



**Instruction Manual
for SICOMA serial
Screw Conveyor**

Introduction

Thank you for using SICOMA serial Screw conveyors.

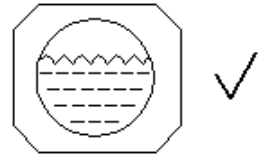
All our products have been inspected and debugged according to standard procedures. Before using the machine, please read the instruction manual in details to ensure the safety and reliability of the product.

Precautions before using

1. Check if the model No., specification, size and spare parts are exactly what you've ordered.
2. Check if the machine has been destroyed during transportation
3. Use appropriate grease oil

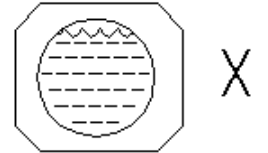
***** Use Mobil CEAR629# or Shell 150# for the gear reducer

***** Use Lubricating Grease (thermal stability is 120°C) for Intermediate support and End Support, greasing every 200 working hours or 10 days.



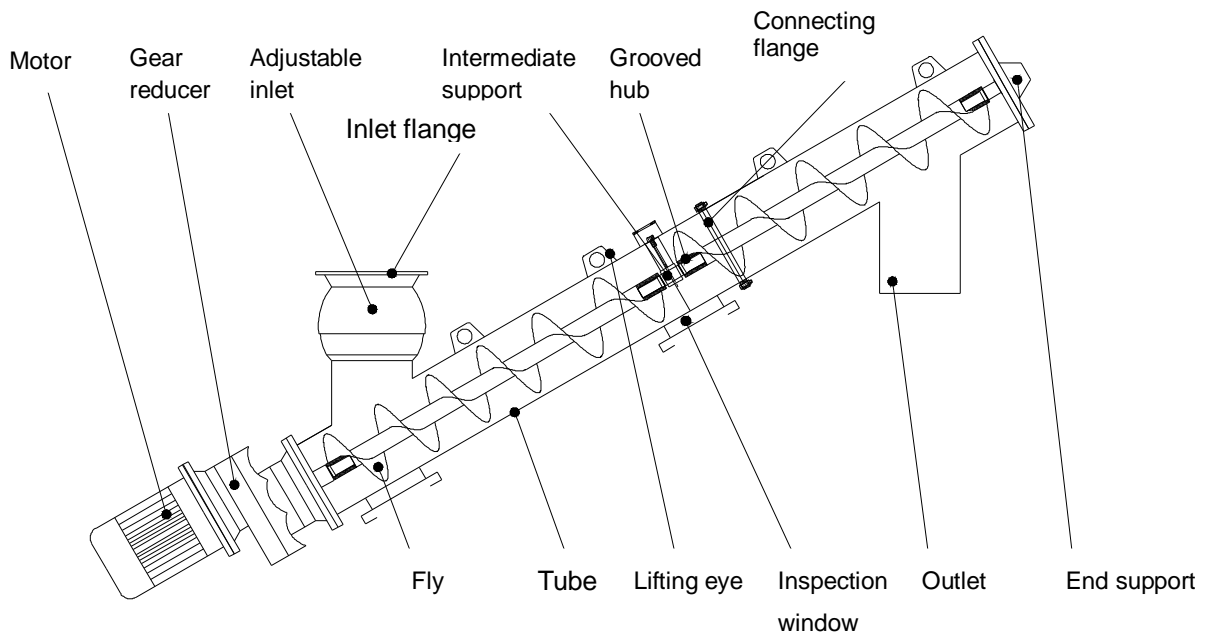
Precautions:

- I Do not use mixture of oil
- II Oil under 2/3 level of the Inspection window (see the figure at right)
- III Less oil will cause malfunctioning and damage to the machine
- IV More oil will increase the temperature and pressure of the oil, which would reduce the life of the gearbox
- V Refill oil when the Screw conveyor is not running
- VI Use clean and qualified oil, and refill oil in time.



Introduction to the product

Construction diagram of the Screw conveyor (Fig. A)



1. Screw conveyor is the key equipment in a mixing station. The working principle as follows: The Fly is operated by running Motor and Gear reducer to transfer aggregates (cement, concrete, etc.) continuously or discontinuously.

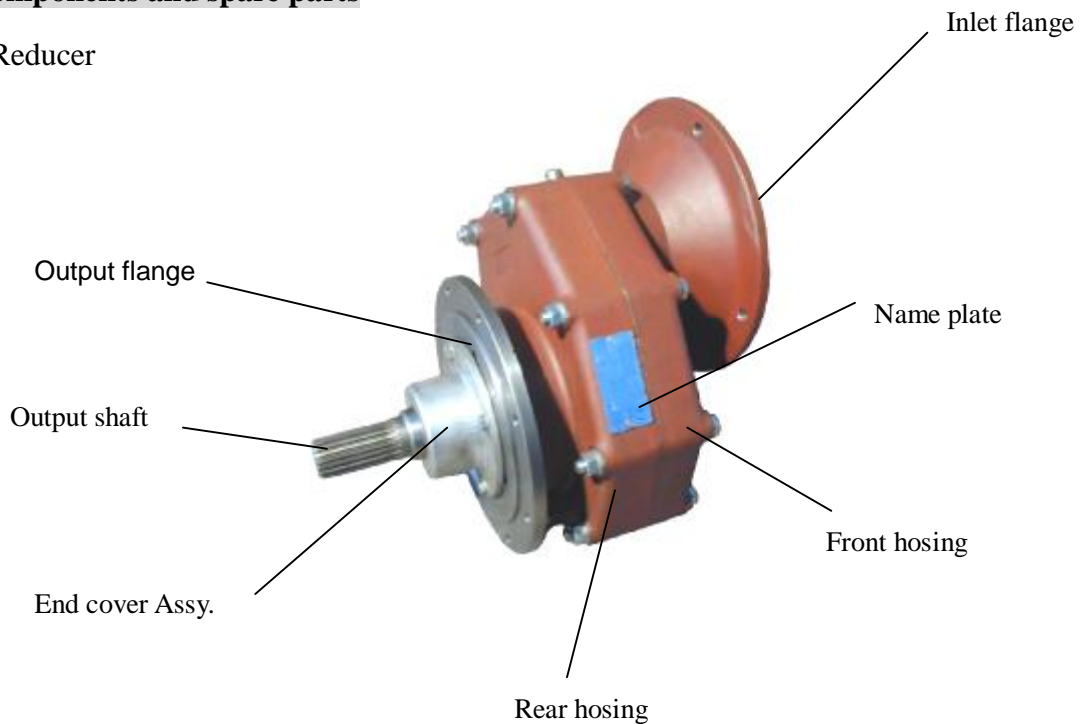
2. Main parts of a Screw conveyor: Motor, Gear reducer, Tube, Fly, Intermediate support, End support, Adjustable inlet, and Inlet Flange.

Main advantages of the machine: small, low noise, good sealing, and convenient installation.

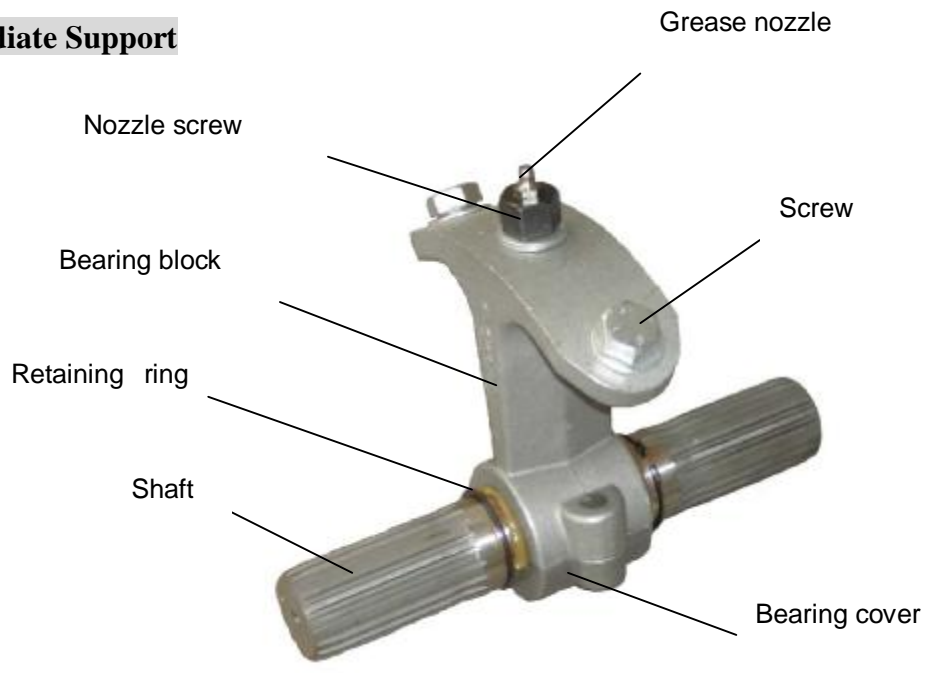
3. Technical data: Model No., screw conveyor length, angle, conveyed quantity, Inlet connection
- ① Model No. is indicated as the diameter of the tube. Bigger diameter, larger conveyed quantity.
 - ② Conveyed length (L): material conveyed distance inside the tube.
 - ③ Angle (A): the angle between Screw conveyor and the horizontal. Bigger angle, smaller conveyed quantity.
 - ④ Conveyed quantity (T/h): the utmost quantity conveyed in one hour. Unit: Ton per Hour.
 - ⑤ Inlet connection: with Adjustable inlet for convenient adjustment during installation.

Main components and spare parts

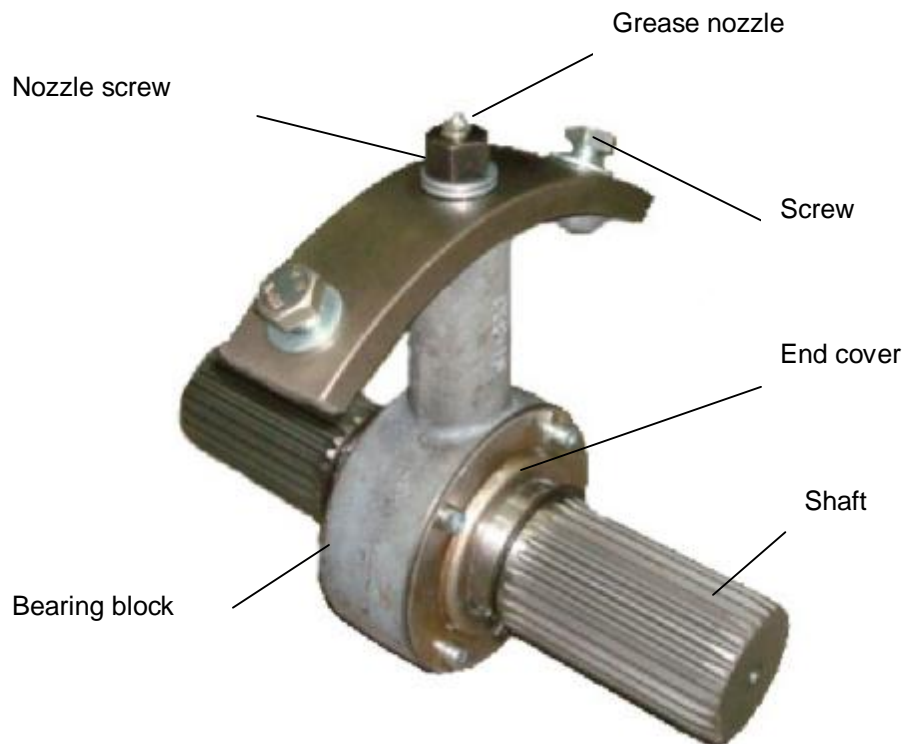
1. Gear Reducer



2. Intermediate Support

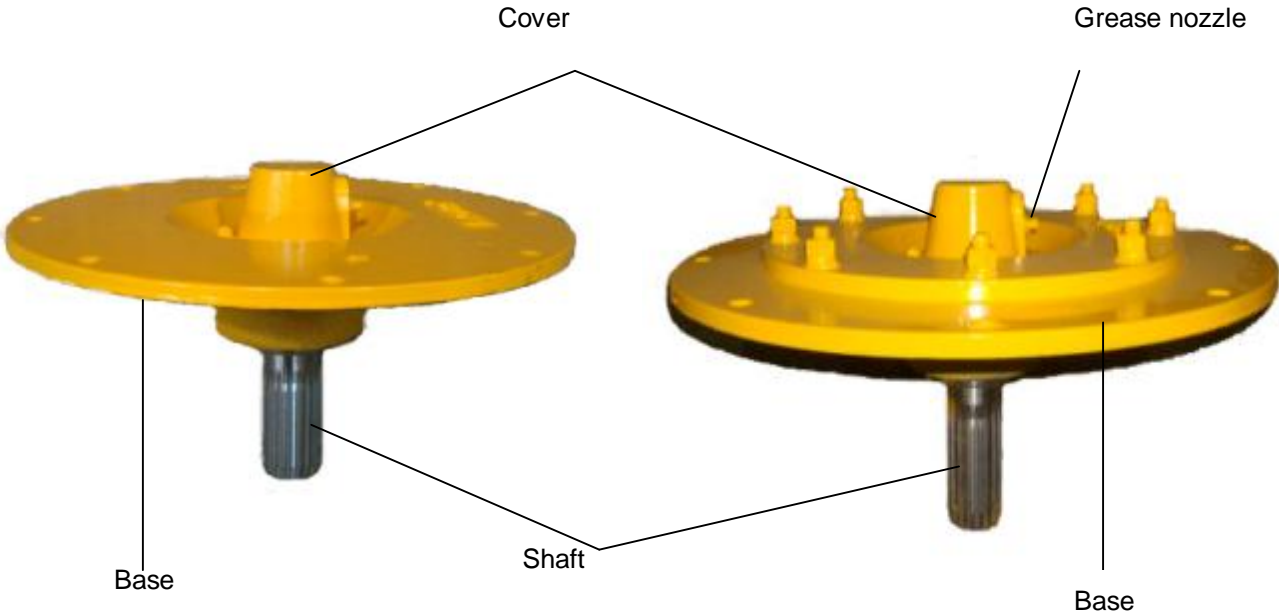


Intermediate support HS168,HS219,HS273

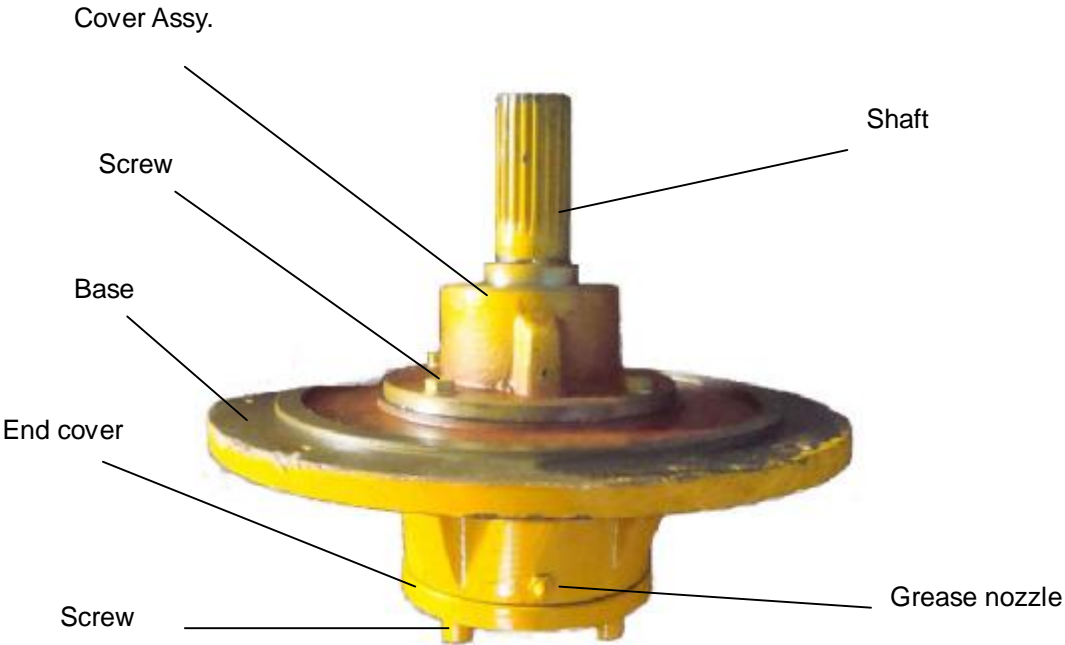


Intermediate support HS323,HS407

3. General type End Support



4. Heavy Duty End Support



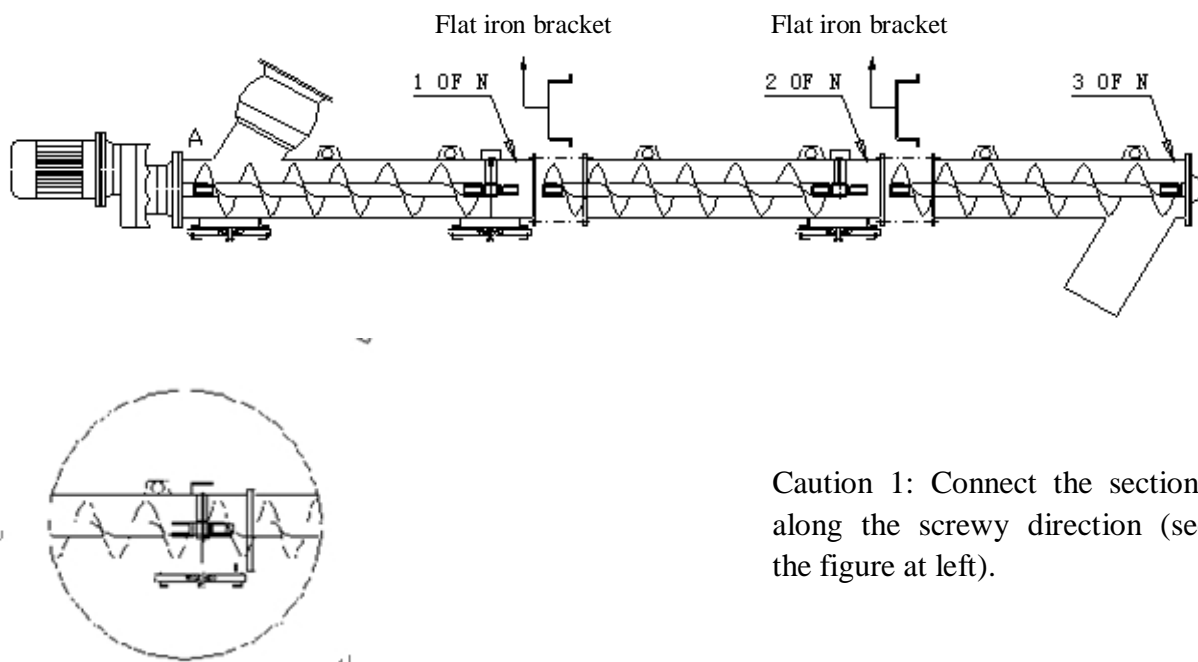
Assembly and Use

1. Mechanical assembly

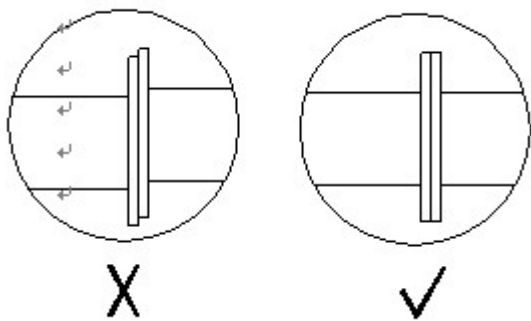
- ① Remove the flat iron bracket from Fly.
- ② Mount the sealing pad on outer tube flange and align the holes with sealing pad's.
- ③ Grease all the spline's outside end of intermediate support for easy connection.
- ④ Turn the Fly clockwise slowly to fix the Grooved hub and Intermediate support
- ⑤ Push in the Tube and Fly
- ⑥ Adjust the Tubes to parallel the Connecting flange
- ⑦ Lock the screws
- ⑧ Adjustable inlet: Adjust the angle and seal by (1) soldering the interface (2) distant soldering and sealing with silica gel for further adjustment

Assembly diagram (Fig. B)

- ① Check the quantity of section on the name plate of end section (outlet end), assemble them in sequence: 1 of n, 2 of n, 3 of n, (2 of n, "2" refer to Number 2 section, "n" refer to total sections), the production number is on the name plate of head section and end section (for example: if same production number C12060875 is on a head section name plate and end section, they are for a same screw), see diagram below.

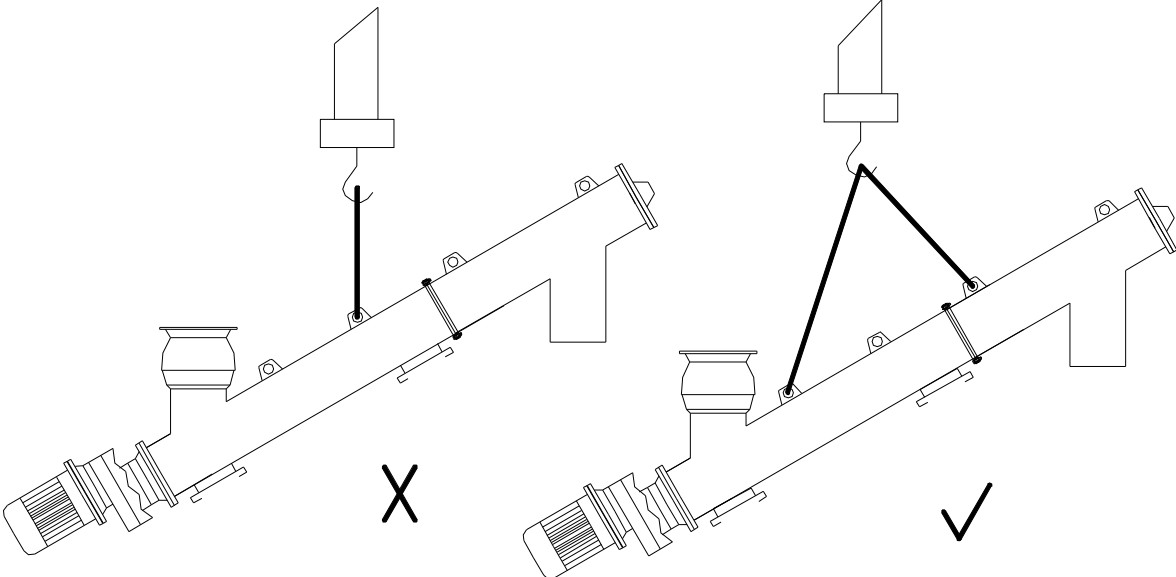


Caution 1: Connect the sections along the screw direction (see the figure at left).

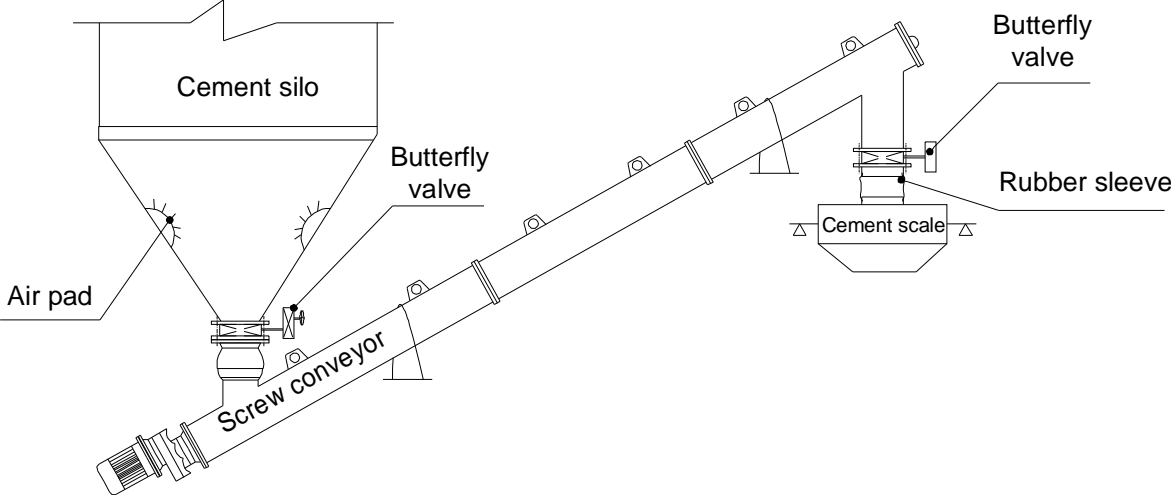


Caution 2: Connecting flanges shall be in parallel.

② Lock all the connecting parts, clean out packages and accessory settings before lifting the Screw conveyor with an appropriate lifter.



③ Support some parts of the Screw conveyor after the Inlet and Outlet are fixed.



Note: We are specialist in supplying equipments for mixing stations. We also supply premium quality Air pads, Butterfly valves, Connecting seals and other components.

2. Circuitry Connection

- ① Circuitry shall be connected according to the motor instruction manual and technical data on the name plate by a professional technician.
- ② Trial operating the machine after the circuitry is connected.

3. Safety precautions

A qualified operator is required for operating the machine

(1) Before driving the machine

- ① Remove all those maintenance accessories, warning plates, and other obstacles that may affect the normal operation of the machine
- ② Check if all the screws on the Tube are tightened
- ③ Check the mechanical function of the Inlet, Outlet, and the whole machine

(2) Repair

- ① Do not repair the machine when it is working
- ② Place a signboard while repairing the machine: “**Warning: machine under repair, driving is forbidden**”. Meanwhile, shut off the power and keep it under guide.

(3) Use and maintenance

- ① Check the sealing and lubricating condition of the Gear reducer each week, there should be no abnormal noise, oil leakage and overheat, Refill oil at standard level in time.
- ② Check if all the sections are connected tightly each month
- ③ Do not mingle hard impurities or soft strip etc. into the material.
- ④ Replace grease oil after the Gear reducer has been operating for the first 100 hours, and replace grease oil again after each 1000 hours.
- ⑤ Use lubricating grease (thermal stability is 120°C) for intermediate support and end support, refill every 200 hours (or 10 days). **Caution: refill them while machine is driving to ensure smooth refilling and avoid oil blocked.**
- ⑥ A few oil leakage from gear reducer outlet flange is normal at beginning running of the machine, no repair is required.
- ⑦ When powder leakage is found from output flange of gear reducer, stop running the machine immediately and replace with new seals to avoid the material get inside the gear reducer to cause damage.
- ⑧ Repair and maintenance shall be done by technicians only.

Choose your Screw conveyor

Transmission quantity shall be calculated according to the density proportion of material to concrete ($\rho=1.25 \text{ t/m}^3$)

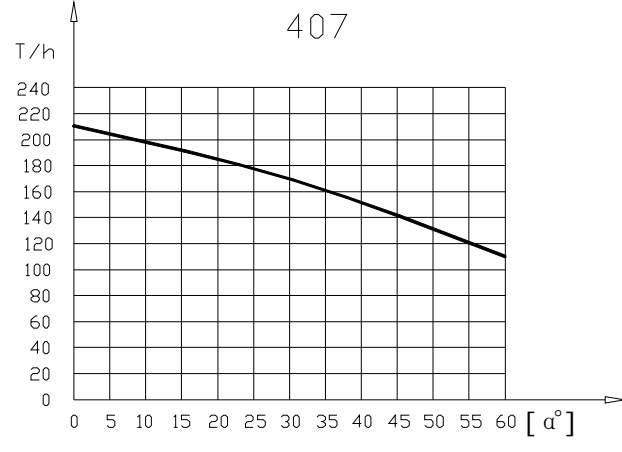
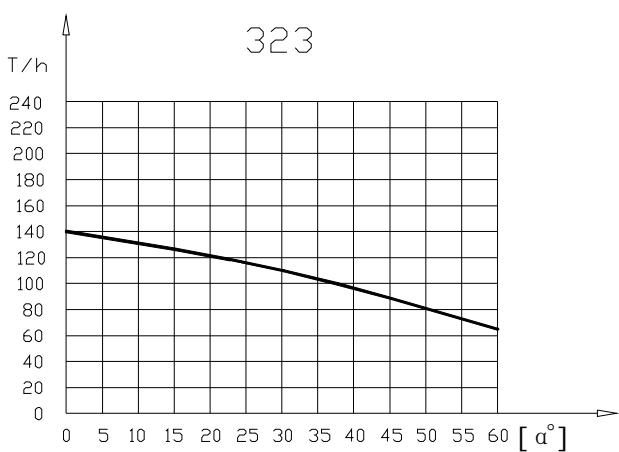
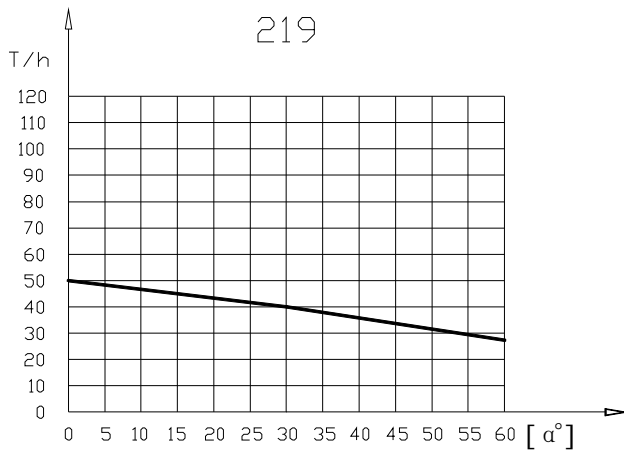
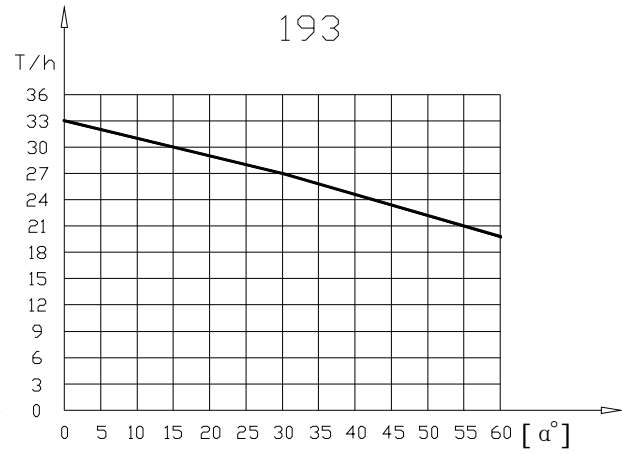
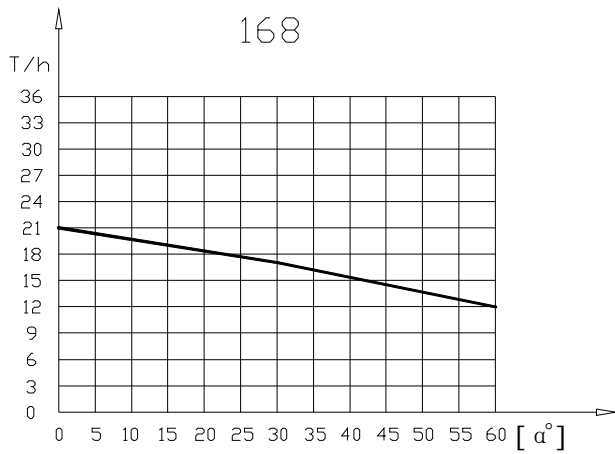
Specification of Screw conveyors (Table 1)

Motor Gear reducer	Dia.	$\Phi 168$	$\Phi 219$	$\Phi 273$	$\Phi 323$	$\Phi 407$
		17T/h	40T/h	80T/h	110T/h	170T/h
1000/1:5/28	>3 ~ 6M 3KW					
	>6 ~ 9M 4KW					
1000/1:5/38	>9 ~ 11M 5.5KW					
	>11 ~ 13M 7.5KW					
2000/1:7/38	>3 ~ 6M 5.5KW					
	>6 ~ 9M 7.5KW			>3 ~ 5M 7.5KW		
2000/1:7/42	>9 ~ 13M 11KW			>5 ~ 9M 11KW		
	>13 ~ 15M 15KW			>9 ~ 10.5M 15KW		
3000/1:7/42				>10.5 ~ 13M 15KW		
3000/1:7/48				>13 ~ 14M 18.5KW		
				>14 ~ 15M 22KW		
3000/1:10/42				>3 ~ 5M 11KW		

		>5 ~ 7M 15KW	>3 ~ 5M 15KW
3000/1:10/48		>7 ~ 9M 18.5KW	>5 ~ 7M 18.5KW
		>9 ~ 13M 22KW	>7 ~ 9M 22KW
3000/1:10/55		>13 ~ 15M 30KW	>9 ~ 13M 30KW
			>13 ~ 15M 37KW

Note: We can use Gear reducer and Motor with higher power if customer has special requirement.

Transmission quantity graphic of SICOMA serial Screw conveyors



Note: 1. Transmission quantity is subject to the overall arrangement of the Mixing station;
 2. Transmission is subject to the material.

Defects and Trouble shooting

Defect	Position	Cause	Trouble shooting
Oil leakage	Gear reducer	Shaft sealing is worn	1. Replace the seal of the input shaft 2. Replace the seal of the output shaft
Cement leakage	Gear reducer	Shaft sealing pad is worn	Replace the sealing pad
	Inspection window	Unlocked	1. Tighten the screws of Inspection window 2. Use silica gel at the sealing
	Adjustable inlet	Joint	Solder or use silica gel at the joint of Adjustable inlet
Abnormal noise	Motor	Motor bearing is destroyed	Replace the motor
	Gear reducer	Input shaft is destroyed	Replace the bearing
		Dirty or lack of grease oil	Change grease oil and refill to 2/3 level of Inspection window
	Tube	Fly scratches the interior side of Tube	Adjust concentricity of the Fly
		Intermediate support broken	Replace the intermediate support
Transmission quantity shortage	Cement silo	No Air pad	Mount 6 Air pads
		Not enough material	Recharge material

***Note: Our products are under continuous improvement. We may not be able to inform you in advance if the data is changed. ***