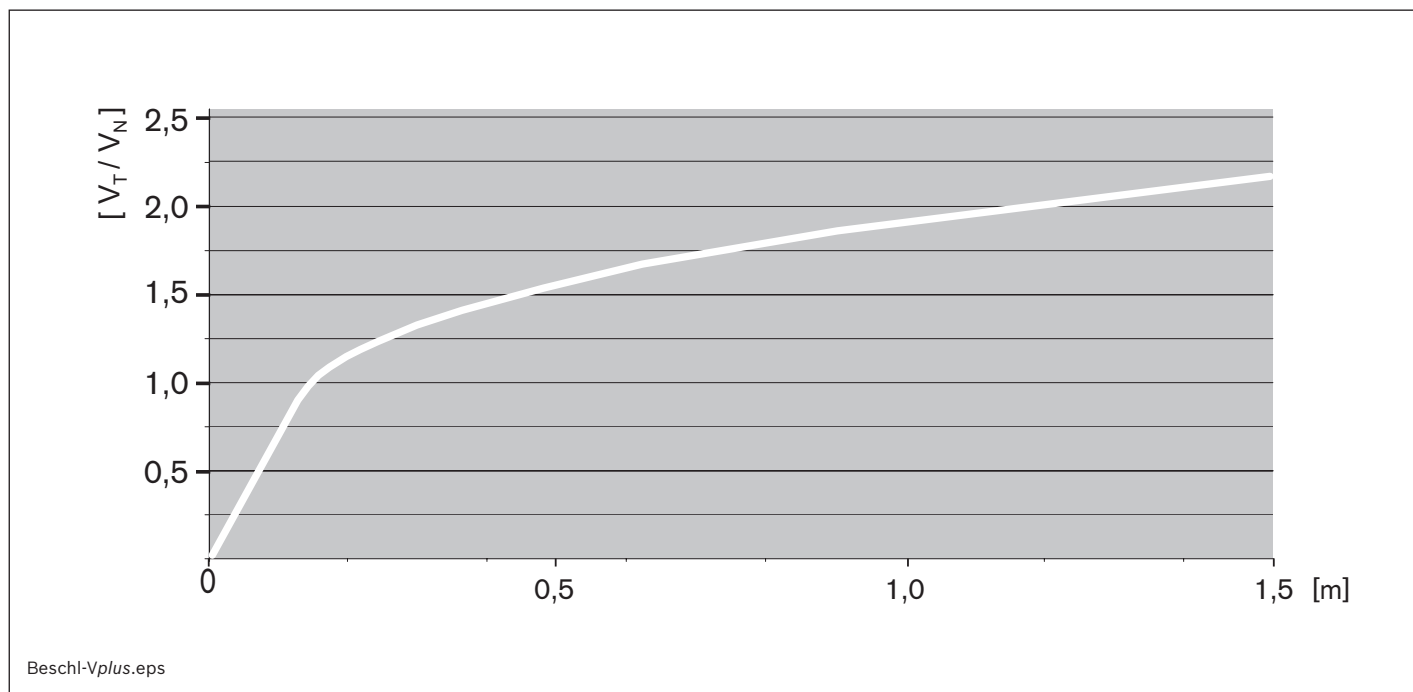


Vplus accumulation roller chain



Vplus accumulation roller chain – transportation speed over distance



v_N Nominal speed
 v_T Max. transportation speed

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

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

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

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

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

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

Vplus planning advice 3-193

Vplus planning advice



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

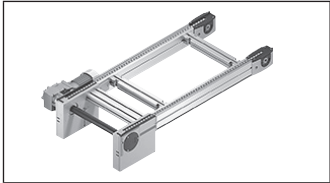
In practice:

- The weight of the workpiece pallet
- The lubrication and wear of the chain
- The length of the acceleration section

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

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

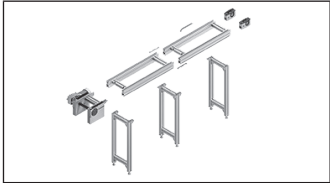
- Dampers and dampened stop gates must be designed for the mathematical transportation speed.
- Before entering a curve, ensure that the transportation speed is max. 18 m/min.



BS 2/R-V belt sections



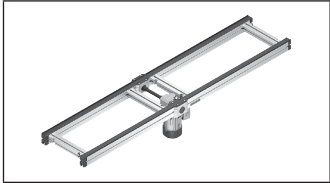
3-196



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



3-200



Connection kits

3-236

BS 2/R-V-1200 belt section



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

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

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

Accessories

Recommended accessories

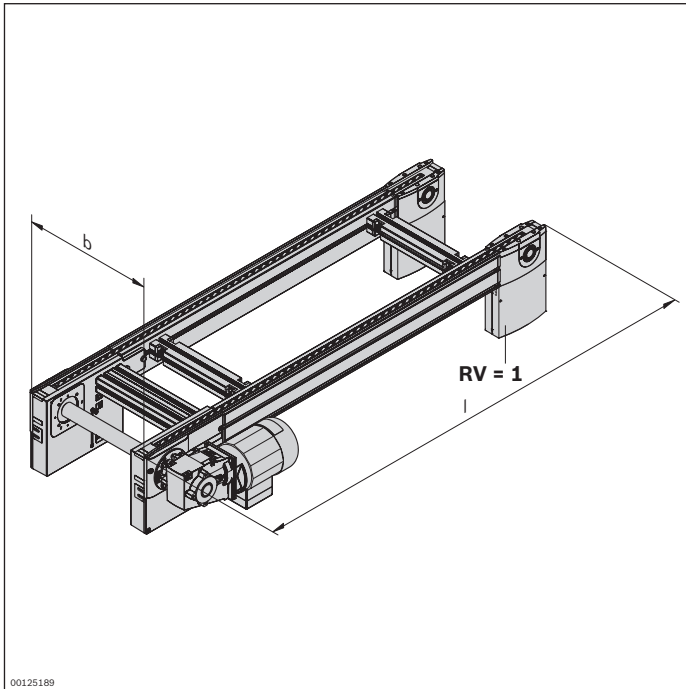
- ▶ Connection kits, see page 3-236
- ▶ SZ 2/...-H leg sets, see p. 6-2
- ▶ LU 2 automatic lubrication unit, see p. 3-152

Delivery notes

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998492
b (mm)	Track width in direction of transport	400 ... 1200
l (mm)	Length	650 ... 6000
v_N (m/min)	Nominal speed of the chain	0 ¹⁾ ; 6; 9; 12; 15; 18 ²⁾
U (V)	Voltage	See motor data, p. 11-24ff
f (Hz)	Frequency	See motor data, p. 11-24ff
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M
RV	Reversible operation No reversible operation (RV = 0) Reversible operation (RV = 1)	0; 1
KT	Chain type Accumulation roller chain with steel accumulation rollers (KT = 2) Accumulation roller chain with steel accumulation rollers and small parts protection (KT = 4)	2; 4

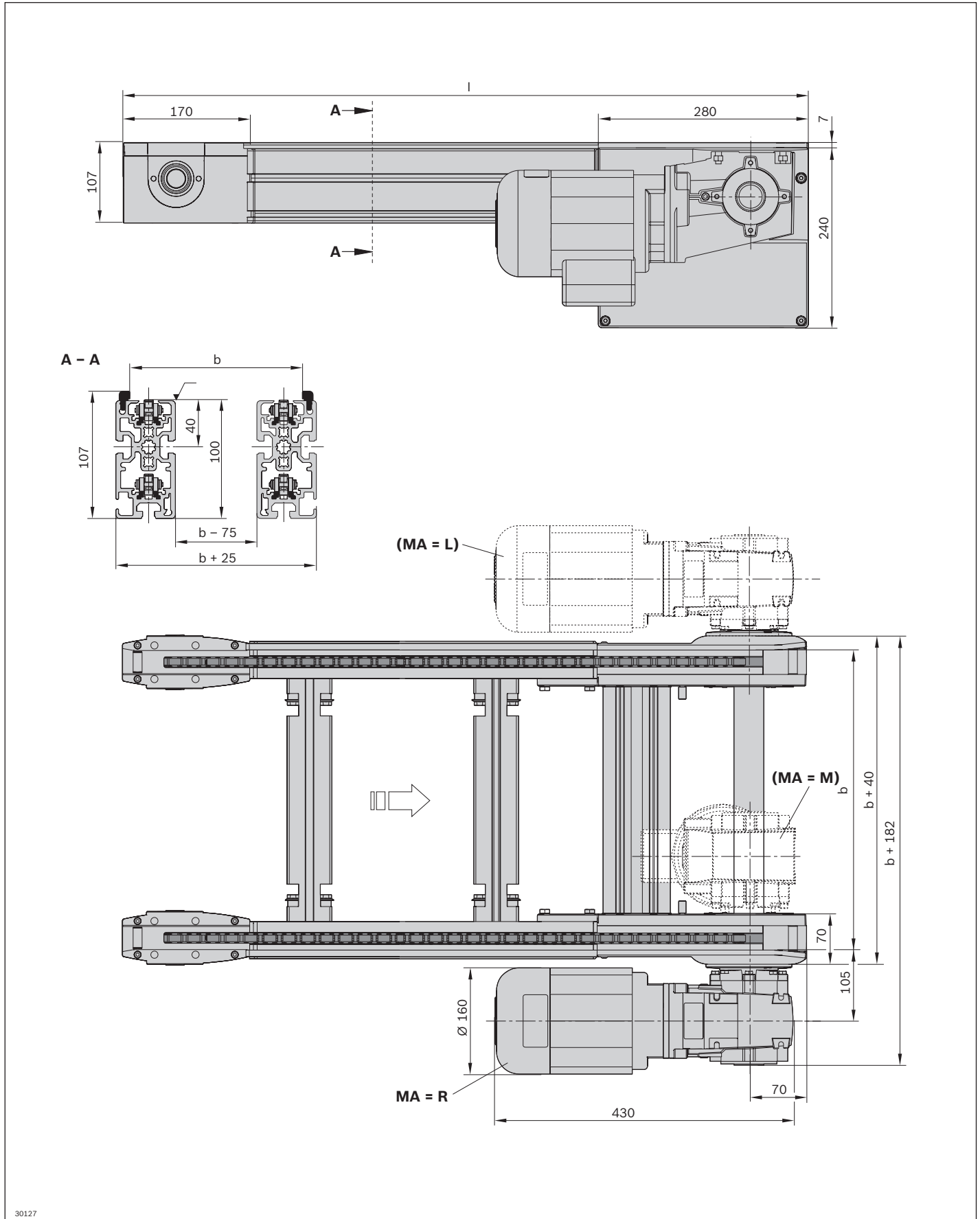
¹⁾ $v_N = 0$: without motor or gear

²⁾ Not possible if $f = 60$ Hz

Technical data

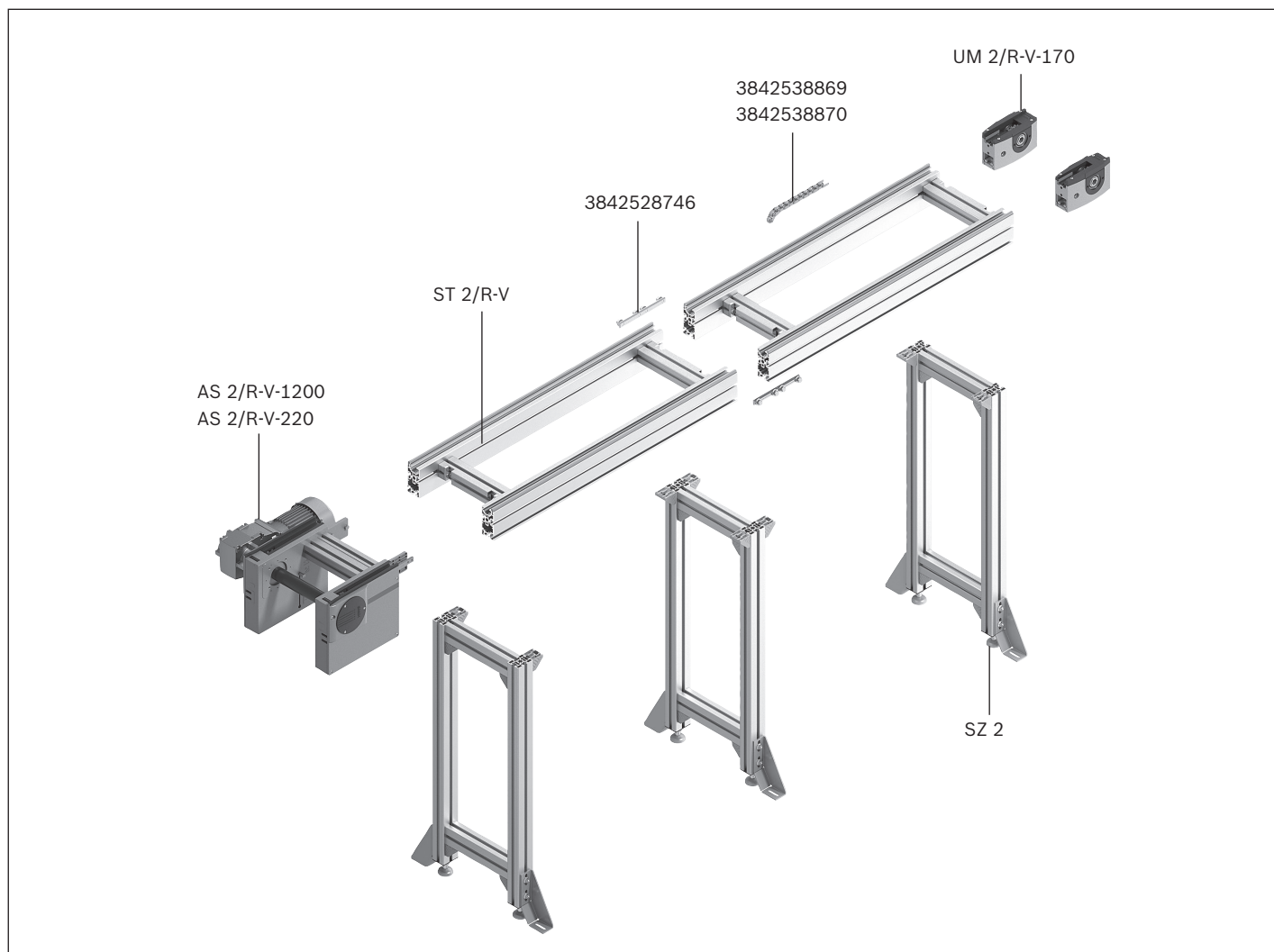
Material number		3842998492
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		Yes
Material specification		Glide profile: Steel; corrosion-resistant Small parts protection: Steel
Dimensions		
Length	l	mm
		650 ... 6000

Dimensions





Conveyor units *Vplus* accumulation roller chain conveyor medium



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

- ▶ AS 2/R-V drive module, see p. 3-202
- ▶ UM 2/R-V return unit, see p. 3-208
- ▶ ST 2/R-V... sections, see p. 3-210
- ▶ SZ 2/... leg sets, see p. 6-2
- ▶ QV 2... cross connector, see p. 3-216
- ▶ *Vplus* accumulation roller chain, see p. 3-192

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

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



AS 2/R-V drive module



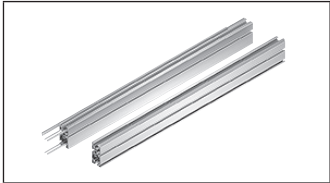
3-202



UM 2/R-V-170 return unit



3-208



ST 2/R-V section, components



3-210

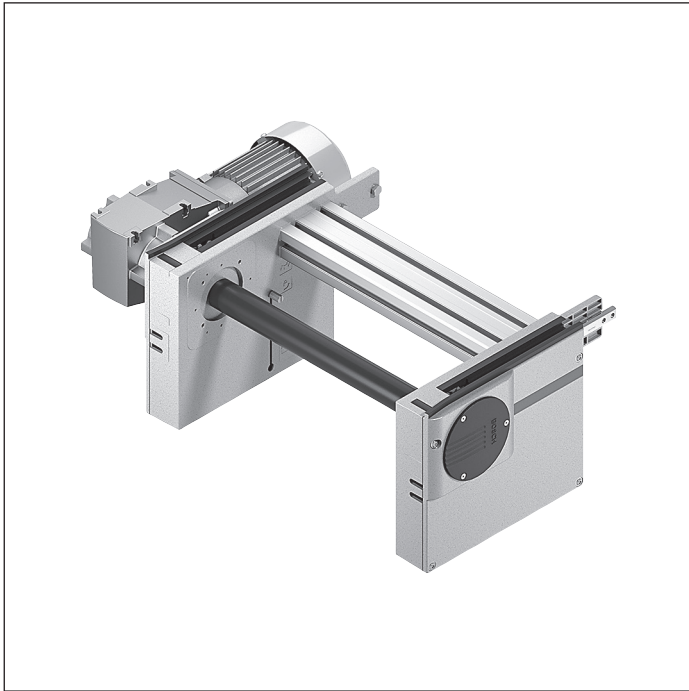


Accumulation roller chain conveyor medium, accessories



3-222

AS 2/R-V-1200 drive module



- ▶ For conveyor unit self-assembly
- ▶ For use in conjunction with ST 2/R-V sections and ST 2/R-V-170 return units
- ▶ Conveyor medium: *Vplus* accumulation roller chain (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

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

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

Accessories

Recommended accessories

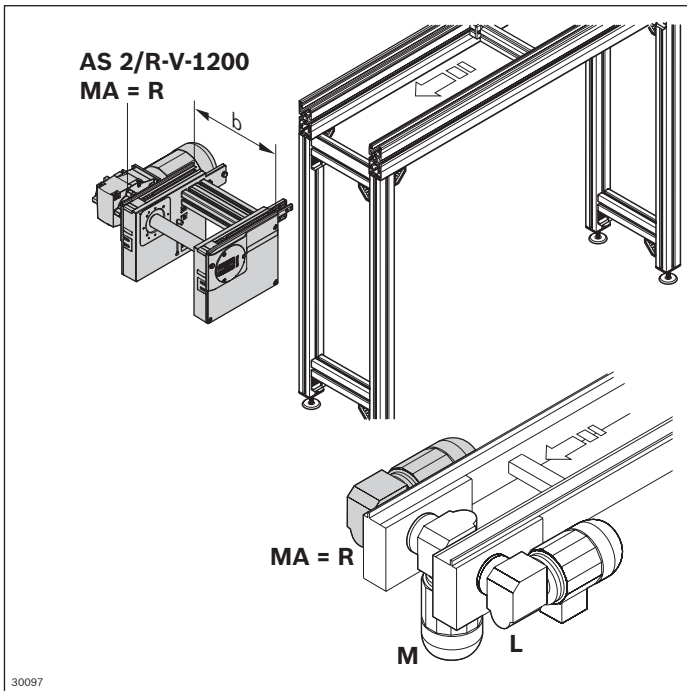
- ▶ LU 2 automatic lubrication unit, see p. 3-152

Delivery notes

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998233
b (mm)	Track width in direction of transport	400; 480; 640; 800; 1040; 1200 400 ... 1200 ¹
v _N (m/min)	Nominal speed of the chain	0 ² ; 6; 9; 12; 15; 18 ³
U (V)	Voltage	See motor data, p. 11-24ff
f (Hz)	Frequency	See motor data, p. 11-24ff
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M

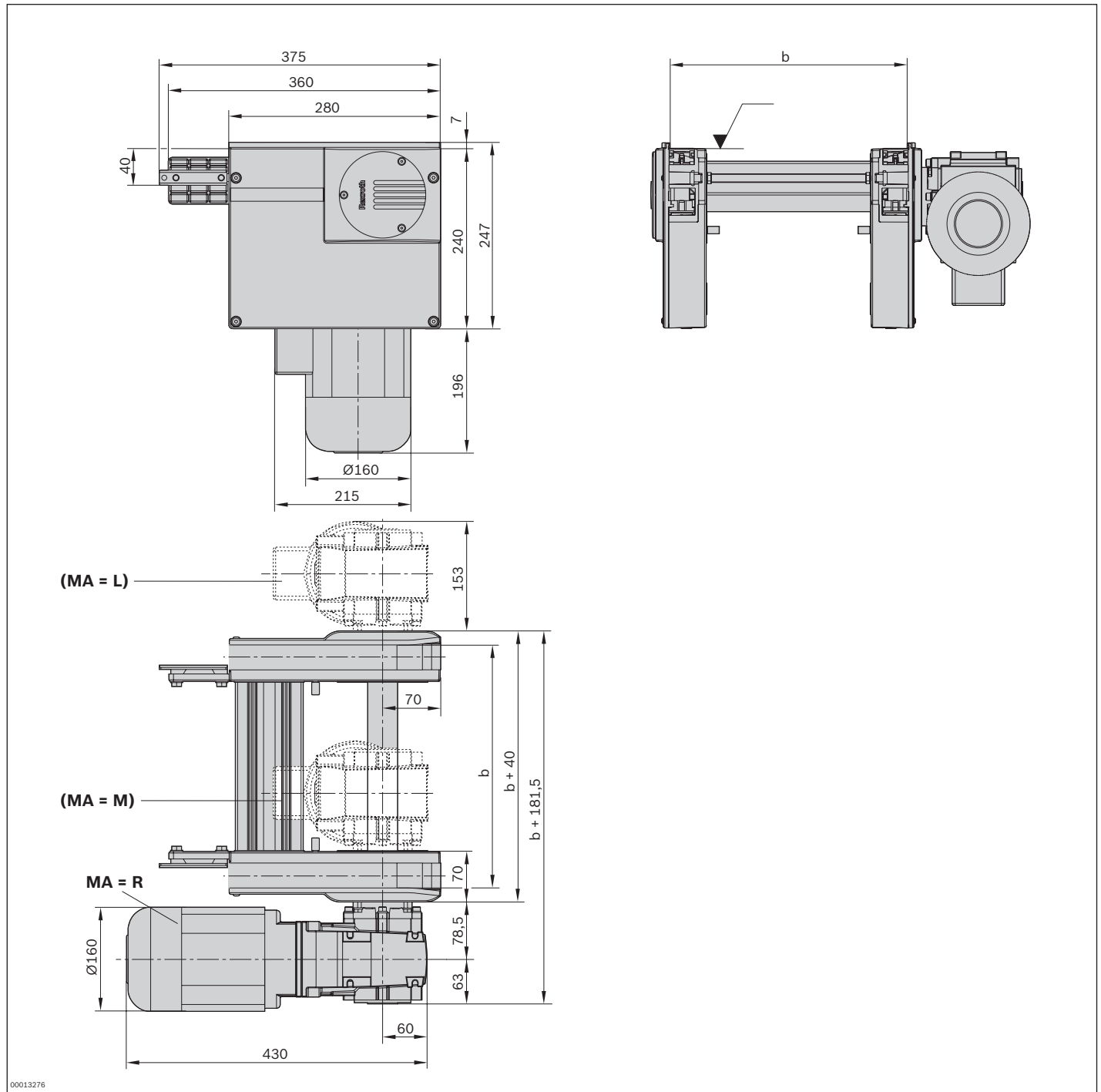
- ¹) Individual width variants available
- ²) v_N = 0: without motor or gear
- ³) Not possible if f = 60 Hz

Technical data

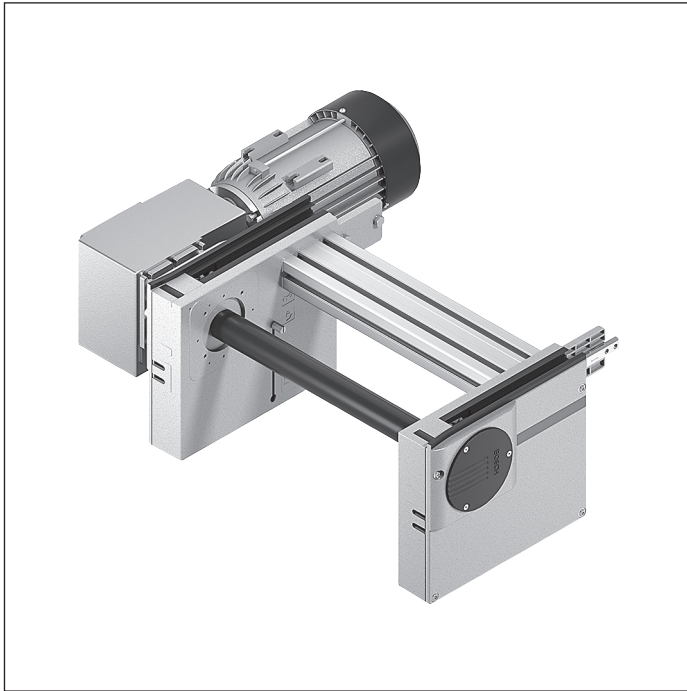
Material number		3842998233
Load		
Max. section load in accumulation operation	kg	1200
Features		
ESD		Yes
Additional information		
Required conveyor medium length*	l _{AS}	mm 625

* Formula for calculating the conveyor medium, see p. 3-223

Dimensions



AS 2/R-V-2200 drive module



- ▶ Conveyor medium: *Vplus* accumulation roller chain (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

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

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

Accessories

Recommended accessories

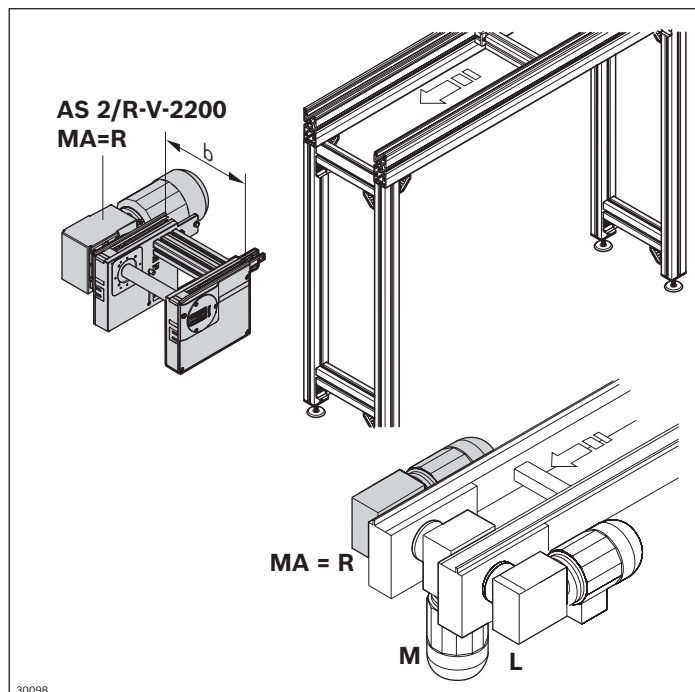
- ▶ LU 2 automatic lubrication unit, see p. 3-152

Delivery notes

Condition on delivery

- ▶ Fully assembled

Ordering information



Material number		3842998234
b (mm)	Track width in direction of transport	400; 480; 640; 800; 1040; 1200 400 ... 1200 ¹
v _N (m/min)	Nominal speed of the chain	0 ² ; 6; 9; 12; 15; 18 ³
U (V)	Voltage	See motor data, p. 11-24ff
f (Hz)	Frequency	See motor data, p. 11-24ff
AT	Motor connection S = cable/plug K = terminal box	S; K
MA	Motor mounting R = right L = left M = center	R; L; M

¹) Individual width variants available

²) v_N = 0: without motor or gear

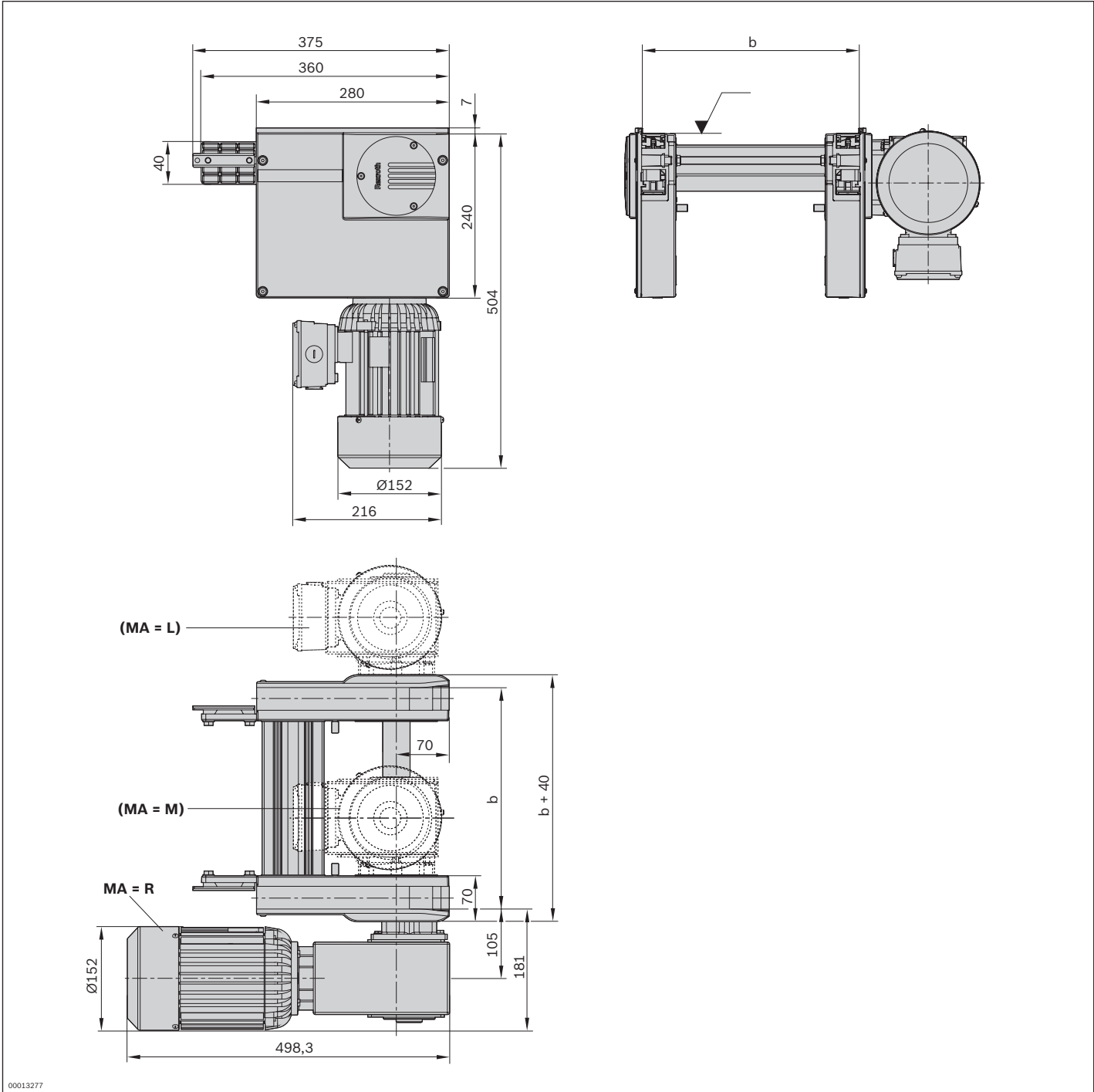
³) Reduced load to 1800 kg

Technical data

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

* Formula for calculating the conveyor medium, see p. 3-223

Dimensions



UM 2/R-V-170 return unit



- ▶ Conveyor medium: *Vplus* accumulation roller chain (suitable for use in an EPA)
- ▶ For use with all AS 2/R-V drive modules
- ▶ Version with pinion for return unit
- ▶ Reversible operation possible

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

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

Delivery notes

Scope of delivery

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

Condition on delivery

- ▶ Fully assembled

Ordering information

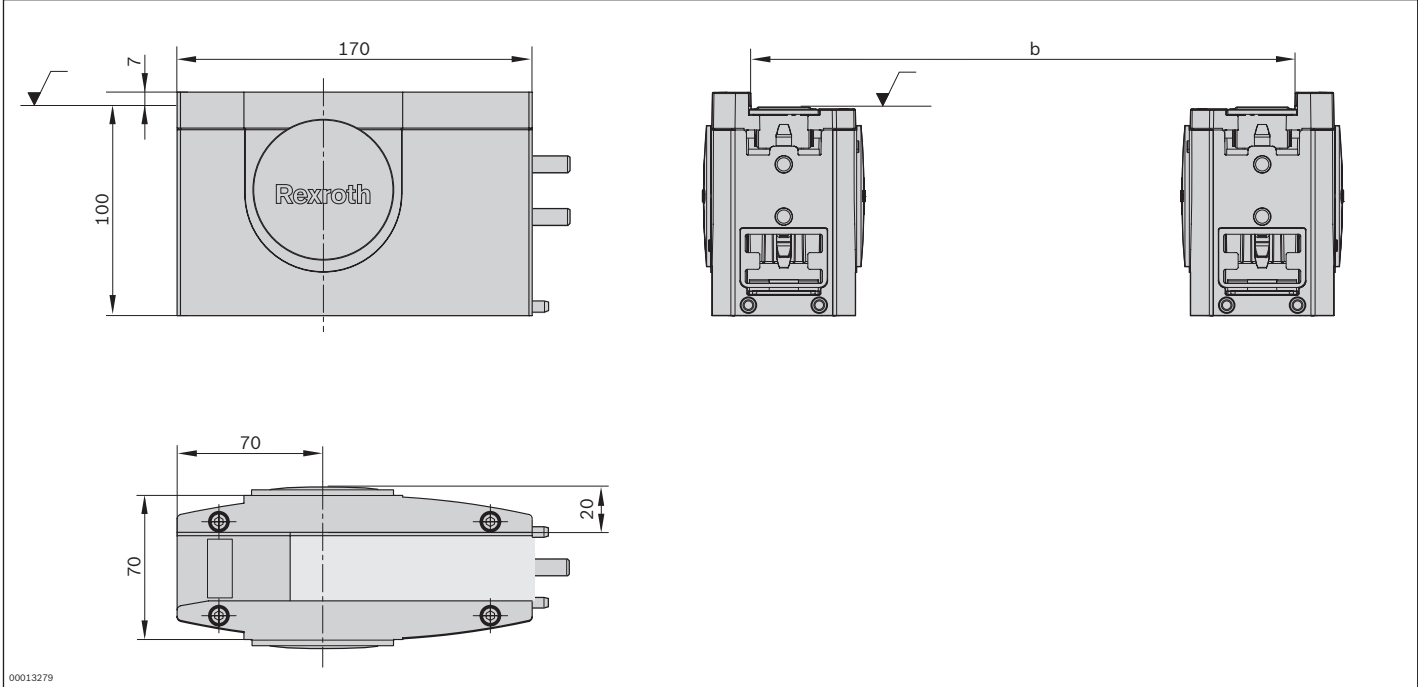
Product designation	Material number
UM 2/R-V-170 return unit	3842536803

Technical data

Material number	3842536803		
Features			
ESD	Yes		
Additional information			
Required conveyor medium length*	l_{UM}	mm	310

* Formula for calculating the conveyor medium, see p. 3-223

Dimensions



ST 2/R-V section



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

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

Accessories

Required accessories

- ▶ Adapter plate kit, see p. 3-214

Delivery notes

Scope of delivery

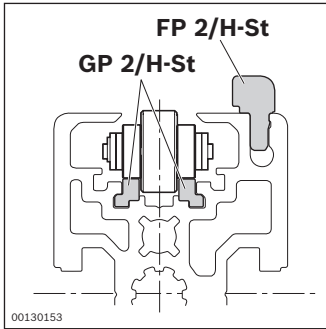
- ▶ 2x SP 2/R-H section profile
- ▶ 2x FP 2/H-St guide profile
- ▶ 4x GP 2/H-St glide profile (in a different mounting position)

Recommended accessories

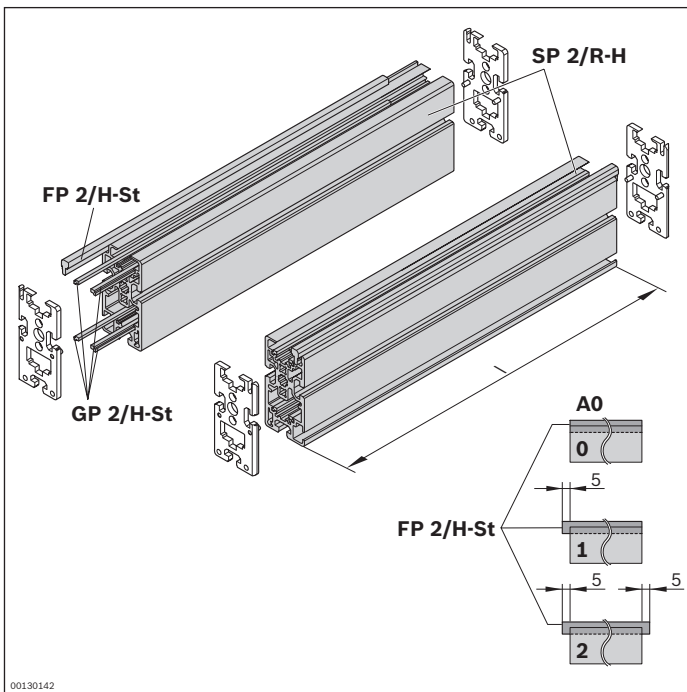
- ▶ SZ 2/...-H leg sets, see p. 6-2
- ▶ Cross connector, see p. 3-216
- ▶ Profile connector, see p. 3-215

Condition on delivery

- ▶ Fully assembled



Ordering information

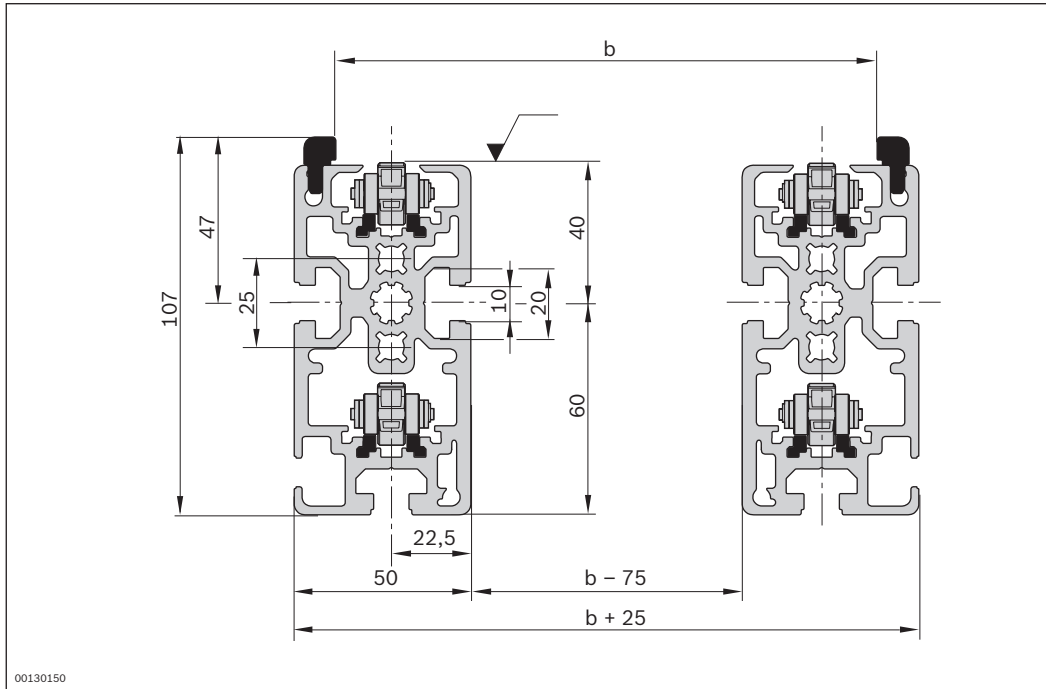


Material number		3842995000
I (mm)	Length	200 ... 6000
AO	Installation location Steel glide profile AO = 0; 1; 2	0; 1; 2
GP	Glide profile corrosion-resistant steel (GP = 1)	1

Technical data

Material number	3842995000
Features	
ESD	Yes
Material specification	Section profile: Aluminum; anodized Guide profile: Steel; corrosion-resistant Glide profile: Steel; corrosion-resistant
Dimensions	
Length	I mm 200 ... 6000

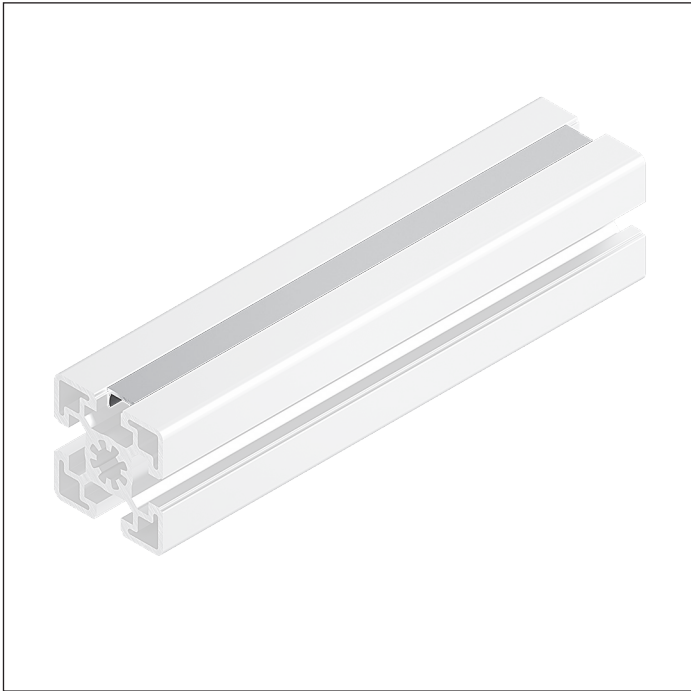
Dimensions



Cover rail for cable duct



3



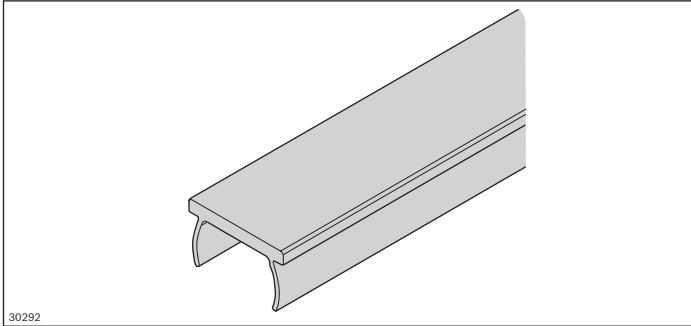
- ▶ To prevent dirt from entering the profile slot
- ▶ For fixing cables in position
- ▶ Flush with profile

Ordering information

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

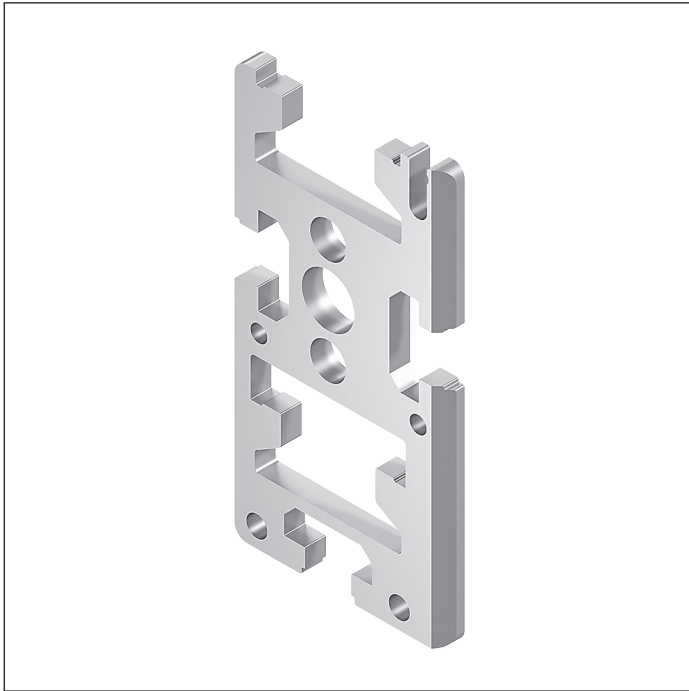
Technical data

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



30292

ST 2/R-V adapter plate kit



- ▶ Front end plate
- ▶ For connecting SP 2/R-H section profiles and AS 2/R-V drive modules, for connecting SP 2/R-H section profiles and UM 2/R-V-170 return units; and between section profiles if GP 2 plastic glide profiles are used

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

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

Delivery notes

Scope of delivery

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

Ordering information

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

Technical data

Material number	3842536802
Features	
ESD	Yes
Material specification	Steel; corrosion-resistant

Profile connector



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

Delivery notes

Scope of delivery

- ▶ Profile connector, screws

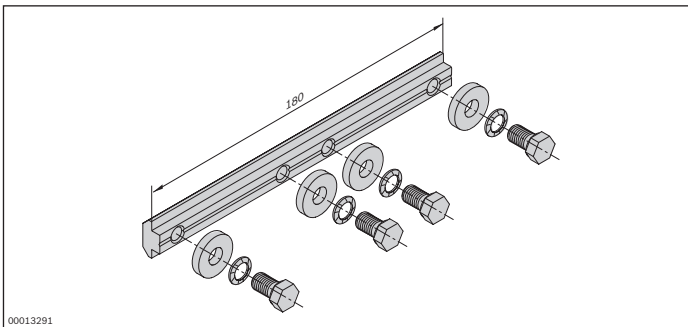
Ordering information

Product designation	Material number
Profile connector	3842528746

Technical data

Material number	3842528746
Features	
Material specification	Steel; galvanized

Dimensions



QV 2 cross connector



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

The cross connectors serve to connect the conveyor section profiles.

Formula for calculating the number of cross connectors needed

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

A_{QV} = number of cross connectors

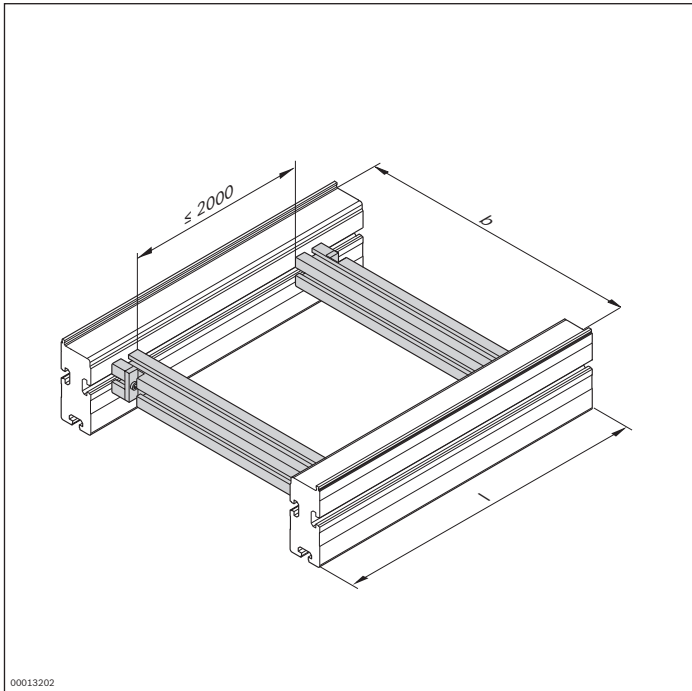
l = section length

Delivery notes

Scope of delivery

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

Ordering information



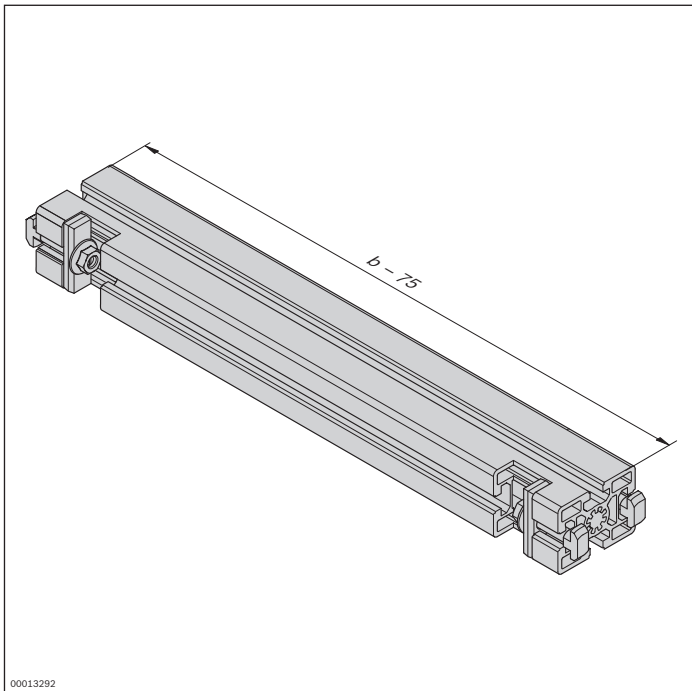
Material number	3842994635
b (mm)	Track width in direction of transport
	160; 240; 320; 400; 480; 640; 800; 1040; 1200
	160 ... 1200 ¹

¹ Individual width variants available

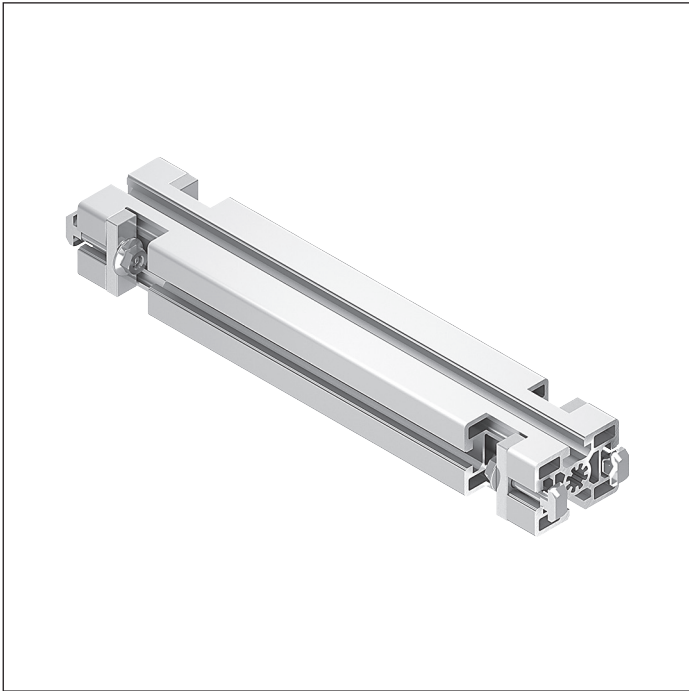
Technical data

Material number	3842994635
Features	
Material specification	Aluminum, natural; anodized

Dimensions



QV 2-H cross connector



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

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

Formula for calculating the number of cross connectors needed

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

A_{QV} = number of cross connectors

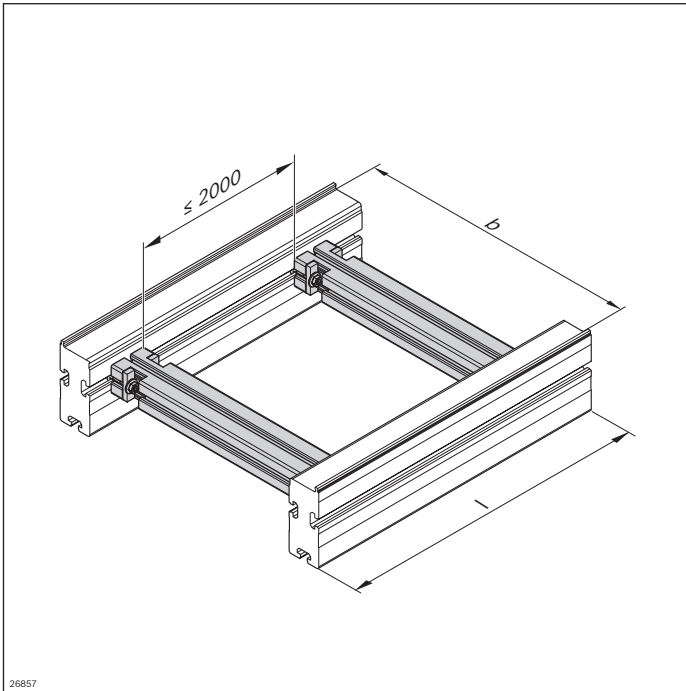
l = section length

Delivery notes

Scope of delivery

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

Ordering information



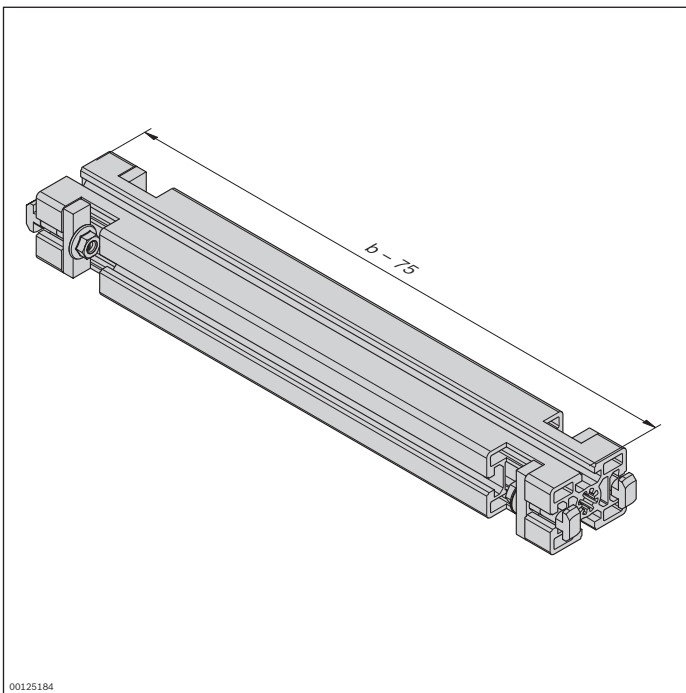
Material number	3842993052
b (mm)	Track width in direction of transport
	160; 240; 320; 400; 480; 640; 800; 1040; 1200
	160 ... 1200 ¹

¹ Individual width variants available

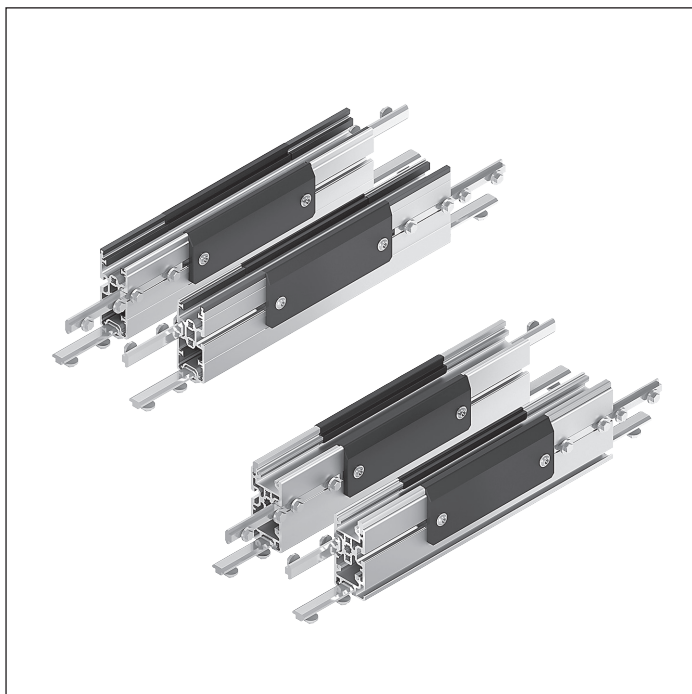
Technical data

Material number	3842993052
Features	
Material specification	Aluminum, natural; anodized

Dimensions



ST 2/R-V-W maintenance section



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

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

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

Delivery notes

Scope of delivery

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

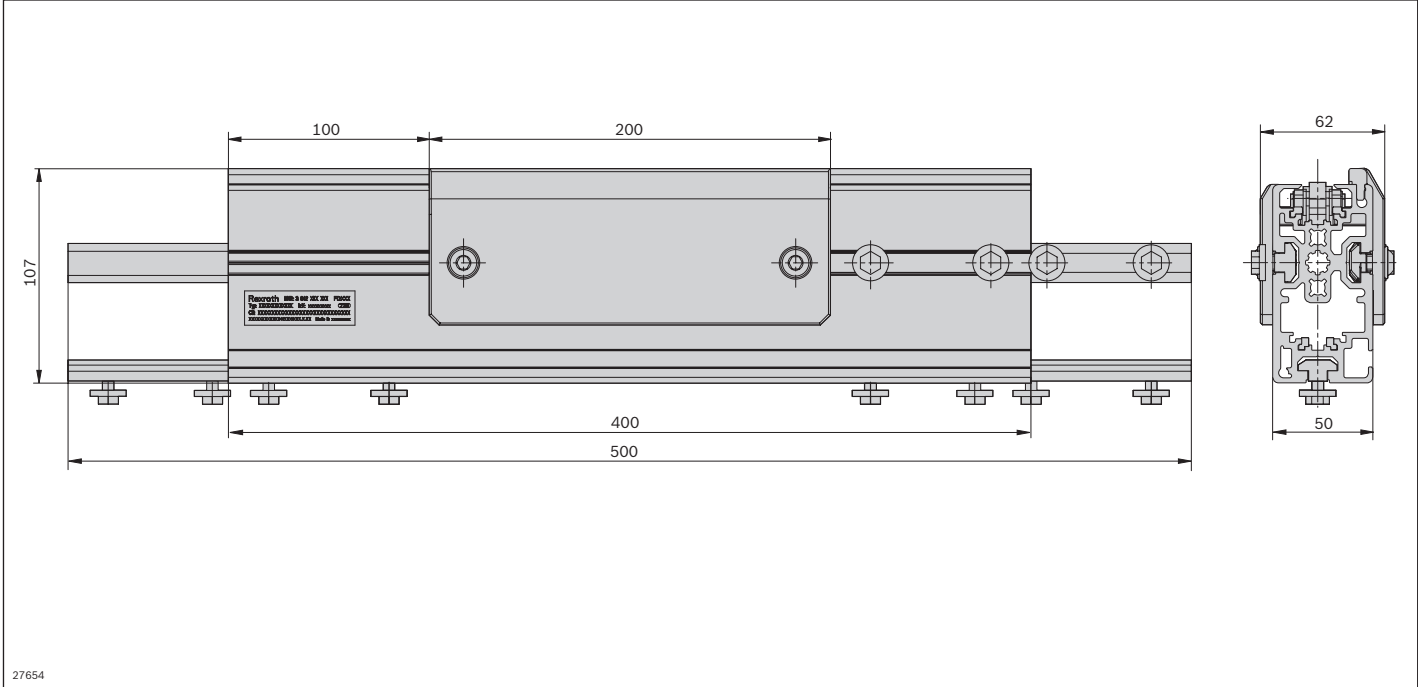
Ordering information

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

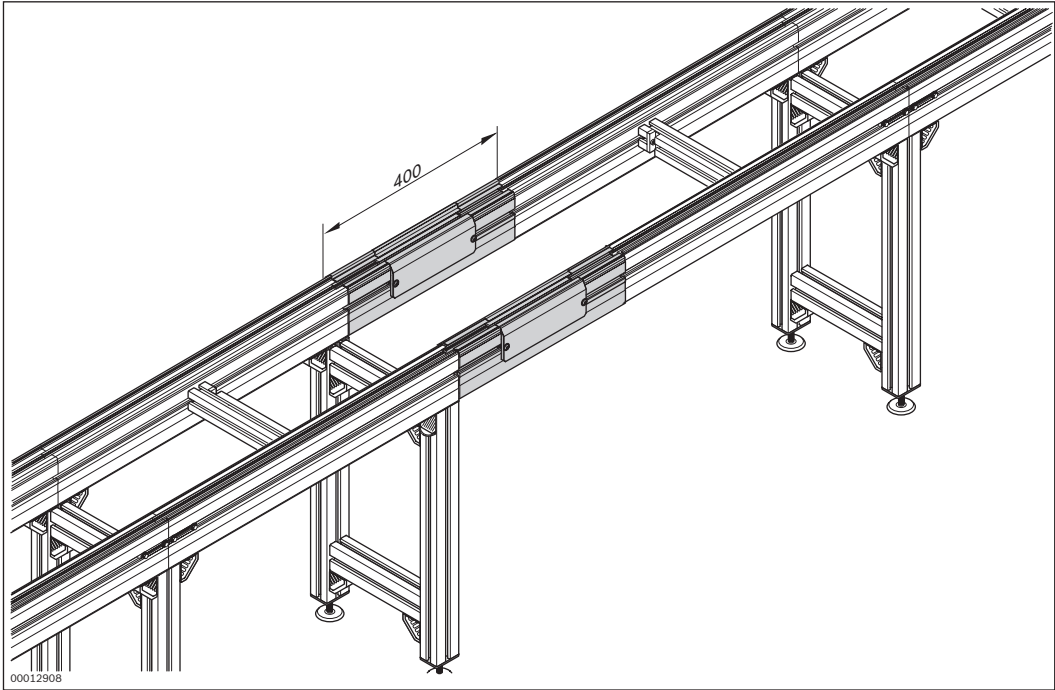
Technical data

Material number	3842537320
Features	
ESD	Yes
Material specification	Section profile: Aluminum, natural; anodized Side cover: Polyethylene
Dimensions	
Length	l mm 400

Dimensions
ST 2/R-V-W maintenance section



3



Vplus accumulation roller chain



- ▶ Conveyor medium for the workpiece pallets in the TS *2plus* system
- ▶ For conveyor unit self-assembly
- ▶ Can be combined with ST 2/R-V and ST 2/R-H conveyor units
- ▶ Delivered in units of 12000 mm. Lengths of l > 12000 mm can be produced by connecting several accumulation roller chains using master links.
- ▶ Chains are available with small parts protection (= filler pieces in the *Vplus* accumulation roller chain prevent small parts from pinching)

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

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

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

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

Delivery notes

Scope of delivery

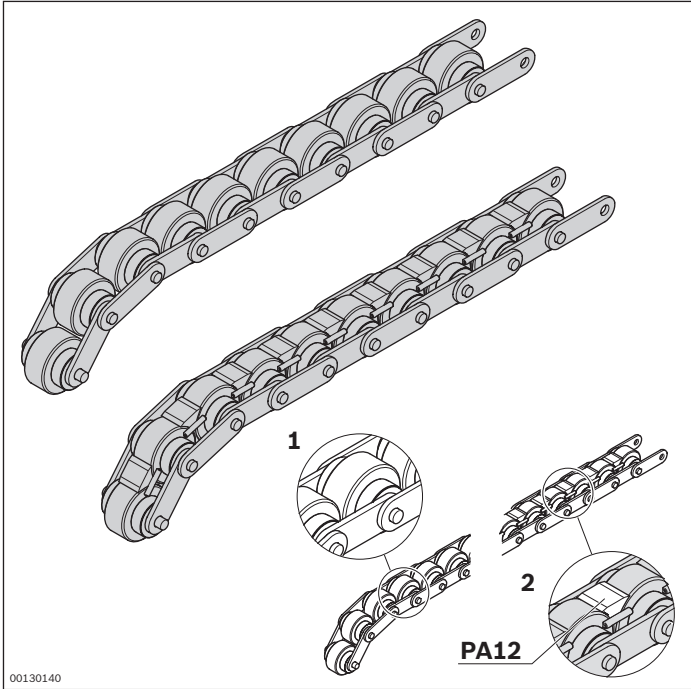
- ▶ Units up to 12000 mm, incl. 1x master link

Ordering information

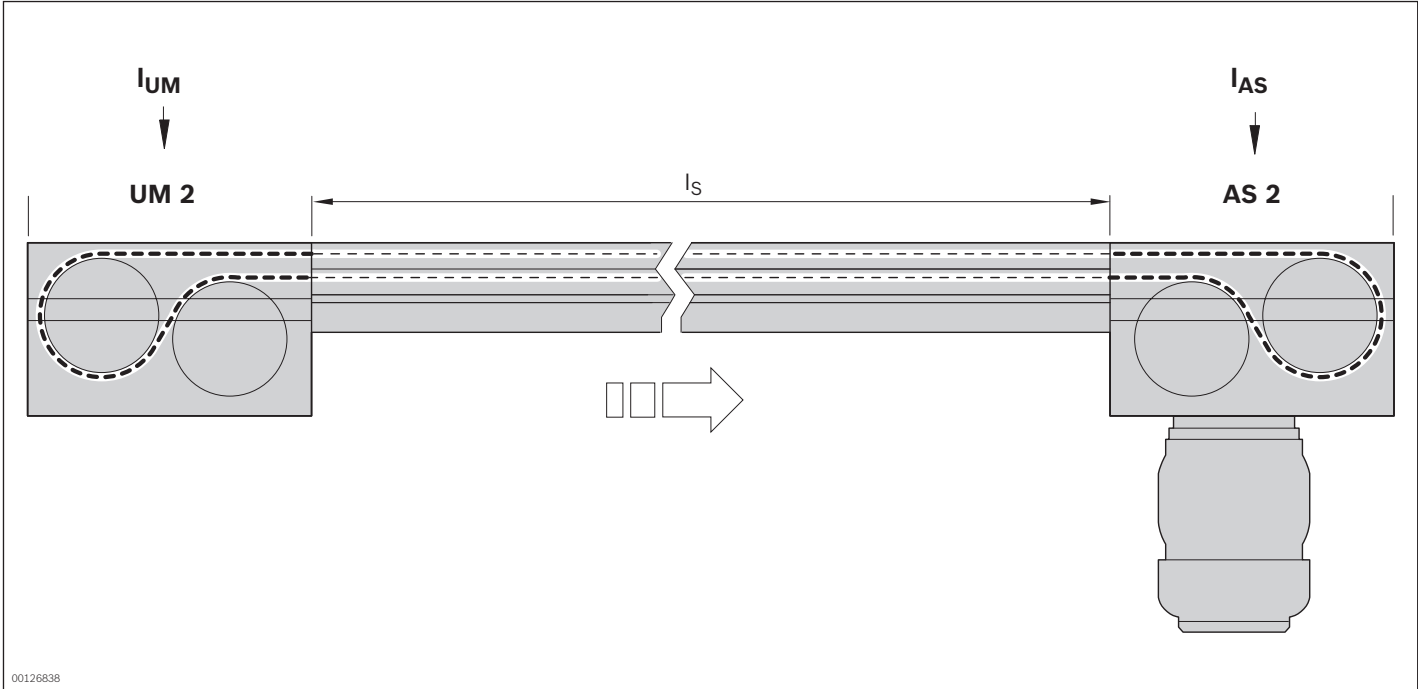
Product designation	Material number
<i>Vplus</i> accumulation roller chain with steel accumulation rollers	3842538869
<i>Vplus</i> accumulation roller chains with steel accumulation rollers and small parts protection	3842538870

Technical data

Material number	3842538869	3842538870
Features		
ESD	Yes	Yes
Material specification	Rollers: Steel	Rollers: Steel Small parts protection: PA 12 (suitable for use in an EPA)
Dimensions		
Length	l	mm
	12000	12000



Dimensions



The required chain length is determined using the following formula.

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

- l_R = length of accumulation roller chain
- l_S = length of the section profile
- l_{AS} = length of the conveyor medium in the drive module
- l_{UM} = length of the conveyor medium at the return unit

Length of the conveyor medium for accumulation roller chain

- $l_{UM\ 2/C-170} = 310\text{ mm}$
- $l_{UM\ 2/C-60} = 150\text{ mm}$
- $l_{AS} = 625\text{ mm}$

Master link for *Vplus* accumulation roller chain



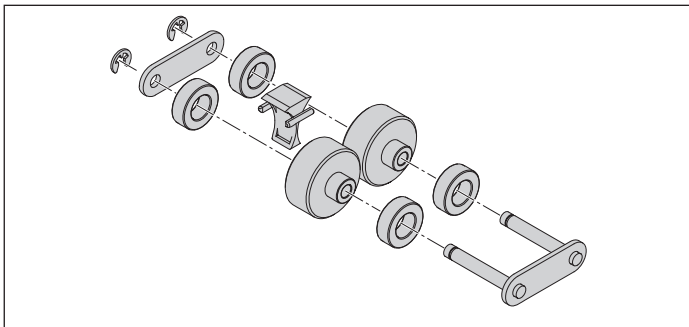
- ▶ To close the *Vplus* accumulation roller chain after insertion in conveyor section element
- ▶ Only suitable for *Vplus* accumulation roller chains

Ordering information

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

Technical data

Material number	3842538872
Features	
ESD	Yes



Chain breaker for *Vplus* accumulation roller chain



3



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

Delivery notes

Condition on delivery

- ▶ Fully assembled

Ordering information

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