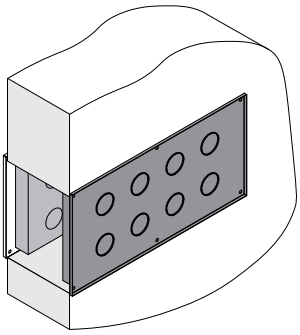
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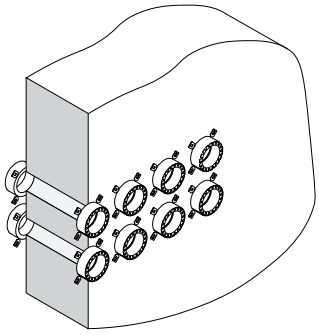
Installation and operating instructions

Pellet suction system RS 4 / RS 8





Model
Wall opening cover



Model
Set of fire protection collars

Translation of original German version of installation and operating instructions for technicians and operators.

Read and follow all instructions and safety instructions.
All errors and omissions excepted.

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1 General

Thank you for choosing a quality product from Froling. The product features a state-of-the-art design and conforms to all currently applicable standards and testing guidelines.

Please read and observe the documentation provided and always keep it close to the system for reference. Observing the requirements and safety information in the documentation makes a significant contribution to safe, appropriate, environmentally friendly and economical operation of the system.

The constant further development of our products means that there may be minor differences from the pictures and content. If you discover any errors, please let us know: doku@froeling.com.

Subject to technical change.

Issuing a delivery certificate

This is an incomplete machine as defined by the Machinery Directive. The incomplete machine must only be started up when it has been confirmed that the machine, in which the incomplete machine has been installed, conforms to the provisions of Directive 2006/42/EC.

Compliance with the open provisions and verification of the correct installation must be confirmed in the delivery certificate of the declaration of installation (included in documentation).

Warranty and Guarantee Conditions

Our sale and delivery conditions will be applicable. These conditions have been made available to customers, and customers have been made aware of them at the time of order completion.

You can also find the guarantee conditions on the enclosed guarantee certificate.

2 Safety

2.1 Hazard levels of warnings

This documentation uses warnings with the following hazard levels to indicate direct hazards and important safety instructions:

⚠ DANGER

The dangerous situation is imminent and if measures are not observed it will lead to serious injury or death. You must follow the instructions!

⚠ WARNING

The dangerous situation may occur and if measures are not observed it will lead to serious injury or death. Work with extreme care.

⚠ CAUTION

The dangerous situation may occur and if measures are not observed it will lead to minor injuries.

NOTICE

The dangerous situation may occur and if measures are not observed it will lead to damage to property or pollution.

2.2 Permitted uses

The Froling RS 4 / RS 8 pellet suction system is solely designed for discharging fuels from suitable stores. Only use fuels specified in the “Permitted fuels” section.

The unit should only be operated when it is in full working order. It must be operated in accordance with the instructions, observing safety precautions, and you should ensure you are aware of the potential hazards. The inspection and cleaning intervals in the operating instructions must be observed. Ensure that any faults which might impair safety are rectified immediately.

The manufacturer or supplier is not liable for any damage resulting from non-permitted uses.

Only original spare parts or specific alternative spare parts authorised by the manufacturer may be used. Any kind of change or modification made to the product will invalidate its manufacturer’s CE conformity. In such cases, the product will need to undergo new hazard evaluation procedures by the operator. The operator will then be fully responsible for the declaration of conformity according to the valid guideline(s) for the product and will need to attach the new CE label to the device. This person will then assume all of the rights and responsibilities of a manufacturer.

2.2.1 Permitted fuels

Wood pellets

Wood pellets made from natural wood with a diameter of 6 mm

Note on standards

EU:	Fuel acc. to EN ISO 17225 - Part 2: Wood pellets class A1 / D06
and/or:	EN*plus* / DIN*plus* certification scheme

General note:

Before refilling the store, check for pellet dust and clean if necessary.

2.3 Qualification of assembly staff

⚠ CAUTION



Assembly and installation by unqualified persons:

Risk of personal injury and damage to property

During assembly and installation:

- ❒ Observe the instructions and information in the manuals
- ❒ Only allow appropriately qualified personnel to work on the system

Assembly, installation, initial startup and servicing must always be carried out by qualified personnel:

- Heating technician / building technician
- Electrical installation technician
- Froling customer services

The assembly staff must have read and understood the instructions in the documentation.

2.4 Personal protective equipment for assembly staff

You must ensure that staff have the protective equipment specified by accident prevention regulations.



- For transportation, setup and assembly:
  - suitable work wear
  - protective gloves
  - sturdy shoes (min. protection class S1P)

2.5 Qualification of operating staff

⚠ CAUTION



If unauthorised persons enter the Installation room:

Risk of personal injury and damage to property

- ❒ The operator is responsible for keeping unauthorised persons, in particular children, away from the system.

Only trained operators are permitted to operate the unit. The operator must also have read and understood the instructions in the documentation.

2.6 Protective equipment for operating staff

You must ensure that staff have the protective equipment specified by accident prevention regulations.



- For operation, inspection and cleaning:
  - suitable work wear
  - protective gloves
  - sturdy shoes

2.7 Design information

Carrying out modifications to the system and changing or disabling safety equipment is prohibited.

Always comply with all fire, building and electrical regulations when installing or operating the system, in addition to following the operating instructions and mandatory regulations that apply in the country in which the tank is operated.

NOTICE! All design information such as installation and approval of the system, chimney connection/chimney system etc., see installation instructions for the boiler.

2.7.1 Standards

The system must be installed and commissioned in accordance with the local fire and building regulations. The following standards and regulations should always be observed:

ÖNORM / DIN EN 60204	Safety of machines; Electrical equipment of machines, Part 1: General requirements
TRVB H 118	Technical directives for fire protection/prevention (Austria)
ÖNORM H 5170	Construction and fire protection requirements (Austria)
ÖNORM H 5190	Heating systems - Acoustic insulation
EN ISO 13857	Safety of machines; Safety distances for maintaining a safe distance from hazardous areas
EN 13501	Fire classification of construction products and building elements

2.7.2 Requirements at the installation site

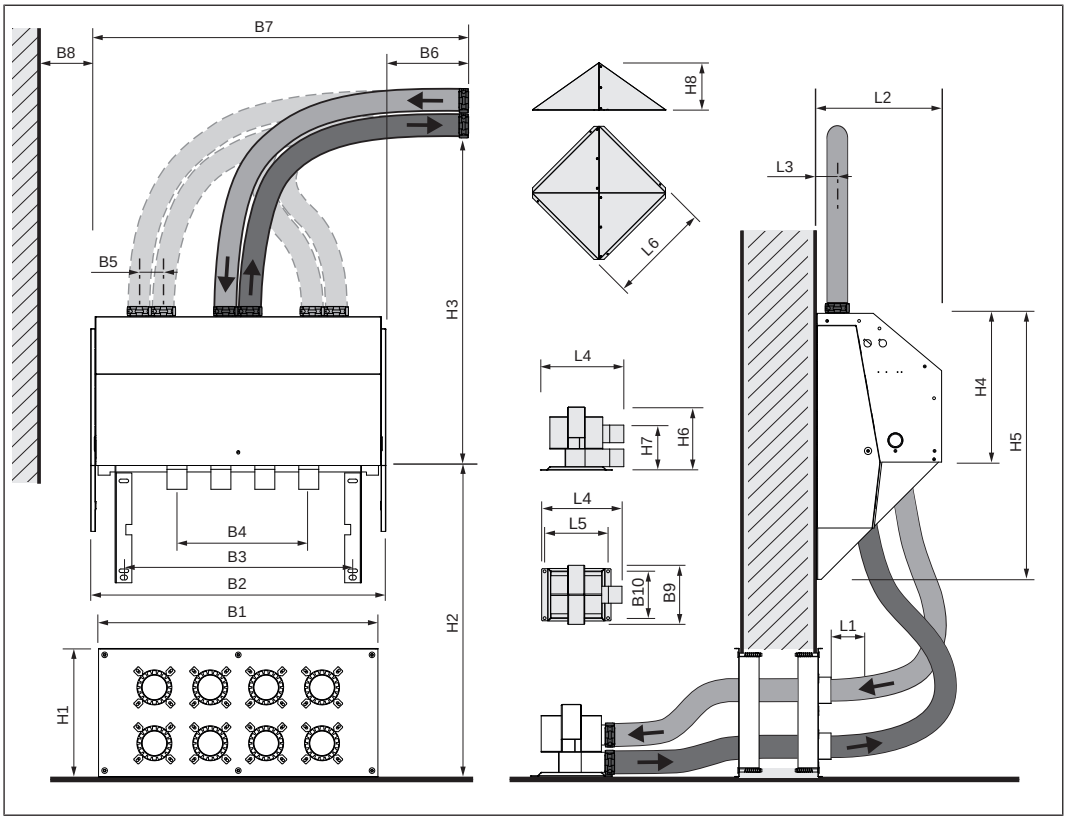
- All walls and load-bearing elements must support the static load. The structural requirements may need to be discussed with a structural engineer. Local fire regulations must be respected.
- Water lines should not be located in close proximity to the pellet store or the feeder units due to the dangers posed by condensation and bursting water pipes.
- Pipes that cannot be removed at justifiable expense and which intersect the path of the pellets during filling should be clad to protect against the flow and prevent breakage (e.g. deflector plate, wooden boarding). The cladding should be designed to divert the pellets without damaging them.
- There must not be any electrical installations such as switches, lights, distribution boxes or other ignition sources in the pellet store. The necessary installations must be explosion-proof and installed according to the locally applicable regulations.
- Doors, windows and hatches to the pellet store must open outwards and be fitted with a dust-proof seal all the way round, to prevent dust escaping from the store, particularly into other rooms.
- The system is only suitable for interior rooms, which are frost-proof and protected against the elements.
  ➲ "Assembly information for hose lines" [▸ 33]

For further information about the technical features of the pellet store:
➲ "Store layout and construction" [▸ 12]

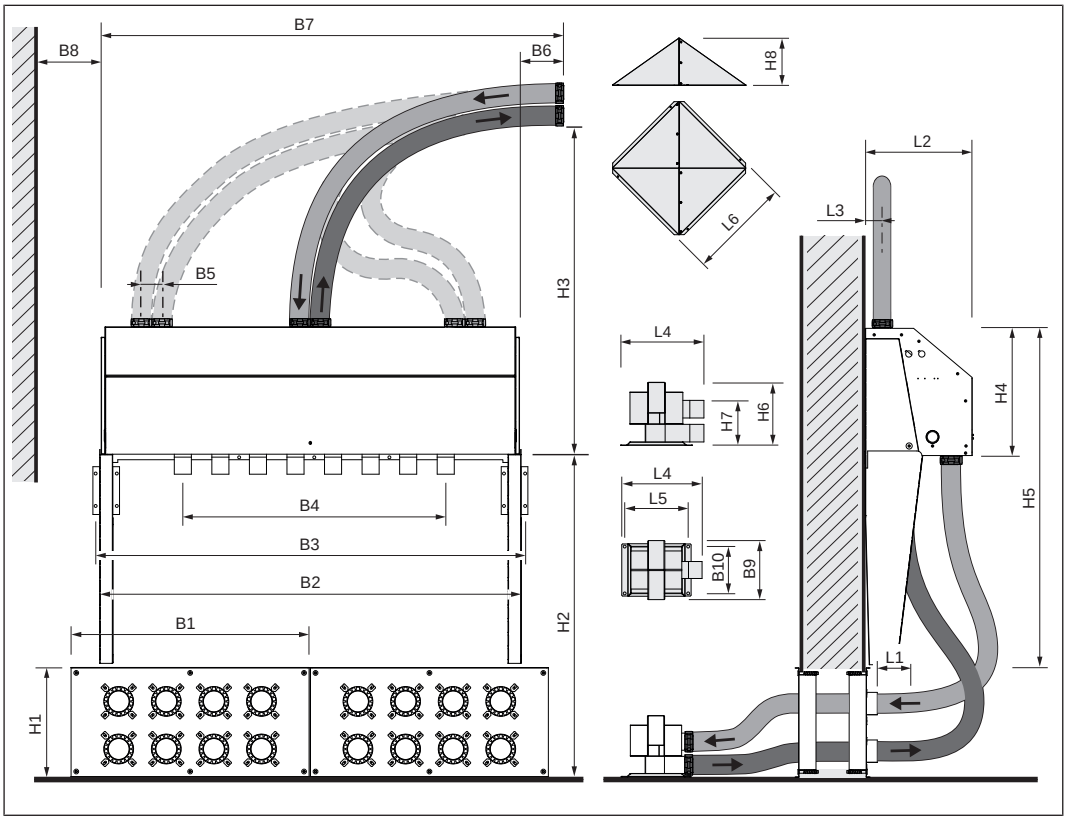
3 Technical information

3.1 Dimensions and recommended distances

RS 4:



RS 8:



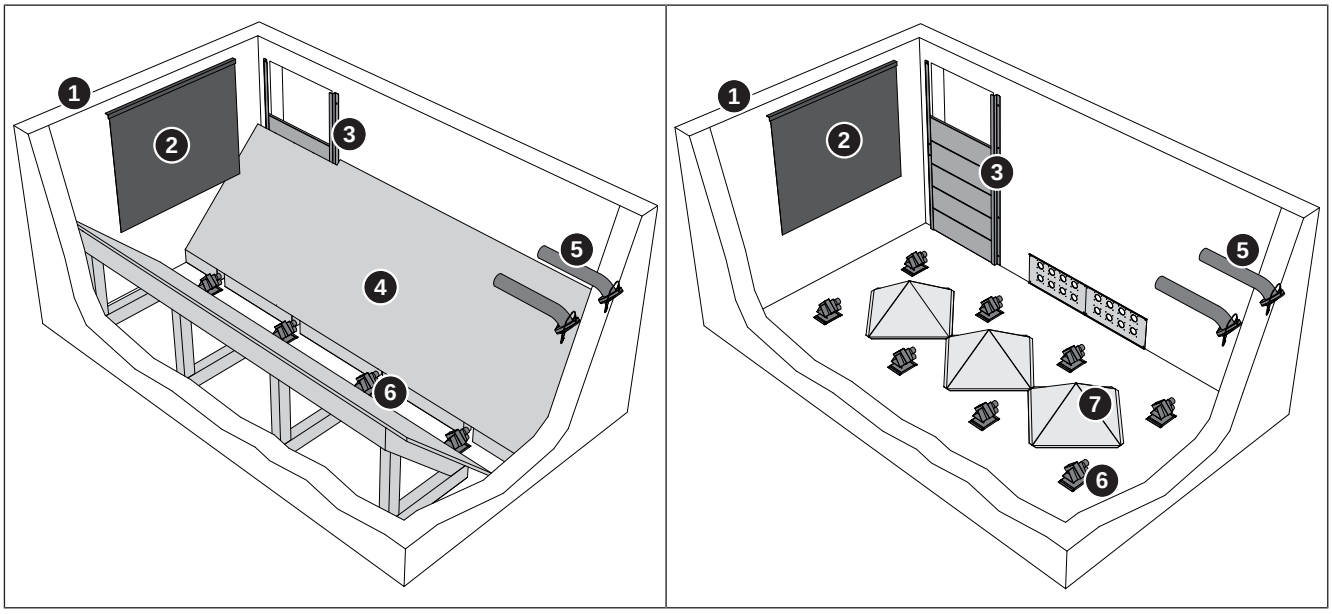
Item	Description	Unit	Value	
			RS 4	RS 8
H1	Height of cover plate	mm	352	
H2	Recommended distance, floor to mounting bracket		>800	>990
H3	Recommended distance, mounting bracket to hose line attachment		>1,175	
H4	Height of suction unit		375	
H5	Height of suction unit, including mounting bracket		665	985
H6	Height of suction probe		180	
H7	Recommended height for cut-out sections for hose lines		>140	
H8	Height of fuel store pyramid		355	
B1	Width of cover plate		700	
B2	Width of suction unit		740	1235
B3	Distance between mounting bracket holes		573	1258
B4	Distance between external hose line connections		330	770
B5	Distance between hose lines		62	
B6[1)]	Recommended distance, suction unit to hose line attachment / wall		>400	
B7	Overall width		>1240	>1635
B8	Recommended distance, suction unit to wall		>150	
B9	Width of suction probe		175	
B10	Distance between suction probe holes		138	
L1	Recommended length of straight suction hose line piece		>100	
L2	Length of suction unit		315	
L3	Distance between hose line and wall		50	
L4	Length of suction probe		237	
L5	Distance between suction probe holes		187	
L6	Length of fuel store pyramid		760	

1. If the hose lines run toward the top, the distance from the suction unit to the wall can be reduced to 150 mm

NOTICE

Depending on the characteristics of the surface, the fixings supplied must be replaced with suitable components!

4 Store layout and construction



1	Store for wood pellets ➲ "Size of store space" [▶ 13]
2	Buffer mat opposite inlet nozzle ➲ "Buffer mat" [▶ 13]
3	Boarding the store door ➲ "Planking on the store door" [▶ 14]
4	Sloping floor in larger stores ➲ "Sloping floor" [▶ 14]
5	Filling couplings for loading the fuel ➲ "Filling couplings" [▶ 15]
6	Suction probes for fuel removal ➲ "Probe distribution with four suction probes" [▶ 17] ➲ "Probe distribution with eight suction probes" [▶ 19]
7	Store pyramids for optimised fuel removal (optional) ➲ "Store pyramids (optional)" [▶ 20]

4.1 Size of store space

The storage area should be able to hold approximately 1.5 times the annual amount of pellets needed independently of the system heating load.

Rule of thumb: **1 m³ store space / kW heating load**

NOTICE

Formation of dust from pellets

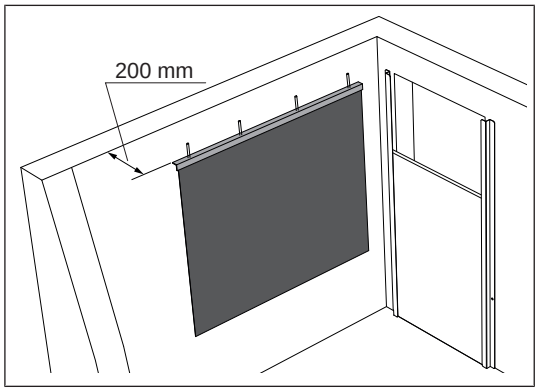
Dust formed over time from the pellets which sinks to the floor can impair the discharge of pellets from the store space

- ❒ Completely empty and clean the store space on a regular basis
- ❒ Check the store space before refilling and clean if necessary

TIP: We recommend that you fit the PST pellet deduster to guarantee a long and reliable service life for the boiler system.

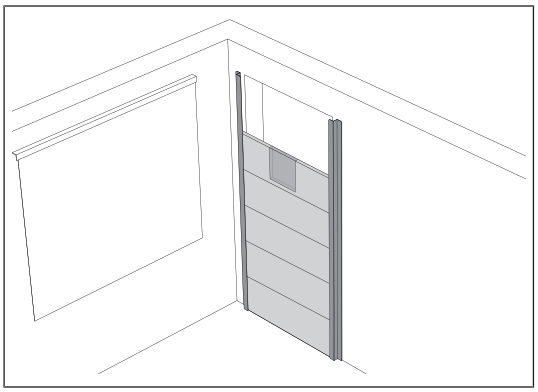
4.2 Buffer mat

NOTICE! During the filling process, the buffer mat stops pellets from hitting the wall and breaking up as well as knocking plaster off the wall. Broken pieces of masonry, plaster and other foreign objects can block the discharge system and disrupt the pellet feed into the boiler thus causing a system failure. Warranty claims are not covered by such faults.



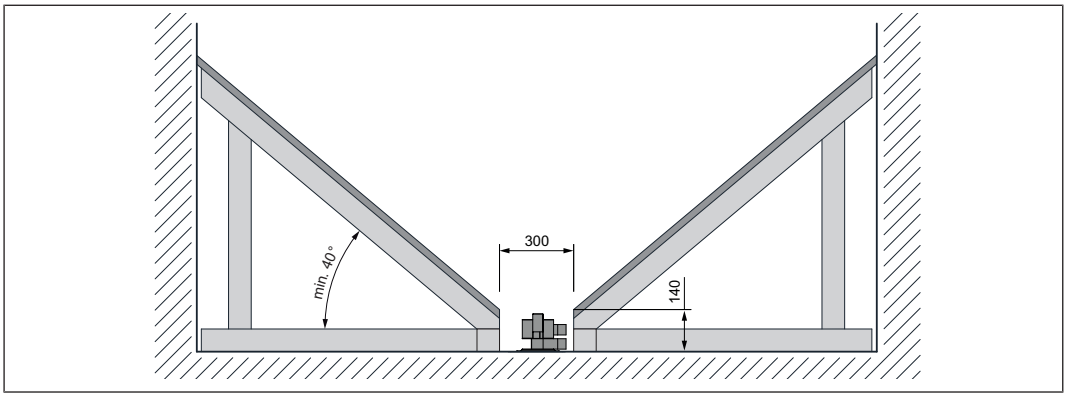
- Install buffer mat opposite the inlet nozzle
- Install at a right angle to the trajectory of the pellets
- Minimum distance of 200 mm to the wall

4.3 Planking on the store door



- Install a fire door on the pellet store in accordance with local regulations
- Board the inside of the store with wooden boards
  - Door rails and baffle boards for the door are available from Fröling GesmbH
- TIP: Install a viewing window

4.4 Sloping floor



- Position the suction probes in the centre of the room
- Leave a distance of 300 mm between the cross-pieces
- Design the construction in such a way that the weight of the pellets is absorbed and is transferred to the substrate
  Rule of thumb for calculating the total weight: **1 m³ pellets ≙ 650 kg**
- Ensure the sloping floor has an angle of at least 40° (optimum 45° to 50°)
- The sloping floor must not touch the walls to ensure vibrations are not transferred to the brickwork (structure-borne noise)
- Smooth surface of sloping floor so pellets can slide down
- No edges and ridges
- Ensure the sloping floor is sealed against surrounding walls to ensure pellets do not fall behind the sloping floor

4.5 Filling couplings

4.5.1 Position within the store

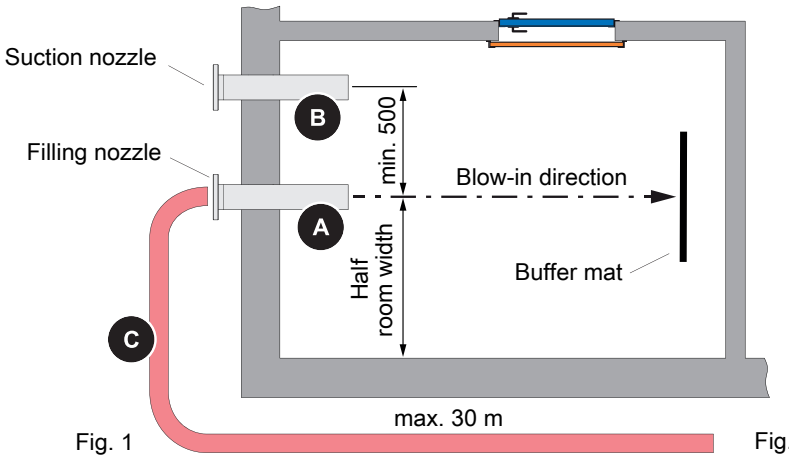


Fig. 1

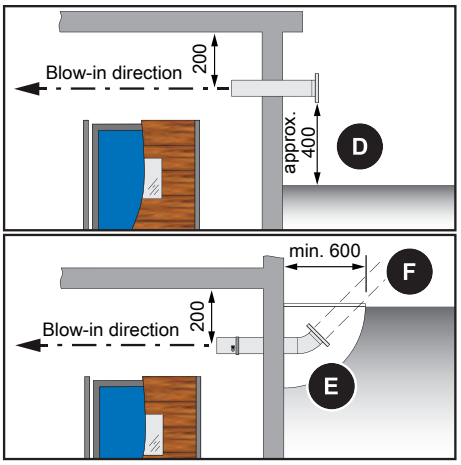


Fig. 2

- Position the filling nozzle (A) centrally within the store so that the trajectory of the pellets is towards the buffer mat.
- Install the suction nozzle (B) off-centre at a distance of at least 300 mm from the filling nozzle.
- The filling pipe of the pellet delivery truck (C) has a maximum length of 30 m. Therefore ensure that the pellet delivery truck can drive up as close as possible to the filling couplings.
- Install the filling couplings at least 200 mm from the ceiling of the store and approx. 400 mm above the ground outside the store.
- The filling couplings can be installed through the building wall as straight pipes (D) or as angled pipes in a light well (E). In the latter case, it must be ensured that the connection to the blow-in pipe is a straight extension (F) out of the light well.

TIP: Attach unambiguous labels to filling couplings to ensure connections cannot be mixed up.

CAUTION: If the openings of filling couplings are located outdoors, ventilated covers must be fitted (included in scope of supply). However, if the filling couplings are located in an adjoining room, the covers must be fully sealed. In that case, ventilation of the store from outdoors must be provided by other means.

IMPORTANT: Protect filling couplings fitted with ventilated covers from the rain to prevent the ingress of moisture into the pellet store. This must not restrict ventilation.

The ventilation of the store must be implemented in accordance with applicable regional regulations and standards.

4.5.2 Installing the filling couplings

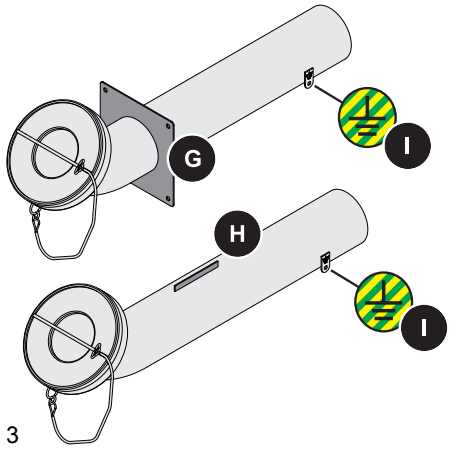


Fig. 3

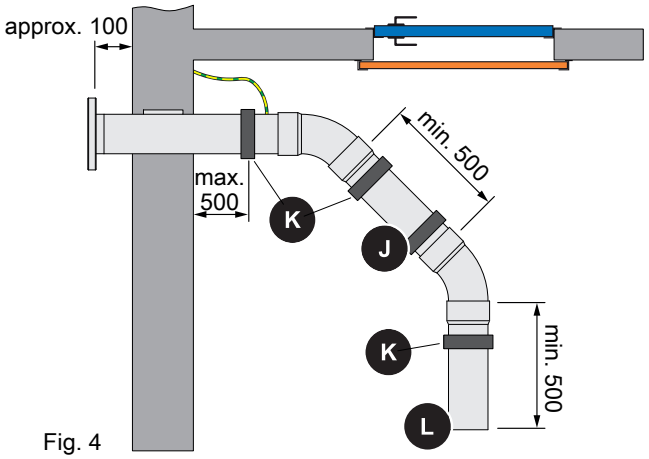


Fig. 4

Filling couplings with flange (G)

- Use suitable installation materials to attach the flange of the filling coupling to the external wall
- Fill the gap between the coupling and masonry with foam compound

Filling couplings with rotation protection (H)

- Embed or enclose the filling couplings in the wall leaving a distance of approx. 100 mm from the wall (Fig. 4). The rotation protection must be positioned within the wall
  - Filling couplings secured with foam compound may work loose as a result of connecting the filling hose

Earth (I)

- Connect the filling couplings to the earth in the building, using a 4 mm² earth wire
  - **IMPORTANT:** Only use metal pipes to extend the filling couplings, to ensure any electrostatic charges are discharged

Extension and attachment of the filling couplings (Fig. 4)

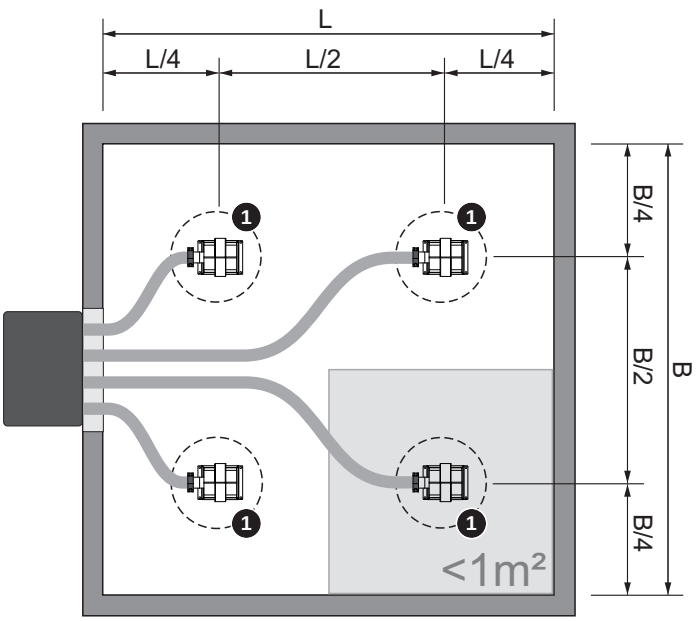
- When extending filling couplings, a 45° elbow must be followed by a straight section of pipe (J) with a length of at least 300 mm. Secure the sections of pipe with suitable pipe clamps (K), so that the joints will not loosen due to the pressure used to blow in the pellets.
  - **IMPORTANT:** Do not use 90° elbows
- Do not terminate the filling pipe with an elbow. A straight section of pipe (L) with a length of at least 300 mm is required to ensure the pellets are ejected in the desired direction.

4.6 Probe distribution with four suction probes

4.6.1 Store size up to 4m²

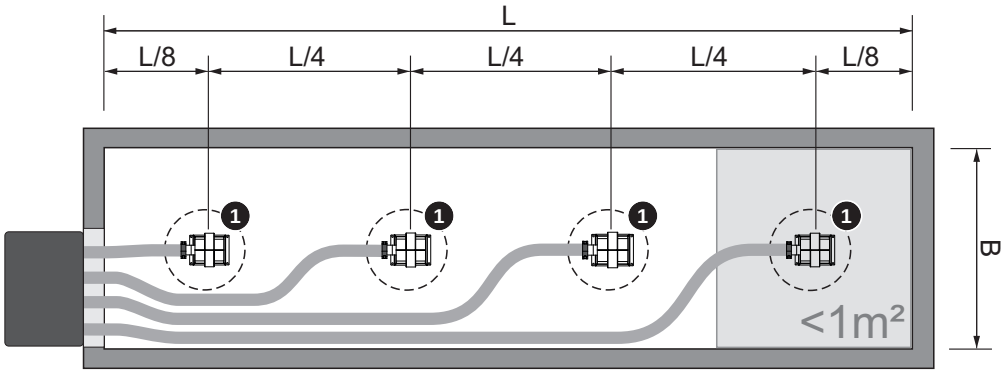
- Max. 1 m² of storage space per suction probe
- Distance of at least 150 mm between suction probe and hose lines
- Distance of 500 to 1000 mm between suction probes
  - The greater the distance, the more pellets will be left in the store

Planning proposal for square rooms:



1 … withdrawal area of suction probes (diameter approx. 400 mm)

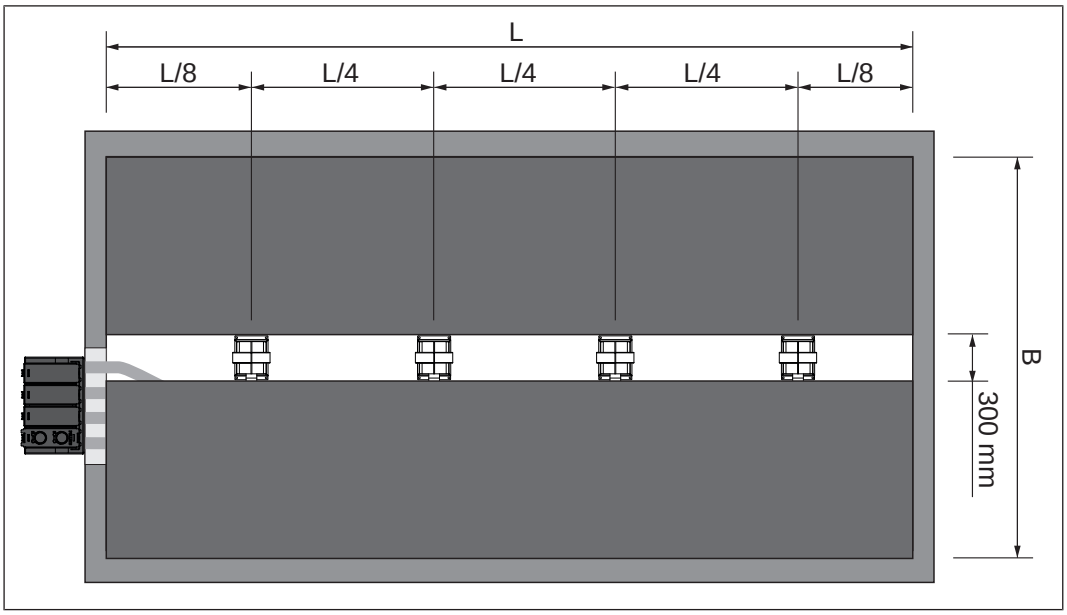
Planning proposal for rectangular rooms:



1 … withdrawal area of suction probes (diameter approx. 400 mm)

4.6.2 Store size from 4 m²

Planning proposal for rooms with a sloping floor:

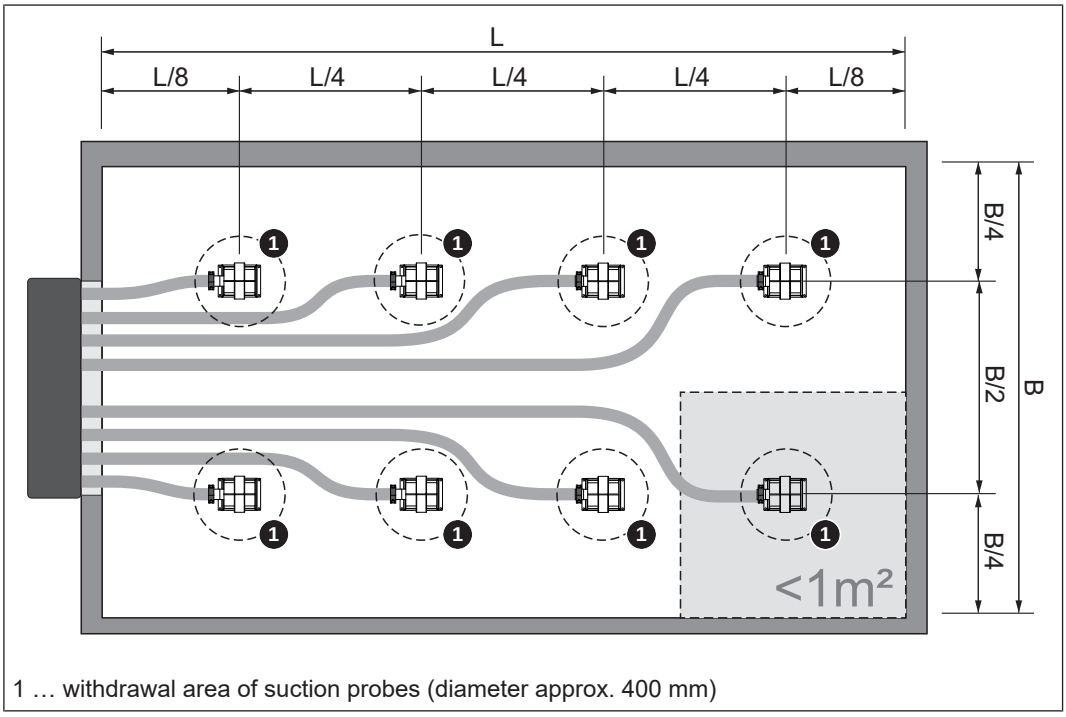


4.7 Probe distribution with eight suction probes

4.7.1 Store size up to 8 m²

- Max. 1 m² of storage space per suction probe
- Distance of at least 150 mm between suction probe and hose lines
- Distance of 500 to 1000 mm between suction probes
  - The greater the distance, the more pellets will be left in the store

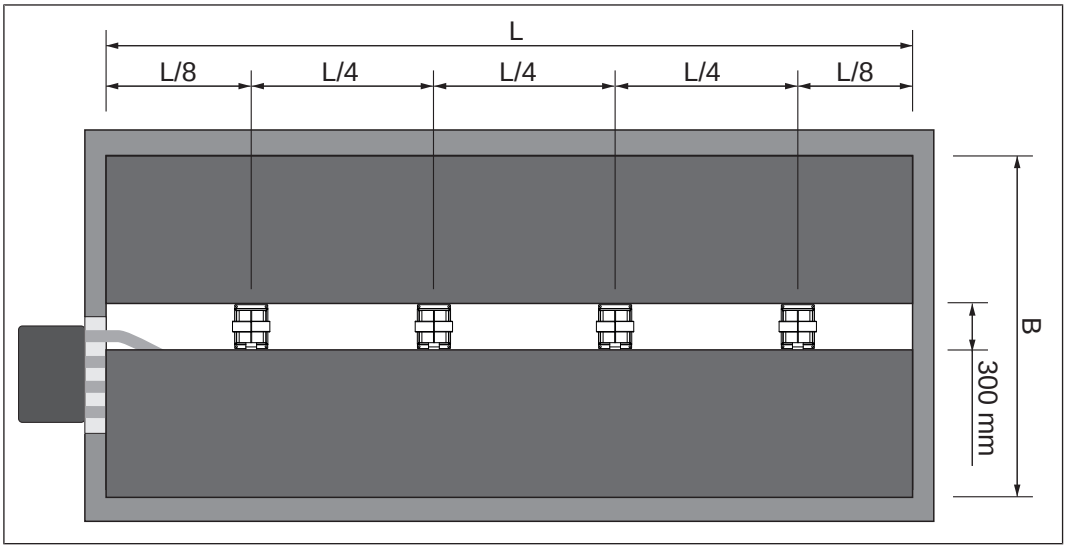
Planning proposal:



1 … withdrawal area of suction probes (diameter approx. 400 mm)

4.7.2 Store size from 8 m²

Planning proposal for rooms with a sloping floor:

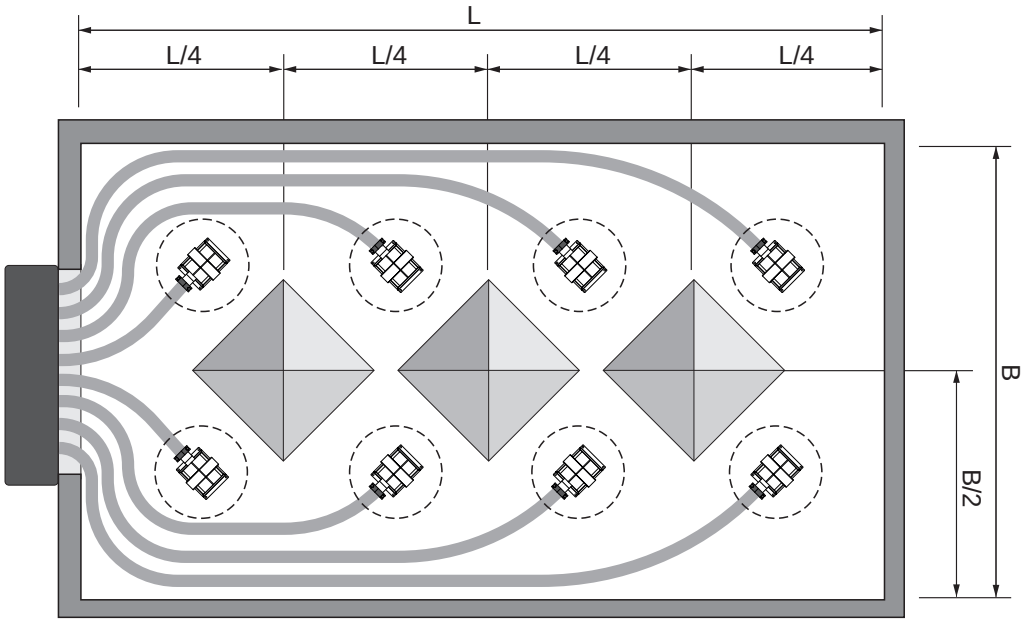


4.8 Store pyramids (optional)

Store pyramids are available from Fröling GmbH to reduce the number of pellets left in the store.

- Distance of at least 150 mm between store pyramids and the suction probe and hose lines

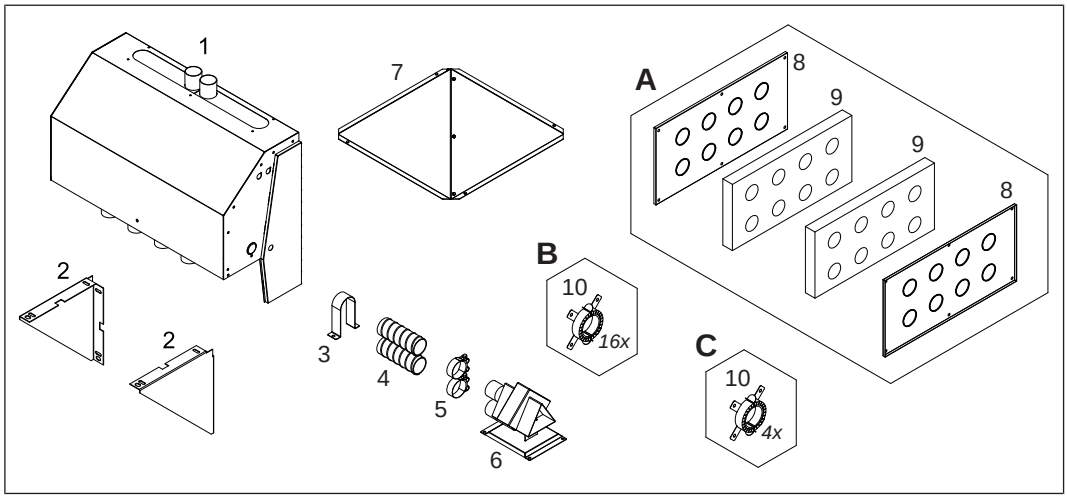
Planning proposal for rooms with 8 suction probes:



1 … withdrawal area of suction probes (diameter approx. 400 mm)

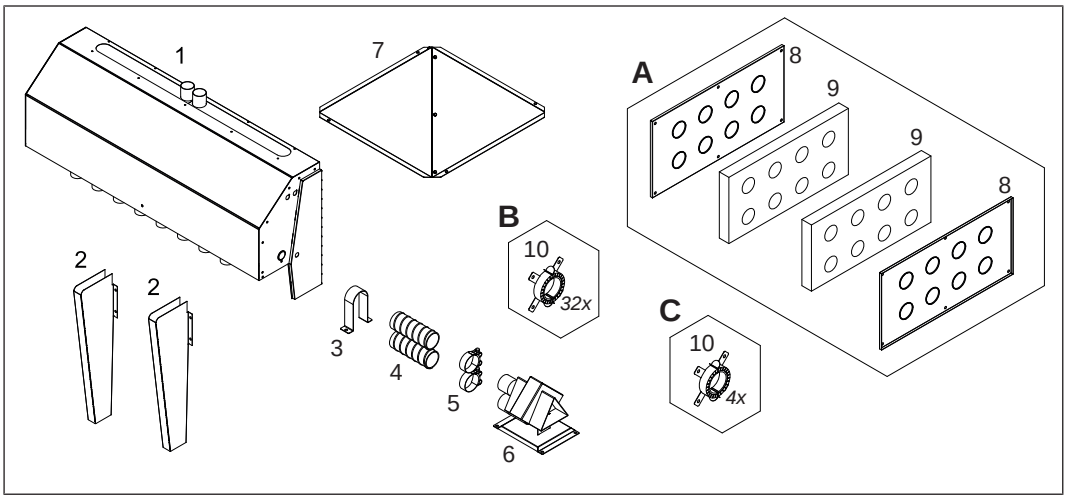
5 Assembly

5.1 Materials supplied – RS 4



Item	Quantity	Description	Item	Quantity	Description
1	1	RS 4 suction unit	**5**	18	Hose clamp Ø 56 – 59 x 25
2	2	Mounting bracket	**6**	4	Suction probe
3	-	Fastening clip (quantity as required)	**7**	1	Store pyramid (optional)
4	-	Hose line (length as required)			
Option A – Wall opening cover ➲ "Wall opening with cover" [▶ 25]					
8	2	Cover plate	**9**	2	Fire protection panel
Option B – Set of 16 fire protection collars ➲ "Core drill holes with fire protection" [▶ 27]					
10	16	Fire protection collar			
Option C – Set of 4 fire protection collars ➲ "Hose feed-through to boiler room (depending on model)" [▶ 31]					
10	4	Fire protection collar			

5.2 Materials supplied – RS8



Item	Quantity	Description	Item	Quantity	Description
1	1	RS 8 suction unit	**5**	34	Hose clamp Ø 56 – 59 x 25
2	2	Mounting bracket	**6**	8	Suction probe
3	-	Fastening clip (quantity as required)	**7**	3	Store pyramid (optional)
4	-	Hose line (length as required)			
Option A – Wall opening cover ➲ "Wall opening with cover" [▶ 25]					
8	4	Cover plate	**9**	4	Fire protection panel
Option B – Set of 16 fire protection collars ➲ "Core drill holes with fire protection" [▶ 27]					
10	32	Fire protection collar			
Option C – Set of 4 fire protection collars ➲ "Installing fire protection collars for the boiler room" [▶ 31]					
10	4	Fire protection collar			

5.3 Transport

The product is delivered on pallet(s) in cardboard packaging.

NOTICE

Possibility of damage to components if handled incorrectly

- ❒ Follow the transport instructions on the packaging
- ❒ Transport components with care to avoid damage
- ❒ Protect components against damp
- ❒ Pay attention to the pallet's centre of gravity when lifting

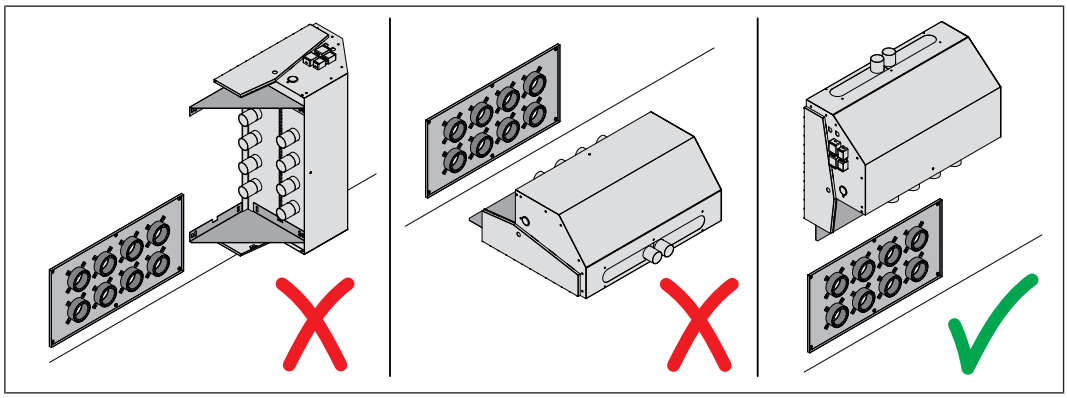
5.4 Temporary storage

If the system is to be assembled at a later stage:

- ❒ Store components at a protected location, which is dry and free from dust
  - ↳ Damp conditions and frost can damage components, particularly electric ones!

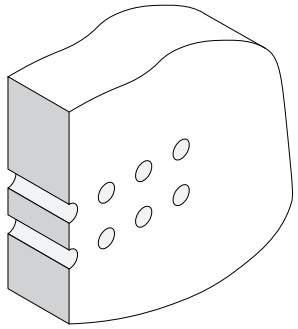
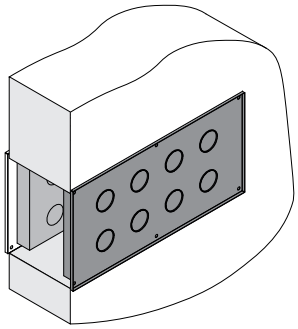
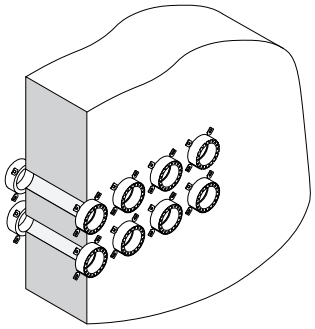
5.5 Correct assembly position

CAUTION: Install the pellet suction system only in the position described in the following steps. A different position can not guarantee safe and fault-free operation.



5.6 Hose feed-through to fuel store

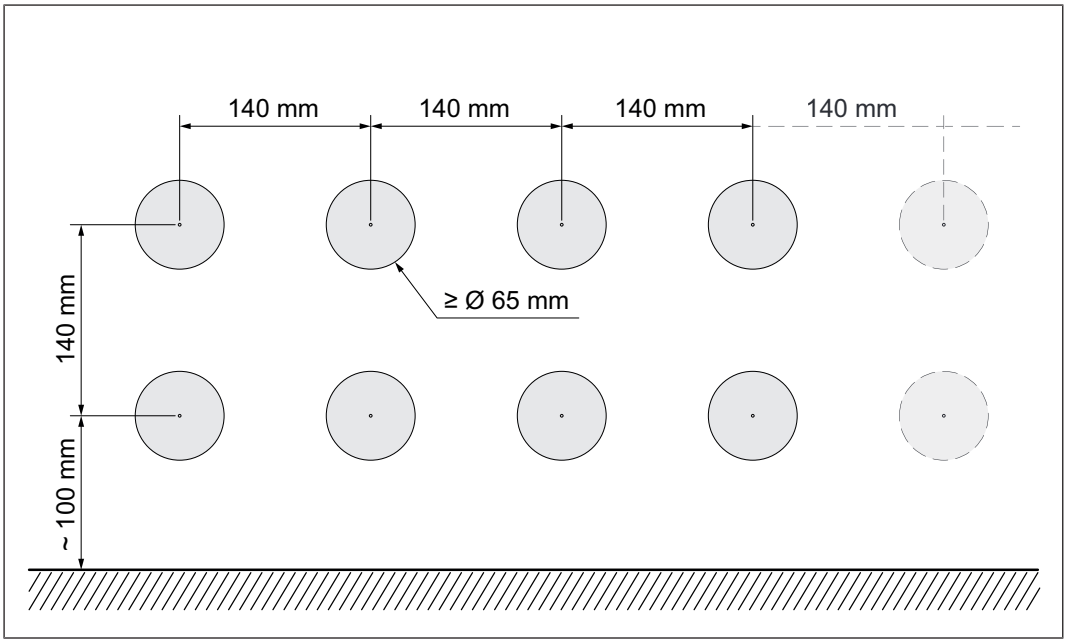
The hoses can be fed into the store in varying ways depending on the fire protection requirements:

Same fire zone		Different fire zone
Core drill hole	**Wall opening**	**Core drill hole with fire protection collars**
		
➲ "Core drill holes" [▸ 24]	➲ "Wall opening with cover" [▸ 25]	➲ "Core drill holes with fire protection" [▸ 27]

5.6.1 Core drill holes

If there are no specific fire safety requirements, the hose lines can run directly through the partition wall. One variant includes the creation of 8 or 16 core drill holes. The following diagram provides a recommendation of how the 8 core drill holes should be distributed. If using 16 core drill holes, ensure horizontal distances are maintained accordingly.

The following diagram shows how the 8 core drill holes should be distributed. If using 16 core drill holes, maintain the horizontal distances.



❒ Copy distribution of core drill holes on to the wall

❒ Drill core holes with a minimum diameter of 65 mm

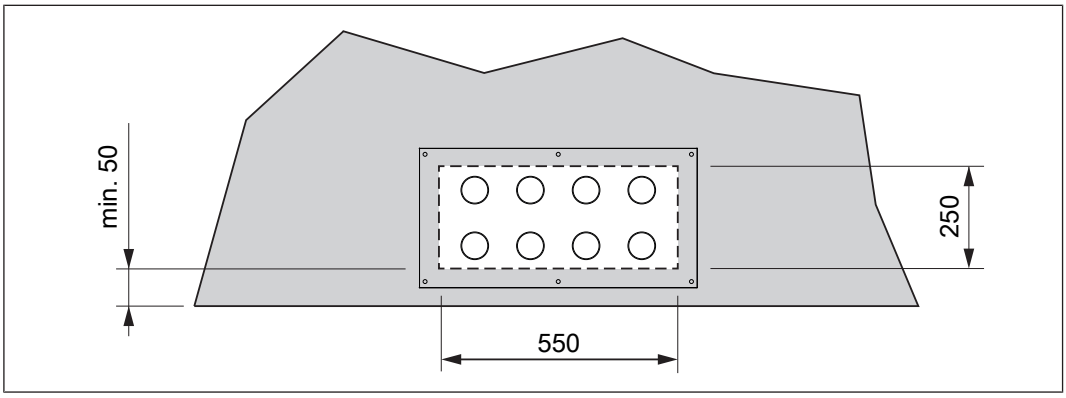
RECOMMENDATION! After completing the assembly of the suction system, seal the hose lines in the vicinity of the core drill holes with silicone to prevent any dust from escaping.

5.6.2 Wall opening with cover

An alternative hose feed-through without fire protection is to create a wall opening that is sealed with cover plates.

Before creating the wall opening:

RS 4:

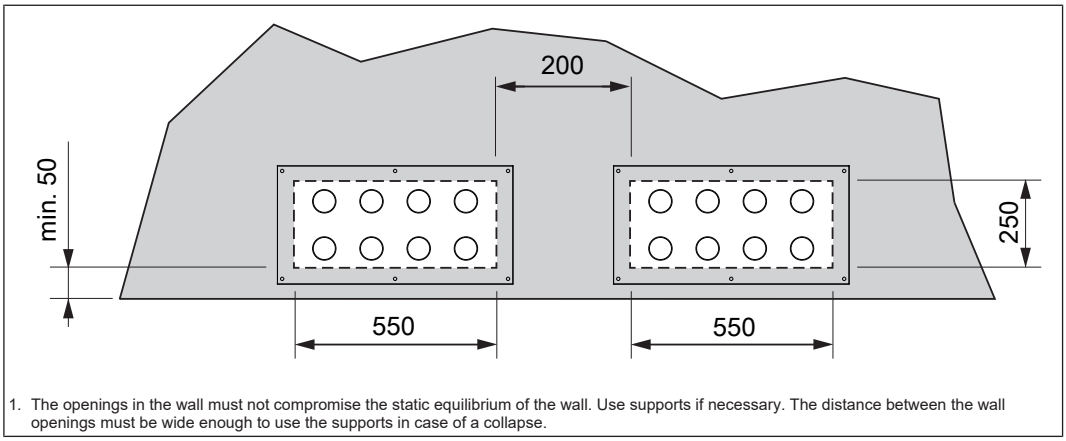


❒ Prepare wall opening

↳ Width: 550 mm, height: 250 mm

↳ Maintain a distance of at least 50 mm from the finished floor!

RS 8:



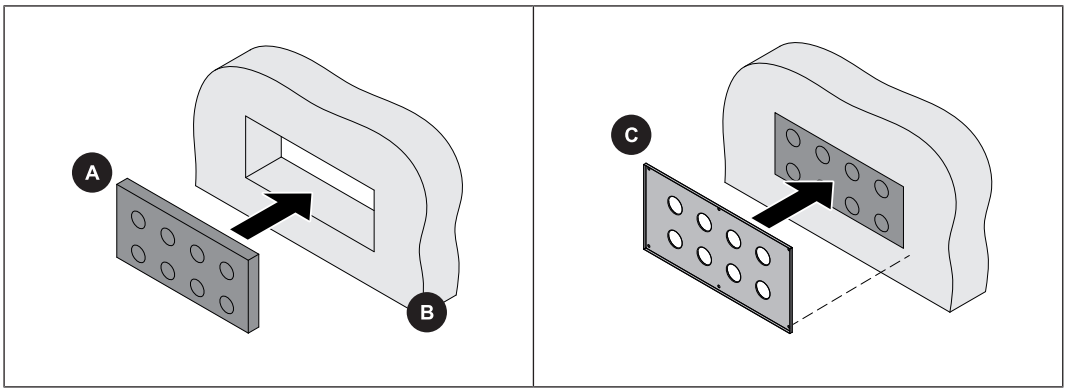
1. The openings in the wall must not compromise the static equilibrium of the wall. Use supports if necessary. The distance between the wall openings must be wide enough to use the supports in case of a collapse.

❒ Prepare wall openings

↳ Width: 550 mm, height: 250 mm, distance 200 mm

↳ Maintain a distance of at least 50 mm from the finished floor!

NOTICE! Carry out the following steps for both of the wall openings in exactly the same way for the RS 8 version!



❒ If necessary, adjust insulating panel (A) to the wall opening (B) and install flush to the wall

❒ Fit the cover plate (C)

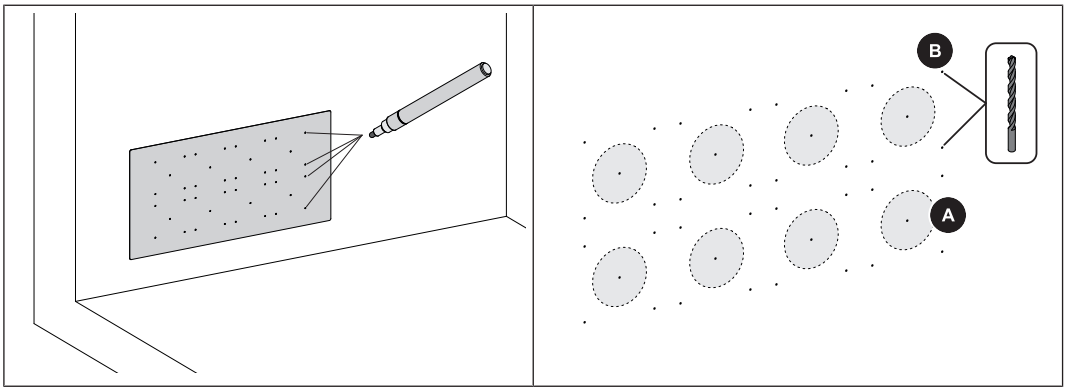
↳ Use suitable installation materials depending on the surface on site

❒ Complete the same steps on the opposite side of the wall

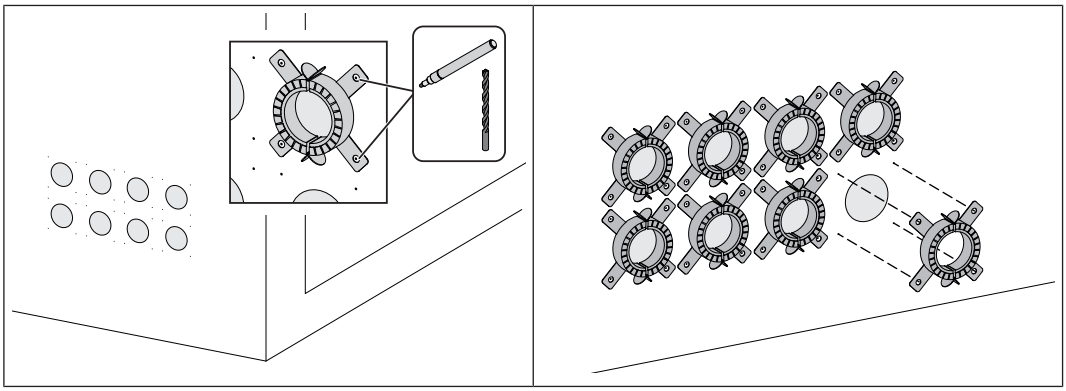
IMPORTANT! The eight hose ducts on the cover plate must be aligned with the holes on the insulating panel.

5.6.3 Core drill holes with fire protection

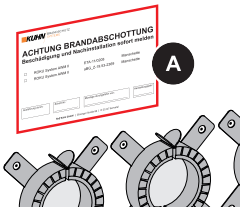
The following steps illustrate the assembly of the fire protection collars on the RS 4 with eight cored holes. For the RS 8 with 16 cored holes, carry out the same steps for the other eight holes.



- ❒ Position the supplied drilling template on the wall
- ❒ Mark the holes to be drilled on the wall using a pen
- ❒ Drill eight cored holes with a minimum diameter of 65 mm
- ❒ Drill four fastening holes (B) around each hole

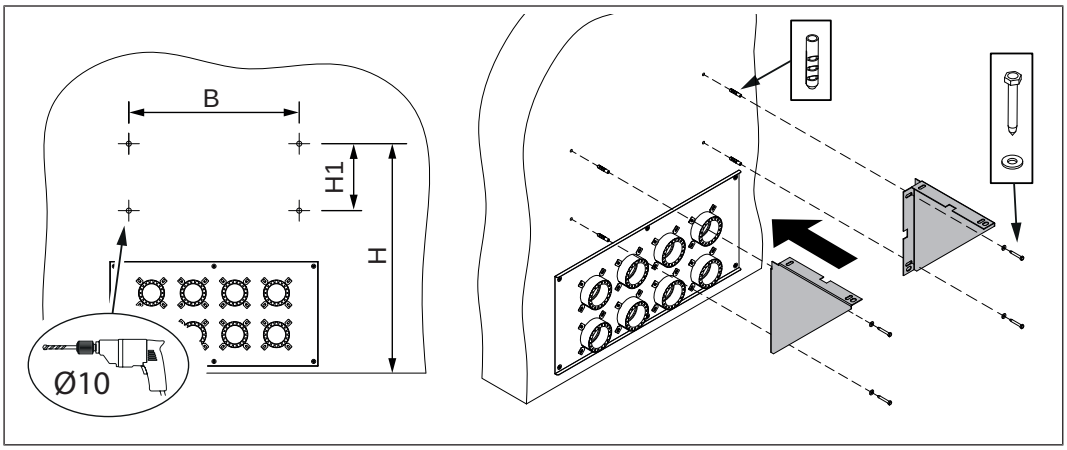


- ❒ Place the fire protection collars over the cored holes on the other side of the wall and mark the position of the fastening holes on the wall
- ❒ Drill four fastening holes for each fire protection collar
- ❒ Install the fire protection collars on both sides of the wall
  - ↳ Use suitable installation materials on site depending on the surface
  - ↳ **IMPORTANT:** observe the enclosed installation instructions for the fire protection collars



- ❒ Fill out the “Caution: fire protection compartmentalisation” (A) sign and attach it in a visible location next to the wall duct

5.7 Installing the RS 4 pellet suction system



❒ Mark the drilling holes centrally above the cover plate using the mounting bracket as an aid

↳ B: 573 mm ± 3 mm

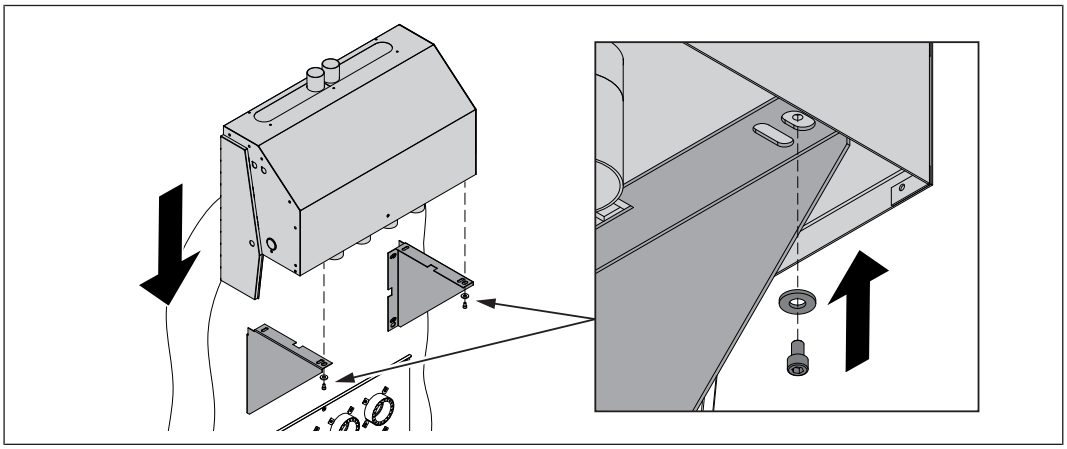
↳ H1: 225 mm

↳ H: minimum 750 mm

❒ Drill four fastening holes with Ø 10 mm and hammer in dowel Ø 10

❒ Install the mounting brackets with frame screws Ø 8 x 60

↳ The distance between the floor and the top edge of the mounting brackets must be at least 800 mm

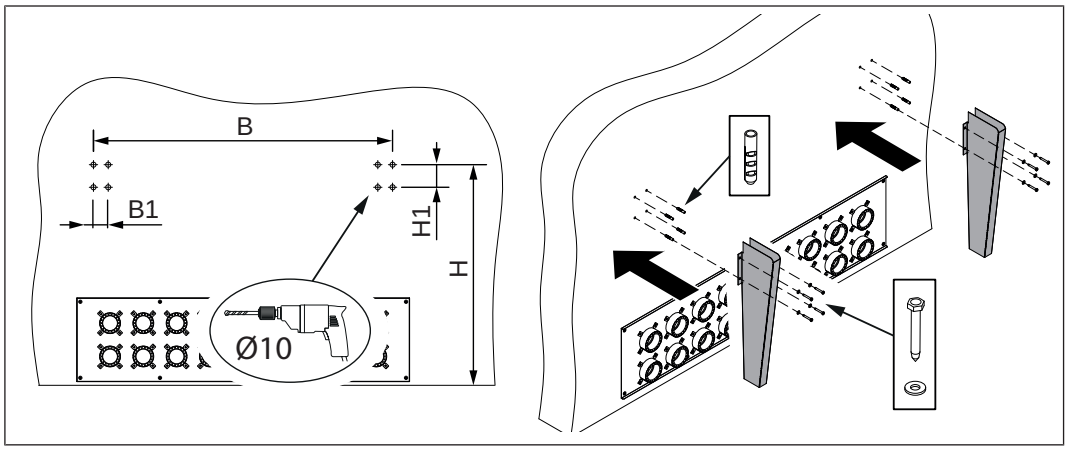


❒ Place the suction unit centrally on the mounting brackets

↳ Hose connections on the underside of the suction unit and hose feed-throughs of the cover plate must line up

❒ Install the suction unit with cylinder head screws M6 to mounting brackets

5.8 Installing the RS 8 pellet suction system



❒ Mark the drilling holes centrally above the cover plate using the mounting bracket as an aid

↳ B: 1258 mm ± 5 mm

↳ B1: 62 mm

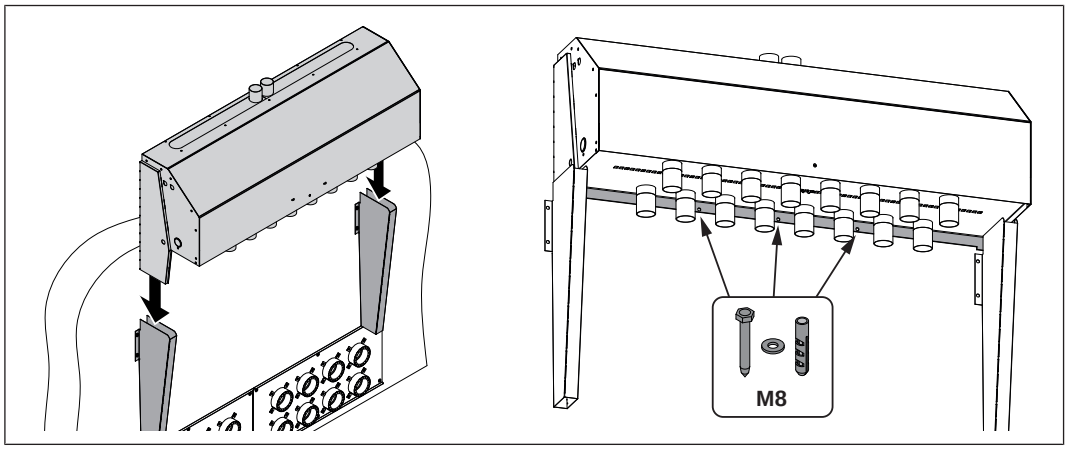
↳ H: minimum 920 mm

↳ H1: 95 mm

❒ Drill eight fastening holes with Ø 10 mm and hammer in dowel Ø 10

❒ Install the mounting brackets with frame screws Ø 8 x 60

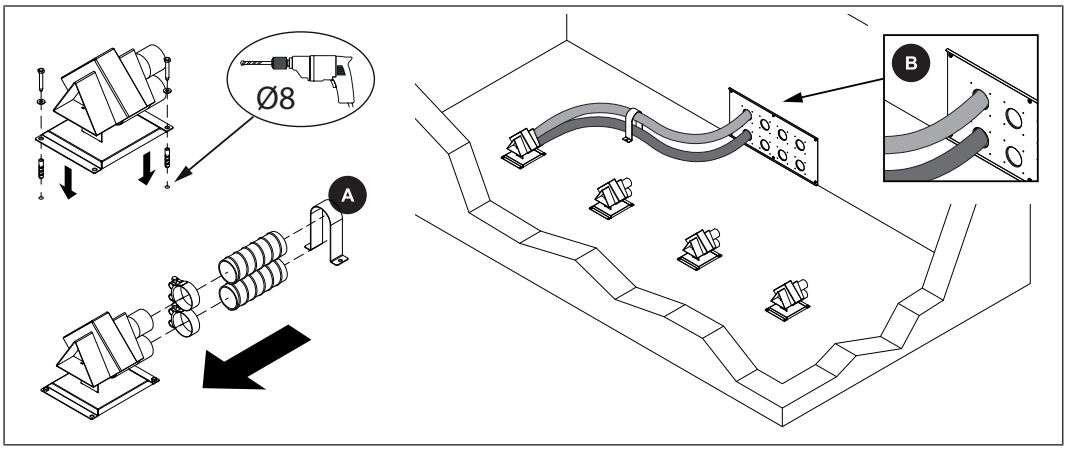
↳ The distance between the floor and the top edge of the mounting brackets must be at least 990 mm



❒ Insert suction unit into the mounting brackets

❒ Secure the suction unit to the wall using suitable assembly material

5.9 Installing the suction probes and lines



❒ Position the suction probes in the store and drill two fastening holes with a diameter of 8 mm for each suction probe

❒ Secure each suction probe with two dowels and frame screws

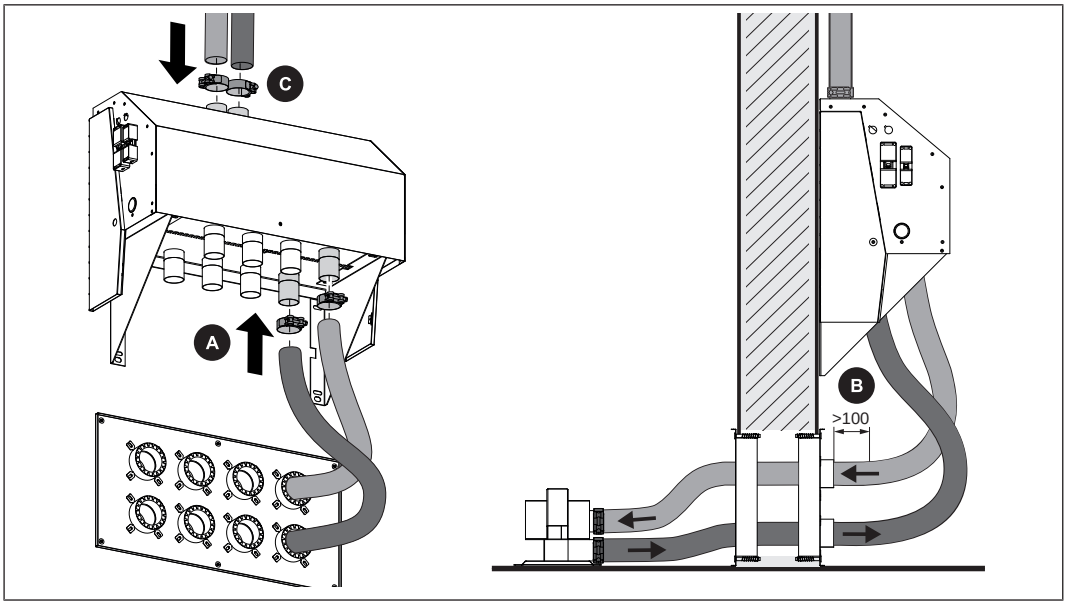
❒ Secure hose lines to the suction probes with hose clamps

↳ Upper connection: return (return air)

↳ Lower connection: Flow (pellets)
TIP: Use the fastening clips (optional – A) to secure the lines to the floor

❒ Guide hose lines out of the store (B)

↳ In the vicinity of the cover plate, lay the hoses in such a way that no pressure is exerted on them (danger of chafing)



❒ Run the hose lines out of the fuel store and use hose clamps to secure them to the hose connection below the suction unit (A)

↳ Front connections: return (return air)

↳ Rear connections: Flow (pellets)

NOTICE! Ensure there is a straight section of at least 100 mm (B) after the hose lines exit the fire protection collars

❒ Use hose clamps to secure the hose lines above the suction unit (C)

↳ Right connection: Flow (pellets)

↳ Left connection: return (return air)

❒ Lay the hose lines to the boiler and install with hose clamps at the designated connections

NOTICE! Be careful not to confuse the suction hose and return line on the suction probe or suction unit – check the sticker

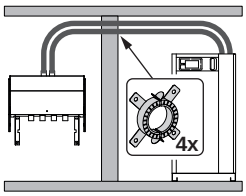
NOTICE! Observe potential equalisation

➲ "Potential equalisation" [▸ 34]

NOTICE! Read the notes on store design

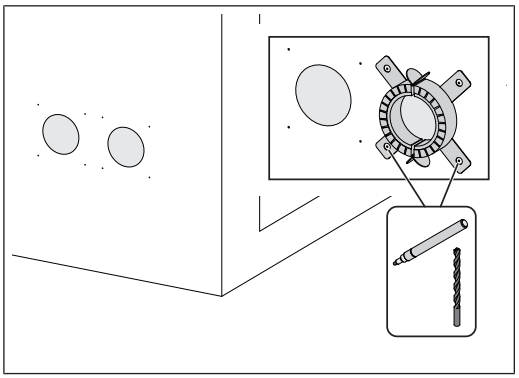
➲ "Store layout and construction" [▸ 12]

5.10 Hose feed-through to boiler room (depending on model)



Install four fire protection collars around the wall ducts for the pellet and return air lines to the boiler

5.10.1 Installing fire protection collars for the boiler room



❒ At a suitable position, drill two cored holes with a minimum diameter of 65 mm

❒ Place the fire protection collars over the holes and mark the position of the fastening holes on the wall

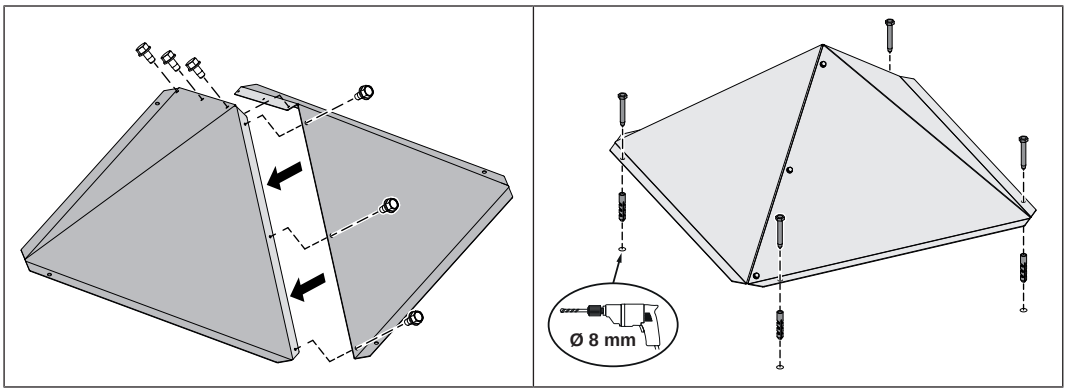
❒ Drill four fastening holes for each fire protection collar

❒ Install the fire protection collars on both sides of the wall

↳ Use suitable installation materials on site depending on the surface

↳ **IMPORTANT:** observe the enclosed installation instructions for the fire protection collars

5.11 Installing fuel store pyramid(s) (optional)



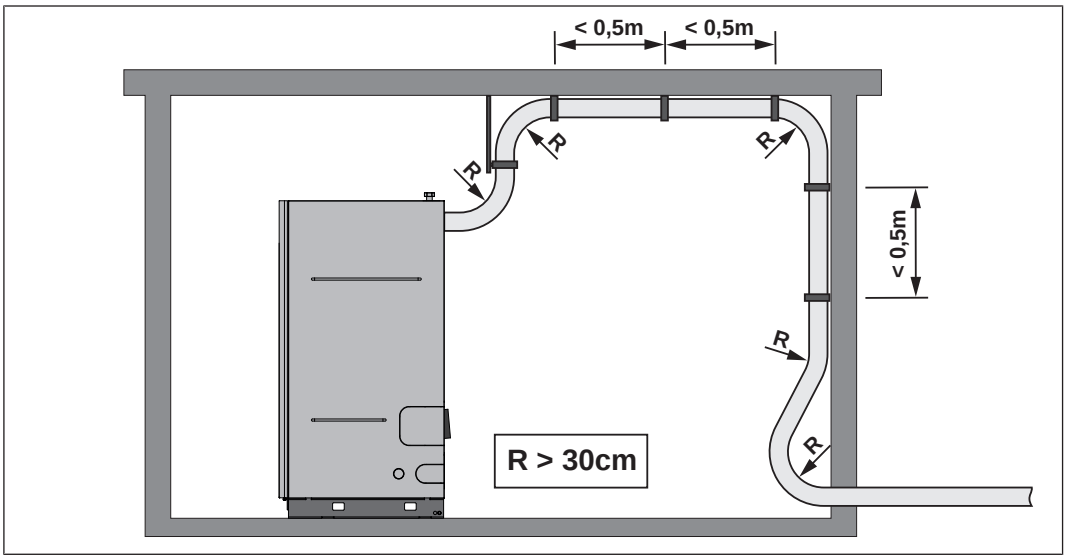
❒ Screw together the two halves of the pyramid as shown

❒ Mark the location of the fastening holes for the pyramid on the ground and drill the holes

❒ Hammer in the dowels and secure the store pyramid

TIP: Seal any gaps around the pyramid (e.g. tip) with silicone

5.12 Assembly information for hose lines

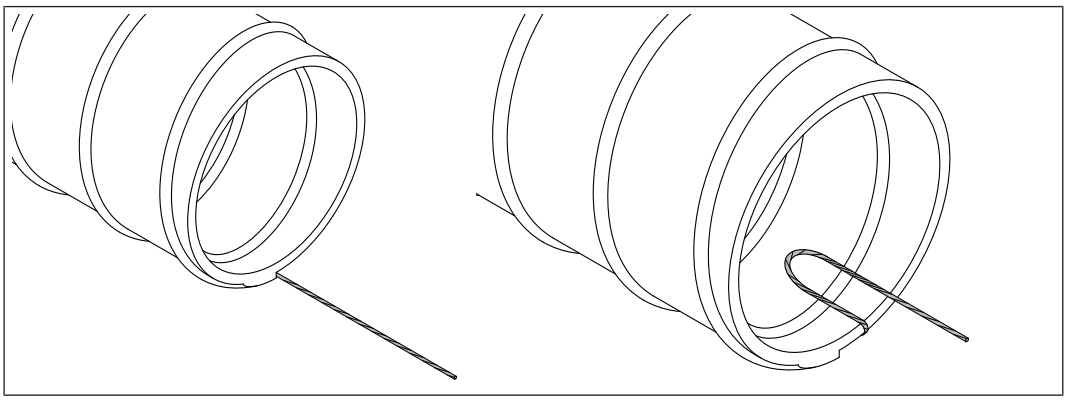


Please note the following with regard to the hose lines used in Froling vacuum discharge systems:

- Do not kink the hose lines! Minimum bending radius = 30cm
- Lay the hose lines as straight as possible! Sagging lines can lead to so-called “pockets”, which may cause problems with the pellet feed.
- Lay the hose lines in short sections away from walking areas.
- Hose lines are not UV-proof. Therefore: Do not lay the hose lines outdoors.
- Hose lines are suitable for temperatures up to 60°C. Therefore: Hose lines must not come into contact with flue gas pipes or uninsulated heating pipes.
- Hose lines must be earthed on both sides to ensure that no static charge builds up as a result of transporting the pellets.
- The suction hose to the boiler must be in a single section.
- The return-air line can be made up of several sections, but consistent potential equalisation must be established throughout the line.
- For systems over 35 kW, only suction hoses with PU inlet are recommended due to the increased load

5.12.1 Potential equalisation

When connecting the hose lines to the individual connections, ensure there is consistent potential equalisation throughout the line.

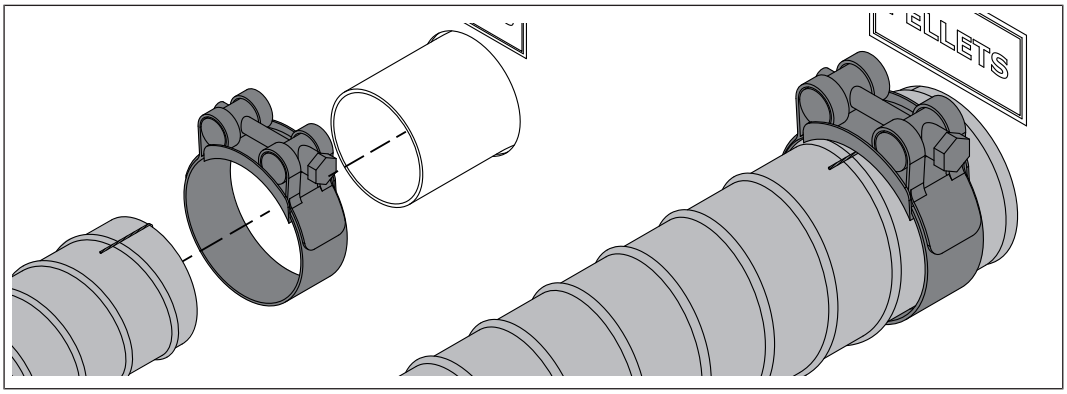


❒ Expose approximately 8 cm of the earth wire at the end of the hose line

↳ **TIP:** Slit the insulation open along the wire with a knife

❒ Bend the earth wire inwards in a loop

↳ This prevents the earth wire from being damaged by the pellet movement



❒ Slide the hose clamp onto the hose line

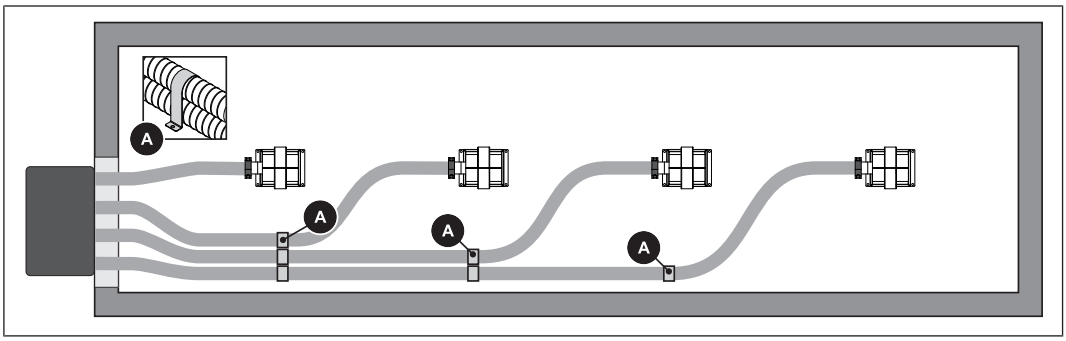
❒ Attach the hose line to the connector

↳ Ensure that contact is established between the earth wire and the connector. Remove paint from the affected area if necessary

↳ **TIP:** If stiffness occurs when trying to attach the hoses to the connectors, pour a few drops of water onto the pipe (do not use lubrication grease!)

❒ Secure the hose line with a hose clamp

5.13 Installation information for hose clips (optional)



Please observe the following points when fitting the optional hose clips (A):

- Observe minimum bending radii of the hose lines
- Distance of at least 150 mm between suction probe and hose lines
- The number of hose clips required depends on the length of the hose line as well as the bends in the hose line
- Clips help to organise and tidy the hoses. This prevents the pellet and return air line from being mixed up.

5.14 Electrical connection

⚠ DANGER



When working on electrical components:

Risk of electrocution!

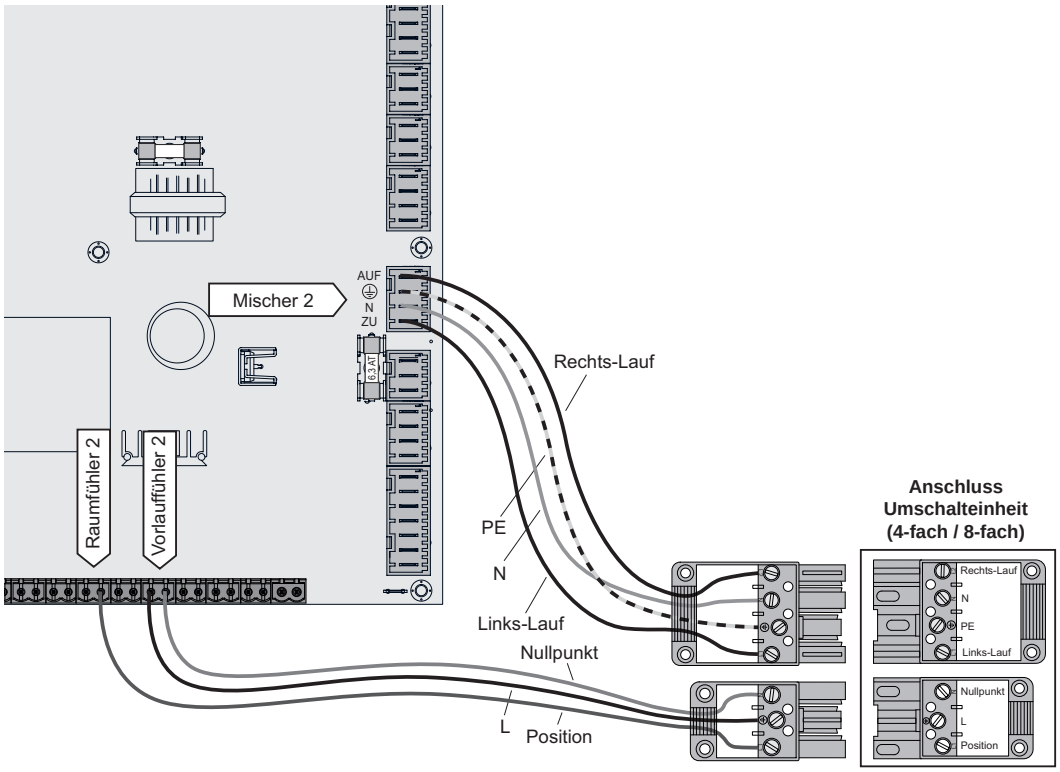
When work is carried out on electrical components:

❒ Always have work carried out by a qualified electrician

❒ Observe the applicable standards and regulations

↳ Work must not be carried out on electrical components by unauthorised persons

❒ Flexible sheathed cable must be used for the wiring; this must be of the correct size to comply with applicable regional standards and regulations

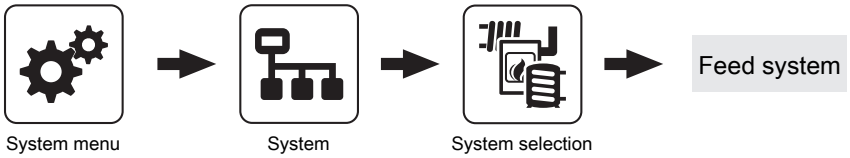


- ❒ Lay connection cable (min. 4 x 1 mm²) for motor control from “mixer 2” output on core module to the 4-pin plug and connect as shown above
- ❒ Lay connection cable (min. 3 x 1 mm²) for signal/position control from “flow temperature sensor VF2” and “room temperature sensor RF2” outputs on core module to the 3-pin plug and connect as shown above

NOTICE! see operating instructions for boiler controller

5.15 Configuring the discharge system in the controller

In the controller, navigate to the “Discharge” menu as follows.



In the “Discharge” menu, the available discharge must be selected in the parameter `Universal suction, automatically operated`.

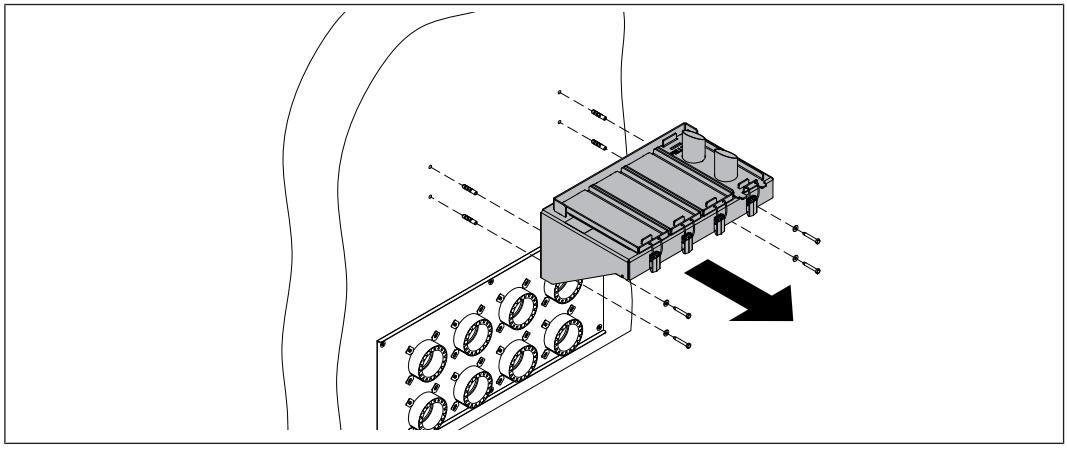
Feed system → Universal suction, automatically operated

Switch	Discharge
3 probe switch	-
4 probe switch	RS 4 pellet suction system
8 probe switch	RS 8 pellet suction system

NOTICE! see operating instructions for boiler controller

5.16 Upgrade of RS 4 manual pellet suction system

Existing RS 4 manual pellet suction systems can be upgraded to RS4 automatic. The procedure is as follows:



- ❒ Undo hose clamps and remove hose lines
- ❒ Undo frame screws and dismantle bracket
- ❒ Remove dowels from wall and seal drill holes, as required
- ❒ Install the suction unit as described
  ➲ "Installing the RS 4 pellet suction system" [▸ 28]

6 Operating the system

NOTICE

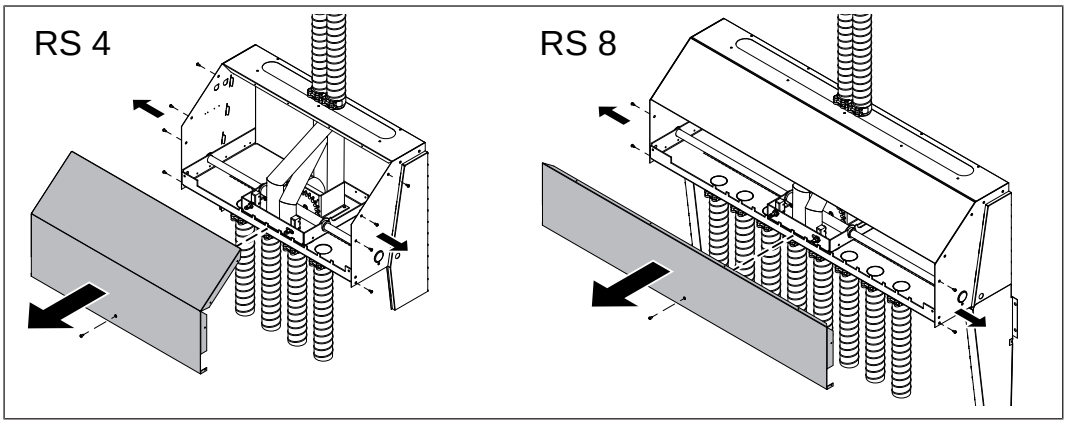
Potential dust leak from the pellet store

Due to the nature of the system, a small amount of dust may leak from the change-over unit the first time the store is filled and when the store is emptied.

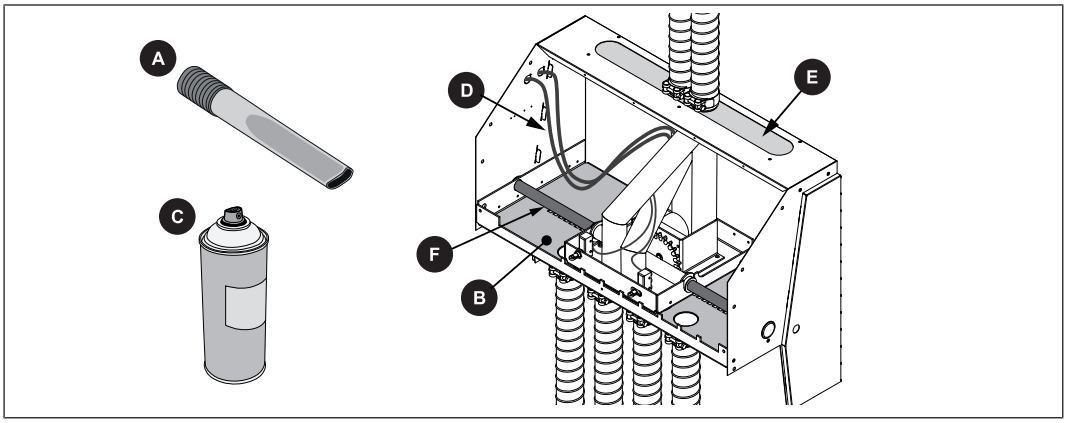
❒ TIP: Cover openings during the filling process.

6.1 Cleaning and inspection

❒ Before cleaning the suction unit, shut down the boiler according to procedure. Then disconnect the power supply of the discharge by removing both plugs on the left side.



❒ Undo the retaining screws of the front cover and remove the cover



❒ Clean the inside of the suction unit using a vacuum cleaner (A)

❒ Wipe the sliding surfaces (B) and spray with dry glide spray (C)

↳ **IMPORTANT:** Use only dry glide spray from Berner (Froling item no. 69163)

❒ Check the whole wiring (D) for damage

❒ Check all mechanical components for wear and ensure they are properly tightened

❒ Check the spring plate (E) on the upper side of the suction unit for unobstructed movement

NOTICE! The guide shaft (F) is maintenance free

❒ Secure the front cover of the suction unit with the retaining screws

❒ Plug in both plugs on the left side and switch on the boiler

6.2 Decommissioning

6.2.1 Disassembly

To disassemble the system, follow the steps for assembly in reverse order.

6.2.2 Disposal

❒ Disposal should be carried out according to the valid national regulations and guidelines.

❒ You can separate and clean recyclable materials and send them to a recycling centre.

Manufacturer's address

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