首达®
SHOUDA

Oral Liquid Production Line

This oral liquid production line made in Shouda company is specially designed for the producing of 5-25ml oral taken fluid. It can finish all the process of ultrasonic washing, sterilizing, filling and capping completely by this line.

Operating Principle of Oral Liquid Production Line

Ultrasonic Washing:

1. Put all the bulk bottles into the ultrasonic washing tank for ultrasonic washing about 80 seconds.
2. Then the bottle feeding spiral conveyer will send the bottles to the lift driver wheel, and then the lifting wheel will send the bottles to the big drum.
3. The bottles will be clamped by a manipulator and turned over for 180° (bottle mouths downward), rotating along with the big rotating disk.
4. There are 6 group jet pipes with jet needles under the big rotating disk tracks. Water or compressed air will send (spray) to into the bottles, with certain frequency that depending on the washing requirement. Normally one complete washing procedure is that, there are circulating water spraying for two times, compressed air spraying for once, purifying compressed air spraying for two times again.
5. During that inside washing, there are water and compressed air praying and for outside bottles washing.
6. So that the washing for bottles is completed, then the washed bottles turn over for 180° (bottle mouths upward) by manipulator, feeding into a tunnel type oven by driver disk.
7. The frequency conversion can control the washing speed and productive capacity and also control and adjust the sequential coordination of each procedure.

Sterilizing:

1. Preheat: The close-packed bottles are fed into the tunnel with mesh-belt type sterilizing oven and into the preheat area by the conveying mesh-belt.
2. And then, the bottles are passed the high temperature area (sterilizing area).
3. Cooling.
4. Finally, the bottles are passed the laminar flow area, and completed the sterilizing process.

The bottles are fed out from the oven and fed into the oral liquid filling and capping machine. The heating process of the bottles is carried out by gold-plated quartz heat pipe which is on the upper of the mesh-belt and the stainless steel heat pipe and on the lower of the mesh-belt. In the high temperature area, the bottles are undergoes drying and sterilizing process over 4 min. While the speed of mesh-belt is controlled by machine type stepless speed changer. In order to prevent contamination, in whole sterilizing process, the bottles are under the protection of a 100 stage laminar flow protection device. Both front and rear laminar flow protection device are consisted of medium-efficiency blower fan and high-efficiency filter. The cooling process of the bottles which to be fed out from the oven is carried out by the fan which is installed on the rear of the oven and can ensure the temperature of the bottles is ≤ 40 o C.

Filling and Capping:

1. The bottles are fed into the filling and capping machine by a guide and an adjustable pitch type screw bolt.
2. Then fed into filling tray with 8 stations by a driver disk which is clockwise rotated. The feed liquid is supplied by glass pump and lifting action. The bottles which already filled with feed liquid are fed into a clockwise rotating disk with 8 stations for cap-clamping by three reversible rotating disks.
3. The aluminum caps (replace the rubber corks) are tracked and clamped on the bottle mouth by eight flexible three tools type clamping chuck.
4. Then, the aluminum caps (replace the rubber corks) are sequentially arranged by oscillating feeder, and fed on conveying belt by a guide and covered with the bottle mouth.
5. The bottles which filled with oral liquid and cap-clamped are fed out by an out-feed rotating disk and fed into an out-feeding tray.

Technical Parameters:

Suitable Specification	5-25ml
Productive Capacity	12000 Bottles/h (per 10ml; Max)
Metering Error	≤±2%
Breaking Rate	≤0.1%
Qualifying Rate of Capping and Sealing	≥98%
Gross Power	36kw
Gross Weight	About 3500kg
Overall Size	9600×3800×2050(mm)(L×W×H)