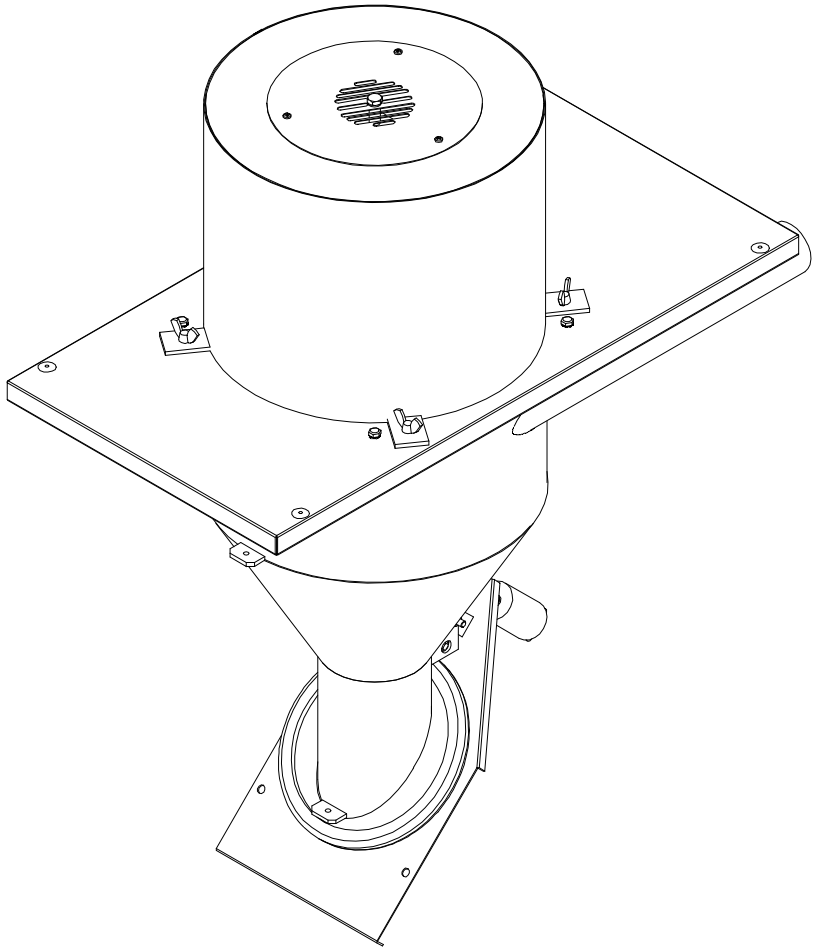
INSTALLATION AND OPERATING INSTRUCTIONS

↪ CVS SUCTION SYSTEM



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DOMUSA TEKNIK

Thank you for choosing a DOMUSA TEKNIK product. Within the product range offered by **DOMUSA TEKNIK** you have chosen **CVS Suction System** model.

This manual form an essential part of the product and it must be given to the user. We recommend you read the warnings and recommendations in the manual carefully, as they contain important information on the safety, use and maintenance of the installation.

These **Suction System** must be installed by qualified personnel only, in accordance with the legislation in force and following the manufacturer's instructions.

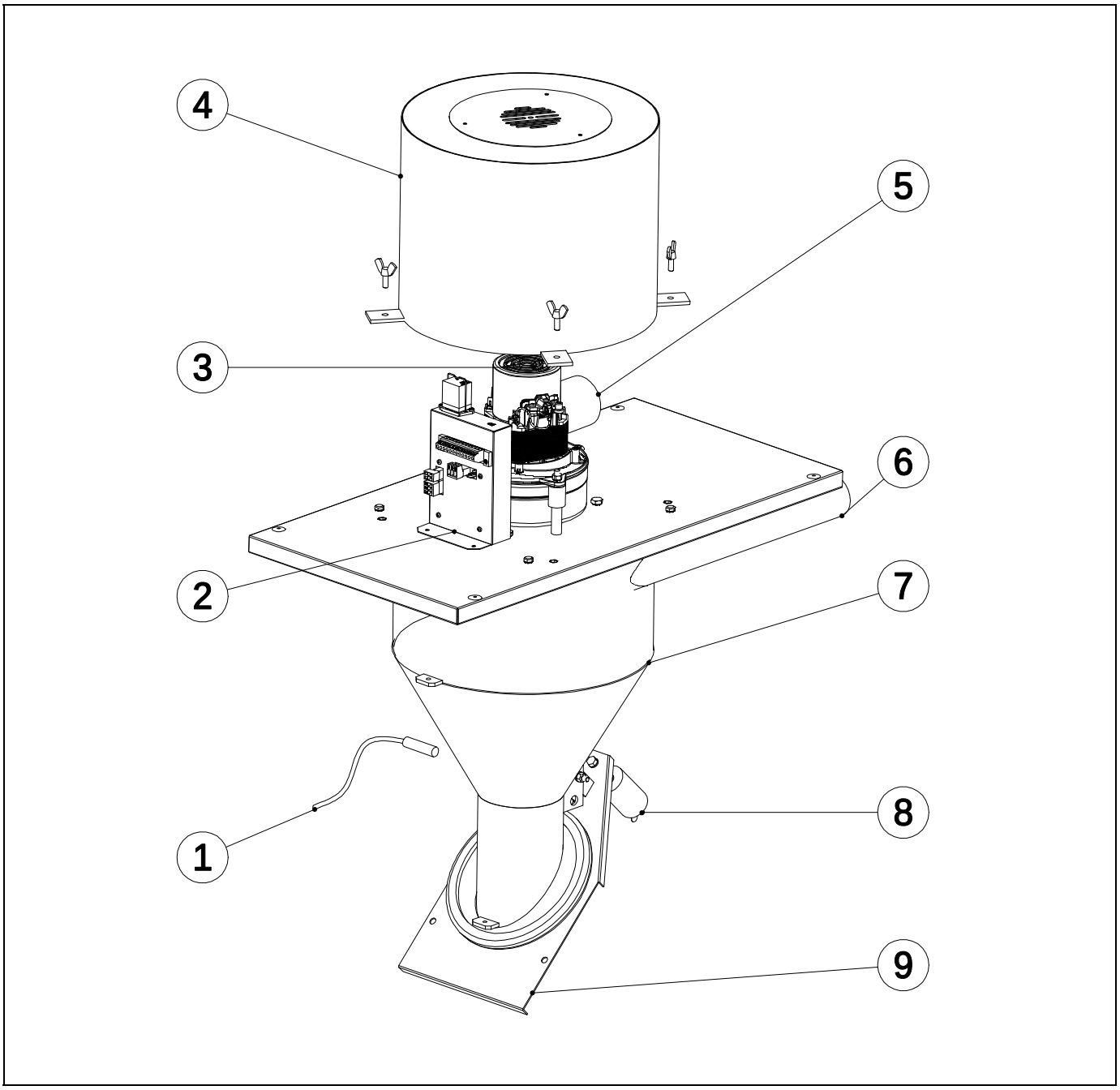
Commissioning of these suction system and any maintenance operations must only be carried out by **DOMUSA TEKNIK**'s Authorised Technical Assistance Services.

Incorrect installation of these suction system could result in damage to people, animals or property, and the manufacturer will hold no liability in such cases.

DOMUSA TEKNIK informs all parties concerned that, in compliance with section 1 of the first additional provision of Law 11/1997, the responsibility for delivering packaging waste or used packaging for its proper environmental management will be that of the final owner of the product (Article 18.1 Royal Decree 782/1998). At the end of its useful life, the product must be taken to a selected collection point for electrical and electronic equipment or must be returned to the distributor at the time of purchasing a new equivalent appliance. For more detailed information on the collection schemes available, contact either the collection facilities of the local authority or the distributor where the purchase was made.

ÍNDICE Pág.

1 LIST OF COMPONENTS



1. Level sensor.
2. Electronic control.
3. Suction unit.
4. Suction cover.
5. Suction inlet.
6. Pellet intake.
7. Suction pot.
8. Counterweight.
9. Lower cover.

2 CVS SUCTION SYSTEM INSTALLATION INSTRUCTIONS

Carefully read this instruction manual and keep it in a safe, easily-accessible place. **DOMUSA TEKNIK** will not be liable for any damages caused by failure to follow these instructions.

To guarantee optimum functioning of the **CVS Suction System** and a long lifetime, the installation and maintenance must be carried out by qualified personnel authorised by DOMUSA TEKNIK. The installer is responsible for any devices or controls not supplied with the suction system.

This appliance must only be used for the purpose for which it has been expressly designed. Any other use is considered unsuitable and therefore hazardous. The manufacturer shall not be considered liable under any circumstances for damage caused by unsuitable, erroneous or irrational use.

The **CVS Suction System** is specifically designed to convey 6 mm diameter pellets from a main silo to a suction pot on a **Bioclass HM** boiler reserve tank, providing it is installed together with a suction system (a **DOMUSA TEKNIK Kit Spider**) or a **DOMUSA TEKNIK** prefabricated textile silo including a pneumatic extraction device (suction pot).

During installation or before any servicing, the following indications must be observed to prevent personal injury or material damage:

- Remove all the packaging and check the content is complete. In case of doubt, do not use the **CVS Suction System**. Contact your supplier. The packaging elements may be dangerous so keep them out of reach of children.
- Unplug the suction system from the mains before any servicing and during installation.
- For safety reasons, another person should always be present when you access the pellet store. If access to the store is difficult, we recommend a second person waits outside to guarantee the safety of the person entering the store, to be able to let them out in case of hazard without endangering their own life.
- Before entering the pellet store, ensure it is correctly ventilated (there may be a lack of oxygen or concentration of unknown gases).
- Always wear a protective mask (standard mask) inside the pellet store for protection from airborne dust.
- Keep children away while you are working in the pellet store.
- If the pellet store is flooded there is no risk of contamination of the groundwater, the soil and/or the building, although the tank and pellet removal system could be damaged.
- When it is decided not to use this kit , you MUST disable all parties may constitute potential sources of danger.

CVS Suction System

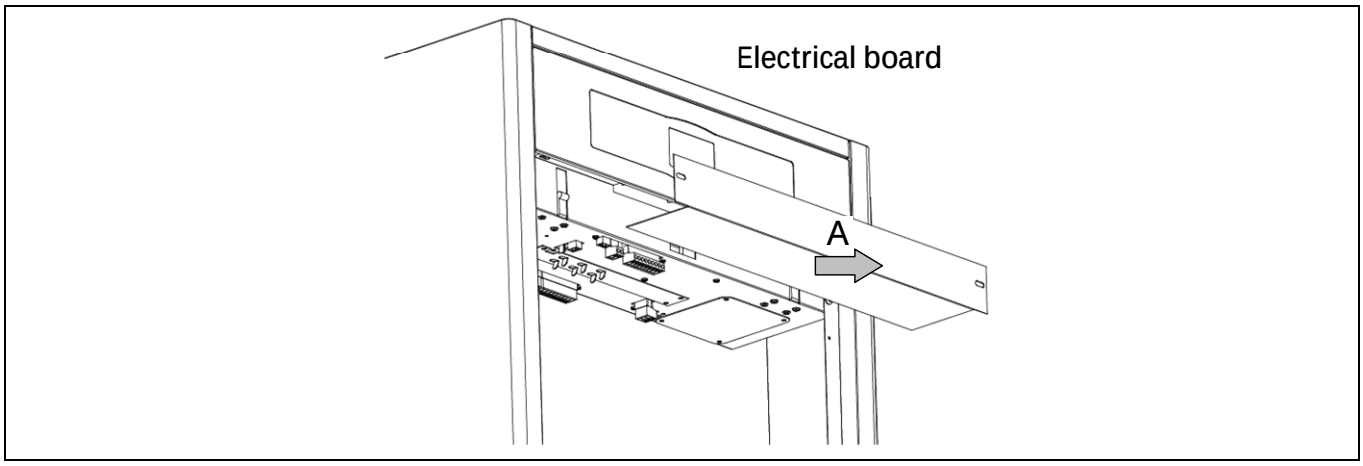
2.1 Electrical connection

The CVS Suction System will prepared for connection to 220 V ~ on pins 1 and 2 of connector J11 as "Connection diagrams " section of this manual.

To access this connector, lift the cleaner cover.

2.2 Electrical connection with the boiler

To correctly connect the **CVS Suction System** to the boiler, first remove the **Bioclass HM** boiler door. The electrical connection must be made at the lower part of the electrical front panel of the boiler. To access the lower part of the control front panel, remove the cover from the connection strips (**A**), as described in the figure. Once the lower part of the controls front has been opened, connect the communication hose connector J4 card boiler feed carefully following paragraph "*Connection diagrams*" section of this manual.



During installation or before any servicing, the following instructions must be observed:

- Before carrying out any work on the suction system's electrical installation of the Automatic pellet Feeding System, always ensure the suction system is disconnected from the mains.
- Make sure that none of the cables come into contact with a hot surface (e.g. fireplace or smoke chamber).
- The boiler must be accessible from the side for maintenance purposes.

2.3 Fuel warnings

The **CVS Suction System** is exclusively designed and intended to be used for pneumatic removal of wood pellets with a diameter of 6 mm and a maximum length of 40 mm.

In addition, the pellets of wood used must comply with the requirements of the european standard EN 14961-2 class A1 and be certified by any of the main labels **ENplus-A1, DINplus, NF Bois** or equivalent.

IMPORTANT: The pellets are highly hygroscopic. In case of contact with water or damp walls, they will swell and rot and will be **unfit for use**.

2.4 Assembly and installation warnings

The **CVS Suction System** must only be installed by authorised, sufficiently qualified personnel.

The following regulations and directives must be complied with for assembly and use of heating installations:

- Legal regulations on accident prevention.
- Legal regulations on environmental protection.
- Professional association standards for the sector.

As regards assembly and use of this kit, the standards and stipulations applicable in the particular country and/or region in which it is installed must be observed.

IMPORTANT: For safety reasons, the plastic pellet conveyor hose must be earthed, to prevent the silo from catching fire due to sparks generated by accumulation of electrostatic charge during the functioning of the automatic loading system.

IMPORTANT: It is essential that the power for the CVS suction system is independent from the boiler, being separately connected to the mains power.

2.5 Location

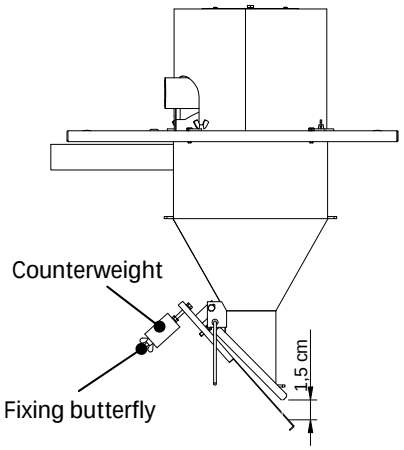
The **CVS Suction System** must be located in a sufficiently ventilated area and must comply with all the national and regional regulations, standards and laws for this sector applicable at the time of installation, particularly those referring to fire safety, boiler rooms and building safety.

2.6 Installing the CVS Suction System

Carefully follow these assembly instructions for correct assembly and installation of all the **CVS Suction System** components:

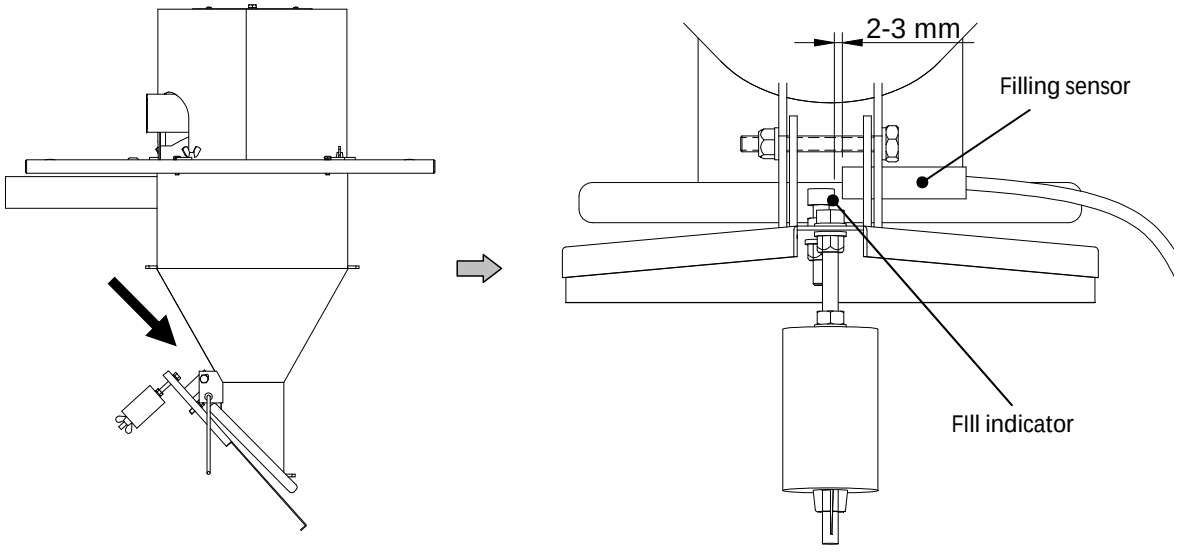
Suction pot

Before installing the suction pot on the reserve tank, adjust its counterweight so that the lower cover is 1.5-3 cm open. To do this, hang the suction pot vertically, loosen the butterfly nut fixing the counterweight and move the counterweight so that the cover is open by this distance. After adjusting the counterweight, remember to tighten the butterfly nut again, to prevent the counterweight maladjustment during system functioning.

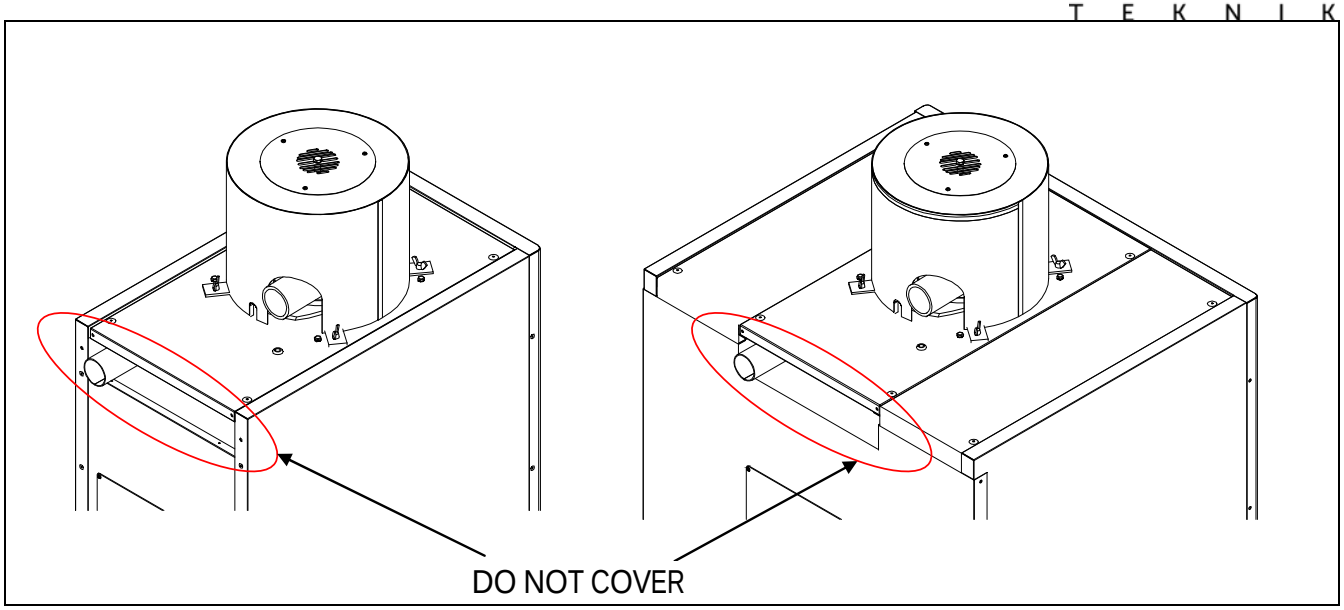


Sensor

As in the case of the suction pot counterweight, it is necessary to regulate the position of the filling sensor relative to the fill indicator, so that there is a gap of between 2 and 3 mm. To achieve this, adjust the nut and the locknut of the sensor to obtain the correct distance.



There is a ventilation slot on the rear of the tank to prevent a vacuum from being created inside it. Do not cover this slot, and keep it free from any obstacles that could block it.

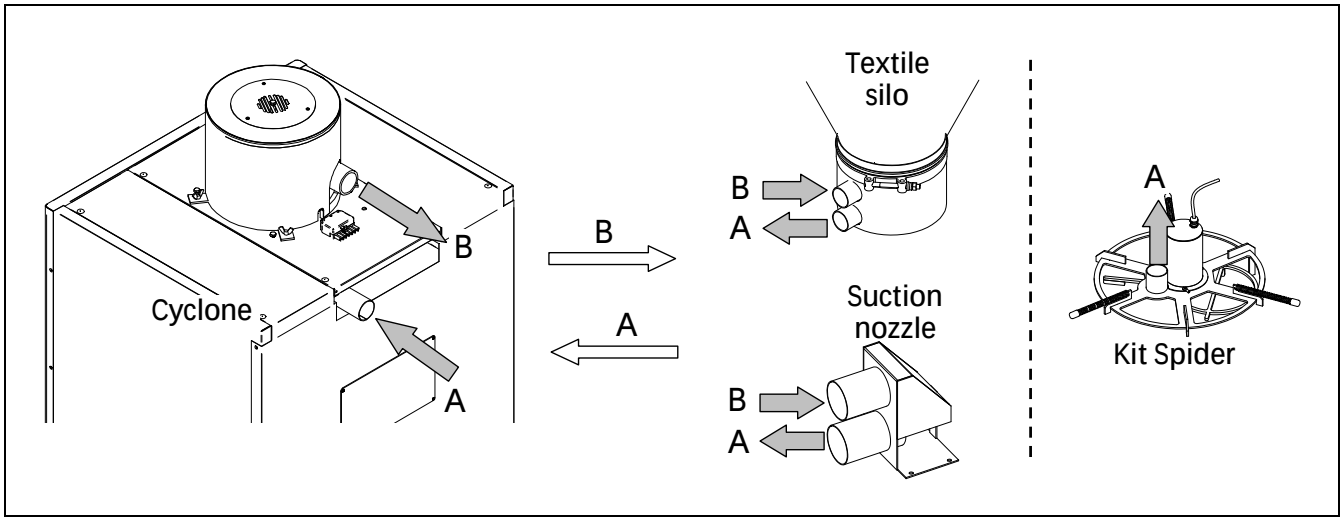


Connecting the suction hoses

The various automatic loading system components must be connected pneumatically using a hose with an interior diameter of 50 mm, preferably a flexible plastic hose with electrostatic charge accumulation protection.

To ensure the system is correctly connected and sealed, the **CVS Suction System** includes 2 cable ties for fixing the hose ends to the respective pneumatic components of the kit.

The figure below shows the pneumatic connection of the different **CVS Suction System** components:



Run a hose from the main storage silo (intake **A** of the textile silo or the Spider Kit) to the cyclone (suction pot) on top of the boiler reserve tank and connect it to the intake on the front of the suction pot (intake **A**).

Run a hose from the air intake (intake **B**) on the rear of the suction pot to the suction unit, and connect it to the lower intake on the suction unit (intake **B**).

If you are using a **Kit Spider** removal system, it is not essential to run the return hose to the silo, but we recommend doing so to prevent the areas the hose opens onto from getting dirty.

2.7 Installing the suction hose

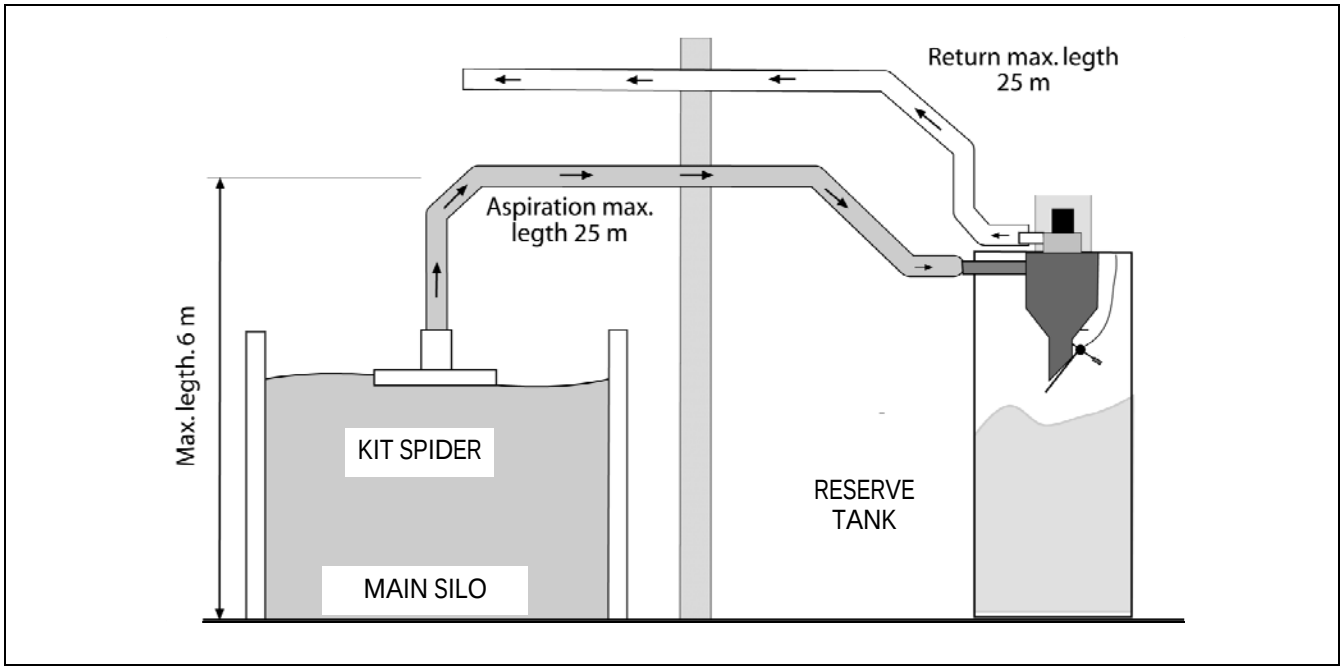
The **CVS Suction System** is specially designed to function as part of an installation with a plastic hose with an interior diameter of 50 mm. This hose must have a static electricity discharge system, preferably a copper wire wound around its entire length. **This copper wire must be earthed at all the hose joints and ends.**

Whatever the type of hose used, it must be made of a suitable material for transporting wood pellets and it must always have an interior diameter of 50 mm. The following recommendations must also be complied with for correct installation:

- The **maximum** permitted hose **length** is 25 metres for flow from the main silo to the suction pot and 25 metres for return.
- Bend angles of over 45º must be avoided whenever possible. If these cannot be avoided, any **curves** with angles over 45º must have a radius of curvature greater than 125 mm.
- **If rigid plastic tubing is used, do not use standard 90º elbows. If these are necessary, the curves constructed must have a minimum radius of 125 mm.**
- The **maximum height** difference permitted for the installation is 6 metres.
- Avoid any splicing or coupling in the hose installation wherever possible, as this may narrow the circuit, which can cause clogging of the pellets being transported and could block the system. Most importantly, avoid any joints in the hose section leading from the main silo to the boiler reserve tank suction pot, as the pellets are conveyed through this section.
- If there is no alternative to splicing and extending the installation, straight rigid tubing with an interior diameter of 50 mm must be used. It is preferable for any splicing and joining of the hose to be done in the pneumatic suction system return section, as only air is conveyed in this section. **All the hose sections must be earthed at all coupling points and at the ends of the hose.**
- The most vital factor for ensuring maximum suction power for the system is the airtightness of the installation, and great care must therefore be taken when installing the tubing. All coupling points in the installation must be secured with brackets, taking special care to prevent leakage.

- We recommend avoiding hose crossover in the installation whenever possible. The flow and return hoses of the pneumatic installation should be laid out parallel to each other.
- For correct assembly of the hoses, they should be fixed to the walls and/or floor using suitable fasteners throughout the entire installation, to ensure stability. The recommended maximum distance between the fixing points is 80 -110 cm.

Some of these recommendations are illustrated in the figure below:



IMPORTANT: At each end of the pellet suction and air return hose, the copper cables must be connected to the earth connection terminals provided for this purpose.

IMPORTANT: **DOMUSA TEKNIK** will hold no liability for malfunctioning of the Spider Kit in combination with the **CVS Suction System** if the installation does not comply with the above recommendations.

2.1 Start-up

In order for the **guarantee to be valid**, the automatic loading system must be started up by **personnel authorised by DOMUSA TEKNIK**. Before beginning the start-up process, the following must be complied with:

- The **Automatic pellet feeding system** must be connected to the electrical mains power.
- The main storage silo must be filled with pellets.
- The pneumatic hose installation must have been carried out.

The start-up sequence is as follows:

- Check the pneumatic installation of the 50 mm interior diameter hose has been performed correctly.
- Check the correct type of fuel is being used (EN 14961-2 class A1 grade or higher).
- Check the automatic loading system is working correctly.

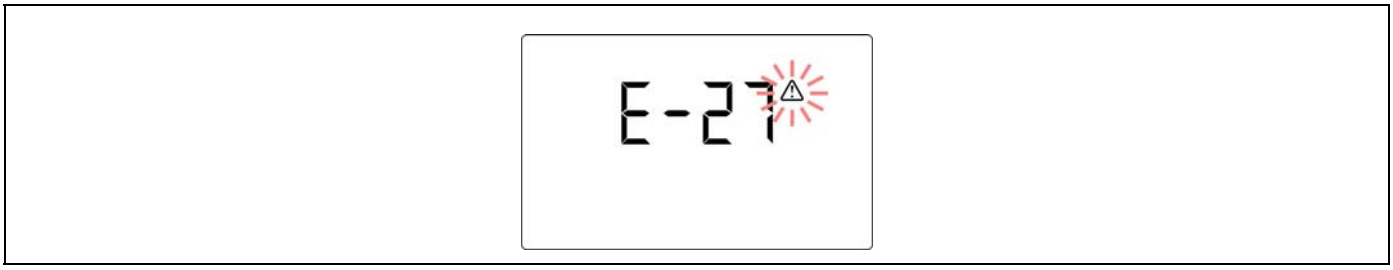
3 OPERATION

The Automatic pellet feeding system is an automatic pellet conveying and suction system equipped with an electronic control that governs the functioning of a suction device (suction turbine), by controlling the signal from a sensor which detects the fill level of the tank, located in the cyclone of the reserve tank. Furthermore, a programmable timer can be accessed via the display on the Bioclass HM boiler so that the operation may be disabled at night to avoid any noise and disturbance which may be caused by the suction system during its operation. It can also manage the functioning cycles of a DOMUSA TEKNIK Spider Kit, if you choose to use this type of pellet removal system.

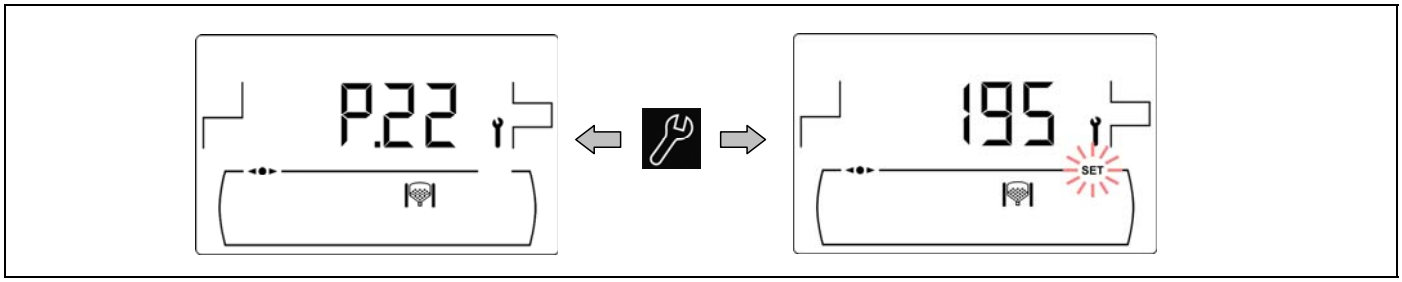
The operation is as follows: when the level sensor detects a low pellet level, the electronic control starts up the suction unit, which begins to suck the pellets from the silo or main store and convey them to the cyclonic tank at the top of the boiler reserve tank. The suction turbine runs for a set duration (a cycle), while it fills the cyclonic tank. When the cycle is complete, the suction unit stops and the hatch on the underside of the suction pot opens, emptying the pellets inside it into the reserve tank. If the level sensor continues to detect no pellets when the cyclonic tank has been emptied, the suction unit starts up again and runs for another full cycle. When the sensor detects the filling of the reserve tank (cyclone door open), the control disables the Automatic pellet feeding system and waits until it is reactivated.

During the time that the suction unit runs, the symbol is displayed blinking in the **Bioclass HM** boiler's display.

If the level sensor doesn't detect pellets after 9 consecutive cycles, the electronic control stops the system functioning and the alarm **E-27** is activated (Automatic loading system lock out), in the display of the boiler. To unlock it, press reset and 9 consecutive cycles will start again unless the sensor detects pellets.



The cycle time could be adjusted using the **P.22** setting of the "Technical" menu (see instructions of **Bioclass HM**). This setting is used to optimise the filling time for the suction pot of the tank, adapting it to the different characteristics of each pneumatic installation (suction length, type of pellet removal system, etc.). The adjustable time range is from 35-195 seconds per cycle. Guidance regarding the recommended cycle times for different types of installations is given in the following sections.

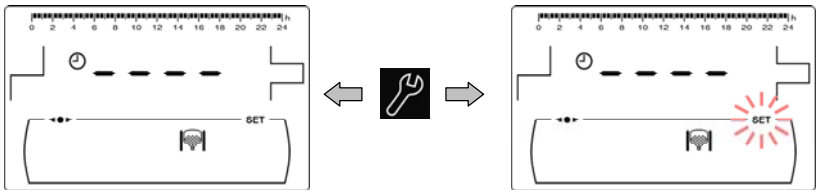


3.1 Time programmer functioning

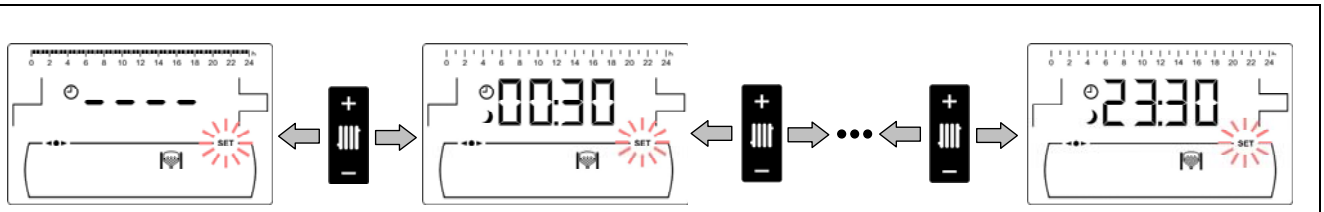
The electronic control of the **CVS Suction System** allows access, via the **Bioclass HM** boiler control cover, to a programmable timer in order to disable its functioning at night, to prevent noise from the suction system.

To program the system ON and OFF periods, proceed as follows:

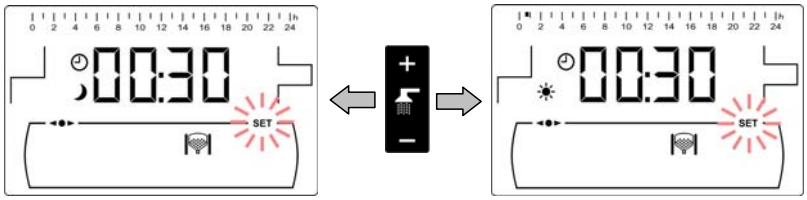
- Once you access to the “Configuration” menu of the Bioclass HM boiler, by default the timer will be annulled and the display will be shown as in the figure. Press , the symbol SET blinks, and the adjustment of the timer starts.



- At the top of the display is shown the time zone, from 0 to 24 hours. Press + / - repeatedly to progress sequentially through the hours every 30 minutes to choose the desired time period.



- At each time period pressing + / - the condition of the timer is adjusted. If appears the symbol "☽", the Automatic Loading System stays “Off” and if appears the symbol "☀" the Automatic Loading System stays “On”. The periods adjusted with "☀“symbol will be marked in the time zone of the top of the display.



- Press to record the last timer adjustments and it returns to "Configuration" menu.

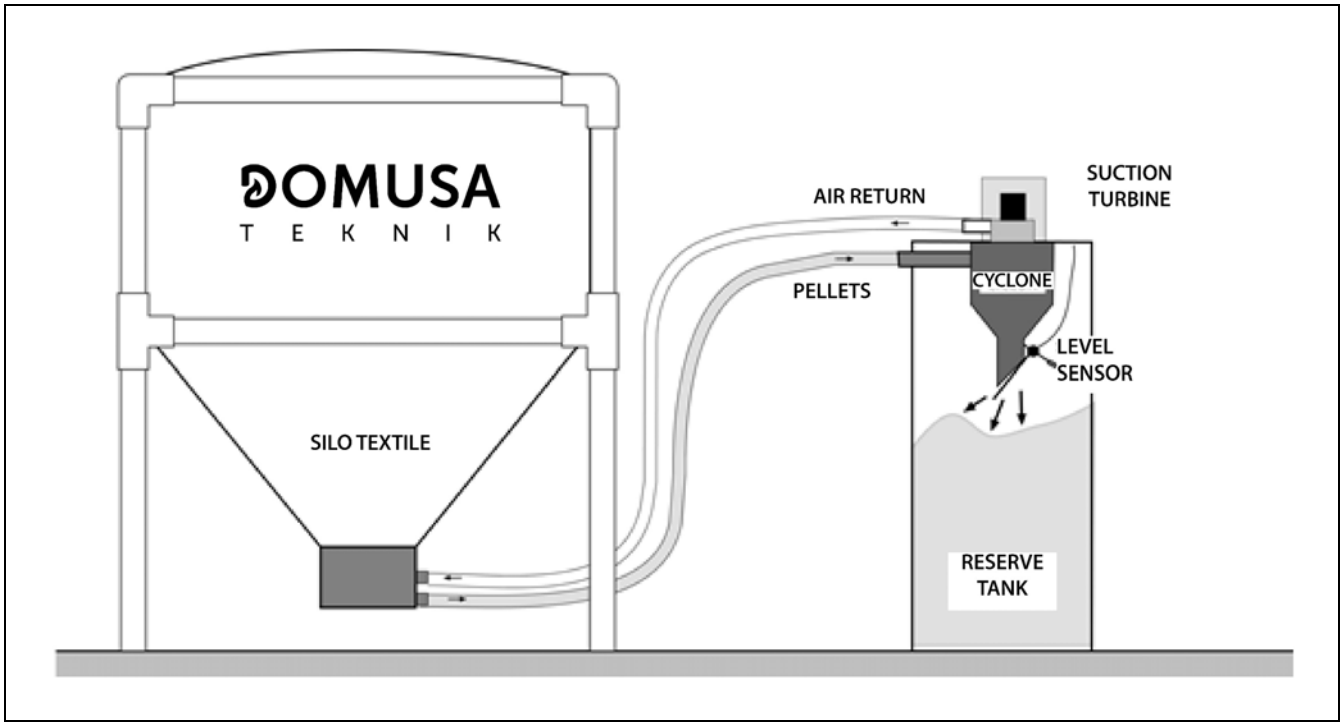
3.2 Functioning with a DOMUSA TEKNIK Textile Silo

If the installation is done with a textile silo supplied by **DOMUSA TEKNIK**, the suction unit will be activated each time the boiler reserve tank sensor detects that the pellet level is low, and it will continue to function throughout the cycle time programmed by the user on the electronic control. When the sensor detects pellets, the electronic control will disable suction unit functioning and then remain on standby until it requires activation again. If the level sensor doesn't detect pellets after 8 consecutive cycles, the electronic control stops the system functioning and the alarm **E-27** is activated (Automatic loading system lock out), in the display of the boiler. To unlock it, press **reset** and 8 consecutive cycles will start again unless the sensor detects pellets.

The optimum cycle time is the time required for the suction pot on the reserve tank to fill up to full capacity. The amount of pellets conveyed per cycle will depend on the length and route of the installation and the type of pellets used. Bearing in mind these variable fuel characteristics, the table below shows some recommended cycle times, depending on the length of the installation.

Installation length	Cycle time
5 m	MIN (35 sec)
15 m	60 sec
30 m	120 sec

The figure below shows a functional diagram of the **CVS Suction System** installed in combination with a **DOMUSA TEKNIK** textile silo:



NOTE: If the suction system becomes blocked, this could mean there are not enough pellets in the main silo or that the pneumatic hose installation has become blocked or is defective.

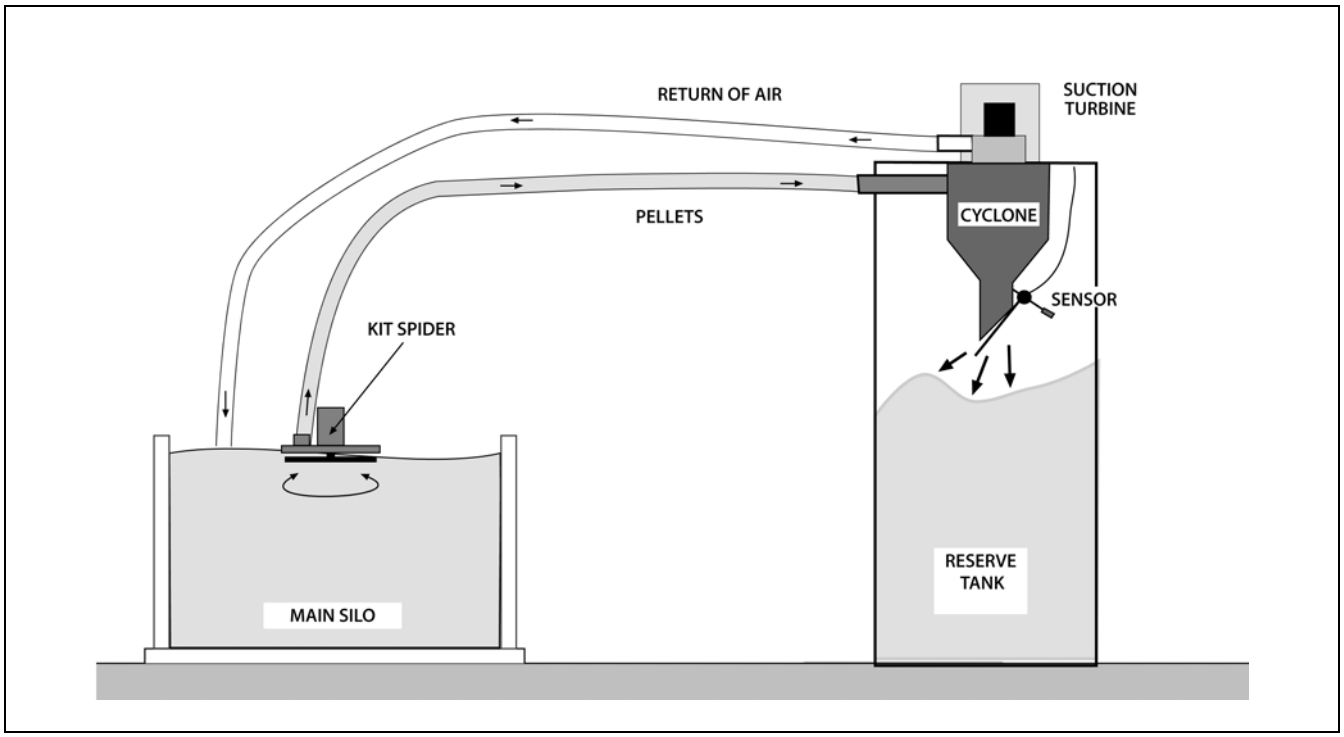
3.3 Functioning with a DOMUSA TEKNIK Kit Spider

If the installation is made in combination with a **Kit Spider** pellet removal system, whenever the tank level sensor detects that the pellet level is low, the electronic control will begin each cycle by starting up the suction unit and **Kit Spider** motor at the same time, turning the kit's rotary plate and sucking up pellets from the main silo. When the cycle is complete, in order to prevent excess pellets remaining in the hose installation and causing obstruction at the start of the next cycle, the control stops the Spider Kit functioning 15 seconds before suction unit operation is disabled. This means the suction unit continues taking in only the pellets that remain in the hose installation, emptying the hose and preventing obstruction when the next cycle begins.

If the level sensor doesn't detect pellets after 9 consecutive cycles, the electronic control stops the system functioning and the alarm **E-27** is activated (Automatic loading system lock out), in the display of the boiler. To unlock it, press reset and 9 consecutive cycles will start again unless the sensor detects pellets.

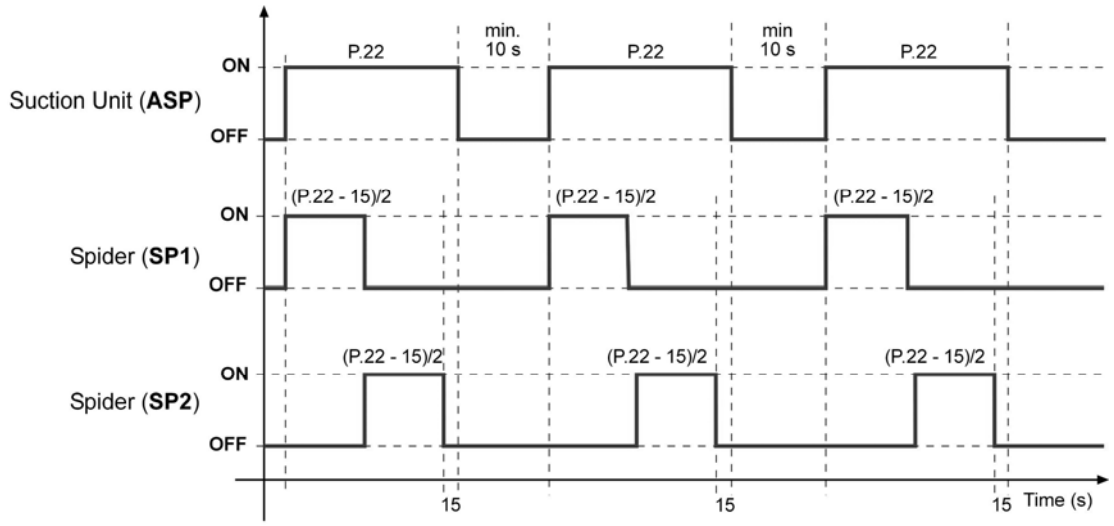
In general, we recommend adjusting the cycle time to its maximum setting (195 seconds), by turning the adjustment screw clockwise as far as it will go. If the installation settings are causing the boiler reserve tank suction pot to fill up some time before the end of each cycle, we recommend reducing the cycle time for closer adjustment, so that it coincides with each filling of the suction pot. It should also be observed that the amount of pellets taken in on each cycle may vary considerably depending on suction unit filter maintenance, pellet quality and the main silo emptying level at any given time, and it is therefore preferable to set long cycle times.

The figure below shows a functional diagram of the **Kit Spider** installed in combination with a **CVS Suction System**:



CVS Suction System

The rotary plate of the **Kit Spider** moves in circular fashion in symmetrical rotation cycles, alternating between clockwise and counter-clockwise movement to prevent the hose from winding onto the kit. These rotation cycles are governed by the **CVS Suction System** electronic control system. The diagram below shows the functioning cycles controlled by the **CVS Suction System**:



P.22: Cycle time. Range 35-195 seconds.

NOTE: If the suction system becomes blocked, this could mean there are insufficient pellets in the main silo or that the pneumatic hose installation has become blocked or is defective.

4 MAINTENANCE

To keep the automatic loading system in perfect working order the maintenance operations described in this section must be carried out at regular intervals.

Also, to ensure correct functioning of the **CVS Suction System** we recommend inspection of the whole pellet loading system once a year by the **DOMUSA TEKNIK Authorised Technical Service**, at the same time as the annual service.

Maintenance of the Automatic pellet feeding system mainly consists of emptying the dust accumulated in the protective grille below the suction turbine.

At least once a year (depending on the amount of dust that the pellets contain), unscrew the cyclone cover and vacuum the dust from the protection grid located below the suction turbine.

If the pellet suction turbine creates a lot of noise or sends off sparks, this could be due to dirt on the fan blades. You must remove the suction turbine and clean it using a vaccum cleaner.

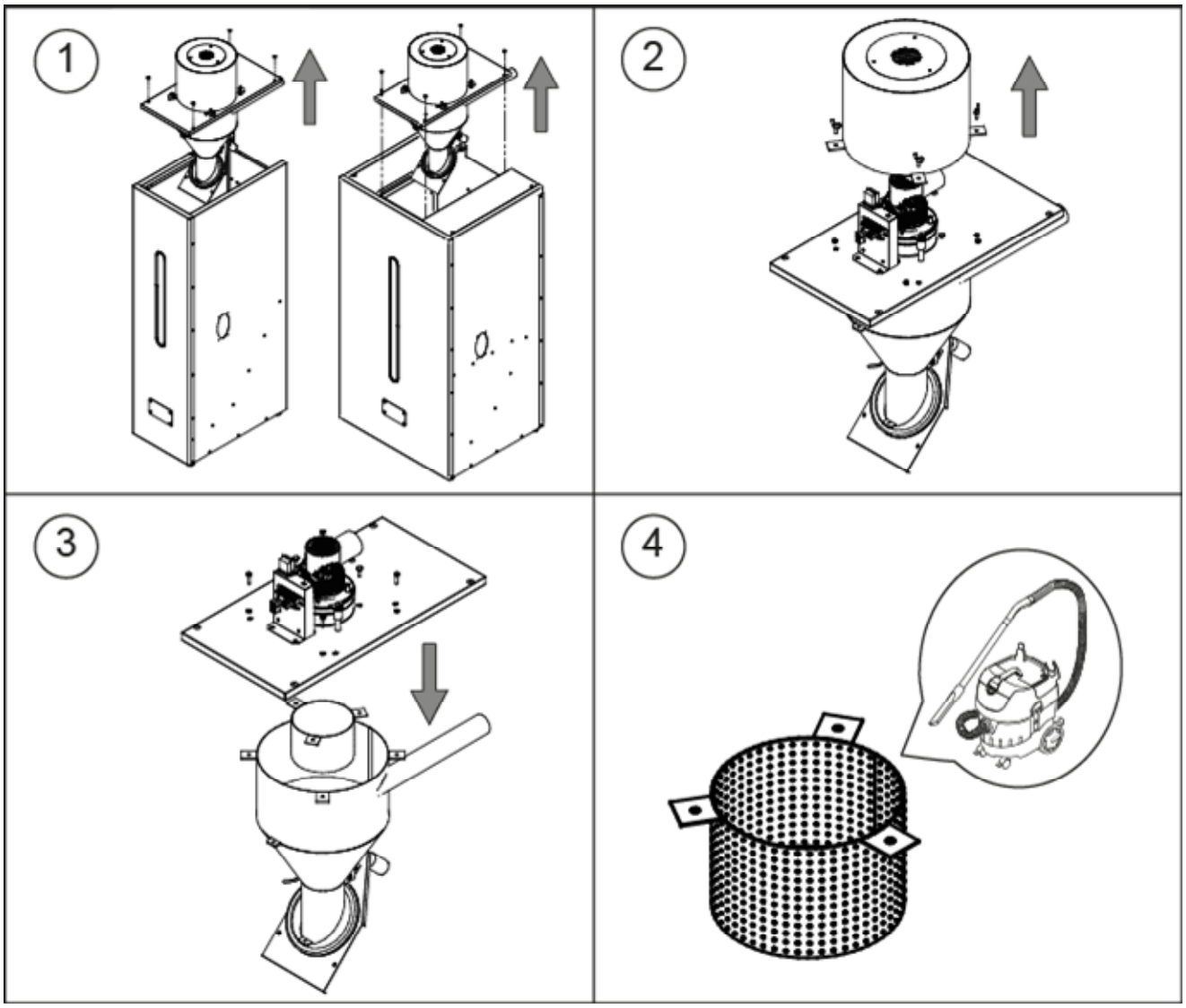
4.1 Safety Warnings

To prevent any damage or injury to people and property, the following safety indications must be taken into account during the maintenance operations described in the following sections:

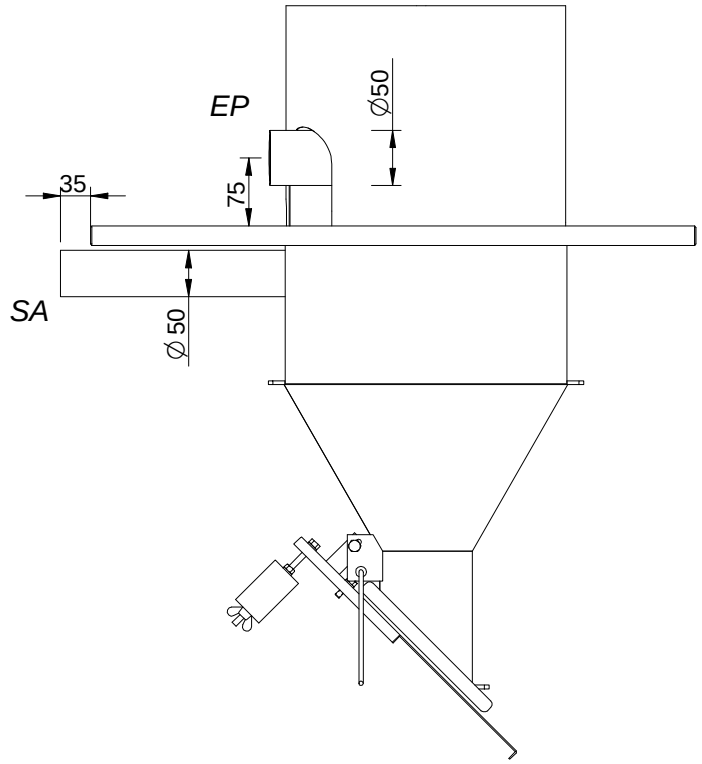
- Unplug the **CVS Suction System** from the mains power before any servicing.
- Wear a protective mask (standard mask) on cleaning the suction unit, for protection from airborne dust.
- Keep children away from the installation on carrying out the automatic loading system maintenance operations.

4.2 Cleaning the protective grill

Before cleaning the protective grille of the cyclone be sure to **disconnect the suction system from the mains**.



5 MEASUREMENTS



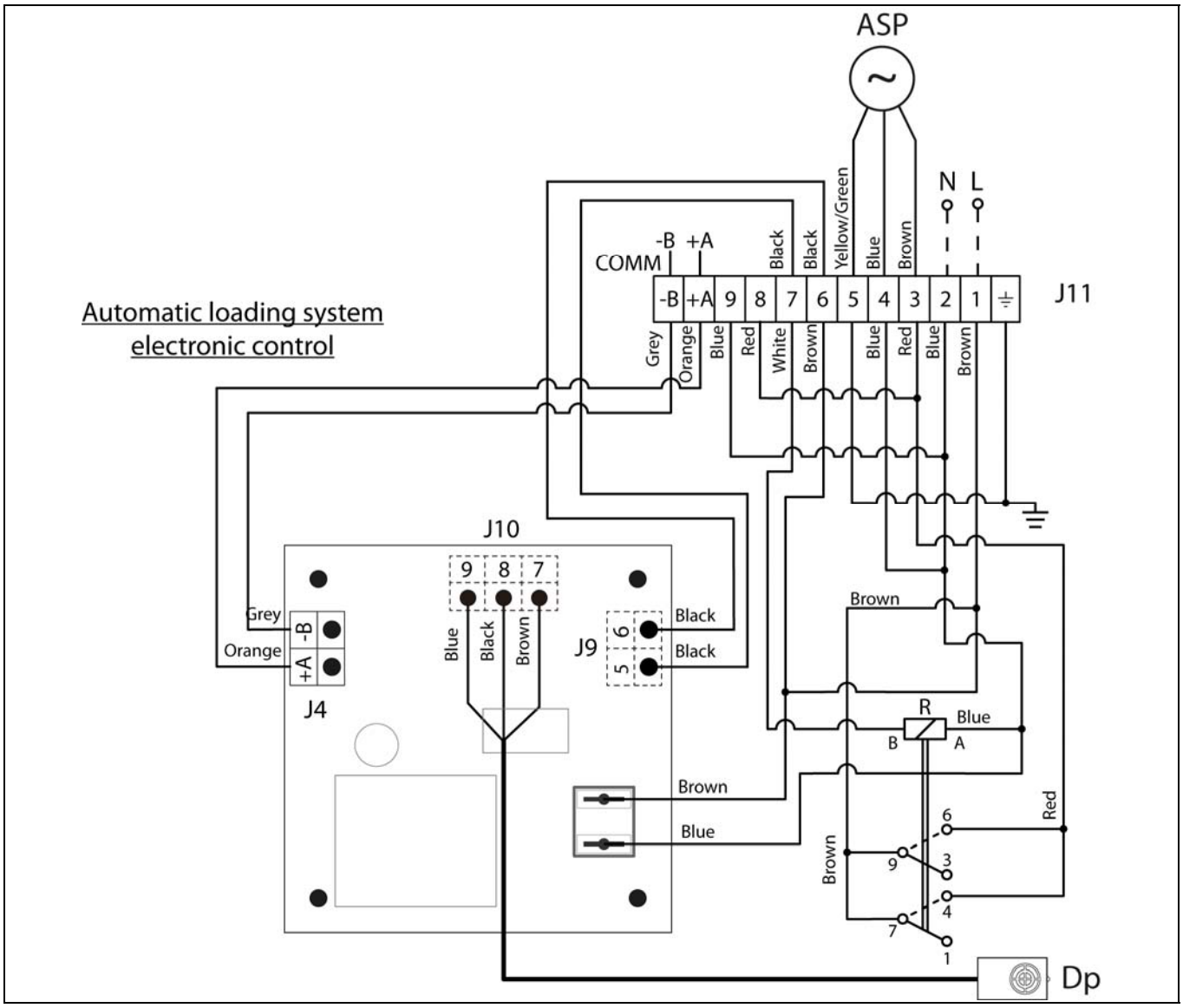
SA: Air suction, Ø50.
EP: Pellet inlet, Ø50.

6 TECHNICAL DATA

TECHNICAL DATA		VALOR
Maximum suction length	m	25
Maximum suction height	m	6
Suction hose diameter	mm	50
Connection voltage	-	230 V~ 50 Hz
Maximum electrical consumption	A	7,4
Maximum electric power	W	1700

7 ELECTRICAL DIAGRAMS

7.1 Electrical diagram



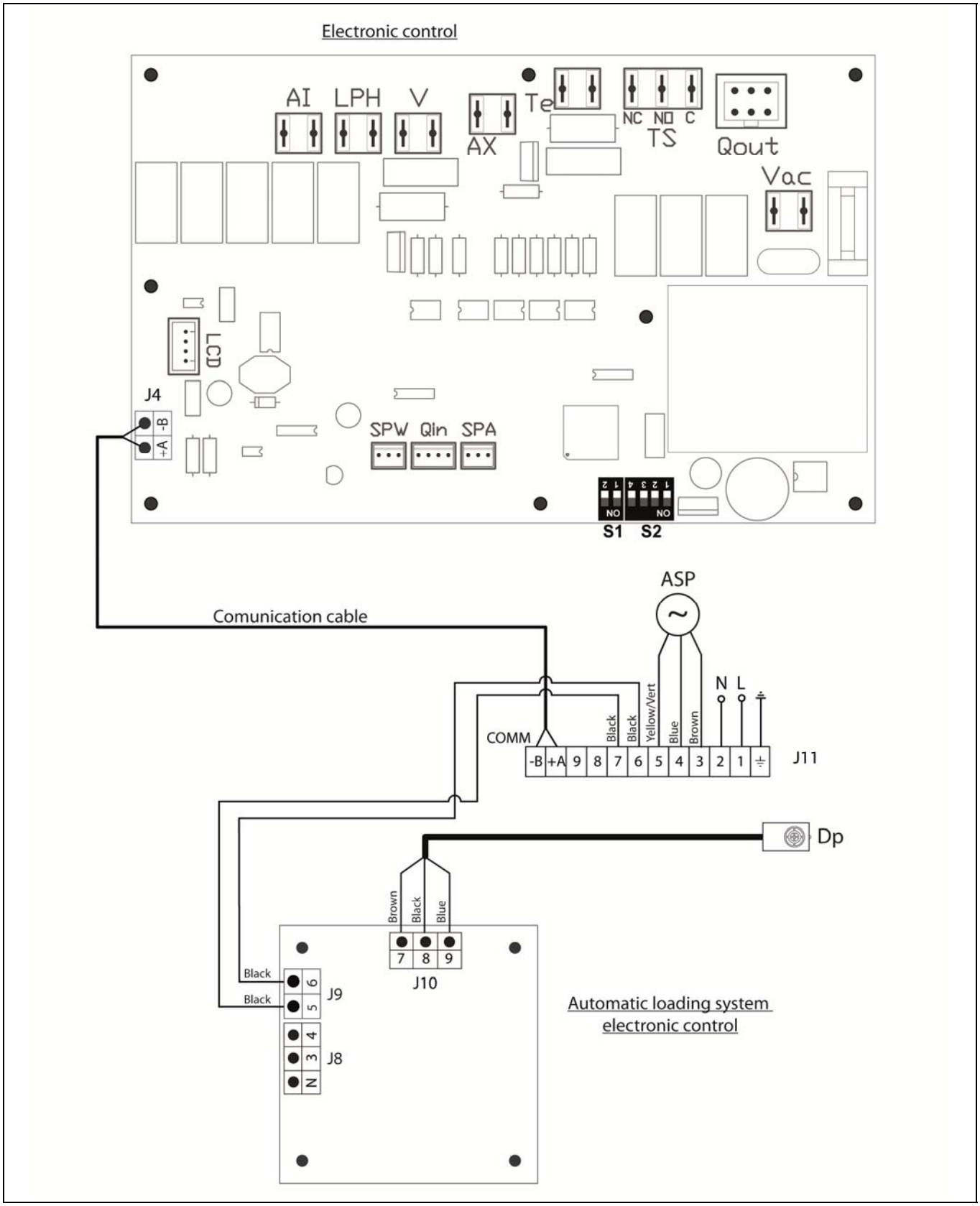
J4: Communication connector.

J10: Level sensor connection.

J11: Main connector.

ASP: Suction unit.

7.2 Electrical connection for installation with a DOMUSA TEKNIK Textile Silo

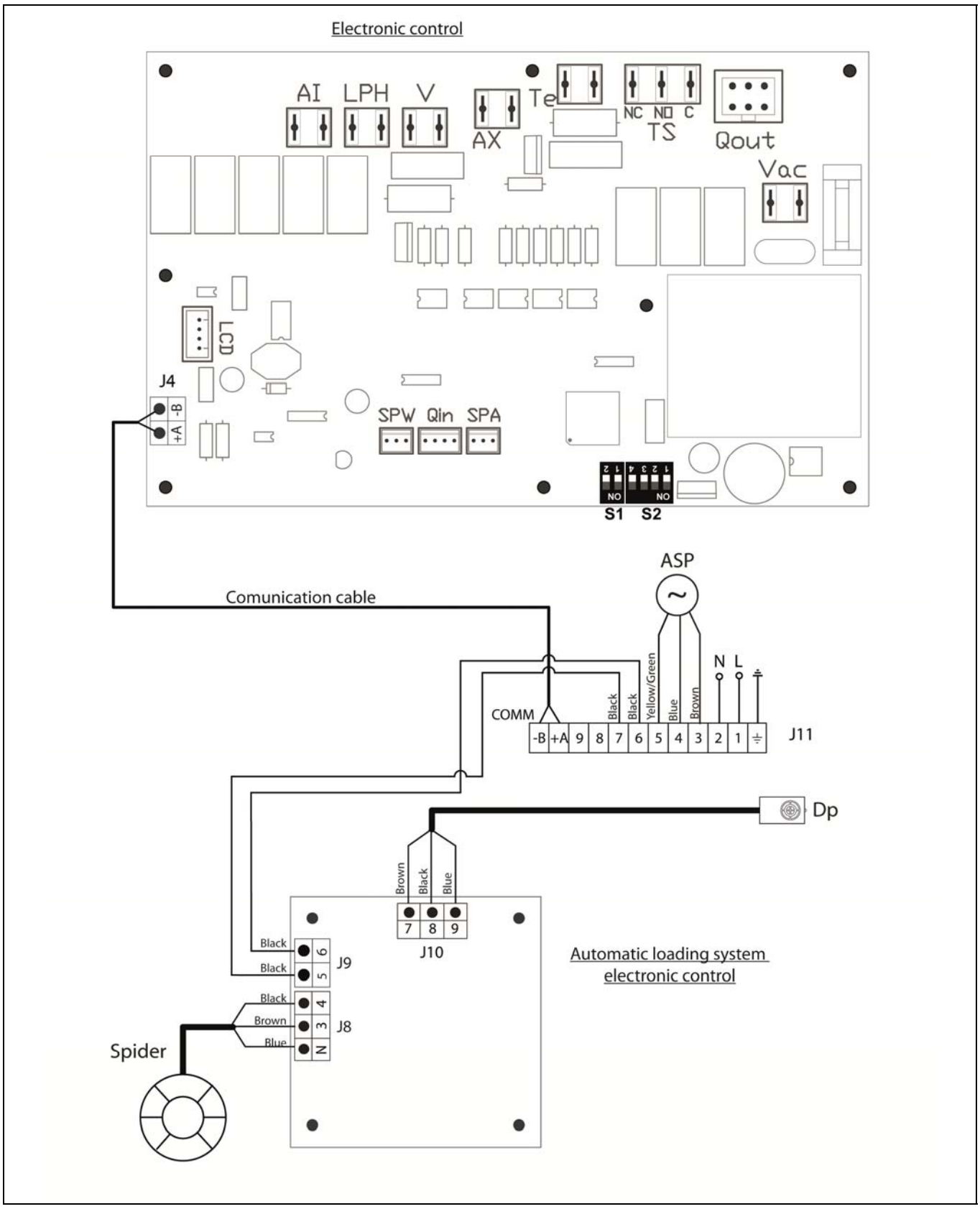


J4: Communication conector.

J10: Level sensor connection.

J11: Main conector.

7.3 Electrical connection for installation with a DOMUSA TEKNIK Kit Spider



J8: Kit Spider connection.

J10: Level sensor connection.

J11: Communication connector.

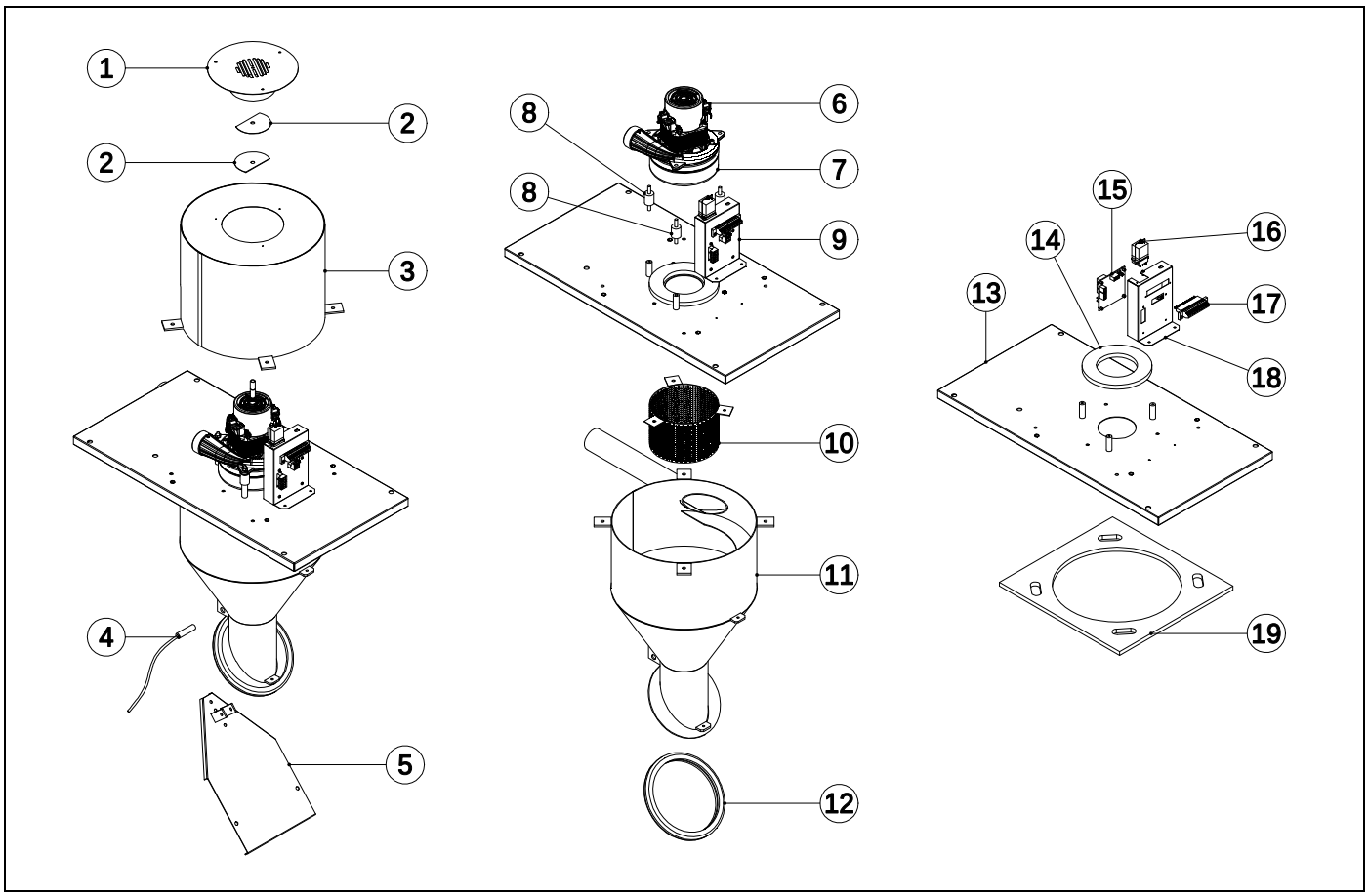
8 ALARM CODES

This section lists the most common failures that may cause stoppage and/or blocking of **CVS Suction System** operation. If any of these anomalies should occur repeatedly, we recommend you contact the nearest **DOMUSA TEKNIK** Official Technical Support Service.

PROBLEM	CAUSE	SOLUTION
E-26 Communication error	Communication cable is disconnected.	Reconnect the communication cable.
	Main supply is disconnected.	Connect the main supply.
	The communication cable is broken.	Call the nearest Technical Assistance Service (TAS) to replace the cable.
	The electronic card is faulty.	Call the nearest Technical Assistance Service (TAS) to replace the card.
E-27 Automatic Loading System lock out	Suction pot lower tap is clogged with pellets.	Adjust the tap counterweight so that it is open 2 cm when the suction unit is not running.
	The main silo is empty.	Fill the silo with pellets.
	The suction unit filter is dirty.	Clean the suction unit filter.
	Pellets are blocking the hose.	Check the quality and size of the pellets. Use pellets of a maximum length of 40 mm.
	The level sensor is faulty.	Call the nearest Technical Assistance Service (TAS) to replace the sensor.
	The suction unit is faulty.	Call the nearest Technical Assistance Service (TAS) to replace the suction unit.

9 REPLACEMENT PARTS LIST

CVS Suction System



Nº.	Code	Description
1	SEPO002123	Cover of air duct
2	SEPO002124	Sheet of air duct
3	SEPO002117	Cover of aspirator
4	CELC000403	Sensor pellets
5	SEPO002118	Closing system
6	CELC000405	Motor brushes
7	CFOV000157	Suction turbine
8	CTOE000338	Silent block
9	SELEBIO030	Electronic control
10	SEPO002121	Filter of suction system
11	SEPO002116	Pail
12	CFER000215	Seal of pail's cover
13	SEPO002221	Base suction system
14	MAIS000154	Seal aspirator
15	CELC000338	Electronic control
16	CELC000475	Relay
17	CELC000042	Weidmuller 12-pin terminal block
18	SCHA011112	Drawer
19	MAIS000153	Upper seal pail
	CMAZ000136	Mazo CVS

10 TERMS OF GUARANTEE

DOMUSA TEKNIK's commercial guarantee covers the standard functioning of the products manufactured by DOMUSA Calefacción S.Coop., in accordance with the following conditions and time periods:

1. This **commercial guarantee** is valid for the following periods, as from the **date of purchase**:

   - 2 Years for electrical, mechanical elements, etc.

   During the 6-month period following the start-up date, **DOMUSA TEKNIK** will carry out any repairs of original flaws or defects totally free of charge.

   After these 6 months have elapsed and until the end of the guarantee period, labour costs and call-out charges will be payable by the user.

2. **DISCLAIMERS:** The **commercial guarantee** shall not cover the following cases, in which the total cost of repairs must be paid for by the user:

   - If **CVS Suction System** has not been installed in accordance with the applicable laws and regulations for this type of appliance.
   - If the product has been manipulated by personnel not authorised by DOMUSA TEKNIK.
   - Breakdown caused by misuse or incorrect installation, an unsuitable electrical supply, incorrect handling of the appliance and, in general, for any reason beyond DOMUSA TEKNIK's control.
   - Wear and deterioration of the appearance caused by use of the appliance or the necessary maintenance operations.

VERY IMPORTANT: For entitlement to this guarantee, proof of the date of receipt of the appliance, that is the purchase invoice or receipt, must be shown to the official technical support service on call-out. For **CVS Suction System** supplied for new build houses or flats, sufficient proof of the date of the Kit Aspiration's availability for use must be provided.

This guarantee does not affect the consumer's rights as stipulated by law.

NOTAS:

NOTAS:

DOMUSA TEKNIK

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