STEP Z-shaped Conveyor with Vibration Hopper 3.2 meter
(Operation Manual)

CE

48618010-3218 Manual UK 230223

COMPANY INTRODUCTION

"We believe packaging solutions for our customers should be simple, easy to use, ergonomic and sustainable.

We offer a wide range of packaging products and solutions, and web design and engineer production lines specifically built to your needs.

Our motto is simple: Sal-Tech Easy Packaging makes your life simpler through engineering and good design, and your job less stressful. We Keep Things Together."

Gunnar Salbæk
Owner/CEO

About Sal-Tech Easy Packaging

Sal-Tech Easy Packaging offers a wide range of solutions for simple and reliable packaging of your products.

If it is a standard or a special solution that's needed for your assignment, we have a creative input to solve your needs, securing you an up-to-date packaging application.

Sal-Tech Easy Packaging is 100% owned by Gunnar Salbæk,

CVR no.: DK18429098 Salbæk Easy Packaging v/Gunnar Bjørn Salbæk.

Our team works together on a 100% virtual platform and therefore please forward all correspondence to support@sal-tech.com.

Bank connection: Nordea Denmark.

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I. Overview

Thank you very much for using our Ztype conveyor, in order to maximize reflected the superiority of the conveyor performance, we introduce the performance of Ztype conveyor and operation usage in detail.

Ztype conveyor is mainly used in vertical conveying of granule material, such as the food of good mobility, crops, pharmacy, and chemical products. Ztype conveyor, combination weigher and packaging machine compose the quantitative automatic packaging systems, widely used in food packaging industry.

II. Caution：

- ☐ No bumping or strong pressures on hoppers, in case of destroying the hoppers.
- ☐ According to production requirements select the corresponding conveying capacity.
- ☐ Electric control box must be kept clean, dry, only allow a fulltime staff to open, in order to prevent the maloperation fault from happening.
- ☐ Turn off the power before repairing and cleaning the machine
- ☐ When machine fails, firstly must turn off the power, professional is allowed to check and repair the machine.
- ☐ It is prohibited to touch the running mechanical components and electrical parts when the machine is running.

III. Specifications

SPECIFICATIONS	
Model	STEP Z-shaped Conveyor with Vibration Hopper 3.2 meter
Hopper volume	1.8L
Hopper size	(L) 420x (W) 140x (H) 70
Conveying volume	3～6m3/h
Electrical power	0.75KW（50HZ，2.0A）
Voltage	220V,50/60HZ
Vibrator amplitude Max	4mm(Dual Vibrator, Max voltage220V)
Item Number	48618010-3218

Multiweigh conveyor has overload protection function, machinery(torque limiter)and electric(time relay)compose overload protection system. Effectively protect the motor, chain and hopper;

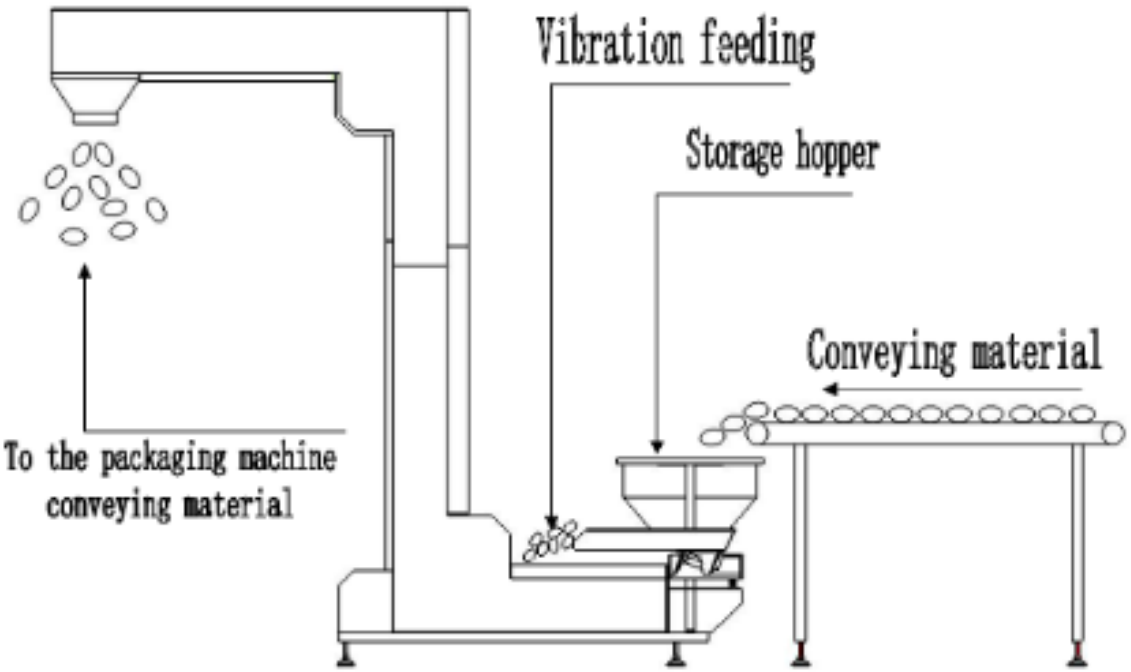
Reliable security, conveyor automatically turn off when open the back cover in running in order to prevent accidents;

Back cover with a plexiglass can see the operation of hopper clearly;

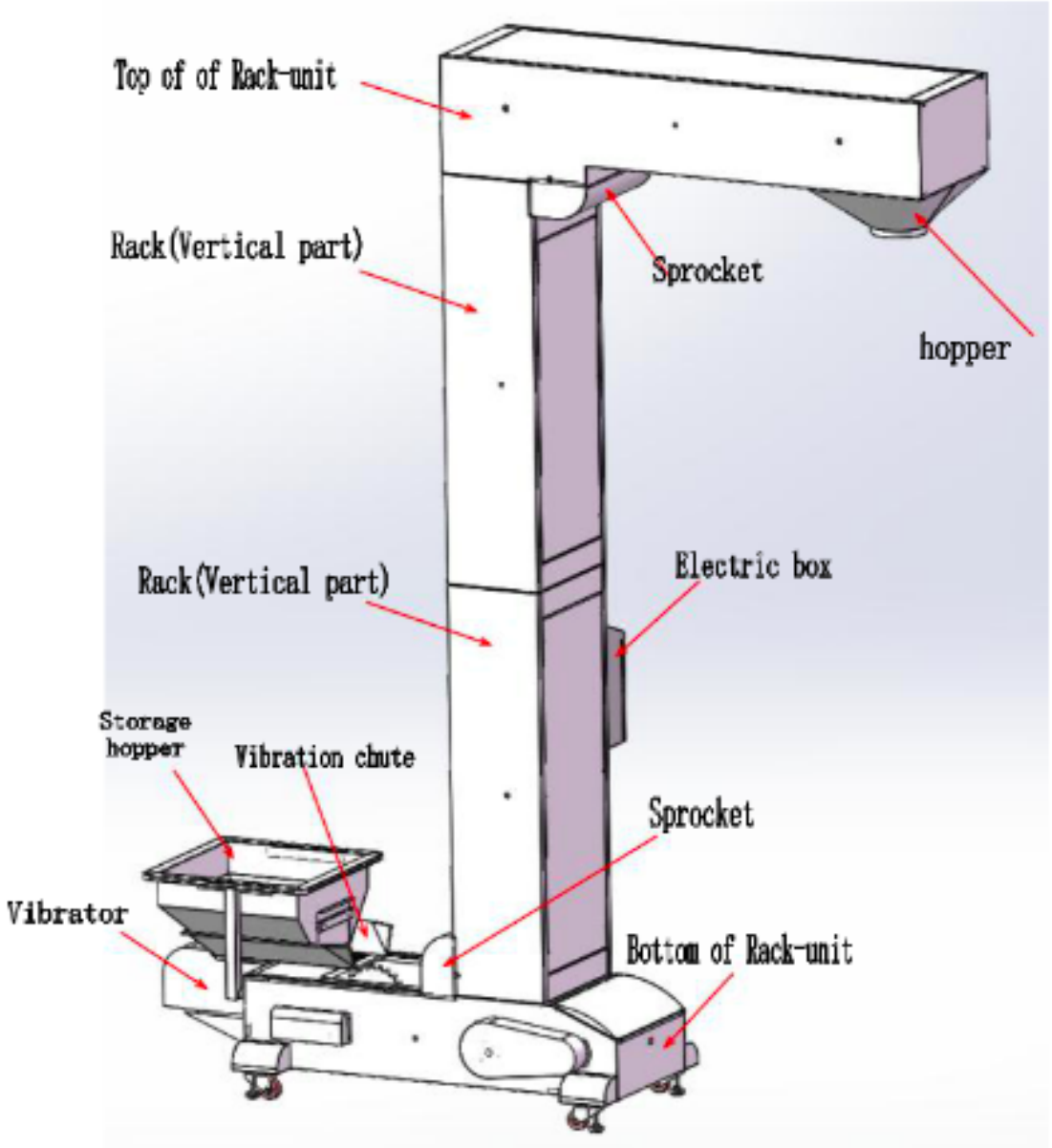
Hopper has strong antipressure ability;

IV. Working theory

When Ztype conveyor receives the work signal, the threephase asynchronous motor transports materials to packaging system with driving chain and hopper. While motor is at working as well as the vibrator, and adding materials to the hopper. (As shown in the following chart)

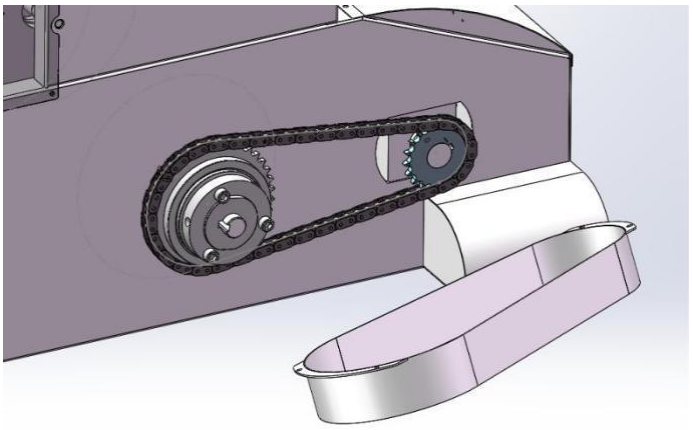


V. Machine Structure

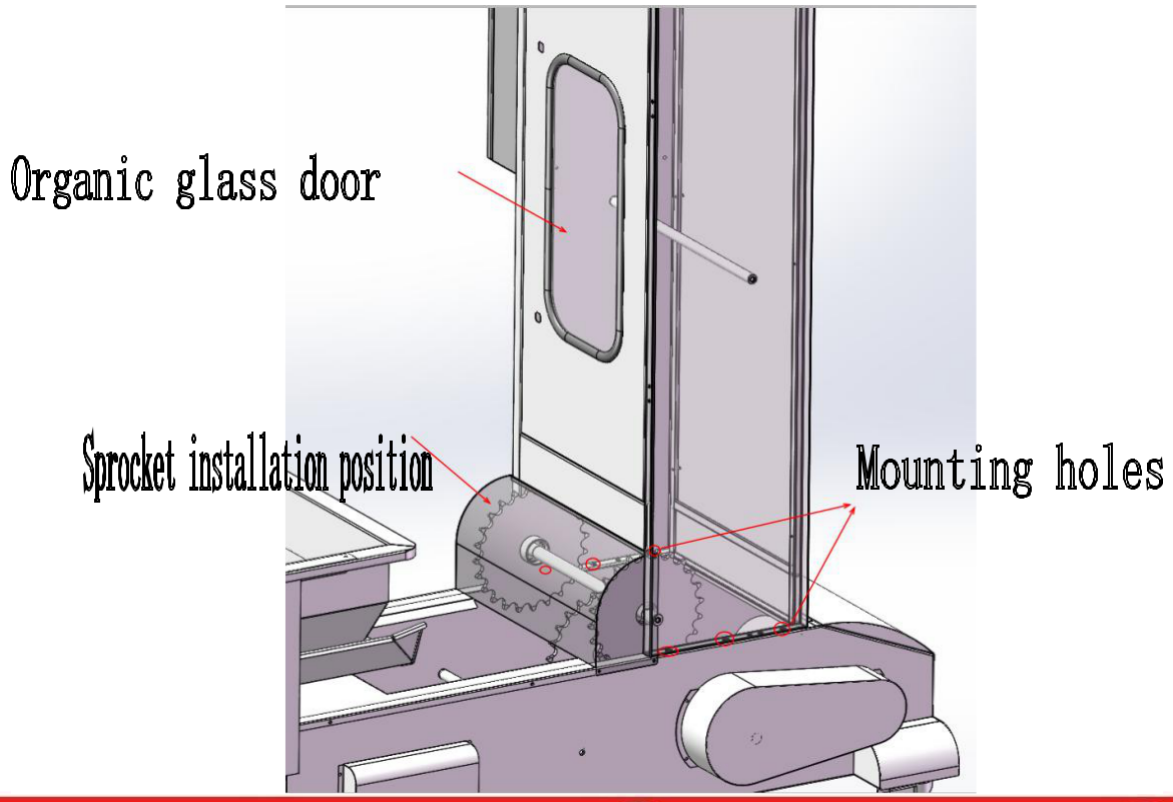


VI. Installation Diagram

1. Open the wooden case and put the parts out. Loosen the fixing bolts of the motor cover and release the chain on the motor gear (Chart1) in order to place the hopper at the rear; and place the base of the hoist in place.



2. Install hoist box, each box has 6 mounting holes, all locked with bolts and screws. (see installation instructions for detailed installation) the installation effect of the bottom box and the lower box is shown in figure 2;



The installation effect of the lower box and the upper box is shown in figure 3;

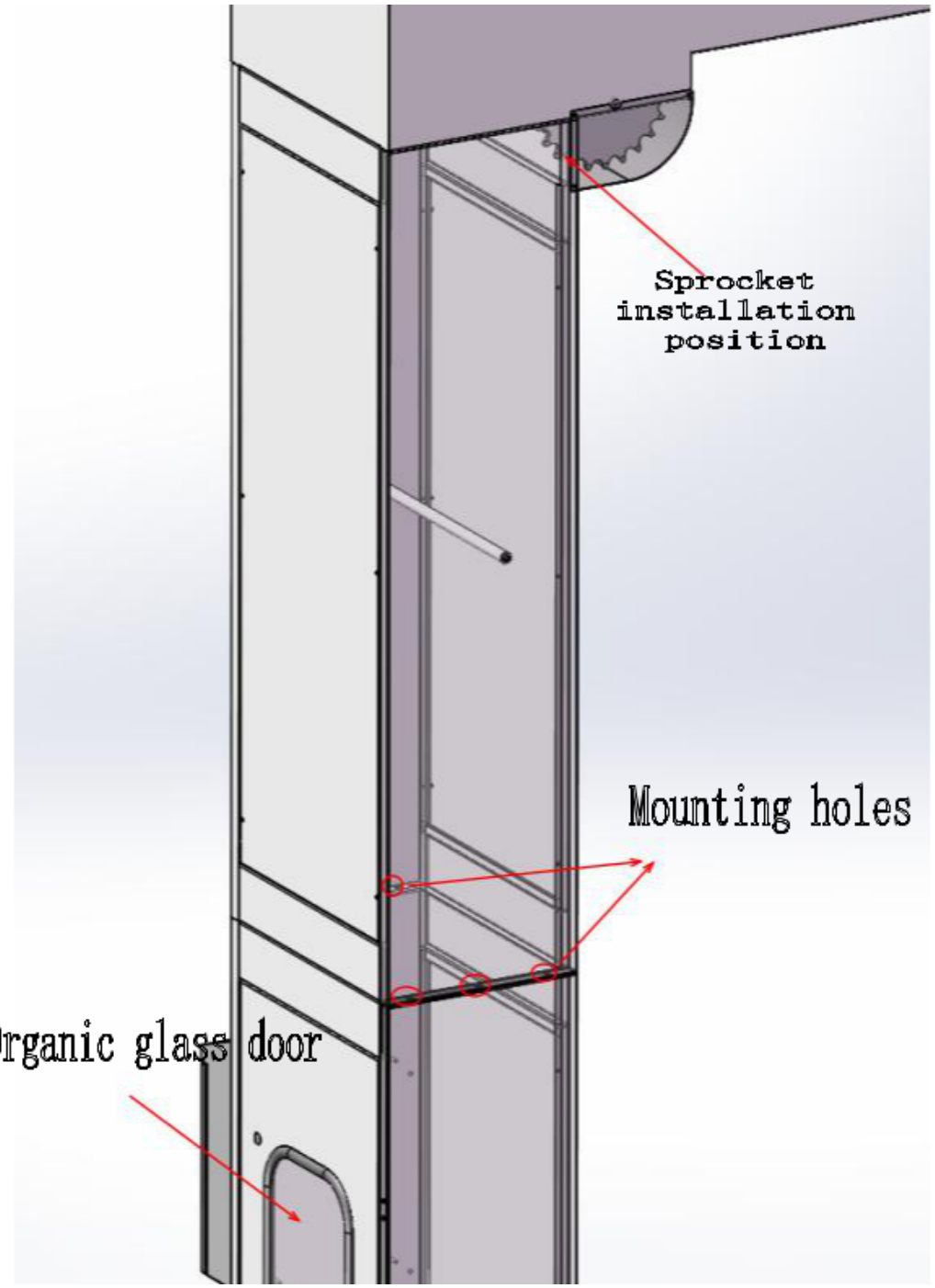


Chart 3

The installation effect of the upper box and the top box is shown in figure 4;

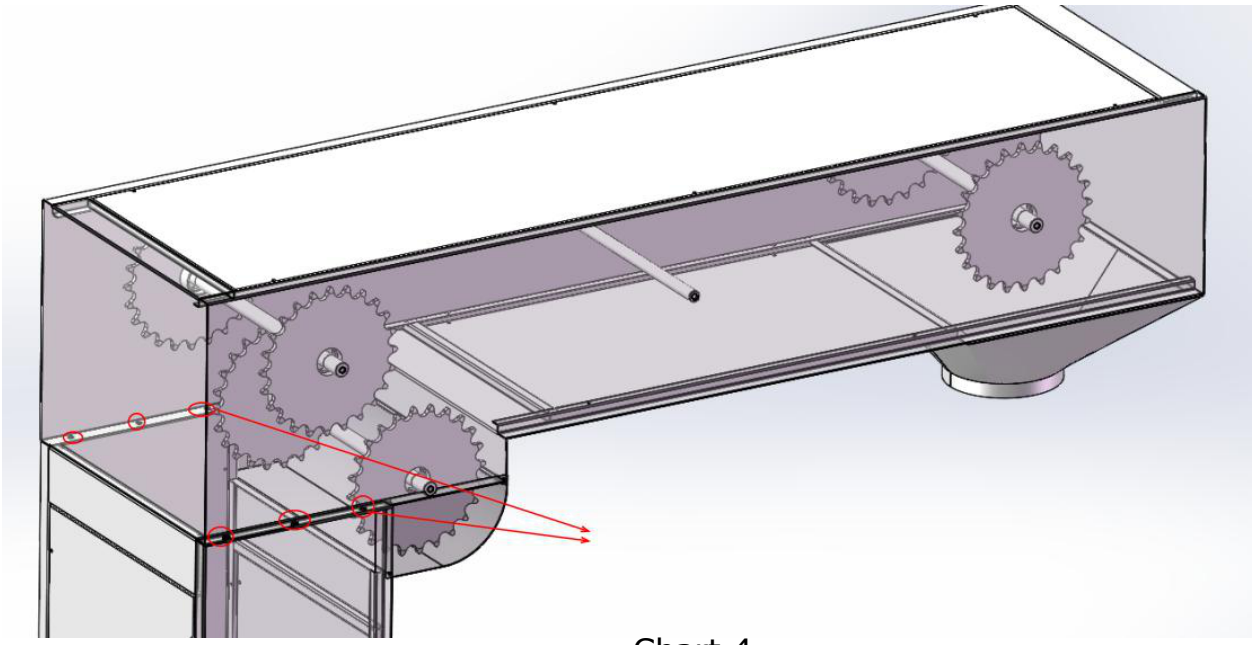


Chart 4

3. Installation chain: after the whole frame and sprocket are installed, you can begin to install the chain, pay attention to the installation direction of the left and right chain, the end of the belt pin is installed inward, and the left and right symmetrical installation, as shown in figure 5.

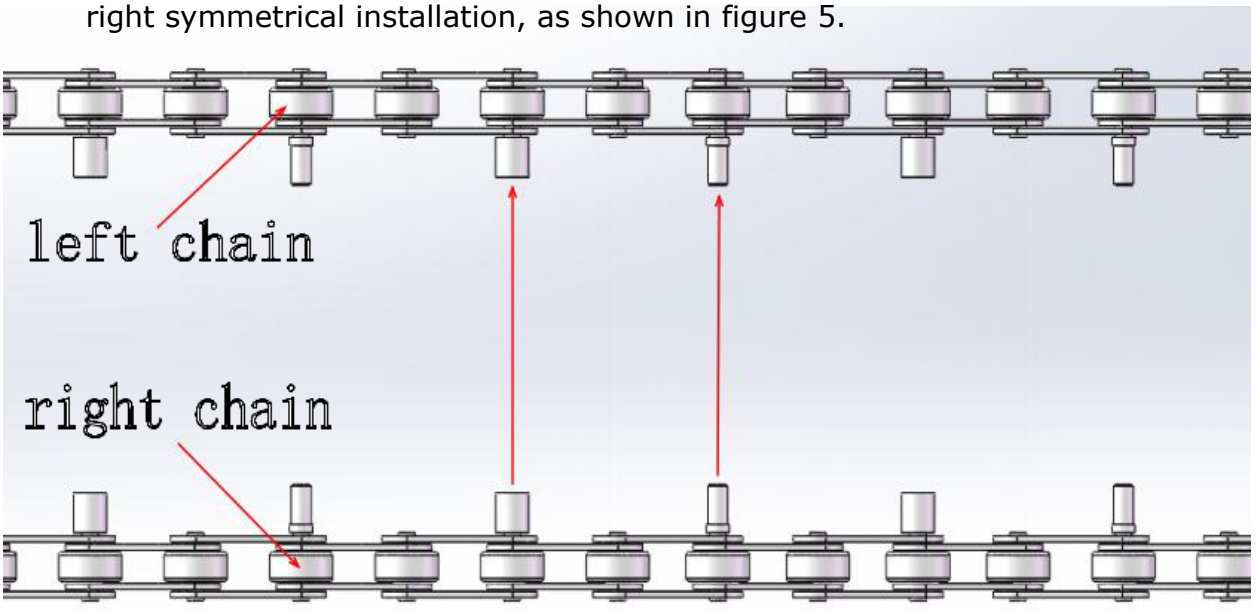


Chart 5

Install the chain: After installing the machine frame and sprocket wheel well, install the chain which has two specifications No. 1 and No. 2 (Chart 9), first install No. 1 chain on the left of conveyor advancing direction, number 2 on right. Installation method as follows: first put No. 1 chain onto the lower bracket (note that the chain bolt should be inside), then penetrate rotation sprocket wheel, along the guide groove of frame penetrate next sprocket wheel from bottomup, and then penetrate drive sprocket and tension sprocket from topdown to make the ringshaped closed, then connecting of Fittings, (the direction see chart 10). Use the same method to install the second chain. Special remind: When the second chain reaches the drive sprocket wheel, must set the pin roll of the two chains to align (shown as Chart 11 or Chart 9), and put into drive sprocket wheel synchronously, if not the two pins are not parallel, which would tilt hopper.

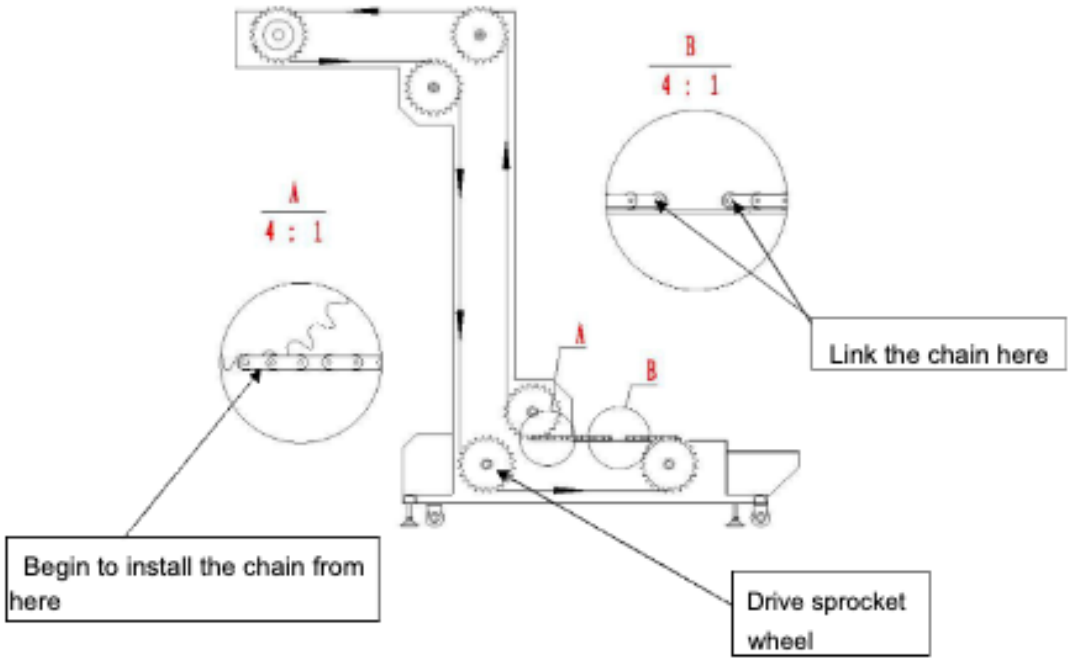


Chart 6

After two chains are installed well, adjust the tensioner so as to keep the chain at appropriate scale, the two chains must be consistent. Pulling the chain, ensure it run freely, there is no stuck situation, or to check the installation and coordination of sprocket wheel.

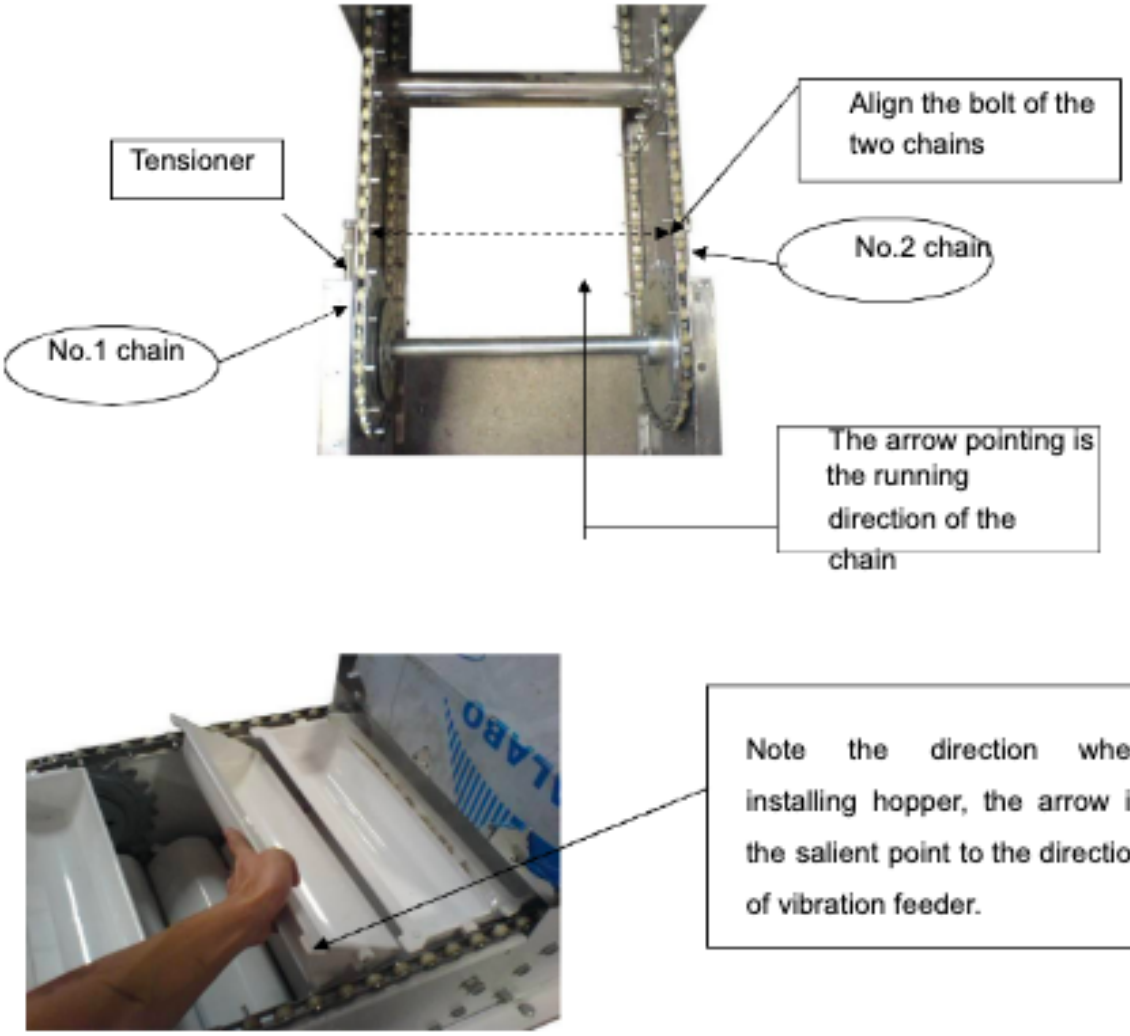
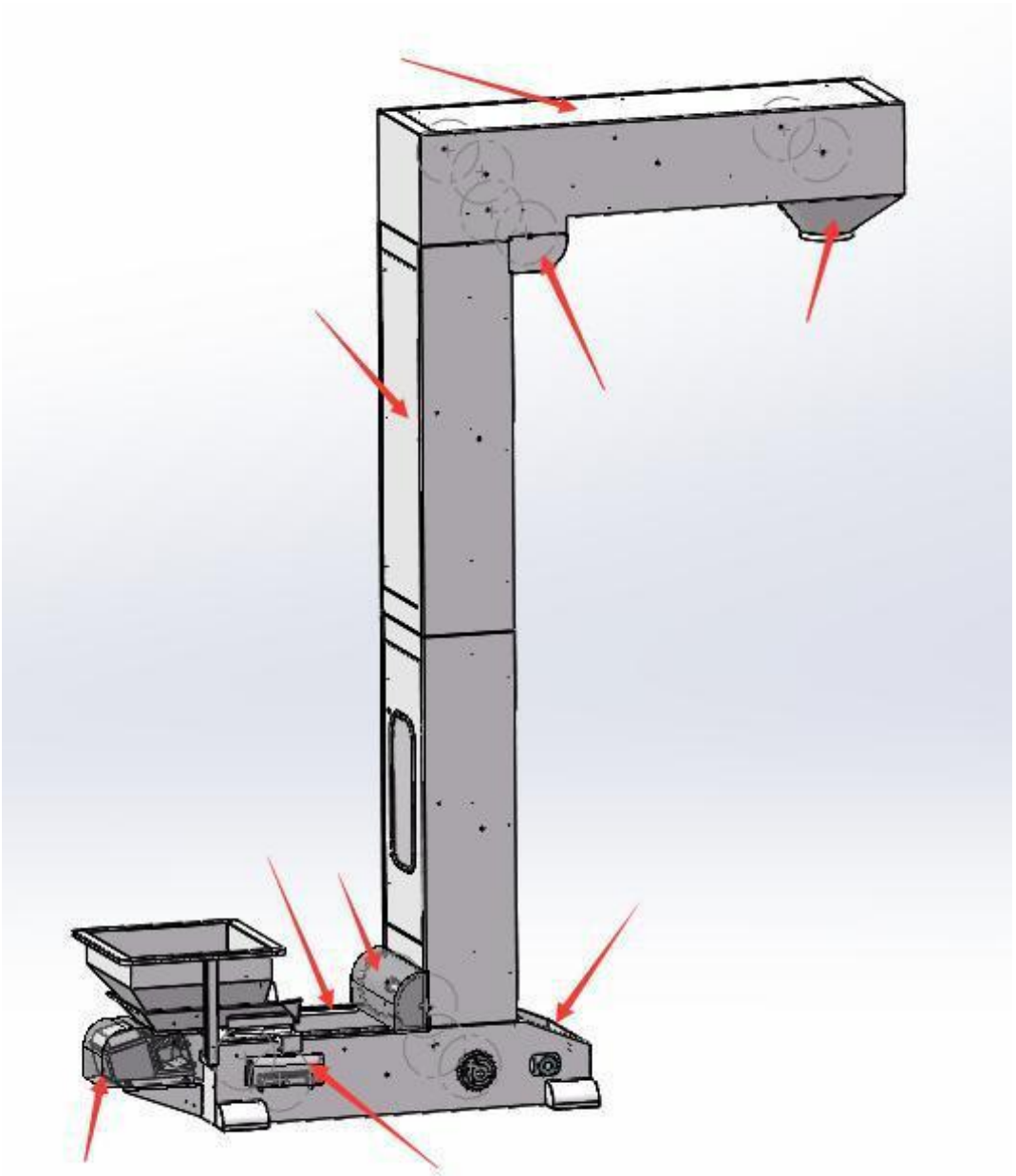


Chart 8

4. Install hopper: After installing the chain, you can start to install hopper, the method and the direction of installing hoppers as shown (Chart 12). When installing about 10 hoppers at interval, pull the chain up, transport the installed hoppers to the top horizontal position of conveyor, and then continue installing other hoppers. This benefit is when continuing installing hoppers it will not lead to the hoppers falling automatically, cause danger and damage hoppers, even if the upper part is too light and the lower part is too heavy. When 89 hoppers are installed and the motor is not loaded drive chain, electrify to confirm the correct rotation direction, so as to avoid damage to hopper after the turn. After confirming, connect the transmission chain and electrify, rotate once with the point moving stepping methods, and make sure it can rotate continuous when no

card chain .When running, check whether the rotation is normal or not and the abnormal noise.

5. Reinstall the motor cover and the feeding cover, and install all the door panels and shipers, as shown in the arrow in figure 9.



6. The installation of vibrator and storage hopper: put the eight spring of vibrator (by number) align the 8 fixed tablets of machines frame and lay down (as shown in Chart 10). Then install the vibrospade. The third step is to install the supporting frame of storage hopper, the last step is to install storage hopper. The installed conveyor is shown as Chart 11.

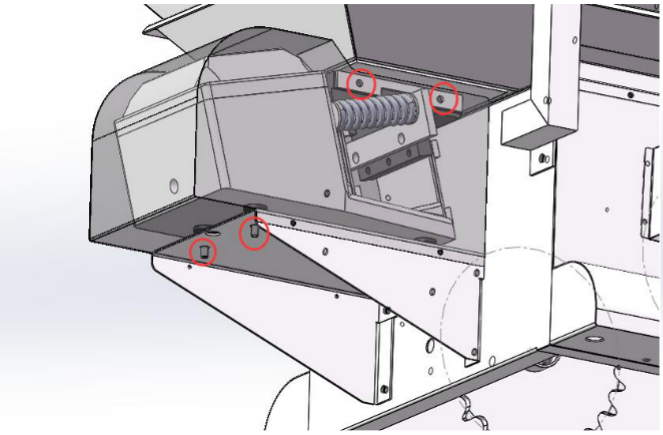


Chart 10

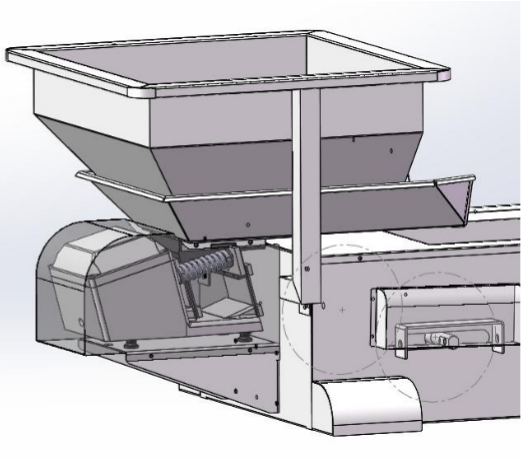
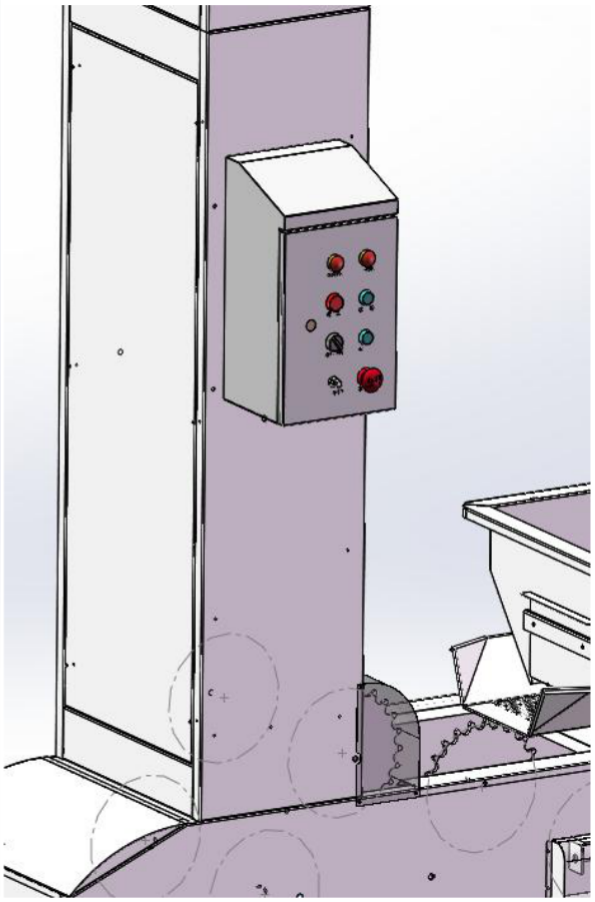


Chart 11

7. Install the box on the machine, as shown in figure 12, and figure 13 after installation.



8. Electrical circuit: the electrical circuit as chart, it can be connected with the frequency converter or use input switching circuit of threephase fourwire, which will be told when buying. Use 220V input voltage when adopting frequency converter, and can adjust the speed, vibrator can adjust amplitude. May choose manual point moving or combination weigher controlling automatic feeding, wiring methods refer to route map.

VII. Daily operation

The Ztype conveyor has manual and automatic function:
① the operation methods of manual function：Put tilt switch to manual gear (see

Chart 18), press

the inching switch, when need to turn off the conveyor, move tilt switch to middle position from manual gear.

② the operation methods of auto function: After the operator starts auto function, the conveyor is on waiting the starting state of after equipment. Such as the combination weigher, achieving automated feeding to meet the transportation requirements. Operation methods are: move tilt switch to auto gear (see Chart 19), at this time connecting control signal of after equipment (such as the combination weigher), the conveyor will run immediately.

Chart 14

Chart 15

● The adjustment of vibrator amplitude: The sizes of vibrator amplitude can affect the conveying capacity and packaging speed of conveyor. The bigger the amplitude is, the greater the upgrading volume is. Customers can adjust the amplitude according to their demand. Operation methods: start the manual function of conveyor, then open distribution box (as the arrow place in Chart 20), rotate around the regulating gear of voltage regulator to change the vibrator amplitude, and then press on the inching switch. Repeat this operation till satisfy.

● The adjustment of conveying speed: the conveying speed affects the packaging speed. The conveying speed can be set up according to their requirement. The specific operation methods as following: start the manual function, open the distribution box, and rotate the regulating gear of frequency converter (as the arrowhead in Chart 4), then press the inching switch, change the conveying speed. As usual, we propose the frequency converter ≤50Hz。

VIII. Selfdiagnose and solve of failure

● Hopper drop down during running. First check whether the hopper is damaged, if not, then check whether the bolt on loading hopper of the two chain of conveyor is aligned. The bolt malposition will cause hopper to drop down and crush hopper. If not aligned, please adjust sliding bearing to make the two aligned..

● Motor rotating but not conveyor chain. (1): check whether the friction film of the torque limiter in main drive shaft has any loose. (As shown in the following chart (Chart 21)), if has, please adjust the bolt locking, but do not overlocking so as not to take any overload protection effect. (2): check whether the timeset of time relay and speed are in conflict, if wrong, it can not stop machine to protect the chain in time, then check whether the materials jam the chain, clearing the above situation, please check whether the bearing of every driving part wears out and sticks to rotate for lacking of lubrication..

● Vibrator amplitude is too small or even no variation. (1): check whether there is poor contact to the wiring port. (2): check whether there is any damage to the vibration.

IX. Maintenance and repair

Clean and maintain the equipment regularly according to the specific circumstances, which can ensure the normal operation and use of conveyor and improve the service efficiency of equipments.

- Pay attention to clean the fuselage and the hopper frequently. The scattering of dust and other impurities need to cleanup regularly. (Deal with discretion based on the specific circumstances)
- View timely and add lubricating oil to the bearings and the driving component. The lubrication of speed reducer operates by handling instruction. (Adding lubrication should be appropriate, not too much or too little)

- Check the situation of the rotation of delivery chain and sprocket wheel and its abrasion regularly, without any drop, whether there is any loose to the friction film of the torque limiter in main drive shaft, if the problem, settle timely.

- Clean up and check the slow reflex switch regularly and keep them clean. Switch, torque limiter and time relay compose the overload protection function. If the switch covered with dust may cause the failure of it, which will not make the overload protection effect.

- Check whether the pull of tension device is appropriate regularly, whether the activities position is flexible; the conveying chain in operation process should maintain a relatively stable tension force in order to maintain the chain smooth running. If the tension force of conveying chain is inadequate, please adjust the sliding bearing in the lower part of conveyor timely. (Note: Both sides need to be adjusted).

X. Transportation and storage

- Loading and unloading carefully to avoid damage to the machine.
- Pay attention to the position of the whole packing box in transportation process, the packing box should be set according to the deposite arrow pointing of packing box, so as to avoid inversion and occurring collision of components and take a toll.
- Pay attention to rainproof and waterproof in transportation process.
- The place of storage should be ventilatory and dry, but also should keep away from the acid and alkali substances, in order to avoid corrosion to the machine.

XI. Crateopening and check

When Crateopening first observe the structure of the packing box, from where devanning convenient and ensure devanning will not scratch the parts.
Take out the parts carefully, especially the parts of hopper, so as to avoid damage to parts.
Take out the delivery list inside the box; check the parts one by one correspondingly according to parts code, number.

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