Solution of Linear Filling Line for Filling Bottles

Introducción detallada :

Solution of Linear Filling Line for Filling Bottles with Shampoo, Liquid soap, Rinse, Dye

As an experienced filling machine provider, we are glad to share with you the following so

a linear filling line for filling bottles with shampoo, liquid soap, rinse, and dye hair.

The solution consists of three main parts: Automatic 12 Nozzles Servo Piston Filling Machi

Automatic Servo 4 Wheels Capping Machine, as well an Automatic Sleeve Labeling Machin

+ Bottom wrapping machine + 2m steam shrinkage tunnel + 2m blow dryer.

Part 1. Automatic 12 Nozzles Servo Piston Filling Machine HY-VF12

Parameters

Filling Nozzles	12 Nozzles
Production Capacity	70BPM
Filling Volume	100-1200ML
Power	4000W, 220VAC
Accuracy	±2-4ML
Driven	Servo Motor
Interface	Touch Screen

Servo Drive System

The HY-VF series volumetric filling system utilizes the delicate servo drive system to contro
main filling structure, achieving high stability and precise positioning. With the vertical mo
of the filling piston provides long term energy saving and also effectively reduces machine
rate.

Tool-Free Adjustment

Adjustments can be made through the PLC, completely tools-free, giving users a fast and e
result. The delicate servo control system design provides options for surface layer liquid fi
bottom layer liquid filling, and bottle neck (opening) filling accordingly with different types
liquids.

High Accuracy

The delicate servo system controls the filling amount through precise piston strokes, prov
high filling accuracy. The piston is intelligently designed with an adjusting mechanism to e
users to obtain ultimate higher accuracy.

High Adaptability

The Automatic Servo Filling Machine can be used in food, pharmaceuticals, chemicals, cos
and other industries.

Other Features

1.Controlled by Schneider servo system.

2.Adjustable filling speed.

3.Accurate to ±2-4ML (with drinking water).

4.Integrated digital control with Schneider PLC and high tech touch screen controls for eas
operation.

5.Designed for easy changeover and cleaning.

6.Professional manufacturing techniques using the ISO-9001 system.

7.GMP standard stainless steel.

8.Bottom-up filling for option.

9.Bottle neck location.

10. No bottle-no fill system.

11.Filling zone protected by stainless steel frame.

12.Volume is easily adjusted through touch screen. Filling pistons are controlled by servo s

13.Individual piston adjustment.

14.Digital control system to enable multiple filling actions on the same bottle for double, t and more.

15.Nozzles can set to be above bottle mouth or bottom up, synchronizing with liquid level (beneath or above) to eliminate bubbling of foamy liquids.

16.Three-step-filling, it can fill slowly at the beginning and then accelerate to faster speed, slow down once again to finish up. This can prevent foamy liquids from bubbling and avoi spillage.

Advantages of servo system

1.Volume Setting by touch screen, digital display

2.Further Accuracy Adjustment by touch screen

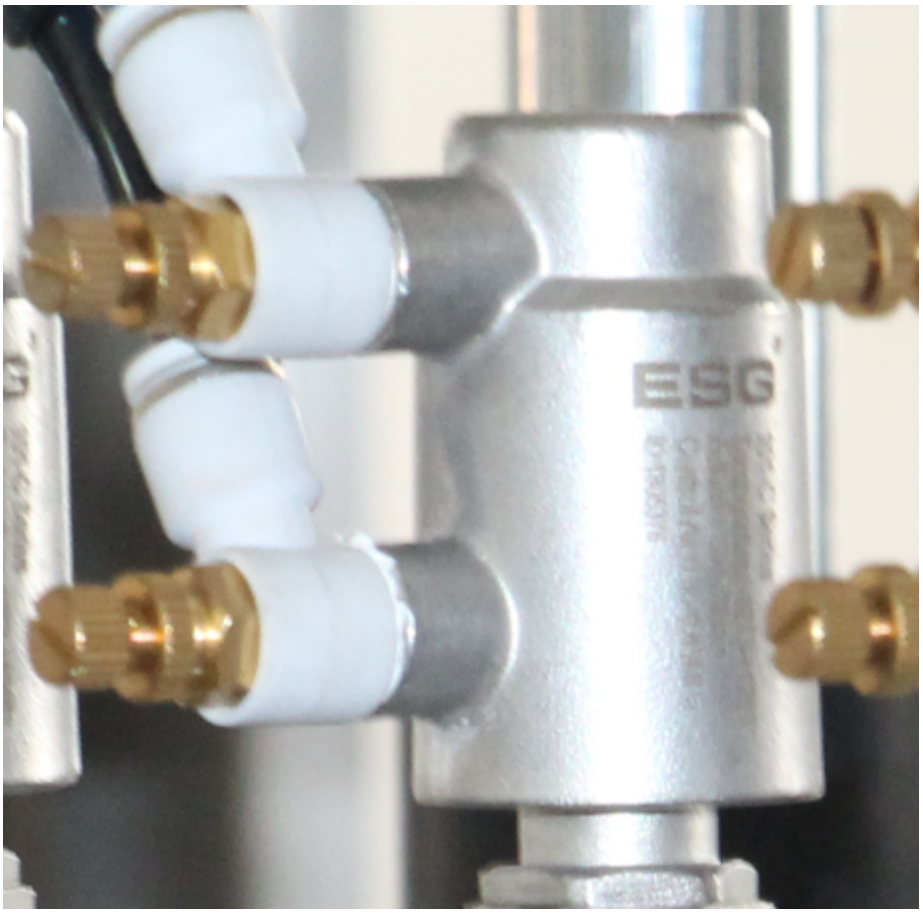
3.TBI screw lead adapted, higher accuracy

4.3-step filling, low speed for bottom layer and mouth layer, high speed for middle layer, t prevent foamy liquids from bubbling and avoid spillage and get more filling efficiency.

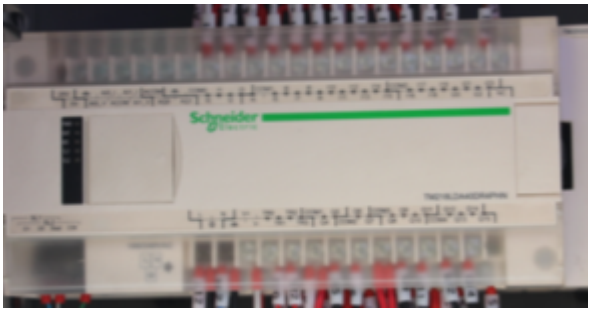
Tool Free and no-blind-corner piston

Anti-Drop Filling Nozzles

The filling nozzles adapt pneumatic valve to prevent drop and leakages.

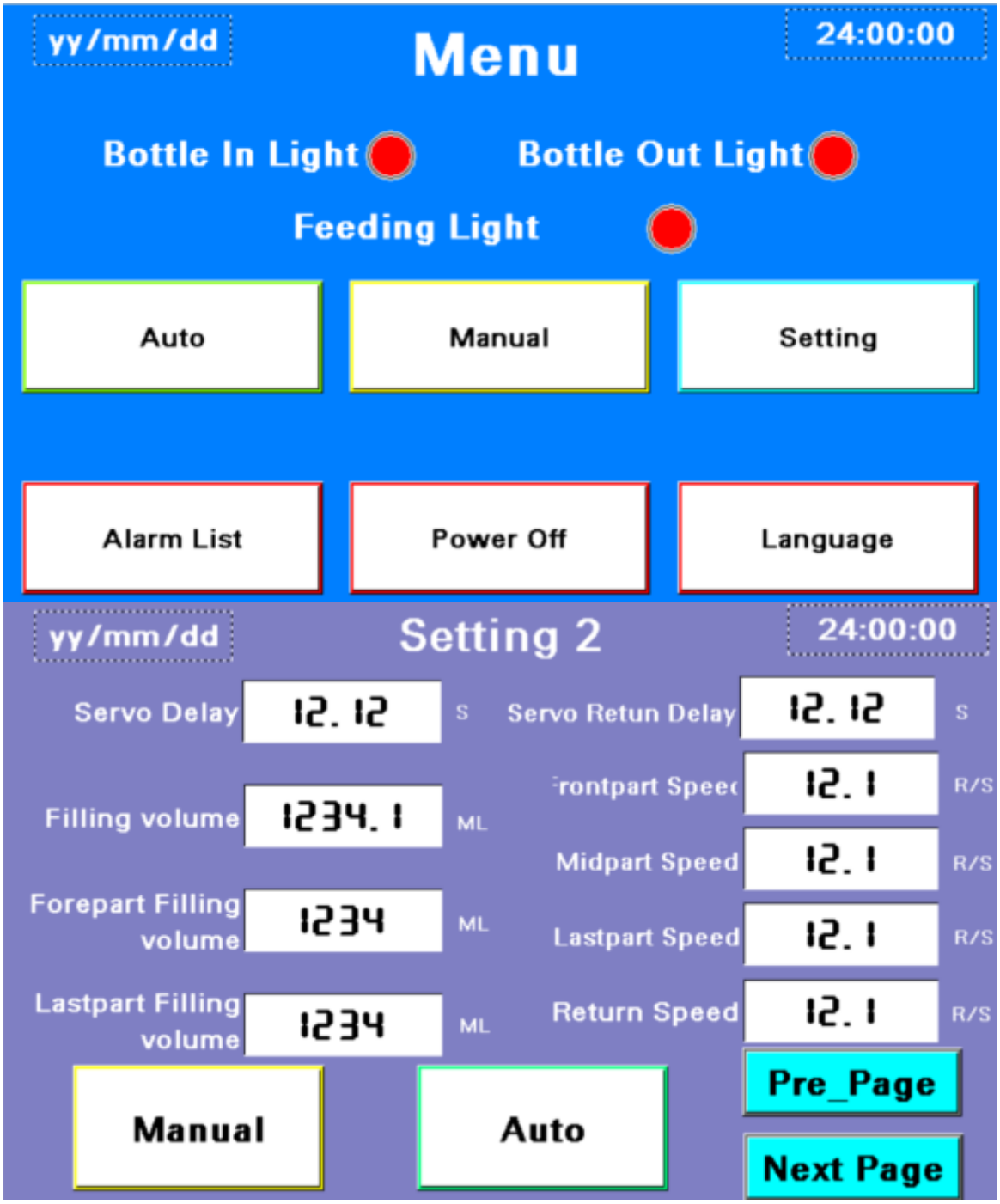


Siemens PLC



Schneider Relay

Touch Screen Operation



Components List

Automatic Servo Filling Machine				
No.	Descriptions	BRAND	ITEM	Remark
1	Servo Motor	INOVANCE	3KW	/
2	Reducer	Taifu	ATF1205-15	/
3	Conveyor Motor	ZhenYu	YZ2-8024	/
4	servo drivers	Panasonic	LXM 23DU15M3X	/
5	PLC	Siemens	TM218LDALCODR4PHN	/
6	Touch Screen	Siemens	HMZGXU3500	/
7	Frequency Converter	Schneider	ATV12H075M2	/
8	Photo electricity of Inspect bottle	Keyence	BRF-N	/

9	Pneumatic Element	Airtac	/	/
10	Rotary Valve	/	F07/F05	/
11	Pneumatic actuator	/	F07/F05	/
12	Low-Voltage Apparatus	Schneider	/	/
13	proximity switch	ROKO	SC1204-N	/
14	Bearing	NSK	/	/
15	Lead Screw	TBI	/	/
16	butterfly valve	CHZNA	/	/
17	Screw Lead Bearing	NSK	/	/
18	Straight Bearing	NSK	/	/
19	Sliding Bear	IGUS	/	/

Part 2. Automatic Servo 4 Wheels Capping Machine

Parameters

Capping Head	1 Head
Production Capacity	30-80bpm
Bottle Height	Up to 460MM
Cap Diameter	Up to 70MM
Voltage/Power	220VAC 50/60Hz 450W
Driven way	Motor with 4 wheels
Interface	Touch Screen
Spare Parts	Capping Wheels

Introduction

The main structure is made of durable 304 stainless steel. The machine is control by touch screen, parameter can be set on touch screen very easily. It is very flexible for different siz round bottles, square bottles and flat bottles by adjustment. Capping time can be set to fi different caps and different levels of tightness. It is very easy for exist line upgrade.

Main Features

1.Controlled by touch screen.

2.Adjustable for different sizes and shapes of caps and bottles.

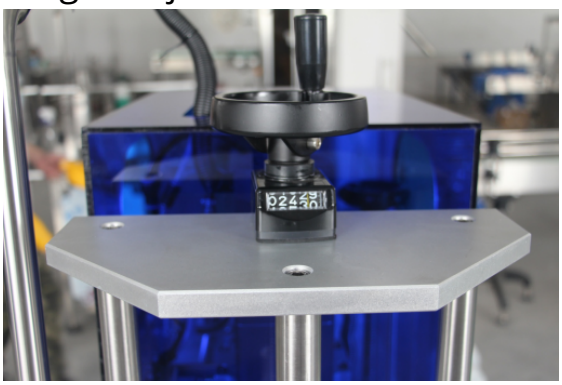
3.Bottle Clamp belt bottle in system is optional for upgrade capping speed.

4.Integrated digital control with PLC and high tech touch screen controls.

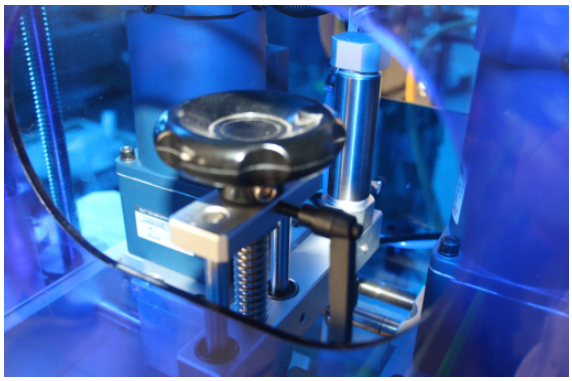
5.GMP standard stainless steel.

6.Suitable for pump caps, trigger caps, normal screw caps.

Height Adjustment



Press Adjustment



Security Cover

Diameter Adjustment

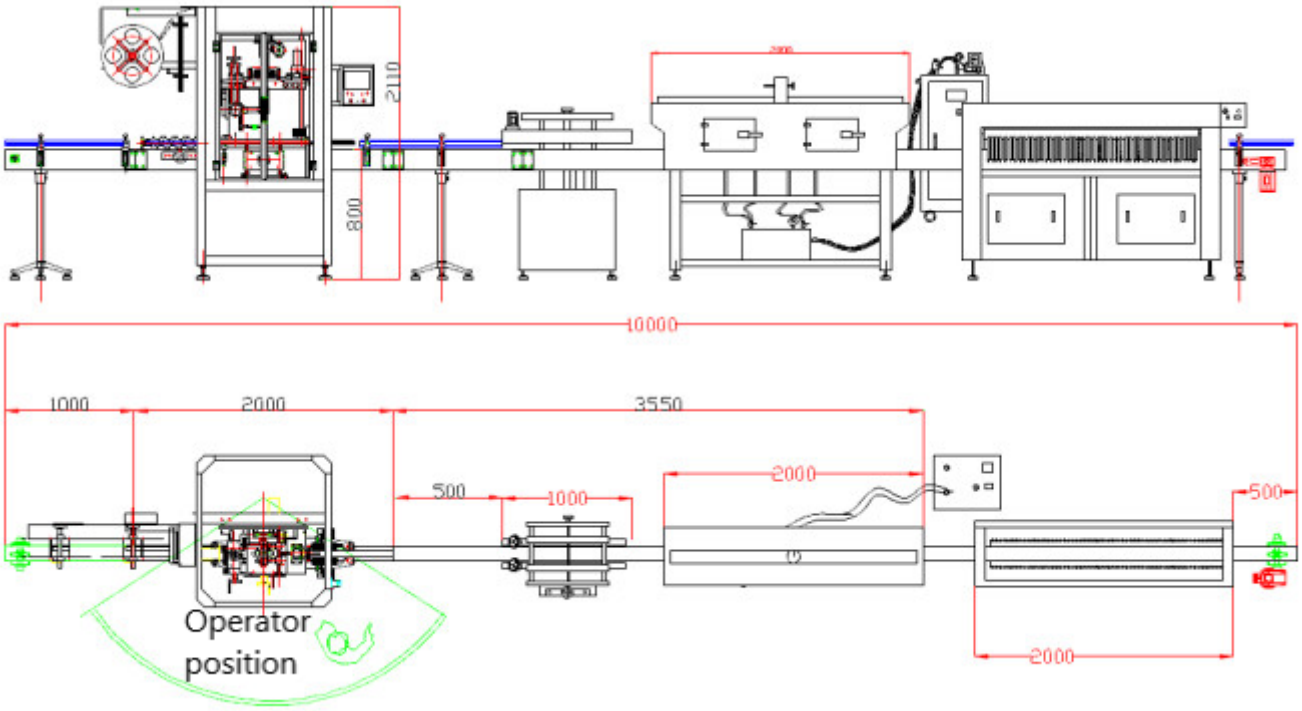
Main Component List

Servo 4 Wheel Capping Machine

No.	Descriptions	BRAND	QTY	Remark
1	Capping Motor	INOVNACE	4 SETS	Servo Motor
2	Gear Box	/	4SETS	Planet type
3	Touch Screen	SIEMENS	1SET	/
4	PLC	SIEMENS	1SET	/
5	Pneumatic Cylinder	AIRTAC	3SETS	TAIWAN
6	Air Filter	AIRTAC	/	TAIWAN
7	Solenoid Valve	AIRTAC	2SET	TAIWAN
8	Main Structure	/	/	304SS
9	Bottle Fiber Sensor	Keyence	1SET	JP

Cap Sorting Elevator

Part 3. Automatic Sleeve Labeling Machine HY200 + Bottom wrapping machine + 2m stear shrinkage tunnel + 2m blow dryer



Note: the above layout shows the configuration of Automatic Sleeve Labeling Machine HY
Bottom wrapping machine + 2m steam shrinkage tunnel + 2m blow dryer.
When connecting the above equipment, double row parallel connecting conveyor belts sh
equipped at the front and rear. The drawing above is the standard layout of the equipmer
the actual connection shall be subject to the customer site requirements.
Among them, the labeling machine, bottom wrapping machine and steam shrinkage tunn
be configured. The steam generator can be replaced by boiler, but the sufficient and stabl
source shall be ensured. The blow dryer is used to blow off the water droplets on the surf
the bottle after the steam shrinks.
Automatic Sleeve Labeling Machine HY200

Technical Parameters

Model	HY-200P
power(kw)	3.0
Voltage(v).	220V AC
Production Speed(b/min)	100-200
Applicable Product Diameter(mm)	?38—?120 (Subject to the actual product)
Applicable Label Length(mm)	30~220
Applicable Label Thickness(mm)	0.03~0.13
Paper tube diameter(mm)	5”~10” Free adjustment
Equipment dimensions (mm)	2100L*900W*2000H
Equipment weight(kg)	280kg

Description

(1). The labeling machine adopts photoelectric signal sensing, and the PLC processor conv
photoelectric signal to give mechanical instructions to each servo motor and driver assem

the equipment, so as to cooperate to complete the actions such as feeding the label of the material tray, moving the label up and down on the guide column, brushing the next whee brushing the label after the cutter head is cut off.

(2). After the bottle sensor of the labeling machine senses that the material is transmitted conveyor belt, the PLC starts to process the signal and issue the work order within 1 secon components such as bottle system, material tray system, material rack system, drive syste bottle system, brush down system and brush system cooperate to complete the action of covering the label or transparent film to the material.

(3). The main body of the whole machine is made of 304# stainless steel, which is corrosio resistant and does not rust. It strictly meets the food safety standards. The parts in contac the materials are non-toxic and free of harmful substance pollution.

(4). The sleeve labeling machine adopts a complete set of imported electrical equipment configuration, which is processed by Siemens PLC and screen. It is equipped with Japanes Panasonic Optoelectronics, French Schneider servo motors, and French Schneider servo d The equipment has excellent electrical quality and stable and reliable quality.

(5). Within the scope of the standard machine, the sleeve labeling machine makes the corresponding central guide column according to different material sizes or bottle and tar After replacing the guide column and label film for labeling, one machine can be compatib material labeling packaging of multiple sizes. When the size difference of materials is too l addition to replacing the corresponding central guide post and label film, it is also necessa replace the cutter head for cutting labels.

(6). According to the design of the label film, the sleeve labeling machine is divided into or photoelectric recognition and transparency segment cutting, color code photoelectric fixe recognition and cutting, and fully transparent unprinted film fixed-length cutting.

Note: The standard machine is equipped with ordinary photoelectric, which cannot identif label film with positioning points, but the full transparent film fixed-length mode can be us

(7). When the labeling machine uses materials within the compatible range for production addition to replacing the central guide column and label film, it is also necessary to adjust height of the machine and the front and rear positions of photo bottles in combination wi size of materials. There is special equipment operation training during equipment installa commissioning. Please pay attention to learning to achieve the purpose of skilled use of

equipment.
(8). The technology of the labeling machine is mature, but attention should be paid to the fluctuation of the power grid during use. In case of frequent voltage instability in the local voltage regulator should be installed on the equipment use site to prevent precise damag electrical appliances of the labeling machine caused by voltage fluctuation. When the labe machine equipment is exported abroad, the local voltage used by the equipment shall be in advance, and the transformer shall be configured in front of the labeling machine.
(9). For 500ml standard bottles with label height less than 80mm, the fastest labeling spee reach 500 bottles per minute; If the label height is within 170mm, the fastest labeling spee reach 300 bottles per minute.
Application scope
Automatic Sleeve Labeling Machine is applicable to multi-functional automatic labeling ma for round bottles, flat bottles, square bottles, curved bottles, cup-shaped products in fooc beverage, medical treatment, daily chemical and other light industries.
Main features
(1) The sleeve labeling machine adopts German Siemens electrical configuration, PLC proc is more accurate and stable, the error of standard setting is small, and the accuracy is high debugging, there is no standard leakage and no set leakage.
(2) Adopting 304# stainless steel frame structure, high-quality aluminum parts, NSK Bearir from Japan and gates drive belt from the United States.
(3) Adopting a dual language operating system and an interactive interface in Chinese and The machine appearance and operating system language can be customized according to customer needs. Our equipment is exported to Southeast Asia, Myanmar, Vietnam, Camb Thailand and other countries, as well as Japan, South Korea, Russia, Nepal, Ethiopia and o countries.
(4) Applicable to the industries of water, beverage, cosmetics, condiments and daily chem products. It is applicable to the labeling and packaging of bottles, cups, boxes, round, squa conical products.

Bottom wrapping machine

Overall dimension: 1000x550x1250mm	
Drive motor	2pcs
Bottle clamping system	1 set
Hot air gun	Industrial grade, 2 sets (of which the hot core is consumables, and the hot core needs to be replaced in half a year or one year according to the use condition)

Function Description

The bottom wrapping machine is used to hold up the bottle on the conveyor belt after the special-shaped bottle is covered with pvc sleeve label, and wrap the bottom of the bottle t preheating shrinkage after the label falls 3-5mm, so that the shrinkage effect will not be af due to the lack of adhesion at the bottom. (Remark: The samples of the customer's bottles required, if it is confirmed that the normal sleeve label shrinkage can wrap the bottle bott bottom wrapping machine may not be configured.)

Steam shrinkage furnace HY-RSL2.0

Technical Parameters

Name	Steam shrinkage furnace
Model	HY-RSL2.0
Input power (kw)	0.35
Input voltage (v)	220V/50HZ
Working Pressure (Mpa)	?0.1Mpa
Steam consumption (kg/h)	10?20
Conveying speed (m/min)	0-35
Outward Size (mm)	L2000*W400*H1500
Weight (kg)	100

Description

The new type of steam shrinkage furnace is designed with seamless steel tube and has th
adjustable nozzles for different and irregular cylinder shapes, such as round, square and f
cylinders.

The adjustment and maintenance are convenient, the shrinkage is flat, the distribution of

pressure sub-drum of steam ejection mode is uniform, and the ejection nozzle is divided i
three sections. The height of each section, the front and back and the out gassing volume
adjusted separately to reach the maximum. Perfect contraction effect realm.
The shell of the whole machine is made of stainless steel and insulated. It not only saves e
but also meets the international safety standards. The stainless steel water receiving pan
bottom concentrates condensation water. The whole machine adopts waterproof design,
operation and maintenance.

High pressure blow dryer

Technical Parameters

Machine name	Type	Volume
HY-2000 blow dryer	2M	2000x700x160
Motor model: RAETTS-85 Speed: 21500 rpm		

Description

The blow dryer is made of 304# stainless steel, with 32 air nozzles on the left and right sid
blow dryer uses a high-pressure blower and strong airflow to quickly dry the water on the

surface of the bottle/can.

Main features

1. High-speed wind blowing into the wind channel causes a wind tunnel effect, which enha
and maintains high wind speed, making it easier for water to be blown away.

2. The air trough can be equipped with top blowing/neck blowing and bottom blowing fun
to make the drying complete at one time and solve the problem of bottle caps that are dif
dry.

3. The air trough can be easily adjusted according to the diameter and height of the bottle
that the efficiency is better and the adjustment is easier.

4. The air trough and a variety of other accessories are made of 304 stainless steel (mater
meet food hygiene requirements)

5. With drainage and exhaust (wet) air ports, it is convenient for water diversion and exha

6. The air duct is made of sound-absorbing materials and can be covered with a transpare
sound-absorbing cover (optional accessory), which is convenient for monitoring and can r
noise.

7. Suitable for drying round bottles, round cans, square bottles, square cans, large bottles
bottles and condensate bottles.