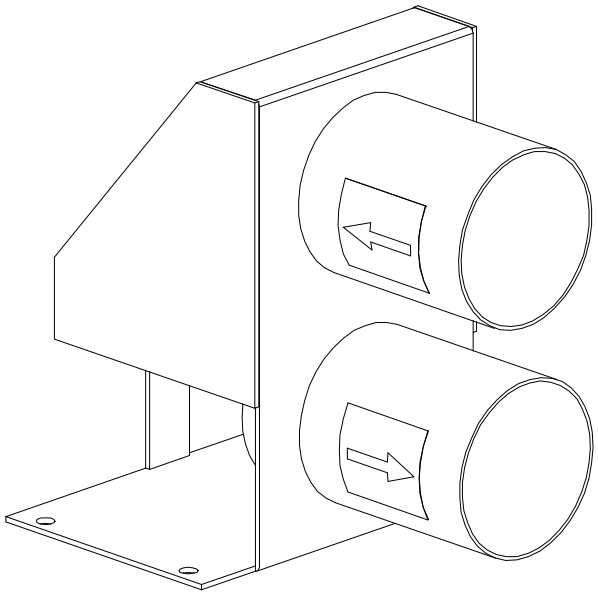
INSTALLATION AND OPERATING INSTRUCTIONS

↪ KIT SUCCION NOZZLE FOR CONSTRUCTION TANK



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DOMUSA TEKNIK

Thank you for choosing a **DOMUSA TEKNIK** product. From the range of **DOMUSA TEKNIK** products you have chosen the **Kit Suction Nozzle for construction tank.** With suitable installation and connected to a pellet boiler, this accessory will provide the ideal level of comfort for your home.

This manual forms an essential part of the product and it must be supplied to the user. Read the warnings and recommendations in the manual carefully, as they contain important information on the safety, use and maintenance of the installation.

This accessory must be installed by qualified personnel only, in accordance with current legislation and following the manufacturer's instructions.

Start-up of these products and any maintenance operations must only be carried out by **DOMUSA TEKNIK** Official Technical Assistance Services.

Incorrect installation of this appliance could result in injury or 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.

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1 SAFETY WARNINGS

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 this kit and a long lifetime, the installation and maintenance must be carried out by qualified personnel authorized by **DOMUSA TEKNIK**. The installer is responsible for any devices or controls not supplied with the kit.

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 **Kit Suction Nozzle for construction tank** is specifically designed for extracting 6 mm diameter pellets from a main silo and, in combination with a pneumatic "**Kit Aspiration**" system, conveying them to a **BioClass** boiler reserve tank.

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 all the contents are included. In the event of any doubt, do not use the kit. Contact your supplier. Keep the packaging elements out of reach of children, as they can be dangerous.

- 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, and who can 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 you no longer wish to use this kit, disable all parts that could be a potential source of hazard.

1.1 Fuel warnings

The **Kit Suction Nozzle for construction tank** 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**.

1.2 Assembly and installation warnings

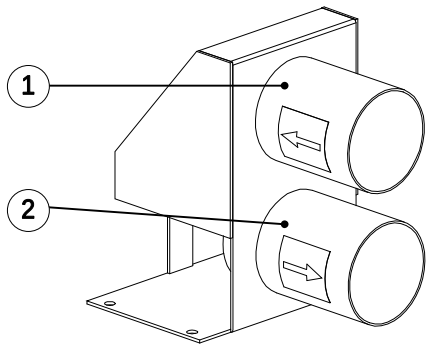
The **Kit Suction Nozzle for construction tank** must only be installed by authorized sufficiently qualified personnel. The following regulations and guidelines must be complied with for assembly and use of heating installations:

- 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: The plastic pellet conveyor hose must be earthed to prevent any danger of the silo catching fire due to sparks generated by accumulation of electrostatic charge during the Kit's functioning causing combustion and/or possible deflagration of the pellets.

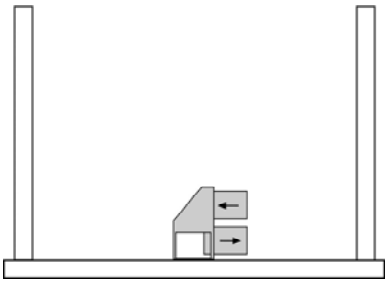
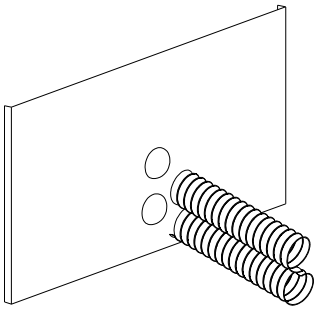
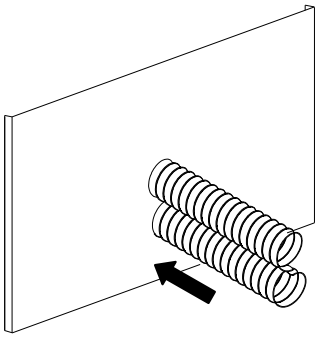
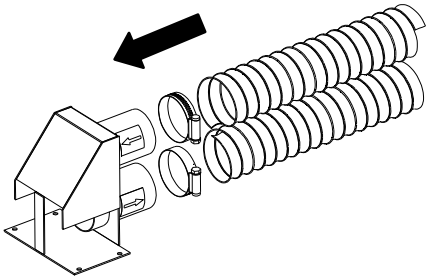
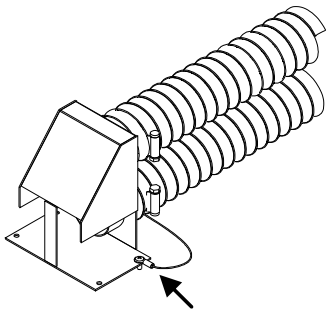
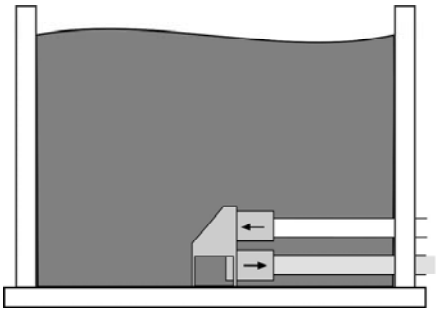
2 LIST OF COMPONENTS



1. Suction hose connection socket.
2. Pellet flow hose connection socket.

3 INSTALLATION INSTRUCTIONS

3.1 Assembling the Kit Suction Nozzle for construction tank

	
Position the Suction Nozzle in the construction tank and fasten with screws.	Make two holes Ø58 mm to enter the hoses with an interior diameter of 50 mm into the tank so that they are at the same height as the sockets.
	
Enter Ø50 mm interior hoses inside the holes we have in the tank.	Fit the hoses with an interior diameter of 50 mm to the suction hose connection socket using the hose clamp supplied with the kit. Tighten it firmly to prevent any air leaks.
	
Earth the copper wire on the hose using the connector shown in the diagram **NOTE:** Both ends of the hose must be earthed.	Fill the silo with pellets, **IMPORTANT:** Correct functioning of the Kit is only guaranteed if the wood pellets used as fuel comply with the EN 14961-2 class A1 standard.

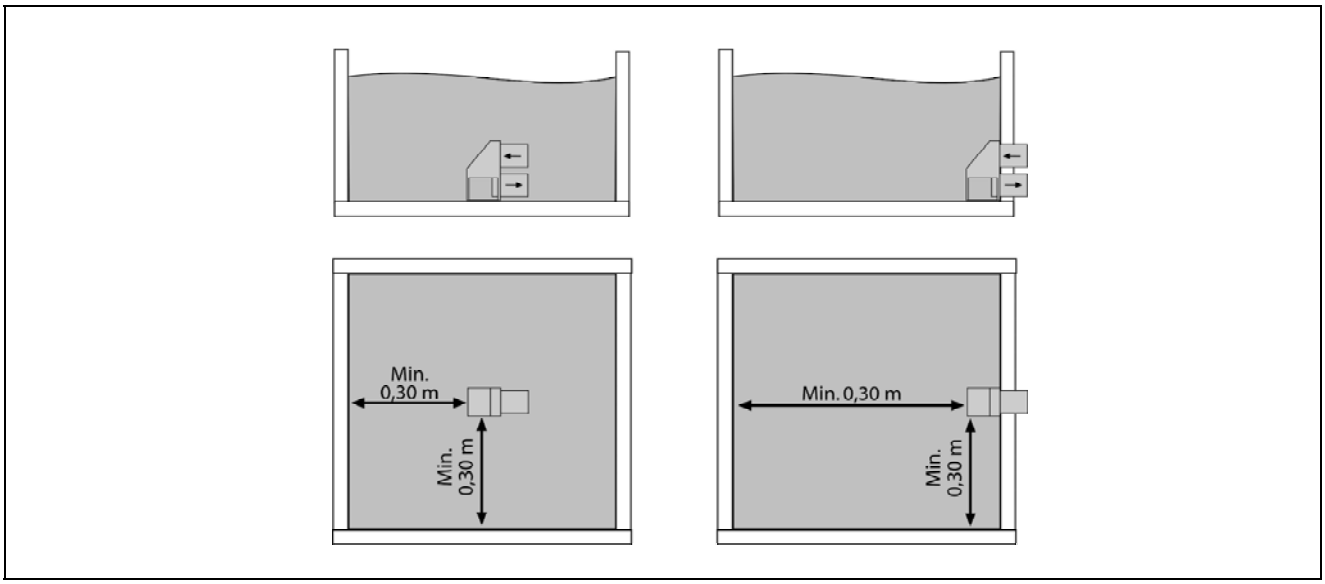
3.2 Dimensional characteristics of the main silo

The main pellet silo must be constructed by sufficiently trained personnel and must comply with all the national and regional regulations, standards and laws for this sector applicable at the time of construction, particularly those referring to fire safety, boiler rooms and building safety.

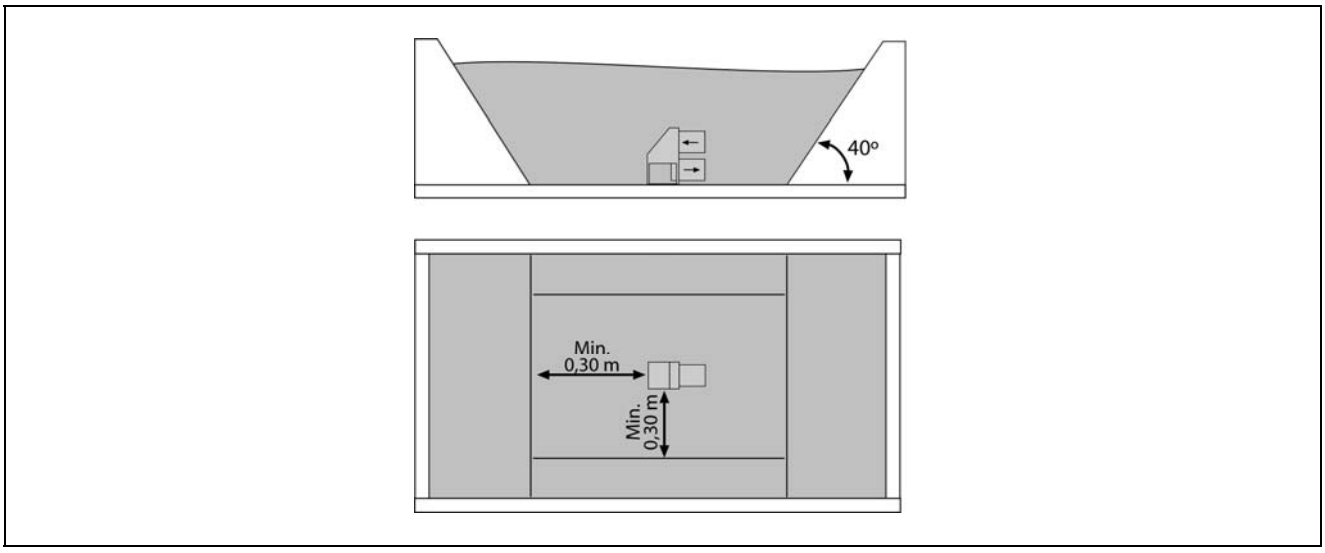
For the Kit to function correctly, it must be connected to a pneumatic suction system. The **Kit Suction Nozzle for construction tank** has been specially designed for connection to the **Kit Aspiration** system supplied by DOMUSA TEKNIK.

Construction of the main pellet silo must comply with the following size requirements for the Kit to function in combination with the Kit Aspiration system:

- The **Kit Suction Nozzle for construction tank** needs a few minimal spaces of planes surfaces, both in the sides and in the front part, of 0,30 meters.



- A minimum height of 0.5 metres is recommended.
- There are no requirements with regard to maximum silo height, although it must be low enough to allow for suitable filling.
- To guarantee the optimal utilization the pellets of the tank, we recommend constructing it with tilted sides with a maximum angle of 40 º, as shown in the picture below:



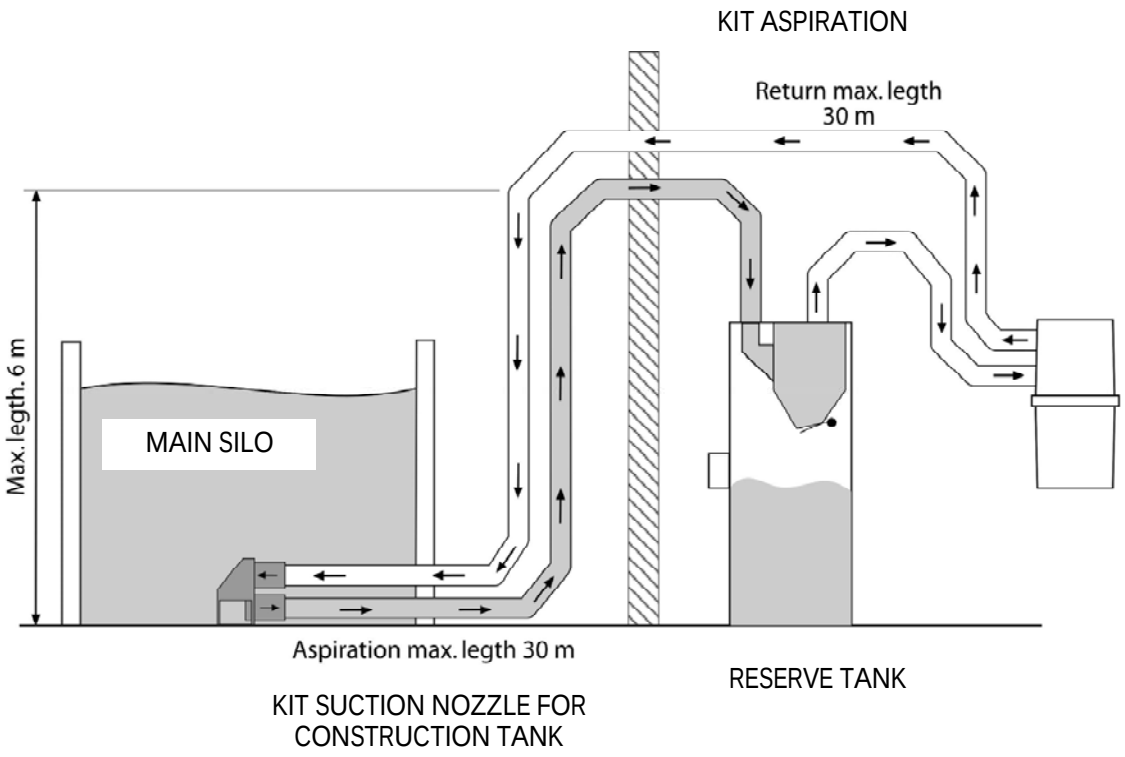
3.3 Characteristics of the suction hose

The **Kit Suction Nozzle for construction tank** for pellet removal and the pneumatic **Kit Aspiration** conveyor system, working in combination, are specially designed to function with an installation consisting of a plastic hose with an interior diameter of 50 mm. This hose must also 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 wood pellet transport and it must always have an interior diameter of 50 mm. The following recommendations must also be complied with for correctly installing the Kit in combination with the Kit Aspiration:

- The **maximum permitted hose length** is 30 metres for flow from the main silo to the suction pot and 30 metres for return.
- Bend angles of over 45º must be avoided wherever possible. If these cannot be avoided, any **curves** with angles of 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 conveyed 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 made 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 significant factor for ensuring maximum suction power for the system is the airtightness of the installation, and great care must therefore be taken on 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 wherever possible. The flow and return hoses of the pneumatic installation should be laid parallel to each other.
- For correct assembly of the hoses, they should be fixed to the walls and/or floor using suitable hose clamps throughout the entire installation, to ensure stability. The recommended maximum distance between the fixing points is 80 – 110 cm.

Some of the above recommendations are shown 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 any malfunctioning of the **Kit Suction Nozzle for construction tank** in combination with the Kit Aspiration if the installation does not comply with the above recommendations.

4 OPERATION

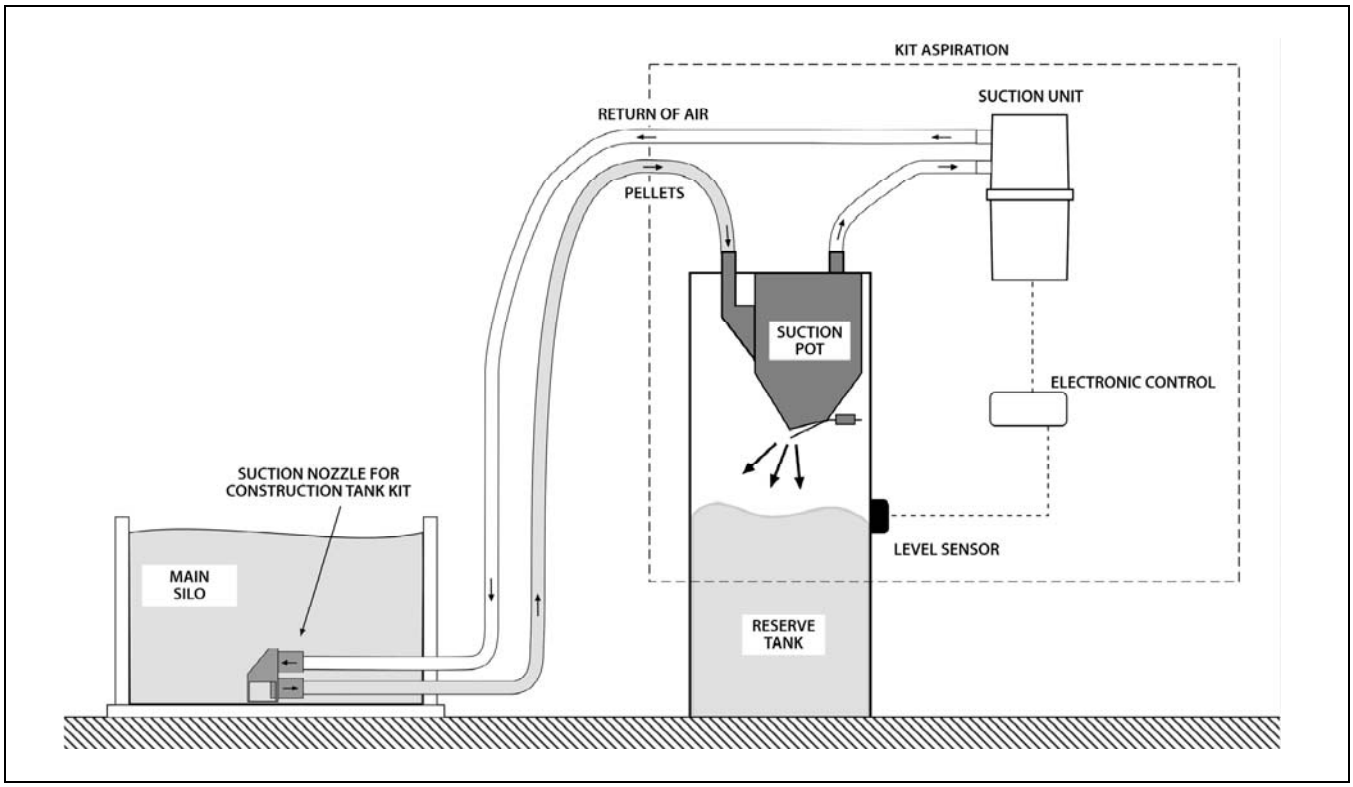
The **Kit Suction Nozzle for construction tank** removes pellets to a main pellet store or silo and, in combination with the pneumatic suction system (**Kit Aspiration** or **Kit Aspiration NG**), conveys these pellets to a smaller storage unit near the boiler (**Reserve Tank**).

The **Kit Suction Nozzle for construction tank** basically consists of two pneumatics connections, one where the pellet suction hose is connected, and other air return hose who removes the pellets from the main silo. The pellets are then sucked up by the pneumatic **Kit Aspiration** or **Kit Aspiration NG** system.

The suction system functions in cycles of a fixed duration to fill the suction pot in the **BioClass** or **BioClass NG** boiler reserve tank. These suction pot filling cycles are governed by the **Kit Aspiration** or **Kit Aspiration NG** electronic control system.

4.1 Operation with Kit Aspiration and BioClass boiler

The figure below shows a functional diagram of the **Kit Suction Nozzle for construction tank** installed in combination with a **Kit Aspiration**:



General system operation is as follows: when the level sensor detects a low pellet level, the electronic control starts up the suction unit and the **Kit Suction Nozzle for construction tank** motor, which begins to suck up the pellets from the silo or main store and convey them to the suction pot in the upper part of the boiler reserve tank. The suction unit runs for a set duration (a cycle), while it fills the suction pot. 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 suction pot has been emptied, the suction unit starts up again and runs for another full cycle. When the sensor detects pellets, the electronic control disables the functioning of the **Kit Aspiration** and then remains on standby until it requires activation again.

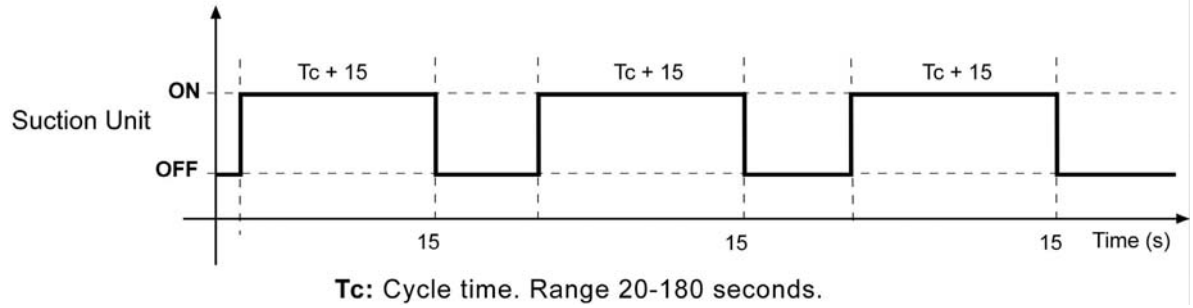
If the level sensor continues to detect no pellets after 8 consecutive cycles, the electronic control blocks the system functioning and the pilot light on the side of the control will come on to indicate a system anomaly. To unblock the system, disconnect the electronic control from the mains supply and then reconnect it.

Optimum cycle times with Kit Aspiration

When the **Kit Suction Nozzle for construction tank** is installed in combination with the **Kit Aspiration**, the cycle time can be adjusted using the adjustment screw on the side of the electronic control. This screw is used to optimise the filling time for the suction pot in the upper part of the reserve tank, adapting it to the different characteristics of each pneumatic installation. The adjustable time range is from a minimum of 35 seconds per cycle to a maximum of 195.

The **Kit Aspiration** electronic control starts up each cycle starting up the pellet suction process 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 **Kit Suction Nozzle for construction tank** 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.

In general, we recommend adjusting the cycle time to its maximum setting, by turning the adjustment screw clockwise as far as it will go. If the installation settings are causing the Kit Aspiration to fill up some time before the end of each cycle, we recommend reducing the cycle time for closer regulation, 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 vacuum cleaner's 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 diagram below shows the functioning cycles governed by the **Kit Aspiration** electronic control:



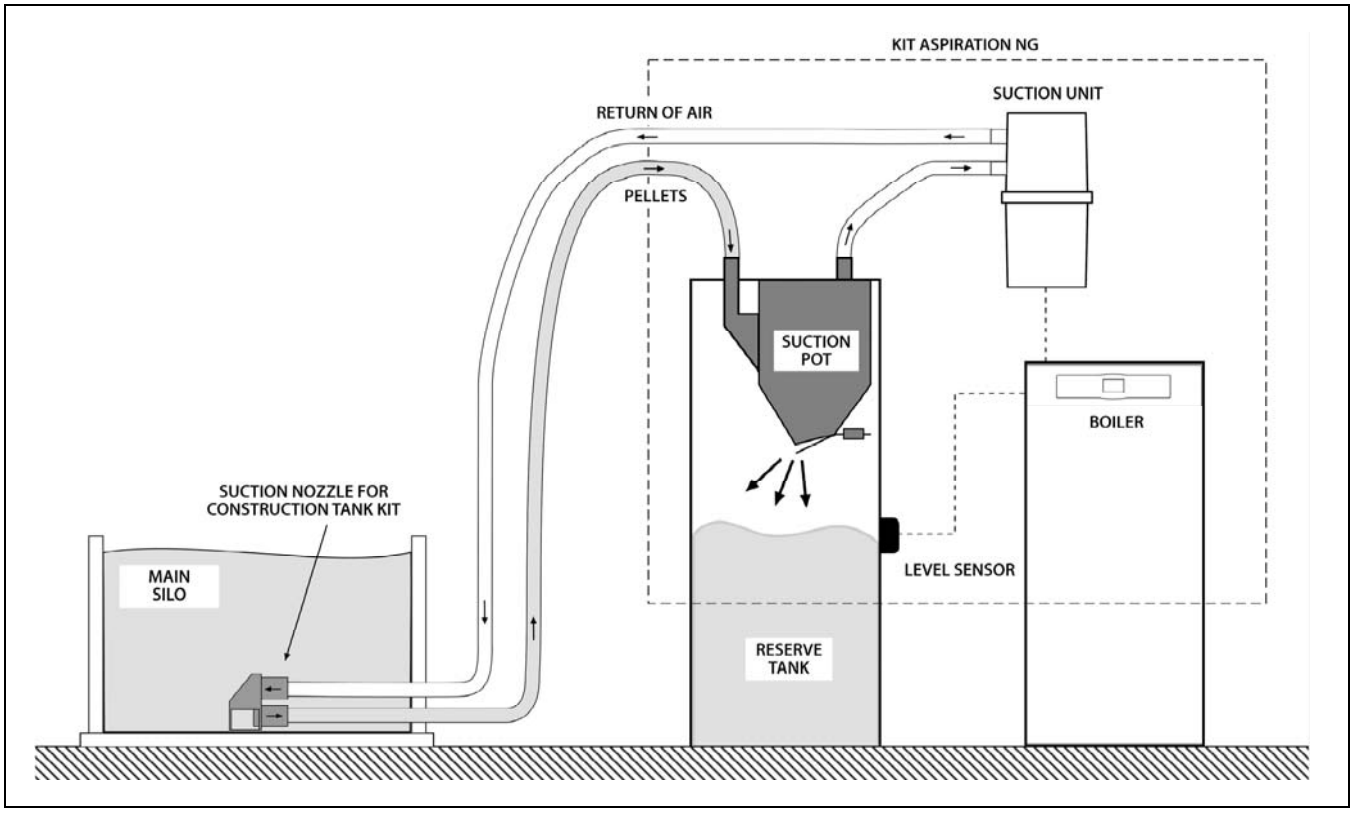
Tc: Cycle time. Range 20-180 seconds.

IMPORTANT: Thorough periodic maintenance of the Kit Aspiration's filter is vital to ensure sufficient uniform pellet suction flow.

NOTE: If you choose to install the **Kit Suction Nozzle for construction tank** with a control and suction system other than the Kit Aspiration supplied by DOMUSA TEKNIK, we recommend adjusting its functioning to the cycle types and times described above. **DOMUSA TEKNIK** does not guarantee correct functioning of the kit if other cycle types and times are used.

4.2 Operation with Kit Aspiration NG and BioClass NG boiler

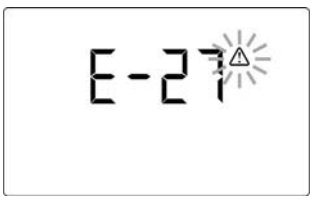
The figure below shows a functional diagram of the **Kit Suction Nozzle for construction tank** installed in combination with a **Kit Aspiration NG**:



General system operation is as follows: when the level sensor detects a low pellet level, the electronic control starts up the suction unit and the **Kit Suction Nozzle for construction tank** motor, which begins to suck up the pellets from the silo or main store and convey them to the suction pot in the upper part of the boiler reserve tank. The suction unit runs for a set duration (a cycle), while it fills the suction pot. 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 suction pot has been emptied, the suction unit starts up again and runs for another full cycle. When the sensor detects pellets, the electronic control disables the functioning of the **Kit Aspiration NG** and then remains on standby until it requires activation again.

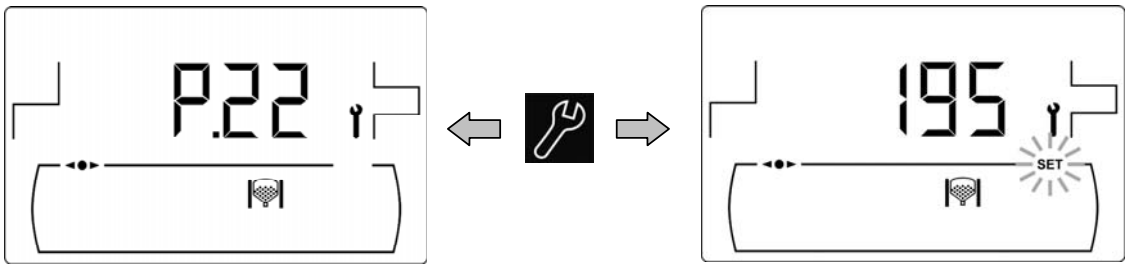
During the time that the suction unit runs, the symbol of the silo will be visualized flashing in the display of the **BioClass NG** boiler.

If the level sensor continues to detect no pellets after 8 consecutive cycles, the electronic control blocks the system functioning and the alarm **E-27** will be activated (Block of the Automatic loading system), in the display of the boiler. To unblock, press reset and 8 consecutive cycles will start again unless the sensor detects pellets, if the timer of the Automatic loading system allows it.



Optimum cycle times with Kit Aspiration NG

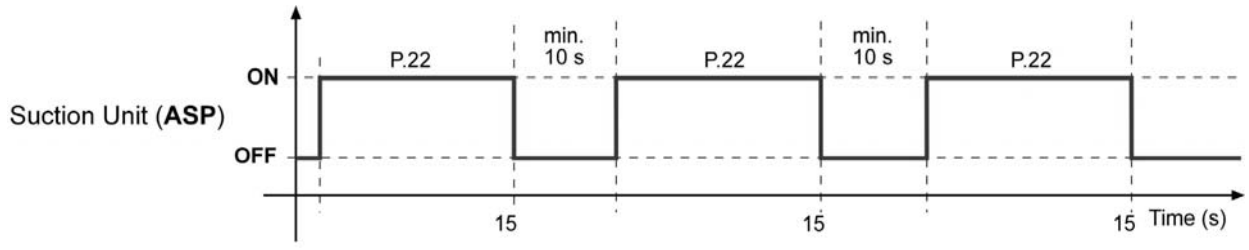
When the **Kit Suction Nozzle for construction tank** is installed in combination with the **Kit Aspiration NG,** the cycle time can be adjusted using the **P.22** setting of the "Technical" menu (see instructions of **BioClass NG**). This setting can be used to optimise the filling time for the suction pot on the reserve tank, adapting it to the different characteristics of each pneumatic installation (suction hose length, type of pellet removal system, etc.). The adjustable time range is from 35-195 seconds per cycle.



In general, we recommend adjusting the cycle time to its maximum setting. If the installation settings are causing the **Kit Aspiration NG** to fill up some time before the end of each cycle, we recommend reducing the cycle time for closer regulation, 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 vacuum cleaner's 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 **Kit Aspiration NG** electronic control starts up each cycle by activating the suction unit and the **Kit Suction Nozzle for construction tank** motor at the same time, turning the rotary plate and starting up the pellet suction process 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 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.

The diagram below shows the functioning cycles controlled by the Kit Aspiration NG:



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

IMPORTANT: Thorough regular maintenance of the **Kit Aspiration NG** filter is vital to ensure sufficient uniform pellet suction flow.

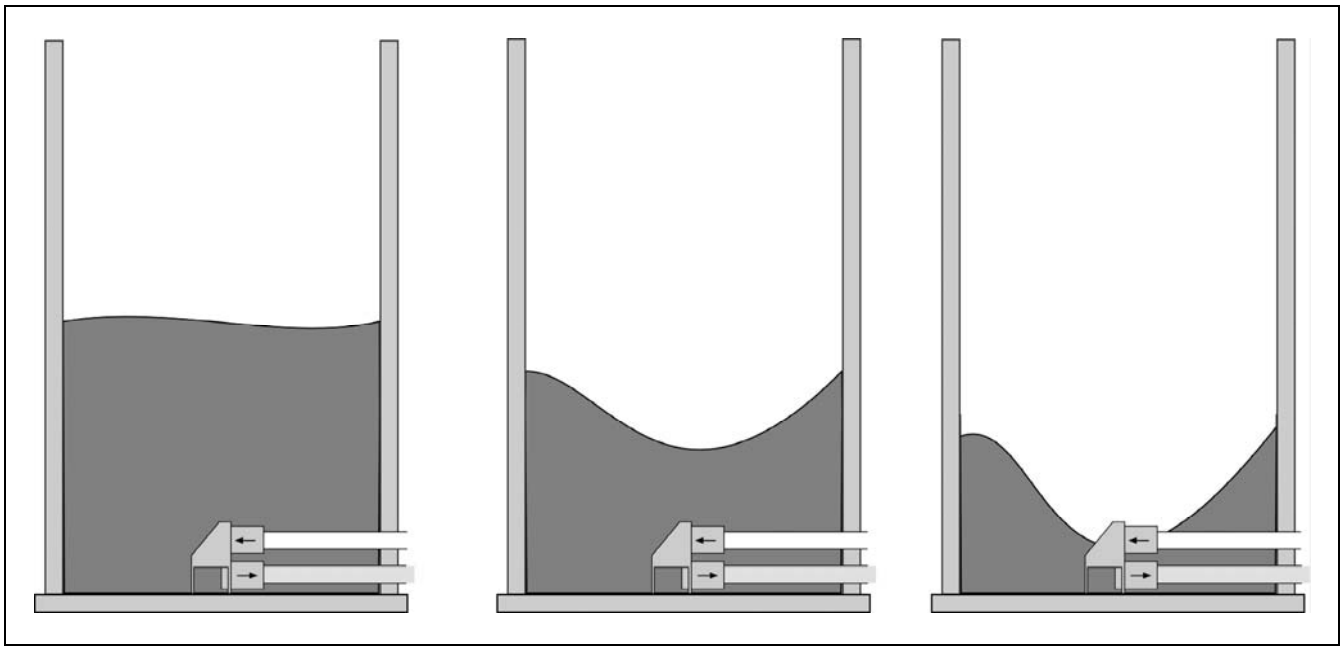
NOTE: If the suction system becomes blocked, this could mean there are insufficient pellets in the main silo or that the pneumatic hose installation has become blocked or is defective.

4.3 Pellet removal

Pellets are a bulk product and they vary naturally in length, diameter and accumulation of volatile material and dust. The pellet removal process described here may vary depending on the quality of the pellets used and on the particular silo design.

To ensure optimum, uniform and durable functioning of the removal system, it is vital to use high quality wood pellets of 6 mm diameter, compliant with the EN 14961-2 class A1 standard.

When the silo is completely full, the **Kit Suction Nozzle for construction tank** begins to form a cavity or a funnel effect, sucking in the pellets from the top of the silo until it reaches the bottom. The diagram below shows how the **Kit Suction Nozzle for construction tank** removes the pellets:



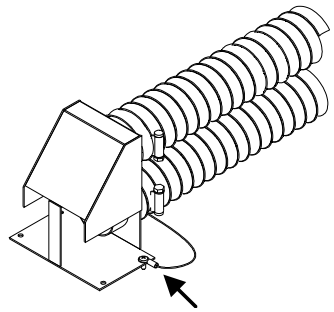
IMPORTANT: Correct functioning of the **Kit Suction Nozzle for construction tank** can only be guaranteed if the wood pellets used comply with the EN 14961-2 class A1 standard.

IMPORTANT: It is important to position the **Kit Suction Nozzle for construction tank** in the centre of the silo and ensure there are pellets underneath and around it, to guarantee even coverage of the entire surface.

5 ELECTRICAL CONNECTION

5.1 Electrical connection with Kit Aspiration or Kit Aspiration NG

For the correct operation connect to the earth the copper wire on the hose using the connector shown in the diagram. Both ends of the hose must be earthed.



6 TECHNICAL CHARACTERISTICS

The technical characteristics listed in the table below refer to installation of the **Kit** in combination with a pneumatic suction system – the **Kit Aspiration** – both supplied by **DOMUSA TEKNIK**.

TECHNICAL CHARACTERISTICS		VALUE
Maximum amount of pellets conveyed (*) (**)	Kg/min.	3 - 6
Maximum suction length (*)	m	30
Maximum suction height (*)	m	6
Suction hose diameter	mm	50
Connection voltage	-	230 V~ 50 Hz
Weight	Kg	0,660
Kit Suction Nozzle Width	mm	120
Kit Suction Nozzle height	mm	135

(*) This value only refers to installations made in combination with the **Kit Aspiration** optionally supplied by DOMUSA TEKNIK.

(**) This value will vary depending on the amount of dirt on the vacuum clener's filter, the maintenance of the **Kit Aspiration** pneumatic suction system, the length of the pneumatic installation and the quality of the wood pellets.

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