



TabVac™ Tablet Dust Vacuum User Manual



We don't just sell machines—
we provide service.

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Important Safety Information

READ THIS BEFORE OPERATING MACHINE

Intended Use

The intended use of this machine is to remove excess powder.

Potential misuse of this machine includes:

- Not properly installing the machine.
- Using wet or damp material.

Personal Protection

For personal protection while transporting the TabVac™, abide by these actions:

- Wear steel toe boots to prevent foot injury.
- Wear heavy duty grip gloves to ensure firm grasp on machine.
- Wear back support belt to prevent injury if needed.

For personal protection while operating the TabVac™, abide by these actions:

- Avoid wearing loose jewelry to prevent machine entanglement.
- Contain long hair to prevent machine entanglement.
- Wear safety goggles.
- Wear disposable latex/rubber gloves.
- Wear a hairnet (food grade products only).
- Wear a beard net if needed (food grade products only).

General Hazards

- Be aware of risk of entanglement and pinch point due to moving parts.
- Do not operate in a wet environment or with wet hands due to risk of electrical shock or burn.
- Do not operate if any wires are damaged, pinched, or frayed due to risk of electrical shock or burn.
- Keep out of reach of children.
- Keep fingers away from all moving parts.
- Inspect machine before use.
- Check that nuts and bolts are suitably tightened.
- Use this machine only for its intended use as described in this manual.
- Turn off and unplug the machine before conducting cleaning and maintenance.
- Do not modify the machine in any way.

Safety Assessment

It is critical to conduct a safety assessment to ensure that it complies with all local laws and industry accepted safety regulations.

If you require guidance on the installation of the machine or conducting a safety assessment, please contact LFA Machines.

Important Safety Information

READ THIS BEFORE OPERATING MACHINE

Symbols



WARNING

This signals potential risk for personal injury.



CAUTION

This signals potential risk for damage to the machine or other parts.

Modes for Stopping

In the case of an emergency during operation, press the red button near the machine's handle and immediately unplug.



Prop. 65 Statement for CA Residents

Based on LFA's current level of knowledge of our machines, the TabVac™ does not require a Proposition 65 warning label.

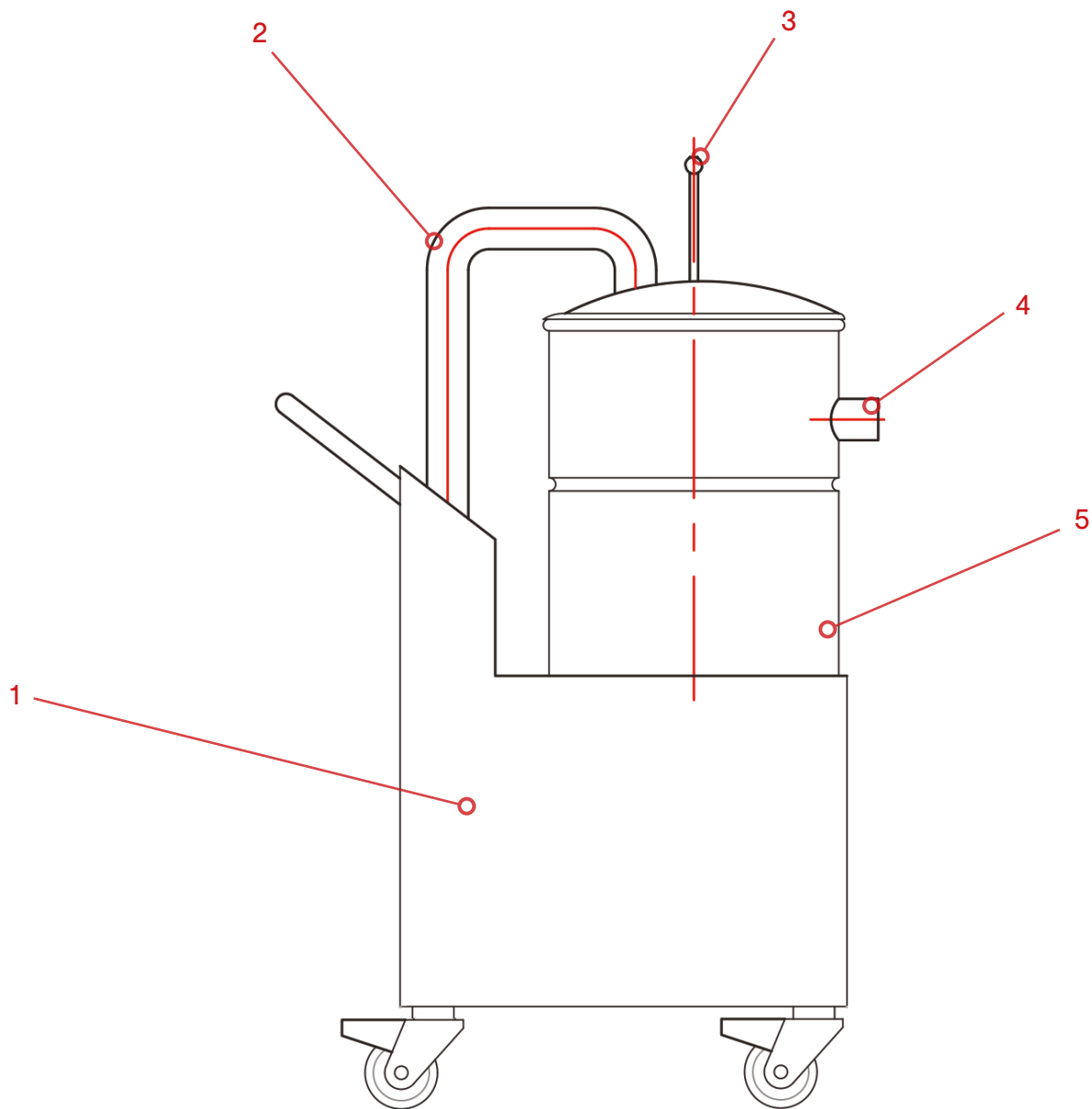
Warning for Explosive Material

This machine is not explosion proof. LFA recommends that you test your materials' explosivity before running them through this machine. If your materials are indeed explosive, do not use them with this machine.

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TabVac™ Parts List



- 1. TabVac Electrical Cabinet**
- 2. Negative Pressure Hose**
- 3. Powder Tamper**

- 4. Vacuum Inlet**
- 5. Drum**

Preface



The TabVac™ Tablet Dust Vacuum is a machine built for removing dust that is a by-product of tablet and capsule production and can be used with many models of tablet presses as well as tablet de-dusters and some capsule fillers. The TabVac™ features a powerful, rugged motor and a corrosion-resistant, stainless steel body, which allows the vacuum to handle large volumes of formulation while resisting moisture and chemical damage. Despite its robust construction, the vacuum's wheels make it easy to move and to access, ensuring simple maintenance and cleaning.

The purpose of this document is to support your understanding of the TabVac™'s components, features, functions, and design. With this manual, you will be able to successfully operate and maintain your TabVac™ machine.

The user manual's content includes:

- Important safety information
- TabVac™ installation instructions
- Description of the TabVac™'s operation
- TabVac™ maintenance information
- Appendix with supplemental information

Training

TabVac™ training is essential for the machine's successful operation and your personal safety. There are several methods to prepare you for working with the TabVac™.

Off-Site Training

LFA offers free training at our UK, USA, and Taiwan facilities for all our customers and their teams. For more information, go to <https://www.lfatabletpresses.com/services>

Training via Video Chat/Phone

Using an online video chat system, an LFA technician can interact face-to-face with you and assist with your understanding of the machine. Or, if you prefer, LFA can provide training via phone for all customers who call the office. To set up a training, call or email your local LFA office:

UK

Phone

+44 01869 250234

Email

support.uk@lfamachines.com

USA

Phone

+1 (682) 312-0034

Email

support.usa@lfamachines.com

Taiwan

Phone

+886 4220301790

Email

support.asia@lfamachines.com

LFA Articles

LFA writes informative articles about our machines, which includes instructions, procedures, and guides. To access the articles, go to <https://www.lfatabletpresses.com/articles>

LFA Videos

LFA has created videos involving the TabVac™ and other machines. To access the videos, go to <https://www.lfatabletpresses.com/videos> or <https://www.youtube.com/user/TabletPilPress>

Installation

Tools and Materials Needed

Before you install and operate the TabVac™, it is best to have the following tools and materials on hand for general operation and maintenance:

- Hammer
- Crowbar
- Metric wrench set and adjustable wrench
- Flathead screwdriver
- Set of metric Allen keys with ball ends
- Lubricant (NSF approved for food grade products)
- Bagless vacuum
- Toothbrush
- Cleaner (e.g. Member's Mark Commercial Lemon Disinfectant)
- Sanitizer (e.g. Member's Mark Commercial Sanitizer)
- Plastic sheet or something similar to cover machine
- Safety goggles
- Disposable latex/rubber gloves
- Hairnet and/or beard net (food grade products only)
- Sterile shoe covers (food grade products only)

The Appropriate Workstation for the Machine

Find stable, even flooring that supports the TabVac™'s 72 kg (approximately 158 lbs) weight. This machine also has a three phase 380 V or 220 V ($\pm 10\%$) electrical requirement, so ensure that it is near an appropriate power plug.

Environmental Conditions

It is important that the environment in which you operate and store the TabVac™ has the appropriate temperature and relative humidity levels. These two environmental factors can potentially cause the machine to rust. The table below shows the acceptable temperature and relative humidity levels:

Machine	Temperature		Humidity
TabVac™	°C	°F	45-65% RH
	18-24	64-75	

The shipping crate will contain the following:

1. The fully assembled TabVac™



2. Corrugated tube and electrical wires

Unpacking the TabVac™

Tools Needed

- Hammer
- Crowbar

Instructions

1. Pry open the panels of the shipping container with a hammer and crowbar.
2. Lift the top of the shipping container from its base.
3. Remove the plastic wrapping.

3.1 Note: Save the wrapping for future transport and/or storage.

Positioning the TabVac™

WARNING: To prevent personal injury, wear steel toe boots and heavy duty grip gloves while transporting the TabVac™.



One or two people should be sufficient in removing the machine from the shipping container and positioning it in the workspace.

To safely transport the TabVac™, gently guide the machine to the desired location (near 380 V or 220 V [$\pm 10\%$] electrical plug).

Assembly

The TabVac™ comes fully assembled with a few minor installations.

Tools Needed

- Flathead screwdriver

Instructions

1. Plug in the TabVac™ into an outlet and turn on the machine.
2. Ensure that there is air being blown out of the Exhaust Port.
2.1 Note: If air is being sucked through into the Exhaust Port, immediately turn off the machine and switch the phases on the machine's motor.
3. Loosen vacuum inlet's hose clamp with a flathead screwdriver.
4. Insert the corrugated tube to be connected to the tablet press/de-duster/capsule filler into the TabVac™ and tighten the hose clamp with a flathead screwdriver.



5. Connect the corrugated tube to the vacuum outlet of the tablet press/de-duster/capsule filler.
6. Connect the TabVac™'s electrical plug to the tablet press/capsule filler (if needed).



Controls

Basic Components



A description of the principal components follows:

- The **Drum** contains the Vacuum Bag and the powder removed by the TabVac™.
- The **Powder Tamper** pushes down excess powder from the Vacuum Bag and into the TabVac™'s drum.
- The **Electrical Cabinet** contains the motor, fan, and other machine wiring.
- The **Vacuum Inlet** allows TabVac™ to be integrated with another machine and introduces excess powder into the Vacuum Bag.
- The **Exhaust Port** channels the flowing stream of air from the vacuum's fan out of the TabVac™.

TabVac™ Process

The basic mechanism of the TabVac™ involves using a motor, which is attached to a fan. When the motor is operated by electricity, the fan turns and forces air, along with excess powder, into the machine's Vacuum Bag and drum.

Motor and Fan Operation

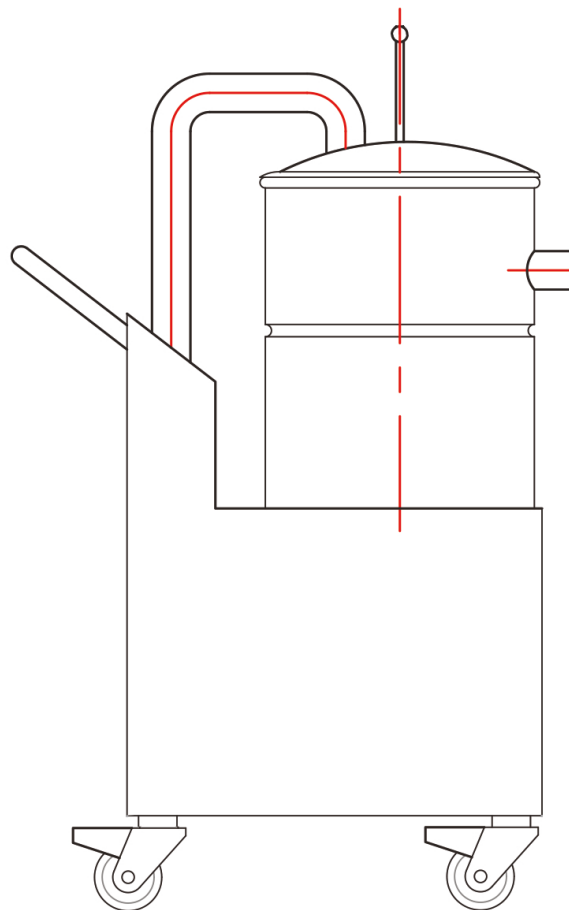
When the machine is turned on, the motor begins to turn the fan. The fan's blades force air from the vacuum inlet towards the exhaust port of the machine, which creates a pressure drop resulting in suction.

Suction of Air and Excess Powder

The corrugated tube allows air and excess powder to be sucked through into the Vacuum Bag, which filters the powder into the drum. If needed, the Powder Tamper is pressed and pushes down excess powder through the Vacuum Bag and into the drum.

Removal of Dust from Machine

After the Powder Tamper and Vacuum Bag are taken off the machine, the excess powder can be discarded.



How to Vacuum Dust with the TabVac™

Tools and Materials Needed

- TabVac™
- Safety goggles
- Disposable latex/rubber gloves (for food grade products and to protect hands from grease)
- Hairnet and/or beard net (food grade products only)
- Sterile shoe covers (food grade products only)

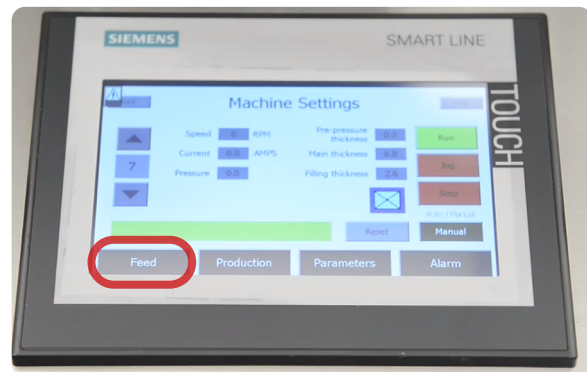


WARNING: For personal protection while operating the TabVac™, contain long hair, do not wear loose jewelry, and wear ear protectors.

Instructions

Note: Wear latex/rubber gloves (and appropriate food grade attire if applicable) during this process.

1. Press the green button to begin machine operation.
 - 1.1 Note: If the TabVac™ is connected to a machine's vacuum plug, it is also possible to turn on the vacuum using the other machine's HMI controls for auxiliary systems such as force feeders.



2. Press the red button or, if needed, use the other machine's HMI to stop vacuum operation.

Maintenance

To ensure that the TabVac™ will have a long operational life, maintenance is essential. This section includes methods for troubleshooting solutions and how often to clean your machine to keep its performance optimal.

General Maintenance Prescriptions

- Use the maintenance checklist (found in the Appendix) before, during, and after machine operation.
- Unplug the machine before cleaning.
- Before reassembling the machine after cleaning, make sure that the parts are dried.
- Constantly check for any loose nuts and/or screws before, during, and after machine operation.

Repair and Replacement

Some parts of the TabVac™ may need to be removed for repair and replacement.

Warranty

To access LFA's warranty policy, go to <https://www.lfatabletpresses.com/warranty>

If your part is eligible for warranty, have your part's serial number on hand and please contact LFA:

UK

Phone

+44 01869 250234

Email

support.uk@lfamachines.com

USA

Phone

+1 (682) 312-0309

Email

support.usa@lfamachines.com

Taiwan

Phone

+886 422031790

Email

support.asia@lfamachines.com

Troubleshooting

Sometimes unavoidable issues will occur while operating the TabVac™. Fortunately, there are several methods to remedy these issues.

Common Machine/Part Issues

Symptom	Possible Cause	Possible Solution
The powder is not filtering properly	There might be moisture in the vacuum inlet tube or Vacuum Bag.	Inspect the machine's corrugated tube and Vacuum Bag for any moisture. If found, remove the moisture.
	The Vacuum Bag is dirty or damaged.	Clean the Vacuum Bag and replace if damaged.
The TabVac™ is operating at a low volume	The vacuum inlet is clogged.	Take off the corrugated tube and remove any powder blockage.
	The Vacuum Bag is dirty or damaged.	Clean the Vacuum Bag and replace if damaged.
Abnormal noise is coming from the machine	There are loose parts or loose nuts and bolts.	Check all parts in the machine and tighten any loose nuts and bolts.
The machine does not operate	The power plug is loose from the outlet or from the machine.	Re-connect the power plug to the machine and the outlet. If the machine still doesn't operate after this, consult an electrician.

De-Jamming the TabVac™

Sometimes powder may become clogged in the corrugated tube and vacuum inlet, causing a jam and preventing machine operation.

Tools and Materials Needed

- Flathead screwdriver
- Disposable latex/rubber gloves (for food grade products and to protect hands from grease)
- Hairnet and/or beard net (food grade products only)
- Sterile shoe covers (food grade products only)



WARNING: To prevent any potential personal injury, ALWAYS unplug the TabVac™ before de-jamming it.

Instructions

Note: Wear latex/rubber gloves (and appropriate food grade attire if applicable) during this process.

Check the Vacuum Inlet and Tubes for any Blockages

1. Loosen the hose clamp on the corrugated tube with a flathead screwdriver.



2. Remove the corrugated tube from the vacuum inlet.
3. Remove any blockages in the corrugated tube and the vacuum inlet.
4. Open the Powder Tamper and clean the Vacuum Bag.



Cleaning

During the TabVac™'s operation, excess powder will find its way into parts of the machine. It is important to clean the TabVac™ thoroughly to prevent rusting.

LFA recommends that the machine be cleaned after each operation.

Tools and Materials Needed

- Flathead screwdriver
- Toothbrush
- Disposable latex/rubber gloves
- Bagless vacuum
- Clean cloths
- Potable water
- Plastic bag
- Bowl of warm soapy water (nothing abrasive)
- Cleaner (e.g. Member's Mark Commercial Lemon Disinfectant)
- Sanitizer (e.g. Member's Mark Commercial Sanitizer)
- Hairnet and/or beard net (food grade products only)
- Safety goggles
- Sterile shoe covers (food grade products only)



WARNING: To prevent any potential personal injury, ALWAYS unplug the TabVac™ from the electrical outlet when replacing parts.

Instructions

Note: Wear safety goggles and latex/rubber gloves (and appropriate food grade attire if applicable) during this process.

Remove the Machine Parts

1. Loosen the drum's buckles.



2. Remove the hose clamps with a flathead screwdriver.



3. Lift up the powder tamper and untie the Vacuum Bag to remove it.



Clean the Machine Parts

4. Flush out the corrugated tubes with cleaner and water and shake out any excess water.
5. Submerge the Vacuum Bag in the bowl of warm soapy water and rub off all dust and debris.
6. Rinse the Vacuum Bag and allow it to air dry.
7. Empty any powder into a plastic bag and dispose of it safely.
8. Vacuum inside the drum and remove any excess powder.
9. Wash the inside of the drum with water, cleaner, and a cloth.
 - 9.1 Note: Use the toothbrush for difficult-to-remove debris.
10. Rinse off the cleaner and immediately dry the drum's interior with a cloth.
11. Sanitize the drum's interior.
12. Wash the Powder Tamper with water, cleaner, and a cloth.
13. Rinse off the cleaner and immediately dry the Powder Tamper with a cloth.
14. Sanitize the Powder Tamper.

Cleaning Schedule Matrix

Part	Frequency									
	After installing machine	After every use	Before every use	In between products that present a cross contamination risk	Weekly	Monthly	Before placing in storage	After removing from storage		
Powder Tamper Hoses	Remove from machine	Clean on machine	Clean on machine	Remove from machine	Clean on machine	Clean on machine	Clean on machine	Remove from machine		
	Remove from machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Remove from machine		
Vacuum Bag	Clean on machine	Clean on machine	Clean on machine	Remove from machine	Remove from machine	Remove from machine	Remove from machine	Clean on machine		
	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine		
TabVac Drum Interior	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine		
TabVac Drum Exterior	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine	Clean on machine		

Cleaning Level Key	
Level 1 - Remove powder	
Level 2 - Dry clean with cloth	
Level 3 - Dry clean and re-lubricate if specified in lubrication schedule	
Level 4 - Wet clean and re-lubricate if specified in lubrication schedule	
Remove from machine - Take part out of machine and clean if required. Store it correctly or install back into machine.	
Install into machine - Install part into the machine and make sure that it has been cleaned. If needed, lubricate to the level required.	
Clean on/in machine - Clean the part while in the machine and do not remove it. Make sure that all contact surfaces are clean to the level required.	

This cleaning matrix is intended as a guide only and is not an exhaustive list. All cleaning schedules will need to be adapted to the industry and product, following industry regulations and the material safety data sheets that come with specific products. Please check with your Food Safety Manager/Department, Quality Control Manager/Department, or other relevant internal departments at your company before using.

Storing the TabVac™

After its thorough cleaning, the TabVac™ needs to be stored in the proper conditions. It is important to store it in an environment in which the machine is safe from rusting.

Tools and Materials Needed

- Plastic wrapping to cover machine
- Disposable latex/rubber gloves (for food grade products and to protect hands from lubricant)
- Hairnet and/or beard net (food grade products only)
- Sterile shoe covers (food grade products only)

Instructions

Note: Wear latex/rubber gloves (and appropriate food grade attire if applicable) during this process.

Cover the TabVac™

1. Carefully cover the TabVac™ with the plastic wrapping.

1.1 Note: You can use the plastic wrapping that came with the machine in the shipping container.

Environmental Conditions

It is important that the environment in which you operate and store the TabVac™ has the appropriate temperature and relative humidity levels. These two environmental factors can potentially cause the machine to rust. The table below shows the acceptable temperature and relative humidity levels:

Machine	Temperature		Humidity
	°C	°F	
TabVac™	15-28	59-83	45-65% RH

Appendix

Glossary

Term	Definition
API/Active Pharmaceutical Ingredient	Any substance or mixture of substances used that is an active ingredient in the drug product.
Binding agent	See excipient.
Excipient	An inactive substance that serves as the vehicle or medium for a drug or other API.
Formulation	Powder mix of the excipient and the API that is compressed to make tablets.
Granular material	See Formulation.
TabVac™	LFA trademarked term for tablet dust vacuum.

Description of TabVac™ Parts

Vacuum Bag

The Vacuum Bag acts as a filter for the excess powder.



Drum and Powder Tamper

The drum houses the Vacuum Bag, and the Powder Tamper sits on top of it.



Main Hoses

The main hoses are corrugated tubes that facilitate the air stream in the TabVac™.



Material of Contact Parts

Contact Part	Material
Corrugated tubes	PVC
Vacuum Bag	Polyester cloth
Drum	304SS

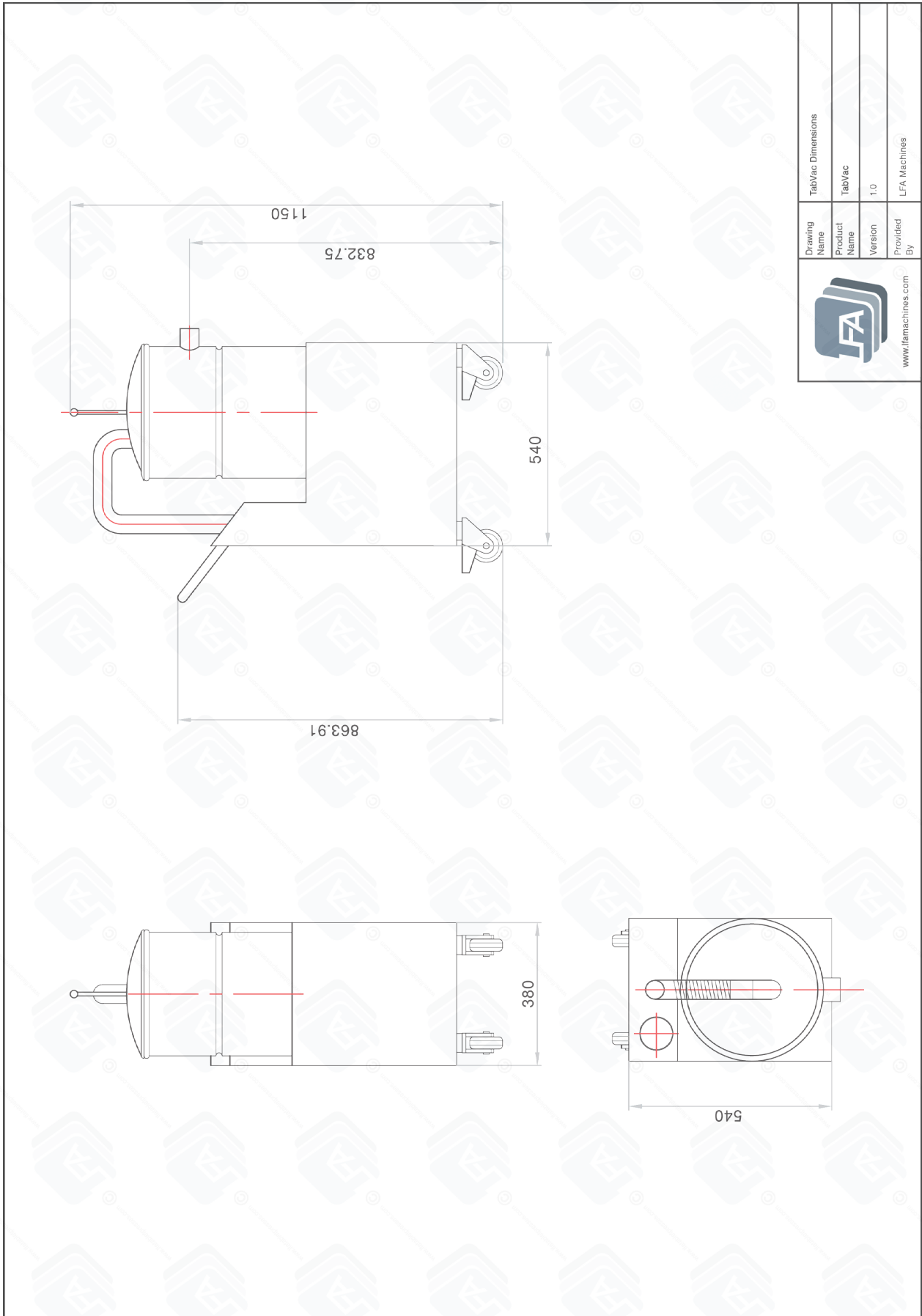
Technical Specifications

Power	3 phase 380 V or 220 V 1.1 kW
Rate of air flow (m/h)	135
Vacuum (kPa)	16
Weight (kg)	72
Filter area (cm ²)	18000
Noise level (db)	63
Capacity (L)	20
Dimensions (mm)	700 x 460 x 1030
Dimensions with suggested working clearance (mm)	1600 x 1360 x 1930

Maintenance Checklist

Before Operation	
<input type="checkbox"/>	Visually inspect the vacuum and the parts.
<input type="checkbox"/>	Ensure that all wires are connected and that a proper electrical outlet is nearby (three phase 380 or 220 V [$\pm 10\%$]).
<input type="checkbox"/>	If connected to a de-duster, rotary tablet press, or capsule filler, the TabVac™ must be near the vacuum outlet of the machine.
<input type="checkbox"/>	Ensure the tubing is properly installed.
<input type="checkbox"/>	Conduct a test run for the machine. Watch out for any abnormalities such as excess noise or vibration.
During Operation	
<input type="checkbox"/>	During a regular run, listen for irregular knocking or clicking sounds. If heard, stop operation and investigate the source of the sound.
<input type="checkbox"/>	Watch for buildup of powder in the Vacuum Bag and corrugated tube. If occurring, clear the buildup with a cleaning brush or bagless vacuum.
<input type="checkbox"/>	Inspect the Vacuum Bag's contents for any irregularities.
After Operation	
<input type="checkbox"/>	Unplug machine and remove all excess powder with a bagless vacuum.
<input type="checkbox"/>	Open the Powder Tamper and clean the inside of the machine and the Vacuum Bag.
<input type="checkbox"/>	Wipe down the other surfaces with a damp cloth.

TabVac™ Dimensions

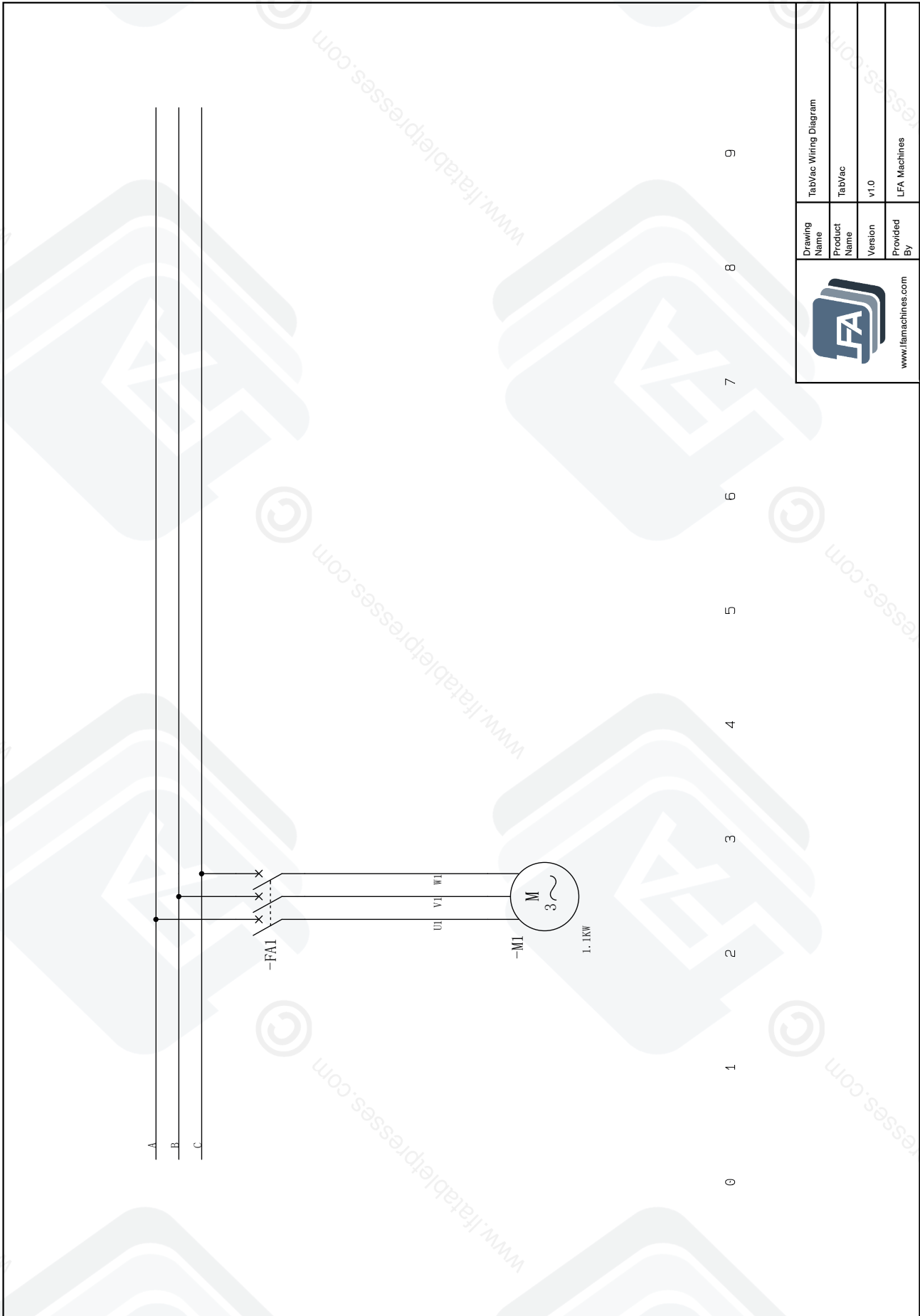



Drawing Name		TabVac Dimensions
Product Name		TabVac
Version		1.0
Provided By		LFA Machines



www.lfamachines.com

TabVac™ Electrical Drawing



 www.lfamachines.com	Drawing Name	TabVac Wiring Diagram
	Product Name	TabVac
	Version	v1.0
	Provided By	LFA Machines

Resources

Helpful Links

Warranty

For information regarding the warranty policy of the TabVac™ and other LFA products, please visit <https://www.lfatabletpresses.com/warranty>

LFA Website

In order to aid you in your tablet production, LFA Machines maintains a website that offers a breadth of useful information about our machines. Use our online tools such as the Tablet Mix Calculator to help you in your formulation production or read our regularly published articles that cover a whole range of topics about tablet presses and tablet production.

Visit the LFA homepage at <https://www.lfatabletpresses.com>

LFA Machines YouTube Channel

Our YouTube videos provide you an opportunity to see how to use our tablet presses, common troubleshooting tips, and other LFA products such as capsule fillers and mixers. We regularly upload videos to give you a visual aid that will hopefully support you in your tablet production efforts. To watch our videos, visit <https://www.youtube.com/channel/UCwtbcwja77ai7vX2o34FUkQ>

LFA Machines Social Media

Social media is a great way to keep yourself updated on new developments and exciting things happening at LFA Machines. The list below contains our current social media pages:

Twitter: @lfatabletpress

Instagram: @lfatabletpresses

Facebook: <https://www.facebook.com/lfatabletpresses>

LinkedIn: <https://www.linkedin.com/company/lfa-machines-oxford-ltd/>

Contact Us

UK

LFA Machines Oxford Ltd
Unit 4B Rowood Estate
Murdock Road
Bicester, Oxfordshire OX26 4PP
+44 01869 250234
support.uk@lfamachines.com
Monday-Friday
9AM-5PM GMT

US

LFA Machines DFW, LLC
6601 Will Rogers Blvd
Fort Worth, TX 76140
+1 (682) 312 0034
support.usa@lfamachines.com
Monday-Friday
8AM-6PM UTC (Central)

Germany

LFA Machines Düsseldorf GmbH
Business Parc Am Trippelsberg 92
Düsseldorf, North-Rhine
Westphalia 40589
+41 21188250223
verkauf@lfamachines.com

Taiwan

LFA Machines Taiwan Ltd
7F-5, No. 2, Sec. 2 Taiwan Blvd
West District, Taichung City 403
Taiwan
+886 422031790
support.asia@lfamachines.com
Monday-Friday
9AM-5PM GMT+8



LFA MACHINES

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www.lfamachines.com

United Kingdom

Unit 4B
Murdock Road
Bicester
Oxfordshire
United Kingdom
OX26 4PP

United States

6601 Will Rogers Blvd
Fort Worth
Texas
United States
76140

Germany

Business Parc Am
Trippelsberg 92
Düsseldorf
Germany
40589

Taiwan

7F.-5, No. 2, Sec. 2
Taiwan Blvd., West Dist.,
Taichung City 403,
Taiwan