



**SHADMEHR
PACKAGING**

**2000-3000BPH PURE WATER
PRODUCTION LINE (FOR 500ML)**

From: James



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PART I PRODUCTION LINE DESCRIPTION

- 1.1 Rated capacity: 2000-3000BPH for 500ML bottle
- 1.2 Filling liquid: pure water
- 1.3 Filling bottle type: PET bottle: Max diameter 96mm, Max height 310mm. It is for consulting, we will produce the machine according client's bottle samples.
- 1.4 Filling type: gravity filling.
- 1.5 Cap: Standard screw plastic cap, we will produce the machine according client's cap samples.
- 1.6 Filling temperature: room temperature.
- 1.7 Package: 4*6 film package for 500ML, 2*3 for 1500ml or others
- 1.8 Conveyor mode: For empty bottle: Air conveyor; for full bottle: SUS 304 conveyor belt
- 1.9 Resource power: 380V 3 PHASES 50HZ and 220V 50HZ or according client's demand
- 1.10 This project book is an initial one, if there is any change of the project, both two parties should base on the final modification of the technical articles and commercial articles. Basic data of the production line



PART II EQUIPMENT CONFIGURATION AND QUOTATION

Quotation for 2000-3000BPH (500ml bottle) pure water production line

S/N	NAME	CAPACITY	QTY	REMARK
A. Water treat system				
A1	Source water pump	Set use	1 pc	CNP
A2	Silica sand filter with multiport valve	2000LPH	1pc	SUS 304
A3	Active carbon filter with multiport valve	2000LPH	1pc	SUS 304
A4	Sodium ion exchanger	2000LPH	1pc	SUS 304
A5	Precision filter	2000LPH	1pc	SUS 304
A6	RO	1000LPH	1pc	-Pump is CNP -Membranes is HYDRANAUTICS
	A6.1 High pressure pump			
	A6.2 R/O membranes			
	A6.3 low pressure & high pressure switch			
	A6.4 electrical panel for R/O			
	A6.5 washing system			
A7	Ozone	10gram	1pc	With O2 maker With O3 mixer
A8	Necessary connecting pipes and valves			SUS 304
B. Filling system-A washing-filling and capping 3-n-1 machine				
B1	3 in 1 filling machine	2000-3000BPH for 500ml	1 set	CGF8-8-3
B2	bottle feeding table	Set use	1.2m	
B3	Air conveyor belt	Set use	2.44m	
B4	Conveyor belt after capping	Set use	4m	SUS
C. Packing system				
C1	Label manual inserting working table	Set use	1 set	One side is 2m,two side is 4m
C2	Label shrink tunnel with steam generator	Set use	1 set	With automatic steam generator
C3	Light checker	Set use	1 set	
C4	Ink coder		1 set	Manual one
C5	Semiautomatic PE film packing machine		1 set	

NOTICE:

- For the filling and packing system, only the semiautomatic PE film packing machine need press air. So, you need buy one set 0.6m3 low pressure air compressor
- The whole line, in the list, I give you all the machines. But you need prepare the source water tank, finish water tank and 1 set 0.6m3 low pressure air compressor.

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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3. If you need we send workers to help you install, test and train your workers, you need pay the come and back airplane ticket, hotel, food, local traffic cost and each person USD 80/person/day!

Payment:

A. 30% OF THE TOTAL CONTRACT VALUE AS DOWN PAYMENT BY T/T; THE CONTRACT WILL BE EFFECTED BY THIS DOWNPAYMENT, AND START TO MANUFACTURE THE EQUIPMENT.

B. THE REST 70% OF THE TOTAL CONTRACT VALUE SHOULD BE PAID BEFORE SHIPMENT.



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PART III EQUIPMENT DETAILS

Water treat system

1. Source water pump

The brand is CNP, it is the most famous Chinese brand pump. The quality is best one in China. And the pump material is SUS 304. And the capacity can reach the water treat system



2. Silica sand filter with multiport valve

Summary

This machine is made of stainless steel as a small tank which contains sand filter, it only allows un-treated water go through the sand filter, and do not allow any liquid go through another part, so it can filter the un-treated water. It also can be used in petroleum industry, pharmacy industry, wine making industry, beverage industry and higher quality water industry.

Main technical parameter

- (1). Model: SYS-2
- (2). working pressure: $\leq 0.3\text{Mpa}$
- (3). Flux: 2T/h
- (4). quantity of filter material: Silica sand

Structure and characteristic

This sand filter device is equipped with filter, filter's cap, and filter device parts, through tight the screw to pressurize, it can forms clean and dirty parts separately, you have to take care of the airproof on sealing part as you are installing the equipment.



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3. Active carbon filter with multiport valve

Summary

This machine is designed and made after absorbing the advices from clients and customers, which has changed the directions of water-taking in and sewerage-taking out to be more efficient on water purifying. It has been welcome by the clients worldwide. This equipment is the last one for living water treatment. The water with chaotic degree maximum 5mg/L will be clear, transparent, innocuous, drinkable, axenic, sugary and according with the national standard for drinking water testing

This equipment can wipe off the peculiar smell, strange color and some heavy metal like hg, pb, cadmium, zinc, Fe, Mn, chrome, etc. contained in the water. It can also get rid of arsenic, hydride, redundant chlorine and other macromolecule compound and radioactivity substances as Sr and Ra. Bacteria, coliform and other carcinogen existed in the water will also be killed and wiped off. It is the ideal water supply equipment in various fields including living drinking, foodstuff making, pharmacy and chemistry.

This water purifier is simple and reliable, easy to maintain. It is suitable for the places which are strict with water quality like enterprises, hotel, army, station and dock. All in all, it is a really good water supply device for both industry and living.

Main technical parameter

- (1) Model: HYT-2
- (2) Working capacity: 2T/H
- (3) Filtering volume: 2T
- (4) Working pressure: 0.25MPa
- (5) Chaotic degree: maximum 5mg/L
- (6) Water quality after treatment: need to be accorded with GB5749-85 national standard for living drinking water
- (7) Filter medium: active carbon

4. Sodium ion exchanger

Softening:

- (1) Softening theory: Exchanging Na^{++} of resin itself instead of $\text{Ca}^{++}\text{Mg}^{++}$ of water resource with ion to make water resource softening and become soft water.
- (2) The water resource which comes in the barrel exchanging resin and exchanging react with the ion in the barrel, ion exchanging Na^{++} of the resin instead of $\text{Ca}^{++}\text{Mg}^{++}$ water resource to decrease the $\text{Ca}^{++}\text{Mg}^{++}$ of the water, the water quality becomes soft water from hard water.

Regeneration:

- (1) Regeneration theory: Using Na^{+} of salt solution permutate $\text{Ca}^{++}\text{Mg}^{++}$ of invalidity resin To make resin restore softening ability.
- (2) Regeneration preparation: After 24—25KG salt dissolve completely in I dissolved tank And put it totally into II tank, and then dilute to thickness is 5% salt solution with water. Then dilute thickness is 10% salt solution with 24--25KG salt in I tank.

Disposal water volume: 1ton/hour---2ton/hour

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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Input water hardness: <4miligram/liter

Output water hardness: <0.035miligram/liter

Working pressure: 3kilogram/cm2

Testing pressure: 4.5kilogram/cm2

Working periods:48---50hours

Ion-exchanging agent: 732resin(or sulfured coal)

Soft water periods production capacity: 96ton/periods-----100ton/periods

The following picture **from left to right**, they are: pump, sand filter, active carbon filter, Sodium ion exchanger



The following picture, **from right to left**, they are sand filter, active carbon filter, Sodium ion exchanger



Contactora: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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5. Precision filter

Summary

This machine is made of stainless steel as a small tank which contains precision filter membrane, it only allows un-treated water go through the membrane, and does not allow any liquid go through another part, so it can filter the un-treated water. It also can be used in petroleum industry, pharmacy industry, wine making industry, beverage industry and higher quality water industry.

Main technical parameter

- (1). Model: JM-2
- (2). working pressure: $\leq 0.3\text{Mpa}$
- (3). Flux: 2T/h
- (4). Filter medium: PP ,10micron
- (5) Material: stainless steel 304

Structure and characteristic

This Precision filter is an advanced settled deep filter widely used with foldaway polypropylene. It is totally made from pure polypropylene for it's structure. The medium of filtering core adopts hot-melting fiber membrane made from polypropylene. This product has comprehensive chemic adaptability without using surface active type felting solvent. The scale of precision filtering is from 0.10mm to 60mm. The precision of the membrane won't be affected by the pressure caused by the taking-in water.

6. RO

Summary:

The device's key part: the reverse osmosis membranes is from the America HYDRANAUTICS company, it has a good performance to eliminate salts and the high pressure pump is from a high quality pump producer in China, it's easy to handle for its simple structure. The source water, in the case that the conductivity is less than 300us/CM, can reach the national standards totally after treatment by this device, it's the most ideal equipment for water treatment.

Main technical parameter:

Model: RO-1

Production Capacity: 1CBM/h Working Pressure: 1.5Mpa



on the left of RO, it is Precision filter

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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7. Ozone

Summary

Ozone sterilizer is designed and made to produce ozone, which is to sterilize. Ozone molecule is the allotrope of oxygen atom, with the molecule formula O_3 . As a kind of strong oxidizers, O_3 is with its function on the field of sterilizing. It is widely used in the living drinking and mineral water producing. It has the special function to deal with the poisonous and hardly-decomposed contamination and to improve the biology activity.

The O_2 maker is for producing the O_2 from the air. So, if we connect O_2 maker and Ozone, the O_2 maker can supply the O_2 for the Ozone to produce the O_3 . O_3 mix the water via a O_3 mixer to sterilize the water. After that, the water goes to the tank.



Filling system

1. 3 in 1 filling machine

CGF8-8-3 3-in-1 Unit is a kind of professional filling machine integrator for water. It is multifunctional which can be used for washing, filling and capping. It is a kind of advanced filling machine integrator which is innovated following the process requirements of filling water based on the importing and assimilating the foreign advanced technology. It is applied mostly in washing, filling, and capping plastic cap for mineral water and pure water. It is the perfect selection to a large or medium-size beverage factory due to its reasonable configuration, security of operation, dependability of running and its so convenient maintenance.

The primary features:

1. There are some features such as compact conformation, good shape, cozy operation, excellent automaticity and poor labor intensity.
2. We adopt air conveyor bottle feeding technology instead of the feeding screw and conveyer chain. Easily change the bottle change over parts.
3. It adopts the blocking bottleneck technology to convey bottles. It does not adjust the height of equipment when the type of bottle is exchanged. According to the diameter of bottle, you could exchange corresponding nylon elements such as arc slipper guide, thumb wheel etc..
4. Those stainless steel bottle nips of wash are designed especially and are solid and durable. It does not touch thread position of phialine, in order to avoid the second pollution.
5. All of parts directly contacted with material are adopted with food stage stainless steel without dead angle. So they can be cleaned easily.
6. It can keep the slight turbulence of liquids level in the solution barrel and ensure the accuracy in filling.
7. The opening valve mechanism is driven by the cylinder. According to the bottle signal, it opens timely, exactly and

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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reliably.

8. High filling speed and mass flow rate, high precision of filling valve and control of liquids level is accurate and without loss.

COMPONENTS

The complete machine consists of 6 parts as following:

1. Washing system: it consists of washing gripping dial, water diversion pan and flume.
2. Filling system: it consists of hydraulic cylinder, filling valve, control ring and lift air cylinder.
3. Capping system: it consists of screw capper, cap aligner and cap sliding guide rail
4. Power system: it adopts gear centralized drive model, which is consists of main motor and gear pairs.
5. Conveying system: it consists of guide table, thumb wheel and conveyor chain.
6. Electrical control system: it adopts frequency speed control, PLC control automatically and touches screen operation.

Brief work process:

Bottles are transmitted to the "Washing machine" of the Triad Filler by the "Bottle-feeding thumb wheel" via the "air conveyer". The "Wash gripping dial" of "Washing machine" grips bottleneck and turn 180° along a guide rail that makes bottleneck down. The special nozzles spray wash water to clean interior of bottles in the given area. After cleaning and drying, the "Wash gripping dial" turns bottles 180° again along the guide rail that makes bottleneck up. These cleaned bottles are put out from the "Washing machine" and transmitted to the "Filling machine" via the "Bottle-turning star wheel". These bottles entered the "Filling machine" are folded by bell jars and elevated up to touch with filling valve by the lifter cylinder. Before entering filling machine, there is a button for inspecting bottles on the steel thumb wheel. It sends the bottle signal to control the opening valve mechanism, and then the filling valve would be opened. The filling shall be started while air injection is reached to state of equipressure. The filling could be stopped automatically when the liquids level reach to the height of air return pipe. The filling valve is closed recur to valve-closing mechanism after filling. Then air is discharged and the complete filling process is finished. Bottles full filled come down to be off filling valve under the function of cam and be put into the "screw capper" via transitional thumb wheels. The bladed stopper on the "screw capper" locks the bottleneck to keep bottles erectly and avoid rotating. The "screw cap head" keeps revolution and rotation on the "screw capper" and carries out these movements of cap picking, cap covering, screw capping and cap unhitch etc. after that whole capping process is finished. The "cap aligner" is situated above the "screw capper"; it is connected with the cap pan of "screw capper" via the cap sliding rail. The finished bottles are transmitted to the bottle output conveyor chain via the bottle output thumb wheels. And which are transmitted out from the Triad filler by conveyor chain and put in the next process.

MAIN TECHNICAL PARAMETERS

1. Equipment type: CGF8-8-3
2. Quantities of service position of the washing machine: 8
3. Quantities of service position of the filling machine: 8
4. Quantities of service position of the capping machine: 3
5. Bottle material: polyester bottle
6. Bottle height: 120-360mm
7. Bottleneck diameter: $\phi 50-\phi 120\text{mm}$
8. Pressure of air supplier: 0.7MPa
9. Consumption water: 0.1-0.4 M3/hour
10. Washing water pressure: 0.2~0.25MPa
11. The maximum throughput: 500ml 3600BPH
12. Power: 2.5KW

Main configuration for 3 in 1 filling machine:

- 1) Material of rinse and rotary plate, machine table is stainless steel 304.
- 2) Touch screen: DIGITAL

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



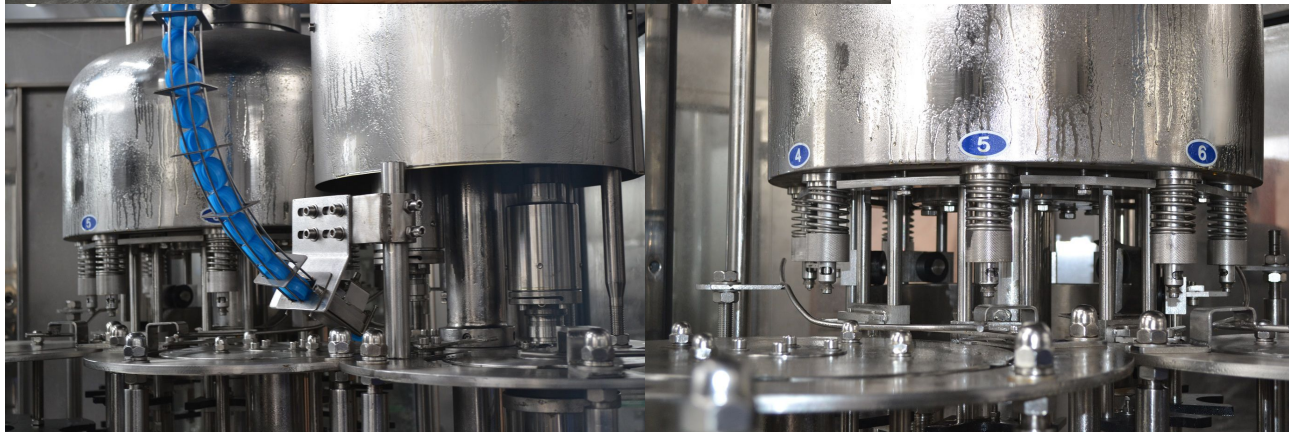
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3) PLC: OMRON/ MITSUBISHI

4) Photocell switch and proximity switch: AUTONICS (South Korea)

5) Main Pneumatic components: AIRTAC

The electrical parts and pneumatic parts used in the 3 IN 1 machine are listed as follows:



Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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Semiautomatic PE film packing machine



Light checker

This machine is bottle test after liquid filling equipment, inspection of the bottle to be tested in a row, white light behind the bottle through photos, enlarge the magnifying glass in front of the bottle. It can easily be visual.

Technical parameters:

Capacity : 60-400B/min

Test type: White light is visual measurement. Enlarged is double.

Power supply: 240v 50hz

Power: 0.5kw

Size: 1400×580×1200 mm



Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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PART IV INSTALLATION, DEBUG, TRAINING AND AFTER SALES

1. Installation and debug

After equipments reached the workshop of customer, place the equipments according to plane layout we offered. We will arrange send technician for equipments installation, debug and test production at the same time make the equipments reach the rated producing capacity of the line. Time for installation and debug is 15-20 days.

2. Training

Our company offer technology training to customer. The content of training is structure and maintenance of equipments, control and operation of equipments. Training is in the workshop of customer. Seasoned technician will guide and establish training outline. After training, the technician of buyer could master the operation and maintenance, could adjust the process and treat different failures.

3. Quality guarantee

We promise that our goods are all new and not used. They're made of suitable material, adopt new design. The quality, specification and function all meet the demand of contract. We promise that the products of this line could storage for one year without adding any aseptic.

4. After sales

- A. after checking, we offer 12 months as quality guarantee, free offer wearing parts and offer other parts at the lowest price. In quality guarantee, the technician of buyers should operate and maintain the equipments according to seller's demand, debug some failures. If you could not solve the problems, we will guide you by phone; if the problems are still can not solve, we will arrange technician to your factory solving the problems. The cost of technician arrangement you could see the cost treatment method of technician.
- B. after quality guarantee, we offer technology support and after sales service. Offer wearing parts and other spare parts at favorable price; after quality guarantee, the technician of buyers should operate and maintain the equipments according to seller's demand, debug some failures. If you could not solve the problems, we will guide you by phone; if the problems are still cannot solve, we will arrange technician to your factory solving the problems. The cost of technician arrangement you could see the cost treatment method of technician.

Contact: James

Website: www.sdfilling.com

M.B: 86-15951182717

Email: info@sdfilling.com



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PART V CHECK & ACCEPT OF EQUIPMENTS

(Equipments supplied by our company, we will offer products quality guarantee and test report)

1. Check & accept standard (bottles and caps should be eligible)

- (1) working efficiency of the whole line $\geq 85\%$;
- (2) The quantity of waster of the whole line $\leq 0.2\%$
 - 1) Bottle leakage: invert the bottle and press by hand come forth water leakage
 - 2) Without cap, crooked cap or cap with damage
 - 3) Clip bottle bad or damage the bottle seriously
- (3).the whole line will run continuously for 8 hours, stable quantity of the average acceptable-end products $\geq 99\%$
- (4).the distance between the material inside the bottle and the top of bottle neck is less than 8mm (full after cooling)
- (5).the liquid reflux $< 10\%$
- (6).the sanitation of the product meets the standard of beverage industry.
- (7).about the checking and accepting of animalcule will carry sample and check according to the standard of nation beverage industry, the result of checking will according to the request of industry standard.

2. Check & accept procedure

- (1) After debugging the machine in seller's factory, after checking out and signature of two sides, then we can shipping the machine.
- (2) finish installation and debugging the machine, after checking out, Running the whole production line to show the line function, after certification then final checking. Meanwhile training for operation, maintenance and so on, then make a signature of two sides to become effective.



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PART VI SUPPLY, INSTALLATION, DEBUG TIME

1. time of equipments production: 45 days.
2. time of installation and debug: 15-20 days.

Contactora: James
Website: www.sdfilling.com

M.B: 86-15951182717
Email: info@sdfilling.com



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PART VII PACKAGE AND TRANSPORT

As usual, we adopt wooden case as package type. It's suitable for long-distance transport. According to customers' special demand, we could adopt sheet iron case and so on.