EN InkONE
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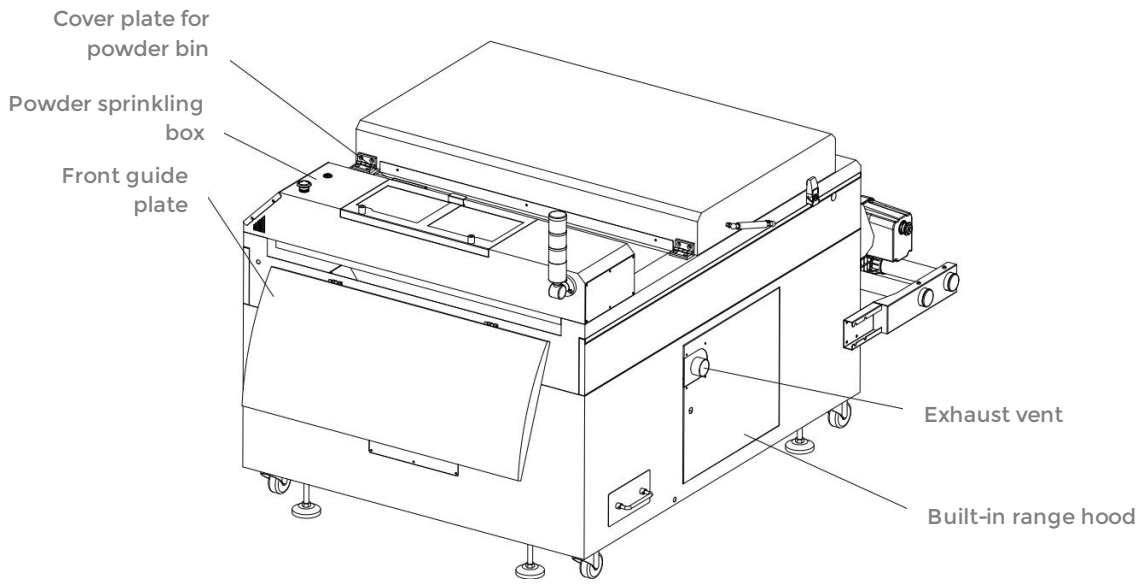
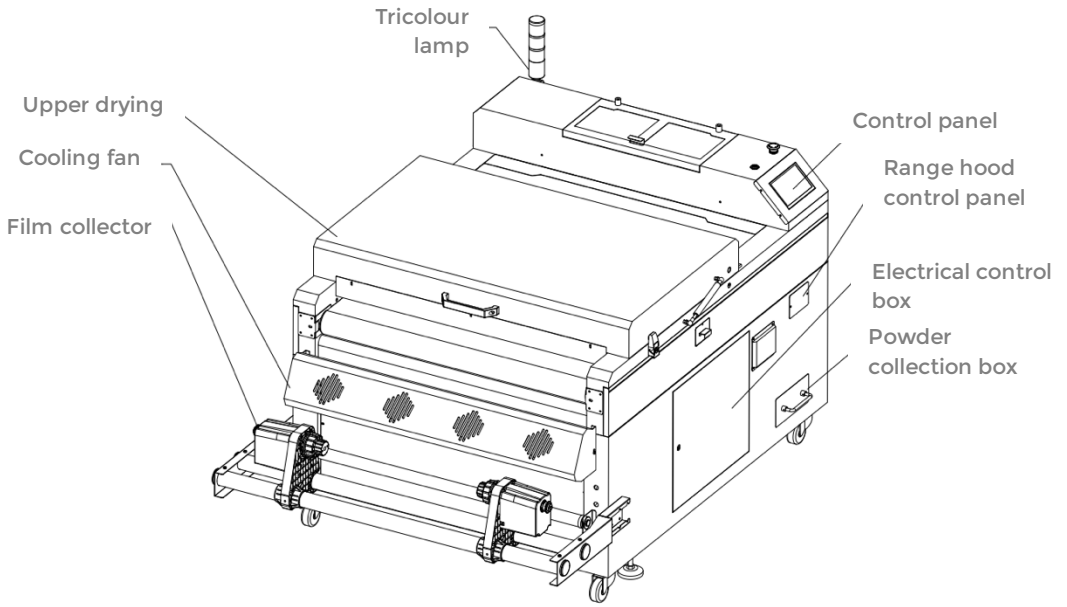
DTF Dryer and Shaker InkOne SZ1 manual

In this manual, you will find the instructions to install, maintain, and correctly operate your DTF Dryer and Shaker InkOne SZ1.

Contents

1.Overview





2.Safety Instructions

2.1.Safety Signage:

CAUTION

Any content marked with this symbol indicates a part to which the user must pay special attention, as incorrect operation may cause equipment damage or other losses.

2.2.Product Description:

This machine is a high-power, high-temperature device. It is essential that the user provides an appropriate industrial electrical installation and places the machine in a suitable environment. Do not touch any areas marked with high-temperature symbols to avoid burns.
We recommend familiarizing yourself with the machine's parameters before starting it to prepare for proper use:

Technical Specifications	Dryer and Shaker InkOne SZ1
Rated voltage	220 V
Rated current	26,7 A
Rated power	5,7 KW
Printing power consumption	2,7 KW/h
Weight	228 Kg (with fume extractor)
Supported speed	15 m^2/h
Maximum supported width	up to 90 cm
Wooden case dimensions	160,0 × 145,0 × 111,3 cm
Equipment dimensions	198,4 × 127,6 × 99,2 cm

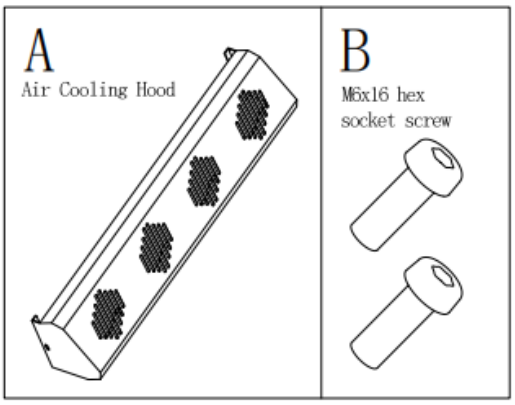
2.3.Pre-startup Instructions:

CAUTION

A. Electrical hazard: Before starting the machine, make sure the ground wire is properly connected. Otherwise, it may cause serious personal injury.
B. The connected power supply must match the machine's electrical requirements, and the cable cross-section must comply with the rated specifications.
C. Check that the electrical connection has been properly made, paying special attention to the correct connection of phase and neutral wires.
D. Individuals sensitive to static electricity must use appropriate personal protective equipment when operating the device.

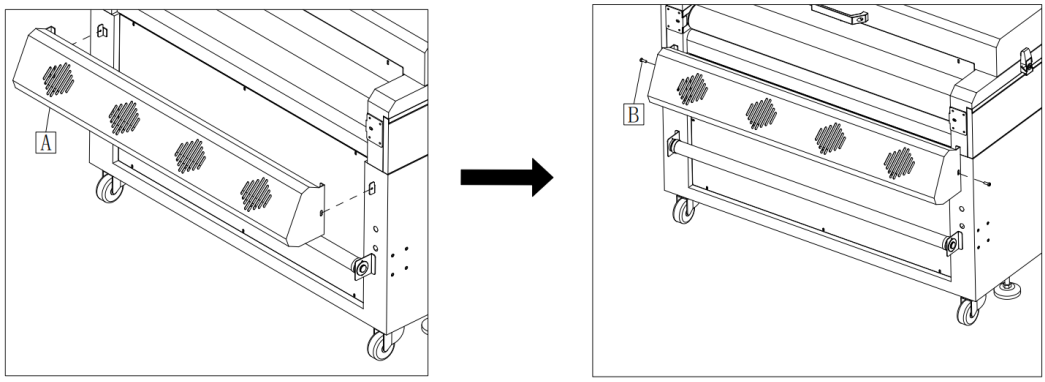
3.Accessory Installation

3.1.Cooling Fan Installation and Parts

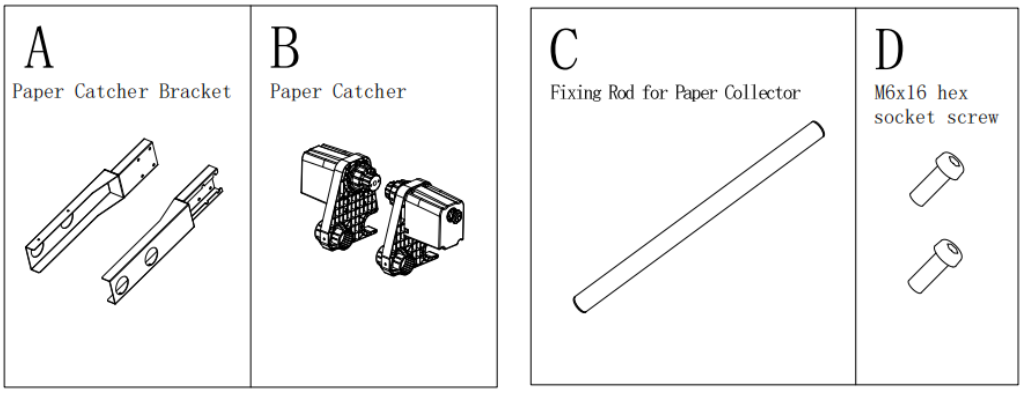


A. Step 1: Align the M6 holes on both sides of the cold air hood with the arrows marked on the corresponding sheet metal parts.

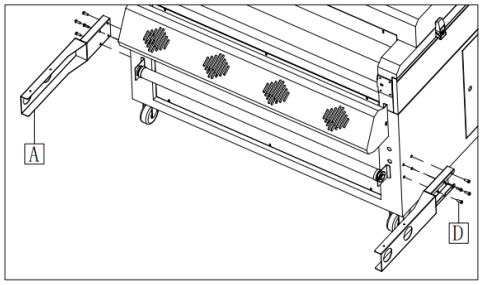
B. Step 2: Insert the M6 screws into the holes on both sides to secure the hood in place.



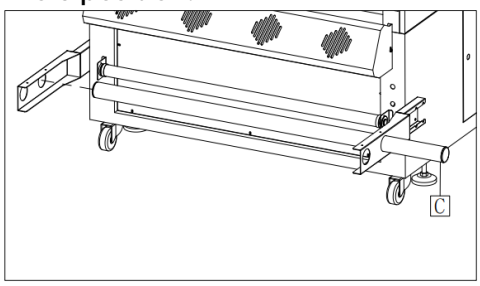
3.2.Film Collector Bracket Installation



A. Step 1: Install 4 M6 screws on each side to secure the film collector bracket.

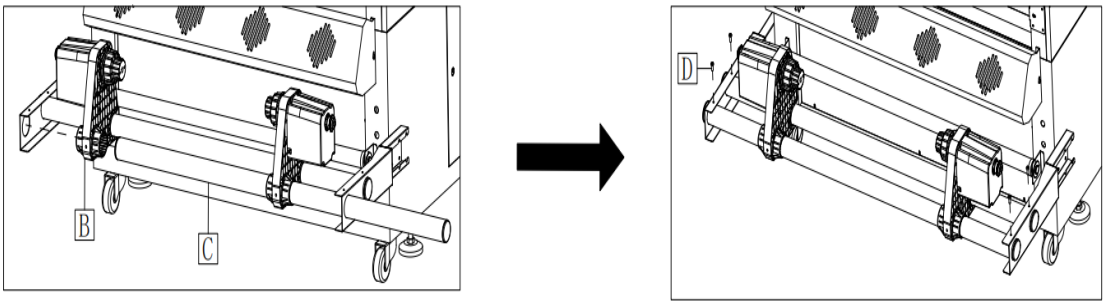


B. Step 2: First, install the fixing rod for the first film collector, centered in the inner hole position.



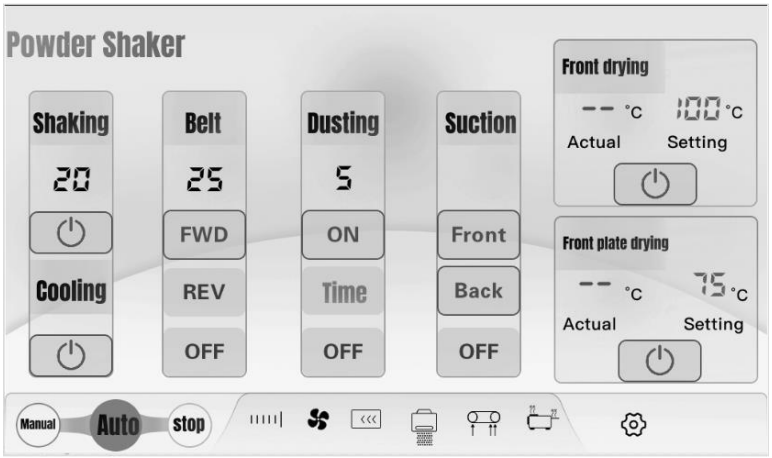
C. Step 3: Install the fixing rod for the second film collector. It should be placed near the outer hole, installing the collector simultaneously.

D. Step 4: Once the second rod is installed, ensure that both rods are centered and aligned, and secure them with 2 M6 screws on each side.



4.Operation Procedure

4.1.Control Box Diagram



A. Confirm that the external power supply of the equipment is connected (AC 220V 50/60Hz).
B. Ensure that the ground wire is properly connected.
C. Align the printer with the powder shaking machine before use (to avoid material misalignment during collection).
D. Secure the material on the feeder and insert it into the printer for printing. For specific operations, refer to the "Material Winding Method" section.
E. Turn on the "Main Power Switch" on the control box.

4.2.Function Settings

A. Tap on the screen to access the function settings menu. By clicking on the "Powder Shaking Speed" field, a numeric input interface will appear. Enter the desired value to set the shaking speed. After entering the value, press "Confirm" to return to the main screen.
B. The same procedure applies to set the conveyor belt speed, pre-drying temperature, front guide plate temperature, and other speed and temperature setting.

4.3. Enabling and Disabling Functions

A. Powder Shaking Function ON/OFF: Tap the power symbol located below "Powder Shaking".
   - When it is red, the function is off.
   - When tapped and turns green, the powder shaking function is activated.

B. Powder Dispensing Function ON/OFF: Tap the "On" or "Off" button located below "Powder Dispensing".

C. Conveyor Belt ON/OFF and Direction: Tap "Off", "Forward" or "Reverse" below "Conveyor Belt" to select the desired operating state.

D. Pre-drying Heating Function ON/OFF: Tap the power symbol in the corresponding section.
   - If red, heating is off.
   - If green, heating is on.

E. Front Guide Plate Heating Function ON/OFF: Same procedure as above, applied to the "Front Guide Plate" section.

F. Cooling Fan Function ON/OFF: Tap the power symbol below "Cooling Fan".
   - Red: off
   - Green: on

G. Conveyor Belt Suction Function ON/OFF and Direction: Tap "Off", "Forward", or "Reverse" below "Conveyor Belt Suction".

4.4. Operation Modes

A. "Manual" function in the bottom left corner of the screen:
   - In manual mode, the machine operates according to the set parameters, without relying on sensors.
   - In automatic mode, sensors detect the presence of film:
     - If there is no film, the conveyor stops and both powder shaking and dispensing turn off after 10 seconds.
     - If film is present, the system operates normally.
   - The "Stop" mode halts the conveyor, powder shaking, and dispensing, but other functions continue to operate.
   - Pressing “Automatic” restores automatic mode; pressing “Manual” switches it back to manual mode.

B. Accessing advanced settings: Long-press the gear icon (bottom right corner) to adjust language, time, and other settings.

4.5. Additional Functions

A. Automatic temperature holding function: In automatic mode, if printing stops for more than 20 seconds, the machine automatically lowers the temperature by 20 °C from the operating value (e.g., from 100 °C to 80 °C). When printing resumes, the temperature returns to the original setting.
   In manual mode, the temperature does not adjust automatically.

B. Switching between speed and time modes for powder dispensing:
   - Tap "Speed" under "Powder Dispensing" to switch to Time mode.
   - Tap again to return to Speed mode.
   - In Speed mode, the numeric value adjusts the dispensing speed.
   - In Time mode, the value adjusts the duration. Example:
     - Level 1 → 1 min working, 15 min pause
     - Level 2 → 2 min working, 15 min pause

...up to level 15

If powder dispensing is insufficient, adjust the desired time, turn off the function, and turn it back on to apply the new setting.

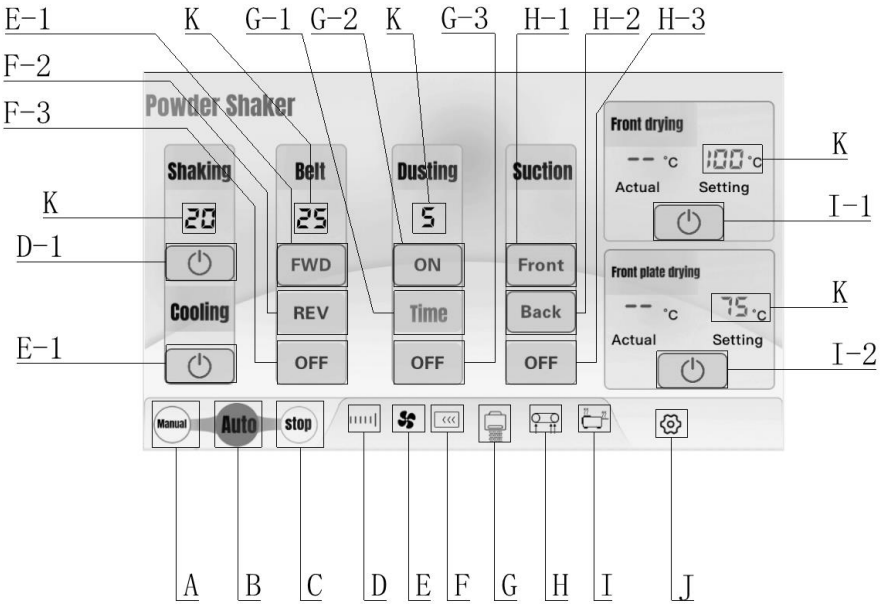
C. Fume extractor speed adjustment:
   - Tap "+" on the left to turn it on.
   - Press and hold "-" on the right for 3 seconds to access the speed setting.
   - Levels from 1 to 10 are available.

4.6. Safety and Recommendations

A. Safety protection: If the powder chamber cover is opened, the screen will display a warning and the powder shaking, powder dispensing, and conveyor belt will stop. Once the cover is closed, all operations will resume normally.
B. Low powder alert: When the powder level is insufficient, a message will appear on the screen prompting to refill the powder.
C. Recommended settings:
   - Conveyor speed: level 30.
   - Powder shaking speed: level 15.
   - Powder dispensing speed: level 15 (or level 7 in Time mode).
   - Pre-drying temperature: 120 °C.
   - Front guide plate temperature: 60 °C (Adjust according to the powder's melting point and the material used).
D. After setting all parameters, start the powder shaking and color fixing process.
E. Once the process is completed, turn off all heating switches.
F. System indicator lights:
   - Green light: normal operation.
   - Yellow light:
     - Flashes when powder is low (returns to green after refilling)
     - Also flashes if the powder bin cover is open, disabling powder shaking until it is properly closed.

5.User Interface Overview

5.1.Operator Panel Illustration



5.2.Mode Selection Keys

A. This key activates manual mode when pressed. It cannot be deactivated directly; to change the mode, press keys B or C. Once activated, the powder shaking machine will operate in manual mode.
B. This key activates automatic mode when pressed. It cannot be deactivated directly; to change the mode, press keys A or C.
C. This key activates stop mode when pressed. It stops all active operations. It cannot be deactivated directly; to change the mode, press keys A or B.

5.3.Operating Status Indicators

D. Powder shaking motor: When the motor is off, the icon remains static.
   - Pressing D-1 activates the motor and the icon animates with a wave-like motion.
   - Pressing again deactivates the function.

E. Cooling fan: When off, the icon is static .
   - Pressing E-1 activates the fan and the icon rotates.
   - Pressing again turns it off.

F. Conveyor belt: When off, the icon is static .
   - Pressing F-1 moves the belt forward (toward the material collection area), and the icon animates .
   - Pressing F-2 moves it backward (toward the front guide plate), also with animation .
   - Pressing F-3 stops the belt.

G. Powder dispensing function: When off, the icon is static .
   - Pressing G-2 activates dispensing, and the icon animates .
   - Pressing G-3 deactivates it.

- Pressing G-1 switches between speed mode and time mode; pressing it again returns to the previous mode.

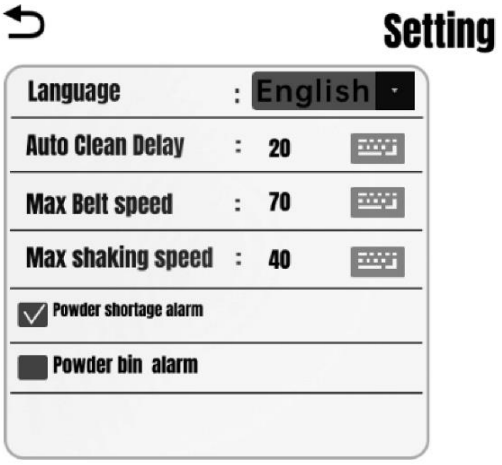
H. Conveyor belt suction: When suction is off, the icon is static .
- Pressing H-1 activates front suction, animating the icon .
- Pressing H-2 activates rear suction, also with animation .
- Pressing H-3 deactivates all suction .
- Front and rear suction can be active simultaneously; in this case, the icon remains animated.

I. Upper drying and front guide plate heating: When both areas are off, the icon is static .
- Pressing I-1 activates upper drying, animating the icon .
- Pressing I-2 activates front guide plate heating, also animated .
- Pressing either button again deactivates the respective function.
- Both functions can be active simultaneously, in which case the icon remains dynamic .

5.4.Advanced Settings

J. Advanced settings function key:
- This key requires a long press of 3 seconds to activate.
- Once activated, it allows you to configure parameters such as:
  - Automatic delay for powder emptying
  - Maximum conveyor belt speed
  - Maximum powder shaking speed
  - System language

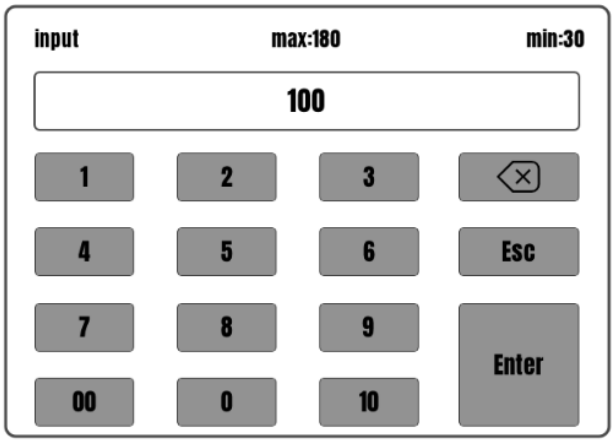
Note: Key J-1 provides access to engineering mode, which is not available to users.
The following interface is the access point:



5.5.Specific Parameters

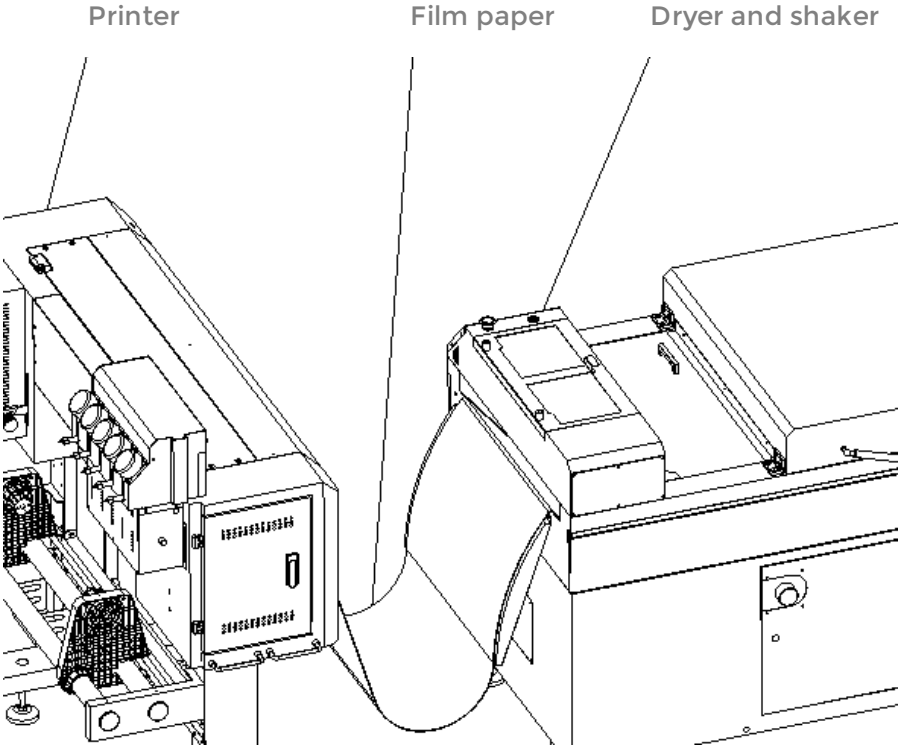
K. Specific parameter adjustment key
- Activated with a single tap.
- Allows modification of individual parameters, with maximum and minimum limits varying depending on the function.
- To view the exact values, refer to the pop-up interface that appears when the key is pressed.

The interface below corresponds to the upper drying settings entry point.



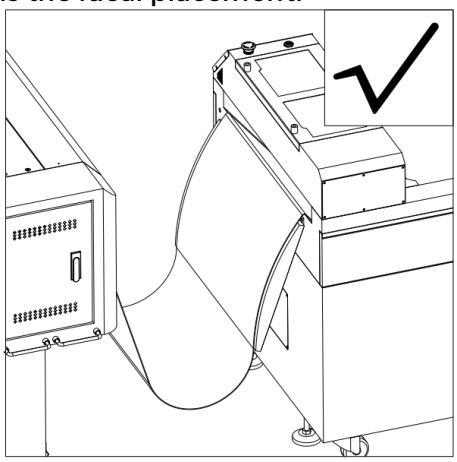
6.Loading Instructions

6.1.Working Diagram of the Powder Shaking Machine

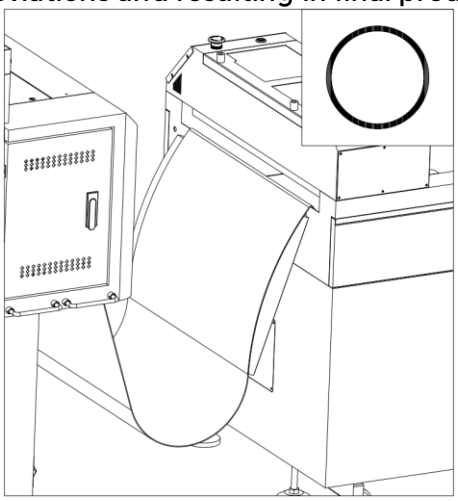


Below are several scenarios describing the precautions to consider when placing the film.
Each image includes a symbol in the top-left corner indicating placement suitability:
Cada imagen asociada contiene un símbolo en la esquina superior izquierda que indica el grado de idoneidad:
✓ = Optimal
✗ = Incorrect
O = Acceptable but not recommended

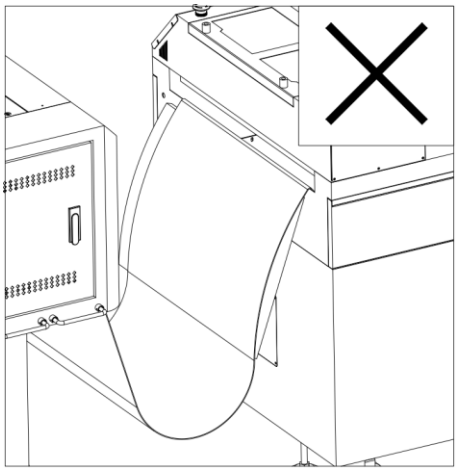
A. Scenario A: The optimal working state is achieved when the film is correctly centered in the machine. This is the ideal placement.



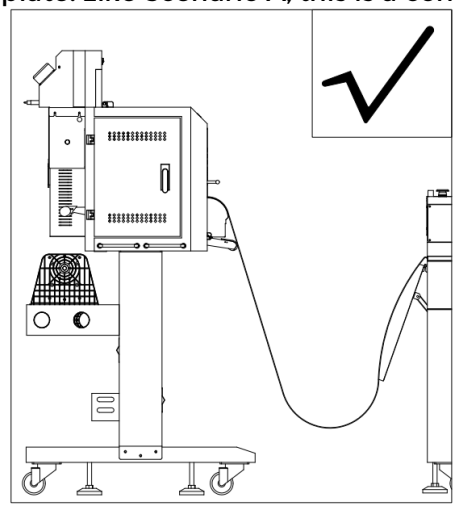
B. Scenario B: The machine can operate if the film is aligned or nearly aligned with the front guide plate. However, if insufficient space is left, part of the film may protrude beyond the guide plate during operation. That area may not receive adequate heat, causing positional deviations and resulting in final product defects.



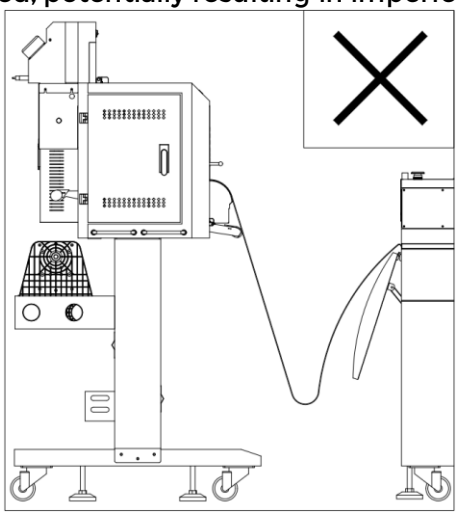
C. Scenario C: Placing the film beyond the front guide plate is incorrect. A portion of the film will not be heated, leading to immediate misalignment and defects in the final output.



D. Scenario D: The optimal working state is also achieved when the film is in full contact with the front guide plate. Like Scenario A, this is a correct placement method.

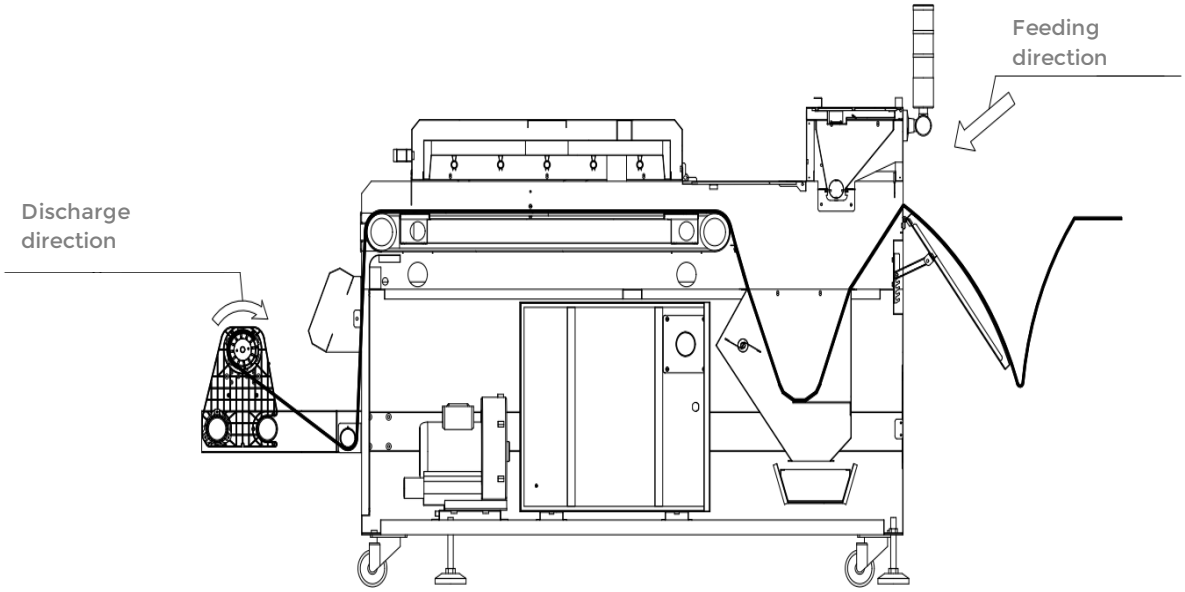


E. T. Scenario E: If the film is not in full contact with the front guide plate, part of it may not be properly heated, potentially resulting in imperfections in the final product.



7.Material Winding Method

7.1.Material Feeding Process



A. Guide the material to be heat-fixed to the bottom of the powder dispensing box, where it will enter the space between the powder shaking bar and the thermal fixing platform.
B. Once the color is fixed, the material can:
   - Be wound onto the rear collection roll, or
   - Be transported by the suction-assisted conveyor belt, allowing continuous output of the printed image for simultaneous printing and cutting.

CAUTION

Note: Ensure that the color-fixed material is flat and wrinkle-free, and that the edges of the material are aligned at both the front and rear ends of the machine.

8.Maintenance and Upkeep

8.1.Equipment Cleaning and Maintenance

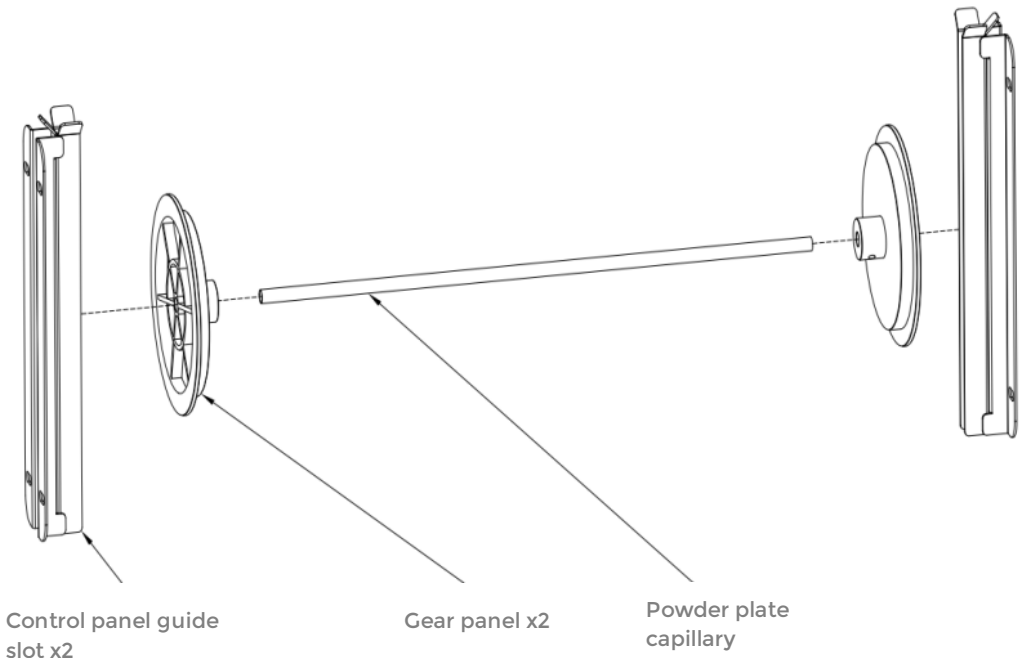
A. Disconnect the external power supply before performing any maintenance or cleaning tasks.
B. After completing daily production, clean any powder residues from the walls of the powder shaking cavity.
C. Clean the powder shaking paddle.
D. Clean the accumulated powder from the control panel.
E. Remove any remaining powder from the film pressure bar.
F. Periodically clean the electrical control box, ensuring it is dry and free from moisture.
G. At the end of each day, thoroughly clean the powder box, ensuring no powder remains inside. This will prevent adhesive powder from becoming damp, which could cause clogs or even lead to motor jamming or burnout.

If a clog occurs in the powder dispenser, the dispensing brush can be removed for cleaning.

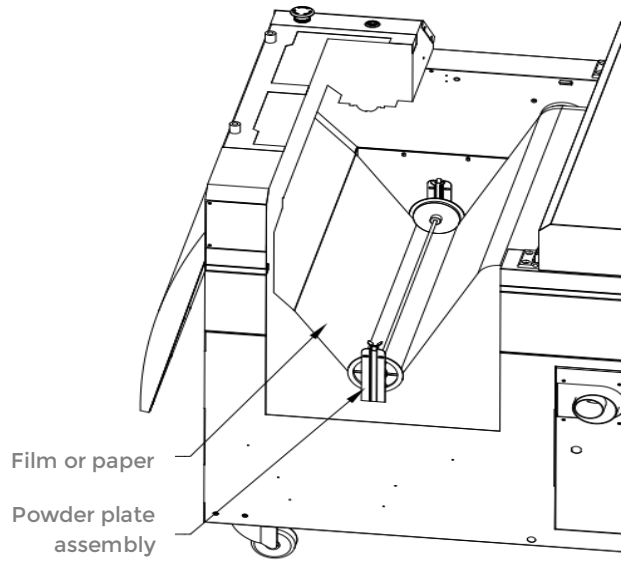
H. If reusing adhesive powder, sieve it using a 60-mesh sieve before reuse to prevent impurities from clogging the brush or contaminating the print, which could affect the print quality and the durability of the hot stamping.
I. When using the powder shaking machine, keep the upper lid of the cavity closed to prevent adhesive powder from dispersing onto the conveyor belt during filling, and also to reduce noise.
J. If the fume extractor's performance decreases, the filter element must be replaced.
K. Replace the filter and activated carbon every 3 to 6 months, depending on usage.
L. Perform regular oil drainage at least once per week.

9.Diagrams

9.1.Powder Control Disc Assembly Diagram

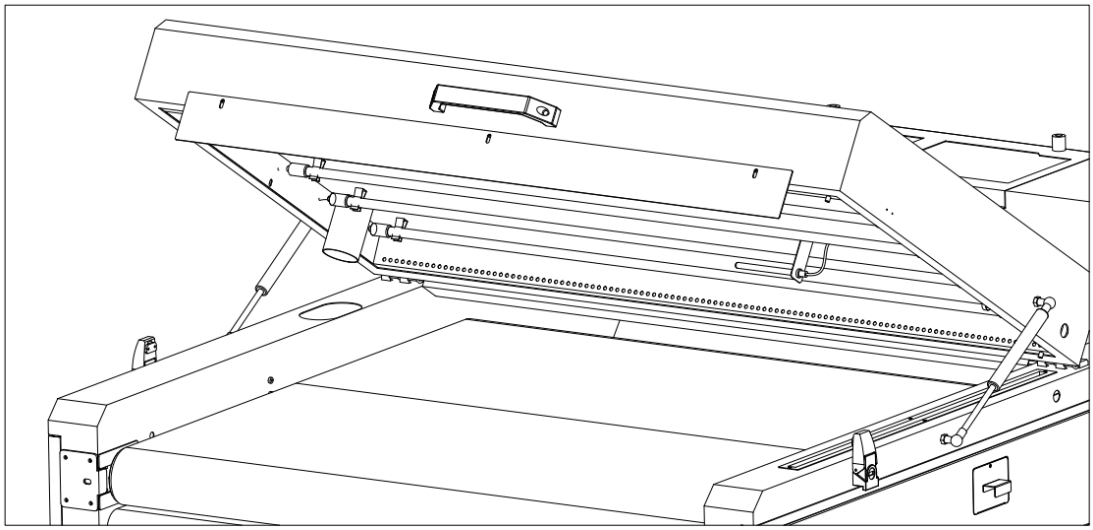


Powder plate assembly drawing

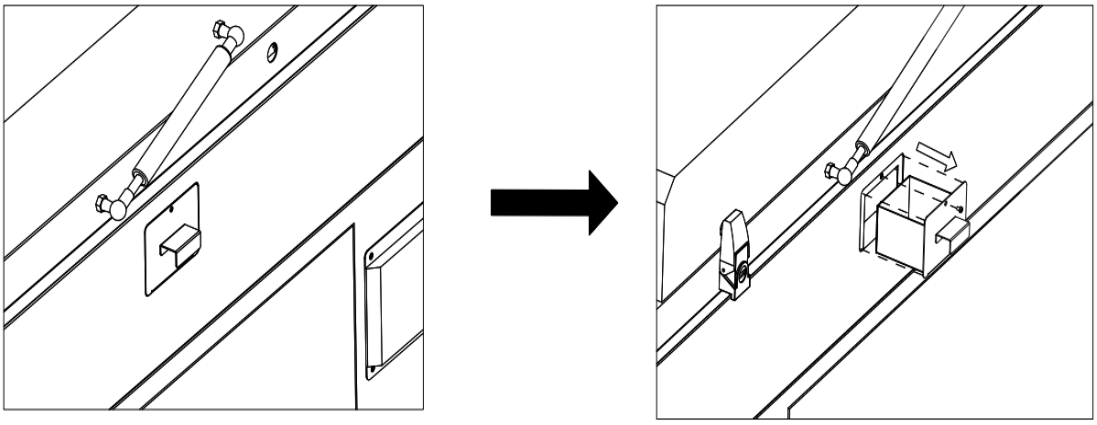


Adjust the two-jaw chuck to the appropriate position and engage it with the corresponding slot.

9.2.Oil Collection Box Assembly and Disassembly Diagram

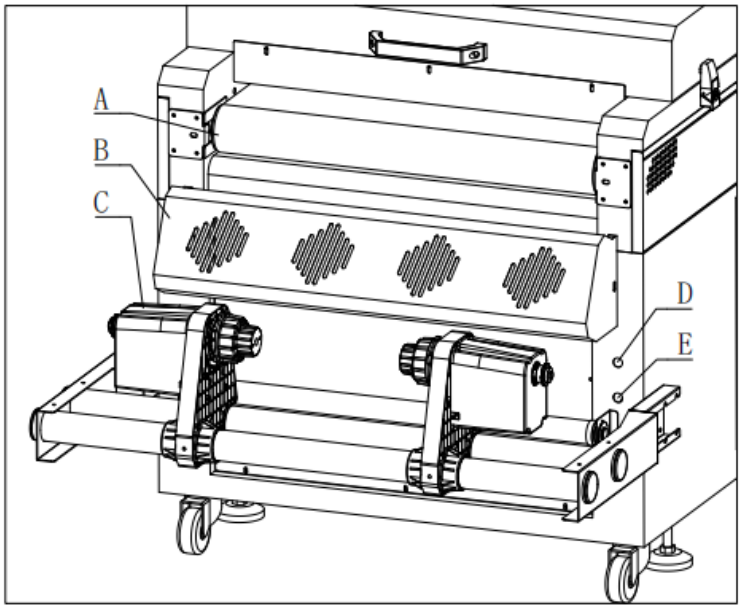


A. After daily use, activate the front drying function to allow the oil residue accumulated on the inner walls of the tubing and the heating element to flow into the oil collection box.
B. After one hour, turn off the front drying function.
C. Regularly inspect the oil collection box. When a significant amount of oil has accumulated, remove it and dispose of it properly.



D. Loosen the screws and remove the oil collection box.

9.3.Component Cleaning Diagra

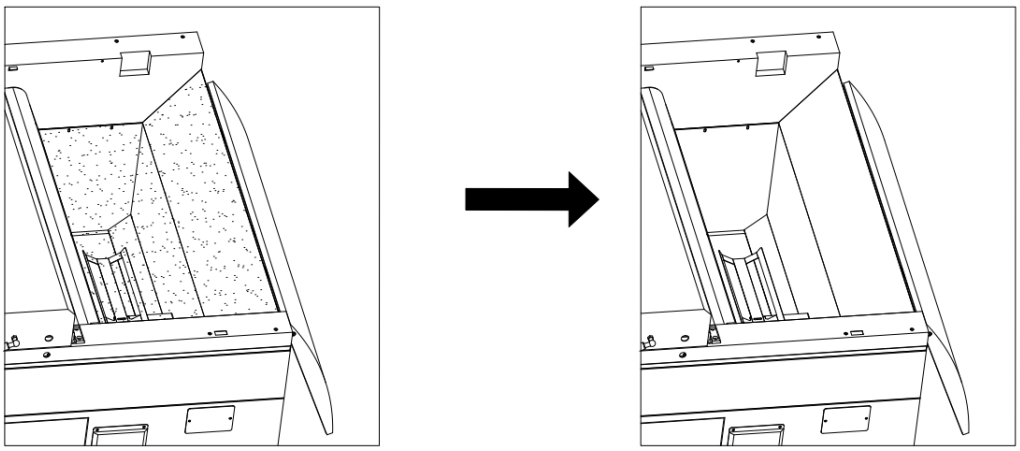


A. After using the following components, they must be cleaned immediately to avoid contamination of the product during subsequent use:
   - A: Conductive belt
   - B: Cooling fan
   - C: Film collector

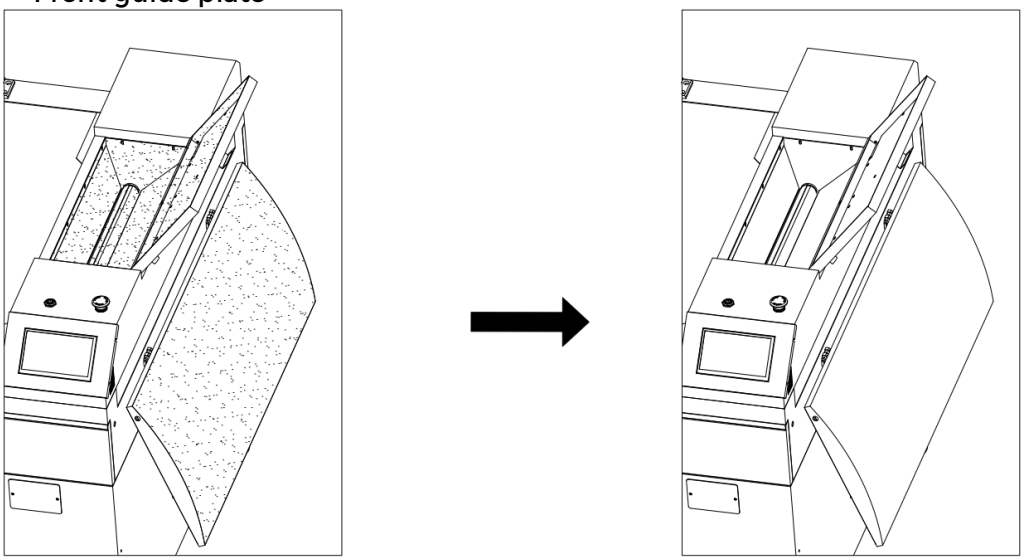
B. Connections:
   - Connect the cooling fan to hole D
   - Connect the film collector to hole E

9.4.Residual Powder Cleaning Diagram

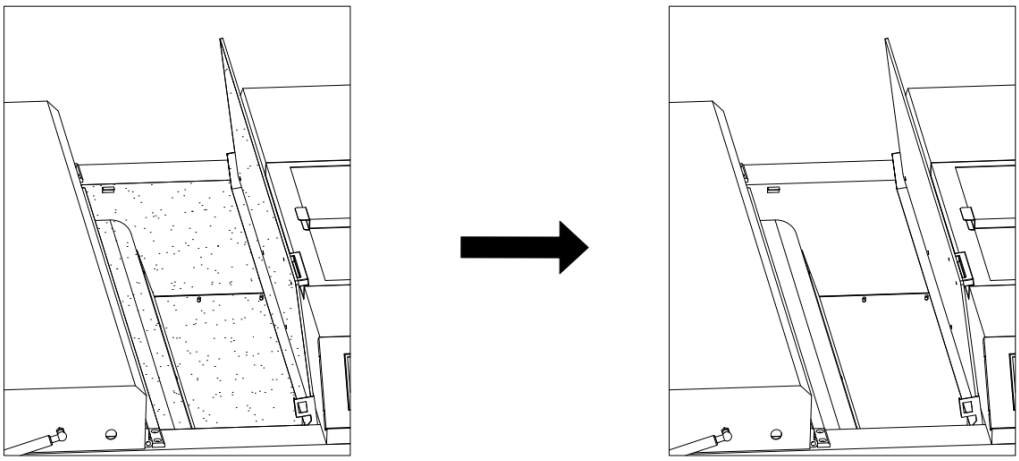
A. After using the following elements, it is essential to remove any powder residue to avoid contamination:
   - Transfer rack



- Inner lining of the powder shaking box
- Front guide plate

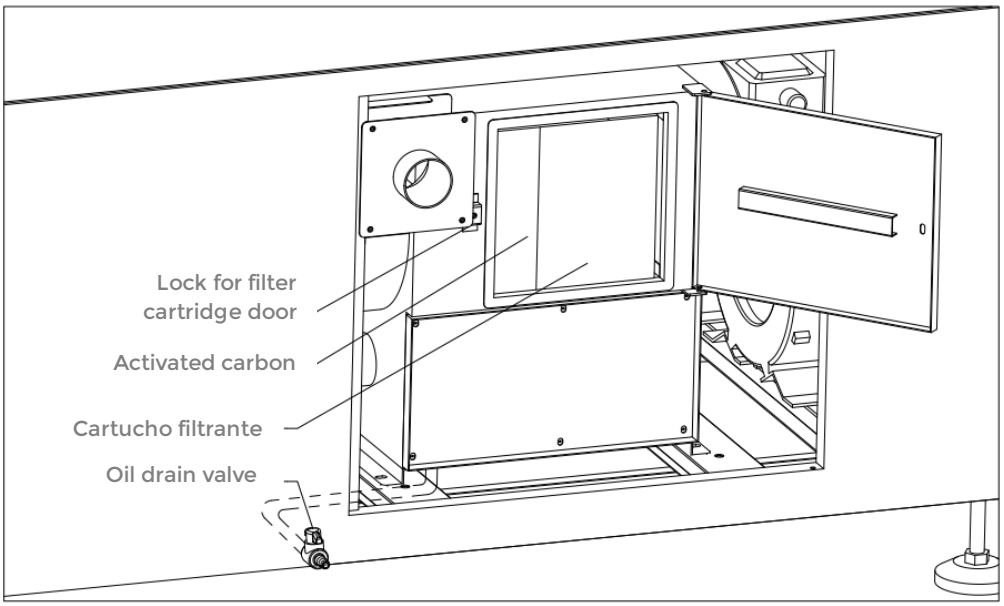


- Powder shaking work area



9.5.Filter Cartridge Replacement Diagram

A. Important: Drain the oil from the smoke filtration system weekly.



Note: It is possible to connect the exhaust pipe to the outside.