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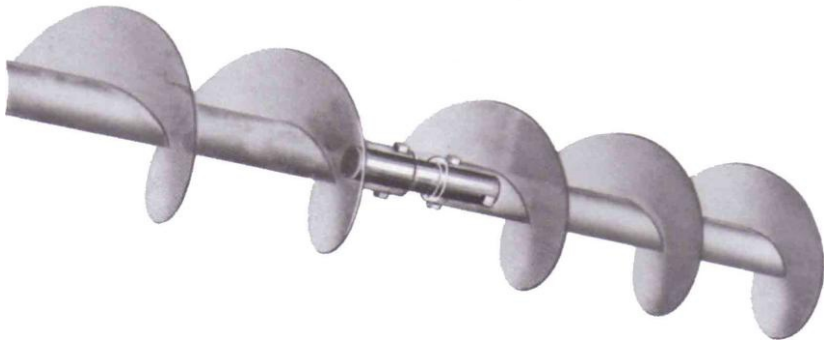
Components of a Screw Conveyor System

Screw Conveyors

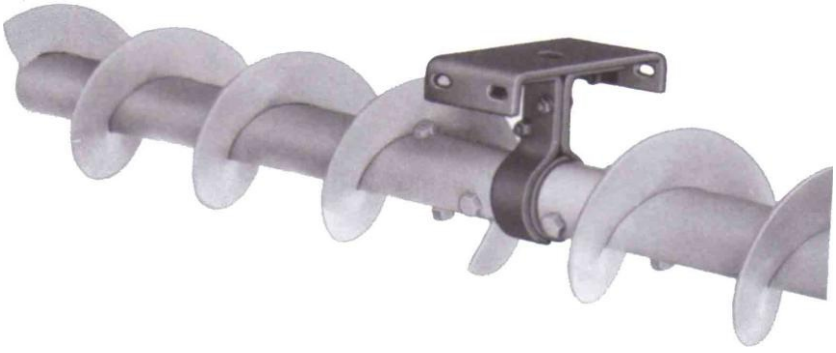
The Conveyor Screw imparts a smooth positive motion to the material as it rotates within the trough.

Couplings and Shafts connect and transmit motion to subsequent screw conveyors. Held in place by self-locking bolts.



Separate Sections allow an individual conveyor section to be lifted out without dismantling adjacent parts or components. An optional feature available at extra cost.

Hangers provide support, maintain alignment and serve as bearing surfaces.



These screw conveyors are used by many Industries though we manufacture mainly for Food industry the MOC being Stainless steel. They are used to transport Food Raw material Flours to various processing elements of Food processing plant.

Screw Conveyors can be operated with the flow of material inclined upward, When space allows, this is a very important to understand, however, that as the angle of inclination increases, the allowable capacity of a given unit rapidly decreases.

A standard Screw Conveyor inclined 15° upward may only carry 75% of its rated horizontal capacity. At an inclination of 25°, a standard conveyor may only handle 50% of its horizontal capacity. These are estimated figures and will vary with the characteristic of the material being handled. Inclined Screw Conveyor capacities can be increased over short distances if no intermediate hangers are required.

Other aids in conveying on an incline are the use of shorter than standard pitch and/or tubular housings or shrouded conveyor trough covers. Very often it becomes necessary to use high speed to overcome the tendency of material to fall back.

The above aids are resorted to in order to overcome the tendency of a screw conveyor to become less efficient as the angle of incline increases. Vertical conveying by Screw Conveyor, on the other hand, is quite successful and it remains that a 45° incline or angles approaching this figure are the most difficult on which to achieve successful conveying.

Inclined conveyors can seldom be used as metering feeders. If an accurate flow is necessary, a separate horizontal feeder conveyor is required.

Additional power is needed to convey on an incline. This

the material. Judgment and experience in the art of conveying are required. Again we suggest you contact our Engineering Department for specific recommendations.

Hanger Mount Well

Standard Discharge Spout.

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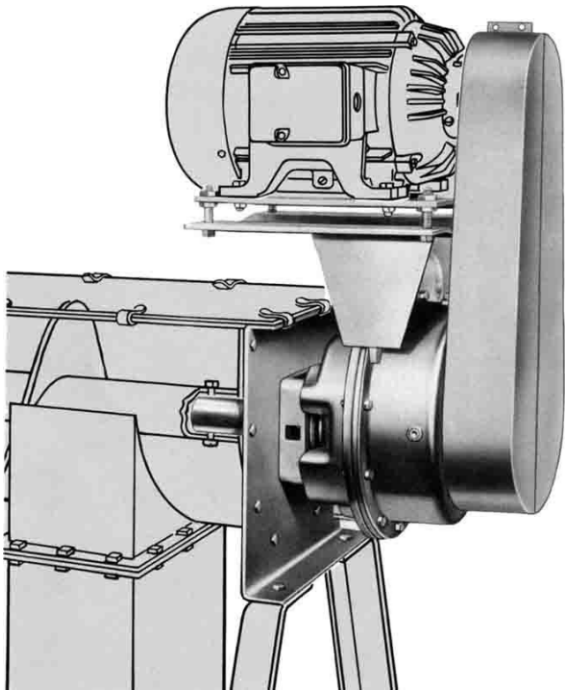
Typical Drive Assemblies

Screw Conveyors

Screw conveyor drives are available in a wide variety for use in transmitting the necessary rotary motion to the screw. Integral or fractional horsepower motors can be coupled with many different types of gear reducers which, in turn, are directly connected to the screw through a coupling, roller chain or V belt. Most types of drives provide a constant output speed but variable speed designs may be utilized for particular applications. Both constant or variable speed Inverter AC drives are also available.

The typical drive arrangement pictured utilizes a modified shaft mount reducer complete with V belt drive and motor mount. In this assembly, the reducer output shaft, conveyor thrust bearing, end seal and trough end are combined into one complete screw conveyor drive unit. Four different mounting assemblies are available and variations on these are available to fit virtually all possible requirements. The reducer output shaft bearings, in this case, take the place of the conveyor thrust bearing. A shaft seal adequate for most dust applications between the conveyor and the reducer is also provided. Other types of drives available are:



1. Electric gearmotor combination with roller chain drive.
2. Gear reducer connected through roller chain to the screw conveyor. V-belts or couplings connect the reducer input shaft and the motor.
3. Variable speed controlled A.C. motors with any of several types of reducers.
4. Variable pitch pulleys between motor and reducer including the flange mount type pictured.

We do not recommend a direct coupling connection motor to reducer to conveyor. This allows no adjustment in conveyor speed which may sometimes be necessary due to manufacturing tolerances or changes in requirements.

Guards and Chain Casings

Chain casings and guards are fabricated of heavy gauge installation. All moving parts are totally enclosed to protect both workmen and equipment. When drives are located out of reach of personnel they can often be considered "guarded by location" and separate enclosures may not be essential.

For a quote, please callour representative and arrange details like the medium to be conveyed,distance, capacity in Kg or TPH, the bulk density of powder flour, the service conditions, etc. MALIK'S team is at your disposal.

Manufacturers:

MALIK ENGINEERS

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