

**GZ4010**

## Penicillin Bottle Powder Canning Machine



## TECHNICAL PARAMETER

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NANJING HANYOO PHARMATECH CO., LTD.



## **GZ4010 Penicillin Bottle Powder Canning Machine**



### **PURPOSE AND INTRODUCTION**

This machine is mainly suitable for filling, pressing and capping various small dose powders. Widely used in the food, pharmaceutical, chemical industries and scientific research fields. This machine can be used for standalone production, as well as in conjunction with equipment such as bottle washing machines and dryers to form a linked production line. Fully comply with national GMP requirements. This machine can upgrade its electrical configuration according to customer requirements. This machine adopts a high-precision enclosed cam indexing station, which has high precision, reliable operation, and long service life. The divider has a simple structure and does not require maintenance for long-term use.

## MACHINE FEATURES

1. Human machine interface setting, intuitive and convenient operation, PLC control, precise loading.
2. Variable frequency control, adjustable production speed, and automatic counting.
3. Automatic shutdown function, no filling without bottles.
4. Disc positioning filling, stable and reliable.
5. High precision cam indexing control, precise positioning.
6. Made of SUS304 and 316L stainless steel, fully compliant with GMP requirements.

## EQUIPMENT DESCRIPTION

The four head powder packaging machine is a new generation of packaging equipment developed by our company's engineering and technical personnel (with a loading range of 0.02g-2000g): designed with mechatronics integration, the powder screw is driven by a servo motor, and the number of steps is set by a microcomputer to accurately control the range of measurement required for screw rotation and packaging. All bottle positioning adopts servo motor positioning, with a reasonable overall design, reliable and stable operation, simple operation, high degree of automation, easy disassembly, and convenient cleaning of key parts, fully complying with GMP specifications.

1. The packaging, capping, and rubber stopper vibration stations adopt separate isolation stations to prevent particles generated by vibration from entering the bottle, greatly reducing product quality risks.
2. According to the properties of the raw powder and the requirements of the product, the KFG packaging machine has multiple packaging functions such as secondary and tertiary packaging, as well as composite raw powder products.

The mixing box and powder hopper of the KFG packaging machine are made of advanced non-toxic and transparent materials that can be sterilized at high temperatures both domestically and internationally, as well as advanced polishing production. This allows operators

to clearly see the height of the powder layer, the flowability of the raw powder, and the mixing and powder feeding conditions.

4. On the basis of the original powder box, increase the height by 2cm and pack some relatively fluffy raw powders to control (improve) the height of the powder layer, increase the gravity and fluidity of the raw powder, and improve the accuracy of packing.

5. The powder feeding nozzle can be lengthened or shortened according to the properties of the original powder to improve the accuracy of loading.

6. The new KFG packaging machine has a front and rear nitrogen filling function. The front nitrogen filling replaces the oxygen in the penicillin bottle, and the rear nitrogen filling uses multiple nitrogen filling in the protective cover, which can make the residual oxygen in the penicillin bottle  $\leq 4\%$ .

7. All parts in direct contact with drugs can be sterilized at high temperatures and easily replaced and disassembled (allowing for non-contact installation).

8. It has a workstation for removing unqualified products, a fault alarm device, and various advanced instruments and sensors.

9. Install reserved detection devices for dust particles, floating bacteria, and settling bacteria.

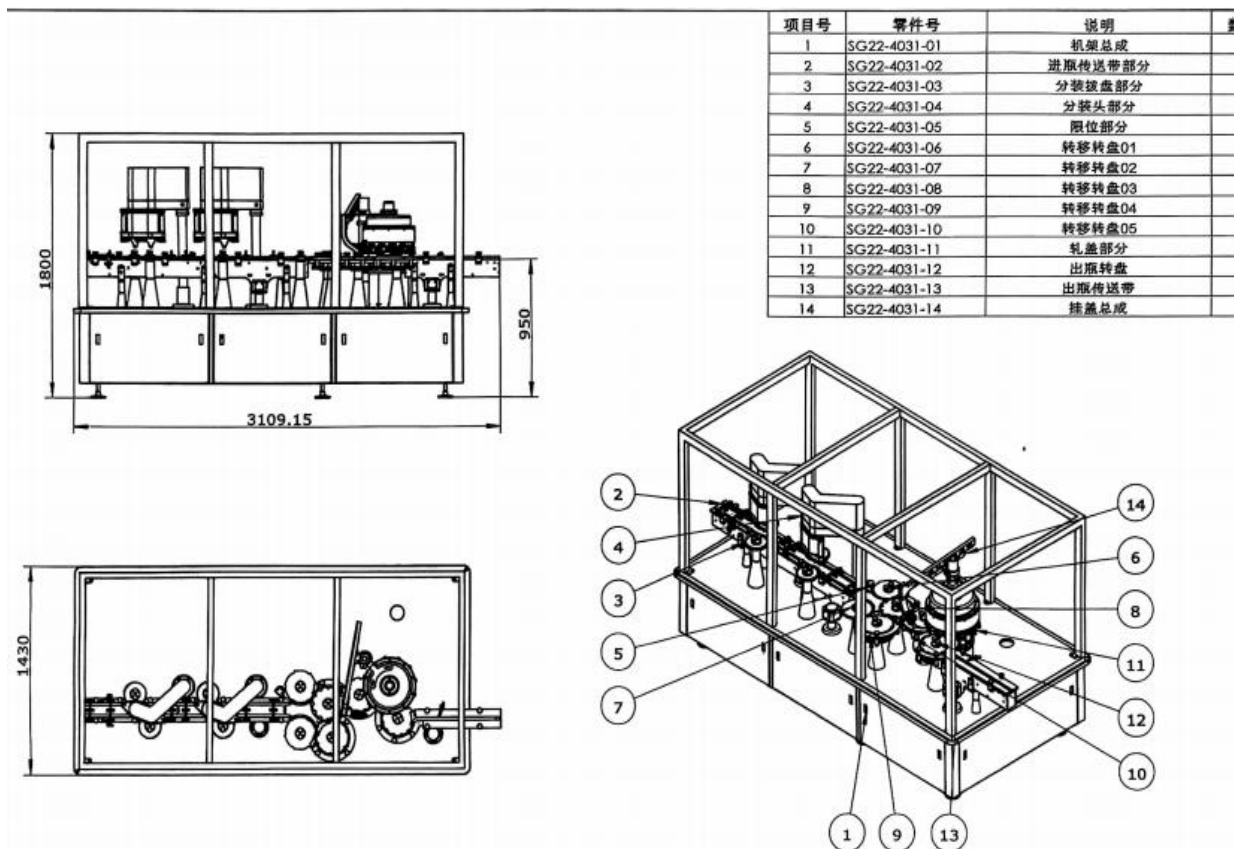
## **ACTION PROCESS**

1. The bottles are fed into the conveyor chain by the bottle feeder and then transported into the sorting turntable.
2. Place the manual outer cover into the vibrating disc and discharge them one by one into the mechanism for work.
3. Press the start button on the touch screen of the device, and the bottle is pushed into the main turntable tooth hole. The movement of the main turntable drives the bottle to make a clockwise jog, and the turntable tooth mouth just clamps the bottle, so that the bottle does not pour inside the turntable and is positioned.
4. When the bottle passes through the filling station with the movement of the main turntable, the bottle probe detects the presence of the bottle, and the stepper motor works to

transport the quantitative powder wood to the empty bottle through the servo controlled screw. If no bottle is detected, the equipment does not perform filling

5. When the bottle moves through the upper cap position with the main turntable, the upper cap mechanism moves
6. When the bottle moves through the capping position with the main turntable, the capping mechanism moves up and down, driving the capping head to cooperate with the up and down movement, tightly screwing the bottle cap onto the bottle mouth, and completing the capping action.
7. After filling and selecting the bottle cap, the bottles are automatically exported to the main turntable through the conveyor chain, completing a series of actions such as automatic bottle loading, filling, capping, sealing, and bottle discharge.

## INTRODUCTION TO EQUIPMENT SIZE MECHANISM



## TECHNICAL PARAMETER

Model	GZ4010
Filling volume (g)	0.5g-1g
Filling Precision	±1%
Filling method	Screw filling
Filling head	4
Production capacity (bottles/min)	200
Power Supply	220V / 0.10HZ / 0.1A
Inner plug vibration disc	SUS 304
Outer cover vibration disc	SUS 304
Qualified rate of capping	≥99%
Dimensions (mm)	2300*1000*1689
Weight (Kg)	40.10

## MAIN CONFIGURATION LIST

NO.	NAME	BRANE	UNIT
1	Double standard plug vibration disc	customized	1
2	Dual track principle cover vibration disc mechanism	customized	1
3	Li Sai Institution	customized	1
4	Cover mechanism	customized	1
5	Material warehouse	customized	1
6	Powder screw	Yunfan	4
7	turntable	customized	1
8	Filling head	customized	4
9	Cap pressing head	customized	15
10	touch screen	Xinjie	1
11	PLC	Xinjie	1
12	Switching Mode Power Supply	chint	1
13	Cylinder	AirTAC	2
14	Button	chint	
15	relay	chint	6
16	Main motor	Shanghai Liming	1
17	Conveyor motor	Zhongshan University	1
18	Capping motor	Zhongshan University	2
19	Servo filling motor	Xinjie	2
20	Photoelectric switch	Shanghai workers	
21	Optical amp	Alto Knicks	
22	Double standard plug vibration disc	Zhucheng, Shandong	1



The banner features a dark blue background with several white line-art icons related to medicine and healthcare. These include a blister pack of pills, a medicine bottle with a cross, a spilled pill, two pills, a pill bottle, two pills, an ampoule, and another blister pack of pills.

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