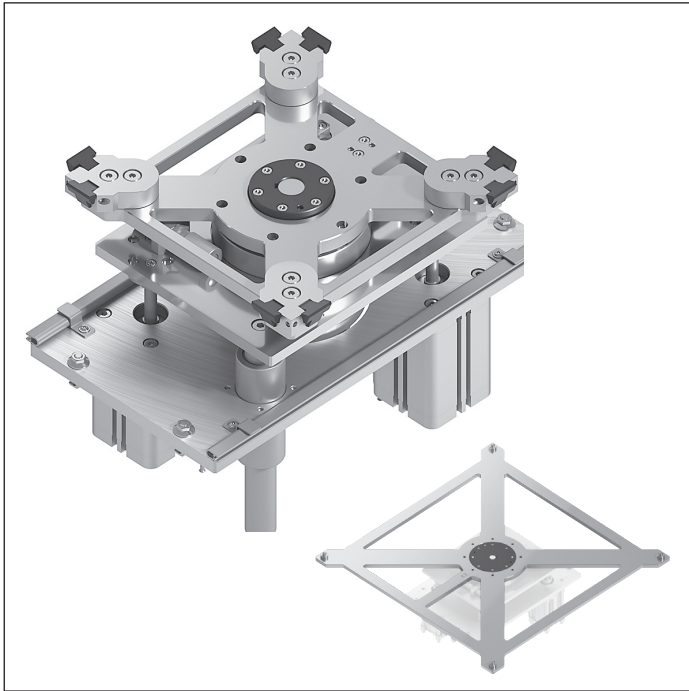


HD 2/H lift rotate unit



- ▶ WT lift above transportation level, approx. 50 mm
- ▶ Available in 3 sizes (BG) for WT total weights up to 240 kg
 - BG 1 and BG 2 for use with WT 2 and WT 2/F workpiece pallets
 - BG 3 for use with WT 2/H and WT 2/F-H workpiece pallets
- ▶ Rotation 90° or 180°
 - For rotating quadratic workpiece pallets 90° or 180°
 - For rotating non-quadratic workpiece pallets 180°
 - For BG 1 and BG 2 at a 90° rotation, the reverse rotation occurs below the belt. Reduced cycle times by means of reverse rotation during workpiece pallet change
 - For BG 3 at a 90° rotation, the reverse rotation occurs below the belt
- Center position only with BG 1 and BG 2 in 90° version

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

Accessories

Required accessories

- ▶ Housing element, see p. 7-67
- ▶ Leg sets for BG 2 over 50 kg, see p. 6-24
- ▶ Leg sets for BG 3 generally, see p. 6-24
- ▶ Cylinder switch (0830100433) for the top/center/bottom lift positions, see p. 7-61
- ▶ Sensor for rotary movement at 0°/180° or 0°/90°, see p. 7-61

Delivery notes

Scope of delivery

- ▶ 2x damper for end rotary movement positions
- ▶ Incl. fastening material for assembly on conveyor sections
- ▶ Pneumatic elements such as fittings, throttle non-return valves, etc. for the top/center/bottom lift positions

Recommended accessories

- ▶ VE 2 stop gate, see p. 8-6, or VE 2/D stop gate, see p. 8-24, for damped stopping of a workpiece pallet
- ▶ Recommended accessories for BG3: VE 2/D-100 or VE 2/D-250 stop gate

Condition on delivery

- ▶ Fully assembled

Ordering information

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

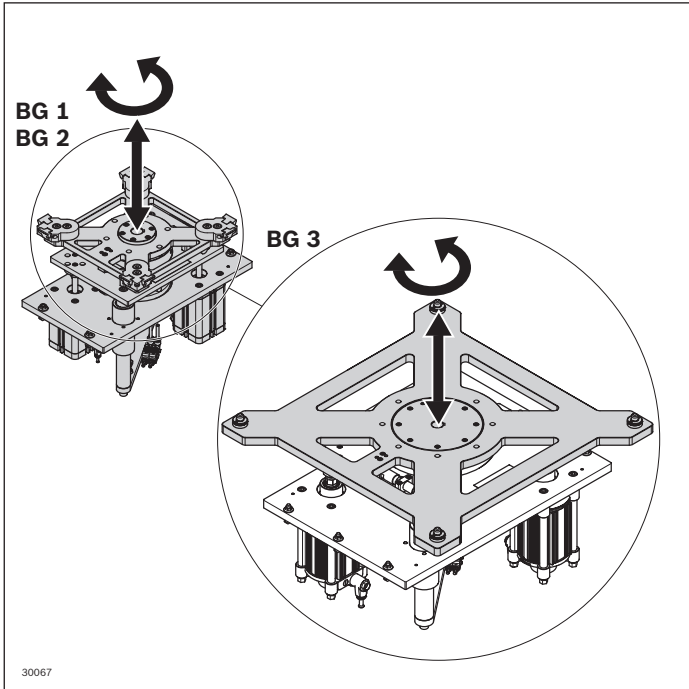
- 1 For use with WT 2 and WT 2/F-H workpiece pallets only
 2 For use with WT 2/H and WT 2/F-H workpiece pallets only
 3 Only possible for $DW = 90^\circ$ quadratic workpiece pallets
 4 Installation location: 0 = 80 mm and 1 = 100 mm

Ordering information

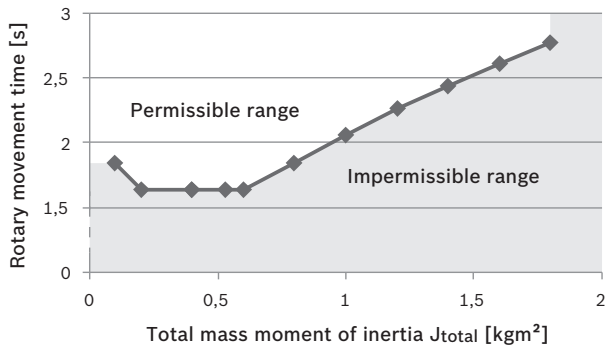
Product designation	Material number
Cylinder switch for top/center/bottom position sensing ST6-PN-M12R-030 sensor	0830100433
Product designation	Material number
Sensor, short, for rotary movement end position sensing IEC/EN 60947-5-2:-2004	3842549811

Technical data

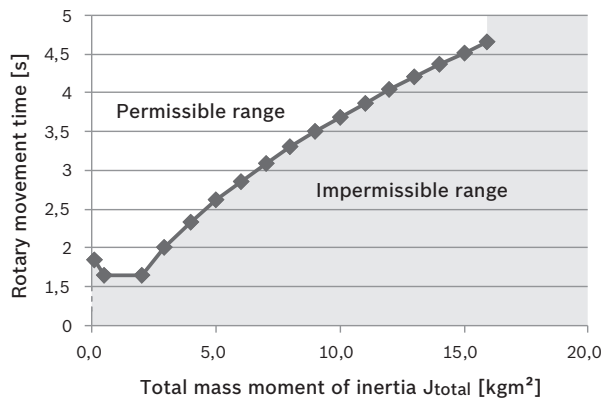
Material number	3842998760	3842998761	3842998762
Additional information			
WT lift above conveying level	50	50	50



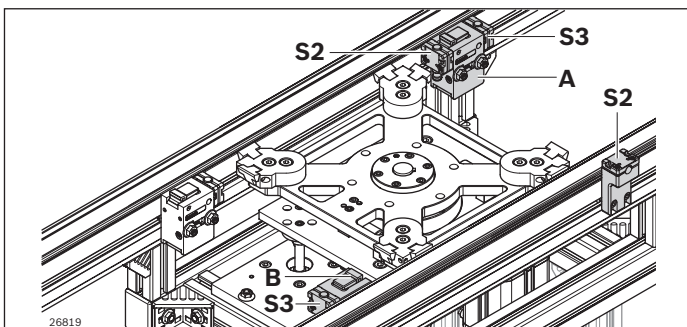
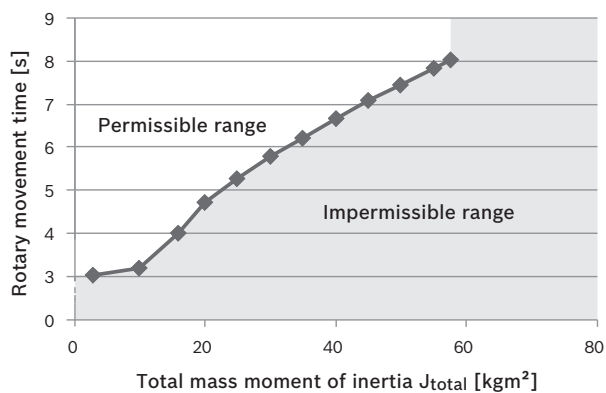
Size 1



Size 2



Size 3



Operating limits of the HD 2/H lift rotate unit

Mass moment of inertia

Note:

In the arrangement of supports and workpieces on the WT (= workpiece carrier) it must be ensured that the center of gravity of the loaded WT is within $\frac{1}{3}$ of the length/width of the WT around the center of the WT.

It must also be ensured that the loading center of gravity at height h_s does not exceed $\frac{1}{2} b_{WT}$ (with $b_{WT} \leq l_{WT}$).

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

Mass max. 50 kg; mass moment of inertia max. 1.8 kg/m²

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

Mass max. 128 kg; mass moment of inertia max. 15.9 kg/m²

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

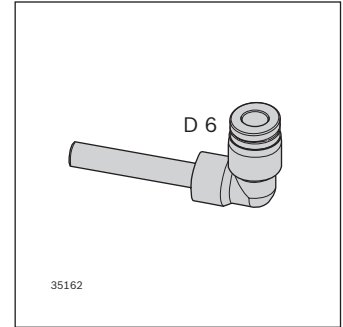
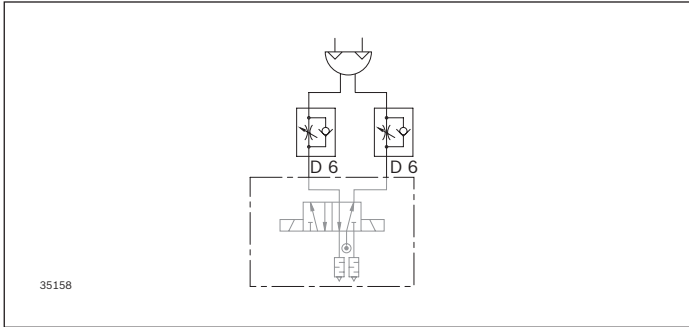
Mass max. 240 kg; mass moment of inertia max. 57.6 kg/m²

Additional operating limits

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

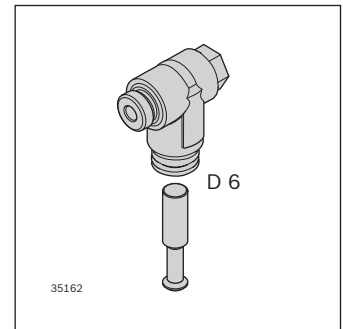
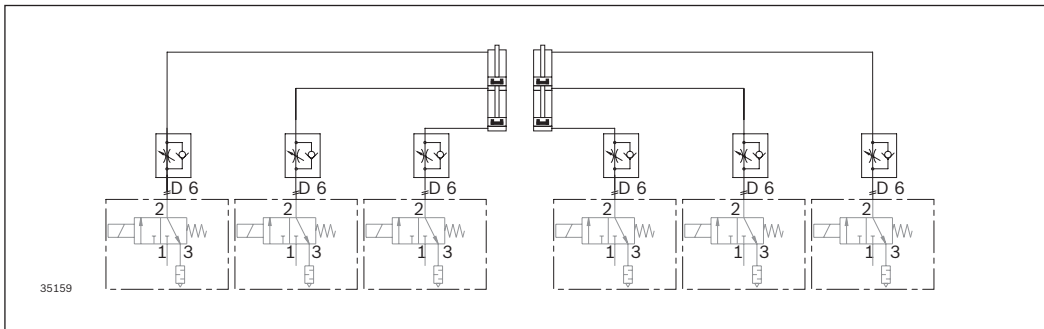
Pneumatic diagram of the HD 2/H lift rotate unit:

Rotating cylinder for Size 1/2/3, rotation angle 90° and 180°



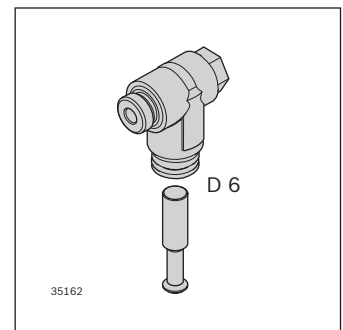
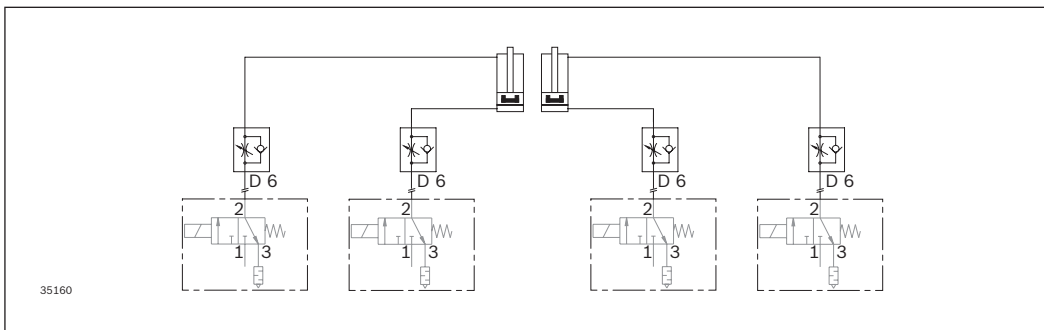
Pneumatic diagram of the HD 2/H lift rotate unit:

Lifting cylinder for Size 1/2, rotation angle 90° (multiple position cylinder)



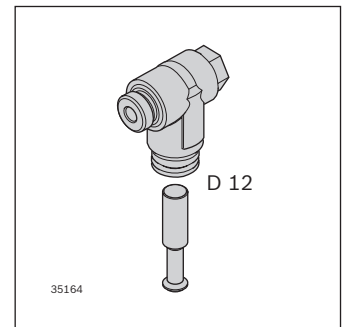
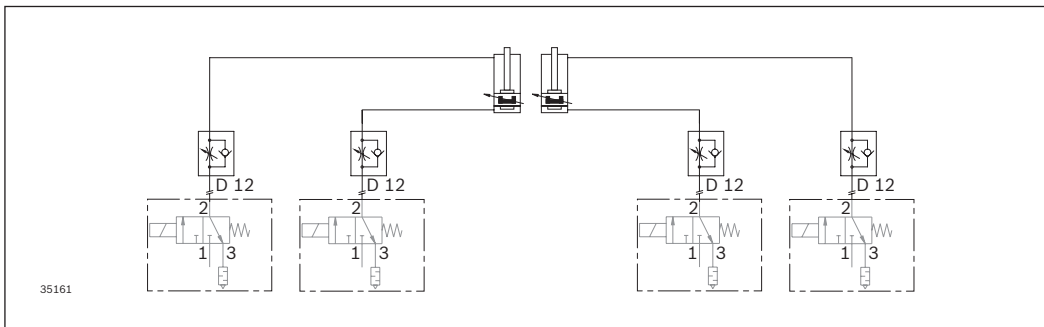
Pneumatic diagram of the HD 2/H lift rotate unit:

Lifting cylinder for Size 1/2, rotation angle 180°

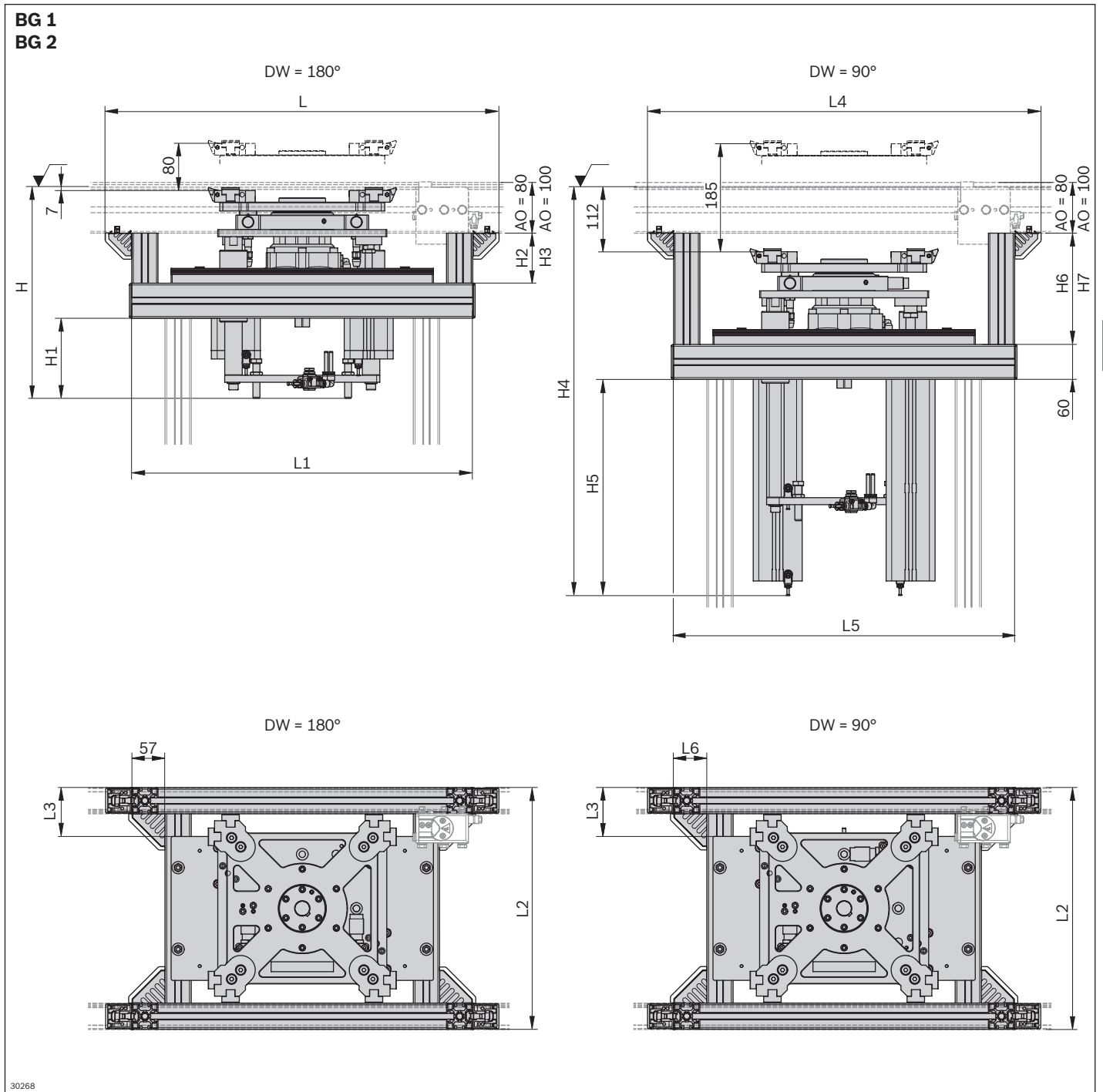


Pneumatic diagram of the HD 2/H lift rotate unit:

Lifting cylinder for Size 3, rotation angle 90° and 180°



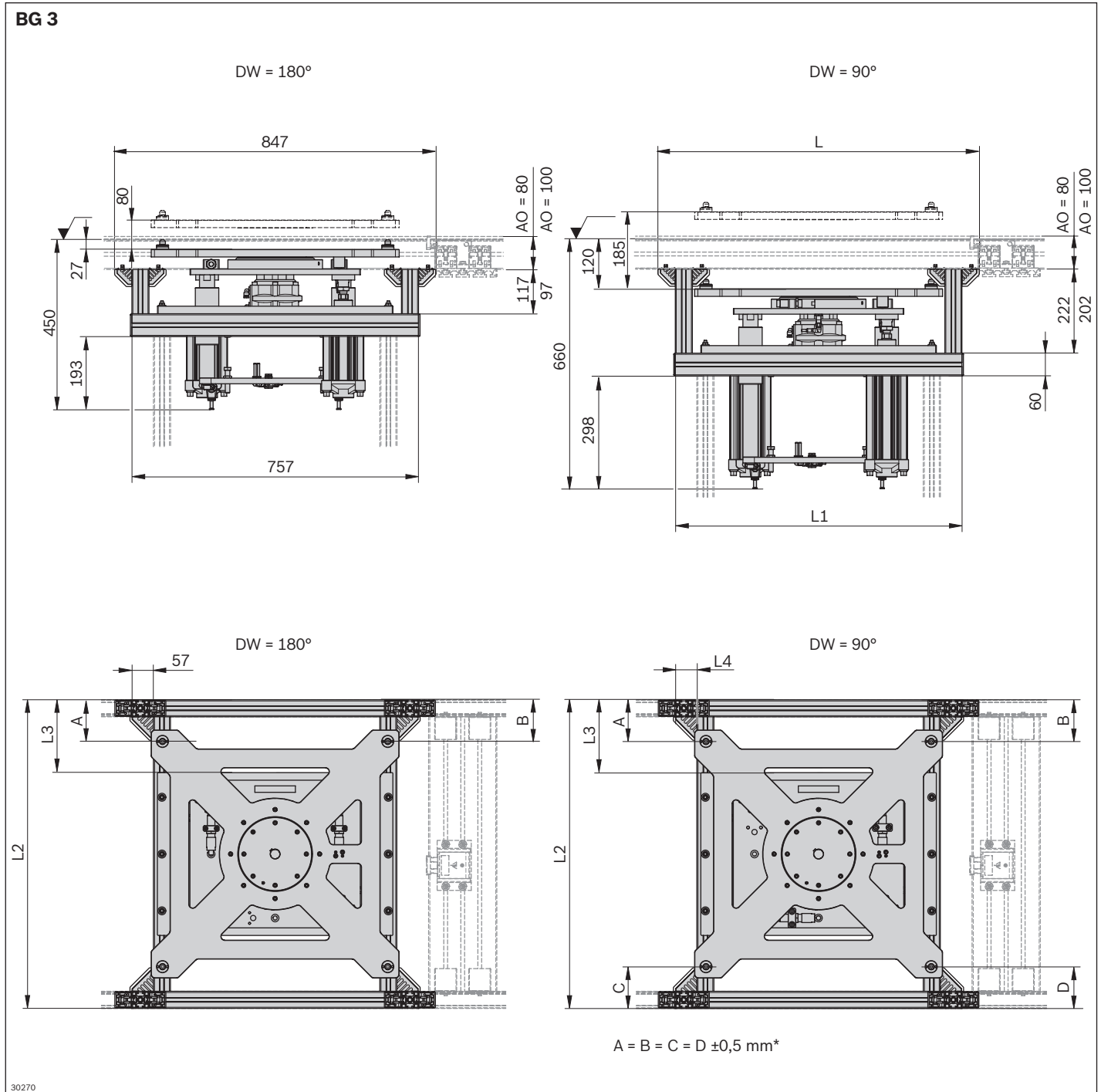
Dimensions for BG 1 (3842998760)/BG 2 (3842998761)



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

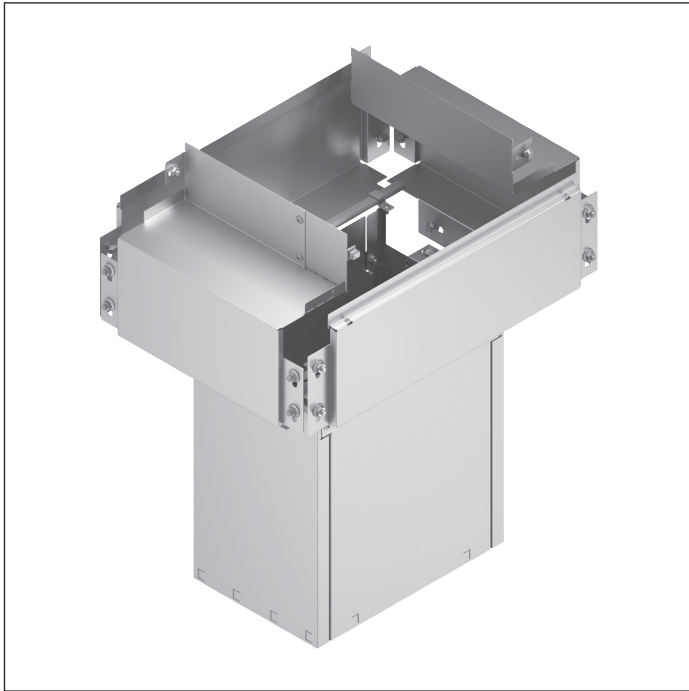
Dimensions for BG 3 (3842998762)



*Rotation angle setting

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

HD 2/H housing element

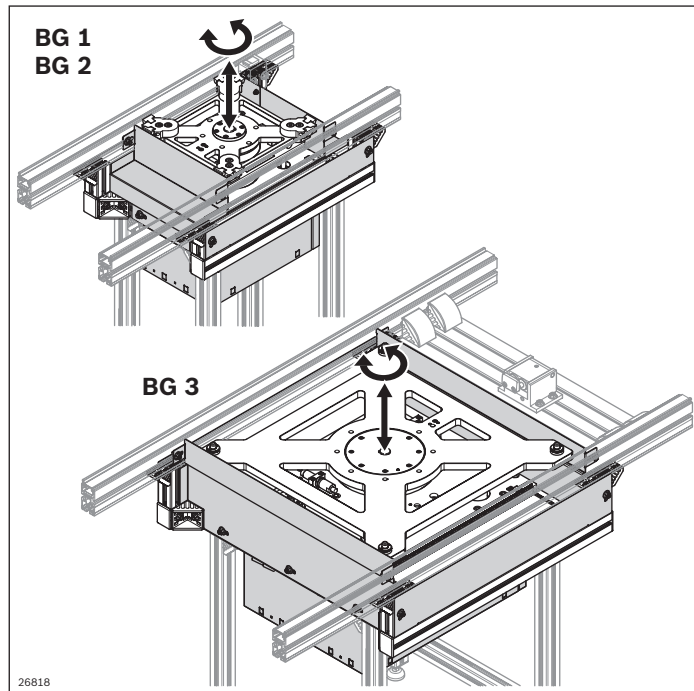


- ▶ For the safety of the unit and to protect against interference from outside below the conveying level
- ▶ Protection above the conveying level must be configured individually for each application

Ordering information

BG	Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	Material number
BG 1	240	240	90	3842552593
BG 1	240	240	180	3842552601
BG 1	240	320	180	3842552602
BG 1	240	400	180	3842552603
BG 1	320	240	180	3842552604
BG 1	320	320	90	3842552594
BG 1	320	320	180	3842552605
BG 1	320	400	180	3842552606
BG 1	320	480	180	3842552607
BG 1	400	320	180	3842552609
BG 2	400	400	90	3842552595
BG 2	400	400	180	3842552611
BG 2	400	480	180	3842552612
BG 2	480	400	180	3842552613
BG 2	480	480	90	3842552596
BG 2	480	480	180	3842552614
BG 2	480	640	180	3842552615
BG 2	480	800	180	3842552616
BG 2	640	480	180	3842552617
BG 2	640	640	90	3842552597
BG 2	640	640	180	3842552618

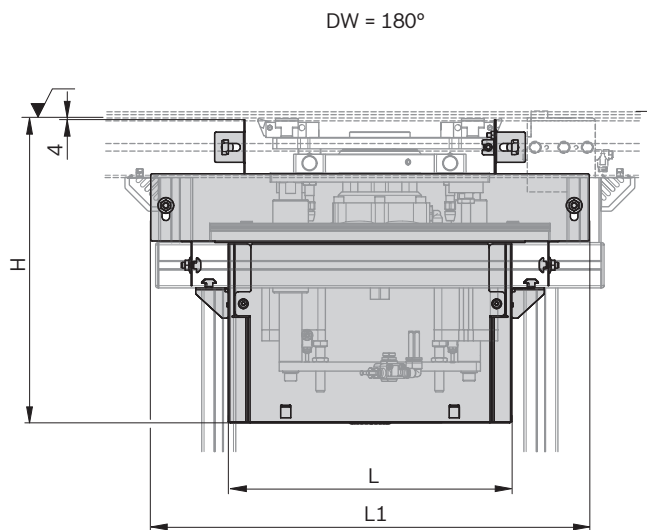
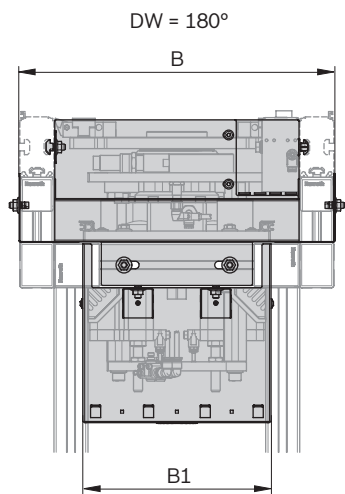
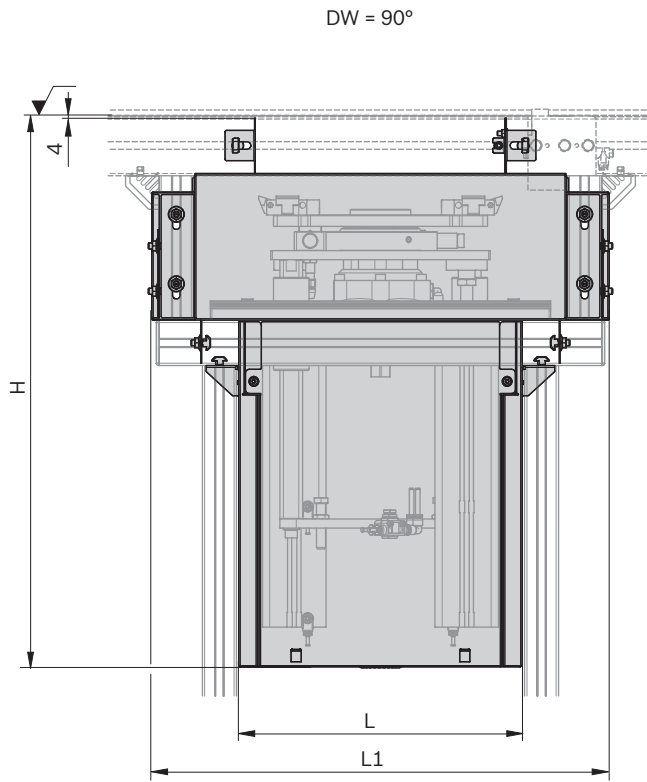
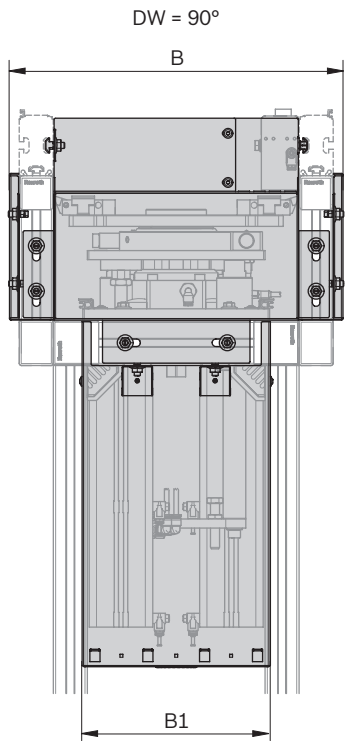
BG	Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	Material number
BG 2	640	800	180	3842552619
BG 2	640	1040	180	3842552620
BG 2	800	640	180	3842552622
BG 3	800	800	90	3842552598
BG 3	800	800	180	3842552624
BG 3	800	1040	180	3842552625
BG 3	1040	800	180	3842552626
BG 3	1040	1040	90	3842552599
BG 3	1040	1040	180	3842552627
BG 3	1040	1200	180	3842552628
BG 3	1200	1200	90	3842552600
BG 3	1200	1200	180	3842552630



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Housing element dimensions for BG 1 and BG 2

BG 1
BG 2



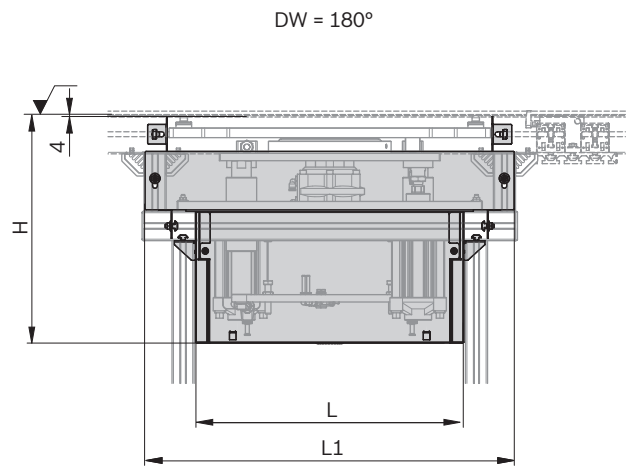
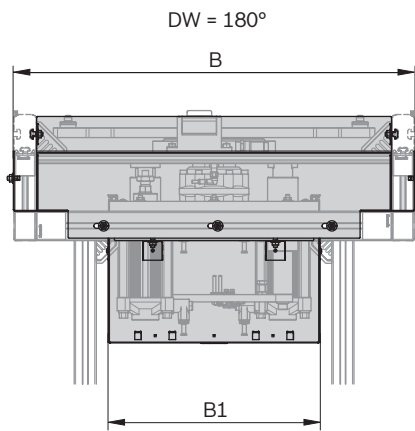
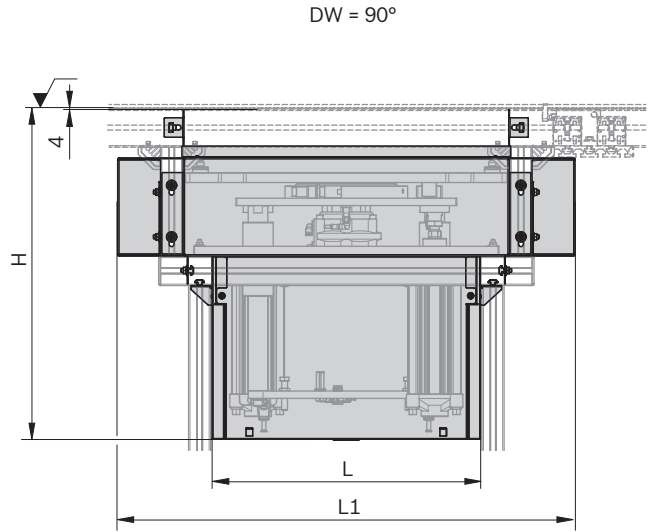
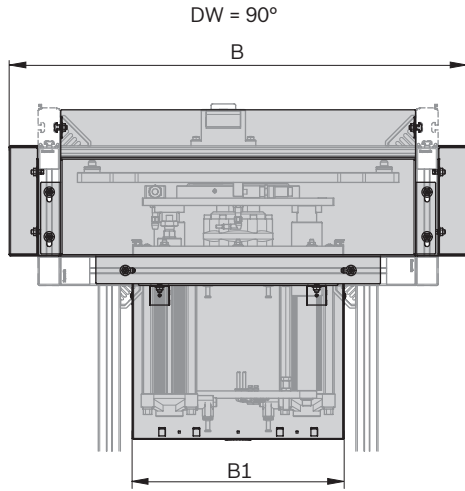
30269

7-70 **TS 2plus 7.0** | Positioning and orientation
 HD 2/H housing element

BG	Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	H (mm)	L (mm)	L1 (mm)	B (mm)	B1 (mm)	Material number
BG 1	240	240	90	699.5	297	509	257.2	157	3842552593
BG 1	240	240	180	371.5	297	423	257.2	157	3842552601
BG 1	240	320	180	371.5	297	423	257.2	157	3842552602
BG 1	240	400	180	371.5	297	423	257.2	157	3842552603
BG 1	320	240	180	371.5	297	423	337.2	162	3842552604
BG 1	320	320	90	699.5	297	509	337.2	162	3842552594
BG 1	320	320	180	371.5	297	423	337.2	162	3842552605
BG 1	320	400	180	371.5	297	423	337.2	162	3842552606
BG 1	320	480	180	371.5	297	495	337.2	162	3842552607
BG 1	400	320	180	371.5	297	423	417.2	162	3842552609
BG 2	400	400	90	729.5	375	605	441.0	249	3842552595
BG 2	400	400	180	404.5	375	501	417.2	249	3842552611
BG 2	400	480	180	404.5	375	501	417.2	249	3842552612
BG 2	480	400	180	404.5	375	501	497.2	249	3842552613
BG 2	480	480	90	729.5	375	605	553.0	249	3842552596
BG 2	480	480	180	404.5	375	501	497.2	249	3842552614
BG 2	480	640	180	404.5	375	651	497.2	249	3842552615
BG 2	480	800	180	404.5	375	811	497.2	249	3842552616
BG 2	640	480	180	404.5	375	501	657.2	249	3842552617
BG 2	640	640	90	729.5	375	779	779.0	249	3842552597
BG 2	640	640	180	404.5	375	651	657.2	249	3842552618
BG 2	640	800	180	404.5	375	811	657.2	249	3842552619
BG 2	640	1040	180	404.5	375	1051	657.2	249	3842552620
BG 2	800	640	180	404.5	375	651	817.2	249	3842552622

Housing element dimensions for BG 3

BG 3



30271

7-72 **TS 2plus 7.0** | Positioning and orientation
 HD 2/H housing element

BG	Width b_{WT} (mm)	Length l_{WT} (mm)	Rotation angle DW (°)	H (mm)	L (mm)	L1 (mm)	B (mm)	B1 (mm)	Material number
BG 3	800	800	90	675.5	547	932	933.0	432	3842552598
BG 3	800	800	180	465.5	547	742	818.0	432	3842552624
BG 3	800	1040	180	465.5	547	982	818.0	432	3842552625
BG 3	1040	800	180	465.5	547	742	1058.0	432	3842552626
BG 3	1040	1040	90	675.5	547	1271	1271.0	432	3842552599
BG 3	1040	1040	180	465.5	547	982	1058.0	432	3842552627
BG 3	1040	1200	180	465.5	547	1142	1058.0	432	3842552628
BG 3	1200	1200	90	675.5	547	1497	1497.0	432	3842552600
BG 3	1200	1200	180	465.5	547	1142	1218.0	432	3842552630