



## Planning, Installation and Handling

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## 1. Planning

It is very easy to plan a BVC central vacuum system. All components are compatible with each other and fit perfectly together. The BVC system is most easily installed during the construction of a new building. Retrofitting in an existing building is also easily possible.

### 1.1. Components of a central vacuum cleaning system

A BVC central vacuum system always consists of the components central vacuum cleaner, pipe system, low voltage cable, mounting frame, inlet valve, vacuum hose with work accessories. In addition, an exhaust air duct and an exhaust air grille are required for the exhaust air duct to the outside. The silencer is a useful add-on for noise reduction.

VacPan, Vroom and WallyFlex are used for convenient quick cleaning  
Hide-A-Hose is a comfortable and space-saving way to stow the vacuum hose.  
In commercial real estate you often have to mount fire protection collars.

Overview of all components:



**BVC central vacuum unit**  
Central unit, which is firmly attached to the wall. The machine operates the central vacuum system.



**Pipe system**  
Length of the pipe system from the inlet valve to the central vacuum unit.



**Low voltage cable**  
Control line from the inlet valve to the central vacuum unit.



**Fire protection sleeve**  
For sealing off combustible plastic pipes. Mandatory in commercial real estate.



**Inlet valves**  
Connection between suction hose and pipe system with a pressure-tight closing lid in various designs.



**Mounting frame**  
Fix the mounting frame to the masonry. Interface between suction cup and pipe system.



**VacPan**  
VacPan for worktop / kitchen base. With a kick switch, the nozzle is opened and the dirt disappears in the wall.



**Vroom and WallyFlex**  
Flexible hoses connected directly to the central vacuum via the suction pipe.



**Muffler**  
Silencer immediately in front of the exhaust air outlet to reduce the sound level.



**Exhaust air line + grille**  
Piping from the central vacuum cleaner to the exhaust air outlet. Exhaust grille prevents the ingress of dirt into the engine compartment.



**Hide-A-Hose**  
Retractable hose system for mounting in wall, ceiling or floor. The hose simply disappears in the pipe system.



**Vacuum Hose + Accessory**  
Different surfaces can easily be cleaned with accessories.

## 1.2 Planning Basics

Every house is different. That is why intelligent planning is very useful for the subsequent cleaning work. In addition to the general planning principles, in particular the VDI guideline 4709 should be observed. In order to optimally plan a central vacuum system, you need floor plans including a garage.

Furthermore, the following points should be clarified in order to realize perfect planning:

- Are installation shafts available or can they be used?
- Which laying method is possible and desired? (Surface / flush)
- Shall changes of use and / or extensions of the central vacuum system e.g. be taken into account by loft conversion?
- Are there special requirements for sound insulation, fire protection, moisture protection?

### Subsequent Installation

In existing buildings, a pipe system can be retrofitted. Here are some options:

- in the disused chimney draft
- in the ventilation duct of the fireplace
- in built-in furniture that extends from floor to ceiling
- behind veneers and / or in the wall installation
- as a surface installation with subsequent cladding
- as a surface installation along the basement ceiling

### Installation in Passiv House

The use of central vacuum cleaners in low-energy or passive houses is recommended. For this purpose, the exhaust air is not routed outside as usual, but cleaned and remains in the building. As a result, the operation of the central vacuum cleaner hardly affects the energy balance of the house.

## BVC Rules of Planning












- \* The piping system should be as short as possible.
- \* For comfortable handling of the suction hose, it is advisable to schedule a suction box more. A hose length of 7.5 or 9 m has proven itself.
- \* As few pipe bends as possible should be installed.
- \* The central unit should be installed on the lowest floor.
- \* The noise level of the central vacuum should be observed. BVC recommends the use of a silencer.
- \* Determine the suction area per floor. The number of square meters is crucial for choosing the right BVC central vacuum cleaner.
- \* Pay attention to the space requirements for the maintenance of the central unit (emptying the dust bin and changing the filter) and also plan a space for the suction accessories.
- \* Do not plan a suction / exhaust air duct outdoors or in a cold environment. There is a risk of condensation water failure.

## VDI Guideline 4709

The guideline VDI 4709 applies to central vacuum systems which are suitable for the suction and disposal of ordinary household dust, e.g. For example, in residential buildings (single and multi-family houses), office and administrative buildings, banking buildings, hotels, industrial and commercial buildings (e.g. department stores, retail, clean rooms), accommodation (retirement homes, student housing), schools and daycare. Also, the use in transport (ships, trains, airplanes and buses) and the areas riding stables and animal husbandry comes into consideration. The Directive does not apply to the disposal of industrial or industrial dusts, such as As in woodworking and metal-working companies, as well as not for the care and treatment area of hospitals and other rooms in which for hygienic reasons, wet disinfection and wet cleaning of the floor surfaces are required.

The guideline provides planners, builders, operators and users of the buildings mentioned above, as well as exporting installation companies with instructions for the planning, calculation and execution of centralized vacuum systems. The purpose of this directive is to make recommendations on how to reduce or avoid particulate matter pollution in buildings, thereby protecting human health.

All information can be found at [www.vdi.de](http://www.vdi.de)

Guideline central vacuum cleaning system VDI 4709		
Description	Symbol	Abb.
Central vacuum cleaner		BVC
recessed inlet valve		IVR
surface mounted inlet valve		IVS
floor inlet valve		IVF
VacPan VROOM		VAP
suction air line		SAL
suction air line rising -		SAL-R
suction air line descending		SAL-D
Outgoing air line		OAL
outgoing air sound absorber		OSA
Outgoing air outlet		OAO

### 1.3 Where is the optimal location for the central unit?

For the installation of the central vacuum we recommend to choose a room outside the living area. This can be a technical / utility room, basement room or the garage. Machine noise and the heat radiation of the central unit must be taken into account in the planning.

Ideally, the central vacuum is located at the lowest point (bottom floor) of the building to take advantage of the gravitational force. This ensures that heavy material can easily be sucked through the pipes into the dust bin. Downpipes are better than risers. For commercial properties, attention must be paid to fire sections. In this case, plan fire protection sleeves for your material requirements. It is important that the device is mounted splash-proof. The temperature of the site should be between + 5 ° C and + 35 ° C. Sufficient air circulation must be guaranteed.

### 1.4 Which machine for which property?

BVC offers ten different central vacuum models, which differ in size, power, filter technology and control electronics. Basically:

Suction areas per floor up to 140 square meters - the compact C 600 with 1800 watts of power and 680 Airwatt

Suction areas per floor up to 200 square meters - the large S 600 with 1800 watts of power and 700 Airwatt

Suction areas per floor from 200 sqm - the powerful S 700 with 2000 watts of power and 730 Airwatt

### 1.5 How should inlet valves and piping system be planned?

#### Determine optimal hose length

Before the locations of the vacuum valves can be planned, the hose length must be specified.

BVC offers hoses in lengths of 6 m, 7.5 m, 9 m and 12 m. In practice, a hose length of 9 m has proven itself. With this length, the cleaning radius and the number of suction cans are in reasonable proportion.

Shorter hoses require more suction cans and are not necessarily more convenient, as the cleaning process must be interrupted by frequent replacement.

Should there be no possibility to install a sufficient number of suction cans during subsequent installation, For example, longer suction hoses or suction hose extensions (e.g., 3 m) may be used.

## Determine number and placement of inlet valves

Determine the optimal position of the inlet valves with the aid of a string on the blueprint (at a scale of 1: 100, 9 cm cord length corresponds to 9 m suction hose). Simulate the achievement of all the spaces and angles of various inlet valves options. As a safety measure you have the length of the working tube (about 1 m). Take into account the evisceration of furniture and z. B. the accessibility of upper cabinets in the kitchen. Also plan terrace, stairs, cellar, loft and garage. The inlet valves can be mounted on the wall or in the floor.

Install the suction cans in easily accessible places, e.g. near the door under the light switches. The proximity to the stairs is also useful, so that the stairs can be sucked.

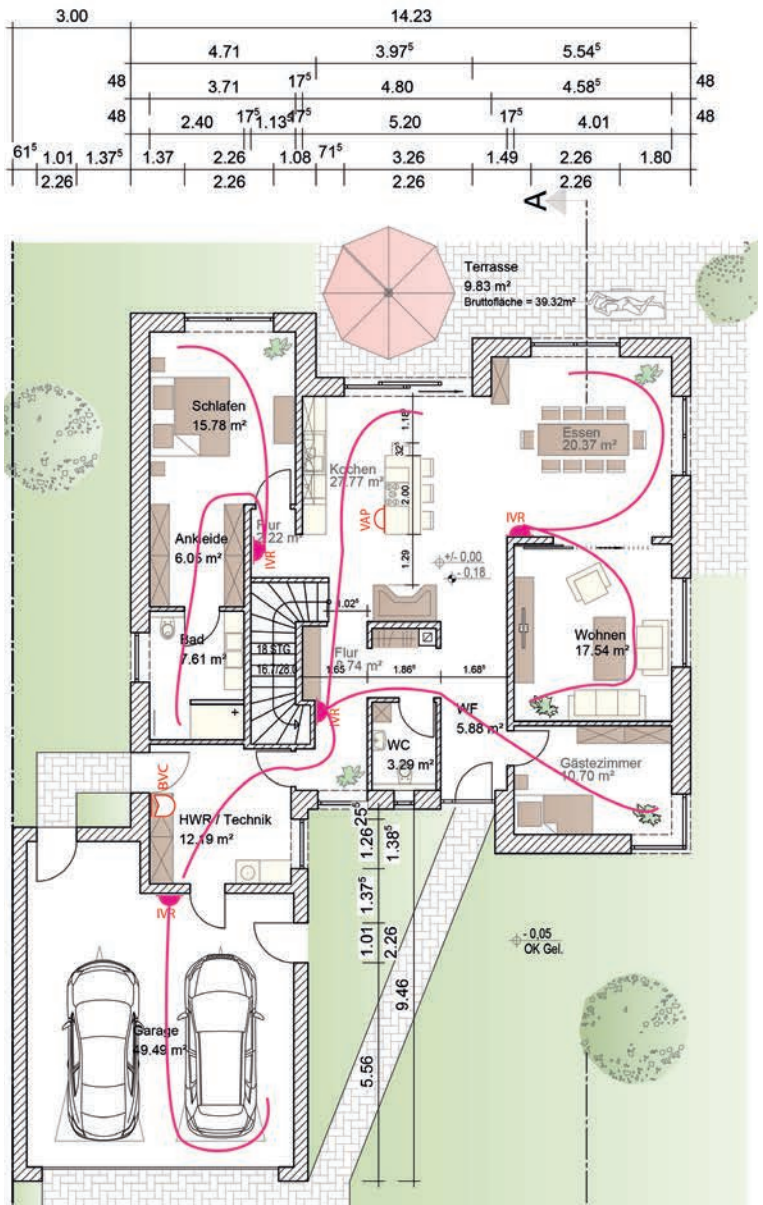
The installation height is usually the socket height. We recommend an installation height of 50 - 60 cm from the floor. At this height, the handling of the suction hose is comfortable and back-friendly.

## Vroom

Vroom is a flexible intake hose, which is connected directly to the central vacuum via the suction pipe. As soon as you remove the handle of the Vroom from the holder and press the green switch, the central vacuum starts and you can clean it comfortably. After use, you can put your hand on the suction tube end, to draw in the tube automatically by the generated negative pressure. Vroom is suitable for installation in kitchen cabinets, storage rooms, etc. The 4.4 m long intake hose is ideal for kitchen cabinets due to its housing size. The 6.2 m long intake hose is often mounted in the garage to clean the vehicle or workshop.

## Vac Pan

The Vac Pan is a useful extra in the kitchen, entrance area or next to the fireplace. The Kehrfix is mounted on a worktop, baseboard or kitchen cabinet. With the step switch you open the stop nozzle, at the same time the motor of the central vacuum starts. The applied dirt is simply sucked in.



## 1.6 What should be considered with the control line?

The two-pole control line (low-voltage line) runs along the suction pipes and connects the central vacuum with the respective suction boxes. The central vacuum is started via the contact pins on the inlet valve. Depending on the type of suction hose, the central vacuum is operated with an on / off switch on the handle of the hose or via a suction socket start (short-circuit ring on adjusting sleeve). All inlet valves are to be connected to each other with a control line.

- The cross-section of the control cable should be at least 2 x 0.75 mm<sup>2</sup>
- Make the connection in parallel
- Grinding from suction box to suction box is possible
- The connection contacts are available on all devices and suction boxes
- The control voltage is about 5 volts

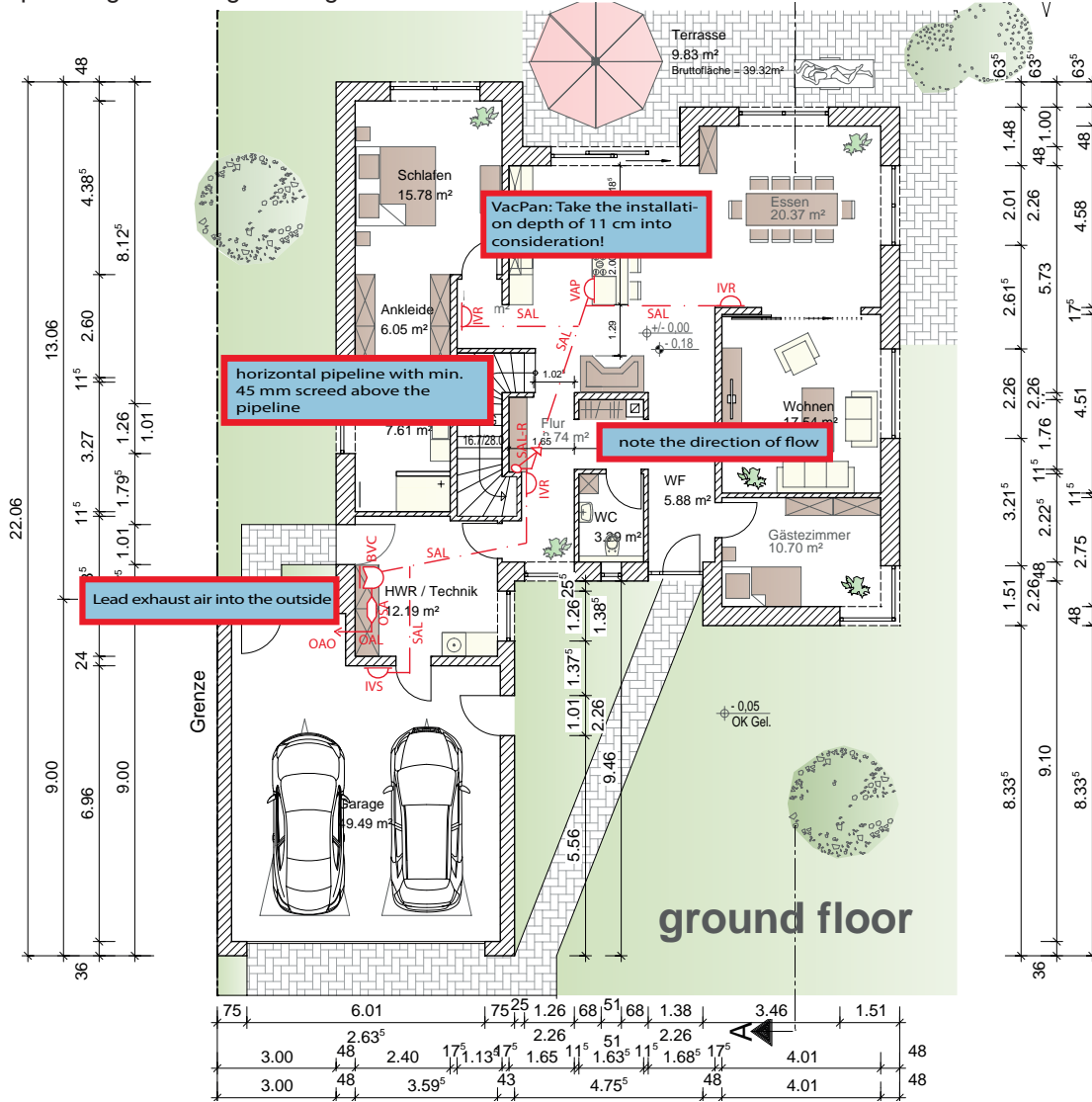
## 1.7 exhaust duct

We recommend, if possible, to lay an exhaust duct into the open air. If you do not want an exhaust air outlet on the facade, the 100 exhaust duct can lead to a sanitary fan on the roof in an installation shaft. Alternatively, the BVC central vacuum can also be used in recirculation mode with the aid of the HEPA clean air filter. This means that no exhaust air duct is needed outdoors.

## 1.8 BVC Planning service

We develop for you or for your customers an installation suggestion with legend including a cost calculation. The calculated material costs take into account the total costs for the complete BVC built-in vacuum system with the associated pipe material, work and installation accessories. In order to avoid errors during the installation, we are happy to provide you with tips and tricks. All we need to prepare a fitting suggestion are your blueprints, preferably in the scale 1: 100. If you already have specific information for the installation, please let us know. Your information optimizes our planning proposal.

Example of a planning according to VDI guideline 4709



**BVC**  
central vacuum cleaner

Please check the hose length on site!  
Pay attention to the positioning of the furniture!  
If necessary choose a longer hose or insert a hose extension.

The installation of the BVC central vacuum and the pipe system is to correspond with the relevant DIN regulations, technical guidelines and all others relevant provisions, as well as the respective technical standards.

This planning proposal is calculated with a vacuum hose of 9 m length.

Guideline central vacuum cleaning system VDI 4709		
Description	Symbol	Abb.
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## 2. Installation

The installation of a central vacuum system is relatively easy, but craftsmanship should be available. It is generally advantageous to have the work carried out by an electrician or plumber. Before starting the installation, it is important to follow the golden rules of installation.

### BVC Rules of Installation

- \* Be sure to mount a short 90 ° safety elbow behind each outlet! You prevent the sucking of longer objects and thus a pipe blockage! The socket should be mounted in a comfortable plug-in height (50 - 60 cm above the finished floor). The lid should open at the bottom.
- \* If you continue the riser to the next floor, we recommend the branch 45 ° for the suction box assembly and here also always the short 90 ° safety elbow.
- \* In all other places please only mount 45 ° bends or long 90 ° bends. This is the best laying technique with regard to suction technology.
- \* If you lay your pipes in the concrete ceiling, the suction pipes should possibly be additionally insulated and the low-voltage cable laid in an empty pipe.
- \* Suction boxes that are one storey lower than the central unit - e.g. In the case of basement cans, when the vacuum cleaner and the pipes are installed on the ground floor - it is often easiest to use a drop rope.
- \* For the VacPan, a pipe connection must be provided, which comes just above the finished floor from the wall or the floor. The installation of the Kehrfix takes place later, most easily in the kitchen installation phase.
- \* Use an HT pipe DN 100 as the exhaust pipe after the silencer. The larger diameter of the pipe is important to prevent engine damage due to heat build-up.

#### Now the installation can begin.

- In the first step, the suction pipes are laid.
- The laying of the pipes starts from the suction box. Start with the highest suction cup.
- The first pipe is closed to the mounting frame. Before closing the pipes, make sure that the interfaces on the inside and outside of the pipe have been deburred. The BVC tubes are easy to nest, without tools and without glue.
- Run the low voltage cable with the suction pipes. Then the device is hung on the wall and the exhaust air duct is laid. After plastering the walls, the suction boxes are mounted.
- The individual steps are detailed below.

**Please note that a control line (low-voltage cable) is always installed when installing the suction pipes. This applies to all following installation examples.**



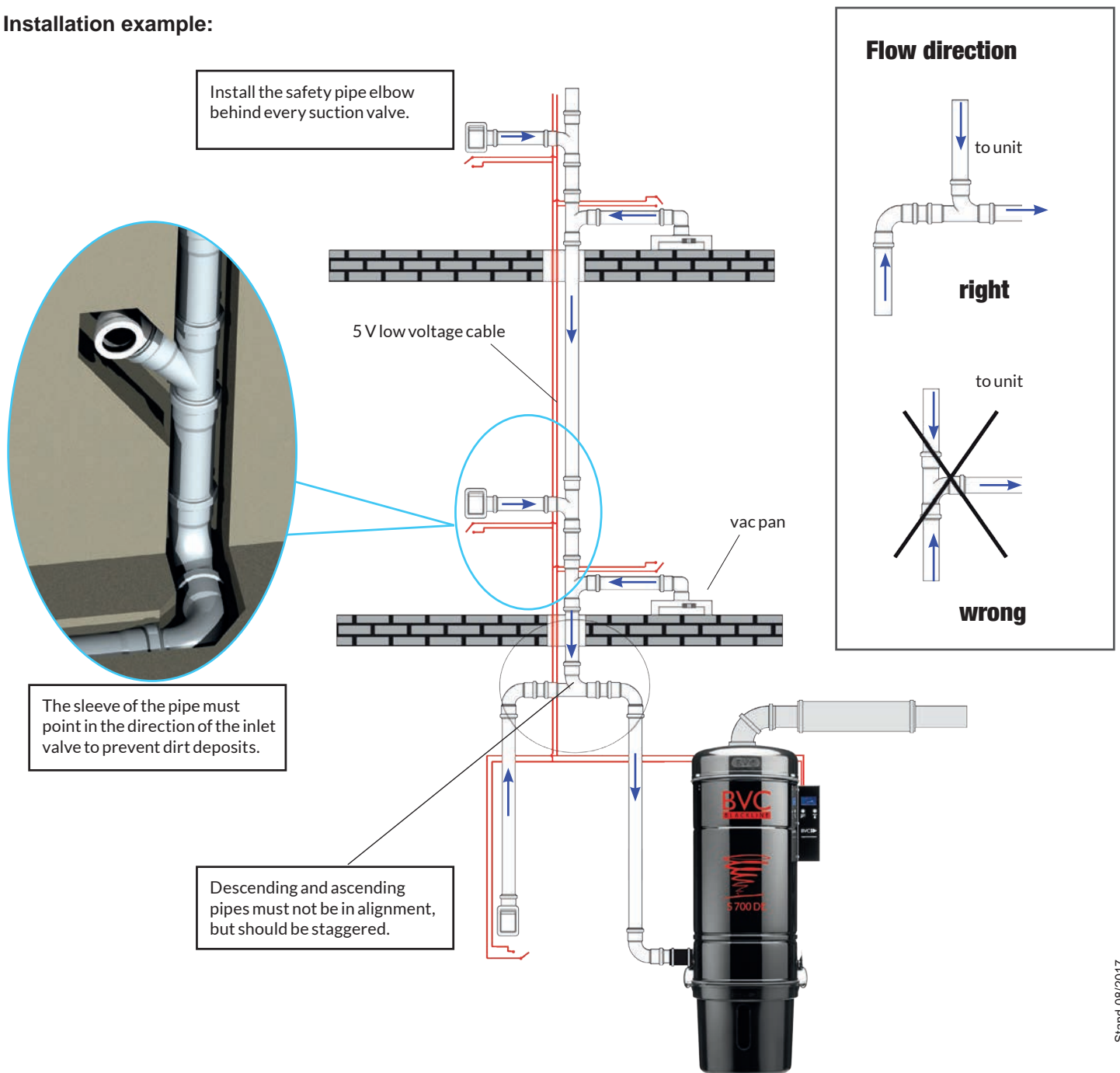
## 2.1 General information about installing the pipe system

The suction pipes can be placed in cavity walls (57 mm or larger inside width). When masonry are slots 8 x 8 cm to create. The pipes can also be laid in the screed. It is important that the pipe connections are well secured so that the pipes can not move. The exhaust pipe can be led directly through the wall to the outside, a ventilation grille protects the opening from insects and dirt.

When installing the central vacuum system, it is crucial to lay the suction pipes in the direction of flow. The flow direction of the suction pipes is always from the suction box to the central vacuum cleaner.

Note that the sleeve points in the direction of the suction cup. This prevents dirt and dust from settling in the pipe system. To minimize the flow resistance, as few sheets as possible should be used. If possible, lay two 45 ° elbows instead of one 90 ° elbow.

### Installation example:



## Installation of a vacuum pipe on a downpipe

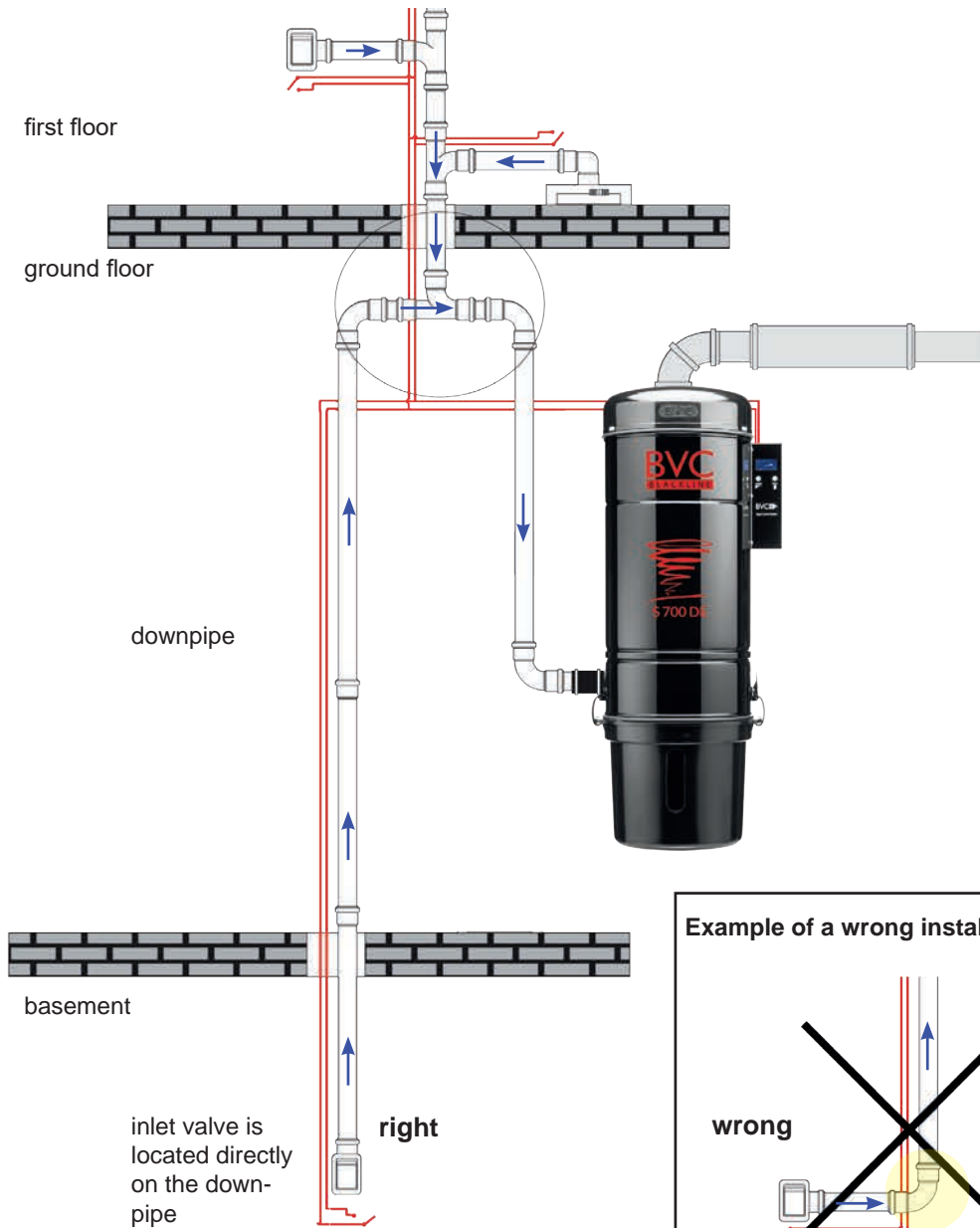
Inlet valves deeper than the pipe system can be most easily reached with a downpipe. This is e.g. the case when the central vacuum cleaner is mounted in the garage on the ground floor and the lowest inlet valves is installed in the basement.

Please note the following:

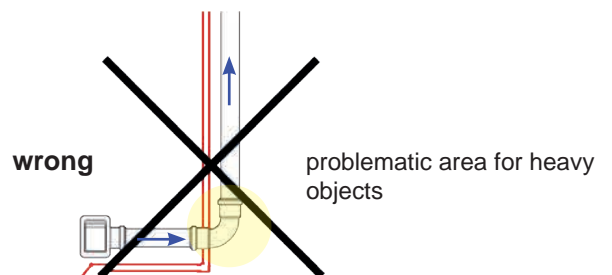
It is necessary to install a direct downpipe to every inlet valve in the basement!

Reason: if a heavy object is sucked in, and gravity does not allow it to be sucked up, this falls back directly into the inlet valve and can be easily removed from there!

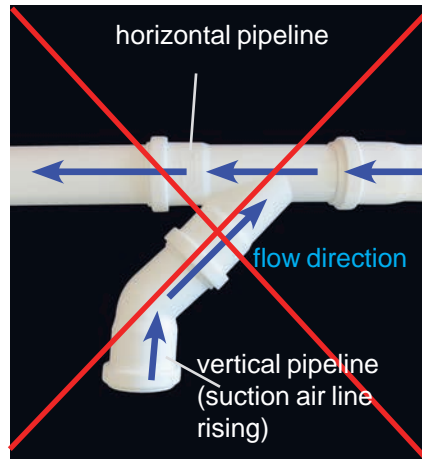
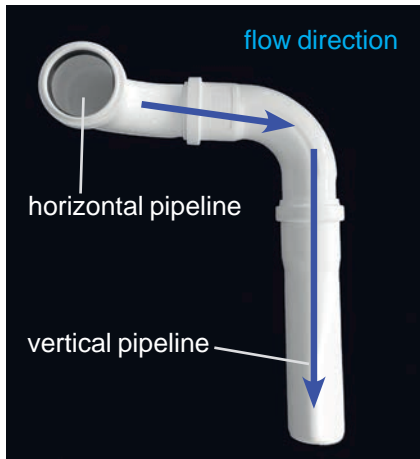
### Example of an installation:



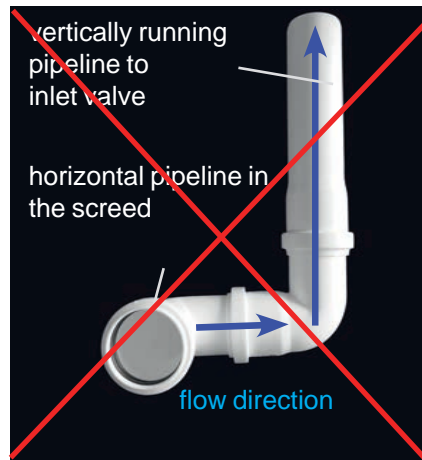
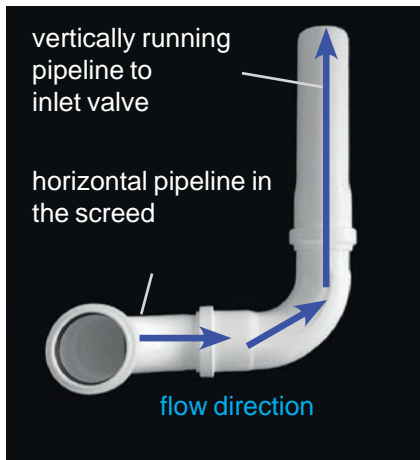
### Example of a wrong installation in the basement



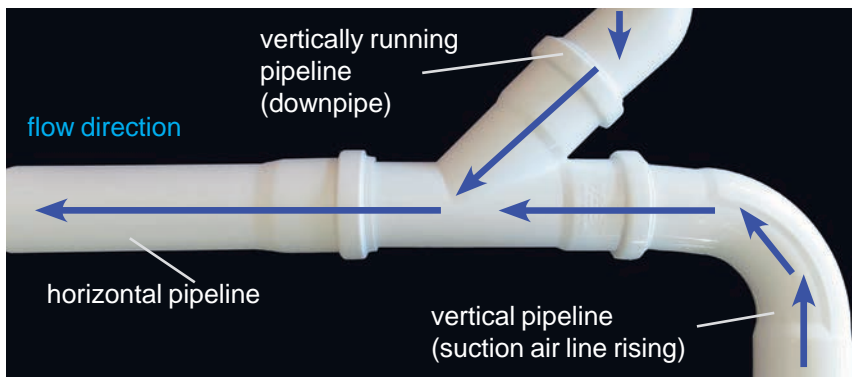
Notes on the correct inlet valve installation



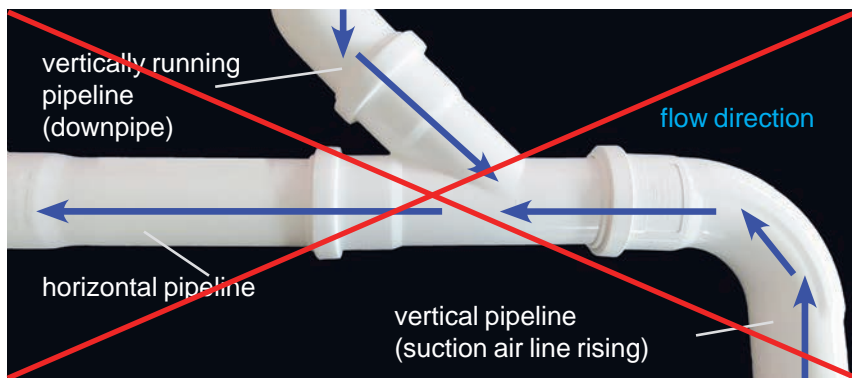
Always tie the suction line from below horizontally, otherwise dirt from the horizontally extending pipe may fall back into the vertical pipe.



Use only long 90° bends or 45° bends in the intake manifold system. Short 90° bows should only be used directly behind the suction box (safety elbow). This can be excluded any blockages.



Always install 45° branches when connecting risers and downpipes to horizontal suction pipes. When installing 45° branches always observe the suction direction.



If, as shown here, a 45° branch is installed incorrectly, dirt residues from the casing can fall into the riser. There is a risk of loss of suction at the corresponding suction cup.

It is recommended to start the intake manifold installation from top to bottom.

## 2.2 Mounting of the wall inlet valve

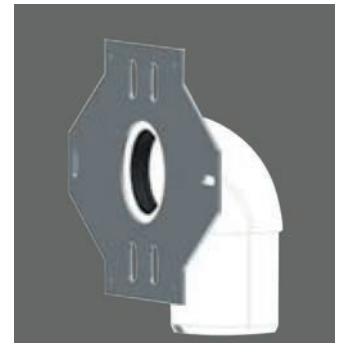
We recommend that you install the safety elbow double-coated by BVC when mounting the inlet valve. Use O-ring seal. The 90 ° safety cords catch sucked in longer objects before they penetrate into the pipe system. The double O-ring seal seals the pipe system, so that an optimal suction vacuum remains. No further adapters will be needed to connect the 41 mm siphon flange to 50 mm tube connections.



Mounting frame with un-coated short 90 ° safety elbow.



Short elbow is used for precise adjustment in the mounting frame

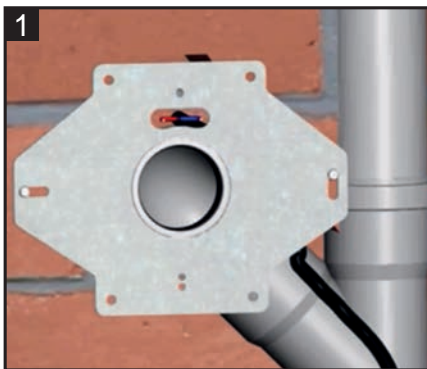


Short elbow for direct connection to the 41 mm flange

The inlet valve should be mounted at a comfortable insertion height (50 - 60 cm above the finished floor). The lid should open at the bottom.

If you continue the riser to the next floor, we recommend the use of the branching 45 ° in connection with the short 90 ° safety elbow.

In all places, please only mount 45 ° bends or long 90 ° bends. This is the best laying technique with regard to suction technology.



Insert the short 90 ° connecting elbow (safety elbow) DN 50 into the mounting frame. Minimum installation depth approx. 70 mm.

Mount the mounting frame flush with the wall so that the flat plate is visible to the front. Make sure that the frame is fixed perpendicular to the lot, as the orientation of the suction box is defined here.

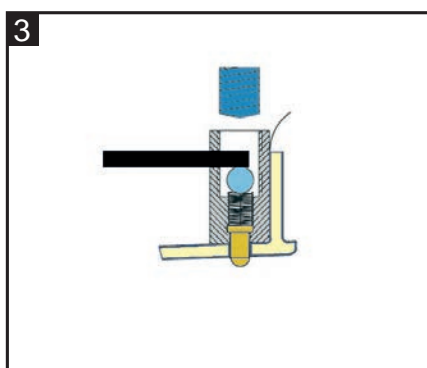
Install the control cable and allow it to protrude 20 cm.

Before plastering, place the plaster cover on the mounting frame. The control cable is hidden behind the plaster cover. After plastering, use a small screwdriver to remove the plaster cover. Insert the screwdriver into the slots, push the clips towards the center bar and remove the cover.



A 100% tightness of the suction cup is very important. For this reason, the suction cans are manufactured and delivered with a plus tolerance. In order to be able to assemble the pipe connection parts without problems, we recommend to use a commercially available lubricant. Lubricate the male end of the suction cup and push it into the 90 ° connecting elbow (safety elbow).

The control cable is fastened in the contact sleeve with the aid of the grub screw. Caution: Only screw in the screw so far that the internal contact pins remain movable (grub screw protrusion still about 1 mm). Check the contact pins for mobility!

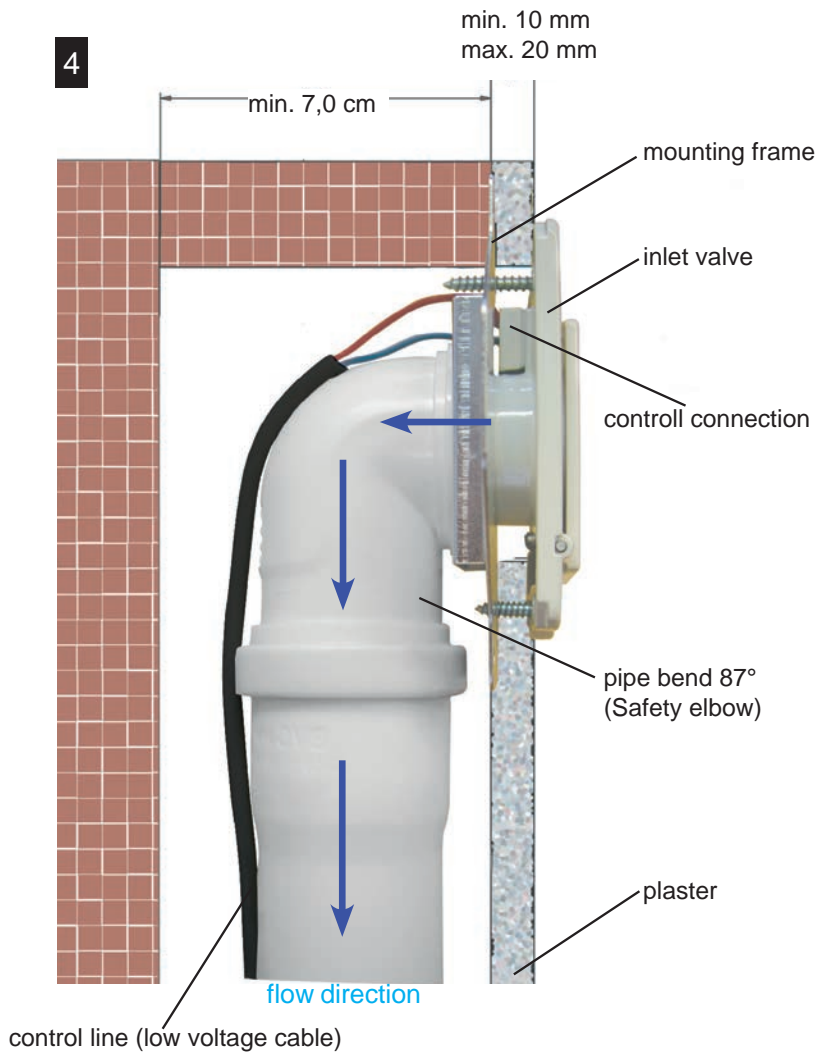


Screw the suction box onto the mounting frame. Pay attention to the screw length, as the suction tube is drilled when using the wrong screw length.

plaster thickness	screw length
1,0 - 1,3 cm	4,8 x 24 mm
1,3 - 2,0 cm	4,8 x 32 mm

For plaster thickness from 2.2 cm, there is also a spacer frame for leveling the plaster thickness (Item # 11712) and a socket adapter (Item # 11682) needed.

Press the suction box frame onto the suction box.



### Concealed installation of a inlet valve on the wall back

If the pipe is not laid directly behind the valve in the wall, but behind the wall, the safety elbow must be laid on the back of the wall. This is important to keep the safety elbow accessible if a larger, bulky object has been inadvertently sucked in.

You do not need the conventional mounting kit for this suction socket connection, but have two options:

#### Option 1

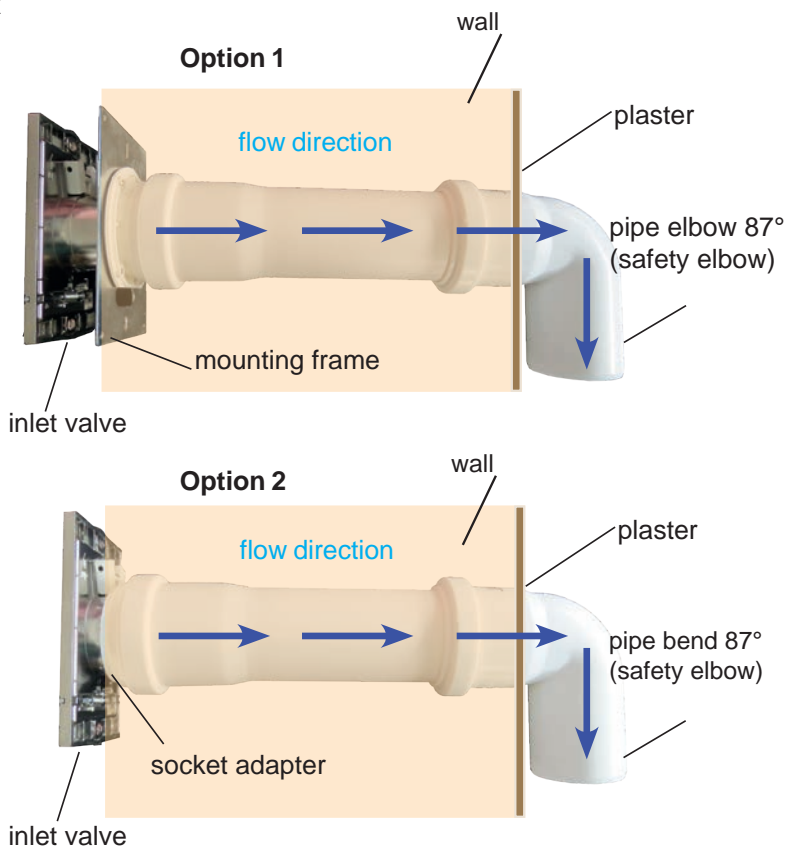
The inlet valve is mounted on the mounting frame with connection flange (Item # 11704). Through the wall runs a piece of pipe, which is plugged directly onto the socket flange. The safety elbow is laid 90° on the back of the wall.

From here proceed with the suction line.

#### Option 2

The inlet valve is screwed directly onto the wall, so you do not need a mounting frame. The socket adapter (Item # 11682) connects the socket and the pipe. The safety elbow is laid 90° on the back of the wall.

From here proceed with the suction line.



### 2.3 Mounting of the „VacPan“

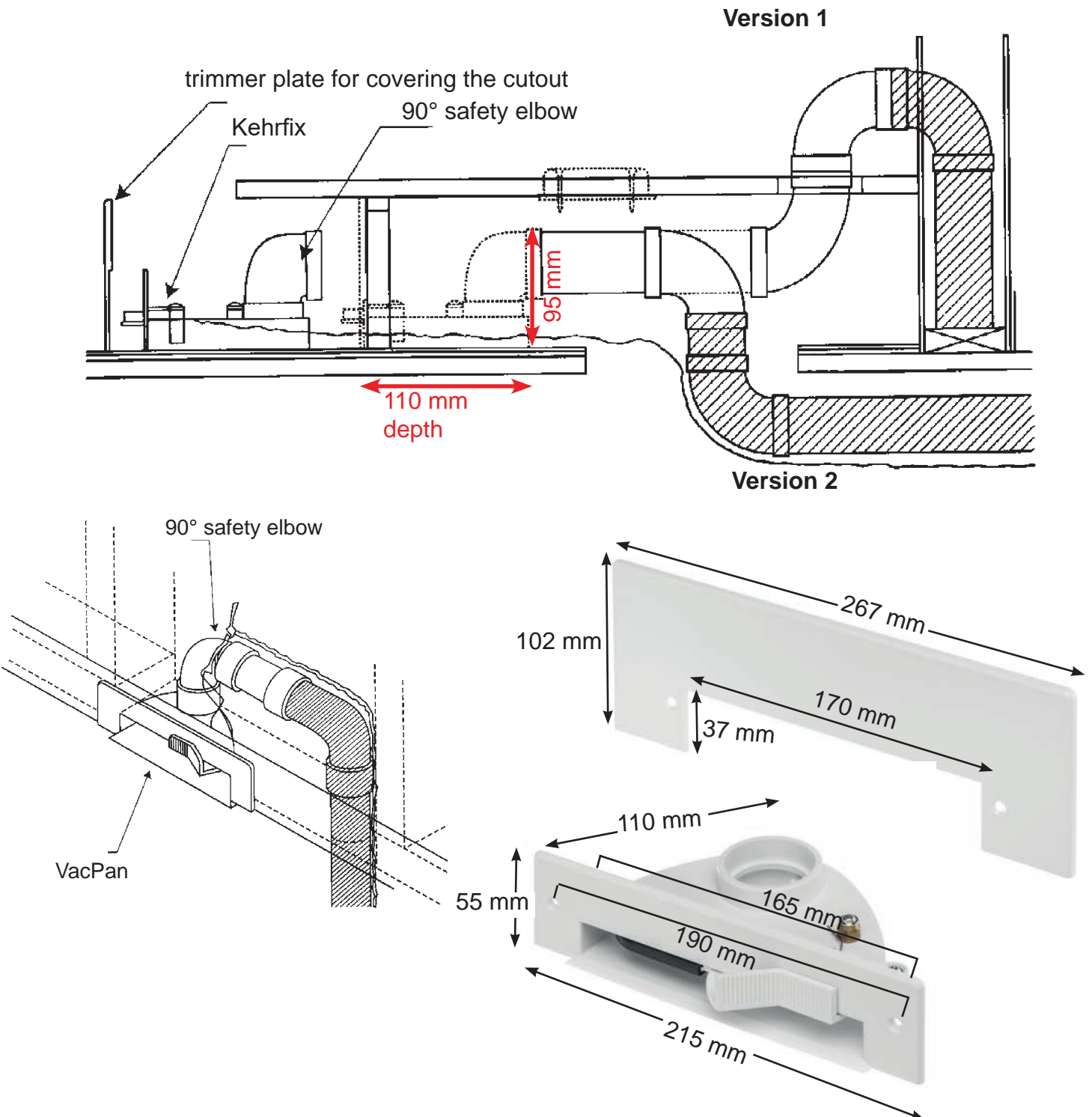
When installing the pipes, a pipe outlet is provided from the wall just above the floor (version 1) or directly from the floor (version 2) at a suitable place in the kitchen (e.g. under the sink).

The easiest way to connect the VacPan at the time of kitchen construction; he can then go straight to the base be used in the kitchen furniture and be connected to the pipe outlet with a flexible HT hose DN 50 (see drawing).

Dimensions for the opening to be cut in the skirting board: width 170 mm x height 45 mm.

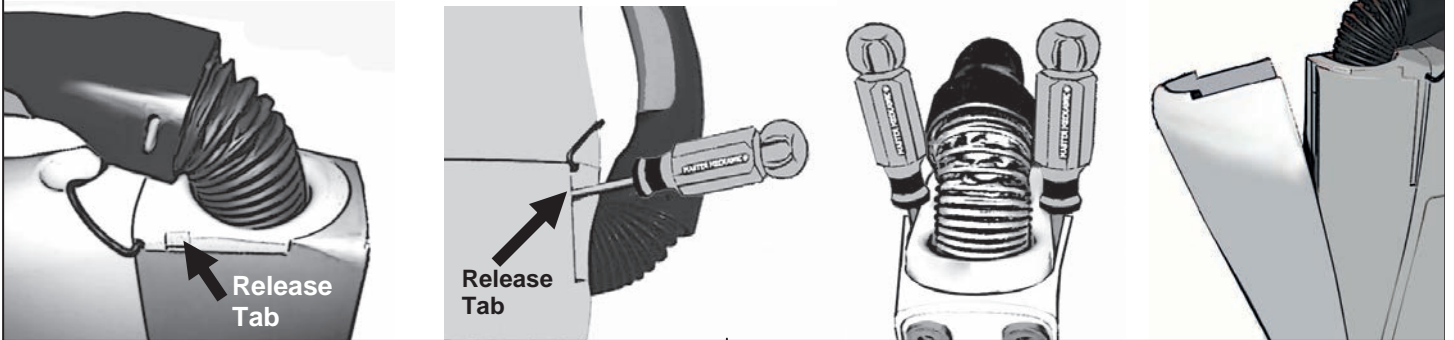
**Danger:**

For fitted kitchens with floor drawers, the VacPan must be inserted into the wall skirting board.

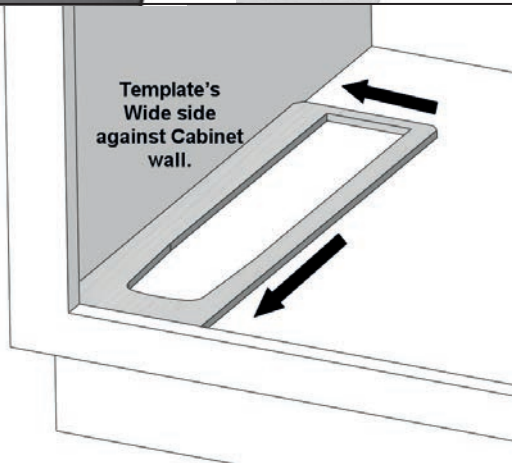


## 2.4 Installation of the Vroom

1. Before installing, remove bracket from the bottom of the Vroom by inserting a flat blade screwdriver into the release tabs located on each side of the mounting bracket as shown.

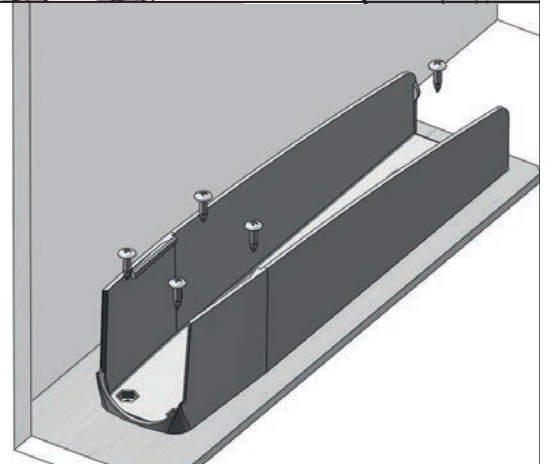


2. Locate cardboard Template inside the cabinet.

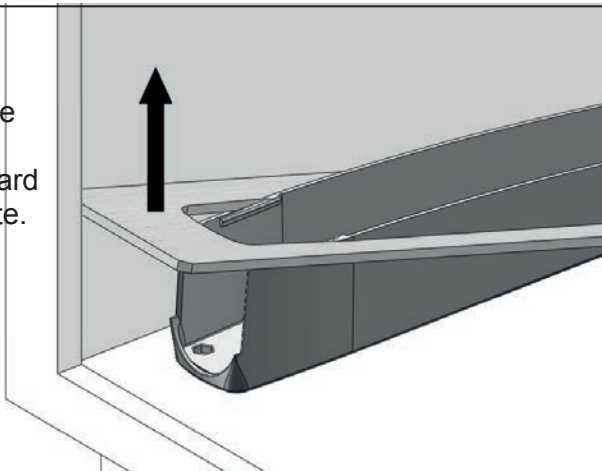


3. Place mounting bracket in template.

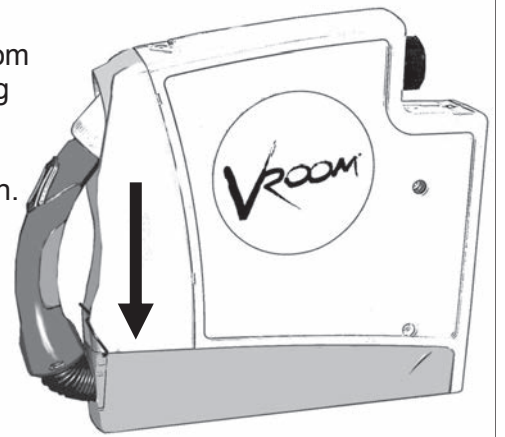
Secure with 5 screws as shown.



4. Remove the cardboard template.



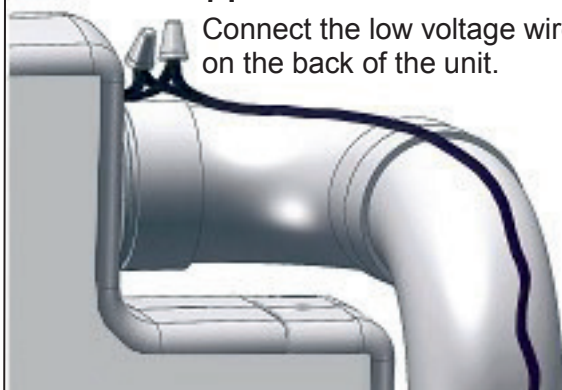
5. Install the Vroom in the mounting bracket by pushing it into place as shown. It will snap in place when installed correctly.



6. Connect the vacuum tubing to the Vroom's connector on the back as shown. Do NOT glue, press fit only.



7. Connect the low voltage wires on the back of the unit.



## 2.5 Installation of the WallyFlex hose

WallyFlex is a stretchy suction hose for quick cleaning. Whether in the vestibule, the laundry room, the garage or the workshop, the WallyFlex is an essential, practical and safe tool. Its design facilitates its installation and allow for a quick and easy use.

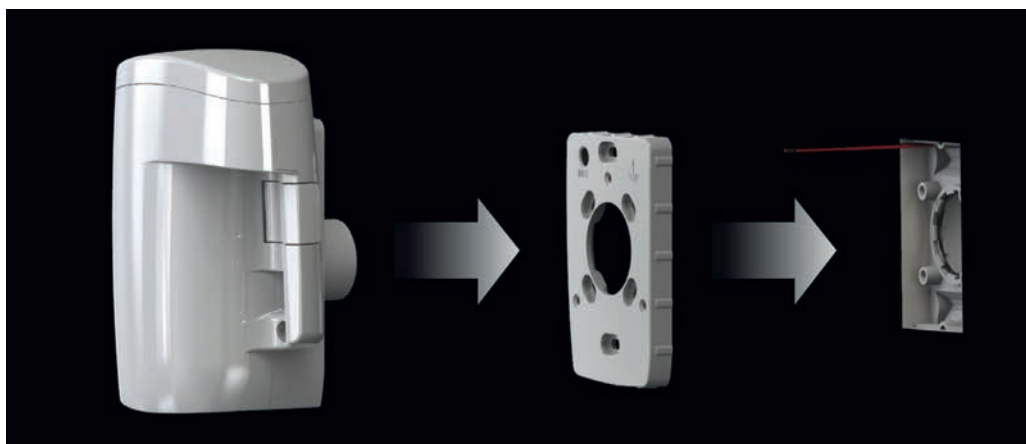
Before you begin the installation, plan the location of the console, the routing of the piping system, and the low-voltage cable. WallyFlex can be wall-mounted or hidden in a cupboard. We recommend a height of 1.20 m above the ground.

### Included with the WallyFlex

- Stretchable hose
- operator
- 6 mounting screws
- backplate
- operation manual

### You need the following accessories:

- Pipes to the central unit
- pipe Fittings
- Low-voltage cable
- Mounting frame for suction box



WallyFlex easily mounts to any standard vacuum box mounting frame. There are only a few simple steps to follow. Before you start, disconnect the central vacuum from the electricity.

### Step 1

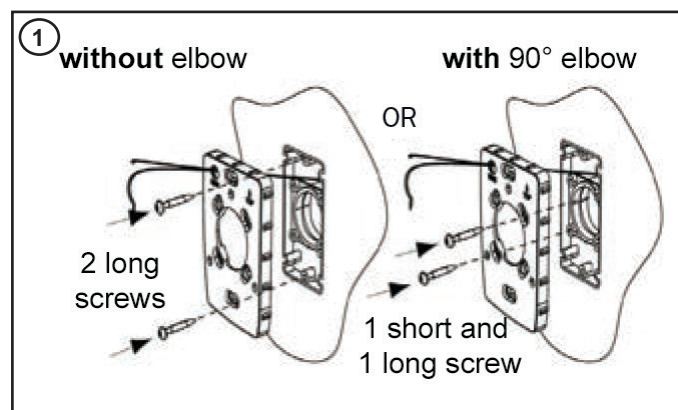
Install the piping system, the low voltage cable and the mounting frame according to the instructions of your central vacuum cleaner manufacturer. Mount the mounting frame flush with the wall and horizontally.

### Step 2:

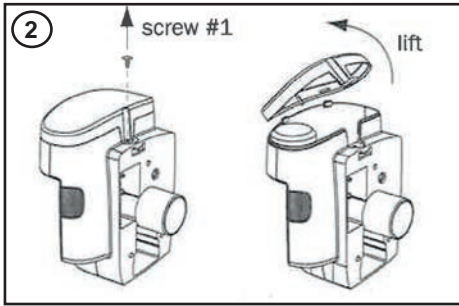
Install the WallyFlex on the mounting frame with the supplied screws.

Align and insert the extension on the back of the console into the inlet orifice on the mounting plate.

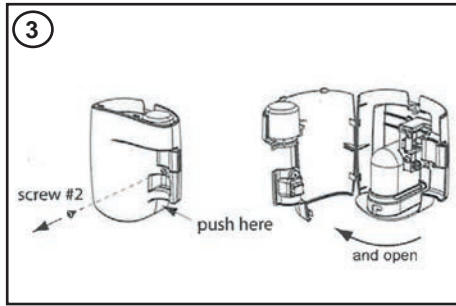
Fix the WallyFlex mounting plate with the provided screws. Please note that if a 90° elbow is fixed directly behind the inlet mounting plate and installed either up or down, you must use a #10 1"1/4 and a #10 1"1/2 screws rather than two 1"1/2 screws. In order to avoid piercing the fitting, use the shorter screw for the hole opposite the elbow.



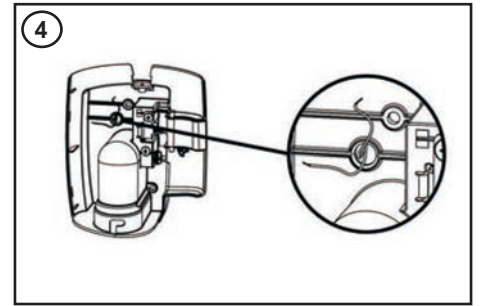




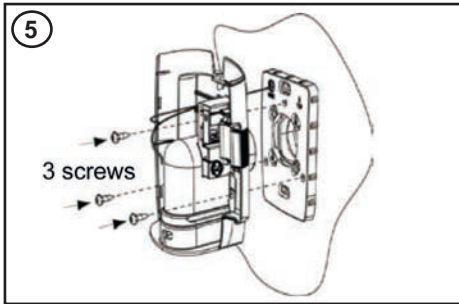
Remove screw #1 and lift the cover of the console.



Remove screw #2 and open the front panel of the console.

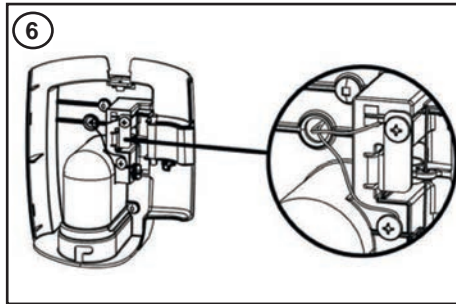


Pass low voltage wire through the opening at the back of the console.

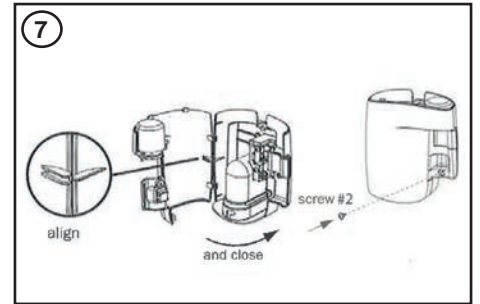


Then, fix the console onto its mounting plate with the three short screws

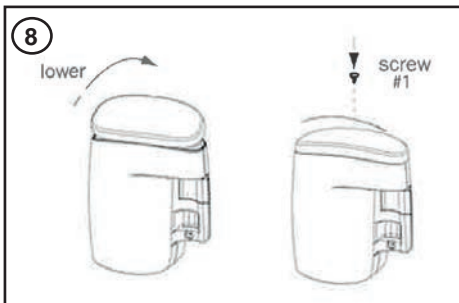
To facilitate the insertion, moisten the seal (o-ring) on the mounting plate.



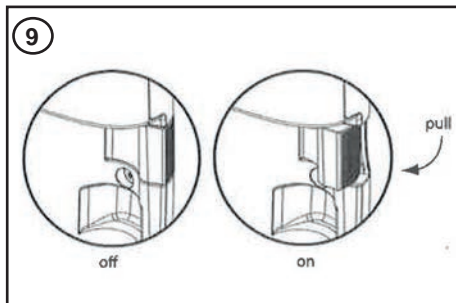
Connect the low voltage wires to the terminal screws.



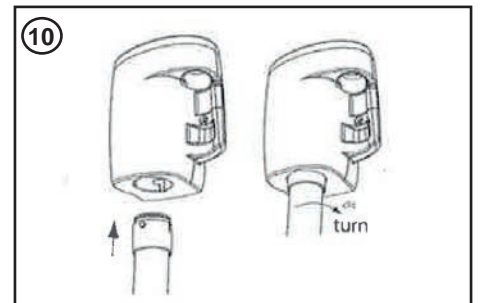
Close the front panel of the console, ensuring the tabs on the door and console are properly aligned, and fix screw #2.



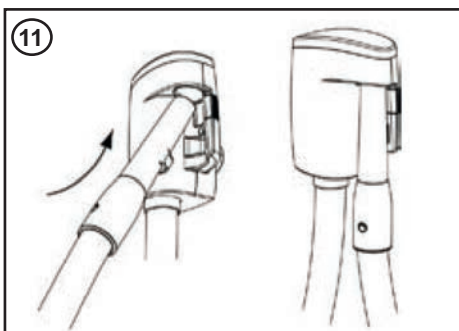
Carefully lower the console cover and fix screw #1.



Once the installation of the console is completed, turn ON the central vacuum system. Ensure proper functioning of the WallyFlex as per the owner's manual.



Insert the tight end of the hose into the hole under the console and secure it clockwise with one turn until you hear a click.



Insert the nozzle into the console. The installation of the WallyFlex is now completed.

### Using WallyFlex

To start WallyFlex, remove the suction nozzle from the console and operate the toggle switch on the right side of the console. The central vacuum is activated.

Continue cleaning.

To switch off the device you have two options. You can re-operate the toggle switch to break the connection to the central unit, or simply insert the nozzle back into the console of the WallyFlex.

## 2.6 Installation des Hide-A-Hose Schlaucheinzugsystems

The retractable hose system is comprised of a hose located in each of the vacuum valves, meaning you don't have to carry a hose from room to room in order to vacuum your home.

Each vacuum valve is ideally located to maximize the surface area which the hose can cover. Retractable hoses are available in lengths of 8, 10, 12 and 15 linear metres.

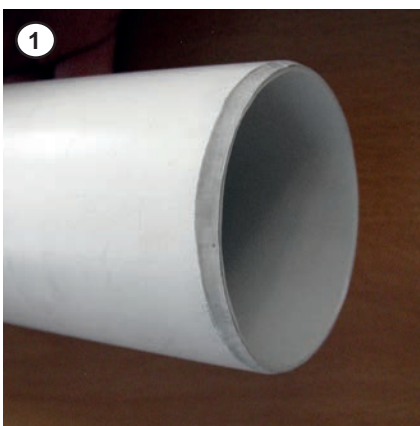


It's important to plan carefully the trajectory of the pipe from each valve since it is this pipe which will house the hose. Use only PVC pipe and accessories specifically designed for this application rather than conventional central vacuum fittings.

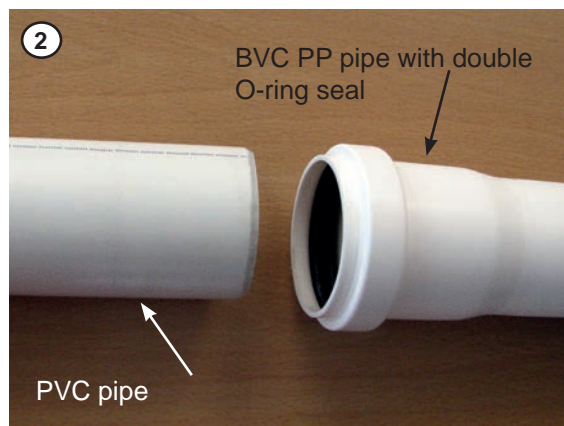
The PVC pipe line from each vacuum valve needs to be of sufficient length to house the complete length of hose before it connects with the main pipe network.

The PVC pipes of the Hide-A-Hose can be easily connected to the original BVC HT pipes.

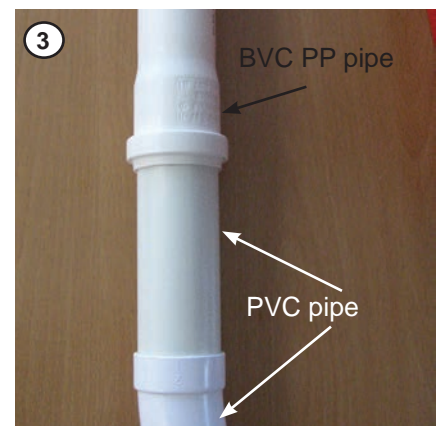
### Connection PVC pipe with BVC PP pipe



The Hide-A-Hose PVC Adhesive Tube is cut off at right angles and de-graded. Then the edge to be connected to the PP pipe is slightly chamfered with a file.



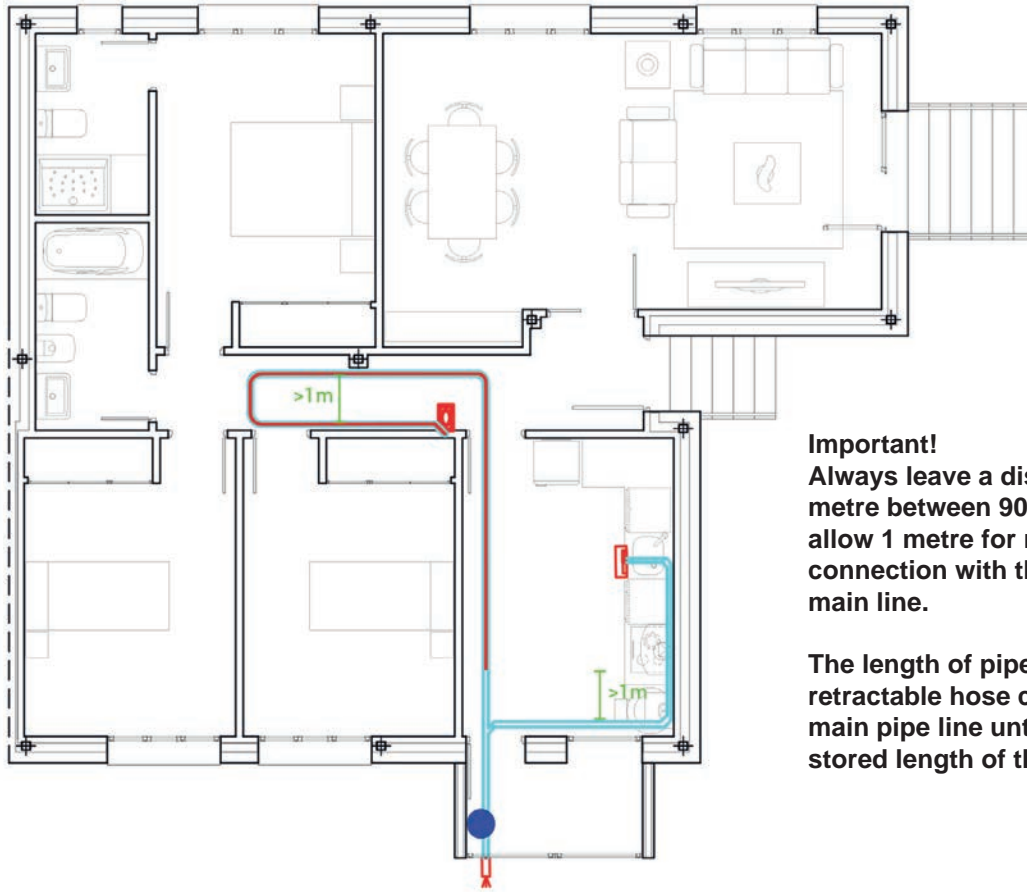
The pipe end is then provided with a lubricant and inserted into the BVC PP pipe. Thanks to the double O-ring seal in the PP pipe, gluing is not necessary.



Example of a compound of PVC adhesive pipe and BVC PP pipe.

To ensure the system is installed correctly please follow the assembly instructions below.

## Beispiel-Installation eines Hide-A-Hose-Systems



**Important!**  
Always leave a distance of at least 1 metre between 90° bends and also allow 1 metre for making the connection with the pipe network's main line.

The length of pipe housing the retractable hose cannot connect to the main pipe line until beyond the full stored length of the retractable hose.

### POSITIONING THE VALVES

A 12m hose can cover a floor surface of 150-200m<sup>2</sup>. To ensure optimum coverage of a home it is recommended that the valves are located centrally.

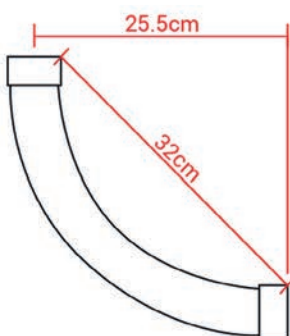
### WHAT LENGTH OF HOSE?

You can opt to install a different length of hose for each retractable hose valve, adapting the hose length to the requirements of the area to be vacuumed. Retractable hoses are available in lengths of 8m, 10m, 12m and 15m.

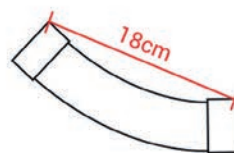
### SPECIAL 51MM CURVED FITTINGS FOR THE RETRACTABLE HOSE SYSTEM

The lengths of pipe housing the retractable hose need to include elbows with greater radii than would normally be the case with conventional central vacuum elbows to ensure that the hose slides easily into the pipe network for storage.

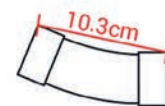
Having completed the lengths of pipe housing the retractable hose and having allowed also an extra metre of length, it is possible to connect to other pipes housing a retractable hose or to the main central vacuum pipe network.



90° Elbow



45° Elbow



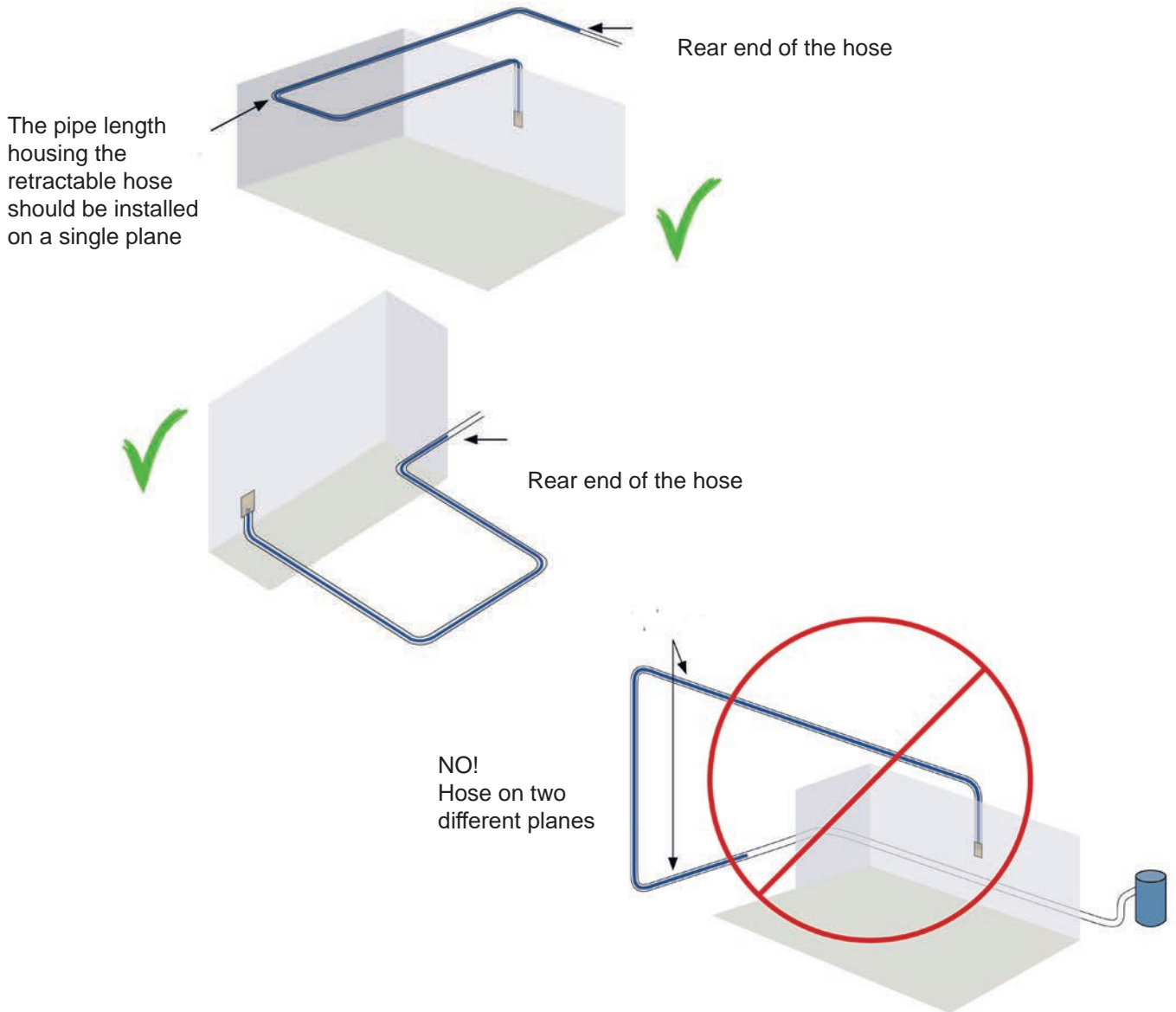
22.5° Elbow

Elbows should not be used to form a continuous run of pipe. Always allow at least one metre between elbows.

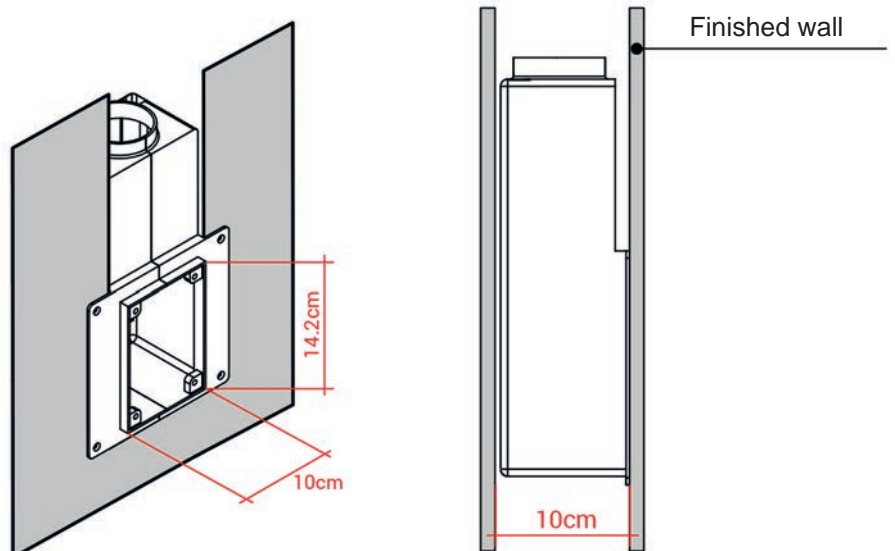


The maximum number of complete 90° curves per retractable hose valve should not be greater than 4, e.g. this can comprise 3 x 90° elbows + 2 x 45° elbows or 2 x 90° elbows + 3 x 45° elbows + 2 x 22.5° elbows.

The pipe length housing the retractable hose should be installed on a single plane. Avoid installing these pipe lengths at different levels.



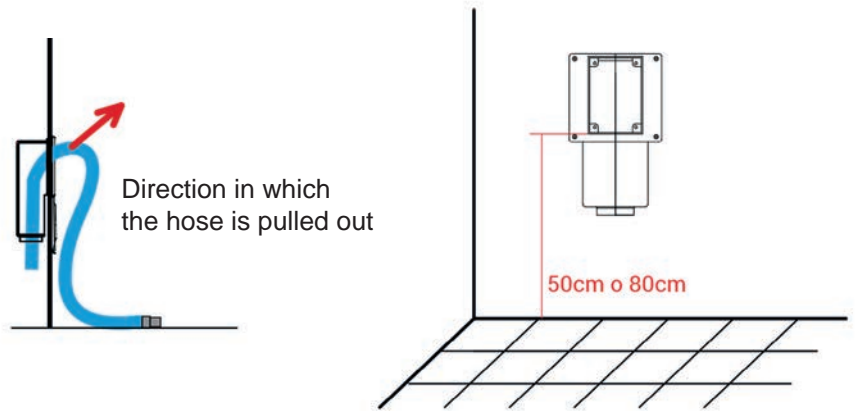
**SPACE REQUIRED FOR THE INSTALLATION OF THE MOUNTING FRAME FOR BRICK WALL**



## DIE RICHTIGE HÖHE FÜR DIE SAUGDOSE

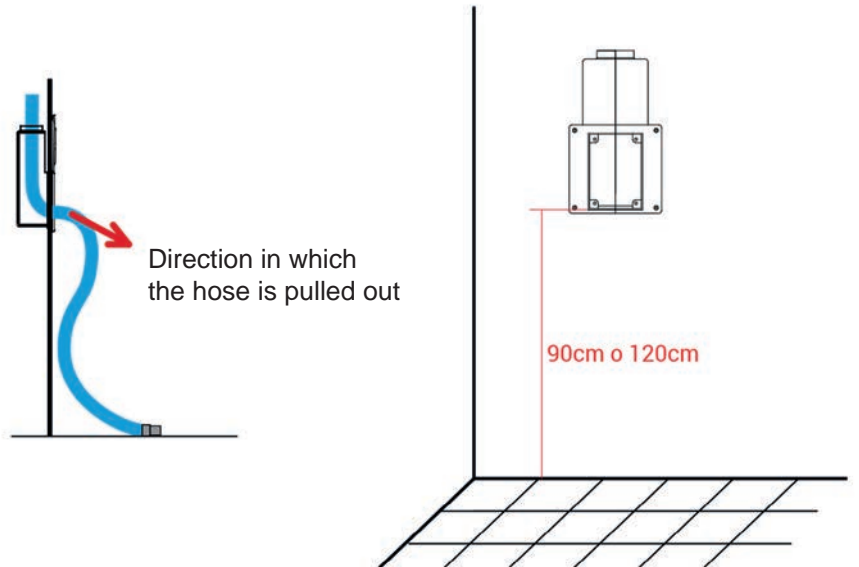
### Installation under the floor

If the hose is installed downwards (the hose is pulled out from below) we recommend that you position the small part of the valve 50-80cm above the floor to make it as convenient as possible to use.



### Installation above the ceiling

If the hose is installed upwards (the hose is pulled out from above) we recommend that you position the small part of the valve 90-120cm above the floor to make it as convenient as possible to use.



## NOTES ABOUT ASSEMBLY FRAME FOR DRY CONSTRUCTION

Space requirements for the installation of the suction box in drywall is about 9 cm. The maximum plaster thickness that can be used is 3.8 cm.

The correct position of the pipe connection on the fork of the mounting frame can be seen in the illustration on the right. The example shows the orientation upwards, the hose leaves the valve towards the ceiling.

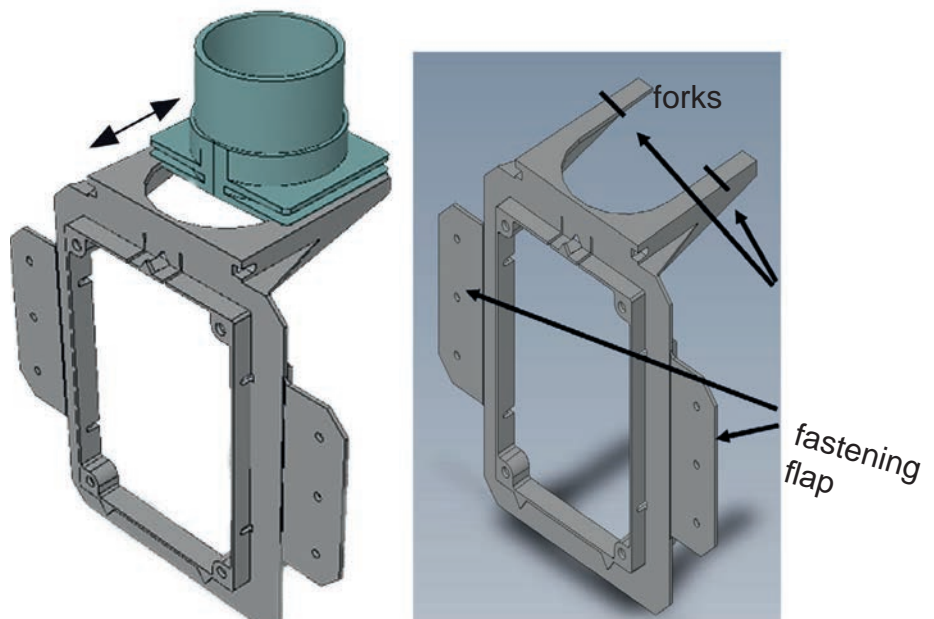
The rubber band is attached to fix the pipe connection.

The pipe connection is designed so that it can simply be pushed into the frame from the back of the forks.

### Only with subsequent installation

Use the plaster protection cover as a template to cut the hole for the suction box into the wall.

Cut the forks approximately 1.9 cm to allow the frame to fit through the siphon hole in the plasterboard. The fastening tabs must be removed.



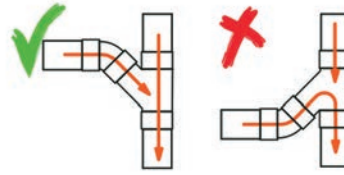
The frame is attached to the wall with upset nails. A detailed step-by-step guide is included with the mounting frame.

**Attention! Over-tightening the valve screws can cause problems when opening and closing the door.**

## OTHER THINGS TO CONSIDER WHEN INSTALLING THE PIPE NETWORK

### Branch pipes

Should always follow the direction of the air flow.



### Cutting pipe

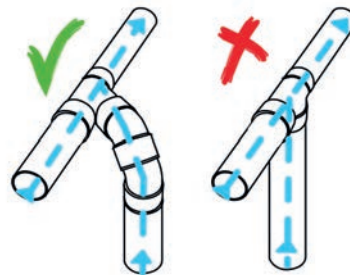
It is essential that pipe lengths are cut using a central vacuum pipe-cutter to ensure a clean, straight cut.

**(VERY IMPORTANT!)** The internal surface of the pipe should be completely smooth so as to avoid a build-up of debris which could lead to obstructions.



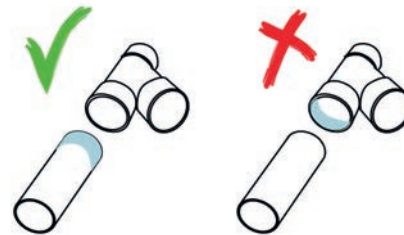
### Installing vertical pipe lengths

If the vertical pipe line runs vertically upwards from below before joining a horizontal pipe line, the connection needs to be made using a conventional 90° elbow and a short horizontal length of pipe.



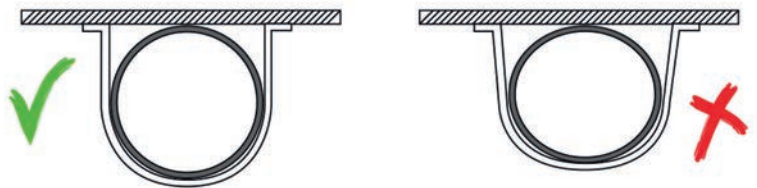
### Gluing the pipe

First of all both surfaces to be glued need to be perfectly clean, **(VERY IMPORTANT!)** then apply sufficient glue to the male connector so that once the two parts are joined together a small trace of glue is visible.



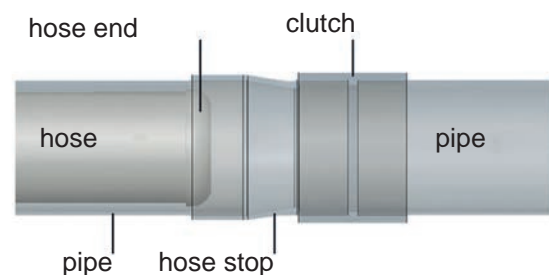
### Securing the pipe

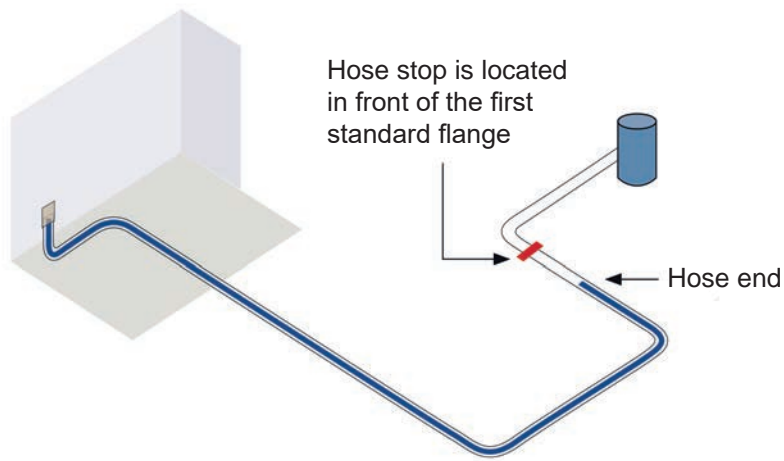
When fitting the brackets to secure the pipe in place take care not to screw these too tightly as this might cause the pipe to be deformed thereby restricting the movement of the hose within the pipe housing.



### Securing the hose

During the installation we recommend to integrate a reducing adapter (hose stop) into the pipe system. This is located in front of the first flange of the standard pipe section or in the pipe a few meters above the hose length. The adapter prevents the hose from becoming stuck in the standard pipe system (e.g., BVC PP pipe) when retracting when retracted. The hose end can not slip through the reducer adapter. It is stopped.





**Low voltage line**

Connect each socket to a low voltage cable as you would in a normal central vacuum system installation.

**Test the system**

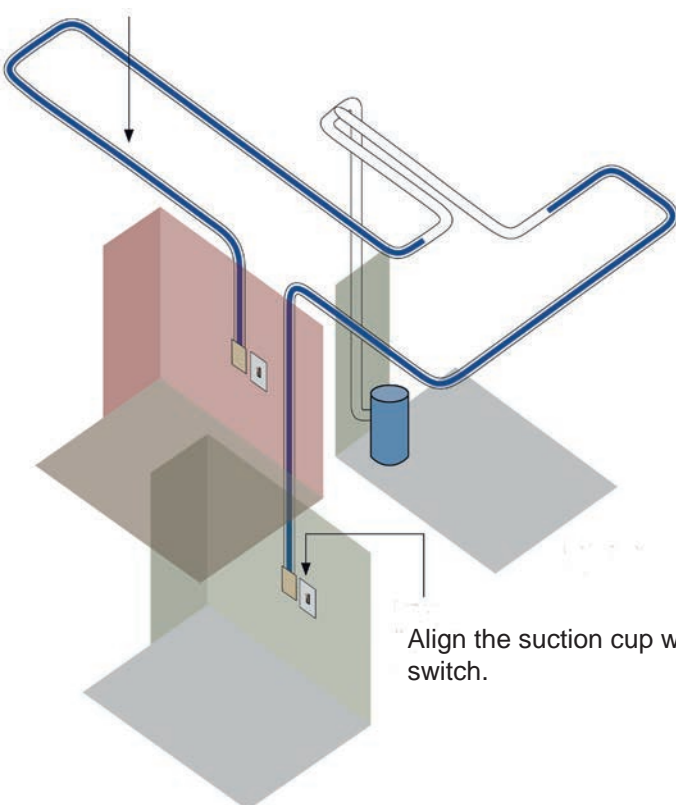
It is recommended to test the system before plastering the walls. For this all Saudosen that are not tested, must be closed. This is best achieved with a small ball, e.g. squash ball.

Place a ball over each siphon opening. In an upward orientation, you must glue the ball in place. Carry out a seal with your vacuum cleaner.

**INSTALLATION EXAMPLES**

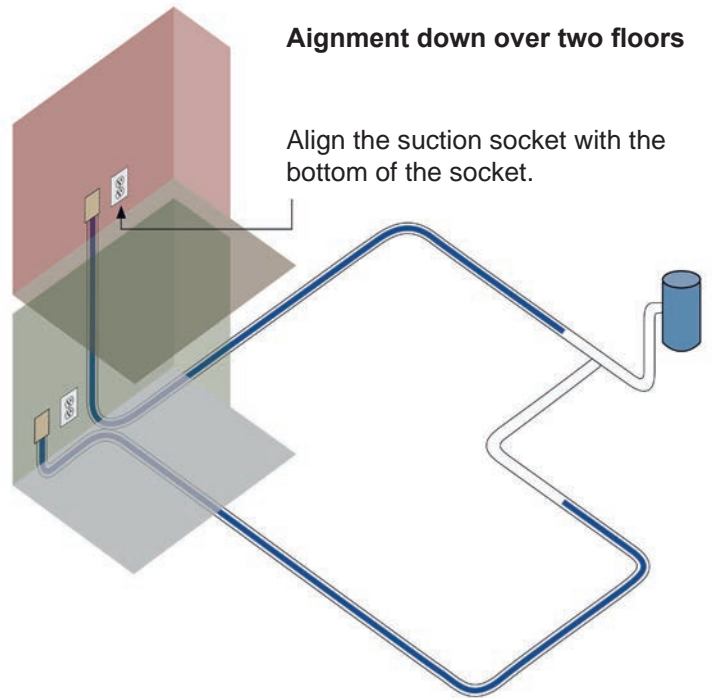
**Alignment upwards over two floors**

To make sure there is enough tube to store the tubing, the tubing sometimes has to run away from the central unit, then loop and go back to the central unit.

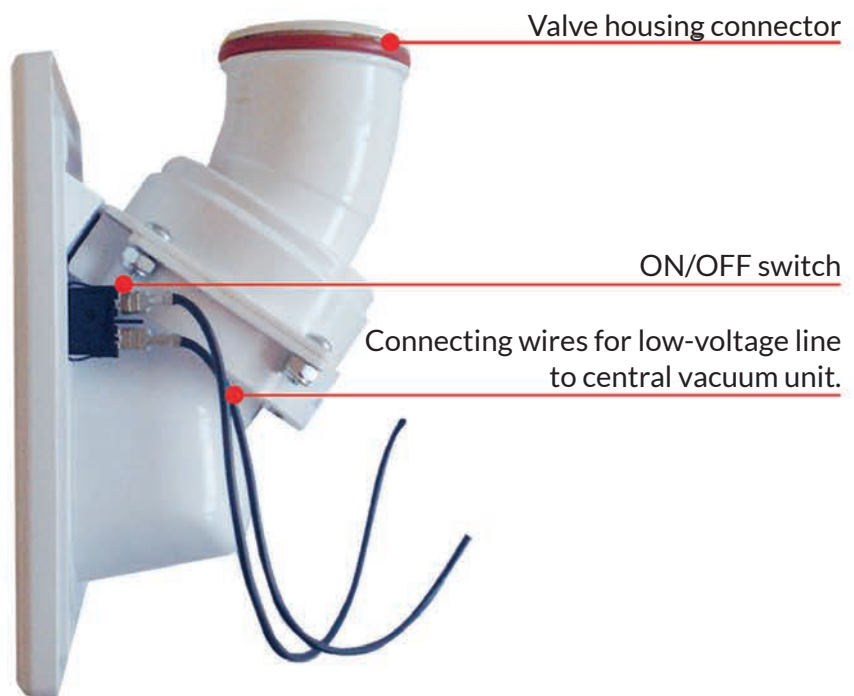


**Alignment down over two floors**

Align the suction socket with the bottom of the socket.



## HIDE-A-HOSE VALVE COMPONENTS



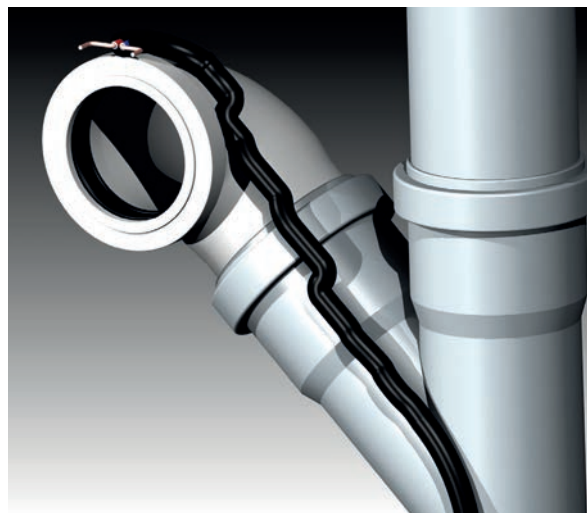
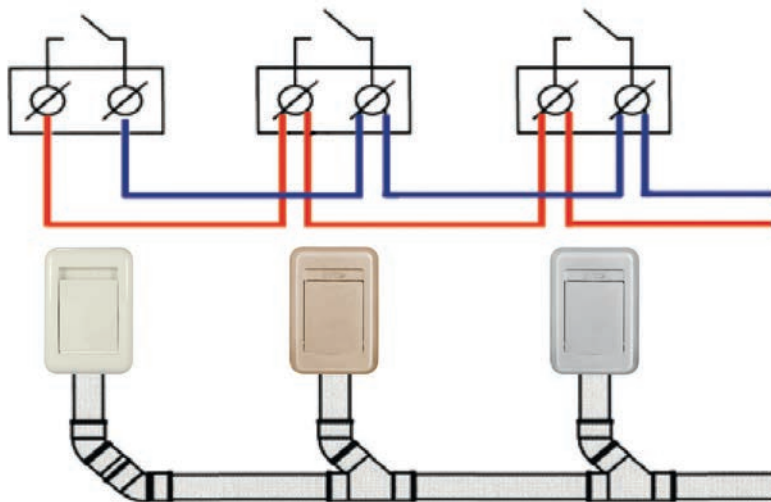


## 2.7 Installation of the low voltage cable

The 5 volt control cables (low-voltage cable) to the individual vacuum sockets should be connected in parallel. It is also possible to connect each suction box with a separate cable and to put them together on the BVC central vacuum (Sternnetz). The 5 volt control lines should NOT be wired together with heavy current or 230 volt lines, as shown e.g. for a cable duct would be the case.

Start with the wiring at the last suction box.

Pull the control cable from box to box. If many cans are installed per floor, you can also put a junction box on the main line and lead the line here together. Then the control cables are led to the device.



## 2.8 power supply

### Electrical installation of your BVC central vacuum cleaner

After mounting the BVC central vacuum cleaner, the low-voltage cable must be connected with the unit. On the top side of the unit you will find the plug connector and socket for the low-voltage cable. Remove insulation from the low-voltage cable (2-wired, with 0.75 mm cross section) and connect the two wires of the low-voltage cable with the screw connectors to the plug. The low-voltage cable should be suitable for a voltage of 5 V and has to comply with the current specifications of your country for this voltage.

#### Attention:

When put into service and connected to the mains, the BVC central vacuum cleaner is operating in stand-by mode. The I/O switch on the unit is intended for testing purposes only. The standard position for this switch is „O“ (stand-by mode).

### Power supply

Power supply (AC) and voltage at the operation point has to comply with the current specifications of your country for this voltage. Connect the appliance to a properly grounded (earthed) power outlet only.

C 600 and S 600 : 16 Ampere fuse type „B“.

S 700: 16 Ampere fuse type „C“.

The socket must be easily accessible.

### Grounding instructions

The BVC central vacuum cleaner has to be grounded. Use only the supplied cable and plug. The plug must be connected with a properly installed power outlet. The power outlet must comply with the current specifications of your country for this voltage.

#### Attention:

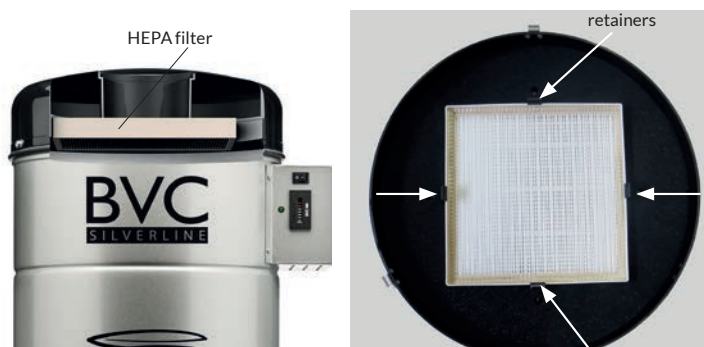
If you are not sure, whether the power outlet is properly installed and grounded, have it checked by a qualified electrician.

## 2.9 Usage of the HEPA filter

All BVC central vacuum cleaners are standardly delivered with a HEPA-filter, which is not installed in the device.

When the exhaust air is routed to the outside, the HEPA-filter is NOT needed.

If it is not possible to route the exhaust air to the outside (e.g. passive house), you can use the highly efficient HEPA filter in recirculation mode, so the indoor air remains at its best - clean. A regular check of the HEPA filter is highly recommended. We also suggest replacing the HEPA filter every 200 working hours.



### Installing and removing the HEPA filter

Before installing or changing the HEPA filter, disconnect the main power plug. Then loosen the screws of the motor cover and remove the cover. Turn the motor cover upside down and set it on an even surface. Place the HEPA filter on the retainers and gently push it down until it is completely engaged.

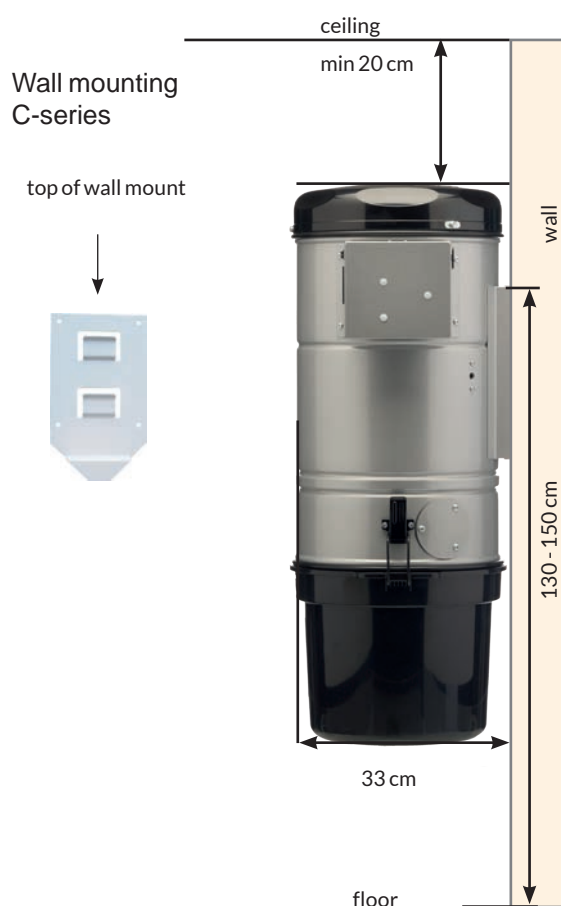
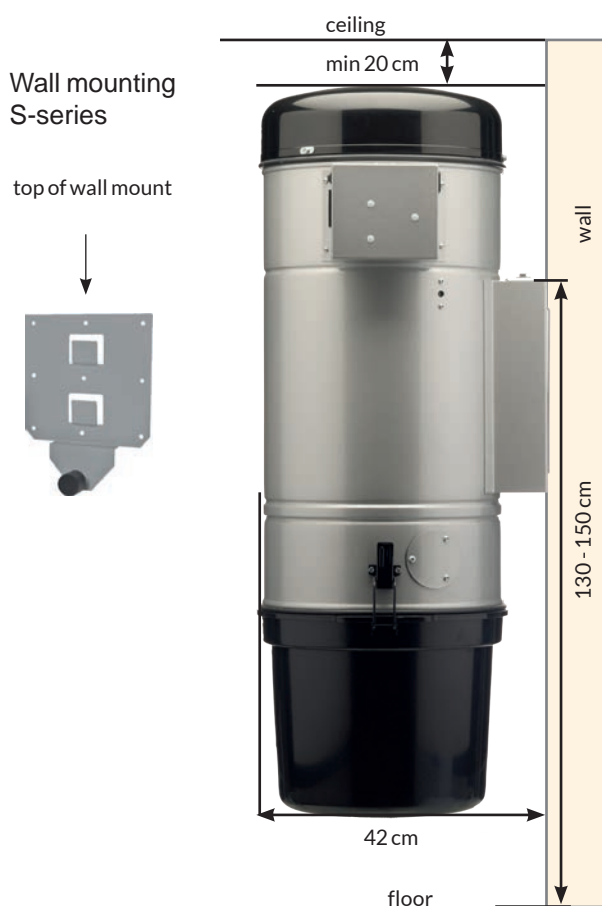
To remove the HEPA filter, gently push the retainers in an outward direction and lift up the HEPA filter.

### Attention!

Never operate the BVC central vacuum cleaner without a properly installed motor cover. Always make sure that the screws of the motor cover are tightened fast.

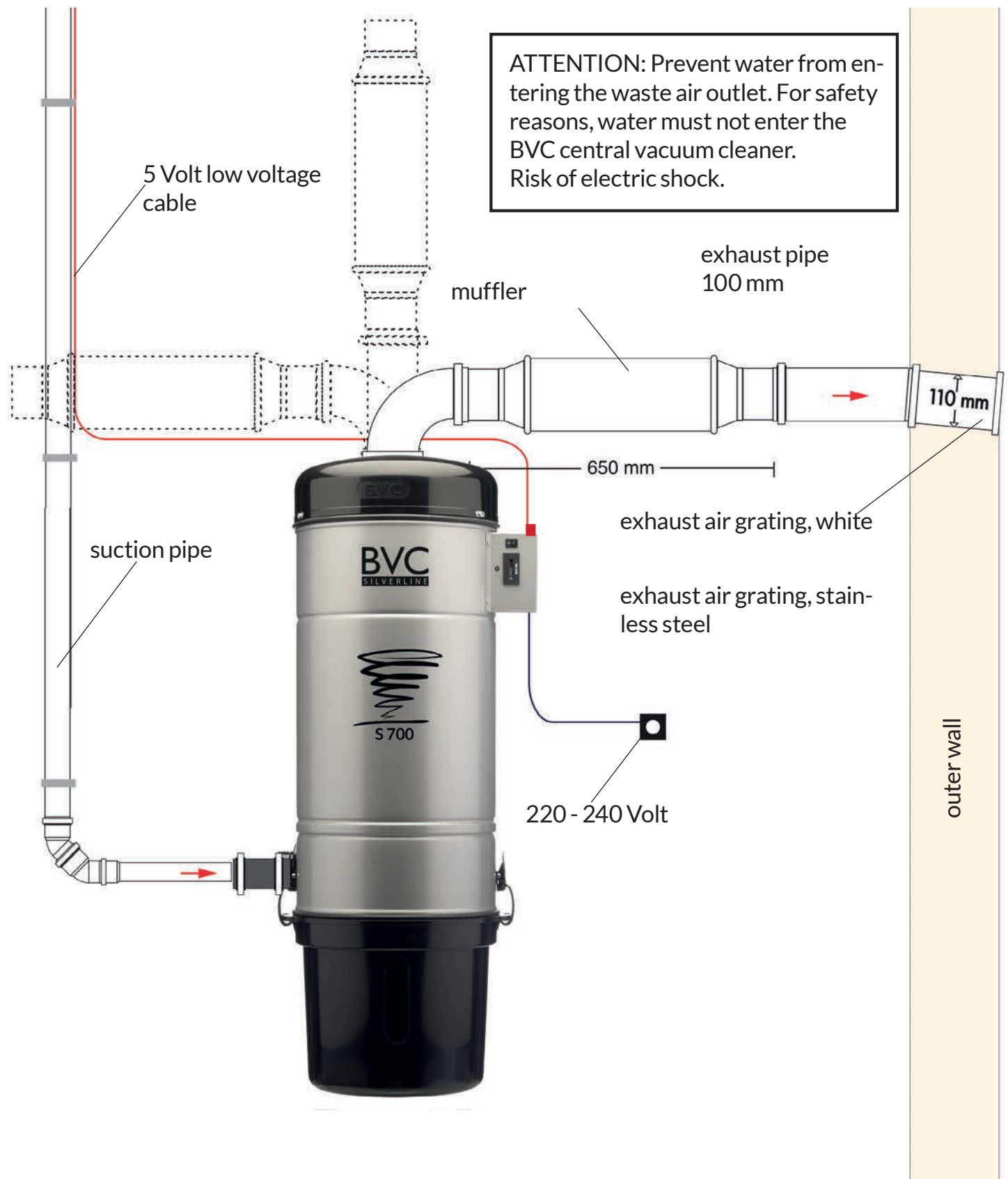
## 2.10 Wall mounting

The top of the wall mount should be mounted at a height of approximately 130 cm to 150 cm measured from the floor, for easy removal of the dust container. For proper cooling of the motor, we suggest a distance of at least 20 cm to the ceiling.



## 2.11 Installation of the exhaust air muffler

The exhaust silencer reduces the volume by approx. 12 dB. The silencer should be mounted as close as possible to the central unit. The installation of the silencer is possible both horizontally and vertically. When installing the exhaust air duct horizontally, a slope of approx. 5 ° should be maintained through the wall opening so that any condensate that may accumulate does not penetrate into the motor compartment of the BVC central unit.



### 3. Operation / care instructions

**Attention:** Prior to any intervention on the central vacuum cleaner (repair, filter change, etc.), the mains plug must be disconnected from the socket to be pulled!

If necessary, clean the housing of the BVC central vacuum with a soft cloth. Never use solvents or strong cleaners.

#### 3.1 Changing the motor protection filter

We recommend that you clean the motor protection filter once a year or completely replace the filter.

To guarantee a smooth removal and installation of the filter, remove the dust container and the filter bag as described on page 28. Then dismantle the BVC central vacuum cleaner, turn it upside down and put it on an even surface.

The spring tension ring must be pulled with the loop towards the center (see picture 1).

This will cause the filter to deform which is necessary for the removal.



Make sure that the motor compartment is entirely free of dust and dirt particles. Dust and dirt can damage the motor!

To insert the filter, the filter must be formed to a semi-circle (see picture 2) and be placed gently into the seam (see picture 3). The spring tension ring needs to spring back into its original form. The remaining bend needs to be pressed into the seam. You should hear a snapping sound.

**BVC EBS Distribution GmbH assumes no liability for damages on the BVC central vacuum cleaner due to wrongful installation and/or removal of the filter.**

#### 3.2 Changing the filter bag

BVC recommends not filling the filter bag completely, since suction decreases with a full filter bag and can cause damage to the filter bag.

To replace the filter bag, open the fixing clamps of the dust container and remove it.



##### Removing the filter bag:

Always use both hands to detach the full filter bag from the black spigot. Horizontally pull away from the black spigot. Never pull vertically downward (see picture 1).



##### Inserting the new filter bag:

Push the plastic flange completely over the black spigot (see picture 2).

## 4. Handling the suction hoses

BVC has a wide range of suction hoses. From the simple model for use in the garage to the multifunctional hose, the customer can choose his suction hose. Below, we point out two basic aspects of hoses handling.

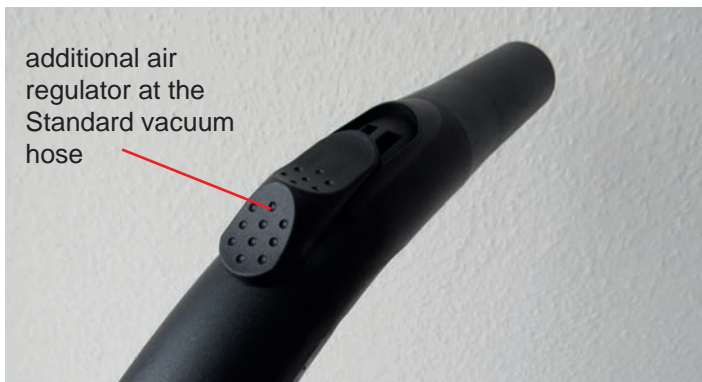
### 4.1 Inserting the suction hose into the suction box

When inserting the suction hose, make sure that the retaining lug of the adjusting sleeve on the suction hose is between the guide pins of the suction socket. This prevents the hose from rotating during operation and losing contact with the low-voltage contacts in the suction box.



### 4.2 Regulation of the suction power

All BVC suction hoses have a secondary air valve with which the suction power can be regulated. Furthermore, with some hose models, the suction power can be electronically controlled.



#### Nebenluftregler

The suction power can be regulated by a secondary air regulator. When the secondary air regulator is open, the suction power at the suction nozzle is reduced. All BVC handles have a secondary air regulator.



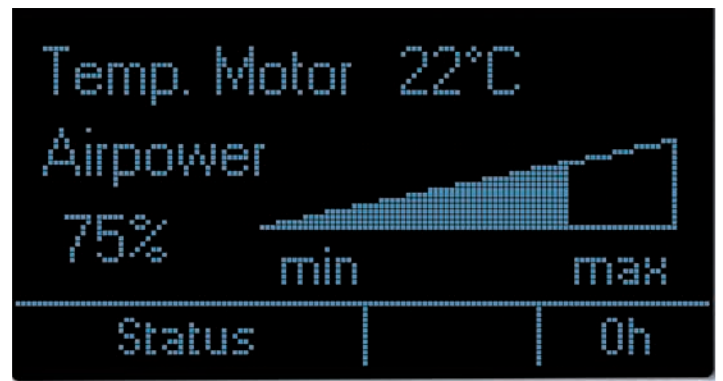
#### 3 stage switch for electrical suction power

With a suction hose with a three-stage switch (FLEX and from 2018 MULTI-FLEX), the speed of the motor can be regulated to 50% or 100%. The suction power in the hose and at the nozzle also varies depending on the setting of the secondary air regulator.



#### Stepless electronic suction power regulation by operation on the handle of the vacuum hose

With a suction hose with integrated potentiometer (SWIVEL), the speed of the motor can be infinitely adjusted.



#### Stepless electronic suction power regulation by operation of the electronic box on the digital device:

With digital BVC central vacuum cleaners, the suction power can be regulated steplessly by holding the POWER button on the electronics box. This is an advantage if you use the pipe suction box next to the central unit.

## 5. Troubleshooting

Despite the careful quality control, errors can occur in the large selection of articles.

BVC offers an extended warranty for original BVC equipment and accessories. In case of a mistake, BVC will be happy to assist you and your customers.

Possible errors and the correction of these errors we have summarized for you.

### 5.1 Partial loss of the suction power

1. Check if the hose is clogged.
2. Check if the dust container is tightly sealed.
3. Open the dust container. If the filter bag is full, change it.
4. Remove the suction pipe from the suction flange on the BVC central vacuum cleaner. Switch the BVC vacuum cleaner to (I) and check the suction power at the suction flange. If the motor produces enough suction power, the function of the motor is OK.
5. To find out where the pipe system is clogged, you need two people to perform the test:
  - One person switches on the motor and produces underpressure by keeping the inlet valves closed.
  - The other person goes to the nearest inlet valve and checks if there is enough suction power. If the suction power is lower than normal, open and close the lid of the inlet valve several times. This has a pumping effect. If necessary, repeat with the other inlet valves until the problem is solved. When testing the suction power, underpressure (all inlet valves are closed) should not be maintained for more than 60 seconds in order to avoid an unnecessary overload of the motor.
6. After identifying the position of the blockage, insert a cleaning worm into the pipe system and push out the object clogging the pipe.

For further assistance, please contact your local BVC partner or BVC EBS Distribution GmbH.

### 5.2 The motor does not start

1. If the green lamp on the unit is off, the power supply is NOT OK. Check the 230 V socket for voltage.
2. If the green lamp on the unit is on, the power supply is OK. Start the BVC central vacuum cleaner by switching the I/O switch to „I“ If the motor does not start, the motor is defective. Please contact your local BVC partner.
3. If the green lamp on the unit is on, the power supply is OK. Start the BVC central vacuum cleaner by switching the I/O switch to „I“ If the motor can be started, the problem can either be caused by the low-voltage transformer, the relay, the low-voltage installation or the handgrip on the suction hose. Please contact your local BVC partner or BVC EBS Distribution GmbH.

### 5.3 The motor is running as soon as power is flowing and can not be switched off

1. Disconnect the low voltage cable from the electronics control box.  
If the motor switches off, there is a fault in your low-voltage circuit. Please check all vacuum sockets for short circuits of the internal contact pins. If no fault is found contact your installer or service partner.
2. If the engine is still running, check if your device is in continuous or standby mode. For the analog electronics box, the switch must be set to O. For digital electronics boxes, please press the POWER button. If the engine does not shut down, there is probably a problem with your electronic control. Disconnect the central vacuum from the mains and contact your installer or service partner.

## 5.4 With digital devices, the motor suddenly stops and restarts after a while

Presumably, the device is overheated. The reason for this could be a full filter bag, a pipe blockage or insufficient air circulation at the installation site.

1. Open the dirt container. If the dust filter bag is full, replace it with a new one. If this does not work, move on to the next step.
2. Check the suction power of the central unit. Loosen the suction pipe with the connecting sleeve from the intake manifold of the device. Switch on the device manually and test the suction force on the intake manifold by hand. If the motor develops sufficient suction power, the function of the BVC central vacuum is OK and that problem may be a pipe blockage. Follow the instructions on 7.1.5.
3. If there is an unwanted shutdown of the device despite the free suction line, please check the place of installation on a sufficient air circulation.

## 5.5 Suction hose with function

1. Check that the green control LED on the central unit is lit. If the lamp is lit, go to item 2. If the lamp does not light up, the power supply is not guaranteed. Check the power supply.
2. Check the contacts on the adjusting sleeve (suction socket connection). If the contacts are brown, oxidized or dirty, clean them with a fine sandpaper or a glass brush. If this does not work, go to step 3.
3. Test the low voltage wire by shorting the contact pins with a teaspoon or other conductive object. If the contacts are OK, the motor starts. The problem is therefore the suction hose. There may be a cable break or a defect on the switch.

If the problem with these measures can not be solved, see 6.2 The motor does not start.

## 6. Spare parts / repair

BVC attaches great importance to sustainability. That is why almost all components of the original BVC products can be exchanged. On our website you will find our BVC spare parts catalog with spare parts for current as well as earlier BVC / EBS articles.

### We are here for you!

If you have any further questions regarding planning, installation, operation or anything else, please contact us via phone or e-mail.



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## Planning, Installation and Handling

# NOTIZEN

A large grid of small dots arranged in approximately 30 rows and 40 columns, intended for taking notes.

