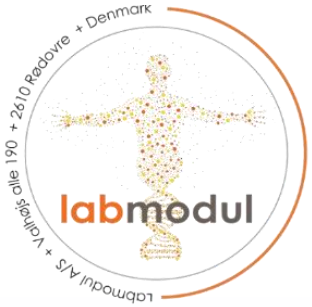
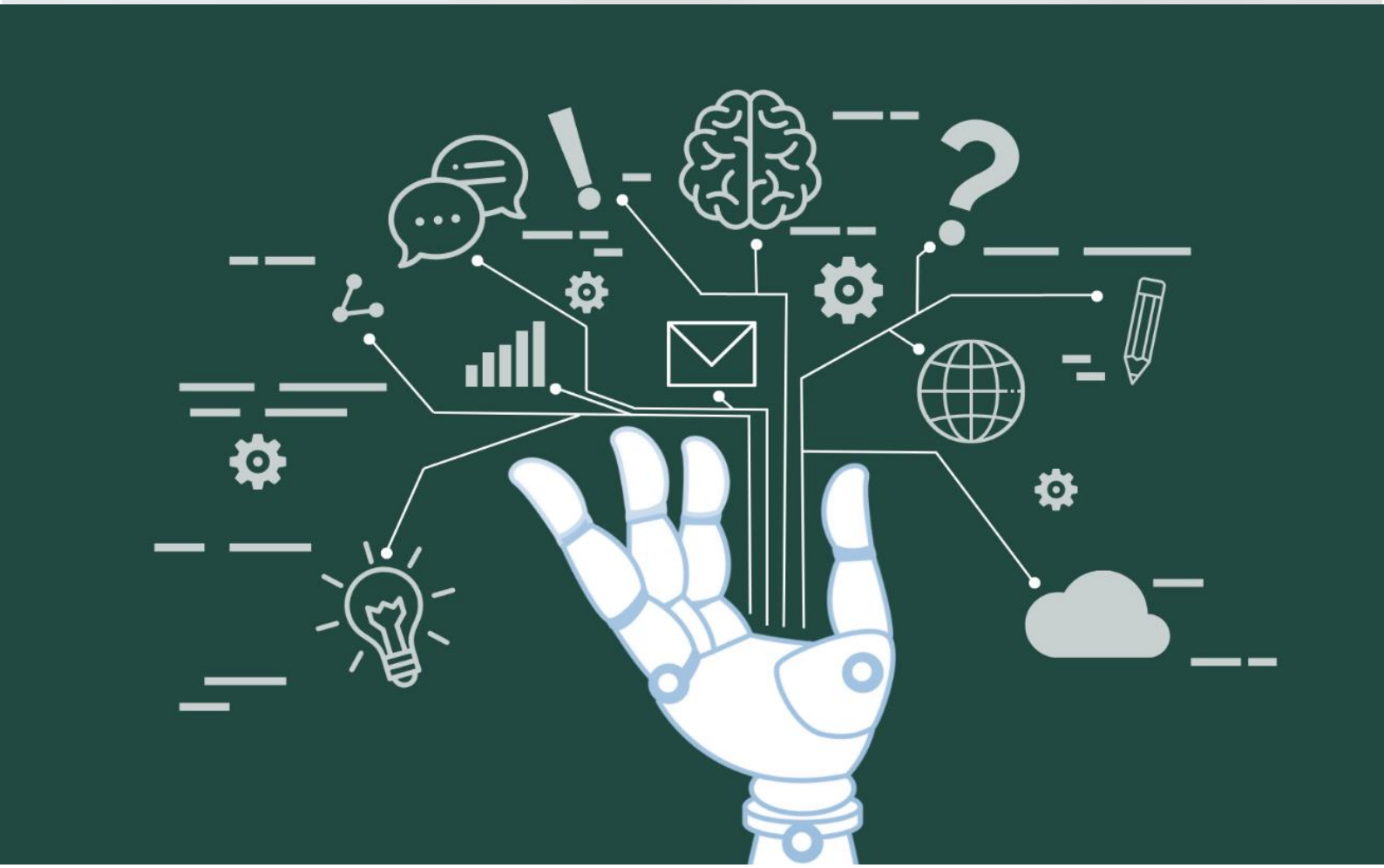
labmodul

# INSTALLATION GUIDE





**Designing Safety**
Labmodul A/S prioritizes quality and innovation highly, which is reflected in their detailed and user-friendly solutions. Every component is meticulously designed to ensure optimal workflow in the laboratory and guarantee that all safety measures are in place to protect both people and the environment.

**Preventive Health and Safety Protection**
Labmodul A/S laboratory systems are a crucial part of preventive health and safety protection in the laboratory. With a focus on safety and efficiency, Labmodul A/S offers top-quality innovative technology through their safety-related components, such as fume cupboards and chemical storage cabinets. These components are designed to minimize potential risks and provide the best possible protection for laboratory personnel.

**Process Support**
Labmodul A/S laboratory infrastructure constitutes a flexible unit that combines functionality, aesthetics, and good ergonomics. The design aims to create an attractive and safe working environment for all employees. Every aspect is carefully thought out to meet international standards in safety and laboratory work.

**Well-Thought-Out Down to the Details**
With a fully modular architecture, Labmodul system solutions allow for easy combination and integration of all laboratory components. Furnishings and service facilities can be easily combined, replaced, or upgraded as needed. This flexibility ensures that the workspace can always adapt to new requirements and technological advancements without issues, making it possible to maintain a high standard of both safety and efficiency.

**Designing Safety**
Labmodul A/S prioriterer kvalitet og innovation højt, hvilket afspejles i deres detaljerede og brugervenlige løsninger. Hver komponent er designet med stor omhu for at sikre et optimalt arbejdsflow i laboratoriet og garantere, at alle sikkerhedsforanstaltninger er på plads for at beskytte både mennesker og miljø.

**Forebyggende sundheds- og sikkerhedsbeskyttelse**
Labmodul A/S laboratoriesystemer er en afgørende del af forebyggende sundheds- og sikkerhedsbeskyttelse i laboratoriet. Med fokus på sikkerhed og effektivitet tilbyder Labmodul A/S topkvalitetsinnovativ teknologi gennem deres sikkerhedsrelaterede komponenter, såsom stinkskabe og kemikalieopbevaringsskabe. Disse komponenter er designet til at minimere potentielle risici og beskytte laboratoriepersonalet bedst muligt.

**Processtøtte**
Labmodul A/S laboratorieinfrastruktur udgør en fleksibel enhed, der kombinerer funktionalitet, æstetik og god ergonomi. Designet sigter mod at skabe et attraktivt og sikkert arbejdsmiljø for alle medarbejdere. Alle aspekter er nøje gennemtænkt for at opnå internationale standarder inden for sikkerhed og laboratoriearbejde.

**Velgennemtænkt ned til den mindste detalje**
Med en fuldt modulær arkitektur giver Labmodul systemløsninger mulighed for nem kombination og integration af alle laboratoriekomponenter. Indretninger og servicefaciliteter kan let kombineres, udskiftes eller opgraderes efter behov. Denne fleksibilitet sikrer, at arbejdsrummet altid kan tilpasses nye krav og teknologiske fremskridt uden problemer, hvilket gør det muligt at opretholde en høj standard for både sikkerhed og effektivitet.

## Indhold



## NOTE

Labmodul assumes no responsibility or warranty claims for any direct or indirect damages resulting from non-compliance with the information in this handbook.

Read the handbook thoroughly before using the products. Retain this handbook for the entire lifespan of your Labmodul equipment and ensure that it is always available to operators and maintenance personnel. Hand this handbook over to any subsequent owner or user of your Labmodul products.

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Labmodul påtager sig ikke noget ansvar eller garantikrav i forbindelse med direkte eller indirekte skader som følge af manglende overholdelse af oplysningerne i denne håndbog.

Læs håndbogen grundigt, før du bruger produkterne. Behold denne håndbog i hele levetiden af dit Labmodul inventar og sørg for, at denne håndbog altid er tilgængelig for operatører og vedligeholdelsespersonale.
Overdrag denne håndbog til enhver efterfølgende ejer eller bruger af dit Labmodul produkter.

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## FUME CUPBOARDS CONSTRUCTION

### Construction

**Component overview**
Innovative design solutions, aesthetics and design

**1 The chamber of the fume cupboard**
The visible part of the chamber enclosing hazardous gases and vapors.

**2 Chamber plate for suction**
The demountable plates used to create suction along the back and side of the chamber. The back panels also ensure that the suction becomes uniform across the opening of the sash window and that the polluted air is efficiently removed to prevent emissions.

**3 Sash window**
The balanced sash window opens vertically and is equipped with a combined airfoil and operating handle.

**4 Worktop airfoil**
The work top airfoil is located along the front edge of the work surface and controls the airflow into the chamber. The rail is designed to effectively prevent turbulent eddies, which may carry vapors out of the fume cupboard.
The underside of the rail is open so air can flow freely into the chamber, even when the operator leans against the work top when operating the fume cupboard.

The opening can also be used to lead wires and hoses out of the chamber. Both the sash- and work top airfoil are designed so the operator is effectively protected in case of fluids and other items should escape from the chamber by accident.

**5 The work top**
The workspace is defined by the work top. When a larger apparatus or other large items are placed in the chamber, they can create turbulences. Therefore they shall be placed on a stand, lifting the item 3-5 cm above the work top in order to ensure that the air can pass around and under the equipment.

**6 Tilted chamber plate for suction**
The tilted chamber plate distributes the airflows evenly across the suction openings. Materials such as paper towels or other light materials could be drawn into the openings and create undesirable turbulence or bad airflow, if they are sucked into the sloping chamber or into other ventilation components. It is recommended to install a net which ensures that items remain inside the chamber.

**7 Work area**
The work area is the field between the work top and the sash window. The air velocity is measured across this opening. The standards defines the maximum opening of the sash window to 50 cm when operating the fume cupboard. When a larger opening is needed for cleaning, doing setup's or bringing equipment in or out of the chamber, a lock must be released and the fume cupboard will no longer provide the necessary safety for laboratory work.

## FUME CUPBOARD EXHAUS

# Ventilation

The fume cupboard is connected to the ventilation system in the room via the connection on the top deck, either via a motorized damper connected to the main ventilation system, or a separate frequency controlled ventilator box .

In accordance with EN / DS 14175 the fume cupboards must be equipped with an alarm and control unit. The fan and the control unit ensures automatically a proper ventilation for the fume cupboard during operation.

The fume cupboard is working by creating a negative pressure inside the work chamber that prevents any contaminant from escaping. The air passes into the fume cupboard between the worktop and the sash window, and there are requirements for the air velocity measured in meters per second (m/s).
Is the air velocity too high in the chamber, it might cause a severe turbulence and a risk of harmful fumes escaping to the outside of the fume cupboard. An excessively low air velocity can likewise course harmful fumes escaping. The correct air speed is essential for a safe and economically efficient fume cupboard.

In general it is recommended that the air velocity is between 0.3 and 0.5 m/s However, it is important to check with the local safety regulations before the fume cupboard is in service.
Low energy fume hoods are designed and tested to run with minimal air speed during use.

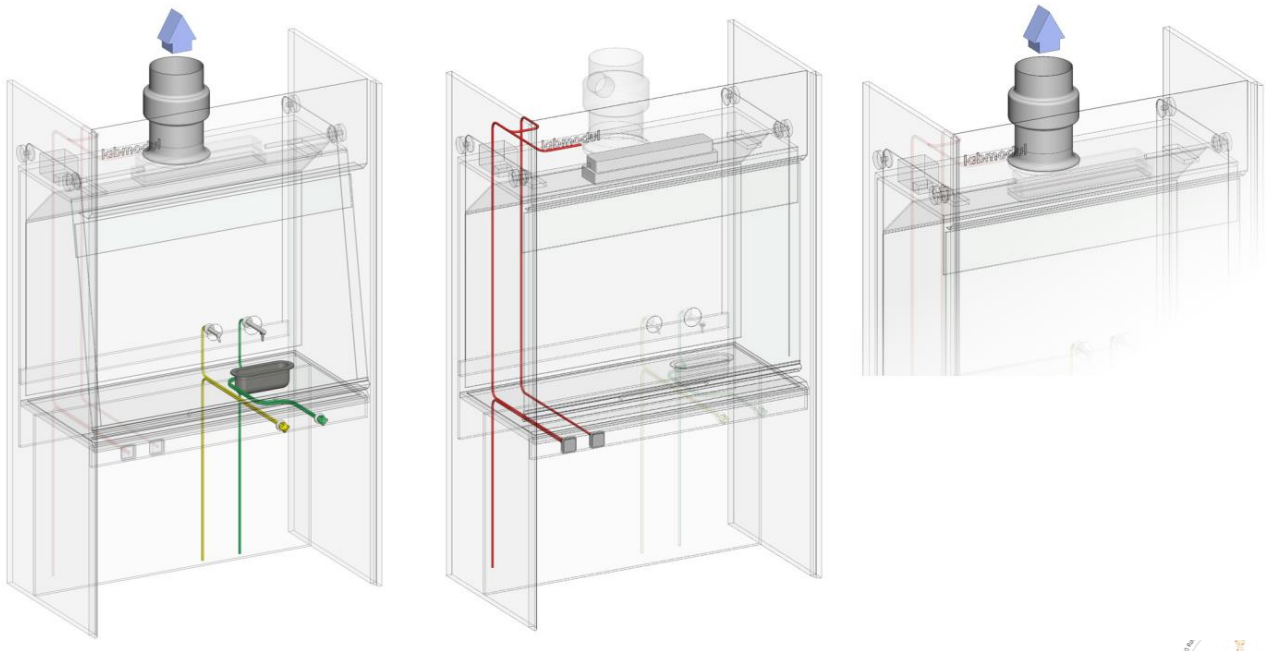
### Energy savings

To save more energy, these fume cupboards can be equipped with a sash automation that lowers the sash when there has been no activity in the chamber in a specified time. The sash window automatically closes and the air velocity is lowered to the standby mode.

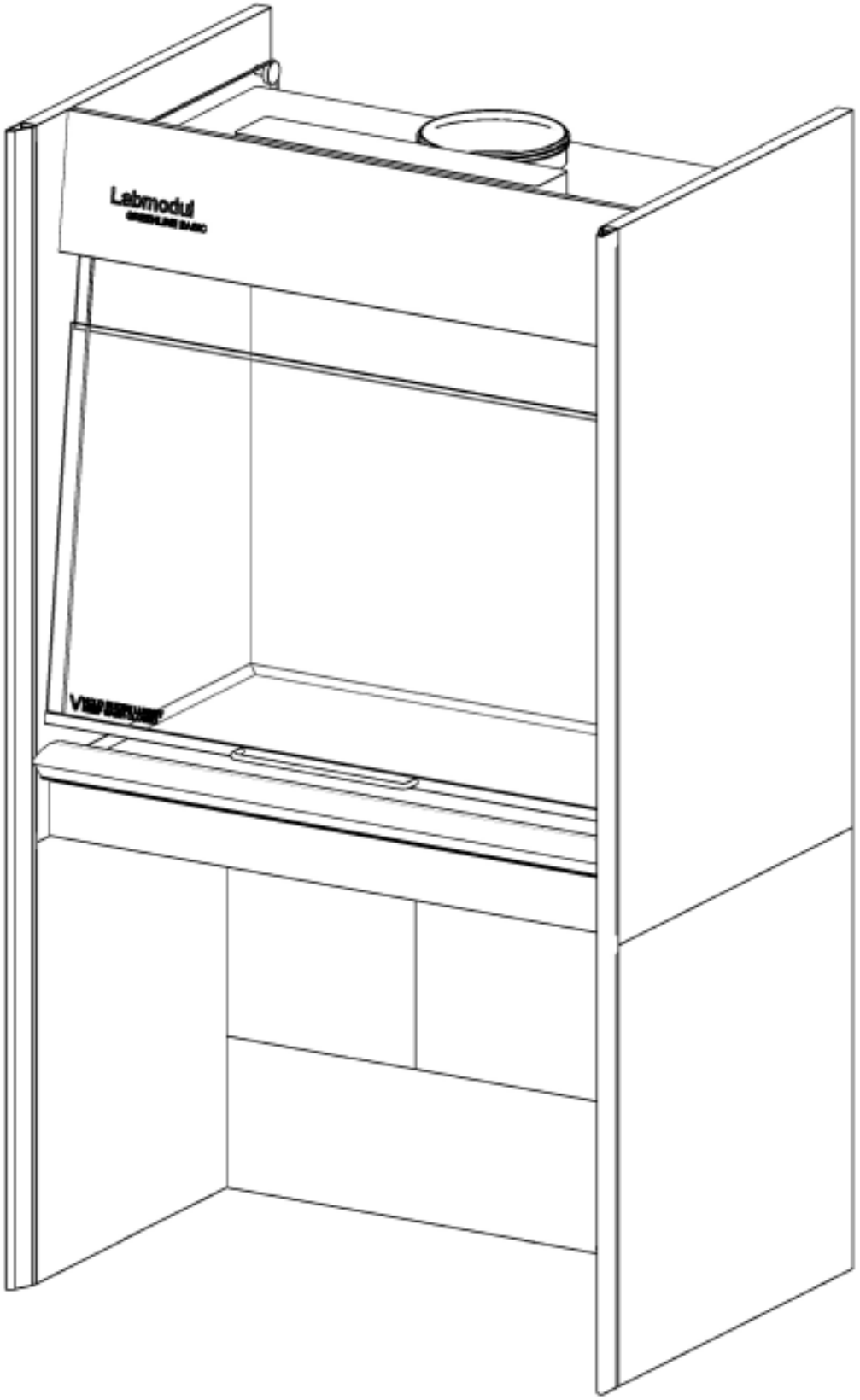
### Suction from chemical cabinets

Chemicals should be stored properly and thus kept in a ventilated cupboard, substances that are marked as toxic requires also that the cabinet must be locked. Chemical cabinets shall be constantly ventilated 24 hours a day and connected independently of the fume cupboard exhaust system.

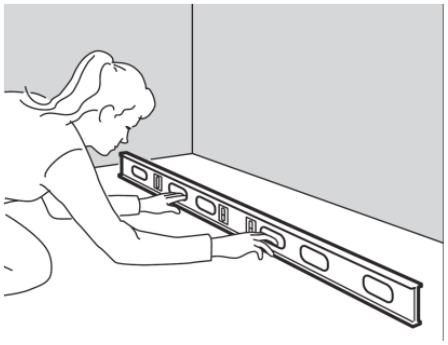
- Chemical tall units, connected on top to 100 mm pipe.
- Chemical base cabinets connected on 50 mm pipe placed on top of the fume cupboard



## FUME CUPBOARD FIXED WORKTOP HEIGHT

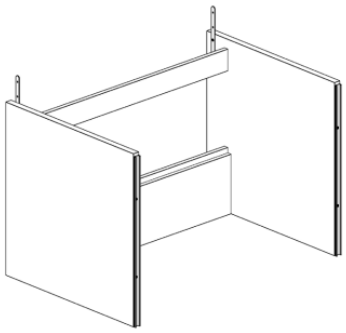



Fume Cupboard Installation Guide



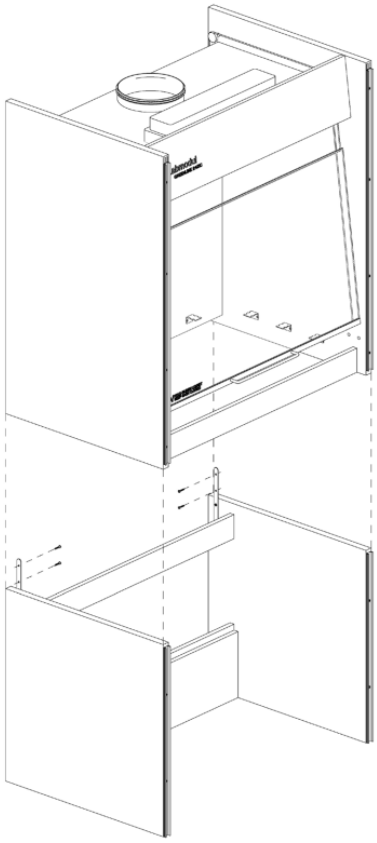
Prepare your space by making sure your corners are even and your walls and floor are straight.

1



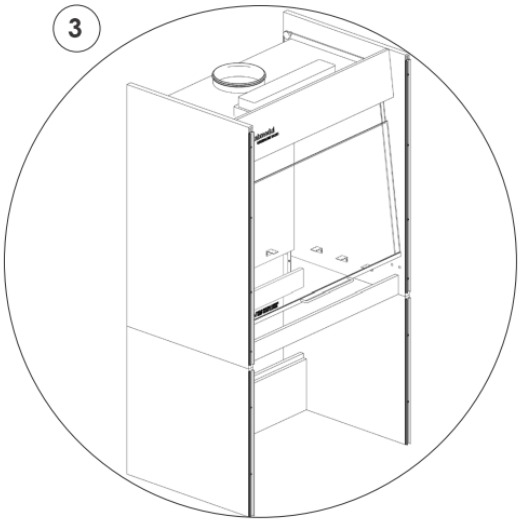
Place the lower part of the fume cupboard in the right position and make sure it is straight.

2



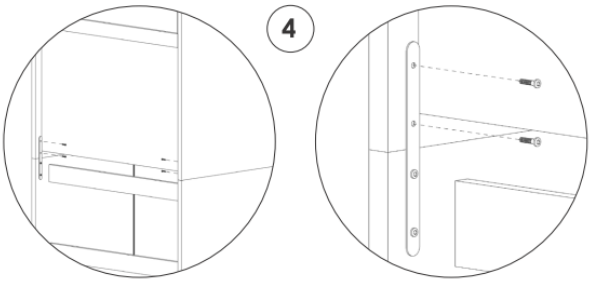
Place the top part of the fume cupboard on top of the lower part.

3



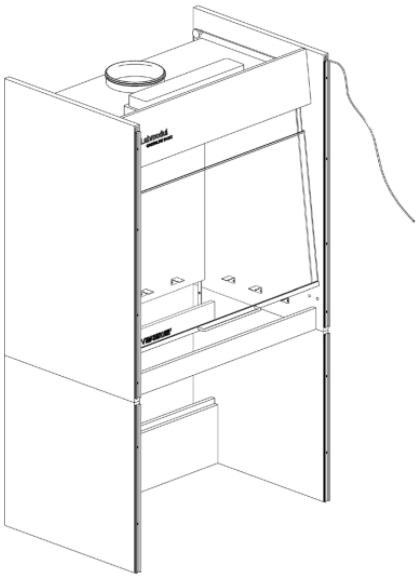
Carefully make sure that it's sitting properly and its straight.

4



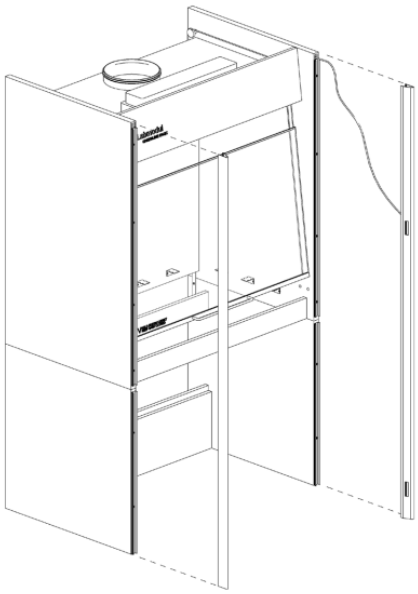
Screw the two parts together from behind on both sides with two screws each in the allocated holes, after making sure that the fume cupboard is straight.

5



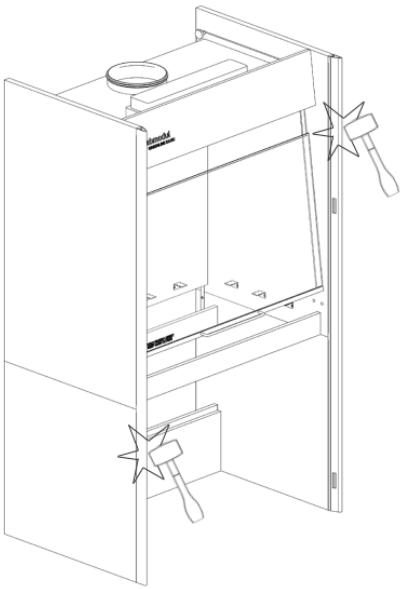
Pull out the cable from the top right sideboard of the fume cupboard.

6



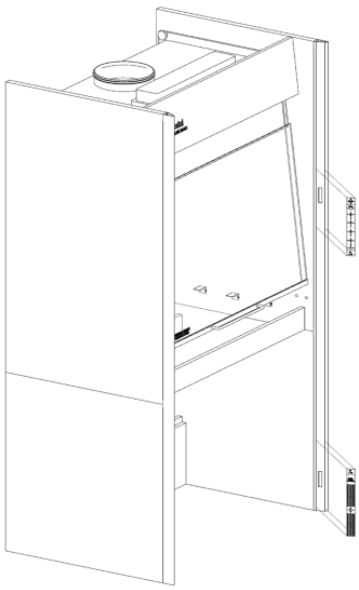
Connect the cable to the streamline aluminum front profile, where the holes for the control panels are.

7



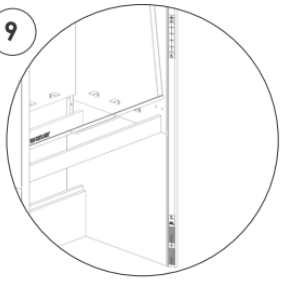
Place the streamline aluminum profile in place with glue after connecting the cable on the right side, and bang it softly with a rubber hammer to place it properly.

8



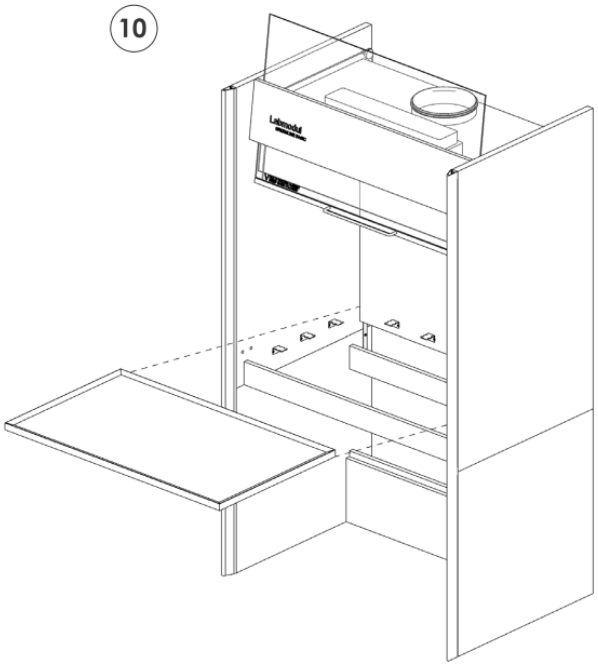
Place the control panels on the right streamline aluminum profile.

9



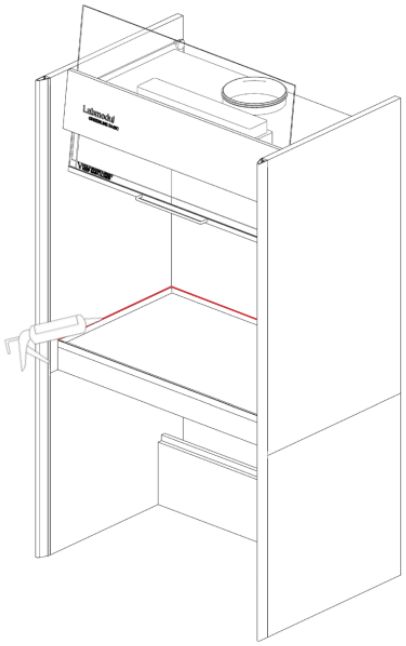
After putting the control panels in place, make sure that it's connected and placed properly.

10



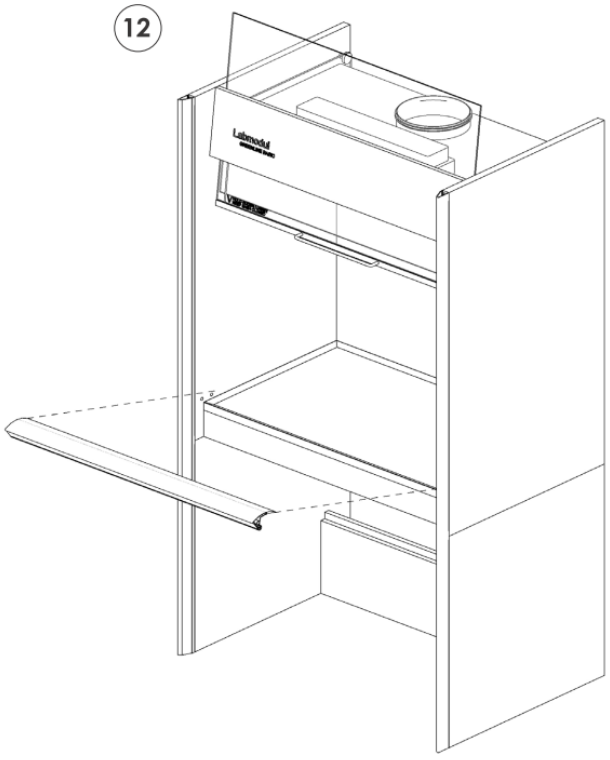
Push up the glass sash window and gently place the table top in the fume cupboard.

11



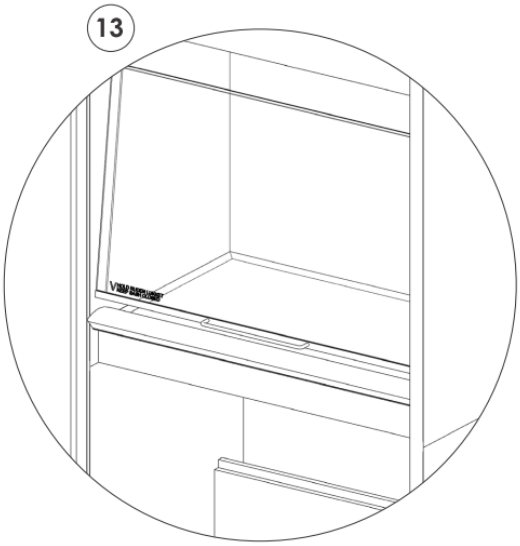
Apply white silicone around the table top to tightly seal the gaps.

12



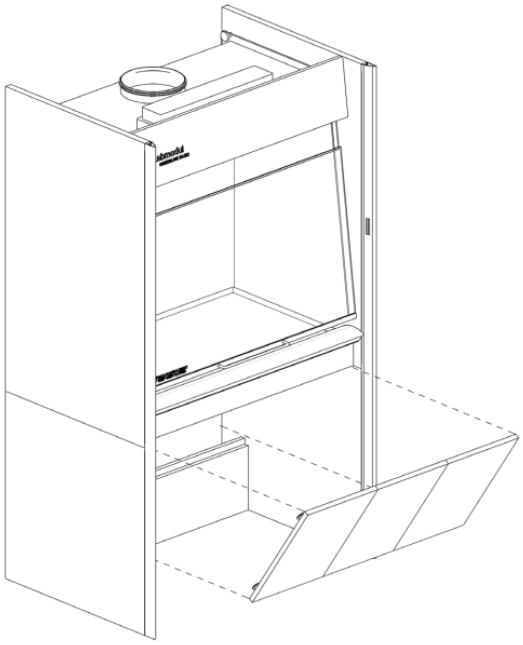
Put the airfoil in place in front of the table top.

13



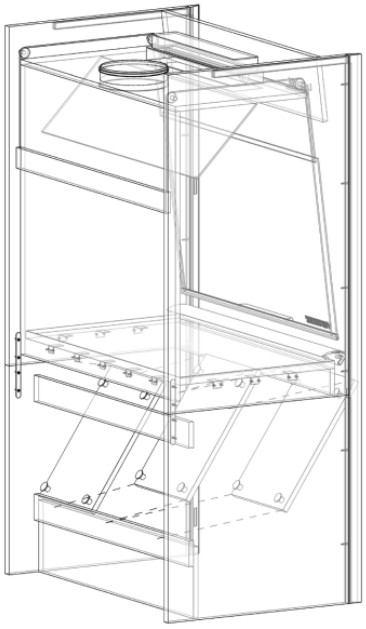
Make sure it fits properly

14



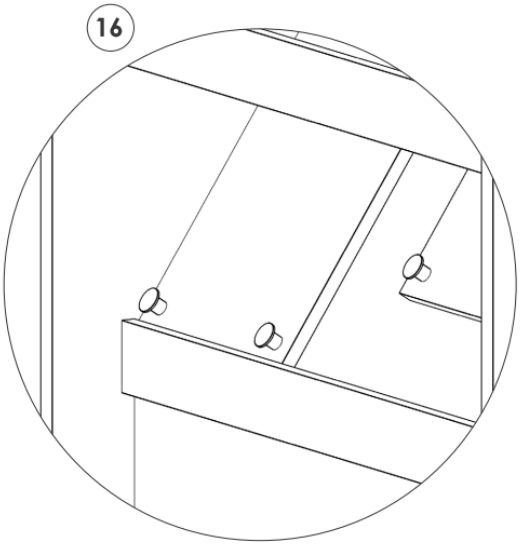
Place in the bottom cover plates.

15



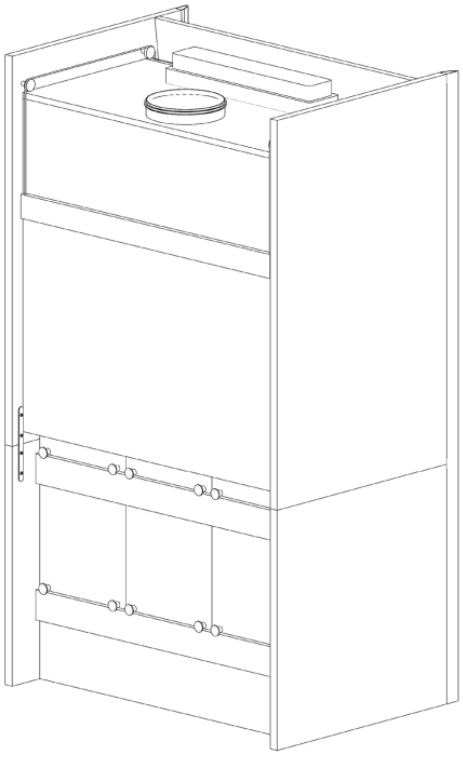
Tilt the back cover plates backward when putting them in, to make it easier to fit.

16

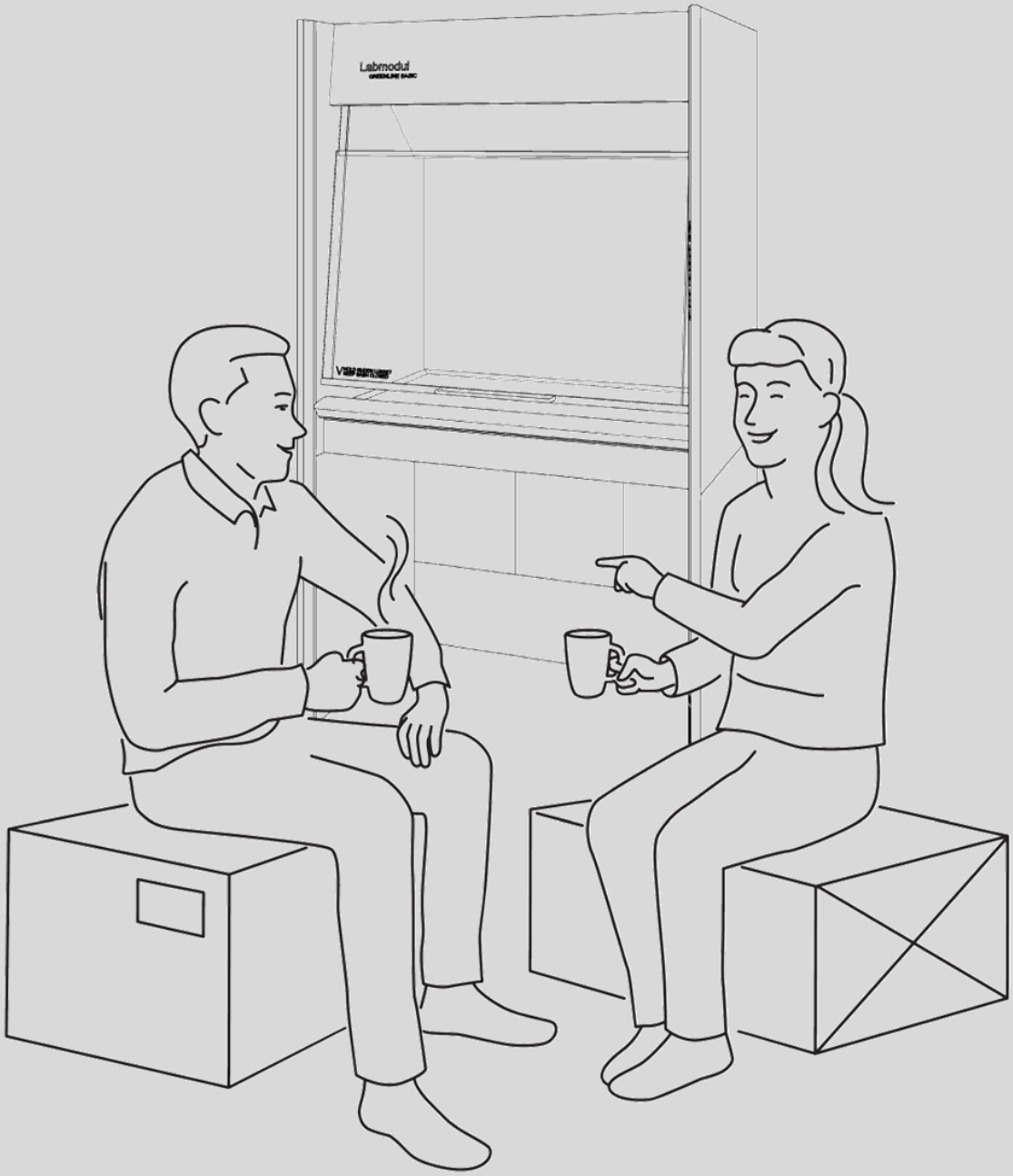


Place them as shown in the image.

17



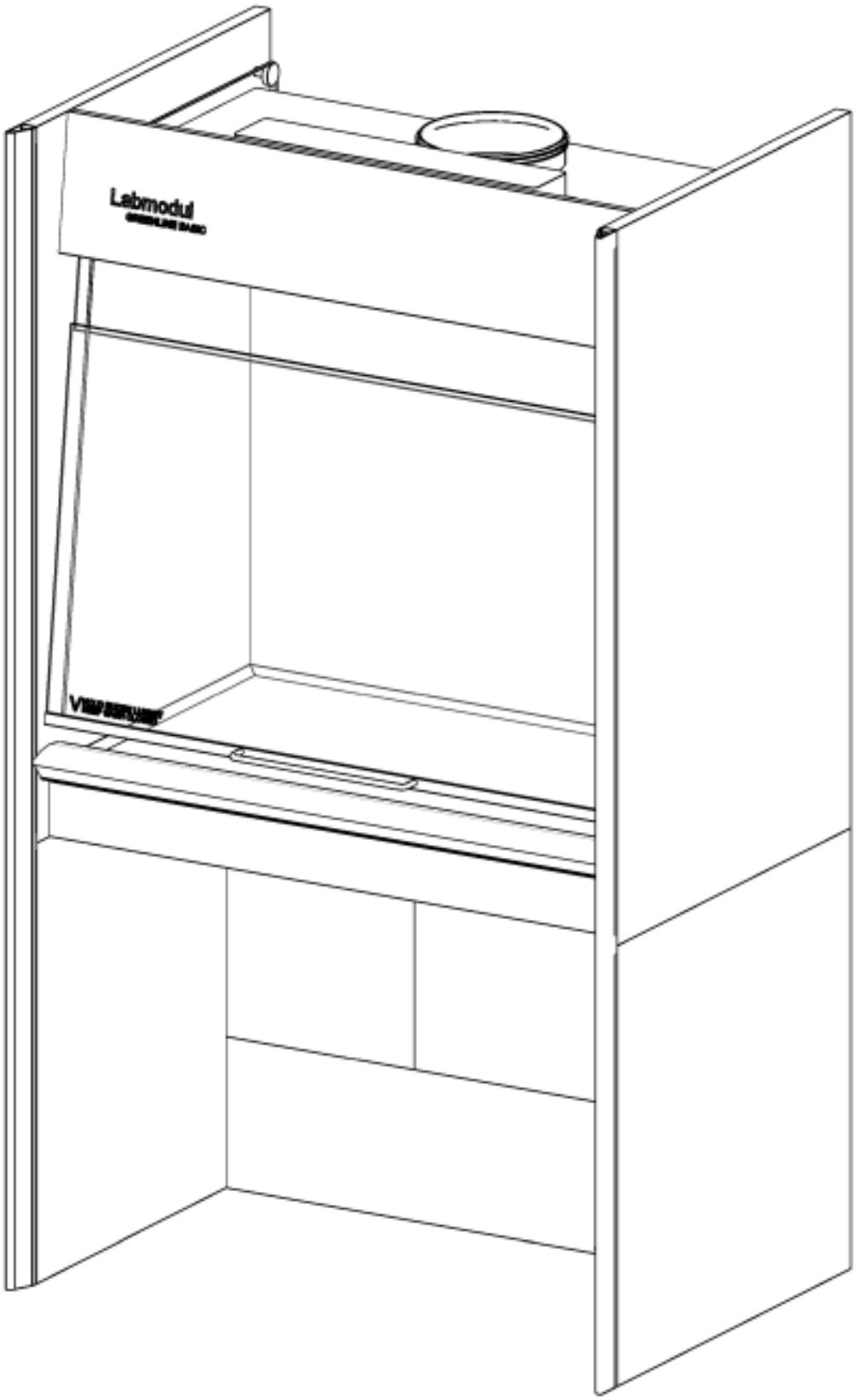
Make sure that it sits properly.




# YOU'RE DONE!

Time to step back, relax and admire your new fume cupboard.

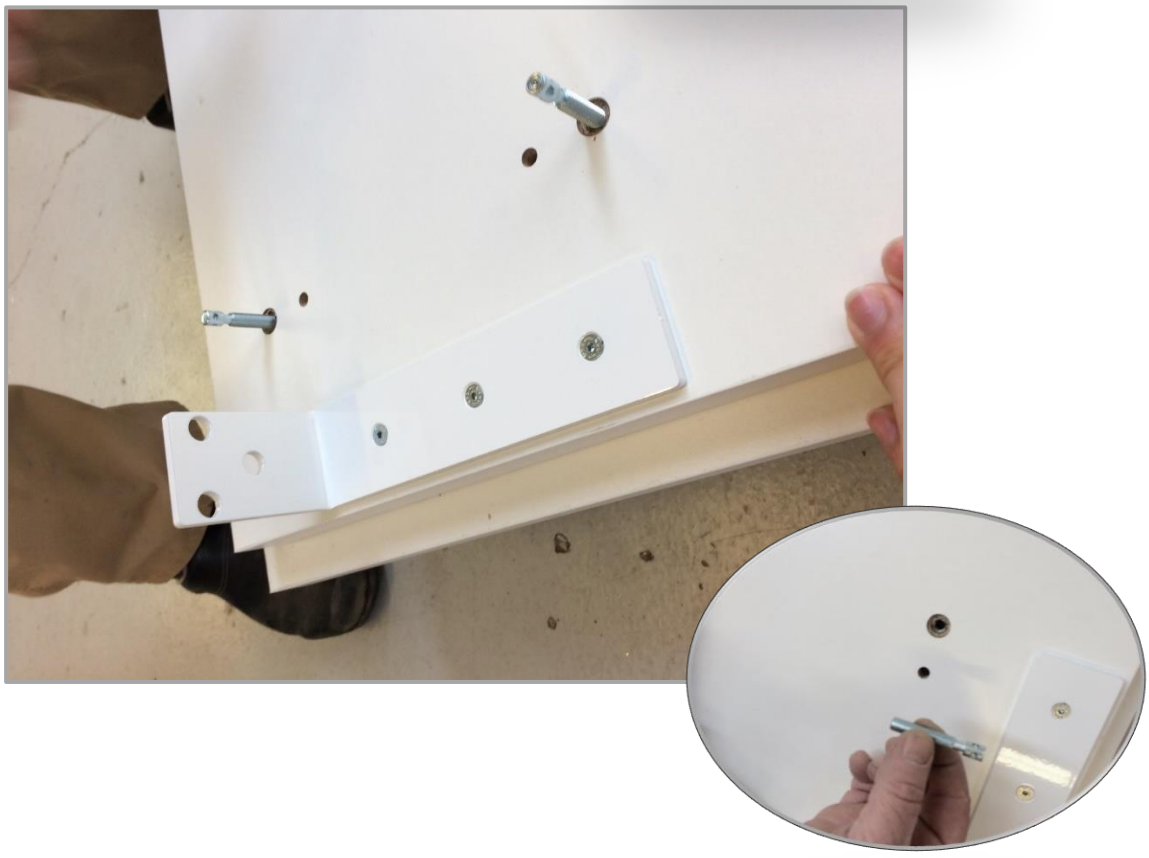
## FUME CUPBOARD HEIGHT ADJUSTABLE WORKTOP




Fume Cupboard Installation Guide

Fix the brackets on the 2 outer sides

Insert the assembly fixtures in the 2 outer sides



Mount the adjustable support feets in the bracket on the outer sides.

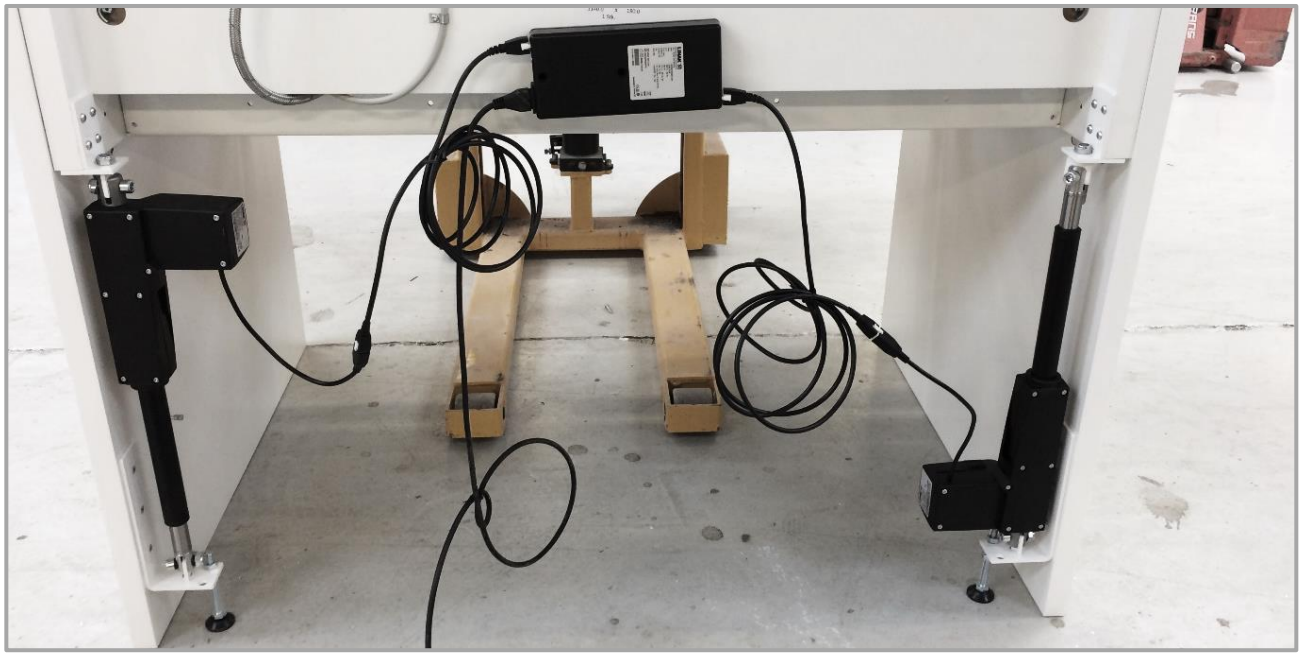
Lift the factory assembled fume cupboard cabinet to 60 cm above floor.


Fix bracket on the back of the cabinet on both sides.

Place the side aginst the cabinet and slide the holder into the side profile. The side will rest at the floor.

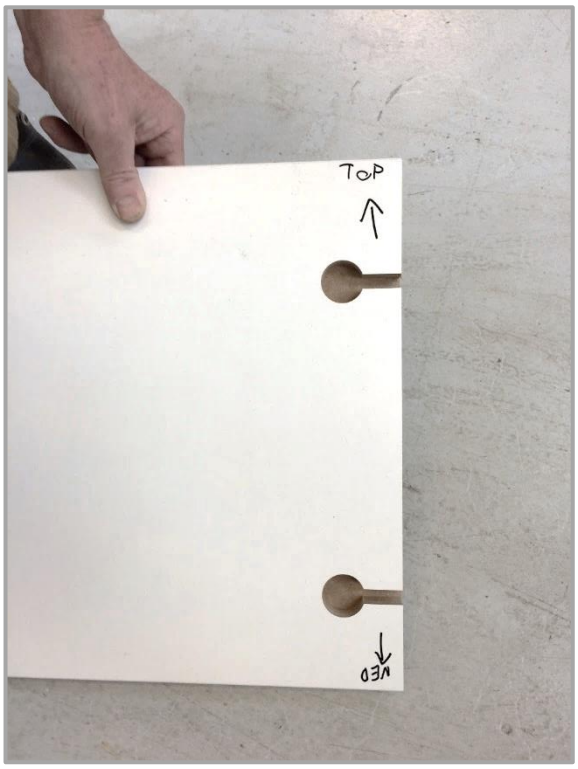
Bolt the electrical actuators to the brackets on both sides.

Fix the controlbox on the back and orginise the cables



Connect the operating keyboard.

Install the cross coverplate between the outer sides.





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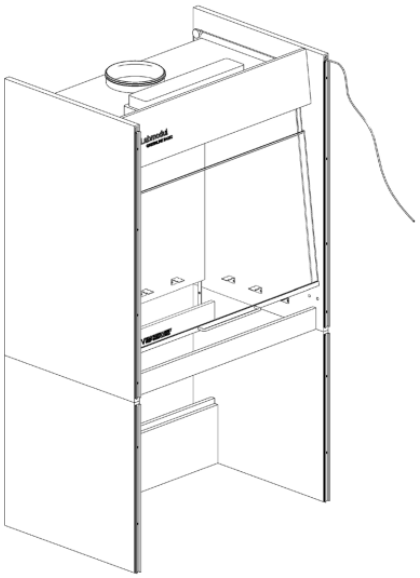

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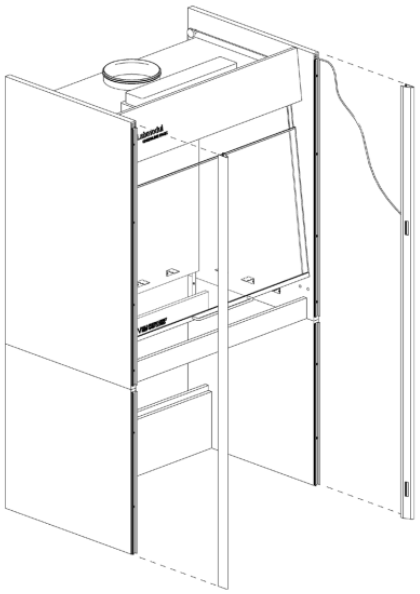

Connect the cable to the streamline aluminum front profile, where the holes for the control panels are.

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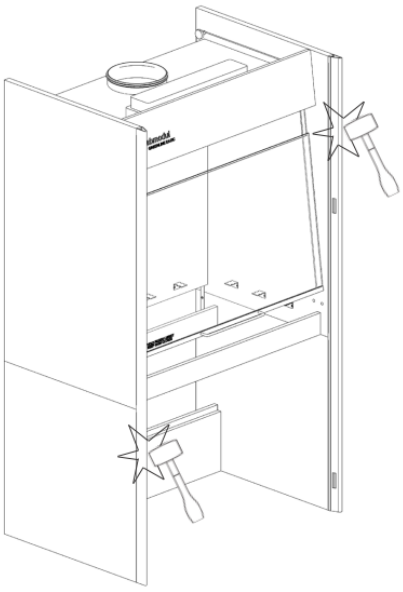

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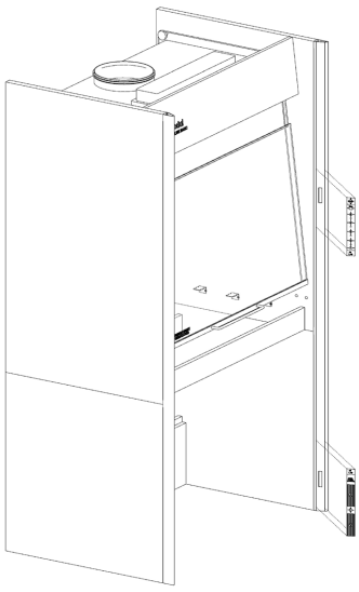

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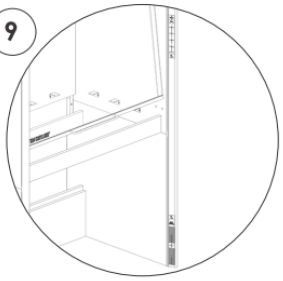

After putting the control panels in place, make sure that it's connected and placed properly.

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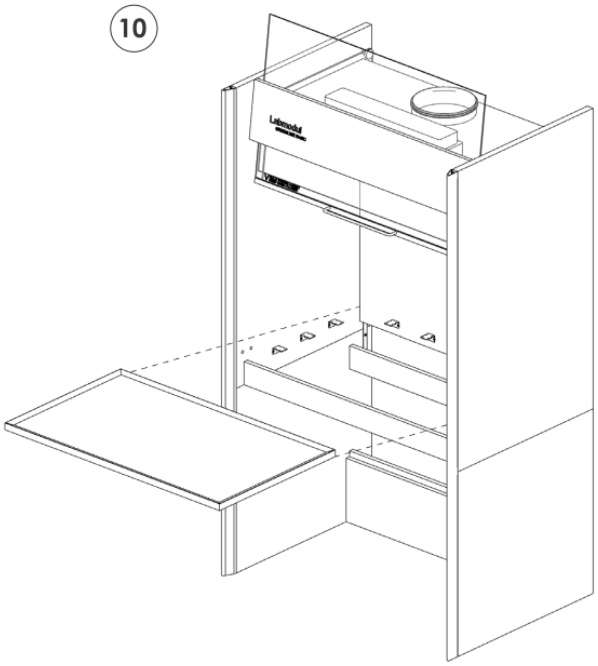

Push up the glass sash window and gently place the table top in the fume cupboard.

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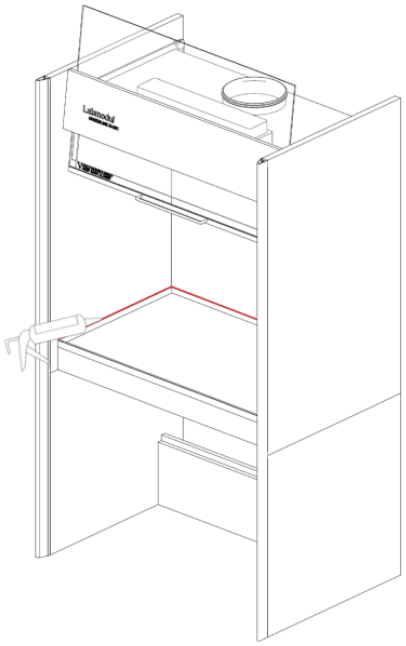

Apply white silicone around the table top to tightly seal the gaps.

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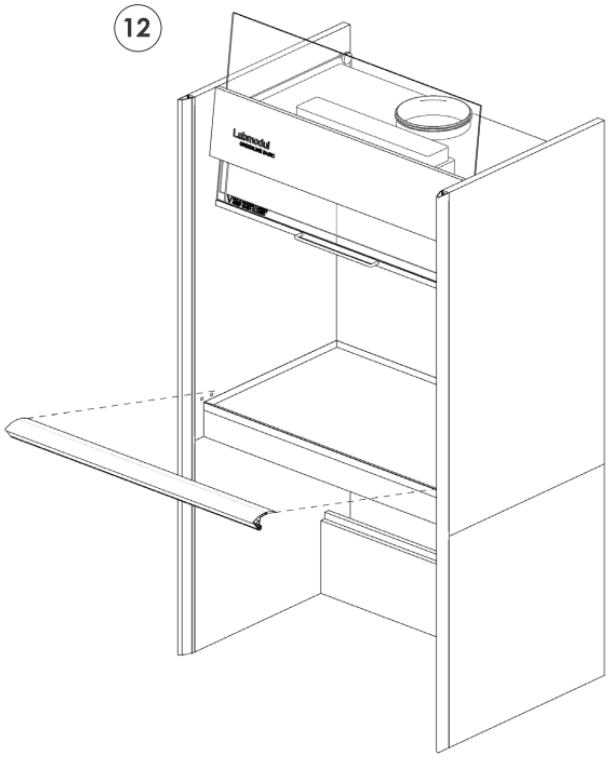
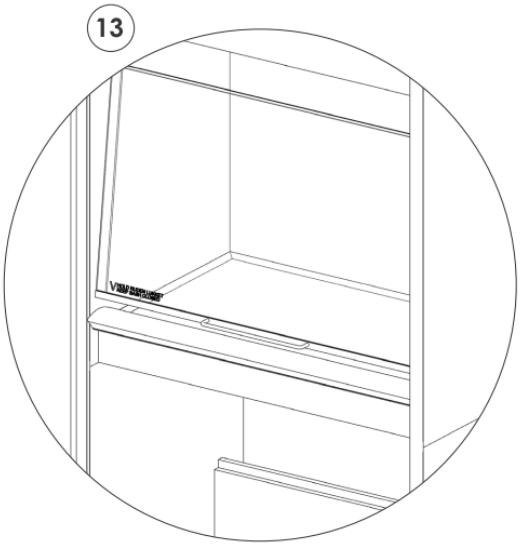


Put the airfoil in place in front of the table top.

13



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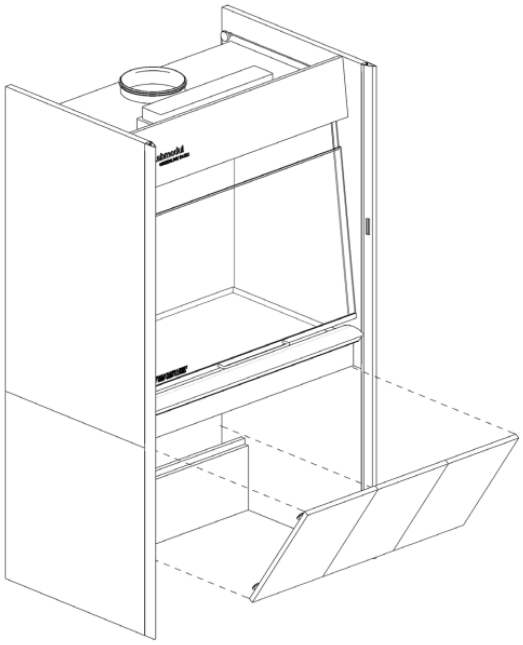

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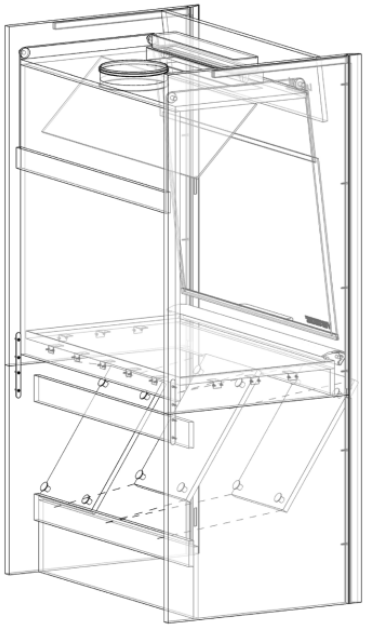

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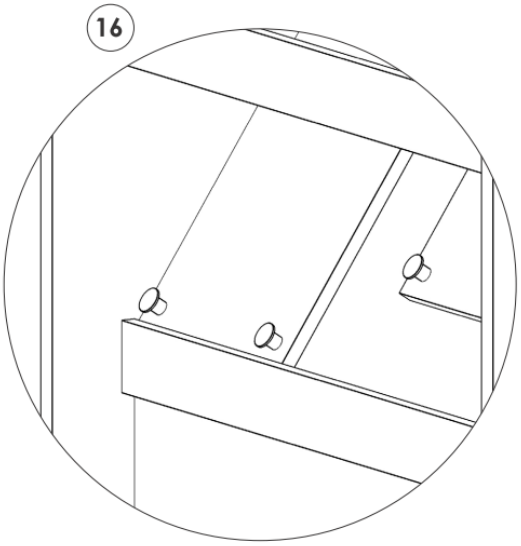

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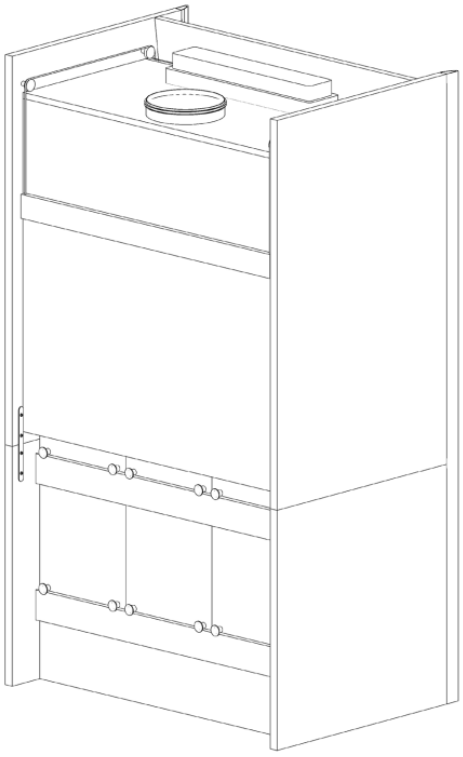
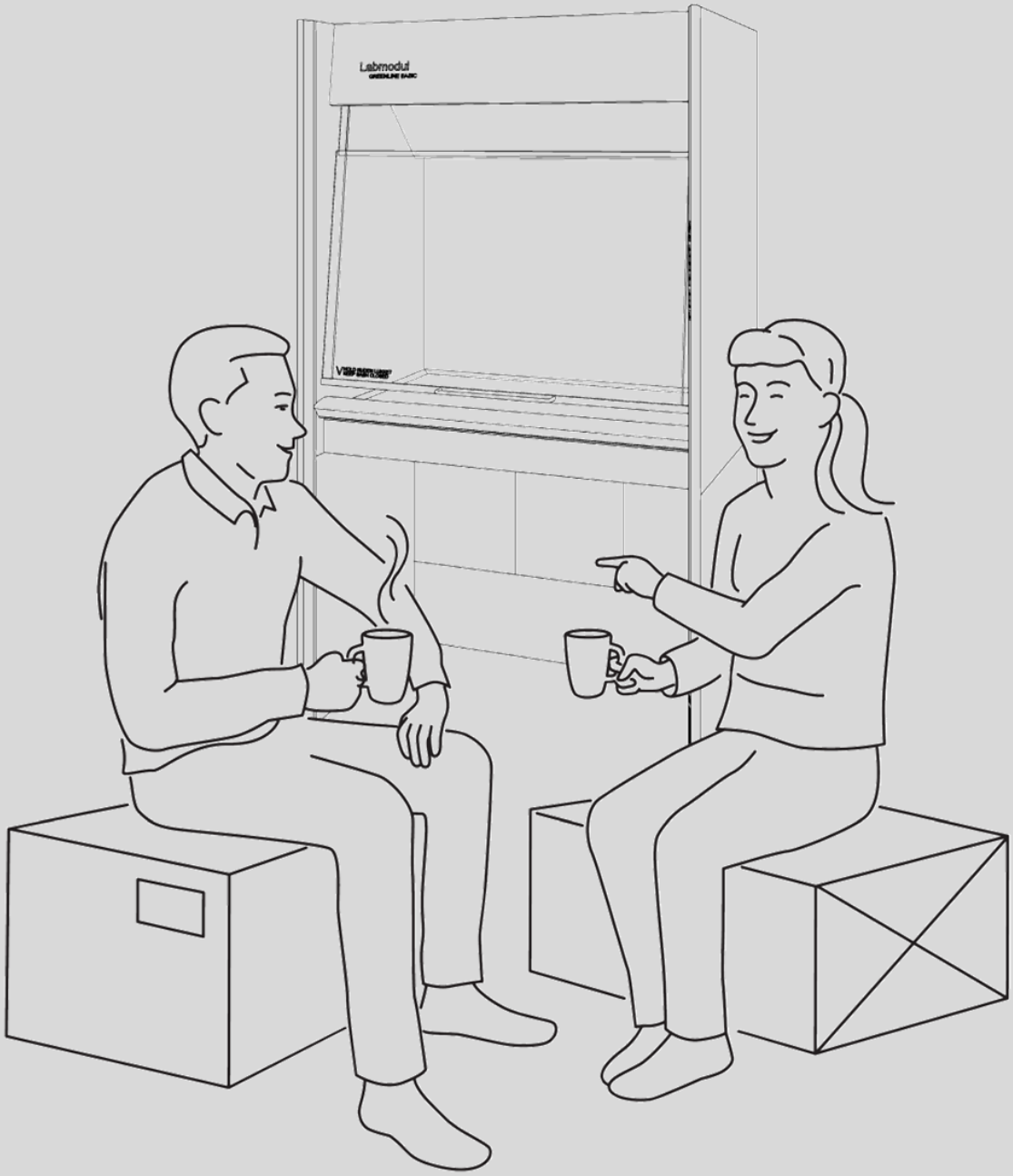


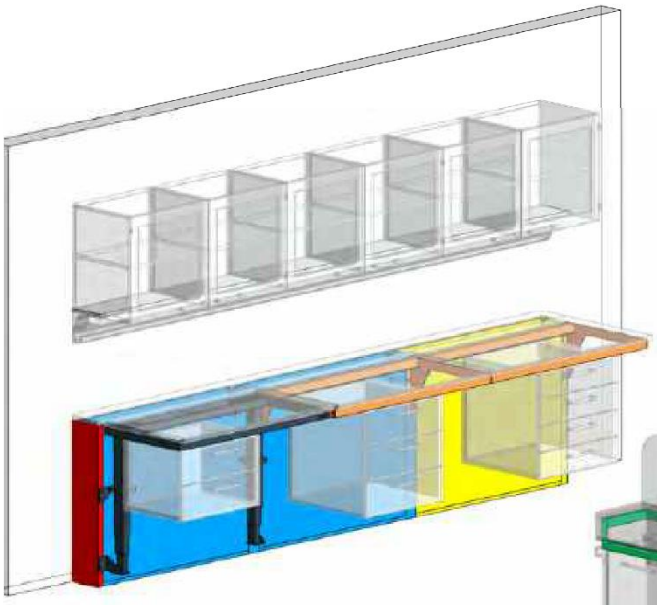
Make sure that it sits properly.



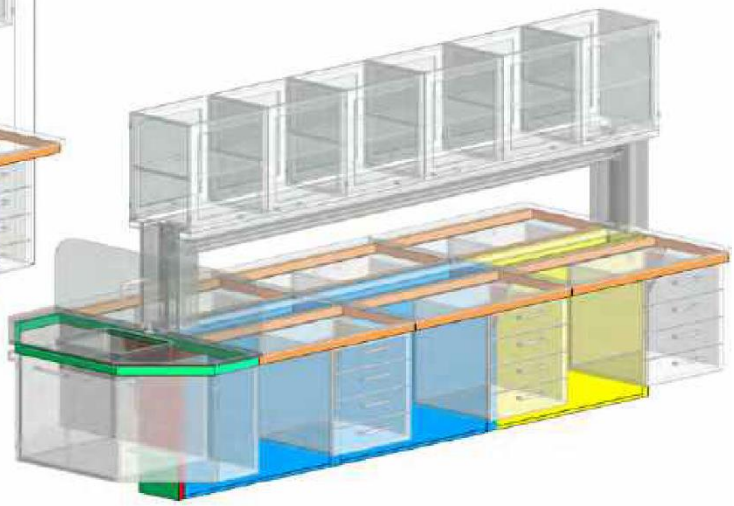

# YOU'RE DONE!

Time to step back, relax and admire your new fume cupboard.

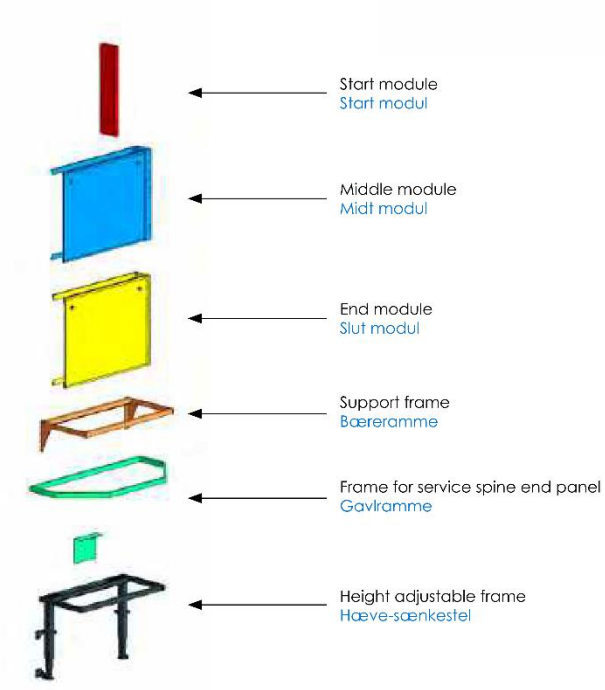
## PERFORMANCE SYSTEM



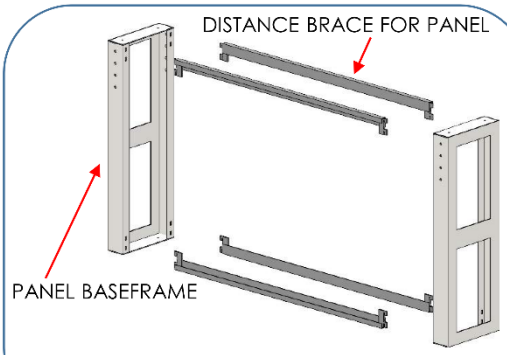
Performance Panel - to the wall
Performancepanel - til væg

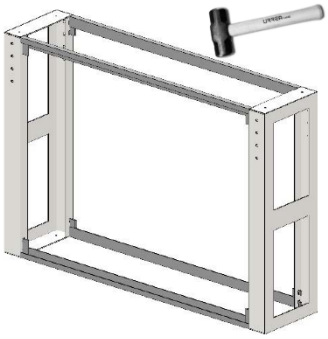


Performance Panel - free standing
Performancepanel - frit stående

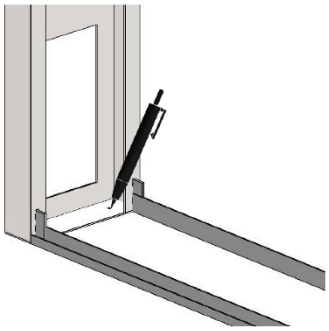


## SERVICE PANEL

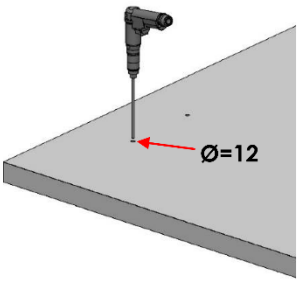


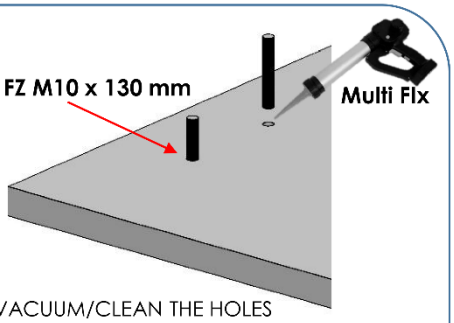
USE RUBBER HAMMER TO PUT DISTANCE BRACE AND PANEL BASEFRAME TOGETHER



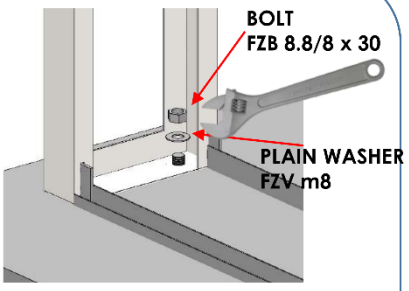
USE PEN TO MARK BEFORE DRILLING OF HOLES




DRILL THE MARKED HOLES FOR THREADED ROD

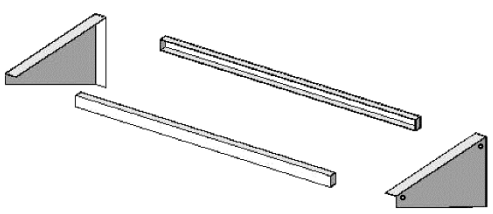



1. VACUUM/CLEAN THE HOLES
2. PUT THE GLUE INSIDE THE HOLES
3. PUT THREADED ROD INSIDE THE HOLES AND WAIT FOR 30 MIN FOR DRYING

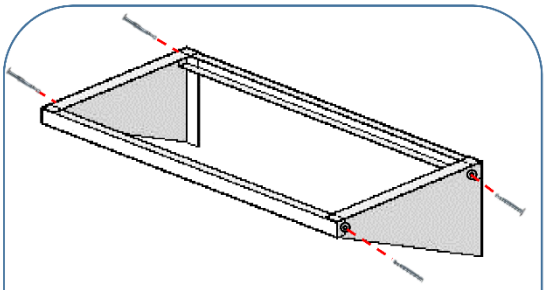



1. PLACE PLAIN WASHER OVER THE THREADED ROD
2. SCREW BOLT ON THREADED ROD

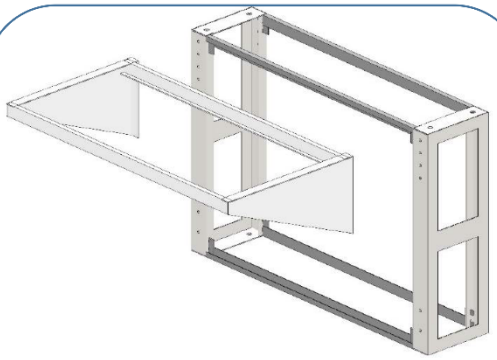
## SUPPORT FRAME PLACEMENT



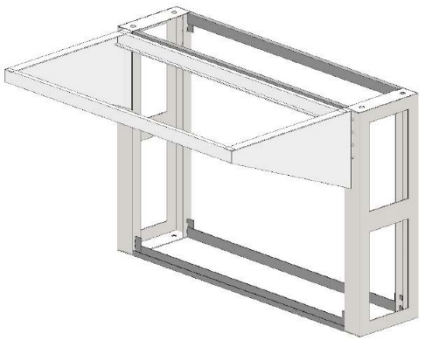
ASSEMLBE THE SUPPORT FRAME

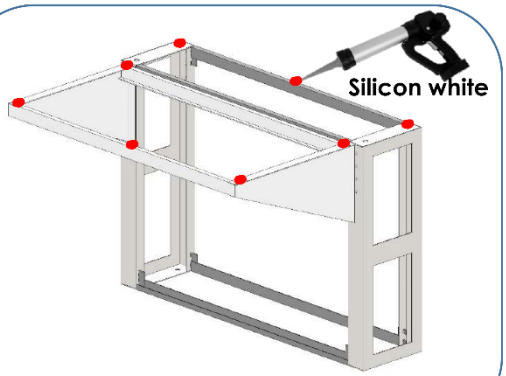


FASTEN THE SUPPORT FRAME WITH THE SCREWS

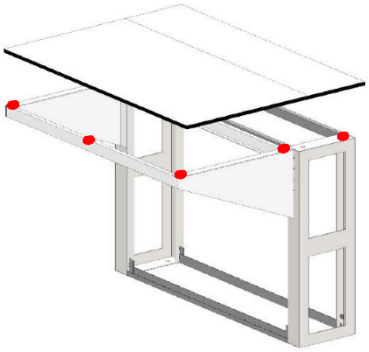


BOLT THE SUPPORT FRAME ON THE SERVICE PANEL.

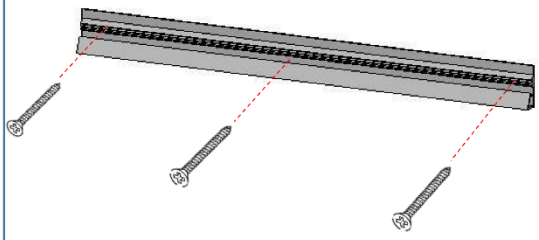





USE THE SILICON WHITE FOR ATTACHMENT OF THE TABEL PLATE

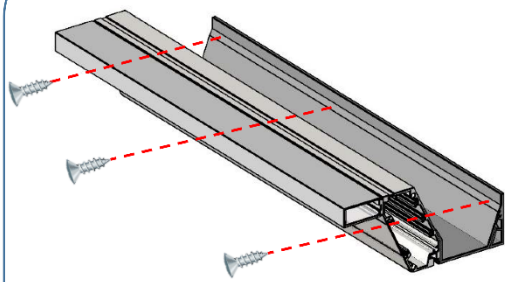


## PLACEMENT OF THE WALL SERVICEBRIDGE/CABINET

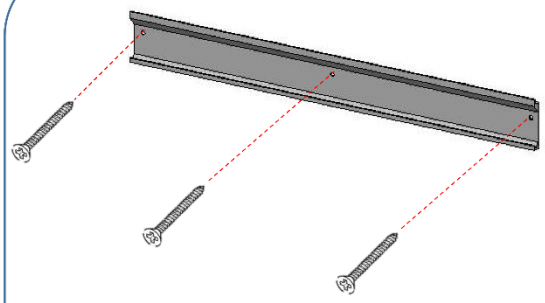


ATTACH THE BACK RAIL INTO THE WALL

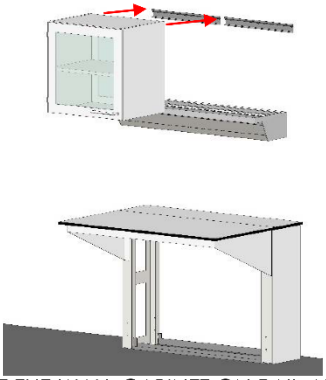
PLACE THE SERVICEBRIDGE ON BACK RAIL



SCREW THE SERVICEBRIDGE ON THE BACK RAIL
USE THE MARKED ON THE ALU-PROFILE

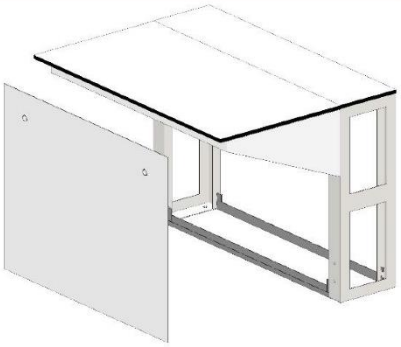


SCREW THE BACK RAIL FOR THE WALL
CABINET INTO THE WALL

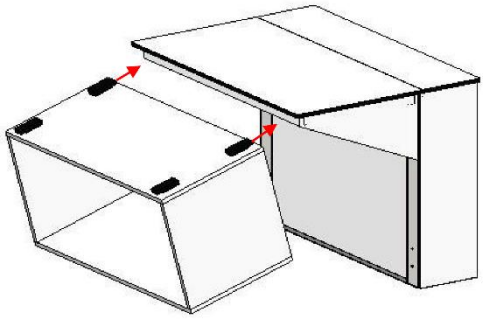


PLACE THE WALL CABINET ON RAIL AND PULL
THE CABINET DOWN TO THE SERVICEBRIDGE

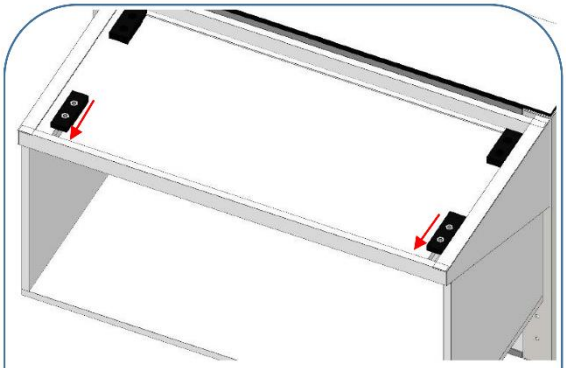
## CABINET PLACEMENT



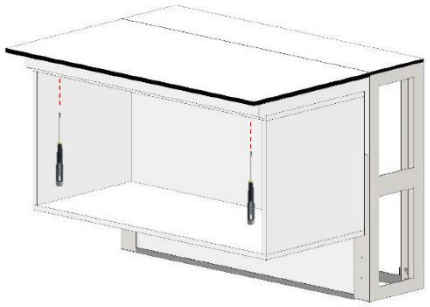
LIFT COVER PLATE INTO THE UPPER C-PROFILE
AND PUT IT DOWN INTO THE LOWER C-PROFILE



LIFT THE REAR CABINET HOLDERS INTO
THE BENCH FRAME



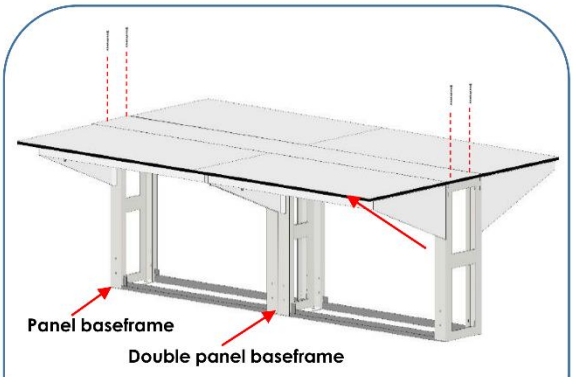
PUSH THE CABINET HOLDERS BACK INTO
THE SUPPORT FRAME



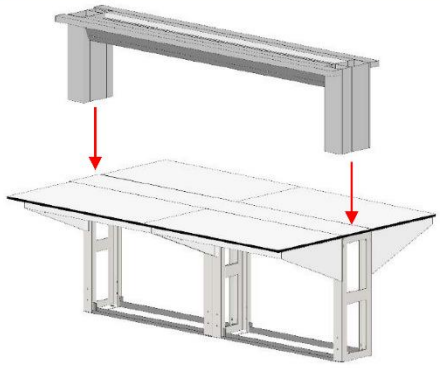
FASTEN THE CABINET HOLDERS WITH THE SCREWS
INSIDE THE CABINET

CHECK THAT THE CABINETS IS SECURLY FASTEND

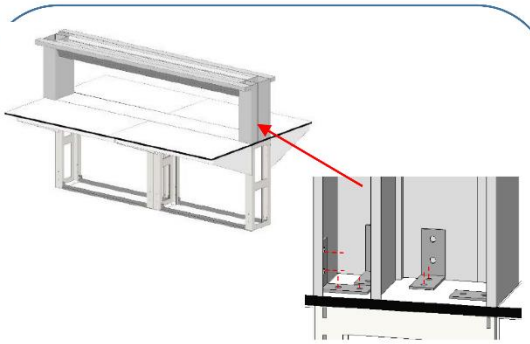
## STAND ALONE SYSTEM – SERVICE BRIDGE PLACEMENT



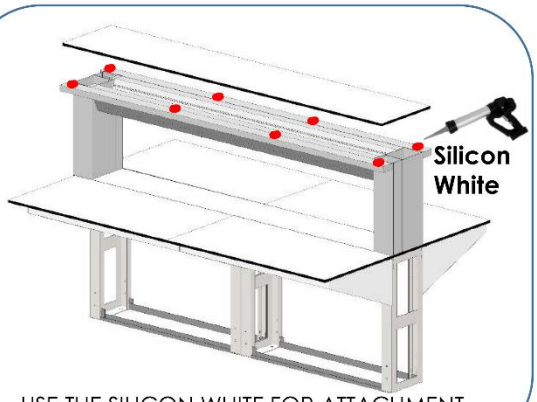

BOLT THE TOPPLATE AND BASEFRAME TOGETHER BEFORE PLACING THE SERVICE BRIDGE



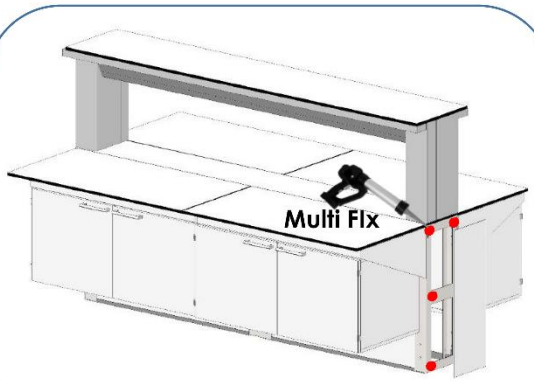
PLACE THE SERVICE BRIDGE ON THE TABELTOP



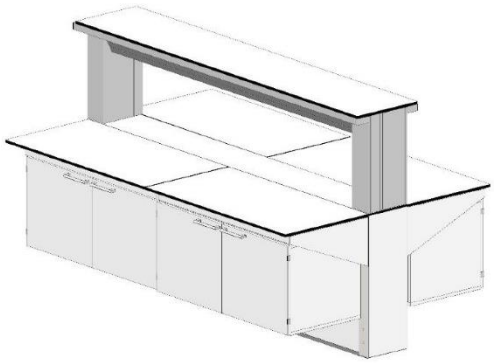
USE THE BRACKET TO BOLT THE TABELTOP AND TOPPLATE TOGETHER



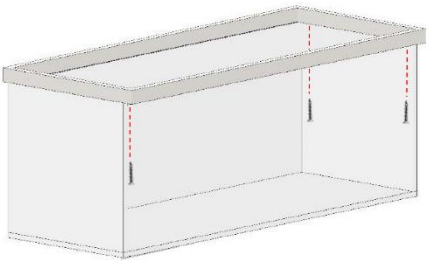

USE THE SILICON WHITE FOR ATTACHMENT OF THE TOP SHELF



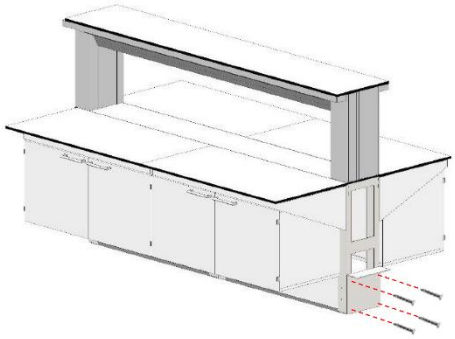

USE THE MULTI FIX GLUE FOR ATTACHMENT OF THE COVERPLATE



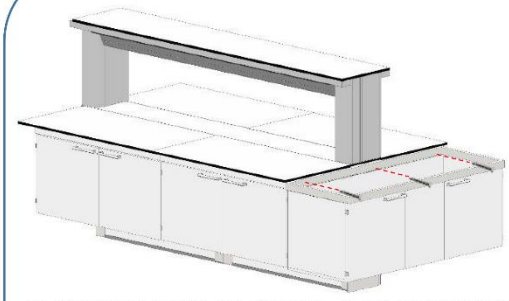
## STAND ALONE SYSTEM – SIDE FRAME PLACEMENT



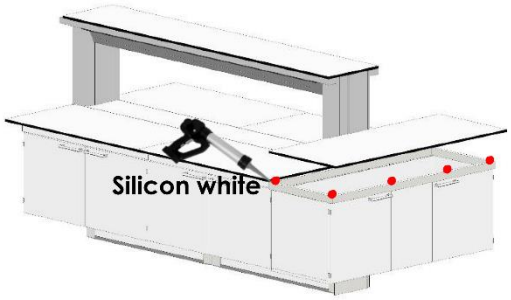
SCREW THE CABINET INTO THE TOPFREAME



SCREW THE ANGLET COVERPLATE INTO THE PANEL BASEFRAME

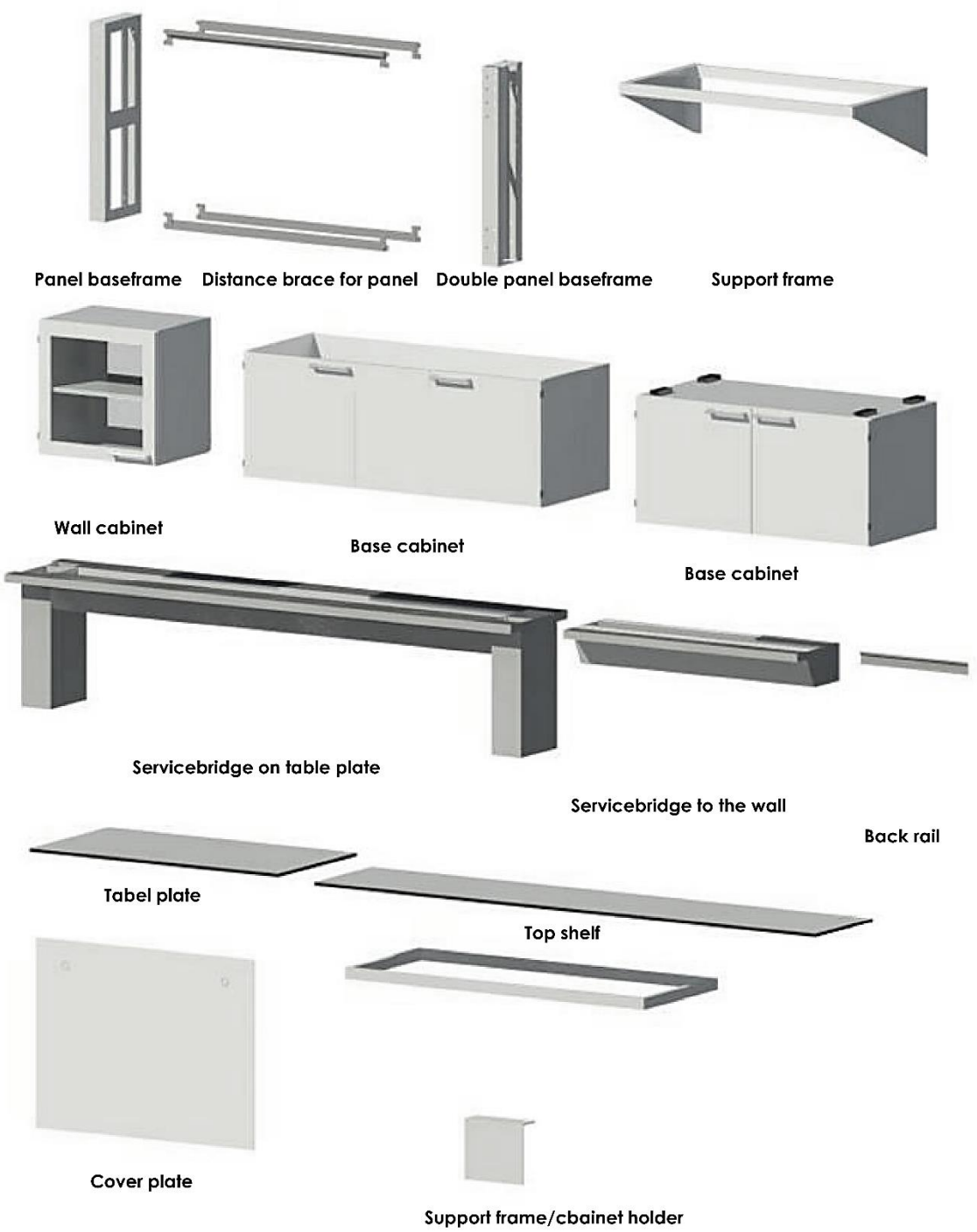


PLACE THE CABINET ON THE ANGLET COVERPLATE AND SCREW THE TOPFRAME INTO THE SUPPORT FRAMES

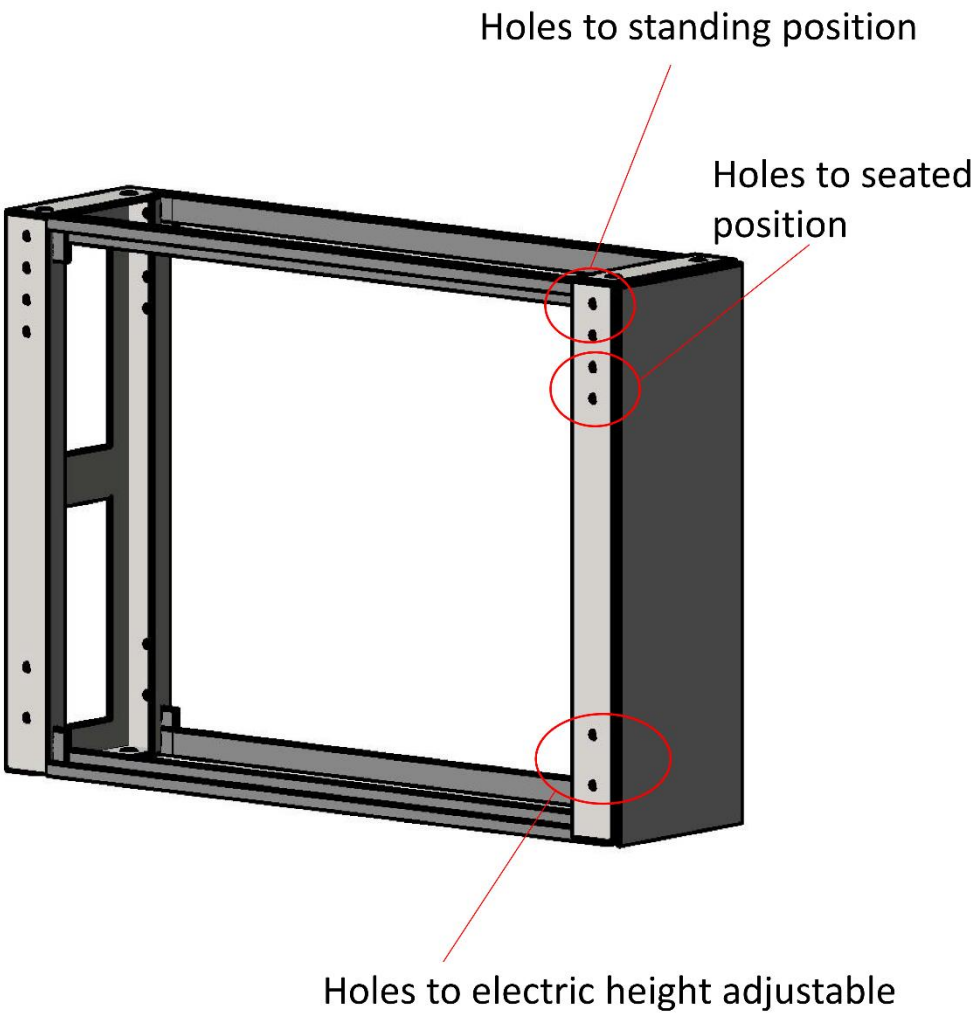



USE THE SILICON WHITE FOR ATTACHMENT OF THE TABLE PLATE

## OVERVIEW


Panel baseframe
Distance brace for panel
Double panel baseframe
Support frame
Wall cabinet
Base cabinet
Base cabinet
Servicebridge on table plate
Servicebridge to the wall
Back rail
Tabel plate
Top shelf
Cover plate
Support frame/cbainet holder

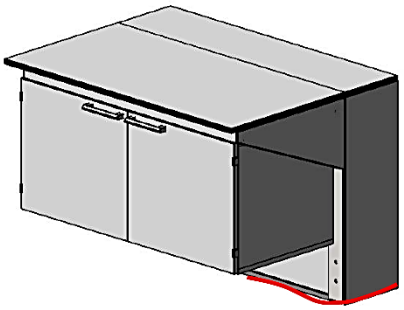
## SERVICE PANEL OVERVIEW



## FUGUE OVERVIEW

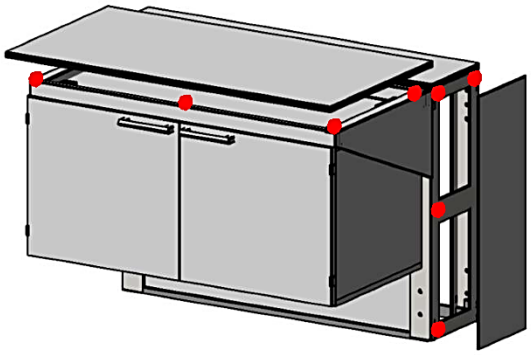
Silicone gray:

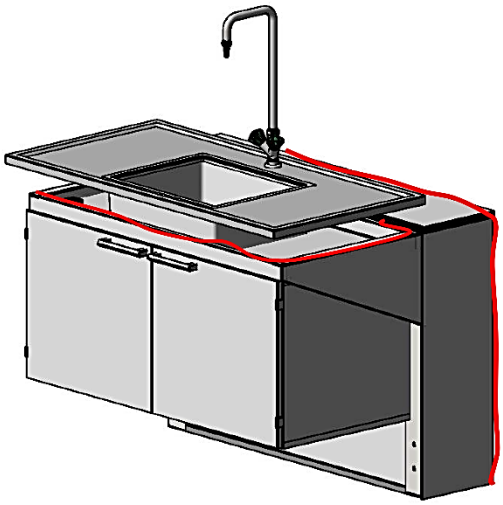
- Between the floor and furniture



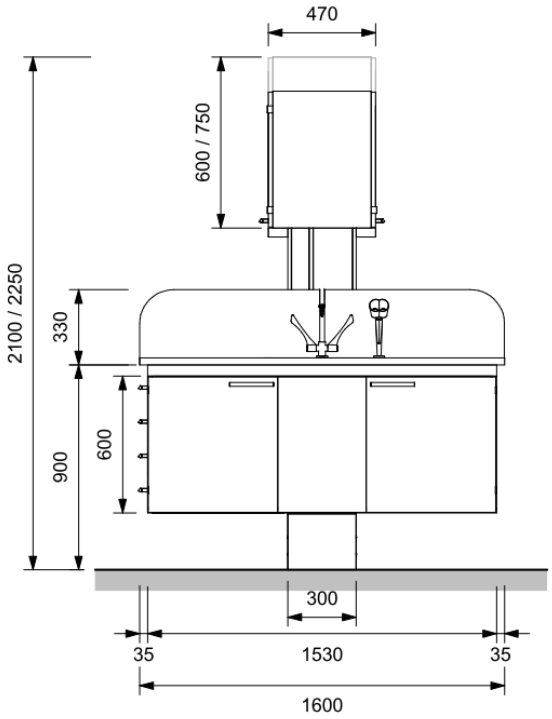
Silicone white:

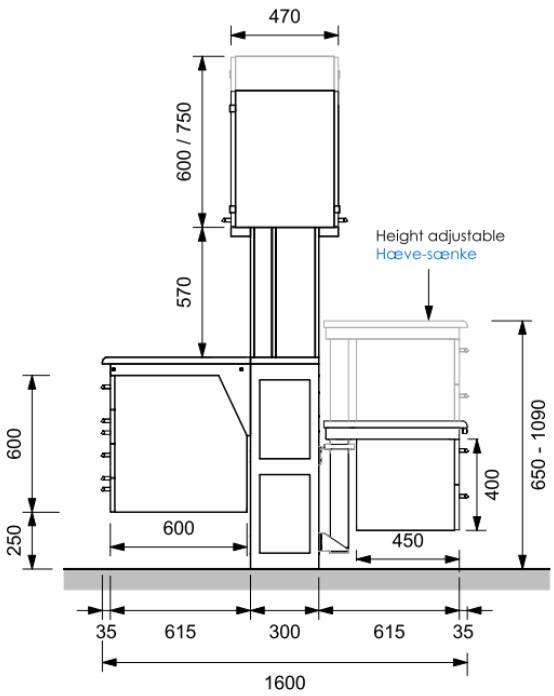
- Table plate
- Cover plate
- Top shelf
- Against the wall
- Under the wash plates

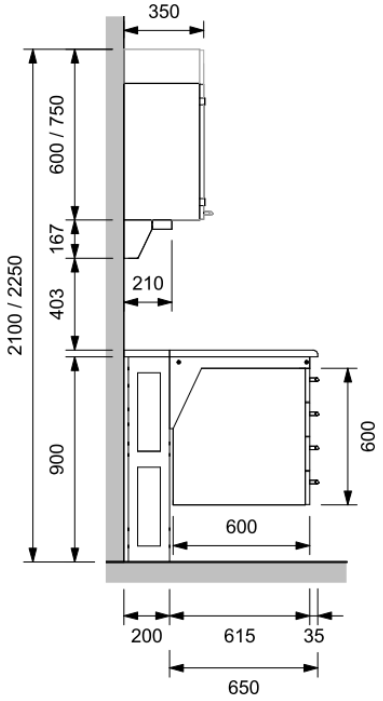


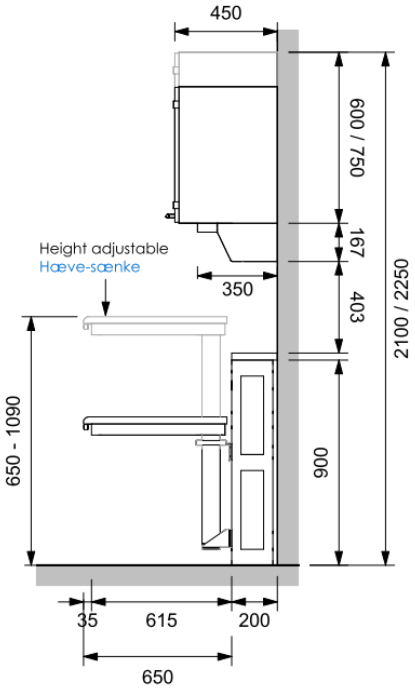


## System Performance technical Drawings / System Performance tekniske tegninger



## System Performance - Installations / System Performance - installationer

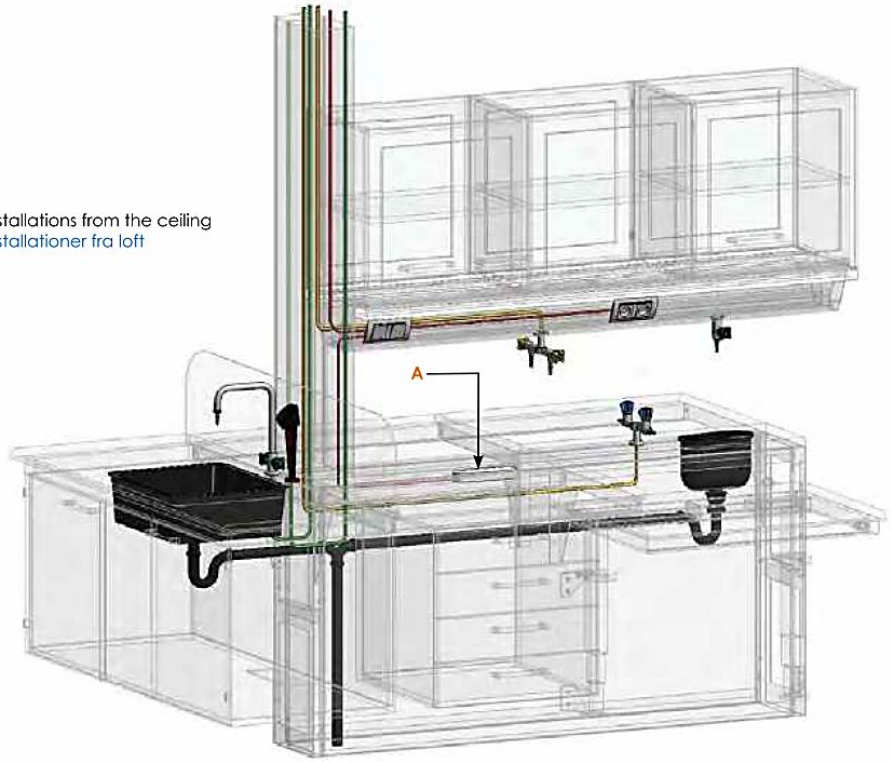
Water / Vand
Gasses / Gasser
Electricity / El
Drainage / Afløb

Installations from the Floor
Installationer fra gulv


A Socket that comes with the service bridge when we deliver height-adjustable support frames to the Performance system

A Stikdåse som følger med servicebro når vi leverer hæve/sænke bærerammer til Performance system

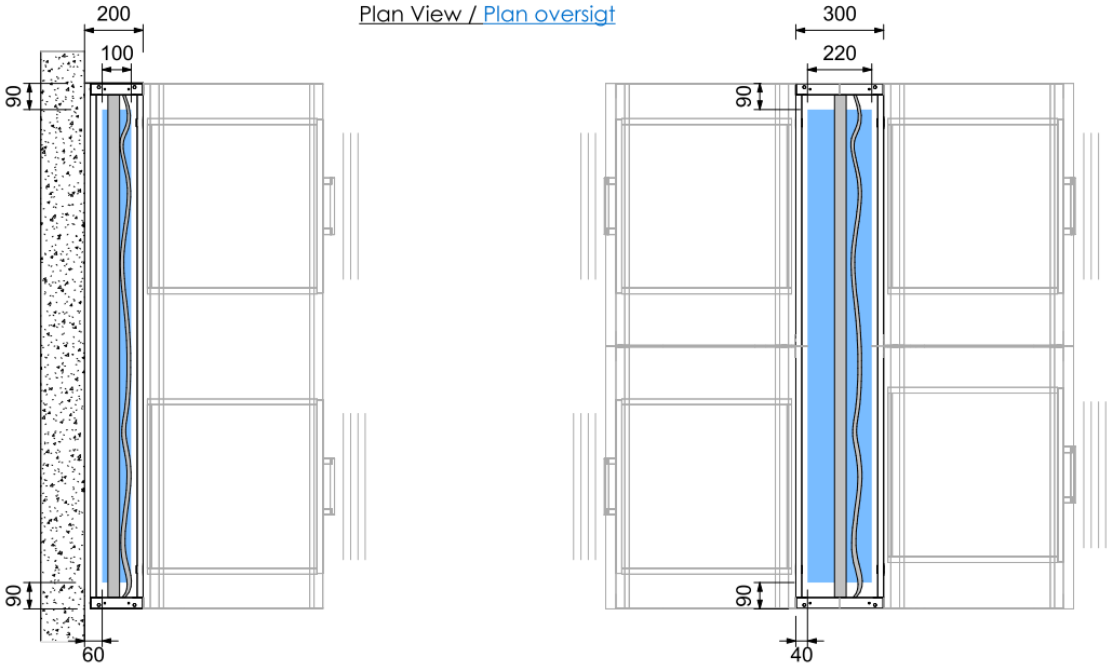
Installations from the ceiling
Installationer fra loft



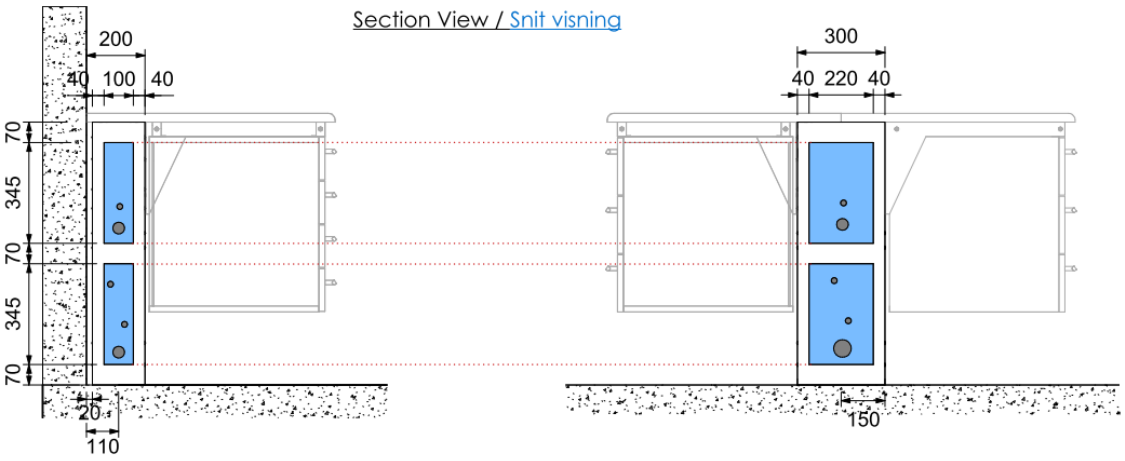
## System Performance - Installations Detail / System Performance - Installationsdetalje

- Installation area for vertical running pipes and cables from the floor / Installationsområde for fremføring af lodrette rør og kabler
- Pipes and cables for electricity, water and gasses / Rør og kabler til el, vand & gasser

Plan View / Plan oversigt



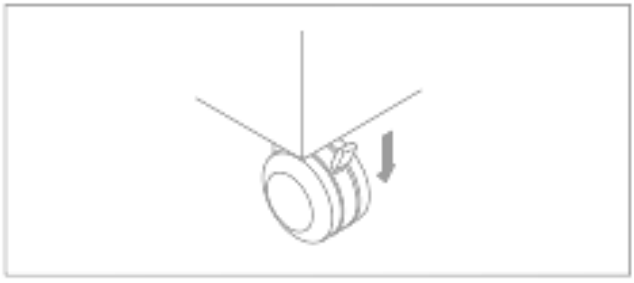

Section View / Snit visning



## MOBILE UNITS – BRAKE SYSTEM

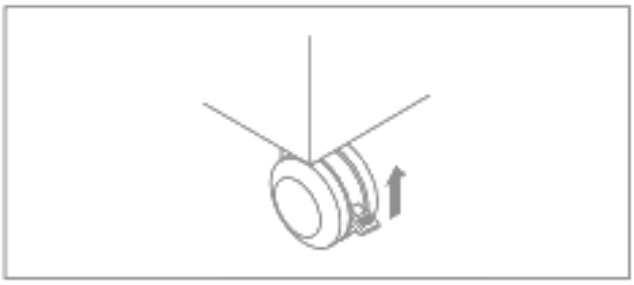
**Activating the Brake:**

Press down on the brake pedal located on the top of the cabinet wheel. This will lock the wheel and prevent the unit from moving.



**Deactivating the Brake:**

Lift the brake pedal up to release the wheel. This will allow the unit to roll freely again.
Ensure that all wheels with brakes are properly locked or released depending on the need to move or secure the unit.

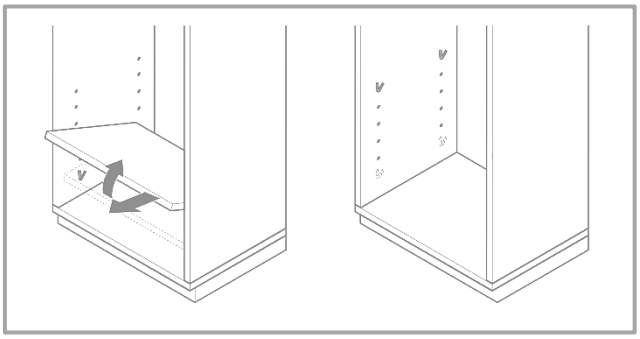


**Caution**

Risk of tipping

- Release castors of mobile cabinets or mobile benches only for transport; otherwise secure them.
- Pull out only one drawer or pull-out at a time.
- Do not use an extended drawer as a step.
- Do not use mobile cabinets to move heavy loads.
- Comply with the rated load capacities of drawers (see the table in Chapter 3 on page 24. Always use a heavy-duty platform to move heavy loads.

## SHELVES



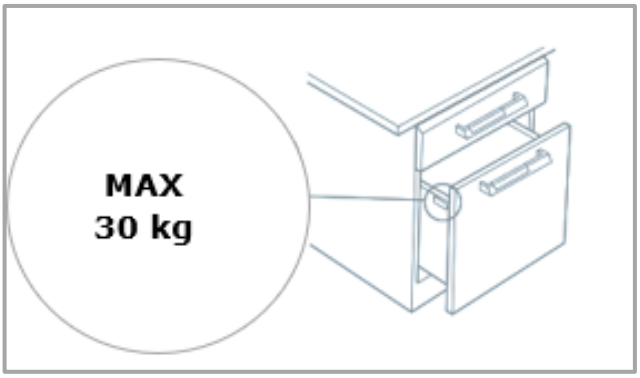
To install shelves in a cabinet with adjustable shelf supports spaced 32 mm apart, start by opening the cabinet and locating the shelf supports and shelves. Note the pre-drilled holes in the sides of the cabinet, which are spaced 32 mm apart.

Choose the desired height for the shelf and insert the shelf supports into the pre-drilled holes on both sides of the cabinet. Once the supports are in place, place the shelf on top of them and ensure it is level and stable.

Check that the shelf supports are at the same height on both sides so the shelf is horizontal. Press down gently on the shelf to make sure it is secure and not wobbly.

Repeat this process for each shelf you want to install, selecting new heights and inserting the shelf supports into the corresponding holes. If you need to adjust the shelf heights later, the shelf supports can easily be moved to other holes..

## DRAWERS




The Grass Nova Pro drawers have a robust load capacity, making them suitable for heavy-duty applications. The standard load capacity is 30 kg, which is sufficient for most residential and light commercial uses. For more demanding applications, the heavy-duty models can support up to 70 kg,

The Nova Pro system offers several adjustment options to ensure a perfect fit and smooth operation. Height adjustment allows you to fine-tune the vertical alignment of the drawers by ±3 mm, ensuring that they are level and operate smoothly. Side adjustment provides a lateral adjustment of ±1.5 mm, allowing for precise alignment of the drawer fronts to create a uniform and aesthetically pleasing appearance.

**Caution**

Risk of tipping

- Pull out only one drawer or pull-out at a time.
- Comply with the rated load capacities of drawers

## SHELVES

### Load Capacity of Cabinets

| Component | Load Capacity |
|---|---|
| Base | 30 kg |
| Shelf | 30 kg |
| Top | 30 kg |
| **Net Load per Cabinet** | |
| Top-mounted or Wall-mounted Cabinet | 80 kg |
| Underbench Cabinet | 120 kg |
| Tall Cabinet | 180 kg |
| Service Cell Cabinet | 80 kg |

### Load Capacity of Pull-Outs and Drawers

| Component | Load Capacity |
|---|---|
| Mobile Cabinet | 20 kg |
| Equipment Pull-Out | 30 kg |
| Full-Extension Pull-Out | 30 kg |

### Load Capacity of Benches and Frames (Including Worktops)

| Component | Permissible Total Load |
|---|---|
| Shelving | 100 kg |
| Single Bench | 250 kg |
| Heavy-Duty Bench | 400 kg |
| U Frame | 250 kg |

labmodul
Designing safety

LABMODUL A/S
Valhøjs alle 190
DK-2610 Rødovre
info@labmodul.dk

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