## Drive units

### Design

### Drive layout

### AS 5/XH, AS 5/H drive units (with split rollers)

### AS 5/XH-FR, AS 5/H-FR drive units (with full rollers)

### AS 5/OC drive units (Open Center)

### Drive options for an Open Center section

### Frequency converter (FC) accessories
Drive units

Design

Drive units

Ready-for-operation module to drive conveyor units, curves, diverters, and junctions in 4 system widths and 2 load classes. Versions available with split rollers (standard) or full rollers. The rollers in the conveyor section are driven by a king shaft in the drive unit. The king shaft is located behind a protective cover below the transport level; the workpiece pallet can pass over the king shaft.

The length of the driven conveyor section depends on the roller spacing. A drive torque of up to 45 Nm (in reversible operation: 20 Nm) is enough to drive a section of up to 10 m with curves and diverters or a straight section of up to 20 m in accumulation operation.

Required accessories:
- SZ 5/... leg sets 7-2
- Connection kit 4-14

Attachment options for the gear motor:

Standard

Custom motor
Drive units

Drive layout

When laying out the system, make sure that there is enough driving power for the entire conveyor section.

The rollers are driven by the drive unit via a king shaft. A friction clutch on each roller prevents blocking of the drive. The maximum transferable total torque thus results from the force present briefly before an individual clutch slides, multiplied by the total number of rollers in the section.

Example layout:

Drive torque 45 Nm, each roller loads the drive with 0.3 Nm (with a sliding clutch). Each curve, diverter, or junction loads the drive with 12 Nm.

Note:
Install the motor as close as possible to the center of the section.

Example A:
Section, b = 650 mm, with roller division p = 130 mm and a curve
Question: If one drive unit is used, how long may the straight section be?

Calculation:
45 Nm - 12 Nm (for curve) = 33 Nm remaining for the straight section
33 Nm ÷ 0.3 Nm = 110 (driven rollers)
110 x 130 mm = 14300 mm straight section.

Example B:
Section, b = 650 mm, length 20 m, p = 130, includes 1 diverter and 1 curve
Question: Will one drive unit be sufficient?

Calculation:
45 Nm – 12 Nm (diverter) – 12 Nm (curve) = 21 Nm remaining for the straight section
20000 mm – 1560 mm (diverter) – 1149 mm (curve) = 17291 mm straight section
17291 mm ÷ 130 mm = 133 rollers
133 x 0.3 Nm = 39.9 Nm
39.9 Nm > 21 Nm, two drives are needed in order to attain the torque to be transferred.
Drive units

AS 5/XH, AS 5/H drive units (with split rollers)

Application:
To drive
- ST 5/… conveyor units
- CU 5/… curves
- DI 5/… diverters
- JU 5/… junctions

Version:
- Suitable for reversible operation
- Motor connection with cable/plug (AT=S) or terminal box (AT=K)

Delivery condition:
- Ready-to-install, gear motor enclosed separately.
  Attachment option for the gear motor

AS 5/XH, AS 5/H drive units

<table>
<thead>
<tr>
<th>b (mm)</th>
<th>LG</th>
<th>BG</th>
<th>GM</th>
<th>v (m/min)</th>
<th>U, f</th>
<th>AT</th>
<th>MOD</th>
<th>No.</th>
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<tbody>
<tr>
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<td>1/2</td>
<td>1</td>
<td>2</td>
<td>0; 1; 2</td>
<td>0; 2; 4; 6; 9; 12; 15; 18; 2-7; 7-18</td>
<td>K; S</td>
<td></td>
<td>3 842 998 532 (AS 5/XH)</td>
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<tr>
<td>650</td>
<td>1/2</td>
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<td>2</td>
<td>0; 1; 2</td>
<td>0; 2; 4; 6; 9; 12; 15; 18; 2-7; 7-18</td>
<td>K; S</td>
<td></td>
<td>3 842 998 533 (AS 5/H)</td>
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<tr>
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<td>2</td>
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<td>0; 2; 4; 6; 9; 12; 15; 18; 2-7; 7-18</td>
<td>K; S</td>
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<td>b = … mm</td>
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<td>2</td>
<td>0; 1; 2</td>
<td>0; 2; 4; 6; 9; 12; 15; 18; 2-7; 7-18</td>
<td>K; S</td>
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</tbody>
</table>

1) b = width (track width in direction of transport)
2) LG = lateral guide material
   1: steel
   2: polymer
   3: aluminum
3) BG = bevel wheel material
   1: polymer
   2: sintered metal
4) GM = gear motor;
   0: without (SW27 interface)
   1: with gear motor SW27
   2: without (interface to SEW connection, round shaft Ø 20)
5) vN = nominal speed;
6) AT = motor connection
   K: with terminal box
   S: with cable/plug
7) MOD = (only with frequency converter) = Standard I/O (preferred value)
   Application I/O
   System bus (CAN)
   PROFIBUS DP
### Application:
To drive
- ST 5/…-FR conveyor units
- CU 5/…-FR curves
- DI 5/…-FR diverters
- JU 5/…-FR junctions

### Version:
- Suitable for reversible operation
- Motor connection with cable/plug (AT=S) or terminal box (AT=K)

### Delivery condition:
- Ready-to-install, gear motor enclosed separately.

### Note:
To transport workpieces without workpiece pallets. Use polymer lateral guides to ensure the workpiece is not damaged!

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### AS 5/XH-FR, AS 5/H-FR drive units

**AS 5/XH-FR, AS 5/H-FR drive units**

<table>
<thead>
<tr>
<th>b (mm)</th>
<th>LG</th>
<th>BG</th>
<th>GM</th>
<th>( v_{\text{r}} ) (m/min)</th>
<th>U, f</th>
<th>AT</th>
<th>MOD</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>455</td>
<td>1; 2</td>
<td>3</td>
<td>1; 2</td>
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<tr>
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<td>3</td>
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<td>0; 2; 4; 6; 9; 12; 15; 18; 2-7; 7-18</td>
<td>K; S</td>
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<td>0; 1; 2</td>
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<td>K; S</td>
<td>3 842 998 535 (AS 5/H-FR)</td>
<td></td>
</tr>
</tbody>
</table>

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1) \( b \) = width (track width in direction of transport)
2) \( LG \) = lateral guide material
   1: steel
   2: polymer
   3: aluminum
3) \( BG \) = bevel wheel material
   1: polymer
   2: sintered metal
4) \( GM \) = gear motor;
   0: without (SW27 interface)
   1: with gear motor SW27
   2: without (interface to SEW connection, round shaft ø 20)
5) \( v_{\text{n}} \) = nominal speed;
   \( v_{\text{n}} = 0 \) (without gear motor)
6) \( AT \) = motor connection
   K: with terminal box
   S: with cable/plug
7) \( MOD \) = (only with frequency converter) = Standard I/O (preferred value)
   Application I/O
   System bus (CAN)
   PROFIBUS DP

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Drive units

AS 5/OC drive units (Open Center)

Application:
To drive
— ST 5/OC… conveyor units

Version:
— Suitable for reversible operation
— Motor connection with cable/plug (AT=S) or terminal box (AT=K)

Delivery condition:
— Ready-to-install, gear motor enclosed separately.
  Attachment option for the gear motor
  3-2

AS 5/OC drive units

<table>
<thead>
<tr>
<th>b</th>
<th>LG</th>
<th>BG</th>
<th>GM</th>
<th>DD</th>
<th>v_N</th>
<th>U, f</th>
<th>AT</th>
<th>MOD</th>
<th>No.</th>
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<td>K; S</td>
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<td>13-7</td>
<td>K; S</td>
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b = width (track width in direction of transport)
LG = lateral guide material
1: steel
2: polymer
3: aluminum
BG = bevel wheel material
1: polymer
2: sintered metal
GM = gear motor;
0: without (SW27 interface)
1: with gear motor SW27
2: without (interface to SEW connection, round shaft ø 20)
DD = king shaft
1: on one side with 1 gear motor
2: on two sides with 1 gear motor
3: on two sides with 2 gear motors
v_N = nominal speed;
0 = 0 (without gear motor)
AT = motor connection
K: with terminal box
S: with cable/plug
MOD (only with frequency converter) = Standard I/O (preferred value)
Application I/O
System bus (CAN)
PROFIBUS DP
Drive units

Drive options for an Open Center section

The TS 5 drive concept enables one- or two-sided drive of an Open Center section connected to adjacent sections. Depending on the loading situation, a separate AS 5/OC drive may not be required.

Load position centered on WT

<table>
<thead>
<tr>
<th>$b_{WT} \times l_{WT}$ (mm)</th>
<th>m (kg)</th>
<th>$DD = 1$</th>
<th>m (kg)</th>
<th>$DD = 2$</th>
<th>m (kg)</th>
<th>$DD = 3$</th>
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<td>1$^2$</td>
<td>150</td>
<td>1$^2$</td>
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<tr>
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<tr>
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<td>1$^2$</td>
<td>200</td>
<td>1$^2$</td>
<td>300</td>
<td>1$^2$</td>
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1) Drive side
2) Drive on one side sufficient
3) Drive on both sides required

Load position off-center and within the permissible load area

<table>
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<tr>
<th>$b_{WT} \times l_{WT}$ (mm)</th>
<th>m (kg)</th>
<th>$DD = 1$</th>
<th>m (kg)</th>
<th>$DD = 2$</th>
<th>m (kg)</th>
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<td>150</td>
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<tr>
<td>650 x 650</td>
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<td>250</td>
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<td>200</td>
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<td>x$^0$</td>
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<td>1$^2$</td>
<td>300</td>
<td>1$^2$</td>
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<td>200</td>
<td>1$^2$</td>
<td>300</td>
<td>1$^2$</td>
</tr>
</tbody>
</table>

1) Drive side
2) Drive on one side sufficient
3) Drive on both sides required
A keypad is needed to infinitely control the transportation speed \( (v_N) \) of a drive with a frequency converter (FC).

**Keypads**
The keypad is used to infinitely control the transportation speed \( (v_N) \). The keypad is used once to set the parameters simply and conveniently. The parameter sets can be buffered in the keypad when the power is switched off and transferred between controllers. It comes with a 2.5 m connection cable.

**Potentiometers**
For fine adjustment of the speed within a range set with the keypad. Can be retrofit in the FC housing.

<table>
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<th>Keypads</th>
<th>No.</th>
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<tr>
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<table>
<thead>
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