Automatic Injectable Dry Powder Filling With Vial Liquid Filling & Rubber Stoppering Machine

SBML-300D

SBML-300D, is a monoblock type high speed machine which has injectable dry powder filling , vial liquid fillig & rubber stoppering machine in one frame structure.

Operation :

From the sterilizing tunnel the empty sterilized vials are routed to the infeed turn table. Guides are provided in the turn table which properly aligns the empty vials and passes it to the conveyor. The conveyors takes the vial to the filling unit. A chamber type arrangement is provided for the pre gasing of nitrogen into the vials. The flushing of nitrogen takes place before the filling unit. No vial no filling sensor is provided to avoid the wastage of costly powder. The vials are held under the powder wheel by a pair of timed vial separators. The timing of the vial separator are adjusted in sequence with the intermittent motion of the powder wheel.

This machine is equipped with canister loading arrangement in which the canister is fitted on top of the powder hopper. From the powder hopper the powder is drawn by vacuum in to the powder wheel. Vacuum is applied through the nylon tips filter which is fitted on top of the piston inside the powder wheel. This piston retains the powder during indexing till it reaches exactly above the vial neck.

Instead of the front facing of the powder wheel this machine has side facing. The conveyor moves under the powder filling unit. The powder wheel consists of 12 ports instead of 8 port standard powder wheel.

When the vial is held in position by the vial separators a signal is relayed to the solenoid valve in the powder dosing system. This solenoid activates vacuum which holds the powder in the port of powder wheel, duing the rotation at the lowest end the outlet port is connected with compressed air / nitrogen and changes to pressure. The pressure forces the powder out of the port into the vial positioned directly below the powder fill wheel. The vial separators then rotate and the vials are forwarded on the conveyor towards the vial liquid filling unit.

A separate forcep type conveyor is provided for the eight head vial liquid filling unit. Individual drive system is provided for this conveyor. Here at a time eight vials are gets filled with liquid. Here the vials are moving and along with the vials the diving nozzles also moves along with the vial resulting in the pouring of liquid into the vial. In this system the syringe rotates 180° . This system ensures that you get a perfect accuracy while filling.

In this machine you can use powder filling and liquid filling together or you can use any one (i.e. Either powder filling or liquid filling). All the operations are controlled through plc system. Post gasing arrangement is provided at the rubber stoppering unit

After filling the vials moves towards the rubber stoppering unit. The sterilized and siliconised rubber stoppers are stored in the vibrator bowl. From there the rubber stoppers moves veritically to the chute. A fibre optic sensor is provided in the chute which shuts down the machine when there is no rubber stopper in chute during the operation. The vial is hold firmly between pair of timing belt to pickup rubber stopper from exit end of the chute. Further the vials are passed between two pressing roller for tight fixing of rubber stopper. After the rubber stoppering the vials moves towards the next operation of sealing.

Salient Features

- " No Vial No Filling System" to avoid wastage of costly powders or liquids.
- Multiple dosing possible for powder filling.
- Fully controlled through PLC system
- Machine speed can be adjusted through A.C. Frequency drive.
- Canister loading arrangement can be provided.
- Precise accuracy for vial liquid filling.

Basic Machine :

- Imported gear box with motor for machine & unscrambler
- A.c. Frequency drive for machine & unscrambler
- Pre & post gasing system
- Fully controlled through PLC.
- Pure air filter for air & vacuum
- "No Vial No Filling System"
- "No rubber stopper in chute machine stop system"
- Vacuum pump
- Acrylic cabinet with imported aluminium structure.

Utilities :(To be Provided by Buyer)

Pneumatic Air	Filtered, oil free, sterile low pressure air at 4 kg/cm2(4/6 bar)
Vacuum line	20 Hg. (pump will be supplied by us)

Technical Specification of Injectable Dry Powder Filling Machine

Model	**SBML-300D**
Production rate	240 vials / min. For 5 ml. & 10 ml. Vial
Powder Fill Capacity	50 Mg to 1.5 Grms. Single Dose (With Change Parts), 1.5 Grms to 8 Grms. Double, Triple and Four Dose. Fill range depending upon vial opening and bulk density of powder.
Liquid Fill capacity	2ML to 50 ML for Single Dose (With the help of Change Parts)
	Accuracy (Powder filling): +- 1% depending upon consistency and the uniformity of bulkder Under controlled level of Humidity (i.e.25%)density of injectable powder.
Accuracy (Liquid filling)	1%
Electrical supply	4.5 HP.
Power requirement	415 volt ± 10 %, 3 phase, (4 wire system) 50 Hz.
Dimensions	4200 MM (L) x 1000 MM (W) x 1665 MM (H)
Net weight	1200 KGS. (Approx.)
Gross weight	1600 KGS. (Approx.)

Input Specifications :

Vial diameter	16 mm to 50 mm
Vial height	32 mm to 110 mm maximum
Rubber stopper size	20 mm / 32 mm (with help of change parts)

Note: (1) Right of technical improvements & modifications reserved
(2) All illustrations and dimensions are shown for information only