

Technical Manual For Liquid Filling & Crown Capping Machine. Model :



Fillpack Technology

Ekveera laghu udyog sankul, Unit No 6, Road No. 25, Wagle Industrial Estate,
Thane 400604. Tel.: 91-22-25825969 Mob. : 09869573096 / 09987784735
E. Mail : info@fillpacktechnology.com Web : www.fillpacktechnology.com



Index

Sr. No.	Description	Page No.
1.0	Introduction	3-6
1.1	Profile Introduction	4
1.2	Company Profile	5
2.0	General Safety	7-11
2.1	User's Guide	7
2.2	Personnel Safety	8
2.3	Installation Safety	9
2.4	Operational Safety	10
2.5	Maintenance Safety	11
3.0	Machine Description	12-23
3.1	Intended and Prohibited use of the Machine	12
3.2	Intended Use of the Machine	12
3.3	Prohibited Use of the Machine	12
3.4	Machine Photograph	13
3.5	Functional Description of the Machine	14
3.6	Technical Specification for the Machine	22
4.0	Packing of the Machine	24-24
4.1	How is the Machine Packed	24
5.0	Machine Installation	25-27
5.1	Procedure for Unloading the machine.	25
5.2	Procedure for Unpacking the machine.	25
5.3	Leveling the Machine	26
5.4	Machine Storage	26
5.5	Utilities Required	27
6.0	Setting / Adjustment	28-28
6.1	Adjustment for the liquid filling.	28



Index

Sr. No.	Description	Page No.
7.0	Operational Manual	29-34
7.1	Pre Start Up Checklist	29
7.2	How to Start the Machine?	31
7.3	How to Stop the Machine?	34
8.0	Maintenance Manual	35-40
8.1	Machine work permit for maintenance	36
8.2	Machine work permit for maintenance of the electric panel or electric assemblies	37
8.3	Lock out tag	38
8.4	General Maintenance	39
8.5	Maintenance Chart	40
9.0	Trouble Shooting of the Machine	41-41
10.0	Enclosures	42-42
10.1	Electrical Component List	42
11.0	Drawings	Page No.
i	GA Drg.	
ii	Electrical Wiring Drg.	
iii	Pneumatic Drg.	



Section 1.0

Introduction

This Manual gives the necessary information for the correct installation, operation and maintenance of the machine.

We strongly suggest all concerned to read this Manual carefully and to comply with all instructions given therein.

Kindly preserve this Manual for the entire machine life. In an event of this machine being sold to a third party, kindly pass on this Manual to the concerned person.

Follow these steps to keep the Manual in good condition:

- While using the Manual care should be taken not to damage its content keep this Manual in a safe place.
- After using the Manual kindly return it to its proper place.
- Please do not use this Manual for writing any instructions or comments (for this please use plain paper).
- Do not remove or tear any page from this Manual.
- This manual is not controlled; however efforts will be made to update you from time to time.

If you need any further assistance or information which is not covered in this manual, please contact us at:

Fillpack Technology

Ekveera laghu udyog sankul, Unit No 6,
Road No. 25, Wagle Industrial Estate, Thane 400604
Tel.: 91-22-25825969
Mob. : 09869573096 / 09987784735
E. Mail : info@fillpacktechnology.com
Web : www.fillpacktechnology.com

The customer must ensure that the contents of this manual are explained and understood by all machine operators.

This manual is the property of **Fillpack Technology** and shall be used in an authorized manner only. We will not be responsible for any malfunctioning of the machine or any damages resulting from non-observance of the instructions and maintenance procedure mentioned herein.



1.1 Profile Introduction

Fillpack Technology is thankful to you for choosing its 'Liquid Filling & Crown Capping Machine'. It is very essential to go through & follow the instructions, very carefully, in this manual for far a trouble free operation of this machine.

Clients Name :

Address :

Contact Person : Mr.

Machine Manufacturer : Fillpack Technology.

Address : Ekveera laghu udyog sankul, Unit No 6,
Road No. 25, Wagle Industrial Estate, Thane 400604
Tel.: 91-22-25825969
Mob. : 09869573096 / 09987784735
E. Mail : info@fillpacktechnology.com
Web : www.fillpacktechnology.com

Machine Name : Liquid Filling & Crown Capping Machine.

Machine Model :

Machine Serial No. :

Contact Person : Mr. Nitin Kere.



1.2 Company Profile

About Us

In the world of dairy, pharmaceutical & allied filling and packaging machinery, especially referring to machinery for industries such as food, pharmaceutical, beverages, cosmetics, distillery etc. the name Fillpack Technology stands out for sheer quality of its products.

In a competitive market wherein leadership in the field is a frequent claim of every manufacturer, Fillpack Technology is content to let the customer be the judge of the quality by performance, integrity, and enduring functionality of its machineries.

Our Vision

To be a Perfect Solution Provider for our customer by becoming their long term partners in supply chain rather than becoming their supplier for short term.

To provide Resources to our customer, by which they can plan their Production in better way.

To provide the Concepts by giving innovative ideas and be a global player and have a satisfied and strong customer base worldwide.

To obtain maximum benefit from a borderless world market and be able to source products and services from any part of the world and supply it to our customers worldwide.

To increase our company's global standing by infusing creativity with technology and developing new path breaking products of global standards and thus making a road map for the Group to break into new markets and opportunities.

To become India's leading world recognized Company by providing "Complete Solutions" to our customer by supporting them in all the areas of Production, Planning, Management, Development, Supply Chain, and Purchases etc...

Our Mission

Providing Benefits to all our business associates, attaining best management practices and becoming a world-class company in the segments we are present in, remains our foremost mission and all our actions are directed towards achieving it. We, at Fillpack Technology, are committed towards:

Working with vigor, dedication and innovation, with total customer satisfaction as the ultimate goal.

Empowering our customers by providing technologically advanced products at highly competitive rates - The Best Value for their Money.



Attaining organic growth by combining visionary leadership and teamwork thus, improving our People, Processes, Products, Services and Business.

Promoting a work culture that faster's individual growth, team spirit and creativity to overcome challenges and attain goals by Training, Mentoring and Empowering. Encouraging overall development of our employees by integrating their safety, health and happiness standards in our systems.

Functioning with integrity, honesty and sincerity by following internationally acceptable highest ethical and moral business standards.

Achieving growth along with our customers, staff, suppliers and all other business associates by truly confirming to beneficial for everyone.



Section 2.0

General Safety

2.1 User's Guide

User guide for **Liquid Filling & Crown Capping Machine**. This Manual gives necessary information for the correct technical, installation, operation & Maintenance of the machine.

Kindly preserve this Manual for entire machine life.

The following conventions and words used in the manual have specific meanings.

Conventions and their meanings: -



Indicates loss of life of personnel injury if proper care is not taken.



Indicates Machinery damage can result, if proper precautions are not followed.

Note

Indicates preliminary action to be taken.



Indicates mandatory actions to be taken / followed.



Indicates personnel to read the manual before working on the machine.



Indicates personnel to read the manual before maintenance of the machine.



2.2 Personnel Safety

⚠ WARNING

Only trained, skilled, qualified and authorized personnel should install, operate and maintain the machine.

⚠ WARNING

Work area must be kept clean and dry. Remove all flammable material from the area. Know the location of nearest fire extinguisher so that in case of something fired it will be controlled as early as possible.

⚠ DANGER

Do not commission the machine without the aid of the qualified instructor.

⚠ WARNING

Do not tamper, remove or defeat any safety interlock provided on the machine. Fillpack Technology will not be liable for any accident or event happening there after if the same is violated.

⚠ WARNING

Don't operate the machine without guards in place. It can result in severe injuries.

⚠ WARNING



Don't operate the machine without understanding the Installation, Operation and Maintenance manual thoroughly.

⚠ WARNING

Do not store any loose tools in the Machine Compartments or cabinets.

⚠ WARNING

Only authorized persons are allowed to work on the machine. The personnel working on the machine should not be less than 18 years of age or as per the government rules and regulations of the particular country / state.

⚠ CAUTION

The user company must make the operating instructions available to the operator and must ensure that the operator has read and understood them.



2.3 Installation Safety

⚠ CAUTION

Only skilled persons shall be used for Unpacking and Installations.

⚠ WARNING

Persons installing the machine should have sufficient know how and experience in Machine Installations.

⚠ WARNING

Do not install the machine in corrosive environments.

⚠ CAUTION

Don't lift the machine by Human Effort.

⚠ WARNING

Don't use overhead hoist or slings to lift the machine.

⚠ WARNING

No human effort should be made to pull the Machine for transportation.

⚠ WARNING

The Machine shall be transported only by a suitable fork lift or any equipment suitable to handle weight of the Machine.

⚠ WARNING

In case if the Machine is shifted, appropriate work permit procedure should be followed, it is mandatory to use a licensed forklift operator.

⚠ WARNING

The Machine is not designed for use in explosive atmospheres.

⚠ WARNING

It's Essential that the Machine along with other auxiliary units is well earthed at the installation locations, to the Earthing pits.



2.4 Operational Safety

CAUTION

Only trained skilled and qualified people shall operate and maintain the machine.

WARNING

Ensure that the Operator has read and understand the Operators Manual before operating the Machine.

WARNING

Study the safety as well as operating instructions carefully before starting the machine.

WARNING

Ensure that all the systems of the machine are properly connected.

WARNING

Do not bypass any door or interlock in the machine during operation.

WARNING

Do not disturb any elements in electrical control panel without proper knowledge. Do not by pass any of the safety interlocks for any reason. Fillpack Technology; will not be liable in the event of any injury, which happens there after.



Before starting the machine ensure that, Allen keys, spanners, and other tools are removed from the machine compartments, cabinets and enclosures.

CAUTION

Ensure, through appropriate instructions and checks within the company, that the area around the operation zone is always clean and there is always a clear view.

CAUTION

If any faults occur during the operation, stop the machine immediately and eliminate the fault.



2.5 Maintenance Safety

⚠ CAUTION

Only trained skilled and qualified service personnel shall carry the maintenance of the machine.

⚠ WARNING

Ensure that the service personnel have read and understand the Maintenance Manual before carry the machine maintenance.

⚠ CAUTION

Place a sign over the control panel to inform others that the machine is down for maintenance or repair.

⚠ WARNING

Shut down the machine completely before removing the parts. Never attempt to slow down a piece of machinery with your hand.

⚠ WARNING

Any modifications or alterations to the machine shall exclude any liability on the part of the manufacturer for any damage, which may arise. No modifications, which have adverse effect on safety, shall be undertaken. Before any modifications on the machine, consult Fillpack Technology.



Section 3.0 Machine Description

3.1 Intended and Prohibited use of the Machine:

3.2 Intended Use of the Machine:

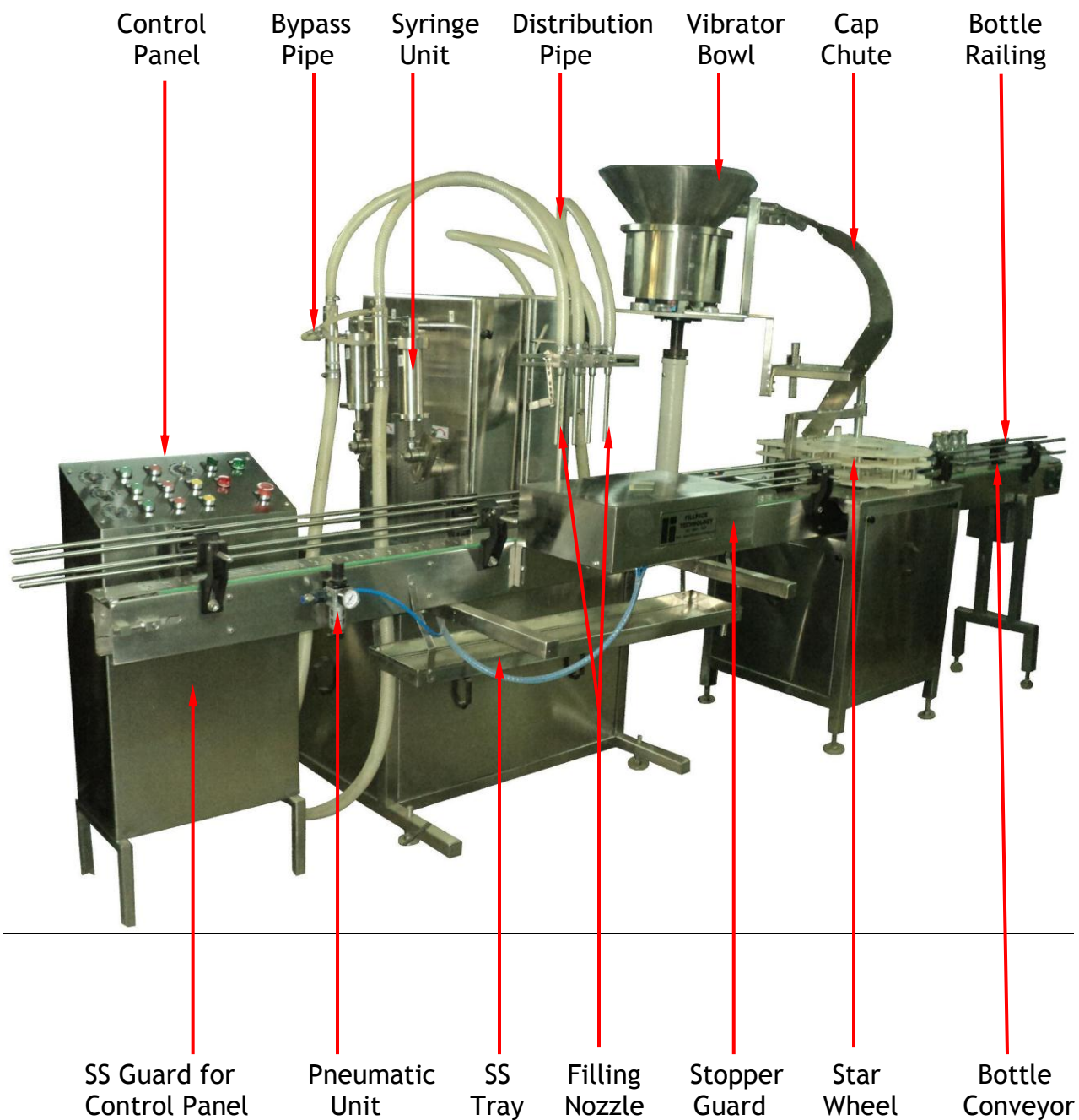
The Machine shall only be used for filling the bottles and further the bottles shall be capped by the pneumatic cylinder.

3.3 Prohibited Use of the Machine:

The Machine should not be used in any other purpose other than that specified in the Intended use.



3.4 Machine Photograph





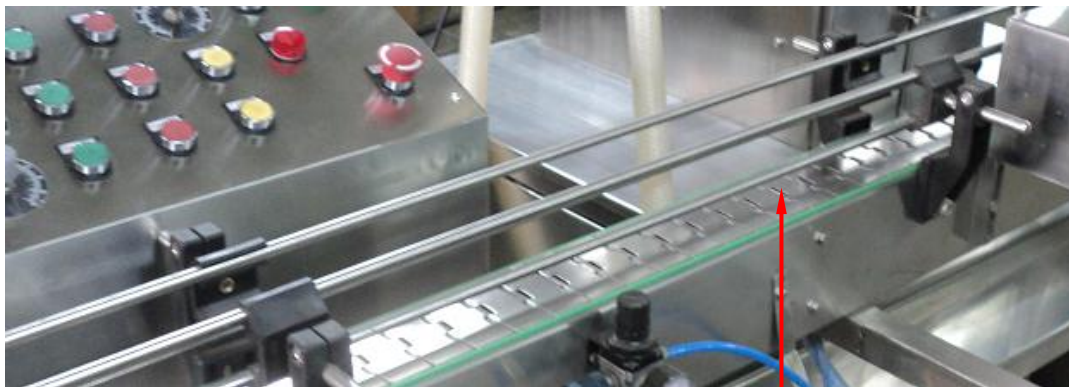
3.5 Functional Description of the Liquid Filling & Crown Capping Machine.

The Liquid Filling & Crown Capping Machine consists of nine major parts. All the nine major parts of the machine are described below:

- 1) Conveyor.
- 2) Filling Unit.
- 3) Stopper.
- 4) Tray.
- 5) Cam.
- 6) Motor for Filling Unit.
- 7) Vibrator Bowl
- 8) Star Wheel.
- 9) Control Panel.

1) Conveyor:

A separate conveyor is provided with the machine. The conveyor is located at the front of the machine, mainly used for carrying the empty bottles for liquid filling and crown capping. SS railings are mounted on the conveyor for guiding the bottles during their travel. The conveyor is run by a three phase Motor at a variable RPM. The detail of the Motor is given separately in the Technical Specification.



Conveyor



2) Filling Unit:

The filling unit is operated on a cam principle. The cam with rollers are located inside the machine body, the four syringes for product dozing are mounted at the either side of the filling unit. The cam rotates on its own axis, which gives the movement to the syringe for dozing the product towards the filling nozzle for bottle filling.

The syringe unit consists of one inlet suction pipe from the product receiver tank, for receiving the product and an outlet distribution pipe for distributing the product to the filling nozzles. A bypass pipe in between the syringe unit with a locking arrangement is provided for bypassing the accumulated air, if the lock is opened.

Bypass Pipe

Product Carrying Pipes



Syringe Unit

Filling Noozles



Photographs of the Filling Unit

Syringe Unit Bypass Pipe Suction Pipe



Product distribution pipe

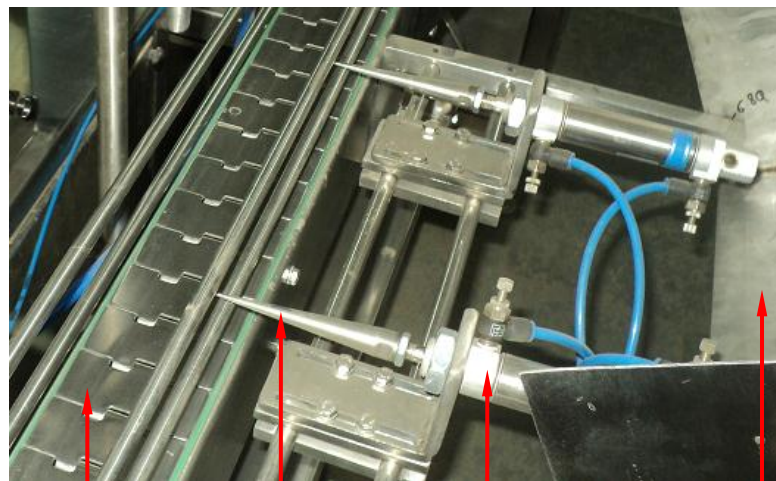


Filling Noozles



3) Stopper Unit :

The unit is located on the side of the conveyor, below the filling unit. The unit is operated pneumatically. The pneumatic unit commands the limit switch inside the machine body which activates the stopper for stopping the bottles for filling operation.



Stopper

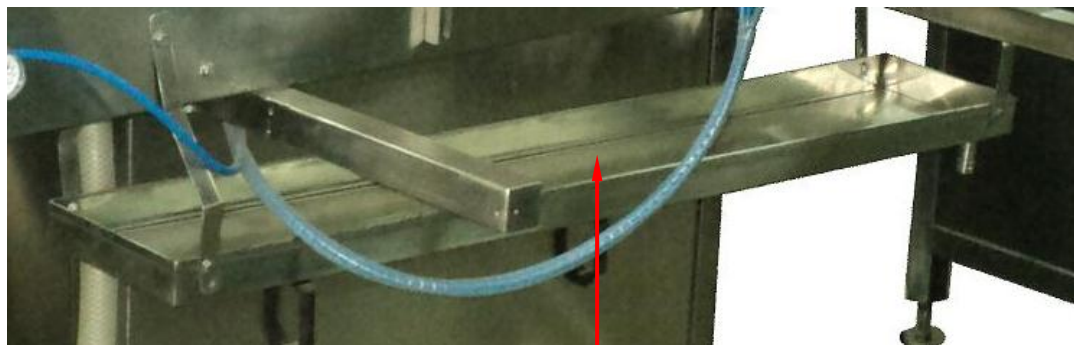
Stopper

Pneumatic Cylinder

Stopper Guard

4) Tray:

The machine is provided with a SS Tray located below the conveyor for collecting the excess liquid spill during filling operation.

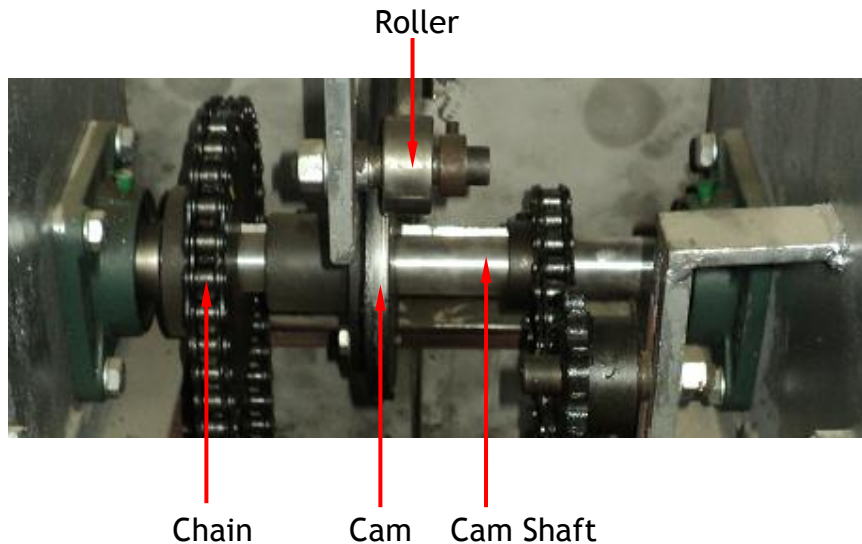


Trays for collecting the liquid



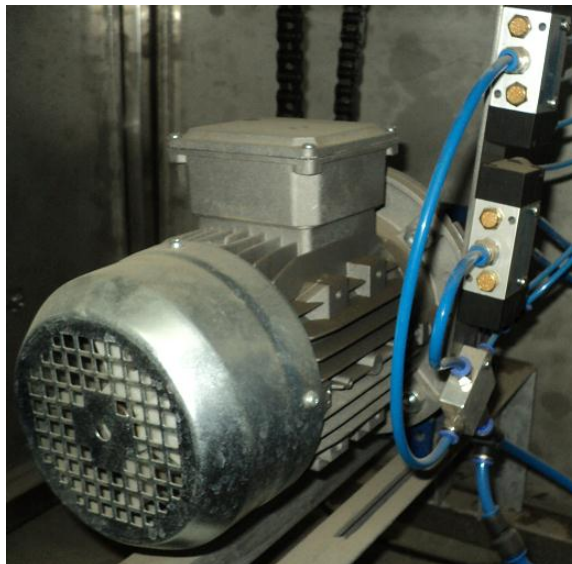
5) Cam:

The Filling Unit runs on the cam principle, for the same a filling cam is mounted inside the machine body. The cam is located on a shaft, which is driven by a three phase Motor.



6) Geared Motor:

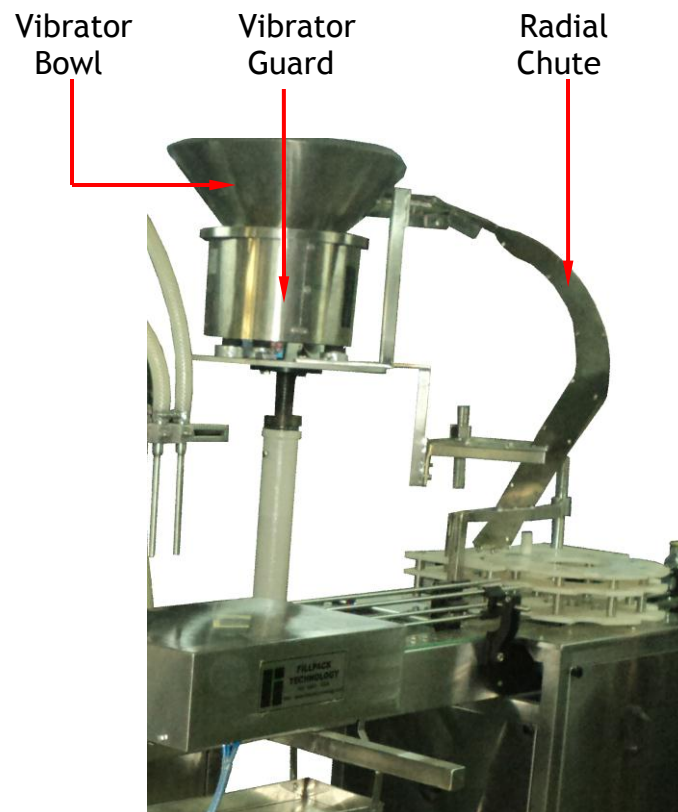
The machine is supplied with a geared motor located inside the machine body, for giving rotary motion to the cam shaft and for running the conveyor. The technical details of both the motors are described in the Technical Specification.



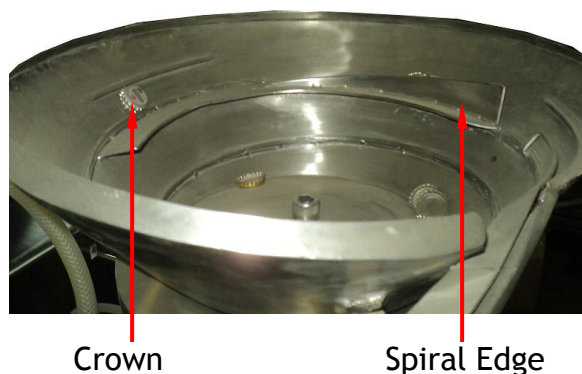


7) Vibrator Bowl with radial chute:

A Vibrator Bowl is provided separately along with the Capping Machine. The unit consists of a single phase vibrator for giving vibratory motion to the crowns. The crown feeding vibrator is designed in spiral way such as the crowns in the vibrator starts vibrating and the spiral design on the vibrator enables the crowns to move towards the radial chute by means of the vibration. A radial shaped chute is properly connected to the star wheel for passing the crowna and placing them on the bottles.



Top view of the Vibrator Bowl



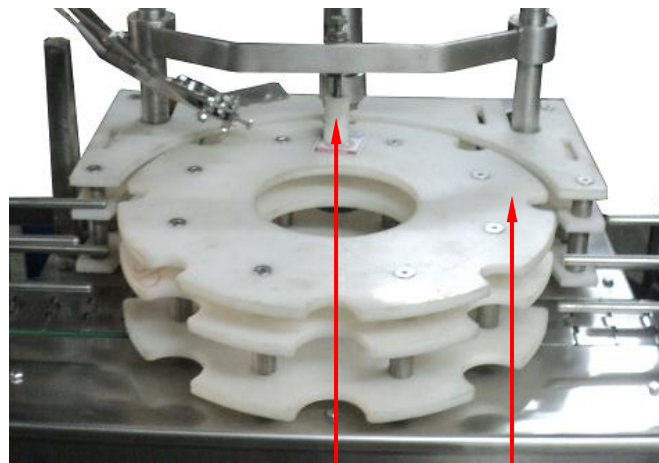


8) Star Wheel:

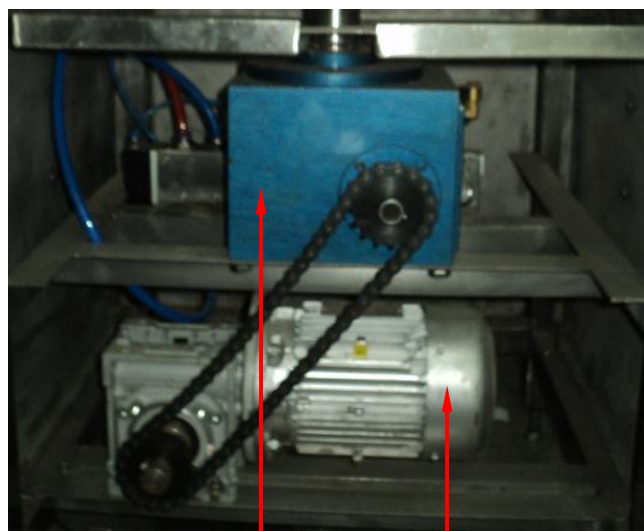
The three piece star wheel is constructed with UHM and is located exactly above the conveyor. The star wheel designed with slots or arms for holding the bottles and passing them below the chute and the pneumatic pusher for performing the crown picking followed by the crown pressing operation. A stopper is provided on the star wheel for guiding or avoiding the raise of star wheel during its rotation.

The bottle guide behind the star wheel is used for guiding the bottles during the peripheral rotation of the star wheel along with the bottles.

The star wheel is run by an indexer located below the star wheel. The movement to the indexer is given by a three phase motor.



Stopper Star wheel

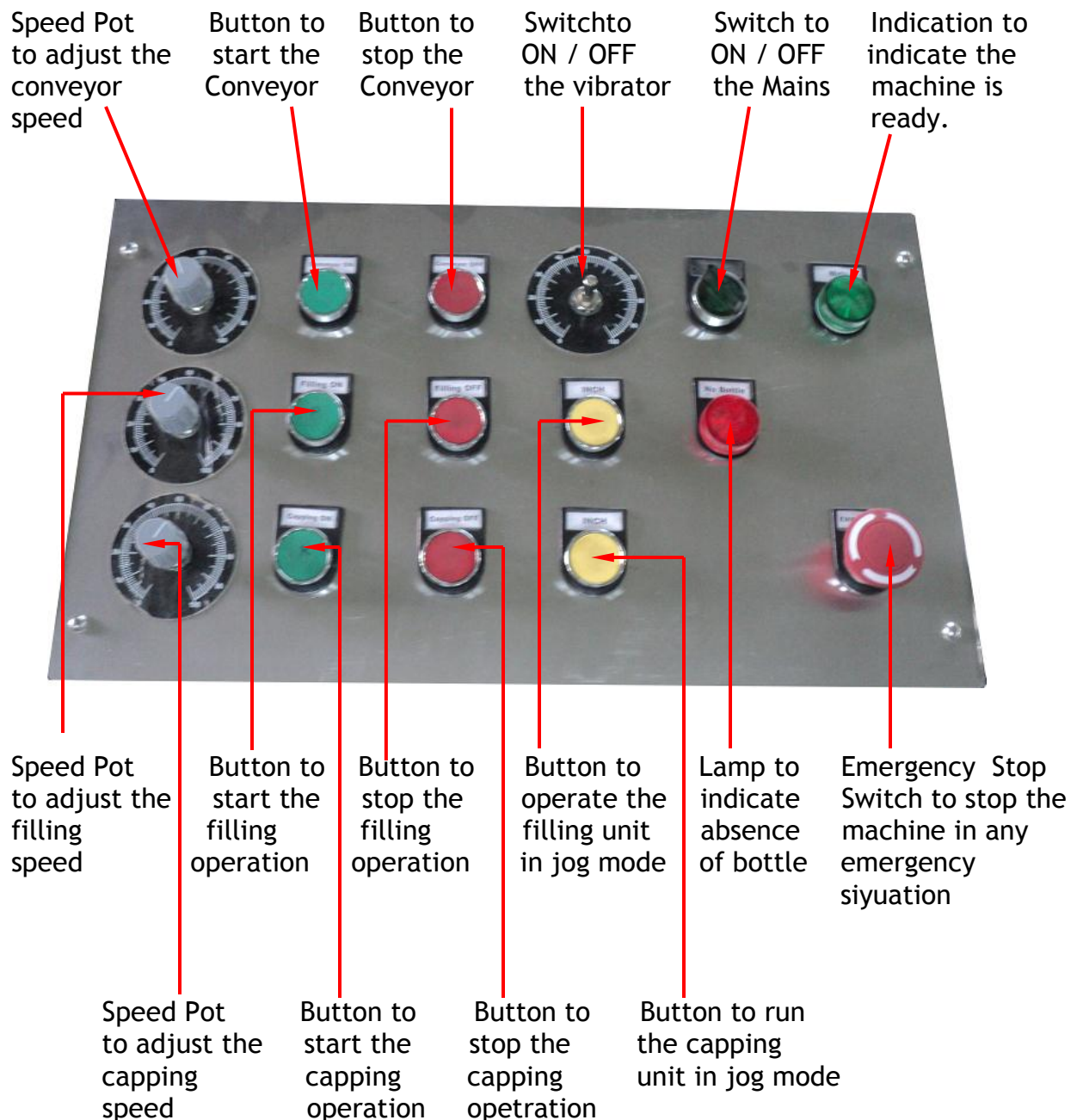


Indexer Geared Motor



9) Control Panel:

A three phase control panel is assembled next to the machine. The panel consists of electrical as well as electronics components listed in the Electrical Component List in the Section 10.2.





3.6 Technical Specification for the Liquid Filling & Crown Capping Machine.

Sr. No.	Description	
Commercial Data		
1	Machine Manufacturer	Fillpack Technology
2	Machine Name	Liquid Filling & Crown Capping Machine
3	Machine Model No.	
4	Year / Month of Equipment Mfg.	December 2014
5	Machine Color	Stainless Steel
Mechanical Data		
1	Over all space occupied by the Machine.	0000 (L) x 0000 (W) x 0000 (H)
2	Weight of the Machine	800 Kg Approx.
3	Contact Parts	SS 304
4	Non Contact Parts	SS 316
Electrical Data		
1	Machine Voltage	415 Voltage AC, Three Phase, 50 Hz.
2	Customer Power Plant Supply	415 Voltage AC, Three Phase, 50 Hz.
3	Main Cable Size	1.5 SQ MM 3 Core
Conveyor Motor Details		
1	Make	
2	HP	
3	Phase	
4	Volt	
5	Frequency	
6	RPM	
Star Wheel Motor Details		
1	Make	
2	HP	
3	Phase	
4	Volt	
5	Frequency	
6	RPM	



Sr. No.	Description	
Pipe Details		
1	Distribution Pipe	25mm
2	Suction Pipe	30mm
3	Bypass Pipe	12mm
Pneumatic Details (Optional)		
1	Pneumatic Air	5 to 6 Bar.
Hydraulic Details		
1	Hydraulic Pressure	Not Applicable



Section 4.0 Packing of the Machine

4.1 How is the Machine Packed?



The machine is well wrapped with shrink and soft plastic to avoid from any damage.



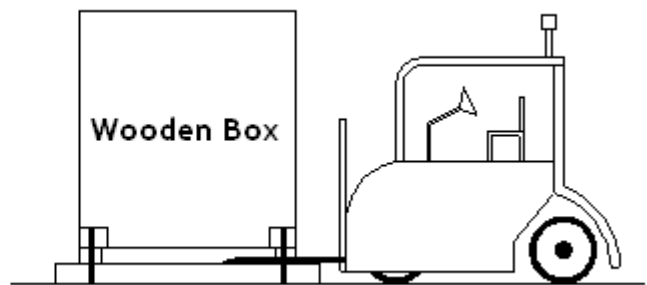
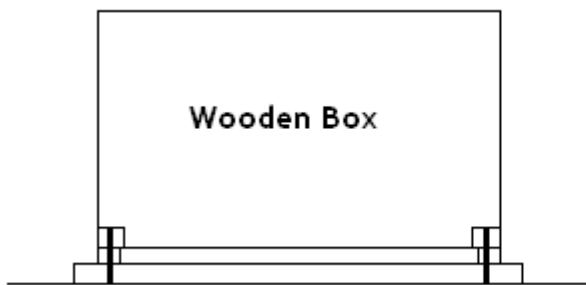
The Machine is kept on the wooden crate.



Four wooden crates are surrounded from the four sides and nailed properly.



The wooden box should be lifted by forklift and loaded in the container.



⚠ CAUTION

No human effort should be put to lift the wooden boxes.



Section 5.0

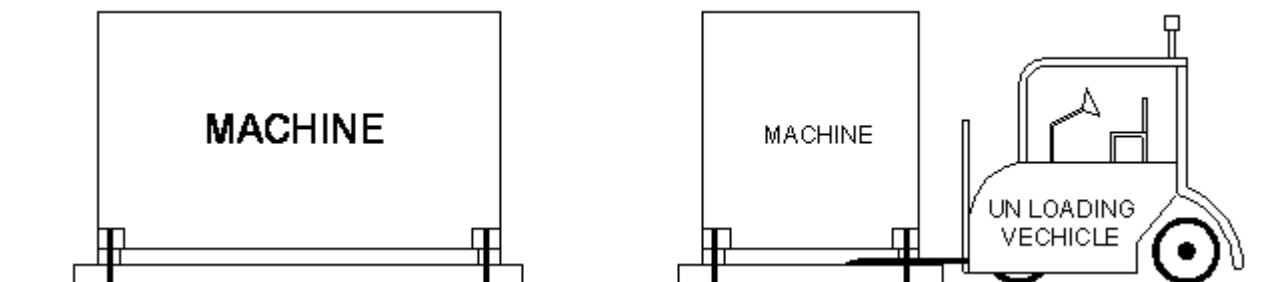
Machine Installation



Only physically fit and skilled persons shall be used for Unpacking and Installations. Persons installing the Machine should have sufficient know how and experience in Machine Installations.

5.1 Procedure for unloading the machine.

- Unload the machine from the container with the help of the forklift.
- Approximate Weight of the machine is 800 Kgs.
- Carry the machine to the required site with the help of fork lift.



5.2 Procedure for Unpacking the machine.



Unpack machine carefully on arrival and check for transit damages. Check machine and equipment's according to packing list. Report the damages if any, to the manufacturer immediately.



Use proper claw hammers and bars to open the pallet box. While opening be careful not to hit the machine with the bars or hammer



Remove the wooden guarding and put them a side. Be careful of the nails that would be coming out the wooden guarding.



5.3 Leveling the Machine



All our machines do not require any special foundation. Just make sure that the ground is properly leveled.



Place the machine on the leveled ground.



Ensure that the Machine is seated well and does not rock.



Once the machine is assembled, it should be leveled using a water level.



Service Personnel from Fillpack Technology will guide in assembling the machine which includes machine fitting, electrical connections, and leveling of the machine.

5.4 Machine Storage



In case the machine has to be stored after its arrival in your plant please make sure that its kept in a sheltered area and properly covered for safety against dust, water, and other environment and atmospheric elements.



5.5 Utilities Required

Electrical Supply

Machine Voltage

415 Voltage AC, Three Phase, 50 Hz.

Main Cable Size : 1.5 SQ MM 3 Core.

Pneumatic Supply

Pneumatic Air 5 to 6 Bar.

Surrounding of the Equipment

The surrounding should be clean and free from dust.

Leave 4 Feet space from all the four sides of the machine.
--



Section 6.0 Setting / Adjustment

6.1 Adjustment for the liquid filling.

- 1) Loose the 10/12mm nut on the volume unit by 22mm spanner.
(Don't unscrew the nut, just loosen it lightly)



- 2) Now adjust the volume of the liquid filling by rotating the volume nut.
If the nut rotated in clockwise direction the height of the cylinder in the piston decreases, there will be less filling.
If the nut rotated in anticlockwise direction the height of the cylinder in the piston increases, there will be more filling.





Section 7.0

Operational Manual

This operation manual helps the operator and maintenance staff to give general outline of the methods and function of the machine. It also aims to ensure that customer obtains maximum services and the best results in most efficient manner.

Altering any portion of this manual is prohibited unless approved in writing by the Fillpack Technology any operation or maintenance point not completely understood should be clarified by contacting the service department at :

Fillpack Technology

Ekveera laghu udyog sankul,
Unit No 6, Road No. 25,
Wagle Industrial Estate,
Thane 400604

Tel.: 91-22-25825969

Mob. : 09869573096 09987784735

E. Mail : info@fillpacktechnology.com

Web : www.fillpacktechnology.com

7.1 Pre-Start up check list



Check the three phase main cable connection is connected to the machine incoming supply.



Check the other end of the main cable is connected to the main junction box.



Check the Control Panel wiring for any loose connection.



Ensure that the MCB inside the Control Panel is in ON position.



Check the pneumatic pressure; it should be 5 to 6 Kg / CM SQ.



Ensure no tools or spanners are left on the equipment or the control panel.



Ensure that Product Tanks is filled adequately.



Ensure that all the pipes connection is done properly.



Ensure that the Suction Pipe is well immersed in the product tank.



Ensure all the safety guards of the machine are covered properly.



Di-activate the Emergency Stop, if activated.



7.2 How to Start the Machine ?

- 1) Switch ON the **Supply Mains** from the main junction box.
By switching ON the **Supply Mains** from the Main Junction Box the electrical power comes to the three phase control panel.
- 2) Select the **Main Supply Selector Switch** towards ON position to activate the Control ON Selector Switch., which will activate the machine for operation.



- 3) Select the **Control ON Selector Switch** towards ON position to activate the panel and the machine for operation. Indication of the same is displayed by the green indication lamp.

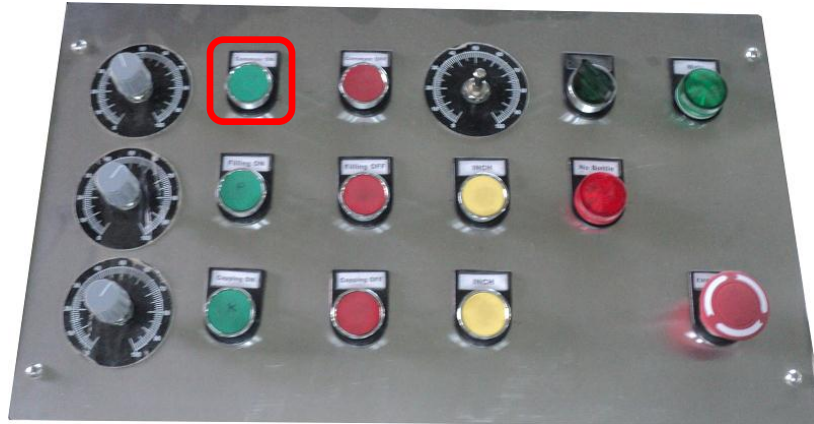


- 4) Press the Green Conveyor Start Push Button to start the conveyor.





- 5) Press the Green Start Push Button to start the machine for filling operation.



- 6) Press the Green Start Push Button to start the capping unit.



- 7) The bottles travel one after other on the moving conveyor, and get sensed by the proxy switch which commands the filling unit to get active for filling operation.
- 8) The cam inside the machine body rotates in its own axis along with the roller follower and the guide plate. The piston moves in forward direction which dozes the product inside the syringe for filling.
- 9) In the mean time the pneumatic cylinder for the stopper gets active and the stopper stops the travelling bottles below the filling nozzles.
- 10) The distribution pipe carries the product and transfers it to the filling nozzle and fills the bottle one after other.
- 11) The filled bottles further travels to the capping unit. The crown in the vibrator bowl are moved to the chute by means of vibration.

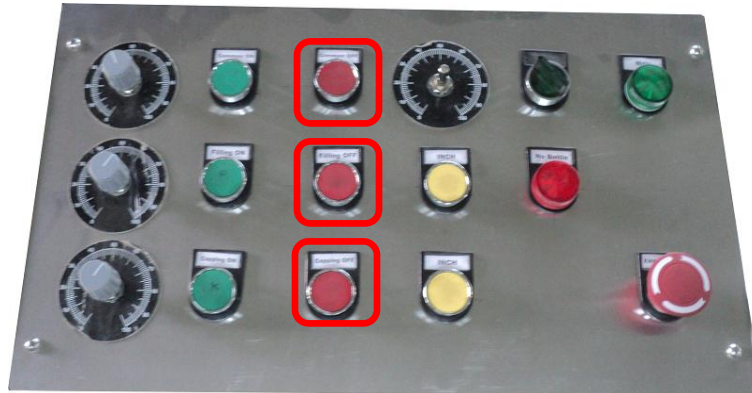


- 12) The star wheel does the function of placing the bottles below the chute for receiving the crown coming from the radial chute.
- 13) After receiving the crown from the chute, the bottles travels below the pusher assembly, the pneumatic cylinder which operates in vertical to & fro direction, presses the crown on the bottles rigidly.



7.3 How to Stop the Machine ?

- 1) Press the Conveyor OFF Push Button, Filling OFF Push Button & the Capping OFF Push Button to stop the machine operation.



- 2) Select the Main Control Switch to in-active the panel.



- 3) Select the **Main Supply Selector Switch** towards OFF position which will in-active the incoming supply.
- 4) Switch OFF the **Supply Mains** from the main junction box which will cut off the power from the machine and the panel.





Section 8.0

Maintenance Manual

This maintenance manual is issued to give the operator and maintenance staff a general outline of the methods and function of the machine maintenance. It also aims to ensure that customer obtains maximum services and the best results in most efficient manner. Before attempting to perform maintenance on this machine you should read this manual carefully and become familiar with maintenance procedure and schedules so you may perform them properly and safely.

Any operation or maintenance point not completely understood should be clarified by contacting the service department at :

Fillpack Technology

Ekveera laghu udyog sankul,
Unit No 6, Road No. 25,
Wagle Industrial Estate,
Thane 400604

Tel.: 91-22-25825969

Mob. : 09869573096 09987784735

E. Mail : info@fillpacktechnology.com

Web : www.fillpacktechnology.com

DANGER

Trained, qualified and authorized personnel must only carry out maintenance and repair operations.

DANGER

For any Maintenance job either Preventive or Break down the Safe Maintenance Practices should be followed. In any case no Safe guarding interlock should be bypassed during maintenance. The Preventive Maintenance schedule as specified by manufacturer should be preferably put to practice.

WARNING

Do not carry out maintenance work immediately after switching off the machine. Allow the moving elements to come to rest.



8.1 Machine work permit for maintenance

MACHINE WORK PERMIT FOR MAINTENANCE

- 1) Nature of Maintenance: Preventive ☐ Break Down ☐
- 2) Date and Time: _____ Work Permit No: _____
- 3) Name of Person: _____
- 4) Job Description: _____
- 5) Check List:
- i) Is the Machine control panel switch in off position? Yes / No
 - ii) Is the main supply of machine input is disconnected? Yes / No
 - iii) Is the main switch on Machine Control Panel in off condition and locked? Yes / No
 - iv) Has the Maintenance Engineer/Inspector Kept padlock key in his Pocket Yes / No
 - v) Is the “Job card” or “Locked for Maintenance Card” placed on the Machine? Yes / No
 - vi) Has the Earthing resistance been checked? Yes / No
 - vii) Has the Maintenance Engineer Worn Personnel Protective Equipments like
 - a) Safety Helmet : Yes / No
 - b) Safety Shoes : Yes / No
 - c) Safety Gloves : Yes / No
- Permit Active Time : a) Machine Commander Signature _____
b) Maintenance Engineer Signature _____
- Permit Closed Time : a) Machine Commander Signature _____
b) Maintenance Engineer Signature _____

Note :

Panel lock pad key should be with the pocket of the Maintenance Engineer/
Maintenance Inspector



8.2 Machine work permit for maintenance of the electric panel or electric assemblies

- 1) Date: _____ Time: _____ Work Permit No: _____
- 2) Name of Person _____
- 3) Nature of Activity: _____
- 4) Electrical Panel No: _____
- 5) Is the Main Supply to the machine main switch is disconnected? Yes / No
- 6) Is the Main switch on the machine panel in off condition and locked? Yes / No
- 7) Is the Electrical Lockout Tag placed? Yes / No
- 8) Is competent person on job? Yes / No
- 9) Is wiring diagram available for the specific connection? Yes / No
- 10) Has the earthing resistance been checked Yes / No
- 11) Are proper protective gears worn, like?
- a) Electric Shock Proof Gloves. Yes / No
- b) Safety shoes. Yes / No
- 12) Permit Active:
- a) Machine Commander Signature: _____
- b) Electrical Engineer Signature: _____
- 13) Permit Closed:
- a) Machine Commander Signature: _____
- b) Electrical Engineer Signature: _____

Note:



Any maintenance job on the Electric Panel should be carried out after 10 minutes from the period of electric supply isolation.



Check the Earthing resistance before carrying out any maintenance job.



8.3 Lock out tag

Lock Out Tag



MACHINE UNDER MAINTAINENCE



DONOT START THE MACHINE

LOCK OUT ACTIVATION TIME: _____

SIGN:
MAINTANANCE ENGINEER

SIGN:
MACHINE COMMANDER

LOCK OUT REMOVAL TIME: _____

SIGN:
MAINTANANCE ENGINEER

SIGN:
MACHINE COMMANDER

⚠ WARNING

Before servicing electrical panel, disconnect the supply to the machine main switch. Because there is live high voltage in electrical panel, even after main switch of machine is in off condition



8.4 General Maintenance

WARNING

Before carrying out any maintenance or repair work please disconnect the electric power supply and compressed air supply to the machine.



Clean the machine with soft cotton cloth.



Oiling to be done on the filling shaft.



Greasing to be done on the cam and the chain and sprocket assembly.



Clean the nozzles.



8.5 Maintenance Chart

<u>Maintenance Schedule</u>				
<u>Assembly / Part</u>	<u>Lubrication</u>	<u>Cleaning</u>	<u>Duration OF Checking OR Inspection</u>	<u>Replacement</u>
Bolt & nuts	----		Tighten every 15 days	If thread worn out
Motors	----	Clean fan every week	Check for proper connection of terminal box leads	If put out of order
Conveyor Belt	----	Clean after every batch	After 15 Days	----
Cam & Sprocket Assembly	Every 15 Days	Monthly	Monthly	----
Springs	----		Tension every 10 days	If tension lost.
Stopper	----	Every week	Check for play & wear	If Required.
Proximity Switch	----	Every day	Check for loose wire & plug Maintain 6mm gap between proximity & the bottle	----
Chute	-----	Every Week	-----	-----
Vibrator	-----	-----	Check for proper vibration	If Required
Bowl Feeder	-----	Everday	Clean Daily	-----
Pipes	-----	Every day	-----	-----
Wires	-----	-----	Check for loose wires every months	-----
Pneumatic Unit	----	Release the air	Every 15 Days	----

Note:

Wherever not mentioned, it is to be assumed that if a part is worn out or become defective, it has to be replaced.



Section 9.0

Trouble Shooting

Sr. No.	Fault	Check	Remedy
1	Machine and the Conveyor not getting start	<p>Check the Main Cable of the equipment.</p> <p>Check the Main Cable on the Main junction box.</p> <p>Check the Start Push Button</p> <p>Check the MCB inside the control panel.</p>	<p>Connect the Main Cable if not connected.</p> <p>Connect the Main Cable if not connected.</p> <p>ON the Push Button</p> <p>ON the MCB inside the panel.</p>
2	Bottles not getting stop	<p>Check the Pneumatic Supply.</p> <p>Check the Limit Switch inside the body.</p>	<p>It should be 6 to 7 Bar.</p> <p>Adjust the limit switch.</p>
3	Improper Filing	<p>Check the dozing unit.</p> <p>Check the distance of the bottle and the filling nozzle.</p>	<p>Adjust the syringe unit as per the filling.</p> <p>Adjust the nozzle height as per the bottle.</p>
4	Crowns not getting tight on the bottle.	<p>Check the Pneumatic Pressure.</p> <p>Check the height of the capping unit.</p>	<p>The pneumatic pressure should be 6Kg / CM SQ.</p> <p>Adjust the height of the bottle by rotating the knob on the bracket.</p>



Section 10.0 Enclosures

10.1 Electrical Component List.

Sr. No.	Part Description	Make	Quantity



Section 11.0

Drawings

Sr. No.	Description	Pages
1	General Arrangement Drawing	
2	Electrical Wiring Drg.	