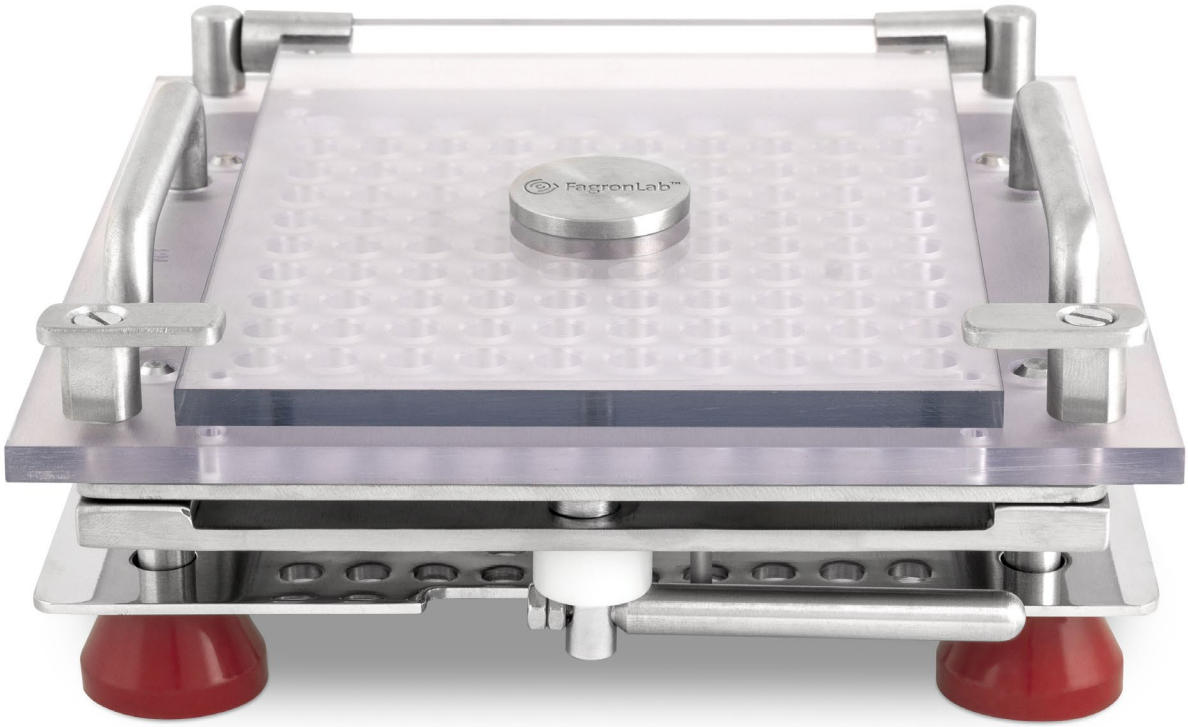
FagronLab™ FG

Semi-automatic capsule filling machine

User Manual



FagronLab™

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1. Introduction

Thank you for purchasing the semi-automatic capsule filling machine FagronLab™ FG. This manual contains important operating and safety information. You must carefully read and understand the contents of this manual prior to operating this device.

2. Service

In case of any problem, you can always contact the Service Department for technical support. Please provide the customer care representative with the following information:

- Serial number.
- Description of problem (i.e., hardware).
- Methods and procedures adopted to resolve the problems.
- Your contact information.

3. Warranty

This device is under warranty and free from defects in materials and workmanship, under normal use and service, for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser. Warranty is not valid on machine which has been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.

For claims under the warranty please contact your local supplier.

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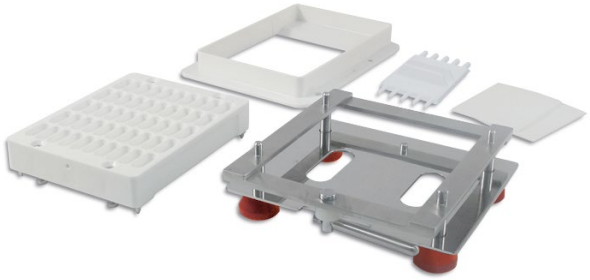
4. Overview

System features



- FagronLab™ FG-1 Filler Base & Orienter Base

- FagronLab™ FG-2 change parts for one capsule size

- Complete FagronLab™ FG System

- Filler Base & Orienter Base available in 100 holes.
- Change parts for each capsule size 00, 0, 1, 2, 3 or 4 as needed.
- 99% orientation & 100% capsule separation.
- Powder Tray is included to minimize powder loss.
- Lightweight feeder quickly positions capsules into Filler.
- Stainless steel Body Sheets for reduced static and long-life.
- Easy handling change of size plates.
- Ergonomic features for easy cleaning and avoid of contaminations.

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FagronLab™ FG-1 Filler Base & Orienter Base

1. Filler Base

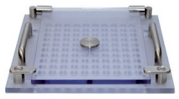
2. Orienter Base

3. Powder Tray

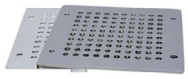
4. Tamper

5. Powder Spreaders (2)

FagronLab™ FG-2 change parts for one capsule size (available 00,0,1,2,3,4)



1. Caps Tray with Locking Plate

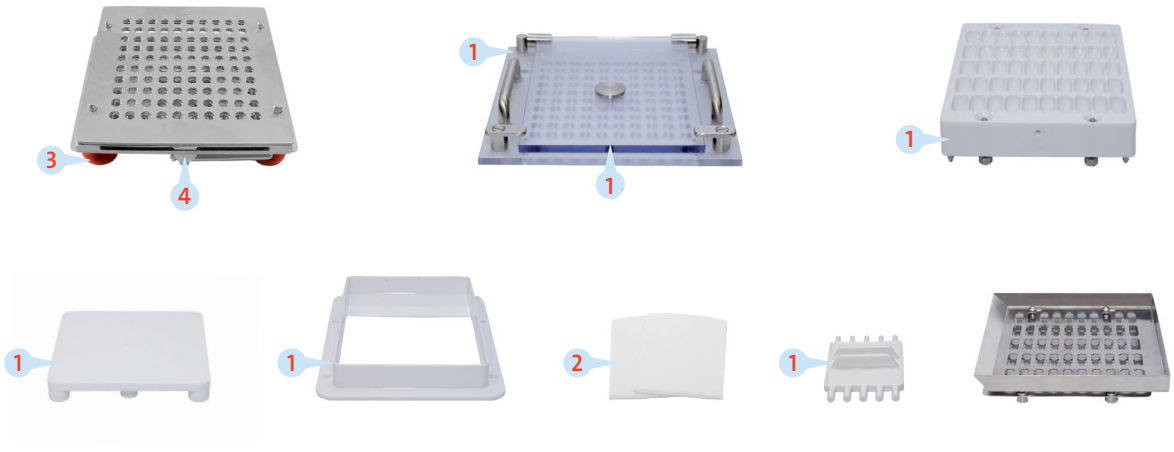


2. Body Sheets (2)

3. Orienter Tray

4. Spacer Plate

Materials of construction



Metal parts are inox (SS304)

1. Polycarbonate
2. LDPE
3. Silicone rubber
4. Nylon

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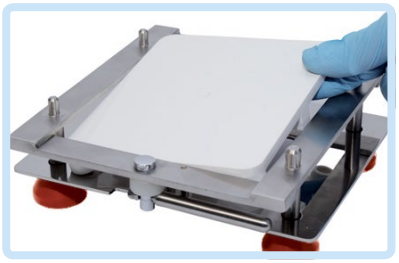
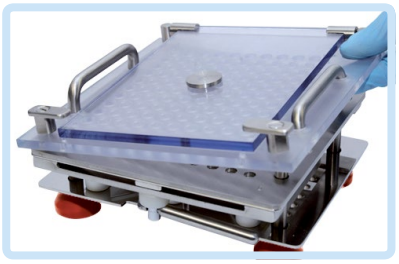
5. Initial assembly instructions/capsule size change



1 Use the correct size Spacer Plate.

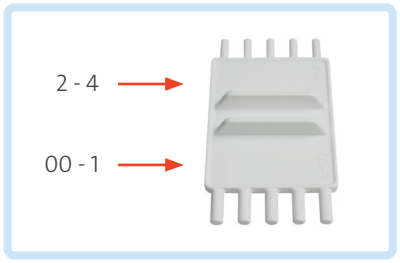
2 Place the Body Sheets in the correct order. Firstly place sheet a.

3 Place sheet b.



4 Place the Caps Tray with Locking Plate.

5 Attach Orienter Base to Orienter Tray with four screws.



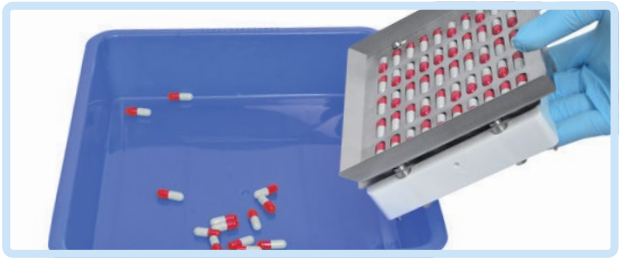
6 Use the correct side of Tamper according to capsule size.

6. Operating instructions

Orientation

1 Open the Caps Tray tabs and then open the Locking Plate.

2 Pour some capsules onto feeder. Shake slightly until capsules cover all slots.



3 Pour off excess capsules.

4 Place feeder locating feet in front holes of Caps Tray. Slide Orienter Tray to the left till all capsules drop. Repeat the same action by placing feeder locating feet in second holes (II).

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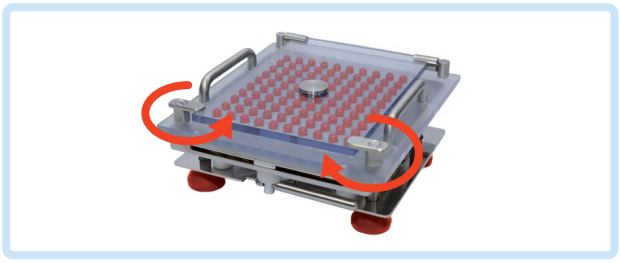
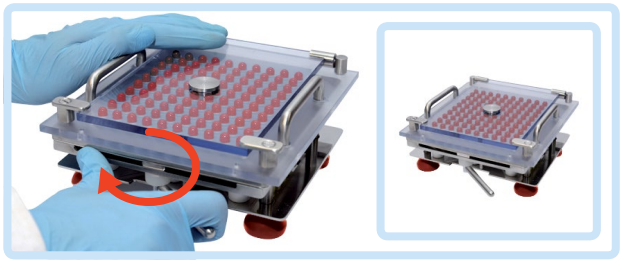
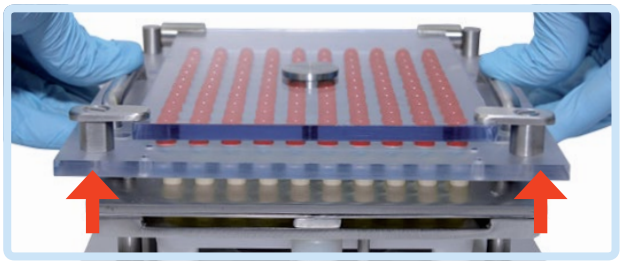
Seperation



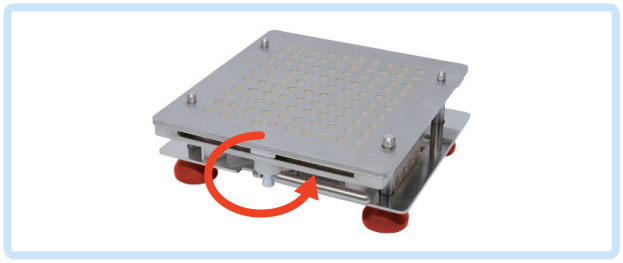
5 Close the Filler Locking Plate and secure it by turning the two Caps Tray tabs.



6 Pull cam lever to secure capsules.



7 Separate capsules by pressing thumbs down on Caps Tray handles while lifting Caps Tray up with fingers. Remove Caps Tray from Filler.



8 Release the cam lever so caps fall down into Filler.

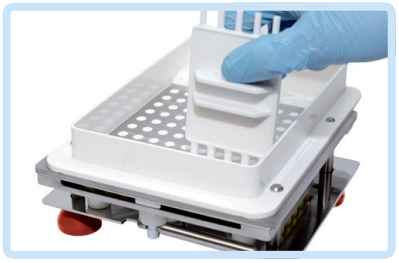
Filling

9 Place the Powder Tray onto Filler.

10 Pour powder onto Filler and spread by using Powder Spreader (spatula).

11a Tapping: Pull cam lever to gently hold capsule bodies in place. Hold Filler Base frame and tap against table a few times to settle powder.

11b Vibrating: Use optional Vibrator to settle powder.



11c Tamping: Use Tamper to fill additional powder.

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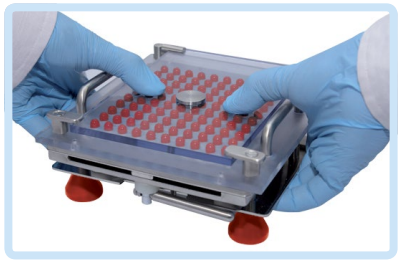
Locking

12 Remove Powder Tray. Release cam lever if engaged. Place Caps Tray onto Filler.

13a Once Powder Tray is removed, place Caps Tray and re-assemble capsules by pressing down on Locking Plate while pulling up lifting plate.

13b Do not press on Caps Tray handles as this will prevent locking.

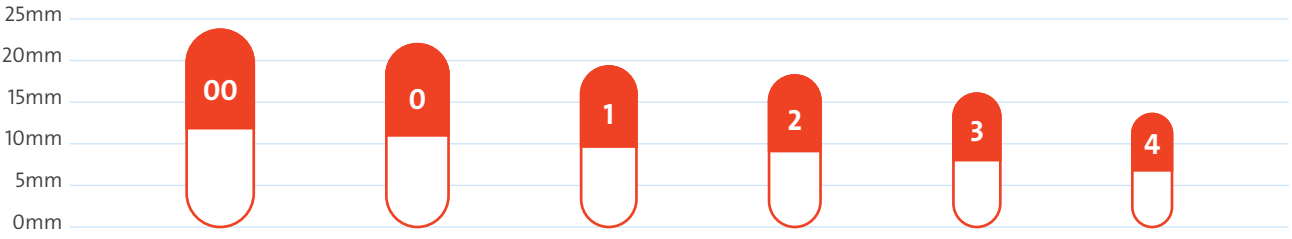


13c Repeat several times, moving hands from front to back along Filler.

13d Unlock the Filler Locking Plate by turning the two Caps Tray tabs. Open Caps Tray to release the capsules and empty capsules in the encapsulation tray.

7. Capsule size chart

Capsule size	Weight of powder for filling capsule (mg) (The actual size may vary according to the powder particle size)			Theoretical capacity	Capsule length (locked)	Average weight of 100 capsules
	Dust density			(ml)	0.76 (mm) +/-	10% +/- (mg)
	0.45 (Light)	0.7 (Middle)	1.00 (Heavy)			
00	430	665	950	0.95	23.30	118
0	305	475	680	0.68	21.70	96
1	225	350	500	0.50	19.40	76
2	165	260	370	0.37	18.00	61
3	135	210	300	0.30	15.90	48
4	95	145	210	0.21	14.30	38



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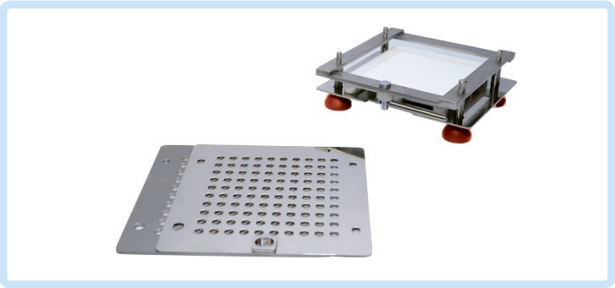
8. Maintenance

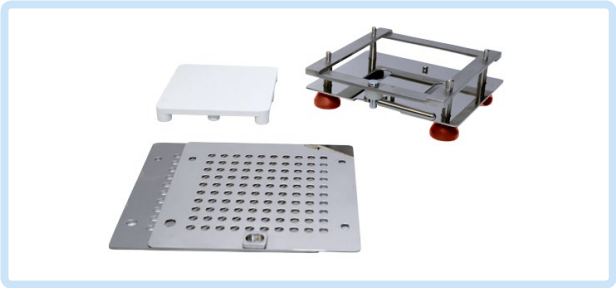
Cleaning

Automatic dishwasher	All parts are fully dishwasher safe. Plastic parts should be placed in top rack of dishwasher (<70°C/160°F).
Handwash	Use nylon brushes to clean holes. Use household hand dishwashing liquid to clean. Do not use solvents or abrasives.
Cleaning agents	Use non aggressive cleaning agents.
Isopropyl alcohol	Use a cloth dipped in isopropyl alcohol to wipe parts, then immediately wipe dry with a clean cloth. Plastic parts can be cleaned with a solution of 15% ethanol and 85% water.
Hot air drying	Allow to dry before use.
Autoclave	No autoclave is suggested in plastic parts.

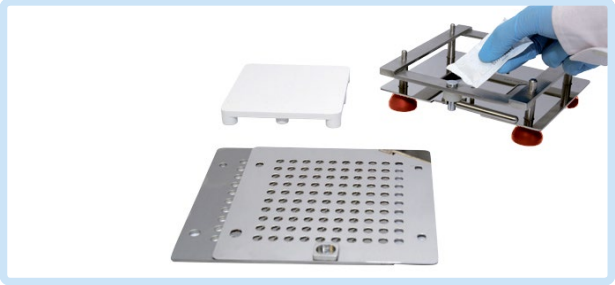
Lubrication



1 Remove Body Sheets.



2 Remove Spacer Plate and wipe powder from all parts.



3 Lubricate Cam Head and Cam Bush (underside of Sheet b) with a food grade lubricant.

4 Reassemble Filler.

Note: Clean after each production of different materials. Lubricate once per 2 weeks for optimal maintenance.

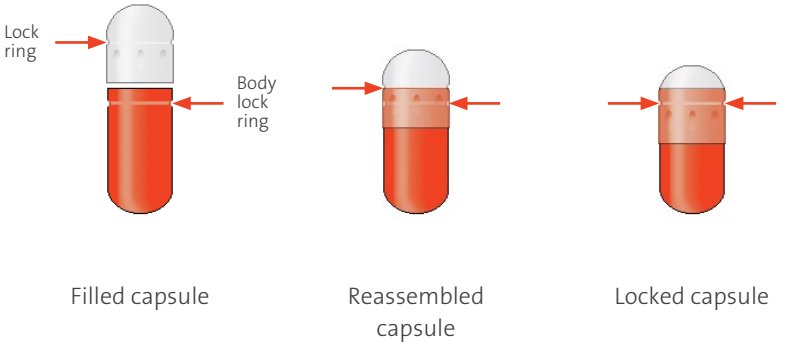
9. Extra tips

After seperation the bodies of the capsules are not at the same level with the top sheet of the filler

- Fill weights will not be impacted.
- After capsule separation it is normal that the capsule bodies stay unevenly in the filler.
- There is a slight variation in diameter and height of the capsules. This allows some capsules to fall through to the bottom while others are not.
- Capsules should not stay higher than the top sheet. Use the powder spreader to put them into place before pouring the powder.
- After the first tapping the capsule bodies will stay 0.5 to 1 mm lower than the top sheet.

Difficulty to lock the capsules

If you face difficulty to fully lock the capsules in the Filler, remove Caps Tray with capsules reassembled. Turn over the Caps Tray and press capsules with your thumbs to fully lock them.



Filled capsule | Reassembled capsule | Locked capsule

Capsule are brittle, soft or have static charge

Please pay attention that the capsules must be stored and filled on 15 to 22°C (59 to 72°F) with humidity from 35 to 65%.

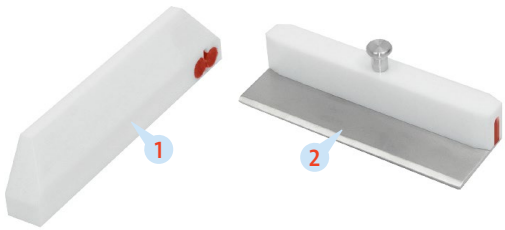
Some capsule are not fall trough the Orienter Tray

Orienter Tray should be pushed 2 or 3 times to allow all the capsules fall through the Orienter Tray. This is caused by the variation of the capsules diameter, and also by the static charge of the capsule bodies.

10. Optional accessories

Partial Batch Kit Divider

Fill fewer than the maximum capsules per batch. Use the divider to block empty holes during powder filling. Prepare batch sizes in increasements of 10. The kit includes (1) Orienter Divider and (2) Powder Tray Divider.



Material
Inox (SS316), polyacetal and silicone rubber.

How to use:

1. Place Orienter Divider on Filler at half the desired batch size. Orient capsules as usual.
2. Separate capsules in Filler as usual. Place Powder Tray onto Filler. Place Orienter Divider onto Filler.
3. Pour powder and spread using Powder Spreader. If needed, press down on Divider to reduce powder loss.
4. Use regular Tamper to tamp powder. Remove Powder Tray and lock capsules as usual.

Vibrator

Recommended for faster filling of powders that bridge or are granular, fluid or flour-like. Reduces weight variation of fine powders, reduces filling time (60 seconds or more per cycle) and increases fill weight.

Specifications
100-120 Volts / 50-60Hz
220-240 Volts / 50-60Hz

How to use:
Place Filler on Vibrator.

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Notes

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Fagron Hellas - 12 km N.R. Trikala-Larissa - P.C. 42100 Trikala
Tel. +30 (0) 24310 83633-5 - Fax +30 (0) 24310 83615 - info@fagron.gr

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