Z Series Capsule Filling Machine

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CATALOGUE
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Dosator Type Introduction

Z series capsule filling machine is specially designed for hard gelatin capsule drug filling available with different models. Thanks to its versatility, flexibility, reliability & accuracy so that is widely used in all kinds of drug filling and offer the maximum versatility in combined dosing of various products within the same capsule.

**Accuracy Dosing:**
Through parameter adjustment and special dosing unit, Z series capsule filling machine can realize the best combination result in production speed and accuracy dosing.

**Functional Optimization, Simple Handling:**
Fast and easy size change over, quick and easy clean operation, each specified component equipped with the same dimension square heat bolt, only one special tool needed to do adjustment.

**Reliability and Compact Design:**
Minimum encumbrance and compact size, electrical cabinet is built-into the machine housing as a result of which less space is required in the production room and move very flexible.

**Clean working counter:**
Z series capsule filling machine adopt special dosator construct which can effectively avoid powder spill phenomenon to ensure clean working appearance.
**Powder Dosing Unit:**

- The block moves down and the dosators on the first segment penetrate the powder bed, inside the product bowl, whilst the opposite are positioned above the capsule bodies.
- The pistons of the first segment compress the powder forming slugs; the opposite ones eject the powder slugs into the capsule bodies.
- The block moves up and turns; dosators with slugs are positioned over the next capsule bodies, whilst the empty ones are positioned over the product bowl and the cycle begins once more.

**Vacuum Bowl:**

In addition to the rotary bowl fitted on standard machines, the same patented vacuum bowl can be supplied for powder pre-dosing of very fine powders.

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**Powder dosing with dosators: main advantages:**

- The powder dosing unit features high accuracy and employs special dosators and pistons which penetrate the powder bed and can compress the powder.
- Rotating bowl for normal powders and powders for inhalation; Aspirating bowl (patented) for hardly compactable powders (light or aerated powders), allowing a constant product bed density and a lower weight standard deviation.
- Wide range for dosing adjustment, loosen one adjusting part can realize dosing adjustment from dozens of mg to hundreds of mg.
- Only one powder bowl is enough for different powder dosing / different capsule sizes, no additional powder bowls needed.
- The filling accuracy will keep stable, don’t change over time (Because the dosing filling adopts non-contact type, direct friction will not occur).
- Micro-dosing 10-50mg is available.
- Filling accuracy will not be affected by ununiform granules, it can fill irregular Chinese medicine particle mixture.
**Pellet Dosing Unit:**

- The block moves down and the dosators on the first segment penetrate the pellets bed, inside the product bowl, whilst the opposite are positioned above the capsule bodies.
- The pistons of the first segment create the dosing volume and vacuum force pellets to fill it; the opposite ones eject the pellets into the capsule bodies, the vacuum is released.
- The block moves up and turns; dosators with pellets are positioned over the next capsule bodies, whilst the empty ones are positioned over the product bowl and the cycle begins once more.

Excess pellets can be removed either mechanically or by a jet of air. The latter system is particularly suited for pellets with a delicate coating.

**Pellet dosing with dosators: main advantages:**

- The pellet dosing system with dosators is more precise than the gravimetric dosing, guarantees the integrity of pellets coating.
- The group has less electrostatic problems, anti-electrostatic equipment is available upon request.
- Pellet filling is realized through vacuum suction, more precise, efficiency and good quality;
- Pellet dose into the capsule bodies by pushers, different from gravimetric dosing, so the filling speed can be guaranteed.

**Tablet Dosing Unit:**

The unit can introduce one or more tablets into the capsule body in one stroke, using a blade and suitably shaped feeding tubes.

The filling phase is electronically monitored by a sensor which checks the tablet presence whilst dosing and the tablet absence upon blade return.

In case of any malfunction is detected, the machine stops.
Z40 Model
Capsule Filling Machine

Z40 series intermittent capsule filling machine, the maximum output upto 40,000 capsules/hour, can meet different production requirements at low speed or medium speed. Z series capsule filling machine are totally made in China and the same with ZANASI SERIES. Easy access to the working area, fast and easy size changeover, quick and easy clean operation, the work parameter can be adjusted respectively or overall, greatly satisfy the production process requirements, upto the perfect dosing and filling speed. User friendly, no skilled operator required.

Z40 Combined Dosing:
- Powder
- Tablet
- Pellet
- Powder
- Pellet
- Powder
- Tablet
- Pellet A
- Pellet B
- Pellet
- Tablet

Z40 Series Working Cycle:

1. Capsule Infeed and Opening
   - The capsules arriving from the infeed hopper are accurately positioned and inserted into the bushings where the cap is removed from the body by means of a vacuum.
   - Available for size change-over or product dosing upon request.
   - The station can be used for product dosing upon request. Alternatively it is available for size change-over.

2. Capsule Discharge
   - Closed capsules are discharged by the combined action of pushers and compressed air. A conveyor chute transports the capsules towards the finished product container.
   - Upper and lower bushings are cleaned of any residual dust by means of compressed air and aspiration nozzles.

3. Capsule Closing
   - The bushings containing the capsule bodies realign themselves with the corresponding capsule caps, the capsule is then closed by appropriate pushers.

4. Pellets/Microtablets, Tablets Dosing
   - Powder or pellets/ microtablets dosing
   - Unopened capsule selection and removal or product dosing upon request
   - The station can be used for product dosing upon request or to eject any unopened capsules by means of appropriate pushers.
**Z85/Z120 Model**

**Capsule Filling Machine**

**Z85** maximum output 85,000 capsules/h; **Z120** maximum output 120,000 capsules/h. **Z85, Z120** series capsule filling machine can be installed 3 dosing stations, in order to realize the combined dosing of various products within the same capsule. **Z85** series offer the maximum versatility of combined filling. Except standard dosing combination, according to the request, customized dosing combination is available.

**Combined Dosing:**

- Powder
- Powder A, Powder B
- Pellet
- Pellet A, Pellet B
- Tablet
- Tablet A, Tablet B
- Powder
- Pellet
- Tablet
- Powder A, Pellet B
- Powder A, Pellet B, Pellet C
- Powder
- Pellet
- Tablet
- Powder A
- Pellet A, Pellet B
- Powder A
- Pellet A, Pellet B, Powder
Z180 Model
Capsule Filling Machine

- Output up to 180,000 capsules/h.
- Adopt double-row dosator structure (patented).
- Industrial PC Operating system.
- Automatic lubrication system.
- Filling process without powder spill and leakage phenomenon.

Patented Design:

The entire capsule filling cycle entails a unilateral vertical movement so that to ensure the accuracy dosing patented design. The staring position of the piston inside the dosator can be adjusted separately.

<table>
<thead>
<tr>
<th>Technical Specifications</th>
<th>ZZ5</th>
<th>Z40</th>
<th>Z85</th>
<th>Z120</th>
<th>Z180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum output (capsules/h)</td>
<td>25,000</td>
<td>40,000</td>
<td>85,000</td>
<td>120,000</td>
<td>180,000</td>
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<tr>
<td>Number of capsules per cycle</td>
<td>4</td>
<td>6</td>
<td>11</td>
<td>19</td>
<td>30</td>
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<tr>
<td>Capsule sizes</td>
<td>000L-5, SUPRO A, E-D, B, DBAA</td>
<td>0L-5</td>
<td>0L-5</td>
<td>00L-5</td>
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<tr>
<td>Maximum installed power (Kw)</td>
<td>10</td>
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<td>Standard voltage</td>
<td>230-400V 50-60Hz</td>
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<tr>
<td>Aspiration</td>
<td>3,850 L/MIN 2,500mm H₂O</td>
<td>5,100 L/MIN 3,200mm H₂O</td>
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<td>Compressed air (l/min)</td>
<td>50-6bar</td>
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<td>100-6bar</td>
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<td>Vacuum</td>
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<td>100-200bar</td>
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<tr>
<td>Weight (Kg)</td>
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<td>1,400</td>
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<td>2,300</td>
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<td>Closed size (L<em>W</em>H mm)</td>
<td>960<em>1216</em>1800</td>
<td>960<em>1279</em>1928</td>
<td>1400<em>1396</em>1900</td>
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<td>Opened size (L<em>W</em>H mm)</td>
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<td>2650<em>2650</em>1928</td>
<td>3120<em>3120</em>1900</td>
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