

## **AVENTOS HF**

**Bi-fold lift system** 



## **AVENTOS HF**



Blum, Inc. is a leading manufacturer of functional hardware for the kitchen cabinet and commercial casegoods industries specializing in concealed hinges and drawer runner systems. Virtually all of the hardware needed to assemble and make casegoods functional are available within the wide range of quality Blum products.

Blum's manufacturing and distribution complex in Stanley, North Carolina supplies the North American markets through a network of more than 150 dependable distributors. Wholly owned by the Blum family, the company was formed in 1952 by Julius Blum and is headquartered in Hoechst, Austria.

#### **Global customer benefits**

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 from the cabinetmaker to the end consumer.

ISO 9001

CERTIFIED QUALITY SYSTEM

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. Contact your local Blum representative for more details.

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#### **Opening action**

#### - easier than everything that has come before

Until now, bi-fold lift systems have mainly been used as a design element. Blum has made it much more with the introduction of AVENTOS HF.

AVENTOS HF is an exceptionally easy-opening bi-fold lift system. Even heavy doors feel weightless and can be easily opened or will remain in position when left at any height.



#### Silent and effortless closing - integrated BLUMOTION

You will instantly appreciate our latest innovation for a quiet and effortless bi-fold lift system.



AVENTOS HF has BLUMOTION integrated into the mechanism – the result is something that will both surprise and inspire your customers.

Whether you are using wood doors or aluminium frames – all close silently and effortlessly.

With BLUMOTION, just closing your lift system becomes an experience:

- Doors closed with force ...
- ... are brought to a gentle halt and ...
- ... close softly and quietly.



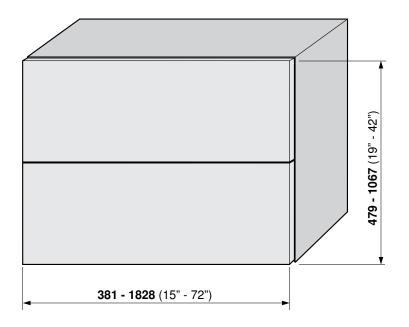
## Overview



#### Few parts - many applications

The AVENTOS HF covers all common door widths and heights. This is made possible by using different combinations of the 3 lift mechanisms and 4 telescopic arms.

The simplified program range doesn't just make ordering easier. It also simplifies construction and storage.



One, two or three AVENTOS HF lift on the width of the cabinet and the mechanisms and their associated telescopic arms are required, depending

combined weight of the doors, including the pull.



#### Quick assembly and removal

An experienced cabinet installer will typically remove cabinet doors for installation. This protects valuable surfaces and makes the cabinet lighter and makes cabinet installation easier and quicker and most importantly, safer.

AVENTOS HF and CLIP top make this process a breeze. Once the cabinet is installed the doors can be attached without the need for tools.



1. The telescopic arms are attached to the lift mechanism using CLIP technology.



**2.** The upper door is placed on the telescopic arm and CLIP top hinges are attached.



**3.** CLIP top bottom hinges connect to both doors.



**4.** The telescopic arm and lower door are connected to each other via the CLIP mechanism.





Warning: Do not pull down on arms.
They are under tension and may snap up quickly.

#### Fast and precise adjustment

Both bi-fold doors can be adjusted in all 3 dimensions. The proven CLIP top technology makes this quick and easy.

The tension adjustment of AVENTOS HF is used to make fine adjustments to the opening and closing power. The settings vary

depending on the weights of the doors being used. A marked tension scale allows precise and repeatable adjustments.



Precise reveal adjustment (including the bottom hinge) – CLIP top makes it simple.



The telescopic arms self-adjust to the cabinet height and only need to be locked in place.

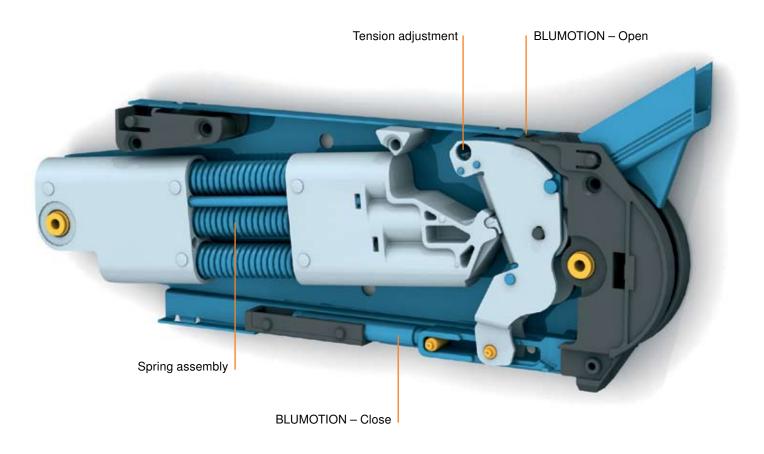


Adjusting the proper setting for the opening and closing power is quick and precise.

## Features

#### **Extremely durable**

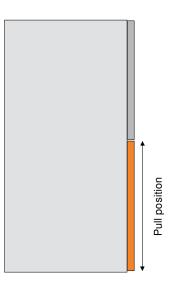
Like all Blum products, AVENTOS HF has quality and durability built in. The core element of the lift mechanism is a spring assembly. In short, peace of mind for the life of the cabinet.



#### No protruding parts

Because of the removable telescopic arm, there are no protruding parts that can interfere with transportation. This is also an advantage during installation.





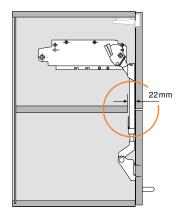
#### Free pull positioning

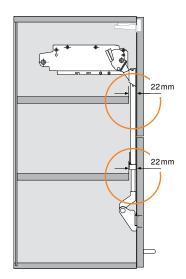
Pulls of all kinds can be attached anywhere on the bottom door. The optimal position is near the lower edge so that the pull can be easily reached when open. AVENTOS HF can also be used with cabinets without visible door hardware which utilize over-extending doors.

#### Finger safety feature

The new CLIP top bottom door hinge proves itself not only through its attractive design, but also through its innovative finger safety feature.







#### Similar shelves

With AVENTOS HF, storage space is optimized in upper cabinets. Depending on the height of the cabinet, two similar shelves can be used starting at a recess of only 22 mm. This makes the storage area of all shelves identical.



## Using this catalog

#### Step 1: Determine your application

Go to the page for your application: face frame page 9, panel page 11, or narrow frame aluminum door page 13.

#### Step 2: Calculate the power factor

Determining the Power factor (PF) is important for chosing the lift mechanism that works best with your cabinet and doors. It is calculated by multiplying the cabinet height in inches by the exact combined door weight (including handle) in pounds.

#### Power factor (PF) = cabinet height [inch] x combined door weight\* [lb]

\* For calculations, use the conversion chart below to determine combined door weight in decimal form.

#### **Example:**

Cabinet height: 30 inches

Combined door weight: **23 lb 14 oz** (14 oz = .9 lb).

Weight converted to decimal is 23.9 lb

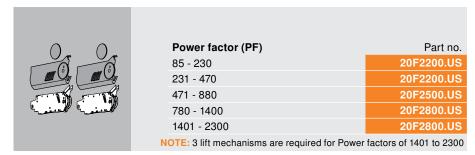
Power factor (PF) =  $30 \times 23.9$ 

Power factor (PF) = 717

Weight conversion chart															
oz.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
lb.	.1	.1	.2	.3	.3	.4	.4	.5	.6	.6	.7	.8	.8	.9	.9

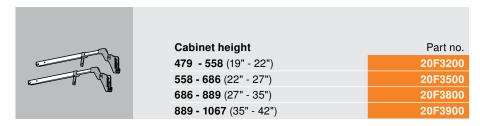
#### Step 3: Select proper Lift mechanism set based on power factor

Use the calculated Power factor (PF) to select the proper Lift mechanism needed.



#### Step 4: Select proper Telescopic arm set

Use the cabinet height in inches to select the proper length Telescopic arm needed.







#### **Step 5:** Select the proper Hardware set

Select the proper Hardware set based on the intended application.

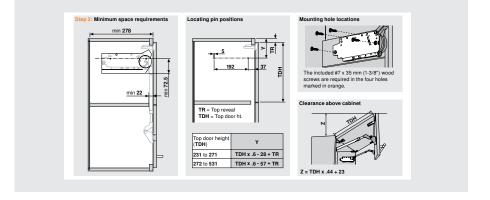
# Wood/wide aluminum door application Part no. Hardware set 78Z5530TA4

Narrow aluminum door application				
	Part no.			
Hardware set	78Z550ATA3			

#### **Step 6:** Determine mounting location for Lift mechanism

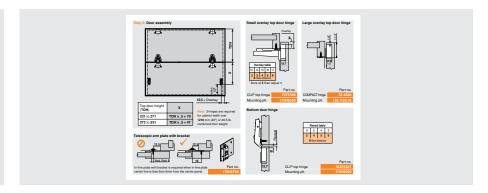
Use the chart and diagram to determine Lift mechanism locating hole positions and pre-bore them in the cabinet sides.

For face frame applications, cabinet sides must be blocked out.



#### Step 7: Determine mounting locations for hinges, mounting plates and telescopic arm plate

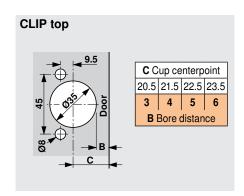
Use the chart and diagrams to determine locations for hinges and telescopic arm mounting plates.

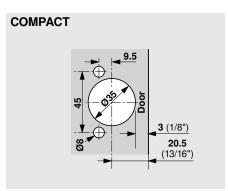


#### **Step 8:** Bore doors for hinges

Pre-bore doors according to the specifications found in Step 4. Blum suggests using one of our MINIDRILL or MINIPRESS machines or an ECODRILL for easy, more accurate installation..

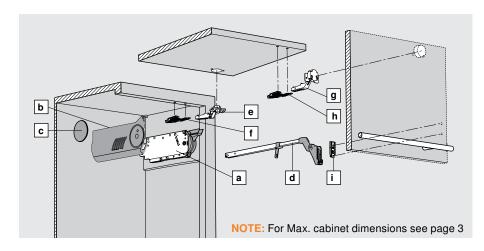
Now move to the Assembly instructions on page 17.







## Wood or wide aluminum door for face frame applications



#### **Determine required parts**

By determining Power factor the required lift mechanism set for any application can be determined. The power factor depends on the weight of the two doors (including handle) and cabinet height.

Cabinet height also determines the telescopic arm set required (see step 1b).

NOTE: Face frame cabinets must be blocked out on the sides flush with the frame to mount the AVENTOS HF lift mechanisms.

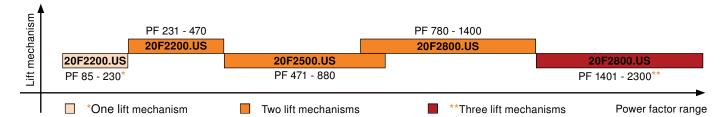
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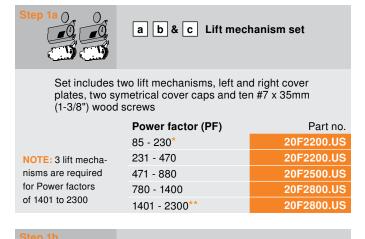
## Power factor (PF) = cabinet height [inch] x combined door weight\* [lb]

#### **Determining lift mechanism**

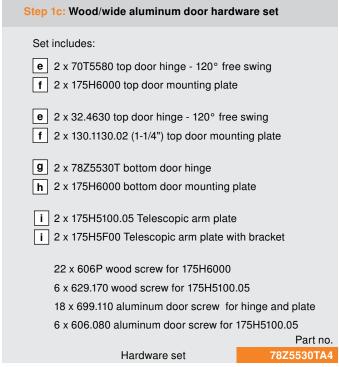
\* Door weight in decimal - see page 7 for conversion chart.



Trial application recommended when the required power factor is in a borderline area of lift mechanisms.

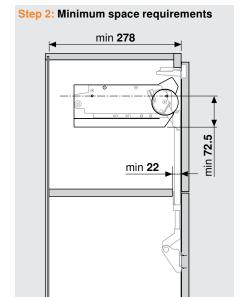


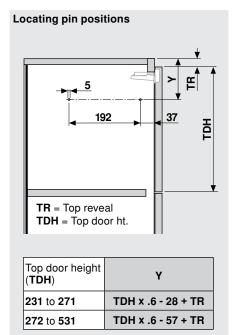
d Telescopic arm set					
Set includes two telescopic arms					
Cabinet height	Part no.				
<b>479 - 558</b> (19" - 22")	20F3200				
<b>558 - 686</b> (22" - 27")	20F3500				
<b>686 - 889</b> (27" - 35")	20F3800				
<b>889 - 1067</b> (35" - 42")	20F3900				

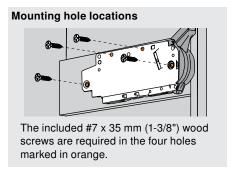


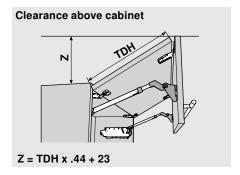


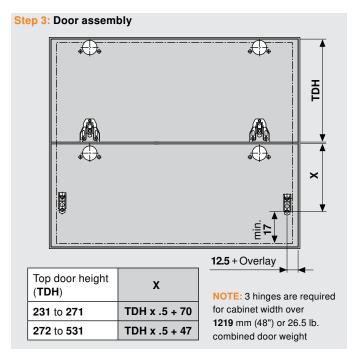
#### Installation

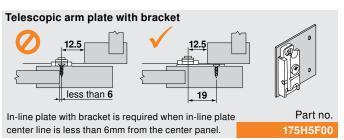


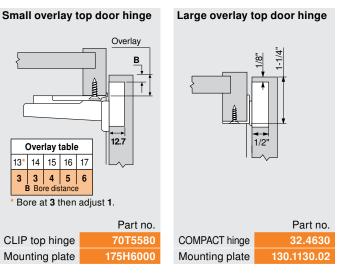


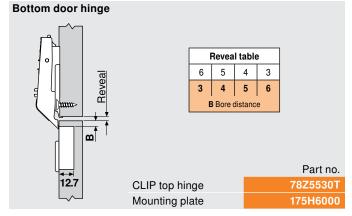






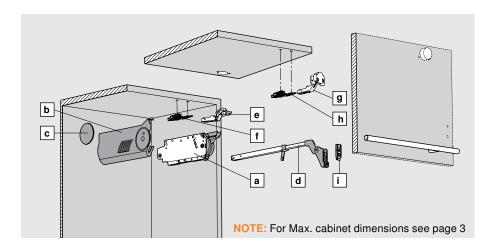








## Wood or wide aluminum door for panel applications



#### **Determine required parts**

By determining Power factor the required lift mechanism set for any application can be determined. The power factor depends on the weight of the two doors (including handle) and cabinet height.

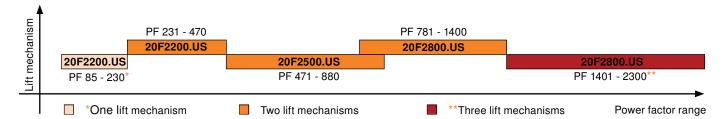
Cabinet height also determines the telescopic arm set required (see step 1b).

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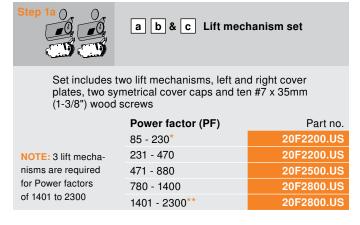
## Power factor (PF) = cabinet height [inch] x combined door weight\* [lb]

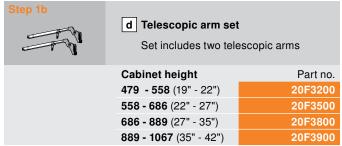
#### **Determining lift mechanism**

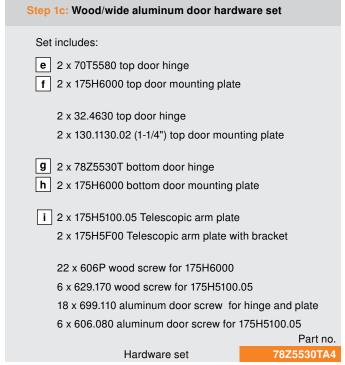
\* Door weight in decimal - see page 7 for conversion chart.



Trial application recommended when the required power factor is in a borderline area of lift mechanisms.

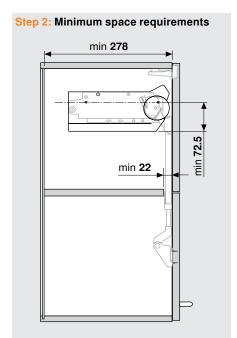


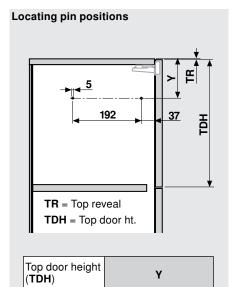






#### Installation





TDH x .6 - 28 + TR

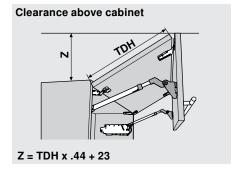
TDH x .6 - 57 + TR

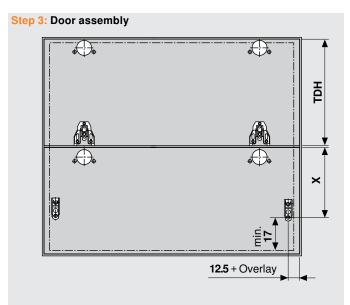
231 to 271

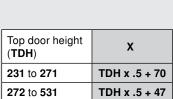
272 to 531

Mounting hole locations					
	<b>8</b>				
The included #7 x 35 mm (1-3/8") wood screws are required in the four holes marked in orange.					

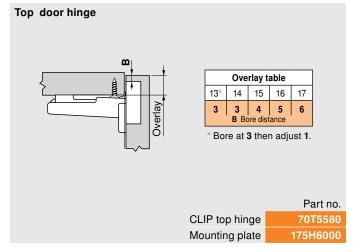
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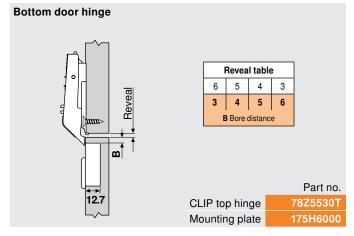






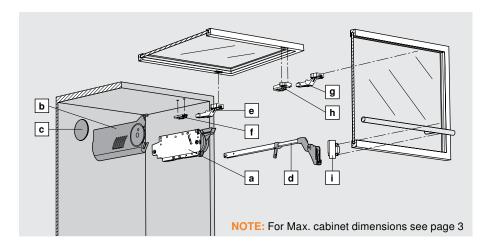
NOTE: 3 hinges are required for cabinet width over 1219 mm (48") or 26.5 lb. combined door weight







## Narrow aluminum frame door application



#### **Determine required parts**

By determining Power factor the required lift mechanism set for any application can be determined. The power factor depends on the weight of the two doors (including handle) and cabinet height.

Cabinet height also determines the telescopic arm set required (see step 1b).

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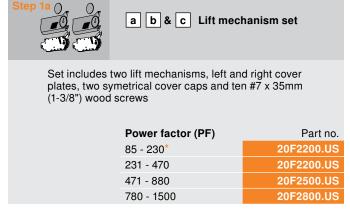
## Power factor (PF) = cabinet height [inch] x combined door weight\* [lb]

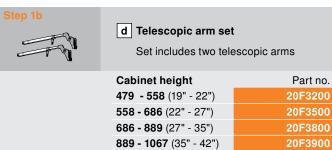
#### **Determining lift mechanism**

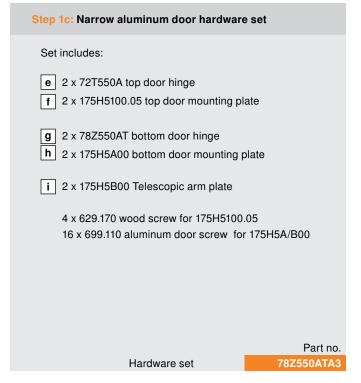
\* Door weight in decimal - see page 7 for conversion chart.



Trial application recommended when the required power factor is in a borderline area of lift mechanisms.



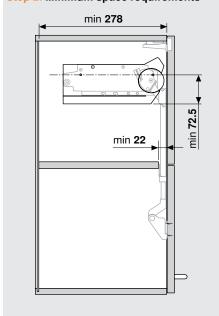


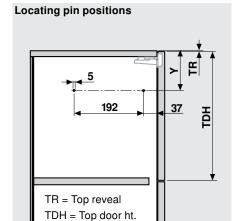




#### **Planning**

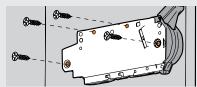
#### Step 2: Minimum space requirements





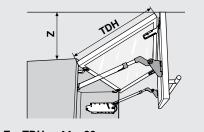
Top door height (TDH)	Y
231 to 271	TDH x .6 - 28 + TR
272 to 531	TDH x .6 - 57 + TR

#### **Mounting hole locations**



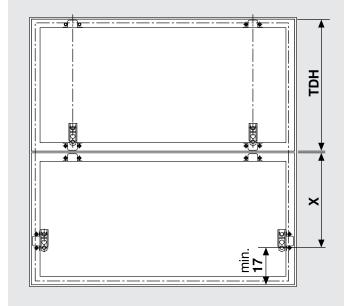
The included #7 x 35 mm (1-3/8") wood screws are required in the four holes marked in orange.

#### Clearance above cabinet



 $Z = TDH \times .44 + 23$ 

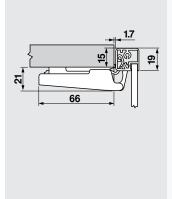
#### Step 3: Door assembly

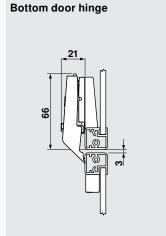


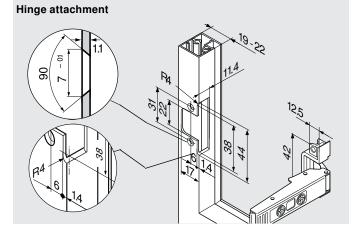
Top door height (TDH)	х
231 to 271	TDH x .5 + 70
272 to 531	TDH x .5 + 47

NOTE: 3 hinges are required for cabinet width over 1219 mm (48") or 26.5 lb. combined door weight

#### Top door hinge











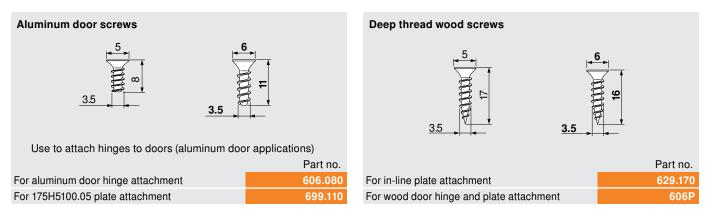
20F7051

#### Angle restriction clip

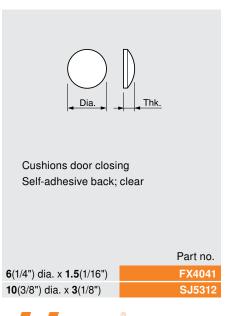


 $Z = TDH \times .24 + 19$ 

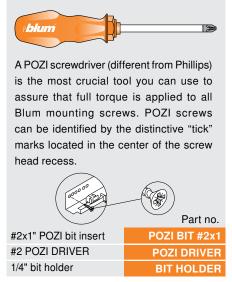
#### **Screws**



#### **Bumpers**



#### **POZI DRIVER and bits**



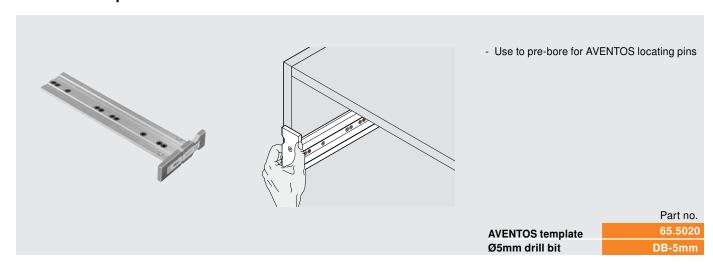


Angle restriction clip

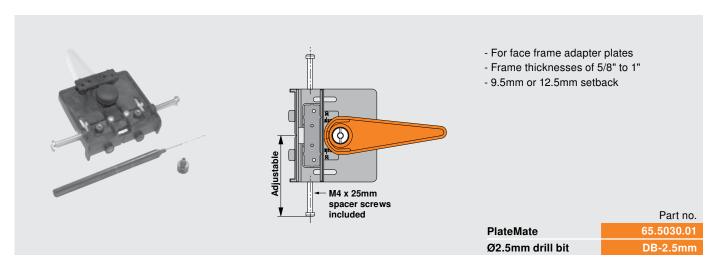
## Assembly aids



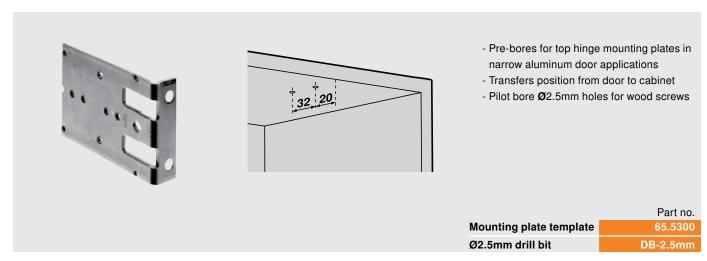
#### **AVENTOS** template



#### **PlateMate**



#### Mounting plate template



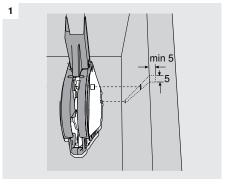


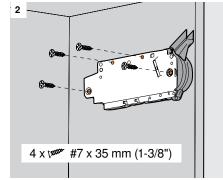
#### Step 1: Complete an AVENTOS planning worksheet

Go through the "Using this catalog" steps on pages 7 - 8 or complete an AVENTOS planning worksheet (available on www. blum.us). This will help you determine required hardware and neccessary cabinet preparation.

#### Step 2: Install the lift mechanism

- Pre-bore locating pin holes in the cabinet sides (use 65.5020 template). Attach lift mechanism to cabinet by placing it in position using the locating holes.
- 2. Attach four #7 x 35mm (1-3/8") wood screws in the holes marked in orange.





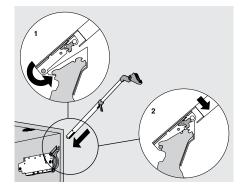
Step 3: Attach the telescopic arms

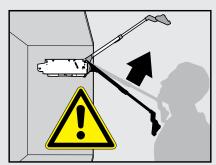
Attach telescopic arms by clipping them on in the fully upright position.



Warning: Risk of injury by spring-loaded telescopic arm!

- Do not push telescopic arm down.
- Remove telescopic arm from mechanism before installing cabinet.

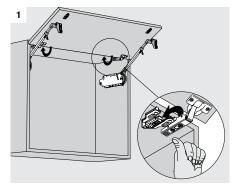


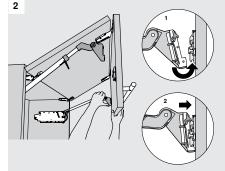


#### Step 4: Prepare and attach the doors

Determine the locations of mounting plates and hinges per instructions on page 9 and attach hardware to cabinet doors.

- 1. Attach top door to the cabinet.
- 2. Attach bottom door to the top door and the telescopic arms.



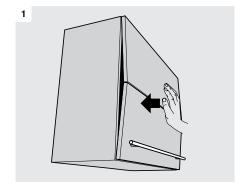


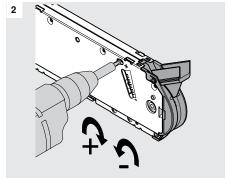




#### Step 5: Adjust tension of the lift mechanism

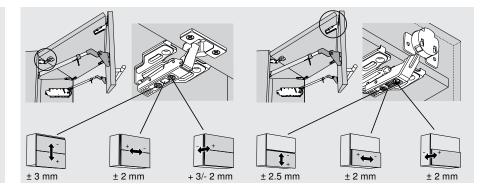
Close and flush doors to cabinet. Open and close door to test closing force. Open door and adjust tension screws on both lift mechanisms with a power drill. Test door again and repeat until desired function is achieved.





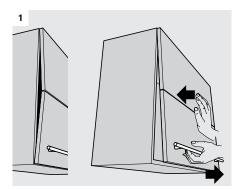
#### Step 6: Adjust the doors

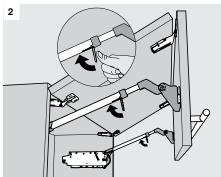
Adjust each hinge and mounting plate to properly align doors to the cabinet and to each other.



#### Step 7: Finalize the door and telescopic arm adjustments

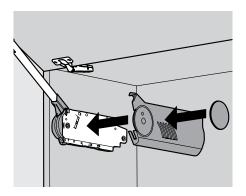
- Close and flush doors to cabinet. While pressing on the bottom of the top door, pull the bottom door open one inch.
- 2. Lock the telescopic arms into position using the levers as shown.

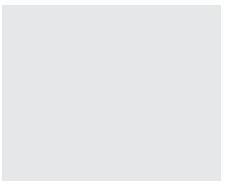




#### **Step 8:** Attach cover caps

Attach the left and right cover plates to each lift mechanism then attach the symmetrical cover caps.



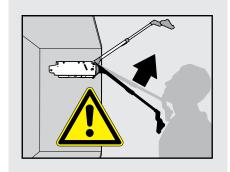


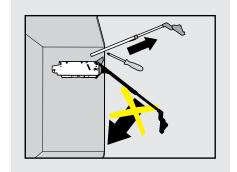


#### Step 1: Be aware

Warning: Risk of injury by spring-loaded telescopic arm!

- Do not push telescopic arm down.
- Remove telescopic arm from mechanism before installing the cabinet.

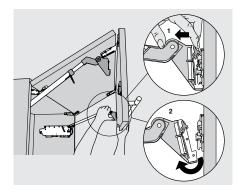




#### Step 2: Release telescopic arms

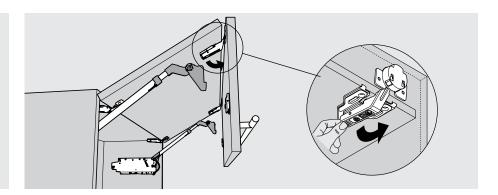
Warning: Maintain control of the telescopic arm while releasing the CLIP mechanism.

Release both arms and gently rest the top door on the loose arms. The tension will hold the doors up for the next step.



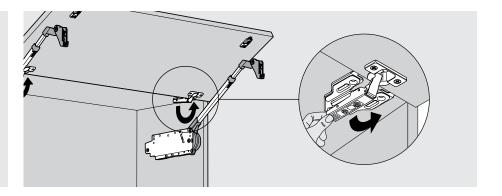
#### Step 3: Remove the bottom door

Hold the bottom door while unclipping the bottom hinge.



#### Step 4: Remove the top door

Hold the top door while detaching the top hinges. Simply unclip them if using the CLIP top hinges or unscrew them if using COMPACT.



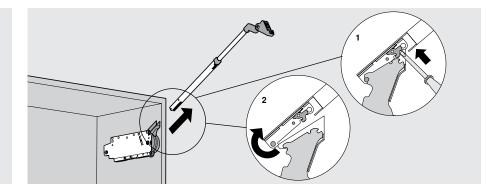




#### **Step 5:** Remove the telescopic arms

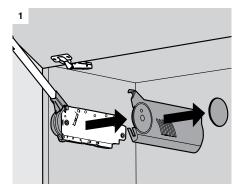
Using a screwdriver, depress the release tabs to remove telescopic arms.

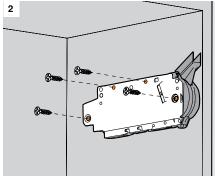
If transporting the cabinet to the jobsite, stop here. Lift mechanisms stay inside the cabinet for easy transport.



#### Step 6: Remove the lift mechanisms

- 1. Remove the symetrical cover caps from right and left covers.
- 2. Remove the four mounting screws.







## The **AVENTOS** line





#### **AVENTOS HF bi-fold lift system**

The doors fold in the middle when opening. This ensures easy access to the pull in any position for high wall cabinets.

#### **AVENTOS HS up and over lift system**

The door swings gently over the cabinet and makes storage space easily accessible. The space requirement over the cabinet is also kept to a minimum.





#### **AVENTOS HK stay lift door system**

Available Fall 2007

Optimal for low cabinet heights. Applications include above refrigerator, accent cabinets or wall cabinets.

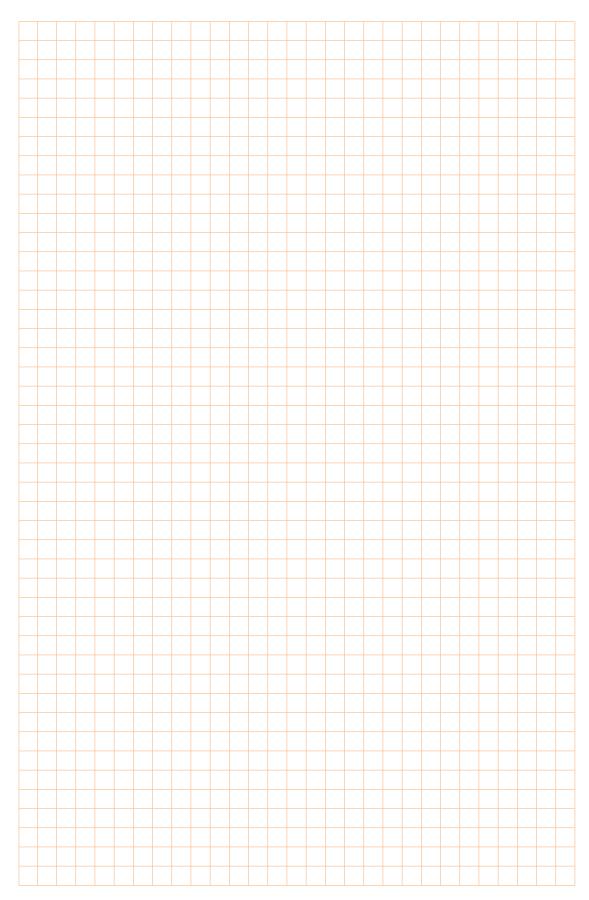
#### **AVENTOS HL lift up system**

**Available Spring 2008** 

The door opens vertically. This is ideal for an appliance garage or wall cabinets.

## Notes





Conversion					
Chart					
	ch	mm			
1/32	.031	1			
1/16	.063	1.5			
3/32	.094	2			
1/8	.125	3			
5/32	.156	4			
3/16	.188	5			
<sup>7</sup> / <sub>32</sub>	.219	5.5			
1/4	.25	6			
9/32	.281	7			
5/16	.313	8			
11/32	.344	9			
3/8	.375	9.5			
13/32	.406	10			
<sup>7</sup> / <sub>16</sub>	.438	11			
15/32	.469	12			
1/2	.5	13			
<sup>17</sup> / <sub>32</sub>	.531	13.5			
9/16	.563	14			
19/32	.594	15			
5/8	.625	16			
<sup>21</sup> / <sub>32</sub>	.656	17			
11/16	.688	17.5			
23/32	.719	18			
3/4	.75	19			
<sup>25</sup> / <sub>32</sub>	.781	20			
13/16	.813	20.5			
<sup>27</sup> / <sub>32</sub>	.844	21			
<sup>7</sup> / <sub>8</sub>	.875	22			
<sup>29</sup> / <sub>32</sub>	.906	23			
<sup>15</sup> / <sub>16</sub>	.938	24			
31/32	.969	24.5			
1	1	25.4			



#### Information is also available on these other Blum products:

- AVENTOS lift door systems
- Blum Concealed hinges: CLIP top, CLIP, MODUL, and COMPACT
- BLUMOTION silent closing systems
- DYNAMIC SPACE
- Machine and assembly aids
- METABOX drawer system
- ORGA-LINE organization system
- POCKET DOOR hardware
- STANDARD drawer runners
- SOLO concealed runners
- TANDEM concealed runners
- TANDEMBOX plus BLUMOTION drawer system





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