



Ternary rotary vibrating<sup>®</sup> sieve

# S49 Series



**Instruction manual**

USA AGENT.



[www.expleco.com](http://www.expleco.com)

011 64 21324216

Note:

1 This manual applies to the instructions of S49 series Ternary rotary vibrating® sieve of EXPLECO LIMITED.

2 The Expleco equipment operation and maintenance shall be in strict accordance with the instruction manual;

3 Prior to the equipment is put into use, in accordance with operating standards, the inner side of equipments shall be cleaned to prevent materials pollution for the first application;

4 This device is not suitable for circumstances of more than 1,500 m altitude. The ambient temperature shall be within the range of -18 ° C to 52 ° C (0 ° F to 125 ° F) under the conditions of operation. If the above requirements are not met, please contact with EXPLECO LIMITED directly.

5. Please keep this manual for future reference.

6. If you need any kind of help, please immediately contact your regional service company engineers or EXPLECO LIMITED

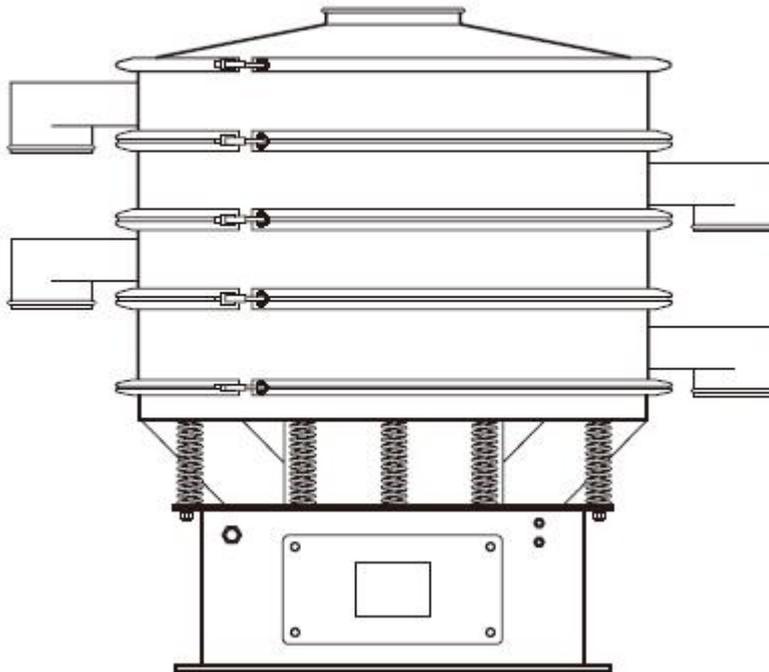
7. "High quality, sincere service" is consistently the basic philosophy of EXPLECO LIMITED

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Technology Service of EXPLECO LIMITED (preparation)

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## Chapter 1 / Preface and Equipment Overview

### Preface / General Safety

#### Precautions

In the left column of this manual indicates some forewarning conditions, with emphasis on possible unsafe conditions or important information related to the equipment. Please read the "dangerous", "warning", "notice" and "remark" for details. In the installation, operation or maintenance of machines, please read and understand all instructions. Otherwise it may result in serious personal injury or property damage. Please keep this manual for future reference.



**Dangerous** - dangerous activities that will result in serious personal injury or death.



**Warning** - dangerous activities or insecure measures that may cause serious personal injury or death.



**Notice** - dangerous activities or insecure measures may cause second-rate personal injury or property damage inferior risk behavior or security measures.

**Remarks** - important information for the equipments.

#### Remarks:

1. This series of vibrating screen has been placed in the desired location of the "warning" and "notice" label. If the writing of these labels is obscure, please discuss with **Gaofu** representatives for replacement of labels.



**Warning:**

1. Always keep all protective devices in place to avoid exposure of high-speed rotating parts;
2. During the course of installation or maintenance of the vibrating screen, the power shall be shut down and locked before the removal of the protective device (foundation gate, bottom screen frame, etc.). The local and national electrical norms shall be complied with;
3. In order to prevent possible electric shock, the grounding machines shall meet the requirements of local and national electrical norms. All wiring work shall be completed by qualified electricians;
4. Before installing or operating the machine, please read and understand this manual. Installation, adjustment, repair and maintenance of machines must be performed by qualified personnel. Unless you have passed the qualification

examination, do not carry out any repairs except the contents in this manual;

5. Special attention shall be paid in maintaining or adjusting the eccentric weight. All components, positioning block, and fasteners shall be properly configured. If the eccentric weight is not safely locked in the right position, components may be thrown from the high-speed operating machine and cause injury to personnel;
6. Please do not switch on and off the vibrating sieve more than six times in an hour. Frequent start may result in gathering of heat, which will damage your vibration motor. If the technology process requires frequent starts and stops of machines, please contact your **Gaofu** representative;
7. If the machine base is installed in a high position, the bottom must be equipped with protective facilities to protect the rotating parts;

8. Great amplitude will be produced during stop and startup of vibrating sieve. During this period, a safe distance shall be maintained between the vibrating sieve and the operator as well as support facilities around;

9. Do not let your hands touch the narrow point. Failure to comply may result in serious personal injury.



**Notice**

1. The equipment installation, operation and maintenance must be done by qualified personnel in order to avoid personal injury or property damage;
2. In accordance with the instructions in the manual, all nuts and bolts of vibrating part of vibrating sieve shall be tightened securely. Particular attention

must be paid to the vibration motor locking bolts. If the bolts of vibration of the motor are loose, it may cause damage to the power lines and equipments, and also cause injury to persons;

3. During maintenance period, vibrating part of vibrating motor shall be inspected. In case of any weakening of the structure, the parts shall be replaced;

4. Aperture, material flow, material properties, vibration amplitude and maintenance are a variety of factors for the service life of the sieve screen, so the screen should be regularly checked to verify whether there is wear and tear or rupture. If rupture of screen is without timely detection, fractured metal mesh will affect the quality during screening of materials;

5. Operators should be offered with appropriate protection to guard against dust, smoke or toxic and harmful chemicals;
6. All equipment operators and general regional staff should wear standard safety equipment (ie: goggles, ear plugs, masks, etc.). All security provisions should be in consistent with local security requirements;
7. If you are in the background noise level of exceeding 70dB, you need to take hearing protection to prevent hearing damage or loss;
8. Do not start the device in the absence of parts or wear of parts;
9. Do not start the device if the foundation is incomplete assembled with vibration plate. This may lead to vibration plate separating from the supporting spring, and could cause permanent damage to the supporting plate of vibration plate,

vibration motors and cables, springs and oil channel and cause personal injury;

10 Please do not start the device if the mobile devices need to be removed. If the device is moved when the cable is not removed, it will damage components and vibration motor, and may cause personal injury.

★★★★ Special Note:

1. The operation and maintenance of equipment shall be in strict accordance with instruction manual;
- 2 Prior to the equipment is put into use, in accordance with operating standards, the inner side of equipments shall be cleaned to prevent materials pollution for the first application;
3. Please do not overload the discharge hole in any way;
- 4 Immediately switch off the machine if there is any unusual noise, and check for loose connections and tighten it.



Instruction Manual of Ternary Rotary Vibrating sieve

## Overview of devices

S49 series ternary rotary vibrating sieve is a screening device, it applies mostly to: particle size classification, solid-liquid separation, and a rough removal of impurities in term of dry and wet processing requirements.

S49 series ternary rotary vibrating sieve can install up to 4-layer screen, screening for the five sizes with synchronize operations. Vibration of equipments is completed by a vertical vibrating motor installed inside the equipment. The eccentric weight is installed at upper and lower ends of vibration motor, which makes the motor rotation into horizontal, vertical and inclined motion, then passes this movement to the screen surface, forcing the material in the sieve to a certain trajectory of jumping tumbling motion. During this course, the smaller particles fall through the screen and are discharged from the lower outlet; while the larger particles move at a certain trajectory on the screen are discharged from the upper outlet; to complete the screening operation.

This equipment applies to circumstance of not more than 1,500 m altitude, with ambient temperature range of -18 ° C to 52 ° C (0 ° F to 125 ° F). If the above criteria are not met, please contact EXPLECO LIMITED directly.



## Overview of machines

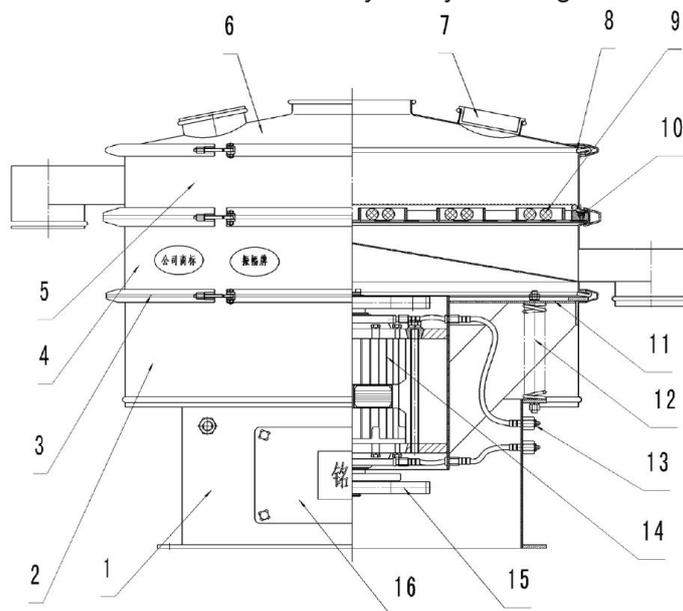
Instruction Manual of Ternary Rotary Vibrating sieve

Figure 1-1 indicates the standard front view of the S49 series ternary rotary vibrating sieve. The vibrating sieve in the figure has a layer of screen (two sizes of materials can be sorted), and the synchronous speed of the vibration motor is 1450rpm/min. According to different materials and different requirements, the rack may be selected from X screen frame, Z screen frame, C screen frame and flange screen frame. The sight glass and automatic cleaning network device indicated in this Figure are optional accessories, which are optionally purchased or installed according to the actual situation.

If your device must be operated at 1800rpm/min or a higher speed, please specify clearly to EXPLECO sales representative in your order. We will follow your request on the part of the configuration for targeted adjustments and improvement in order to better satisfy your screening requirements.

Before installation and operation of the equipment, please read this manual and know the basic components well. The following chart indicates some of the major components and

optional accessories for the S49 series ternary rotary vibrating sieve.



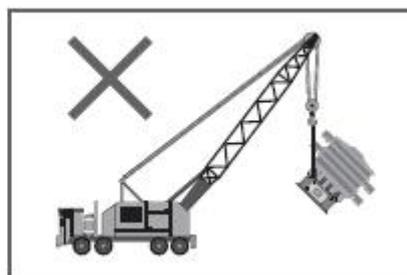
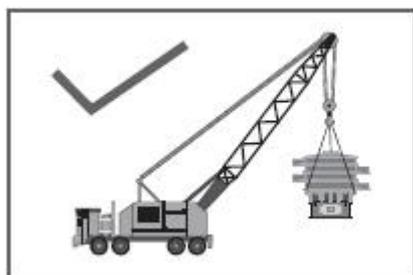
(Figure 1-1 Structure drawing of devices)

- |                      |                           |                                      |                      |
|----------------------|---------------------------|--------------------------------------|----------------------|
| 1 Stand              | 5 Upper frame;            | 9 Cleaning screen device (optional); | 13 Oil filling port; |
| 2 Aprons (optional); | 6 Cover;                  | 10 Screen frame                      | 14 Vibrating motor;  |
| 3 Clamp ring;        | 7 Sight glass (optional); | 11 Plate form                        | 15 Eccentric weight  |
| 4 Lower frame        | 8 Seals;                  | 12 Damping spring                    | 16 Foundation gate   |

## Transportation and lifting of products

Lifting of products shall be in line with the tips and requirements on outer packing or devices. If necessary, suitable and sufficient load-bearing means of transport shall be applied.

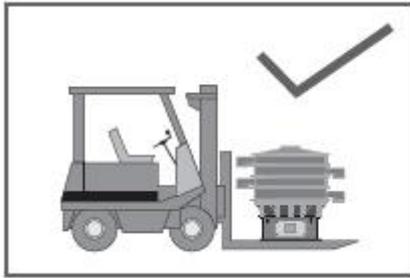
### Introduction for transportation and lifting:



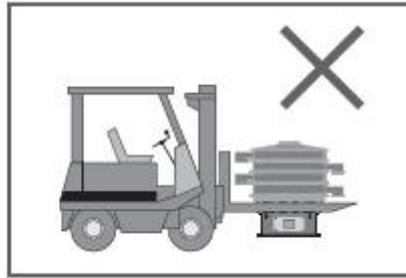
Right way of lifting

Wrong way of lifting

Note: While lifting, the fixed plate transport (Transport bolts) should be clamped in place.



Right way of transportation



Wrong way of transportation

## Storage of equipments

The storage conditions listed in the following table shall be noted for "long-term storage".

Packaging	Storage sites	Period
Wooden case	Sites with roofs, protected against rain and snow, no vibration	
Rain-proof	A roof and a constant temperature and humidity (5 °C < $\zeta$ < 60 °C, <50% relative humidity), with no dust pollution, no corrosive gas and no vibration.	In the case of periodic inspection of package, up to three years (relative humidity <50%).

Instruction Manual of Ternary Rotary Vibrating sieve

## Chapter 2 / Receiving and installation

### Equipment damage notice

Please check the packaging whether there is damage in packing and machine during hand over of goods. If there is any damage to the machine, please immediately notify the transportation unit and **Gaofu Company**, and provide a copy of the relevant certificate issued by transport operators.

### Installation

This section details the installation of **Gaofu S49 series ternary rotary vibrating sieve**. The equipment installation,

operation and maintenance shall be done by qualified personnel.

1 While moving the device out of the container / carton, violently crash, knocking shall be prevented from damage to external or internal components.

(2) When the device is moved out, make sure the equipment you've received is same with the equipment you've ordered. Check the equipment with the contracted model and packing list. Please contact **Gaofu Company** or sales representative in case of absence of components. The instruction manual of equipments and all accessories are put

together with equipments.

3 During installation, the equipment should be placed on a firm level foundation. If the equipment is operated on the tray of packing box or similar objects, the screening efficiency will be greatly reduced. When the device is in operation, there shall be little or no vibration in the foundation support. Foundation must be strong enough and should be able to support twice the weight of the shaker.



If the device is placed in a higher position, protective measures must be applied in the bottom of its base to protect the

rotating components.



Great amplitude will be generated during the switch on and off of the devices. Stay away from equipment components and remove the accessory devices during the course.



Check the noise level of the place you are in. If the background noise level is exceeding 70dB, you need to take hearing protection to prevent hearing damage or loss;

While determining the placement of vibrating sieve, it is certainly that there shall be adequate space around the device, enabling operators to work in a safe condition, and to facilitate the removal of parts, clean up and switch off. Between the vibrating sieve and any fixed structure, there shall be a minimum of 100mm clearance in all directions to meet the normal operation of the device.

4 Mounting holes shall be prepared in the lower flange of device foundation. You can use the swell bolt to install the device in a hard and flat foundation.

5 Devices shall be placed at horizontal level as much as possible; otherwise the devices will not function properly.

6 There shall be at least 200mm space between the feed tube and the vibration inlet for soft connections.

7 In the transport process, the board will be fixed using special transport vibrations locked in the device base part, and should ensure that the equipment be placed in final position is still after tighten state. Transport fixed plate placed between the damping spring, equally spaced, circular arrangement of uniform, and equipment has been installed, the vibration motor before switching to the fixed plate of yellow transportation removed. Once the device is put into normal use, move the yellow transport fixation plate to a separate place to save for later use of moving or transportation.

8 Flexible connections shall be equipped at the inlet and outlet of devices (optional device). Decrement of flexible connections of the inlet and outlet of devices can not exceed the length of 10% of its own, and

should be installed in an upright position, also can not be extended. Failure to do so may result in damage to the hose connections and influence raw materials that are being processed.



**Notice:**

Before removing the transport fixation plate, do not switch on the vibration motor. If the transport fixation plate is not removed before starting, it may cause damage to the vibration device and motor or may cause personal injury.



**Notice:**

There shall be sufficient space between the connecting hoses so as not to impede the normal operation of the vibrating sieve. Failure to comply with the implementation may result in damage to the hose connection or affect raw materials being processed.

When deciding the placement position of the vibrating screen, the space sufficiency around the equipment shall be determined, so that the operator can work under the safety condition. Moreover, the placement of the equipment shall be convenient for component discharge, clear up and the closing movement. The min gapes of 100mm are needed in all directions between the vibrating screen and any fixed structure, so that the normal operation requirements of the equipment can be satisfied.

4. The installation holes are reserved on the flange under pedestal of the equipment. And the equipment can be

installed on the dead plate foundation by using expansion bolt.

5. The placement of the equipment shall keep in the horizontal situation as possible; otherwise, the equipment may fail to operate as usual.

6. The space of at least 200m shall be reserved between the feed pipe and the vibration feed port, so that the flexible connection can be carried out.

7. During transport process, the special transport fixed plate shall be used to lock the vibration components on the pedestal of the equipment, and the fastening status after the placement of the equipment in the final position shall be ensured. The transport fixation connection board shall be installed between the damping springs, with same space, and even circle arrangement. Meanwhile after the installation of the equipment, the yellow transport dead plate shall be discharged before the power of the vibration motor is connected. Once the equipment is put into normal service, the yellow transport dead plate shall be preserved and placed separately, so that it can be moved later or used in the transportation.

8. Flexible connection of the feed in and feed out ports (selectable device). The amount of compression for the flexible connection of all the feed in and feed out ports of the equipment shall not surpass 10% of their own lengths; meanwhile, they shall be installed in the vertical position. Moreover, they can not stretch, and fail to abide by these rules may cause the damage of the flexible pipe connection and thus affect the materials under processing.



**Note**

Before discharging the transport dead plate, please do not turn on the vibration motor. If the transport fixation connection board cannot be discharged before startup, then it may cause the damage of the equipment and the vibration motor or even the personnel injury.



#### Note

Sufficient flexible space shall be reserved when connecting the flexible pipes, so that it won't hamper the normal movement of the vibration screen. If fail to abide by the rule, it may cause the damage of the connection flexible pipes or affect the raw materials under processing.

9. The equipment use the lock clamps to fix each part of the vibrating screen, and controlled them in the appropriate position. Please check the lock clamp of each layer; Because they may have slight loss during the transport process. Before operation, all the lock clamps shall carry out the appropriate fixation and tightening by locking, and the recheck shall be carried out after completing the operation for one hour. Moreover the tightening lock status of the lock clamps shall be maintained, so that the sieve won't rotate and the damage to the sealing parts, net rack or screen can be avoided.

The S49 series ternary rotary vibrating sieve with standard configuration is equipped with a totally closed YZUL series vibration motor. The standard speed is 1450 RPM under the frequency of 50 HZ. Take reference to the nameplate of your equipment, it has stipulated the voltage, rotation speed and type in detail.

The floating changes of the allowable voltage of the vibration voltage is 10%, and the floating changes of the frequency is 5%, or the comprehensive floating changes of the voltage and the frequency of 10% is the best status for the operation of the vibration motor.

The equipment is applicable to operate under the condition where the temperature scope of the surrounding is  $-18^{\circ}\text{C}$  to  $52^{\circ}\text{C}$  ( $0^{\circ}\text{F}$  to  $125^{\circ}\text{F}$ ). If the temperature surpasses the specified rated temperature as  $52^{\circ}\text{C}$  ( $125^{\circ}\text{F}$ ), the circulating cooling shall be carried out to the air in the equipment vibration motor parts. If the temperature decreases to the rated temperature as below  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ), please constant the **Gaofu Company**.



#### Warning

Keep the safety channel and protective device in the proper position all along. Please do not touch the internal unit and external narrow angle part. In case of failing to observe, it may result in serious personal injury or property loss.

### Test Run of Vibration Motor

When all the electrical connections are finished, please slightly turn the vibration motor by hands before power on and running, to make the vibration motor running and applying flexibly without clamping stagnation.

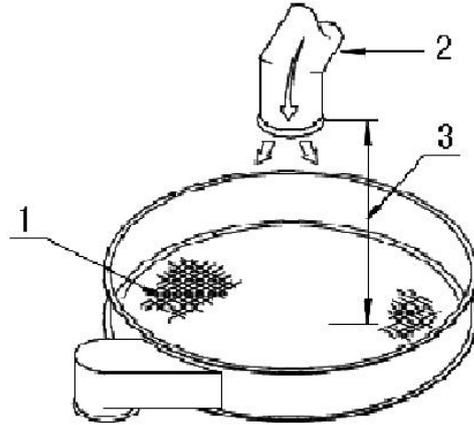
After checking, make the inching test run. From the base door, the eccentric heavy hammer in the bottom should move from left to right. Looking down from the top, it should rotate anticlockwise. If the rotation is incorrect, close and lock the power. Change any two leads of the main power sour

## Chapter III/ Setting Adjustment and Operation

### Setting Adjustment of Charging

The following part is the procedure and setting adjustment of the required wet sieving and dry sieving by changing the feeding mode and flow.

While sieving, both wet sieving and dry sieving should enter the equipment in case of controlling the flow (charging amount), hold vertical with the sieve mesh surface, and keep the constant and stable speed.



(Fig. 3-1)

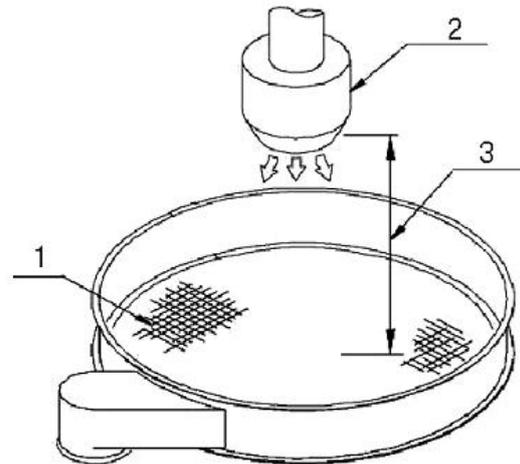
1. Sieve Mesh
2. Charging Distributing Device
3. Vertical Throw≈200mm

### Dry Sieving

In case the distribution of the final materials is blocked or confined by other control device, it can be realized by using the ordinary conveyor or feeder, to ensure the stable flow perpendicular to the sieve mesh surface (Fig. 3-1).

### Wet Sieving

The wet sieving device as shown in Fig. 3-2 is the recommended and used reducer applicable for the charging of the liquid, to control the material's speed of entering the sieving machine and distribution conditions.



(Fig. 3-2)

1. Sieve Mesh
2. Liquid Distributing Device
3. Vertical Throw≈200mm

## Horizontal and Vertical Movement

S49 series Ternary rotary vibrating sieve produced by **Expleco Limited Company** is a screening equipment, whose vibration is depended on the inside vibration motor. The eccentric heavy hammer is installed in the upper and down part of vibration motor, which transfers the rotation movement into horizontal, vertical and inclined three-dimensional movement.

The eccentric heavy hammer at the upper part of vibration motor mainly generates horizontal excited vibration force which makes the materials move on the screen horizontally and complete the expanding process from the middle to the outside. Meanwhile, the horizontal vibration amplitude decides the material movement speed, which can be realized by increasing the weight of upper eccentric heavy hammer. The vibration amplitude is increased with the weight increasing; otherwise, it is decreased.

In order to reach the best screening effect, the necessary vertical and horizontal vibration and the relative angle of upper and down eccentric heavy hammer may need to be adjusted; the adjustment is changed with the weight setting characteristics of materials and upper and down eccentric heavy hammer. The materials with large bank proportion, large grain size, high water ratio and bad fluidity generally require comparatively large vertical vibration amplitude. The materials with small bank proportion, small grain size, low water ratio and good fluidity generally require comparatively small vertical vibration amplitude.

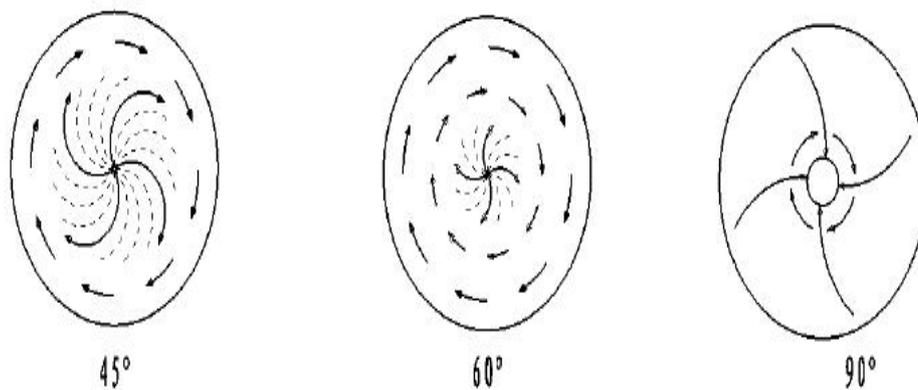
In order to achieve the optimal sieving efficiency, you should make the appropriate adjustment scheme combining the characteristics of materials pointedly, and the representatives of Gaofu Company can assist you to accomplish. Meanwhile you should also combine the next chapter of *Running Track of Materials* to finish the debugging work of equipments.

## Material Running Track

The different adjustment program makes the materials have different running track on the screen surface. And the different running track generates different screening rate and results.

The material running track of your needed will be changed with the wet and dry screening of material, particle size, water content and solid proportion, as well as the bulk ratio of materials, screen aperture, particle distribution ratio and adding speed of materials.

You can adjust it by changing the relative angle of upper and down eccentric heavy hammer. (In order to ensure the accurate adjustment effect, when you observe it from above, the vibration motor rotates counterclockwise). The figure below shows the commonly-used running track mode, which is only used for reference, when you adjust the relative angle of the upper and down eccentric heavy hammer.



The materials make long-range vortex rotation and move outside, which is applicable to fine screening.

The materials make full vortex rotation and move outside, which is applicable to wet screening.

The materials make short-range vortex rotation and move outside, which is applicable to special screening.

(Fig. 3-3)

### Notes:

The figure above shows the typical example of single-layer screen equipment. When increasing the quantity of screen layers, the horizontal and vertical vibration amplitude and the relative angle of upper and down eccentric heavy hammer to reach the same effect.

## Adjustment of Eccentric Heavy Hammer

If you still do not get the proper vibration amplitude or running track after starting the vibration motor and adding the materials into vibrating sieve, please turn off the machine and adjust the vibration motor in accordance the following procedures:

1. Turn off and lock all powers;
2. After the completion of all vibrations, open the dock door and adjust the bottom of the eccentric heavy hammer;
3. The representatives of Gaofu Company set the parameters of eccentric heavy hammer and the relative angles of upper and down eccentric heavy hammer integrating with the parameters and requirements you provided before the equipment leaving the factory. If you do not provide the corresponding parameters and requirements, Gaofu Company will determine the parameters of eccentric heavy hammer in accordance with the number of screen layers of equipments you ordered. And the preliminary relative angle of upper and down eccentric heavy hammer is 45°.

4. The equipment vibration amplitude is adjusted through increasing or decreasing the number of balancing weight on the upper and down eccentric heavy hammer, loosening the lock bolt of balancing weight, increasing or decreasing the number of balancing weight in accordance with the actual running situation of equipment, and lock it renewedly;

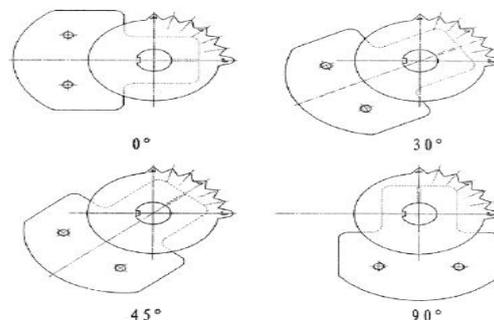
5. If you need to adjust the running track of materials, please refer to the examples (Fig. 3-3) and combine with the

dial at the bottom of vibration motor, loosening the lock bolt of eccentric heavy hammer to make the gap of eccentric heavy hammer tail to be corresponding to you needed angle, and lock it renewedly;

6. The upper eccentric heavy hammer mainly controls the horizontal vibration force, adjusts the vibration amplitude which needs to remove the screen grid at the bottom of equipment and be adjusted reference to the above-mentioned Point 4.

 <b>Warning</b>
<p>When maintaining or adjusting the eccentric heavy hammer, you shall particularly be care of correct installation and tightening the fasteners. If it fails to lock the eccentric heavy hammer in the proper position, it may cause that the components are thrown out at high speed resulting in personnel injury.</p>

 <b>Warning</b>
<p>Before starting this equipment, put all protective devices, guardrails, peep holes and fasteners in the proper position. If not, it may cause serious personal injury or property damage.</p>



## Chapter IV Maintenance

### Daily Maintenance

This chapter describes the specific steps for the maintenance of your S49 series Ternary rotary vibrating sieve.

### Screen

The service life and screen resolution is up to the periodic cleanness and maintenance of these positions by you.

The standard test screen used in laboratory, which is produced by **Gaofu Company**, is your firstly-selected equipment for analyzing the material particle size and inspecting the screen resolution. This equipment can help you to test the materials treated by the S49 series Ternary rotary vibrating sieve. The screen shall be cleaned timely and accurately in accordance with the test results; if necessary, it shall be exchanged; before washing the equipment, please close the equipment and cut off all powers.

The service life of screen is depended on a variety of factors, including the aperture of screen, flow rate and characteristic of material, vibration amplitude and maintenance etc. Therefore, the screen shall be inspected periodically for checking whether it is worn down or fractured. If the fractured screen does not be found in time, the fractured metal mesh may influence the quality of screen materials.

### Sealing Components

The sealing components used to S49 series Ternary rotary vibrating sieve sold by **Gaofu Company** are determined at the beginning of the order. When you find the

abnormal cracking, damage and aging in the use process, please contact your sales representatives. Please store your spare sealing components reasonably. Do not store them with the hooks or adopt the similar storage method. Meanwhile, do not elongate the sealing component overly, so as to prevent damaging the sealing component or accelerating its aging. For the details, please refer to the notices related to Storage Method Explanation of Sealing Component.



#### Notice

Only using groove-type sealing ring of **Gaofu Company** can ensure the correct installation and normal running. Using other sealing may cause normal running.

#### **Rubber/Silicone Sealing Components:**

1. Temperature: 5-25°C is the ideal storage temperature;
2. Humidity: The relative humidity of the warehouse shall be less than 70%. It shall be prevented from too wet or dry;
3. Storage: It shall be stored in cool places, prevented from contacting the heat and sunshine, and exposed in circulating air, but not contacted with acid, solvent and grease, so as to avoid deformation and aging;
4. Deformation: It shall be placed in free state as far as possible and prevented from elongation, pressure or other deformations;
5. Storage Period: The best period is 0-6 months. The maximum period shall not exceed 12 months.

#### **PTFE Sealing Component:**

1. The temperature, humidity and

deformation are in the same with rubber and silicone sealing component;

2. Storage: It shall be stored in cool places, prevented from the heat and sunshine and exposed in circulating air;

3. Storage Period: The best period is 0-2 month. The maximum period shall not exceed 3 months.

Otherwise, it may result in the damages of equipment. Seriously, it may cause personal injury or property damage.

## Lock Clamp

The lock clamp is mainly used for partial lock of screen grid. The equipment is locked in accordance with the different model before leaving the factory. In order to prevent from loosing in the transportation process, please check the equipment before the power running. The lock clamp is configured with special lock

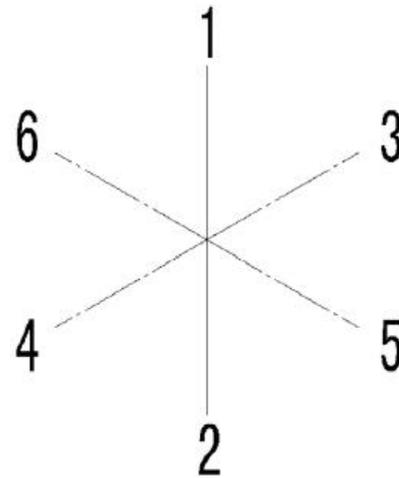
wrench.  $\geq 90N^*$  lock torque is used to inspect and lock. The equipment shall be separately inspected again after preliminarily running for 1 hour and 4 hours, so as to avoid the damages of screen grid, sealing component and screen arising from clamp loosing.

During the process of lock loop inspection, the accompanying rubber hammer can be used to tap around the clamp and lock it by synchronous nut at the same time. Thus, the best lock effect can be reached. If the operation does not comply with this regulation, the lock clamp may be loose in the use process. Meanwhile, the daily inspection of lock clamp is also critical, which directly influences the service life of equipment and the relevant components.



### Warning

Only using groove-type sealing ring of Gaofu Company can ensure the correct installation and normal running.



Bolt Tightening Sequence Diagram

S49 Series Rotary Vibrating sieve  
Commonly-used Bolt Tightening Torque  
Reference Table

No.	Bolt Specification	Tightening Torque
1	M10	50 N*m
2	M12	90 N*m
3	M16	210 N*m
4	M20	410 N*m
5	M24	710 N*m

## Vibration Motor

The fixed bolt of vibration motor is 8.8-level high strength bolt, which is tightened in accordance with the standards before the equipment leaving the factory. After installing and running 8-20 hours, please check and tighten the equipment; it is suggested to check it one time every 3 or 4 months in the subsequent use process.

## Bearing

The bearing undertakes very high

load during the running process, and shall be lubricated properly. The oil pipeline shall be periodically inspected whether it is worn down or damaged, if so, it shall be exchanged. A new oil pipeline shall be exhausted the air inside and filled with grease before the installation.

**Notes:**

The grease shall be properly and reasonably supplemented in accordance with User's Manual of Vibration Motor. The excessive grease may result in over-high-temperature of bearing and shortening the service life of bearing.

It is suggested to adopt manual grease gun. Other equipments may cause bad supplementary volume or damaging the internal sealing component.

It is recommended to use Great Wall 3# Lithium Grease.

**Volume of Added Lubricating Grease of Vibration Motor:**

Motor Model (YZUI Series)	Added Oil Volume of Single Nozzle	Time (h)
3-4		Exchange with new grease after 6,000 h
5-4	5-10	300
8-4		
20-4	10-15	300
30-4		
50-4	15-20	140

## Chapter V Component Exchange

After the equipment running for a long time, the spare parts may be worn down and need to be exchanged. This chapter introduces the steps and notes for exchanging worn or damaged spare parts.

It is suggested to prepare the spare parts.

For the continuous working condition, we suggest prepare the following spare parts, so as to ensure the normal work.

1. Net rack or screen of each screen specification;
2. 2 sets of sealing components;
3. Over 2 equipments; it is suggested to prepare 1 unit of standby equipment and a vibration motor at least.

### Exchange of Anti-shock Spring and Spring Seat

If the anti-shock spring is worn down and damaged, or the spring seat needs to be exchanged, it shall be exchanged in accordance with the following steps:

1. Turn off and lock the power;
2. When exchanging the single anti-shock spring, the vibration plate in the corresponding position shall be supported;
3. Pay attention to whether the spring seat is worn down; if it is worn down obviously, it shall be exchanged;
4. When installing a new anti-shock spring or spring seat, the concentricity of both two shall be consistent;
5. Lower the vibration plate;
6. Completion of operation.



#### **Warning**

When adjusting the eccentric heavy hammer, please be especially careful and tighten all lock bolts of this component. If not, it may result in that the components are thrown out from the high-speed running machine and may harm the people.



#### **Warning**

When exchanging the spring, the squeezing touch shall be avoided. If not, it may harm the people.

## Dismantling of Sieve Mesh (Mesh Base)

The sieve mesh is easily damaged, which should be installed in the vibrating sieve safely. In case the sieve mesh is abraded and damaged or you need the sieve mesh with different bore diameters, please change the sieve mesh as the following steps:

1. Power off and lock the power.
2. Loosen and remove the locking clamp, and remove the dust cover and sieve frame in the sieve mesh (mesh base).
3. Uplift the sieve mesh (mesh base) carefully. During the process, the sealing elements may bond with the sieve frame. Please do not hurt the sieve mesh (mesh base) and the sealing elements due to overexerting.
4. Remove the current sieve mesh (mesh base), and meanwhile pay attention to eliminating the materials in the assembly joint surface, in order to prevent influencing the next assembly.
5. The operation is finished.

Note: The dismantling of the sieve mesh (mesh base) can be referred to the operation video in the company's website ([www.expleco.com](http://www.expleco.com)).



### Warning

The sieve mesh is easily damaged, please operate carefully. It is strictly prohibited to put the tools or parts in the sieve mesh directly.



### Warning

Please close and lock the power before dismantling the machinery protective devices (base door and shield etc) while installing or maintaining the machine. Observe the local and national electricity code. In case of failing to observe, it may result in serious personal injury or property loss.

## Change of Sieve Mesh (Mesh Base)

Change of new sieve mesh (mesh base) should be conducted as the following steps:

1. The sieve mesh (mesh base) is repositioned in the structure, and the sealing elements are installed. Stretching the sealing elements excessively may shorten the service life or damage the sealing elements.
2. Install the mesh base, sieve frame and dust cover again according to the dismantling sequences.
3. Install the locking clamp. During locking, the attached rubber hammer of the equipment can be used for uniformly

knocking the clamp circumference and meantime tightening the lock nut, so as to achieve the best locking effect. The locking moment of the nut should be  $\geq 90N \cdot m$ .

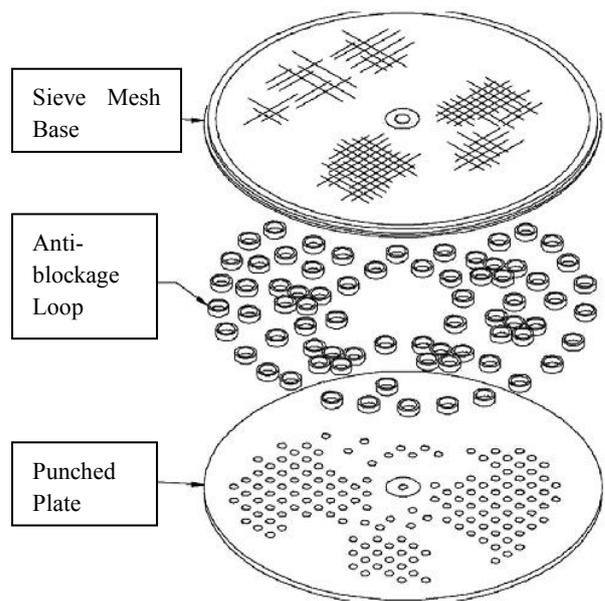
4. The operation is finished.
5. For changing the structure of the sieve mesh independently, when new sieve mesh is installed in the mesh base, it is necessary to stretch the sieve mesh flatly, and the phenomena involving bending and creasing are not allowed.

## Automatic Net Cleaning System

Combining with different materials, in order to guarantee the best sieving effect, S49 series ternary rotary vibrating sieve allocates the special automatic net cleaning system (accessories are optional). The main function is the anti-blockage loop or net cleaning marble between the sieve mesh and punched plate collides with the sieve mesh with constant speed so as to prevent the materials blocking the bore diameter of the sieve mesh and enhance the efficiency of penetrating the sieve, and meanwhile eliminate fibrous materials with easily bonding with the sieve mesh.

You should check the abrasion situations of the net cleaning device periodically, and change immediately as necessary.

As shown below (the anti-blockage loop is also called block-off circle)



Allocation Mode of Automatic Net Cleaning Device	Changing Standard for Abrasion	
	Normal	Changing as Required
<p>Mode I. Combined net cleaning device of block-off circle and net cleaning ball</p>		
<p>Mode II. Anti-blockage loop net cleaning device</p>		

## Dismantling of Vibration Motor

In case the vibration motor needs repairing or changing, please observe the following requirements:

1. Power off and lock the circuit breaker;
2. Dismantle the contact in the cable of the vibration motor, oil-way contact and fixed point, and check whether they are damaged and aged;
3. Dismantle the fixed bolt of the vibration motor and the press block;
4. Assemble the lifting eye bolt in the center of the upper axis of the vibration motor, and hoist the vibration motor carefully. It is necessary to notice the position and situation of the cable during hoisting so as to prevent the damage of the cable due to the collision. Some damages cannot be easily discovered externally, so the attention should be paid while dismantling.

## Installation of Vibration Motor

In order to ensure the correct installation of the vibration motor, please observe the following requirements:

1. Ensure all mating surfaces and contact surfaces of the vibration motor are clean.
2. Before putting the vibration motor into the vibration disk, the terminal of the cable should be carefully passed through the corresponding opening of the vibration disk. The motor should be dragged and positioned as necessary during falling in case of the damage by hitting and crushing.
3. After the vibration motor is put into the vibration disk, it is necessary to ensure the cable and the lubrication oil pipeline are in the corresponding position.
4. Assemble and fasten the fixed bolt. It is necessary to lock in strict accordance with the corresponding torque in the course of locking (referring to Page 14).
5. Assemble the oil pipe again and lock.
6. Fasten the cable of the vibration motor. The cable length of the vibration motor is determined before leaving the factory, which shall not be modified arbitrarily.

It is necessary to keep enough looseness after assembling.

7. The operation is finished.



### Warning

Please close and lock the power before dismantling the machinery protective devices (base door and shield etc) while installing or maintaining the machine. Observe the local and national electricity code. In case of failing to observe, it may result in serious personal injury or property loss.



### Warning

Please use the lifting eye bolt correctly during dismantling the vibration motor, or it may result in property loss or personal injury.



### Warning

Do not put the hands between the vibration motor and vibration disk. If failing to observe, it may result in serious personal injury.



### Warning

Please operate by using the correct tools, or it may lead the looseness generating from improper fastening, accordingly cause serious personal injury or property loss.  
The excessively short power line may result in the fracture of the power line. The excessively long power line may lead the friction.

## Chapter VI / Common Faults and Removal

Fault Phenomena	Possible Cause	Disposal Scheme
The materials are not in bulk The discharging is disordered	The angle of the eccentric heavy hammer is oversize. The included angle of the eccentric heavy hammer in upper and lower end is oversize.	Referring to the running track table of materials for adjustment
	The included angle of the eccentric heavy hammer is reverse. The front and back position of the eccentric heavy hammer in upper and lower end is reverse.	Referring to the running track table of materials for adjustment
	The sieve mesh is too loose	Installing the mesh again with uniform tension
	The running direction of motor is false	Adjusting the phase sequence of the power line
	The upper and lower heavy hammer lock bolt is loosening.	Locking again
The sieving accuracy is insufficient	The materials are in bulk too quickly	Referring to the running track table of materials for adjustment
	The exciting force is smaller	Adding the weight to adjust the exciting force
	The charging is too quick	Regulating the charging speed for the uniform charging
The abnormal sound of the sieving machine	The fixed connecting plate for transportation is not removed	Removing the fixed connecting plate for transportation
	The clamp bolt is not locked	Checking and locking the clamp bolt
	The clamp is not jogged completely	Using the lock wrench to help jogging
	The set-up plate is not put straight	Putting the set-up plate straight
	The set-up plate is broken	Changing the new set-up plate
	The machine body contacts other hardware	Making room of about 10cm
	The sieving machine is not placed flatly	The sieving machine is placed flatly or adds the foot margin for fixation
	Bearings of motor or exciter are damaged	Changing new bearing
The sieving mesh is easily broken	Other fasteners are loosening	Inspect all fasteners periodically
	The raw materials strike the mesh surface directly, and the charging is excessive, and the mesh load is overweight	Adding the buffer, and charging with fixed quantity at the fixed time
	The materials are in bulk too slowly, and the mesh load is overweight	Referring to the running track table of materials for adjustment
	The thin net or parent net of double mesh is loose, generates the friction and clamps the material in the middle	Installing the mesh again with uniform tension
	The parent net is damaged	Changing the parent net
The motor running is bad, and the temperature rise is overtop	The seal ring is dropped or worn down	Clinging or changing
	The lubrication oil is injected too much or too small	Injecting the appropriate lubrication oil
	The cable length is insufficient, causing poor contact or the damage of cable	Changing the cable
	The lead and the power source contact poorly	Wiring again
	Default phase running with the burned coil	Changing the motor

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