U-TYPE CHAIN CONVEYOR

OPERATION MANUAL

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Important instruction:

1 This manual detailedly describes U-type chain conveyor of each system structure, function and use and maintenance method. Before installation and use of the machine , customer should read the manual,and have a full understanding of the ministries and its structure and function ,then have operation and maintenance of the machine. Due to the continuous improvement of product structure, after a certain time period, the manual of narrative content and the actual situation of the products will have small changes.Users should pay attention to it.

2 Please propose your advice to us for melioration when finding quality problem or others.Thanks !

1 APPLICABLE SCOPE AND PERFORMANCE FEATURES

TGSU Series (Chain Conveyor) Drag Conveyor is a self-cleaning horizontal continuous conveying equipment and is mainly used for conveying materials in compound feed mill. It has the following features:

1.1 Small volume, high efficiency, low energy consumption;

1.2 Simple structure, good tightness, convenient installation and repair;

1.3 Chain adopts sleeve roller chain and head pulley and tail pulley adopt small pitch sprocket, resulting in smooth running;

1.4 The housing is of U-shape and its bottom is of semi-circle. The shape of drag is also of semi-circle which matches the bottom. It is made of engineering plastics and has features of low noise, good guiding and no remainder.

2 MAIN TECHNICAL SPECIFICATION

2.1 See Table 1 for main technical parameters.

Table 1 Main Technical Parameters

Model	U-type Housing Width（mm）	Drag Spacing （mm）	Drag Chain Speed （m/sec）	Capacity （m^3/h）	Max. Conveying Distance（mm）
TGSU20	208	254	0.3-0.5	15-30	40
TGSU25	258	254	0.3-0.5	30-45	40
TGSU32	320	320	0.3-0.5	40-80	50
TGSU40	400	320	0.3-0.5	60-100	50

2.2 Main Structure

This machine consists of head section, tail section, feeding section, intermediate section, intermediate discharging section, conveying chain and drive.

3 STRUCTURE OF MAIN PARTS

3.1 Head Section and Tail Section

Head section and tail section consist of head pulley, tail pulley, pulley shaft and bearing with housing separately. Head section is fitted with conveying chain tensioner which consists of screw rod, nut, and movable templet. The movable templet can be driven to move by screw rod through adjusting the nut, thus tensionness of conveying chain is adjusted.

Head section is fitted with discharging opening below.

The side of tail housing is 1/4 of sphere which can avoid the remainder.

3.2 The other housings are made of profiled steel by welding and there is the connecting flange at both ends.

The feeding section adopts by-pass feeding. The position of intermediate discharging opening can be arranged according to the requirement of process. The length and number of intermediate section can be determined according to the conveying distance.

3.3 Conveying Chain (Drag Chain)

Drag is of semi-circle and made of wear proof engineering plastics. Chain adopts flight

drawing conveying chain, i.e. sleeve roller chain with special-shaped flight. Drag can be directly mounted on the special-shaped flight, resulting in convenient assembling and disassembling.

3.4 Drive consists of cycloidal pin wheel reducing motor, motor support, driving chain, big sprocket and small sprocket. After being reduced by reducer and chain driving, power of motor drives the head pulley shaft and conveying chain to run. Tail pulley shaft is the idle shaft. The conveying linear speed can be changed by changing the teeth number of big sprocket.

3.5 The housing is fitted with a plastic supporting roller every certain spacing so that the conveying chain will not droop, which takes the place of function of guide and reduces the power consumption and noise.

3.6 The cover of housing has outdoor type and common type. Outdoor type avoids the rain leakage when the machine is installed outdoors. The cover is fitted with fastening clamp and has good sealing performance and convenient use after being fastened.

4 INSTALLATION, ADJUSTMENT AND COMMISSIONING

4.1 Installation

4.1.1 The foundation for installing the conveyor must be firm so as to ensure that conveyor has enough stability and will not fall down or deform in the running process;

4.1.2 Prior to installation, carefully check to see if any part is damaged;

4.1.3 During the installation, assemble the machine section by section from head or tail. It should be guaranteed that housings of all sections are connected reliably with good tightness. The inner wall at the flange joint should keep straight without obvious offset so as to ensure that drag does not stick and collide the joint of housings when the machine runs;

4.1.4 The installation should conform to the following rules:

4.1.4.1 The maximum error of straightness is 1/1000;

4.1.4.2 The horizontal level allowance is 1/500 of width;

4.1.4.3 There must not be gap at the connecting flanges;

4.1.4.4 The inner wall of housing should be smooth and joint should also be smooth;

4.1.4.5 The center lines of head pulley and tail pulley must align and two pulley shafts must keep parallel;

4.1.4.6 After products are conveyed, drag should be in front of drag chain base.

4.1.5 After the installation is finished, adjust the tensioner so that drag chain has proper tensionness. During the adjustment, head pulley shaft and tail pulley shaft should keep parallel, tensioner should leave larger unused stroke and the teeth of all supporting rollers should enter the chain;

4.1.6 After the installation is adjusted, head pulley section, tail pulley section and intermediate support must be securely connected to the foundation or machine frame. The intermediate supporting frame shall be set according to requirement.

4.2 Commissioning

4.2.1 After the installation, an unloaded trial run should be done. Before the operation, get rid of the impurities in the housing, check the oil supply condition of all bearings and reducer, and check to see if tensionness of drag chain is proper.

4.2.2 After power is connected, firstly start the machine by touch so as to avoid the accident, and check to see if the running direction is correct.

4.2.3 In the running process, check the meshing conditions of sprocket and supporting roller and skipping condition of chain. Pay attention to the rise of bearing temperature and noise.

4.2.4 After the unloaded operation becomes normal, feed the products evenly for trial run.

4.2.5 After the loaded operation, check the running condition of all parts and check to see if the conveying process is smooth.

4.2.6 Check the sealing condition of machine.

5 OPERATION

5.1 Prior to operation, carefully read the operation manual and know how to correctly operate the machine so as to avoid unnecessary loss;

5.2 Before starting the machine, make regular check, that is, get rid of the impurities in the machine, check fasteners, safety guard and lubrication;

5.3 The machine should be started without load, then feed evenly until full load after the running becomes normal;

5.4 The machine must not be stopped until products in the housing are discharged, and stoppage with load is not allowed. In case of stoppage with full load due to special condition, the machine cannot be started formally until products in the housing are removed appropriately and the machine is started by touch for several times before next starting;

5.5 If this machine and other equipment form a production line, the last equipment should be started firstly, then other equipment should be started backwards one by one. The stopping sequence is opposite to the starting sequence. The electric interlocking control can also be adopted;

5.6 Large materials (fiber state) such as flaxen rope and iron cable should be prevented from entering the housing from the feeding opening;

5.7 Often check the running state of supporting roller and drag. If chain comes off or there is serious wear, check and replace them in time.

6 MAINTENANCE

6.1 Often check to see if the running is normal and if there is abnormal noise. If finding any trouble, stop the machine and remove it in time.

6.2 Periodically check the fastening of all bolts. If finding any looseness, fasten it in time.

6.3 Periodically check the running condition of conveying chain. Adjust the tensioner so as to get proper tensionness.

6.4 Lube of all bearings should be replaced periodically.

6.5 The driving chain and tensioning screw rod should be lubricated with #30 machine oil and chain should be cleaned periodically.

6.6 See the operation manual of cycloidal pin wheel for the details of its maintenance.

6.7 If the machine will be laid aside for a long time, drag chain should be removed for cleaning so as to avoid the rusting.

6.8 The machine should be overhauled and all parts of machine should be disassembled for cleaning and replacing the easily-worn parts.

7 TRANSPORTATION AND STORAGE

7.1 When the machine is delivered, whether packing shall be adopted can be determined according to the actual conditions.

7.2 If packing is not adopted, collision is prohibited during the transportation so as to prevent the machine housing from deforming or prevent paint on the surface from being damaged, thus prevent appearance quality from being influenced. And damp proof measures should be taken to prevent the machine from becoming damp and rusting.

7.3 When the machine will be laid aside for a long time, it should be kept in a well-ventilated, dry and cool place, and there should be damp proof facilities. The exposed surface not coated with paint should be coated with anti-rusting oil.

8 CAUTION

8.1 During the operation of equipment, any parts of human body must not touch the rotating parts of equipment so as to avoid the human body injury accident.

8.2 To inspect or repair the equipment, equipment must be turned off.

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