

Screw Conveyor

Screw Conveyor designs and manufactures equipment for various industries such as Food, Pharmaceuticals, Chemical industries, Packaging industries, salt, cement, coal, biomass, agriculture, gypsum and other industries where there is a need for industrial duty equipment to convey free-flowing bulk materials. Yagnam Pulverizer Screw Conveyors are available in many configurations. Screw Conveyors are designed based on industry standards and are modular in construction providing flexibility for a variety of applications.

Screw Conveyor has a constant volumetric capacity according to speed. It may be exposed to a head of material and by having a correctly designed flight and with variation in the speed can be used to control and feed equipment at a uniform metered rate down the process stream, eliminating surges in the process. In many situations, it is the only device that can be used as a feeder.

Screw Conveyor Operation

The flexible screw conveyor operation begins with product entering the sealed tube as the auger rotates. The shape, design style, size, and length of the auger are factors selected for each application. The screw conveyor is typically mounted to a hopper for easy loading of material. A single motor drives the auger rotation allowing the material to be pulled through the enclosed tube. The helicoid design of the auger effectively conveys a wide range of materials from powder, to granular, to larger particles.



Applications of screw conveyors:

Screw conveyors are bulk material transporting devices capable of handling great variety of materials which have relatively good flow ability. Flow ability find a CEMA material classification standard and denotes the degree of freedom of an individual material particles to move past each other. This characteristic is important in screw conveyor operation as the screw helix mounted on a central pipe or shaft, rotates within a fix trough or tube, pushes the material along the bottom and sides, sharing the material in the radial clearance between the helix and trough and causing the material to tumble upon itself as the moving face of the helical flight tends to lift the material.

Features

- Gentle product handling
- Greater hygiene
- Easy to clean
- Total containment
- Dust-free
- Constant remixing
- Low cost
- Low maintenance

Screw Conveyor Advantages

The screw conveyor is one of the most cost-effective methods for transporting bulk materials. Screw conveyors are used in thousands of applications in almost every industry. YAGNAM PULVERIZER has provided successful bulk material handling solutions for over 20 years. If you have a difficult application, please Contact Us. We have the solution. From replacement parts to complete systems, YAGNAM PULVERIZER will meet all of your bulk material handling needs.

The screw conveyor has many advantages over other types of bulk material handling equipment. Some of the advantages are:

- Screw conveyors are capable of handling a great variety of bulk materials from sluggish to free-flowing.
- Screw conveyors can have multiple inlets and discharge points. Bulk materials can be conveyed and distributed to various locations as required. Slide gates or valves can be added to control the flow into and out of a screw conveyor.
- When a screw conveyor is used as a metering device, it is considered a screw feeder. Screw feeders are used to initiate a material process by metering product from a bin or hopper.
- Screw conveyors are very compact and adaptable to congested locations. Screw conveyors do not have a return similar to a belt or drag conveyor.
- Screw conveyors are totally enclosed to contain the product and prevent spillage. Screw conveyors can be utilized in the horizontal, vertical or any inclined position depending upon the characteristics of the product being conveyed.
- Screw conveyors can be used for mixing various products together and for breaking up large lumps.
- Screw conveyors can be designed without a center pipe. This type of conveyor is called a shaftless screw conveyor and is designed for conveying wet, sticky, sluggish products such as industrial sludges and biosolids.
- Screw conveyors can be used to cool, heat or dry products in transit. Depending on the heat transfer requirements, a screw conveyor can be jacketed, or a hollow-flight design utilized to provide the necessary heat transfer for the application.

- Screw conveyors can be designed to be vapor-tight or hold an internal pressure. This is very important when conveying toxic or hazardous products such as those in the chemical industry.
- Screw conveyors can provide an airlock between upstream and downstream equipment.

Pneumatic Conveyor

Vacuum Conveying Systems work on negative pressure for conveying the material from one or number of pick-up points to one discharge point. This system is best suitable for providing duct free conditions around inlet. The system is composed of pick-up nozzle, divertor valve, rotary lock, cyclone separator, bag filter discharge lock, exhaust piping. Pressure Conveying System Conveys bulk material by air under pressure. This system offers advantages of conveying material from one place to one or number of discharge points. The system is composed of a blower or Fan, Rotary Lock, Cyclone Separator, Divertor Valve,

Piping And Fittings.

Yagnam Pulverizer provides complete systems designed to increase efficiency within your plant through the use of pneumatic conveying. Yagnam Pulverizer customers typically rely on our experience to design a complete system to accept delivery of bulk materials or ingredients and deliver these products to end-use points throughout a processing facility. Pneumatic conveyor is a unique and useful pneumatic conveying equipment that is needed for conveying fine powders vertically at heights that vary from low levels to as high as 100M. Some of its special features include no moving parts, no maintenance, and low power consumption. It is highly demanded in the international market for these features and can be customized as per the specifications laid by our clients.

Bulk Material Handling Systems

Pneumatic conveying is at the core of many bulk material handling systems. From developing simple conveying systems to solving difficult material handling problems, Yagnam Pulverizer has the knowledge and ability to help processors more effectively handle a large variety of bulk materials. Yagnam Pulverizer has developed a variety of application-specific pneumatic transfer systems for bulk material unloading and storage and for weighing and scaling operations.



Pneumatic conveying equipment serving the following industries:

Plastics: The automation of plastics processes such as plastics extrusion, compounding, and resin manufacturing can be done with pneumatic conveying and related bulk material handling equipment. Yagnam Pulverizer pneumatic conveying equipment is specifically engineered for systems in the plastics industry such as scaling, in-plant pressure conveying, in-plant vacuum conveying, vacuum sequencing and rail unload.

Compounding: The production of plastics consists of many important process steps, which are needed to generate a homogeneous application-specific plastic compound from a number of different raw materials. From railcars to feeders, Yagnam Pulverizer systems provide pressure and vacuum conveying systems to solve your material handling needs in plastics compounding and composites production.

Chemical and Mineral: Yagnam Pulverizer designs and manufactures both small and large equipment for dry bulk material handling systems for many of the world's leading chemical and mineral processors for systems conveying materials such as calcium carbonate, copper-hydroxide, talc, bentonite clay, kaolin clay, soda ash, limestone, sodium-benzoate, burnt wood chips, clay/carbon blend, gypsum, vanadium-pentoxide, dolocron, dicalcium-phosphate, silica, TiO_2 , lead oxide, ammonia- sulfate and boric acid.

Food & Pet Food: Within the food industry, Yagnam Pulverizer has served numerous applications including tortillas, bread and cake mixes, pasta, rice, snack food, cereal, candy, cookies and crackers, ice cream, pet food and more.

Pharmaceutical / Nutraceutical: Yagnam Pulverizer offers sanitary pneumatic conveying equipment for several pharmaceutical applications when conveying delicate materials such as tablet granulations, active pharmaceutical ingredients (APIs), excipients, and even finished capsules and tablets.

Belt Conveyor

Salient Feature

- Conforms to IS:8598-1987.
- Minimum roller gap to maximize belt life as it eliminates the danger of pinching and damaging belt.
- Forward tilt of side rollers ensures proper belt training.
- 'Drop in type' design facilitates easy mounting and removal of rollers.

Bucket Elevator

The typical bucket elevator consists of a series of a series of bucket mounted on a chain or belt operating overhead and foot wheels. Take-ups are provided as a means to compensate variations in length of chain or belt due to temperature changes, atmospheric conditions or wear. A steel casing usually encloses the bucket line and the head & foot machinery. Certain types of elevators have open steel supporting frames in lieu of casings. Link-belt elevator buckets are made in a variety of shapes, weights, and sizes and are of steel, malleable iron or longer wearing promol or alloy metals. The type of elevators and the material handle determined the bucket selection.

Conveyor Idlers**Salient Feature**

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- Forward tilt of side rollers ensures proper belt training.
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Frame

- Jig welded steel frame ensures precise roller alignment and interchangeability.
- Inverted angle base provides strength, and directs spillage away from rollers thus preventing accumulation of material under roller, ensuring free running of roller without any power loss.
- Foot straps each with two open end slot facilitate initial alignment of felt.

Roller

- Roller shell is made of special ERW tubes with close tolerance.
- Bearing housings pressed out of CRCA steel sheet are welded to the roller shell with the help of Co, welding machine to achieve least distortion and maximum dispatch.
- All rollers are made free before dispatch.
- Close tolerance solid shaft protects bearings by minimizing deflection.
- Rollers are fitted with seize resistant ball bearings. These bearings are specially designed for Belt Conveyor applications.

- Double multi labyrinth seals ensures maximum protection against dirt, dust and moisture to the bearings.
- Bearing, seals and grease chambers are filled with high-grade lithium based grease and rollers are filled with high-grade lithium based grease and rollers are sealed for life, thus saving high maintenance cost during life of roller.



Accessories

- For Impact Idlers specially designed soft rubber rings are fitted to absorb impact loading and transfer points.
- Also manufacture special rubber lagged rollers or PVC lined Rollers For handling corrosive material.
- Special rubber rings are provided for self-cleaning rollers.

Carrying & Return Idlers

Troging Angle (Ø) = 20°, 30°, Or 35°

BELT	WIDTH A	B	C	E				F
				D:88.9	D:114.3	D:139.7	D:152.4	
500	200	600	790	165	190	215	230	M12
600	235	700	890	165	190	215	230	M12
650	250	750	940	165	190	215	230	M12
800	315	950	1090	175	200	225	240	M12
1000	380	1150	1290	175	200	225	240	M12
1200	465	1400	1490	175	200	225	240	M16
1400	530	1600	1690	175	200	225	240	M16

SHAFT AT BEARING	DIA D	SW	G	CARRYING ROLLER 'H'				RETURN ROLLER 'J'
				D:88.9	D:114.3	D:139.7	D:152.4	
20ø	20	14	4	7	7	9	9	12
25ø	25	18	4	7	7	9	9	12
30ø	30	22	4	7	7	9	9	12

Conveyor Pulleys

Salient Features:-

- Confirms to IS:8531-1986.
- EACH Pulley is designed according to its position in conveyor, considering all tension parameters.
- Pulleys are statically balanced.
- All components are standardized and compatible, hence less cost.

Design And Construction:-

- Welded steel pulleys are of drum type, with rim, end disc, and hubs designed to give maximum rim overhang prevents accumulation of material.
- Smooth pulley surfaces provide maximum belt protection.
- Hubs and end disc are accurately machined to assure concentricity.
- Pulleys are available with straight or crowned face.
- Pulleys shafts are made from carbon steel/EN-8 and are designed for torque and bending moment.
- Normally shafts are keyed in hub. However, taper lock bushing for ease of maintenance can be provided. Shafts are welded to pulley hub in case of light duty.



Rubber Lagging:-

- Drive pulley lagging is usually provided to increase traction between belt and pulley.
- Snub and bend pulleys rubber lagging resists accumulation of material on pulley surface.
- Rubber lagging of following types are available

1. Plain
2. Diamond
3. Herringbone

Our Other Range Of Products

- Belt Conveyor
- Roller Conveyor
- Screw Conveyor
- Apron/Slat Conveyor
- Bucket Elevator
- Chain Conveyor
- En-Masse conveyor
- Deep Bucket Conveyor