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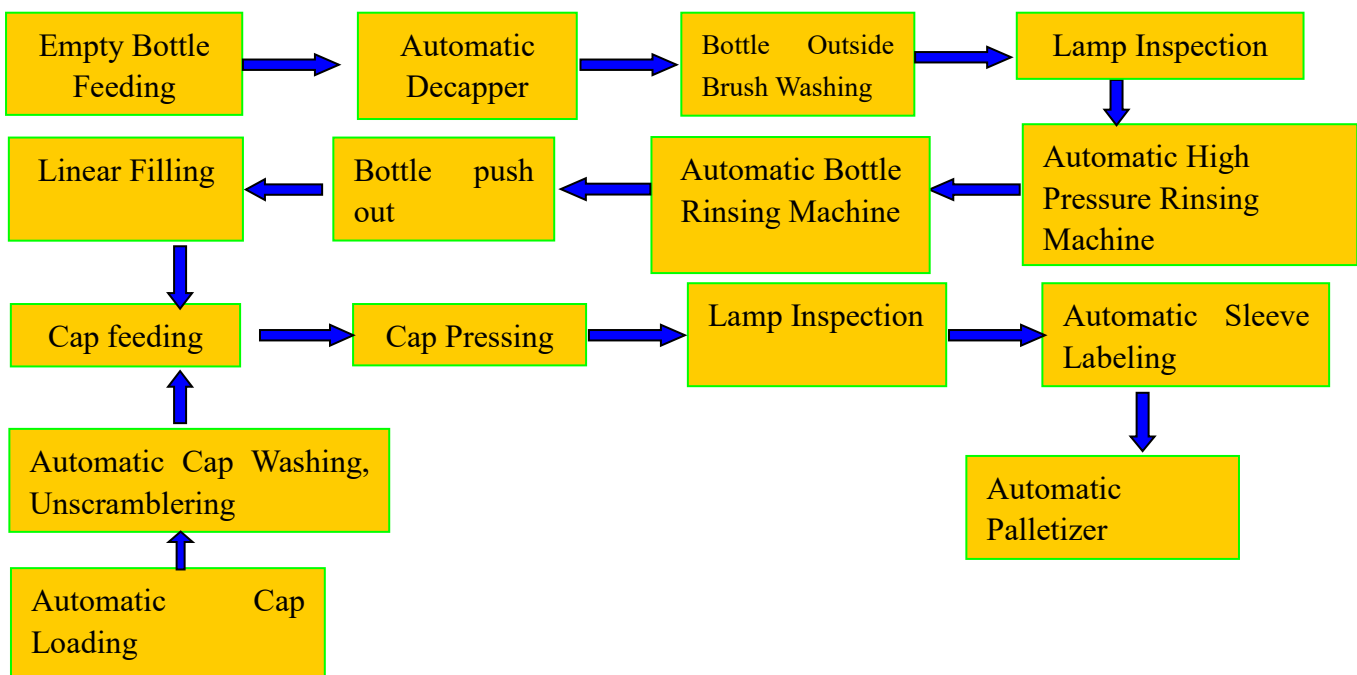
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Automatic Filling Production Line

Automatic 5 Gallon(19L) Bottle Filling Line

Technological process



1) Automatic Decapping Machine


Double Head Decapper with four working processes to achieve automatic decapping:

- The square cylinder in the decapping machine rise up the conical sliding block and drive four pcs of cap clamping plate to hold tightly of the bottle cap and find the cap holding process.
- The cap removing cylinder rise up and drive the decapping unit go up, the bottle was fix by the blocking plate, then the cap will be remove from the bottle, the cap removing process finish.
- When the cap removed, the square cylinder go down, and drive the four pcs cap clamping plate loose the cap.
- When the removed cap falling down, the air blowing will work and blow the cap to the cap collection unit and the complete decapping function finish.



e) With cap inspection unit, if the bottle without cap the decapping unit will not work. The above complete process are finished within 4S.

Main Configuration List

	Item	Model/ Specification	Qty	Origin
	Cap removing cylinder	SC63-100	1set	Taiwan Airtac
	Cap clamping cylinder	CQ2A50-20DCM	1set	Taiwan Airtac
	Bottle blocking cylinder	MAL32-50	1set	Taiwan Airtac
	Pneumatic valve	4V210-08	4pcs	Taiwan Airtac
	Optoelectronic switch	S3Z	1pcs	Italy Datasensor
	Overall dimension	700 (L) ×700 (W) ×1800 (H) mm		
	Air usage	0.5m ³ /min 0.6--0.8Mpa		
	Materials	Frame: 80× 80×2.0mm; Seal plate: 1.5mm; SUS304		



2) Automatic Bottle Outside Washing Machine

Main Feature:

- The machine can provide a relatively closed environment for empty bottle pre-washing, with motor drive rotation brushes (for bottle neck, bottom and body) and high pressure pump water flushing nozzles to complete clean up the bottle top, bottom and body.
- Empty bottle feeding part with star wheel unit, and brush washing part with three brush units which are designed based on actual bottle size combined, first part is for bottle mouth washing brush, can clean up the dust and dirt on the bottle mouth and neck; second part is for bottle body brush, can strongly scrub the bottle body but no damage for the bottle and printed pattern on the bottle body; Third part is for bottle bottom brush, which can use to wash the flat bottom and notched bottom, during brush washing process will also spray with detergent.
- Before bottle output, with spray system to clean up the detergent on the bottle.
- With overload slip system to prevent bottle blocking.

Main configuration list



	Main Item	Model/ specification	Qty	Origin
	Detergent washing pump	CHL2-10 0.37KW	1	CNP
	Clean water washing pump	CHL2-10 0.37KW	1	CNP
	Gear motor	NMRV063 i=10 0.75Kw	1	MOTOVARIO
	Gear motor	NMRV050 i=30 0.37Kw	1	MOTOVARIO
	Travel switch	JLXK1-411	1	Omron
	Low pressure electric element	AC contactor, signal relay	1	Schneider
	Brush set	12 pcs	1set	Anhui
	PLC	FX1S-20MR	1	Mitsubishi
	Power Capacity	3.0KW		
	Overall dimension	2500 (L) × 1400 (W) × 1650 (H) mm		
	Material	Frame : 50× 50×2.0mm ; Panel : 1.5mm; SUS304		

Automatic Bottle Rinsing Filling Machine

When the bottle feeding optoelectronic switch in the end of machine detect bottle infeed, the conveyer chain in the washing machine will be run and drive the bottles to the first washing position, and bottle conveying unit stop and start rinsing process. The machine is with 4 rows and 10 washing positions for bottle elevating type rinsing, the maximum washing time is 20 seconds.

Washing pumps are using high standard CNP high-pressure pumps, and the pumps are set outside of the machine for easy maintenance. All the washing tanks are using round type best standard water tanks.

1st Washing position: drip off.

2nd- 3rd Washing positions: Hot alkaline water washing (**hot alkaline water can complete clean up dirt in the bottle, with suction opening for related washing positions to drain mist**)

4th- 5th washing position: high pressure washing with rise up and rotating nozzles.

6th washing positions: drip off

7th -9th washing positions: disinfectant washing





10th position: recycling(recycle the disinfectant left in the bottle, and second time sterilizing of bottle by the dropping disinfectant)

11th washing position: pure water rinsing(with bottle rise up system and rotary washing)

12th position: drip out

With disinfectant recycling system, double medium filtration and recycling system, easy for sampling and testing, each water tank with low liquid level sensor, if low level the machine will stop and alarm

Main Configuration List

 <p>Rinsing machine</p>	Item	Model/ specification	Qty	Origin
	Recycle water washing pump	CHL4-20, 0.55 KW	1	CNP
	Alkaline water washing pump	CHL8-20, 0.75 KW	1	CNP
	Disinfectant washing pump	CHL8-20, 0.75 KW	2	CNP
	Filling Pump	CDL16-20 2.2KW	1	CNP
	Washing conveying motor	RV75-100	1	MOTOVARIO
	Bottle output cylinder	SC50*300	1	Pneulead
 <p>Quick reflux unit with warming function</p>	Bottle push cylinder	MAL40*75	1	Pneulead
	Bottle pulling cylinder	MAL32*25	1	Pneulead
	Rising nozzle rising cylinder	MAL32*50	2	Pneulead
	Low pressure electric element	AC contactor, signal relay	1	Schneider
	Power capacity	22.0KW		
	Overall dimension	6100 (L) ×2500 (W) ×2200 (H) mm		
	Material	Frame: 50× 50×2.0mm; panel: 1.5mm; SUS304		



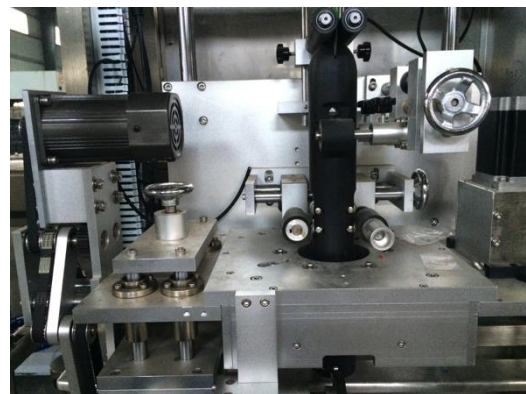
Non-contact frequency control filling system

With bottle mouth clamping unit for accurate positioning.

Filling system with frequency control, initially big volume filling, when reach 80% full will change to small volume to avoid water spill over.



Automatic 5 Gallon Bottle Sleeve Labeling Machine + Steam Shrinking Machine



This serial of equipments serves in full auto smart packaging line integrating the functions of bottle delivering bottles and label sleeving. High speed, precise positioning, saving labor and perfect package are the design tenet of this serial of equipments.

Technical Parameter:

Capacity:	600-2000 B/H
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Power:	1.5kw, 380V, 50HZ
Dimension(mm)	2150×760×2030 mm
Materials	SS304

Configuration List:

Item	Model	Qty(set)	Brand	Origin
PLC	FPX-C60T	1	Simens	German
Tough Screen	MT6070IH	1	Simens	German
High-speed fiber-optic sensors	FX-301	1	SUNX	Japan
Photoelectric sensor	PM-Y54	1	SUNX	Japan
Photoelectric sensor	CX-442	1	SUNX	Japan
Photoelectric sensor	PM-L44	2	SUNX	Japan
Transducer	FR-S520SE-0.4K	1	Panasonic	Japan
Label dosing AC motor	5IK60RGN7.5DF	1	JSCC	Taiwan
Cutter actuating motor	MHMD042P1U(400W)	1	Panasonic	Japan
Cutter Servo Driver	MBDDT2210003 (400W)	1	Panasonic	Japan
Brushing motor	4IK15RGN3KDF	2	JSCC	Taiwan
Driving AC motor	MSMD082PIU	1	Panasonic	Japan
Driving transducer	MBDDT3520003	1	Panasonic	Japan
Brushing motor	4IK15RGN3KDF	2	JSCC	Taiwan
Switch power source	MW-220-50-24	1	MW	Taiwan
AC Connector	S-N10	2	Schneider	France
Single Relay	MY2NJ24VDC	9	Omron	Japan

Autoamtic 5 Gallon Steam Sealing Shrinking Machine

When bottle come pass the steam tunnel and detected by photoelectric sensor the steam solenoid valve will open and the high pressure & temperature steam will erupt from the steam generator and process the heating and shrink for the label on the bottle neck.

Main feature:

- With three safety guarantees to ensure the steam generator safe and reliable.
- High pressure steam storage system to ensure enough steam for shrinking performance.
- With fully automatic control system, the steam only spray with bottle pass through, with auto



power off function.



Item	Specification	Qty	Origin
Heating tube	3Kw	2sets	Suzhou TENAIJIE
Solenoid valve	AC220V 1/2"	1set	Schneider
Low pressure electric element	AC contactor, signal relay	1set	Schneider
Power capacity	6.0KW		
Overall dimension	1100 (L) ×850 (W) ×1500 (H) mm		
Material	Frame: 60× 60×2.0mm; panel: 2.0mm; SS304		

Automatic Conveyer System

- a) High quality import SUS304 conveyer chain、 strand、 side plate and guard bar。
- b) With import gear motor for long service life and stable performance.




Item	Specification	Qty	Origin
Gear motor	RV series	9	MOTOVARIO
Conveyer chain	40 meters	SUS304	
Side plate	Thickness 2.0mm	SUS304	
Guard bar	25*13*1.2mm	SUS304	
Conveyer water tray	Thickness 1.5mm	SUS304	

Electric Control System

- a) Central-station button type control, easy to operation and maintenance.
- b) SUS304 control box, with rational distribution for the electric components, and clear marked for each electric items.

- c) With Omron PLC, Schneider low pressure elements, Airtac Cylinder & pneumatic solenoid valves, CNP pumps, Italy MOTOVARIO gear motors
- d) With interlocked overcurrent protection and multiple emergency stop units.

	Item	Model/ Specification	Qty	Origin
	PLC	80DR	1set	Ormon
	PLC extended module	8EYR	1set	Ormon
	Touch screen	7inch	1set	Winview
	Low pressure electric element	AC contactor, signal relay	1set	Schneider
	Cooling fan	SUNON DP200A 220V	2pcs	
	Electric box	SUS304	1set	Home made
	Material	Panel: 2.0mm; SUS304		

Automatic 5 Gallon Bottle Stacking Machine (Palletizer)

1.Features:

- 1) Covering small place, low operation cost.
- 2) Make it in 1-3 layers (**Each layer 4*4=16Bottles**), convenient transportation and storage.
- 3) The lifting system with the connection structure of linear bearing sliding block, can increase the speed stability, accidental faults protection function.
- 5) With numerical control technology for detecting position when rising and translational moving, bottle-rising and releasing is quite accurate, coordinated and stable running.
- 6) PLC control, malfunction stop, alarm, display and other functions.

2.Technical parameters:

Items	Parameter
Production capacity	600-900Bottles/hour
Bottle size	5 gallons
Bottle's specification (mm)	Φ270×490×Φ56
Stacking layer	1 to 3 layers



Pallet size(mm):L*W	1200*1200
Machine size(mm):(L*W*H)	2400*1650*2200
Power	4.5KW,380V,50HZ,3Phases.
Weight(KG)	500

3.Main component list:

Name of component	Brand
PLC	Mitsubishi
Touch screen	TaiWan Weinview
Photoelectric switch	OMRON
Servo motor	China
Stepping motor	China



