

CAPSULE COUNTING MACHINE

MODEL: FTS-A

USER MANUAL



Wenzhou Finetech Machinery Technology Co.,Ltd., PART

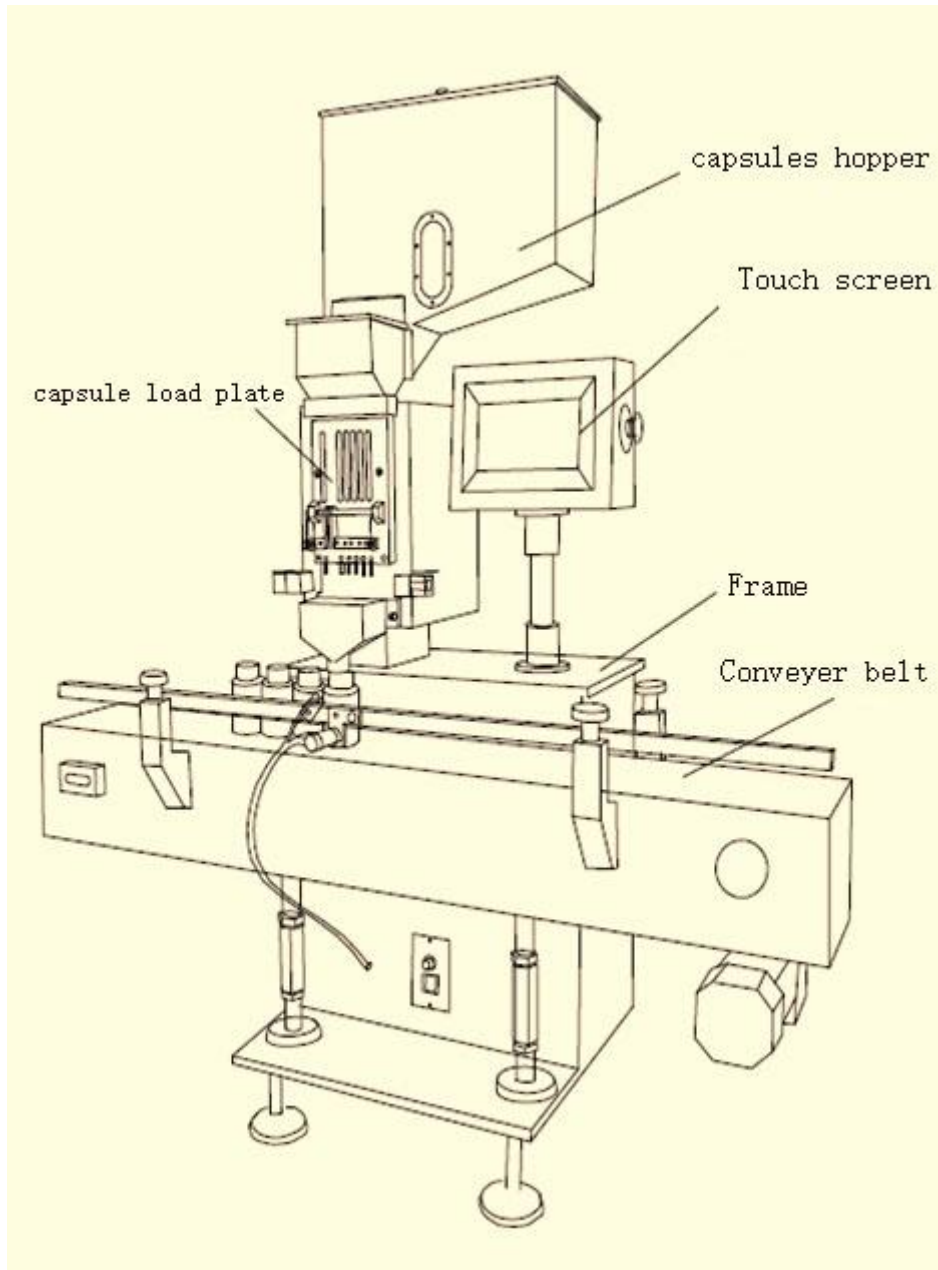
Tel: +86 15382537883

<https://pharmamachinecn.com/ft-8-automatic-tablet-counting-machine/>

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1. Machine Outside Drawing



2.Summary

ZJS-A capsule counting machine is widely in small scale production in hospital ,pharmaceutical factory,R&D center for capsule counting. ZJS-A Intelligent automatic capsule counting and filling machine adopts proprietary technology, PLC control, touch screen operating system. It can count automatically with high-accuracy. Some accessory equipment can be connected like feeding turntable, capping machine and Labeling machine.

Feature:

- (1)Vertical rail compensation count (patented technology) :Capsule counting accuracy almost can reach 100%. It can avoid the weakness caused by traditional shake or rotary counting .
- (2)Vertical rail compensation count (patented technology: it can quickly set any amount capsules in a bottle,and no need to change mold.
- (3)change the speed by transducer.
- (4)conveyor type transport method:can connect with accessory equipment (bottle unscrambler, cap screwing machine,etc)
- (5)Touch Screen and PLC programming control: can set various data quickly
- (6) light-operated technology: automatically check no bottles or overturning bottles with automatic alarm function., it can reduce the waste of capsules
- (7)All the mould is designed with round pin positioning,so it's convenient and efficient for users to change mould(just need 5 minutes)
- (8)Contacting Parts adopt 304 Stainless Steel, Conform to GMP standard.

3.Main Technical Parameter

Model	ZJS-A
Change Mold Time	5-8 Minutes(Beginner)
Capacity	20,000-40,000Pcs/H
Suitable capsule size	000#、00L#、00#、0#、1#、2#、3#、4#、5#
Max Bottle Diameter	130mm
Voltage	220V, 50Hz, 1P
Total Power	1.2kw
Air Pressure	0.03m ³ /min 0.7Mpa
Vacuum pump	40m ³ /h
Overall Size	1.2×0.5×1.4 m
Weight	210kg

4.Main Parts Introduction

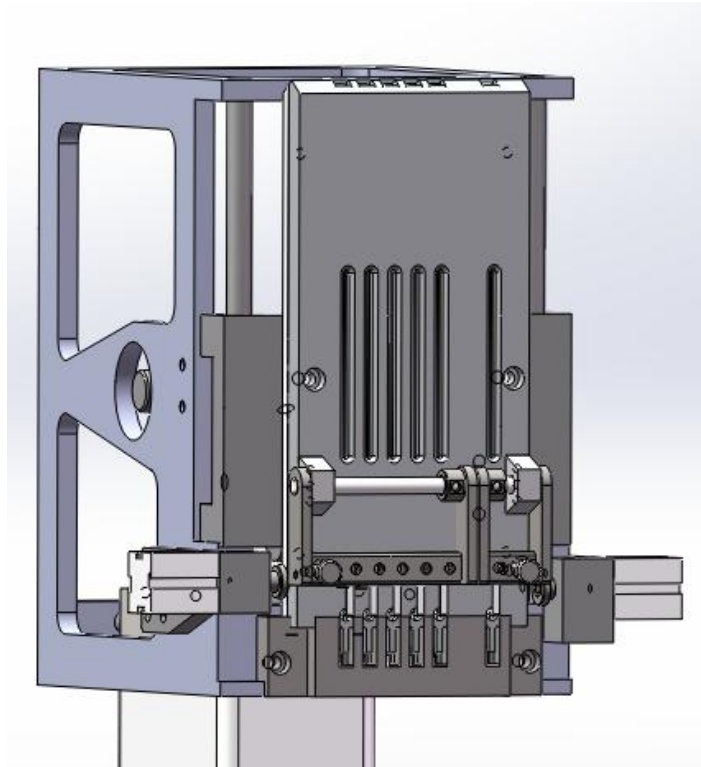
4.1 Counting capsule parts:

The part transfers capsules from hopper to capsule feeding tube with up-and-down motion capsule plate. capsule feeding tube has feeding switch around. It can make a row of capsules if feeding tube moves down. When feeding tube moves up, the switch will be off immediately and the capsules will stay in the capsule tube and not fall off. The falling off capsules in capsule sorting plate will be pushed into feeder by capsule feeding fork. The left and right feeding switch can control independently.

Transducer adjustable speed motor drives cam, rocker, ratchet mechanism. cams going per rotation will bring rocker, and make capsule feeding plate up and down motion, finish feeding process.

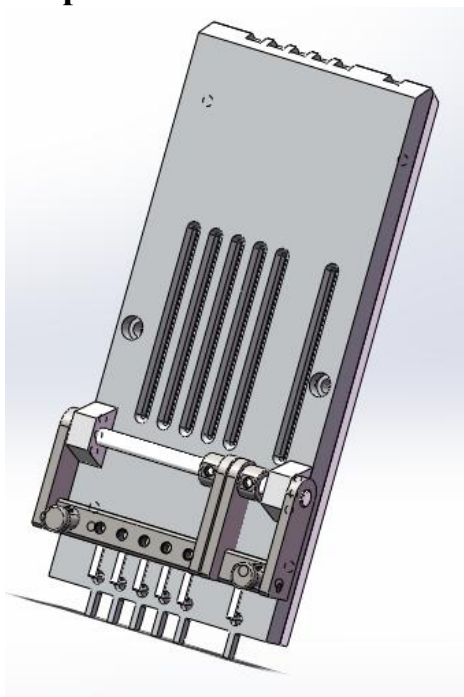
The parts has automatically counting control function. when capsules reach setting number, car cam device will flick automatically which make capsules no feeding. Regarding to the feeding speed, it can be adjusted and displayed on the PLC.

We will provide a set of mold for free if clients buy the machine. Each set mold has six grooves, five grooves is main counting parts, the remaining one is auxiliary counting parts for compensating (see pic 1)

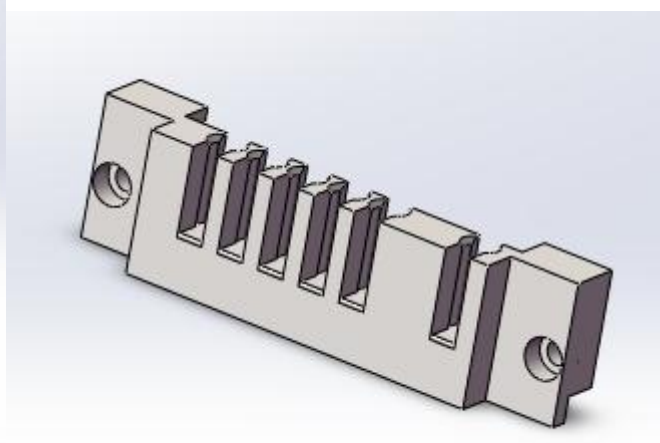


Pic 1

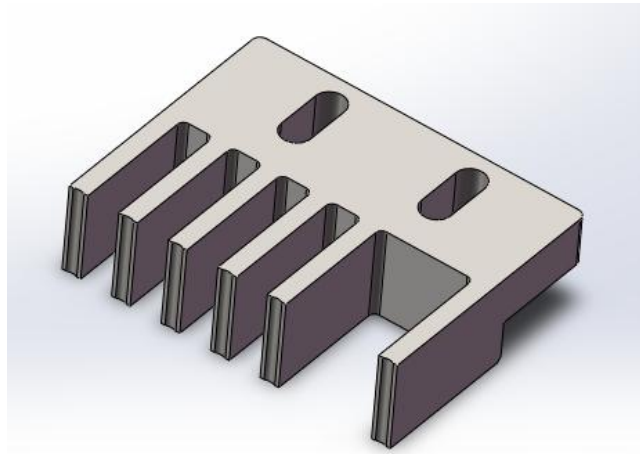
Mold list: For making different size capsules, it should change homologous capsule mold : **Capsule feeding plate** , **Capsule sorting plate** , **Capsule feeding fork** (see pic2)



Capsule feeding plate



Capsule sorting plate



Capsule feeding fork (Pic 2)

4.2 Changing Mold Stages:

4.2.1. Remove Mold

- (1) loosen 2 pcs M6 screws on the feeding plate with 8# socket head wrench, and Capsule feeding plate gets discharged.
- (2) loosen 2 pcs M6 screws on the feeding plate with 8# socket head wrench, and Capsule sorting plate gets discharged.
- (3) Working under inching condition, capsule feeding fork is stopped before front stop point. Loosen 2 pcs M6 screws, and capsule feeding fork gets removed.

4.2.2. Mold installation and debugging

- (1) Capsule sorting plate setup: There are 2 positioning holes behind capsule sorting plate, just tighten and alignment M6 screws on the round pin.
- (2) Capsule feeding plate setup: There are 2 positioning holes behind capsule feeding plate, just tighten and alignment M6 screws on the round pin.
- (3) Capsule feeding fork setup: tighten slightly M6 screws connected to capsule feeding fork, and then inching capsule feeding fork to front stop point and then tighten the screw.

The system adopts 0.4Mpa pressure, compressed air is sent by air pump, and air will be delivered to main and deputy air cylinder after pneumatic triplet processing.

pneumatic triplet: first step is air filter,

second step is pressing regulating

(1) gasification oil mist is for lubricating gas patch system

(2) oil injection adjustment will take around 3 minute to make a drop of oil.

(3) solenoid valve is instructed by electric system, and controls counting motion.

5. Electric control system

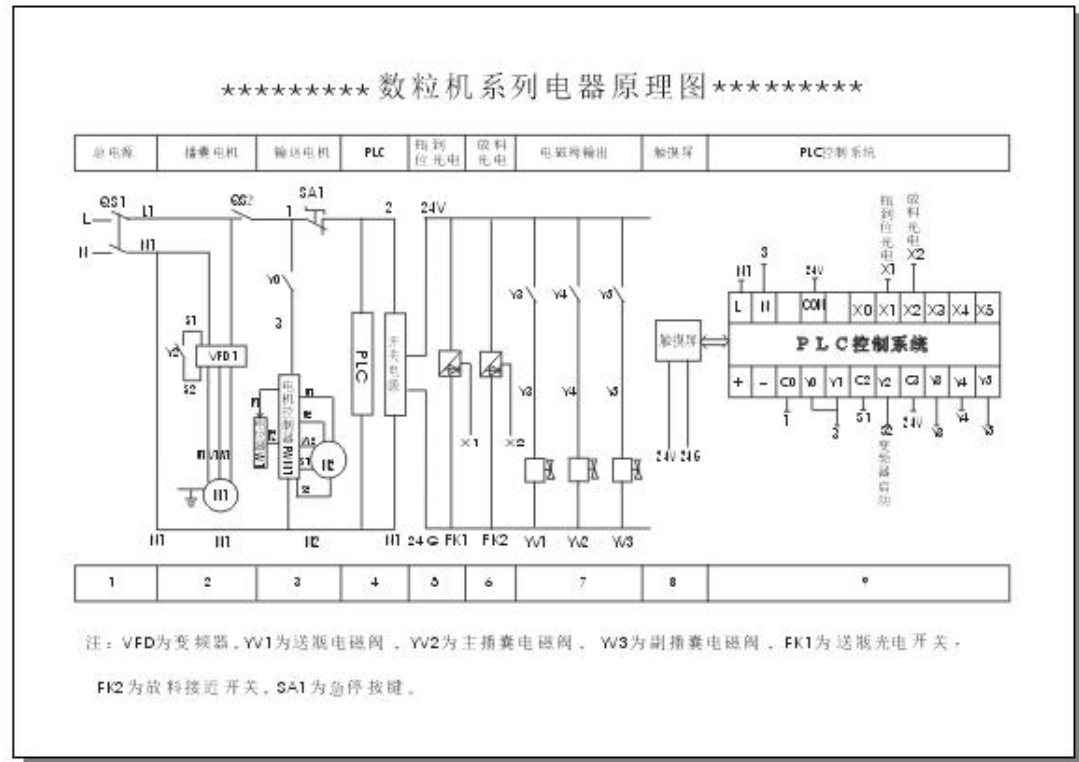
5.1 Introduction

The machine power supply is 110V,60Hz,1P, add a wire for ground protection ,so, user must connect guard line before accessing power supply.

This machine adopts a transducer adjustable-speed motor,it's easy to maintain and operate.

Control power supply is AC110V,switching power supply stable volt is DC5V,and PLC control voltage is 17V.

5.2Electric control system schematic diagram



6. Adjustment&Operation

6.1 Before testing the machine, users must be familiar with instruction, each spare part function, control panel.

6.2 preparatory stages before running

6.2.1 the machine power supply is 110V, 60Hz, and must be ground connection.

6.2.2 check every spare part of the machine is good, and add oil for lubricating spare part according to request.

6.2.3 connect air source(air pump is option device)

After connecting power supply,users press air switch on the electric cabinet,PLC touch panel monitor will display initial picture.

6.3 Adjustment&Operation

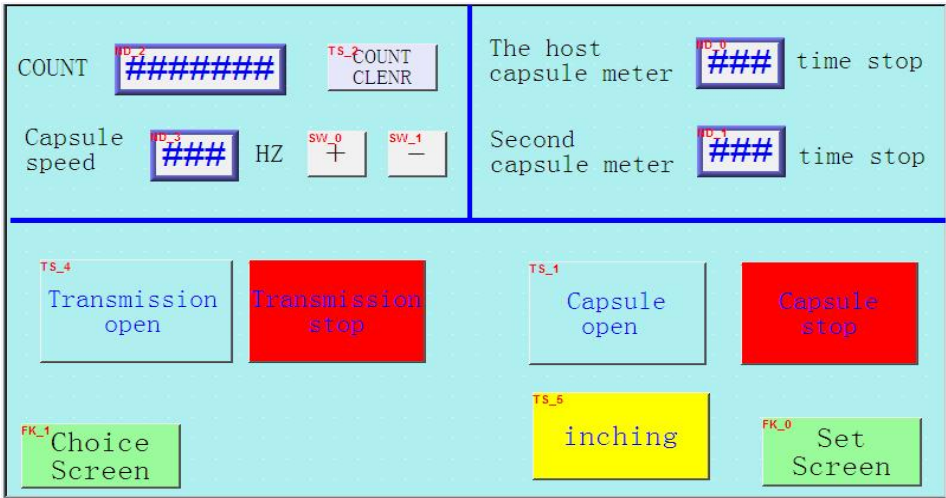
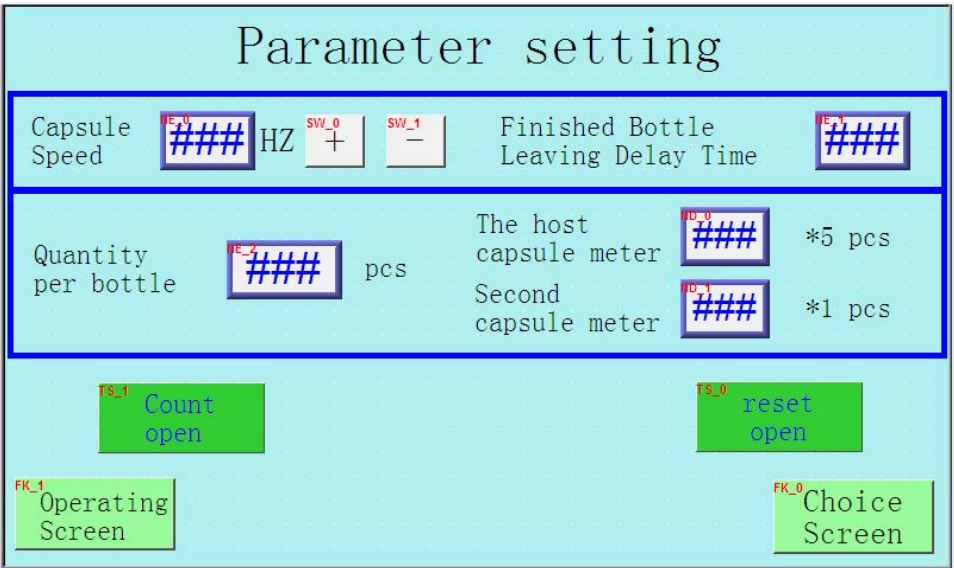
6.3.1 when it starts working, the conveyor rotation direction must be clockwise. Put the bottles on the left of conveyor and adjust air cylinder positioning device of bottles, when bottles come to the bottom of hopper and the bottom of hopper is alignment with hopper mouth, photoelectric switch makes cylinder stuck the bottles.\

6.3.2 Users manually sets capsule quantity per bottle.The main and deputy feeding technology will set up corresponding data, the feeding speed can adjust between 1Hz--50Hz, at the beginning we suggest the feeding speed should be between 25Hz—35Hz

6.3.3 pressing inching button makes feeding device move up and down. During the process, it should be no clamping stagnation and don't have abnormal noise. Pour finished capsules into hopper and count the capsules at low speed, and then improve the speed gradually.



START



7.Electric Configuration

Name	Model	Brand	Qty
Touch Screen	MT6070IH	Weinview,Taiwan	1
PLC Programmable Controller	DVP14ES00R2	Delta	1
Transducer	DVM-2S004G-02	Drive, China	1
Swicthing Power Supply	S-24-50	Meanwell,Taiwan	1
Worm and Gear Reducer	WPWD-40-40:1	Xuya,China	1
Breaker	10A\2P	Schneider	1
Breaker	3A\1P	Schneider	1
Optical Fiber Ampler	BF3RX	Autonics	1
Optical Fiber	FT-420-10	Autonics	1
Proximity Switch	H12-D5NK	Ruixiang, China	1
Emergency Stop Switch	LA37-11ZS	Chint China	1
Adjustable-speed Motor		China	1
Speed Setting Controller		China	1
Locking cylinder	MAL100X80	AirTac	1
Air Filtration of Pressure regulating valve	AL-2000	AirTac	1
Three-Phase Asynchronous motor	Y263M2-4	Lichao,China	1