Ultrasonic Rotary Ampoule Washing Machine

Operation:
The ampoules can be fed directly from trays into the infeed chute. From there, passing under a shower head, they are immersed in the heated ultrasonic bath. In the water bath the ampoules are agitated to remove the debris. The individually positioned ampoules are pushed into the cones of the centering bar by pushers and then fed directly on to the jetting needles. The jetting wheel rotates intermediately and feeds the ampoules to the jetting stations in the upper section. The ampoules are blown of the jetting needles and tilted into the discharge tray. At this point the ampoules can be either trayed or fed directly on to the conveyor belt of the sterilizing tunnel.

Cleaning Stations:
- Ultrasonic cleaning
- Internal and external cleaning by spraying with recirculated water (1 Station)
- Internal blow-dry with compressed air (1 Station)
- Spraying with purified water
- Internal blow-dry with compressed air
- Spraying with W.F.I. (1 Station)
- Internal and External blow dry with compressed air (2 Stations)

Technical Data:
- Output of the machine: 300 Ampoules/min
- Diameter: 10 to 15 mm
- Head: 18 to 25 mm

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Output Capacity

<table>
<thead>
<tr>
<th>Ampoule Sizes</th>
<th>Max Diameter</th>
<th>Max Height</th>
<th>Capacity</th>
<th>Grppers</th>
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</thead>
<tbody>
<tr>
<td>Nos. / min.</td>
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<tr>
<td>35</td>
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<td>300</td>
<td>60</td>
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<td>25</td>
<td>73</td>
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All parts that come in contact with the internal surface of the ampoule / vial and the wash media are made of AISI SS 316L stainless steel.
- All parts are made from engineering plastics, FDA approved or AISI SS 304 stainless steel.
- All finishes, welding joints are processed and treated and equipment selected in accordance with cGMP standards.
Vertical Rotary Ampoule / Vial Washing Machine

Snowbell Machines Pvt. Ltd. is committed to serve the Pharmaceutical Industry by providing products that incorporate leading edge technology in compliance with cGMP design criteria.

**WORKING DESCRIPTION**

**Operation:**

Vials can be fed on to an infeed conveyor or alternatively a turntable from where they are fed to a star-wheel and delivered to a revolving conveying system consisting of 40 or 60 grippers evenly spaced. V-grippers are mounted on the circumference of the gripper ring, which rotates around a vertical axis. The horizontal rotation of the vial through 180° during the infeed as well as the opening and closing of the grippers is carefully controlled. Vials are passed through the cleaning stations upstate down. At the individual stations, spray tubes travel is synchronized with the vials, then enter the vials whose orifices are exactly centered. The spray tubes follow the continuously moving grippers from the start to the finish of a working station and retract.

**PROCESS CONTROL**

Integrated control system. All controls through a Programmable Logic controller. Operator interface through a touch screen graphic display for easy access to statistics and control screens.

Process parameters which includes:

- Temperatures, Pressure, Media spraying time, cycle speed are loaded and saved as recipes for various types of vials/ampoules.
- Each process parameter is password protected and is accessible only to supervisors and validation staff.
- Actual process parameters and alarms are data logged to a storage device or on the printer.
- Compliance to 21 CFR part 11 is available.
- System documentation validation and testing in accordance with cGMP guidelines.

**Vertical Rotary Ultrasonic Ampoule Washing Machine**

**WASHING PROCESS**

The washing process can be customized to your requirement. Each vial or ampoule is guided through a series of process steps:

- Ultrasonic treatment (Optional)
- Recycled water (Internal and external)
- Compressed air (Internal)
- Purified water (Internal)
- N.F. 1 (Internal)
- Compressed air (Internal and external)