

# Stomacher® 400 EVO

## User Manual



# Intro

## Thank you for purchasing this Seward product

This manual contains operating instructions for the Stomacher® 400 Evo.

The Seward Stomacher® was developed in the early 70's in response to ever-increasing demands for sample preparation in a fast, consistent and efficient way. Since then, Seward have continually developed the Stomacher® to maintain its position as the market leader ensuring exacting performance, high quality and exceptional reliability.

This manual provides the user with all the information to install, operate and maintain the Seward Stomacher®. Please read the manual carefully before using this equipment.

**CAUTION:** - This equipment should not be used if damaged in any way. If in doubt please contact your local Seward authorised service centre.

Should any other questions arise please do not hesitate to contact the

**Seward Customer Service Department on:-**

**Telephone: +44 (0)1903 524600**

**E-mail: [info@seward.co.uk](mailto:info@seward.co.uk)**

The Seward Stomacher® is a unique homogenising instrument in which the sample is blended within a special disposable bag. The instrument acts on the bag in an action similar to the action of a stomach, hence the name Stomacher®.

The instrument is comprised of an electric motor-driven worm gear unit with twin output shafts coupled to flexible crank mechanisms, which in turn operate two reciprocating paddles. The paddles act on the flexible plastic bag to create the blending forces termed the 'stomaching' action. An important feature of the system is that the working parts do not come into direct contact with the sample being processed.

Protection from the moving parts inside the sample compartment is provided by a protective seal which automatically closes the bag inside the paddle chamber. A cut-off switch ensures the unit cannot work while the protective seal is open or the cover is missing.

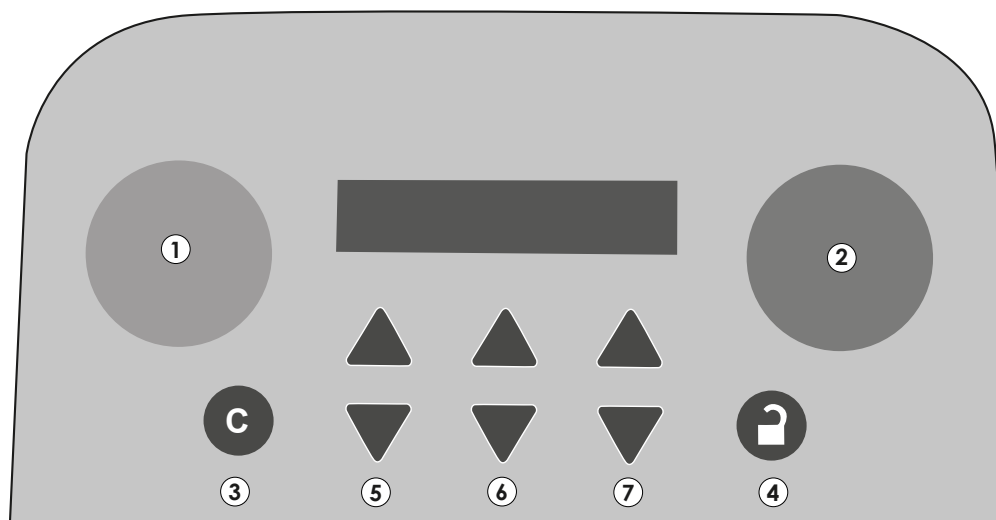
**Stomacher®** is a registered Trademark and may not be used without the express permission of **Seward Ltd.**

[www.seward.co.uk](http://www.seward.co.uk)

# Contents

1. Control panel.....	3
2. Operation.....	4
3. Strip down.....	5
4. Eco bag operation.....	7
5. Paddle reset.....	8
6. Warnings/Cautions/Guidance.....	9
7. Specifications.....	11
8. Bags & Accessories.....	12

# 1. Control panel



1. Start 2. Stop 3. Clear 4. Lock (Press 4 then 3 to open) 5. Adjust time (9 mins 55 secs in 5 second increments) 6. Adjust speed - Slow, Medium or Fast 7. Program store - 8 program slots

## Operation

1. Select program slot 1- 8 - press ⑦
2. Set parameters of speed and time
3. Press lock ④
4. Program will be retained after mains power is switched off



## 2. Operation

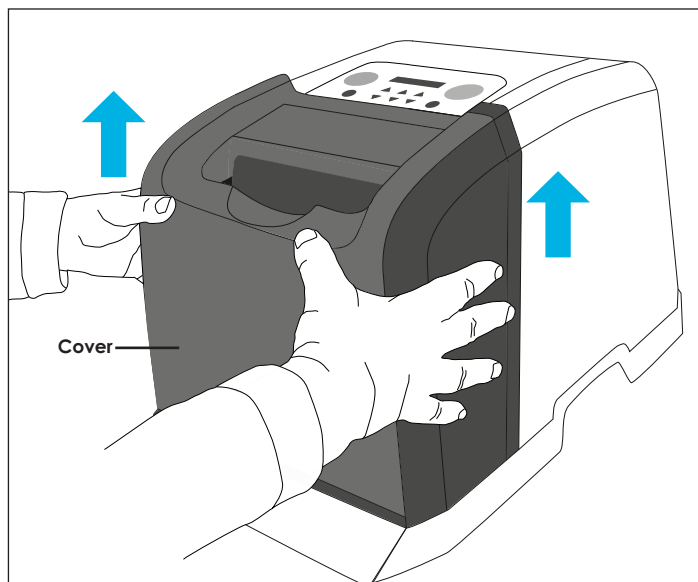


Drop Stomacher bag into the machine



Press the start button

### 3. Strip down and clean



Remove cover

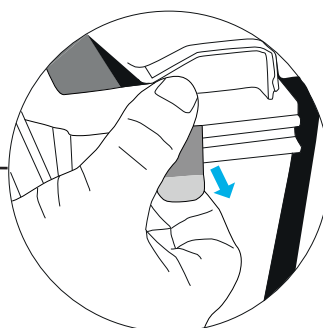
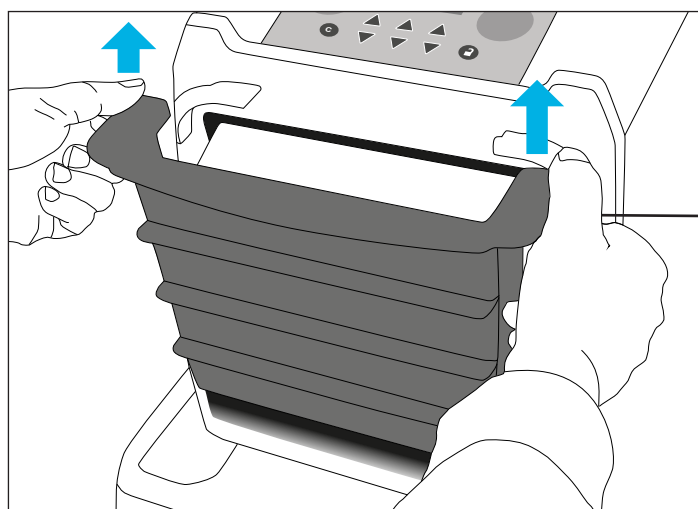
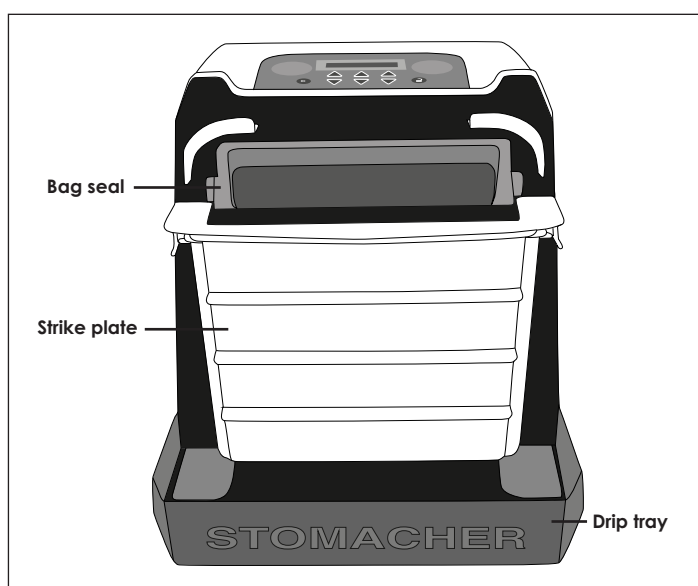
#### CLEANING INSTRUCTIONS

**DISCONNECT** from mains when cleaning

**DO NOT** immerse or spray with water

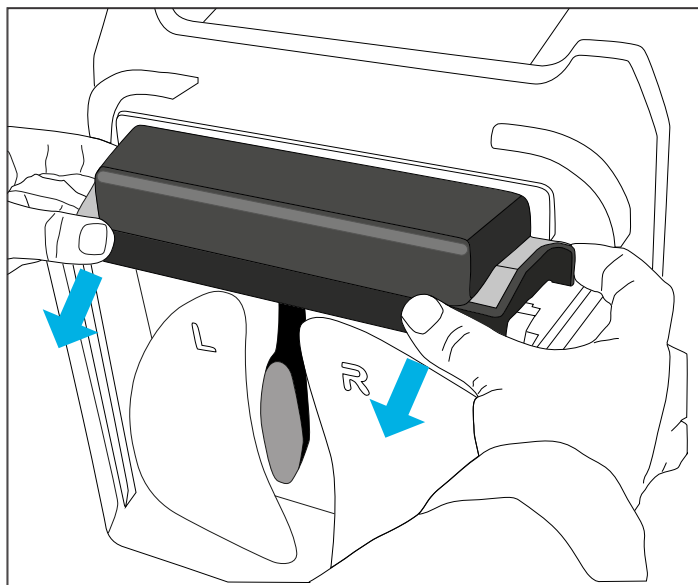
Wipe with damp cloth or anti bacterial wipes

Use only non phenolic cleaning products

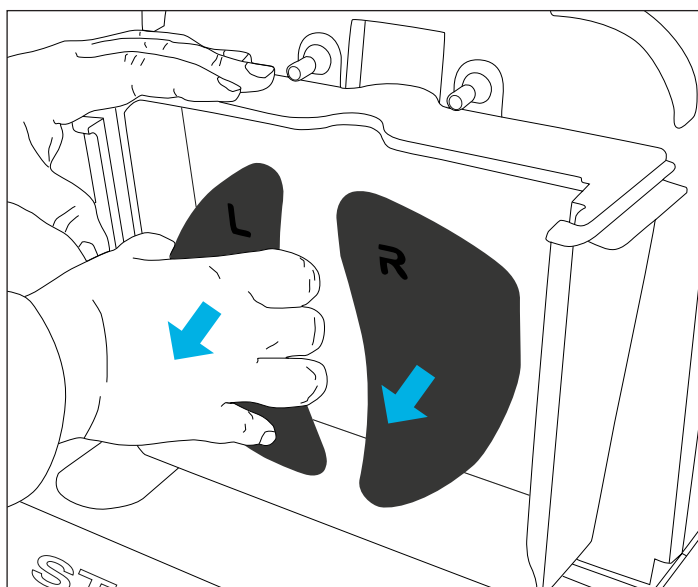


Remove strike plate

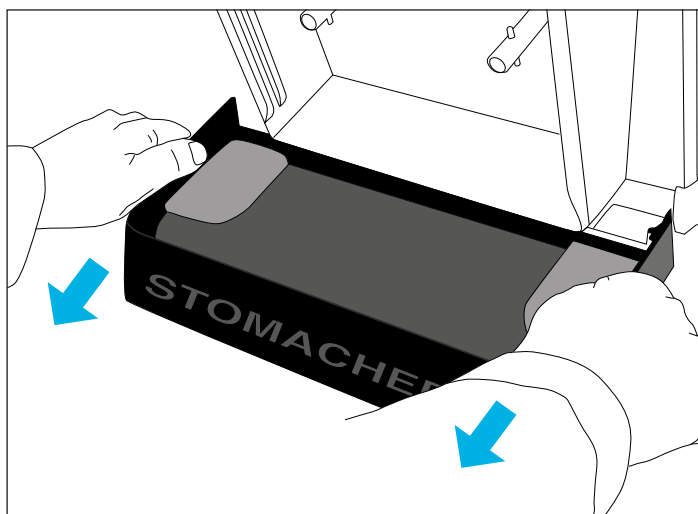
## Strip down and clean



Remove bag seal

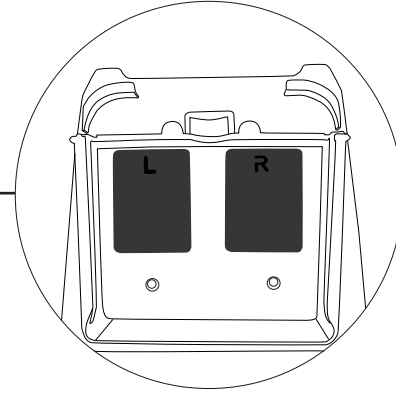
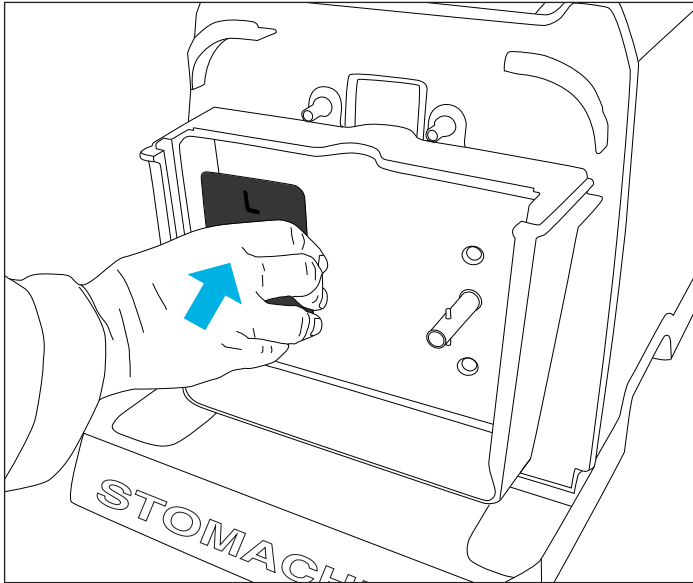


Pull paddles off

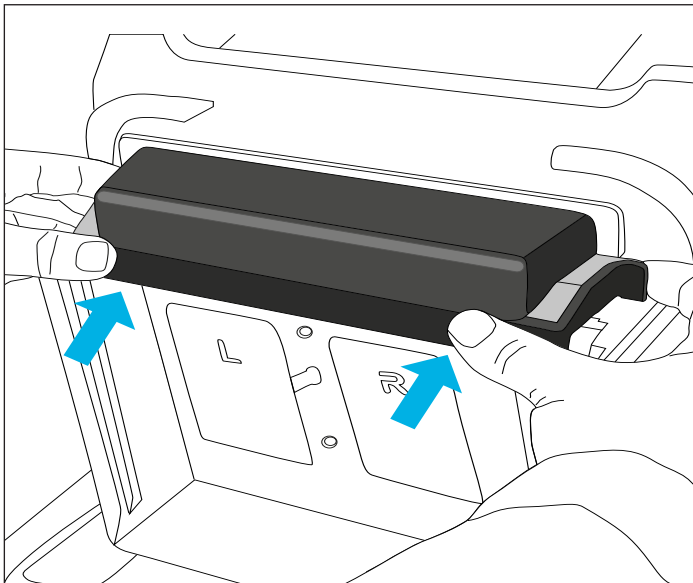


Pull drip tray off

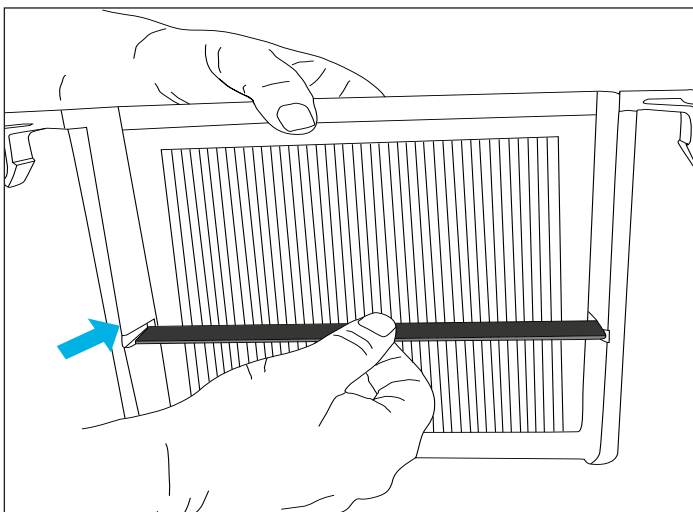
## 4. Eco bag operation



Install small paddles



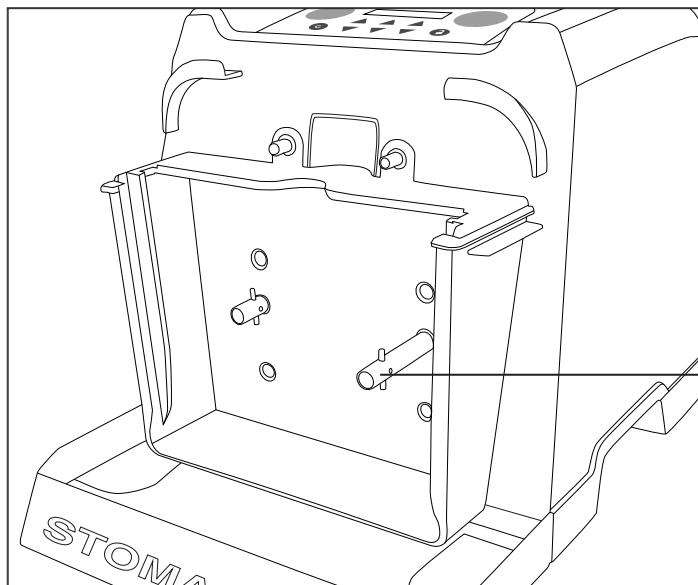
Install bag seal



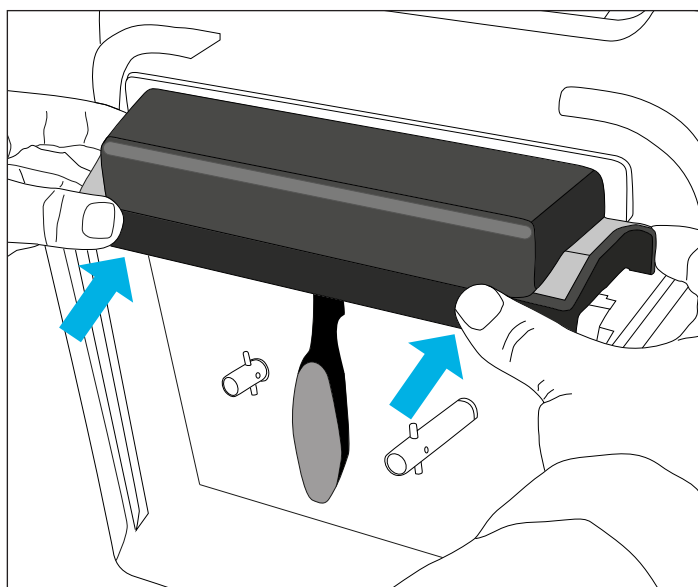
Install bag platform and replace strike plate



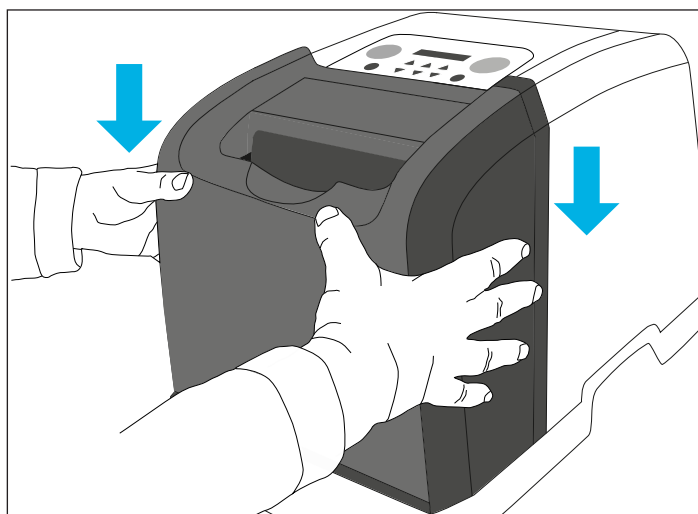
## 5. Paddle reset



If the paddle shafts prevent the strike plate being reattached then:



Reattach the bag seal



Reattach the cover

Switch the machine off and on again at the mains filter outlet

The machine will go through it's set up processes including levelling the paddles

Once it has done this, remove the cover, reattach the strike plate and replace the cover

## 6. Warnings/Cautions/Guidance

**THIS EQUIPMENT MUST ONLY BE USED IN ACCORDANCE WITH THESE INSTRUCTIONS OR SAFETY PROTECTIONS MAY BE IMPAIRED**

**ALWAYS USE THE POWER LEAD SUPPLIED. IF THIS IS REPLACED ENSURE THAT A POWER LEAD OF THE SAME RATING IS EMPLOYED OR CONTACT THE MANUFACTURER**

### **INSTALLATION QUALIFICATION**

#### **ENVIRONMENT AND SITING**

Make sure the instrument has been acclimatised after transportation or storage by allowing it to stand 12 hours at room temperature.

**CAUTION** to avoid minor injury take care when unpacking and lifting the unit to prevent injury.

Site the instrument on a solid level surface able to take its weight.

Site the instrument with sufficient space at the rear to allow the mains power switch to be accessed and the power cable to be unplugged.

To isolate the unit switch off the mains power inlet at the rear and unplug the cable.

Only use the machine in areas free from aggressive/explosive chemical mixtures.

This equipment shall be connected to a supply containing a protective earth.

#### **CERTIFIED STANDARDS**

This instrument conforms to the following standards and is supplied fully tested by the manufacturer:

EMC Directive 2014/30/EU

Low Voltage Directive 2014/35/EU

Machinery Directive 2006/42/EC

IEC 61010-1:2010 Safety Requirement for Electrical Equipment for Measurement, Control and Laboratory Use

IEC 61010-10-051 ed.3.0(2015-03): Particular requirements for laboratory equipment for mixing and stirring

PAT testing should be carried out by a competent person after installation.

#### **CALIBRATION**

Stomacher® is supplied fully calibrated by the manufacturer using equipment traceable to national standards. Calibration by the user directly following installation is not required.

Following the expiry of the warranty period service packages are available from your authorised dealer or from Fermionx Limited.

# Warnings/Cautions/Guidance

## STOMACHER® PROCESS

For best results only use Stomacher® Bag products.

Flammable solvents should NEVER be used in the machine.

Do not overload the machine with bags or load with items that may pierce bags. Contact the manufacturer for advice on the suitability of samples.

Processing time can be set up to 9 minutes 55 seconds in 5 second increments.

Duty cycle 2 minutes with 45 seconds change over time at full speed.

The Stomacher will not restart after a fault or power interruption.

## PERFORMANCE QUALIFICATION

**REMOVAL OF THE REAR COVER OF THE MACHINE BY UNQUALIFIED PERSONNEL SHOULD NEVER BE ATTEMPTED. THERE ARE NO USER SERVICEABLE COMPONENTS INSIDE.**

Return to the manufacturer for repair.

Removal of the rear cover will invalidate the warranty.

## ROUTINE MAINTENANCE

Wipe casing with damp cloth every month or as required with non-phenolic disinfectant solution. Do not apply solvents. If in doubt please contact the manufacturer.

Apply mineral oil annually to the paddle shafts.

## ERROR MESSAGES

These error messages may appear on the display and this is what they mean and what action should be taken.

**“Levelling Error”** - paddle level failed, contact the manufacturer.

**“Cover Absent”, “Affix Cover”** - front cover missing, replace the cover.

**“Paddle Motor Error”, “Halting machine”** - over current on paddle motor, the machine has stalled because it can not cope with the load. Remove the bag and reduce the sample. Contact the manufacturer if error persists.

**“Seal Error”, “Obstruction”** - seal can't close properly, look inside the paddle chamber to make sure there is no obstruction and that the seal is mounted properly.

**“Seal Error”, “No strike plate”** - strike plate missing, replace the strike plate.

**“Seal Absent”, “Affix Seal”** - seal magnet not detected, check magnet is in position and replace seal.

## 7. Specifications

### STOMACHER 400 EVO

<b>Cat No.</b>	0400/002
<b>Dimensions</b>	H300mm x W310mm x D480mm
<b>Weight</b>	(unpacked) 18.8kg
<b>Supply voltage</b>	100-240V
<b>Supply frequency</b>	47-63Hz
<b>Max rated power</b>	100W
<b>Plug top fuse</b>	F5A (UK chord set)
<b>Mains inlet fuse</b>	1.0A, 250V, anti surge
<b>Insulation</b>	Class 1 (Earthed)
<b>Installation</b>	Over voltage category II
<b>Pollution</b>	Pollution Degree 2
<b>Disposable bag sizes</b>	Various
<b>Minimum recommended capacity</b>	80ml
<b>Maximum recommended capacity</b>	400ml
<b>Maximum recommended sample temperature</b>	60° C
<b>Recommended operating ambient temperature range</b>	10-40°C
<b>Recommended operating relative humidity range</b>	10-89%
<b>Recommended maximum operating altitude</b>	2000m
<b>Timer</b>	9 minutes 55 seconds in 5 second increments
<b>Paddle speed</b>	Slow - 150 rpm (400 equivalent) Medium - 180 rpm (400 equivalent) Fast - 210 rpm (400 equivalent)
<b>Paddle clearance</b>	4mm



## 8. Bags & Accessories

To get the optimum performance from the Stomacher® EVO 400 we recommend that only genuine Seward Stomacher® bags and accessories as shown in the table below, are used.

### Stomacher® 400 Eco Bags and Accessories

for Seward Stomacher® 400 EVO only

Product Code	Description	Test Volume	Dimensions (mm)	Bags per pack
BA6241	Stomacher® 400 Eco bag (PATH.)	1:10 PATH Test (25g:225ml)	177 x 200	500
BA6341	Stomacher® 400 Eco bag (TVC)	1:10 TVC Test (10g:90ml)	155 x 200	500
BA6195	Bag opener for Stomacher® 400 Eco bags			

### Stomacher® 400 Standard Bags

for all Seward Stomacher® 400 (EVO, Circulator and Classic)

Product Code	Description	Test Volume	Dimensions (mm)	Bags per pack
BA6041	Stomacher® 400 Classic Bag	400ml	177 x 305	500

®

Full range of Stomacher® bags and accessories available at [www.seward.co.uk/stomacher-bags/](http://www.seward.co.uk/stomacher-bags/)

**Contact Seward for further information** on our range of products including the **Stomacher® 400 EVO**, and see how much you could save on your consumable costs.

# seward

World leaders in sample preparation



## Contact Us

### Our offices

#### Seward Limited

Technology Centre  
Easting Close  
Worthing  
West Sussex, BN14 8HQ  
United Kingdom

Phone +44 (0)1903 524 600  
Email [info@seward.co.uk](mailto:info@seward.co.uk)

#### Seward Laboratory Systems Inc. (USA)

155 Keyland Court  
Bohemia  
NY 11716  
USA

Phone +1 631 337 1808  
Email [info@sewardusa.com](mailto:info@sewardusa.com)

#### FermionX GmbH

Münstertäler Straße 12  
Eschbach  
DE-79427  
Germany

Email [info@seward.co.uk](mailto:info@seward.co.uk)

[www.seward.co.uk](http://www.seward.co.uk)



Seward is a part of the FermionX Group.

