RDTFS800 POWDER SHAKER Installation and User Manual



Thank you very much for purchasing this product.

- To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this
 manual to completely understand all aspects before installation or use.
- Contents of this manual are subject to change without prior notice.
- Some illustrations in this manual might be slightly different from the machine.
- Unauthorized copying or transferal, in whole or in part, of this manual is prohibited.
- The specifications of this product and the contents of this operation manual are subject to change without notice.
- The operation manual and the product have been prepared and tested as much as possible. If you find any misprints or errors, please inform us.
- The distributor assumes no responsibility for any direct or indirect loss or damage that may occur through use of this product, regardless of any failure to perform on the part of this product.
- The distributor assumes no responsibility for any direct or indirect loss or damage that may occur with respect to any article made using this product.
- The distributor shall not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your products.
- For best output quality, the distributor recommends that you use genuine consumables and parts from the distributor.

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1. Product Introduction

Welcome to the RDTFS800 User Operation Guide.

The RDTFS800 is a high-performance Powder Shaker Curing unit optimized for use with Roland DG high performance TY-300 DTF Printing solution.

Please ensure you read this manual so you fully understand all aspects of installation, operation and maintenance.

Ensure the environmental conditions are within specification for best machine operation and output results. Temperature and humidity will make a significant impact on your production consistency and results.

Please contact Roland DG to obtain the latest version of this manual via local website or service and support departments.

We recommend using Roland DG Media or Roland DG Recommended Media and Powders with this product for best and repeatable results.

1.1 Features and benefits.

- Optimised for use with Roland DG TY-300 DTF Printer.
- High speed powder application and curing to match TY-300 Production print speeds of 10.9 to 22.9m²/hr.
- Compact unit with low power consumption compared to many competing products.
- Additional insulation to heat faster, maintain heat, lower power consumption and provide consistent heat.
- Stable, consistent and repeatable performance from use of higher quality components.
- Dual heating arrays for heating over and under media for best performance.
- Large pre-heater tray to improve performance at higher print speeds.
- Dual Vertical Powder collection trays so the machine can stay in production whilst powder is recycled.
- Integrated HEPA and Charcoal filtration system to limit smoke and fumes from the heating/curing process.
- Easy to maintain and replace consumable items.
- Wide range of language support and global certification compliance.

1.2 Inclusions and Consumables.

Included with RDTFS800 in packing crate.

- Waste Oil Tray
- Power Connection cable (Connected to Shaker)

RDTFS800 Consumables items.

HEPA Filter – Part Code: 300000003
 Carbon Filter – Part Code: 300000002

Managing Media and Powder Consumables.

We recommend using Roland DG Branded and recommended Medias and Powder for stable operation and best repeatable results.

Please store all consumables in a cool and dark environment within the specifications of that product.

Exposure to temperature, humidity and moisture outside of the recommended storage and use specifications can cause consumables to perform at a sub-standard level and can affect everything from machine operation and maintenance to poor production application results.

Allow consumables to acclimatise correctly to the operating environment if they have been stored in a different and out of specification environment. This could take 1 to 5 or more hours depending on the product and environmental change. Doing this will help give you the best results.

Consumables such as Powder are especially sensitive to air and moisture. Please store them in an air-tight container that is free of moisture when they are not in active use for best results. Consider using moisture absorbent pads. Power should be used within two weeks of opening for best results.

Using old Powder or Powder that has been exposed to excess moisture can cause maintenance issues as well as poor application transfer and durability.

Please dispose of any waste products in a safe manner for the operators and that will confirm to your local safety laws and regulations.

1.3 Specifications.

Р	arameter	RDTFS800 - 800mm Shaker
	Power ON	18-30 °C - 24 °C Recommended.
Working	(Operating State)	Humidity 30%-70% - 50% Recommended.
Environment	Standby mode	400W
	Power consumption (Operating State)	4000W
	Electrical Requirements	AC200-240v @ 50/60Hz,
		Current = 16A x 1 (Single Phase)
Product Size	Length x Width x Height	Length: 2090mm x Width: 1120mm x Height: 1026mm
	Weight	430kg
Package Size	Length x Width x Height	Length 2230 mm x Width 1310 mm x Height 1150 mm
	Weight	530kgs
Media Support Wid	ith	Up to 762mm - 30" - 800mm wide media path,
Accessories		None
Consumables		HEPA Filter: #300000003
		Carbon Filter: #30000002
Maximum feeding	speed	>30m2/hr
Media rewinder	Maximum media weight	100kg
	Maximum media diameter	200mm
Safey design		Emergency stop button, open cover, media and powder sensors.
Filter/smoke exhaust function		Built-in filter element, user-replaceable, lifespan is about 6 months. Embedded HEPA, user replaceable = ~6-12 months life depending on use.
Language Support		English, Japanese, Spanish, French, Portuguese, Korean, Chinese
		English, Spanish, French, Portuguese, Italian, German, Polish
Certification		CE (UL, RoHS, Reach, CMA, CNAS under final evaluation)

2. Safety Instructions.

This Chapter introduces the important safety information.

Please read and understand the safety information carefully before installing, maintaining or operating the machine.

2.1 Safety Information.



This caution symbol represents danger.

If this sign is ignored it may lead to serious injury or damage to the machine.



Danger of the Fire and Explosion.

- Open flames, heat energy or sparks around the machine could trigger fire and explosion.
- No smoking, pilot lights, open flames, stoves, heaters or halogen lights should be used or operated within a 5.0 metre distance from any edge of the machine.
- No portable spark-producing equipment (static, electrical or mechanical) should be installed or operated within a 5.0 metre distance from any edge of the machine.



Ventilation and Exhaust System for operator health and safety.

- The vacuum exhaust system must be functioning before the machine operates.
- Do not ignore this safety warning sign to avoid accumulation of flammable fumes in the area.
- Ensure maintenance procedures for cleaning and filters are actively performance and maintained.



High Voltage may shock people or trigger a fire.

- Do not connect the machine to mains power supply if there is no emergency power switch which can shut down all system power.
- Ensure the electrical connection cable is safe and always maintained. Do not allow damage, bending, stretching of modification to the cable and seek qualified help if any damage is detected.
- Ensure electrical power supply confirms to the specifications of the device.
- When the machine's power is ON, do not open access doors and avoid touching electrical parts.
- The machine must be connected and grounded according to local safety electrical connection regulations. The ground voltage should be less than 3V.
- Set the machine on smooth ceramic tile or ceramic ground.
- Use specified anti-static floor mat to minimize harmful static build-up.
- Ensure the product is installed in a dry environment, away from water and other liquids, including cleaning liquids.
- Do not use the machine when it is exhibiting problems such as smoke or unpleasant smells.

Stop the machine immediately as continued use of the machine could result in fire or electric shock.

- Be sure to turn off the power switch immediately and detach the plug from the outlet.
- Make sure that the machine no longer produces smoke and contact your local distributor for repair.
- Repair by customers is dangerous only qualified and certified service personal should perform repair work on this equipment.
- Never disassemble or modify this machine. Disassembling or modifying either could result in electric shock or malfunction of this machine and will void the warranty.
- Keep fingers and other body parts away from hazardous moving parts.

3. Installation

3.1 Installation Preparation.

This section is to help you prepare for the installation of your RDTFS800 Powder Shaker.

Customers are recommended to prepare the room and other necessary devices before the machines arrival and installation. We have made every effort to guarantee the accuracy and integrity of the information in this guide.

Parameter	Specification
Environment	18-30°C 64-86°F with recommended 24°C 75°F
Operating State	Humidity 30%-70% with 50% Recommended.
Power Consumption (Operating)	4000W
Power Supply	AC 200-240v @ 50/60Hz,
	Current = 16A x 1 (Single Phase)
Dimensions	Length: 2090mm x Width: 1120mm x Height: 1026mm
	Length: 82.3" x Width: 44" x Height: 40.4"
Weight	430 kg or 948 lbs



Power Supply.

- Install the machine near an easily accessible electrical outlet.
- Do not provide power to the machine through the same power line as for other noise generating devices such as motors.
- Connect the power cable directly to dedicated electrical outlet. Do not plug several devices into one electrical outlet.
- Ensure the plug connection is secure and tight fitting and installed so it cannot be damaged.



The machine should be grounded, according to the local safety electrical regulation.

- The grounding should be less than 3V.
- Use specified anti-static floor matting to minimize the harmful static buildup.



Use ESD Ground Strap when handing any Electric Boards to avoid any electric static discharge that may damage internal electrical components.

Do not open the cover where electrical spare parts are located to avoid possible electrical shock.

Machine Handling.

- Do not place anything on the top of the machine.
- Do not lean body against or rest elbows on the machine.
- Open and close the top cover gently from the front of the machine with both hands.
- Before connecting or disconnecting the interface connector, turn the machine OFF.

Places where the machine must not be installed.

- A location near a fire or flame systems.
- Places exposed to direct sunlight.
- · Places subject to vibration.
- Places subject to extreme changes in temperature or humidity near an air conditioner or a heaters.
- Places where the machine may get wet.
- Places near a diazo copier that may generate ammonia gas.
- With poor ventilation.
- Unstable location, flooring or substructure.
- Where there is excessive dust or airborne debris in the environment.

3.2 Unload space and requirements.

Unload Space:

The space must be two times of the creates size for the unload and unpack process.

Unload equipment:

- Forklift is required.
- Bearing capacity referring to the weight of the machine.
- The length of the fork must be 15cm longer than the width of the box.

Installation Space:

- There must be sufficient clear space around the machine for the replacement of the frequently used parts.
- Ensure the area is safe for personal to move around whilst the installation operation and forklifts are in use.

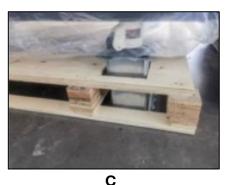
3.3 Unpacking the create.

Machine comes in wooden crate.

- A. Unpack the top and sides of crate
- B. Place 4 x wooden/metal blacks under the wheels to lift the machine from the base.
- C. Lift the machine from the gap between machine and base. Place in install space.







АВ



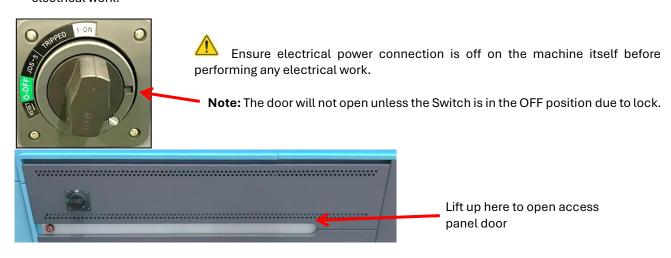
- Move the RDTFS800 to the location where it is to be used.
- Lock the wheels in place when in final position.

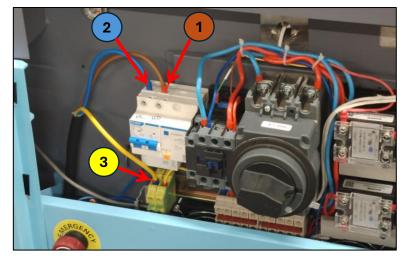
3.4 Electrical Connection.

The machine comes with a pre-installed mains electrical cable that can be connected to the mains power receptacle point.

Please check the connections to unit with the following instructions and then connect the correct local power plug to the power cable.

- Always confirm to local regulations and laws for electrical connectivity and use licenced and certified contractors.
- Ensure electrical power connection is off at the power point and on the machine itself before performing any electrical work.





Check connections.

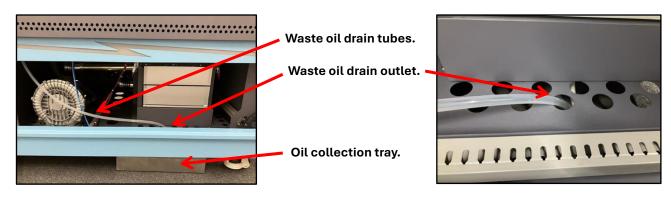
- 1 AC200-240 V+
- 2 AC200-240 V-
- 3 GROUND.

The machine must be well grounded. The grounding should be less than 3V.

3.5 Oil collection tray installation

You will need to place the oil collection tray under the shaker unit.

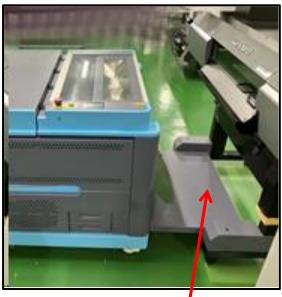
Waste oil byproducts from the process and filtration will drain into the tray unit that is placed under the unit.



3.6 Installing TY-300 Alignment Jig.

It is very important that you get the Printer aligned correctly to the RDTFS800 Shaker for accurate printed film media flow through the powder/heat process and onto the Media Take-Up Winder.

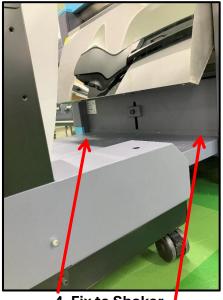
- 1. Place the RDTFS800 Shaker in the final location then place printer in front.
- 2. Use the supplied metal alignment jig to connect the alignment jig to the printer and Shaker.
- 3. Ensure you use all screws to connect the jig to the printer at the sides of the legs.
- 4. Ensure you use all screws to connect the jig to the front of the Shaker.
- 5. See photos above and inspect for final configuration, making sure they are even/parallel aligned.



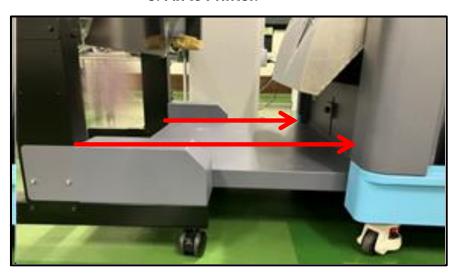
2. Alignment Jig.



3. Fix to Printer.



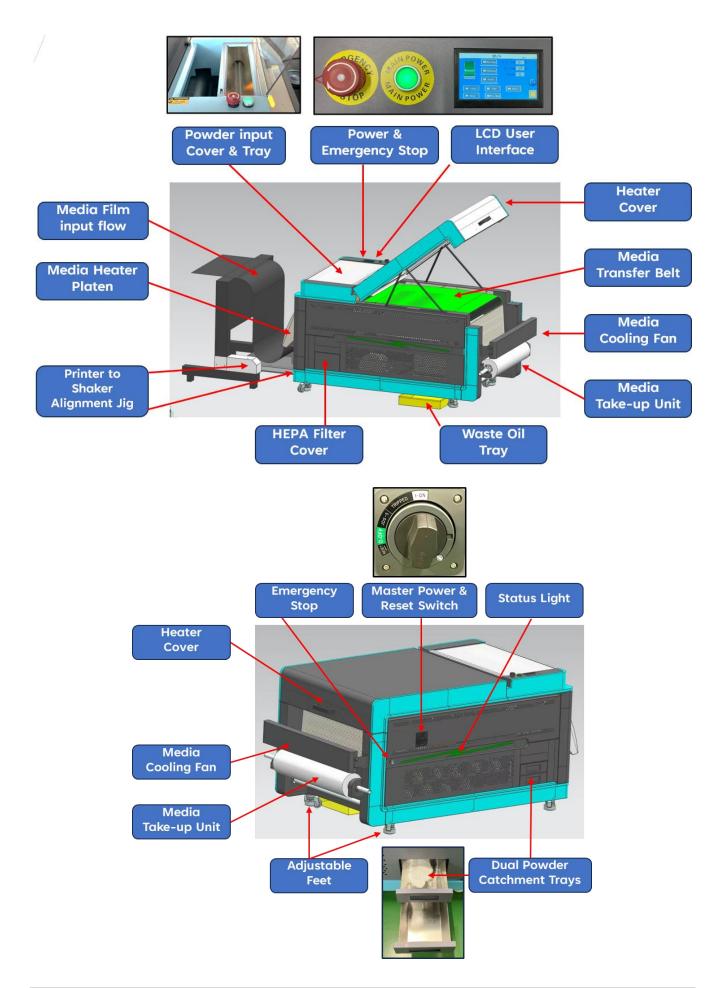
4. Fix to Shaker.

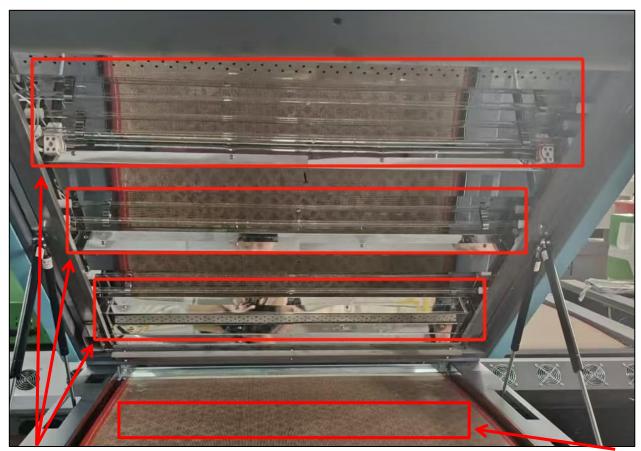


5. Inspect and check for parallel.

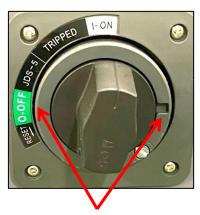
We recommend that you test at least 20 linear meters of print through the system to ensure the system is aligned correctly. Please make fine adjustments and change for parallel if not.

4. Product overview and function.





Top heating lamps.



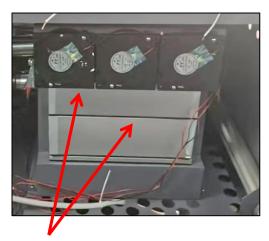
Master Power & Reset Switch. Has Lock-Out Function so the door panel will only open if the switch is in the OFF position.



Trays. Allows production to

continue while recycling.

Bottom heating lamps underneath.



High efficiency HEPA Filter Trays. Air particular filter – extracts the fumes and oil produced during working process.

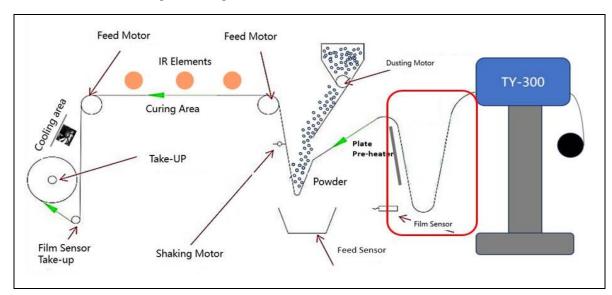


- (1) Intelligent powder control system. Powder spray will stop the motor working
- when the powder reaches a low weight.
- (2) Powder shaker bar.
- (3) Rear feeding cylinder with vacuum.

5. Basic Operation.

Below is an overview of the media path through the Shaker machine.

Please load the media according to the diagram below.

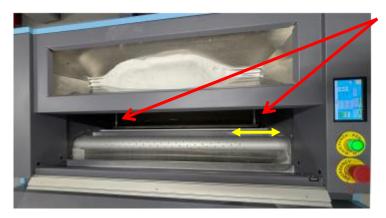


Once the printer has printed enough film to cover the front preheating board and the film extensions to the first of two vacuum cylinders – please ensure that the media transfer film is aligned correctly to inhibit any skew that may be present as the media passes through the through the heating tunnel and onto the take-up reel.

When the film is placed correctly to the first vacuum cylinder the shaker suction system should be in the ON position. See following section on user interface.

From this point the film will now be controlled by both the vacuum and mesh belt system through the heating tunnel.

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



Check that the alignment of the media support rails at the bottom of the hopper evenly support the media as it comes down and then returns up past the shaking motor.

The rails can be moved Left and Right to cater for different media widths to ensure the paper stays flat and even.

This will allow the powder to evenly flow over the media and prevent media curl at the bottom.

After finishing the current print job, cut the last part of PET film and enter the print linkage mode.

The film will then be automatically wound by the take-up to complete the printing process. Please monitor the take-up winding system to ensure the media is installed correctly and starting to run straight (parallel).

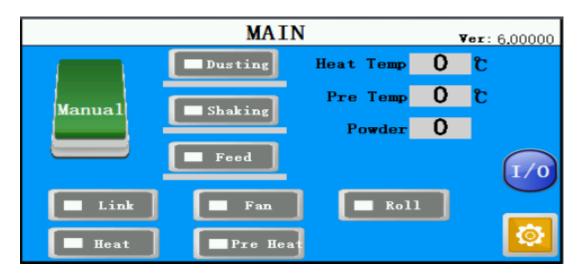
Check the Powder Collection Drawers daily to recycle the use of the powder and keep powder fresh.

Ensure you store the powder in a sealed (air-tight) and dry container when the machine is not in use as moisture will affect the powder negatively and can cause maintenance issues as well as poor application results. Consider using moisture absorbent pads for best results.

5.1 User Interface Menu



1. Language Menu – Please choose your language (May vary by region)



2. Main Menu – Format may vary by region or update.

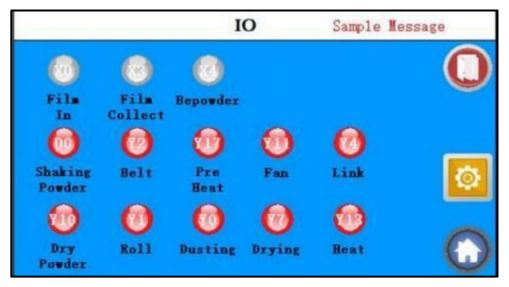
FUNCTION	ТҮРЕ	DESCRIPTION
Dusting	Button	Manually move powder.
Shaking	Button	Manually Shake Film to remove powder.
Feed	Button	Manually feed film forward.
Fan	Button	Manually turn Fan ON/OFF for suction to help fix and move film.
Roll	Button	Manually Start Roll Winding motor.
Heat	Button	Manually turn ON main heater.
Pre- heat	Button	Manually turn ON Pre-heater – Helps to remove moisture from printed media prior to curing process for better results.
Link	Button	When there is no material, it needs to work in linkage mode. (Not limited by feed sensor and powder weight sensor)
Manual	Button	Change between MANUAL and AUTOMATIC modes (Automatic means simultaneously Dusting, Shaking, Feed, Fan, Roll)
Heat Temp	Display	Display current Heater temperature.
Pre-Temp	Display	Display current Pre-Heating plate temperature.
Powder	Display	Display current Powder Weight.

5.2 Parameter Setting.



FUNCTION	ТҮРЕ	DESCRIPTION
Dusting Strength	Parameter	Speed setting (0-100).
Shaking Strength	Parameter	Speed setting (0-100).
Feed Speed	Parameter	Speed setting (0-100).
Roll Interval	Parameter	Speed setting (0-100).
Heat Temp	Parameter	Heater Temperature set (0-150).
Pre Temp	Parameter	Pre-Heater Temperature set (0-100).
Feed Sensor Parameter Value	Display	Displays the current position of the powder weight sensor.
Feed Sensor Para UP	Display Button	Upper limit setting value of powder weight sensor. (Set by SET button).
Feed Sensor Para Down	Display Button	Lower limit setting value of powder weight sensor. (Set by SET button).
Roll Sensor Para Value	Display	Current position of the unwinding sensor read value.
Roll Sensor Pare UP	Display Button	Upper limit of winding sensor (Set by SET button).
Roll Sensor Pare Down	Display Button	Lower limit setting of winding sensor (Set by the SET Button)

5.3 Troubleshooting.



FUNCTION	ТҮРЕ	DESCRIPTION			
Film In	Display	Material sensor status. Gray = No material detected. Red = Material detected and present.			
Film Collect	Display	Winding Angle position display. Confirming the winding motor is working. (Only effective if the winding motor has started)			
Bepowder	Display	Powder weight sensor position display. Confirming the powder motor is working. (Only effective if the dusting motor has started)			
Shaking Powder	Display	Dusting power status. Gray = OFF. Red = ON (Working).			
Belt	Display	Feeding and mesh belt motor status. Gray = OFF. Red = ON (Working).			
Pre Heat	Display	Pre-heater status. Gray = OFF. Red = ON (Working).			
Fan	Display	Suction fan status Gray = OFF. Red = ON (Working).			
Link	Display				
Dry Powder	Display	Powder heater status. Gray = OFF. Red = ON (Working).			
Roll	Display	Winding motor status. Gray = OFF. Red = ON (Working).			
Dusting	Display	Dusting motor status. Gray = OFF. Red = ON (Working).			
Drying	Display	Lid Heating status. Gray = OFF. Red = ON (Working).			
Heat	Display	Platform heating status Gray = OFF. Red = ON (Working).			

6. Shaker Settings for TY-300 operation.

These are the optimised settings for production modes.

Please refer to this table to help match your TY-300 and RDTFS800 Shaker Solution to get the best results.

Remember to maintain the correct environmental conditions for best performance and stable results.

PRINT MOI	DES	PRI	NT SPEE	DS	SHAKER PARAMETRES					
Resolution (DPI)	Pass	m2/h	ft2/hr	LM/h	Pre-Heater Temperature. (Setting/Display)	Heater Temperature (Setting/Display)	Feed Speed	Dusting Strength	Shaking Strength	Roll Speed
1200 x 1200	8	4.9	52.7	6.4	70/60	150/125	20	40	50	10
900 x 1200	6	8.3	88.9	10.9	70/60	150/125	30	40	50	10
600 x 1200	6	10.9	117.3	14.3	70/60	150/125	40	40	50	10
900 x 600	4	12.3	132.7	16.2	70/60	150/125	50	40	50	10
600 x 600	4	17.5	188.1	23.0	70/60	150/125	70	40	50	10
600 x 600	3	22.9	246.8	30.2	70/60	150/125	90	40	50	10

CONDITION				
Profile	Generic Film Dark			
Data				
Data size	200mm x 200mm			
Powder	S-POWDER			
Film	S-F328-30			

Recommended environmental	18-28°C 64-82°F with recommended 24°C 75°F
operating state for Printer.	Humidity 30%-70% with 50% Recommended.

7. Maintenance.

- Check the status of the powder collection drawers daily and recycle the powder for re-use.
- Switch on the waste oil valve and drain out the waste oil from the bottom of the filtration every 1-2 weeks.
- Open the filtration gate first then open the vented oven lid and check if clean the waste oil around the cover every 1-2 weeks.
- Change the Charcoal and HEPA filtration core every 6 months or when needed.
- Empty the recycle powder trays and remove the powder dust for a deep clean every month.

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Allow consumables to acclimatise correctly to the operating environment if they have been stored in a different and out of specification environment. This could take 1 to 5 or more hours depending on the product and environmental change. Doing this will help give you the best results.

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Using old Powder or Powder that has been exposed to excess moisture can cause maintenance issues as well as poor application transfer and durability.

Please dispose of any waste products in a safe manner for the operators and that will confirm to your local safety laws and regulations.

8. Registrations and Compliance.



UL Certification coming early 2025.

RoHS, REACH, CN and CVS coming end 2024

CE documents will be updated to signed and final versions.





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