

**TS 2*plus* 8.0 –**

**U.S. Catalog Addendum**

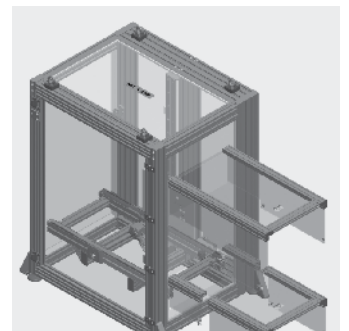
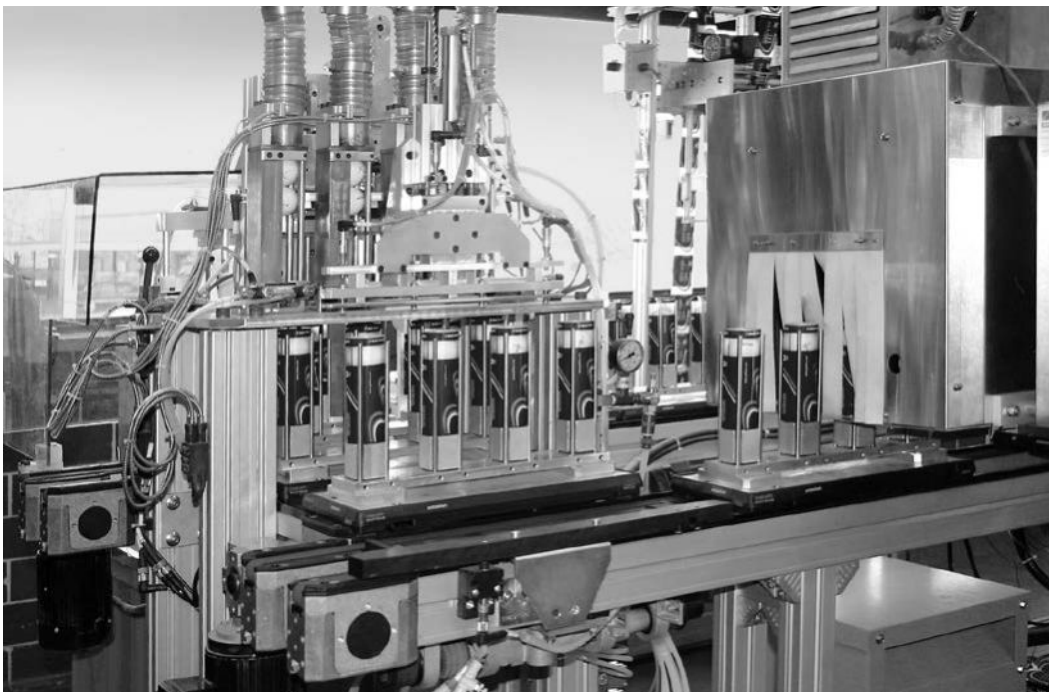
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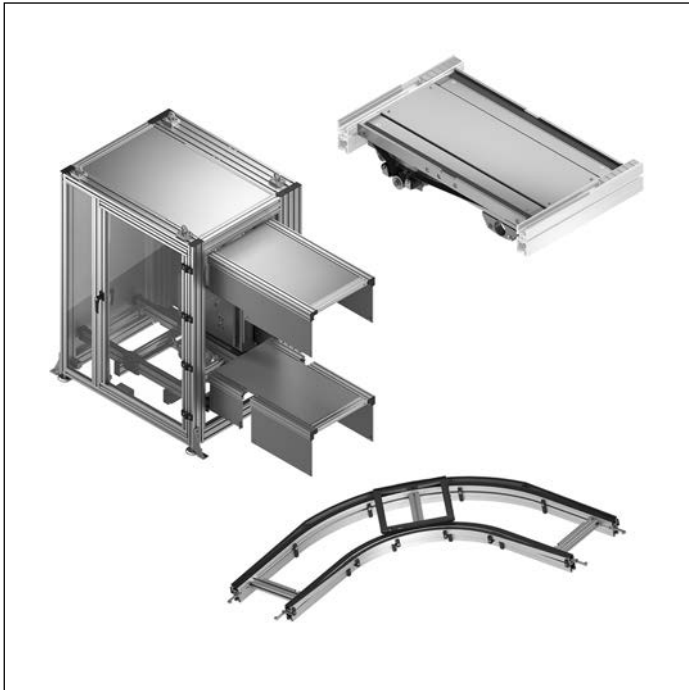
# TS 2plus – U.S. Catalog Addendum

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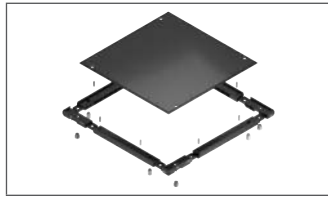
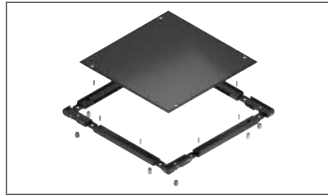
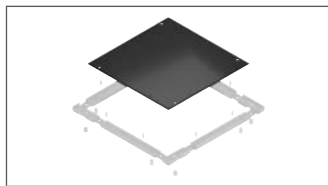
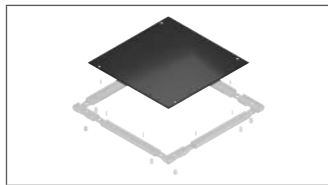
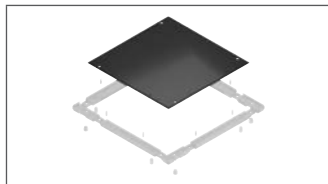
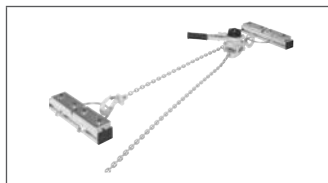
Additional components for US market

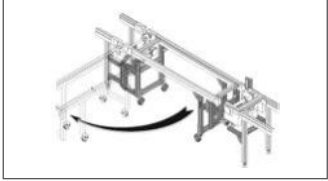

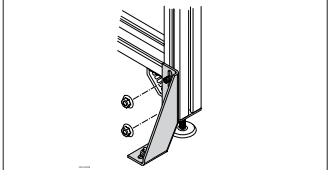




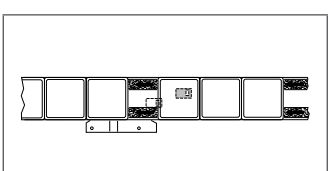


# Additional components for U.S. market



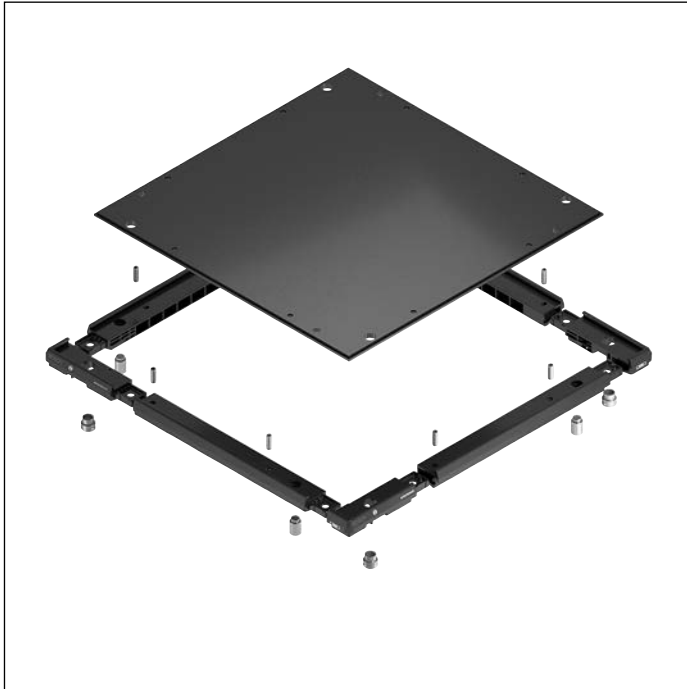
This is a U.S. addendum to the global TS 2plus 8.0 catalog (R999000396 V8.0). This document captures all produc-tized US-specific modules and components not found in the global catalog.

**Unassembled workpiece pallet kits****7****WT 2 polyamide workpiece pallet components****10****Steel pallet plates (4.85mm)****13****Aluminum pallet plates (6.35mm)****16****Aluminum pallet plates (12.7mm)****19****BS 2/B-H belt section****22****Belt welding equipment kit****25****LG 2 lift gate****26**

	<b>SG 2 swing gate</b>	<b>29</b>
	<b>KU 2/O-90 and KU 2/O-180 curved flat-top chain conveyor sections</b>	<b>32</b>
	<b>Foundation brackets</b>	<b>35</b>
	<b>HQ 2/U3 lift transfer unit</b>	<b>36</b>
	<b>pVT 2 vertical transfer</b>	<b>39</b>
	<b>eVT2 vertical transfer</b>	<b>44</b>
	<b>VE 2/MS mid-mount fixed stop</b>	<b>54</b>
	<b>VE 2/WI accumulation control kit</b>	<b>55</b>

# Unassembled workpiece pallet kits

## WT 2/S-UPA, WT 2/A-UPA, WT 2/AH-UPA, WT 2/S-UPE, WT 2/A-UPE, WT 2/AH-UPE



Unassembled pallet kits are available in every standard catalog size, ranging from 160 mm x 160 mm to 1040 mm x 1040 mm. They are available with either polyamide (PA) frames or with UHMW PE frames, which are required for use with roller chain conveyors.

Features and benefits of the unassembled kits include:

- ▶ Eliminates the need to disassemble an assembled pallet to machine the pallet plate.
- ▶ Positioning bushings can be pressed in after the support plate has been machined.
- ▶ One material number orders a complete unassembled pallet kit, eliminating the need to order individual components.
- ▶ Packaged on a per order basis rather than per piece basis, which allows for simpler assembly of multiple pallets.

Order unassembled pallet kits using the following part numbers.

**Note:** The standard components in the WT kits and assembled WTs can be found in Section 2.

U.S.-specific kits and 6.35mm thick carrying plates can only be found here in Section 14.

### Ordering information

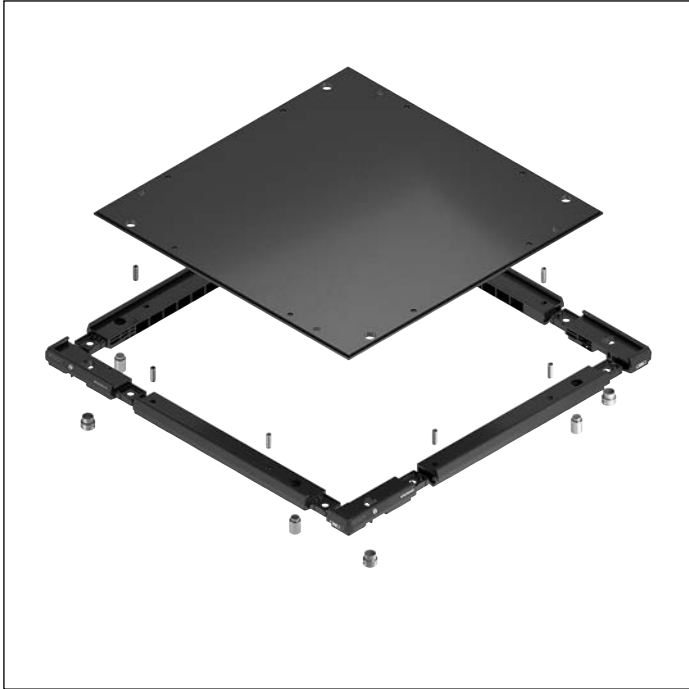
Width of workpiece pallet $b_{WT}$ (mm)	Length of workpiece pallet $l_{WT}$ (mm)	Plate Thickness, steel $d_{PL}$ (mm)	Plate Thickness, aluminum $d_{PL}$ (mm)	Material number Unassembled kit – with polyamide wear strips	Material number Unassembled kit – with UHMW PE wear strips
160	160	4.85		<b>8981022200</b>	<b>8981022270</b>
160	160		6.35	<b>8981022201</b>	<b>8981022271</b>
160	160		12.7	<b>8981022202</b>	<b>8981022272</b>
160	240	4.85		<b>8981022203</b>	<b>8981022273</b>
160	240		6.35	<b>8981022204</b>	<b>8981022274</b>
160	240		12.7	<b>8981022205</b>	<b>8981022275</b>
160	320	4.85		<b>8981022206</b>	<b>8981022276</b>
160	320		6.35	<b>8981022207</b>	<b>8981022277</b>
160	320		12.7	<b>8981022208</b>	<b>8981022278</b>
160	400	4.85		<b>8981022209</b>	<b>8981022279</b>
160	400		6.35	<b>8981022210</b>	<b>8981022280</b>

Width of workpiece pallet $b_{WT}$ (mm)	Length of workpiece pallet $l_{WT}$ (mm)	Plate Thickness, steel $d_{Pl}$ (mm)	Plate Thickness, aluminum $d_{Pl}$ (mm)	Material number Unassembled kit – with polyamide wear strips	Material number Unassembled kit – with UHMW PE wear strips
160	400		12.7	8981022211	8981022281
160	480	4.85		8981022212	8981022282
160	480		6.35	8981022213	8981022283
160	480		12.7	8981022214	8981022284
240	240	4.85		8981022215	8981022285
240	240		6.35	8981022216	8981022286
240	240		12.7	8981022217	8981022287
240	320	4.85		8981022218	8981022288
240	320		6.35	8981022219	8981022289
240	320		12.7	8981022220	8981022290
240	400	4.85		8981022221	8981022291
240	400		6.35	8981022222	8981022292
240	400		12.7	8981022223	8981022293
240	480	4.85		8981022224	8981022294
240	480		6.35	8981022225	8981022295
240	480		12.7	8981022226	8981022296
320	320	4.85		8981022227	8981022297
320	320		6.35	8981022228	8981022298
320	320		12.7	8981022229	8981022299
320	400	4.85		8981022230	8981022300
320	400		6.35	8981022231	8981022301
320	400		12.7	8981022232	8981022302
320	480	4.85		8981022233	8981022303
320	480		6.35	8981022234	8981022304
320	480		12.7	8981022235	8981022305
320	640	4.85		8981022236	8981022306
320	640		6.35	8981022237	8981022307
320	640		12.7	8981022238	8981022308
400	400	4.85		8981022239	8981022309
400	400		6.35	8981022240	8981022310
400	400		12.7	8981022241	8981022311
400	480	4.85		8981022242	8981022312
400	480		6.35	8981022243	8981022313
400	480		12.7	8981022244	8981022314
400	640	4.85		8981022245	8981022315
400	640		6.35	8981022246	8981022316
400	640		12.7	8981022247	8981022317
400	800	4.85		8981022248	8981022318
400	800		6.35	8981022249	8981022319
400	800		12.7	8981022250	8981022320
480	480	4.85		8981022251	8981022321
480	480		6.35	8981022252	8981022322
480	480		12.7	8981022253	8981022323
480	640	4.85		8981022254	8981022324
480	640		6.35	8981022255	8981022325



Width of workpiece pallet $b_{WT}$ (mm)	Length of workpiece pallet $l_{WT}$ (mm)	Plate Thickness, steel $d_{Pl}$ (mm)	Plate Thickness, aluminum $d_{Pl}$ (mm)	Material number Unassembled kit – with polyamide wear strips	Material number Unassembled kit – with UHMW PE wear strips
480	640		12.7	<b>8981022256</b>	<b>8981022326</b>
480	800	4.85		<b>8981022257</b>	<b>8981022327</b>
480	800		6.35	<b>8981022258</b>	<b>8981022328</b>
480	800		12.7	<b>8981022259</b>	<b>8981022329</b>
640	640	4.85		<b>8981022260</b>	<b>8981022330</b>
640	640		6.35	<b>8981022261</b>	<b>8981022331</b>
640	640		12.7	<b>8981022262</b>	<b>8981022332</b>
640	800	4.85		<b>8981022263</b>	<b>8981022333</b>
640	800		12.7	<b>8981022264</b>	<b>8981022334</b>
640	1040		12.7	<b>8981022265</b>	<b>8981022335</b>
800	800	4.85		<b>8981022266</b>	<b>8981022336</b>
800	800		12.7	<b>8981022267</b>	<b>8981022337</b>
800	1040		12.7	<b>8981022268</b>	<b>8981022338</b>
1040	1040		12.7	<b>8981022269</b>	<b>8981022339</b>

## WT 2 polyamide workpiece pallet components



Electrically conductive polyamide frame modules are used for belt and flat-top chain applications. Roller chain conveyors require the use of frame modules with UHMW wear strips on pg. 2–12 of R999000396 V8.0. Frame modules come in four different side lengths: 160, 240, 320, and 400 mm and two different materials: For PA and PE, see pg. 2-12 of R999000396 V8.0.

When used in combination with the frame extension modules, 26 standard sizes of workpiece pallets can be configured.

Pallets 400 x 480 mm and larger, use the extension modules in conjunction with reinforcing bolts and spring pins as shown in the exploded pallet view. Purchasing workpiece pallet components separately make it possible to perform any required machining to the pallet plate prior to pallet assembly.

## Positioning bushing



The frame modules and carrying plates are fixed in place with positioning bushings. These hardened steel bushings have a positioning accuracy of  $\pm 0.05$  mm when used with a lift-position unit. Four bushings are required for each pallet.

### Ordering information

Product designation	Delivery unit	Material number
D20 x 8.0 positioning bushing	1	3842517341
D20 x 6.35 positioning bushing	1	3842527192
D20 x 12.7 positioning bushing	1	3842524615

### Dimensions

Material number	Dimension a* (mm)	Lower dimension for a A <sub>u</sub> (mm)	Dimension d (mm)	Upper dimension for d A <sub>o</sub> (mm)	Lower dimension for d A <sub>u</sub> (mm)
3842517341	12.7	-0.1	16	+0.034	+0.024
3842527192	6.35	-0.1	16	+0.05	+0.04
3842524615	4.8	-0.1	16	+0.05	+0.04

\* Must correspond to WT plate thickness

## Reinforcing bolt



Workpiece pallets 400 x 480 mm and larger require the use of frame extension modules in conjunction with the reinforcing bolts. Four reinforcing bolts are required for each pallet assembly. They must be secured with a thread locking compound (Loctite 242 or equivalent) and tightened to specific torque values.

### Ordering information

Product designation	Dimension a* (mm)	Lower dimension for a A <sub>u</sub> (mm)	Torque values (Nm)	Delivery unit	Material number
D16 reinforcing bolt, a = 4.8	4.8	-0.2	22	1	3842525803
D16 reinforcing bolt, a = 6.35	6.35	-0.2	22	1	3842527193
D16 reinforcing bolt, a = 12.7	12.7	-0.2	22	1	3842525805

\* The dimension must correspond to the plate thickness.

# Spring pin



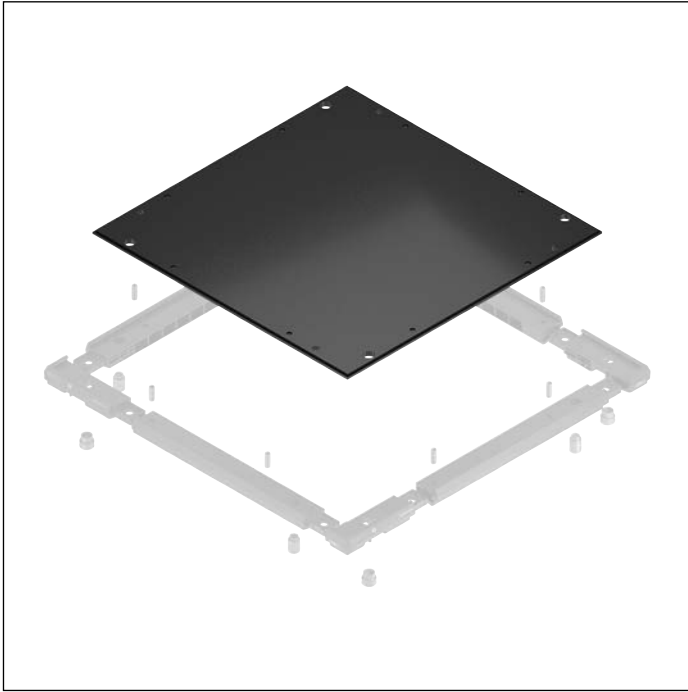
The frame extension modules, when used, are attached to the support plate by steel spring pins. Three different pins are used based on the thickness of the pallet plate.

## Ordering information

Product designation	Plate thickness	Packaging unit	Material number
Spring pin	4.85 steel	100	2917761175
Spring pin	6.35 aluminum	100	2917761176
Spring pin	12.7 aluminum	100	2917761180

## Steel pallet plates (4.85mm)

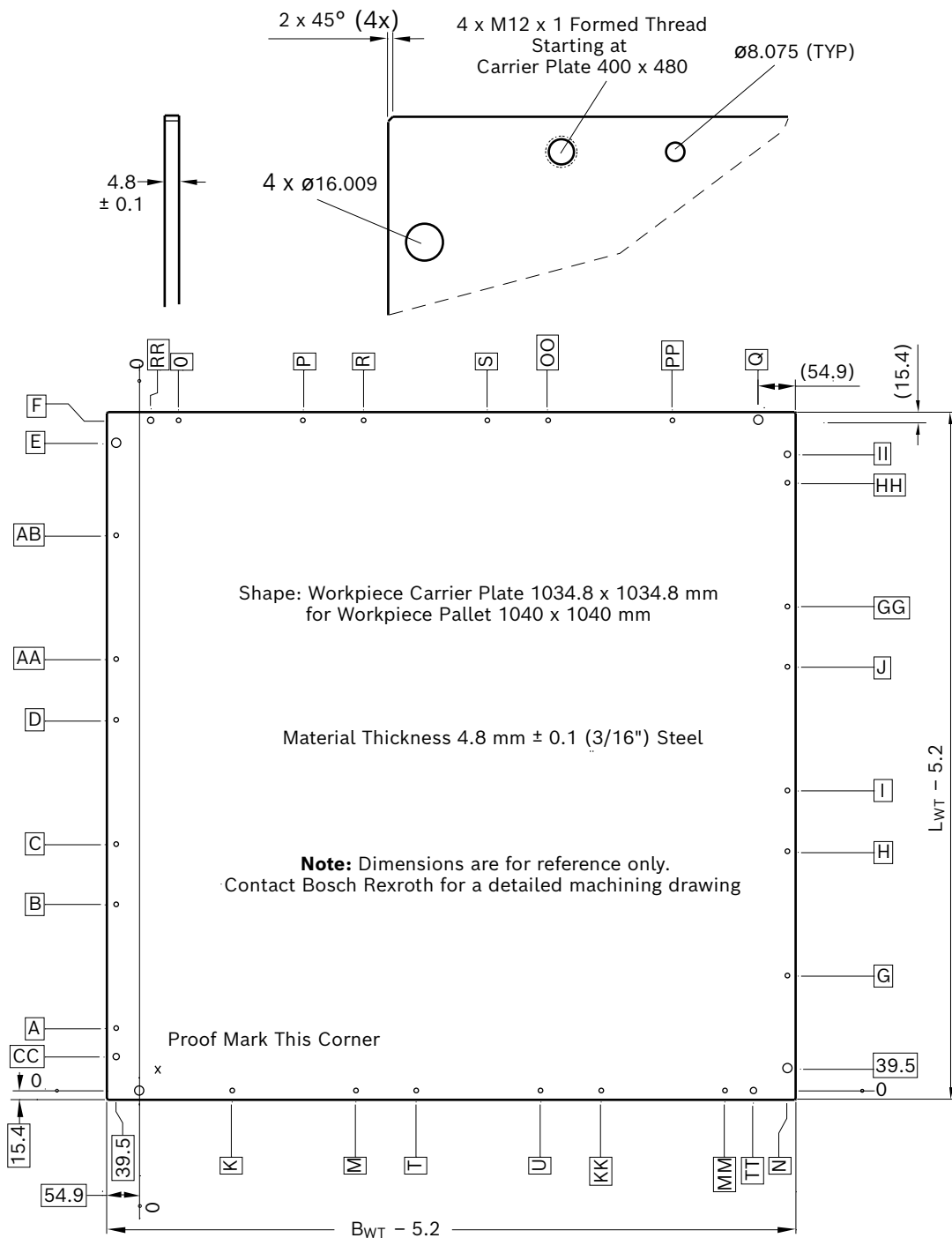
Model WT2/S



Steel pallet plates are 4.8mm thick and have a black oxide finish to help prevent rust.

NOTE: Use caution when machining steel pallet plates that have a black oxide finish and avoid inhaling grinding and machining dust.

### Dimensional data for WT2/S (4.85mm)



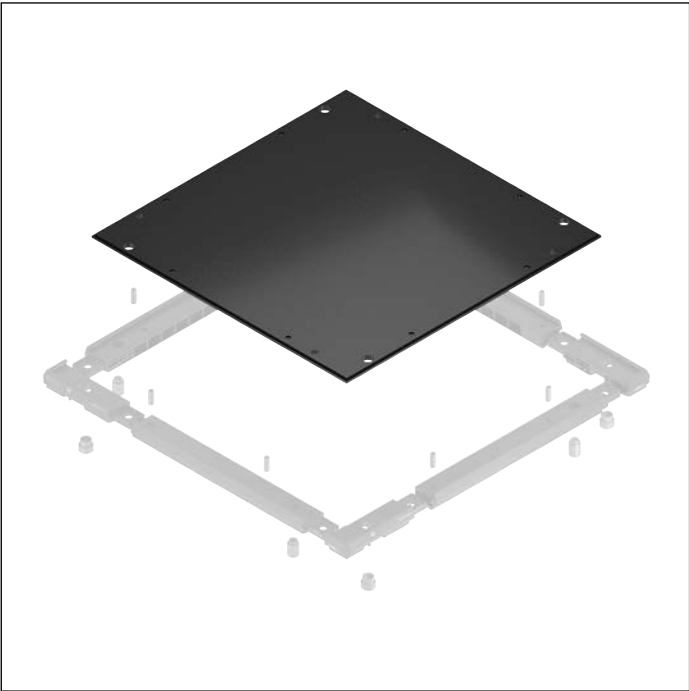
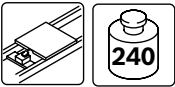
Ordering Information for Steel Pallet Plates WT2/S (4.85mm)

B <sub>WT</sub>	L <sub>WT</sub>	Part Number	Flatness	CC	A	B	C	D	E	F	G	H	I
160	160	8981022445	0.3						84.5	124			
160	240	8981022446	0.3						164.5	204			
160	320	8981022447	0.3						244.5	284			
160	400	8981022448	0.3						324.5	364			
160	480	8981022449	0.3		108.5	323.5			404.5	444	120.5	335.5	
240	240	8981022450	0.3						164.5	204			
240	320	8981022451	0.5						244.5	284			
240	400	8981022452	0.5						324.5	364			
240	480	8981022453	0.5		108.5	323.5			404.5	444	120.5	335.5	
320	320	8981022454	0.5						244.5	284			
320	400	8981022455	0.6						324.5	364			
320	480	8981022456	0.6		108.5	323.5			404.5	444	120.5	335.5	
320	640	8981022458	0.8		108.5	323.5			484.5	524	280.5	495.5	
400	400	8981022461	0.6						324.5	364			
400	480	8981022462	0.6	59.5	108.5	323.5			404.5	444	120.5	335.5	
400	640	8981022464	0.8	59.5	108.5	323.5			564.5	604	280.5	495.5	
400	800	8981022466	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
480	480	8981022467	0.8	59.5	108.5	323.5			404.5	444	120.5	335.5	
480	640	8981022469	1	59.5	108.5	323.5			564.5	604	280.5	495.5	
480	800	8981022471	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
640	640	8981022476	1	59.5	108.5	323.5			564.5	604	280.5	495.5	
640	800	8981022478	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
800	800	8981022481	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5

B <sub>WT</sub>	L <sub>WT</sub>	J	II	K	M	T	U	TT	N	RR	O	P	R	S	Q
160	160								84.5						45
160	240								84.5						45
160	320								84.5						45
160	400								84.5						45
160	480								84.5						45
240	240								164.5						125
240	320								164.5						125
240	400								164.5						125
240	480								164.5						125
320	320								244.5						205
320	400								244.5						205
320	480								244.5						205
320	640								244.5						205
400	400								324.5						285
400	480		384.5					265	324.5	20					285
400	640		544.5					265	324.5	20					285
400	800	655.5	704.5					265	324.5	20					285
480	480		384.5	81	296			345	404.5	20	69	284			365
480	640		544.5	81	296			345	404.5	20	69	284			365
480	800	655.5	704.5	81	296			345	404.5	20	69	284			365
640	640		544.5	241	456			505	564.5	20	69	284			525
640	800	655.5	704.5	241	456			505	564.5	20	69	284			525
800	800	655.5	704.5	81	296	401	616	665	724.5	20	69	284	389	604	685

# Aluminum pallet plates (6.35mm)

Model WT2/A



Aluminum pallet plates are 6.35 mm thick and are not anodized. See chart on pg. 14-18 for workpiece pallet weight and payload carrying capacity.

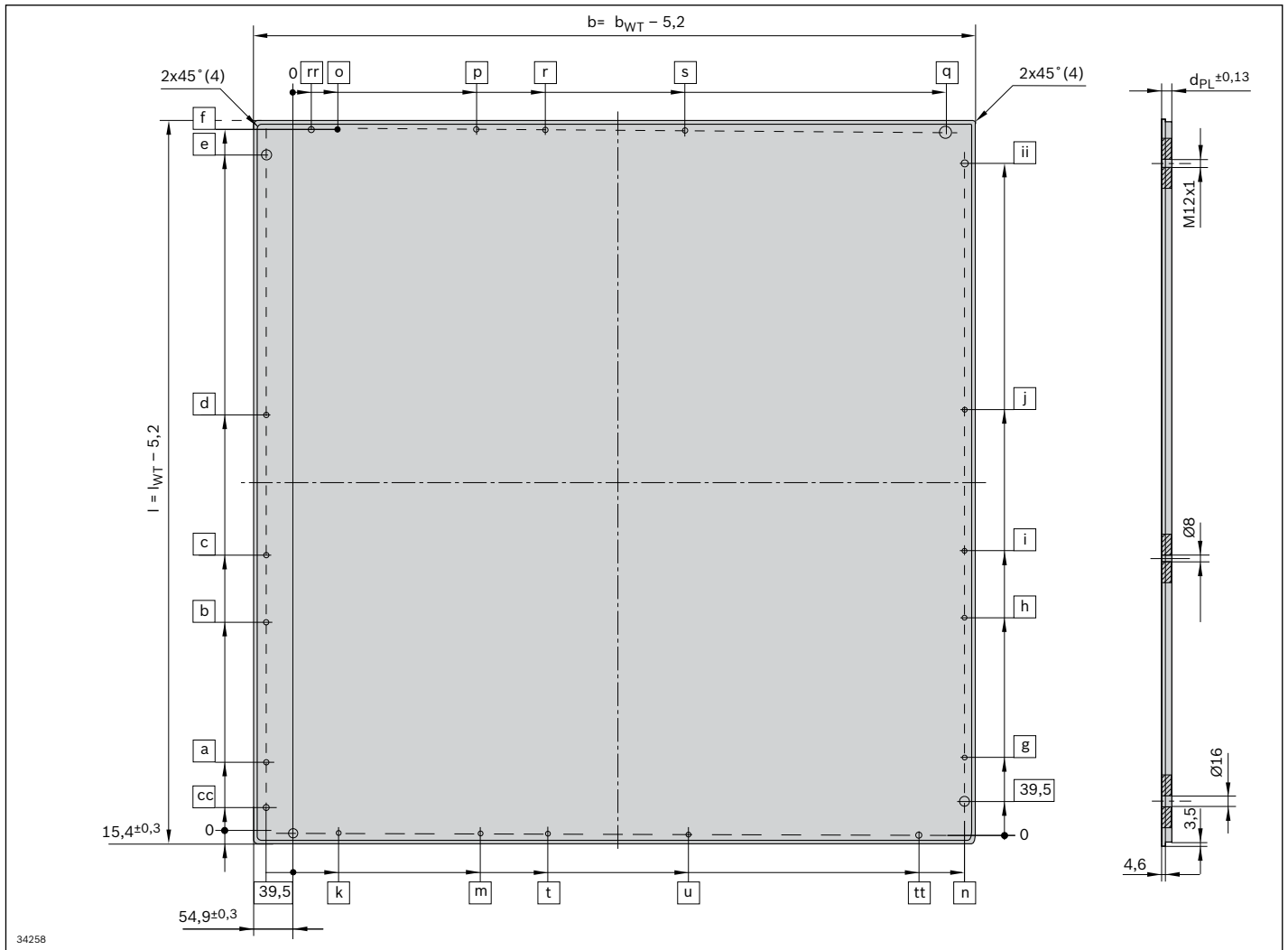
## Ordering information


Width of workpiece pallet $b_{WT}$ (mm)	Length of workpiece pallet $L_{WT}$ (mm)	Material number
160	160	8981004964
160	240	8981004965
160	320	8981004966
160	400	8981004967
160	480	8981004968
240	240	8981004969
240	320	8981004970
240	400	8981004971
240	480	8981004972
320	320	8981004973
320	400	8981004974
320	480	8981004975
320	640	8981004792
400	400	8981004976
400	480	8981004977
400	640	8981004979
400	800	8981004981
480	480	8981004982
480	640	8981004984
480	800	8981004986
640	640	8981019799



## Dimensions

### 6.35mm aluminum pallet plate

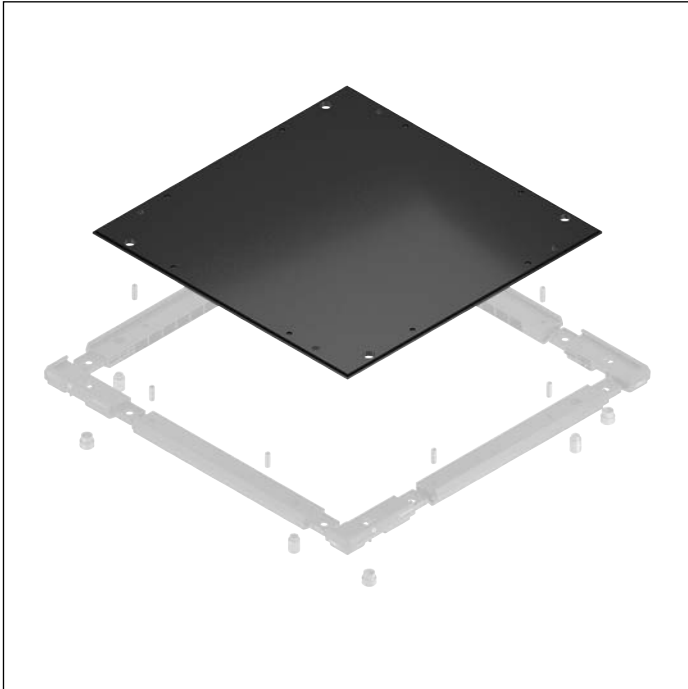


Width of workpiece pallet b <sub>WT</sub> (mm)	Length of workpiece pallet l <sub>WT</sub> (mm)	Flatness 	Dimen- sion a (mm)	Dimen- sion b (mm)	Dimen- sion c (mm)	Dimen- sion cc (mm)	Dimen- sion d (mm)	Dimen- sion e (mm)	Dimen- sion f (mm)	Dimen- sion g (mm)	Dimen- sion h (mm)	Dimen- sion i (mm)	Dimen- sion ii (mm)
160	160	0.3						84.5	124				
160	240	0.3						164.5	204				
160	320	0.3						244.5	284				
160	400	0.3						324.5	364				
160	480	0.3	108.5	323.5				404.5	444	120.5	335.5		
240	240	0.3						164.5	204				
240	320	0.5						244.5	284				
240	400	0.5						324.5	364				
240	480	0.5	108.5	323.5				404.5	444	120.5	335.5		
320	320	0.5						244.5	284				
320	400	0.6						324.5	364				
320	480	0.6	108.5	323.5				404.5	444	120.5	335.5		
320	640	0.8	108.5	323.5				564.5	604	280.5	495.5		
400	400	0.6						324.5	364				
400	480	0.6	108.5	323.5			59.5	404.5	444	120.5	335.5		384.5
400	640	0.8	108.5	323.5			59.5	564.5	604	280.5	495.5		544.5
400	800	1	108.5	323.5	428.5	59.5	643.5	724.5	764	120.5	335.5	440.5	704.5
480	480	0.8	108.5	323.5			59.5	404.5	444	120.5	335.5		384.5
480	640	1	108.5	323.5			59.5	564.5	604	280.5	495.5		544.5
480	800	1	108.5	323.5	428.5	59.5	643.5	724.5	764	120.5	335.5	440.5	704.5
640	640	1	108.5	323.5			59.5	564.5	604	280.5	495.5		544.5

Width of workpiece pallet b <sub>WT</sub> (mm)	Length of workpiece pallet l <sub>WT</sub> (mm)	Dimen- sion j (mm)	Dimen- sion k (mm)	Dimen- sion m (mm)	Dimen- sion n (mm)	Dimen- sion o (mm)	Dimen- sion p (mm)	Dimen- sion q (mm)	Dimen- sion rr (mm)	Dimen- sion tt (mm)	d <sub>pl</sub> (mm)	Material number
160	160				84.5			45			6.35	8981004964
160	240				84.5			45			6.35	8981004965
160	320				84.5			45			6.35	8981004966
160	400				84.5			45			6.35	8981004967
160	480				84.5			45			6.35	8981004968
240	240				164.5			125			6.35	8981004969
240	320				164.5			125			6.35	8981004970
240	400				164.5			125			6.35	8981004971
240	480				164.5			125			6.35	8981004972
320	320				244.5			205			6.35	8981004973
320	400				244.5			205			6.35	8981004974
320	480				244.5			205			6.35	8981004975
320	640				244.5			205			6.35	8981004792
400	400				324.5			285			6.35	8981004976
400	480				324.5			285	20	265	6.35	8981004977
400	640				324.5			285	20	265	6.35	8981004979
400	800	655.5			324.5			285	20	265	6.35	8981004981
480	480		81	296	404.5	69	284	365	20	345	6.35	8981004982
480	640		81	296	404.5	69	284	365	20	345	6.35	8981004984
480	800	655.5	81	296	404.5	69	284	365	20	345	6.35	8981004986
640	640		241	456	564.5	69	284	525	20	505	6.35	8981019799

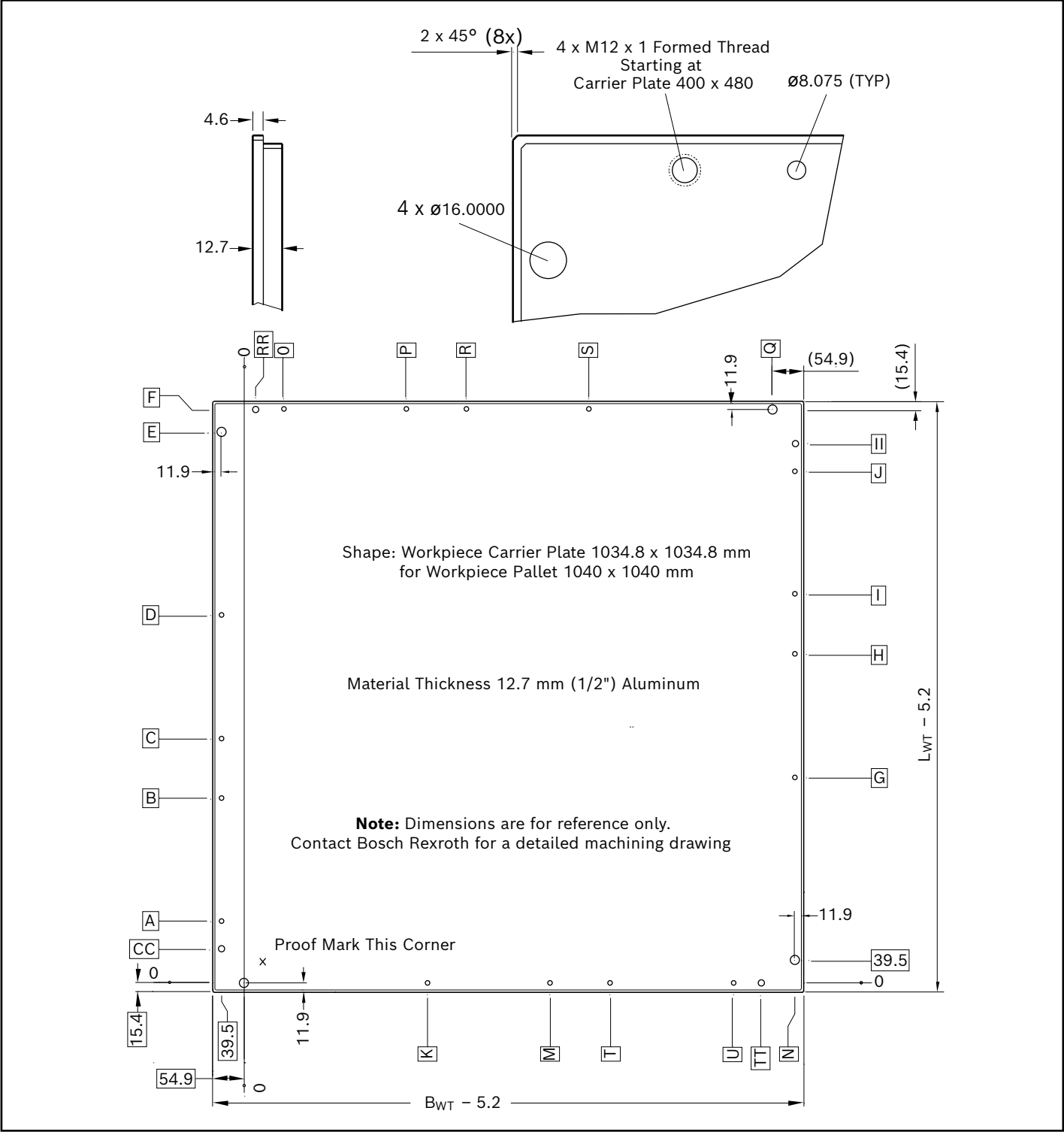
## Aluminum pallet plates (12.7mm)

Model WT2/A-H



Heavy duty aluminum pallet plates are 12.7mm thick and are not anodized. See chart on pg. 14-21 for workpiece pallet weight and payload carrying capacity.

**Dimensional data for WT2/A-H (12.7mm)**



Ordering Information for Aluminum Pallet Plates WT2/A-H (12.7mm)

B <sub>WT</sub>	L <sub>WT</sub>	Part Number	Flatness	CC	A	B	C	D	E	F	G	H	I
160	160	<b>8981 019 870</b>	0.3						84.5	124			
160	240	<b>8981 019 871</b>	0.3						164.5	204			
160	320	<b>8981 019 872</b>	0.3						244.5	284			
160	400	<b>8981 019 873</b>	0.3						324.5	364			
160	480	<b>8981 019 874</b>	0.3		108.5	323.5			404.5	444	120.5	335.5	
240	240	<b>8981 019 875</b>	0.3						164.5	204			
240	320	<b>8981 019 876</b>	0.5						244.5	284			
240	400	<b>8981 019 877</b>	0.5						324.5	364			
240	480	<b>8981 019 878</b>	0.5		108.5	323.5			404.5	444	120.5	335.5	
320	320	<b>8981 019 880</b>	0.5						244.5	284			
320	400	<b>8981 019 881</b>	0.6						324.5	364			
320	480	<b>8981 019 882</b>	0.6		108.5	323.5			404.5	444	120.5	335.5	
320	640	<b>8981 019 884</b>	0.8		108.5	323.5			564.5	604	280.5	495.5	
400	400	<b>8981 019 887</b>	0.6						324.5	364			
400	480	<b>8981 019 888</b>	0.6	59.5	108.5	323.5			404.5	444	120.5	335.5	
400	640	<b>8981 019 890</b>	0.8	59.5	108.5	323.5			564.5	604	280.5	495.5	
400	800	<b>8981 019 892</b>	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
480	480	<b>8981 019 893</b>	0.8	59.5	108.5	323.5			404.5	444	120.5	335.5	
480	640	<b>8981 019 895</b>	1	59.5	108.5	323.5			564.5	604	280.5	495.5	
480	800	<b>8981 019 897</b>	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
640	640	<b>8981 019 905</b>	1	59.5	108.5	323.5			564.5	604	280.5	495.5	
640	800	<b>8981 019 907</b>	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
640	1040	<b>8981 019 910</b>	1.2	59.5	108.5	323.5	428.5	643.5	964.5	1004	360.5	575.5	680.5
800	800	<b>8981 019 916</b>	1	59.5	108.5	323.5	428.5	643.5	724.5	764	120.5	335.5	440.5
800	1040	<b>8981 019 919</b>	1.2	59.5	108.5	323.5	428.5	643.5	964.5	1004	360.5	575.5	680.5
1040	1040	<b>8981 019 925</b>	1.2	59.5	108.5	323.5	428.5	643.5	964.5	1004	360.5	575.5	680.5

B <sub>WT</sub>	L <sub>WT</sub>	J	II	K	M	T	U	TT	N	RR	O	P	R	S	Q
160	160								84.5						45
160	240								84.5						45
160	320								84.5						45
160	400								84.5						45
160	480								84.5						45
240	240								164.5						125
240	320								164.5						125
240	400								164.5						125
240	480								164.5						125
320	320								244.5						205
320	400								244.5						205
320	480								244.5						205
320	640								244.5						205
400	400								324.5						285
400	480		384.5					265	324.5	20					285
400	640		544.5					265	324.5	20					285
400	800	655.5	704.5					265	324.5	20					285
480	480		384.5	81	296			345	404.5	20	69	284			365
480	640		544.5	81	296			345	404.5	20	69	284			365
480	800	655.5	704.5	81	296			345	404.5	20	69	284			365
640	640		544.5	241	456			505	564.5	20	69	284			525
640	800	655.5	704.5	241	456			505	564.5	20	69	284			525
640	1040	895.5	944.5	241	456			505	564.5	20	69	284			525
800	800	655.5	704.5	81	296	401	616	665	724.5	20	69	284	389	604	685
800	1040	895.5	944.5	81	296	401	616	665	724.5	20	69	284	389	604	685
1040	1040	895.5	944.5	321	536	641	856	905	964.5	20	69	284	389	604	925

## BS 2/B-H belt section



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.

- ▶ Ready for operation conveyor section with own drive
- ▶ Accumulation operation possible
- ▶ Conveyor medium: Flat belt (suitable for use in an EPA)
- ▶ Reversible operation possible
- ▶ Right, left or central motor mounting (central from track width of 240mm)

### Accessories

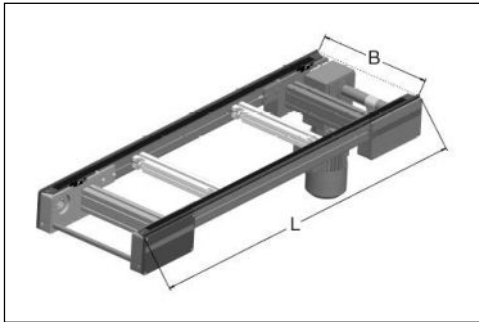
#### Recommended accessories

- ▶ Connection kit, see pg. 9-21 of R999000396 V8.0 (Note: BS 2/B-H description does not exist in connection kit tables, instead use the kits for AS 2/B & UM 2/B)
- ▶ SZ 2 leg sets, see pg. 6-2 of R999000396 V8.0

### Delivery notes

#### Condition on delivery

- ▶ SZ 2 leg sets, see pg. 6-2 of R999000396 V8.0



Material number		R980999290
RP	TS Express	Yes = Part of TS Express offering No = Part of standard TS 2plus offering
AS	Drive module	150 = AS 2/B-150 drive module 250 = AS 2/B-250 drive module
L (mm)	Length	1560 ..... 6000 (in 1mm increments)
B	Width	160; 240; 320; 400; 480 640; 800; 1040; 1200 ..... 160 ... 12000 <sup>1)</sup>
V (m/min)	Nominal speed	0 <sup>2)</sup> , 6, 9, 12, 15, 18
U (V)	Voltage	0 = without motor 220 = 220 (±10%) 400 = 400 (±10%) 460 = 460 (+10%/-12%) 575 = 575 (±10%)
F (Hz)	Frequency	0; 60
MA	Motor arrangement	R = Right L = Left M = Mid (for b ≤ 240mm)
AT	Connection type	K = Terminal box S = Plug-in connector
ST	Conveyor section	ST 2/B; ST2/B-100

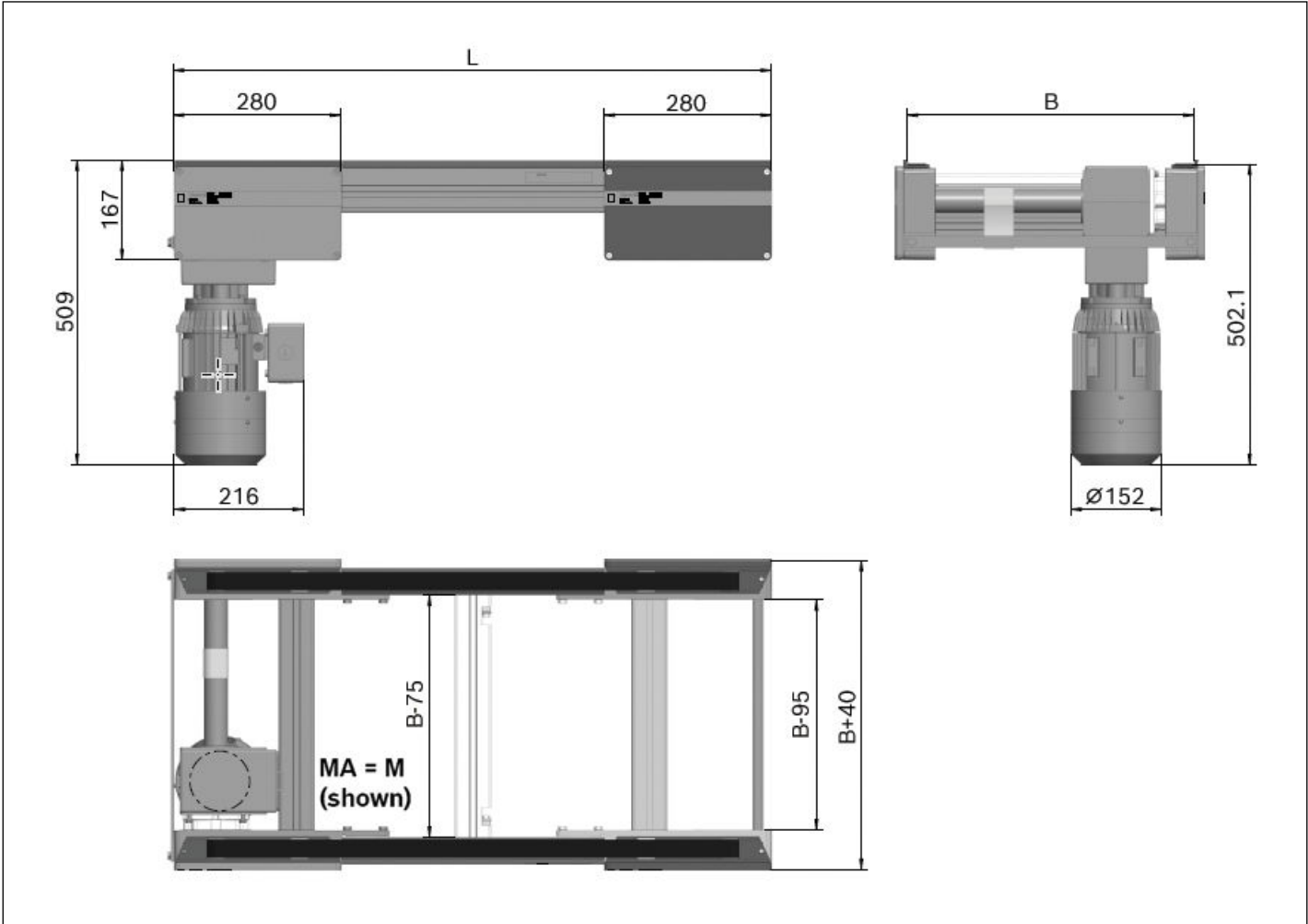
1) Individual width variants available

2) Without gearbox

*Italic* = Parameter available as part of TS Express Program

## Technical data

Material number		R980999290
<b>Load</b>		
Max. section load in accumulation operation	kg	240
<b>Features</b>		
ESD		Yes
Material specification		Section profile: Aluminum, natural; anodized Guide profile: polyamide Glide profile: polyamide
<b>Dimensions</b>		
Length	mm	1560 ... 6000





# Belt welding equipment kit



To weld belt ends together, a Size 1 or Size 2 belt welding kit is needed. The Size 1 belt welding kit is used on conveyors 160 mm to 480 mm wide; the Size 2 kit is used on conveyors 560 mm to 1040 mm wide. Each belt welding kit includes a belt-grinding device for beveling the ends of the belt, a heat press for fusing the ends of the belt together, and a ratchet tensioning unit and clamping jaw for pre-tensioning. An abrasive band, brush, and cleaning agent are also included. Adhesive is ordered separately.

To cut welding time in half, a second heating press is recommended for welding together two adjacent belts at the same time.

**Note:** This kit is not intended for use with toothed belts such as those on BS 2 transverse conveyors.

## Accessories

### Required accessories

Belt glue (see table below)

## Ordering information

Description	Material number
Size 1 – for 160 mm to 480 mm conveyors includes: Belt grinder, 110 V heating press, tensioner, clamping jaw, and drill mount bracket	R980025900
Size 2 – for 560 mm to 1040 mm conveyors includes: Belt grinder, 110 V heating press, tensioner, clamping jaw, and drill mount bracket	R980025901
Belt heating press, 110 V AC, 60 Hz	R980025490
Belt heating press, 220 V AC, 50 Hz	3842315101
Belt grinder*	3842510684
Drill mount bracket	2608120004
Belt glue, 50 g, (1.75 oz.)	3842315106

\* Power drill not included in scope of delivery. Drill must have a 43mm diameter face directly behind the chuck for mounting to the drill mount bracket.

LG 2 lift gate



The lift gate provides personnel and vehicle access through a conveyor line by utilizing a BS 2 transverse conveyor (ordered separately). The lift gate kit consists of hinges and pneumatic lift struts on one end, and rest support brackets on the other. It is typically used to provide worker access to the inside of a line for maintenance or assembly processes. It can also be used to provide a through way on long in-line sections.

The pneumatic lift struts ease the lifting effort and provide an additional measure of safety, while the hinge features an automatic locking mechanism to prevent accidental closure. A proximity switch mounting kit is included to prevent flow into the open lift gate.

Lift gate kits are available in pallet widths from 160-800 mm, and two different pneumatic lift struts are used depending upon BS 2 length. Standard lift struts handle BS 2 conveyors in length ranges of 1010 to 1310 mm while high capacity lift struts are used for BS 2 conveyors in length ranges of 1315 to 1610 mm. Lift gate kits can be mounted in any of the four basic configurations shown on pg. 14-28.

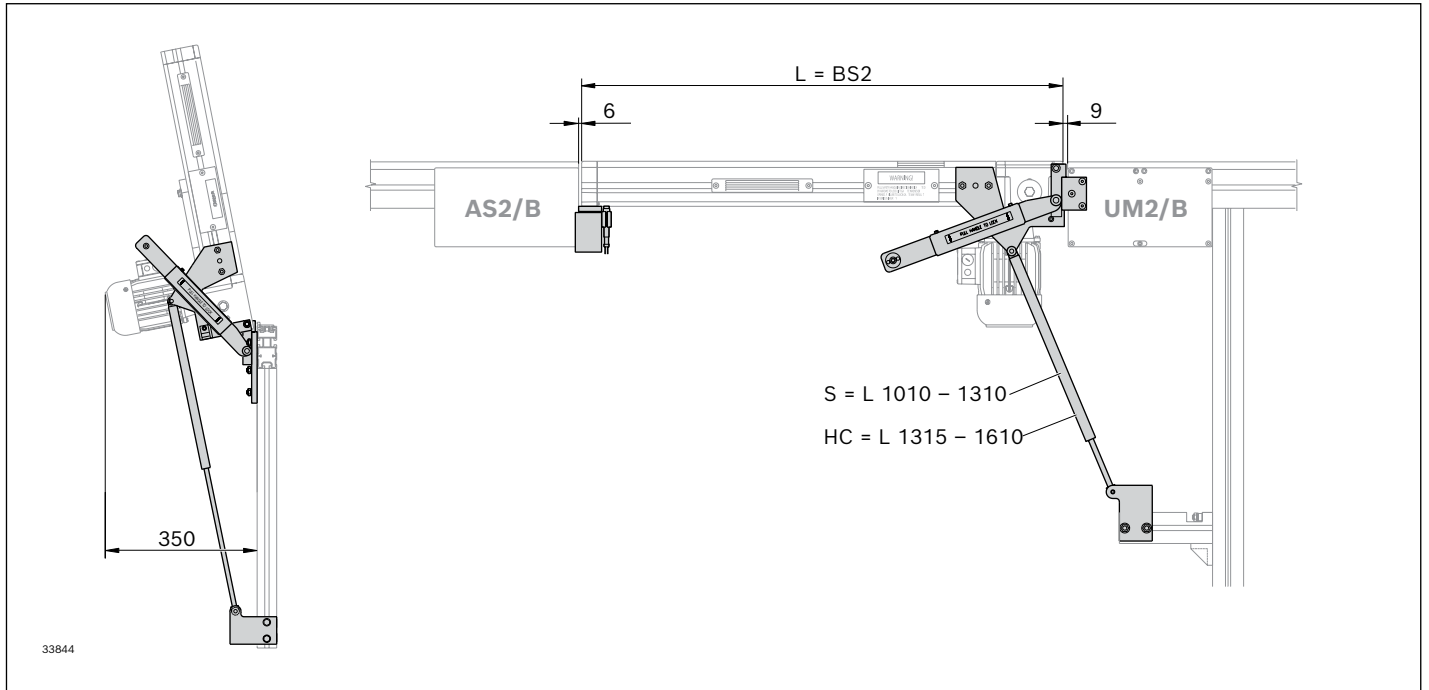
**Note:** The hinge end must be mounted to the drive end of the BS 2.

Ordering information

Material number		8981999238
B (mm)	Lift gate width	160 <sup>1</sup> ; 240; 320; 400; 480; 640; 800
	Hinge end mounting <sup>2</sup>	AS 2/B; UM 2/B*, UM 2/...-60, UM 2/...-170, BS 2/B, BS 2/C; BS 2/R, T-Line, KE 2**
	Rest end mounting <sup>2</sup>	AS 2/B; UM 2/B, AS 2/C; AS 2/R, BS 2/B, BS 2/C; BS 2/R, T-Line, KE 2
L (mm)	Allowable BS 2 length (L) range	Specify length range: 1010 ... 1310 or 1315 ... 1610

\* Hinge end mounting to AS 2/B; UM 2/B is only available with a mid-mount motor mount.  
\*\* Hinge end mounting to KE 2 requires an additional mounting kit (included).  
<sup>1</sup> 160 mm requires BS 2 with outboard mounted motor and includes special hinge mounting bracket.  
240 mm and larger requires BS 2 with mid-mounted motor.  
<sup>2</sup> Not compatible with flat-top chain or roller chain drives. Consult Applications Engineering for modified standard options.

## Dimensions



Lift gate width (B) must match pallet length ( $L_{WT}$ ) or width ( $B_{WT}$ ), depending on orientation.

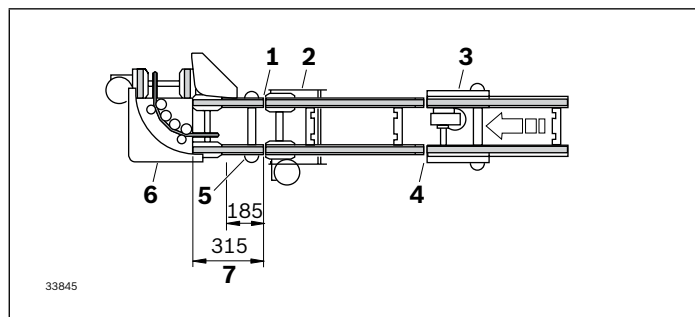
S = Standard

HC = High capacity

**Note:** The LG 2 lift gate is only compatible with BS 2 transverse conveyors with toothed belt.

## Lift gate configurations

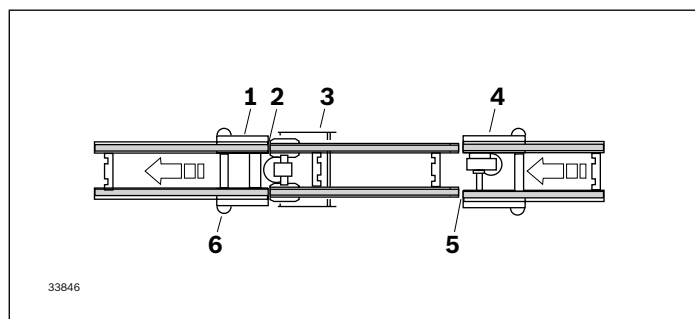
**Note:** The hinge end must be mounted to the drive end of the BS 2



### Powered curve configuration

The lift gate is connected to the powered curve, mounting to either the hinge end or the rest end. An additional mounting kit is included and requires a 185mm gap.

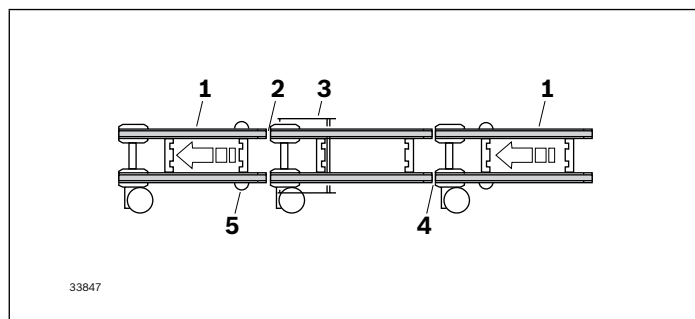
1 = hinge; 2 = lift gate; 3 = AS 2B drive; 4 = rest; 5 = leg sets (are required for the connecting module at the hinge end mount); 6 = KE 2/90 or 180; 7 = KE 2 mounting kit



### In-line drive to return

The lift gate is installed between two standard conveyor sections, attaching to the drive on one end, and the return on the other.

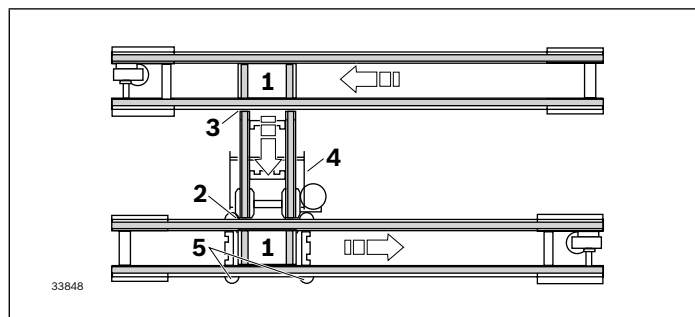
1 = UM 2B return; 2 = hinge; 3 = lift gate; 4 = AS 2B drive; 5 = rest; 6 = leg sets (are required for the connecting module at the hinge end mount)



### In-line transverse conveyor

The lift gate connects two standard BS 2 transverse conveyors.

1 = BS 2 transverse conveyor; 2 = hinge; 3 = lift gate; 4 = rest; 5 = leg sets (are required for the connecting module at the hinge end mount)

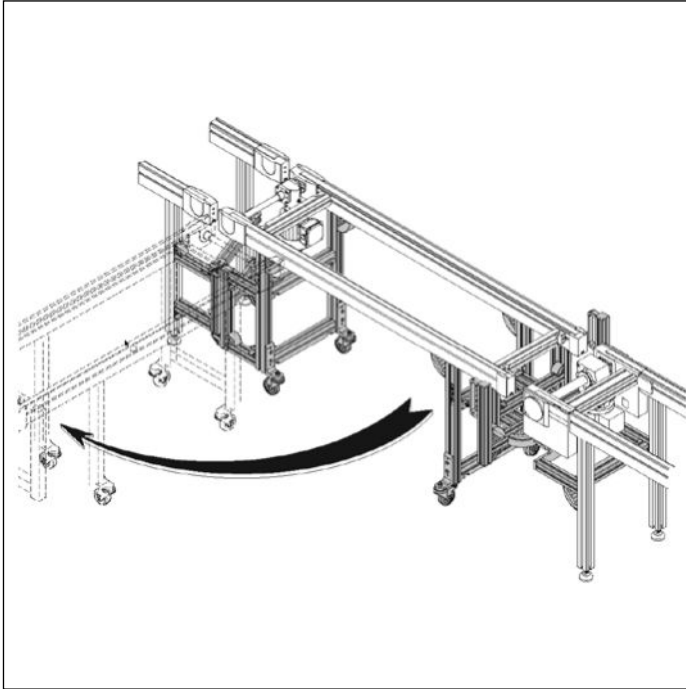


### T-line configuration

The lift gate spans the gap between two parallel conveyor lines and transfers pallets onto and off the main lines with lift transfer units.

1 = LTU; 2 = hinge; 3 = rest; 4 = lift gate; 5 = leg sets (are required for the connecting module at the hinge end mount)

## SG 2 swing gate



The SG2 swing provides access to the inside of a belt section (BS). It is typically used to provide vehicle or worker access to the inside of a line for maintenance or assembly processes. Swinging the belt section 90 degrees creates an approximate overall opening ranging from 1625mm to 2920mm or an approximate usable opening ranging from 1345mm to 1860mm.

The swing gate kit consists of a hinge end and rest end. Each end is fully assembled and includes legsets and mounting hardware. The swing gate belt section and both adjacent conveyors & leg sets are purchased separate from the swing gate kit.

### Use

- ▶ For conveyor widths B320 to B1200
- ▶ For heights (H) 580mm to 1500mm
- ▶ For conveyor lengths 1500, 2000, or 2500mm
- ▶ Compatible swing gate belt sections include:
  - BS2 transverse conveyor (3842999716) – Mid or Side mount
  - BS2/C-100 transverse conveyor (3842999917) - Mid or Side mount
  - BS2/C-250 transverse conveyor (3842999985) – Side mount only
  - BS2/R-300 transverse conveyor (3842999904) - Mid or Side mount
  - BS2/R-700 transverse conveyor (3842998096) - Side mount only
- ▶ Compatible hinge end and rest end conveyors: any mainline or transverse conveyor

### Note:

- ▶ Only for use in-line configuration. Not compatible with t-line configuration.
- ▶ Any side mount motor location will reduce the overall opening.
- ▶ Floor must be level (casters do not have any vertical compensation).



### Required accessories:

- ▶ BS belt section (for use with the swing gate)

### Optional accessories:

- ▶ Proximity switch (qty1)

### Condition of delivery:

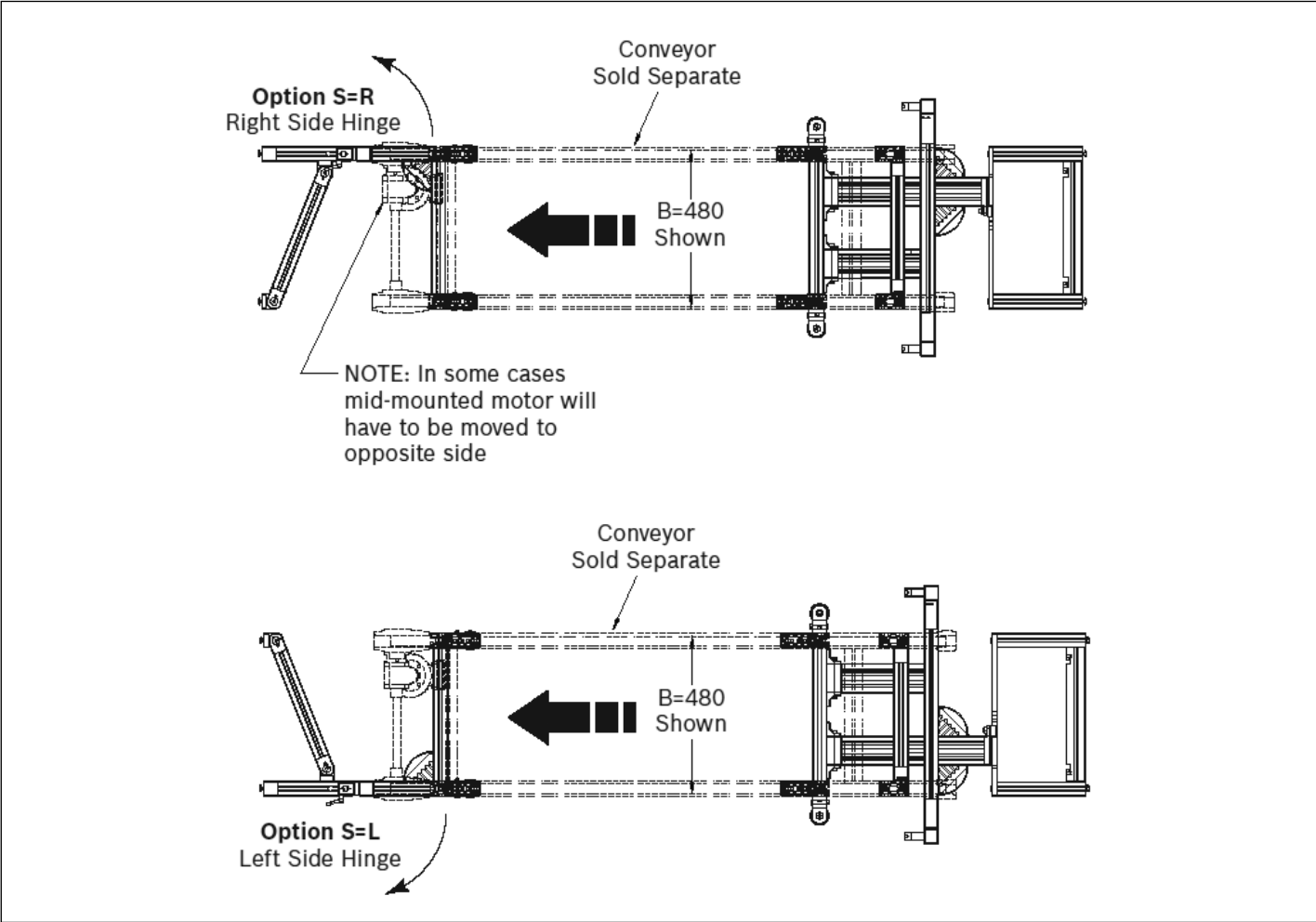
- ▶ Partially assembled

Ordering information

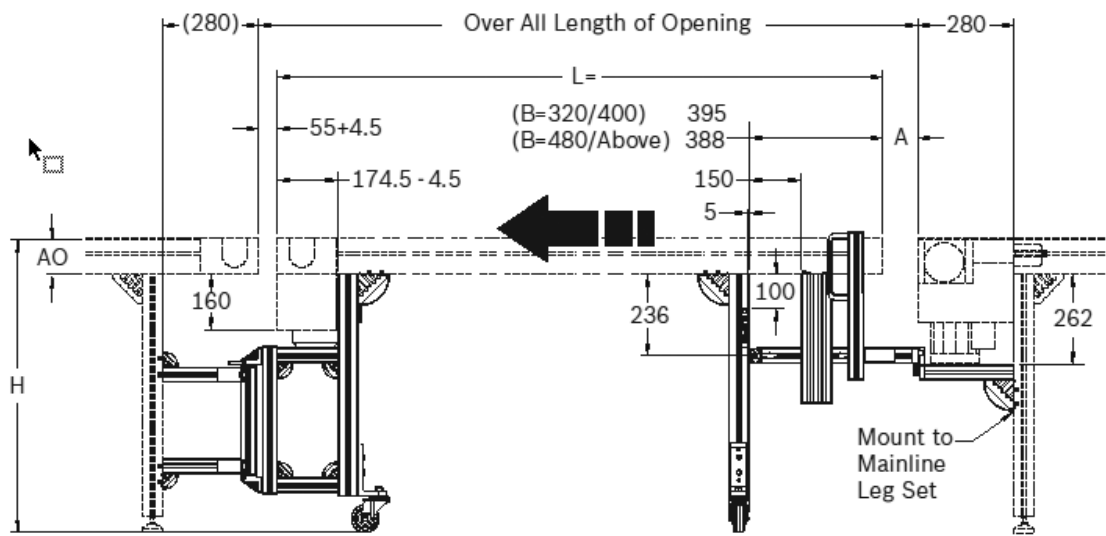
Material number		R980999283
b (mm)	Conveyor width	320, 400, 480, 640, 800, 1040, 1200
A	Profile height	0 = 45x80 profile 1 = 45x100 profile
H (mm)	Transport height	580 ... 1500 <sup>1)</sup>
S	Hinge side/Location	R = Right side L - Left side
L (mm)	Conveyor length	1500 <sup>2)</sup> 2000, 2500 <sup>3)</sup>

1) available in 1mm increments  
2) 1500mm L only compatible with widths (b) of 320, 400, & 480  
3) 2000mm & 2500mm L compatible with all widths (b)

Mounting options



Dimensions



BWT	Conveyor Gap A (Based on Conveyor Length)		
	L = 1500	L = 2000	L = 2500
320	70	70	70
400	75	75	75
480	100	100	100
560	N/A	100	100
640		120	120
720		146	146
800		175	175
880		205	205
960		240	240
1040		280	280
1120		320	320
1200		365	365

(55 + L + A) = Overall length of opening  
(Overall length of opening – B + 40) = Usable length of opening (mid-mount)  
(Overall length of opening – B + 140) = Usable length of opening (side mount)

# KU 2/O-90 and KU 2/O-180 curved flat-top chain conveyor sections



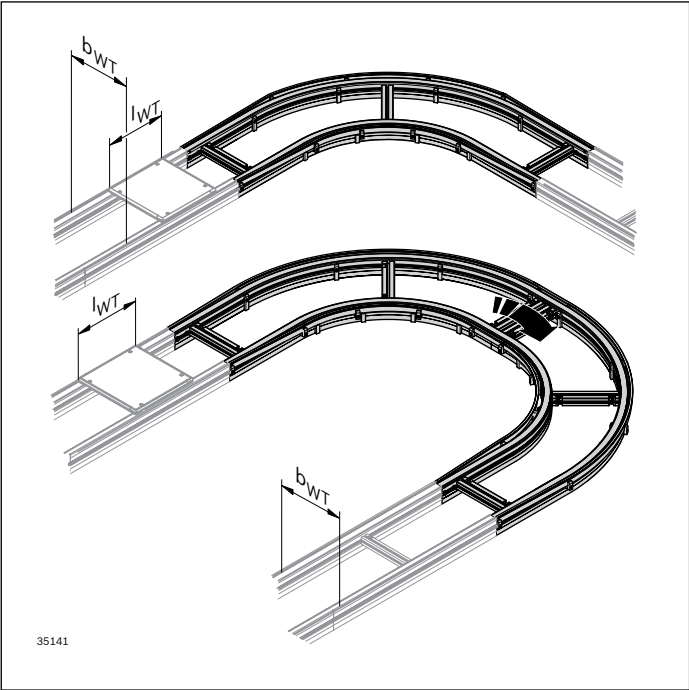
Curved conveyor sections are used to construct serpentine and carousel style conveyor configurations. They are available in both 90° and 180° sections as shown. The outside radius of the curve varies according to the dimensions of the workpiece pallet used in the system.

Curved sections are available for line widths from 160 to 1040mm and the inner, outer and return chain guides are installed. Order leg sets separately, see pg. 6-1 of R999000396 V8.0.

**Note:** Pallet repeatability cannot be maintained in a curved section. In addition, pallet stopping and queuing is not allowed in curved sections.

**Note:** Please only operate curves with standard chains; ESD chains are incompatible and cannot be combined.

## Ordering information



### KU2/O-90 curve

Material number		R980999268
b <sub>WT</sub> * (mm)	Pallet width	160; 240; 320; 400; 480; 560; 640; 720; 800; 880; 960; 1040
l <sub>WT</sub> * (mm)	Pallet length	160; 240; 320; 400; 480; 560; 640; 720; 800; 880; 960; 1040

\* See technical data table for allowable pallet width (B<sub>WT</sub>) and pallet length (L<sub>WT</sub>) combinations.

### KU2/O-180 curve

Material number		R980999269
b <sub>WT</sub> * (mm)	Pallet width	160; 240; 320; 400; 480; 560; 640; 720; 800; 880; 960; 1040
l <sub>WT</sub> * (mm)	Pallet length	160; 240; 320; 400; 480; 560; 640; 720; 800; 880; 960; 1040

\* See technical data table for allowable pallet width (B<sub>WT</sub>) and pallet length (L<sub>WT</sub>) combinations.

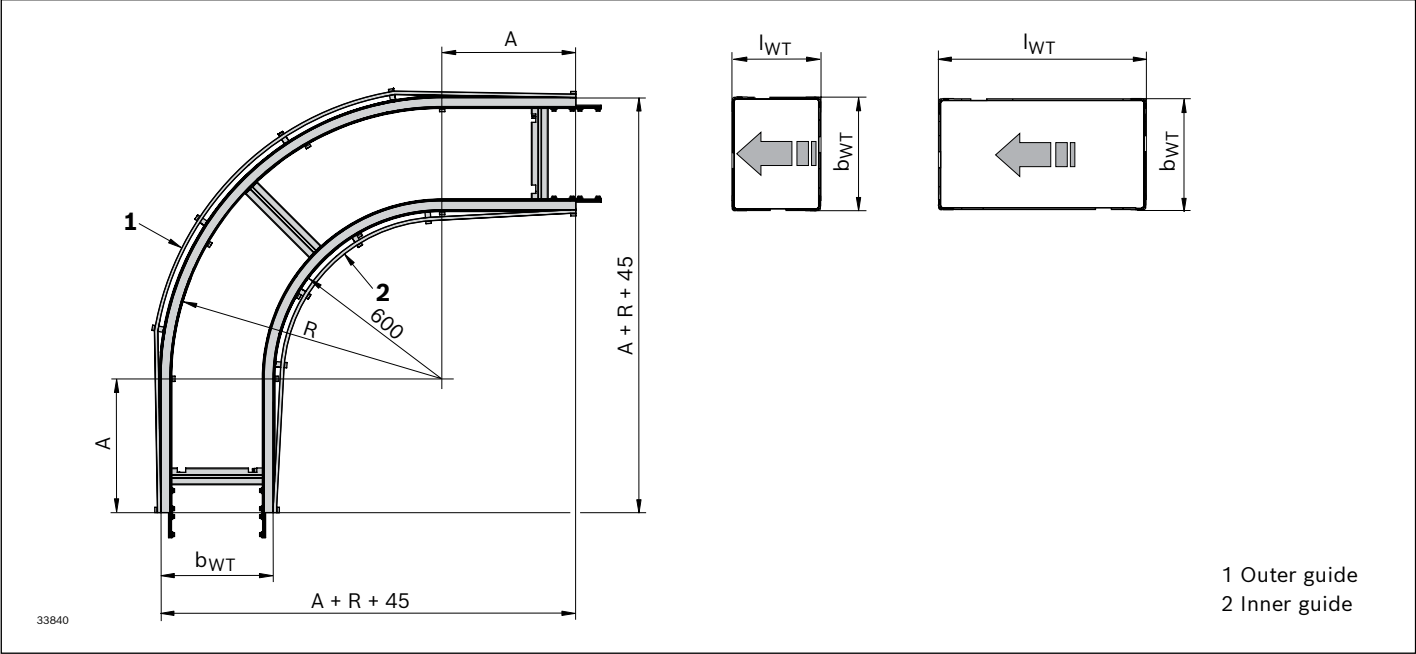


## Technical data

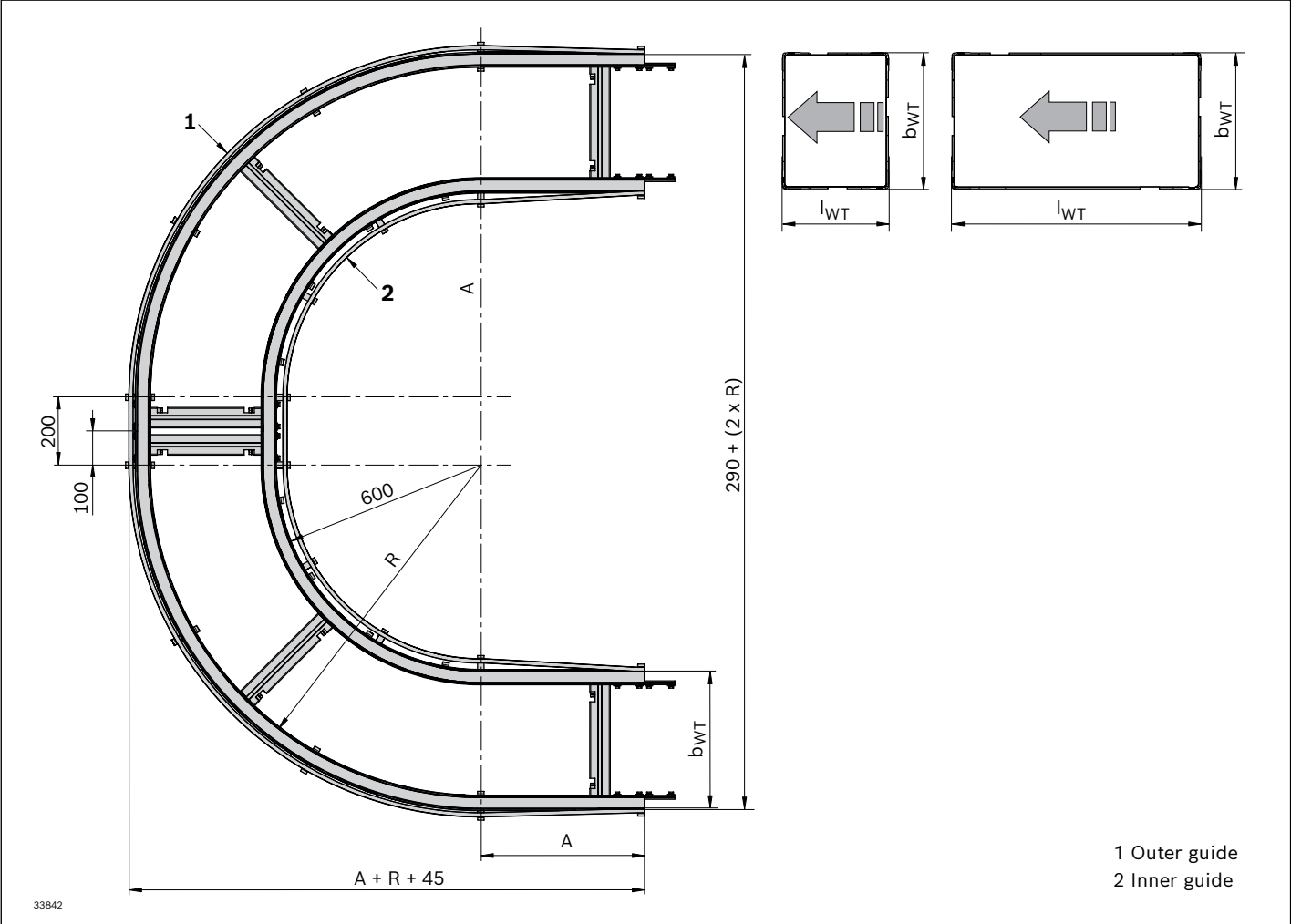
Workpiece pallet size		Dimensions		Chain required (order on pg. 3-88 of R999000396 V8.0)	
(mm)		(mm)		(m)	
Width (B <sub>WT</sub> )	Length (L <sub>WT</sub> )	A	R	90° section	180° section
160	160; 240	240	730	6.4	11.6
	320; 400	400		8.0	12.8
	480	480		8.4	13.4
240	240; 320	240	810	6.6	12.0
	400; 480	400		8.6	13.8
	480	480		8.6	13.8
320	320	320	890	8.6	13.8
	400; 480	480		8.8	14.4
	560; 640	640		10.6	15.6
400	400; 480	480	970	9.2	14.8
	560; 640	640		10.8	16.2
	720; 800	800		12.4	17.4
480	480	480	1050	9.4	15.4
	560; 640	640		11.0	16.6
	720; 800	800		12.6	18.0

Workpiece pallet size		Dimensions		Chain required (order on pg. 3-88 of R999000396 V8.0)	
(mm)		(mm)		(m)	
Width (B <sub>WT</sub> )	Length (L <sub>WT</sub> )	A	R	90° section	180° section
560	560; 640	640	1130	11.2	17.2
	720; 800	800		13.0	18.4
	880	880		13.2	19.0
640	640; 720	720	1210	13.2	19.0
	800; 880	880		13.4	19.6
	960; 1040	1040		15.2	20.8
720	720; 800	800	1290	13.4	19.4
	880; 960	960		14.0	20.8
	1040	1040		15.4	21.4
800	800; 880	880	1370	14.0	20.6
	960; 1040	1040		15.6	21.8
880	880; 960	960	1450	14.6	21.8
	1040	1040		15.8	22.4
960	960; 1040	1040	1530	16.2	22.8
1040	1040	1040	1610	16.4	23.4

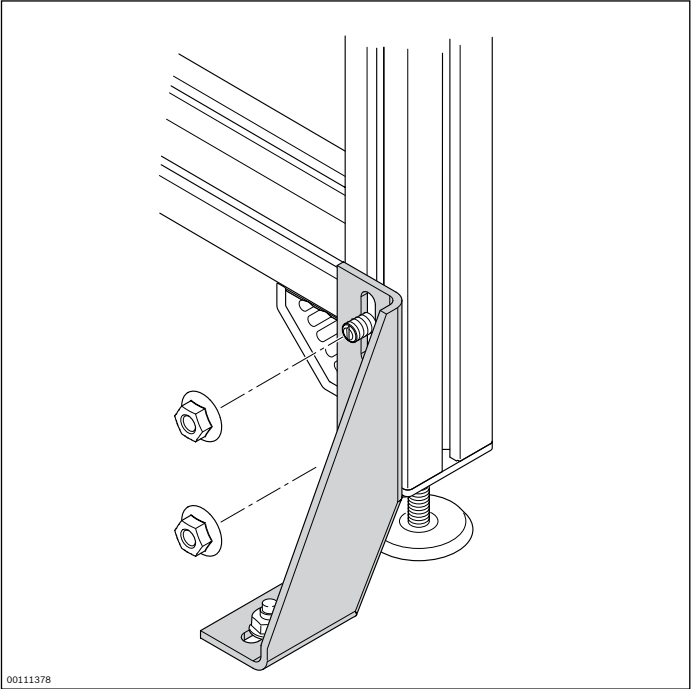
**KU 2/O-90 dimensions**



**KU 2/O-180 dimensions**



# Foundation brackets

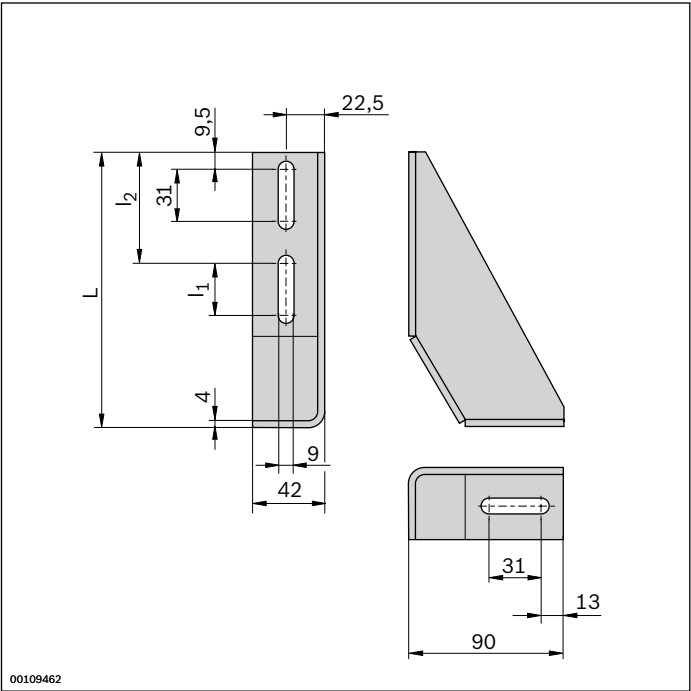


Foundation brackets secure the leg sets to the floor after the conveyor has been leveled and aligned. Two foundation brackets should be used for leg sets at drive and return units, and one at intermediate positions.

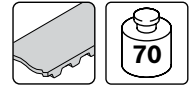
The steel foundation bracket has a zinc plated silver finish and includes the T-bolt fastening kit to attach the bracket to the leg set. Order the anchor bolts separately.

## Ordering information

Product designation	Delivery unit	Material number
Steel foundation bracket kit (includes bracket and 2x T-bolt fastening kit)	1	8981003224



## HQ 2/U3 lift transfer unit

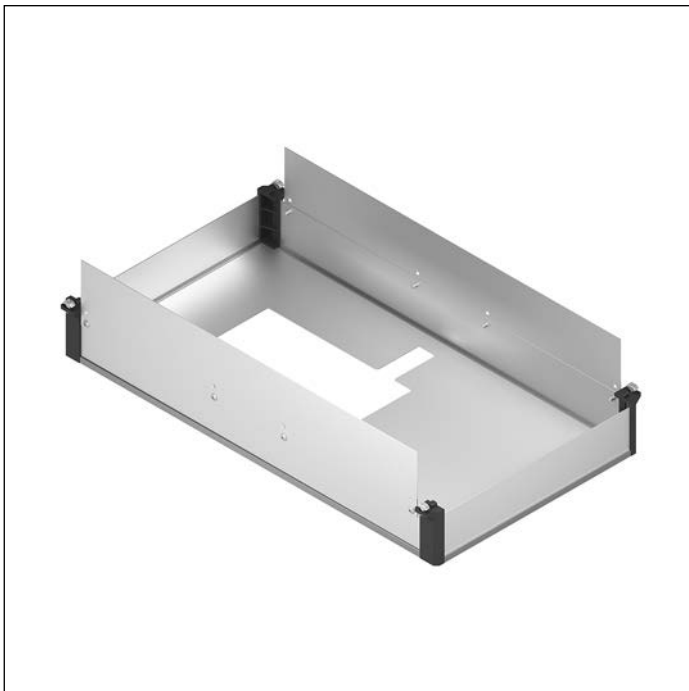


The lift transfer unit (LTU) is used to transfer pallets perpendicularly off the conveyor. It is used primarily at corners and intersections, but can also be used for pallet routing changes. The HQ 2/U3 will transfer pallet sizes between 640 x 640 and 1040 x 1040 with payloads up to 70 kg, using four lift cylinders. These cylinders are mechanically linked together to provide accurate raising/lowering of the pallet.

The LTU lift plate is powered up and down by the lift cylinders. In the center, or rest position, the LTU belts are located 1mm below the bottom of the pallet. A stop bar mounted to the lift plate may be used to stop pallets on the LTU, or inverted so pallets pass through freely. The LTU is raised by applying air pressure to the bottom of the cylinders. This lifts the LTU to a position 10 mm above the nominal conveyor height. As the LTU rises, the LTU belts engage the pallet and directs (or accepts) the pallet.

The LTU may also be lowered 11 mm below the nominal conveyor height to release a pallet along the conveyor. This functionality enables the standard LTU to function as a simple corner or a complex decision point for multiple routing requirements. The LTU may be used to direct pallets in either direction by reversing the drive motor.

**Note:** reversing the belt more frequently than every six seconds may cause reduced motor life.

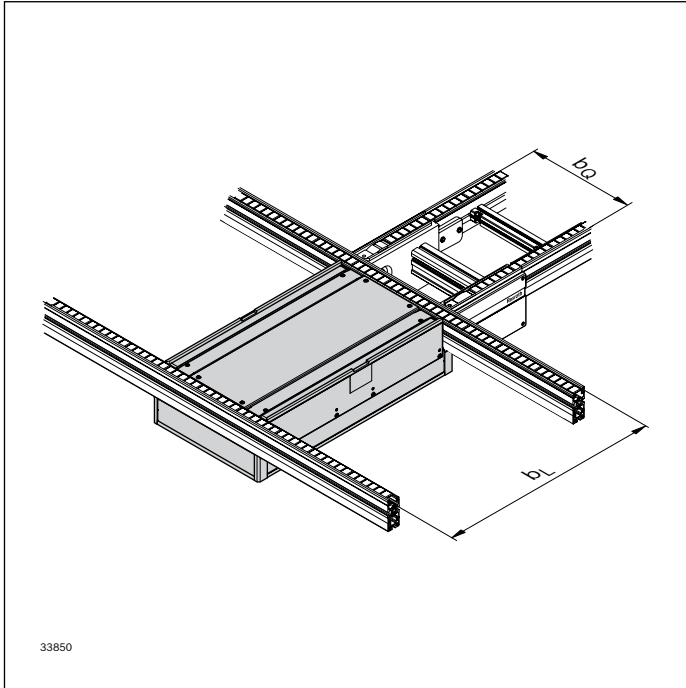


LTUs may be used to direct or accept pallets to/from another LTU via track rollers, to a BS 2 transverse conveyor, or to the transport level on a conveyor section. The HQ 2/U3 includes a drive motor to power the toothed belts, four spring centered 3-position lift cylinders, stop bar/ guide bar, protective covers, pneumatic connections and mounting hardware.

A proximity switch mounting kit is also included. Due to the stroke, all three positions may not be sensed, as three proximity switches will not fit into the space available. It is recommended that the center “pallet stopping” position be sensed and the signal lost on the up and down strokes. The proximity switch mounting kit can also be ordered separately under material number: 3842311894.

Please contact our applications engineering department for non-standard length, width, speed, or voltage.

## Ordering information



Material number		8981999251
Belt	Toothed belt version Toothed belt in Antistatic (A)	A
B <sub>L</sub> (mm)	Lift transfer unit length	640; 800; 1040
B <sub>Q</sub> (mm)	Lift transfer unit widths	640; 800; 1040
v <sub>N</sub> (m/min)	Nominal belt speed*	6; 9; 12; 15; 18
U (V)	Voltage	See table on electrical data
f (Hz)	Frequency	See table on electrical data

\* Full load conveyor speeds vary depending on motor frequency  
See table on electrical data below

\*\* For B<sub>L</sub> = 160, please specify the height of the conveyor profile,  
80 mm or 100 mm.

## Technical data

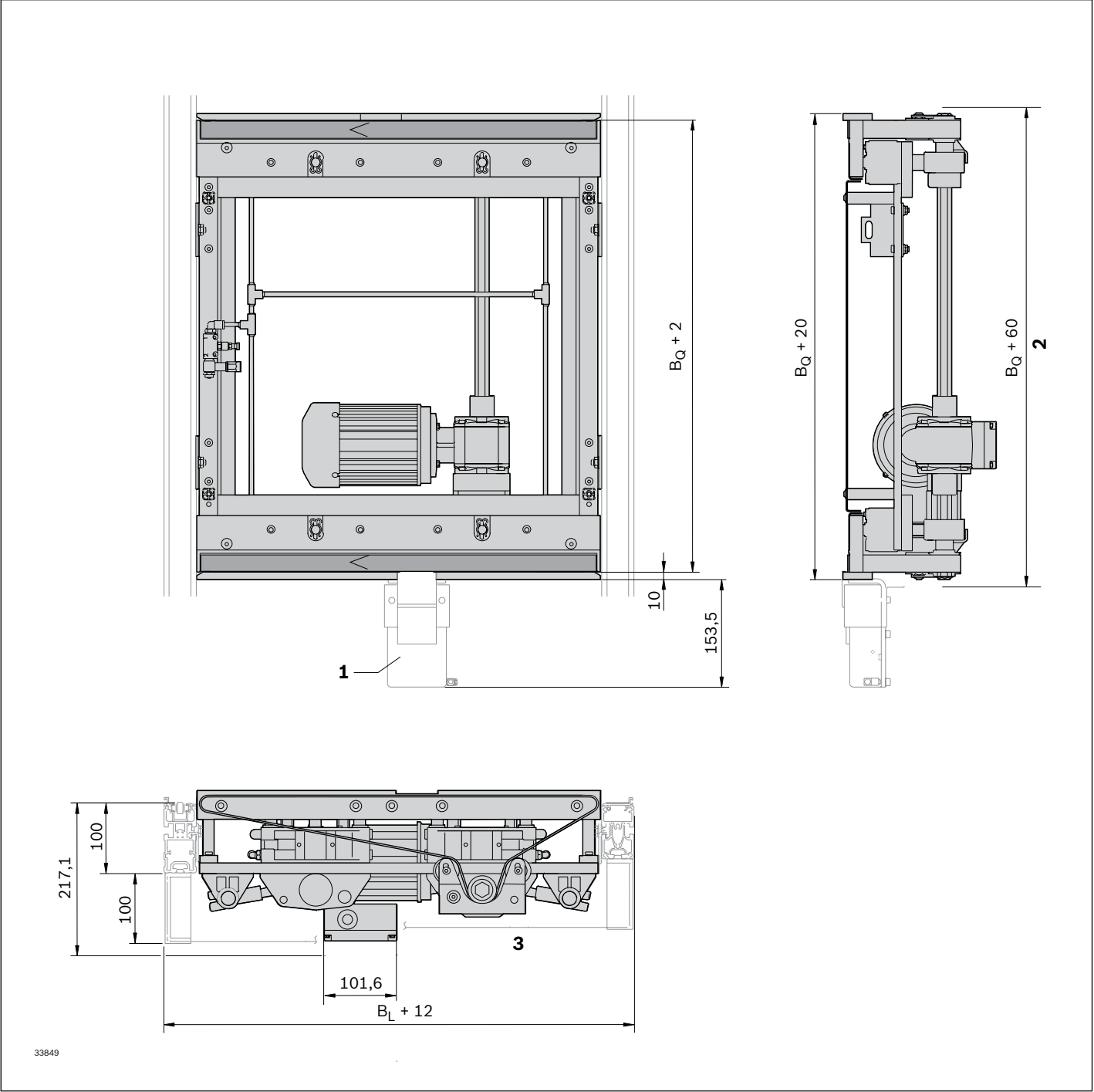
Material number			8981999251
Additional information			
Nominal belt speed			See table on electrical data below
Load capacity	kg		70
Rated motor power	HP		0.125
Motor RPM @ 50 Hz			1400
Motor RPM @ 60 Hz			1700
Motor electrical specifications			See table on electrical data below
Compressed air supply	p	bar	4 ... 8
Cylinder diameter		mm	50
Cylinder stroke		mm	21
Pneumatic connector	d	mm	8 (5/16") push-lock

## Electrical data

Nom. m/min	Actual speed		HP	Full load amps @					
	50 Hz	60 Hz		208/60	240/60	380/50	415/50	480/60	575/60
6	6.1	5.8	0.28	1.6	1.3	0.86	0.72	0.67	0.55
9	9.1	7.4	0.28	1.6	1.3	0.86	0.72	0.67	0.55
12	12.1	11.1	0.28	1.6	1.3	0.86	0.72	0.67	0.55
15	15.2	14.7	0.28	1.6	1.3	0.86	0.72	0.67	0.55
18	18.2	18.4	0.28	1.6	1.3	0.86	0.72	0.67	0.55

**Note:** Electrical data is for reference only. See the motor type plate for actual amperage ratings.

Dimensions

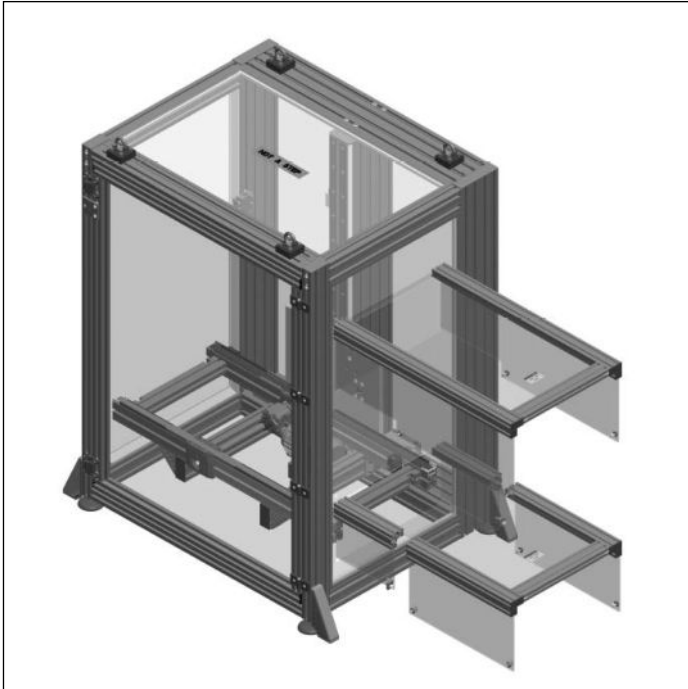


- 1 Use VE 2 cushioned stop or DA 2/100-B damper, see pg. 8-1 of R999000396 V8.0
- 2 Cover
- 3 Raised/transfer position

Available HQ 2/U3 sizes

Transfer width, $B_Q$				
Transfer length, $B_L$				
	640	800	1040	
	640	X	X	X
	800	X	X	X
	1040	X	X	X

## pVT 2 vertical transfer



The vertical transfer is designed to transfer workpiece pallets between the upper and lower conveyor sections of a TS plus conveyor. It is capable of delivering or receiving a pallet at both the upper and lower conveyor levels, and consists of a transverse conveyor mounted to a pneumatic lift slide. An aluminum profile frame serves as both the unit's frame and as a safety enclosure. A door on the unit provides easy operator access and maintenance.

A Size 1 VT 2 contains a 785mm long transverse conveyor and has an overall length of 825mm. A Size 2 VT 2 contains a 1060mm transverse conveyor and has an overall length of 1100mm. Both sizes use transverse conveyors equipped with non-antistatic toothed belts.

The pneumatic lift (line height) for the Size 1 and 2 underline return configuration is adjustable between 250mm (min.) and 1100mm (max.) with a cylinder stroke of 850mm.

The Size 1 and 2 overhead returns have a maximum upper line height range between 2250mm and 2700mm. Since the maximum cylinder stroke in this configuration is 2000mm, the resulting minimum lower line height range is 250mm to 700mm. The VT2 is available in all standard pallet widths up to 800mm and has a total permissible load up to 100 kg in both forward and reverse.

A few applications are:

**Pass-through systems.** Where pallet travel direction remains the same, but transport level changes.

**Reversing systems.** The pallet enters the unit on one level and exits at another on the same side.

**Combination systems.** Where both the pass-through and reversing configurations are used.

The VT 2 can transfer more than one workpiece pallet at a time. The maximum number depends on the workpiece pallet length, total payload, the system configuration, and on desired cycle time. See table "Transverse conveyor pallet 100 capacity for VT 2 on pg. 14-41" for maximum pallet capacity based on both size configuration (1 or 2) and pallet size. Multiple stop gate options are available (see table "Stop Gates" on the following page). For additional stop gate information, refer to Section 8 in R999000396 V8.0.

**Note:** Dimensional information for the VT 2 is shown on pg. 14-41 and 14-42. All necessary safeguards are provided with the VT 2. Because your tooling and workpiece heights vary, you must cut the guarding openings as described in the Operation Assembly and Installation Manual supplied with the unit. If pallet and tooling height exceeds 235mm, contact the Bosch Rexroth Applications Engineering department for proper conveyor line guarding (tunnel guarding) information. Also, please contact our Applications Engineering department for non-standard length, width, speed, voltage or special strokes.

Ordering information

Material number		8981999244
Size, B <sub>wt</sub> (mm)	Vertical transfer size and pallet width in mm (B <sub>wt</sub> )	Size 1U – underline return: 160; 240; 320; 400; 480 Size 1O – overhead return: 160; 240; 320; 400; 480, Size 2U – underline return: 160; 240; 320; 400; 480; 640; 800 Size 2O – overhead return: 160; 240; 320; 400; 480; 640; 800
H (mm)	Upper line height (Size 1 & 2 overhead return configurations only)	2250 (min.) ... 2700 (max.) (in 5 mm increments)
v <sub>N</sub> (m/min)	Nominal belt speed*	6; 9; 12; 15; 18
U (V)	Voltage	See table on electrical data below
f (Hz)	Frequency	See table on electrical data below

\* Full load conveyor speeds vary depending on motor frequency. See table on electrical data below.

Required Accessories – Stop Gates

Material number	Description	Type
0842900300	VE2 Stop Gate	Side Tunnel, Pneumatic
3842547785	VE2/D60 Stop Gate	Side Tunnel, Pneumatic
3842558795	VE2/D175 Stop Gate	Side Tunnel, Pneumatic
3842998747	VE2/D100-H Stop Gate	Center Tunnel, Pneumatic*

Note: Two stops required – for BS2/M conveyor and pallet stop valve kit

\* Center tunnel compatible (in all pallet size combinations) with leading edge stop setup

Technical data

Material number		8981999244
Additional information		
Workpiece pallet size, wide (max.)	mm	800
Total permissible belt load (forward & reverse)	kg	100
Nominal belt speed		See table on electrical data below
Motor RPM @ 50 Hz		1400
Motor RPM @ 60 Hz		1700
Motor electrical specifications		1400
Cylinder diameter	mm	80
Cylinder stroke, max.	mm	
Underline		850
Overhead		2000
Operating pressure	psi (bar)	58 ... 116 (4 ... 8); max. 116
Air connection, 10 mm tube		G 3/8"

**Note:** The VT 2 vertical transfer does not include a door safety switch, but does include a universal mounting bracket.

Electrical data

Nom. m/min	Actual speed			Full load amps @					
	50 Hz	60 Hz	HP	208/60	240/60	380/50	415/50	480/60	575/60
6	6.1	5.8	0.28	1.6	1.3	0.86	0.72	0.67	0.55
9	9.1	7.4	0.28	1.6	1.3	0.86	0.72	0.67	0.55
12	12.1	11.1	0.28	1.6	1.3	0.86	0.72	0.67	0.55
15	15.2	14.7	0.28	1.6	1.3	0.86	0.72	0.67	0.55
18	18.2	18.4	0.28	1.6	1.3	0.86	0.72	0.67	0.55

**Note:** Electrical data is for reference only. See the motor type plate for actual amperage ratings.

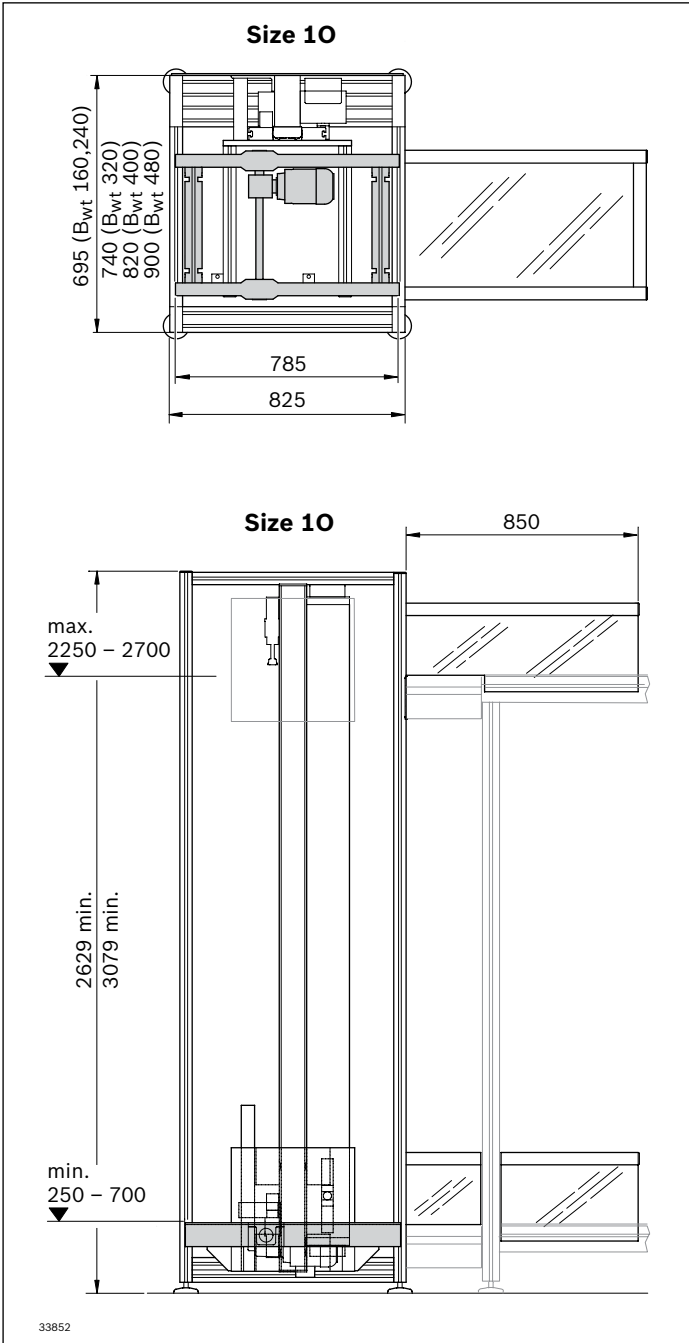
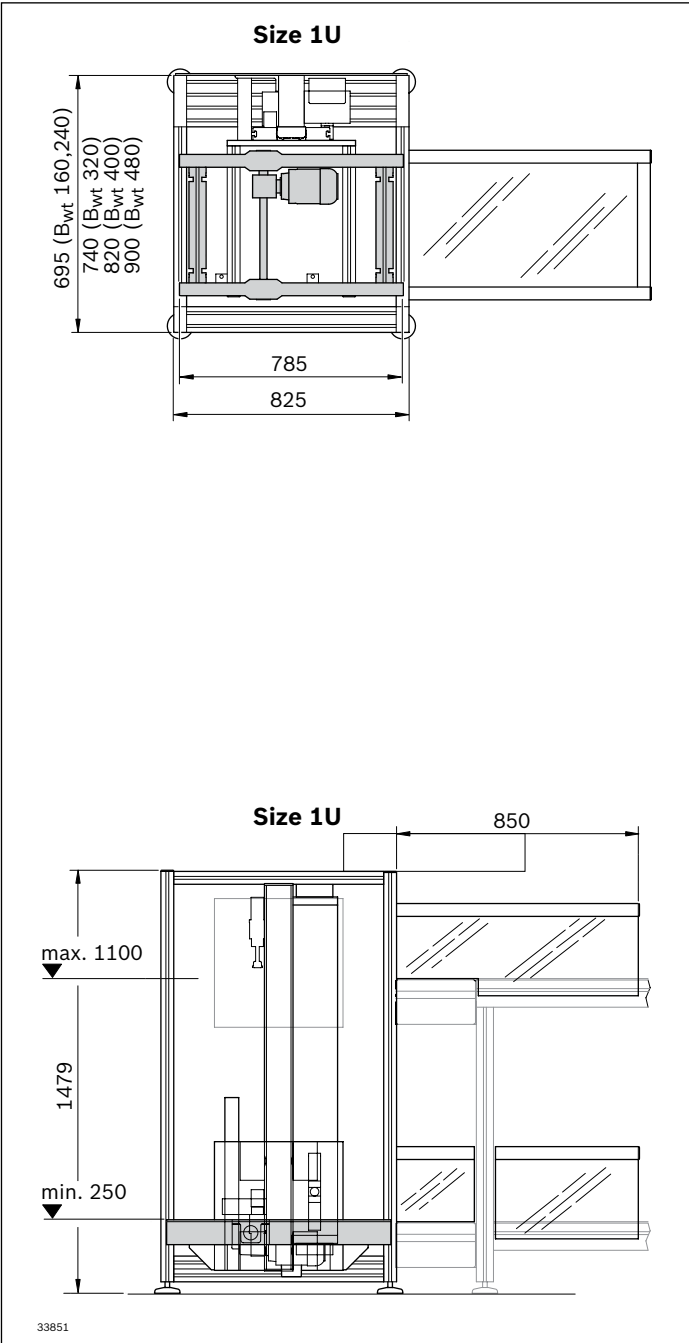


Transverse conveyor pallet capacity for pVT 2

Size 1: Vertical transfer (L) = 825 mm	
Transverse conveyor (L) = 785 mm	
Qty	Size
1	L = 480 WT2
1	L = 400 WT2
2	L = 320 WT2
2	L = 240 WT2
4	L = 160 WT2

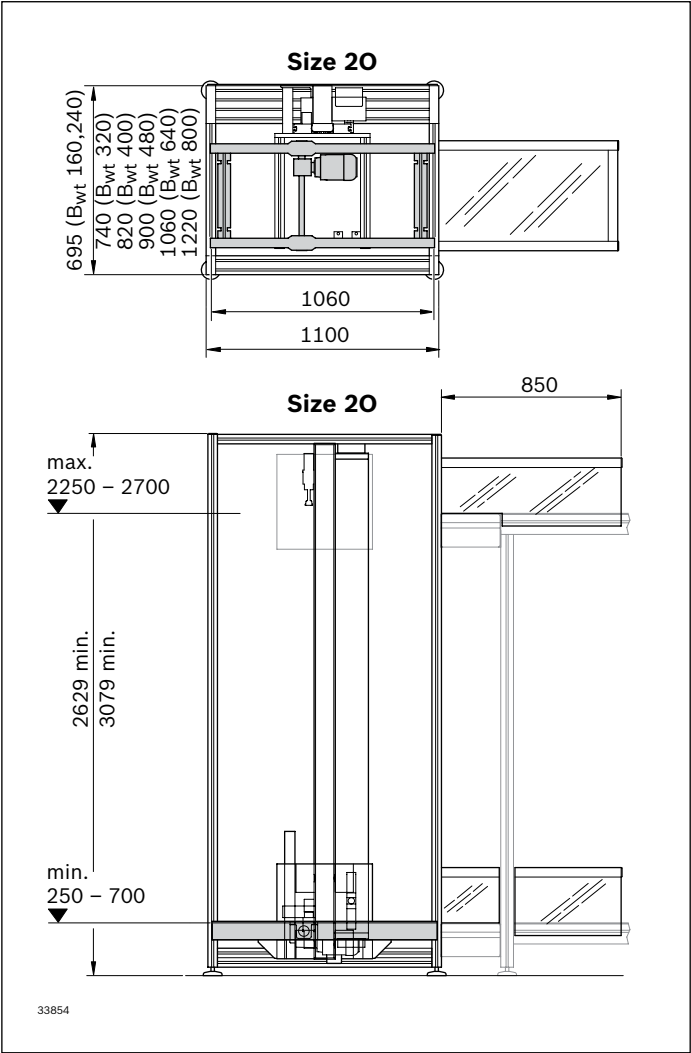
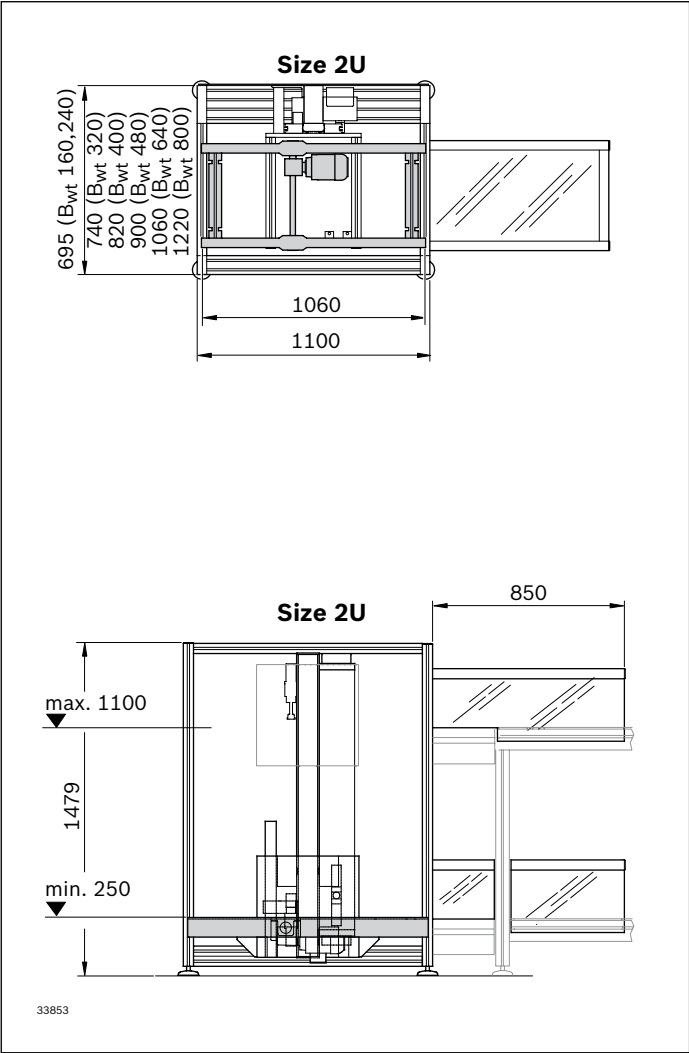
Size 2: Vertical transfer (L) = 1100 mm	
Transverse conveyor (L) = 1060 mm	
Qty	Size
1	L = 800 WT2
1	L = 640 WT2
2	L = 480 WT2
2	L = 400 WT2
3	L = 320 WT2
4	L = 240 WT2
6	L = 160 WT2

Dimensions for Size 1 VT 2



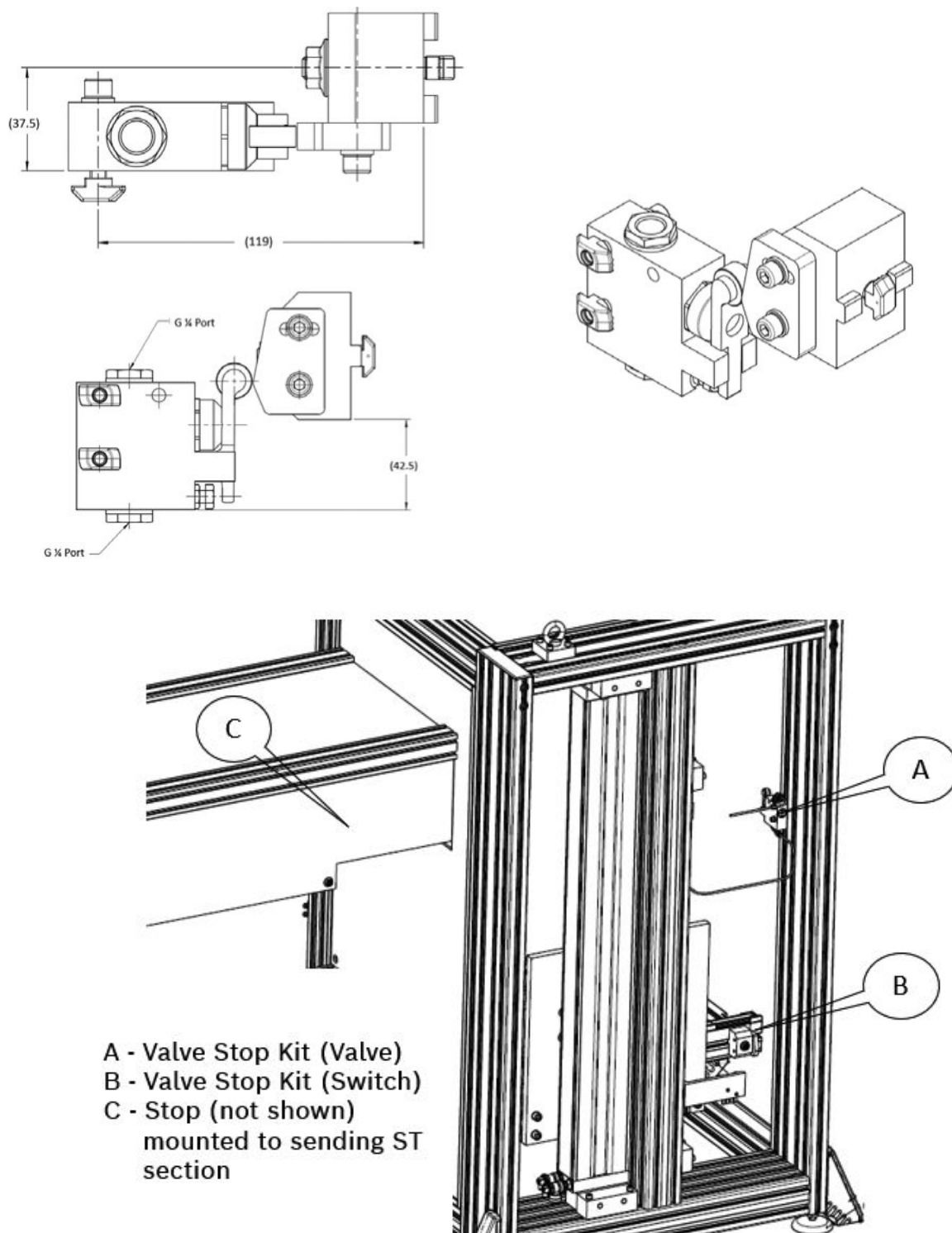
Transverse conveyor width (B) must match pallet length ( $L_{WT}$ ) or width ( $B_{WT}$ ), depending on orientation.

**Dimensions for Size 2 pVT2**



Transverse conveyor width (B) must match pallet length (L<sub>WT</sub>) or width (B<sub>WT</sub>), depending on orientation.

### Dimensions – pVT2 Valve Stop Kit



## eVT2 vertical transfer



The eVT2 electrically actuated vertical transfer unit is designed to transfer workpiece pallets between the upper and lower levels (or multiple levels) of a TS2plus conveyor system. The eVT2 consists of a BS2/M transverse conveyor mounted to a CKK compact linear module. An aluminum extrusion frame serves as both the unit's frame and as a safety enclosure. A door on the front of the unit allows for operator access and maintenance.

The unit is available in two basic configurations. Size 1 contains a 785mm long transverse conveyor, while Size 2 contains a 1060mm long transverse conveyor. Each BS2/M conveyor is rated to support a 100kg total pallet payload in both forward and reverse. The conveyor can transfer more than one workpiece pallet at a time. The maximum number depends on the workpiece pallet length, total payload, and the system configuration. See the Pallet Capacity table on pg. 14-47 for maximum pallet capacity based on both size configuration (1 or 2) and pallet size.

The upper (ULH) and lower line height (LLH) of the eVT2 are both configurable. The ULH is adjustable between 700mm and 2700mm. The LLH is adjustable between 250mm and 2000mm. These height combinations results in a min. stroke of 450mm & max. stroke of 2450mm.

Depending on the application requirements, the eVT2 is available with different CKK compact linear modules and different MSN2 synchronous servomotors. Stop gates are now available as accessories for WT2 pallets (side-tunnel) and WT2/H pallets (center-tunnel) in both pneumatic and electric. The CKK module includes one limit switch, which can be used for sensing any position (home, end of travel, over travel, midpoint). Additional limit switches, including mounting hardware, are available as an optional accessory. For sensing to the home or "zero" position via a hard stop, a new homing kit is also available as an ordering parameter.

The eVT2 includes one pallet stop valve kit. This kit is designed to prevent pallets from inadvertently entering the unit when the BS2/M is not in the transfer position. The kit is used with a stop gate (purchased separately), which is mounted to an adjacent sending ST conveyor section. Additional kits (purchased separately) may be required for layouts with >2 levels.

A UL508 certified 480V electrical enclosure (panel) is available as an optional accessory. The enclosure includes an 18A servo drive with integrated safety, 5 meter servo cables (power & encoder), and multiple Bus interfaces (Ethernet/IP, Sercos, EtherCAT, Profinet). It includes fusing for all components, a 24V power supply with distribution, and easy panel access through a gland plate. The panel is rated for 40kA short circuit protection. Hardware for mounting the enclosure is also sold as an accessory.

The eVT2 is supplied with one set of tunnel guards – for the upper level and lower levels. For multi-level layouts, depending on the number of levels and gap between each level, a custom tunnel guard solution will be required (not supplied by Rexroth). All necessary safety guarding is supplied with the eVT2. Because tooling and workpiece heights vary, the guarding openings must be cut as described in the Operation Assembly and Installation Manual supplied with the unit. Contact Bosch Applications Engineering for custom tunnel guarding advisement and possible solutions.

**Condition of Delivery:**

- ▶ eVT2 is fully assembled; safety guarding to be cut based on layout requirements

**Required Accessories:**

- ▶ Stop gates (2 min. – 1 for the BS2/M and 1 for each pallet stop valve kit)
- ▶ Proximity switch brackets & proximity switches (for use with the stop gates)
- ▶ Multi-level tunnel guarding (for layouts with >2 levels)

**Optional Accessories:**

- ▶ Pallet valve stop kit (for layouts > 2 levels)
- ▶ Electrical enclosure & mounting hardware
- ▶ Limit switch

Ordering information

P/N		R980999300
Z	Conveyor Size	Size 1 = BS2 Length: 785mm Size 2 = BS2 Length: 1060mm
Bwt (mm)	Conveyor Width	1 = 240, 320, 400, 480, 640 2 = 240, 320, 400, 480, 640, 800
H (mm)	Upper Line Height	700 ..... 2700 (in 5mm increments)
L (mm)	Lower Line Height	250 ..... 2000 (in 5mm increments)
V (m/min)	Conveyor Nominal Speed	6, 9, 12, 15, 18
U	Conveyor Voltage	See motor data table on the following page
F	Conveyor Frequency	See motor data table on the following page
MC	MS2N Servo Motor	1 = MS2N06 w/brake (Default Selection) 2 = MS2N07 w/brake 0 = without motor
HG	Homing Kit	0 = No 1 = Yes

Accessories – Stop Gates (Required)

0842900300	VE2 Stop Gate	Side Tunnel, Pneumatic
3842547785	VE2/D60 Stop Gate	Side Tunnel, Pneumatic
3842558795	VE2/D175Stop Gate	Side Tunnel, Pneumatic
3842998747	VE2/D100-H Stop Gate	Center Tunnel*, Pneumatic
3842563103	VE 2/D100-E Stop Gate	Side Tunnel, Electric
3842998923	VE 2/D410-EH Stop Gate	Center Tunnel*, Pneumatic

Notes:

- 1. One stop (pneumatic or electric) is required for use in the eVT2 conveyor section
- 2. One stop (pneumatic) is required for each Pallet Stop Valve Kit
- \* = Center tunnel compatible (in all pallet size combinations) with leading edge stop setup

Accessories – Stop Valve Kit (Optional)

P/N	Description
R980025935	Pallet Stop Valve Kit (1 included, additional may be required for >2 levels)

Accessories – Electrical Enclosure (Optional)

P/N	Description
R980025941	Electrical Enclosure / Panel
R980025939	Electrical Enclosure Mount - External Mount
R980025940	Electrical Enclosure Mount - Internal Mount

Accessories – Limit Switch (Optional)

P/N	Description
R347602403	Magnetic Sensor w/Plug (Hall, PNP/NC\
R037530021	Switch Mounting Plate
R037530022	Cable Holder

Refer to the Compact Module CKK catalog for more information (R99900499)

Technical data – eVT2

Material number	R980999300
Workpiece pallet size	800x800mm (max.)
Total pallet payload	100 kg (forward & reverse)
Stroke	450mm (min.)....2450mm (max.)

Motor data – BS2/M Transverse Conveyor

**Note:** Values are typical. Subject to change. See motor type plate for official data.  
Please note the country assignment

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

Certification for the motor, cable and plug components:

- IE3 motors: CE, cURURS, CCC
- Motors with index b: CE/CCC (50 Hz), CE/cURUS (60 Hz)

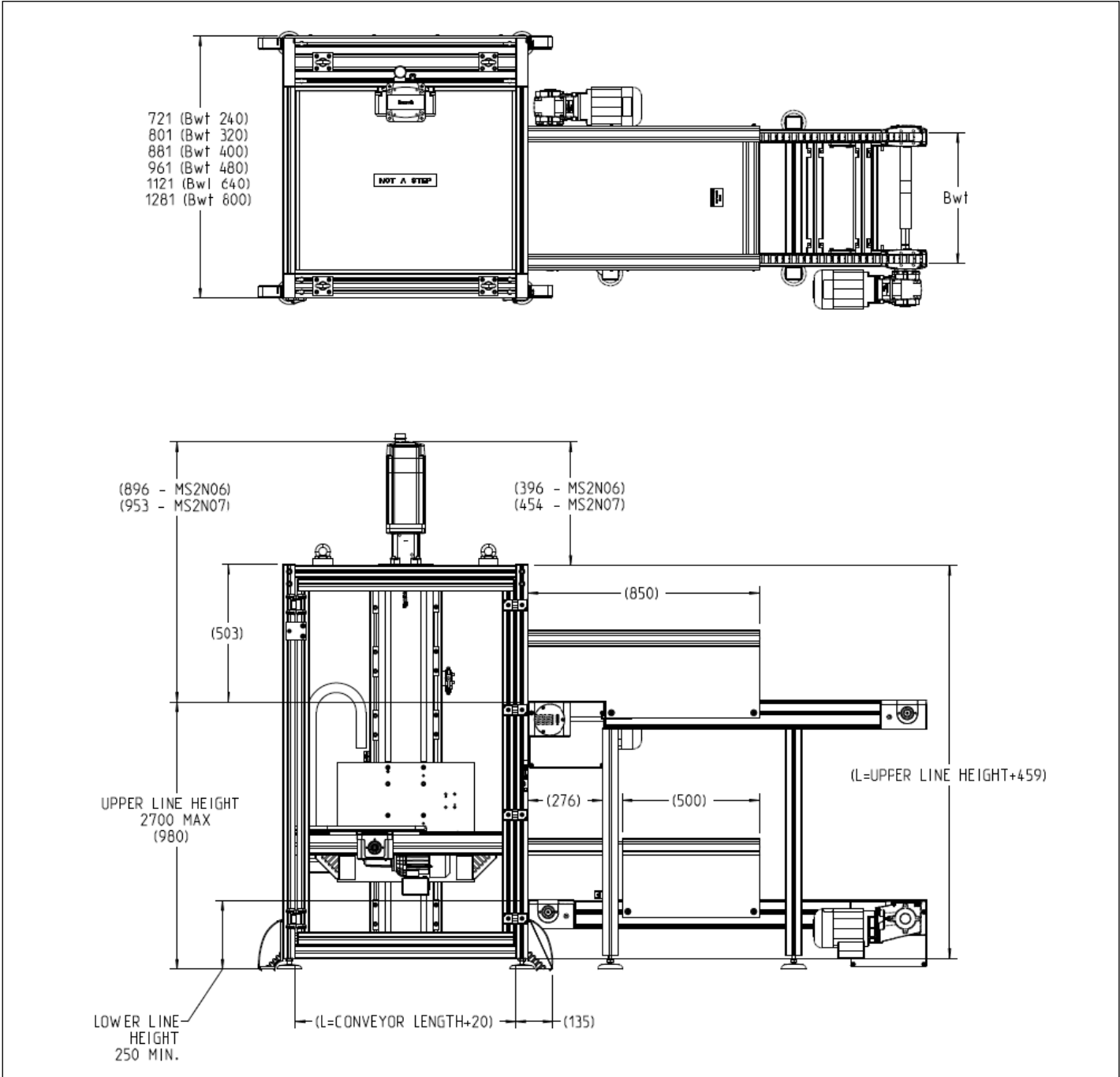
**Note:** see TS 2plus 7.0 catalog for amperage draw (reference motor type 634)

BS2/M Transverse Conveyor Pallet Capacity

Size 1: Conveyor Length (L) = 785mm		Size 2: Conveyor Length (L) = 1060mm	
Qty	Size	Qty	Size
1	L = 800 WT2	1	L = 640 WT2
1	L = 480 WT2	2	L = 480 WT2
1	L = 400 WT2	2	L = 400 WT2
2	L = 320 WT2	3	L = 320 WT2
2	L = 240 WT2	4	L = 240 WT2

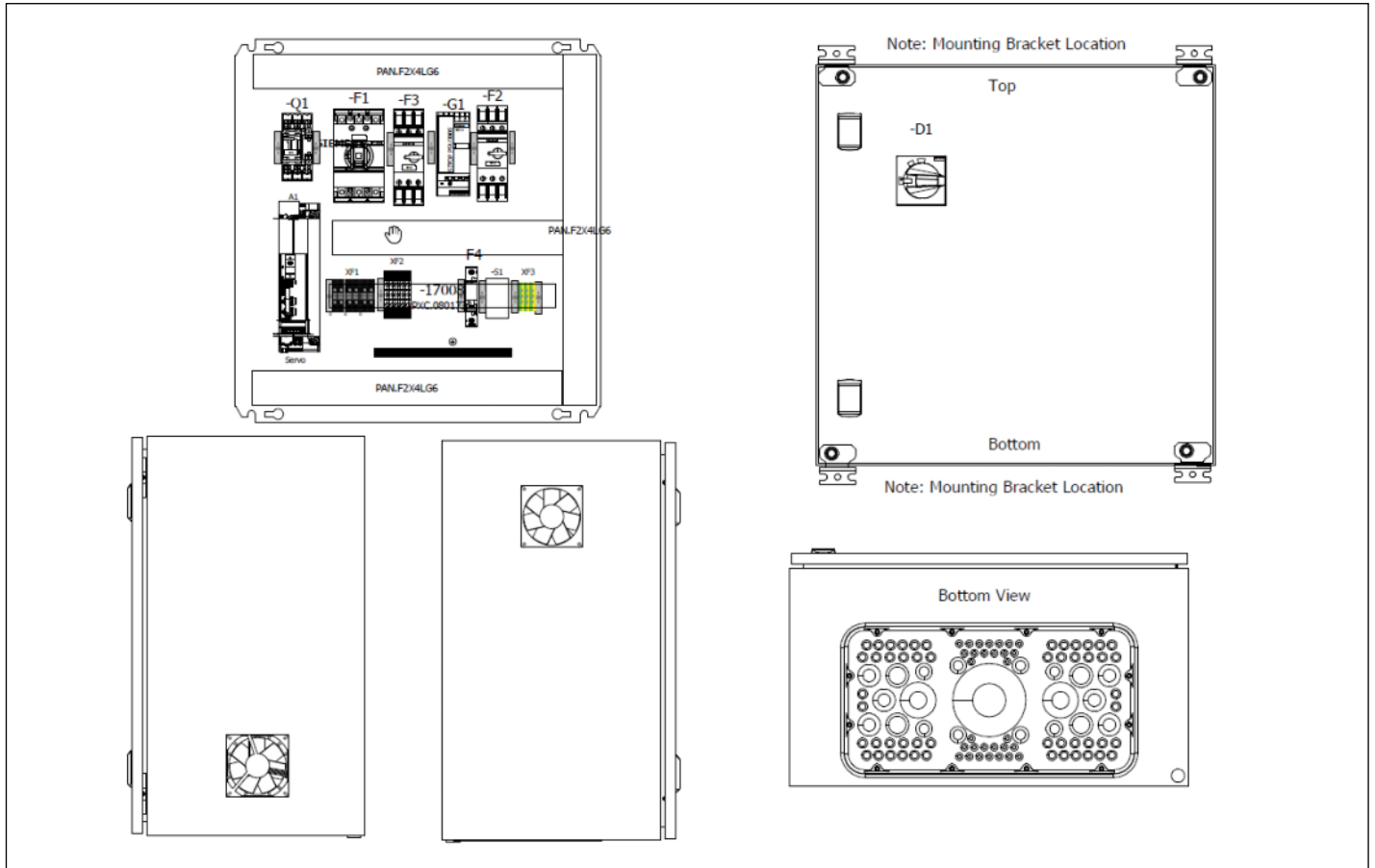
**Note:** Contact Applications Engineering for configurations specific cycle time calculations and recommended motion profiles.

**Dimensions – eVT2**

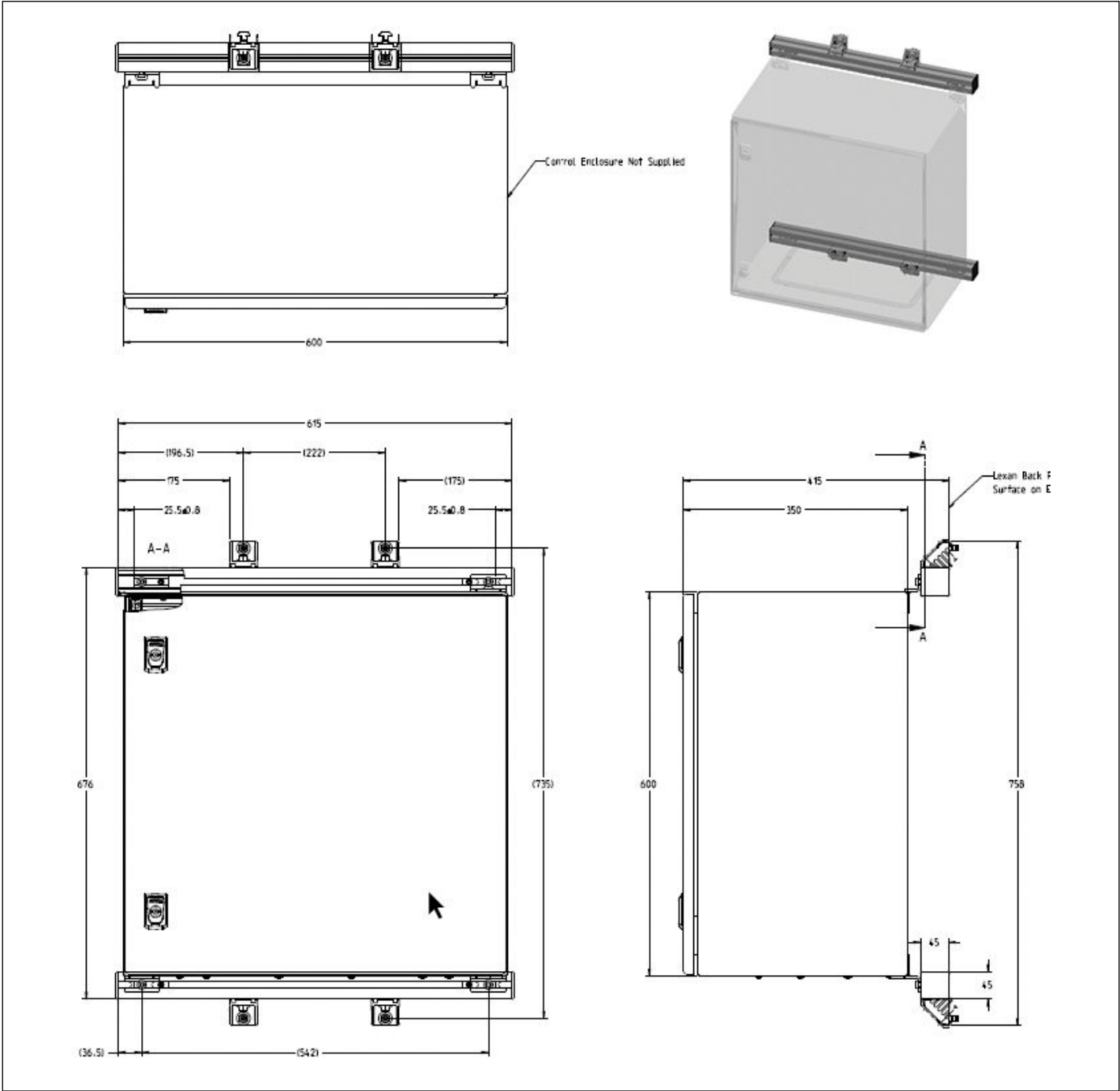




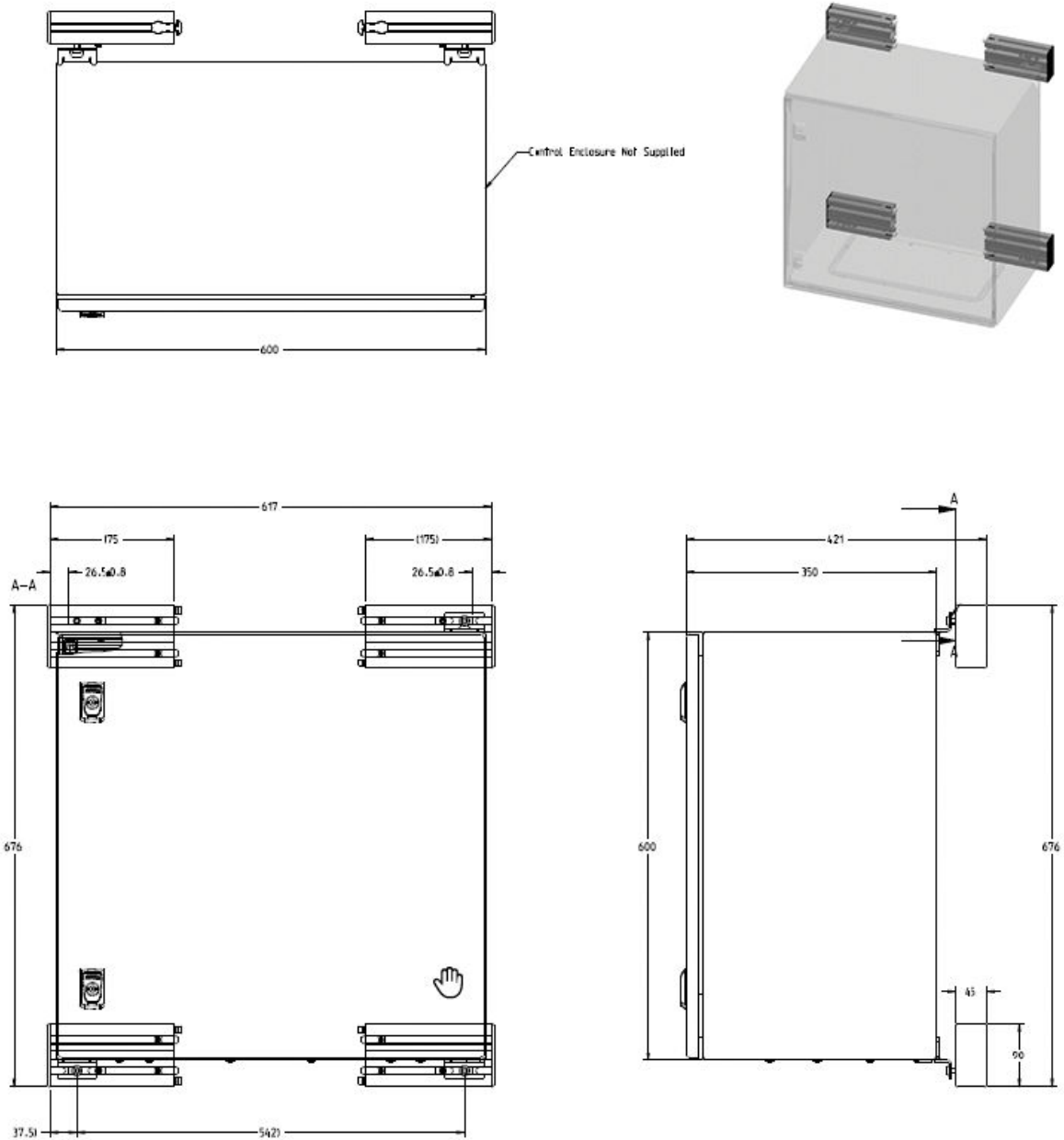
**Dimensions – Electrical enclosure** (609.6mm W x 609.6mm H x 304mm D)



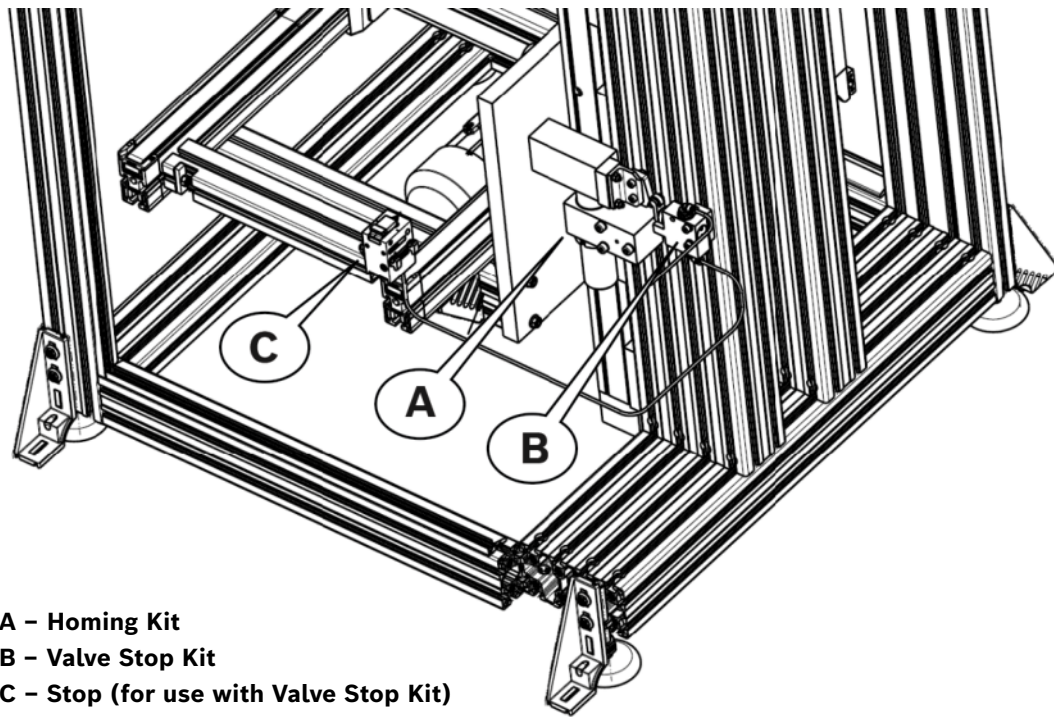
**Dimensions – Electrical enclosure mount (external)**



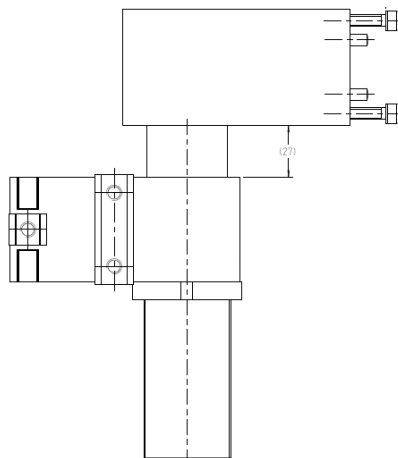
## Dimensions – Electrical enclosure mount (internal)



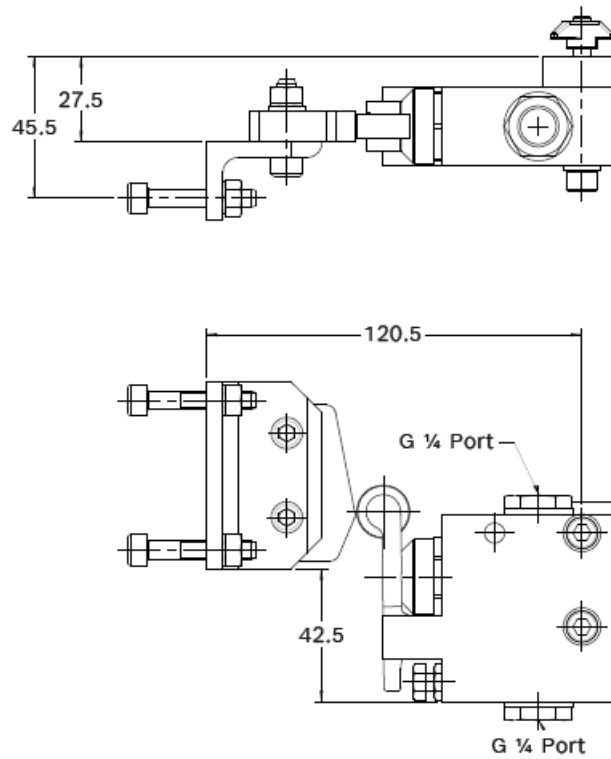
**Homing Kit, Valve Stop Kit, VE2 Stop** (for use with Valve Stop Kit)



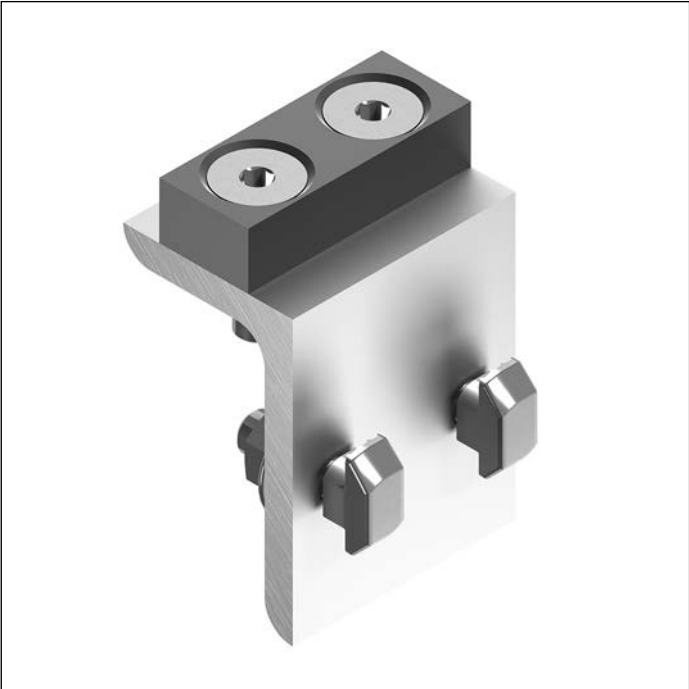
**Dimensions – Homing Kit**



## Dimensions – Valve Stop Kit



# VE 2/MS mid-mount fixed stop



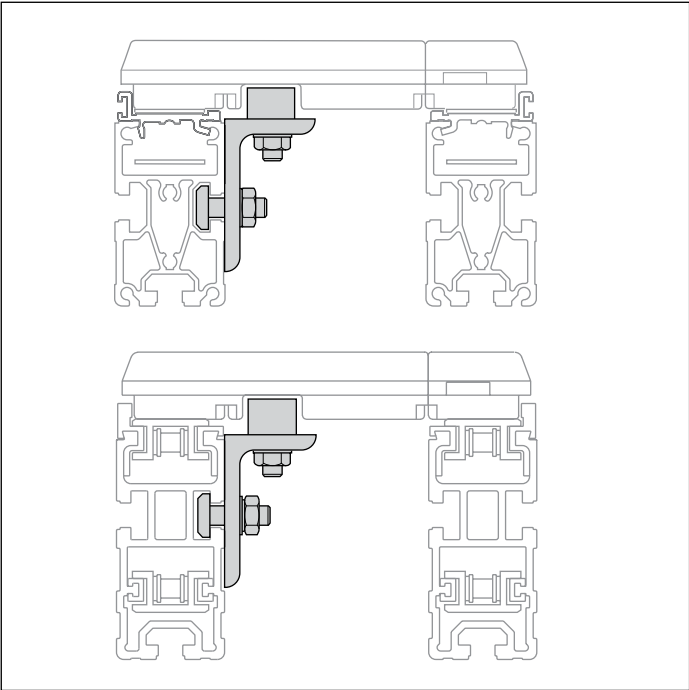
The mid-mount fixed stop is used to provide a “hard” stop anywhere along a conveyor section. It provides an economical means of stopping pallet travel, such as at the end of a spur line or when a pallet enters a vertical pallet transfer unit.

The mid-mount fixed stop includes all needed hardware to mount the unit on any conveyor section or transverse conveyor where a 10 mm T-slot is available. (See illustration below.)

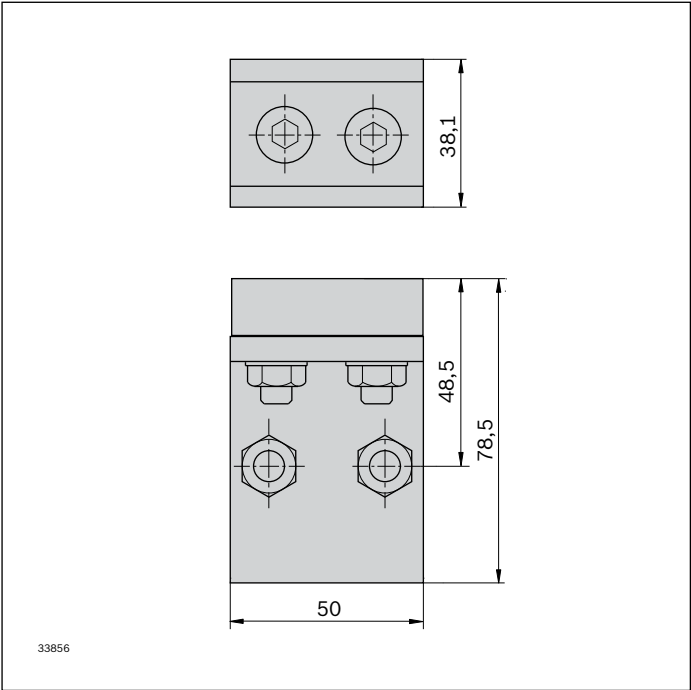
## Ordering information

Product designation	Material number
Mid-mount fixed stop	8981019434

## Technical data



## Dimensions

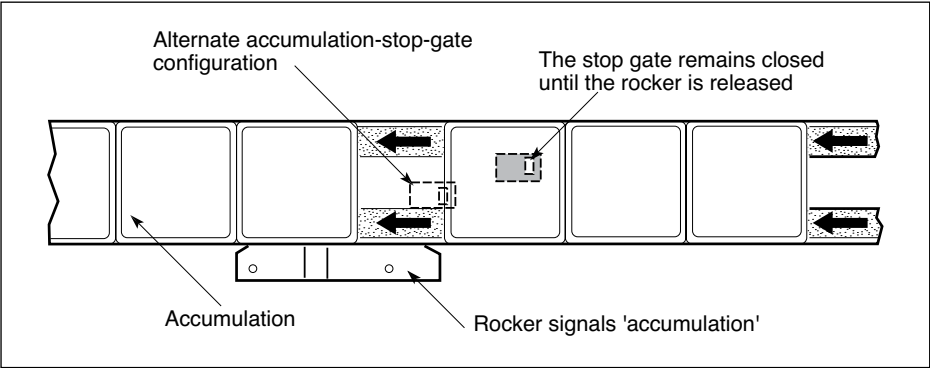


# VE 2/WI accumulation control kit

Accumulation control kits are used to control pallet flow without intervention of the control system. They are typically used in areas where large numbers of accumulated pallets would exceed the rating of a single stop gate. In this case, subsequent stop gates (ordered separately) are used with the accumulation control kit and provide a gap between the two accumulation zones.

The accumulation control kit consists of a rocker and a pneumatic valve. When the rocker is in the rest position, air is directed to a stop gate and pallets pass through freely. When the rocker is energized by a pallet, the air is disabled and the stop gate begins queuing pallets.



**NOTE:** The pneumatic valve included in this kit is 4mm in diameter. Not all stop gates use 4mm tubing. Please see the pneumatics summary on pg. 10-39 in R999000396 V8.0 to verify your stop is compatible with this kit. (Stop gates that use 8mm tubing will require a 4mm to 8mm adapter when being used with the VE2/WI.)



### Ordering information for Accumulation Control Kit VE 2/WI

Description	Part Number
Accumulation control kit	R980555750

### Queue load chart

Stop gate description	Nominal line speed (m/min)				
	8	9	12	15	18
VE 2 queue load (kg) 	200	140	100	70	50
VE 2/H queue load (kg) 	450	900	220	140	100

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