

# CALCA PRO 24in High Speed Automatic Recycling DTF Powder Shaker and Dryer with Vacuum Absorption Conveying Platform and Touch Screen

**DTF-PSM-H6501A**

## User Manual

Please read this manual carefully before operation



Thank you very much for choosing our CALCA brand series DTF powder shaker and dryer unit, please read the manual carefully, including the operation and maintenance to ensure the best output and the lifetime of the machine.

DTF opens the door to a wide range of choices and is capable of printing onto non-treated cotton, silk, polyester, denim, nylon, leather, 50/50 blends, and more. It works equally well on white and dark textiles.

Direct Transfer Printing is a revolutionary new printing technique that's more affordable and accessible compared to DTG, screen printing, sublimation or laser white toner transfers.

## What sets DTF apart from other transfers?



- ✓ A great option for small orders.
- ✓ No cutting and weeding required.
- ✓ Crisp, defined edges and images from start to finish.
- ✓ Low cost on waste.
- ✓ Low investment – high reward (Print Cost: \$0.007/inch<sup>2</sup>).

## Works on Most any Fabrics

DTG technology works best on cotton pre-treated fabrics while DTF opens the door to a wide range of choices and is capable of printing onto non-treated cotton, silk, polyester, denim, nylon, leather, 50/50 blends, and more. It works equally well on white and dark textiles.



CALCA DTF powder shaker and dryer unit can handle up to 24in wide DTF film.

With the advancement in DTF technology, there is no denying that DTF is taking the printing industry by storm. It is quickly becoming one of the most popular technologies for textile printing compared to traditional printing methods.

This all in one DTF powder shaker unit takes over by evenly spreading, then melting the needed amount of adhesive material directly onto your printed image, saving time, effort, and cost.

**Applicable Medium:** Nylon, Chemical Fiber, Cotton, Leather, Swimsuit, Diving Suit, PVC, EVA, etc.

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## I. Notice On Safety Using

### 1. General

Read the instructions carefully as they contain important information regarding proper, efficient and safe installation, use and maintenance of the unit.

The installation of this unit must be carried out in accordance with the manufacturer's instructions.

Switch off the unit in case of failure or malfunction and contact your distributor for service information.

### 2. Symbols That May Be Used In This Manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the equipment.

### 3. Safety

#### 3.1 Safe use of the appliance



For your safety. Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

#### 3.2 Other prohibitions (dangerous procedures)



Using any parts other than genuine CALCA approved manufactured parts can void the warranty.



Improper installation, adjustment, alteration, service or maintenance can cause property damage or major injury. Read the installation and operating instructions thoroughly before installing or servicing this equipment.

#### 3.3 Caution



**CAUTION**

Users must pay attention to content have this mark, it might be caused by misoperation.

#### **4. Notice Before Starting It:**

This machine is a high voltage equipment, in order to use the machine better please be aware of following specification.

#### **Equipment installation instructions**

##### **Installation and placement**

- ① The equipment should be placed in a dry and ventilated environment
- ② The equipment must be placed horizontally

#### **Power connection instructions**

##### **Electricity parameters**

**Rated voltage:** AC220 V, 1 phase

**Rated current:** 33A

**Rated power:** 7200W

The access power must be consistent with the rated power of the equipment, and the diameter of the access power supply line must meet the rated requirements.

##### **Ground connection**



Before getting the power-on, the ground wire must be connected properly to avoid accidents

**Those who are sensitive to static electricity should take protective measures when operating the equipment.**

Those who are allergic to static electricity should wear an anti-static wristband or anti-static gloves.

## **II. Functional Description**

### **1. Features and Data Sheet**

CALCA DTF powder shaker and dryer unit can handle up to 24in wide DTF film.

With the advancement in DTF technology, there is no denying that DTF is taking the printing industry by storm. It is quickly becoming one of the most popular technologies for textile printing compared to traditional printing methods.

This all in one DTF powder shaker unit takes over by evenly spreading, then melting the needed amount of adhesive material directly onto your printed image, saving time, effort, and cost.

#### **Data Sheet:**

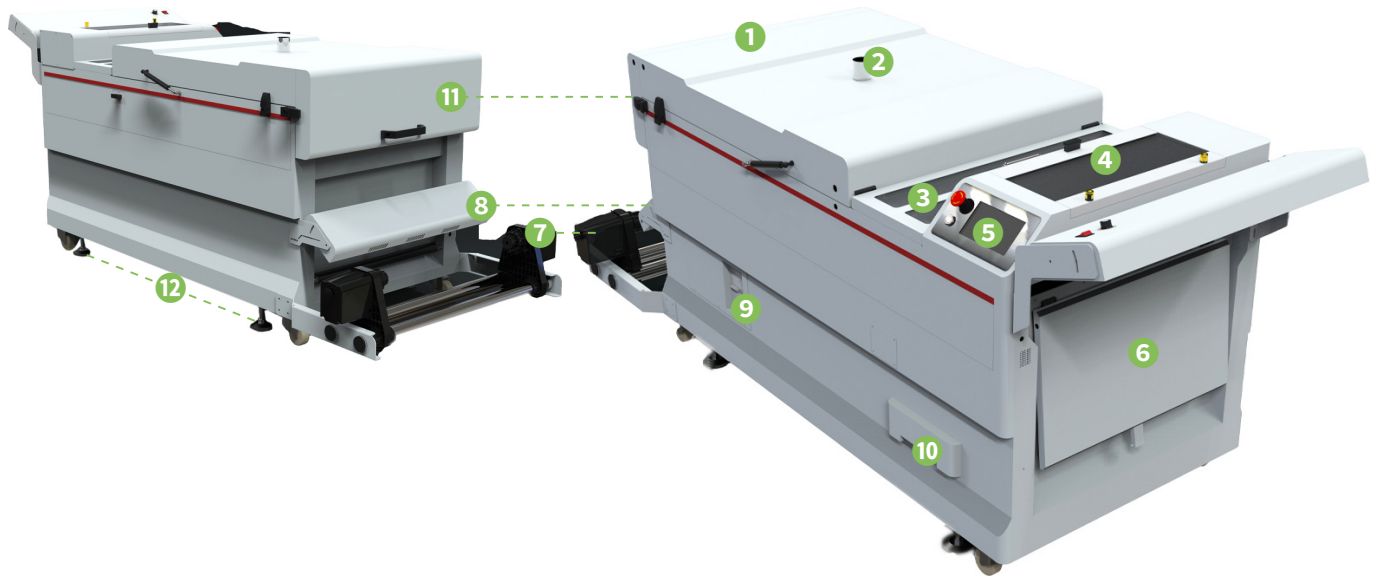
- **CALCA Brand:** USA registered
- **Maximum Shake Powder Width:** 600mm (23.6inches)
- **Functions:** Shake powder control, dusting control, PID setting of curing temperature
- **Heating and Drying Function:** Quartz infrared heat drying tube
- **Rewinding Function:** Automatic induction rewinding
- **Heating and Drying Mode:** Front guide plate heating, upper drying curing
- **Cooling Mode:** 4 fan air cooling (Single row)

#### **Package:**

- **Machine Size:** 94.1in x 35.9in x 39.4in (2391mm x 912mm x 1002mm)
- **Powder Shaker and Dryer Weight:** 507lbs (230kg)
- **Packaging Size:** 76.8in x 44.1in x 43.8in (1950mm x 1120mm x 1113mm)
- **Gross Weight:** 661lbs (300kg)

## 2. Component and Installation

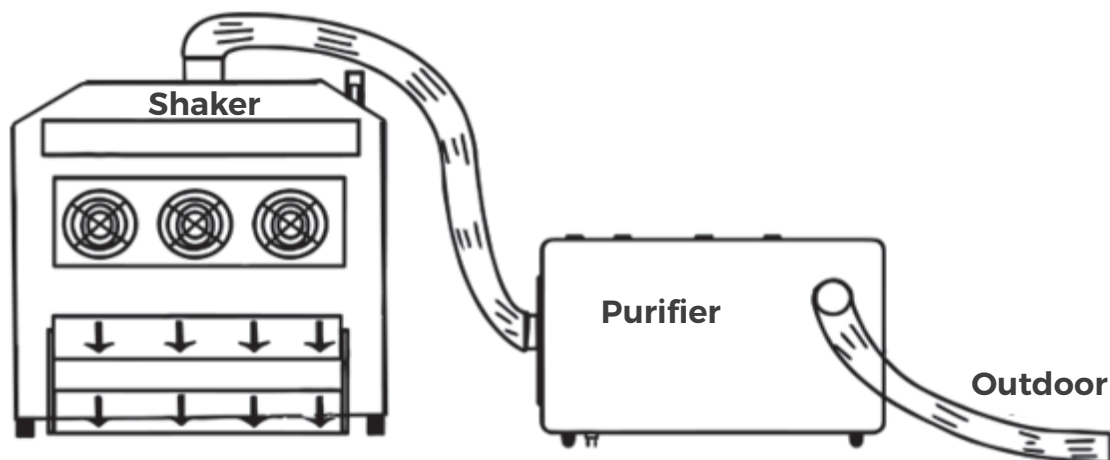
### 2.1 Parts Name and Functions



- ① **Top Dryer:** Dry the media after dusting
- ② **Smoke Outlet:** Discharge the air mixed with powder
- ③ **Shaking powder cover**
- ④ **Dusting powder:** Store powder and dusting powder
- ⑤ **Touch screen display**
- ⑥ **Front guide plate heater:** Preheating the printed media
- ⑦ **Automatic take-up system:** Tighten the cooled media into rolls
- ⑧ **Cooling fan:** To cool the media after drying
- ⑨ **Electric control**
- ⑩ **Shaker Motor**
- ⑪ **Post dryer**
- ⑫ **Leveler:** Fix the equipment

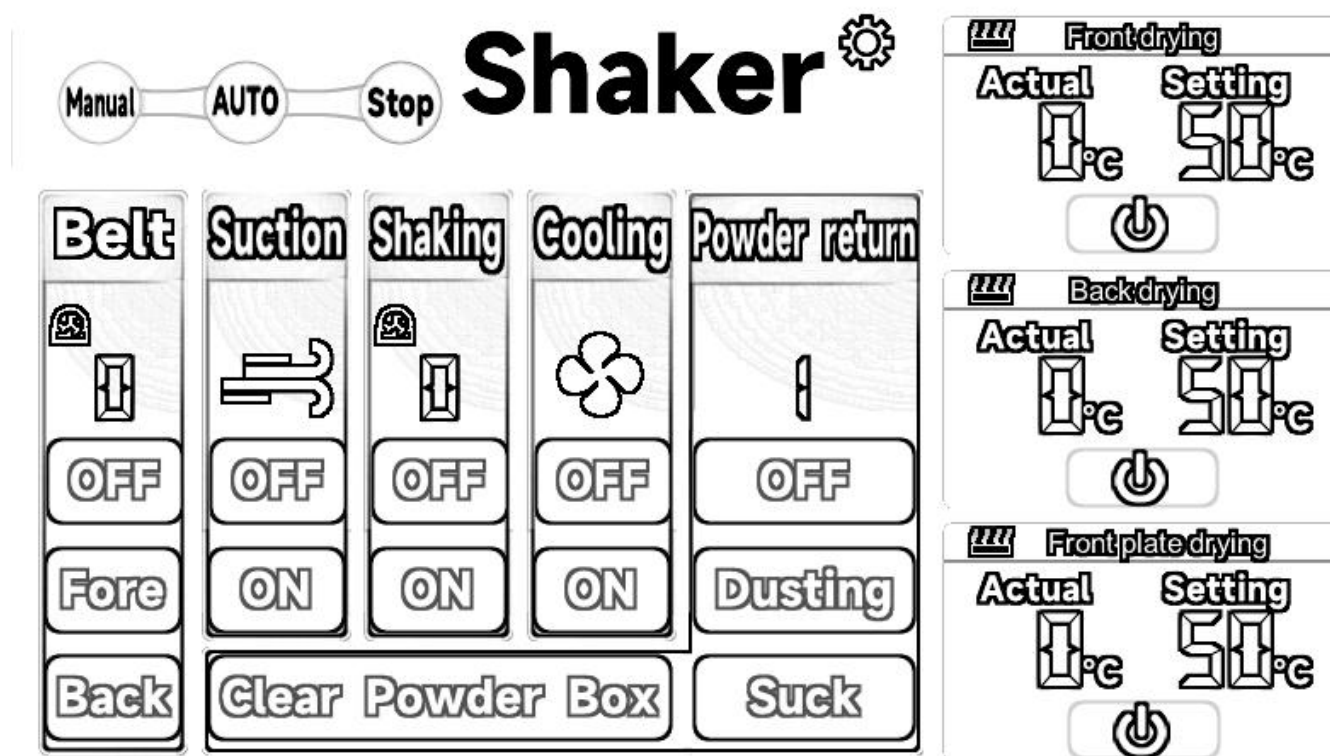


## 2.2 Connection of The Smoke Outlet



## III. Equipment Operation

### 1. Touch Screen Display Controller



1.1 Confirm that the external power supply of the equipment is connected with AC220V, 50 / 60Hz.

1.2 Confirm that the grounding wire should be firmly grounded.



- 1.3 Align the printer with the powder shaker before use (In order to avoid the material deviation during receiving).
- 1.4 Fix the material on the feeder and put it into the printer for printing. See “winding method” for specific operation.
- 1.5 Turn on the “main power switch” of the control box.
- 1.6 Function setting: Tap the screen to select the function. The setting value introduction interface will pop up when tap the shaking value, and enter the value to set the speed of the shaking powder you want, and next, tap the “confirm” key to return to the main interface. Then the speed of the shaking powder is set. The setting of the belt guide speed, upper drying heating, and the heating of the front guide plate is equal to the setting of the shaking powder speed.
- 1.7 Setting for turning off/on the shaking function: tap the “OFF” and “ON” key under the “Shaking” on the screen to select close and open the shaking function.
- 1.8 Automatic powder return function and settings:
  1. Automatic powder return gear: There are five gears from 1 to 5 to choose from, and the default gear 3 can meet the requirements for most of the printing speeds, the higher the gear, the more the amount of powder that is automatically sprinkled.
  2. Powder return on/off key: When the automatic powder return function is turned on, the system comes with the whole machine linkage, and the powder return function will be suspended when the film is not running.
  3. Manual powder dusting key: Automatically turn on dusting once after clicking.
  4. Manual powder return key: The automatic powder return function will work for 60 seconds after clicking, click again during the period, the function will be terminated immediately.
  5. Clear powder box key: Press and hold for 5 seconds to start the cleaning function. The lower powder opening of the powder box will be opened larger angle and strong vibration to shake the powder inside. Just put a carrier

container under the powder outlet.

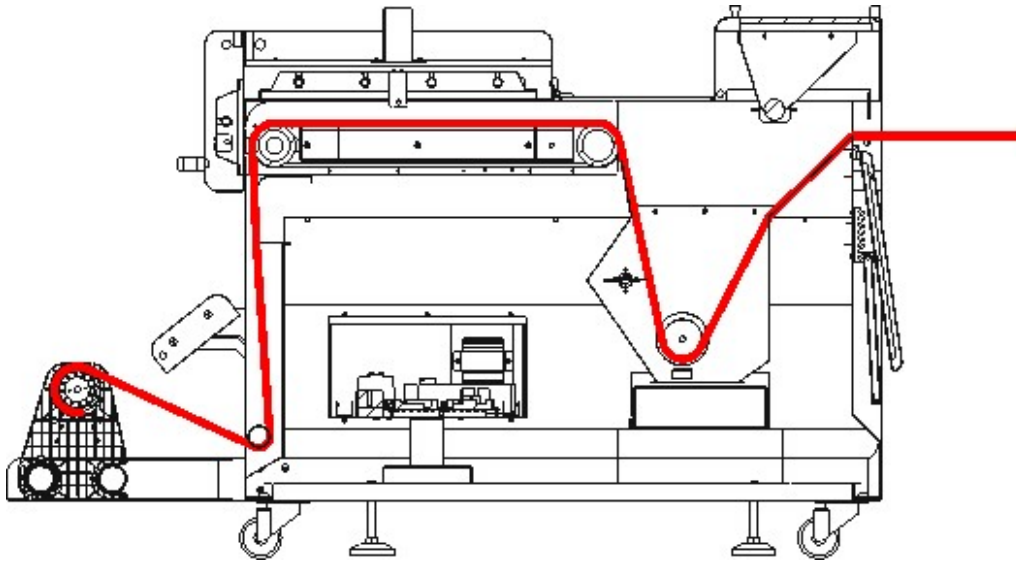
- 1.9** Setting for turning off/on the guide belt function: Tap the “OFF”, “Fore” and “Back” key under the “Belt” on the screen to select forward, backward and close.
- 1.10** Setting for turning off/on the front drying function: Tap the “power symbol” key on the “Front drying” to turn off or turn on the heating. When the “power symbol” shows “red”, it is in the off state. The heating is turned on when the “power symbol” becomes “green” after tapping. The back drying setting is the same as front drying.
- 1.11** Setting for turning off/on the front plate drying function: Tap the “power symbol” key on the “Front plate drying” to turn off or turn on the heating. When the “power symbol” shows “red”, it is in the off state. The heating is turned on when the “power symbol” becomes “green” after tapping.
- 1.12** Setting for turning off/on the cooling fan function: Tap the “OFF” and “ON” key under the “Cooling” on the screen to select close and open the cooling fan function.
- 1.13** Setting for turning off/on the guide belt suction function: tap the “OFF” and “ON” key under the “Suction” on the screen to select close and open the guide belt suction function.
- 1.14** When the “Manual” function is turned on in the upper left corner of the screen, the powder shaker will work according to the set parameters without affected by sensors. When the “AUTO” function is turned on, when the powder shaker sensor senses the film, it will work according to the set parameters. When there is no film, the guide belt will stop immediately, and the powder dusting and shaking will stop after 10 seconds. When there is a film, the shaker will work normally. When the “Stop” function is turned on, powder dusting, shaking and guide belt will all stop, and other functions will work normally. When “Auto” is turned on, the automatic working state will be restored, and when “Manual” is turned on, the manual working state will be restored.

**After adjusting the above functions, powder shaking and color fixing can be carried out.**

- 1.15** Front drying temperature setting: 100°C - 170°C (212°F - 338°F) (the specific temperature is set according to the melting point of the powder)
- 1.16** Backing drying temperature setting: 90°C - 160°C (194°F - 320°F)
- 1.17** The temperature of the front plate drying is set to about 60°C- 80°C (140°F - 176°F).
- 1.18** Turn off all “heating switches” when film fixation is finished.
- 1.19** Long press the “gear symbol” in the upper right corner to enter Chinese and English settings, as well as time, screen calibration and other settings.
- 1.20** Automatic heat preservation function: This is a new function and it can protect the film staying in the shaker from being burned, and save the time of repeated shaker warm-up. This function doesn't need to set up, it will work when the shaker is on automatic mode. When the printer stops working after 20 seconds, the function will be turned on automatically, and will automatically keep at the current set temperature value to reduce 20 degrees.
- 1.21 Recommended settings:**
1. Guide belt function: It is recommended to set as 30.
  2. Shaking function: It is recommended to set as 15.
  3. Dusting function: It is recommended to set as 10.
  4. Front drying temperature: It is recommended to set as 110°C.
  5. Back drying temperature: It is recommended to set as 110°C.
  6. Front plate drying temperature: It is recommended to set as 60°C.
  7. Powder return function: It is recommended to set as the 3rd gear.

**The above values are for reference only, subject to actual usage.**

## 2. The Film Feeding and Winding Method



**2.1** Lead the media into powder box, though outside powder bar, and then cross the space between up dryer and platform dryer, wind the media to the paper tube of the take up winder, the winding operation complete.

### 2.2 Attention:



Ensure that the PET transfer media is smooth and aligned correctly to inhibit any skew that may be present through the heating tunnel and take up reel.

**2.3** When the film media is placed correctly to the first vacuum cylinder the shaker suction system should be in the on position. From this point the media will now be controlled by both the vacuum and mesh belt system through the heating tunnel.

It is important to note that when placing the media under the powder hopper for the first time that enough slack is provided to allow powder to fill at the bottom and then be shaken off as the media moves back up through the belt system.

**2.4** After finishing the current print job, cut the last part of PET media and enter the print linkage mode. The film will then be automatically wound by the take-up to complete the printing process.

**2.5 Recycling the hot melt powder** is accomplished simply by brushing the powder from the interior walls into the recycled powder tray and refill it into the powder box.

## **IV. Equipment Maintenance**

1. Disconnect the external power supply when repairing or cleaning the machine.
2. Clean the residual powder shaking film.
3. Clean the residual powder of the panel.
4. Clean the residual powder on the positioning shaft.
5. Clean the control box regularly, keep it dry.
6. Keep powder box free from debris that mixes in with TPU powders. Brush unwanted material from powder box area daily and remove unwanted debris from recycle bin before reuse into powder box.
7. Don't leave the powder on the dusting box overnight to prevent the powder from getting damped, causing blockage of the dusting powder channel.
8. It needs to be filtered with a 60-mesh sieve before using the recycled powder.
9. Cover the hood of the powder box when the powder shaker is working to prevent the powder from flying out, affecting the printing environment and reducing noise.
10. Add the powder slightly in order to prevent the powder from flying onto the conveyor belt and entering the air suction platform. Otherwise it will cause the motor to burn out or the conveyor belt to deform.
11. With the vented oven lid in the open position and the unit unplugged, fix the lid in place using the securing arm. Then using a dry paper towel remove any oily residue from surfaces inside the heating chamber every week.
12. Always remove any unwanted material from the recycled powder tray upon inspection. TPU powder should be completely white and sediment-free.

## **V. Troubleshooting**

### **1. Cocked media scratches the printhead.**

- a. Check if the height of the support frame is lower than the printing platform.
- b. Check if the media is laid flat.

### **2. Powder is not sprinkling to the dusting box**

- a. Check whether the dusting switch is turned on
- b. Check whether the dusting shaft rotates
- c. Check whether the dusting speed is suitable

### **3. Granular powder remains on the surface of the media**

- a. Check whether the powder shaking speed is too slow and the excess powder is not shaken off.
- b. Check whether there is granular powder on the surface of the dryer.
- c. Check the printing materials, powder is easy to stick to the materials that are NOT treated with electrostatic adsorption.

### **4. Powder treated media surface is still sticky**

- a. Check whether the temperature and time of the dryer are suitable, and whether it is not completely dried.
- b. Check whether the cooling fan is working properly to cool down the media.
- c. Check whether the delivery system is normal, and whether the speed is too fast and the media is not dried and cooled completely.
- d. Whether there is a problem with the ink absorption of the media.

### **5. Temperature is not adjustable with the power on**

Check whether the temperature sensor probe is normal, you can choose to exchange the positions of the two temperature control probes to check whether the temperature returns to normal.

### **6. Damage caused to the coupling during shipping**

Just replace it with the spare coupling.

## WARRANTY CARD

<b>MODEL</b>		<b>LOT #</b>	
<b>BUYER</b>		<b>DATE</b>	
<b>SELLER</b>		<b>TEL</b>	

### Notes

- i. The warranty card should be filled out by seller and kept by buyer. Alterations are prohibited.
- ii. 24 Month Warranty - CALCA DTF shaker includes a 24 month warranty, consumable parts are excluded from the warranty.
- iii. No free repair is available for any damages caused by the improper use.