

SERVO-DRIVE

Installation instructions



www.blum.com





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Using the installation instructions

Please read the installation instructions and safety information before SERVO-DRIVE installation.

We recommend that you use the orientation diagram for easier identification of the parts being described.

These installation instructions apply to the SERVO-DRIVE electrical motion support system for:

- the lift systems AVENTOS HF, AVENTOS HS, AVENTOS HL, AVENTOS HK and AVENTOS HK top

- the box systems LEGRABOX and TANDEMBOX as well as the runner systems MOVENTO and TANDEM

However, only AVENTOS HF is used as an example in the illustrations.

Please see the special AVENTOS installation instructions for the assembly steps for the mechanical AVENTOS HF, HS, HL, HK and HK top lift systems without SERVO-DRIVE.

Intended use

SERVO-DRIVE supports the opening and closing of lift systems and/ or the opening of pull-out elements, and may only be used under the following conditions:

- In dry, enclosed rooms.
- In combination with AVENTOS lift systems and/or pull-out systems from Julius Blum GmbH within permitted technical specifications.
- In combination with a Blum transformer.

Safety

SERVO-DRIVE complies with current safety standards.

Nevertheless, there are certain risk factors if these installation instructions are not followed. Please be aware that Julius Blum GmbH is not responsible for incidental or consequential damages that may arise due to non-compliance with these installation instructions.

- All national standards must be followed for SERVO-DRIVE assembly. This includes, in particular, those related to the mechanical safety of moving parts and electrical cabling.
- Only qualified technicians may install/replace Blum components,





modify the position of the Blum transformer or modify any cabling.

- The device may only be connected to a power supply that corresponds to the type and frequency listed on the serial tag (see Blum transformer).
- The outlet must be freely accessible.
- Only 1 Blum transformer can be connected to each distribution cable.
- Maintain safety distances to the Blum transformer listed in the installation instructions.
- Make sure that moisture cannot penetrate the Blum transformer and drive unit.
- Before starting repair or maintenance work, unplug the Blum transformer to disconnect the power.
- The drive unit, Blum transformer and SERVO-DRIVE switch should only be cleaned with a moist cloth because penetrating moisture and aggressive cleaning materials can damage the electronics.
- Do not touch the area around the lever during the opening and closing motion.
- · No damaged parts should be used.
- Sharp edges may damage the cable.
- Neither the Blum transformer nor any cabling should come into contact with moving parts.
- Never take apart a drive unit or a SERVO-DRIVE switch.

Warning signs and danger symbols

▲ WARNING	WARNING indicates a danger that could lead to death or serious injury if not heeded.	
NOTE	The NOTE sign indicates information that should be followed.	





Danger of electric shock

- Never open a Blum transformer. There is a danger of electric shock.
- Before starting repair or maintenance work, unplug the Blum transformer to disconnect the power.

▲ WARNING





There is a danger of injury if the lever springs upward.

There is a danger of injury from the lever springing upwards when the front is removed.

- Do not push down on lever arm, instead, remove the arm if it is in the way (not possible on HK variant).
- > Do not connect the transformer to the power supply while the fronts are unattached.

Blum transformer safety distance

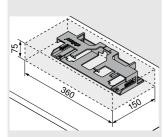
NOTE

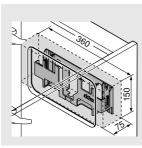
A safety distance of 30 mm must be maintained for air circulation; otherwise, there is a risk that the Blum transformer could overheat.

The dimensions in the drawing take into account the safety distance.

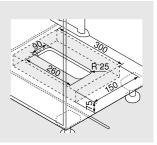
Panel fixing

Assembly on the top panel





Base fixing





Structural changes and spare parts

Structural changes and replacement parts not approved by the manufacturer affect the safety and functionality of SERVO-DRIVE and are, therefore, not allowed.

- · Only use original replacement parts from Julius Blum GmbH.
- Blum components are the only devices that should be connected to the Blum transformer.

Troubleshooting

For troubleshooting information, please go to: <u>www.blum.com/sd/troubleshooting</u>

Info regarding the Machine Directive 2006/42/EC

The SERVO-DRIVE drives for opening | closing lift systems, doors and pull-outs are subject to the provisions of the European Machinery Directive 2006/42/EC. Based on the guide to application of the Machinery Directive (Edition 2.2), Blum drives are a complete machine. If SERVO-DRIVE drives are fitted to furniture in accordance with the current Blum specifications (Blum catalogue, instruction leaflets and installation instructions), all the requirements of the Machinery Directive are covered by the Blum declaration of conformity. If the furniture deviates from the Blum specifications, the conformity must be confirmed by the distributor of the furniture.

Note: The Machinery Directive applies to products placed on the market within the European Economic Area (EEA) + Switzerland + Turkey + North Macedonia. The requirements of other countries are covered by certifications.

For detailed information regarding the Machine Directive, please go to: www.blum.com/sd/guideline





Disposing of electrical and electronic appliances

Electrical and electronic appliances must not be disposed of with household waste at the end of their service life. Ask your local authority for information on how to proceed. Blum electrical and electronic appliances meet the requirements of the WEEE Directive

2012/19/EU. Electrical and electronic appliances are collected separately, which enables old appliances to be reused or recycled, and their materials to be reused. This is intended to prevent any hazardous materials that may be contained in the appliances from damaging the environment and health during disposal. In most cases, the entire appliance does not need to be disposed of according to the WEEE guidelines, but only the part that is equipped with electrical components. Please refer to the disassembly instructions for information on this. There are free collection points for returning electrical and electronic appliances in your area. You will find further information on this under the following link: www.blum.com/recycling

Disposing of batteries

Batteries must not be disposed of with household waste at the end of their service life. Ask your local authority for information on how to proceed. Batteries used at Blum meet the requirements of the Battery Directive 2006/66/EC. Batteries are collected separately, which enables the batteries or their materials to be recycled. This is intended to prevent any hazardous materials that may be contained in the appliances from damaging the environment and health during disposal. Please refer to the disassembly instructions for information on removing batteries. There are free collection points for returning batteries in your area. Please avoid shorting the contact surfaces when disposing of batteries.

Simplified EU declaration of conformity

Julius Blum GmbH hereby declares that all electrical and electronic article types of Julius Blum GmbH conform to the Directive 2011/65/EU.

Julius Blum GmbH hereby declares that the machine types Z10A3000 and Z10C5000 conform to the Directive 2006/42/EC and Directive 2014/30/EU.

Julius Blum GmbH hereby declares that the machine types 23KA001, 23KA000, 21FA001, 21FA000, 21LA001, 21LA000, 21SA001, 21SA000, 21KA001 and 21KA000 conform to the Directive 2006/42/EC and Directive 2014/53/EU.

Julius Blum GmbH hereby declares that the radio equipment types 23.A00L83, 23P5020, 21P5020 and Z10C5007 conform to the Directive 2014/53/EU.

Julius Blum GmbH hereby declares that the electrical and electronic article types Z10ZE000 and Z10ZC000 conform to the Directive 2014/30/EU.

Julius Blum GmbH hereby declares that the Blum transformer types Z10NA300 and Z10NE030 conform to the Directive 2014/35/EC and Directive 2014/30/EU.

The complete text of the EU declaration of conformity is available at the following Internet address: www.blum.com/compliance

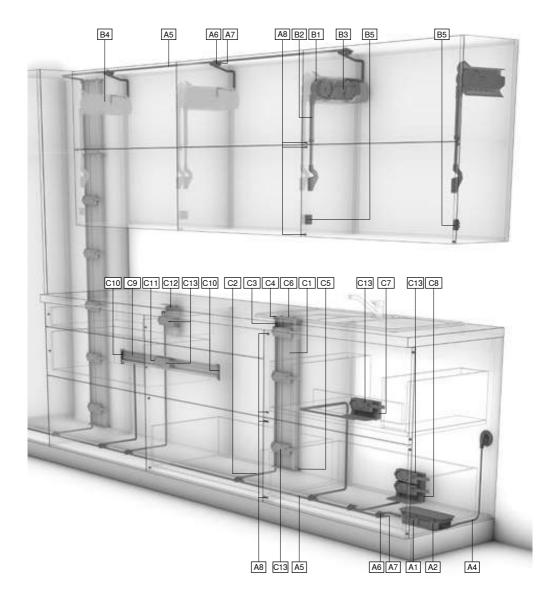
	Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information
Unique Identifier	
Product-Family:	SERVO-DRIVE
Product-Types:	23KA00y y є {0, 1}, 23.A00L83
	21xA00y x € {F, L, S} ∧ y € {0, 1}, Z10C5007
	23P5020, 21P5020 both with PCB 23P502L00
	21P5020 with PCB 21P502L00
	Z10A3000, Z10C5000
	Z10NA300, Z10NE030
Responsible Party- Blum Inc. 7733 Old Plank R	U.S. Contact Information
Stanley, North Ca 28164	lonna
Mr. Christopher N	ſuck
Email: chris.muck	@blum.com
FCC Compliance S	tatement
conditions: (1) Th	lies with Part 15 of the FCC Rules. Operation is subject to the following two is device may not cause harmful interference, and (2) this device must accept yed, including interference that may cause undesired operation.

accept any





SERVO-DRIVE overview drawing





A1 A2 A4 A5 A6 A7 A8

Blum transformer with LED display

Transformer unit housing for base fixing

Flex Distribution cable for cutting to size

Connecting node

Cable end protector

Blum distance bumper

B1	
B2	
B3	
B4	
B5	

Lift mechanism

Telescopic arm or lever arm

Drive unit with LED display

Cover cap

SERVO-DRIVE switch with battery display

C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12

Bracket profile vertical

Bracket profile cable (for power supply)

Communication cable

Upper/Back bracket profile attachment

Lower bracket profile attachment

Bracket profile cover cap

Attachment bracket 1 tier

Attachment bracket 2 tier

Bracket profile horizontal

Bracket profile attachment left/right

Adapter for drive unit

Upper attachment bracket with adapter for drive unit

Drive unit

C13

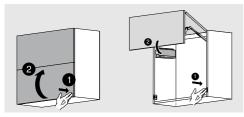




AVENTOS function

Electrical motion support system

The SERVO-DRIVE switch triggers the automatic opening and closing action of SERVO-DRIVE for AVENTOS.



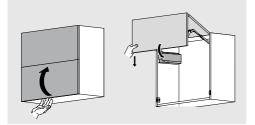
Press on the front

> The lift system opens automatically

Press on the SERVO-DRIVE switch > The lift system closes automatically

Manual operation

The lift system can be opened or closed manually without restrictions without damaging SERVO-DRIVE for AVENTOS.

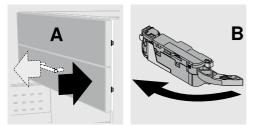


- Manual opening of the lift system by moving it upwards
- Manual closing of the lift system by moving it downwards

LEGRABOX/TANDEMBOX/MOVENTO/TANDEM function

Electrical motion support system

When the front and/or handle of the drawer (A) is pulled or pressed, the eject lever of the drive unit (B) swivels forward and opens the pull-out element a short distance.

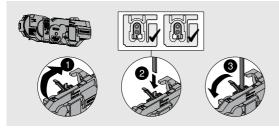




SERVO-DRIVE for AVENTOS

Distribution cable installation

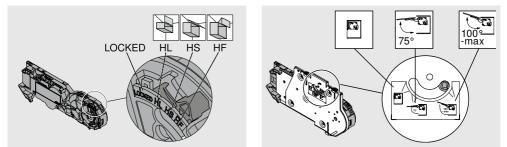
HF / -HS / -HL / -HK



Drive unit adjustment

HF / -HS / -HL

ΗK



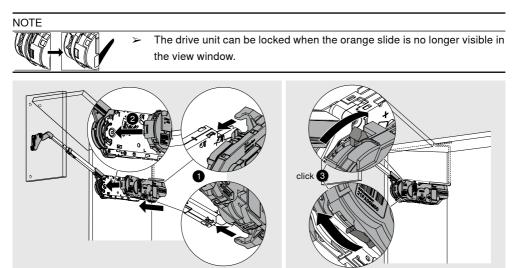
Drive unit assembly

NOTE

		Before SERVO-DRIVE for AVENTOS assembly, the lift mechanisms
		must be set so that the front remains open in different positions.
	2	The telescopic arm and/or lever arm must be in the completely open
		position for drive unit installation.
	2	If required, attach the opening angle stop only after drive unit installation
		and before the reference run.



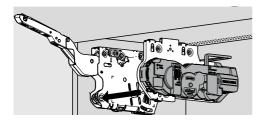
HF / -HS / -HL

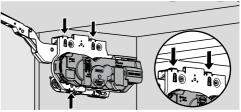


HΚ

NOTE

The drive unit can only be locked when the drive unit is inserted completely into the lift mechanism.





SERVO-DRIVE switch installation

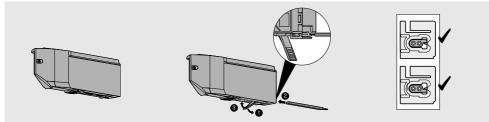






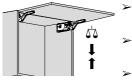
Distribution cable installation

AVENTOS HK top

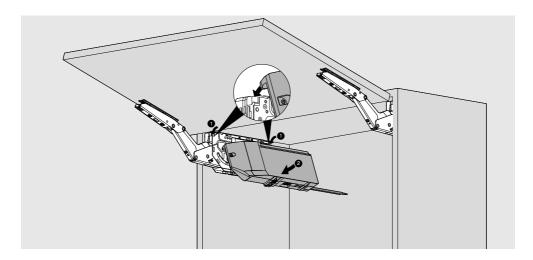


Drive unit assembly

NOTE



- Before SERVO-DRIVE for AVENTOS assembly, the lift mechanisms must be set so that the front remains open in different positions.
- The telescopic arm and/or lever arm must be in the completely open position for drive unit installation.
- If required, adjust the opening angle stop only after drive unit assembly and before the reference run.







SERVO-DRIVE switch installation

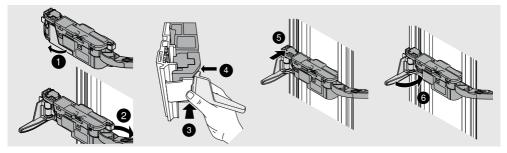




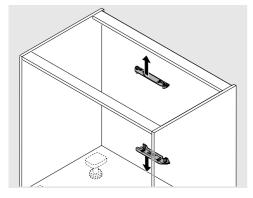


SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM

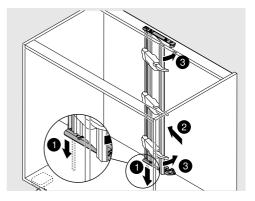
Drive unit assembly

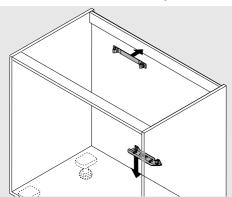


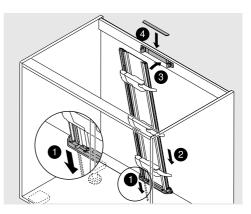
Horizontal cross member assembly



Vertical cross member assembly









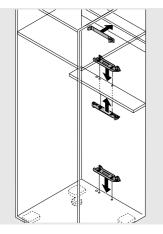


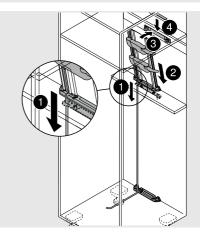
Assembly of larder unit with horizontal and vertical cross members

Equip bracket profile with distribution cable.

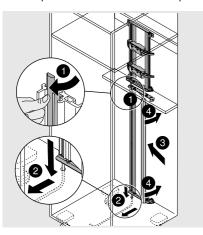
Remove pre-mounted bracket profile cable from both bracket profiles and insert a new, long bracket profile cable in the upper bracket profile.

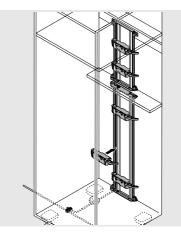






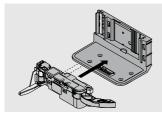
Insert long bracket profile cable into the lower bracket profile. Attach lower bracket profile.



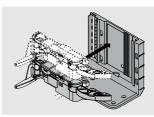




Attachment bracket 1 tier / 2 tier



Attachment bracket 1 tier



Attachment bracket 2 tier A second drive unit can also be installed (optional).

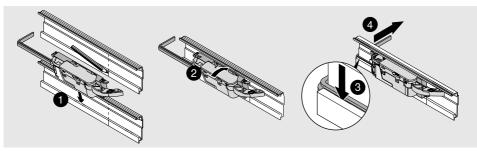
Bracket profile horizontal

Equip drive unit adapter bracket profile cable

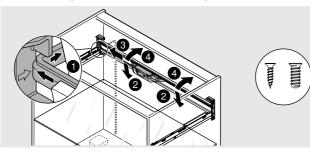
Attach drive unit to drive unit adapter



Install drive unit adapter to bracket profile horizontal



Install bracket profile horizontal in bracket profile attachment





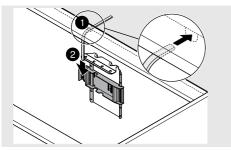




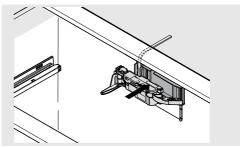
Upper attachment bracket

The bracket plate must be connected to the cross bar to make it secure.

Insert bracket profile cable



Attaching drive unit to adapter





Blum distance bumper

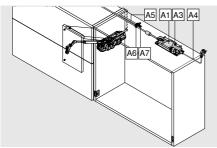
NOTE

> Do not glue the Blum distance bumper

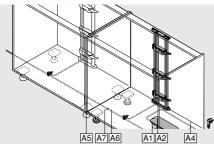


Installation in the front Aluminium frame: Installation in the cabinet side

Cabling overview drawing Wall cabinet



Base cabinet



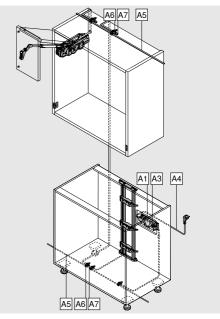
A1 A2 A3 A4 A5 A6 A7 Blum transformer with LED display Transformer unit housing for base fixing Transformer unit housing for panel fixing Flex

Distribution cable for cutting to size

Connecting node

Cable end protector

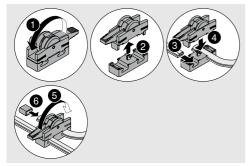
Wall cabinet/Base cabinet combination

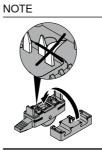






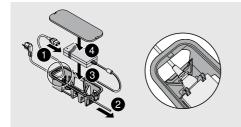
Connecting node assembly



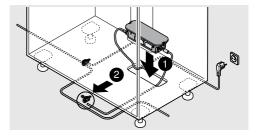


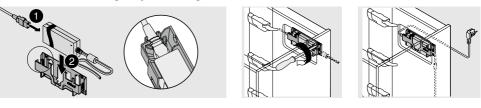
 Do not damage piercing pins.

Transformer assembly Transformer unit housing for base fixing

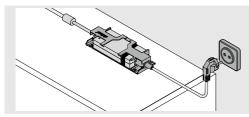


Transformer unit housing for panel fixing





Transformer unit housing – Assembly on the top panel





Cable diagram

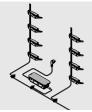
NOTE

> Only 1 Blum transformer can be connected to each distribution cable.

SERVO-DRIVE for AVENTOS



SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM



Transformer unit housing for base fixing

Sink cabinet



Transformer unit housing for base fixing

Upper attachment bracket





Transformer unit housing for panel fixing



Transformer unit housing for panel fixing

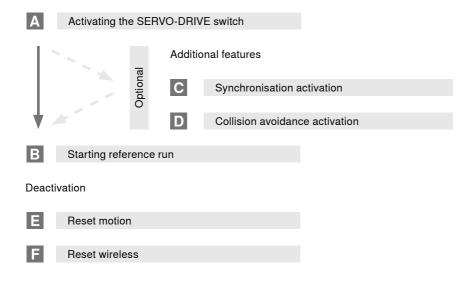
Bracket profile horizontal



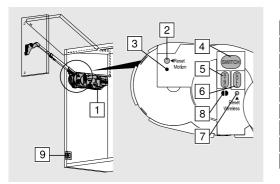




SERVO-DRIVE for AVENTOS



Button layout



Drive unit

1

2

3

4

5

6

7

- <Reset Motion> button
- Motion LED
- <SWITCH> button
- <SYNC> button
- <COLL> button
- <Reset Wireless> button
- 8 Wireless LED
- 9 SERVO-DRIVE switch

Start-up



Α

Operation



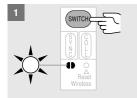
Lights up continuously



Activating the SERVO-DRIVE switch

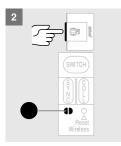


Setting up the wireless connection between the SERVO-DRIVE switch and the drive unit A switch can only be assigned to one drive unit.



Press the <SWITCH> button

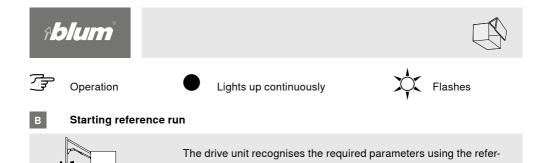
until the LED flashes green.



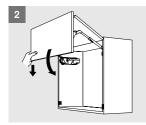
Press the SERVO-DRIVE switch

until the LED lights up green continuously.

Repeat procedure **A 1–2** for additional SERVO-DRIVE switches in the cabinet.

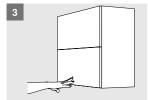


Reference run is required: LED flashes

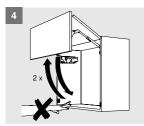


Close the front manually

ence run.



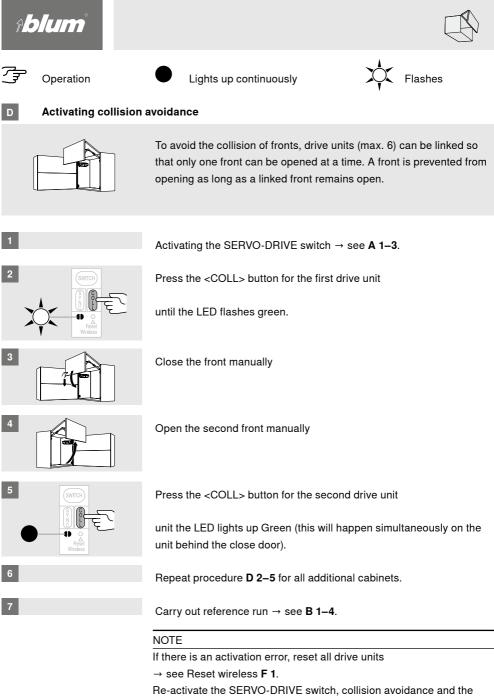
Press on front: The reference run starts automatically



Front opens and closes 2x automatically: Under no circumstances should you try to manually interrupt or stop the process.

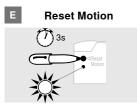
NOTEIf the reference run is interrupted, it should be reset \rightarrow see Reset motion **E 1**. The reference run restarts.

	EN
Operation	Lights up continuously
c Activating synchro	nisation
	Up to three drive units can be synchronised allowing them to move simultaneously. This function is required for several cabinets with a uniform front.
1	Activating the SERVO-DRIVE switch \rightarrow see A 1–3 .
2 SWITCH SUITCH Read Wretes	Press the <sync> button for the first drive unit until the LED flashes green.</sync>
3	Press the <sync> button for the second drive unit unit the LEDs of both synchronised drive units light up green.</sync>
4	Repeat procedure C 2–3 for all additional drive units.
5	Carry out reference run \rightarrow see B 1–4 .
	NOTE If there is an activation error, reset all drive units \rightarrow see Reset wireless F 1. Re-activate the SERVO-DRIVE switch, synchronisation and the refer- ence run \rightarrow see A 1–3, C 2–4 and B 1–4.



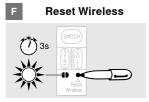
reference run \rightarrow see A 1–3, D 2–6 and B 1–4.





Resets the reference run and enables a new reference run to be started.

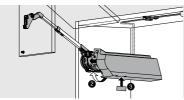
Press the <Reset Motion> button using a pen (at least 3 seconds) until the LED flashes quickly.



Deactivates all functions: All active SERVO-DRIVE switches for the respective drive unit are deleted.

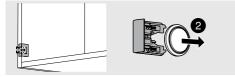
Press the <Reset Wireless> button using a pen (at least 3 seconds) until the LED flashes quickly.

Cover cap assembly



Replacing the SERVO-DRIVE switch battery

When the battery power begins to weaken, the battery display (LED) begins to flash red





- Open the SERVO-DRIVE switch and remove the battery
- Insert the new battery (type CR2032) and close the SERVO-DRIVE switch – note correct polarity +/-

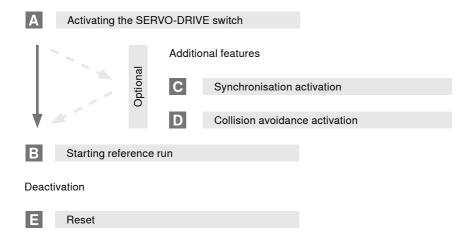
NOTE

> The SERVO-DRIVE switch battery must not be recharged or thrown into fire.

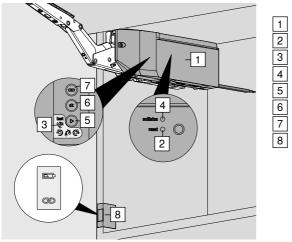




SERVO-DRIVE for AVENTOS HK top



Button layout



- Drive unit
- <Reset> button
- LED
- <Collision> button
- <Play> button
- <Ok> button
- <Connect> button
- SERVO-DRIVE switch

Start-up



Α

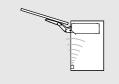
Operation



O Lights up continuously

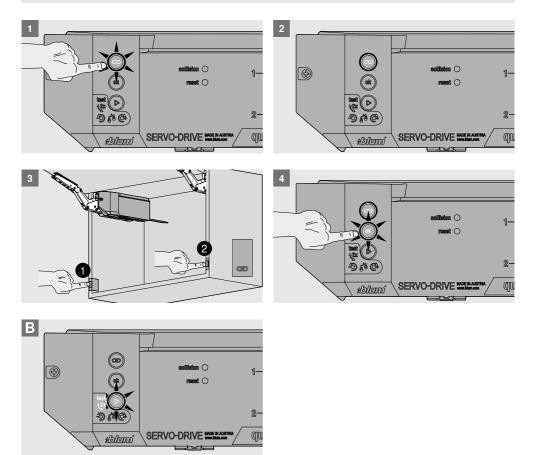


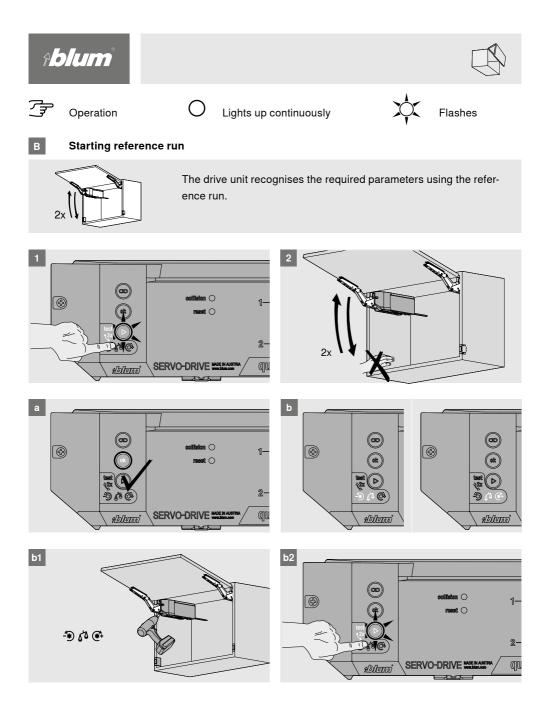
Activating the SERVO-DRIVE switch



Setting up the wireless connection between the SERVO-DRIVE switch and the drive unit

A switch can only be assigned to one drive unit.





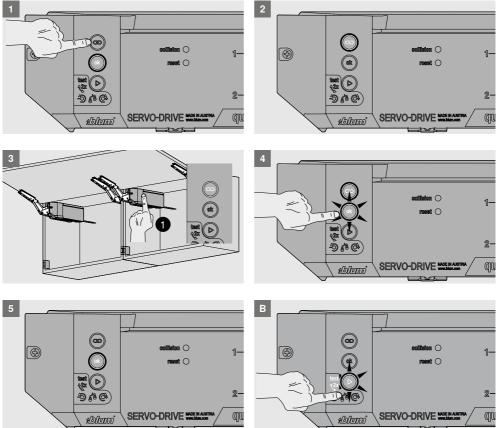


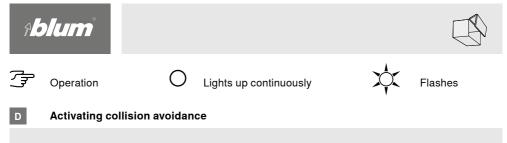


Activating synchronisation

С

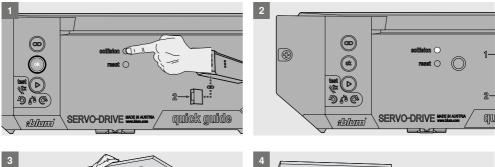
Up to three drive units can be synchronised allowing them to move simultaneously. This function is required for several cabinets with a uniform front.

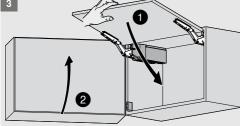


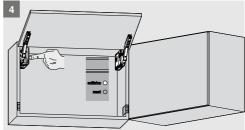


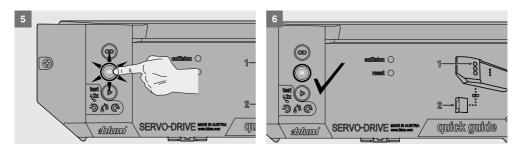


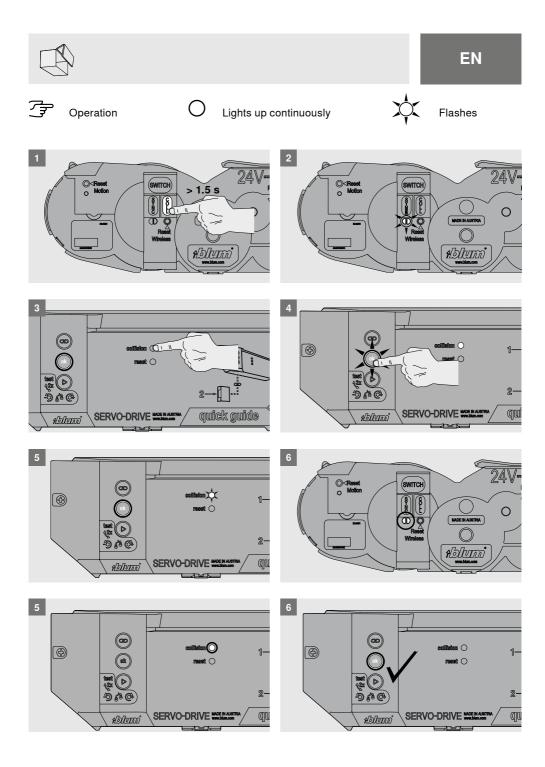
To avoid the collision of fronts, drive units (max. 6) can be linked so that only one front can be opened at a time. A front is prevented from opening as long as a linked front remains open.











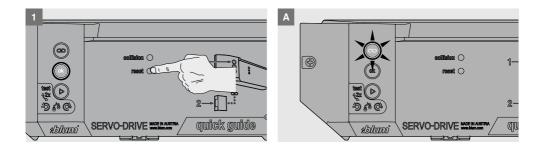




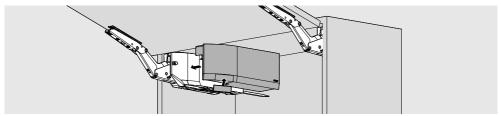
Reset

Е

Resets the drive unit to the factory setting.

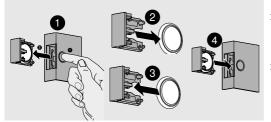


Cover cap assembly



Replacing the SERVO-DRIVE switch battery

When the battery power begins to weaken, the battery display (LED) begins to flash red



- Open the SERVO-DRIVE switch and remove the battery
- Insert the new battery (type CR2032) and close the SERVO-DRIVE switch – note correct polarity +/-

If the battery is inserted incorrectly, the SERVO-DRIVE switch battery display will flash red.

NOTE

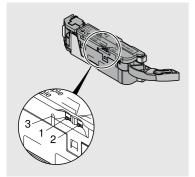
The SERVO-DRIVE switch battery must not be recharged or discarded into fire.



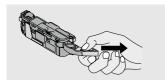


SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM – General information

Drive unit selector switch



Lever extension

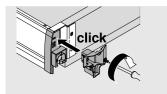


Selector switch Mode (1)

Single: Only one drive unit moves (standard setting) Multiple: When set to "Multiple," drive units move simultaneously to any drive unit that is activated on same vertical bracket profile. This does not apply on horizontal bracket profile or any L brackets. **Selector switch Power (2)** Full: Standard setting Half: For short nominal lengths (270–300 mm) **Operating mode display (LED) (3)**

The lever extension must be removed for a cabinet width of 275-320 mm in combination with a steel back and for a cabinet width up to 300 mm in combination with a chipboard back.

Trigger guidance



The lever guide must be attached and secured with screws for cabinet widths 275-320 mm if being used with chipboard backs.

Synchronisation cable



Two drive units that are supposed to open simultaneously must be connected via the synchronisation cable.



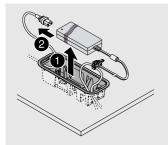
Blum transformer removal

▲ WARNING

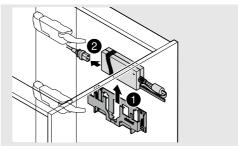
- Danger of electric shock ➤ Never open a Blum transformer. There is a danger of electric shock.
- > Before starting repair or maintenance work, unplug the Blum transformer to disconnect the power.

Transformer unit housing

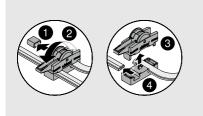
for base fixing



Transformer unit housing for panel fixing



Connecting node removal



NOTE		
	A	Do not damage piercing pins.



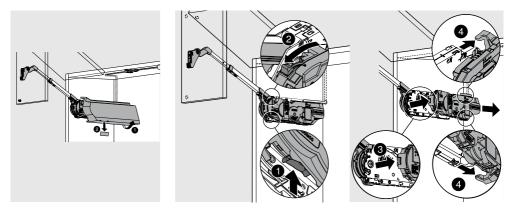


SERVO-DRIVE for AVENTOS

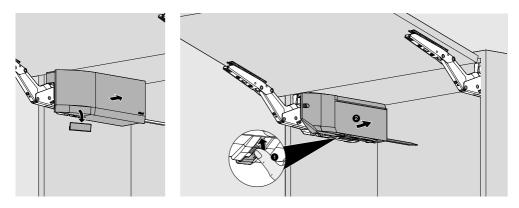
▲ WARNING

- Danger of electric shock ➤ Never open a Blum transformer. There is a danger of electric shock.
- > Before starting repair or maintenance work, unplug the Blum transformer to disconnect the power.

Removal

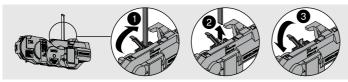


AVENTOS HK top

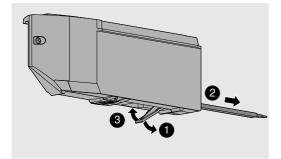




Distribution cable

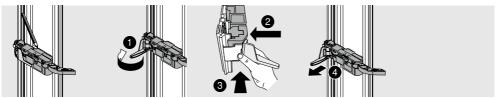


AVENTOS HK top



LEGRABOX/TANDEMBOX/MOVENTO/TANDEM

Drive unit removal



Look for our FSC^{*-}certified products



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Our sites in Austria, Poland and China are certified to the international standards mentioned below. Our site in the USA is certified to ISO 9001. Our site in Brazil is certified to ISO 9001 and ISO 14001.







