Product catalog

TRANSFER SYSTEM LTE

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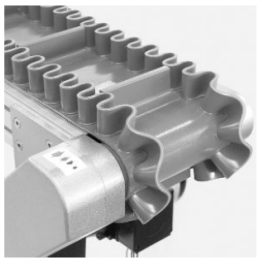
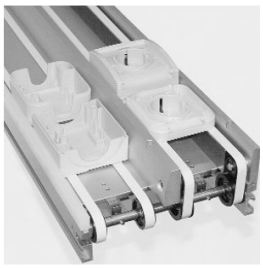
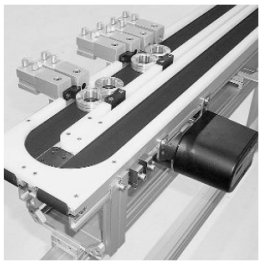
CUSTOMIZED SOLUTIONS

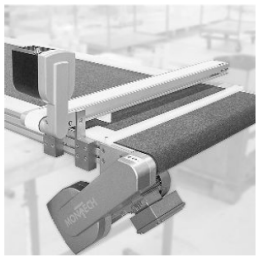

Assembly

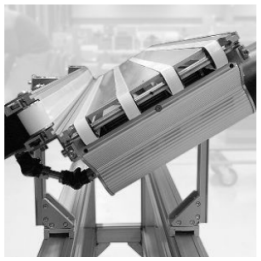

Watch industry


Electronics industry


Construction industry


Mechanical engineering


Plastic industry


Printing industry


Automotive suppliers


Automotive


Medical industry


Automotive suppliers


Solar industry

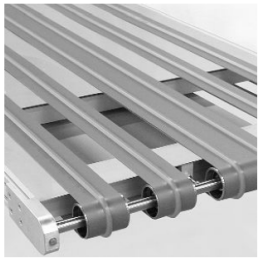

Medical industry


Automotive supplier


Mechanical engineering


Airport industry


Airport industry


Automotive

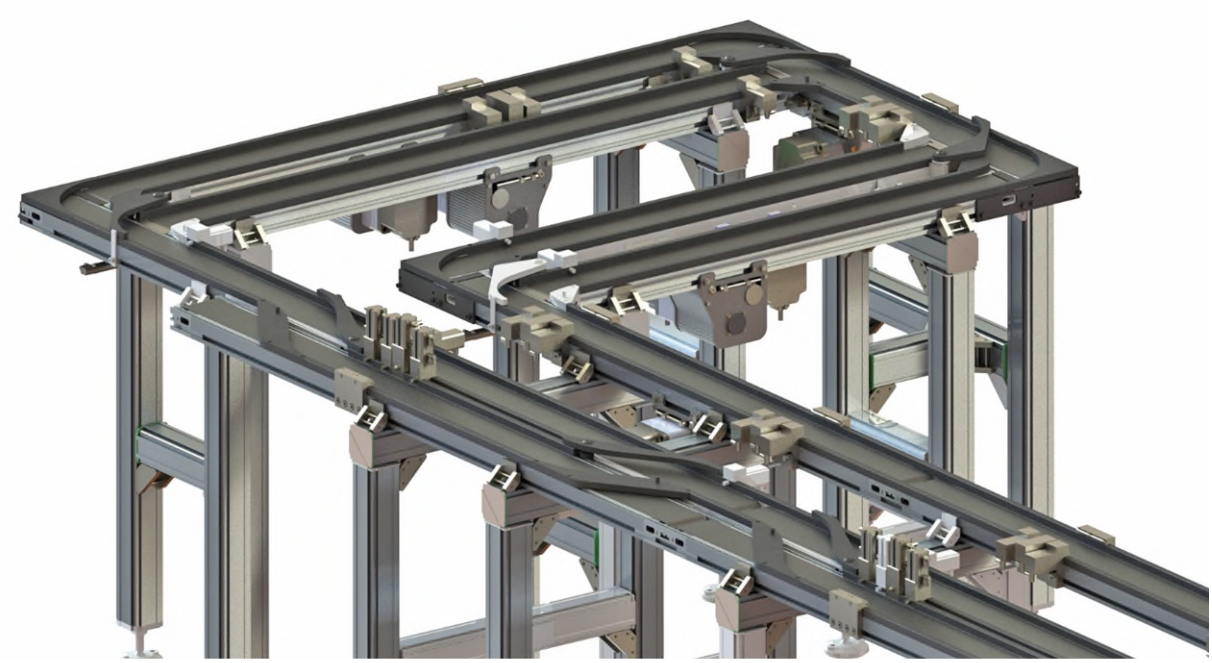

Electronics industry

TRANSFER SYSTEM LTE

TRANSFER SYSTEM LTE

The function of the single-belt transfer system from Montech is to automatically guide workpieces through the necessary workstations according to their asssembly sequence.
The workpieces to be processed are attached to standardized **workpiece holders made of high-strength plastic (**Polyethylenterephtalat PET, black or Sustamid 6 G ESD 90, black, antistatic**)** and are carried on single-belt conveyors.
The modular system makes it possible to implement the automation process step-by-step. Subsequent modifications can be made with minimum expenditure.

PRODUCT DESCRIPTION TRANSFER SYSTEM LTE



Typical application criteria are:

- assembly automation and logistics
- system arrangement «inline» and/or «offline»
- repeatability ± 0.05 mm
- four workpiece holders: 80x80, 115x115, 160x160 and 225x225 mm

To ensure a high degree of flexibility, we recommend the use of the Aluminium Fraiming systems **MPS as a substructure**. It is based on a dovetail clamping principle, requires no drilling or pinning, and can be used universally.

TECHNICAL DATA TRANSFER SYSTEM LTE

Ambient temperature	+10 bis +40 °C
Rel. humidity	< 85% (without condensation)
Air purity	normal workshop atmosphere
Noise level	< 70 dBa
Drive options	
Brushless DC-motor	
Connection	by external driver
Voltage / frequency	1x200-240 V, 50 Hz / 1x100-120 V, 60 Hz
Nominal rating	120 W
Rated current	0.78 A
Category of protection	Motor IP65 / driver IP20
Belt speeds	0.5–19.1 m/min (continuous±10%)
Three-phase motor	
Voltage / frequency	3x400 V, 50 Hz / 3x460 V, 60 Hz
Nominal rating	90 W
Rated current	0.33 A / 0.29 A
Category of protection	IP44
Belt speeds	2.3–21.4 m/min (±10%)
Components	
Repeatability WTE in IVE / IVEB / PVE	± 0.05 mm
Workpiece holder WTE sizes	80x80 mm (weight: 170 g) (antistatic weight: 146.6 g) 115x115 mm (weight: 360 g) (antistatic weight: 310.4 g) 160x160 mm (weight: 690 g) (antistatic weight: 595 g) 225x225 mm (weight: 1660 g) (antistatic weight: 1431.4 g)
Max. load workpiece holder	
WTE 80	2.3 kg[1]
WTE 115	3.3 kg[1]
WTE 160	4.3 kg[1]
WTE 225	5.3 kg[1]
Max. torque on WTE in IVE/IVEB	5 Nm
Max pressure on WTE in IVE/IVEB	120 N
Max. pressure on WTE in PVE[3]	14 N/mm^2
Max. radial force stopper VSE	135 N (at 5 bar)
Max. radial force stopper VSEB	125 N (at 5 bar)
Operating pressure	5 – 6 bar (2 bar for transfer gate, bypass and movable curve)
Operating medium	air, oiled or unoiled, filtered to 5 µm, dew point < 6 °C
Material	
Material workpiece holder WTE	polyethylenterephtalat PET, black or Sustamid 6 G ESD 90, black, antistatic
Material lateral guide	polyethylen PE, black, antistatic
Belt type (recommended)	ENI-5EE, antistatic; manufacturer Habasit
Material chassis	aluminium with sliding plate of stainless steel
Warranty	3 years Motors and gears 1 year Conveyor belts are wear parts and thus excluded from the warranty.

[1] The radial force of the stopper must be noted.
[3] this force is dependent on the material of the workpiece support (polyethyleneterephtalat) and is therefore stated in N/mm2.

WEIGHT OF CONVEYORS

Size		Weight [kg] (basis L=1000 mm)		Extension per meter [kg]
		with brushless DC-motor	with three-phase motor	
Single belt	TB30-105	8.3	10.9	3.8
	TB30-140	9.0	11.6	4.6
	TB30-185	9.9	12.5	5.7
	TB30-250	11.4	14.0	7.6
Dual belt	TB30-105	8.3	10.9	3.8
	TB30-140	9.0	11.6	4.6
	TB30-185	9.9	12.5	5.7
	TB30-250	11.4	14.0	7.6

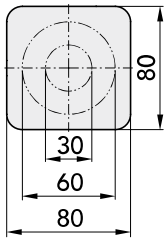
MAXIMUM TORQUE POSITIONING UNIT PVE

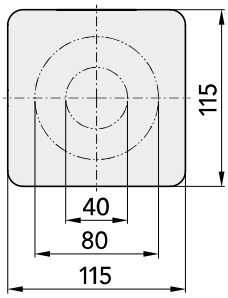
WTE 80x□80	
Center	4.0 Nm
0 to 30 mm	3.5 Nm
30 to 60 mm	3.0 Nm

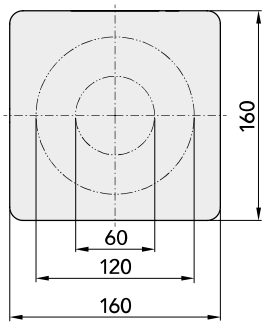
WTE 115x115	
Center	6.0 Nm
0 to 40 mm	4.5 Nm
40 to 80 mm	3.0 Nm

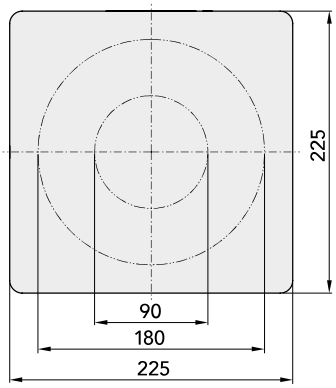
WTE 160x160	
Center	6.5 Nm
0 to 60 mm	5.5 Nm
60 to 120 mm	5.0 Nm

WTE 225x225	
Center	7.0 Nm
0 to 90 mm	6.0 Nm
90 to 180 mm	5.5 Nm









LOAD LIMITS

To ensure that the chosen conveyor optimally fulfills the specific conditions of use, all influencing factors must be taken into account. The maximum permissible loading of a conveyor is limited by two elements:

1) Permissible belt loading ($\mathbf{m}_{G\ perm}$ see below)
2) Load limit of the drive. **The limits are shown in the configurator.**

1. LOAD LIMIT OF THE BELT ENI-5EE

Determination of the permissible belt load $\mathbf{m}_{G\ perm.}$on the basis of the criterias: Type of belt, belt width X (in mm), operating mode.

Conveying mode belt width [mm]	Load $m_{G\ perm.}$ [kg] depending on the type of belt
2x16 (Doppelgurt)	79
75	186
110	274
155	386
220	548
Buffering mode belt width [mm]	
2x16 (Doppelgurt)	28
75	66
110	97
155	137
220	195

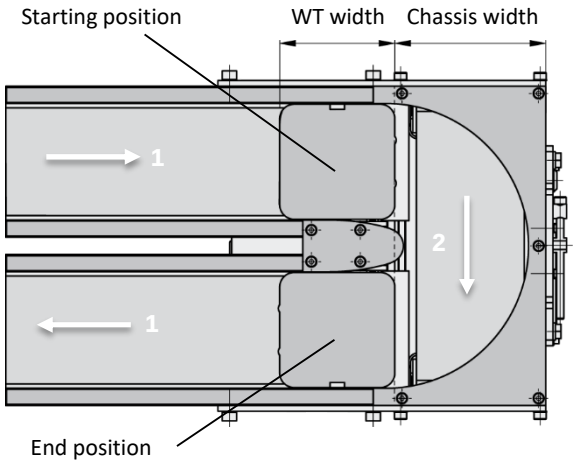
TECHNICAL DATA TRANSFER SYSTEM LTE

Changeover times [s] (belt type ENI-5EE)

Speed	7.7 m/min	9.7 m/min	12.3 m/min	14.9 m/min	18.7 m/min
Indexing device IVE/IVEB					
IVE/IVEB-105	0.70	0.55	0.45	0.40	0.35
IVE/IVEB-140	0.95	0.80	0.65	0.55	0.50
IVE/IVEB-185	1.30	1.05	0.85	0.70	0.60
IVE/IVEB-250	1.75	1.40	1.15	0.95	0.75
Positioning unit PVE					
PVE-105	0.70	0.55	0.45	0.40	0.35
PVE-140	0.95	0.80	0.65	0.55	0.50
PVE-185	1.30	1.05	0.85	0.70	0.60
PVE-250	1.75	1.40	1.15	0.95	0.75
Movable curve with drive KBEA					
KBEA-105	3.70	3.20	2.60	2.20	1.90
KBEA-140	4.70	3.90	3.30	2.80	2.50
KBEA-185	5.70	4.70	3.90	3.50	2.90
KBEA-250	6.80	5.60	4.50	3.80	3.10
Movable curve without drive KBE					
KBE-105	2.90	2.30	1.90	1.60	1.40
KBE-140	3.60	2.90	2.50	2.20	1.80
KBE-185	4.70	3.90	3.00	2.60	2.20
KBE-250	6.20	5.00	4.00	3.40	2.70
Transfer gate WEE					
WEE-105	3.40	2.70	2.30	2.10	1.70
WEE -140	4.10	3.40	2.80	2.50	2.20
WEE -185	5.80	4.70	3.90	3.50	2.80
Bypass with drive BPEA					
BPEA-105	5.30	4.40	3.60	3.00	2.50
BPEA -140	6.30	5.10	4.00	3.50	2.80
BPEA -185	6.80	5.80	4.50	3.90	3.20
BPEA -250	8.80	7.20	5.90	5.00	4.20
Bypass without drive BPE					
BPE-105	-	-	2.80	2.40	1.90
BPE -140	-	-	4.10	3.60	3.00
BPE -185	-	-	4.30	3.60	2.90
BPE -250	-	-	5.80	4.80	4.00

Times indicated refer to the time for setting and setting back the curve with drive, or the transfer gate, or the bypass with drive, plus the transit time of the workpiece holder.
For the curve and the bypass BPE without drive, the time indicated refers to the time for setting and setting back plus the transit time of the workpiece holder.

TECHNICAL DATA TRANSFER SYSTEM LTE



ULE-105 allows queing

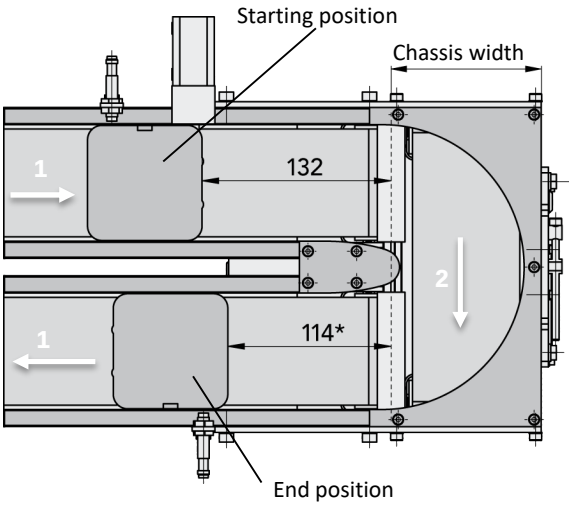
Changeover times [s] without stopper (belt type ENI-5EE)

Deflection 180° chassis width 105 ULE-105 (DC motor)*						
Longitudinal conveyors 1	[m/min]	7.50	9.50	11.50	14.50	19.90
Transverse conveyor 2	[m/min]	17.50	19.50	21.50	24.50	24.90
Changeover times	[s]	2.20	1.85	1.65	1.40	1.25
Deflection 180° without stopper 105 ULE-105 (three-phase motor)						
Longitudinal conveyors 1	[m/min]	6.80	-	10.90	-	18.20
Transverse conveyor 2	[m/min]	6.80	-	10.90	-	18.20
Changeover times	[s]	4	-	2.60	-	1.60
Deflection 180° without stopper 250 ULE-250 (DC motor)*						
Longitudinal conveyors 1	[m/min]	7.50	9.50	11.50	14.50	19.90
Transverse conveyor 2	[m/min]	12.50	14.50	16.50	19.50	24.90
Changeover times	[s]	7.60	6.40	5.40	4.50	3.50
Deflection 180° without stopper 250 ULE-250 (three-phase motor)						
Longitudinal conveyors 1	[m/min]	6.80	-	10.90	-	18.20
Transverse conveyor 2	[m/min]	6.80	-	10.90	-	18.20
Changeover times	[s]	11	-	7	-	4.30

Changeover times ULE-140 and ULE-185 on request

* With the DC motor the changover time can be optimized if the transverse conveyor has a faster speed.

TECHNICAL DATA TRANSFER SYSTEM LTE



*ULE-105 114 mm
ULE-140 106 mm
ULE-185 106 mm
ULE-250 86 mm

Changeover times [s] with stopper (belt type ENI-5EE)

Deflection 180° chassis width 105 ULE-105 (DC motor)*						
Longitudinal conveyors 1	[m/min]	7.50	9.50	11.50	14.50	19.90
Transverse conveyor 2	[m/min]	17.50	19.50	21.50	24.50	24.90
Changeover times	[s]	4.25	3.50	3.00	2.50	2.05
Deflection 180° chassis width 105 ULE-105 (three-phase motor)						
Longitudinal conveyors 1	[m/min]	6.80	-	10.90	-	18.20
Transverse conveyor 2	[m/min]	6.80	-	10.90	-	18.20
Changeover times	[s]	6.40	-	4.00	-	2.40
Deflection 180° chassis width 250 ULE-250 (DC motor)*						
Longitudinal conveyors 1	[m/min]	7.50	9.50	11.50	14.50	19.90
Transverse conveyor 2	[m/min]	12.50	14.50	16.50	19.50	24.90
Changeover times	[s]	9.60	7.90	6.70	5.50	3.80
Deflection 180° chassis width 250 ULE-250 (three-phase motor)						
Longitudinal conveyors 1	[m/min]	6.80	-	10.90	-	18.20
Transverse conveyor 2	[m/min]	6.80	-	10.90	-	18.20
Changeover times	[s]	13.20	-	8.30	-	5.00

Changeover times ULE-140 and ULE-185 on request
* With the DC motor the changover time can be optimized if the transverse conveyor has a faster speed.

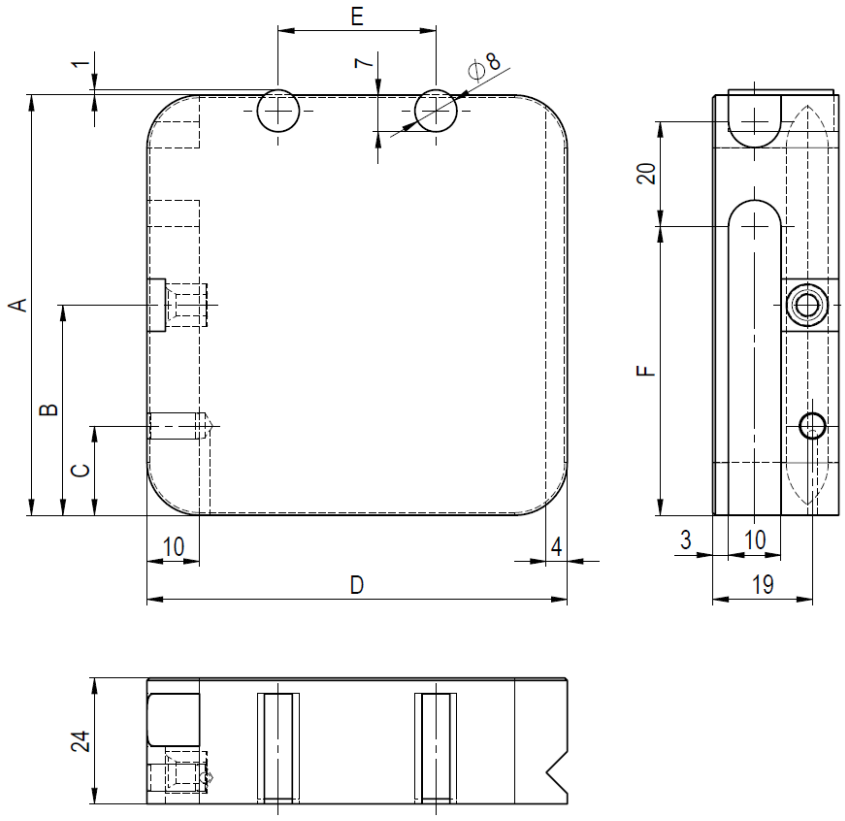
PRODUCT DESCRIPTION WORKPIECE HOLDER WT

The workpiece holder WTE made from **high-strength plastic** (Polyethylenterephtalat PET, black or Sustamid 6 G ESD 90, black) is available in four standard sizes: 80□x80, 115□x115, 160x□160 and 225□x225 mm.

Electrical and electronic components can be destroyed by electrostatic discharge. To protect against such damages we offer all our workpiece holder also in antistatic design.

Depending on the design of the pallet transfer system and the preferred direction of transport, version A or mirrored version B is used.
The permissible load of each workpiece holder is visible in the technical data on page 6.

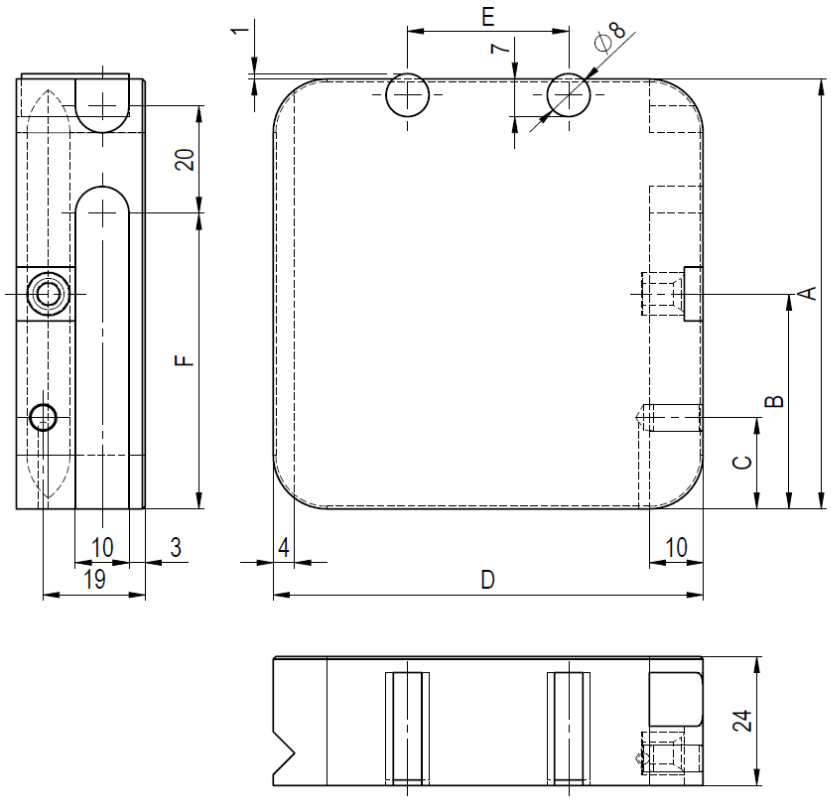
DIMENSIONS WORKPIECE HOLDER WTE, VERSION A



Type		WTE 80x80 for TB30-105	WTE 115x155 for TB30-140	WTE 160x160 for TB30-185	WTE 225x225 for TB30-250
A	[mm]	80	115	160	225
B	[mm]	40	57.5	80	112.5
C	[mm]	17	25	45	25
D	[mm]	80	115	160	225
E	[mm]	19	19	19	19
F	[mm]	24	24	24	24
G	[mm]	30	57	72	77
H	[mm]	55	90	135	200

Ref. no.				
Version A	**49609**	**49610**	**49611**	**56307**
Version A antistatic	**68583**	**68587**	**68591**	**68595**

DIMENSIONS WORKPIECE HOLDER WTE, VERSION B

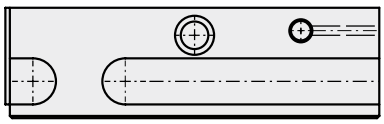


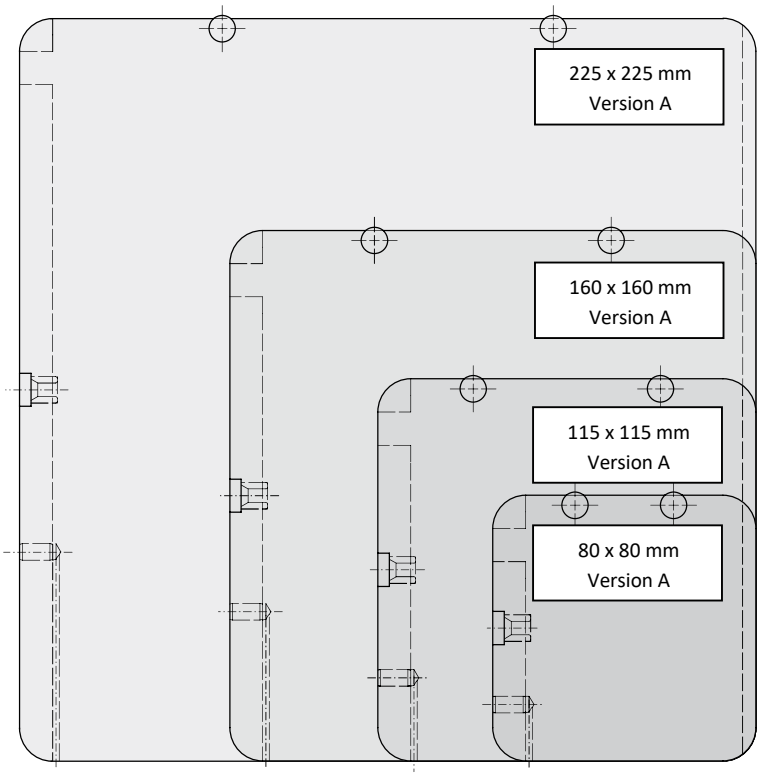
Type		WTE 80x80 for TB30-105	WTE 115x155 for TB30-140	WTE 160x160 for TB30-185	WTE 225x225 for TB30-250
A	[mm]	80	115	160	225
B	[mm]	40	57.5	80	112.5
C	[mm]	17	25	45	25
D	[mm]	80	115	160	225
E	[mm]	19	19	19	19
F	[mm]	24	24	24	24
G	[mm]	30	57	72	77
H	[mm]	55	90	135	200

Ref. no.				
Version B	**49639**	**49638**	**49636**	**56306**
Version B antistatic	**68585**	**68589**	**68593**	**68597**

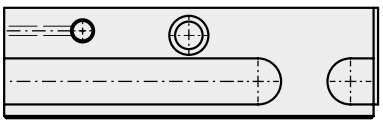
DIMENSIONS WORKPIECE HOLDER WTE

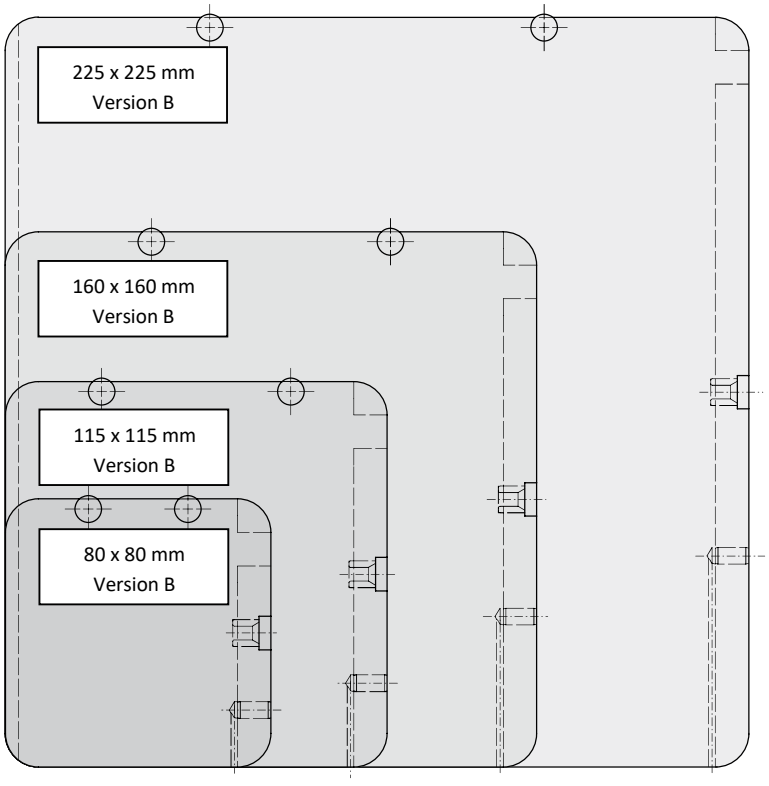
Version A



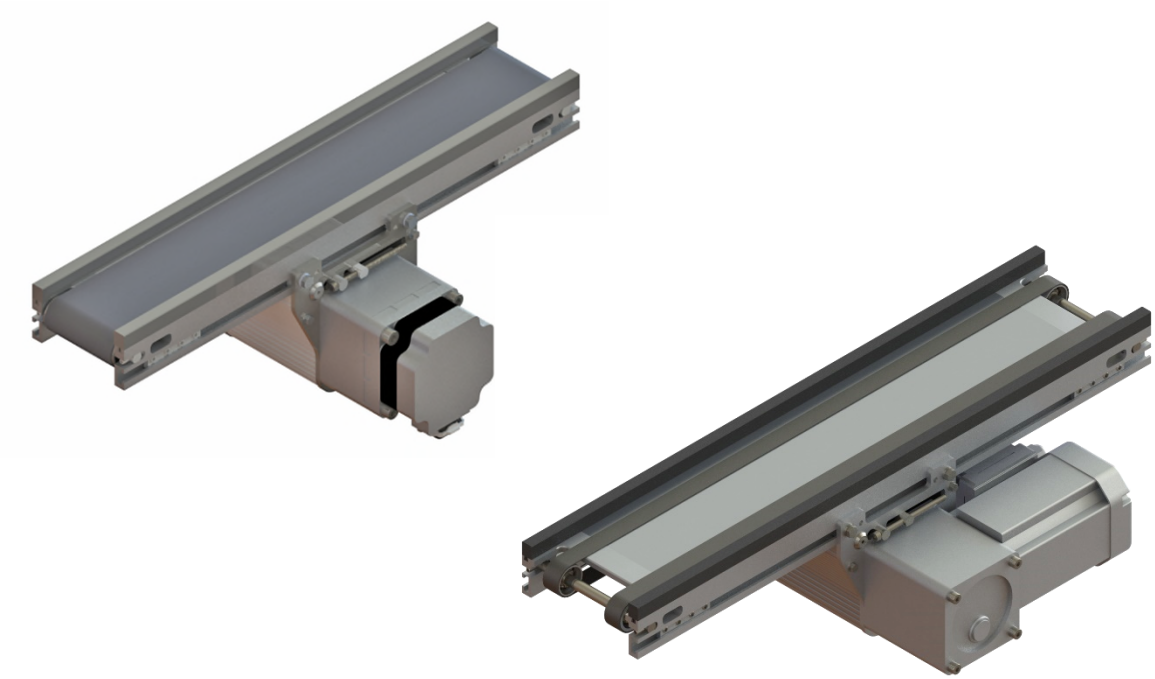


Version B





PRODUCT DESCRIPTION CONVEYOR TB30

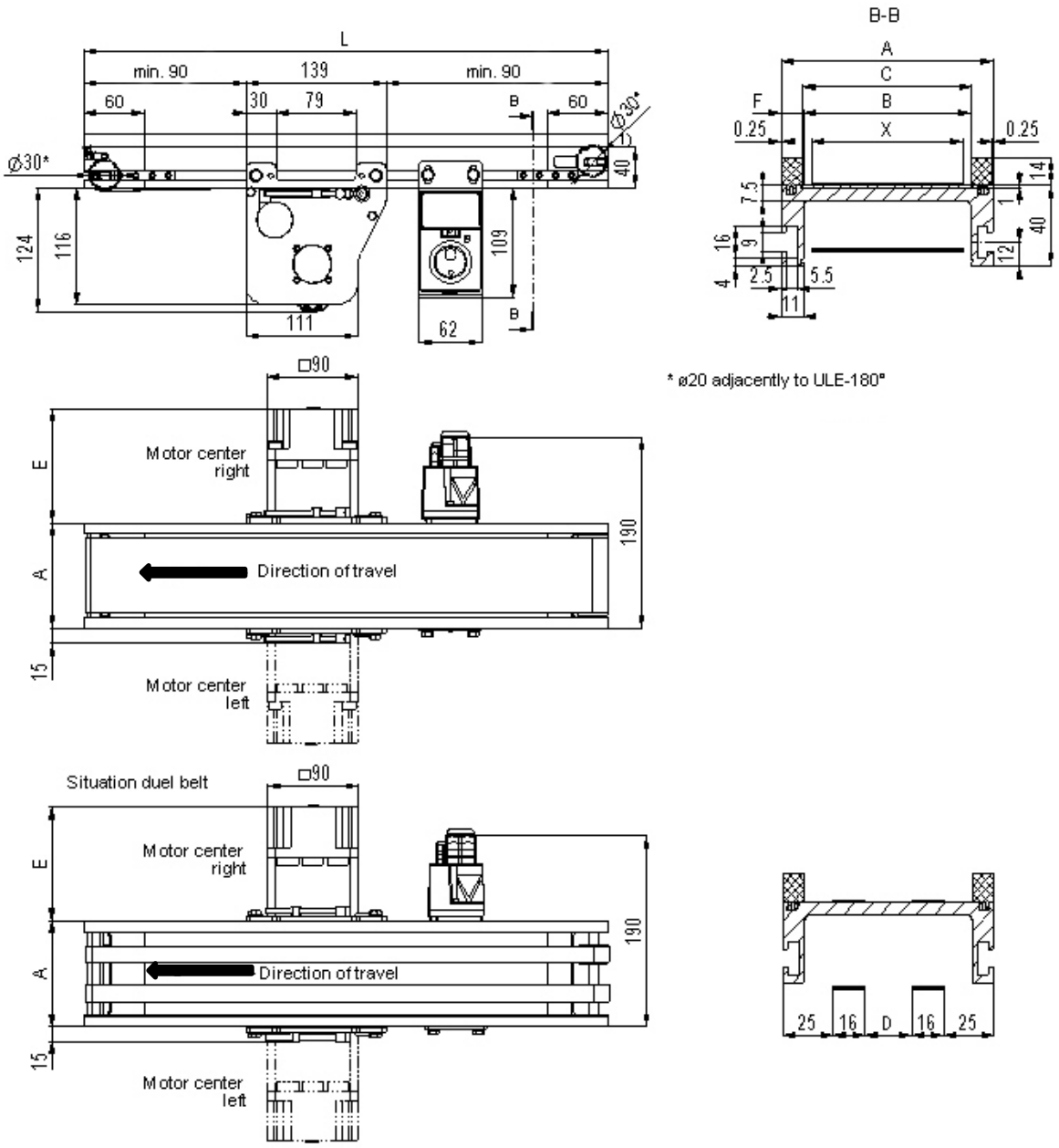


The **Conveyor TB30** forms the basis of the transfer system. Chassis widths of 105, 140, 185 and 250 mm are used for the respective workpiece holders.

Two options are available regarding the drive of the conveyor. When operating at variable velocities we recommend the use of the brushless DC-motor. It is operated over an external controller, thus able to be controlled manually, as well as digitally over I/O's (e.g using a PLC). The conveyor speed reaches **from 0.5 up to 19.1 m/min** and is continuously variable. When operating at constant speeds we recommend the three-phase motor. Different gear reduction ratios with their respective conveyor speeds are available.

The construction is precise, stable and durable: All steel parts are nickel plated or made from non-corroding materials; **deflecting rollers are stainless**, and the drive rollers are coated with vulcanized rubber.

DIMENSIONS CONVEYOR TB30 WITH BRUSHLESS DC-MOTOR

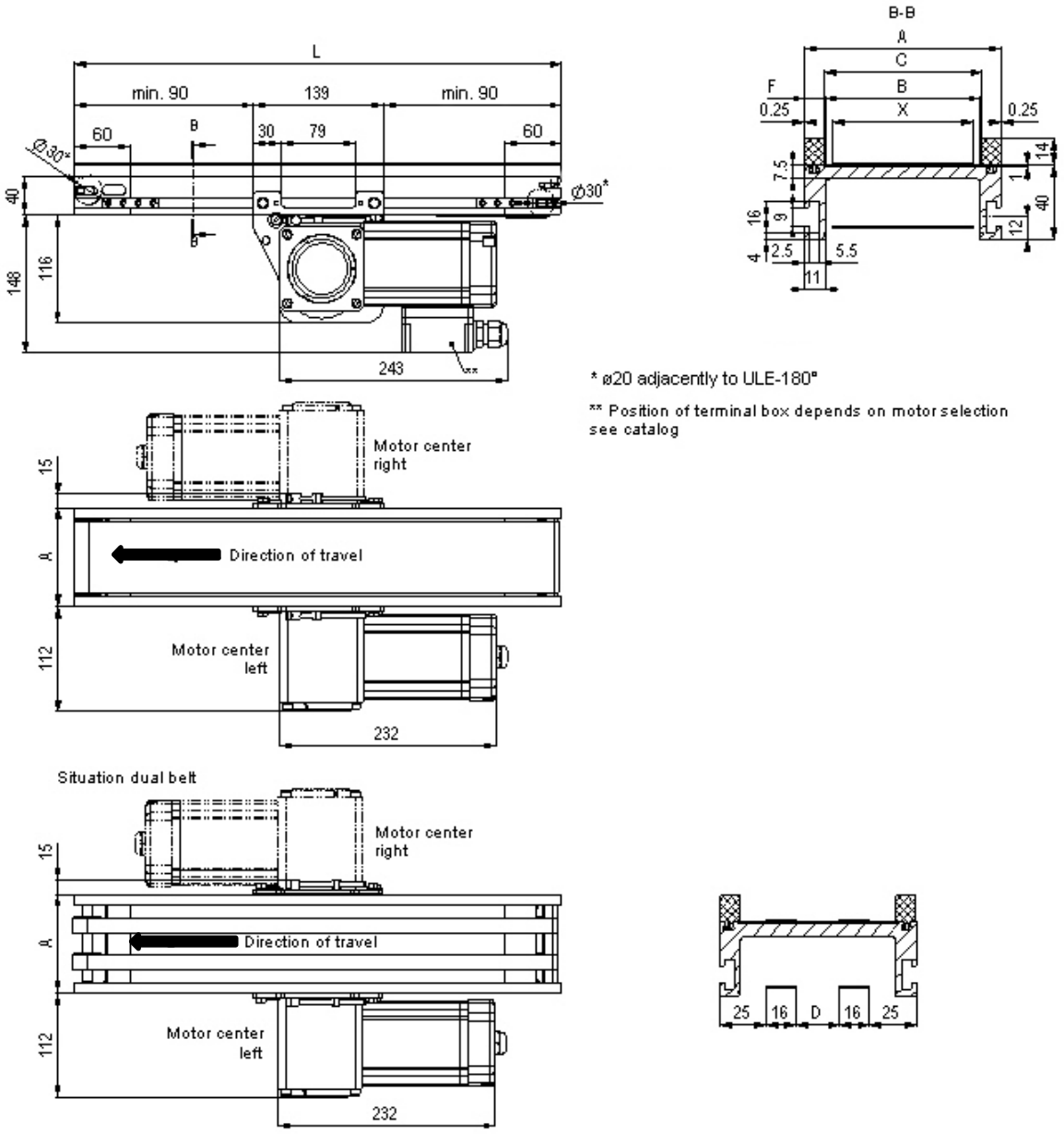


Type		TB30-105	TB30-140	TB30-185	TB30-250
A chassis	[mm]	105	140	185	250
B conveyor width ±0.5	[mm]	81	116	161	226
C sliding plate width	[mm]	84	119	164	229
D belt distance	[mm]	23	58	103	168
X belt width [ii]	[mm]	75	110	155	220
E motor	[mm]	101			
F lateral guide width	[mm]	11.75			
L total lenght [iii]	[mm]	L_{min}=385/325 with/without driver L_{max}=10'000			

[ii] Only for single belt. Belt width for dual belt version is always 2x16 mm

[iii] The total length is reduced depending on load, type of belt or conveying mode

DIMENSIONS CONVEYOR TB30 WITH THREE-PHASE MOTOR



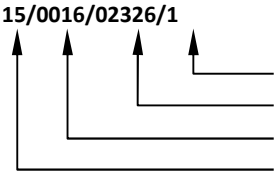
Type		TB30-105	TB30-140	TB30-185	TB30-250
A chassis	[mm]	105	140	185	250
B conveyor width ±0.5	[mm]	81	116	161	226
C sliding plate width	[mm]	84	119	164	229
D belt distance	[mm]	23	58	103	168
X belt width [ii]	[mm]	75	110	155	220
F lateral guide width	[mm]	11.75			
L total lenght [iii]	[mm]	L_{min}=385/325 with/without driver L_{max}=10'000			

[ii] Only for single belt. Belt width for dual belt version is always 2x16 mm

[iii] The total length is reduced depending on load, type of belt or conveying mode

LIST OF BELT CODES

Structure of our code: **15/0016/02326/1**



Connection code (see list below)
Belt length (always 5-digit)
Belt width (always 4-digit)
Belt number (see list below)

No.	Belt designation	Connection code
15	ENI-5EE	1 / 3 / 4

Connection code 1 = endless flexproof
Connection code 3 = open beveled
Connection code 4 = cut square

Prefer connection code 1 to 2!

For replacement belts you find the needed information on the identification plate of the Conveyor TB30 (Type of belt, width and length).

CALCULATION

CONVEYOR TB30

Calculation of chassis length

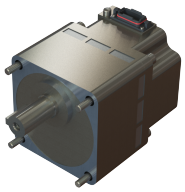
Chassis length	2 End sections with deflection roller Ø30 / Ø20	L_C=L-120
	2 End sections with tension roller Ø30	L_C=L-180
	1 End section with deflection roller Ø30 / Ø20 and 1 End section with tension roller Ø30	L_C=L-150

Calculation of sliding plate length

Sliding plate length	$L_G=L_C-1$

COMPONENTS CONVEYORS TB30

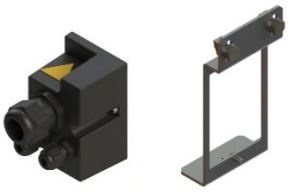
Brushless DC-Motor center drive	Ref. no.
Gear motor 1:30 center drive	**66688**



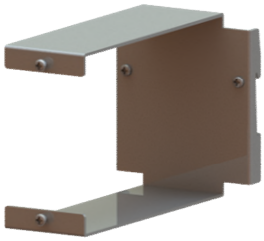
Controller for brushless DC-motor	Ref. no.
1x200-240 V, 50 Hz	**522033**
1x100-120 V, 60 Hz	**522034**

Connecting cable for brushless DC-motor	Ref. no.
Connecting cable motor <-> Regler, L=1 m	**522068**
Connecting cable motor <-> Regler, L=5 m	**522070**
Connecting cable motor <-> Regler, L=10 m	**522071**

Assembly kit for controller	Ref. no.
for installing the controller on the chassis	**66996**



Mounting bracket (DIN rail) for controller	Ref. no.
for mounting in the control box	**522129**

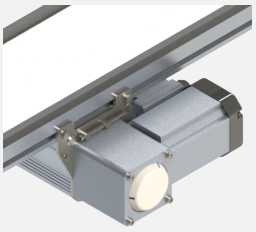


COMPONENTS CONVEYOR TB30

Position of the terminal box model A

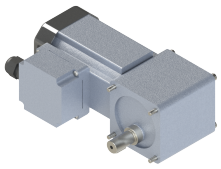
(See also dimension drawings page 18)

center drive



Three-phase motor 3x400 V / 50 Hz model A

conveyor speed center drive	Ref. no.
18.2 m/min	**66693**
10.9 m/min	**66694**
6.8 m/min	**66695**
4.6 m/min	**66696**
2.3 m/min	**66697**

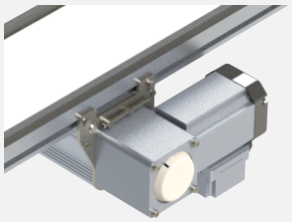


Three-phase motor 3x460 V / 60 Hz model A*

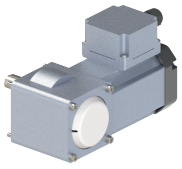
conveyor speed center drive	Ref. no.
21.4 m/min	**66693**
12.6 m/min	**66694**
8.0 m/min	**66695**
5.3 m/min	**66696**
2.6 m/min	**66697**

Position of the terminal box model B
(See also dimension drawings page 18)

center drive



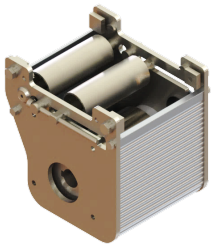
Three-phase motor 3x400 V / 50 Hz model B	
conveyor speed center drive	Ref. no.
18.2 m/min	**66350**
10.9 m/min	**66351**
6.8 m/min	**66352**
4.6 m/min	**66353**
2.3 m/min	**66354**



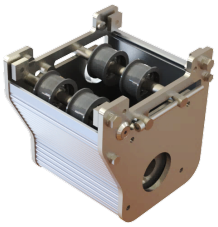
Three-phase motor 3x460 V / 60 Hz model B	
conveyor speed center drive	Ref. no.
21.4 m/min	**66350**
12.6 m/min	**66351**
8.0 m/min	**66352**
5.3 m/min	**66353**
2.6 m/min	**66354**

COMPONENTS CONVEYOR TB30 CENTER DRIVE

Drive unit center drive, single belt	Ref. no.
TB30-105/M	**65677**
TB30-140/M	**65678**
TB30-185/M	**65679**
TB30-250/M	**65680**



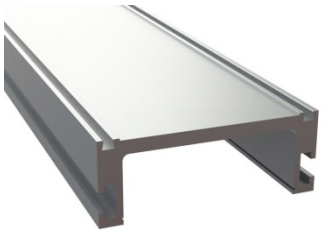
Drive unit center drive, dual belt	Ref. no.
TB30-105/M	**65691**
TB30-140/M	**65692**
TB30-185/M	**65693**
TB30-250/M	**65694**



COMPONENTS CONVEYOR TB30

Chassis for sliding plate	Ref. no.
TB30-105 L = ….*	**58787/….***
TB30-140 L = ….*	**58788/….***
TB30-185 L = ….*	**58789/….***
TB30-250 L = ….*	**58790/….***

*customer specific in mm, max. 3000 mm



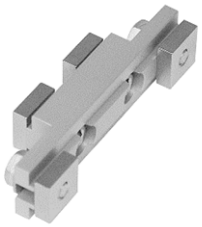
Sliding plate stainless	Ref. no.
TB30-105 L = …. (bis max. 1500 mm)*	**58791/0084/….***
TB30-140 L = …. (bis max. 1500 mm)*	**58791/0119/….***
TB30-185 L = …. (bis max. 1500 mm)*	**58791/0164/….***
TB30-250 L = …. (bis max. 2000 mm)*	**58791/0229/….***

*customer specific in mm, several plates possible

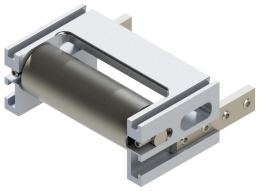
When ordering chassis for sliding plate and sliding plate without assembly, the sliding plate is attached to the chassis **only per customer's request.**

NOTE!
Long conveyors with multiple chassis parts must be supported in addition at the separation points.

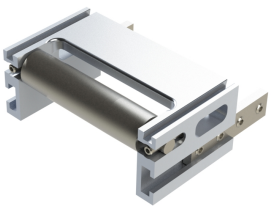
Chassis binder BPBE	Ref. no.
	55145



End section with deflection roller Ø 30, single belt	Ref. no.
TB30-105/M	**56990**
TB30-140/M	**63694**
TB30-185/M	**63695**
TB30-250/M	**63696**
End section with deflection roller Ø 30, dual belt	**Ref. no.**
TB30-105/M	**56994**
TB30-140/M	**64079**
TB30-185/M	**64080**
TB30-250/M	**64081**

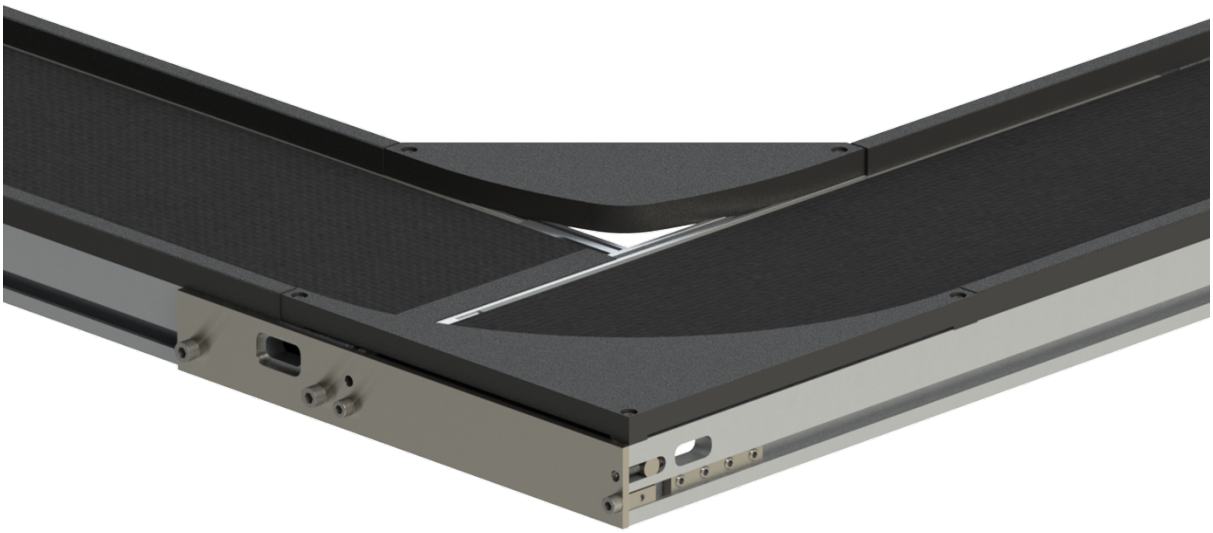


End section with deflection roller Ø20, single belt	Ref. no.
TB30-105/M	**63203**
TB30-140/M	**63667**
TB30-185/M	**63668**
TB30-250/M	**63669**



End section with tension roller Ø 30, single belt	Ref. no.
TB30-105/M	**55208**
TB30-140/M	**66740**
TB30-185/M	**66762**
TB30-250/M	**66763**
End section with tension roller Ø 30, dual belt	**Ref. no.**
TB30-105/M	**55211**
TB30-140/M	**66742**
TB30-185/M	**66765**
TB30-250/M	**66766**

PRODUCT DESCRIPTION FIXED CURVE 90º KFE

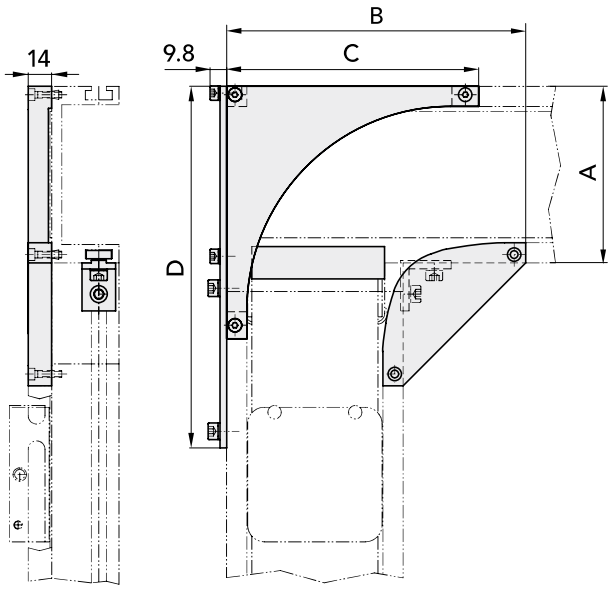


The kit for fixed curve 90° KFE can **simply be screwed** onto the conveyor profile.

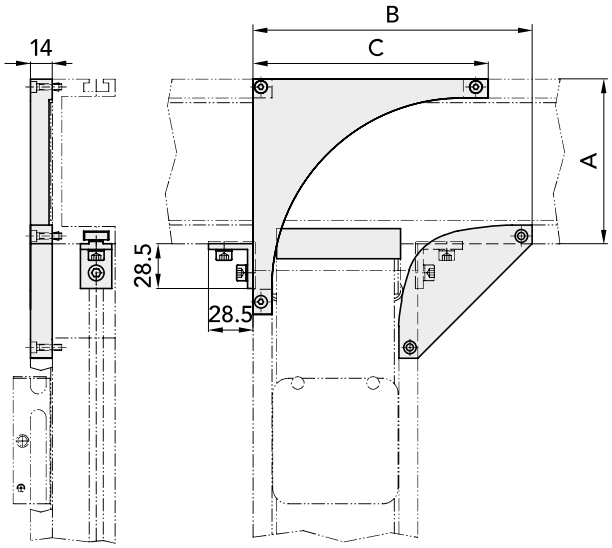
A finger protection device between the conveyors is also installed manually; it ensures optimum operational safety. **In only a few minutes, the 90° connection can be installed.**

The fixed curve allows queing while within the curve. This **keeps the control system simple and saves costs** as there is no need for stoppers in front of the curves.

DIMENSIONS FIXED CURVE 90º KFE – VERSION E



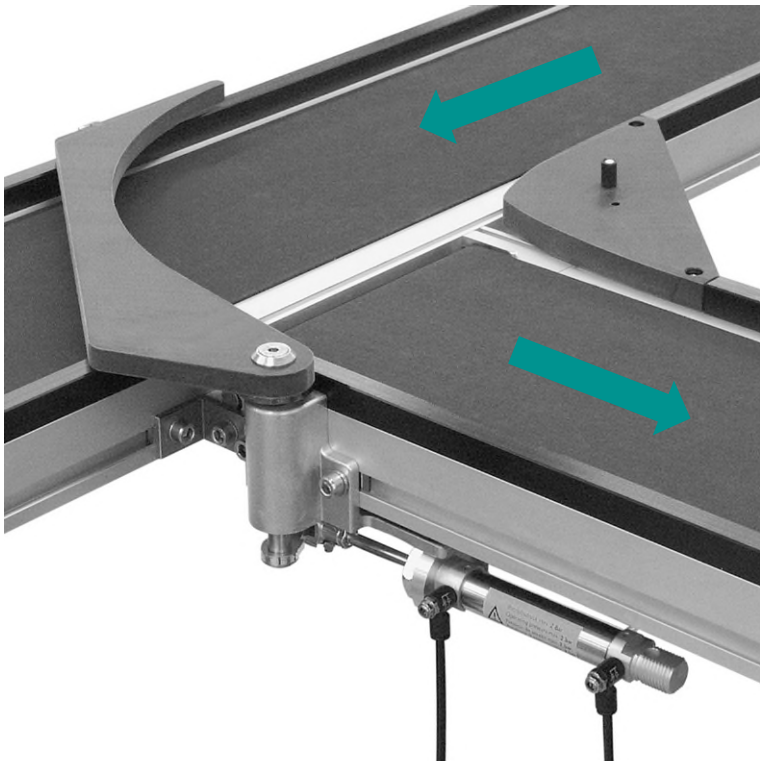
DIMENSIONS FIXED CURVE 90º KFE – VERSION M

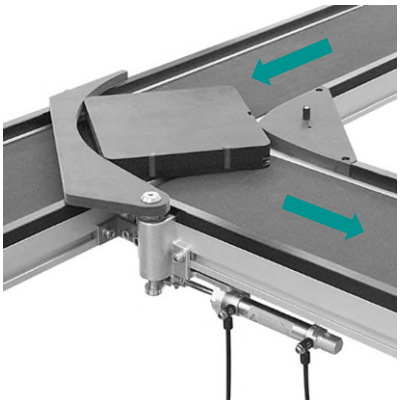


Type		KFE-105 for TB30-105	KFE-140 for TB30-140	KFE-185 for TB30-185	KFE-250 for TB30-250
A	[mm]	105	140	185	250
B	[mm]	178	253	335	468
C	[mm]	150	190	230	250
D	[mm]	215	250	295	360

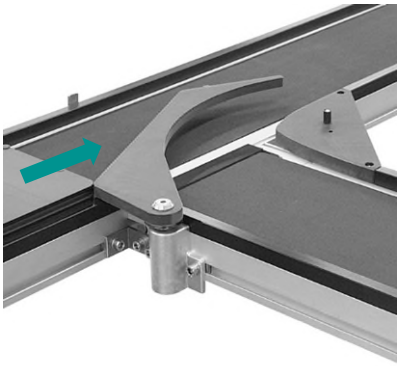
Ref. no.				
Version E	**49617**	**49618**	**49619**	**56312**
Version M	**49634**	**49633**	**49632**	**56313**

PRODUCT DESCRIPTION MOVABLE CURVE 90º KBEA / KBE

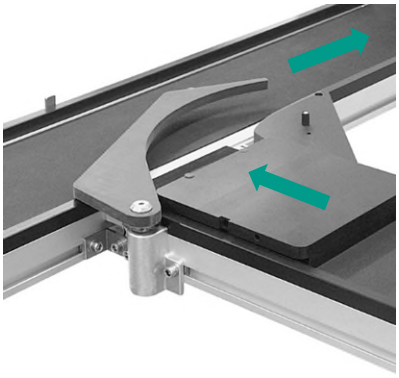




KBEA with drive



KBE without drive



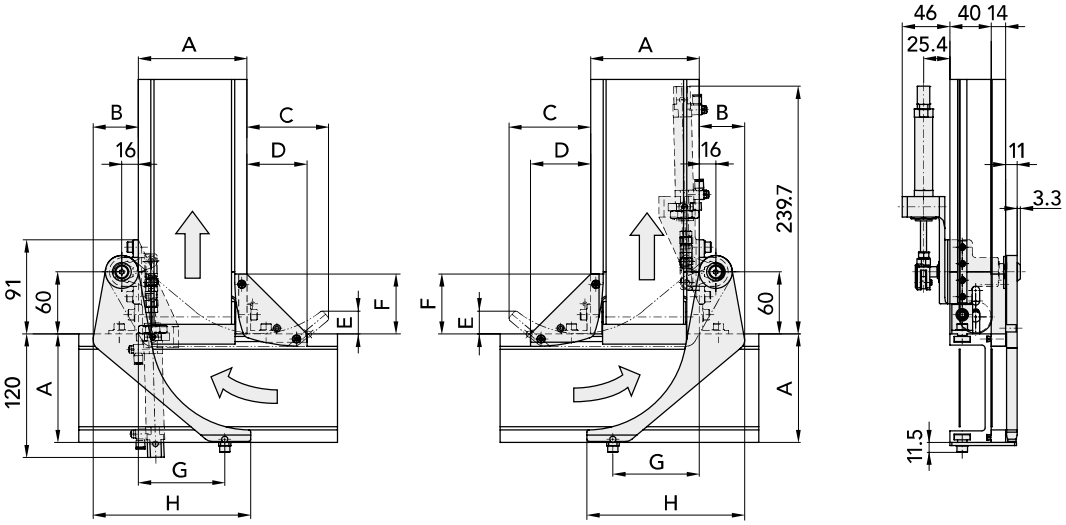
The movable curve 90° KBE can be used for inward and outward transfer in a bypass. Just like the fixed curve, the movable curve can be integrated **into an existing transfer system in a later phase.**

At the inward end, stoppers are necessary (not included in the scope of delivery, see options).

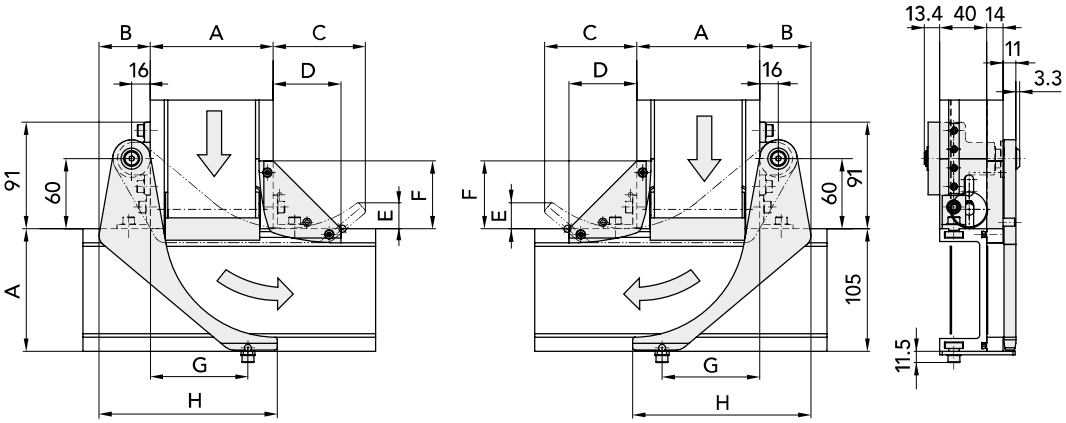
All further technical data of the movable curve 90°, like changeover times, correspond to the data on page 9.

Safety Instruction:
The operating pressure for the cylinder on the movable curve may not exceed two bar. Otherwise, there is a danger of injury.

DIMENSIONS MOVABLE CURVE 90° WITH DRIVE KBEA



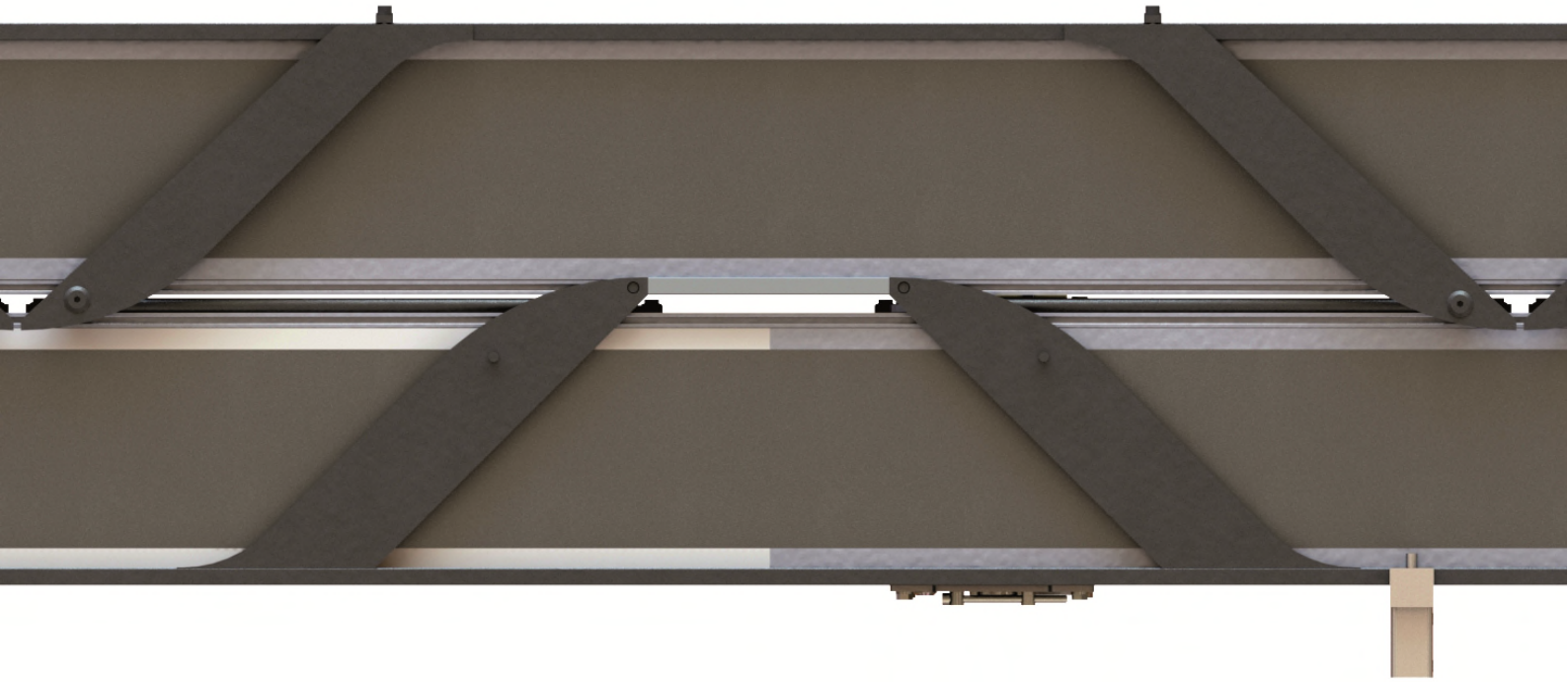
DIMENSIONS MOVABLE CURVE 90° WITHOUT DRIVE KBE



Type		KBEA/KBE-105 for TB30-105	KBEA/KBE-140 for TB30-140	KBEA/KBE-185 for TB30-185	KBEA/KBE-250 for TB30-250
A	[mm]	105	140	185	250
B	[mm]	43.8	51.7	57.1	56.3
C	[mm]	79	117.5	133	144.8
D	[mm]	58	100.9	116.4	221
E	[mm]	22	51.3	76.9	93.8
F	[mm]	58	117.5	133	221
G	[mm]	83.5	93.5	108.5	160.5
H	[mm]	152.3	200.2	245.6	316.7

Ref. no.				
KBEA	**54506**	**54629**	**54613**	**56011**
KBE	**54610**	**54612**	**54614**	**56375**

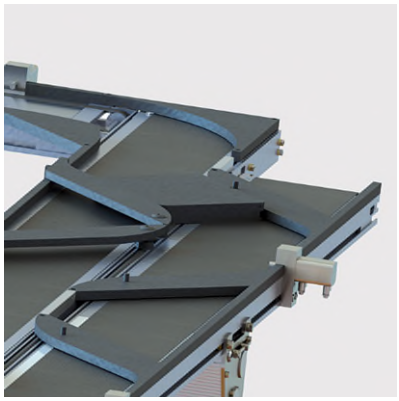
PRODUCT DESCRIPTION BYPASS BPE/BPEA

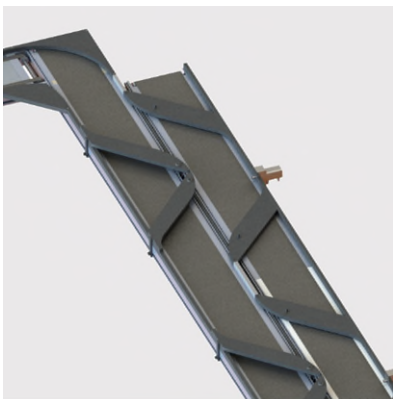


The two-part bypass BPE is used for **inward and outward transfer** of a workpiece holder **into a parallel work flow**. In the bypass, both a manual workstation (stopper VSE or VSEB) and an automatic station (indexing device IVE or IVEB) can be installed. The distance between the two conveyors is limited to 12 mm.

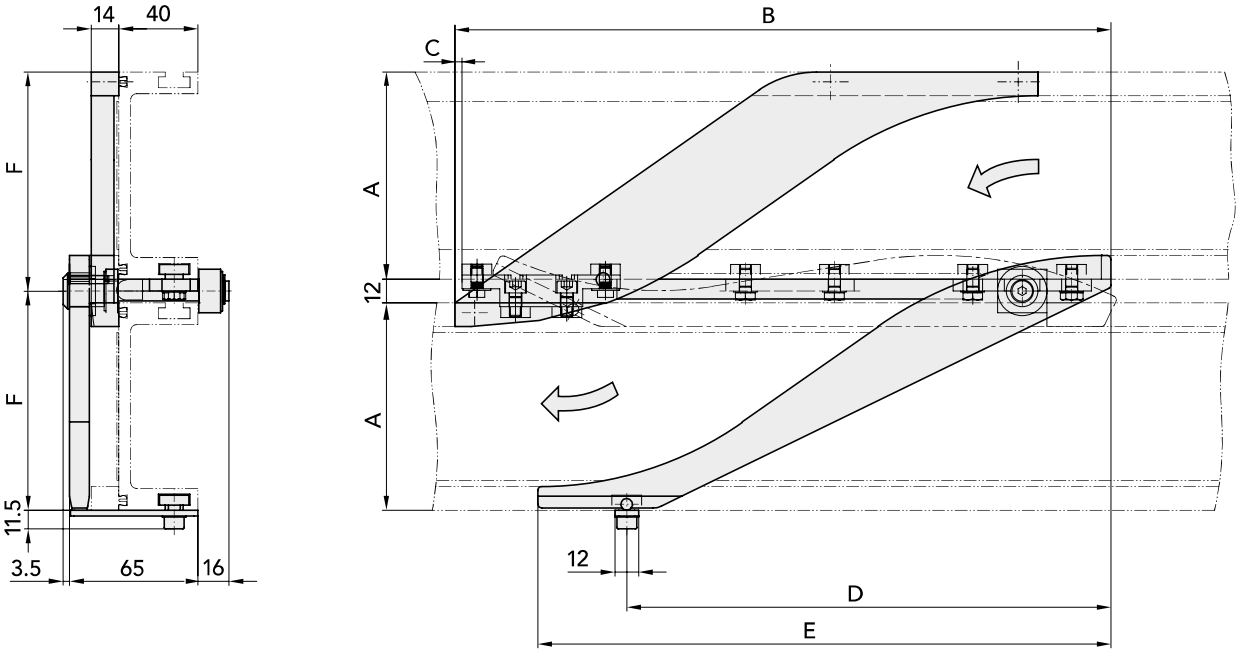
All further technical data of the bypass, like loading of the WTs and changeover times correspond to the data on page 6 und 9.

Safety Instruction:
The operating pressure for the cylinder on the bypass drive may not exceed two bar. Otherwise, there is a danger of injury. The operating pressure for stoppers VSE and VSEB and indexing devices IVE and IVEB is five to six bar.





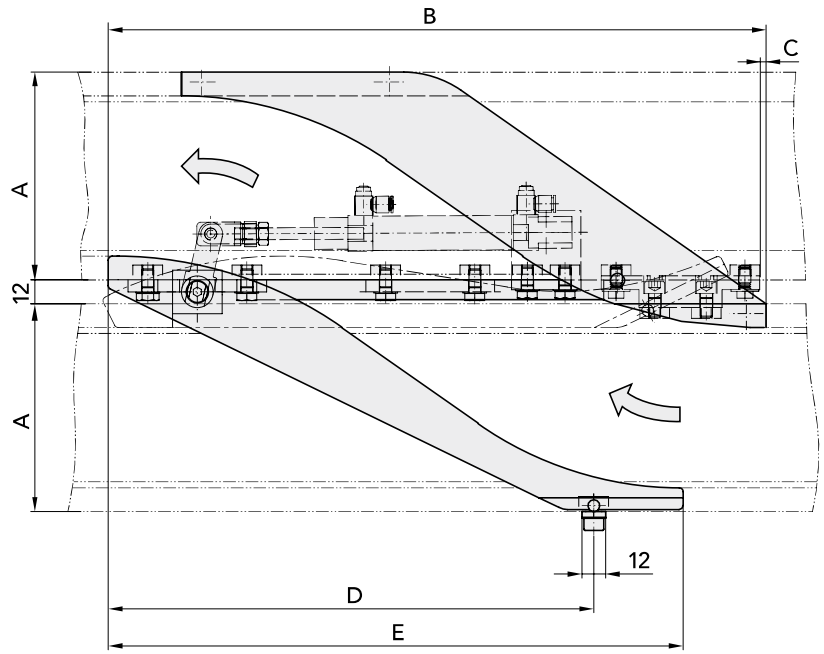
DIMENSIONS BYPASS LEFT BPE/BPEA

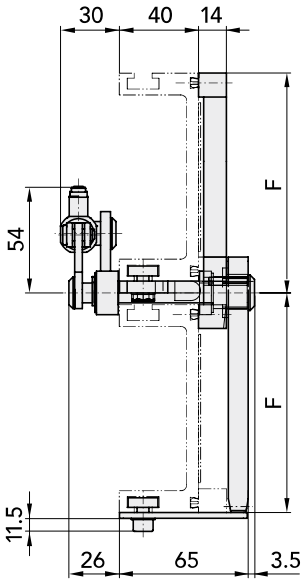


Type		BPE/BPEA-105 for TB30-105	BPE/BPEA-140 for TB30-140	BPE/BPEA-185 for TB30-185	BPE/BPEA-250 for TB30-250
A	[mm]	105	140	185	250
B	[mm]	332	317	426	669.6
C	[mm]	3	28	9	10
D	[mm]	245	215	246	340
E	[mm]	290	245	307	490
F	[mm]	111	146	191	256

Ref. no.					
BPE left		**54564**	**54568**	**54572**	**56361**
BPEA left		**54632**	**54567**	**54571**	**56359**

DIMENSIONS BYPASS RIGHT BPE/BPEA





Type		BPE/BPEA-105 for TB30-105	BPE/BPEA-140 for TB30-140	BPE/BPEA-185 for TB30-185	BPE/BPEA-250 for TB30-250
A	[mm]	105	140	185	250
B	[mm]	332	317	426	669.6
C	[mm]	3	28	9	10
D	[mm]	245	215	246	340
E	[mm]	290	245	307	490
F	[mm]	111	146	191	256

Ref. no.				
BPE right	**54494**	**54566**	**54570**	**56360**
BPEA right	**54493**	**54565**	**54569**	**56358**

PRODUCT DESCRIPTION TRANSFER GATE WEE

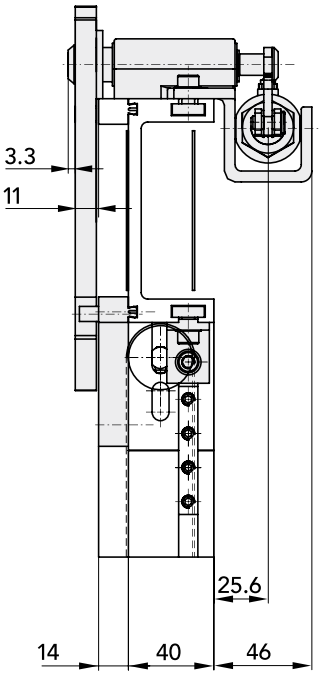
The transfer gate WEE is used to distribute workpiece holders from one conveyor to two conveyors (inward transfer gate) or from two conveyors to one conveyor (outward transfer gate).

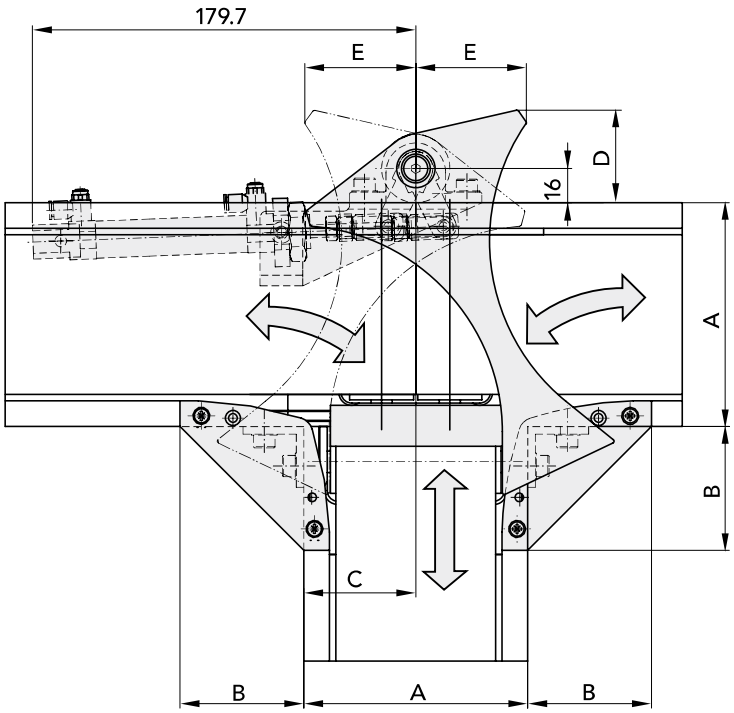
At the inward end, stoppers are used (not included in the scope of delivery, see options).

All further technical data of the transfer gate, like loading of the WTs, correspond to the data on page 9.

Safety Instruction:
The operating pressure for the cylinder on the transfer gate may not exceed two bar. Otherwise, there is a danger of injury.

DIMENSIONS TRANSFER GATE WEE

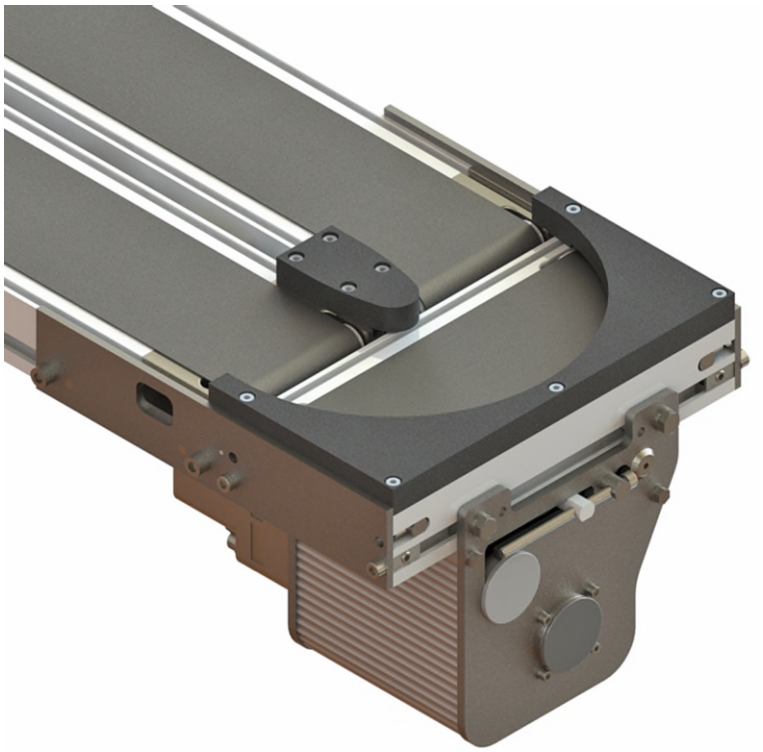




Type		WEE-105 for TB30-105	WEE-140 for TB30-140	WEE-185 for TB30-185
A	[mm]	105	140	185
B	[mm]	58	117.5	133
C	[mm]	52.5	70	92.5
D	[mm]	43.3	66.1	92.1
E	[mm]	52	67.9	67.9

Ref. no.				
WEE		**54789**	**54790**	**54791**

PRODUCT DESCRIPTION DEFLECTION 180° ULE



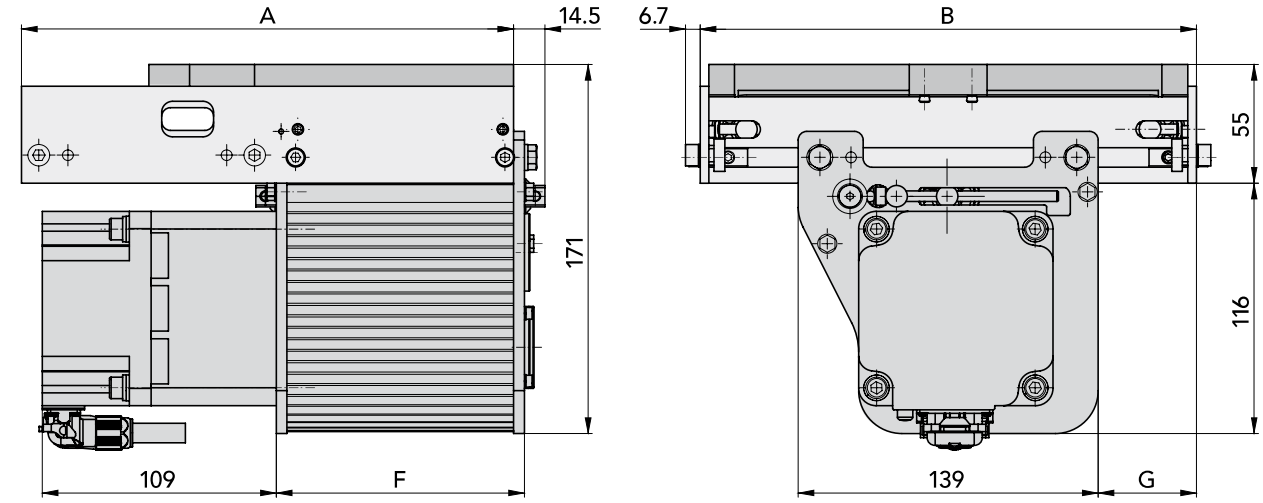
The deflection 180° ULE is part of the LTE transfer system and is used to deflect workpiece carriers from the infeed to the outfeed line.

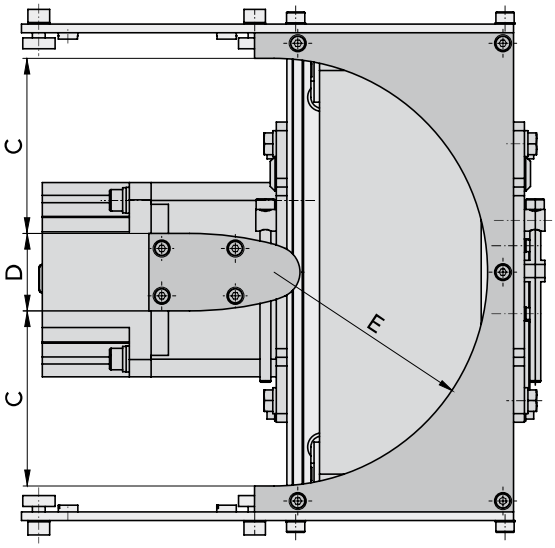
.The ULE 180° is powered by an electrical drive. The same motors as for the conveyors on page 20 are available for selection, namely the brushless DC-motor and the three-phase motor. For the brushless DC-motor the speed can be adjusted continuously variable. The three-phase motor is available in three different speeds.

The deflection ULE-180° is available in 4 different conveying widths: 105, 140, 185 and 250. Buffering is allowed for conveying width 105. For other widths such as 140, 185 and 250 buffering must be avoided. For this purpose, stoppers must be installed in front of the deflection to separate the workpiece carriers beforehand. For stoppers see page 48.

To ensure smooth transition from conveyor to deflection, end sections with a roller diameter of 20 mm must be used. For end sections refer to page 24.

DIMENSIONS DEFLECTION 180° ULE WITH BRUSHLESS DC-MOTOR





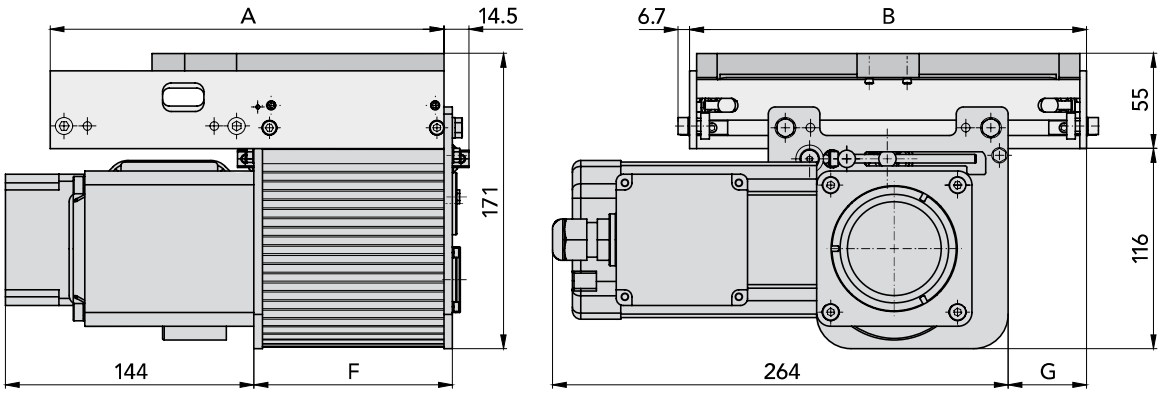
Scope of delivery:

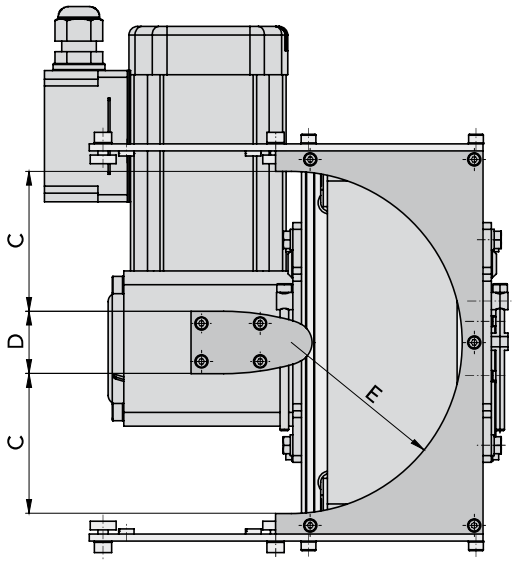
- Deflection 180°
- Brushless DC-motor
- Driver for motor
- Connecting cable motor to driver L = 5 m

Type		ULE-105 for TB30-105	ULE-140 for TB30-140	ULE-185 for TB30-185	ULE-250 for TB30-250
A	[mm]	228	263	308	373
B	[mm]	230	300	390	520
C	[mm]	81	116	161	226
D	[mm]	36	36	36	36
E	[mm]	99	134	150	170
F	[mm]	115	150	195	260
G	[mm]	45.5	80.5	125.5	190.5

Ref. no.				
0.5 to 25.5 m/min 1x 230 V / 50 Hz	66865	66878	66891	66893
0.5 to 25.5 m/min 1x 110 V / 60 Hz	66990	66991	66992	66993

DIMENSIONS DEFLECTION 180° ULE WITH THREE-PHASE MOTOR





Scope of delivery:

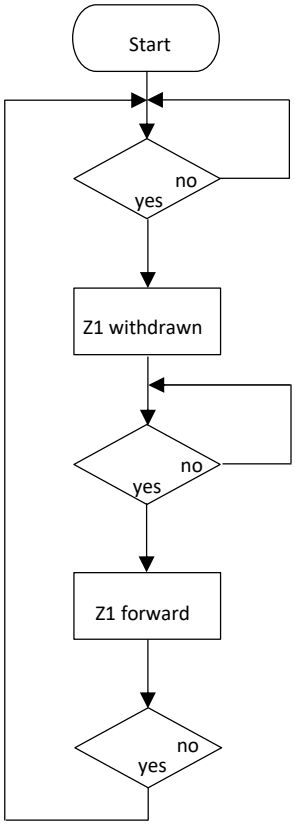
- Deflection 180°
- Three-phase motor

Type		ULE-105 for TB30-105	ULE-140 for TB30-140	ULE-185 for TB30-185	ULE-250 for TB30-250
A	[mm]	228	263	308	373
B	[mm]	230	300	390	520
C	[mm]	81	116	161	226
D	[mm]	36	36	36	36
E	[mm]	99	134	150	170
F	[mm]	115	150	195	260
G	[mm]	45.5	80.5	125.5	190.5

Ref. no.	3x400 V / 50 Hz			
6.8 m/min	66972	66975	66978	66981
10.9 m/min	66973	66976	66979	66982
18.2 m/min	66974	66977	66980	66983

Ref. no.	3x460 V / 60 Hz			
8.0 m/min	66972	66975	66978	66981
12.6 m/min	66973	66976	66979	66982
21.4 m/min	66974	66977	66980	66983

FLOWCHART DEFLECTION 180° ULE WITH STOPPER



WT in position, N1 occupied
Queue monitor N1 free

WT limit stop withdrawn
Start delay time T1

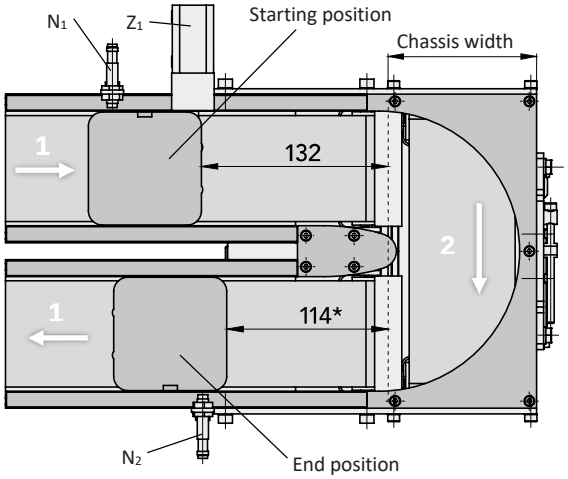
Delay time T1 expired

WT limit stop forward
Start delay time T2

Start delay time T2 expired

For widths 140, 185 and 250 buffering must be avoided.

Basic position: Z1 forward



* ULE-105 114 mm
ULE-140 106 mm
ULE-185 106 mm
ULE-250 86 mm

(Dimensions in millimeters)

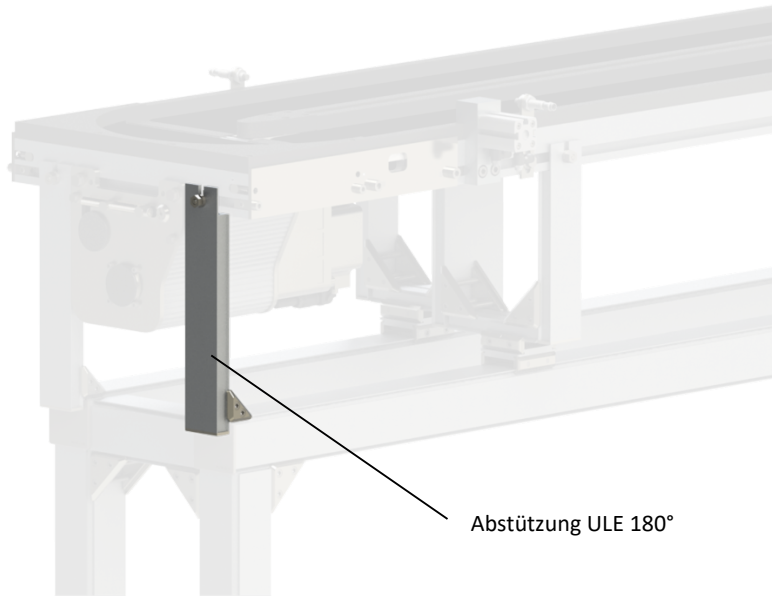
Z_1 = limit stop (pneumatic cylinder)

N_1 = Proximity switch 1

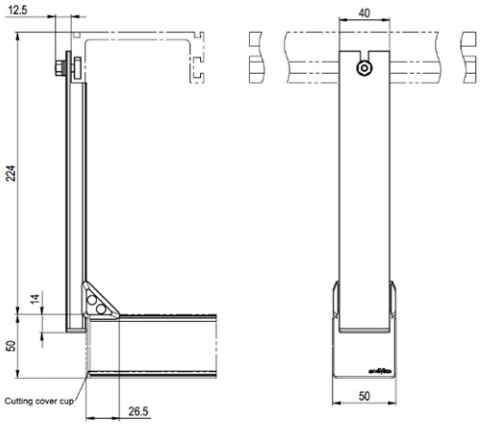
N_2 = Proximity switch 2

SUPPORT AND FASTENING DEFLECTION 180° ULE

The deflection 180° is mounted with screws, nuts and slot nuts to the conveyors. For conveying widths 140, 185 and 250 the deflection must be supported. For this purpose the support shown below can be used.

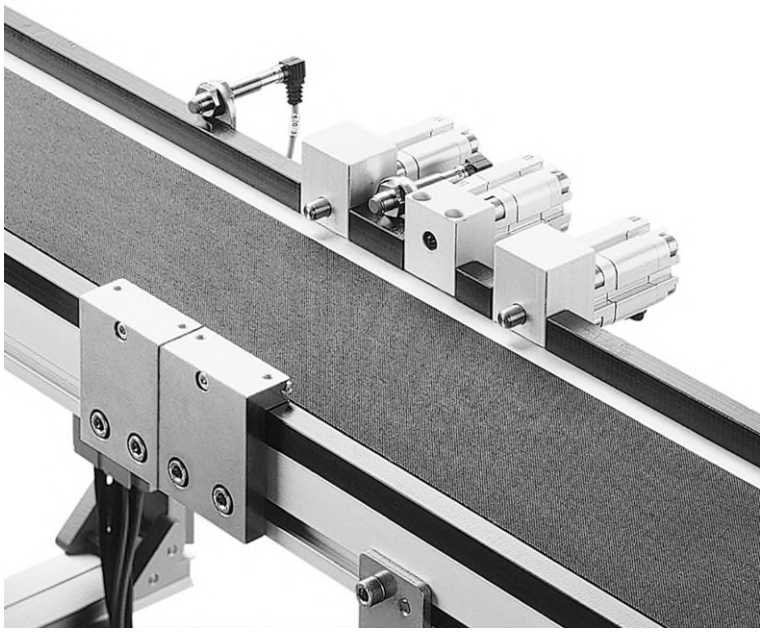


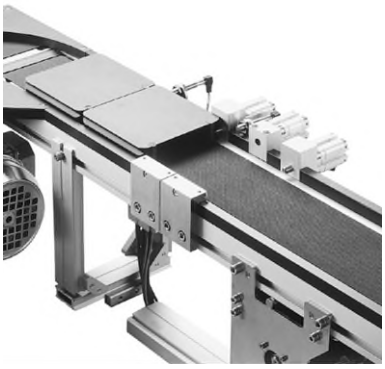
Support for ULE 180°	Ref. no.
	70119



For additional fastening elements and profiles for substructures refer to our Aluminium Framing Systems MPS assortment.

PRODUCT DESCRIPTION INDEXING DEVICE IVE





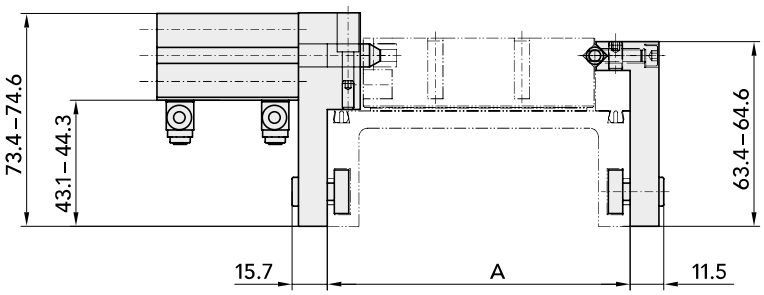
The indexing device IVE is used for assembly and process tasks which require excellent workpiece positioning accuracy.

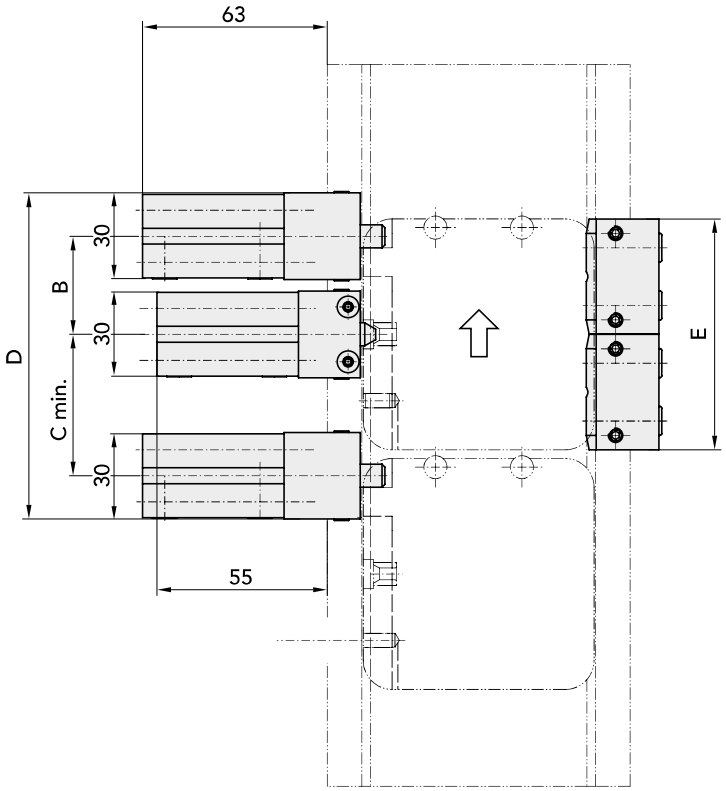
In the indexing device, the workpiece holder WTE is positioned with a **repeatability of ± 0.05 mm** and lifted slightly to reduce conveyor belt wear.

At a maximum belt speed of 21.4 m/min, the change-over time is 0.35 seconds with the smallest work-piece holder.

Since installation requires **no additional drilling or milling on the chassis**, the position of the indexing device can easily be adjusted even in a later phase.

DIMENSIONS INDEXING DEVICE IVE

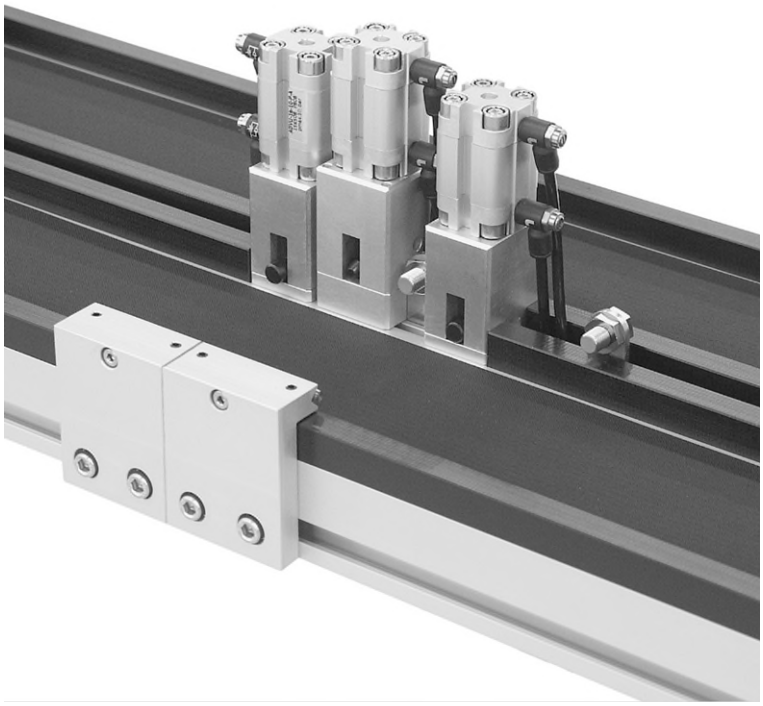


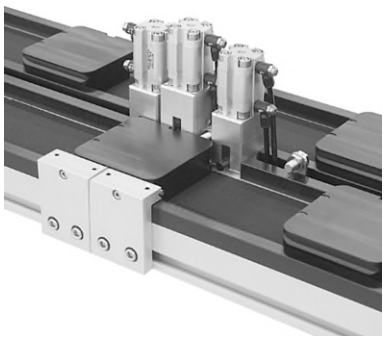


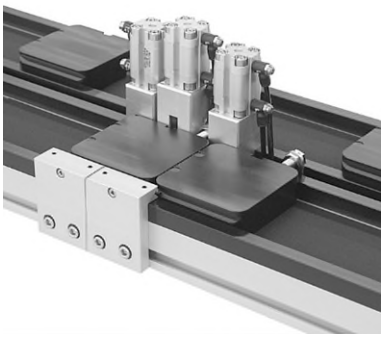
Type		IVE for TB30-105	IVE for TB30-140	IVE for TB30-185	IVE for TB30-250
A	[mm]	105	140	185	250
B	[mm]	34	51.5	74	106.5
C	[mm]	49	66.5	89	121
D	[mm]	113	148	193	258
E	[mm]	80	115	160	225

Ref no.	
IVE	**49613**

PRODUCT DESCRIPTION INDEXING DEVICE IVEB

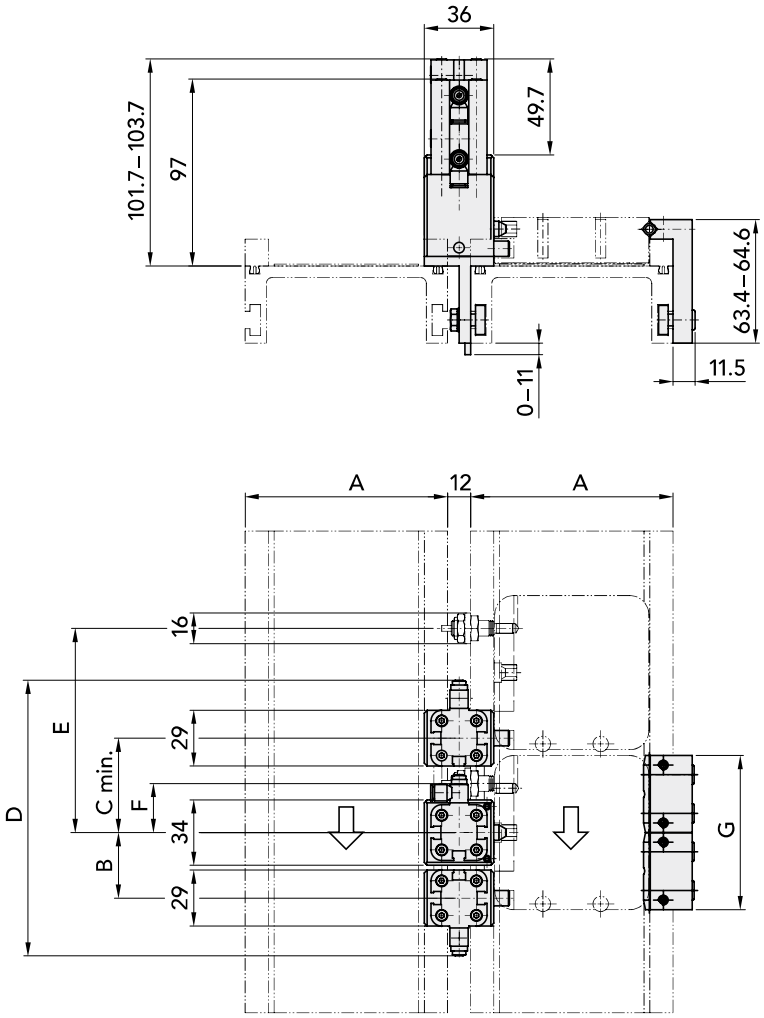


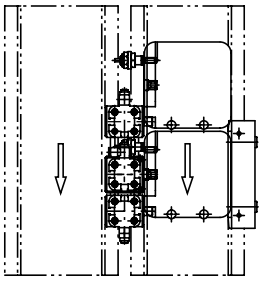




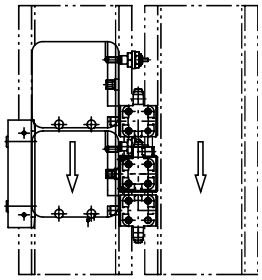
The indexing device IVEB is specially designed for use in the bypass BPE. The stoppers acting from above take into account the minimum distance of only 12 mm between the two conveyor belts.

DIMENSIONS INDEXING DEVICE IVEB





Indexing right

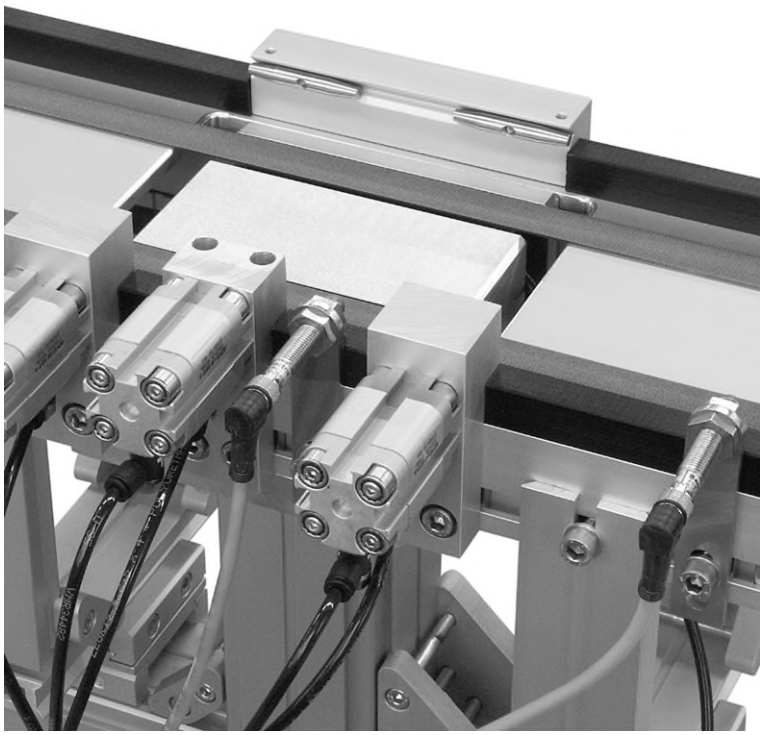


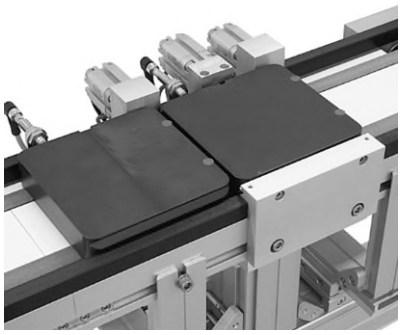
Indexing left

Type		IVEB for TB30-105	IVEB for TB30-140	IVEB for TB30-185	IVEB for TB30-250
A	[mm]	105	140	185	250
B	[mm]	34	51.5	74	106.5
C	[mm]	49	66.5	89	121
D	[mm]	149	184	229	294
E	[mm]	106	150.5	198	315.5
F	[mm]	25	32.5	35	87.5
G	[mm]	80	115	160	225

Ref no.	
IVEB right	**54492**
IVEB left	**54633**

PRODUCT DESCRIPTION POSITIONING UNIT PVE

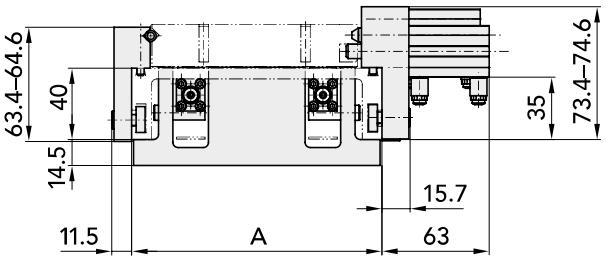


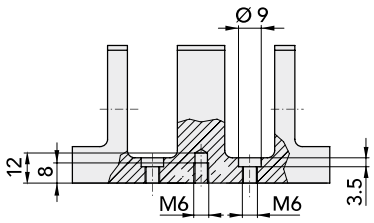


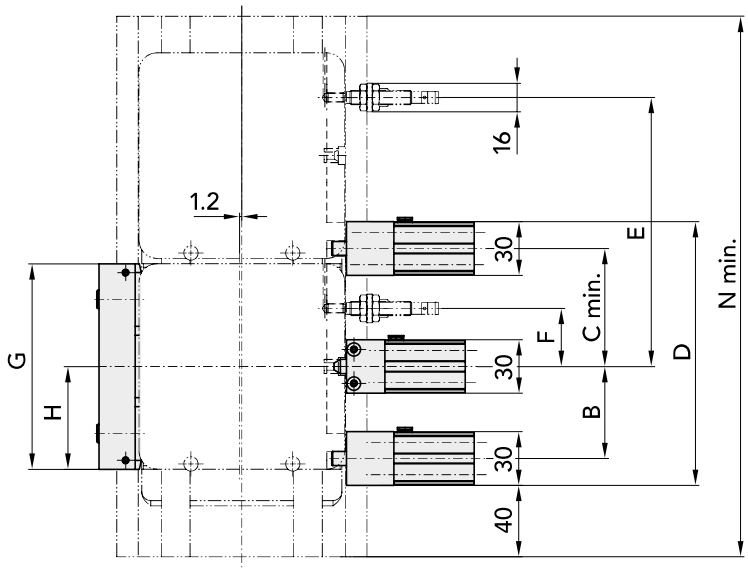
The positioning unit PVE is used when application of a high force to the workpiece has to be realized in addition to high positioning accuracy in assembly and processing operations (press and screw operations).

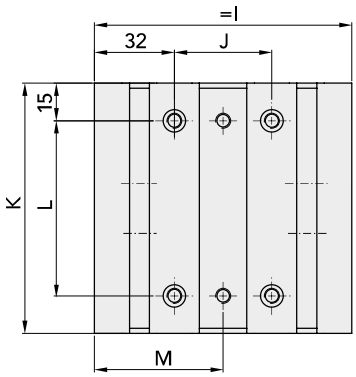
The **repeatability accuracy is ± 0.05 mm.**
During positioning, the workpiece support WTE rests on the anvil, which must be supported from below (not connected to the chassis). The belt is lowered in the positioning device. The maximum permissible pressure is 14 N/mm^2.

DIMENSIONS POSITIONING UNIT PVE







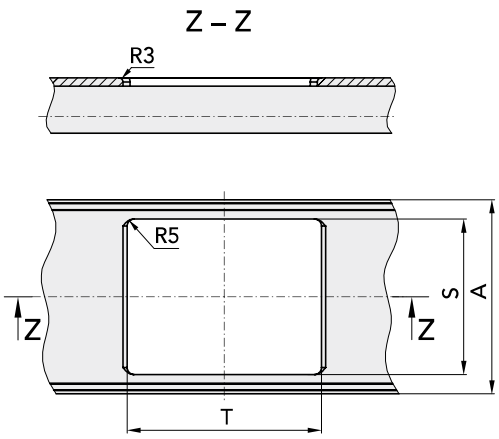


Type		PVE-105 for TB30-105	PVE-140 for TB30-140	PVE-185 for TB30-185	PVE-250 for TB30-250
A	[mm]	105	140	185	250
B	[mm]	34	51.5	74	106.5
C	[mm]	49	66.5	89	121
D	[mm]	113	148	193	258
E	[mm]	106	150.5	198	315.5
F	[mm]	25	32.5	35	87.5
G	[mm]	80	115	160	225
H	[mm]	40	57.5	80	112.5
I	[mm]	103	138	183	248
J	[mm]	39	74	119	184
K	[mm]	100	115	160	225
L	[mm]	70	85	130	87.5
M	[mm]	51.5	69	91.5	124
N	[mm]	240	302	372	522

Ref. no.				
PVE	**55131**	**55132**	**55133**	**56507**

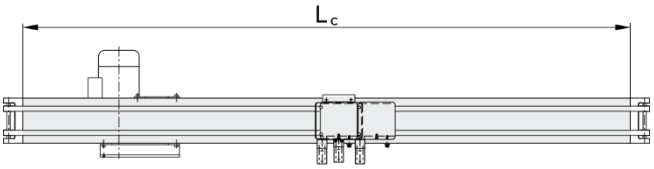
POSITIONING UNIT PVE INFORMATION FOR THE DESIGNER

Specification for the milled edge

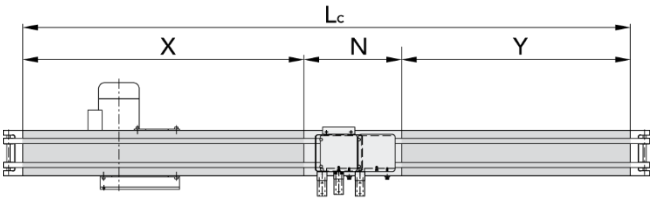


Type	TB30-105	TB30-140	TB30-185	TB30-250
A	105	140	185	250
S	77	112	157	222
T	125	140	185	250

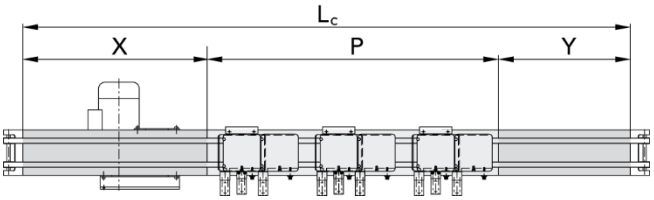
Specification for the sliding plate



Conveyor without sliding plate
L_c see calculation formula for chassis (see page 19)



Conveyor with sliding plate
L_c see calculation formula for chassis (see page 19)
N see page 45 (type of chassis without sliding plate)
X customer-specific length
Y customer-specific length



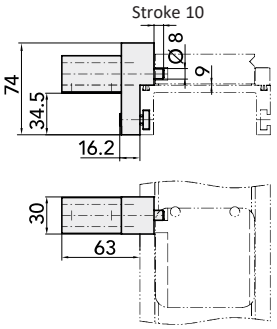
Conveyor with sliding plate
L_c see calculation formula for chassis (see page 19)
P Project specific length for PVE in series (type of chassis without sliding plate)
X customer-specific length
Y customer-specific length

OVERVIEW SENSOR USE FOR TRANSFER SYSTEM LTE

			PVE	IVE	IVEB	VSE	VSEB	KBEA	BPEA
Sensors	Proximity switch **522686**		**2**	**2**					
	Proximity switch **522687**				**2**				
	Set of proximity switch **54809**							**1**	**1**
	Set of proximity switch **54810**			**3**	**3**	**1**	**1**		
	Holder for proximity switch **54634**		**2**	**2**	**2**	**1**	**1**		

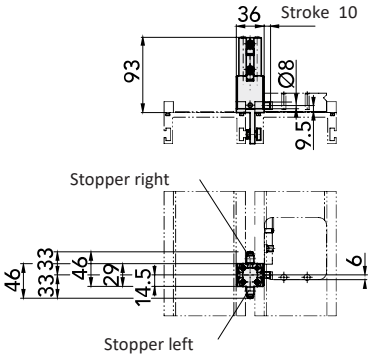
ACCESSORIES TRANSFER SYSTEM LTE

Stopper VSE	Ref. no.
	49612

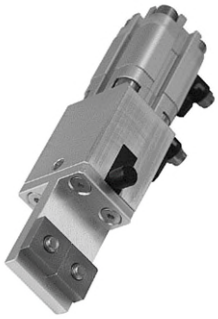


Max. radial force
F = 135 N at 5 bar

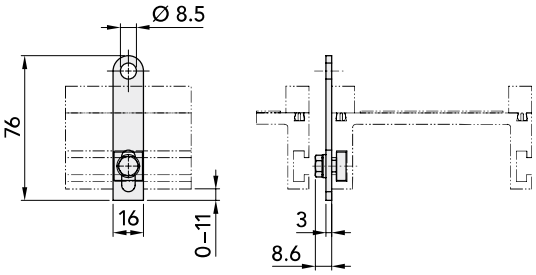
Stopper VSEB	Ref. no.
VSEB right	54601
VSEB left	54581



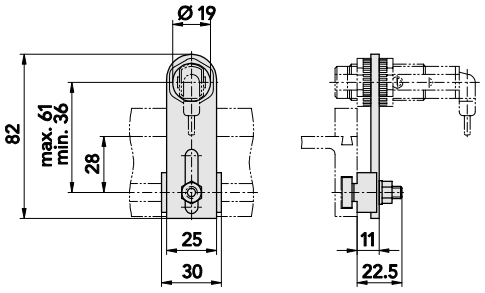
Max. radial force
F = 125 N at 5 bar



Holder for proximity switch HNEB	Ref. no.
M8 x 1	54634



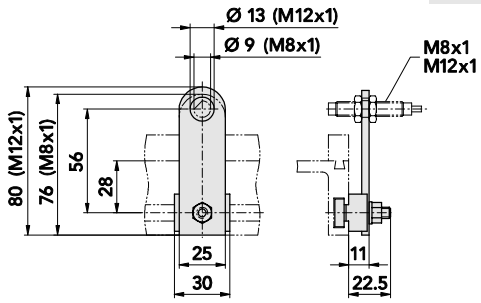
Holder for reflection light barrier	Ref. no.
M18x1	34957



(Scope of delivery without reflection light barrier)

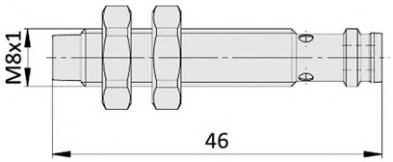
ACCESSORIES TRANSFER SYSTEM LTE

Holder for proximity switch	Ref. no.
M8x1	**36491**
M12x1	**42142**

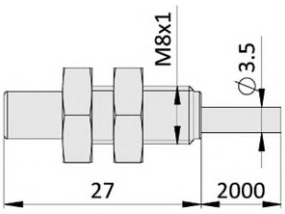


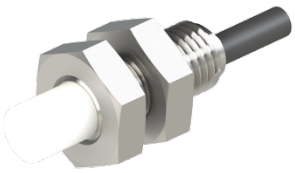
(Scope of delivery without proximity switch)

Proximity switch pluggable (sensing distance 6 mm)	Ref. no.
M8 x 1	**522686**



Proximity switch pluggable (sensing distance 4 mm)	Ref. no.
M8 x 1	**522687**





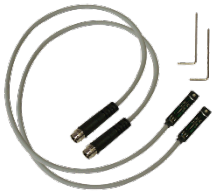
Set of proximity switch for KBE and BPE with drive	Ref. no.
	54809

Set of proximity switch for KBE and BPE with drive, 2 pieces.

ACCESSORIES TRANSFER SYSTEM LTE

Set of proximity switch for IVE/IVEB and VSE/VSEB	Ref. no.
	54810

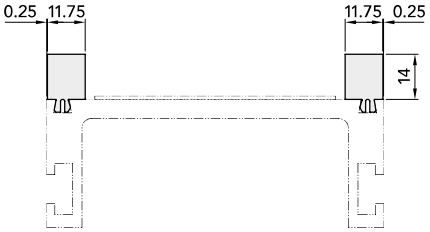
Set of proximity switch for IVE/IVEB and VSE/VSEB, 2 pieces.



Cable		Ref. no.
	5 m	**504929**
	10 m	**507529**

With one-side angled socket for proximity switch,
3-pin, highly flexible, screwable M8x1

Lateral guide black, antistatic	Ref. no.
L = 2000 mm	**49897**



BASE TRANSFER SYSTEM LTE

Table stands for adaptation to an aluminium fraiming system can be ordered as standard to match the LTE systems. For an extended base in combination with these table stands, it is recommended to use our **Aluminium Fraiming System MPS**.

On request, Montech can design a project-specific base for your LTE system using our aluminium profile system MPS. The base is customised to the layout of your LTE system according to your requirements.

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info@montech.com
+41 32 681 55 00

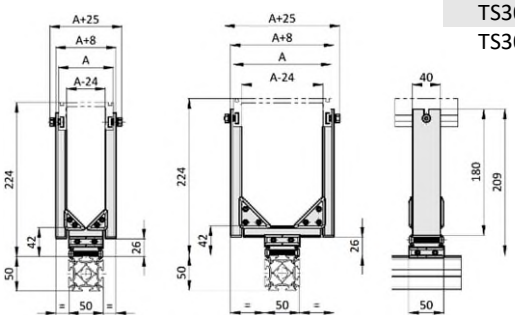
Conventions for item numbers and names/abbreviations

As a rule, all items have a 5-digit item number.

Product	Designation code	Item number	Explanation
Table stand to aluminum framing system 	**TS30-□□□-H224-050**	□□□□□	
	TS30-□□□-H224-050		Short name for table stands for conveyor TB30
	TS30-□□□-H224-050		Sizes Conveyor
	TS30-□□□-H224-050		Working height in mm (upper edge of conveyor)
	TS30-□□□-H224-050		Profile size in mm (connection point)
	TS30-140-H224-050	*69441*	*Example for table stand*

TABLE STAND TO ALUMINUM FRAMING SYSTEM

Table stand TS30		A	Ref. no.
TS30-080/105 TS30-140/185/250	TS30-080-H224-050	80	**69414**
	TS30-105-H224-050	105	**69437**
	TS30-140-H224-050	140	**69441**
	TS30-185-H224-050	185	**69444**
	TS30-250-H224-050	250	**69445**



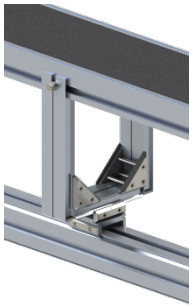
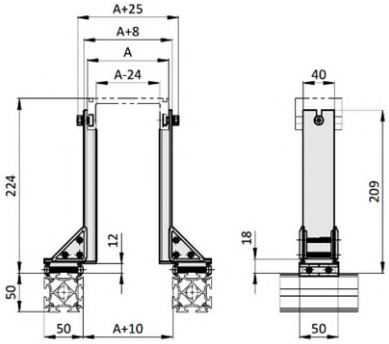


Table stand TS30-H224-050, Pair	Ref. no.
	69416



Valid for the following conveyor sizes
A = 45, 60, 80, 105, 140, 185, 250

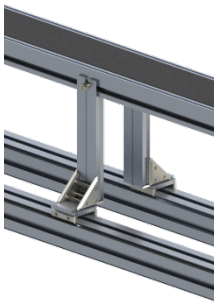
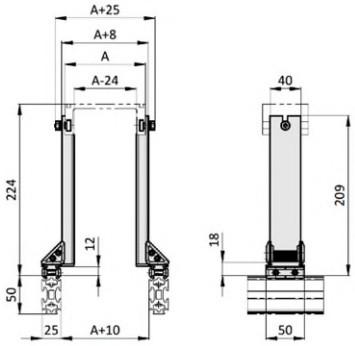
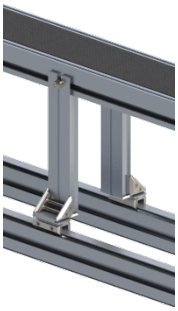


Table stand TS30-H224-025, Pair	Ref. no.
	69498

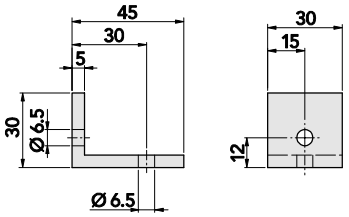


Valid for the following conveyor sizes
A = 45, 60, 80, 105, 140, 185, 250

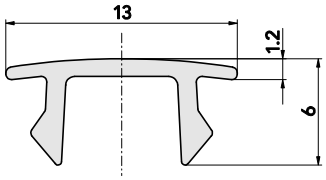


ACCESSORIES TRANSFER SYSTEM LTE

Bracket T-slot to table-top	Ref. no.
	45469



T-slot cover	Ref. no.
per meter	48143

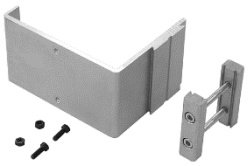


The cover profile serves for closing the open T-slot in the chassis, for example: in applications in the food industry or in clean-room applications.
Material ABS (uncolored)

Wiring duct VK-40	Ref. no.
2000 mm	507867

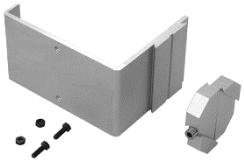
Fastening bracket VBW-40 for VK40, horizontal	Ref. no.
	51134

This fastening bracket makes the wiring duct VK-40 compatible with the aluminium framing systems MPS 5025.
Version horizontal – Fastening of the VK-40 to parallel aluminium profil.



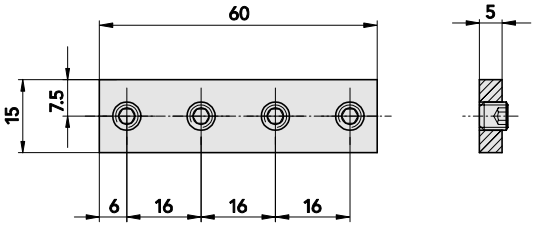
Fastening bracket VBW-40 for VK40, vertical	Ref. no.
	51135

This fastening bracket makes the wiring duct VK-40 compatible with with the aluminium framing systems MPS 5025.
Version vertical – Fastening of the VK-40 to parallel aluminium profil.

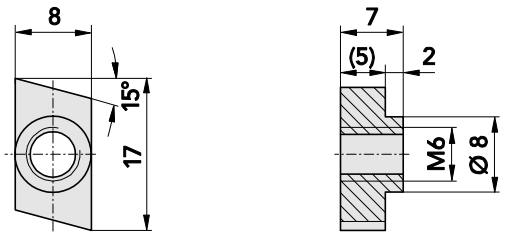


ACCESSORIES TRANSFER SYSTEM LTE

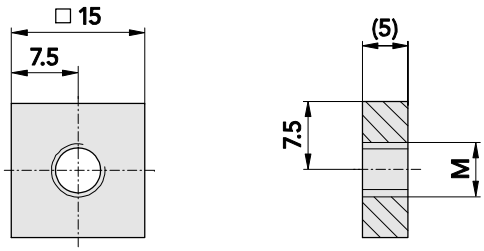
Joining element chassis-chassis	Ref. no.
pair	36546



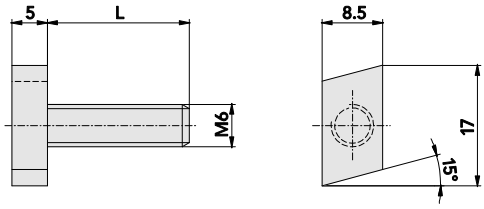
Slotted nut M6	Ref. no.
	36551



Slot inser	Ref. no.
M5	45089
M6	21913
M8	45091



Hammer-head screw	Ref. no.
L = 15 mm	40829
L = 20 mm	40830
L = 25 mm	40831



K-100006 EN 0224

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