



- EN User Guide
- FR Guide de l'utilisateur
- DE Benutzerhandbuch
- IT Guida dell'utente
- ES Manual de usuario
- JP ユーザーガイド
- ZHCN 用户指南



209297-0002

Legal Notice

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1 Introduction

WaveWash 55 Support Cleaning System is designed to remove SR-30 soluble supports from ABS*plus* parts using Ecoworks tablets. The system is environmentally friendly, allowing for municipal sewage disposal of used solution. WaveWash 55 Support Cleaning System can clean a single part as large as 127 x 127 x 127 mm (5 x 5 x 5 in.).

Your part is left with a smooth and clean finish with the fine details intact. The majority of the soluble support material can be removed by hand with relative ease, but is designed to be dissolved from your parts for hands free finishing.

How to use this guide

This User Guide is laid out in easy to follow sections which cover Setup, Operation, Maintenance, and Troubleshooting. Read each section carefully so that you will get the best performance from your cleaning system.

Learn More!

An electronic User Guide is available at: <http://www.stratasys.com/login>. This guide provides information on the following topics:

- Troubleshooting information
- Important safety notices and regulatory information
- Detailed user instructions

You can also find more information at: <http://www.Mojo3Dprinting.com>.

Safety precautions

The following precautions ensure proper use of the system and prevent system damage. Follow these precautions at all times.

- Make sure the appropriate voltage range for your region has been selected. Avoid overloading the electrical outlet with multiple devices.
- Ensure the system is well-grounded. Failure to ground the system may result in electrical shock, fire and susceptibility to electromagnetic interference.
- Before disassembling or repairing the system yourself, contact your local Service Representative. See the Support section in the User Guide.
- Use only the power cord supplied. Do not damage, cut or repair the power cord. A damaged power cord has risk of fire and electric shock. Replace a damaged power cord with an approved power cord.
- Do not allow metal or liquids to touch the internal parts. Doing so may cause damage, fire, electric shock or other serious hazards.
- Power off the system and disconnect the power cord from the power outlet in any of the following cases:
 - If there is smoke or an unusual smell coming from the cleaning system.
 - If the cleaning system is making an unusual noise not heard during normal operation.
 - A piece of metal or a liquid touches the internal parts of the cleaning system.
 - During an electrical (thunder/lightning) storm.
 - During a power failure.

The following classifications are used throughout this guide.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in serious injury.



Hot Surface: The hot surface sign indicates the presence of devices with high temperatures. Always use extra care, and wear safety gloves, when working around heated components.



Recycle: Use proper recycling techniques for materials and packaging.

2 Overview

The WaveWash 55 Support Cleaning System was specifically developed to provide efficient removal of soluble support material from parts built using the FDM process.

How it works

The system removes support material by immersing parts in a bath of water with a specific amount of Ecoworks tablets. The system heats and circulates solution around the parts in the carafe. The solution dissolves the support material without harming the underlying part material. Cleaned parts should be air dried before using.

Figure 1 Sequence of operation

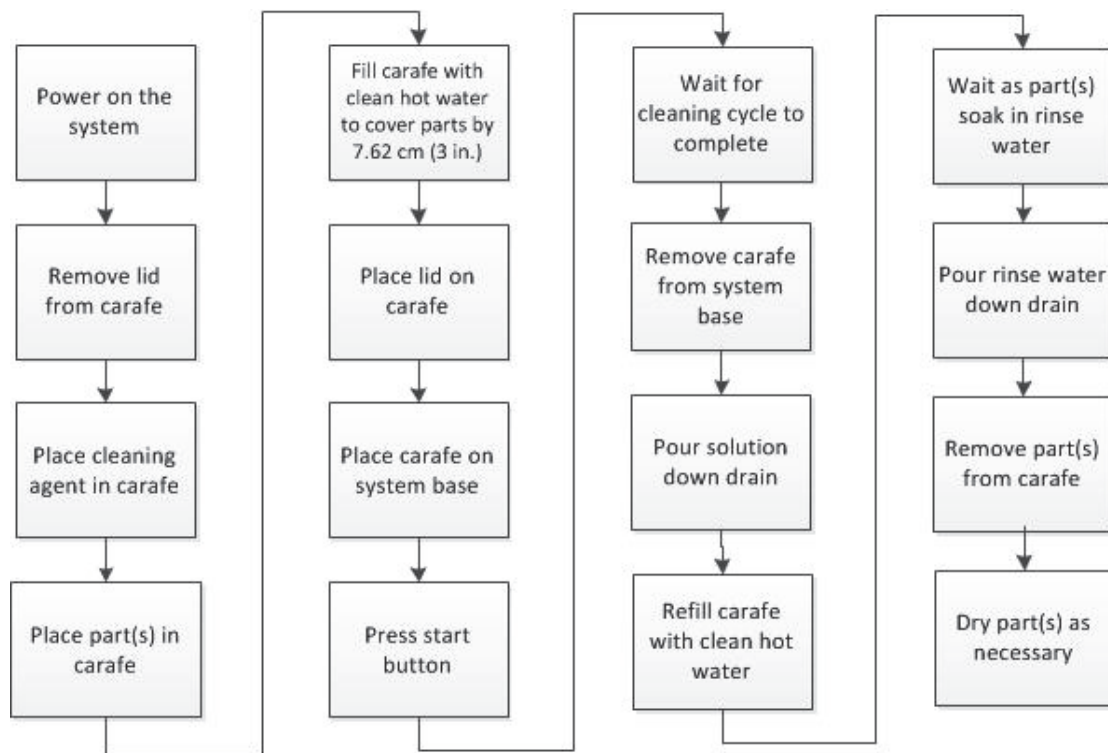
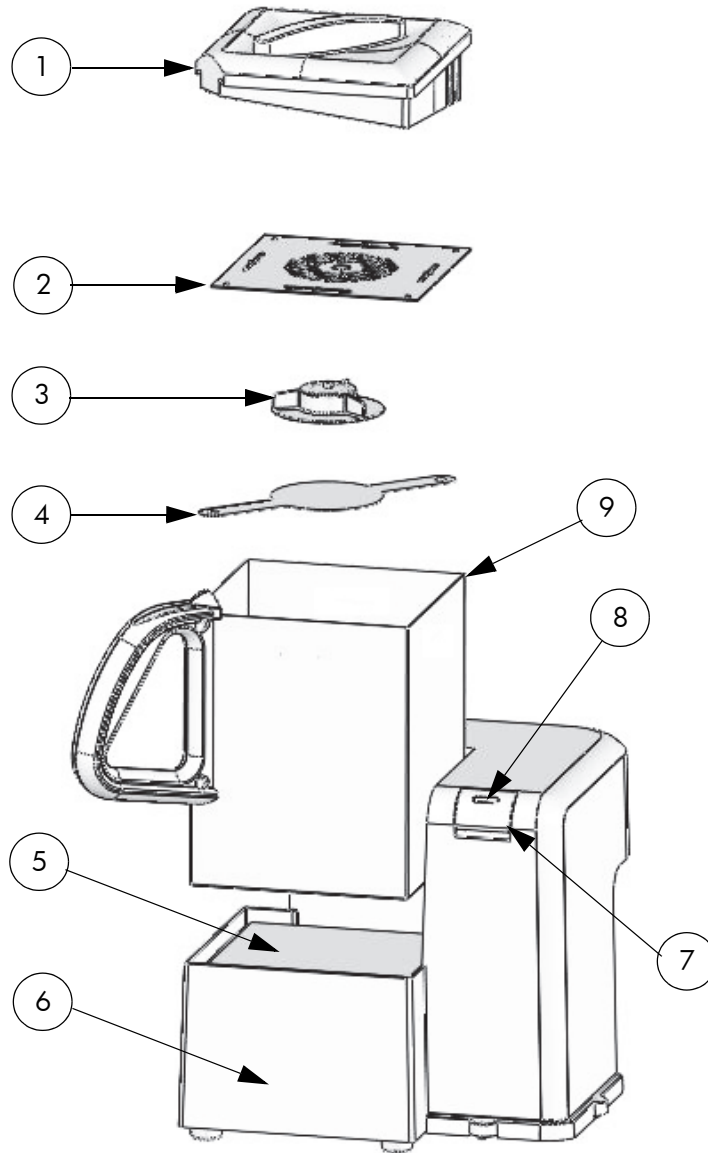
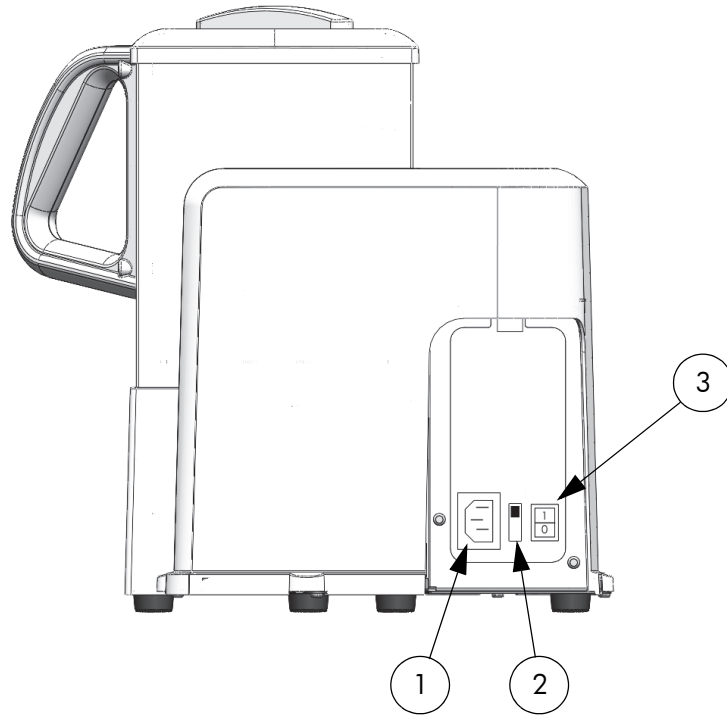


Figure 2 Major cleaning system components



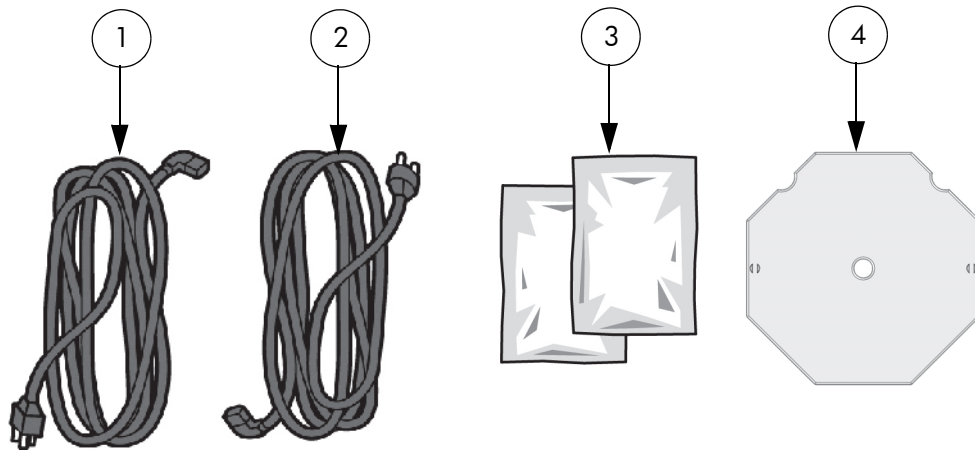
1	Lid
2	Grate
3	Agitator assembly
4	Bushing
5	Heater surface
6	Base
7	Start/stop button
8	LED indicator
9	Carafe

Figure 3 Back view of cleaning system



-
- 1 AC power cord connector
 - 2 AC power selection (115V or 230V)
 - 3 Power ON/OFF switch
-

Figure 4 Startup kit contents



-
- 1 Power cord (Euro)
 - 2 Power cord (US)
 - 3 Ecoworks tablets (2)
 - 4 Baffle
-

3 Setup

Connecting the system

Make sure the following preparations of the physical site are met:

- The system must be placed on a flat and stable surface able to support 9.1 kg (20 lbs.) to avoid the risk of falling.
- The grounded electrical outlet (100–120/220-240VAC, 7/4A 60/50Hz) must connect a power cord for your region and must be located within 2 m (5 ft.) of the system. Do not use an extension cord or a power strip. Using these can possibly cause intermittent power issues.
- The AC voltage selection (115V or 230V) switch must be set for the proper power input.

Select AC power

1. Remove the AC power selection sticker.

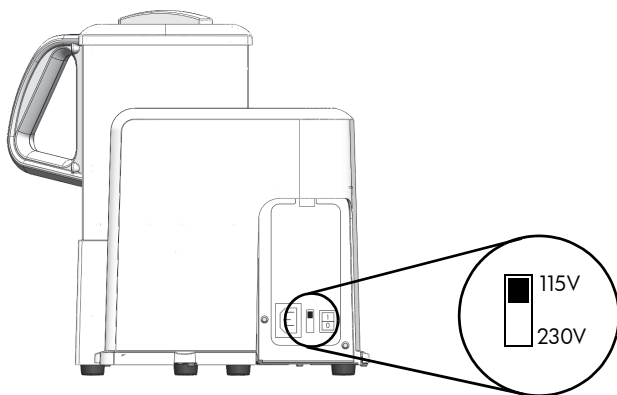


2. Set the AC power selection (115V or 230V) switch to the voltage used in your region.



WARNING: If the proper input voltage is not selected, the cleaning system will be damaged.

Figure 5 AC Power Selection



Connect the power cord

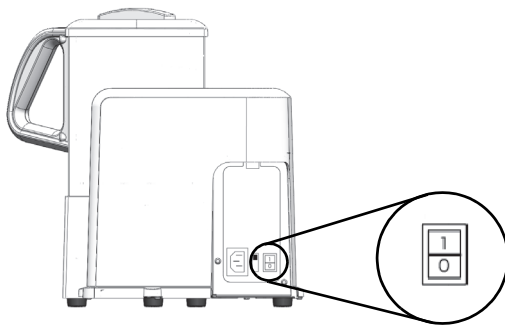
Securely plug one end of the appropriate power cord into the receptacle at the side of the system and the other end of the power cord into a grounded receptacle.

4 Operation

Cleaning parts

Power on the system

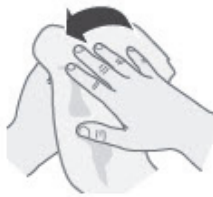
Power on the system using the On/Off switch.



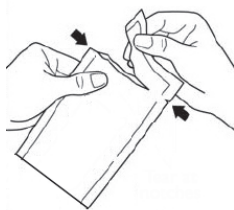
Add cleaning agent

Follow the instructions below for adding the contents of the cleaning agent bag into the carafe.

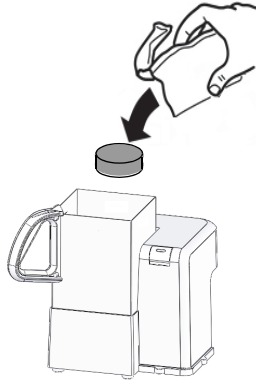
1. Dry hands before opening the cleaning agent bag.



2. Open the cleaning agent bag as shown.



3. Empty all the contents of the cleaning agent bag into the carafe.



After adding all the contents of the cleaning agent bag, properly dispose of the bag.

Adding parts

Place part(s) with soluble supports in the bottom of the carafe. All parts must be free to agitate in the cleaning solution. Do not overload the carafe with parts.

Adding delicate parts

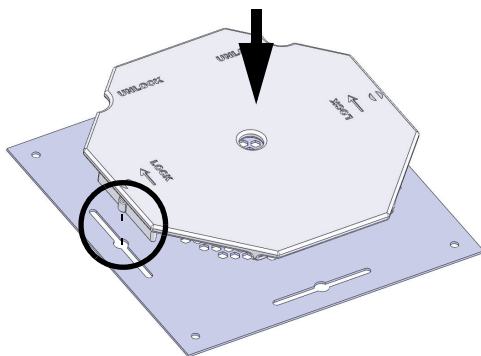
Delicate parts can be protected by first placing the baffle in the bottom of the carafe and locking it in place. The baffle is designed to lessen agitation and prevent delicate parts from being damaged during the cleaning cycle.

- Delicate parts have features with a cross sectional areas under 19 sq. mm (0.03 sq. in.).

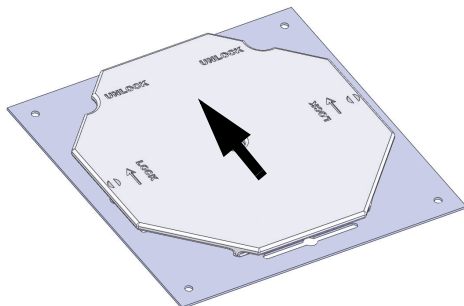
Installing/removing the baffle (optional)

Use the following steps to install the baffle at the bottom of the carafe.

1. Align the locking tabs of the baffle to the slots on the carafe grate. Make sure the baffle is firmly installed.

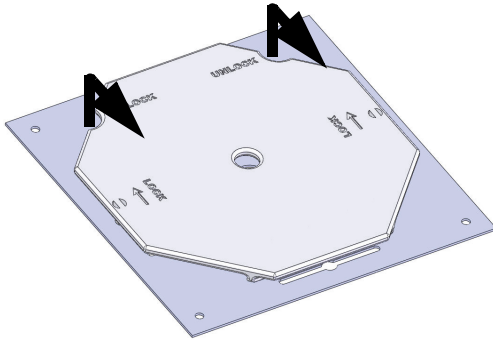


2. Move the baffle to the "locked" position.

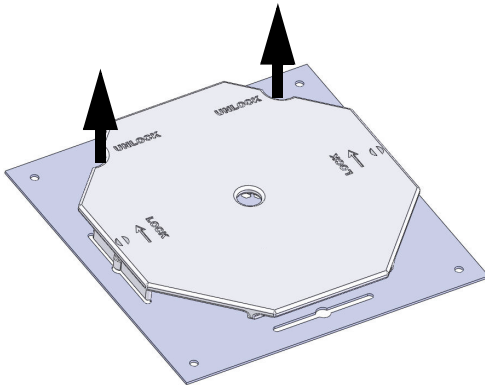


To remove the baffle from the bottom of the carafe, use the following steps.

1. Using the unlock finger holes, lift up and move the baffle to the unlocked position.



2. Use the unlock finger holes to lift up and remove the baffle.



Filling the carafe

Manually fill the carafe with hot water. Fill the carafe so the water level is at least 7.62 cm (3 in.) above the part(s) or to a maximum of 2.54 cm (1 inch) from the top of the carafe, whichever is less. Part(s) must be fully submerged during the cleaning process. Use hot water when filling the carafe. This will help dissolve the support structures more quickly. Place the lid on the carafe and set the carafe on the base.

Starting the cleaning cycle

Start the cleaning cycle by pressing the start/stop button. The LED indicator will turn green and the system will start an 8 hour cycle. The cleaning cycle can be stopped at any time by pressing the start/stop button again.

Completed cleaning cycle

After an 8 hour cycle, the system will automatically turn off and the LED indicator will turn dark. The cleaning cycle can be cancelled at any time by pressing the start/stop button. If the cleaning cycle is restarted, the timer will revert to the 8 hour cycle. The size of the part and the amount of support structure will determine the length of time necessary to completely remove support material.

Rinsing parts

After completing a cleaning cycle, the part(s) must be rinsed clean.



Note: Always observe your local city ordinances concerning the disposal of wastewater.

1. Lift the lid slightly while draining the cleaning solution into a drain.
2. Remove the lid and manually fill the carafe with hot water to cover the part(s) and rinse away any residue.
3. Replace the lid and let parts soak in clean water for a approximately 5 minutes.
4. Lift the lid slightly while draining the rinse water.

Remove parts

1. Remove the lid completely and remove the part(s) from the carafe.
2. Let the water drain off the part(s) for a few minutes and if necessary, wash away any remaining residue under running warm water.
3. Dry the part(s) with a clean cloth or paper towel.

Powering off

To power off the cleaning system, turn the power switch to the OFF position. No other steps are necessary. If this is done while the system is cleaning a part, the current cycle will stop and parts may not be completely clean.

5 Maintenance

Preventive Maintenance

Every cleaning cycle

- Rinse out carafe and keep the inside free of debris.
- Wipe up any spills or debris from all surfaces.
- Clean any residue or spills from the heater surface using a damp cloth.



Hot Surface: The heater surface may be hot.

As needed

- Wipe down the exterior of unit with a damp cloth to remove any residue.

Yearly

Bushing and agitator inspection

1. Remove the carafe from the base.
2. Remove the lid from the carafe.
3. Remove four screws that attach the carafe grate to the bottom of the carafe and remove the grate.
 - Check the grate for damage or distortion.
4. Lift the agitator assembly out of the carafe.



Note: The agitator assembly is magnetic. Make sure the assembly does not get placed near any loose metal debris.

5. Inspect the agitator for wear. Replace if the bottom is worn through to the magnets.
6. Inspect the bushing for wear. Replace if it is worn through in any location or if any of the blades are broken.
7. Inspect the inside of the carafe for any residue build up.
 - Remove any residue using a damp cloth.

6 Troubleshooting

Troubleshooting

Problem	Recommendation
No power	<ol style="list-style-type: none">1. Verify power cord is securely plugged in.2. Verify that the power switch (at the back of the cleaning system) is in the ON position.3. Verify AC power is present at the wall outlet.
Parts not cleaning	<ol style="list-style-type: none">1. Verify machine is powered on.2. Verify the start/stop button was pushed (green LED on).3. Verify that clean water and a new Ecoworks tablet is used for each cleaning cycle.4. Verify the part(s) were covered by at least 3-inches of water.5. Allow more time to clean.6. Verify that solution is agitating.7. Verify agitator assembly moves freely.8. Check the agitator and bushing for wear (see “Yearly” on page 12).9. Verify the cleaning solution is heating.
Solution not hot	<ol style="list-style-type: none">1. Fill the carafe with hot water.2. Verify carafe is sitting flat on the heater surface.
Red LED errors	<p>The red LED indicates a heater surface temperature error. Follow the following steps to resolve:</p> <ol style="list-style-type: none">1. Verify the carafe is sitting flat on the heater surface.2. Contact your Service Provider.
Yellow LED error	<p>The yellow LED indicates the motor has lost coupling with the agitator. To resolve:</p> <ol style="list-style-type: none">1. Verify the carafe is sitting flat on the heater surface.2. Verify the agitator is positioned correctly in the carafe.3. Verify the agitator is free to rotate.4. Press the start button to restart the wash cycle.

7 Support

Registration

To register your WaveWash 55 Support Cleaning System, visit:
<http://www.mojo3dprinting.com/help/register-printer.aspx>.

Customer Support

Visit: <http://www.stratasys.com/login> for the following:

- Material specifications, MSDS, and environmental documentation.
- Product specifications and guides.
- Applications.
- Best practices.

When contacting technical support please provide the following:

By phone:

- System model.
- System serial number.
- Detailed description of the problem you are experiencing.
- Please try to be near the cleaning system for troubleshooting, if possible.



By email:

- System model.
- System serial number.
- Your name.
- Your telephone number.
- Detailed description of the problem you are experiencing.

8 Recycling

Recycle all materials per your local recycling guidelines.

Figure 6 Recycling Codes

System Component	Materials	Recycling Code
Baffle	ABS	
Bushing	PTFE	

All packaging materials can be recycled per your local recycling guidelines.

9 System specifications

The information in this section is applicable to the WaveWash 55 Support Cleaning System.

Physical specifications

Height	33.5cm (13.2 in.)
Width	33.5cm (13.2 in.)
Depth	33.5cm (13.2 in.)
Weight (empty)	5.4 kg (12 lbs.)
Weight (full)	9.1 kg (20 lbs.)

Facility specifications

Installation location	Stable flat surface capable of holding 9.1 kg (20 lbs), with a height clearance of 47.8 cm (19.2 in.).
Power Requirements	A grounded electrical outlet (100–120/220-240VAC, 7/4A 60/50Hz 600W) located within 2 m (80 in.) Do not use an extension cord or a power strip, using these can possibly cause intermittent power issues.)
Air Circulation	10.2 cm (4 in.) minimum space behind and around the cleaning system for air circulation.

Power specifications

System	100–120/220-240VAC, 7/4A 60/50Hz 200W Do not use an extension cord or a power strip, using these can possibly cause intermittent power issues.
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Environmental specifications

Temperature range	15°C to 30°C (59°F to 86°F)
Relative humidity range	30 to 70 percent, non condensing
Heat emission	580 BTU during heat up

Acoustic specifications

Operating sound pressure at bystander	46 dBA
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10 Supplemental Information

Stratasys Limited Warranty Statement

Stratasys, Inc. ("Stratasys") warrants its' systems and associated peripheral devices and replacement parts (collectively, the "Product") purchased from Stratasys or an Authorized Stratasys Reseller to be free from defects in material and workmanship according to the terms and conditions stated below:

Warranties extend only to the original purchaser of the Product. The warranty on the original Product, as delivered, extends for one year starting on the date of delivery. Your sole remedy as purchaser under this Limited Warranty shall be repair or replacement as provided herein.

To preserve your warranty rights, Products must be installed in accordance with the then-current User Guide available at www.stratasys.com. During the Limited Warranty period, Stratasys or its' designated representative will, at their option, repair or replace a defective Product as set forth below. Service Parts and replacement Products will be furnished on an exchange basis, and will be either new or refurbished. All replaced parts or replaced Products become the property of Stratasys, and you will be invoiced for replacement parts if defective parts are not returned as directed by Stratasys under this Limited Warranty.

Stratasys will bear the cost of returned parts, as well as for shipping new or rebuilt replacement parts to you, provided that you report the warranty claim within the Limited Warranty period and obtain return instructions from Stratasys prior to return. Replacement parts independently carry a 90-day warranty from date of shipment from Stratasys or designated representative location. Consumable parts are not covered by this Limited Warranty. Warranty services may be provided by Stratasys, an Authorized Reseller, or a third party service provider designated by Stratasys.

No coverage or benefits under this Limited Warranty will exist if any of the following conditions apply:

- (a) The Product has been subjected to abnormal use, improper or inadequate maintenance, unauthorized modifications, unauthorized repair, misuse, abuse, exposure to moisture, flooding, fire, electrical problems associated with incoming power, or other acts which are not the fault of Stratasys, Inc.
- (b) Stratasys' Customer Service Department was not notified of the defect or malfunction of the system prior to expiration of the one year warranty period.
- (c) Parts or consumables were installed and used that were not certified or approved by Stratasys.

Stratasys will also not be liable under any circumstances for Product replacement or associated labor, loss of use, loss of profits, or for any other indirect, incidental, collateral, exemplary, punitive, consequential or special damages, or losses arising out of the purchase of the Product and/or out of this limited warranty, even if Stratasys or its' designated representative have been advised of the possibility of such damages or claims. To the extent such claims are not excludable as adjudged by a court of competent jurisdiction, you agree to accept as sole and exclusive remedy, a payment equal to the original purchase price for the product adjudged to be defective.

SOME COUNTRIES, REGIONS, STATES OR PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF REMEDIES OR OF INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, OR THE APPLICABLE TIME PERIODS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. EXCEPT TO THE EXTENT LAWFULLY PERMITTED, THIS LIMITED WARRANTY DOES NOT EXCLUDE, RESTRICT OR MODIFY, AND IS IN ADDITION TO THE STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

This warranty gives you specific legal rights and you might also have other rights that vary from country/region to country/region, state to state, or province to province.

EXCEPT FOR THIS LIMITED WARRANTY, AND TO THE FULLEST EXTENT ALLOWED BY LAW, NEITHER STRATASYS NOR ANY AUTHORIZED RESELLER MAKES ANY OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. STRATASYS DOES NOT OFFER, ASSUME OR AUTHORIZE THE OFFER OR ASSUMPTION OF LIABILITY FOR IT OR FOR ANY OTHER WARRANTY, EITHER EXPRESS OR IMPLIED BY ANY AUTHORIZED RESELLER OR OTHER INDEPENDENT THIRD PARTY.

Declaration of Conformity



Declaration of Conformity

Manufacturer: Stratasys Inc.
7665 Commerce Way
Eden Prairie, MN 55344-2080

EU Representative: Andy Middleton

Type of Equipment: Support Removal System

Model Numbers: 570-10000 WaveWash® 55

We declare under our sole responsibility that the devices mentioned above comply with the following EU Directives:

RoHS: 2011/65/EU
Electromagnetic Compatibility (EMC): 2004/108/EC
Machinery: 2006/42/EC
Low Voltage: 2006/95/EC

Common Technical Specifications used for demonstration of compliance: EN55011:2009
EN 61010-1: 2010
EN 61326-1: 2006
EN61000-4-2: 2009
EN61000-4-3: 2006 + Amendments A1: 208 + A2: 2010
EN61000-4-4: 2004 + Corrigendum 2008
EN61000-4-5: 2006
EN61000-4-6: 2009
EN61000-4-11 Second Edition: 2004:

Date of Validity: February 1, 2013

Authorized Address: Stratasys Inc.
7665 Commerce Way
Eden Prairie, MN 5534-20804

Stratasys GmbH
Airport Boulevard B 210,
77836 Rheinmunster
Germany

Name of Authorized Signatory: Mary Stanley

Andy Middleton

Position Held in Company: Product Manager

General Manager E, ME, A

Signatures:

Handwritten signature of Mary Stanley in blue ink.

Handwritten signature of Andy Middleton in blue ink, enclosed in a large, loopy blue scribble.

Regulatory and environmental information

EMC Class A Warning



WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Statements (U.S.A.)

The U.S. Federal Communications Commission (in 47 cfr1 5.105) has specified that the following notices be brought to the attention of users of this product.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Shielded cables: use of shielded data cables is required to comply with the Class A limits of Part 15 of the FCC Rules.

Caution: Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by Stratasys Inc. may cause harmful interference and void the FCC authorization to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

Canada Electromagnetic compatibility (EMC)

Normes de sécurité (Canada)

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe **A** prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

DOC statement (Canada)

This digital apparatus does not exceed the Class **A** limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

CAN/CSA

This product has been tested to the requirements of CAN/CSA-C22.2 No. 61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements.

MSDS (Material Safety Data Sheet)

You can obtain current Material Safety Data Sheets for the material used in the cleaning system by visiting <http://www.stratasys.com/login>.

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

11 Glossary

Glossary of terms

ABSplus

ABSplus is the model material used to built parts.

Agitator

The agitator is located at the bottom of the carafe and is magnetically coupled to a spinning motor in the base of the cleaning system. The agitator, located under the grate, is used to circulate solution around parts in the carafe.

Baffle

The optional baffle is designed to lessen agitation to prevent delicate parts from being damaged during the cleaning cycle.

Ecoworks tablets

Ecoworks tablets are designed to remove SR-30 support materials from parts cleaned in the WaveWash 55 Support Cleaning System. The cleaning agent is both user and eco-friendly. Handling the cleaning agent and disposal of the used solution requires only dilution with clean water to meet generally acceptable world-wide disposal standards.

SR-30 material

SR-30 is a soluble support material for use with *ABSplus*. The material provides fast dissolve times when using Ecoworks tablets in the WaveWash 55 Support Cleaning System.