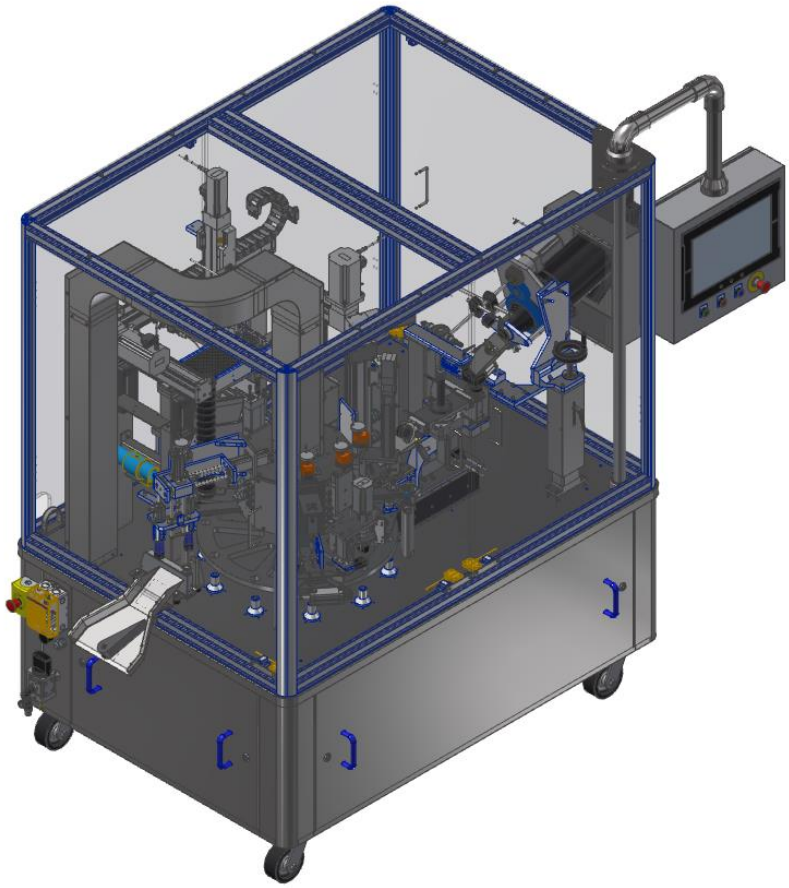
PreRoll-Er cleaning maintenance



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Revision Table

Revision #	Revision Title	Release date
00	Initial release	2021-06-29
01	Revision	2021-8-25
03	Revision	2022-12-01

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1 Introduction

This procedure serves as a guideline to the customer to keep their machine operating smoothly. The document can be used as received by the customer or it can be adapted depending on the tackiness of the cannabis. With that said, certain steps won't require a full disassembly, or they can even be skipped if the cannabis isn't sticked on a surface. We suggest to respect the cleaning frequency of the parts to keep the same quality of the final products

2 Required tools

All tools will be called during the procedure.

As for the cleaning materials, we recommend to use disposable wipes, such as Tork dry wipers or cloths. It is possible to use microfibers, but you can't use the same one to clean the entire machine.

For the chemical product, the decision is up to the customer and their requirements. The solvent isopropyl alcohol 70% is popular to clean most of components. Usage of a degreaser can be useful when the resin/keef of the cannabis sticks to a surface.

Blowgun	Venturi vacuum and accessories	Brush
		
Allen/hexagonal keys	Longnose plier	Screwdrivers
		

Partial clean or verification (suggested every 4 hours of operation depending on product properties moisture, grinding).

1- Interval: when required or max 4 hours of operation Station 4 1-clean the chute from the tumbler to pre dosing cup (alcohol can be used)

2-clean dosing gate:
2.1 lift tumbler by unlocking both locking screw's and turning lifting wheel clockwise
2.2 remove dosing gate guide by unscrewing bleu screw and sliding gate guide out
2.3 clean dosing gate and plastic guide(alcohol can be used)
2.4 reinstall guide lower tumbler (if tumbler is not lowered back down dosing performance may suffer)

3- Clean the chute form the turret cup unloading zone to the filling area cone(Use alcohol)

4. Use compressed air to clean the filling funnel,station 5 inverted funnel, station 1 podiums, station 4 fiber optics (make sure fiber optic amplifier amber light does not stay on when no paper is present).

5. Check needle end for accumulation (clean with alcohol if needed use precaution not to bend needle)

Station 5

5.1Unscrew compaction rod and guide, clean compaction rod (alcohol can be used)

5.2 use cylindrical dry brush (pipe cleaner) on flower (alcohol will dry out “o” ring prematurely)

Reinstall compaction rod and guide make sure rod slides up and down with minimal restriction

6. Visual inspection

Verify that machine does not present any abnormal accumulation and inside of cone holders are not dirty.

3 Pre-cleaning of the machine (Step-by-step)

A pre-cleaning of the entire machine will help to reduce cleaning time.

A. Sweep the floor where the machine will be place with a broom.
B. Unplug the electricity and pressured air of the PreRoll.
C. Use the blowgun and/or the vacuum to get rid of dust and dirt following one direction. (Example: from left to right only, as shown is figure 3.1 below with the red arrow). Start from the top to the bottom. If the blowgun is used, reduce the pressure to avoid floating particles in the machine.

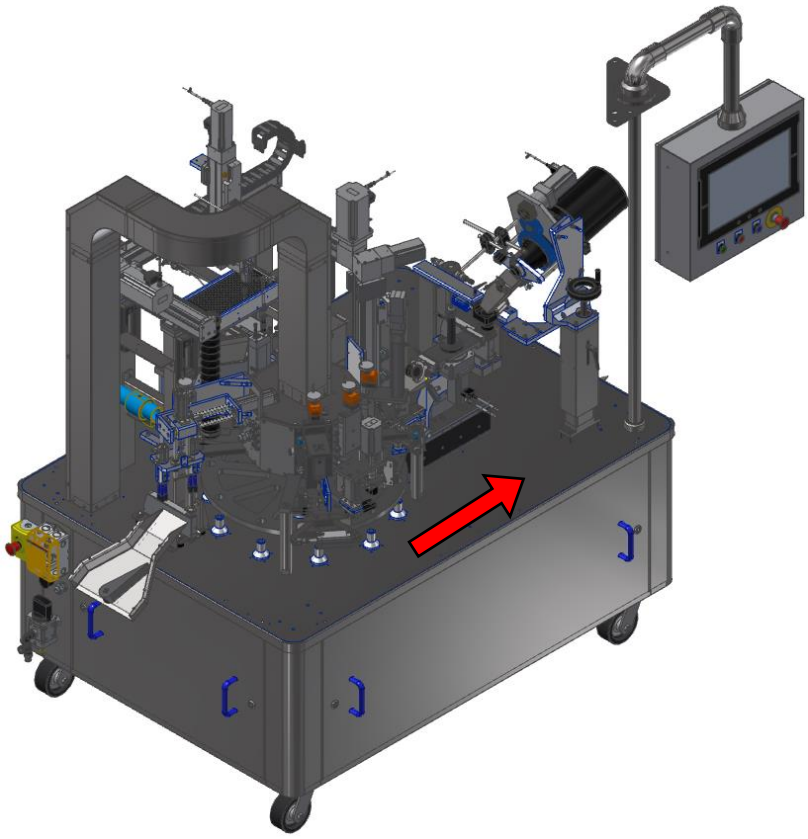


Figure 3.1: Example of direction of the pre-cleaning

NOTE: Use the brush where the blowgun and vacuum can't clean restricted areas. Make sure the vacuum accessories tips don't scratch the aluminium surface.
SAFETY: It's recommended to wear earplugs while using the blowgun and the vacuum.

D. Pick up the dust and dirt from the machine with a broom and a dust pan.

4 Components cleaning by station

4.1 Station 1

4.1.1 Cone holders

Inspection freq.: every 20h *Cleaning freq.: every 2 days*

A. The best position for the worker to remove all the cone holders is at the right side of the exit chute. The carousel should move freely, so the worker can stay at this position to remove the 10 holders.
B. Insert the tip of a flat head screwdriver between the bottom of the carousel and the top of the O-Ring. Make an upside move with the handle and lock the O-Ring with the thumb, as shown in the next figure

Figure 4.1: First step to remove the O-Ring of the cone holders

C. While holding the O-Ring, go around it with the flat head to remove partially the ring from the groove. When the ring doesn't sit in its groove for ¼ to ½ of the circumference, it's possible to roll it down with fingers.

Figure 4.2: Removal of the O-Ring with the fingers

D. With a longnose plier, remove the external ring.

Figure 4.3: Position of the longnose to remove the retaining ring

E. Clean every surface of the components with an alcoholic wipe and the brush.

Figure 4.4: Components to clean when the holder is disassembled

4.1.2 Push-up rods

Inspection freq.: every 8h (rod tip) & vacuum top of linear guide every 4h

Cleaning freq.: every 2 days

Please follow the directions on the HMI screen on the clean rod mode. To access this mode, go to the main page, and click on the service button at the bottom right corner. On this page, click on the cleaning push rod mode and follow the steps on the screen.

A. When the rod is at its highest position, clean the tip of the rods and the top plate at station 4 with a wipe

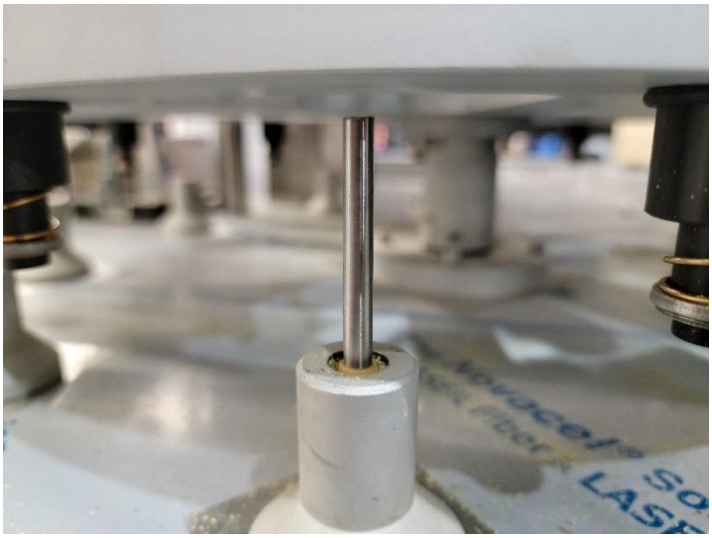


Figure 4.5: Position of push rod when it's ready to be cleaned

B. With a brush, remove particles inside the top of the linear guide if the vacuum isn't enough.

Figure 4.6: Linear guide to clean

4.1.3 Push-up rods (weekly cleaning)

Make sure the frame doors are removed to access the underside of the machine

A. Unscrew the two bolts with the appropriate tool. Make sure to not lose any fasteners.

Figure 4.7: Unscrewing a cylinder underneath the machine

B. Carefully remove the cylinder. Tilting the cylinder is required to remove it.

CAUTION: Watch the cables and the pneumatic controls. A rubber washer around the push rod might fall when removing the cylinder.

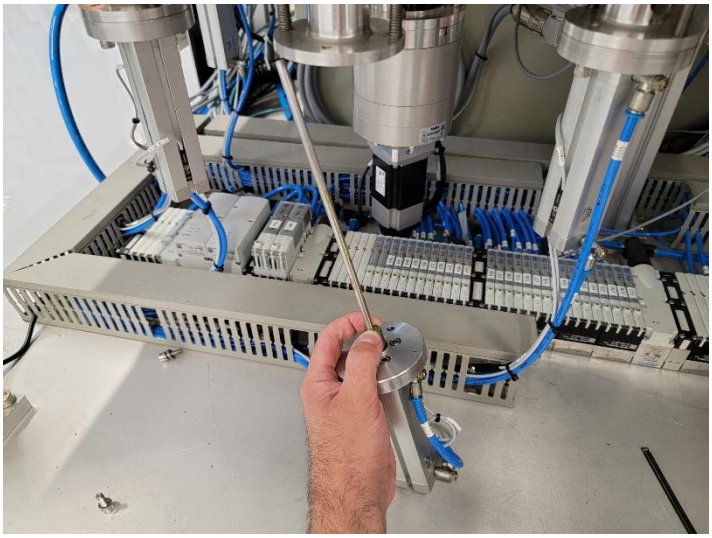


Figure 4.8: Angle required to remove the cylinder

C. Clean the rod and the washer.

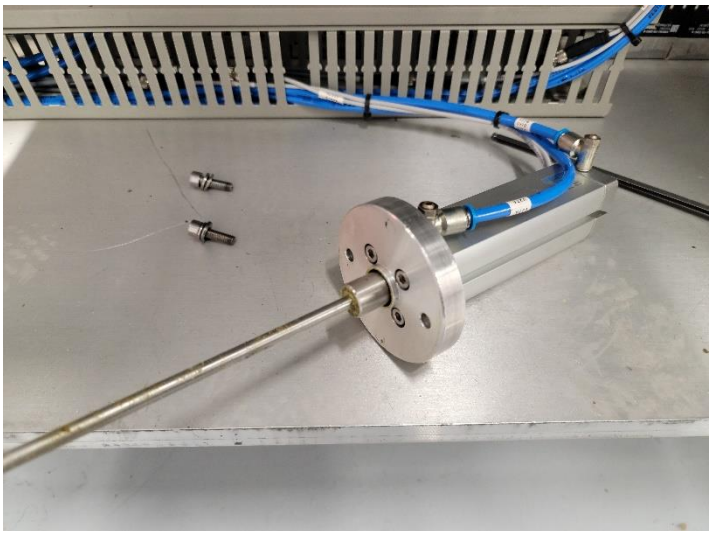


Figure 4.9: Rod to clean when it's removed

4.2 Station 2

This station doesn't require any cleaning for maintenance. However, it is recommended to give a harder scrub with a wipe under the cone tray and on the grippers.

4.3 Station 3

This station doesn't require any cleaning for maintenance. However, it is recommended to give a harder scrub with a wipe the outside of the nozzle.

4.4 Station 4

4.4.1 Tumbler

Inspection freq.: every 4h *Cleaning freq.: every 8h*

~~A.~~ Position your hands on the tumbler as shown in figure 4.10.

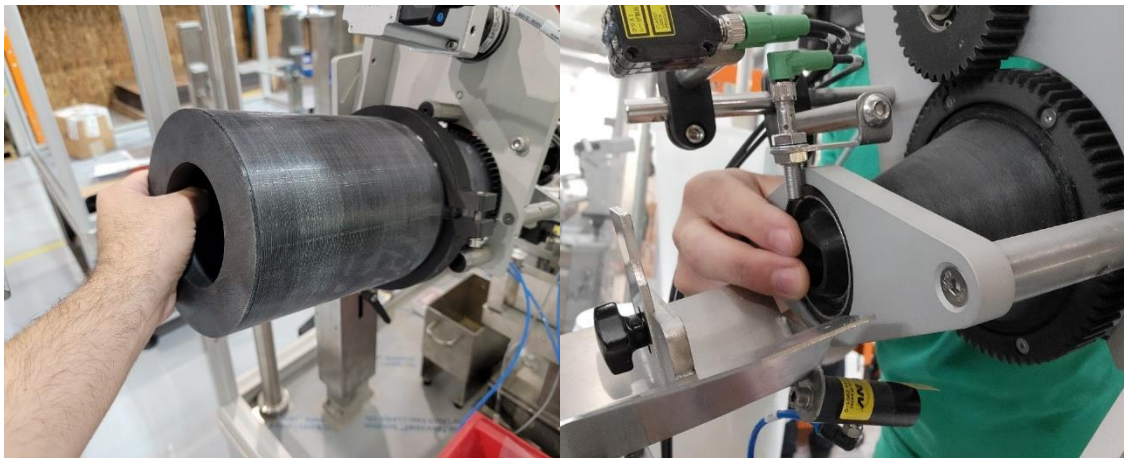


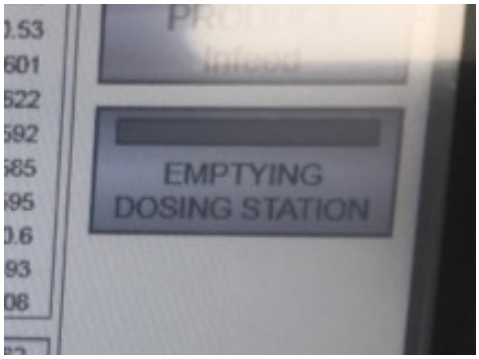
Figure 4.10: Position of hands while removing the tumbler (ST4)

~~B.~~ Press the tip of the tumbler with the 2 fingers while supporting the assembly with the left hand. There will be some resistance.

CAUTION: Do not over apply excessive force on the tumbler. Do not touch the induction sensor above the tumbler ring.

C. Clean the tumbler with a dry cloth.

Use emptying Dosing station mode,located at main page top right corner



4.4.2 Dosing gate

Inspection freq.: every 2h *Cleaning freq.: every 4h*

A. Raise the tumbler support and unscrew the gate assembly with the blue handle.

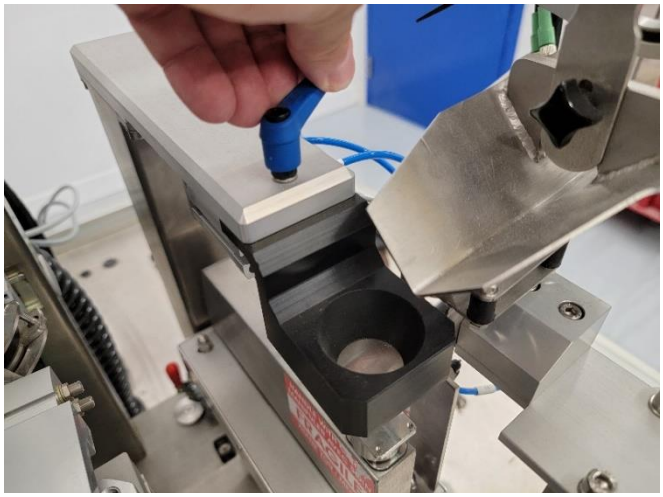


Figure 4.11: Unscrewing the base of the dosing gate

B. Slide the base from the aluminium drawer underneath.

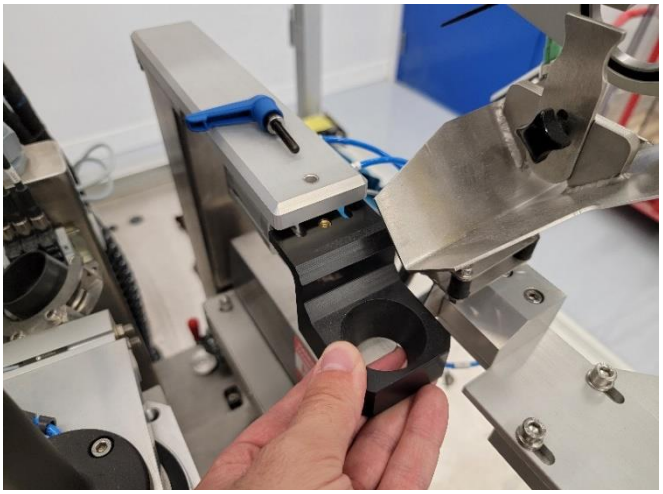


Figure 4.12: Direction to slide the base from the drawer

D. Clean both components, especially the top surface of the drawer and the bottom of the base. If there's residue between the screw and the drawer, unscrew the bolt to clean it

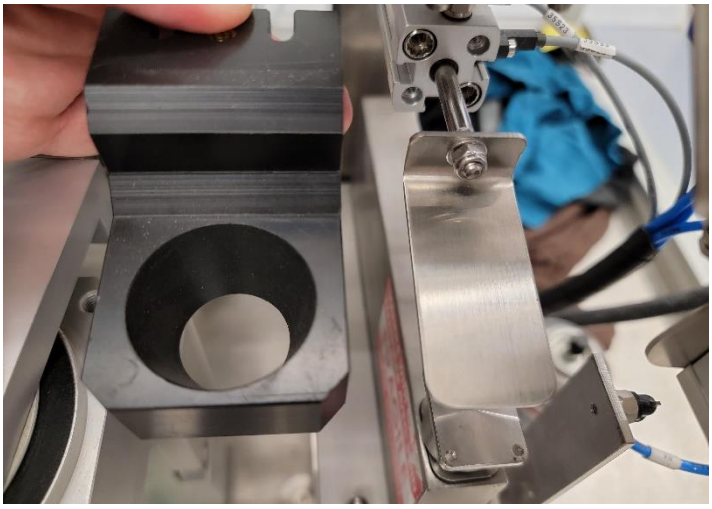


Figure 4.13: Components to clean from the dosing gate

4.4.3 V-funnels

Inspection freq.: every 4h *Cleaning freq.: every 8h*

Check for speed loss of product over time clean funnels if nesseary

No dismantled needed, only a caution to be careful with the rubber supports of the funnels when applying force to clean them.

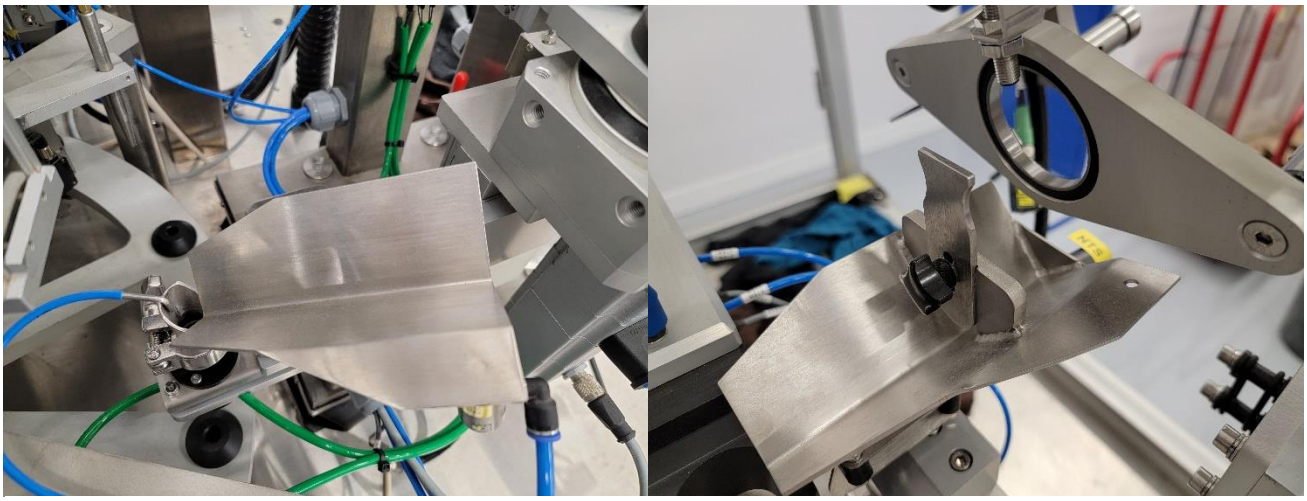


Figure 4.14: On the left, the bottom funnel. On the right, the higher funnel on station 4

4.4.4 Rotating cups

Inspection freq.: every 4h *Cleaning freq.: every 8h*

Remove the cups to ease the cleaning process

A. Grab and pull the cup while turning to remove it.

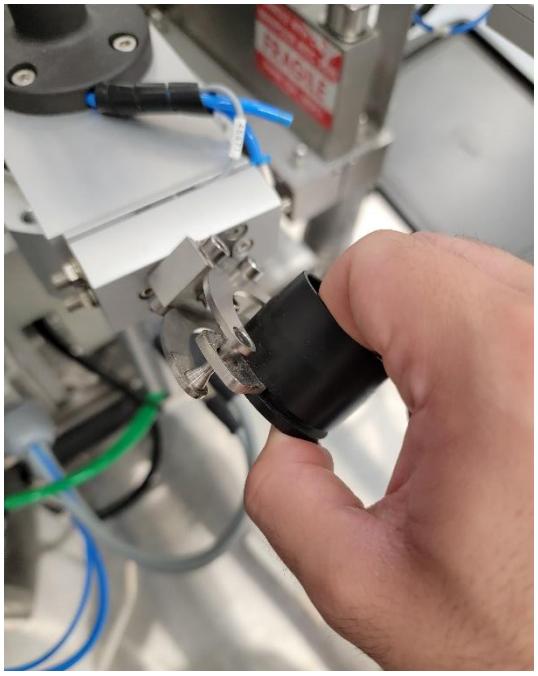


Figure 4.15: Method to remove the cups from rotating arm

B. Clean the components with an alcoholic wipe

Figure 4.16: Component to clean after the removal of the cups

NOTE: Make sure the groove of the cup snaps back in the metal clamp during reassemble.

4.4.5 Needle

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Remove the cotter pin with the longnose plier following the direction of the red arrow on figure 4.5.
B. Pull down the needle. Be careful to not lose the spring or the ring at the top.

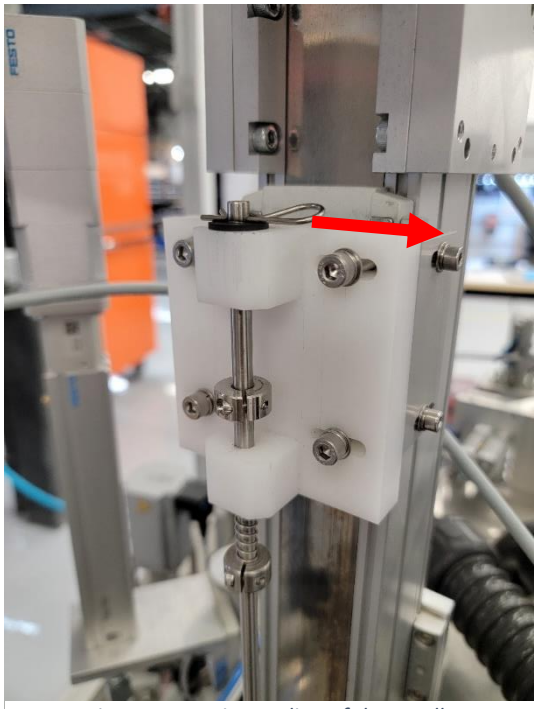


Figure 4.17: Dismantling of the needle

C. Clean the components, especially the bottom part of the needle.

4.4.6 Entry of cannabis

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Unscrew the head of the clamp.

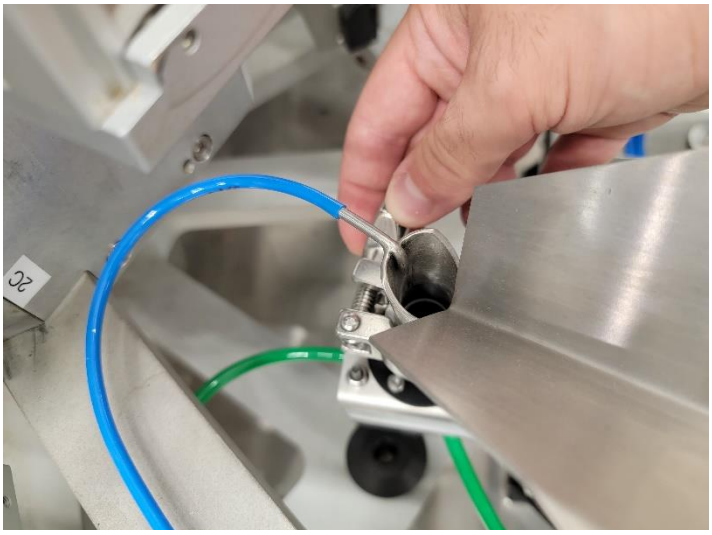


Figure 4.18: Untighten the bolt to remove the nozzle

B. Remove the nozzle while keeping the air cable connected and the white plastic ring.

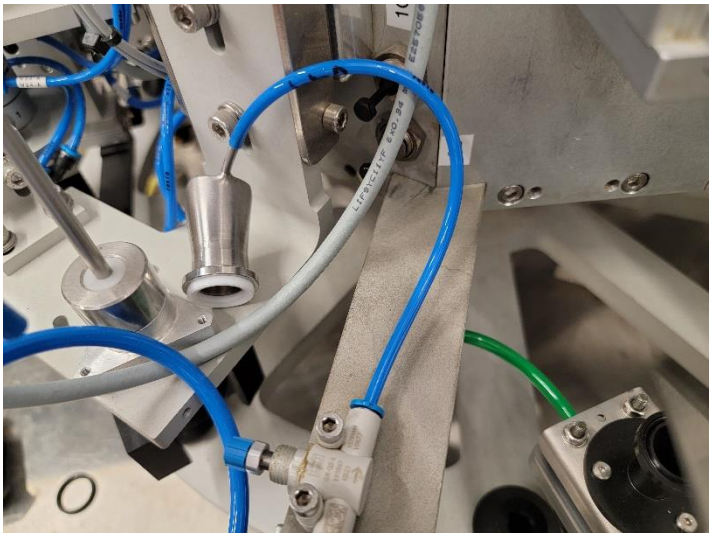


Figure 4.19: Recommended position to place the removed nozzle

C. Unscrew three bolts to remove the funnel base.

Figure 4.20: Dismantling of the funnel base

D. Clean the components with a wipe and the brush.

Figure 4.21: Components to clean from the entry of cannabis

4.5 Station 5

4.5.1 Compression rod

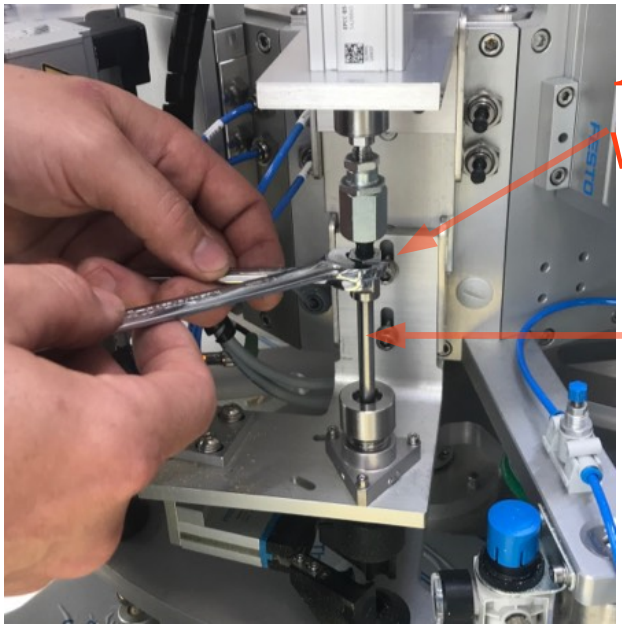
Inspection freq.: every 4h *Cleaning freq.: every 8h*

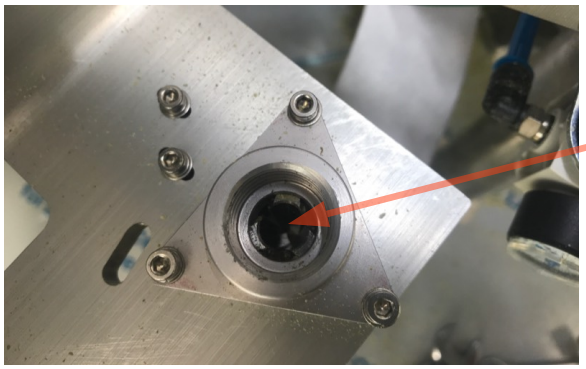
4.5 Station 5

4.5.1after cleaning with compressed air ,Unscrew compaction rod and guide, clean compaction rod (alcohol can be used)

4.5.2 use cylindrical dry brush (pipe cleaner) on flower (alcohol will dry out “o” ring prematurely)

Reinstall compaction rod and guide make sure rod slides up and down with minimal restriction.





4.5.2 Grippers

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Unscrew the two bolts indicated on figure 4.24.

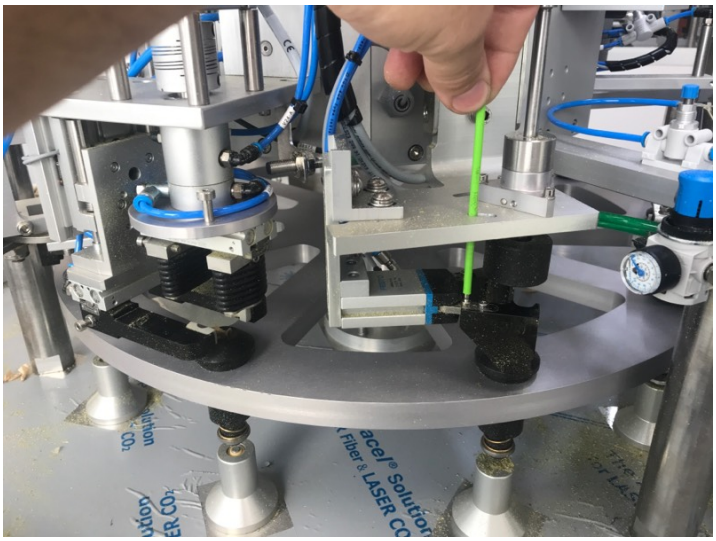


Figure 4.24: Bolts to remove to free the grippers

B. Clean the grippers and bellow the main plate of station 5 with a brush.

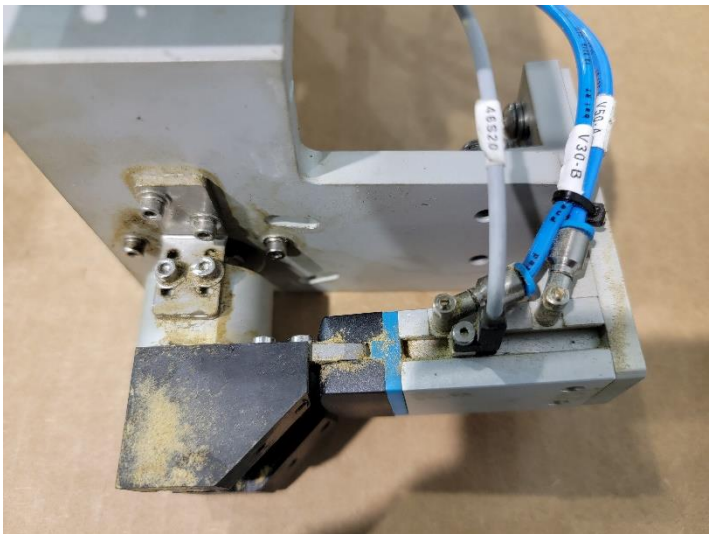


Figure 4.25: Areas to clean at the bottom rear of station 5

4.6 Station 6

4.6.1 Grippers

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Remove the foam on both grippers

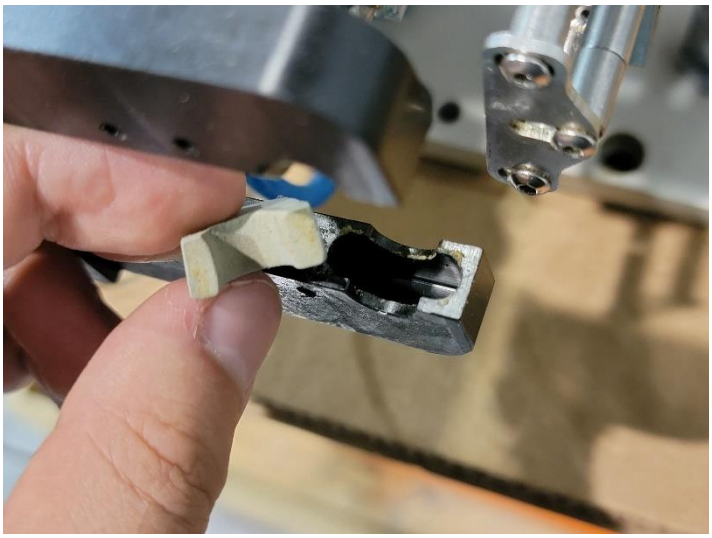


Figure 4.26: Removal of the foam from the grippers

B. Clean the four components thoroughly with a dry wipe.

4.6.2 Twister

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Remove all the O-Rings from the twister by pulling them out.

Figure 4.27: Twister without the O-Rings

B. Clean all the O-Rings and the twister mechanism.
It's possible to do a rotation each 1-2 days of the O-Rings to extend their lifetime.

4.7 Station 7

4.7.1 Blade and grippers

Inspection freq.: every 4h *Cleaning freq.: every 8h*

A. Unscrew the bolt holding the blade.

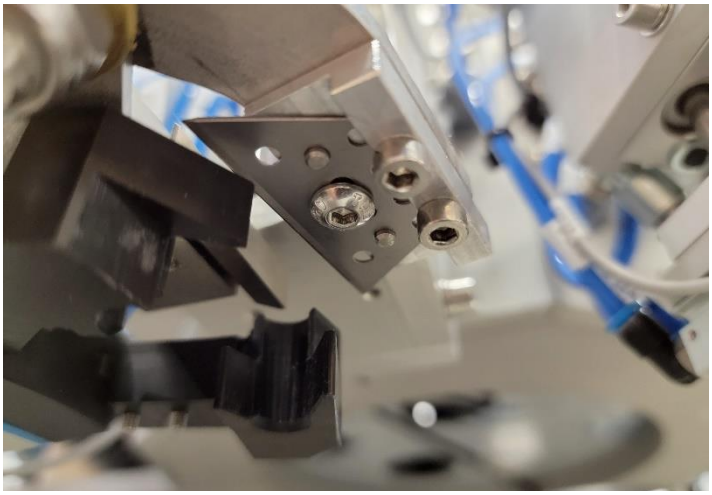


Figure 4.28: Bolt to remove to clean the blade and access the grippers

B. Clean the blade carefully and the grippers with an alcohol wipe

4.7.2 Flat top rod

Inspection freq.: every 4h *Cleaning freq.: every 8h*

Clean without removing it.

CAUTION: It's highly recommended to remove the blade before starting the cleaning process.

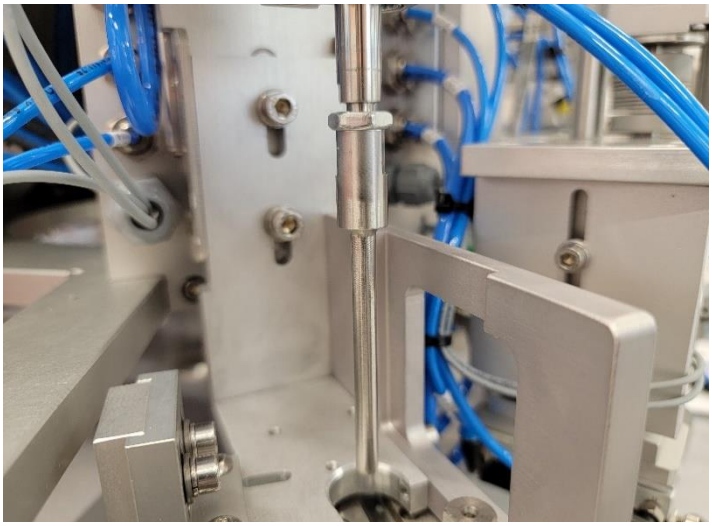


Figure 4.29: Flat top rod to clean on station 7