



VERIWHIRL



USER MANUAL

3D PRINTED PARTS CLEANER

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1. INTRODUCTION

Thank you for purchasing the VeriWHIRL automated cleaning unit. VeriWHIRL efficiently cleans uncured resin from 3D printed parts using isopropyl alcohol (Isopropanol). To ensure that your VeriWHIRL gives you the highest level of performance, review and follow the guidelines outlined in this User Manual and keep it for future reference.

Das Benutzerhandbuch ist auf www.whipmix.com in deutscher Sprache verfügbar.

Le manuel d'utilisation est disponible en français sur le site www.whipmix.com.

El manual del usuario se encuentra disponible en español en www.whipmix.com.

Il manuale utente è disponibile in italiano sul sito <https://www.whipmix.com>.

1.1 DECLARATION OF CE CONFORMITY

VeriWHIRL has been tested for CE marking according to the following European Directive and standards:

■ Electromagnetic Compatibility Directive 2014/30/EU

EN 61326-1:2013, Class A (Basic Immunity)

EN 55011:2016 +A1:2017

EN 61000-3-2:2014

EN 61000-3-3:2013

EN 61010-1:2010 (Third Edition)

■ RoHS

EN 50581:2012

IEC 62321-3-1:2013

IEC 62321-8: 2017

1.2 TRANSPORT OF THE UNIT

Upon receipt of the VeriWHIRL, examine the shipment to determine whether any items in the shipment are missing, defective or damaged. Notify Whip Mix of any shortages, defects, or damage within 1 day of receipt of the shipment. Within 10 days after the receipt of such notice, the company will take action based on the findings. Whip Mix will repair or replace any part proven defective in material or workmanship at no charge.

2. COMPONENTS

**AC to DC Adapter with cable:**

Provides power to the VeriWHIRL.



Main body (Base): Touch screen displays the control interface with the MODE, TIME, START and STOP buttons. MODE button selects which wash container to use. Indicator lights shows which wash container is selected.



Mesh Basket: The removable basket is used to wash parts that are unattached to the build platform. The basket is inserted and secured into the Wash Container to clean the parts.

**Universal Build Plate Jig / Metal**

Rods: To clean printed parts while they are attached to the printer build plate, place the Metal Rods (two of them) into the appropriate slots of the Universal Jig (adjustable positioning to fit build plate size up to 180mm x 90mm) (7.08" x 3.54").



Wash Containers/Lids: There are two separate removable containers, each holding up to 3 liters of isopropanol. One is used for the first bath, and the second for a second (fresh) bath. Each has its own lid. A rotating impeller at the bottom circulates the solvent.



Disposable Main Body Cover (PET): Clear plastic cover is made out of alcohol resistant material to protect the main body of the unit from spilled alcohol or resin.

3. TECHNICAL SPECIFICATIONS

MODEL: VeriWHIRL 3D PRINTED PARTS CLEANER

Product Dimensions: 24(L) × 24(W) × 35(H) cm (9.45" × 9.45" × 13.8")

Package Dimensions: 29(L) × 29(W) × 52(H) cm (11.4" × 11.4" × 20.5")

Product Weight: 3 kg (6.6 lb)

Shipping Weight: 4.4 kg (9.7 lb)

Rated Power: 48W

Voltage: AC 100~240 V, ~50/60 Hz

Transient overvoltage: 2,500 V

4. INSTALLATION

- 4.1 Place the Main Body (Base) on flat surface.

NOTE: The disposable clear plastic cover is already in place. This is a disposable item and can be changed if it becomes soiled with spilled resin or alcohol.

- 4.2 Place each Wash Container on the Main Body. Be sure each fits well.

- 4.3 CAREFULLY fill the Wash Container with 2.5 - 3.0 liter of Isopropanol.

NOTE: It is recommended to dedicate one container as the first bath for the parts coming directly from the printer, and the other container as a second bath, filled with fresh IPA (ISOPROPANOL).

NOTE: Keep the Lid closed when the VeriWHIRL is not in use to minimize the evaporation rate of the alcohol.

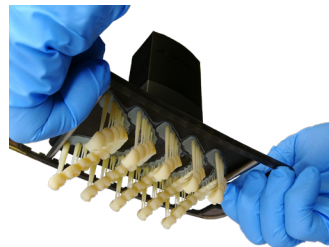
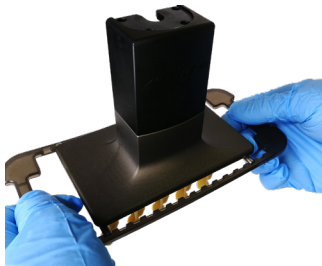
- 4.4 Use the Mesh Basket only to wash 3D printed parts not attached to the printer build plate.

NOTE: To clean small 3D printed parts such as dies or single crowns, there are two options as follows:

- Put them into a 3" stainless steel tea ball infuser (not sold by Whip Mix, can be purchased online), then insert into the mesh basket as shown below.



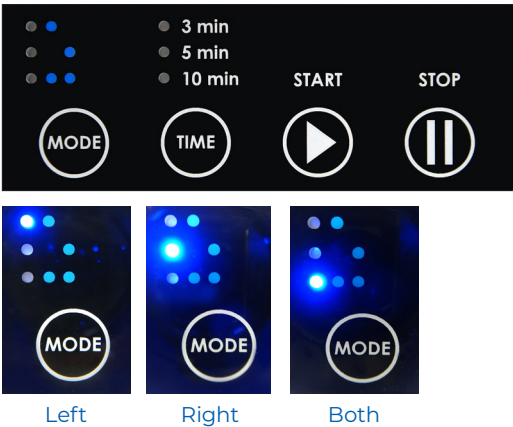
- For a 3D printer with a build plate size up to 180 mm x 90 mm (7.08" x 3.54"), when not using the stainless steel tea ball infuser, keep the printed parts attached to the build plate and use the Universal Build Plate Jig as instructed in 4.5.



- 4.5 Use the Universal Build Plate Jig and the Metal Rods to wash the printed parts while they are attached to the build plate and the build plate size is up to 180 mm x 90 mm (7.08" x 3.54").
- 4.5.1 Position the Metal Rods in the slots of the Universal Jig based on the size of your printer build plate.
- NOTE: Check and adjust the position of the two Metal Rods several times until the build plate is placed over them securely.**
- 4.5.2 Check the proper position of the build plate over the two Metal Rods, set aside.
- 4.5.3 Insert the Universal Jig with the positioned Metal Rods inside the Wash Container.
- 4.5.4 Secure the printer build plate over the positioned Metal Rods.
- NOTE: Ensure printed parts are fully secured to the build plate. Washing loose parts directly in the wash container may damage printed parts, create noise, and interfere with the impeller at the bottom.**
- 4.6 Insert either the Mesh basket or the Universal Jig into the Wash Container as instructed in 4.4 or 4.5.
- 4.7 Insert the AC cable into the receptacle in the back of the unit.

5. OPERATION

- 5.1. To turn on the unit, select and press the MODE button depending on which Wash Container you want to operate - left, right, or both. LED (Blue) light indicates which container is selected.



- 5.2 Select the TIME (3 min, 5 min, or 10 min).
- NOTE: Time cannot be changed while the cleaning cycle is in progress.**
- 5.3 Do not start the unit until the Containers, the Lid/Mesh Basket, and the Universal Jig are all secured in their proper position.

- 5.4 Press the START button to begin the wash cycle. The cleaning cycle will operate for the length of time selected in the control interface. The impeller reverses direction every 60 seconds.

NOTE: The speed at which the isopropyl alcohol is stirred is the same for both Wash Containers and any cleaning duration (3, 5, or 10 minutes).

- 5.5 To adjust the speed of BOTH containers, unit must be in OFF mode. Press and hold the START and STOP button simultaneously for 5 – 7 seconds. This will move you to the speed control mode.

- To increase the speed: Press the START button repeatedly.
- To decrease the speed: Press the STOP button repeatedly.
- To save the speed: Press the MODE button.

NOTE: You cannot adjust the speed while the cleaning cycle is in progress.

NOTE: To end the cleaning cycle before it is finished, press the STOP button.

NOTE: When you press the STOP Button, it cancels the remaining time of the wash cycle.

6. CAUTIONS

- Before operating, read the VeriWHIRL USER MANUAL carefully. Follow the instructions to avoid errors, equipment damage, or injury to the user.
- Do not change the position of the Wash Container during operation.
- Do not allow water or alcohol to get into the main body of the VeriWHIRL.
- Ensure that no isopropyl alcohol spills when you fill the wash container at any time. Spilled alcohol may damage the electronics or the base material.
- Use only authorized accessories (power cord with appropriate rating).
- Refer to the alcohol supplier safety data sheet (SDS) as the primary source of information on the storage and handling of the alcohol.
- Alcohol is flammable and should be stored away from sources of ignition.
- Wear gloves and handle alcohol in well-ventilated areas.
- Alcohol evaporates quickly, so keep the lid(s) closed whenever possible.
- Do not modify the unit. VeriWHIRL is intended to be used as directed only.
- Keep away from children.
- Do not operate with a damaged cord or plug. A damaged cord may only be replaced by a power cord of the same type.
- Only use well-maintained equipment.
- Operate on a clear and flat surface.
- Always use the equipment in the safest possible manner.
- Ensure that the Wash Containers, lids, and the mesh basket are all secured in their proper positions before starting a cleaning cycle.

7. CLEANING, MAINTENANCE, AND CARE

7.1 CLEANING

- Always keep the main body clean from alcohol or resin. Keeping the disposable cover on the main body at all times will protect the main body from spilled alcohol
- Always disconnect the power cable before cleaning/maintenance.
- Remove the Wash Container from the base.
- Remove the Universal Build Plate Jig, Mesh Basket, and Metal Rods from the Wash Container.
- Remove all alcohol from the Wash Containers.
- Clean the inside of the Wash Containers with water, and wipe with smooth clean cloth.

NOTE: Ensure that all water completely dries before refilling the container and operating.

- Wipe the outer surface of the VeriWHIRL with Isopropyl alcohol or water using a smooth clean cloth.

7.2 MAINTENANCE AND CARE

- Isopropyl Alcohol
 - The Isopropyl alcohol should be changed periodically. Use up to 99% isopropyl alcohol.
 - The Isopropyl alcohol can be used for multiple cleaning cycles, but the cleaning effectiveness of reused alcohol will decrease with each cleaning cycle, depending upon the resin used and the printed part geometry. In case of settling of solid polymerization residues, the used alcohol must be changed immediately.
 - As Alcohol decreases over time due to use or evaporation, add fresh alcohol to keep the right level of alcohol inside the wash container.
 - Replace the alcohol when the wash is no longer effective and when printed parts are tacky even after washing.
 - It is solely up to the operator to determine when the alcohol needs to be changed.
 - Dispose of used Isopropyl alcohol per local and national regulations.
- Accessories can be replaced if needed. For purchasing accessories and spare parts, visit WhipMix at shop.whipmix.com or www.whipmix.com.

8. TROUBLESHOOTING AND REPAIR

VeriWHIRL has been designed to enable the user to replace parts or fix the unit without sending it anywhere. Replacement parts are readily available at www.shop.whipmix.com.

If problems do occur, consult the chart below. If additional information is needed, watch the appropriate videos on the Whip Mix channel at www.youtube.com.

If still not satisfied, refer to the warranty agreement to determine your course of action. If the unit is out of warranty, contact Whip Mix at (800) 626-5651.

Error	Cause	Solution
Loud noise	High concentration of resin in alcohol (viscosity change) affects rotation speed	Adjust the speed – refer to the operation process.
Unusual noise	Obstruction in the Wash Container	Check for loose parts or debris on the bottom of the bucket. Check that the impeller rotates properly.
The Display doesn't turn off	Software issue	Disconnect and reconnect the power (restart).
The Display doesn't turn on	Software issue	Disconnect and reconnect the power after 1-2 min (restart).
	Faulty electrical connection	Check the power supply. Try another outlet. Disconnect and reconnect the power.
Motor Jammed	Misaligned impeller or debris stuck around it	Check for loose printed parts or debris stuck under the impeller and remove it. Check the impeller alignment and proper rotation. Contact Whip Mix for instruction.

9. ENVIRONMENTAL CONDITIONS

- Installation: Indoor use
- Altitude: up to 2,000 m
- Operating temperature/humidity: 5–40°C/20–80%
- Pollution degree: 2
- Degree of protection: 1

10. PACKAGING

- Take care when opening.
- Keep your packaging.
- Use the original box when sending for service.

11. WARRANTY

Whip Mix Corporation offers a one-year warranty for VeriWHIRL, starting from the date of purchase. Whip Mix Corporation warrants the VeriWHIRL free of all defects in material and workmanship. Refer to separate warranty agreement at www.whipmix.com for warranty coverage and service details.



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