

BMI-AR

Catalogue





De-capper



Outer washer



Odor detector



High pressure washer
(Auto / Semi auto)



Main washer



Filler



Capper & Feeder



Cap
Un-scrambler & washer



Lighting box



Robot Palletizer

MANAGEMENT PHILOSOPHY

경영이념



Since our founding in 2002 with a philosophy of the respect for human dignity, every individual at BMI Korea has contributed to developing advanced washing machine for mineral water PC bottle.

As the result of efforts, we have designed new concept of washing machine for mineral water PC bottle by spraying rinsing water in a high pressure through specially designed nozzle.

High pressure washing machine is designed to remove the contamination in the bottle at 99.9%.

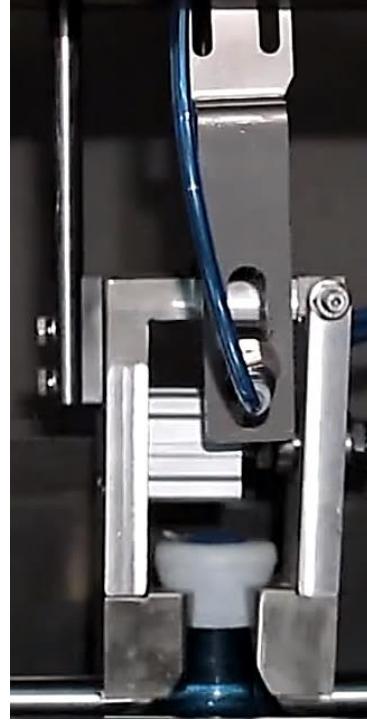
The excellent performance for washing has been officially proven through the test with standard of global manufacturers of mineral water.

In addition to high pressure washing machine, we have introduced odor sensing machine to judge the disuse the bottle any more.

We expect the machine substitute the existing method that a human takes the smell with his nose.

Clean water is a source of life and a base to keep health .And more, all mankind has the right to drink clean water.

To realize this philosophy, we have been made efforts for R&D and will make more efforts to supply the best quality of bottle washing machine in the world.



De-Capper

Model	Capacity(BPH)	Heads	Dimension (L*W*H)(MM)
BG-1	1000	1	500*520*2150
BG-2	1600	2	770*520*2150
BG-3	2000	3	1040*520*2150

Definition

To remove the cap from the recycled bottles, the whole process is full-automatic,

Configuration

Sensor: CARLO

Pneumatic components: AIRTAC

Motor and gear box: SITI

The metal frame of the whole line is made by stainless steel SUS304

Features

The position of de-capping cylinder is adjustable to accommodate different height of bottle

High accuracy, full automatic.

Optional no bottle, no de-capping; optional missing de-capping alarm.

Mechanical arm puts the cap in container orderly.

The de-capping head is made by stainless steel SUS304, anti-corrosive

Convenient for adjusting, maintenance and replacing



Outer washer

Model	Capacity(BPH)	Dimension(L*W*H)(MM)	Structure
WXR-900	900	3200*1200*1900	Linear
WXR-2000	2000	4500*1200*1900	Linear
WXR-3000	3000	6000*1200*1900	Linear

Definition

Outer washer is the device which rinse bottle surface, use high-pressure and reused water to rinse, then use hot detergent liquid to brush the bottle by bottle-shape brushes, after that rinse again the bottle by reused water.

Configuration

The metal frame of the whole device is made by stainless steel SUS304

Sensor: CARLO

Rinsing pump: GRUNDFOS

Pneumatic components: AIRTAC

Motor and gear box: SITI

Electronic components: SCHNEIDER

Features

Low running cost, all reused water are from inner washer and tap water

Full-automatic, no manpower needed

Bottle-shape brushes can clean everywhere of the bottle surface including bottle neck and bottom

Hot detergent scrub-washing \geq 10 seconds, clean water rinsing \geq 10 seconds.

Heating device is equipped on detergent liquid tank



Odor detector

Type	Linear/single row					Pushing bottle type			
heads	1	2	3	4	5	6	7	8	
Capacity (BPH)	400	700	1000	1400	1800	2200	2600	3000	

Definition

Generally, bottle is reused after cleaning inside and outside of bottle. Sometimes, heavily contaminated bottles with gasoline, alcohol, etc and return back to factory. The heavily contaminated bottles must be discarded because the smell can't be removed. Currently, human find out the contaminated bottle with his nose in most of factories. It's is true many clients want to replace the work with machine. In order to meet the request, this odor sensing machine is designed to find out the contamination automatically . The sensing capacity is up to 3,000BPH from 300BPH.

Configuration

Automatic Processing

Processing time : 2 Sec /Bottle

Capacity : 300 ~ 3000 bottles per hour(BPH)capacities

Motor Output : 1HP

Voltage : 380V - 450V / 220V, 50 / 60Hz

Air – 5Kg / cm²

Advantages

Favorable machine price

Low maintenance

Fully auto control by PLC

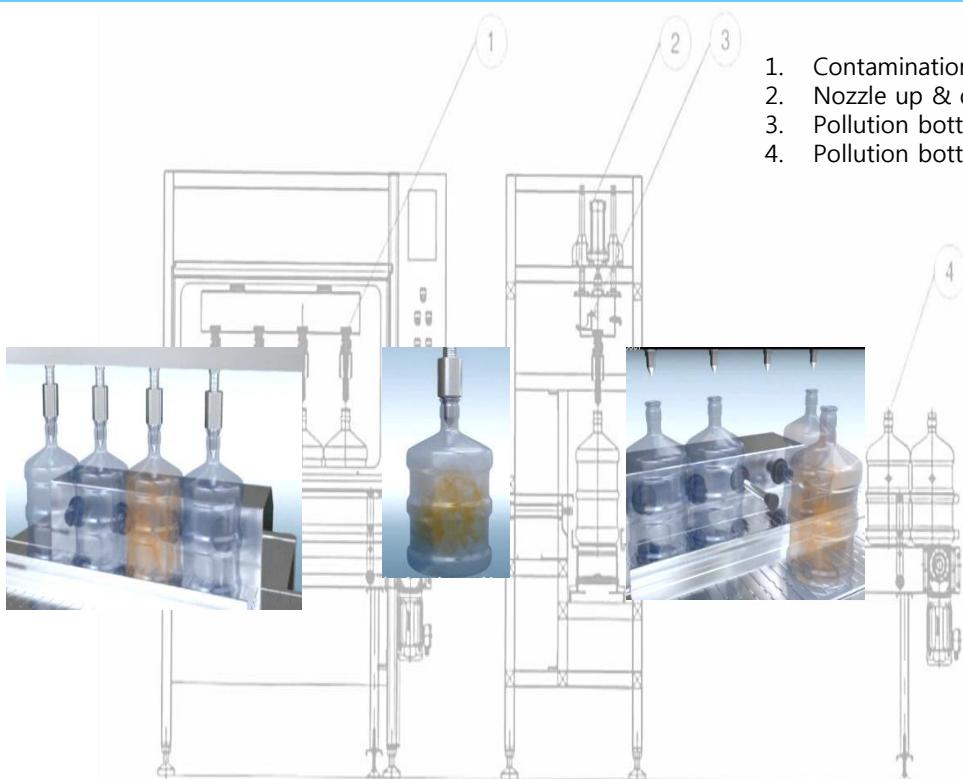
High Efficiently

Low maintaining cost ,only sensors shall be change every one year.

Protection Contaminants

Sensitivity better than Benzene:
0.5ppm ,Naphthalene 4 ppm, Ammonia: 0.05%,Ethanol, (Alcohol) 2.5 ppm (About one drop in a bottle) Gasoline, Diesel, Benzene, Motor Oil, White Spirit Solvents: Acetone, Toluene, Colour solvents
Ammonia NH3, Cigarettes, Garlic, Vinegar Soft Drinks, Cola, Lemon, fruit juice Alcohol like Wine, fermented fruit juice, Beer, Glass cleaner, Washing products etc.

Lay out for the odor detector (Model No.PSD-04)



1. Contamination detection nozzle
2. Nozzle up & down
3. Pollution bottle detection
4. Pollution bottle Conveyor

Test Substance		volume	Package Size	result
Pex & Solvents	Alcohol (알코올)	0.01mL	5Gllon Bottle	O.K
	Vinegar (식초)	0.01mL	5Gllon Bottle	O.K
	Burned Oil (가연성기름)	0.01mL	5Gllon Bottle	O.K
	WD-40 (부식윤활제)	Sprayed	5Gllon Bottle	O.K
	Naphthalene (나프타렌)	1ball	5Gllon Bottle	O.K
	Acetone (아세톤)	0.01mL	5Gllon Bottle	O.K
	Gasoline (휘발유)	0.01mL	5Gllon Bottle	O.K
	Kerosene (등유)	0.01mL	5Gllon Bottle	O.K
	Diesel (경유)	0.01mL	5Gllon Bottle	O.K
NOx	Ammonia (암모니아)	0.01mL	5Gllon Bottle	O.K
Cleaner	Cleaner (다목적세척제)	0.1mL	5Gllon Bottle	O.K
	Glass Cleaner (유리세척제)	0.1mL	5Gllon Bottle	O.K
	WC Cleaner (화장실세척제)	0.1mL	5Gllon Bottle	O.K
	Drain Cleaner (배수구세척제)	0.1mL	5Gllon Bottle	O.K
Other	Dry cigars (담배꽁초)	1peice	5Gllon Bottle	O.K
	Garlic (마늘조각)	1peice	5Gllon Bottle	O.K
	fermentation (발효&김치류)	1peice	5Gllon Bottle	O.K
	Fishy (생선류)	1peice	5Gllon Bottle	O.K
Flavor Product	Coca-Cola	10ml	5Gllon Bottle	O.K
	Fanta Orange	10ml	5Gllon Bottle	O.K
	Sprite	10ml	5Gllon Bottle	O.K
	Beer	0.01mL	5Gllon Bottle	O.K
	Apple Wine	0.01mL	5Gllon Bottle	O.K
	Red Wine	0.01mL	5Gllon Bottle	O.K
	White Wine	0.01mL	5Gllon Bottle	O.K
Insecticides	Insecticide (살충제류)	Sprayed	5Gllon Bottle	O.K
	Herbicide (제초제류)	0.1ml	5Gllon Bottle	O.K

We are bottle inside contaminants tested report to Coca -cola
and Nestle water in Korea

High Pressure Washer





High pressure washer

Model	Capacity(BPH)	Washing column	Others
GY-400	400	2	1.Odor detector & Outer washer
GY-800	800	4	2. Washing time adjustable
GY-1600	1600	8	3.3 liter,5 liter 6liter bottle washing
GY-2200	2200	11	
GY-3000	3000	15	

Definition

High pressure washer is the device which washing bottles inside, use the high-pressure pre-washing bottles perfectly.

Configuration

The metal frame of the whole device is made by stainless steel SUS304 ,SUS316
Sensor: CARLO

Pneumatic components: AIRTAC

Motor and gear box: SITI

Electronic components: SCHNEIDER

Pump:

Features

All stainless steel construction (S.S. 304)by argon welding.

Adjustable Nozzles up and down time and high pressure (70 bar above)

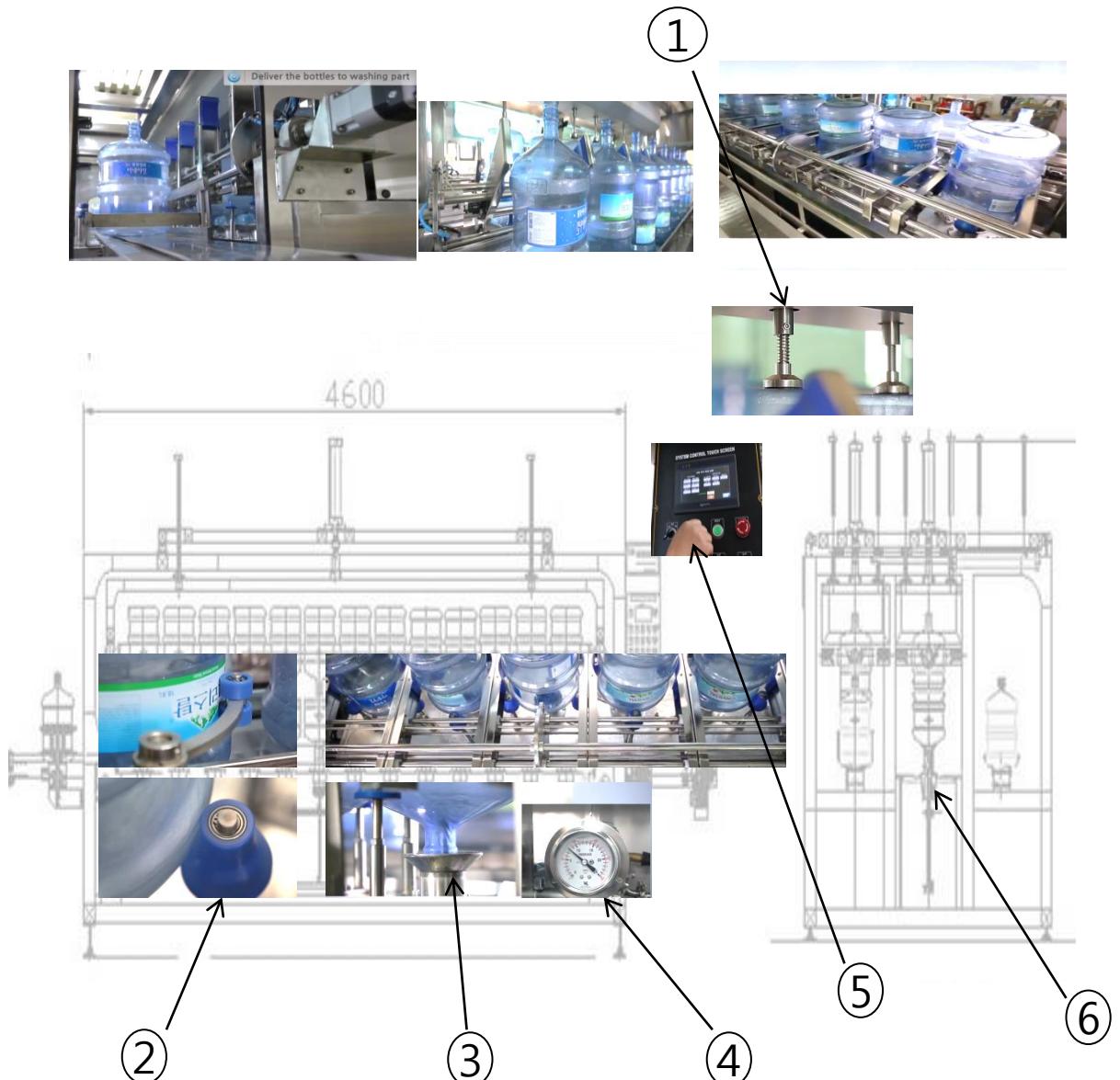
Fully integrated control panel PLC control panel

Automatic bottle loading and unloading

Automatic washing

Low water consumption washer design

Lay out for the high pressure (Model No.GY-2200)



1. Bottle press guide
2. Bottle rolling guide
3. Bottle holder
4. High pressure gauge
5. PLC Controller
6. High pressure nozzle



Semi auto high Pressure washer



Semi auto high pressure washer

Model	Capacity(BPH)	Washing column	others
SGY-100	100	1	
SGY-200	200	2	Washing time adjustable

This Machine is designed to place the bottle by semi-manual bottles in and out only. And, automatically the bottles start rotating and nozzles up and down control by PLC after that PC bottle is placed to washing part. The nozzle are moved up and down in the bottle, and spray rinsing water at a high pressure of 80bar. Generally, PC bottle is easily contaminated with green algae and scale. And, also, sometime it's contaminated with edible oil which is difficult to wash with existing washing machine. Our High Pressure Washing Machine can remove those of all contaminations up to 99.9%. Washing Capacity is 200bph for 2 side washing per once. It can be possible to wash the external of bottle as an option..

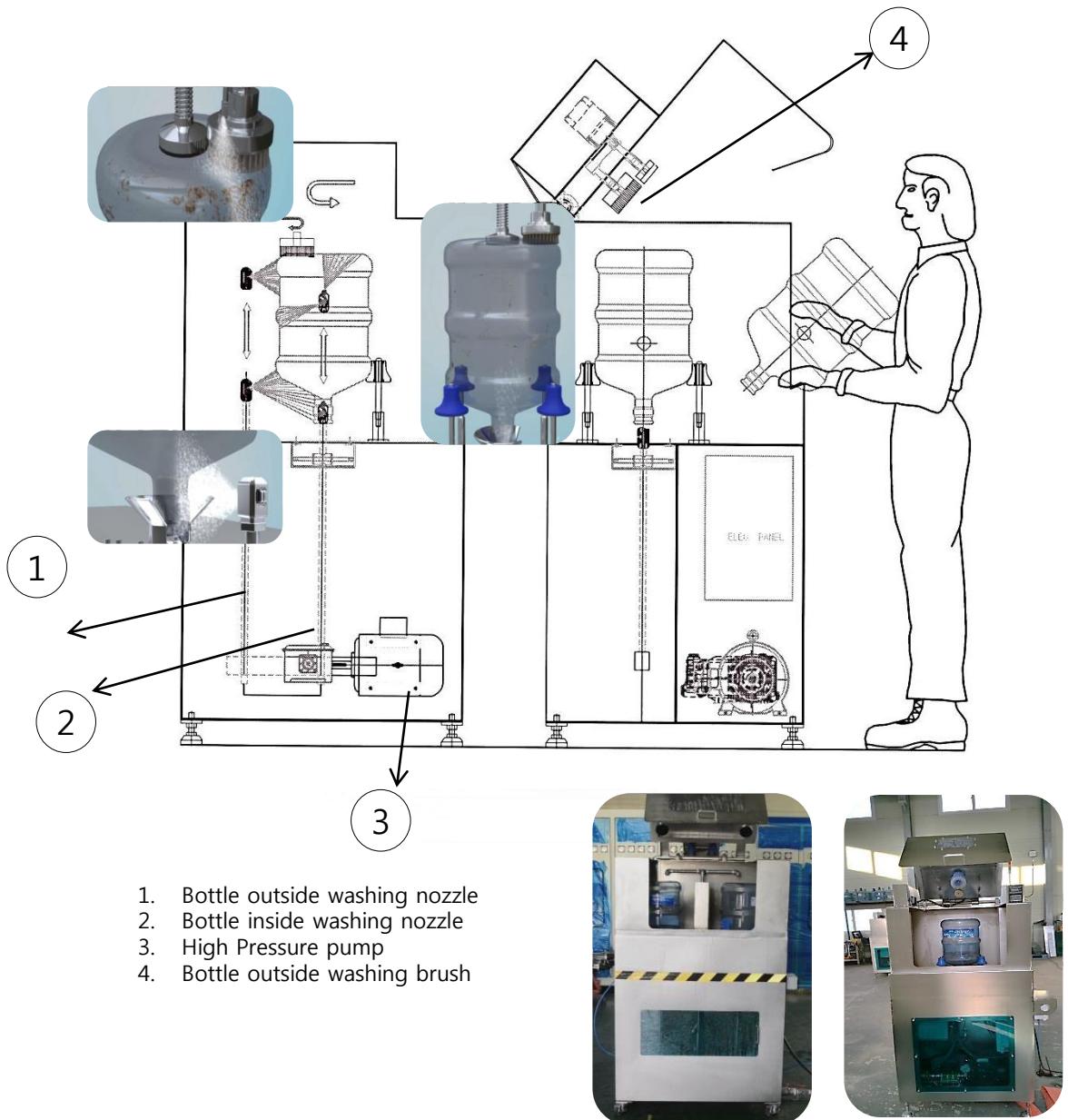
Specification

1. Air - 5Kg / cm²
2. Using
- 2 Ways High Pressure Jet Nozzles up and down
3. Washing Time : 12 sec / Bottle(Adjustable)
4. Washing Capacity : 200 bottles per hour(BPH)capacities
5. Tank Storage : 20L
6. Motor Output : 10HP
7. Pump Output : 80BAR ~
8. Voltage : 380V - 450V / 220V, 50 / 60Hz
9. All stainless steel construction(S.S. 304)by argon welding
10. Semi-Automatic bottles loading and unloading

Advantages

Control by control panel with device and automatic washing
Low water consumption washer design
Easy maintaining and safety design

Lay out for semi auto high pressure washer (Model No.SGY-200)



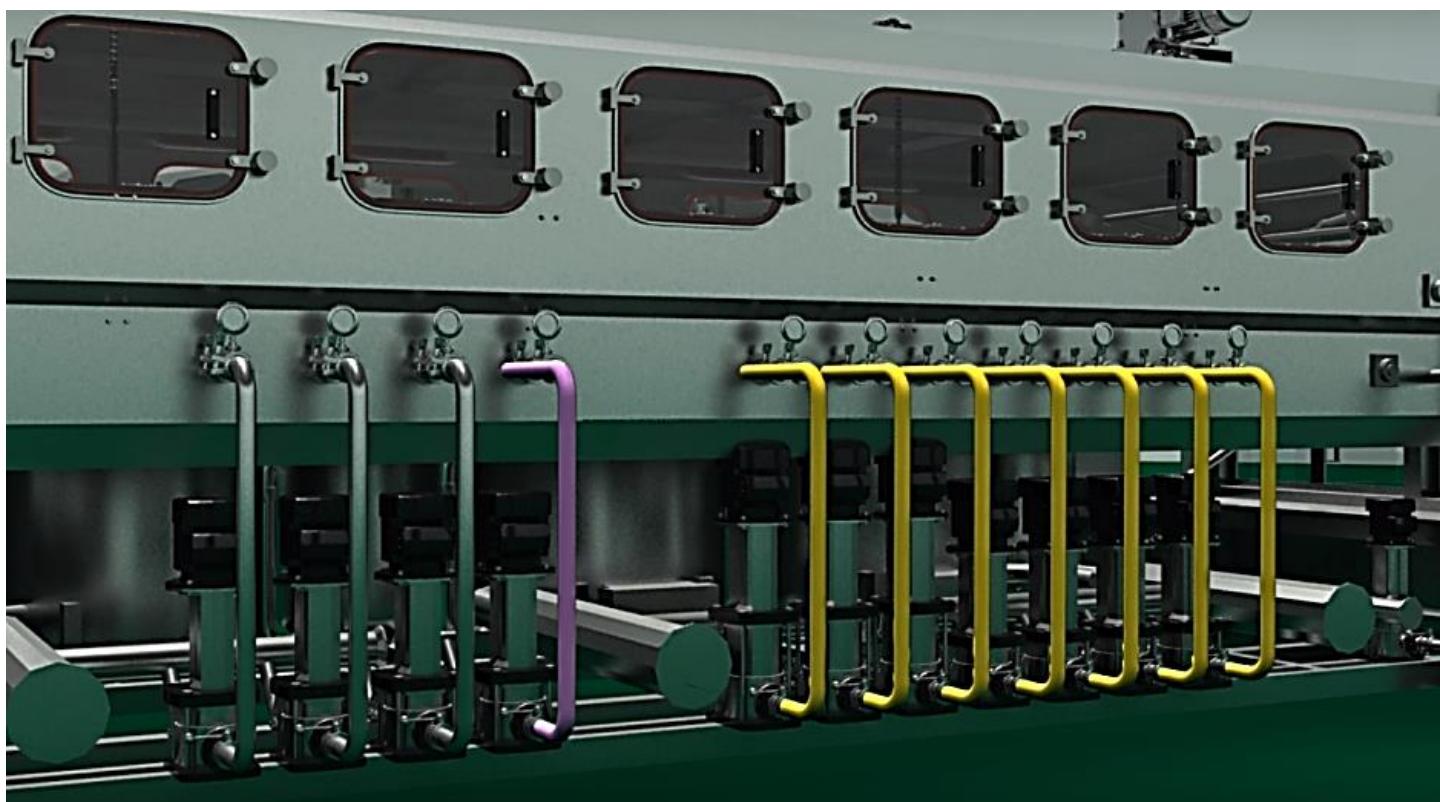
**Nestle Hadong factory in Korea tested by only high pressure washing with 70bar
9 sec. removed 96.57% dried-mud inside bottles .(2009-05-18)**

High pressure washer report

Bottled Washer Validation - Hadong Factory										
Trial no. 1	VALIDATION RESULTS			Test Date: 2009-05-18						
Trial Description: 5 Gallons Round Bottles after Only High Pressure Washing										
Washer Line speed: 20 bpm Bottle Contact Time: 9 sec Washer Pressure: 70 kg/cm ²										
Result Entry Area										
Values in Grams										
Bottle No.	Empty Dry Wt. Bottle	Dry Wt. Bottle +Soil (Post 72 hrs drying)	Dry Wt.of Soil (Post 72 hrs drying period)	Dry Wt. of bottle after Washing (72 hrs)	Wt. Of the Soil Removed					
1	785.7	1019.5	233.8	792.6	226.9					
2	793.4	1026.9	233.5	802.7	224.2					
3	771.1	999.7	228.6	776.7	223.0					
4	794.0	1027.2	233.2	801.3	225.9					
5	780.8	1013.2	232.4	787.2	226.0					
6	792.0	1024.1	232.1	797.4	226.7					
7	793.4	1020.9	227.5	805.7	215.2					
8	787.1	1017.9	230.8	796.3	221.6					
9	794.9	1027.4	232.5	800.1	227.3					
10	784.9	1010.7	225.8	794.5	216.2					
11	793.4	1022.9	229.5	799.5	223.4					
12	791.4	1023.2	231.8	800.5	222.7					
13	797.8	1027.3	229.5	806.5	220.8					
14	809.1	1040.6	231.5	814.9	225.7					
15	775.5	1006.5	231.0	788.1	218.4					
16	792.7	1023.9	231.2	800.1	223.8					
Avg	783.83	1,020.74	230.92	797.76	222.99					
			Average Weight Removed		222.99					
			High (Max) Value (Wt. Removed)		227.30					
			Low (Min) Value (Wt. Removed)		215.20					
			Standard Deviation (Wt. Removed)		3.74					
Calculation- % Removal of Standard Soil										
Bottle Size	Avg Wt. Of Soil Removed (gram)	Dry Wt. Of Soil post 72 hrs Drying Period (gram)-Avg	% Removed (Results)	Required Standard	Remarks					
5 Gallon	222.99	230.92	96.57%	≥ 83.9 %	Cleaning Successful					
Bottle Washer Validation Results - Trial # 1										
1. Removal of standard soil (average) is lesser than required standard i.e. 96.57% removed than the req. standard of <u>> 83.9%</u> . 2. Removal of average of 222.99 grams of standard soil against the minimum required removal of 209.7 grams. 3. 12.1 grams difference found between the high (227.3grams) and low (215.2grames) removal values against requirement of < 75 grams as plant run at max speed of 20 bpm.										
Cleaning Success Measurement										
1. Approved Cleaner and Sanitizer used. 2. 130 to 160 degrees F (54 to 71 degree C) operational temperatures. 3. Removal of greater than or equal to 83.9% (based on formula above) of Standard Soil. 4. Must remove a minimum average (from all samples tested) of 209.7 grams of Standard Soil for 5 gallon bottles or 125 grams for 3 gallon bottles. (the more the better) 5. < 50 grams difference between high and low removal values (if run at a mid to slow speed) 6. < 75 grams difference between high and low removal values (if run at high or max speed)										

Main Washer

주 세병기





Main washer

Model	Capacity(BPH)	Washing column	Dimension L*W*H(MM)
NX-300	300	2	14
NX-450	450	3	14
NX-600	600	4	14
NX-900	900	6	14
NX-1200	1200	6	18
NX-1500	1500	8	18
NX-2000	2000	10	24
NX-2500	2500	12	24
NX-3000	3000	14	24

1. Description

1.1 Bottle feeder and un-loader

1.1.1 Bottle feeder is to load bottles into inner washer from conveyor. It is built with inner washer. Its main design principle is loading bottle accurately, preventing contamination and damage from bottles.

Bottle un-loader is the device to take the bottles from the inner washer after bottles are washed and send to the filing position.



1.1.2 Configuration

Main frame of the machine is made by 304 stainless steel

Sensor: CARLO

Pneumatic components: AIRTAC

1.1.3 Features

Side plate made of 2mm thickness 304 stainless steel.

Double axes bottle stopper cylinder. Guarantee accurate and stable actuation.

Doors are equipped with high quality organic glass. Easily monitoring running status.

Handle of door made of 8mm thickness stainless steel

Water chute shaped on bottom plate. Water drained quickly.

Controlled by PLC. Working in the mode of cooperating with other equipments automatically. If inner washers stop running because of malfunction, or no bottle enter bottle feeder, it stops temporarily.

High quality sensor, guarantee loading bottles of accurate amount each time. And stop bottle entering properly via bottle stopper cylinder, prevent bottle damaged by machine.

Sufficient base space. Easy to tidy.

1.1.4 Working flow

Bottles entering→ pushing bottles into hoppers→ hoppers rotary in 90 degree→ pushing bottle into inner washer→ hoppers return in place

5 steps loading guarantee loading bottles accurately, without bottle drop. It loads bottles with small strength, which prevents damage to bottle, and extends the lifetime of bottles.

1.2 Inner washer

1.2.1 Inner washer is to clean, sterilize the internal of 5 gallon bottles, which is a major equipment of 5 gallon filling line.

1.2.2 Configuration

Cylinder: AIRTAC

Rinsing pump: CNP

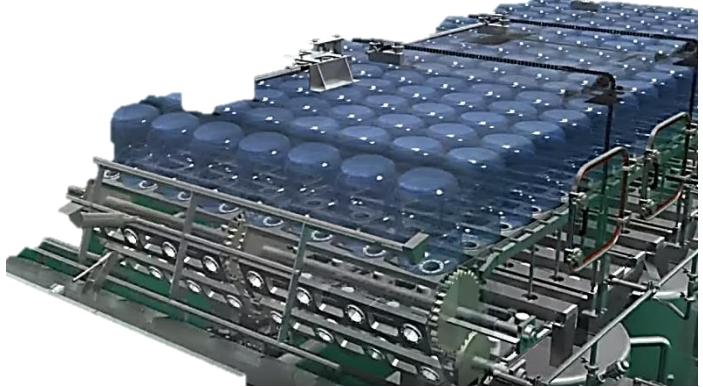
Motor and gear box: SITI

Water tank: 316L stainless steel for inside layer of detergent tanks and disinfectant tank, 304 stainless steel reused water tank.

The metal frame of the whole line is made of stainless steel S304

Electronic components:

PLC: Siemens, Inverter: Danfoss, Sensor: Carlo, Contactor: ABB/Schneider



1.2.3 Features

Optimized inner washing process by adopting re-using the detergent liquid, disinfectant liquid, and ozone water to reduce the running cost.

The chamber body of inner washer is made of 4mm 304 stainless steel, assuring the strength 10mm thickness tempered glass windows. Easily monitoring running status. 8 mm thickness stainless steel surround is equipped to protect glass. Easy open, strong and nice look.

One inverter is equipped for the main shaft motor (for bottle holder chain)

The detergent tank consists of three layers. Internal layer is made of 316 stainless steel while external layer is made of 304 stainless steel, and middle layer is made of heat protection material. Effectively reduce energy consumption. The tank equipped the modular electrical heating system, liquid level detector, and temperature controller.

Disinfectant tank made of 316L stainless steel to prevent the chemicals corrosion. Reused water tanks made of 304 stainless steel.

Main frame of the machine is made by 304 stainless steel

Sensor: CARLO

Pneumatic components: AIRTAC

Optional independent automatic chemical dosing system can be equipped.

All tanks are equipped with automatic water replenish mechanism.

All tanks adopt round seal head, no dead angle, manhole is equipped on the side of tank, which gives convenience for cleaning.

Built-in overflow pipe of each tank. Automatically drain overflowed water.

Each row of rinsing nozzles is equipped with one individual CNP pump (except the drip stages), no bottle, no rinsing

Each pump is equipped with the diaphragm meter to monitor the rinsing pressure. By using the clamp connecting for easy disassembling.

Optional Danfoss can be equipped to each pump, to accurately control rinsing pressure and reduce energy consumption.

Precision net type filter is equipped to prevent the solid materials to enter into the tank and the pump, guarantee clear passage in pipe, avoid blockage at nozzle jammed. It has the advantage of low pressure drop, permanent filtration of the medium, simple handling/basket cleansing, and low-maintenance.

Each precision net type filter is equipped with two butterfly valves. It is to shut down pipe before clean the inside strainer.

Multi temperature and pressure rinsing.

Protective cover on running parts assures the operation safety.

Blade type rinsing nozzles designing without any dead angle rinsing.

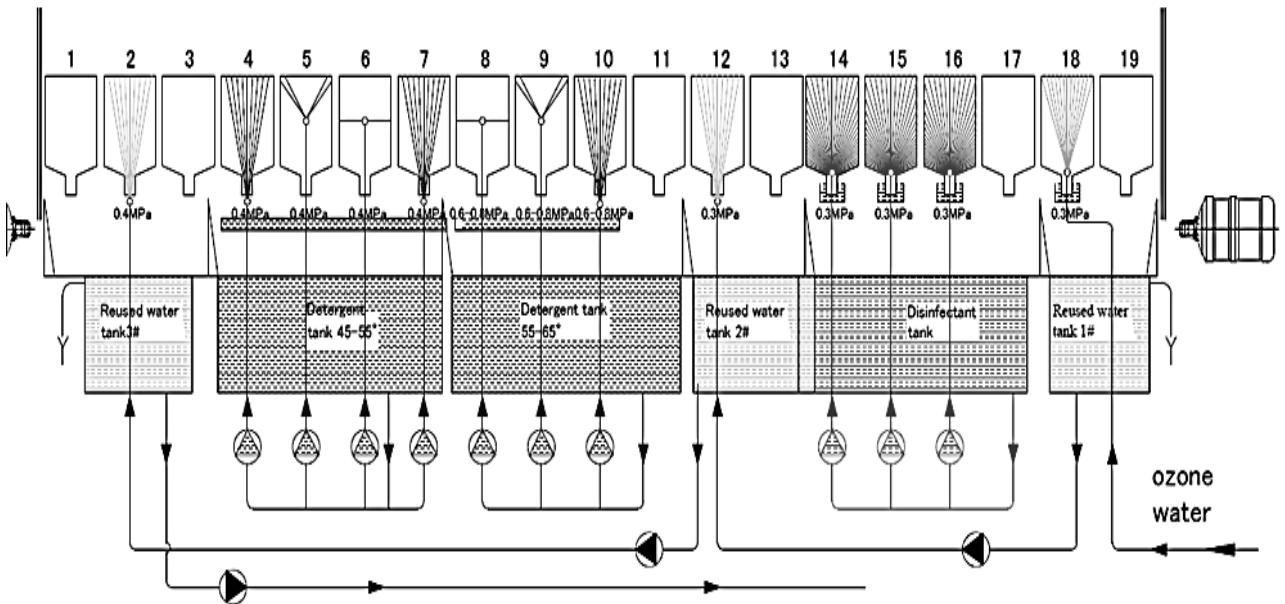
Special up and down recycling system is used for the detergent washing part to make sure the thoroughly cleaning to the bottles.

Three parts washing technology to cleaning the bottles with the special nozzles for each part.



Round corner between bottom plate and side plate. No dead angle, reach sanitary level, easy to clean.
 Sanitary type residual collecting tray without any dead angle, bottom plate of chamber is tilting; allowing quick-flow of liquid, reducing the ponding, and avoiding contamination.
 2-layers washing pipe adopts food grade silicone wire hose with stainless steel cover, enhancing reliability. Clamp type connector ensures easily installing and dismantling.
 Both ends of the rinsing pipe can be easily removed for internal clean, all "T" shape pipes are pull-welding, which assure the hygiene grade
 With special bottle mouth cleaning and sterilizing device
 Built-in exhaust fan interface on the top to drain out the steam (the fan and outlet pipe is out of this proposal).
 Enough space from the bottom of the device to ground, easy for cleaning.
 Centralized drainage system. Waste water of whole production line is collected and delivered to centralized drainage system of inner washer and discharged. Easy operation, simple drainage system of factory.
 Optimized rinsing processes. Guarantee thoroughly clean and sterilize the internal of bottles. At the same time, reduce water consumption and chemical consumption.

3. washing stages description:



1.Drip

Give time to water that attaches on the bottle outer surface, which happens on outer washing machine, avoiding the water contaminating detergent (alkali solution) and decreasing concentration of alkali.

2.Reused water

The reused water is from the ozone water rinsing stage ,

Pressure:0.4MPa

By using the linear type rinsing nozzle to remove most of the particle and solid material which attach on the bottle inside wall. Nozzle testing flow : 1m3/h.

3. Drip

To drip the residual water and the foreign particle ,to avoid to reduce the detergent temperature and concentration.

4,7 . Warm detergent rinsing

Temperature: 45-55°C

Pressure:0.4MPa

By using the fixed nozzle to rinsing the bottom of the bottles

Nozzle testing flow : 1m3/h

8,10. Hot detergent rinsing

Temperature: 60-65°C

Pressure:0.6-0.8MPa

By using the annular nozzles to process the effective rinsing to the lower part of the bottles, two cycles

Nozzle testing flow : 1m3/h

11.Drip

To collect the residual detergent which attached on the bottle

12.Reused water rinsing

To clean the residual detergent which attach on the wall ,and avoid the neutralization with the following disinfectant rinsing

By using the fixed nozzle to rinsing the bottles

Nozzle testing flow : 1m3/h

13 .Drip

To drip the residual reused which attached on the bottle inner wall to avoid the neutralization with the following disinfectant rinsing.

14.17Disinfectant

Pressure:0.4MPa

By using the fixed nozzle to rinsing the bottles

Nozzle testing flow : 1m3/h

18.Drip

To collect the residual disinfectant which attached on the bottle inner wall . At the same time , the residual disinfectant liquid can sterilize the bottle

19.20. Rinsing

Ozone water rinsing

Pressure:0.4MPa

By using the fixed nozzle to rinsing the bottles

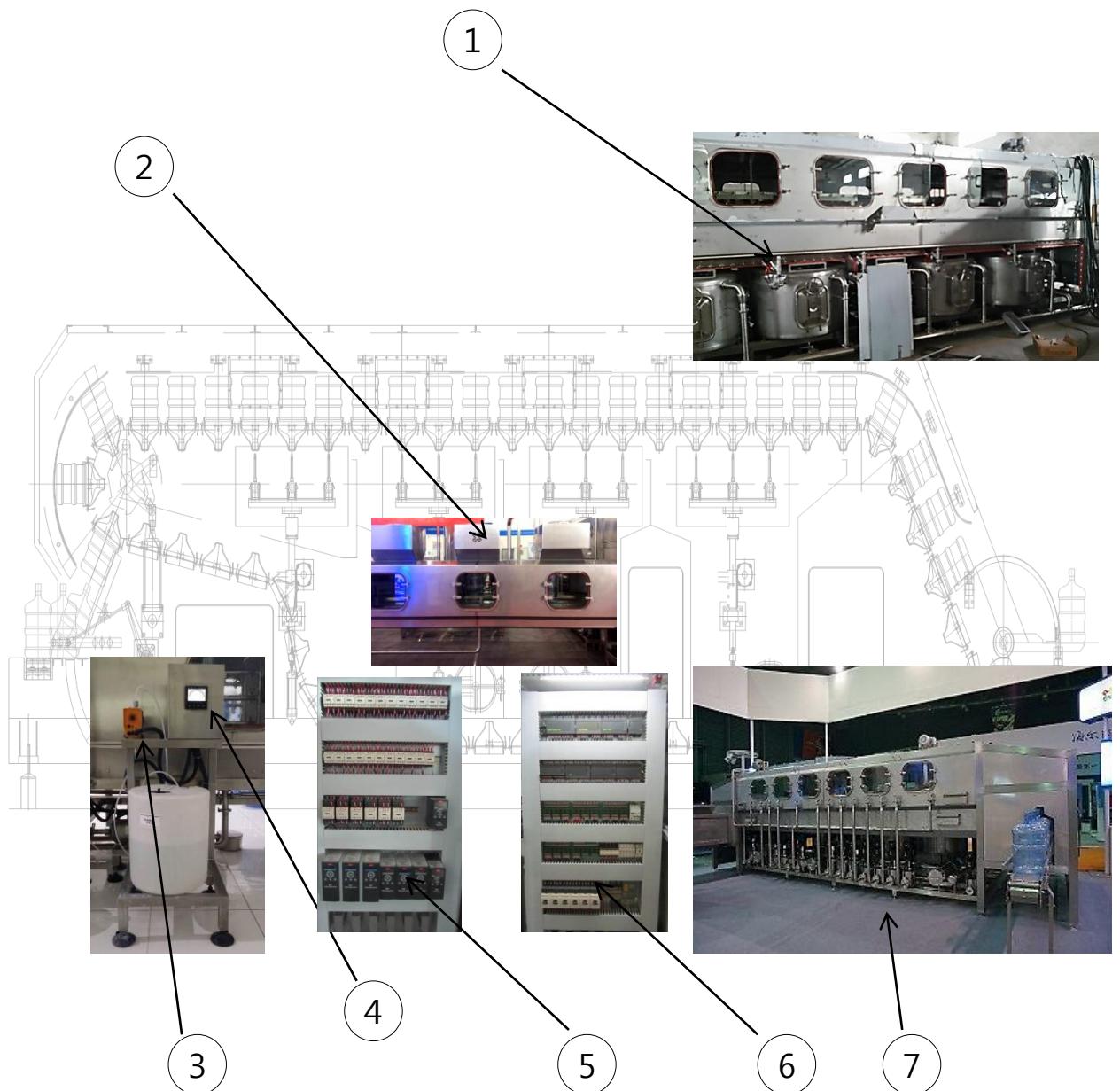
Nozzle testing flow : 1m3/h

The rinsing pump is from the water treatment system

21.Drip

To collect the residual water to the reused water tank

Layout for the main washer



1. Automatic water replenishing system
2. Super clean chamber
3. Dosing pump
4. Sensor
5. Danfoss inverter
6. Siemens PLC
7. Side feature



Filler

Type	Linear/single row					Pushing bottle type			
Filling heads	2	3	4	6	8	8	10	12	16
Capacity (BPH)	300	450	600	900	1200	1500	2000	2500	3000

Definition

Two kinds of non-touch filler are used according to different capacity. The single row type is used to small capacity from 300BPH to 900BPH, while the multi-rows type is used to big capacity from 1200BPH to 3000BPH.

The non-touch filler has such advantage as high flow, low pressure, no splash, high accuracy($\pm 100\text{ml}$) and high speed. It can absolutely take the role of quantitative filling nozzle.

Configuration

The metal frame of the whole device is made by stainless steel SUS304

Valve: APV (pharmaceutical grade single seat valve)

Sensor: CARLO

Filling pump: GRUNDFOS, material is 316L

Pneumatic components: AIRTAC

Motor and gear box: SITI

Electronic components: SCHNEIDER

Inverter: DANFOSS

Features:

Non-contact filling: avoid the secondary contamination and the hurt to bottle.

High speed filling: maximum capacity 3000BPH

High accurate filling: $\pm 100\text{ml}$

The annular water distributor is made by stainless steel 316L, no dead angle, the pressure and flow of each filling valve is balanced.

APV pharmaceutical grade single seat valve avoids secondary contamination

Filling pump is controlled by inverter, accurate and no over flow

CIP connection is convenient for pipe and valve cleaning.



Cap feeder

Type	Capacity(B/H)	Dimension(L*W*H)	Power(KW)	Remark
SGF	3000BPH	1000*700*1200	0.61KW	Air blowing
SGL	3000BPH	2000*700*2800	0.5KW	Belt transferring

Definition

The cap feeder is the device which sends the caps from cap container to cap un-scrambler. The cap is put into cap container manually, then it is sent to cap un-scrambler automatically. Belt transferring or air blowing can be chosen. Air blowing type has flexible layout on the cap container, the belt transferring type has low noise but need close to cap un-scrambler.

Type---Capacity(BPH)---Layout size L*W*H(MM)---Power consumption---Comment---
Air blowing---Belt transferring

Features:

Reduce the working intensity of labor
With cap lack inspection and alarm device



Cap un-scrambler / washer / hanger

Type	Capacity(B/H)	Dimension(L*W*H)	Power(KW)	Water consumption(T/H)
XG-300	300	1800*750*900	0	0.5
XG-900	900	2300*790*900	0.6	0.8
XG-3000	3000	2300*790*2300	0.6	1.2

Definition

Cap un-scrambler is assembled by 3mm SUS304 stainless steel; it's simple and adjustable, suitable for caps with tail.

Cap washer is the device which uses disinfectant water and ozone water to rinse and disinfect the caps. Cap movement is achieved by pushing power coming from liquid rinse, saving energy and reducing secondary contamination, no dead angle and residual disinfectant during the process. The transmission chain of the cap washer is assembled by 3mm stainless steel SUS304 with high intensity and can avoid cap jam.

The cap hanger is assembled by 3mm SUS304 stainless steel with pre-pressing device, which avoids uneven cap and losing cap. The cap chute is equipped with cap losing detect device and alarm device



Shrinking oven

Model	Capacity(BPH)	Dimension(L*W*H)(MM)	Structure
SOR-3000	3000		Linear

Definition

The 5 gallon shrinking oven is used to shrink the film on bottle moth to assure the bottle sealed and anti-counterfeit. The shrinking oven is our newest design with extremely low running power (less than 1KW) and high shrink speed, the film is even and beautiful after shrinking.

Features

No need preheating, it can be used after 1 minute startup

Extremely low electricity consumption, the actual average power consumption is less than 1KW

Intelligent temperature control system, adaptive to different material of file with different thermal contraction features



Light inspector

Model	Capacity(BPH)	Dimension(L)(MM)	Structure
LIR-03		1280	Linear

Definition

It is used for quality inspection of bottle by high light LED box, no twinkle, low power consumption

Features

High quality LED light source, bright and soft light, low power consumption, long life span

The light intensity can be adjusted by light adjusting panel.



Robot palletizer

Type	Capacity(B/H)	Power(KW)	Quantity of stacking	Remark
ROBOT-350	3000	20	8	Palletize vertically only

Definition

Robotic palletizer puts the bottle on pallet vertically, or put the bottle into shelf horizontally. The system is compatible with different shelves (with same space between bottles) by self-adaptive learning, full automatic, reliable, high speed and accurate. It is also equipped with control box and teaching program, which enhances the universality and controllability.

Type---Capacity(BPH)---Power consumption(KW)---Quantity of stacking (each time)---Comment---Can put the bottle vertically or horizontally---Vertically only

Features

Adopting mature robot technology

With high-performance teaching-program, high universal and controllable

High speed, accurate and reliable

The main controller is equipped with servo drive to assure the accurate positioning

The program can be changed in place, easy for operation and usage

Set 2 emergency stop button to assure the safety of operator and machine

Our aim is to provide world-class products by continually improving quality using innovative technology. By supplying highest quality products and utmost customer services, we have acquired the trust, support and assurance of our worldwide clients

Name of Company	Brand Name	Location
Pulmuwon Co., Ltd	Pulmuwon sammul	Korea
Youpisystem Co., Ltd	Jinrosuksu (OEM)	Korea
Jinrosuksu Co., Ltd	Jinrosuksu	Korea
Hite Beer Co., Ltd	Hite Puris	Korea
Chungyang Gunqung	Chilgabsan	Korea
Jirisansu Co., Ltd	Jinrosuksu	Korea
Yesuhui	Gibbunworisammul	Korea
Pocheon Green Co.,Ltd	Pulmuwon Sammul	Korea
Dongwon F&B Co., Ltd	Dongwon	Korea
Jirisan Chung Hak dong	Pulmuwon	Korea
Hankun Cungjung Co.,Ltd	Crystal	Korea
Suwangsamul Co., Ltd	Jinro Suksu	Korea
Pocheon Beverage Co.,Ltd	Dongwon	Korea
Samjung Beverage Co.,Ltd	Sparkle	Korea
Daejung Co., Ltd	Sparkle	Korea
Nestle Water	Lavie	Vietnam
Nestle Water	"	Vietnam
Hyattsammul	Jinro Suksu	Korea
Nestle Water	Erikli & NESTLE	Turkey
Pulmuwon Sammul	Pulmuwon	Korea
Miso Beverage Co., Ltd	Dongwon	Korea
鼎湖山泉	鼎湖山泉	China
Haetae Beverage	(CocaCola Korea)	Korea
Nestle water	Nestle	Qatar
River water	Nestle	KSA
CNC	CNC	UK
Nongfu	Nongfu water	China
Club Indonesia	Club water	Indonesia
Abraaj Kuwait	Abraaj water	Kuwait

Our company has more then 50 active clients in 10 countries

Technology and effort beyond our imagination BMI will create new values for customers

특허증
CERTIFICATE OF PATENT

특허 제 10-0832395 호 출원일 2017-02-03일
등록일 2017-04-19일 215
등록료 200만 원 30%

발명의 명칭 및 그에 대한 설명
본 특허는 바이오센서를 이용한 기판
상의 물질 분석 및 측정법 및 장치
특허권자 (INVENTOR)
이상구(410815-*****)
경기도 화성시 청당면 양면로 563
발명자 (INVENTOR)
전병철(500313-*****)
경기도 화성시 청당면 화성로 400번지
위의 발명은 「특허법」에 의하여 특허등록원부에 등록
되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2017년 04월 25일

G 특허청 KOREAN INTELLECTUAL PROPERTY OFFICE

특허증
CERTIFICATE OF PATENT

특허 제 10-0832394 호 출원일 2017-02-03일
등록일 2017-04-19일 215
등록료 200만 원 30%

발명의 명칭 및 그에 대한 설명
보존 기관 및 종합 생물학적 유전체 세포장치
특허권자 (INVENTOR)
이상구(410815-*****)
경기도 화성시 청당면 양면로 563
발명자 (INVENTOR)
전병철(500313-*****)
경기도 화성시 청당면 화성로 400번지
위의 발명은 「특허법」에 의하여 특허등록원부에 등록
되었음을 증명합니다.
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE KOREAN INTELLECTUAL PROPERTY OFFICE.)

2017년 04월 25일

G 특허청 KOREAN INTELLECTUAL PROPERTY OFFICE

No. 2191777

PATENT CERTIFICATE FOR INVENTION

Title of Invention: Pollution natural water disease automatic discrimination and exclusion device that use smell sensor
Inventor(s): LEE,Sang Koo
Patent No.: ZL 201410090022.1
Application Date: March 12, 2014
Patentee: LEE,Sang Koo
Date of Granting: August 24, 2016
Announcement:

After the preliminary examination was performed according to the Patent Law, the present office decides hereby to issue a patent right and the present Patent Certificate, and to register the right on the Patent Register. The patent right will be effective as of the date of announcement for granting patent right.

The term of the present patent is twenty years, counting from the filing date. Patentee should pay annuities according to the provisions prescribed in the Patent Law and the Implementing Regulation. Payment of annuities for the present patent shall be executed before March 12, each year. Failure to pay a prescribed annuity would result in the patent right ceasing when the term for payment of said annuity expires.

The present Certificate discloses items of the legal status as the patent right was issued - items of transfer, pledge, invalidation, cessation and restoration of patent right, as well as change of patentee's name, nationality, address, etc., are recorded on the Patent Register.

Director General Changyu SHEN

Aug 24, 2016

특허증
CERTIFICATE OF PATENT

특허 제 10-1229956 호 출원일 2013-03-01일
등록일 2016-04-05일 215
등록료 200만 원 30%

발명의 명칭 및 그에 대한 설명
생수·센서를 이용한 오염·생수·자동·감별·제거장치
특허권자 (INVENTOR)
이상구(410815-*****)
경상남도 산청군 단성면 폭파로252번길 100-15
발명자 (INVENTOR)
이상구(410815-*****)
경상남도 산청군 단성면 폭파로252번길 100-15
위의 발명은 「특허법」에 의하여 특허등록원부에 등록되었음을 증명합니다.
This is to certify that, in accordance with the Patent Act, a patent for the invention has been registered at the Korean Intellectual Property Office.

2016년 04월 05일

특허청장
COMMISSIONER OF
KOREAN INTELLECTUAL PROPERTY OFFICE
최동규

No. 2191777

PATENT CERTIFICATE FOR INVENTION

Title of Invention: Pollution natural water disease automatic discrimination and exclusion device that use smell sensor
Inventor(s): LEE,Sang Koo
Patent No.: ZL 201410090022.1
Application Date: March 12, 2014
Patentee: LEE,Sang Koo
Date of Granting: August 24, 2016
Announcement:

After the preliminary examination was performed according to the Patent Law, the present office decides hereby to issue a patent right and the present Patent Certificate, and to register the right on the Patent Register. The patent right will be effective as of the date of announcement for granting patent right.

The term of the present patent is twenty years, counting from the filing date. Patentee should pay annuities according to the provisions prescribed in the Patent Law and the Implementing Regulation. Payment of annuities for the present patent shall be executed before March 12, each year. Failure to pay a prescribed annuity would result in the patent right ceasing when the term for payment of said annuity expires.

The present Certificate discloses items of the legal status as the patent right was issued - items of transfer, pledge, invalidation, cessation and restoration of patent right, as well as change of patentee's name, nationality, address, etc., are recorded on the Patent Register.

Director General Changyu SHEN

Aug 24, 2016

实用新型登録証

登録 제 0276321 호 등록일 2016-04-05
등록료 200만 원 30%

고발자·제작자·판매자·설치장소
인용신안등록자: 이상구(410815-111029)
제작·판매처: 경상남도 산청군 단성면 폭파로 660-1
고·발·자: 이상구(410815-111029)
제작·판매처: 경상남도 산청군 단성면 폭파로 660-1
위의 고안은 실용신안법에 의하여 실용신안등록
원부에 등록되었음을 증명합니다.
2016년 04월 05일

특허청
KOREAN INTELLECTUAL PROPERTY OFFICE



BMI-4R Co.,Ltd. BMI-4R PACKAGING MACHINERY Ltd.

<Korea office&factory Address>

79, Sicheong-ro 677beon-gil, Yuram-ri, Paltan-myeon, Hwaseong-si, Gyeonggi-do, Korea 18524
Tel : +82-31-366-4735

<China factory Address>

Building 21, Shichong minying industrial park, Hengli Town, Dongguan city, Guangdong Province, China
Email : bmikorea@bottleshasher.kr
website : www.bottleshasher.kr

