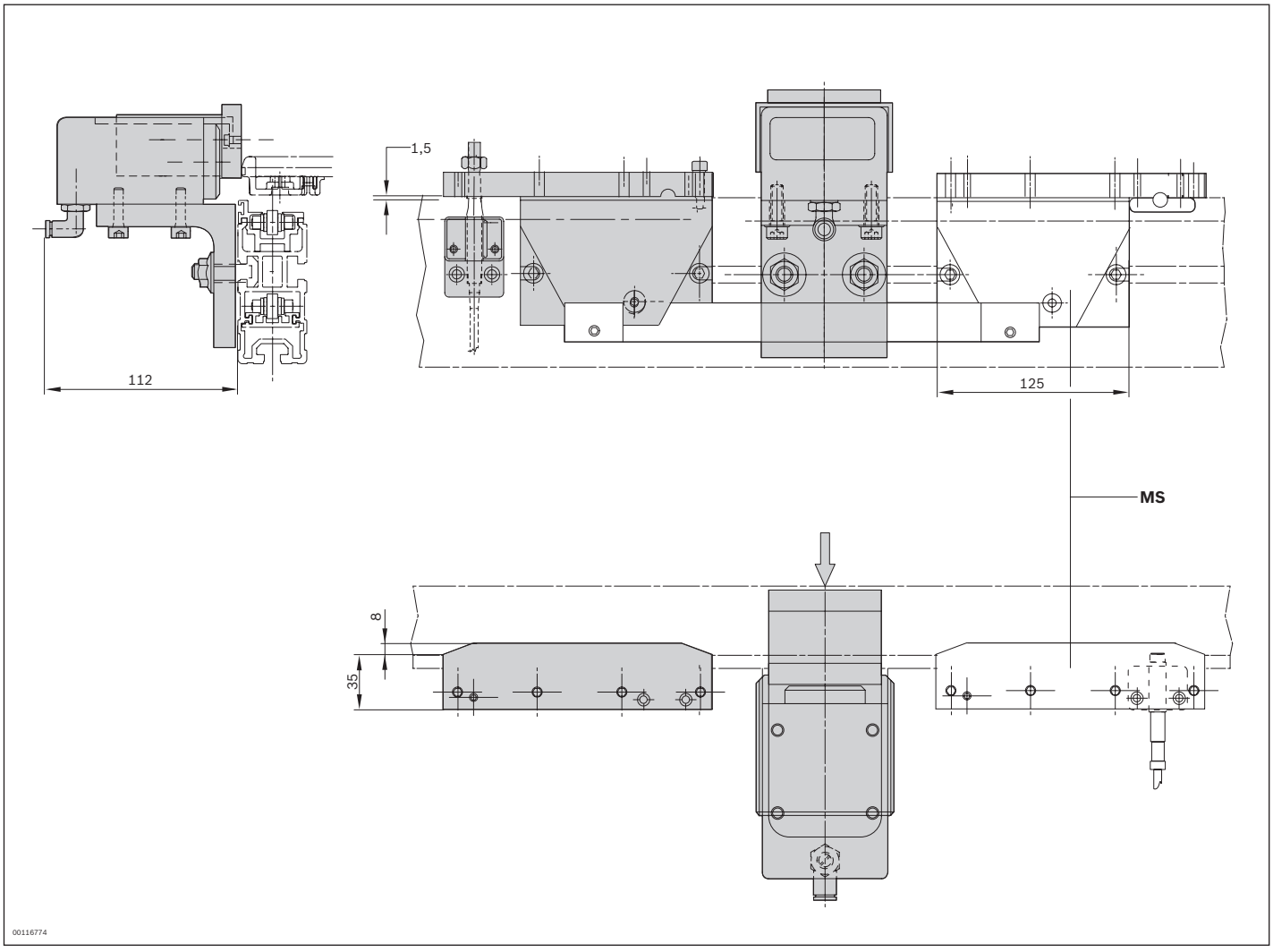
Product description	Material number
WI 2/D rocker	3842524448

Technical data

Material number			**3842524448**
Load			
Max. total workpiece pallet weight[1)]	m_G	kg	100
Min. workpiece pallet weight[2)]	m	kg	5
Properties			
ESD			yes
Monitoring range		mm	430 ... 1230

[1)] Max. total WT weight applies when infeeding from a transverse section into a main section; for area monitoring, only the max. system weight of 240 kg cannot be exceeded.
[2)] Min. WT weight applies per rocker body

Dimensions



MS Additional rocker extension

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0 842 601 001	7-2
0 842 601 003	7-2
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3 842 504 710	7-5
3 842 504 711	7-5
3 842 504 712	7-5
3 842 504 713	7-5
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3 842 999 040	5-3
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Symbols

Product features

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

Potential applications

	Suitable for use in clean rooms
	Suitable for use in dry rooms

Additional information

	Positioning accuracy
	Vertical process force

Conveyor medium

	Belt
	Toothed belt
	Plastic flat-top chain
	Plastic accumulation roller chain
	Steel accumulation roller chain
	V*plus* accumulation roller chain
	Duplex chain
	Round belt
	Linear drive for TS 2 Booster
	Specific section load/cm = WT total weight/support surface length

ORDERING INFORMATION

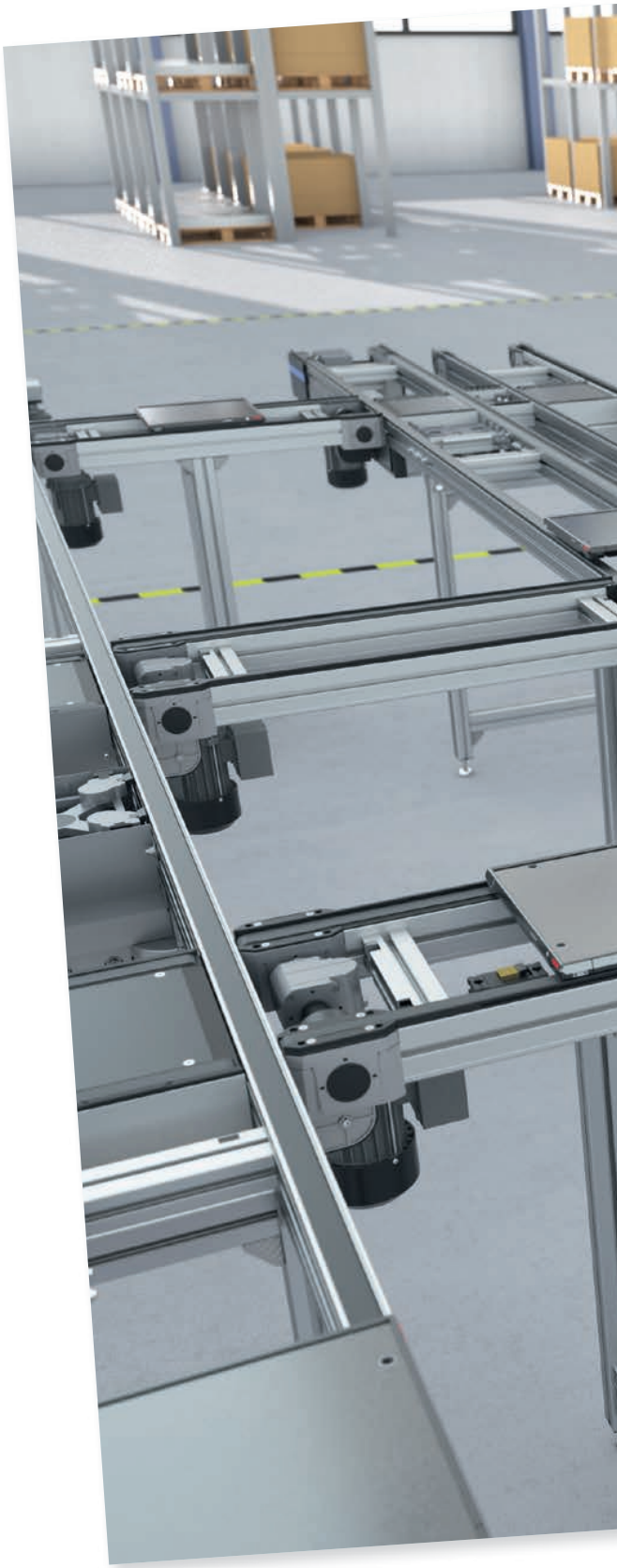
Explanation

Packing unit
Example:
= minimum order quantity (here: 10 items),
Packing unit contains 10 items, material number 3842523258; order 1x 3842523258 = delivery
1x minimum order quantity 3842523258 = 10 items;
order 15x 3842523258 = delivery
2x minimum order quantity 3842523258 = 20 items

Delivery unit
Example:
= delivery quantity (here: 16 items)
Delivery unit contains 16 items, material number 3842523695; order 1x 3842532695 = delivery
1x delivery quantity 3842532695, SP 2/B,
l = 6070 mm = 16 items,
Order 15x 3842532695 = delivery
15x delivery quantity 3842532695 SP 2/B,
l = 6070mm = 240items

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