Introduction

The SACF 25 is a semi-automatic capsule filling machine with a maximum capacity of up to 25,000 capsules per hour. This capsule filler has been carefully designed to ensure that it is exceptionally easy to operate, requiring no technical qualifications and very little training. Thanks to its speed and simplicity the SACF ensures low unit costs, and produces professionally filled capsules containing a standardised dose of powder or granules. By ordering the right sized filling plates the SACF 25 can be used with capsules from size 00 to size 5, which makes it suitable for virtually any capsule filling application including vitamin and mineral supplements, herbal supplements, herbal medicine, veterinary use, pharmaceutical research, food technology, and a host of other uses.

Technical Specifications

<table>
<thead>
<tr>
<th>Productivity</th>
<th>10,000—25,000 pcs/h</th>
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<tbody>
<tr>
<td>Capsule sizes</td>
<td>00-5</td>
</tr>
<tr>
<td>Raw material</td>
<td>Non-viscous, dry powder or granules</td>
</tr>
<tr>
<td>Total Power (kw)</td>
<td>2.12</td>
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<tr>
<td>Air Pressure (m/min)</td>
<td>0.03</td>
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<tr>
<td>Vacuum Pump</td>
<td>Pumping Rate 40m/h</td>
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<tr>
<td>Overall Dimensions (L×W×H) (m)</td>
<td>1.5×0.78×1.8(m)</td>
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Installation

This machine requires a three-phase A.C. power supply of 380V50Hz or 220V60Hz. It should be connected to the ground or neutral according to the rules of the local power supply system.

Switch on the power and turn the air switch on the electric control box to “ON”. The parameter display on the control panel should light up. Press down the vacuum start button to check that the rotational direction of the vacuum pump motor is the same as that of arrow.

The air pump should then be connected to another power supply of 380V or 220V to check that the rotational direction of the air pump motor is the same as that of the arrow.

NOTE: To ensure effective operation and protect the capsules from the damaging effects of moisture, the SACF 25 should be operated in a dry environment.
Operation

1. Load empty capsules into the large square-shaped metal hopper (referred to in the diagram below as the “Capsule Bucket”). As long as you have the right size filling plate available, the SACF 25 can take any size capsule from 00-5.

2. Fill the powder hopper (referred to in the diagram below as the Bunker) with powder or granules.

3. Place the filling plate onto the circular mounting beneath the “Capsule Bucket”.

4. Operate the vacuum sucker by pressing the On button located on the control panel to load the capsules onto the filling plate (referred to as ‘capsule sowing.’) Depending on the capsule size, each plate holds between 360 and 420 capsules. The vacuum will stop automatically at the end of the cycle, or it can be stopped manually using the Off button. The length of a cycle is preset at 60 rows of 6 capsules each, but this can be adjusted for different sized plates. 
   a. The speed at which capsules are inserted can be altered by turning the knob on the control panel – see Fig. 2 below.
   b. The guard prevents hands or other objects becoming caught in the mechanism. Opening the guard during operation triggers a built-in safety cut off switch.

5. Once the filling plate is fully loaded, operate the vacuum to separate the upper and lower halves of the capsules.

6. Pull the two halves of the filling plate apart to release just the bottom section, containing the lower halves of the capsules.

7. Place the bottom section of the filling plate onto the filling turntable, then operate the filling mechanism by pressing the relevant On button located on the control panel. The plate then rotates and the mechanism automatically fills each capsule with the correct, preset dose of powder or granules.
   a. To set the dose, and see the controls used to make other adjustments, see Fig. 3 and Fig. 4 below.

8. Replace the top half of the filling plate and place the entire plate into the sealing section of the machine.

9. Make sure the plate is properly aligned, then close the guard, and operate the air pressure mechanism by pressing on the foot pedal beneath the main body of the machine. Air pressure then closes the two halves of each capsule and ensures a tight seal, ready for the capsules to be ejected into a capsule collection box.

NOTE An optional de-duster is available to remove extraneous dust from the outside of the capsules, for a cleaner, professional finish.
Maintainance

Inspection
The moving parts should be inspected twice monthly for signs of wear, and replaced immediately if not in perfect condition. The converter should be maintained according to the instructions in the converter manual.

There is a cylinder filter in the vacuum pipeline system that prevents debris or dust from entering the vacuum pump. This should be periodically checked and cleaned or replaced to avoid loss of vacuum pressure.

Oiling
To avoid wear and damage to the components, all internal mechanisms should be oiled in accordance with normal good practice.

Troubleshooting

<table>
<thead>
<tr>
<th>Capsules not separating.</th>
<th>If capsules are not separating properly, try turning the filling plate manually for 2 or 3 revolutions to let the vacuum separate them.</th>
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<tbody>
<tr>
<td>Wrong number of capsules being fed out</td>
<td>The machine normally feeds out 6 capsules of size 0, or 7 capsules of sizes 1, 2, or 3. If too many capsules are sent, or too few capsules are sent, adjust the screw on the capsule sowing switch, as shown below.</td>
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**ADJUSTMENT OF CAPSULE-SOWING SWITCH**

When adjusting the position of the capsule-pushing plate, first loosen its connecting screw. Then locate the capsule pushing plate so that the capsule presser presses midway along the length of the capsule. Then tighten up the connecting screw. (See above)
Diagrams and Illustrations

FIG. 1 COMPONENT PARTS OF THE SACF 25

- Hopper & Forcefeeder
- Capsule Hopper
- Capsule Sewing Mechanism
- Turntables
- Electric Box
- Ejection Area
- Table Surface
- Shoot
- Pedal Valve
**FIG. 2 CONTROLS**

**NOTE**

‘F-count’ is the filling quantity.
‘Delay’ is the filling delay.
‘L-count’ is the number of rows of capsules per cycle

The factory settings are 30 02 60. These will display on the screen when the machine is switched on.

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**FIG. 3 CONTROLS FOR FILLING MECHANISM.**

These controls let you change the filling speed, and reprogram the filling functions. Note there are two sets of buttons – upper and lower – for convenience when a two-person team is operating the machine.
FIG. 4 SCHEMATIC DIAGRAM OF PNEUMATIC CONTROL