SERVO-DRIVE for AVENTOS

Opens and Closes Automatically

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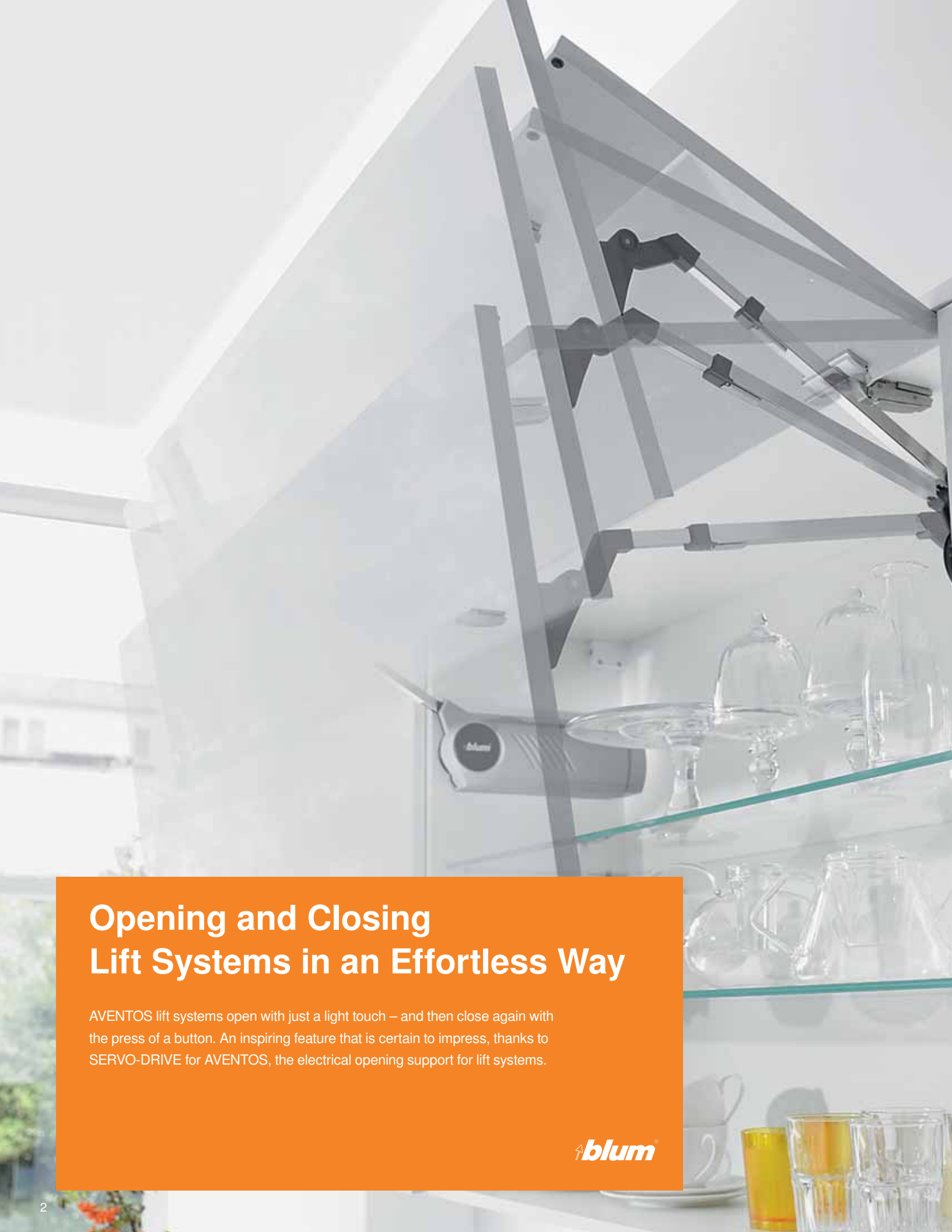

Opening and Closing Lift Systems in an Effortless Way

AVENTOS lift systems open with just a light touch – and then close again with the press of a button. An inspiring feature that is certain to impress, thanks to SERVO-DRIVE for AVENTOS, the electrical opening support for lift systems.

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SERVO-DRIVE for AVENTOS

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Features

Effortless Opening and Closing

A light touch on the front using your hand or elbow is all that's required to open doors with SERVO-DRIVE for AVENTOS.

Even large and heavy doors open effortlessly. For the user, this means easy access to the cabinet interior.

Comfortable and easy closing

Provided by the easy to reach switch on the cabinet side.

This enables the doors to close easily and ergonomically. The proven BLUMOTION function also ensures silent and effortless closing.

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SERVO-DRIVE inside

BLUMOTION inside

SERVO-DRIVE for AVENTOS

blum

The Focus is on the User

Completely safe – even when closing

Even when the switch has just been pressed for closing – the closing procedure is halted immediately if the user again reaches into the cabinet and/or an object is placed between the cabinet and the door.

Completely under control

Even though lift systems open and close automatically, the motion can be interrupted at any time. In addition, lift systems with SERVO-DRIVE for AVENTOS can also be easily opened and closed manually at anytime, e.g. when there is a power outage.

Completely synchronized

Up to three drive units can be set for synchronized motion. Synchronization is ideal for multiple cabinets that share one wide door.

Collision avoidance

For corner applications, it is especially important that lift system fronts do not open simultaneously. Thanks to the collision avoidance function, you can set drive units so that only one front opens at a time.

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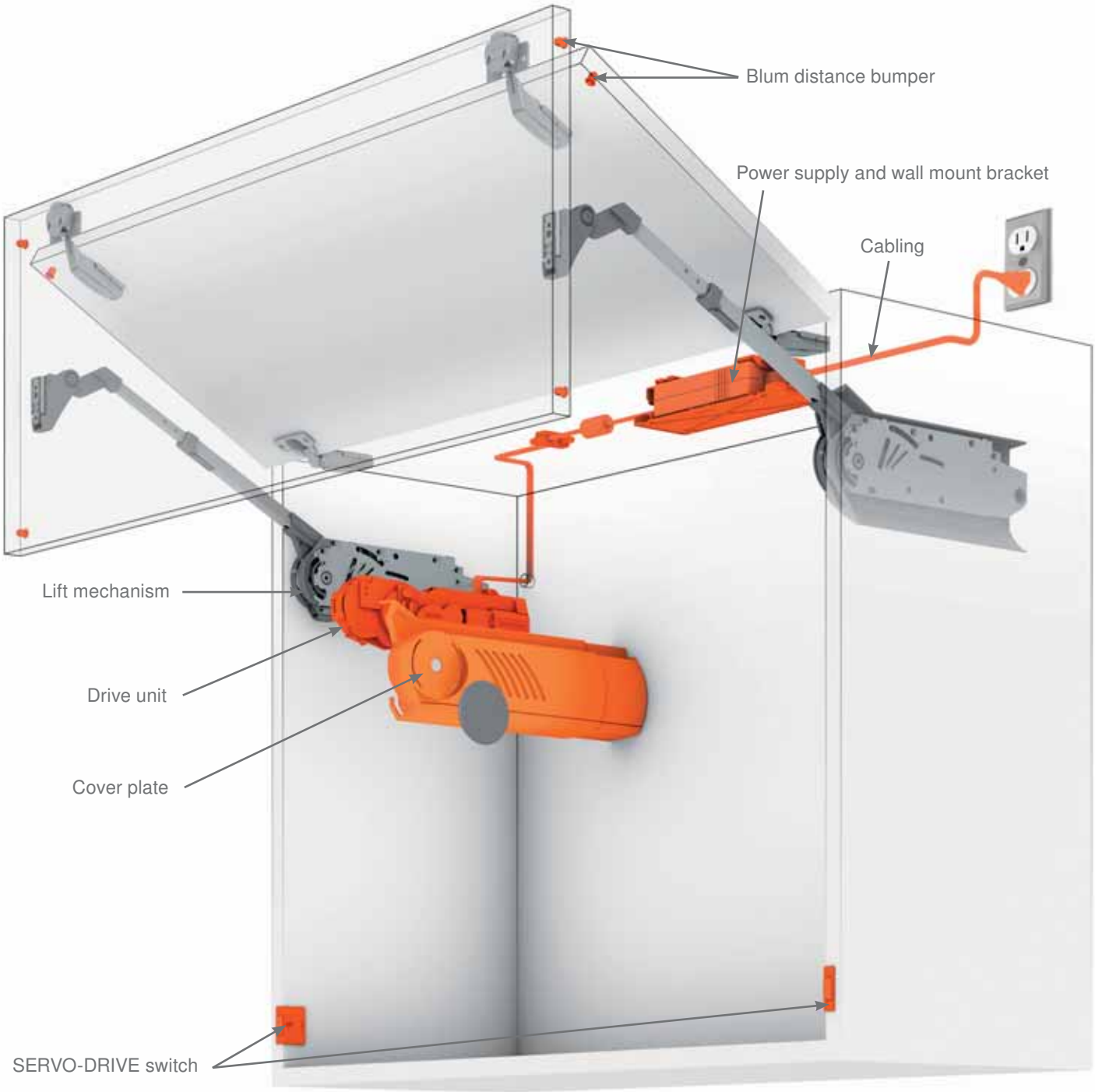
Overview of Components



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After lift mechanism installation and adjustment,
SERVO-DRIVE components are attached to the lift mechanism and cabinet.

Lift mechanism
- SERVO-DRIVE-compatible lift mechanism with tool-free attachment of the drive unit. Please see AVENTOS brochure (LIT.1000) for more details.

Drive unit
- Attaches to the left lift mechanism
- Tool-free attachment
- Same drive unit used for AVENTOS lift mechanisms HF, HS and HL
- Drive unit with adapter plate for AVENTOS HK lift mechanism
- Additional setting features for synchronization and collision avoidance

Cover plate
- Covers the lift mechanism and drive unit
- Extendable to an internal depth of 320 mm to cover the universal cable

SERVO-DRIVE switch
- Attaches to both cabinet sides
- Wireless connection to the drive unit
- Frequency 2.4 GHz
- Certified for use worldwide

Blum distance bumper
- Distance bumpers ensure the required trigger path of 2 mm

Cabling
- Proven cabling components such as the SERVO-DRIVE universal cable, cable connectors and cable end protectors
- Easy, practically tool-free cabling

Power supply
- Proven SERVO-DRIVE power supply

Wall mount bracket for power supply
- For secure mounting

Additional components for AVENTOS HS and HL
- Cross stabilizer (new length and configuration)
- Modified lever activation
- Repositioned screw locations for lift mechanism mounting

Please see the AVENTOS brochure (LIT.AVT1000) for all other lift system components.

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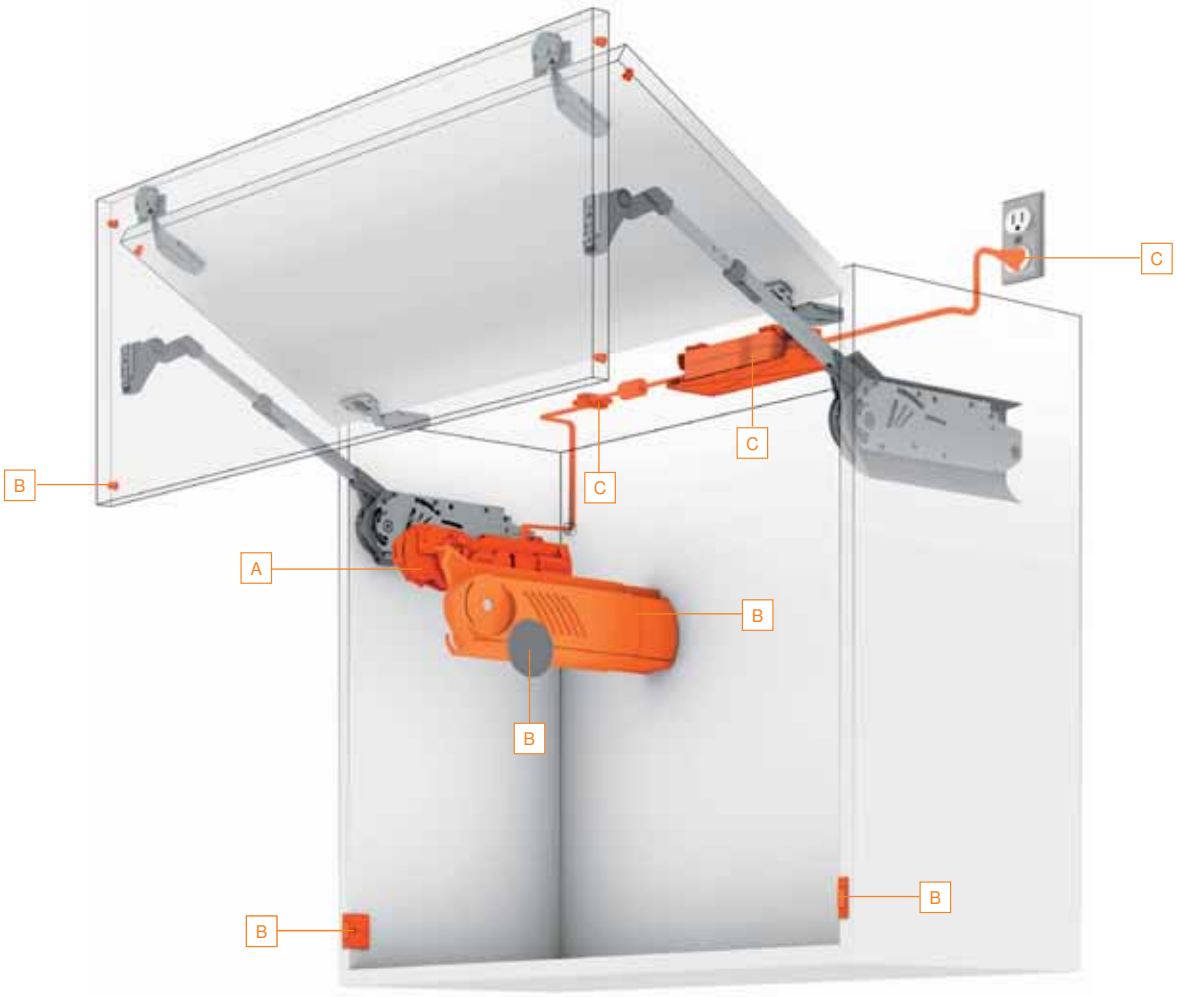
SERVO-DRIVE for AVENTOS HF

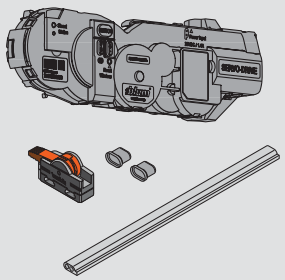
Ordering Information



SERVO-DRIVE set

A Set includes:

- Drive unit
- 60" universal cable
- Cable connector
- Cable end protector (qty 2)

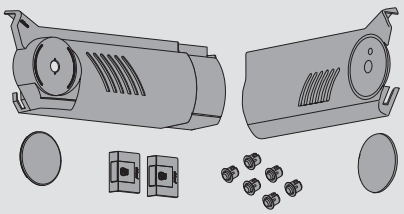


	Part no.
SERVO-DRIVE set	**21FA000**

Cover set

B Set includes:

- SERVO-DRIVE cover plate (left)
- Cover plate (right)
- Non-handed cover cap (qty 2)
- SERVO-DRIVE switches (qty 2)
- Ø5 mm Blum distance bumper (qty 6)
- Color: gray



	Part no.
Cover set	**21F8000.NA**

C Power Supply Set - see **page 12**

NOTE: For additional AVENTOS HF components and installation instructions, please see AVENTOS brochure (LIT. AVT1000)

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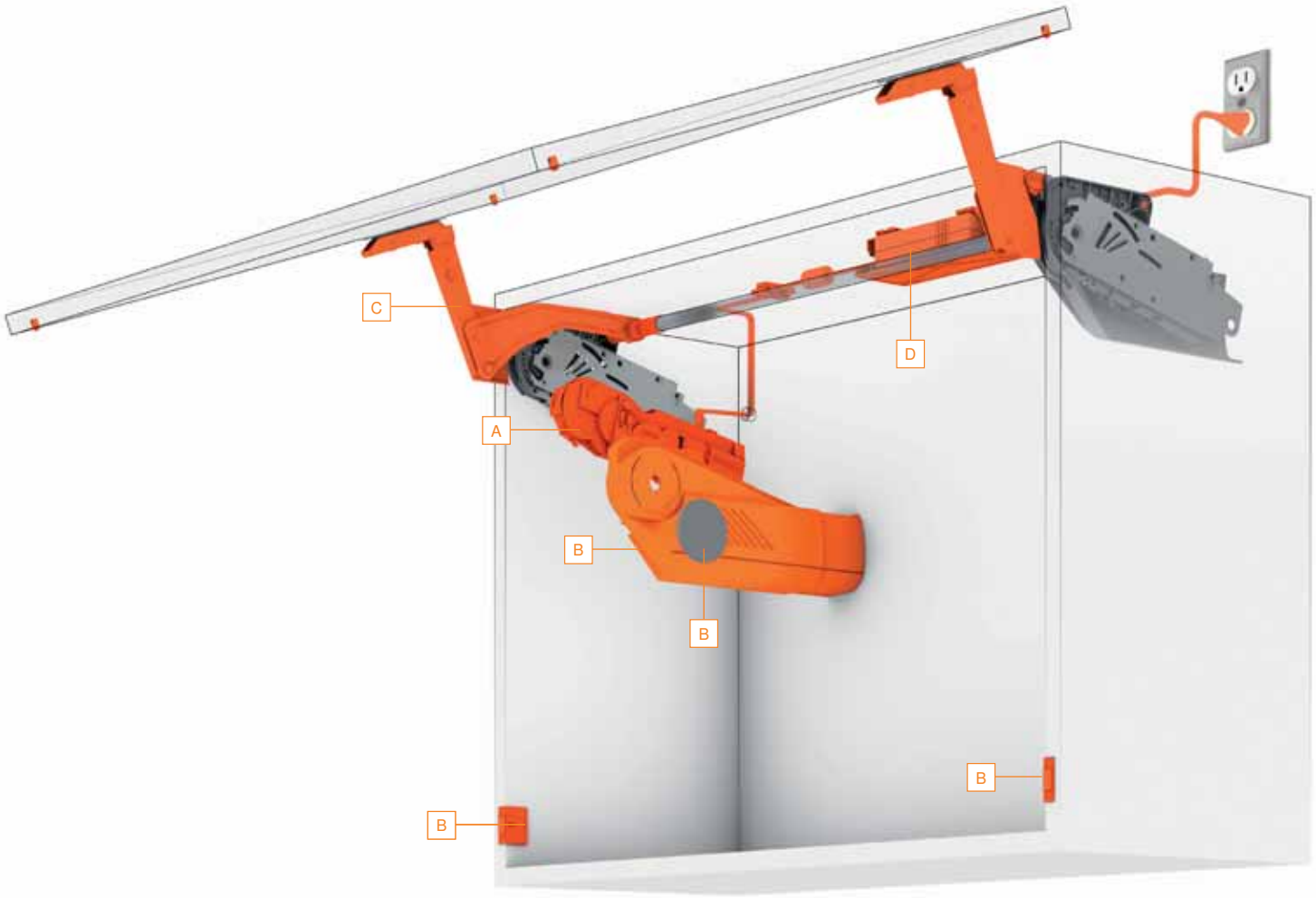
Ordering Information

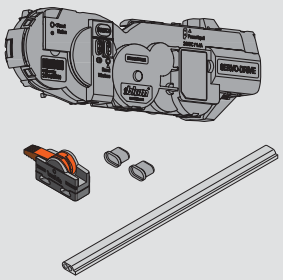
SERVO-DRIVE for AVENTOS HS



SERVO-DRIVE set

A Set includes:

- Drive unit
- 60" universal cable
- Cable connector
- Cable end protector (qty 2)

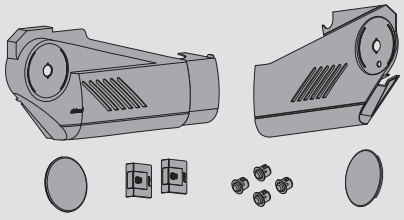


	Part no.
SERVO-DRIVE set	**21FA000**

Cover set

B Set includes:

- SERVO-DRIVE cover plate (left)
- Cover plate (right)
- Non-handed cover cap (qty 2)
- SERVO-DRIVE switches (qty 2)
- Ø5 mm Blum distance bumper (qty 4)
- Color: gray

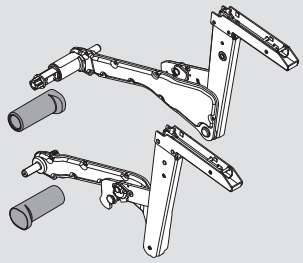


	Part no.
Cover set	**21S8000.NA**

Arm assembly set

C Set includes:

- SERVO-DRIVE arm assembly (left)
- Standard arm assembly (right)
- Stabilizer rod cover cap (qty 2)



NOTE: Stabilizer rod cutting dimension for SERVO-DRIVE application is length = interior cabinet width minus **164** (6-7/16")

	Part no.
Arm assembly set	**21S3500.01**

NOTE: For additional AVENTOS HS components and installation instructions, please see AVENTOS brochure (LIT. AVT1000)

D Power Supply Set - see **page 12**

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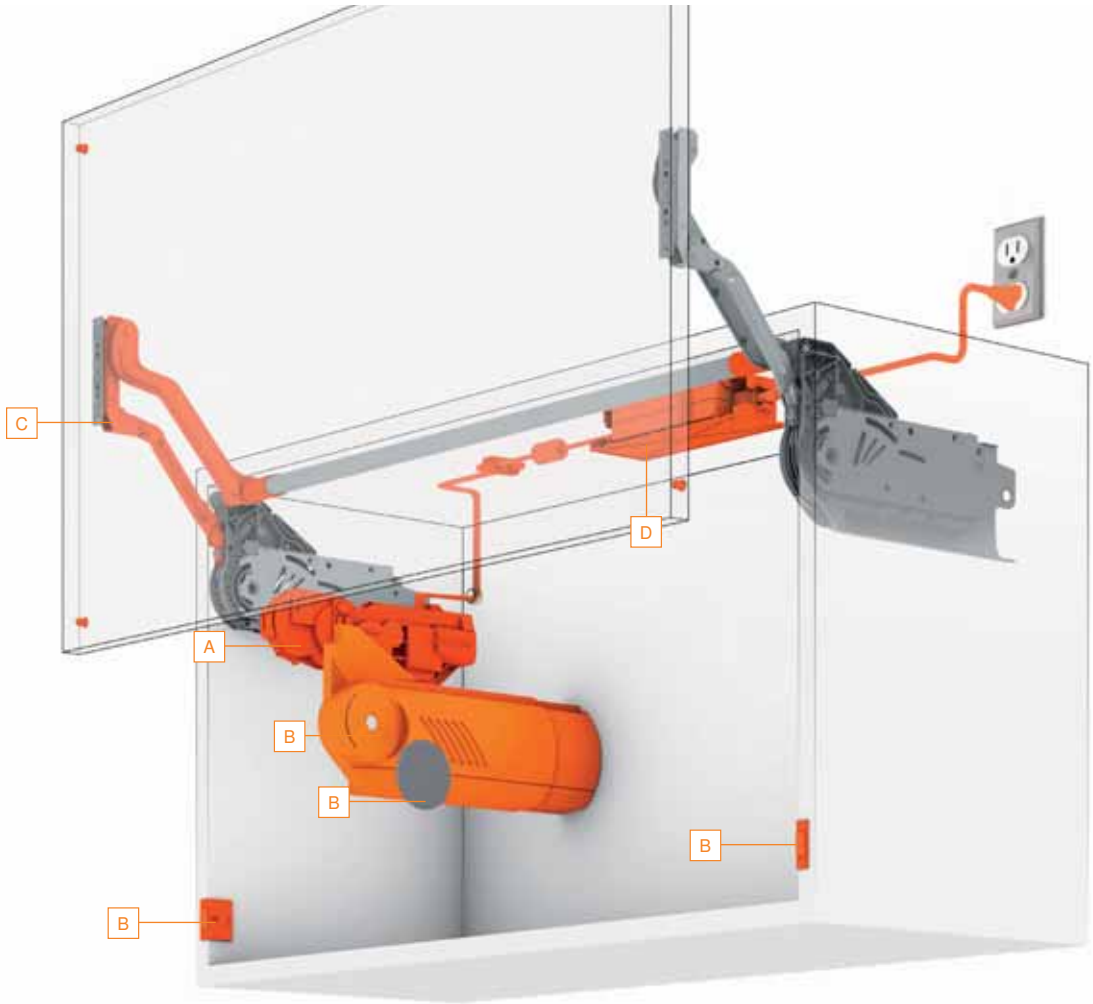
SERVO-DRIVE for AVENTOS HL

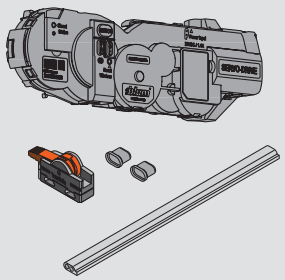
Ordering Information



SERVO-DRIVE set

A Set includes:

- Drive unit
- 60" universal cable
- Cable connector
- Cable end protector (qty 2)

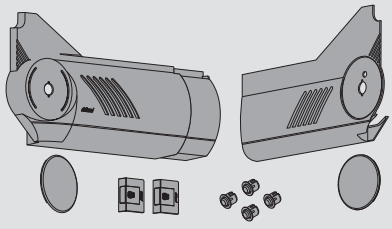


	Part no.
SERVO-DRIVE set	**21FA000**

Cover set

B Set includes:

- SERVO-DRIVE cover plate (left)
- Cover plate (right)
- Non-handed cover cap (qty 2)
- SERVO-DRIVE switches (qty 2)
- Ø5 mm Blum distance bumper (qty 4)
- Color: gray



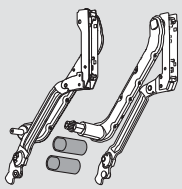
	Part no.
Cover set	**21L8000.NA**

Arm assembly set

C Set includes:

- SERVO-DRIVE arm assembly (left)
- Standard arm assembly (right)
- Stabilizer rod cover cap (qty 2)

NOTE: Stabilizer rod cutting dimension for SERVO-DRIVE application is length = interior cabinet width minus **164** (6-7/16")



Cabinet height	Part no.
300 to **349**	**21L3200.01**
350 to **399**	**21L3500.01**
400 to **550**	**21L3800.01**
450 to **580**	**21L3900.01**

NOTE: For additional AVENTOS HL components and installation instructions, please see AVENTOS brochure (LIT. AVT1000)

D Power Supply Set - see **page 12**

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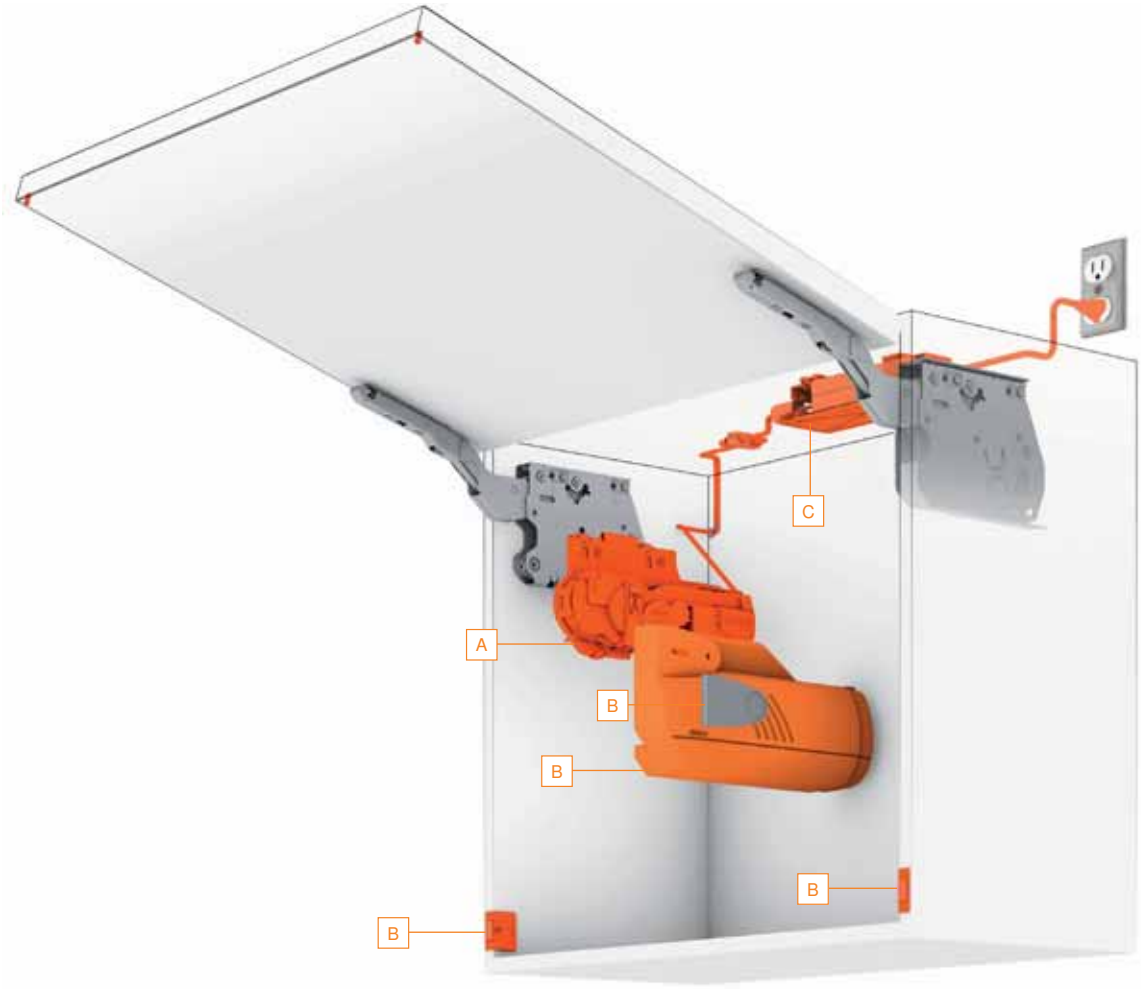
Ordering Information

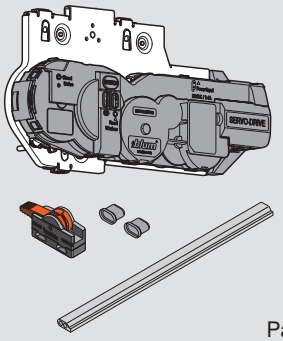
SERVO-DRIVE for AVENTOS HK



SERVO-DRIVE set

A Set includes:

- Drive unit
- 60" universal cable
- Cable connector
- Cable end protector (qty 2)

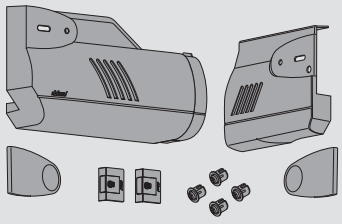


	Part no.
SERVO-DRIVE set	**21KA000**

Cover set

B Set includes:

- SERVO-DRIVE cover plate (left)
- Cover plate (right)
- Non-handed cover cap (qty 2)
- SERVO-DRIVE switches (qty 2)
- Ø5 mm Blum distance bumper (qty 4)
- Color: gray



	Part no.
Cover set	**21K8000.NA**

C Power Supply Set - see **page 12**

NOTE: For additional AVENTOS HK components and installation instructions, please see AVENTOS brochure (LIT. AVT1000)

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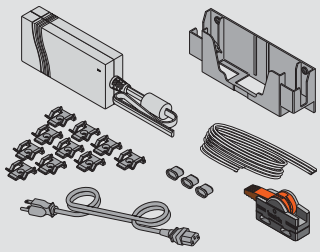
Power supply set

Set includes:

- Power supply
- Wall mount bracket
- Three-prong power cord
- Cable connector
- Cable end protector (qty 3)
- Cable clips (qty 10)
- 19 feet universal cable
- Technical information



	Part no.
Power supply set	Z10NE03UG10

SERVO-DRIVE power supply components

Supplies power to the drive units

- Energy Star Level VI
- UL certified
- Can power up to 16 drive units
- Connect to switched GFCI outlet
- Cable length is six feet

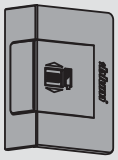
NOTE: Three-prong power cord required

	Part no.
Power supply	Z10NE030G
Three-prong power cord	Z10M200U

SERVO-DRIVE switch

For adding additional activation switches to a SERVO-DRIVE for AVENTOS application.

- Up to six switches can be added per drive unit

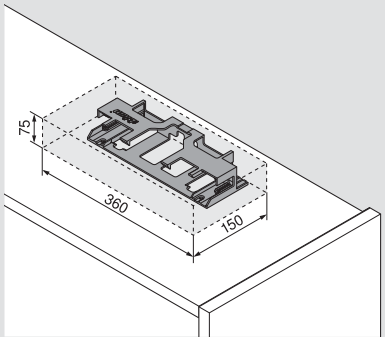


NOTE: A switch can only be synchronized to one drive unit

	Part no.
SERVO-DRIVE switch	21P5020

Space requirements and safety distance for power supply

A safety distance of 30 mm must be maintained for air circulation



Output specifications

Output voltage	24 VDC
Output power	24 W continuous
Minimum load	None
Over voltage protection	At 33 VDC
Overload protection	10.5 A hiccup trip and restart mode with auto recovery
Short circuit protection	Continuous

Environmental information

Operating temperature	32° F–104° F
Storage temperature	-4° F to 185° F
Protection	IP40

Input specifications

Input voltage	100-240 VAC
Input frequency	50-60 Hz
Input current	0.6 A
Inrush current	100 A maximum at 240 VAC
Protection class	Class I
Earth leakage current	3.5 mA maximum

General specifications

Efficiency	≥ 87%
Switching frequency	65 kHz typical
No load loss (standby)	< 0.075 W
Energy Star	Level VI

Safety / Approvals

EN / IEC	60950, 60335-1
UL	60950-1

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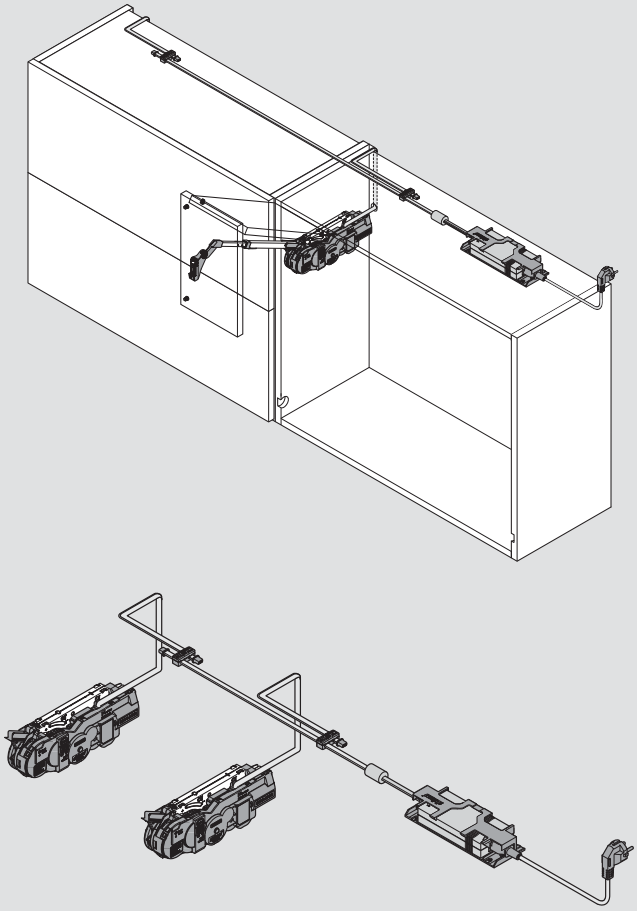
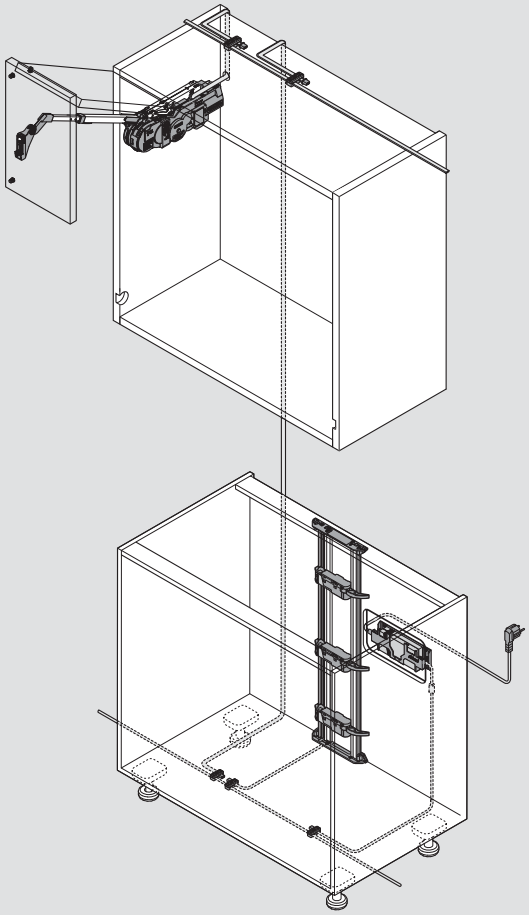
Wiring options

For wall cabinets

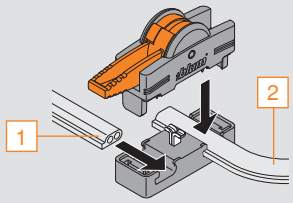


For SERVO-DRIVE in wall and base cabinets

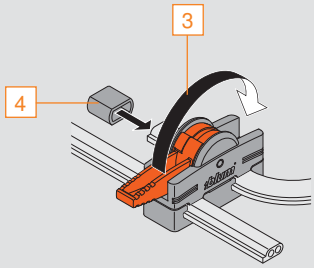


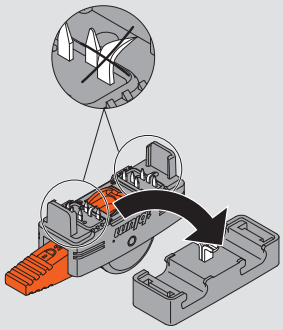
Installing cable connector

1 Insert cable for distribution into open slot
2 Insert cable for power into open slot



3 Rotate orange lever to lock into place
4 Slide cable end protector over exposed cable





NOTE: Ensure piercing pins are not damaged

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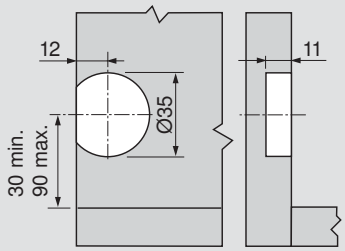
SERVO-DRIVE for AVENTOS

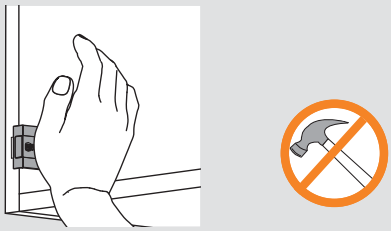
Assembly for AVENTOS HF/HS/HL

Installation of SERVO-DRIVE activation switch

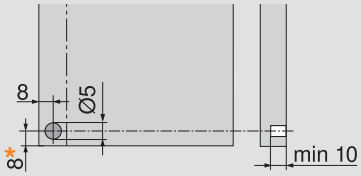


NOTE: Use of boring template (M31.2000) recommended, see page 27

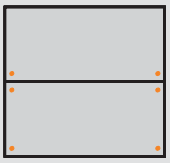
The activation switch should be installed by pressing into the cabinet side with your hand. Do not use hammer to install.



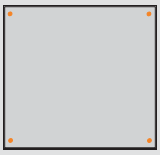
Installation of Blum distance bumpers



For AVENTOS HF – install into drawer front.
Use of six distance bumpers is recommended.



For AVENTOS HS/HL – install into drawer front.
Use of four distance bumpers is recommended.

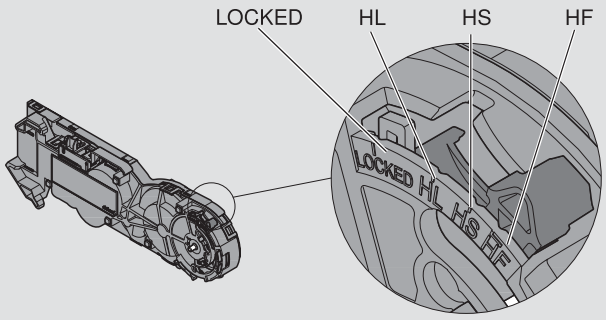


Drive unit preparation

Before SERVO-DRIVE for AVENTOS installation, the lift mechanism tension adjustment should be made and door operation balanced.

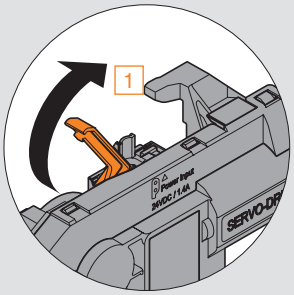
The AVENTOS arm assembly must be in the completely open position for drive unit installation. Attach the opening angle stop (if required) only after drive unit installation and before the reference run.

Use the lift mechanism selection switch to select the appropriate lift system application.

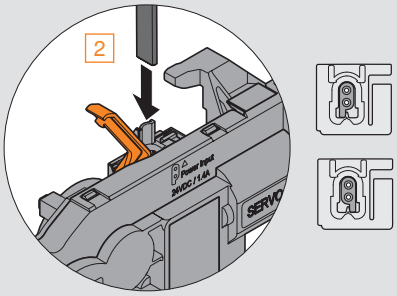


Installation of universal cable

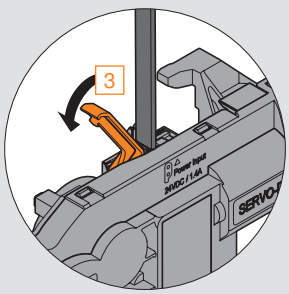
1 Lift orange universal cable lock lever



2 Insert universal cable (either end of the cable can be used)



3 Once cable is inserted, press down on universal cable lock lever



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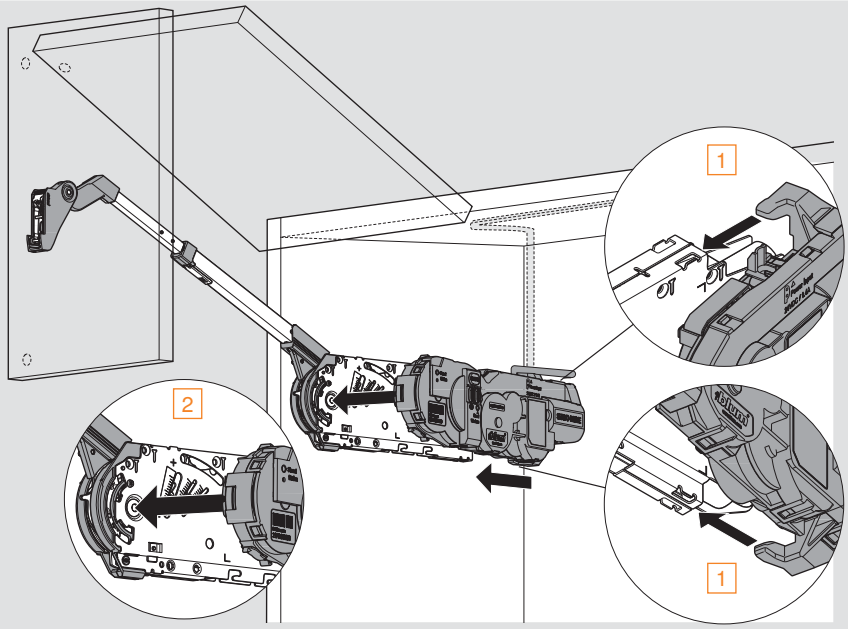
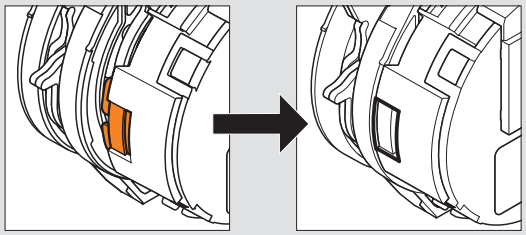
Drive unit installation

1 Insert the drive unit into back of lift mechanism and slide forward

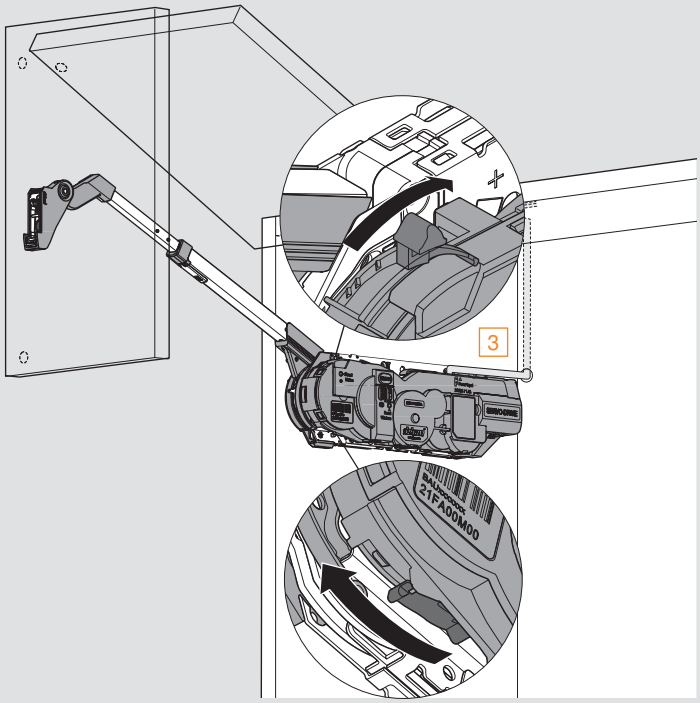
2 Position drive unit into front of lift mechanism with locator pin



The drive unit can be locked when the orange slide is no longer visible in the view window.



3 To lock drive unit to the lift mechanism, slide the lift mechanism selection switch to the locked position (reference noted positions on drive unit). There will be an audible click when locked.



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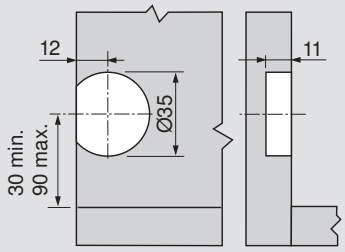
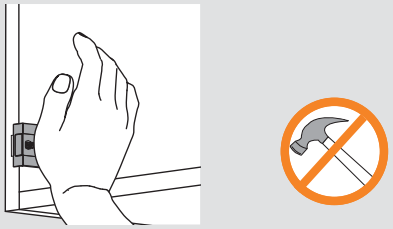
Installation of SERVO-DRIVE activation switch

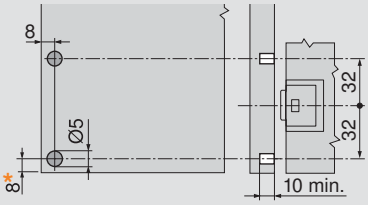


NOTE: Use of boring template (M31.2000) recommended, see **page 27**

The activation switch should be installed by pressing into the cabinet side with your hand. Do not use hammer to install.



Installation of Blum distance bumpers

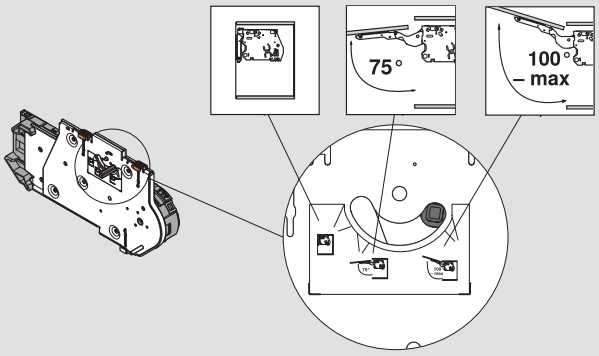


Install into door front. Use of four distance bumpers is recommended. Two may be sufficient for smaller, lighter doors.

Drive unit preparation

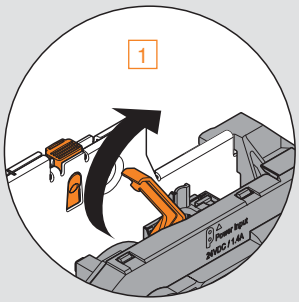
Before SERVO-DRIVE for AVENTOS installation, the lift mechanism tension adjustment should be made and door operation balanced.

Depending on lever arm position, set drive unit accordingly.

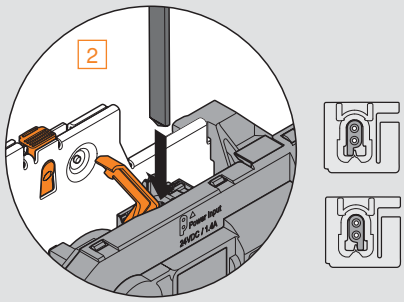


Installation of universal cable

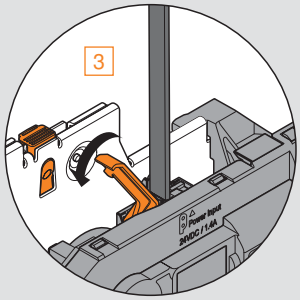
1 Lift orange universal cable lock lever



2 Insert universal cable (either end of the cable can be used)



3 Once cable is inserted, press down on universal cable lock lever



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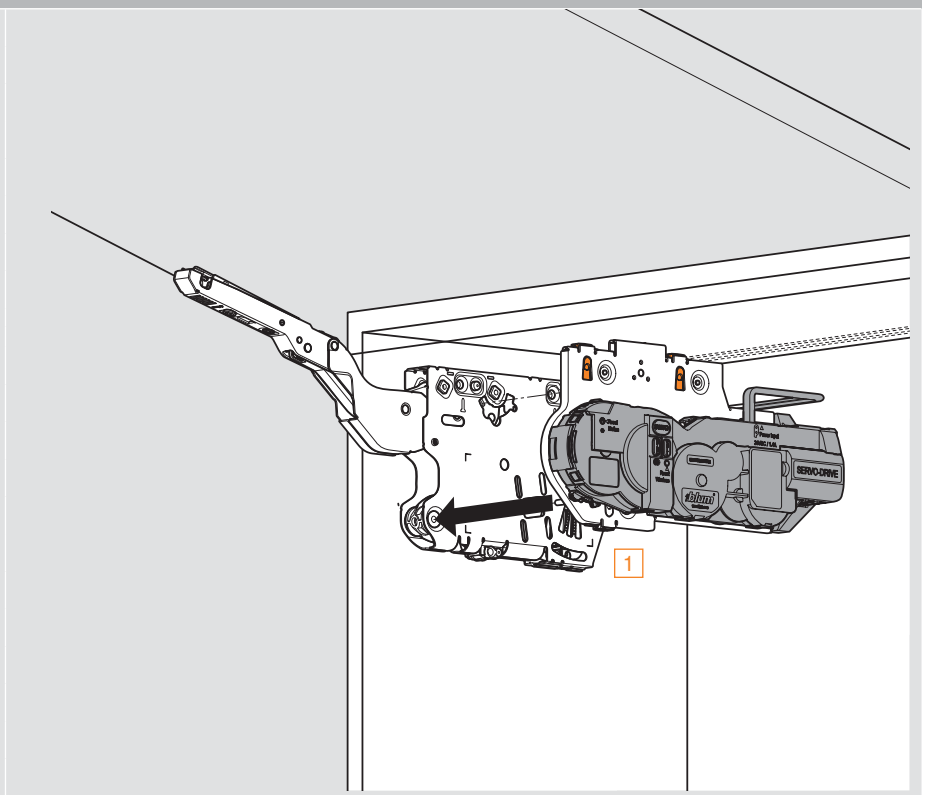
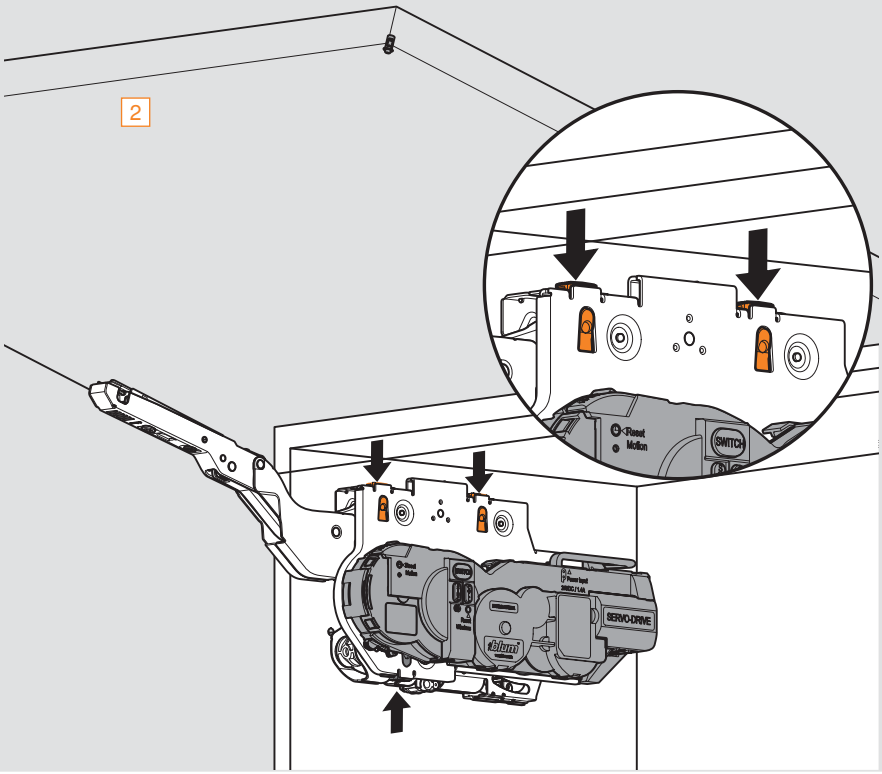
Drive unit installation

1 Position drive unit onto lift mechanism with locator pin.



2 To lock drive unit to the lift mechanism, hold drive unit in place and press down the three orange lock tabs.



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Start-Up

A Activating the SERVO-DRIVE switch

B Start reference run

Deactivation

E Reset Motion

F Reset Wireless

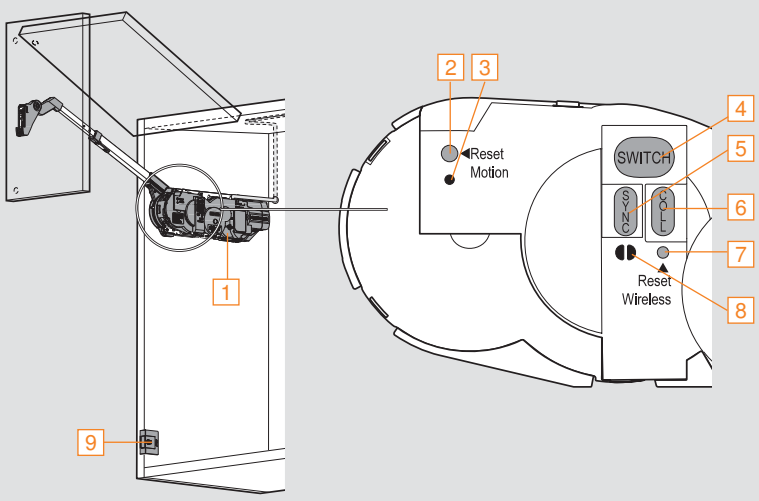
Additional Features

Optional

C Activating synchronization

D Activating collision avoidance

Function buttons layout



1 Drive unit
2 <Reset Motion> button
3 Motion LED
4 <SWITCH> button
5 <SYNC> button
6 <COLL> button
7 <Reset Wireless> button
8 Wireless LED
9 SERVO-DRIVE switch

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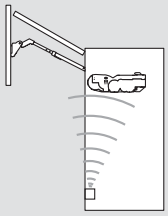
Start-Up

A Activating the SERVO-DRIVE switch



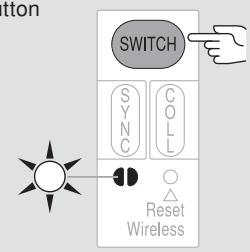
Operation

Lights up continuously

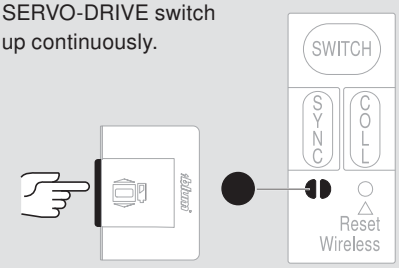
Flashes

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

1 Press and hold the <SWITCH> button until the LED flashes



2 Press and hold the SERVO-DRIVE switch until the LED lights up continuously.



Repeat steps 1 and 2 for additional SERVO-DRIVE switches in the cabinet.

Additional Features

Optional

C Activating synchronization

For instructions on activating synchronization, see **page 20**

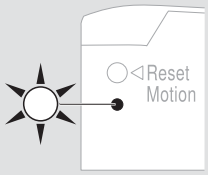
D Activating collision avoidance

For instructions on activating collision avoidance, see **page 20**

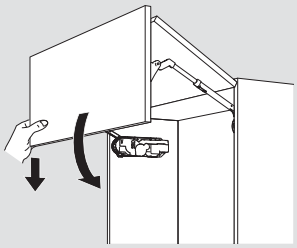
B Start reference run

The drive unit recognizes the required parameters using the reference run, setting both upper and lower limits for the motion of the door. A new reference run is required if original parameters change (tension/hardware adjustment, angle restriction installed).

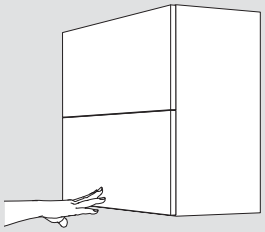
1 Reference run is required: LED flashes orange



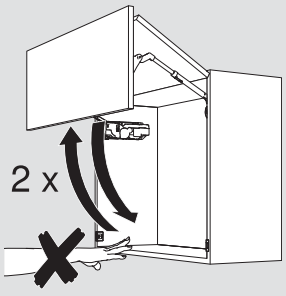
2 Close the front manually



3 Press on front: The reference run starts automatically



4 Front opens and closes two times automatically: under no circumstances should you try to manually interrupt or stop the process



NOTE: If the reference run is interrupted, it should be reset. See reset motion on page 21 then restart reference run.

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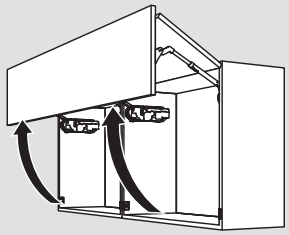
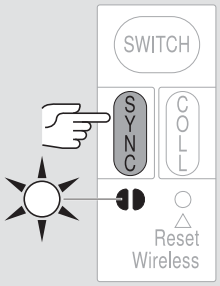
C Activating synchronization

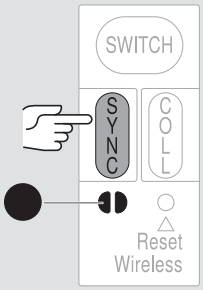


Up to three drive units can be synchronized allowing them to move simultaneously. This function is required for several cabinets with one wide front.

1 Press and hold the <SYNC> button on the 1st drive unit until the LED flashes

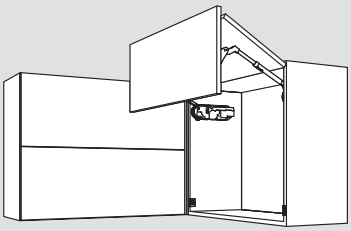


2 Press and hold <SYNC> on the 2nd drive unit until the LEDs on both synchronized drive units light up continuously



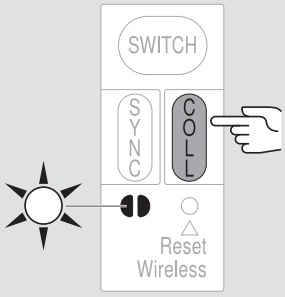
NOTE: Repeat steps 1 and 2 for all additional drive units

D Activating collision avoidance

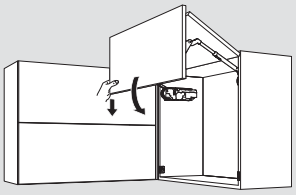


To avoid the collision of door fronts, drive units (six maximum) are linked so that only one door can be opened at a time. A door front is prevented from opening as long as a linked door front remains open.

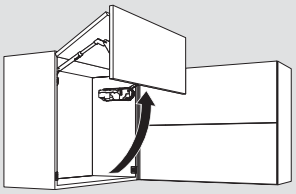
1 Press and hold the <COLL> button on the 1st drive unit until the LED flashes



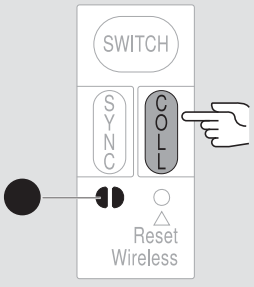
2 Close the door manually



3 Manually open the door of the unit to be linked



4 Press and hold <COLL> on the 2nd drive unit until the LED lights up continuously (the same will happen in the first cabinet)



NOTE: Repeat steps 1 through 4 for all additional cabinets

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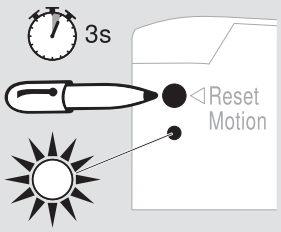
E Reset motion

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

Flashes quickly

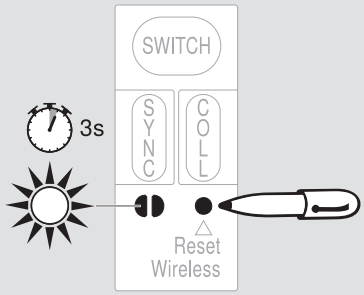
1 Press and hold the <Reset Motion> button using a pen (at least 3 seconds) until the LED flashes quickly



F Reset wireless

Deactivates all functions. All active SERVO-DRIVE switches, synchronization and collision avoidance settings for the respective drive unit are deleted.

1 Press and hold the <Reset Wireless> button using a pen (at least three seconds) until the LED flashes quickly



Motion LED signals

☀	Flashes orange	Reference run is required
●	Lights orange continuously	Power available
		Operating mode display
		Reference run successfully completed
☀	Flashes orange quickly	Reset motion confirmation

Wireless LED signals

☀	Flashes green	Activation mode
●	Lights up green continuously	Activation confirmation
☀	Flashes green quickly	Deactivation confirmation
●	Lights up continuously red	Last process was not completed successfully

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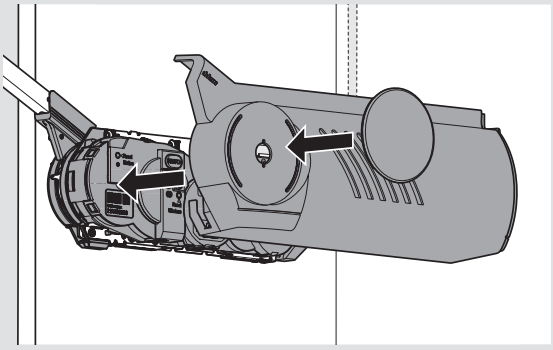
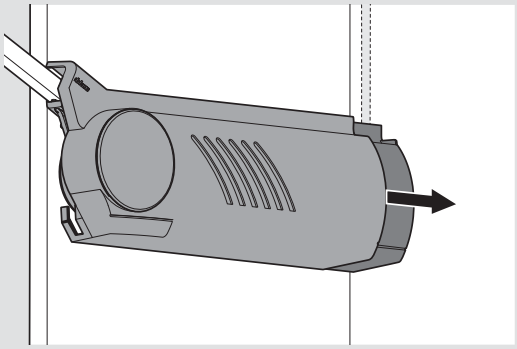
Cover Cap and Battery Replacement

Cover cap

1

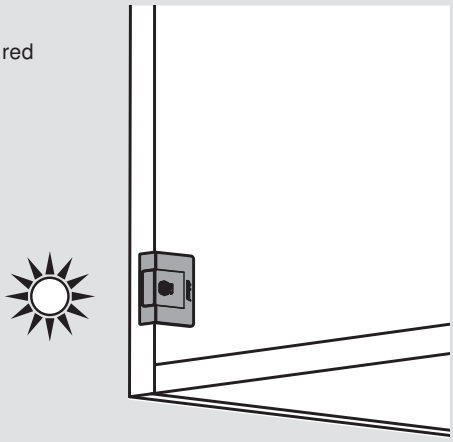


2

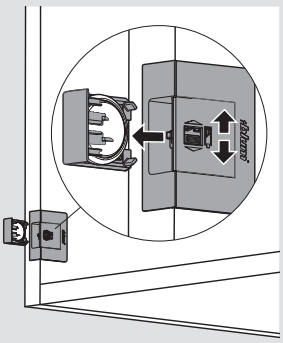


Battery replacement

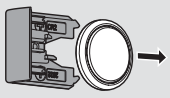
- When battery power begins to weaken, the SERVO-DRIVE switch battery display flashes red
- Only use type CR2032 batteries from known manufacturers
- Make sure that the new battery is inserted correctly (note proper pole connections +/-)
- The SERVO-DRIVE switch battery cannot be recharged
- If the battery is inserted incorrectly, the SERVO-DRIVE switch battery display will flash red



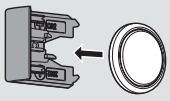
1 Remove battery carrier tray by pressing up or down on the battery display switch



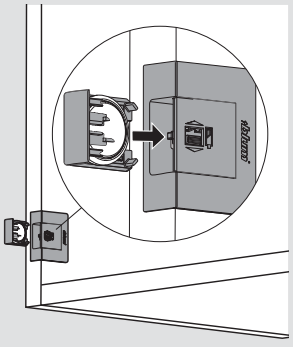
2 Remove dead battery



3 Insert new battery



4 Replace battery carrier tray into switch housing



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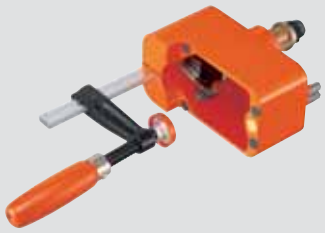
SERVO-DRIVE switch boring template



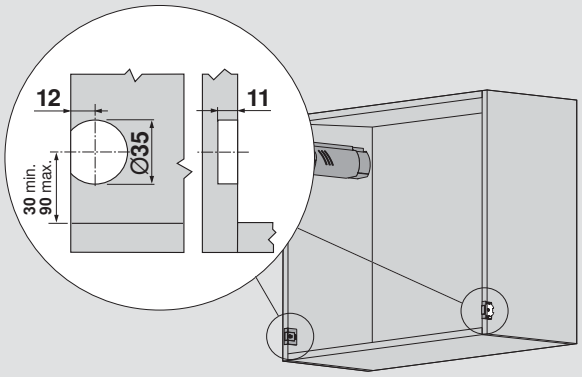
- For easy installation of SERVO-DRIVE for AVENTOS switch
- Clamp assembly for secure boring

Set includes:

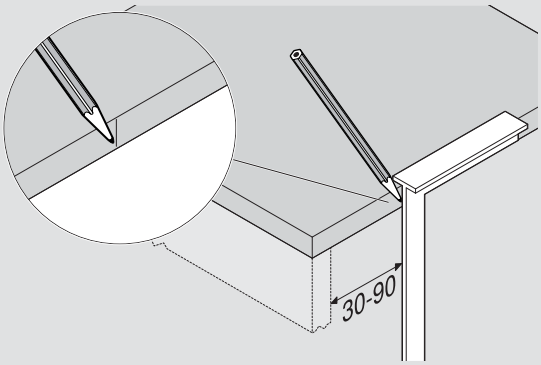
- Ø35 mm bit
- Torx driver bit (qty 2)

	Part no.
SERVO-DRIVE switch boring template	M31.2000

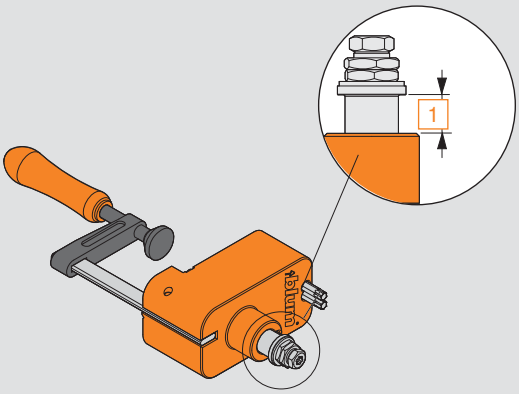
Specifications

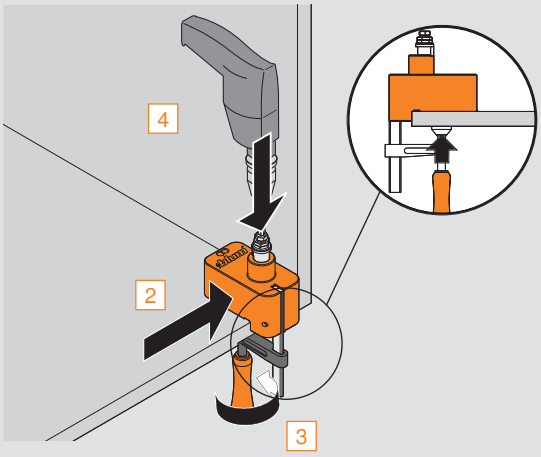


Mark switch location



1. Set drilling depth
2. Align mark
3. Secure template to cabinet panel with clamp
4. Use provided Torx driver bit to bore hole





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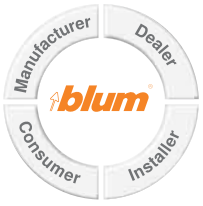
Why Choose Blum

Blum, Inc. is a leading manufacturer of functional hardware for the kitchen cabinet and commercial casework industries specializing in lift systems, concealed hinges and drawer runner systems. Virtually all of the hardware needed to assemble and make cabinets functional is available within the wide range of quality Blum products. Blum supports the U.S. market with a network of more than 150 dependable distributors, 40+ knowledgeable Blum sales representatives and an experienced customer service department.

Commitment to manufacturing in the U.S.

Blum manufactures many of its products in our 450,000 sq ft manufacturing, logistics and warehouse facility located in Stanley, North Carolina. Manufacturing closer to the customer allows Blum to react quickly to changing customer needs including unexpected surges in demand. Customer pickups and deliveries can be timed to better match their production schedules. Blum is committed to manufacturing in the U.S. for the U.S. market.



Product development at Blum considers all of the various customers who will come in contact with our products. With this “Global Customer Benefits” philosophy we strive to create advantages for all users.

ISO 9001
Certified Quality System

Blum, Inc. is ISO 9001 certified which means that you are assured of consistent quality in every Blum product. What’s more they exceed the requirements of ANSI/BHMA standards for cycle life, static load and self-closing performance.

Please visit blum.com for information on other Blum products.
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Blum, Inc.
7733 Old Plank Rd.
Stanley, NC 28164
800-438-6788
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ISO 9001
Certified Quality System

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