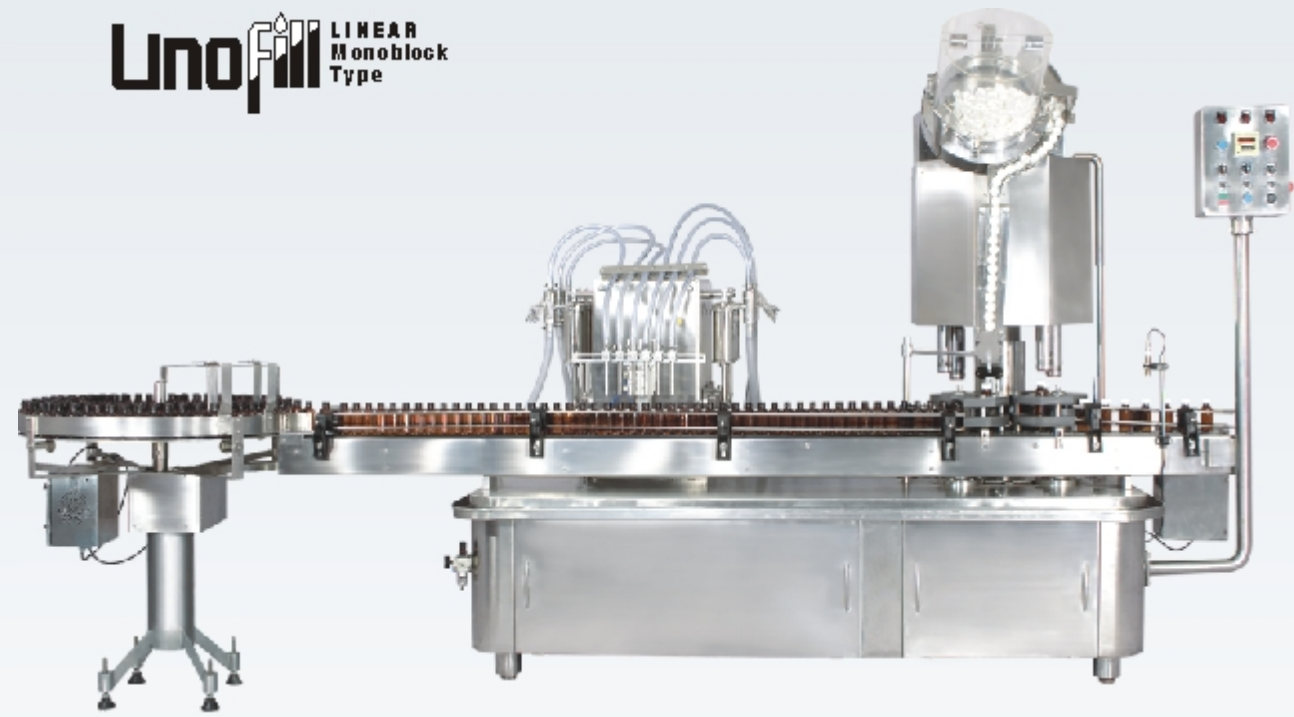


Automatic Volumetric Liquid Filling, Capping & Sealing Machine

LINO
LINEAR
Monoblock
Type



The LINO machine is available in 2, 4 and 6-Head Filling unit with corresponding 1, 4 and 6-head sealing unit. Filling and Sealing Units are mounted on a single body which reduces the traversing time between Filling and Sealing, thereby greatly reducing the exposure time to ambient conditions.

A specially designed synchronized mechanical movement coupled with the conveyor belt system and a bottle staging mechanism ensures smooth running of the machine. A 'No Bottle - No Fill' arrangement through a Photo sensor prevents the spillage of liquid if the bottles are not conveyed below the filling nozzles. Automatic multi head Cap Sealing machine is ideally suited for continuous heavy-duty operations. The machine is fully automatic and is complete with Linear filling and Rotary Sealing with Cap Feeding Hopper and built-in Slat Conveyor.

The staged bottles are filled at a time with a predetermined volume. The machine has

provision for fixing appropriate sizes of syringes to fill bottles of different capacities while the conveyor can be adjusted to accommodate bottles of various sizes. The machine can fill a minimum volume of 10ml and maximum of 1000ml by changing the syringes.

Operation

Cleaned empty stainless steel (S.S.) bottles received from turntable conveys the bottles to the filling machine through an S.S. Slat Conveyor. The pneumatic operated bottle stopper will stop a set of bottles to fill pre-determined volume. After completing the filling operation, the stopper withdraws itself from its position and allows the filled bottles to go further through a conveyor for sealing operations. Filled bottle picks up the cap from the cap shoe and moves for sealing operation.

The filling unit and the S.S. slat conveyor are provided with variable speed drive mechanisms to adjust the speed suitable for different products and bottles.

The guide rails and stainless steel slat conveyor can be adjusted to accommodate various shapes and diameter of bottles. A limit switch with actuator mechanism is provided for sensing bottle-topple. The sealing unit is provided with a variable speed mechanism for speed adjustment. The machine is manufactured as per GMP Standards.

Salient Features :

- Monoblock configuration with filler and capper
- NO Bottle NO Fill arrangement
- NO Cap NO Seal arrangement
- Production Counter
- The machine is designed to seal ROPP / Screw cap / Poly top cap by changing the sealing head.
- The machine can be supplied with Acrylic hood as an option.

TECHNICAL SPECIFICATIONS :

Electricals	2 - Head Filling and Single Head Sealing	4 - Head Filling and Sealing	6 - Head Filling and Sealing
Filling Unit Drive Motor	0.5 H.P., 220 Volts, 1 phase, 50 cycles, 1440 RPM	1 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM	1.5 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM
Sealing Unit Drive Motor	1 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM	1.5 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM	1.5 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM
Sealing Head Lifting Motor	----	0.5 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM	0.5 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM
Conveyor Drive Motor	0.5 H.P., 220 Volts, 3 phase, 50 cycles, 1440 RPM	0.5 H.P., 220 Volts, 3 phase, 50 cycles, 1440 RPM	0.5 H.P., 220 Volts, 3 phase, 50 cycles, 1440 RPM
Overall Dimensions			
Length	3000 mm	3200 mm	3200 mm
Width	1000 mm	1150 mm	1150 mm
Height	2200 mm	2600 mm	2600 mm

Automatic Liquid Filling, Capping & Sealing Machines

RotoFill FS-100



RotoFill FS-180



TECHNICAL SPECIFICATIONS

MODEL	FS-40	FS-80	FS-100	FS-120	FS-180	FS-240	FS-300
Main Drive Motor*	1 H.P.	2 H.P.	2 H.P.	3 H.P.	3 H.P.	5 H.P.	5 H.P.
Sealing Head Lifting Motor*	--	0.5 H.P.	0.5 H.P.	0.5 H.P.	0.5 H.P.	0.5 H.P.	0.5 H.P.
Hopper Motor*	0.25 H.P.	--	--	--	--	--	--
No. of Filling Heads	2	4	6	8	12	16	20
No. of Sealing Heads	1	4	6	8	8	12	12
Output	25 - 40 BPM	40 - 80 BPM	60 - 100 BPM	80 - 120 BPM	100 - 180 BPM	150 - 240 BPM	180 - 300 BPM
OVERALL DIMENSIONS							
Length	1830 mm	2500 mm	2500 mm	2500 mm	2500 mm	3815 mm	3815 mm
Width	950 mm	1300 mm	1300 mm	1400 mm	1625 mm	2050 mm	2300 mm
Height	2240 mm	2500 mm	2500 mm	2500 mm	2500 mm	2650 mm	2650 mm
Weight	1500 kgs.	2150 kgs.	2250 kgs.	3000 kgs.	3250 kgs.	4250kgs.	5000 kgs.

*All motors are 415 Volts, 3 phase, 50 cycles, 1440 RPM

POWER SUPPLY :
3 Phase, 415 Volts, 50 Hz
FILLING RANGE :
15 ml. to 200 ml.

ACCURACY :
± 1 % of the volume to be filled
DIRECTION OF MOVEMENT:
Left to Right.

BOTTLE SPECIFICATIONS
Body Diameter: 30mm to 70mm ± 0.5mm
Bottle Neck Diameter : 22 mm, 25mm, 28mm & 32 mm
Height: 55 mm to 200 mm ± 1mm

MACHINES CAN BE SUPPLIED FOR 380 VOLTS 3 PHASE 50 Hz OR 220 VOLTS 3 PHASE 60 Hz AS PER CUSTOMER'S REQUIREMENTS

Anchor Mark offers comprehensive technical consultancy and advisory assistance to all genuinely interested parties. Personnel training and follow-up servicing promptly provided as sales back-up.
As the design and manufacture of Anchor Mark machines are subject to improvement, the product supplied may differ in some details from the specifications and illustrations given herein.



ANCHOR MARK

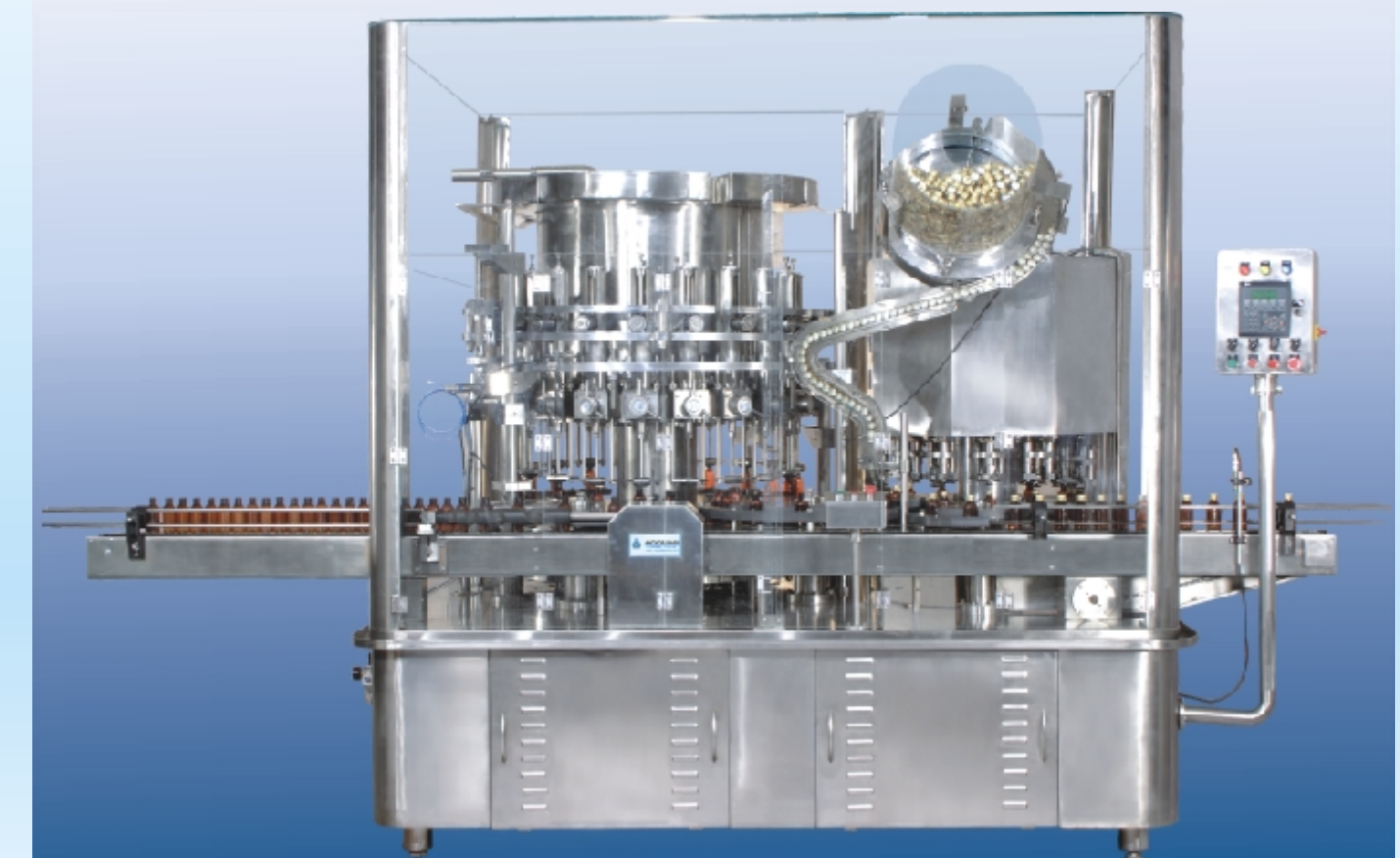
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ANCHOR MARK

AUTOMATIC LIQUID FILLING, CAPPING AND SEALING MACHINE

RotoFill FS-300



AUTOMATIC LIQUID PACKAGING LINE



1 Turntable (Unscrambler)

Turntable (Unscrambler) is the most convenient and versatile unit for accumulating and transferring the bottles from one machine to another machine; at the continuous flow of bottles for feeding.

The Turntable works on rotary principle and is available with 30" dia., 36" dia. and 48" dia. size.

The Turntable consists of a rotary stainless steel (S.S.) Plate, S.S. Structure, bottle guide rail with spring strip reduction gear with motor and variable speed pulley drive / variable frequency drive arrangement.

2 Automatic Rotary Bottle Washing Machine Index type, Model: RBW-120

The Automatic Rotary Bottle washing machine works on the indexing mechanism. The machine is designed to clean glass / plastic bottles of different shapes and sizes. Each bottle is subjected to a series of cleaning operations of varying duration by means of powerful jets in the three washing stations.



The machine consists of Bottle feeding and discharging stainless steel (S.S.) Slat conveyor, 12 nos. of Bottle holding cassettes, pneumatically operated bottle discharging pusher, Bottle inverting and de-inverting rack and pinion assembly, S.S. hood with Polycarbonate sheet. Two built-



Bottle Feeding Unit Bottle Discharge Unit

- Less water consumption.
- Optimal recycling of water.
- No cross contaminations at different washing zones.
- Machine is simple to operate and easy to maintain.

3 Empty Bottle Inspection Unit

The Unit consists of a slat conveyor and is provided with a magnifying glass and lighting arrangement.

The bottles are inspected for cracks or foreign particles while they are conveyed through the washing machine to the filling machine.

4 ROTOFILL-FS Automatic Liquid Filling, Capping and Sealing Machine

ROTOFILL-FS works on the volumetric positive displacement principle. The Machine is a combination of Rotary type Volumetric Filling and ROPP Cap Sealing. To meet the demands of high-speed production and based upon the customer's requirement.

ROTOFILL-FS is manufactured in different capacities of 2-head, 4-head, 6-head, 8-head, 12-head, 16-head and 20-head configurations.

ROTOFILL-FS conforms to G.M.P. requirements -- it is compact and the process ensures contamination-free filling, since the capping is immediate and does not permit exposure of the liquid.

ROTOFILL-FS is suitable for filling and sealing products like Pharmaceuticals, Pesticides, Cosmetics, Beverages, etc. The liquid can be filled in glass bottles, plastic bottles, cans etc.

The design of ROTOFILL-FS is such that it enables easy changeover of parts and easy cleaning.

Operation

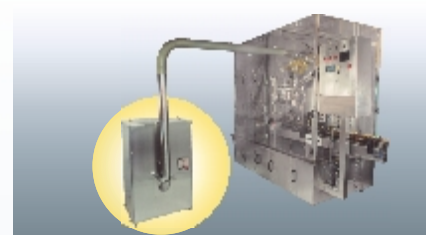
ROTOFILL-FS works on the basis of a continuous process of filling and sealing.

Washed and dried empty bottles are conveyed to the machine through stainless steel (S.S.) slat conveyor. The infeed worm moves the bottles and feeds them into the starwheel which in turn, leads the bottles to the lifting platform of the filling section. The bottles are lifted and centred below the filling nozzles by a guide which orients the bottles below the nozzles.

The sensor provided detects the presence of the bottle and actuates the pneumatic cylinder to rotate the valve in the discharge position to dispense the pre-determined volume of the liquid into the bottles. The stainless steel container is fitted in the centre of ROTOFILL-FS to transfer the liquid into syringes mounted on rotor blocks. The liquid is transferred from the storage tank through a stainless steel pipeline connected to a solenoid valve. This enables immediate filling of the liquid tank as soon as the level decreases. Pistons of the syringes move up and down on a cam track while they suck the liquid from the filler tank into the syringes through rotary valves. After the liquid fills into the bottles, the bottle-holding platform lowers the bottles and transfers them to the sealing head via the intermediate star wheel. The bottle picks up the cap from the shoe of the chute which is connected to the hopper of the capping section.

Caps can be loaded to the hopper either manually or through a cap loading unit.

The bottles move below the sealing head. The sealing head seals the bottles and later conveys them to the slat conveyor for onward transfer to the inspection machine.



Cap loading unit

Salient Features

- ROTOFILL-FS can be operated by a single operator.
- All contact parts are made of Stainless Steel 316 AISI or 316 L as per customer's requirement.
- Non-contact parts are covered with stainless steel 304 quality sheet duly polished with safety hoods to prevent flying of glass particles in case breakage of bottles occurs.
- The rotary valve design offers better accuracy of $\pm 1\%$.
- The machine is designed to seal ROPP / Screw cap / Poly top cap by changing the sealing head.



ROPP cap sealing head Screw cap sealing head

- No-bottle-no-fill arrangement avoids spillage of liquid. Likewise, the no-bottle-no-cap system ensures minimum wastage of liquid.
- The solenoid valve controls the level of the liquid in the filler tank.
- The control panel guides the operator to

identify faults, breakdown, breakage of bottles or any other failure in the ROTOFILL-FS.

- The production counter facilitates estimation of the exact production at the end of the shift / day.
- The Control Panel of the machine is supplied with Programmable Logic Control (PLC) system and HMI with display and hooter system to identify any fault or malfunctioning of the machine.

5 Filled Bottle Inspection Table

The filled bottles are conveyed to the slat conveyor of the inspection unit. The bottles pass through the inspection unit in a tilted position and rotate through a specially designed conveyor track. The inspection unit is provided with magnifying glass and a lighting arrangement. Since the bottles are rotating in a tilted position, the operator inspecting the bottles can identify any foreign particles, cap rejection and cracking of bottles. The rejected bottles are picked up and kept in a separate rejection tray provided at the side of the inspection table.

6 Automatic Dosage Cup Placing and Pressing Machine

The Dosage Cup Placing machine consists of stainless steel (S.S.) slat conveyor, rotary hopper with chute and shoe and cup pressing rollers and variable speed arrangement. After inspection, the sealed bottles are conveyed to the Dosage Cup Placing and Pressing machine where dosage cups are placed on the sealed bottles and pressed by pressing rollers. The bottles are then conveyed to onward packing line.

Air Jet Bottle Cleaning Machine

Vertical Carrousel design - Model : AJC 150



The Air Jet Bottle cleaning machine is suitable for rinsing bottles with compressed air and vacuum for dust collection.

The machine consists of an stainless steel (S.S.) Slat conveyor belt, Vertical Rotary bottle infeed Carrousel wheel. Bottles are fed through the S.S. slat conveyor which in turn feeds the bottle to the synchronized rotary carrousel wheel. Bottles are subjected to both positive pressure for blowing particulate matter, if any, along with stage-wise filtered compressed air. Dust particles that are set loose will be collected under negative pressure by the Vacuum Blower.

Online Ionizer can be provided for the elimination of static electricity from Glass / PET / HDPE bottles as an option.

After rinsing, the bottles are conveyed in upright position and transferred to the discharge end through S.S. Slat Conveyor to the filling machine.

The machine is fully covered with an acrylic cover. The machine is provided with a dust collecting Vacuum chamber with filter bag, and a blower type Vacuum unit which is inbuilt in the machine. Speed of the machine can be regulated through the Variable Frequency Drive Unit.

TECHNICAL SPECIFICATIONS :

Output	: 80 to 150 BPM (depending on bottle size)
Conveyor Drive	: 0.5 H.P. 220 Volts, 1-phase, 50 cycles, 1440 RPM
Carrousel Unit Drive	: 1 H.P. 220 Volts, 1-phase, 50 cycles, 1440 RPM
Blower type Vacuum Pump	: 2 H.P., 415 Volts, 3-phase, 50 cycles, 2880 RPM
Dimensions	: 1825 mm (L) x 1185 mm(W) x 1400 (H)

TECHNICAL SPECIFICATIONS for automatic liquid packaging line machines :

1 TURNTABLE	3 EMPTY BOTTLE INSPECTION UNIT
Main Drive Motor : 0.5 H.P., 220 Volts, 1 phase, 50 cycles, 1440 RPM with Variable Frequency Drive Unit	Main Drive Motor : 0.5 H.P., 220 Volts, 1phase, 50 cycles, 1440 RPM with Variable Frequency Drive Unit
Overall Dimensions : 915mm(L) x 915mm(W) x 1220 mm (H)	Overall : 1525 mm (L) (Length can vary as per room layout) x 400 mm (W) x 1300 mm (H)
Weight : 125 kgs. Approx.	Weight : 100 kgs. Approx.
2 AUTOMATIC ROTARY BOTTLE WASHING MACHINE INDEX TYPE	4 ROTOFILL FS-120 Refer to Back Page
Main Drive Motor : 0.5 H.P., 220 Volts, 1 phase, 50 cycles, 1440 RPM with Variable Frequency Drive Unit	5 FILLED BOTTLE INSPECTION TABLE
Bottle Feeding Conveyor drive motor : 0.25 H.P., 220 Volts, 1 phase, 50 cycles, 1440 RPM with Variable Frequency Drive Unit	Single Track Inspection Table for FS-80, FS-100 and FS-120 Machines
Bottle discharge Conveyor drive motor : 0.25 H.P., 220 Volts, 1 phase, 50 cycles, 1440 RPM with Variable Frequency Drive Unit	Four Track Inspection Table for FS-180, FS-240 and FS-300 Machines
Monoblock type centrifugal pump motor : 1 H.P., 415 Volts, 3 phase, 50 cycles, 2800 RPM	Main Drive Motor : 0.5 H.P., 415 V, 3 phase, 50 cycles, 1000 RPM with Variable speed Pulley Drive arrangement
Water Immersion heater : 3 KW each 2 Nos.	Overall : L - 1830 mm W - 610 mm H - 1300 mm
Overall Dimensions : 3375 mm (L) x 2550 mm (W) x 1830 mm (H)	Weight : 150 kgs. approx.
Weight : 1850 kgs. approx.	6 AUTOMATIC DOSAGE CUP PLACING AND PRESSING UNIT
	Main Drive Motor : 1 H.P., 415 V, 3 phase, 50 cycles, 1440 RPM with Variable speed Pulley Drive arrangement
	Hopper Drive Motor : 0.25 H.P., 415 Volts, 3 phase, 50 cycles, 1440 RPM
	Overall Dimensions : 1830 mm (L) x 775 mm (W) x 2440 mm (H)
	Weight : 600 kgs. approx.