

# Component Description

**Screw conveyors** are one of the oldest and simplest methods for moving bulk materials and consist primarily of a conveyor screw rotating in a stationary trough. Material placed in the trough is moved along its length by rotation of the screw which is supported by hanger bearings. Inlets, outlets, gates and other accessories control the material and its disposition.

Screw conveyors are compact, easily adapted to congested locations and can be mounted horizontal, vertical, and in inclined configurations. Their supports are simple and easily installed.

These versatile conveyors can be used to control the flow of material in pro-

cessing operations which depend upon accurate batching . . . or as a mixer, agitator or stirrer to mix and blend dry or fluid ingredients, provide crystallization or coagulant action, or maintain solutions in suspension,

Screw conveyors can be effectively sealed to prevent dust or fumes from escaping or dirt or moisture from entering. They can be jacketed to serve as a dryer or cooler, or furnished in a wide variety of materials to resist corrosion, abrasion or heat.

Screw conveyors are used as earth augers to dig post holes or to bore under highways for installation of culverts. They are also used

extensively on combines, threshing machines, hay bailers, fodder blowers and many other farm machines.

**Screw feeders** are modified screw conveyors used to control the flow of material at a constant or variable rate from track hoppers, storage hoppers, bins or tanks. They are suitable for handling a wide variety of materials ranging from fines to a combination of fines and lumps. Under many conditions, feeders are also used as a valve.

Screw feeders are totally enclosed, compact, simple in design and dust-tight. They are economical to install, operate and maintain.

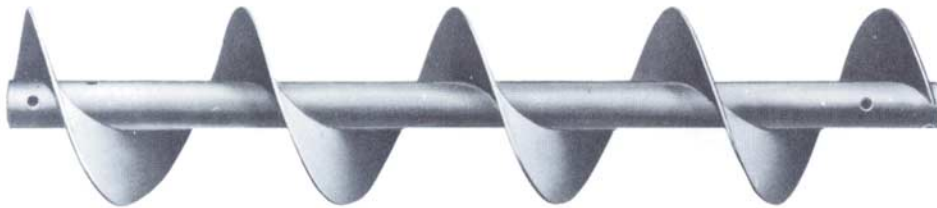
## Conveyor Screw

**The conveyor screw** is the rotating portion of a screw conveyor which imparts smooth and positive motion to the bulk material being conveyed. It consists of spiral flighting mounted on

a pipe and is made either right or left hand to suit the screw rotation and the desired direction of material travel.

## Conveyor Screw with Drive Shaft

**The conveyor drive shaft** connects the conveyor screw to the driving unit and transmits rotary motion to the screw. Coupling bolts secure the drive shaft in the conveyor screw.



## Conveyor Screw with Drive Shaft, End Shaft and Coupling

**The conveyor drive shaft, end shaft and coupling** support the conveyor screw sections and keep them in alignment. The end shaft is located at the end opposite the drive shaft. Couplings are used to connect successive conveyor screw sections

when more than one section is necessary to make up the total length of conveyor. The shafts and coupling are secured in the conveyor screws by coupling bolts.



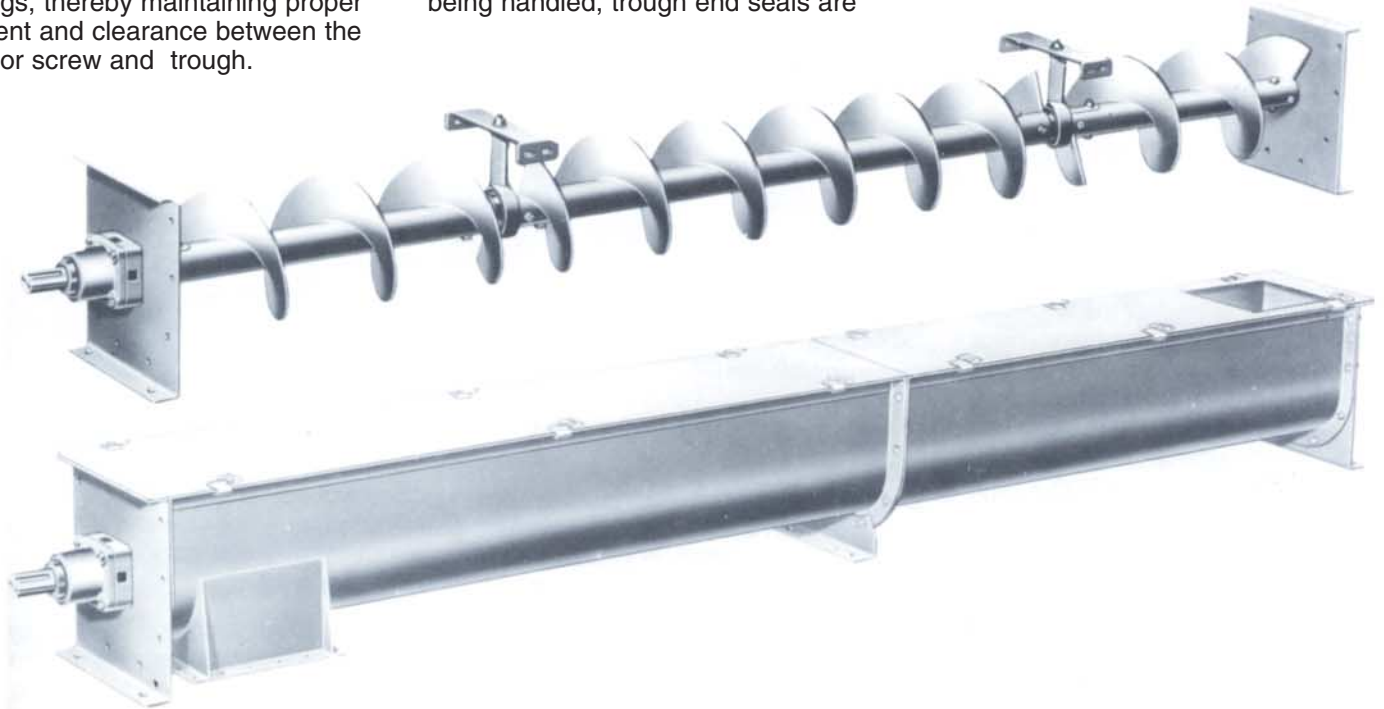
**component description**

# Trough Ends and Hangers

**The trough ends** support the conveyor drive and end shafts while the hangers support the conveyor couplings, thereby maintaining proper alignment and clearance between the conveyor screw and trough.

To provide additional protection for the drive shaft and end shaft bearings, for or against the material being handled, trough end seals are

assembled between the flanged blocks and the trough end plates.



## Conveyor Trough with Inlet Opening and Discharge Spout

**The trough** is the enclosure in which the material is confined and guided in its movement. Trough end flanges preserve the contour of the trough, facilitate assembly of adjoining sections, and insure accurate alignment. Supporting feet at the trough joints or saddles located between the joints, support the intermediate trough sections.

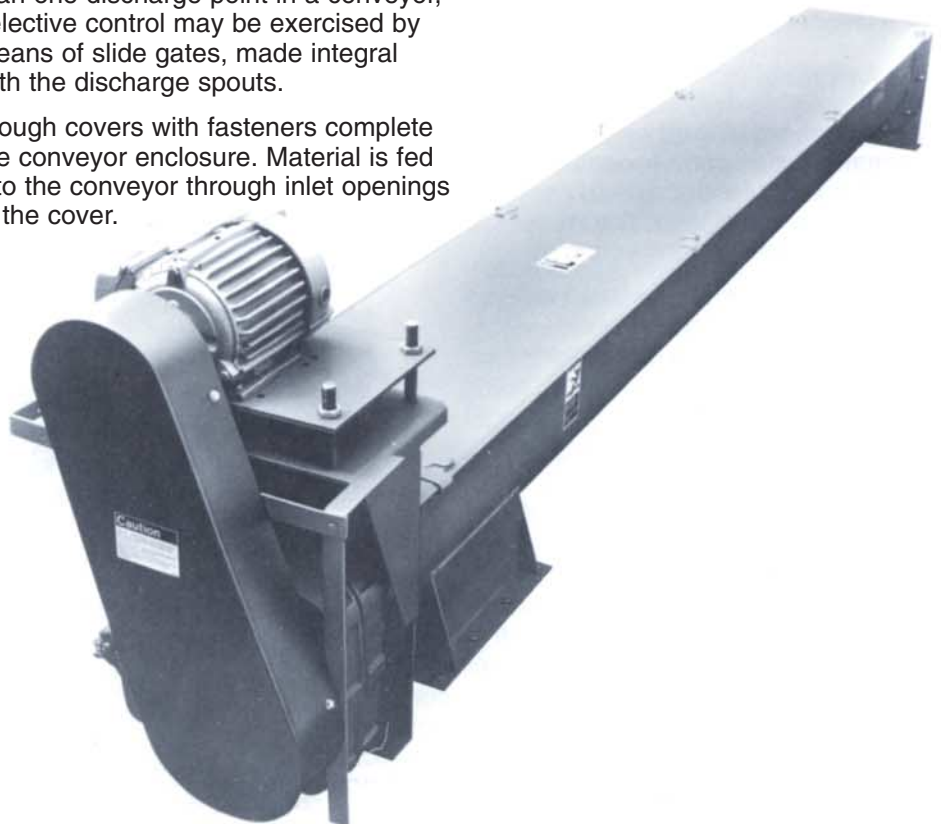
Discharge spouts provide outlets for the material and direct its flow to bins

or succeeding equipment- With more than one discharge point in a conveyor, selective control may be exercised by means of slide gates, made integral with the discharge spouts.

Trough covers with fasteners complete the conveyor enclosure. Material is fed into the conveyor through inlet openings in the cover.

## Typical Screw Conveyor Complete With Drive

**A shaft mounted speed reducer** makes a simple and compact drive combination. The drive consists of a standard shaft-mounted speed reducer with adapter having a built-in seal and mounted on a steel plate trough end. A welded steel adjustable motor support bracket is rigidly mounted on the adapter and provides ample clearance over the trough end for easy trough cover removal.



## component description

# Conveyor Screws

### Helicoid Flight Conveyor Screws

The helicoid flight conveyor screw is made of a helix, formed from a flat steel bar or coil strip and mounted on a pipe or shaft. The helix, formed by special rolling equipment to the required diameter, pitch and thickness, is a smooth, continuous one-piece flight.

By virtue of its one-piece construction, it possesses superior strength. The absence of laps, rivets or welds on the carrying face of the Flight promotes and maintains cleanliness and reduces wear. The rolling process effects a hardening and smoothing of the flight surface which increases resistance to wear and reduces friction and power consumption.

The flight is fastened to the pipe, or shaft, by intermittent or continuous welds and with or without formed steel end lugs. The pipe, of a size carefully selected for adequate torsional strength and resistance to excessive deflection, has internal collars at each end. These collars are permanently inserted and have appropriate inside diameters to accept coupling or end shafts.

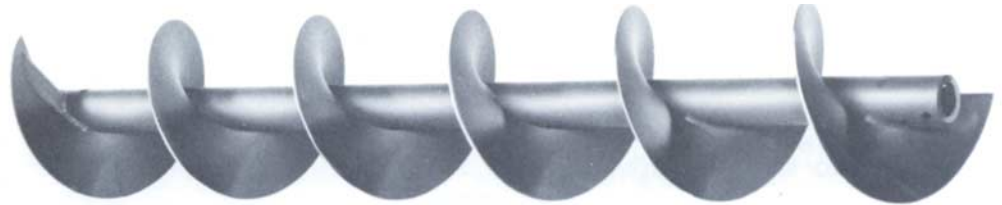
The assembled helicoid flight conveyor screw is solidly constructed and exceptionally sturdy, and its inherent balance permits operation at high speeds. Its distinctive characteristics contribute to maximum efficiency, durability and economy.

Helicoid flight conveyor screws are interchangeable with sectional flight conveyor screws of the same diameter and shaft size.

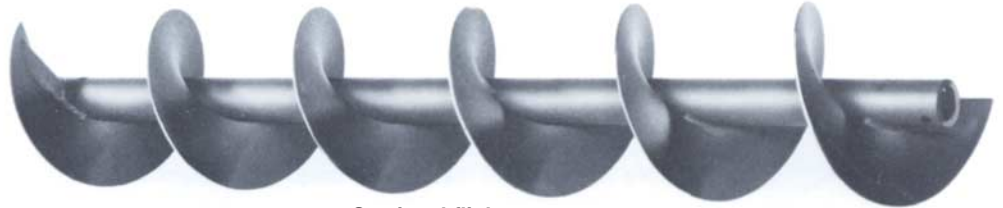
Helicoid flighting is made with regular pitch approximately equal to the diameter. It can also be furnished with other than regular pitch and in a wide range of diameters, thicknesses and lengths to meet the most exacting requirements.

For extremely heavy duty the flighting may be continuously welded to the pipe or shaft on one or both sides.

Consult FMC for information on special requirements.



Helicoid flight conveyor screw



Sectional flight conveyor screw

### Sectional Flight Conveyor Screws

Sectional flight conveyor screws are made of individual flights, each blanked from a flat steel plate and formed into a helix. The flights are butt welded together and fastened to the pipe or shaft by intermittent or continuous welds and with or without formed steel end lugs. Sectional flights are formed with regular pitch approximately equal to the diameter.

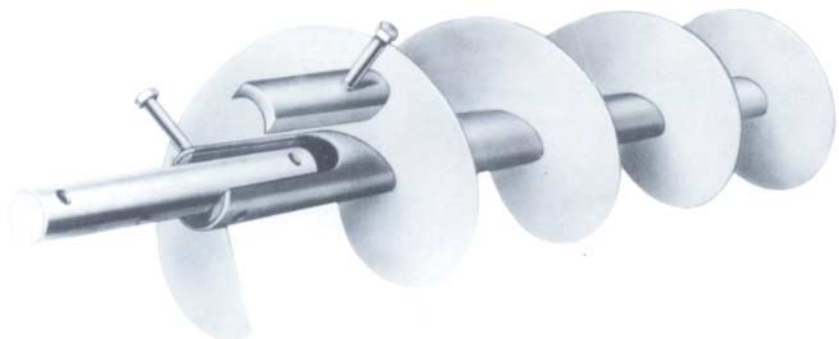
Sectional flight conveyor screws are interchangeable with helicoid flight conveyor screws of the same diameter and shaft size.

Sectional flights afford flexibility in choice of diameters, pitches and

thicknesses. The sectional flight conveyor screw is a sturdily constructed assembly, carefully designed to render efficient, economical and lasting service.

When desired, sectional flights may be lap welded together, or flights may be continuously welded to the pipe on one or both sides, thus providing exceptionally rugged construction for the most severe conveying applications.

Many variations of sectional flight conveyor screws can be furnished to meet specific needs. Some of these are listed on the following pages.



### Quik-Link Conveyor Screws

The Quik-Link conveyor screw is designed for easy removal from the conveyor trough. Each section of screw is provided with a Quik-Link key located at one end of the pipe. By removing this key, a conveyor screw

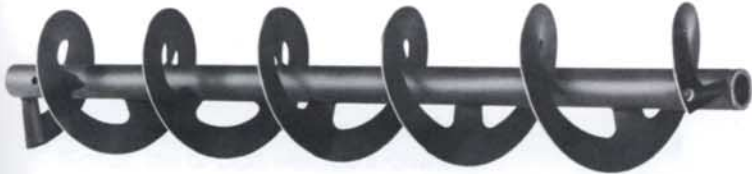
section and coupling with hanger can be quickly and conveniently disassembled without disturbing other components. Quik-Link conveyor screws are available in both the helicoid flight and sectional flight construction.

component description

# Conveyor Screws



**Cut flight conveyor screws** have notches cut in the periphery of either helicoid or sectional flights. These notches supplement the conveying action with a moderate mixing action. They are used for light, fine, granular or flaky materials.



**Ribbon flight conveyor screws** consist of continuous helical flighting formed from steel bar and secured to the pipe by supporting lugs. They are used for conveying sticky, gummy or viscous substances, or where the material tends to stick to flighting at the pipe.



**Conveyor screws with paddles** have paddles spaced at intervals and set to partially oppose the forward flow, to provide a moderate mixing or stirring of materials being conveyed. Paddles are adjustable and may be set at any angle to produce the desired degree of agitation. They are used for light or medium weight, fine, granular or flaky materials.



**Cut and folded flight conveyor screws** provide folded segments which act as lifting vanes to produce a cascading effect. This promotes agitation and aeration, resulting in better mixing. They are used for light or medium weight, fine, granular or flaky materials.



**Short pitch conveyor screws** are of regular construction except that the pitch of the flights is reduced. They are recommended for use in inclined conveyors of 20 degrees slope and over, including vertical conveyors and are extensively use as feeder screws. They retard flushing of materials of a fluid nature.



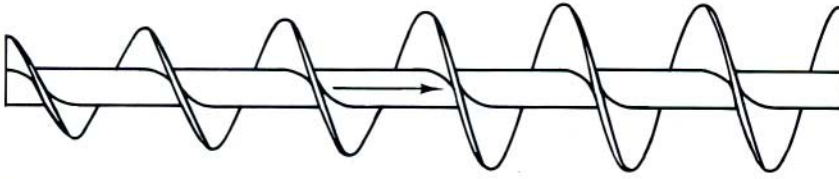
**Cut flight conveyor screws with paddles** have paddles mounted at intervals and set to counteract the flow of materials, considerably increases the agitation and mixing action produced by the cut flights.



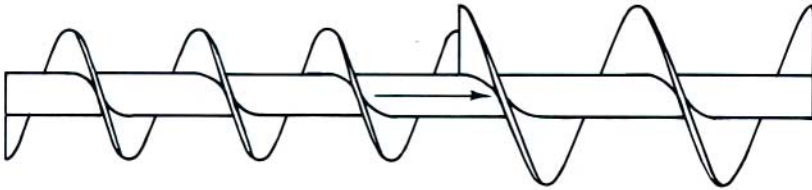
**Paddle conveyor screws** have formed steel blades mounted on rod shanks inserted through the pipe. Conveying action can be controlled by adjusting the angle of the paddles. They are used for mixing, blending or stirring dry or fluid materials.

## component description

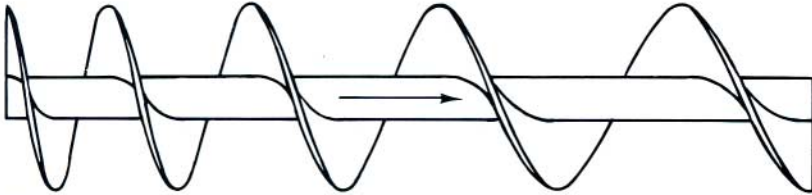
# Conveyor Screws



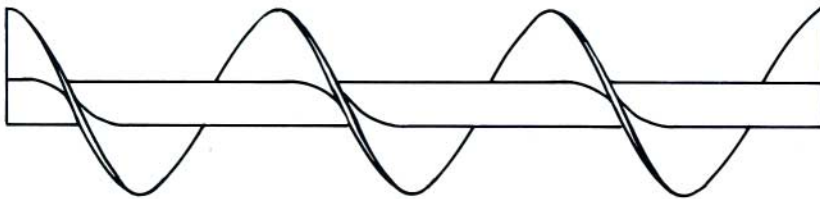
Tapering flight conveyor screw



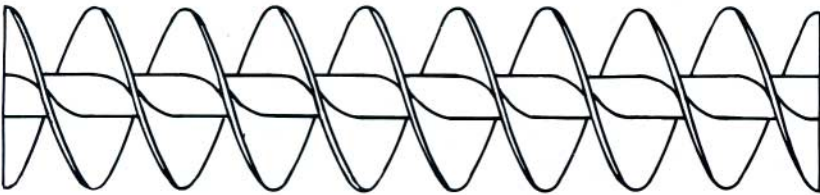
Stepped diameter conveyor screw



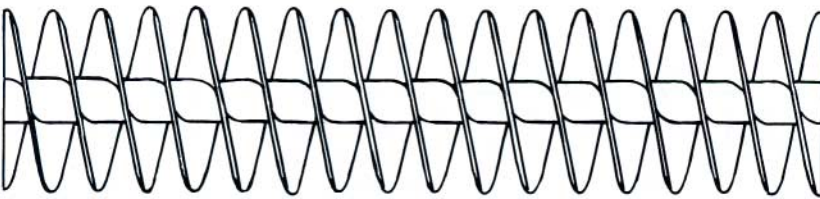
Stepped pitch conveyor screw



Long pitch conveyor screw



Double flight conveyor screw



Double flight short pitch conveyor screw

### **Tapering flight conveyor screws**

are frequently used as feeder screws for handling friable lumpy material from bins or hoppers and also to draw the material uniformly from the entire length of the feed opening.

### **Stepped diameter conveyor screws**

consist of flights of different diameters, each with its regular pitch, mounted in tandem on one pipe or shaft. They are frequently used as feeder screws, with the smaller diameter located under bins or hoppers to regulate the flow of material.

### **Stepped pitch conveyor screws**

are screws with succeeding single or groups of sectional flights increasing in pitch and are used as feeder screws to draw fine free-flowing materials uniformly from the entire length of the feed opening.

### **Long pitch conveyor screws**

are occasionally used as agitators for liquids or rapid conveying of very free-flowing materials.

### **Double flight conveyor screws**

of regular pitch promote a smooth gentle flow and discharge of certain materials.

### **Double flight short pitch conveyor screws**

assure more accurate regulation of feed and flow in screw feeders and effectively deter flushing action of fluid materials.

## component description

# Conveyor Screws

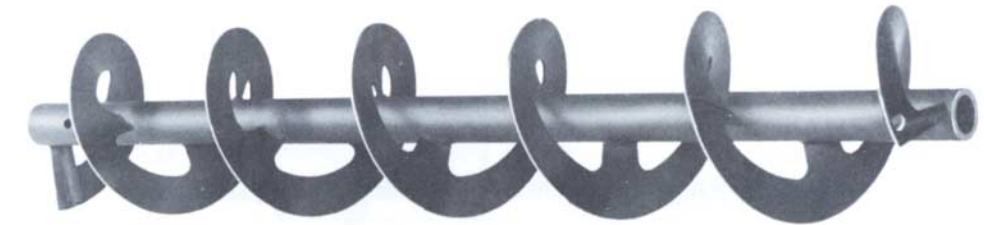
**Ribbon Flight Conveyor Screws** consist of sectional flights, butt welded together to form a continuous helix. Flights are secured to the pipe by supporting lugs.

Variations of diameter, pitch, flight width or thickness can be furnished. Also, these screws can be furnished with either continuous or sectional flights, lap or butt welded together

Ribbon flight conveyor screws are the solution to most conveying problems encountered in the handling of sticky, gummy or viscous materials. The tendency of materials of this nature to adhere and build up at the juncture of solid flight with the pipe is overcome by the open construction of the ribbon flight. Raw sugar, molasses, asphalt, hot tar, sticky feed mixes, and similar products are typical of the many materials successfully handled by ribbon flight conveyor screws.

Providing the periphery of ribbon flights with a beveled edge improves operation and reduces power consumption when handling materials which tend to pack or trowel between flights and trough. Consequently, beveled edge ribbon flight conveyor screws are usually subjected to extremely heavy loads, and construction is accordingly heavy and rugged. The ribbon flights are supported on the pipe or shaft by steel lugs, generously proportioned to resist bending.

Where the material handled moves virtually en masse, there is but very slight difference in capacity between ribbon and solid flight conveyor screws of the same size. Mixing action without supplementary means of agitation is negligible.



Ribbon flight conveyor screw



Ribbon flight conveyor screw with paddles

### Ribbon Flight Conveyor Screw with Paddles

To provide moderate mixing or stirring of materials being conveyed, paddles can be furnished, spaced at intervals and set to partially oppose the forward flow. Paddles are adjustable and may be set at any angle to produce the desired degree of agitation. They are used for light or medium weight, fine, granular or flaky materials.

### Multiple Ribbon Flight Conveyor Screws

This type of screw consists of two or more ribbon flights of different diameters and opposite hand, mounted one within the other on the same pipe or shaft by rigid supporting lugs. Material is moved forward by one flight and backward by the other, thereby including positive and thorough mixing.

### Abrasion-Resistant Conveyor Screws

The particularly severe service encountered when conveying abrasive materials has prompted many attempts to overcome excessive wear on flights. Several successful methods have been developed.

Each of these methods offers specific advantages depending on the nature of the material handled and the application. For a careful analysis and recommendation, consult FMC Conveyor Equipment Division.

**Hard surfacing** by application of a special compound, by arc or torch, to the flight periphery or face, or both, provides an exceptionally hard surface at the points of greatest wear.

For severe applications, conveyors with high alumina ceramic tile bonded to the flight periphery or face are also available.

### Corrosion-Resistant Conveyor Screws

Corrosion is manifested in so many different ways that no one choice of material will suit all requirements. To withstand the effects of corrosion encountered in many fields of industry, conveyor screws are fabricated of stainless steel, Monel metal, aluminum, and other materials.

Galvanizing and other coating methods have proved effective under mildly corrosive conditions. Vulcanized or bonded rubber covering of the entire conveyor is frequently satisfactory for resistance to extremely corrosive action.

### Heat-Resistant Conveyor Screws

Conveyor screws for high temperature applications are made of many of the available heat-resistant alloys. Several of the stainless steels and other high-chrome alloys are particularly suitable for this service.

## component description

# Drive Shafts, End Shafts and Couplings

**The conveyor drive shaft** delivers the driving power, and is therefore carefully designed of quality steel of the proper characteristics to provide adequate torque, bending and shear strength, and with closely controlled tolerances for correct bearing clearances.

For conveyors of unusual length or for severely heavy loads, alloy steels, heat-treated high carbon steels or 3-bolt connections, are used.

Jig-drilled coupling bolt holes and accurately cut keyways contribute to ease of assembly.

**The conveyor end shaft** supports the last section of conveyor screw and is furnished with close tolerances for proper operation in end bearing. Coupling bolt holes are jig drilled for interchangeability and ease of assembly.

**Conveyor couplings** connect and space adjoining sections of conveyor screw and transmit rotation.

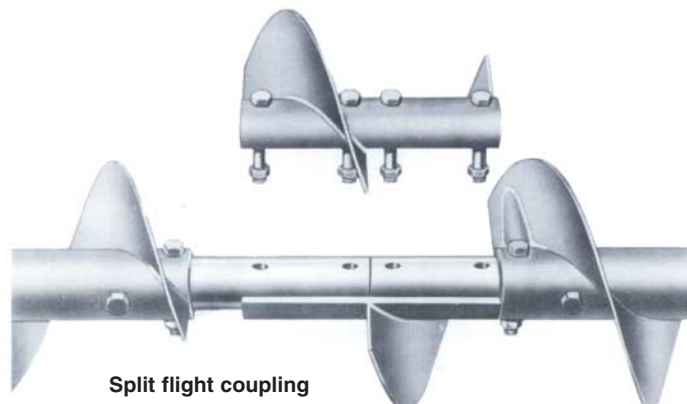
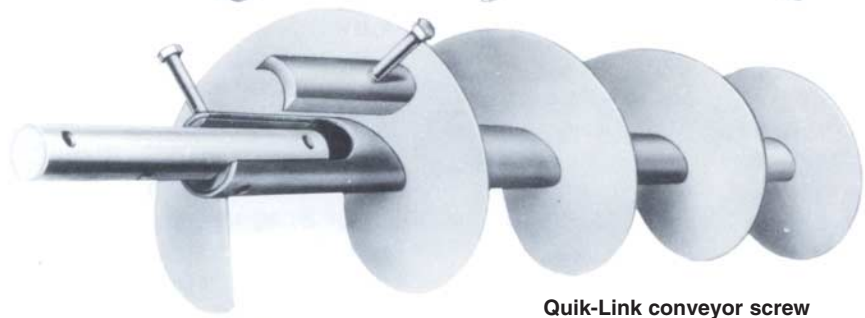
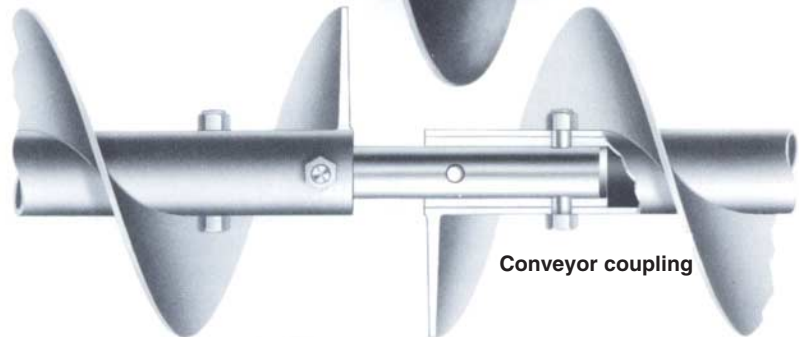
Carefully selected steels, with accurate heat-treating or hard surfacing when required, insure ample strength and resistance to wear for the kind of service specified.

For conveyors of unusual length or for severely heavy loads, alloy steels, heat-treated high carbon steels or 3-bolt connections are used.

Close tolerances on diameters and jig-drilled coupling bolt holes assure interchangeability and ease of assembly.

**Quik-Link conveyor screws** provide an easy means for the quick removal of a conveyor screw section and coupling with hanger without disturbing other components. Regular couplings are used with these screws.

**Split flight couplings** permit installing or removing individual conveyor screws without disturbing adjoining sections. With split flight couplings installed on both sides of each hanger, conveyor screws can be removed without disturbing the hangers. The Link-Belt split flight coupling is sturdily constructed and jig-drilled for coupling bolts.



component description  
**Hangers**

**No. 216 hangers**



**No. 216 hangers** have formed steel box frames of superior strength and rigidity and are excellent for heavy service. They are mounted within the conveyor trough. Mounting holes are slotted parallel with the conveyor to permit adjustment and alignment. These hangers are normally furnished with hard iron, babbitted, bronze, oil impregnated wood or molded fabric bearings, but can also be furnished with special bearings.

**No. 216F hangers**



**No. 216F hangers** are similar in construction to No. 216 hangers except they are designed to mount in, flared trough.

**No. 220 hangers**



**No. 220 hangers** are similar in construction to No. 226 hangers, except they are mounted on top of the trough flanges. Mounting holes are slotted parallel with the conveyor to provide adjustment and alignment. These hangers are normally furnished with hard iron, babbitted, bronze, oil impregnated wood or molded fabric bearings, but can also be furnished with special bearings.

**No. 226 hangers**



**No. 226 hangers** have a rigid, formed-steel box frame with clearance for passage of material in large volume. They are mounted within the conveyor trough. Mounting holes are slotted parallel with the conveyor to permit adjustment and alignment. These hangers are normally furnished with hard iron, babbitted, bronze, oil impregnated wood or molded fabric bearings, but can also be furnished with special bearings.

**No. 270 ball bearing hangers**



**No. 270 ball bearing hangers** have self-aligning ball bearings. The frame is a box-member top-bar with a pipe stem support for the bearing. The bearing is factory adjusted for the proper length from the top-bar and locked with a sealant and a lock nut. The frame is designed for mounting inside the trough and slotted mounting holes parallel to the conveyor permit adjustment and alignment.

**No. 316 hangers**



**No. 316 hangers** have formed steel frames of superior strength and rigidity and are excellent for heavy service. They are mounted within the conveyor trough, are self-adjusting and will accommodate operating variations which may exist between the conveyor screw and trough. Mounting holes are slotted parallel with the conveyor to permit adjustment and alignment. These hangers are normally furnished with hard iron, babbitted, bronze, oil impregnated wood or molded fabric bearings, but can also be furnished with special bearings.

**No. 326 hangers**



**No. 326 hangers** have a rigid, formed steel frame with clearance for passage of material in large volume. They are mounted within the conveyor trough, are self-adjusting and will accommodate operating variations which may exist between the conveyor screw and the trough. Mounting holes are slotted parallel with the conveyor to permit adjustment and alignment. These hangers are normally furnished with hard iron, babbitted, bronze, oil impregnated wood or molded fabric bearings, but can also be furnished with special bearings.

## component description

# Trough End Plates

Trough end plates for either U-trough or flared trough are made of heavy gauge steel plate with the top flanged to support the trough cover. They are furnished with or without supporting feet.

Trough end plates can be made of stainless steel or nonferrous metals for corrosive or high temperature applications. They can also be furnished with protective coatings, such as galvanizing.

They may be equipped with either sleeve, bolt, or roller bearing flange blocks, or with the addition of a mounting shelf, pillow block bearings.

**Drive Shaft Trough Ends** are of the double ball bearing and double roller bearing types. Each consists of a rigid shaft, operating in double bearings and designed to accommodate both radial and thrust loads. The radial or overhung load is usually a chain drive connected to a power source. Since the bearings will also accept thrust loads in either direction, the need for auxiliary thrusts is eliminated.

**Drive shaft trough ends with double ball bearings** consist of double ball bearing flanged blocks rigidly attached to heavy steel plate trough ends for either U-troughs or flared troughs. The gray iron housings are of one-piece construction and are precision machined for accurate alignment. Effective seals are provided in the flanged blocks to exclude dirt and moisture and retain lubricant.

**Drive shaft trough ends with double roller bearings** consist of heavy duty double roller bearing flanged blocks mounted by means of machined surfaces into extra heavy steel plate trough ends for either U-troughs or flared troughs. The gray iron housings are accurately machined and fitted with roller bearings of high radial and thrust capacity. The blocks have effective seals and are arranged for easy lubrication.

**Countershaft trough ends** are used on screw conveyors where application of right angle drives is necessary due to space limitations, interference of adjoining equipment or for better service and maintenance accessibility.

Application of countershaft trough ends permits drive installations alongside, above or below the conveyor and permits using horizontal drives for inclined conveyors. A common drive for two conveyors intersecting at right angles, or a battery of parallel conveyors driven from a common source, can be readily arranged



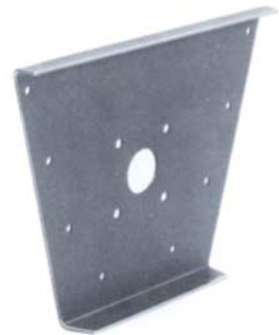
Trough end with feet



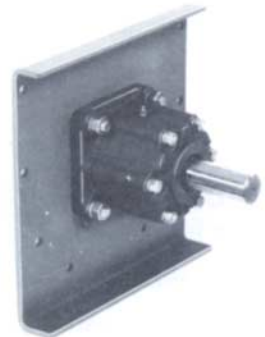
Trough end without feet



Tubular trough end



Flared trough end



Trough end with double roller bearing

component description

# Seal Glands, Trough End Seals and Trough End Bearings

**Seal glands and trough end seals** are used to provide additional bearing protection against dust or fumes from within the trough and prevent entrance, along the shaft, of dirt, moisture or lubricant.

The trough end seal housings are made of gray iron and are designed for assembly between babbitted, bronze or ball bearing flanged blocks and the trough end plates. They can be provided with lip-type seals for effective protection for or against the materials being handled, with felt seals when handling dusty materials, or with waste packing when handling abrasive materials.

Seal glands consist of gray iron, split flanges into which packing materials are compressed against machined steel collars. They are used internally on all trough ends except the outboard bearing type on which they are externally mounted. These seals provide maximum protection for or against the materials being handled.



**Trough end seal**



**Internal mounting seal gland**

## Trough end bearings

**Babbitted and bronze bearing flanged blocks** are made with one-piece gray iron housings. Babbitted bearing blocks are for general use where loads and speeds are moderate. Bronze bearing blocks are used where heavy bearing pressures, impact loads or temperature conditions are involved.

**Ball bearing flanged blocks** consist of single row, deep groove, self-aligning ball bearings, which are effectively sealed, mounted in one-piece gray iron housings. Spring locking collars with two set screws hold the bearings firmly on the shafts.



**Ball bearing Flanged block**

## component description

# Troughs

The trough not only confines and guides the flow of material, but also serves as the housing in which all operating components are supported and held together in their proper functional relationship. Accuracy in manufacturing and inherent strength to maintain this accuracy are therefore, essential.

Link-Belt designs, and manufacturing methods, are constantly being improved to provide these qualities to the fullest extent while at the same time affecting economies in weight and space requirements.

**Flanged trough** - By forming the top flanges integrally with the trough sides from a single steel sheet, adequate strength and rigidity is obtained without superfluous bulk or weight. Steel connecting flanges, securely welded at each end in special welding fixtures to assure square, true ends, facilitate assembly, insure proper alignment and preserve the contour of the trough.

**Angle Flanged trough** - This trough is identical in construction to the flanged trough, except that top flanges are obtained by securely welding structural steel angles to the trough.

**Flared trough** - This trough is of conventional construction except that trough sides are flared outward to afford a wider top opening. This results in improved feed and conveying action with sticky materials or materials which are not entirely free flowing. It is customarily used with ribbon flight conveyor screws.

Corrosive or high temperature applications may require the specific qualities that make stainless steel and non-ferrous metals well adapted to these services. In general, any type of trough that can be fabricated of mild steel can also be made of stainless steel or aluminum, brass, bronze, copper, Monel metal, nickel, etc. For resistance to corrosion there are numerous protective coatings that are applied to steel troughs and covers. Galvanizing, tinning, chrome plating, etc., are all effective for certain applications. Vulcanized or bonded rubber coatings resist abrasion and corrosion.



**Flanged trough**



**Angle flanged trough**



**Flared trough**

## component description

# Troughs

**Drop bottom troughs** are equipped with a drop bottom usually hinged, held in place by spring clamps of various types for ready access to trough interior, conveyor screws and hangers.

This design facilitates quick, thorough, and frequent cleaning of the trough, screw and other parts and is particularly useful to combat infestation and promote sanitation.

**Channel side troughs** are made with separate detachable trough bottoms, bolted or clamped to formed or rolled steel channels. The channels may be of any reasonable length to span widely spaced supports. Trough bottoms are made in lengths up to 12 feet.

This trough is occasionally selected for ease of replacement of trough bottoms subject to unusually severe abrasive or corrosive wear.



**Drop bottom trough**



**Channel side trough**

# Trough Support

**Supporting feet** are of formed steel for use with end flanges and provide a convenient means of aligning and supporting conveyors from floors, and supporting structures.

**Supporting saddles** are used when location of support points does not coincide with the spacing of joint flanges or when troughs with butt strapped connections are used.



**Support feet**



**Support saddle**

## component description

# Trough Covers

Covers are used for protection of operating personnel, dust control or protection for or against the material being handled. When required, protective seals can be furnished.

**Plain** covers consist of flat steel sheets and can be furnished with spring clamps, screw clamps or bolts.

**Semiflanged** covers are flanged 30 degrees along the sides and provided with spring clamps attached to the top side of the cover. These covers can also be furnished with screw clamps or bolts.

**Flanged** covers have right angle flanges along the sides to provide a stiffer cover for more convenient handling. They are normally attached to the trough with screw clamps or bolts.

**Hip Roof** covers are peaked to form a longitudinal ridge. They are normally furnished for use in outdoor applications because of their ability to shed water.

**Shrouds** are used in U-trough sections of screw feeders to decrease the clearance between the cover and feeder screw to obtain proper feed regulation.

between the covers and troughs. Covers are made in three general types: plain, semi-flanged and flanged.



**Plain Cover**



**Semiflanged Cover**



**Flanged Cover**



**Shroud**

component description

# Trough Discharge Spouts and Gates

Discharge spouts and gates afford the means for discharging material from the trough and for connection to succeeding equipment to which material is delivered. Gates provide for selective control of multiple spouts.

All spouts and gates are of welded steel construction with connecting flanges punched with accurately spaced holes for interchangeability and ease of assembly.

Spouts and gates can be fabricated of stainless steel and nonferrous metals. Spouts of special design can be furnished to accommodate unusual conditions.

**Plain** discharge openings are cut in the bottom of the trough at the desired location to provide free discharge of material. They are used for delivering to open or closed storage or similar applications.

**Discharge** Spouts are welded in place when furnished with a complete conveyor. They are furnished in thicknesses proportioned for the size and thickness of trough.

**Flush end** discharge spouts are furnished welded in place on flanged or angle flanged trough. They are furnished in thicknesses proportioned for the size and thickness of the trough.

**Hand Slide** Gates are made to attach to discharge spouts and can be operated from any one of the four sides, provided there is sufficient clearance for the gate in its open position.

**Rack and Pinion** slide gates have cut tooth racks welded to the side-plates and actuated by cut tooth pinions mounted on pinion shafts operated by hand wheels or chain wheels. These are available with either flat slide plates or curved slide plates.

**Air Operated** gates are high quality units designed for low-friction performance in applications requiring frequent gate operation. These gates are built to accept a flange-faced air cylinder and have a roller mounted slide plate operating in a formed steel housing. The cylinder can be furnished with the gate or supplied by the user for field installation. No air piping or controls are provided with these gates.

Slide gates, either hand or rack and pinion operated, may be installed in practically all applications for operation either parallel or at right angles to take conveyor axis. Rack and pinion operated gates may be furnished with chain wheels and chains for remote control. Pinion shafts may be extended to accommodate various operating arrangements.

## Plain discharge opening



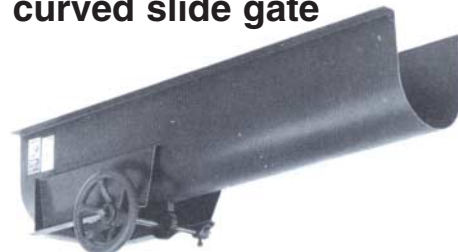
## Discharge Spout



## Flush end discharge spout



## Rack and pinion curved slide gate



## Rack and pinion flat slide gate

