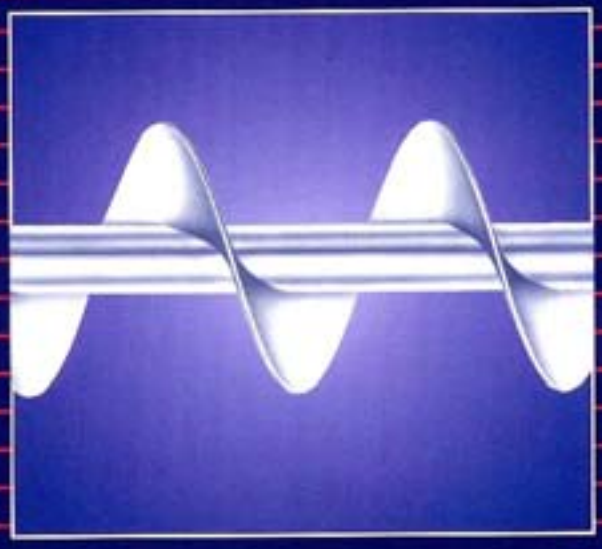
Catalog No. 787D

Screw Conveyor Catalog & Engineering Manual



THE EXPERIENCE TO HANDLE IT RIGHT!®

Screw Conveyor Corporation

SPECIAL NOTE: For illustrative purposes many photographs, diagrams or sketches contained in this catalog show the conveyor top open, without a cover. This is for the sake of clarity only. Conveyors should never be installed, placed ready for operation, or operated without all covers, spouts and drive guards properly installed and secured.

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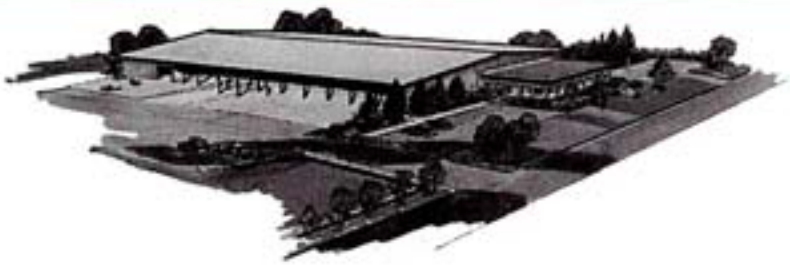

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Screw Conveyor Catalog and Engineering Manual

This Screw Conveyor Catalog and Engineering Manual consolidates all pertinent engineering data with completely cataloged product descriptions of components making up the Screw Conveyor Corporation line of Horizontal Screw Conveyors, Inclined Screw Conveyors, Vertical Screw-Lift and Screw Conveyor Feeders.

These units are now used in virtually all industries as well as providing Original Equipment Manufacturers with specialized components to fit their design requirements.

It is sincerely hoped that you will find this manual complete in detail, easy to use and extremely helpful in fulfilling your conveying needs.

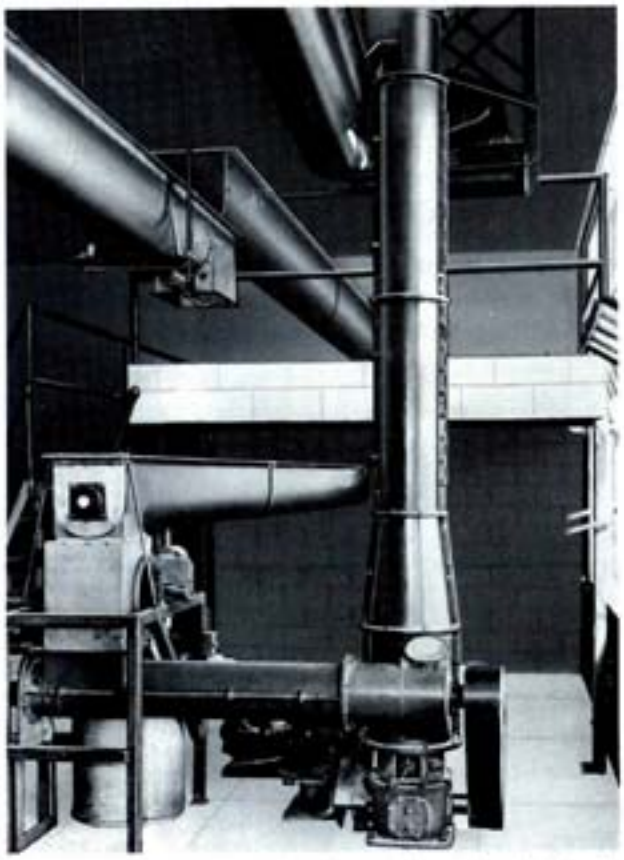
Contents

Screw Conveyors

Screw conveyors move materials either horizontally, on an incline or vertically. They are used to feed, distribute, collect or mix and can be equipped to either heat or cool while performing this transfer. With the proper cover and gasketing, they are easily made dust or weather tight and rodent proof. Their clean compact design saves valuable space since no return run is required. Screw Conveyors fit in cramped quarters, are simple to support and easy to install . . . and they cost less than most other types of conveyors.

Screw Conveyor Corporation's performance-proved Screw Conveyors are ruggedly built and accurately manufactured to assure complete dependability as well as the versatility required to meet a wide range of job assignments.

Screw Conveyors are performing their assigned tasks in virtually all types of industries and, in addition, special designs are being developed for use as components in machinery and equipment.

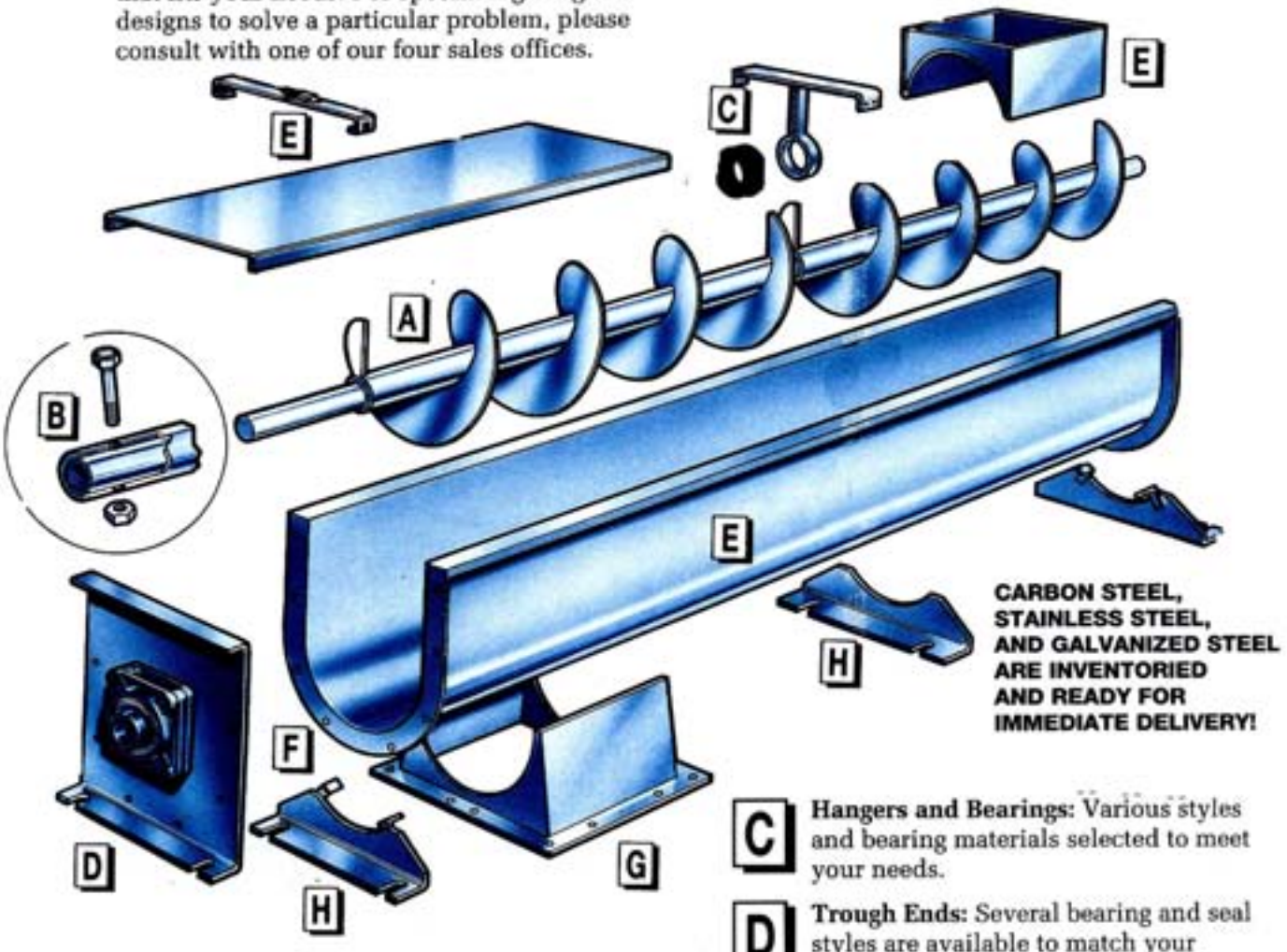


Screw Conveyors are performing their assigned tasks in virtually all types of industries and, in addition, special designs are being developed for use as components in machinery and equipment.

Screw Conveyor Corporation's performance-proved Screw Conveyor systems are ruggedly built and accurately manufactured to assure complete dependability as well as the versatility required to meet a wide range of job assignments.

A Wide Choice of Standard Parts

You get the system you need to solve your problem — yet keep cost at a minimum. Select the type of component from our standard line that fits your needs. For special flighting designs to solve a particular problem, please consult with one of our four sales offices.



CARBON STEEL, STAINLESS STEEL, AND GALVANIZED STEEL ARE INVENTORIED AND READY FOR IMMEDIATE DELIVERY!

A **Conveyor Screw:** Compact, manufactured straight and accurate in helicoid, sectional, ribbon and special designs to meet your requirements.

B **Job-Rated Components:** Selected to meet the performance required. Precisely worked to insure a longer lasting, truer running unit.

Jig-Drilled Couplings: Assures easy shaft alignment and assembly. Available with "Redi-Change" clamping key for quick disassembly of conveyor screw.

Tem-U-Lac Self-Locking Coupling Bolts: Guards against system damage and costly down-time caused by coupling bolts or nuts working loose.

C **Hangers and Bearings:** Various styles and bearing materials selected to meet your needs.

D **Trough Ends:** Several bearing and seal styles are available to match your needs.

E **Troughs, Covers, Clamps and Shrouds:** Ruggedly constructed standard "U" and other styles of troughs including tubular. Covers, clamps and shrouds available for all applications.

F **Nu-Weld® Flange:** Continuously welded steel flange holds trough in alignment.

G **Discharge Spouts:** All types available... located where you need them...with hand, electric, hydraulic or pneumatic powered gates.

H **Supporting Feet and Saddles:** Align and fasten the trough to the floor or existing structure.

Applications

This Screw Conveyor in a tunnel installation illustrates the compact arrangement possible when space is at a premium.

This Matmaker asphalt finisher uses a Screw Conveyor at the back of the tractor unit to move material outward in both directions and spread it uniformly across the entire paving width.

The Screw-Lift does an efficient elevating job as part of a complete Screw Conveyor system.

Screw Conveyor system and SCC Bucket Elevators speed grain handling for large facility. Two screw conveyors, running over two rows of tanks, are 494 feet long. Has double hanger in center so each half is powered independently. Between the two rows of tanks, a collecting screw conveyor, also with double hanger at center, is 528 feet long. System handles whole grains at approximately 100 tons per hour.

Applications

A Screw Conveyor installed in a large overhead operation. Space-saving features are apparent here. All parts of the system are enclosed yet readily accessible.

Special flighting provides fast, clean snow removal.

This asphalt fabric filter type dust collector uses Screw Conveyor flighting in the hoppers which return collected fines to the mix.

Partial view of a large outdoor installation employing Screw-Lifts to elevate material to fill storage silos.

Rubber reclaiming operation uses high capacity, compact Screw-Lift and screw conveyor system to transport rubber back and forth between mills and screener.

Components of a Screw Conveyor System

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 Tem-U-Lac bolts.

Redi-Change 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.

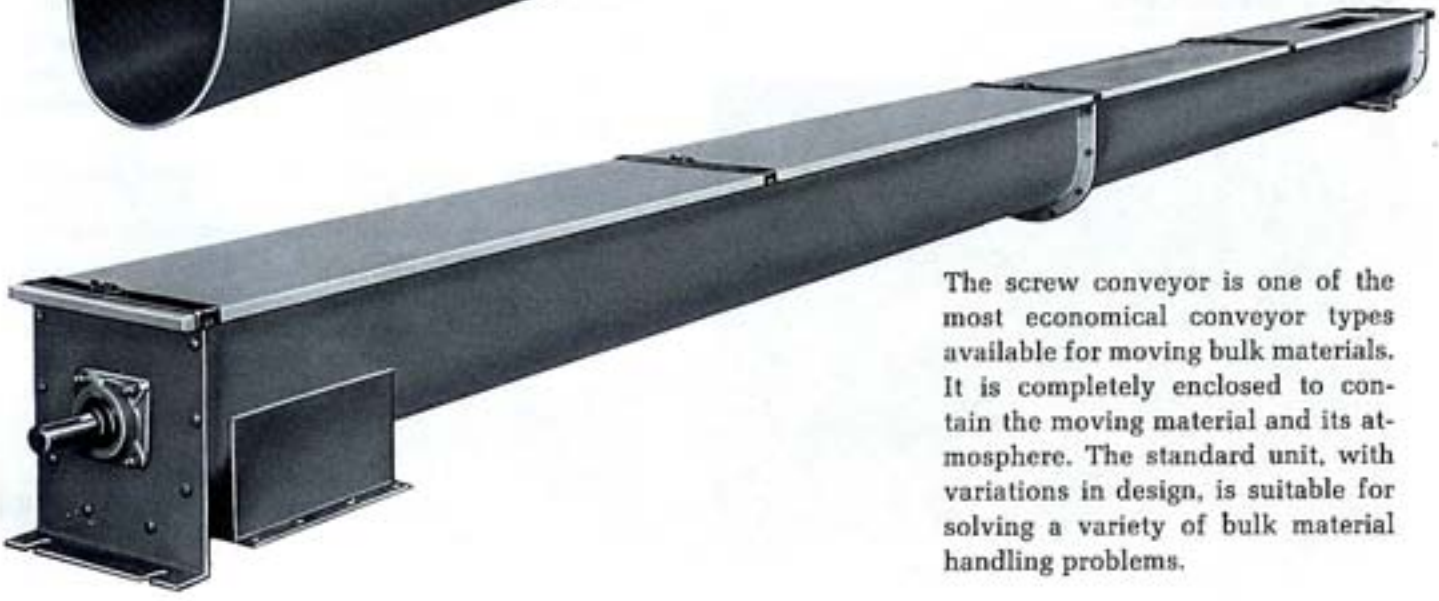
Components of a Screw Conveyor System

Trough Ends support the conveyor drive and end shafts, maintain trough alignment. May be furnished with choice of bearings or thrust bearings.

Troughs and Covers completely enclose the material being conveyed and the rotating parts. Covers are available in various types and are secured to the trough by Spring, Screw, Tite-Seal or quick-acting Barron Clamps depending on the trough cover combination used.

Inlet and Discharge Openings may be located wherever needed, discharge spouts may be without slides or fitted with either flat or curved slides. These slides may be operated by hand, rack and pinion gears, or by power.

The Complete Screw Conveyor Unit is supported by the trough end and by either Feet or Saddles at intermediate locations.



The screw conveyor is one of the most economical conveyor types available for moving bulk materials. It is completely enclosed to contain the moving material and its atmosphere. The standard unit, with variations in design, is suitable for solving a variety of bulk material handling problems.

Design Data

Engineering and Layout

This section contains all pertinent engineering data and procedures for prescribing and specifying the important features and details of most conveyor installations, however, Screw Conveyor Corporation staff engineers have considerable experience in the proper and successful application of Screw Conveyor design. Please feel free to contact our offices for case studies of your particular problem.

Material Analysis

The initial step in engineering a Screw Conveyor is to analyze the physical characteristics of the material and the rate at which it is to be handled.

The capacity of a Screw Conveyor should be defined in terms of cubic feet per hour. It is also important to determine the maximum capacity the conveyor will be required to handle. This capacity is very often stated in terms of tons or pounds per hour. However, the material to be handled often varies in density. Therefore, the maximum volume or capacity in cubic feet per hour is the maximum pounds per hour of material divided by the minimum possible density of the material. It is volume to be conveyed which determines a conveyor's size and speed. Physical properties of the material to be thoroughly understood are the following:

1. Maximum lump size and the percentage of lumps to the total volume along with the minimum particle size and, if possible, a screen analysis.
2. Flowability characteristics. This is a term related to the angle of repose. See Material Classification, table No. 4, page 11.
3. The abrasive quality of a material can be defined by knowing its hardness on a Moh's scale. If this is not available, compare your material with another known abrasive material.
4. Additional factors which affect conveyor operation and design are further discussed on page 10 and are shown in the Material Classification table, page 11.

Please also note that moisture content, while not accounted for in the material tables, will affect the flow characteristics and density of a material. Some materials, when very dry or very wet will tend to have favorable flowability characteristics. Where the moisture content is between these extremes such a material may be quite sluggish and have a high angle of repose. Where this is a possibility, the material should be re-classified. Conveyor design and selection should proceed with the full knowledge of all conditions that can prevail.

Design Data

No machinery design is complete without considering its usage. A conveyor that will be used intermittently for two hours a day does not have to be built as heavily as one that will operate twenty-four hours per day. Likewise, shock loads will effect the consideration given on gauge of steel used as well as drive equipment. Treatment of these factors and their affect on conveyor design are not discussed here in sufficient detail to prescribe. As mentioned previously, our engineers are available to assist you in every way possible to determine your best conveyor design.

Since the Screw Conveyor selected is based on a maximum volume control of material to be handled, surge loads, overloads and choke feeding must be accounted for in the conveyor design. Screw feeders are popularly used for this control and are discussed in other pages of this catalog.

CLASSIFY YOUR MATERIAL

Materials are classified in table No. 6 on pages 12, 13 and 14. If your material is not listed, it can be classified by comparing it with similar materials that do appear in the table. If necessary, your material can be classified by referring to table No. 4 "Material Classifications", page 11.

ESTABLISH REQUIRED DIAMETER AND SPEED

Knowing your material classification and required capacity, refer to the Capacity Chart, page 15. Your material classification indicates which trough loading applies. Select the size for your capacity using the smallest diameter conveyor that is below the maximum recommended speed. After size is determined then exact conveyor speed is determined by dividing the required capacity in cubic feet per hour by cubic feet per hour at 1 revolution per minute.

Note: If handling a material with hard lumps (lumps that will not break up in the Screw Conveyor) refer below to Table No. 1, "Size of Lumps to Diameter". If the required diameter (as found above) is smaller that the recommended size given in the Lump Chart, use the conveyor diameter from the chart Table #1 and then determine the RPM from Table #7.

Table No. 1 MAXIMUM SIZE OF LUMPS, INCHES

RATIO Lumps to Total Volume	Diameter of Conveyor, Inches									
	4	6	9	10	12	14	16	18	20	24
Lumps 10% or less	1	1½	2½	2½	3	3½	4	4½	5	6
Lumps 20% to 25%	½	¾	1½	1½	2	2½	3	3	3½	3¾
All Lumps	¼	½	¾	¾	1	1¼	1½	2	2	2½

COMPONENT GROUP CLASSIFICATION

As shown in the Material table No. 6, pages 12, 13, and 14 each material is assigned to a Component Group. These groups take into account the material's physical characteristics and then match these with the proper conveyor components. A description of these components in each group can be found on page 11, table No. 5.

Please note that Babbitted bearings are considered standard where contamination from the required lubricants is not a factor. Oil impregnated wood or nylon bearings are often recommended where lubricant contamination is a factor. Ball bearings are not recommended for use in conveying gritty or very fine materials which might penetrate the oil seal. For abrasive or applications involving high temperatures, hard iron bearings are normally used. Other types of bearing materials furnished upon request.

ESTABLISH THE "D" FACTOR

The "D" Factor is a constant applied to the particular Component Group of a given conveyor. To establish the "D" Factor, locate your conveyor diameter and bearing material in table No. 2. The figure appearing at this intersection is to be used as 'D" in the horsepower formula.

Table No. 2 TABLE OF FACTORS "D"

Size of Conveyor, Inches	TYPE OF HANGER BEARINGS			
	Ball or Roller	Wood, Babbitt, Nylon or Molded Fabric	Self-Lubricating Bronze	White Iron or Manganese Steel
3	10	15	24	35
4	12	21	33	50
6	18	33	54	80
9	32	54	96	130
10	38	66	114	160
12	55	96	171	250
14	78	135	255	350
16	106	186	336	480
18	140	240	414	600
20	165	285	510	700
24	230	390	690	950

ESTABLISH THE REQUIRED HORSEPOWER

The formula stated below gives the horsepower (HP) required at the conveyor drive shaft for a standard conveyor.

Additional power will be required for starting under load, overcoming choke loads or other unusual conditions. There is also a loss of power through the drive machinery of from 10% to 15%. To compensate for these factors, the formula for the required motor horsepower is divided by .90.

Step No. 1

$$H = \frac{L\,(DS \text{ plus } QF)}{1{,}000{,}000}$$

where

L = Overall length in feet
D = Bearing Factor (see "D" Factor table) (Table No. 2)
S = Speed in RPM (see Capacity Chart)
Q = Quantity of material being conveyed in lbs./hr.
F = Horsepower factor "F" (see Material Tables)

Step No. 2

Motor Horsepower = H x P
P = 2 when H is less than 1
P = 1.5 when H is between 1 and 2
P = 1.25 when H is between 2 and 4
P = 1.1 when H is between 4 and 5
P = 1 when H is greater than 5

Step No. 3

$\frac{HP}{.90}$ = Minimum Recommended Horsepower

CONVEYOR HORSEPOWER RATINGS

One of the factors that must be considered now is to check the required horsepower from the above formula against the torque and horsepower capacity limitation for each conveyor pipe and shaft size.

Use table 3, page 10 which shows the maximum allowable horsepower at various conveyor speeds.

Example: a 9" conveyor mounted on 2" standard pipe, bushed for 1½" diameter couplings, is limited to a maximum of 5 HP at 100 RPM. If, in a given application, a larger motor is required, it is then necessary to use a 9" conveyor mounted on 2½" pipe, bushed for 2" diameter couplings. You will see that this arrangement is rated at 12 HP at 100 RPM or 6 HP at 50 RPM. These ratings are on the basis of two coupling bolts at each end of the conveyor pipe. In some sizes three bolts can be used to increase the drive limitation shown. Consult our Engineering Department for specific recommendations if in doubt.

Design Data

Table No. 3 HORSEPOWER RATINGS

Size of Conveyor, Inches	Pipe Size Inches	Coupling Dia.	Max. HP @ 125 RPM	Max. HP @ 100 RPM	Max. HP @ 75 RPM	Max. HP @ 50 RPM
6, 9, and 10	2	1½	6.25	5	3.75	2.5
9, 10, and 12	2½	2	15.0	12	9.0	6.0
12 and 14	3	2⅞	18.75	15.0	11.25	7.5
12, 14, 16 18 and 20	3½	3	30.75	24.6	18.5	12.3
20 and 24	4	3⅞	43.75	35.0	26.25	17.5

SAMPLE PROBLEM

Establish the conveyor size, speed, horsepower and other specifications necessary for conveying 1,800 bushels of dry, clean wheat per hour for a distance of 50 feet.

SOLUTION

Refer to the Material table No. 6, pages 12, 13 and 14. Note:
Average weight/cu. ft. of wheat is 45-48 lbs.
The material classification is 47C-25N
The recommended types of conveyors are 1A, 1B, 1C
The "F" Factor is .4

The material classification, C-25N indicates the material is granular – ½ inch and under, very free flowing – angle of repose up to 30°, non-abrasive and contains explosive dust. The recommended types of conveyors, 1A, 1B, 1C indicate the group that is designed for normal service. (See table 5, page 11 and Capacity table 7, page 15.)

Convert the given capacity from bushels per hour to cubic feet per hour. Known: there are 1.25 cubic feet in a bushel of wheat. Therefore, 1,800 x 1.25 equals 2,250 cubic feet per hour. Now, 2,250 cu. ft. per hour × 48 lbs. equals 108,000 lbs./hr. This will be assumed to be the maximum desired capacity.

Turn to the Capacity Chart table No. 7, page 15 and establish the conveyor diameter and proper speed. As you will note C25 material class has a 45% recommended trough loading and 2,250 cu. ft./hr. requires a 12" diameter screw conveyor operating at 116 RPM (EXAMPLE: 2,250/19.4 = 115.9 or 116 RPM.) Remember, do not exceed the maximum recommended speed without first consulting with our staff engineers. If hard lumps had been present, we would now consult table No. 1, page 9.

We now know that:
L = 50 feet
D = 96 (see "D" Factor table, (table No. 2) 12" conveyor with wood bearings)
S = 116 RPM (see Capacity Chart)
Q = 108,000 lbs./hr.
F = .4 (see Material Tables)

Now, inserting these figures in the formula:

$$H = \frac{50(96 \times 116 + 108{,}000 \times .4)}{1{,}000{,}000}$$

Therefore: H = 2.8

Motor Horsepower equals H x P (see value of P under formula)
Therefore: 2.8 x 1.25 = 3.5

To be assured of having sufficient power, divide the HP by .90. This gives you a minimum recommended horsepower of 3.9. Your minimum choice of motor size would, therefore, be 5 HP.

Now, refer to the Torque Capacity table No. 3 and note the minimum pipe size for a 12" conveyor is 2½". Maximum allowable horsepower for this conveyor's specifications is 15 HP. Since this figure is in excess of our requirements, we can use the computed 5 HP motor.

Additional Screw Conveyor specifications for indoor operation will be:
Group Classification: 1A
Conveyor Size and Speed: 12" at 120 RPM
Conveyor Screw: 12" Standard Helicoid
Conveyor Trough: 12" No. 12 gauge steel, Double Flange Construction, Flanged Cover and Barron Clamps
Type of hanger bearings: 12" x 2" bore, intermediate hanger with babbitted bearings

Refer to page 17 for additional Layout Data and Details.

SPECIAL APPLICATIONS AND SPECIFICATIONS

The selection procedure, outlined above, takes into account the material's physical characteristics, provides for the proper cross-section loading of a conveyor and specifies, through the component tables, the type of conveyor components to be used. Some material's physical characteristics will require additional special features.

ABRASIVE MATERIALS

Abrasive materials tend to cause excessive wear on Screw Conveyor components and should be carried at low cross-sectional loads and at relatively slow conveyor speeds. For conveyors which will handle extremely abrasive materials or will be subjected to heavy or continuous service, heavy-duty components should be specified. Heavier than standard, surface-hardened or abrasive resistant steels are available for this application.

There are also some materials that are normally considered abrasive which may easily become aerated, thus reflecting a minimum density and greater flowability. Here it is possible to use higher speeds and in some cases, higher cross-sectional loads. Judgment and experience, however, will dictate the conditions when this can occur.

CONTAMINABLE MATERIALS

When handling easily contaminable materials, such as food products or some chemicals, it is possible to specify components and other features of construction which were not necessarily included and made a part of the conveyor selection process. These features would include non-lubricating type intermediate hanger bearings, seals under the end bearings, easily removable trough covers and, possibly, drop bottom conveyor trough construction. Accessibility to the internal parts of the conveyor through the use of some of these features means the conveyor can be easily inspected and cleaned out.

Conveyor Flighting may be continuously welded to the conveyor pipe on either/or both sides of the flight. Grinding and cleaning of the welds can remove scale and/or roughness that could contribute to contamination.

CORROSIVE MATERIALS

When handling bulk materials which are corrosive, conveyor components manufactured from stainless steel, aluminum or other special alloys are available, also hot dipped galvanized carbon steel components may be used in non-abrasive applications.

DEGRADABLE MATERIALS

Materials which tend to break or separate easily, affecting quality, may be handled in larger diameter, slower turning Screw Conveyors to reduce agitation.

EXTREME TEMPERATURES

Materials may be heated or cooled while being conveyed in a jacketed conveyor. When handling materials in extreme temperatures, specify Screw Conveyor components of metal alloys designed to meet these conditions.

FLUIDIZING MATERIALS

When agitated, some materials tend to "aerate" and react similar to a liquid. When handling these materials, it is

Design Data

important to know the aerated density so that conveyor size and speed will be based on the larger aerated volume. When a volumetric type feeder is used, the horsepower should be based on the design volume and maximum material density.

MIXING MATERIALS

If the materials are to be mixed or agitated while being conveyed, ribbon flights, cut flights, cut and folded flight or one of the above in combination with paddles, may be used.

MATERIALS WHICH PACK AND RESIST DIGGING

Some materials have very strong resistance to digging which means that it is difficult, and in some cases, impossible to shear a pile of the material or to penetrate it with a sharp edge such as in a conveyor flight. Offsetting the conveyor screw and placement of an angle inside the trough on the carrying side will enable some of these materials to be handled.

Occasionally, materials tend to pack under pressure and become hard in the clearance between the conveyor screw and trough. Some of these materials can then be conveyed satisfactory if the Screw Conveyor is operated at low speeds and the edge of the flight is used as a cutting edge.

HYGROSCOPIC MATERIALS

Materials which readily absorb moisture and hygroscopic. Such materials become less free flowing as they absorb moisture. This factor must be taken into account when determining conveyor size, HP and speed. Some hygroscopic materials can, as they absorb moisture, change in density and angle of repose and thus, effect the material classification number.

TOXIC MATERIALS

If harmful vapors or dust are released by agitation and conveying, the system should be of sealed construction.

VISCOUS OR STICKY MATERIALS

Viscous materials can best be handled by Ribbon Conveyors because they usually have a tendency to stick and adhere to the joint of the conveyor pipe and flight on a standard conveyor.

Table No. 4 MATERIAL CLASSIFICATION

	Material Characteristics	Class Designation
Size	No. 200 Sieve (.0070") And Under	A
	Very Fine No. 100 Sieve (.0059") And Under	A
	No. 40 Sieve (.016") And Under	A
	Fine No. 8 Sieve (.132") And Under	B
	½" And Under	C
	Granular 3" And Under	D
	7" And Under	D
	16" And Under	D
	"Lumpy" Over 16" To Be Specified X = Actual Minimum Size	D
	Irregular Strings, Fibrous, Cylindrical, Slabs, Etc	E
Flowability	Very Free Flowing – Flow Function 10	1
	Free Flowing – Flow Function 4 But 10	2
	Average Flowability – Flow Function 2 But 4	3
	Sluggish – Flow Function 2	4
Abrasiveness	Mildly Abrasive – Index 1-17	5
	Moderately Abrasive – Index 18-67	6
	Extremely Abrasive – Index 68-416	7
Miscellaneous Properties Or Hazards	Builds Up and Hardens	F
	Generates Static Electricity	G
	Decomposes – Deteriorates in Storage	H
	Flammability	J
	Becomes Plastic or Tends to Soften	K
	Very Dusty	L
	Aerates and Becomes Fluid	M
	Explosiveness	N
	Stickiness-Adhesion	O
	Contaminable, Affecting Use	P
	Degradable, Affecting Use	Q
	Gives Off Harmful or Toxic Gas or Fumes	R
	Highly Corrosive	S
	Mildly Corrosive	T
	Hygroscopic	U
	Interlocks, Mats or Agglomerates	V
	Oils Present	W
	Packs Under Pressure	X
	Very Light and Fluffy – May Be Windswept	Y
	Elevated Temperature	Z

Table No. 5 COMPONENT GROUP SPECIFICATIONS

Screw Size Inches	Coupling Diameter Inches	Screw Number	Trough Thickness	Cover Thickness
Normal Service ■ **Component group 1A** • babbitted bearing hangers **Component group 1B** • wood bearing hangers **Component group 1C** • ball bearing hangers regular trough regular flights cold rolled steel couplings				
6	1½	6H304	16 ga.	16 ga.
9	1½	9H306	14 ga.	14 ga.
	2	9H406	14 ga.	14 ga.
12	2	12H408	12 ga.	14 ga.
	2⅞	12H508	12 ga.	14 ga.
14	2⅞	14H508	12 ga.	14 ga.
16	3	16H610	12 ga.	14 ga.
18	3	18H610	10 ga.	12 ga.
20	3	20H610	10 ga.	12 ga.
24	3⅞	24S712	10 ga.	14 ga.
Heavy service **Component group 2A□** • babbitted bearing hangers cold rolled steel couplings **Component group 2B□** • wood bearing hangers cold rolled steel couplings **Component group 2C□** • ball bearing hangers cold rolled steel couplings **Component group 2D▲** • hard iron bearing hangers hardened steel couplings heavy trough heavy flights				
6	1½	6H308	14 ga.	16 ga.
9	1½	9H312	10 ga.	14 ga.
	2	9H412	10 ga.	14 ga.
12	2	12H412	⅜	14 ga.
	2⅞	12H512	⅜	14 ga.
	3	12H614	⅜	14 ga.
14	2⅞	14S512	⅜	14 ga.
	3	14H614	⅜	14 ga.
16	3	16H614	⅜	14 ga.
18	3	18S616	⅜	12 ga.
20	3	20S616	⅜	12 ga.
24	3⅞	24S716	⅜	12 ga.
Extra heavy service **Component group 3A△** • babbitted bearing hangers cold rolled steel couplings **Component group 3D○** • hard iron bearing hangers hardened steel couplings extra-heavy trough extra-heavy flights				
6	1½	6H312	10 ga.	16 ga.
9	1½	9H312	¾	14 ga.
	2	9H414	¾	14 ga.
12	2	12H412	¼	14 ga.
	2⅞	12H512	¼	14 ga.
	3	12H614	¼	14 ga.
14	3	14H614	¼	14 ga.
16	3	16H614	¼	14 ga.
18	3	18S624	¼	12 ga.
20	3	20S624	¼	12 ga.
24	3⅞	24S724	¼	12 ga.

■ For use with nonabrasive materials.
□ For use with nonabrasive irregular material or lumpy material containing lumps over ½".
▲ For use with mildly abrasive material.
△ For use with mildly corrosive materials.
○ For use with very abrasive materials.

Engineering

Material Table

Table No. 6

MATERIAL	WEIGHT LBS. PER CU. FT.	MATERIAL CLASS	COMPONENT GROUP	H.P. MATERIAL FACTOR F
Adipic Acid	45	45A$_{100}$35	2B	.5
Alfalfa Meal	14-22	18B$_{6}$45WY	2D	.6
Alfalfa Pellets	41-43	42C$_{½}$25	2D	.5
Alfalfa Seed	10-15	13B$_{6}$15N	1A-1B-1C	.4
Almonds, Broken	27-30	29C$_{½}$35Q	2D	.9
Almonds, Whole Shelled	28-30	29C$_{½}$35Q	2D	.9
Alum, Fine	45-50	48B$_{6}$35U	1A-1B-1C	.6
Alum, Lumpy	50-60	55B$_{6}$25	2A-2B	1.4
Alumina	55-65	58B$_{6}$27MY	3D	1.8
Alumina Fines	35	35A$_{100}$27MY	3D	1.6
Alumina Sized or Briquette	65	65D$_{3}$37	3D	2.0
Aluminate Gel (Aluminate Hydroxide)	45	45B$_{6}$35	2D	1.7
Aluminum Chips, Dry	7-15	11E45V	2D	1.2
Aluminum Chips, Oily	7-15	11E45V	2D	.8
Aluminum Hydrate	13-20	17C$_{½}$35	1A-1B-1C	1.4
Aluminum Ore (See Bauxite)	--	--	--	--
Aluminum Oxide	60-120	90A$_{100}$17M	3D	1.8
Aluminum Silicate (Andalusite)	49	49C$_{½}$35S	3A-3B	.8
Aluminum Sulfate	45-58	52C$_{½}$25	1A-1B-1C	1.0
Ammonium Chloride, Crystalline	45-52	49A$_{100}$45FRS	3A-3B	.7
Ammonium Nitrate	45-62	54A$_{40}$35NTU	3D	1.3
Ammonium Sulfate	45-58	52C$_{½}$35FOTU	1A-1B-1C	1.0
Antimony Powder	--	A$_{100}$35	2D	1.6
Apple Pomace, Dry	15	15C$_{½}$45Y	2D	1.0
Arsenate of Lead (See Lead Arsenate)	--	--	--	--
Arsenic Oxide (Arsenolite)*	100-120	110A$_{100}$35R	--	--
Arsenic Pulverized	30	30A$_{100}$25R	2D	.8
Asbestos-Rock (Ore)	81	81D$_{3}$37R	3D	1.2
Asbestos-Shredded	20-40	30E46XY	2D	1.0
Ash, Black Ground	105	105B$_{6}$35	1A-1B-1C	2.0
Ashes, Coal, dry – ½"	35-45	40C$_{½}$46TY	3D	3.0
Ashes, Coal, dry – 3"	35-40	38D$_{3}$46T	3D	2.5
Ashes, Coal, Wet – ½"	45-50	48C$_{½}$46T	3D	3.0
Ashes, Coal, Wet – 3"	45-50	48D$_{3}$46T	3D	4.0
Ashes, Fly (See Fly Ash)	--	--	--	--
Asphalt, Crushed – ½"	45	45C$_{½}$45	1A-1B-1C	2.0
Bagasse	7-10	9E45RVXY	2A-2B-2C	1.5
Bakelite, Fine	30-45	38B$_{6}$25	1A-1B-1C	1.4
Baking Powder	40-55	48A$_{100}$35	1B	.6
Baking Soda (Sodium Bicarbonate)	40-55	48A$_{100}$25	1B	.6
Barite (Barium Sulfate) + ½" – 3"	120-180	150D$_{3}$36	3D	2.6
Barite, Powder	120-180	150A$_{100}$35X	2D	2.0
Barium Carbonate	72	72A$_{100}$45R	2D	1.6
Bark, Wood, Refuse	10-20	15E45TVY	3D	2.0
Barley, Fine, Ground	24-38	31B$_{6}$35	1A-1B-1C	.4
Barley, Malted	31	31C$_{½}$35	1A-1B-1C	.4
Barley, Meal	28	28C$_{½}$35	1A-1B-1C	.4
Barley, Whole	36-48	42B$_{6}$25N	1A-1B-1C	.5
Basalt	80-105	93B$_{6}$27	3D	1.8
Bauxite, Dry, Ground	68	68B$_{6}$25	2D	1.8
Bauxite, Crushed – 3"	75-85	80D$_{3}$36	3D	2.5
Beans, Castor, Meal	35-40	38B$_{6}$35W	1A-1B-1C	.8
Beans, Castor, Whole Shelled	36	36C$_{½}$15W	1A-1B-1C	.5
Beans, Navy, Dry	48	48C$_{½}$15	1A-1B-1C	.5
Beans, Navy, Steeped	60	60C$_{½}$25	1A-1B-1C	.8
Bentonite, Crude	34-40	37D$_{3}$45X	2D	1.2
Bentonite, – 100 Mesh	50-60	55A$_{100}$25MXY	2D	.7
Benzene Hexachloride	56	56A$_{100}$45R	1A-1B-1C	.6
Bicarbonate of Soda (Baking Soda)	--	--	1B	.6
Blood, Dried	35-45	40D$_{3}$45U	2D	2.0
Blood, Ground, Dried	30	30A$_{100}$35U	1A-1B	1.0
Bone Ash (Tricalcium Phosphate)	40-50	45A$_{100}$45	1A-1B	1.6
Boneblack	20-25	23A$_{100}$25Y	1A-1B	1.5
Bonechar	27-40	34B$_{6}$35	1A-1B	1.6
Bonemeal	50-60	55B$_{6}$35	2D	1.7
Bones, Whole*	35-50	43E45V	2D	3.0
Bones, Crushed	35-50	45D$_{3}$45	2D	2.0
Bones, Ground	50	50B$_{6}$35	2D	1.7
Borate of Lime	60	60A$_{100}$35	1A-1B-1C	.6
Borax, Fine	45-55	50B$_{6}$25T	3D	.7
Borax Screening – ½"	55-60	58C$_{½}$35	2D	1.5
Borax, 1½"-2" Lump	55-60	58D$_{3}$35	2D	1.8
Borax, 2"-3" Lump	60-70	65D$_{3}$35	2D	2.0
Boric Acid, Fine	55	55B$_{6}$25T	3D	.8
Boron	75	75A$_{100}$37	2D	1.0
Bran, Rice-Rye-Wheat	16-20	18B$_{6}$35NY	1A-1B-1C	.5
Braunite (Manganese Oxide)	120	120A$_{100}$36	2D	2.0
Bread Crumbs	20-25	23B$_{6}$35PQ	1A-1B-1C	.6
Brewer's Grain, spent, dry	14-30	22C$_{½}$45	1A-1B-1C	.5
Brewer's Grain, spent, wet	55-60	58C$_{½}$45T	2A-2B	.8
Brick, Ground – ⅛"	100-120	110B$_{6}$37	3D	2.2
Bronze Chips	30-50	40B$_{6}$45	2D	2.0
Buckwheat	37-42	40B$_{6}$25N	1A-1B-1C	.4
Calcine, Flour	75-85	80A$_{100}$35	1A-1B-1C	.7
Calcium Carbide	70-90	80D$_{3}$25N	2D	2.0
Calcium Carbonate (See Limestone)	--	--	--	--
Calcium Fluoride (See Fluorspar)	--	--	--	--
Calcium Hydrate (See Lime, Hydrated)	--	--	--	--
Calcium Hydroxide (See Lime, Hydrated)	--	--	--	--
Calcium Lactate	26-29	28D$_{3}$45QTR	2A-2B	.6
Calcium Oxide (See Lime, unslaked)	--	--	--	--
Calcium Phosphate	40-50	45A$_{100}$45	1A-1B-1C	1.6
Calcium Sulfate (See Gypsum)	--	--	--	--
Carbon, Activated, Dry, Fine*	--	--	--	--
Carbon, Black, Pelleted*	--	--	--	--
Carbon, Black, Powder*	--	--	--	--
Carborundum	100	100D$_{3}$27	3D	3.0
Casein	36	36B$_{6}$35	2D	1.6
Cashew Nuts	32-37	35C$_{½}$45	2D	.7
Cast Iron, Chips	130-200	165C$_{½}$45	2D	4.0
Caustic Soda	88	88B$_{6}$35RSU	3D	1.8
Caustic Soda, Flakes	47	47C$_{½}$45RSUX	3A-3B	1.5
Celite (See Diatomaceous Earth)	--	--	--	--
Cement, Clinker	75-95	85D$_{3}$36	3D	1.8
Cement, Mortar	133	133B$_{6}$35Q	3D	3.0
Cement, Portland	94	94A$_{100}$26M	2D	1.4
Cement, Aerated (Portland)	60-75	68A$_{100}$16M	2D	1.4
Cerrusite (See Lead Carbonate)	--	--	--	--
Chalk, Crushed	75-95	85D$_{3}$25	2D	1.9
Chalk, Pulverized	67-75	71A$_{100}$25MXY	2D	1.4
Charcoal, Ground	18-28	23A$_{100}$45	2D	1.2
Charcoal, Lumps	18-28	23D$_{3}$45Q	2D	1.4
Chocolate, Cake Pressed	40-45	43D$_{3}$25	2B	1.5
Chrome Ore	125-140	133D$_{3}$36	3D	2.5
Cinders, Blast Furnace	57	57D$_{3}$36T	3D	1.9
Cinders, Coal	40	40D$_{3}$36T	3D	1.8
Clay (See Bentonite, Diatomaceous Earth, Fuller's Earth, Kaolin & Marl)	--	--	--	--
Clay, Ceramic, Dry, Fines	60-80	70A$_{100}$35P	1A-1B-1C	1.5
Clay, Calcined	80-100	90B$_{6}$36	3D	2.4
Clay, Brick, Dry, Fines	100-120	110C$_{½}$36	3D	2.0
Clay, Dry, Lumpy	60-75	68D$_{3}$35	2D	1.8
Clinker, Cement (See Cement Clinker)	--	--	--	--
Clover Seed	45-58	47B$_{6}$25N	1A-1B-1C	.4
Coal, Anthracite (River & Culm)	55-61	60B$_{6}$35TY	2A-2B	1.0
Coal, Anthracite, Sized – ½"	49-61	55C$_{½}$25	2A-2B	1.0
Coal, Bituminous, Mined	40-60	50D$_{3}$35LNXY	1A-1B	.9
Coal, Bituminous, Mined, Sized	45-50	48D$_{3}$35QV	1A-1B	1.0
Coal, Bituminous, Mined, Slack	43-50	47C$_{½}$45T	2A-2B	.9
Coal, Lignite	37-45	41D$_{3}$35T	2D	1.0
Cocoa Beans	30-45	38C$_{½}$25Q	1A-1B	.5
Cocoa, Nibs	35	35C$_{½}$25	2D	.5
Cocoa, Powdered	30-35	33A$_{100}$45XY	1B	.9
Cocoanut, Shredded	20-22	21E45	2B	1.5
Coffee, Chaff	20	20B$_{6}$25MY	1A-1B	1.0
Coffee, Green Bean	25-32	29C$_{½}$25PQ	1A-1B	.5
Coffee, Ground, Dry	25	25A$_{100}$35P	1A-1B	.6
Coffee, Ground, Wet	35-45	40A$_{100}$45X	1A-1B	.6
Coffee, Roasted Bean	20-30	25C$_{½}$25PQ	1B	.4
Coffee, Soluble	19	19A$_{100}$35PUY	1B	.4
Coke, Breeze	25-35	30C$_{½}$37	3D	1.2
Coke, Loose	23-35	30D$_{3}$37	3D	1.2
Coke, Petrol, Calcined	35-45	40D$_{3}$37	3D	1.3
Compost	30-50	40D$_{3}$45TV	3A-3B	1.0
Concrete, Pre-Mix Dry	85-120	103C$_{½}$36U	3D	3.0
Copper Ore	120-150	135D$_{3}$36	3D	4.0
Copper Ore, Crushed	100-150	125D$_{3}$36	3D	4.0
Copper Sulphate, (Bluestone)	75-95	85C$_{½}$35S	2A-2B-2C	1.0
Copperas (See Ferrous Sulphate)	--	--	--	--
Copra, Cake Ground	40-45	43B$_{6}$45HW	1A-1B-1C	.7
Copra, Cake, Lumpy	25-30	28D$_{3}$35HW	2A-2B-2C	.8
Copra, Lumpy	22	22E35HW	2A-2B-2C	1.0
Copra, Meal	40-45	42B$_{6}$35HW	2D	.7
Cork, Fine Ground	5-15	10B$_{6}$35JNY	1A-1B-1C	.5
Cork, Granulated	12-15	14C$_{½}$35JY	1A-1B-1C	.5
Corn, Cracked	40-50	45B$_{6}$25P	1A-1B-1C	.7
Corn Cobs, Ground	17	17C$_{½}$25Y	1A-1B-1C	.6
Corn Cobs, Whole*	12-15	14E35	2A-2B	--
Corn Ear*	56	56E35	2A-2B	--
Corn Germ	21	21B$_{6}$35PY	1A-1B-1C	.4
Corn Grits	40-45	43B$_{6}$35P	1A-1B-1C	.5
Cornmeal	32-40	36B$_{6}$35P	1A-1B	.5

Material Table

Table No. 6

MATERIAL	WEIGHT LBS. PER CU. FT.	MATERIAL CLASS	COMPONENT GROUP	H.P. MATERIAL FACTOR F
Corn Oil, Cake	25	25D↑45HW	1A-1B	.6
Corn Seed	45	48C↻25PQ	1A-1B-1C	.4
Corn Shelled	45	48C↻25	1A-1B-1C	.4
Corn Sugar	30-35	33Bk35PU	1B	1.0
Cottonseed, Cake, Crushed	40-45	43C↻45HW	1A-1B	1.0
Cottonseed, Cake, Lumpy	40-45	43D↑45HW	2A-2B	1.0
Cottonseed, Dry, Delinted	22-40	31C↻25X	1A-1B	.6
Cottonseed, Dry, Not Delinted	18-25	22C↻45XY	1A-1B	.9
Cottonseed, Flakes	20-25	23C↻35HWY	1A-1B	.8
Cottonseed, Hulls	12	12Bk35Y	1A-1B	.3
Cottonseed, Meal, Expeller	25-30	28Bk45HW	3A-3B	.5
Cottonseed, Meal, Extracted	35-40	37Bk45HW	1A-1B	.5
Cottonseed, Meats, Dry	40	40Bk35HW	1A-1B	.6
Cottonseed, Meats, Rolled	35-40	38C↻45HW	1A-1B	.6
Cracklings, Crushed	40-50	45D↑45HW	2A-2B-2C	1.3
Cryolite, Dust	75-90	83A↑↑35L	2D	2.0
Cryolite, Lumpy	90-110	100D↑↑36	2D	2.1
Cullet, Fine	80-120	100C↻37	3D	2.0
Cullet, Lump	80-120	100D↑↑37	3D	2.5
Culm, (See Coal, Anthracite)	--	-	--	--
Cupric Sulphate (Copper Sulfate)	--	-	--	--
Detergent (See Soap Detergent)	--	-	--	--
Diatomaceous Earth	11-17	14A↑↑35Y	3D	1.6
Dicalcium Phosphate	40-50	45A↑↑35	1A-1B-1C	1.0
Disodium Phosphate	25-31	28A↑↑35	3D	.5
Distiller's Grain-Spent Dry	30	30Bk35	2D	.5
Distiller's Grain, Spent Wet	40-60	50C↻45V	3A-3B	.8
Dolomite, Crushed	80-100	90C↻36	2D	2.0
Dolomite, Lumpy	90-100	95D↑36	2D	2.0
Earth, Loam, Dry, Loose	76	76C↻36	2D	1.2
Ebonite, Crushed	63-70	67C↻35	1A-1B-1C	.8
Egg Powder	16	16A↑↑35MPY	1B	1.0
Epsom Salts (Magnesium Sulfate)	40-53	45A↑↑35U	1A-1B-1C	.8
Feldspar, Ground	65-83	73A↑↑37	2D	2.0
Feldspar, Lumps	90-100	95D↑37	2D	2.0
Feldspar, Powder	100	100A↑↑36	2D	2.0
Feldspar, Screenings	75-80	78C↻37	2D	2.0
Ferrous Sulfide – ½"	120-135	128C↻26	1A-1B-1C	2.0
Ferrous Sulfide – 100M	105-120	113A↑↑36	1A-1B-1C	2.0
Ferrous Sulphate	50-75	63C↻35U	2D	1.0
Fish Meal	35-40	38C↻45HP	1A-1B-1C	1.0
Fish Scrap	40-50	45D↑45H	2A-2B-2C	1.5
Flaxseed	43-45	44Bk35X	1A-1B-1C	.4
Flaxseed Cake (Linseed Cake)	48-50	49D↑45W	2A-2B	.7
Flaxseed Meal (Linseed Meal)	25-45	35Bk45W	1A-1B	.4
Flour Wheat	33-40	37A↑↑45LP	1B	.6
Flue Dust, Basic Oxygen Furnace	45-60	53A↑↑36LM	3D	3.5
Flue Dust, Blast Furnace	110-125	118A↑↑36	3D	3.5
Flue Dust, Boiler H. Dry	30-45	38A↑↑36LM	3D	2.0
Fluorspar, Fine (Calcium Fluoride)	80-100	93Bk36	2D	2.0
Fluorspar, Lumps	90-110	100D↑36	2D	2.0
Flyash	30-45	38A↑↑36M	3D	2.0
Foundry Sand, Dry (See Sand)	--	--	--	--
Fuller's Earth, Dry, Raw	30-40	35A↑↑25	2D	2.0
Fuller's Earth, Oily, Spent	60-65	63C↻45OW	3D	2.0
Fuller's Earth, Calcined	40	40A↑↑25	3D	2.0
Galena (See Lead Sulfide)	--	-	--	--
Gelatine, Granulated	32	32Bk35PU	1B	.8
Gilsonite	37	37C↻35	3D	1.5
Glass, Batch	80-100	90C↻37	3D	2.5
Glue, Ground	40	40Bk45U	2D	1.7
Glue, Pearl	40	40C↻35U	1A-1B-1C	.5
Glue, Veg. Powdered	40	40A↑↑45U	1A-1B-1C	.8
Gluten, Meal	40	40Bk35P	1B	.6
Granite, Fine	80-90	85C↻27	3D	2.5
Grape, Pomace	15-20	18D↑45U	2D	1.4
Graphite Flake	40	40Bk25LP	1A-1B-1C	.5
Graphite Flour	28	28A↑↑35LMP	1A-1B-1C	.5
Graphite Ore	65-75	70D↑35L	2D	1.0
Guano Dry*	70	70C↻35	3A-3B	2.0
Gypsum, Calcined	55-60	58Bk35U	2D	1.6
Gypsum, Calcined, Powdered	60-80	70A↑↑35U	2D	2.0
Gypsum, Raw – 1"	70-80	75D↑25	2D	2.0
Hay, Chopped*	8-12	10C↻35JY	2A-2B	1.6
Hexanedioic Acid (See Adipic Acid)	--	--	--	--
Horning, Dry	35-50	43C↻25D	1A-1B-1C	.4
Hops, Spent, Dry	35	35D↑35	2A-2B-2C	1.0
Hops, Spent, Wet	50-55	53D↑45V	2A-2B	1.5
Ice, Crushed	35-45	40D↑35D	2A-2B	.4
Ice, Flaked*	40-45	43C↻35D	1B	.6
Ice, Cubes	33-35	34D↑35D	1B	.4
Ice, Shell	33-35	34D↑45D	1B	.4
Ilmenite Ore	140-160	150D↑37	3D	2.0
Iron Ore Concentrate	120-180	150A↑↑37	3D	2.2
Iron Oxide Pigment	25	25A↑↑36LMP	1A-1B-1C	1.0
Iron Oxide, Millscale	75	75C↻36	2D	1.6
Iron Pyrites (See Ferrous Sulfide)	--	--	--	--
Iron Sulphate (See Ferrous Sulfate)	--	--	--	--
Iron Sulfide (See Ferrous Sulfide)	--	--	--	--
Iron Vitriol (See Ferrous Sulfate)	--	--	--	--
Kafir (Corn)	40-45	43C↻25	3D	.5
Kaolin Clay	63	63D↑25	2D	2.0
Kaolin Clay-Talc	42-58	48A↑↑35LMP	2D	2.0
Kryolith (See Cryolite)	--	- - -	--	--
Lactose	32	32A↑↑35PU	1B	.6
Lamp Black (See Carbon Black)	--	--	--	--
Lead Arsenate	72	72A↑↑35R	1A-1B-1C	1.4
Lead Arsenite	72	72A↑↑35R	1A-1B-1C	1.4
Lead Carbonate	240-260	250A↑↑35R	2D	1.0
Lead Ore – ½"	260-270	265Bk35	3D	1.4
Lead Ore – ¼"	160-230	205C↻35	3D	1.4
Lead Oxide (Red Lead) – 100 Mesh	30-150	90A↑↑35P	2D	1.2
Lead Oxide (Red Lead) – 200 Mesh	30-180	105A↑↑↑35LP	2D	1.2
Lead Sulphide – 100 Mesh	240-260	250A↑↑↑35R	2D	--
Lignite (See Coal Lignite)	--	--	--	--
Limonite, Ore, Brown	120	120C↻47	3D	1.7
Lime, Ground, Unslaked	60-65	63Bk35U	1A-1B-1C	.5
Lime Hydrated	40	40Bk35LM	2D	.8
Lime, Hydrated, Pulverized	32-40	36A↑↑35LM	1A-1B	.5
Lime, Pebble	53-56	55C↻25HU	2A-2B	2.0
Limestone, Agricultural	68	68Bk35	2D	2.0
Limestone, Crushed	85-90	88D↑36	2D	2.0
Limestone, Dust	55-95	75A↑↑46MY	2D	1.6-2.0
Lindane (Benzene Hexachloride)	--	--	--	--
Linseed (See Flaxseed)	--	--	--	--
Litharge (Lead Oxide)	--	--	--	--
Lithopone	45-50	48A↑↑35MR	1A-1B	1.0
Maize (See Milo)	--	--	--	--
Malt, Dry, Ground	20-30	25Bk35NP	1A-1B-1C	.5
Malt, Dry Whole	20-30	25C↻35N	1A-1B-1C	.5
Malt, Meal	36-40	38Bk25P	1A-1B-1C	.4
Malt, Sprouts	13-15	14C↻35P	1A-1B-1C	.4
Magnesium Chloride (Magnesite)	33	33C↻45	1A-1B	1.0
Manganese Dioxide*	70-85	78A↑↑35NKI	2A-2B	1.5
Manganese Ore	125-140	133D↑37	3D	2.0
Manganese Oxide	120	120A↑↑36	2D	2.0
Manganese Sulfate	70	70C↻37	3D	2.4
Marble, Crushed	90-95	88Bk37	3D	2.0
Marl, (Clay)	80	80D↑36	2D	1.8
Meat, Ground	50-55	53F4SHGTX	2A-2B	1.5
Meat, Scrap (Wrbone)	40	40E4SH	2D	1.5
Mica, Flakes	17-22	20Bk16MY	2D	1.0
Mica, Ground	13-15	14Bk36	2D	.9
Mica, Pulverized	13-15	14A↑↑36M	2D	1.0
Milk, Dried, Flake	5-6	6Bk35PUY	1B	.4
Milk, Malted	27-30	28A↑↑45PX	1B	.9
Milk, Powdered	20-45	33Bk25PM	1B	.5
Milk Sugar	32	32A↑↑35PX	1B	.6
Milk, Whole, Powdered	20-36	28Bk35PUX	1B	.5
Mill Scale (Steel)	120-125	123E46T	3D	3.0
Milo, Ground	32-36	34Bk25	1A-1B-1C	.5
Milo Maize (Kafir)	40-45	43Bk15N	1A-1B-1C	.4
Molybdenite Powder	137	137Bk26	2D	1.5
Monosodium Phosphate	50	50Bk36	2D	.6
Mortar, Wet*	150	150E46T	3D	3.0
Mustard Seed	45	45Bk15N	1A-1B-1C	.4
Naphthalene Flakes	45	45Bk35	1A-1B-1C	.7
Niacin (Nicotinic Acid)	35	35A↑↑35P	2D	.8
Oat Hulls	8-12	10Bk35NY	1A-1B-1C	.5
Oats	26	26C↻25MN	1A-1B-1C	.4
Oats, Crimped	19-26	23C↻35	1A-1B-1C	.5
Oats, Crushed	22	22Bk45NY	1A-1B-1C	.6
Oats, Flour	35	35A↑↑35	1A-1B-1C	.5
Oats, Rolled	19-24	22C↻35NY	1A-1B-1C	.6
Oleo Margarine (Margarine)	59	59E45HKPWX	2A-2B	.4
Orange Peel, Dry	15	15E45	2A-2B	1.5
Oxalic Acid Crystals – Ethane Diacid Crystals	60	60Bk35QS	1A-1B	1.0
Oyster Shells, Ground	50-60	55C↻36T	3D	1.5-2.0
Oyster Shells, Whole	80	80D↑36TV	3D	2.1-2.5
Paper Pulp (4% or less)	62	62E45	2A-2B	1.5
Paper Pulp (9% to 15%)	60-62	61E45	2A-2B	1.5

Engineering

Material Table

Table No. 6

MATERIAL	WEIGHT LBS. PER CU. FT.	MATERIAL CLASS	COMPONENT GROUP	H.P. MATERIAL FACTOR F
Paraffin Cake – ½"	45	45C⅝45K	1A-1B	.6
Peanuts, Clean, in shell	15-20	18D□35Q	2A-2B	.6
Peanut Meal	30	30Bc35P	1B	.6
Peanuts, Raw, Uncleaned (unshelled)	15-20	18D□35Q	3D	.7
Peanuts, Shelled	35-45	40C⅝35Q	1B	.4
Peas, Dried	45-50	48C⅝15NQ	1A-1B-1C	.5
Perlite-Expanded	8-12	10C⅝36	2D	.6
Phosphate Acid Fertilizer	60	60Bc25T	2A-2B	1.4
Phosphate Disodium (See Sodium Phosphate)	--	--	--	--
Phosphate Rock, Broken	75-85	80D□35	2D	2.1
Phosphate Rock, Pulverized	60	60Bc36	2D	1.7
Phosphate Sand	90-100	95Bc37	3D	2.0
Plaster of Paris (See Gypsum)	--	--	--	--
Plumbago (See Graphite)	--	--	--	--
Polystyrene Beads	40	40Bc35PQ	1B	.4
Polyvinyl, Chloride Powder	20-30	25A□□45XT	2B	1.0
Polyvinyl, Chloride Pellets	20-30	25E45K7QT	1B	.5
Polyethylene, Resin Pellets	30-35	33C⅝45Q	1A-1B	.4
Potash (Muriate) Dry	70	70Bc37	3D	2.0
Potash (Muriate) Mine Run	75	75D□37	3D	2.2
Potassium Carbonate	51	51Bc36	2D	1.0
Potassium Chloride Pellets	120-130	125C⅝25TU	3D	1.6
Potassium Nitrate – ⅛"	78	76C⅝15NT	3D	1.2
Potassium Nitrate – ¼"	80	80Bc26NT	3D	1.2
Potassium Sulfate	42-48	45Bc46X	2D	1.0
Potato Flour	48	48A□□35MNP	1A-1B	.5
Pumice – ¼"	42-48	45Bc46	3D	1.6
Pyrite, Pellets	120-130	125C⅝26	3D	2.0
Quartz, – 100 Mesh	70-80	75A□□27	3D	1.7
Quartz, – ½"	80-90	85C⅝27	3D	2.0
Rice, Bran	20	20Bc35NY	1A-1B-1C	.4
Rice, Grits	42-45	44Bc35P	1A-1B-1C	.4
Rice, Polished	30	30C⅝15P	1A-1B-1C	.4
Rice, Hulled	45-49	47C⅝25P	1A-1B-1C	.4
Rice, Hulls	20-21	21Bc35NY	1A-1B-1C	.4
Rice, Rough	32-36	34C⅝35N	1A-1B-1C	.6
Rosin – ½"	65-68	67C⅝45Q	1A-1B-1C	1.5
Rubber, Reclaimed Ground	23-50	37C⅝45	1A-1B-1C	.8
Rubber, Pelleted	50-55	53D□45	2A-2B-2C	1.5
Rye	42-48	45Bc15N	1A-1B-1C	.4
Rye Bran	15-20	18Bc35Y	1A-1B-1C	.4
Rye Feed	33	33Bc35N	1A-1B-1C	.5
Rye Meal	35-40	38Bc35	1A-1B-1C	.5
Rye Middlings	42	42Bc35	1A-1B	.5
Rye, Shorts	32-33	33C⅝35	2A-2B	.5
Safflower, Cake	50	50D□26	2D	.6
Safflower, Meal	50	50Rc35	1A-1B-1C	.5
Safflower Seed	45	45Bc15N	1A-1B-1C	.4
Saffron (See Safflower)	--	--	--	--
Sal Ammoniac (Ammonium Chloride)	--	--	--	--
Salt Cake, Dry Coarse	85	85Bc36TU	3D	2.1
Salt Cake, Dry Pulverized	65-85	75Bc36TU	3D	1.7
Salicylic Acid	29	29Bc37U	3D	.6
Salt, Dry Coarse	45-80	53C⅝36TU	3D	1.0
Salt, Dry Fine	70-80	75Bc36TU	3D	1.7
Saltpeter – (See Potassium Nitrate)	--	--	--	--
Sand Dry Bank (Damp)	110-130	120Bc47	3D	2.8
Sand Dry Bank (Dry)	90-110	100Bc37	3D	1.7
Sand Dry Silica	90-100	95Rc27	3D	2.0
Sand Foundry (Shake Out)	90-100	95D□27Z	3D	2.6
Sand (Resin Coated) Silica	104	104Bc27	3D	2.0
Sand (Resin Coated) Zircon	115	115A□□27	3D	2.3
Sawdust, Dry	10-13	12Bc45UX	1A-1B-1C	.7
Sea-Coal	55	55Bc36	2D	1.0
Sesame Seed	27-41	34Bc26	2D	.6
Shale, Crushed	85-90	88C⅝36	2D	2.0
Shellac, Powdered or Granulated	31	31Bc35P	1B	.6
Silicon Dioxide (See Quartz)	--	--	--	--
Silica, Flour	80	80A□□46	2D	1.5
Silica Gel + ½"-3"	45	45D□37HKQU	3D	2.0
Slag, Blast Furnace Crushed	130-180	155D□37Y	3D	2.4
Slag, Furnace Granular, Dry	60-65	63C⅝37	3D	2.2
Slate, Crushed, – ½"	80-90	85C⅝36	2D	2.0
Slate, Ground, – ¼"	82-85	84Bc36	2D	1.6
Sludge, Sewage, Dried	40-50	45E47TW	3D	.8
Sludge, Sewage, Dry Ground	45-55	50B46S	2D	.8
Soap, Beads or Granules	15-35	25Bc35Q	1A-1B-1C	.6
Soap, Chips	15-25	20C⅝35Q	1A-1B-1C	.6
Soap Detergent	15-50	33Bc35FQ	1A-1B-1C	.6
Soap, Flakes	5-15	10Bc35QXY	1A-1B-1C	.6
Soap, Powder	20-25	23Bc25X	1A-1B-1C	.9
Soapstone, Talc, Fine	40-60	45A□□45XY	1A-1B-1C	2.0
Soda Ash, Heavy	55-65	60Bc36	2D	1.0
Soda Ash, Light	20-35	28A□□36Y	2D	.8
Sodium Aluminate, Ground	72	72Bc36	2D	1.0
Sodium Aluminum Fluoride (See Kryolite)	--	--	--	--
Sodium Aluminum Sulphate*	75	75A□□36	2D	1.0
Sodium Bentonite (See Bentonite)	--	--	--	--
Sodium Bicarbonate (See Baking Soda)	--	--	--	--
Sodium Chloride (See Salt)	--	--	--	--
Sodium Carbonate (See Soda Ash)	--	--	--	--
Sodium Hydrate (See Caustic Soda)	--	--	--	--
Sodium Hydroxide (See Caustic Soda)	--	--	--	--
Sodium Borate (See Borax)	--	--	--	--
Sodium Nitrate	70-80	75D□25NS	2A-2B	1.2
Sodium Phosphate	50-60	55A35	1A-1B	.9
Sodium Sulfate (See Salt Cake)	--	--	--	--
Sodium Sulfite	96	96Bc46X	2D	1.5
Sorghum, Seed (See Kafir or Milo)	--	--	--	--
Soybean, Cake	40-43	42D□35W	2A-1B-1C	1.0
Soybean, Cracked	30-48	35C⅝36NW	2D	.5
Soybean, Flake, Raw	18-25	22C⅝35Y	1A-1B-1C	.8
Soybean, Flour	27-30	28A□□35MN	1A-1B-1C	.8
Soybean Meal, Cold	43	40Bc35	1A-1B-1C	.5
Soybean Meal, Hot	40	40Bc35T	2A-2B	.5
Soybeans, Whole	45-50	48C⅝26NW	--	1.0
Starch	25-50	38A□□15M	1A-1B-1C	1.0
Steel Turnings, Crushed	100-150	125D□45WW	3D	3.0
Sugar Beet, Pulp, Dry	12-15	14C⅝26	2D	.9
Sugar Beet, Pulp, Wet	25-45	35C⅝35X	1A-1B-1C	1.2
Sugar, Refined, Granulated Dry	50-55	53Bc35PU	1B	1.0-1.2
Sugar, Refined, Granulated Wet	55-65	60C⅝35X	1B	1.4-2.0
Sugar, Powdered	50-60	55A□□35PX	1B	.8
Sugar, Raw	55-65	60Bc35PX	1B	1.5
Sulphur, Crushed, – ½"	50-60	55C⅝35N	1A-1B	.8
Sulphur, Lumpy, – 3"	80-85	83D□35N	2A-2B	.8
Sulphur, Powdered	50-60	55A□□35MN	1A-1B	.6
Sunflower Seed	19-38	29C⅝15	1A-1B-1C	.5
Talcum, – ½"	80-90	85C⅝36	2D	.9
Talcum Powder	50-60	55A□□36M	2D	.8
Tanbark, Ground*	55	55Bc45	1A-1B-1C	.7
Timothy Seed	36	36Bc35NY	1A-1B-1C	.6
Titanium Dioxide (See Ilmenite Ore)	--	--	--	--
Tobacco, Scraps	15-25	20D□45Y	2A-2B	.8
Tobacco, Snuff	30	30Bc45MQ	1A-1B-1C	.9
Tricalcium Phosphate	40-50	45Ac45	1A-1B	1.5
Triple Super Phosphate	50-55	53Bc36RS	3D	2.0
Trisodium Phosphate	60	60C⅝36	2D	1.7
Trisodium Phosphate Granular	60	60Bc36	2D	1.7
Trisodium Phosphate, Pulverized	50	50A□□36	2D	1.6
Tung Nut Meats, Crushed	28	28D□25W	2A-2B	.8
Tung Nuts	25-30	28D□15	2A-2B	.7
Urea Prills, Coated	43-46	45Bc25	1A-1B-1C	1.2
Vermiculite, Expanded	16	18C⅝35Y	1A-1B	.5
Vermiculite, Ore	80	80D□36	2D	1.0
Vetch	48	48Bc16N	1A-1B-1C	.4
Walnut Shells, Crushed	35-45	40Bc36	2D	1.0
Wheat	45-48	47C⅝25N	1A-1B-1C	.4
Wheat, Cracked	40-45	43Bc25N	1A-1B-1C	.4
Wheat, Germ	18-28	23Bc25	1A-1B-1C	.4
White Lead, Dry	75-100	88A□□36MR	2D	1.0
Wood Chips, Screened	10-30	20D□45VY	2A-2B	.6
Wood Flour	15-35	25Bc35N	1A-1B	.4
Wood Shavings	8-16	12E45VY	2A-2B	1.5
Zinc, Concentrate Residue	75-8	78Bc37	3D	1.0
Zinc Oxide, Heavy	30-35	33A□□45X	1A-1B	1.0
Zinc Oxide, Light	10-15	13A□□45XY	1A-1B	1.0

*Consult Engineering Department.

REFERENCE TO SPECIFIC MATERIALS IN TABLE SHOULD NOT BE CONSTRUED AS INDICATING THAT ALL OF THE MATERIALS ARE RECOMMENDED FOR SCREW CONVEYOR APPLICATION.

Capacity Charts

How to Use Capacity Charts for Conveyor Size and Speed

1. Find your material class from material table (First letter & last two numbers). This determines trough loading.
2. Determine size by being at or less than maximum cubic feet per hour.
3. Exact conveyor speed is determined by dividing the required capacity in cubic feet per hour by cubic feet per hour at 1 revolution per minute.

   EXAMPLE: from Page #10.

   $$\frac{2,250}{19.4} = 115.9 \text{ or } 116 \text{ RPM conveyor speed}$$

   116 RPM is below maximum RPM
4. Refer to Table No. 1, Sizes of Lumps to Diameter, page 9. If the required diameter shown on the Capacity Chart is smaller than the recommended size given in table No. 1, both the diameter and speed must be refigured.

Note: Data shown on this chart is for general information only. If in doubt consult our engineers for specific recommendations.

Table 7 Horizontal Screw Conveyor Capacity

Material Class Code	Degree of Trough Loading	Screw Dia. Inch	Maximum RPM *	Capacity, Cubic Feet Per Hour	
				At Max. RPM	At One RPM
A-15 A-25 B-15 B-25 C-15 C-25	45% 	6 9 12 14 16 18 20 24	165 155 145 140 130 120 110 100	368 1270 2820 4370 6060 8120 10300 16400	2.23 8.2 19.4 31.2 46.7 67.6 93.7 164.0
A-35 E-35 A-45 E-45 B-35 B-45 C-35 C-45 D-15 D-25 D-35 D-45 E-15 E-25	Non-Abrasive Materials 30% A 	6 9 12 14 16 18 20 24	120 100 90 85 80 75 70 65	180 545 1160 1770 2500 3380 4370 7100	1.49 5.45 12.9 20.8 31.2 45.0 62.5 109.0
A-16 D-16 A-26 D-26 A-36 D-36 A-46 D-46 B-16 E-16 B-26 E-26 B-36 E-36 B-46 E-46 C-16 C-26 C-36 C-46	Abrasive Materials 30% B 	6 9 12 14 16 18 20 24	60 55 50 50 45 45 40 40	90 300 645 1040 1400 2025 2500 4360	1.49 5.45 12.9 20.8 31.2 45.0 62.5 109.0
A-17 D-17 A-27 D-27 A-37 D-37 A-47 D-47 B-17 E-17 B-27 E-27 B-37 E-37 B-47 E-47 C-17 C-27 C-37 C-47	15% 	6 9 12 14 16 18 20 24	60 55 50 50 45 45 40 40	45 150 325 520 700 1010 1250 2180	0.75 2.72 6.46 10.4 15.6 22.5 31.2 54.6

*Maximum recommended R.P.M.

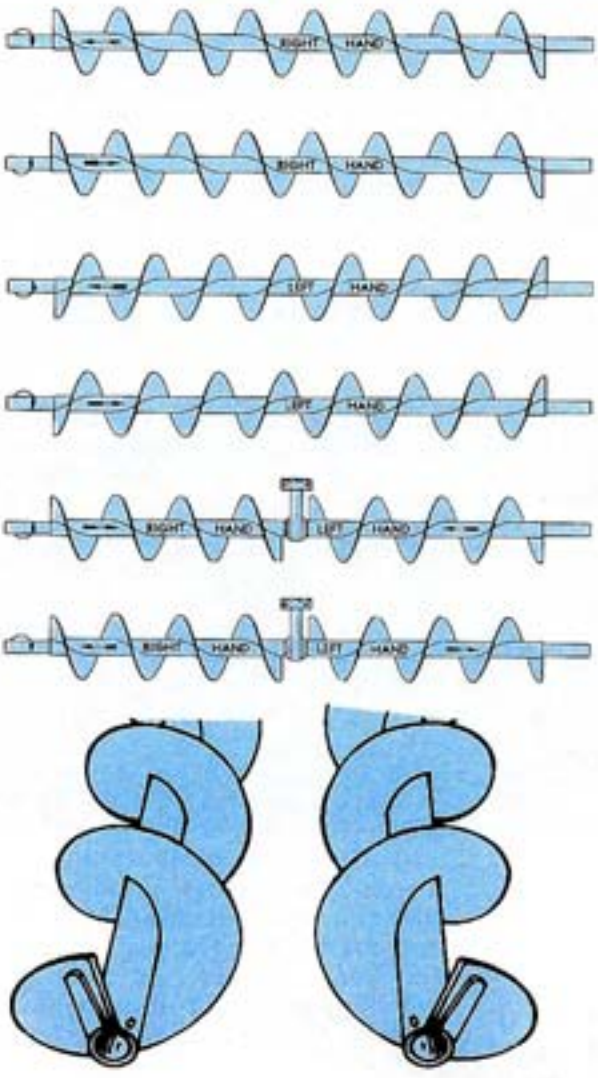
Design Data

When selecting components for your Screw Conveyor, please refer to the basic layout diagram and accompanying table on page 17 for dimensional standards and recommended arrangements.

SCREW CONVEYOR

Available as either right or left-hand. Right-hand conveyor screws will be supplied unless otherwise specified. See "HAND" OF CONVEYOR, Table No. 8. Use standard length conveyor screws wherever possible.
The carrying side of the flighting surface that does the actual job of conveying is free of lugs. The back or non-carrying side of the flight is reinforced at the ends to guard against the flight folding back.

Table No. 8 **"HAND" OF CONVEYOR**



LEFT HAND RIGHT HAND

COUPLINGS AND SHAFTS

Coupling, Drive and End shafts connect and transmit the rotary motion to the following conveyor screws.

It is of prime importance that the shafts selected be of sufficient strength to handle the expected horsepower load. See "Horsepower Rating", page 10.

Most conveyor systems are made of standard components, and, in order to replace or renew an intermediate section of conveyor, it is necessary to dismantle the conveyor unit from one end. By incorporating the Redi-Change feature (see page 30) a section can be easily removed from the center of the conveyor without starting from one end and dismantling the entire unit. This saves both time and labor.

HANGERS

Hangers are used as an intermediate support between two sections of conveyor screw. They help maintain alignment and provide a bearing surface for the coupling shaft.

Hangers should be placed clear of inlet openings. They can be placed at trough joints and are designed with spacer bars wide enough for this purpose. Hangers may be fitted with a variety of bearing materials to suit many application requirements.

TROUGH ENDS

Trough Ends support the conveyor screw and the trough and should utilize a thrust bearing. This bearing will hold the rotating conveyor screw in position. This provides for smoother operation, less required power and less wear on the hangers, bearings and other components. The standard duty "Chevron" or the heavy-duty "Hammond" will absorb thrust in either direction, although the preferred location of the drive is on the discharge end.

Seals are used in the trough ends to prevent leakage into or out of the trough. They also give added protection to the end bearings and shafts if abrasive or corrosive materials are being handled.

The shelf-type trough end is very often used when handling hot materials, so that the bearing and drive can be separated by some distance from the heated trough. They are also used for the handling of abrasive or very fine materials which require more effective seals than can be installed under flange bearings. The seal generally used is the split type or for more extreme applications, the pump type (page 45).

TROUGHS AND COVERS

Troughs are available in several standard designs. Standard lengths should be used wherever possible. Differing styles are available for specific applications. When planning a conveyor which will use either "Barron" or "Tite-Seal" clamps, place the cover ends at points other than directly over the hangers. This will allow the grease fittings to be brought up through the cover without interfering with the cover clamps. Gasketing between the trough and the cover is available for dust-tight operation and is standard with either Barron or Tite-Seal covers.

Material Input and Discharge

Care should be exercised in controlling the loading of the conveyor since it is designed to handle a specific maximum volume of material. Problems arise when the conveyor is charged from storage without the benefit of input volume controls. If the rate of material flow is not inherently self-regulating or cannot be regulated by other controls, it is advisable to incorporate a Screw Feeder into the system for handling the surge loads and to deliver a smooth, measured input to the Screw Conveyor.

Input is normally through a square opening cut in the cover but may be through specially built flared spouts designed to fit the bottom of a bin or other machinery. The opening should be kept well back from the nearest hanger to eliminate any possible choking at that point.

Discharge spouts may also be built to fit special machinery and may be flared or longer than standard.

The flighting is usually eliminated beyond the midpoint of the last discharge opening to affect complete discharge and reduce the possibility of material carryover. When conveying materials which roll easily, such as soy beans or easily aerated materials such as flour, it may be advisable to install longer than standard discharge spouts. Intermediate trough discharge spouts may be fitted with a variety of discharge control gates or slides. These slides are very often manually operated, although they can also be actuated by rack and pinion gates, hydraulic or pneumatic cylinders, or can be operated with a special electric gear motor complete with limit switches. It is recommended that the discharge spout of units with only one discharge, or the final discharge spout of units with multiple discharges be furnished without slide of any kind.

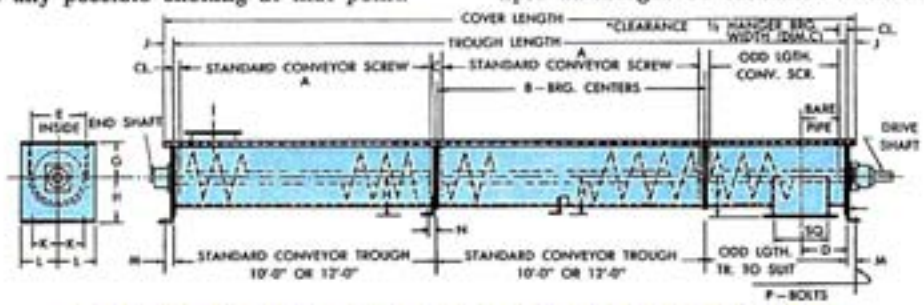


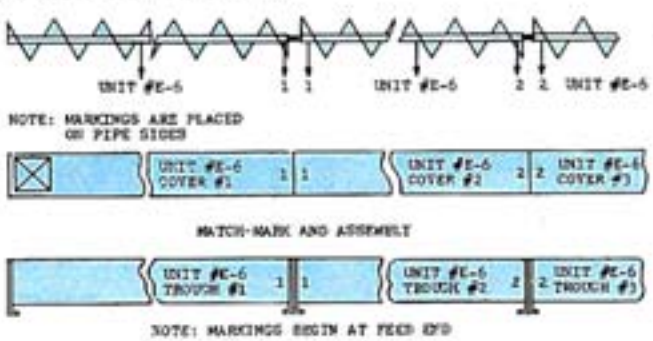
Table No. 9 **ASSEMBLY DATA AND RECOMMENDED ARRANGEMENTS**

Conveyor Diameter Inches	Shaft and Coupling Diameter Inches	A	B	C	D	E	F	G	H	J	K	L	M	N	P
6	1½	9'-10	10'-0	2	6	7	5	4½	5⅝	1½	4¼	4⅜	1	⅜	⅜
9	1½	9'-10	10'-0	2	8	10	7⅛	6⅛	7⅜	1⅜	4¹⁵⁄₁₆	6⅛	1½	1⅝	½
	2	9'-10	10'-0	2	8	10	7⅛	6⅛	7⅜	1⅜	4¹⁵⁄₁₆	6⅛	1½	1⅝	½
10	1½	9'-10	10'-0	2	9	11	7⅜	6⅜	8⅜	1¾	4¾	7⅛	1¾	1⅝	½
	2	9'-10	10'-0	2	9	11	7⅜	6⅜	8⅜	1¾	4¾	7⅛	1¾	1⅝	½
12	2	11'-10	12'-0	2	10½	13	8⅜	7¾	9⅝	2	6½	8⅝	1⅝	1⅝	⅝
	2¾	11'-9	12'-0	3	10½	13	8⅜	7¾	9⅝	2	6½	8⅝	1⅝	1⅝	⅝
	3	11'-9	12'-0	3	10½	13	8⅜	7¾	9⅝	2	6½	8⅝	1⅝	1⅝	⅝
14	2¾	11'-9	12'-0	3	11½	15	10⅛	9¼	10⅞	2	6¾	9⅝	1⅝	1⅝	⅝
	3	11'-9	12'-0	3	11½	15	10⅛	9¼	10⅞	2	6¾	9⅝	1⅝	1⅝	⅝
16	3	11'-9	12'-0	3	13½	17	11⅛	10⅝	12	2½	7⅜	10⅛	2	1¾	⅝
18	3	11'-9	12'-0	3	14½	19	12⅜	12⅛	13⅜	2½	8	12⅛	2	1¾	⅝
	3¾	11'-8	12'-0	4	14½	19	12⅜	12⅛	13⅜	2½	8	12⅛	2	1¾	⅝
20	3	11'-9	12'-0	3	15½	21	13⅜	13½	15	2½	9⅜	13⅛	2¼	2	¾
	3¾	11'-8	12'-0	4	15½	21	13⅜	13½	15	2½	9⅜	13⅛	2¼	2	¾
24	3¾	11'-8	12'-0	4	17½	25	15⅜	16½	18⅛	2½	10	15⅛	2½	2⅛	¾

Conveyor Match Marking

The term "Assemble, Fit and Match Mark" is commonly used when specifying individual conveyor assembly. It means that the subject conveyor will be assembled in our shop with all parts match marked before disassembly, painting and shipment. Assembly consists of putting together all conveyor parts and components to make a complete operable unit. The diagram below illustrates the method used to match mark a standard horizontal conveyor unit. Note that all major parts consisting of screws, troughs and covers are marked with the unit number. The assembly part numbers start at the feed or input end of the conveyor and run consecutively to the discharge end. All part numbers are placed at the joint connection of successive parts. Note also that all intermediate hangers are located and bolted in place. Otherwise this must be done in the field.

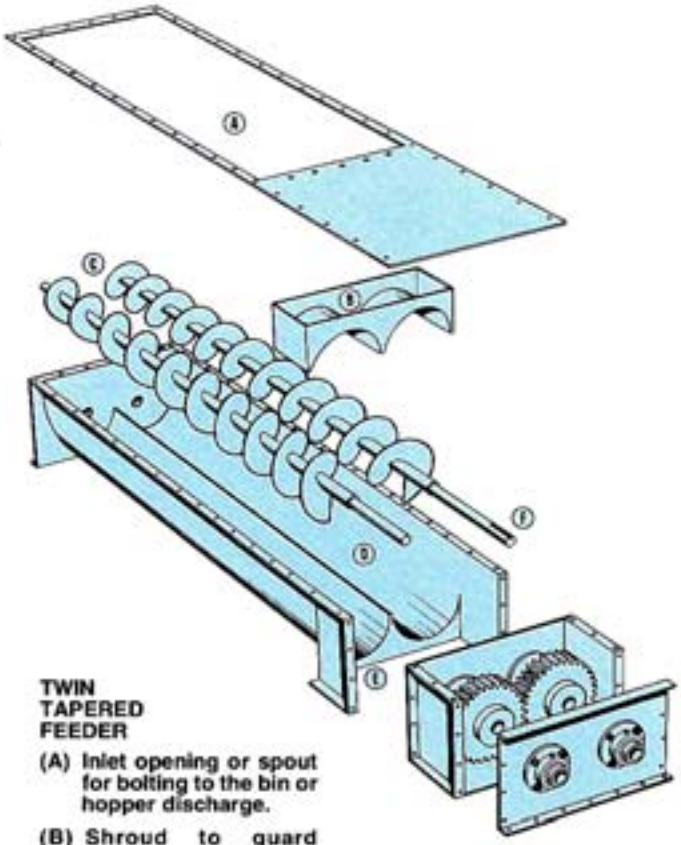
The conveyor unit is then disassembled and shipped with all couplings and coupling bolts in place in the screw. In some instances, the screws are shipped in their troughs, although it is usually more practical to ship screws, troughs and covers as individual components. Smaller parts, such as hangers, conveyor trough assembly bolts and trough ends are marked with the unit number and separately bundled or boxed.



Engineering

Exacta-Flo™

Volumetric Screw Feeder



TWIN TAPERED FEEDER

(A) Inlet opening or spout for bolting to the bin or hopper discharge.

(B) Shroud to guard against material flooding.

(C) Twin tapered screw conveyor permits even draw off of material for the length of the opening.

(D) Twin-tapered trough.

(E) Discharge spout.

(F) Solid shafting transmits rotary motion to driving gears.

(G) Driving gears synchronize the action of the screw conveyors.

Normally short in length, Screw Feeders are designed to regulate the volumetric rate of material flow from a hopper, bin or storage unit.

The inlet must be flooded with material (100% load capacity) by incorporating changes in the construction of the flighting (diameter, pitch, etc.) and the speed of the feeder screw, the material discharge can be governed to the desired rate. Feeders can be built with variable diameter or stepped pitch or both in units composed of one, two or a multiple number of screws (ie., Live Bottom Bin) depending on the application. Long conveyors may be designed with special flights at the feed end for controlling the depth of the material to conform with the recommendations made in the Material Tables, pages 12, 13 and 14.

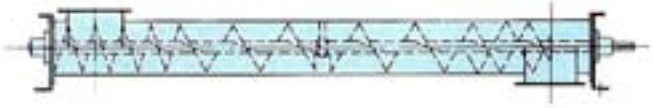
Screw Feeders are normally equipped with a shroud for a short distance beyond the inlet opening. This guards against flooding of the conveyor with material. When handling very free flowing materials, extended shroud covers, tubular housing construction or short pitch flights are occasionally required for positive control.

When under a choke load, screw feeders with uniform diameter and pitch normally convey the material from the rear of the inlet opening first. To draw off material evenly across the full length of the inlet, a tapered screw or stepped pitch conveyor screw is required.

While Screw Feeders are available in many designs to fit your particular requirements, several commonly used types are described below.

Multiple Diameter Feeder

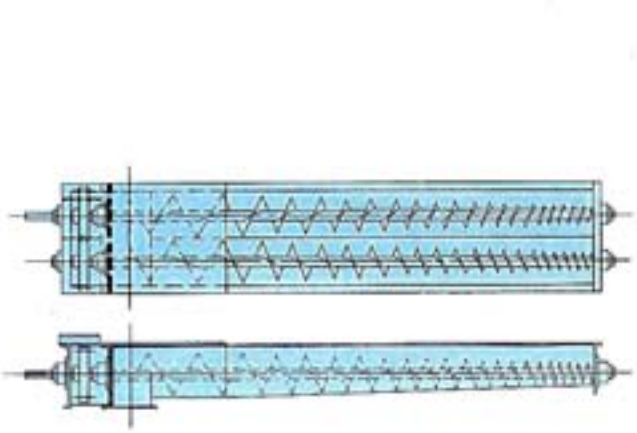
This is a combination feeder and conveyor and the physical dimensions are variable on each. The small diameter feed end will operate at a full cross-sectional load. When the material reaches the larger section, the cross-sectional load will reduce to a safe level.

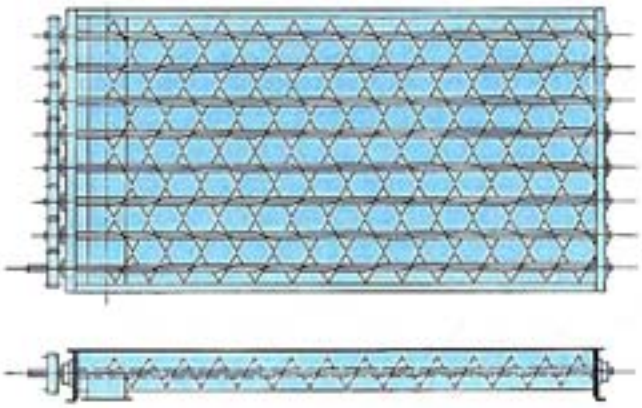


Short Pitch Feeder

This is also a combination feeder and conveyor. The short pitch end will handle full cross-sectional loads. The material is then discharged into the standard section where the cross-sectional load is reduced in proportion to the increase in screw pitch. A section of double flight is pictured on the discharge end of this feeder. This creates a more even discharge from the conveyor.

Selecting a Screw Feeder





Variable Pitch Twin-Tapered Feeder

This feeder is popularly used to unload bins or hoppers at a controlled rate. The feed opening under the bin is designed large enough to prevent material bridging and accepts materials uniformly across the length and width of the opening. This eliminates dead areas in the bin and reduces the chance of material bridging or spoiling.

Live Bottom Feeder

Designed for use on straight sided bins, this feeder is composed of a number of feeder screws in tandem which serve as the bottom of the bin. Material is, therefore, drawn out equally from the full width. The Live Bottom Feeder is used to its best advantage on materials which tend to pack or bridge easily.

CAPACITY OF SCREW FEEDERS

Table No. 10 Figures shown are theoretical capacities in cubic feet per hour per R.P.M. for standard pitch screws.

Conveyor Diameter	Standard Pipe Size									
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"
4"	1.56	1.44	1.35							
6"			5.30	4.97	4.41					
9"			18.99	18.49	17.85	16.25				
10"			26.28	25.73	25.02	23.49				
12"				45.28	44.42	42.99	41.89			
14"					71.67	70.15	68.73	67.10		
16"						106.35	104.72	102.86		
18"						153.06	151.20	149.10	146.5	
20"							209.50	204.00	201.0	197.5
24"							366.40	363.60	356.4	348.6

The above figures are based on 100% of cross section of actual screw capacity and may be more or less depending upon the material. These figures must be corrected for pitches other than standard.

Screw Feeder Capacity

The accompanying table No. 10 shows Screw Feeder capacities in cubic feet per hour per RPM. This table relates to full pitch or standard conveyors only. Shorter pitch flighting will convey a capacity in direct ratio to the capacity of the full pitch. For instance, a 9" conveyor with standard pitch (9") flighting on a 2½" standard pipe will convey 17.85 cu. ft./hr./RPM. The same conveyor, but with 3" pitch, will convey 1/3 this amount, or 5.95 cu. ft./hr./RPM. The capacity figure is theoretical. Actual capacity will often vary due to variation in material characteristics as well as variations in diameter and pitch resulting from manufacturing tolerances.

Screw Feeder Speed

The speed of the feeder screw can be determined by dividing the desired capacity in cu. ft./hr. by the figure found in table No. 10. For maximum efficiency, feeder screw speeds should be slower than standard screw conveyor speeds and allowances must be made for slippage of the material in the screw.

Factors Affecting The Design Of A Screw Feeder

1. The material class
2. The material physical characteristics, see page 11
3. The capacity required
4. Material Factor "F"
5. Weight of material resting on the Feeder Screw
6. The dimensions of the feeder opening

In designing a Screw Feeder, virtually every situation is unique in one respect or another. For this reason, we recommend that you consult our staff engineers for proper recommendations concerning your particular needs.

Rigid-Flo T.M.

Tubular and Inclined Screw Conveyors

Screw Conveyors can be operated with the flow of material inclined upward. When space allows, this is a very economical method of elevating and conveying. It is 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.

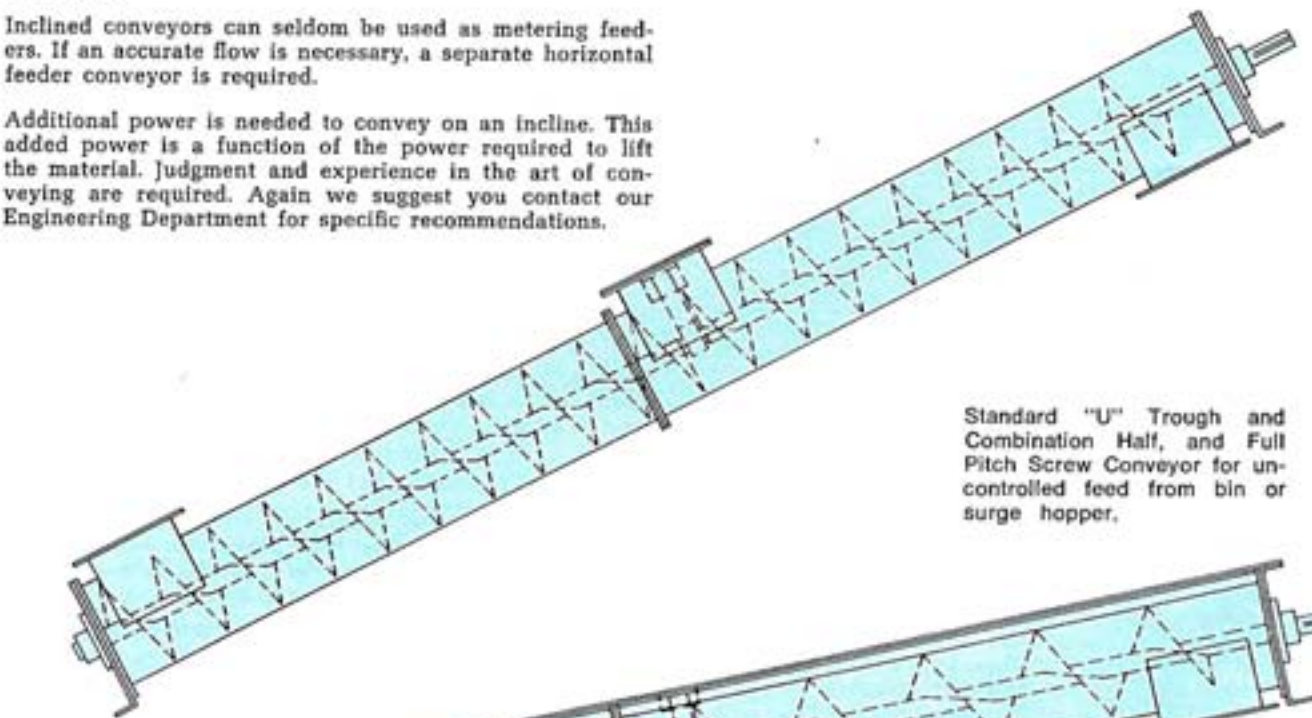
Other aids in conveying on an incline are the use of shorter than standard pitch and/or tubular housings or shrouded conveyor trough covers. Very often it becomes necessary to use high speed to overcome the tendency of material to fall back.

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.

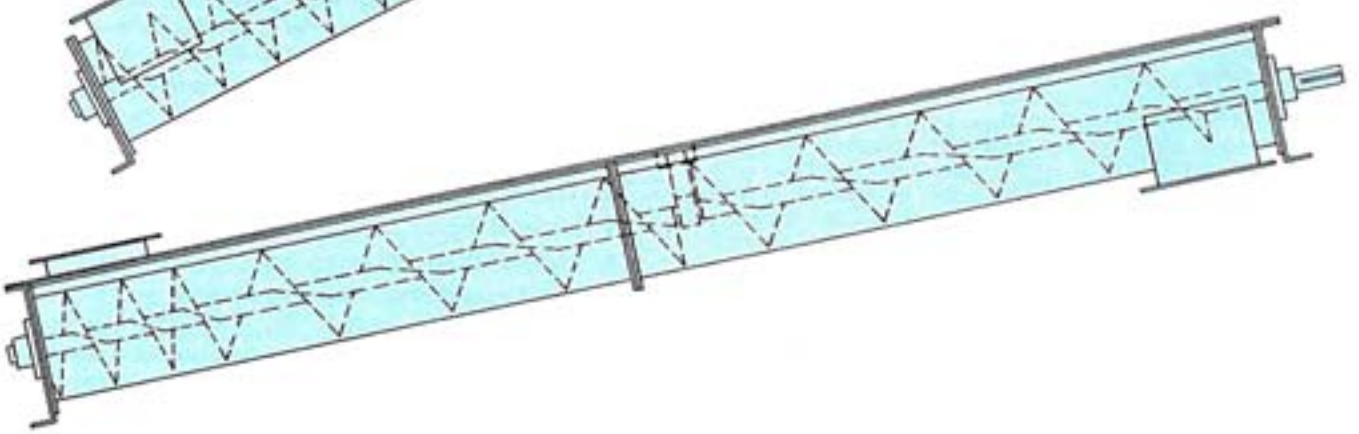
Inclined conveyors can seldom be used as metering feeders. If an accurate flow is necessary, a separate horizontal feeder conveyor is required.

Additional power is needed to convey on an incline. This added power is a function of the power required to lift the material. Judgment and experience in the art of conveying are required. Again we suggest you contact our Engineering Department for specific recommendations.

Tubular Trough and Half Pitch Screw Conveyor.



Standard "U" Trough and Combination Half, and Full Pitch Screw Conveyor for uncontrolled feed from bin or surge hopper.



Typical Drive Assemblies

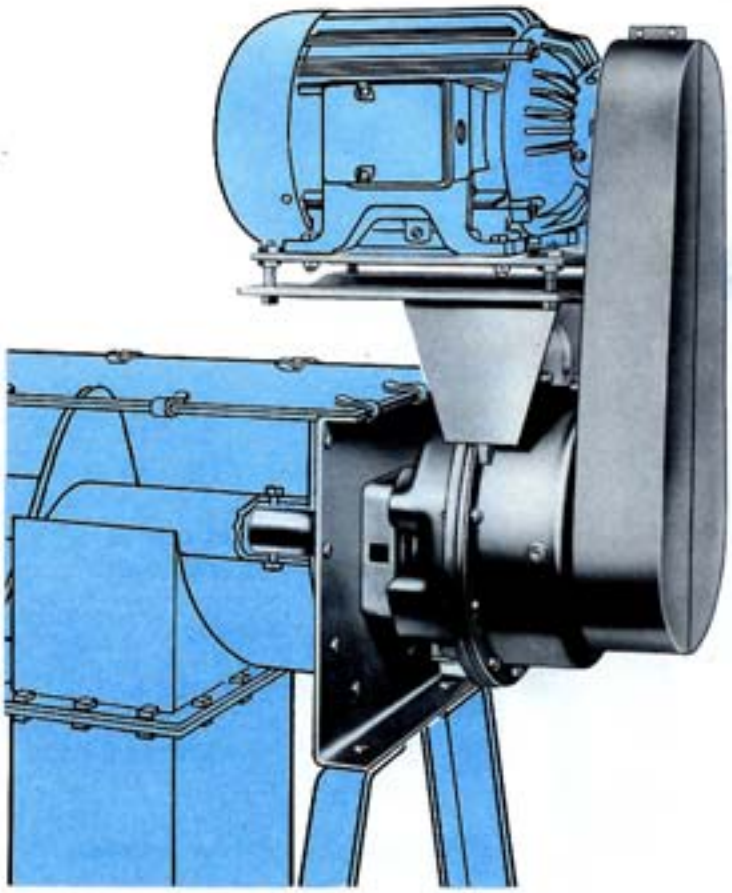
Screw conveyor drives are available in a wide variety for use in transmitting the necessary rotary motion to the screw. Integral or fractional horsepower motors can be coupled with many different types of gear reducers which, in turn, are directly connected to the screw through a coupling, roller chain 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 hydraulic 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 (see below) 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:

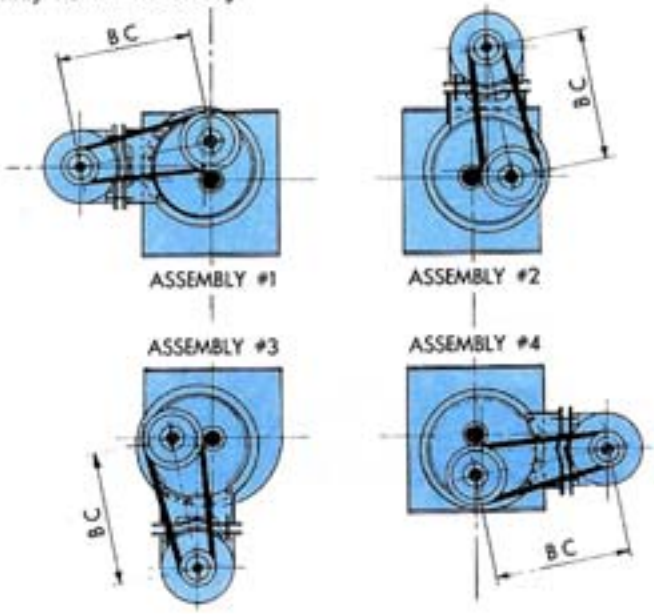
1. Electric gearmotor combination with roller chain drive.
2. Gear reducer connected through roller chain to the screw conveyor. V-belts or couplings connect the reducer input shaft and the motor.
3. Variable speed controlled D.C. motors with any of several types of reducers.
4. Hydraulic drives.
5.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

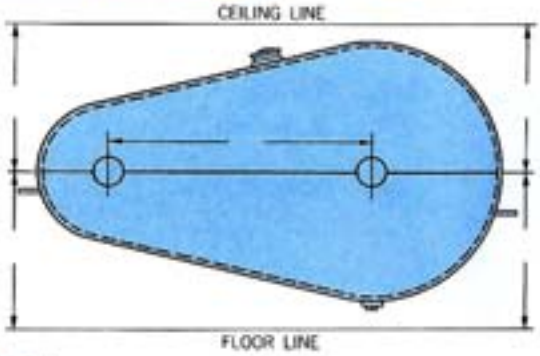
We do not recommend a direct coupling connection motor to reducer to conveyor. This allows no adjustment in conveyor speed which may sometimes be necessary due to manufacturing tolerances or changes in requirements.



Guards and Chain Casings

Chain casings and guards are fabricated of heavy gauge steel and then are split and hinged for ease of access and 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 complete enclosures may not be necessary.





Type A casing is recommended for use on unusual operations where the extra precautions are required, such as on outdoor installations where water, dust or dirt are a problem. The double oil seals at all shaft openings insure the retention of the lubricant even under high speeds.

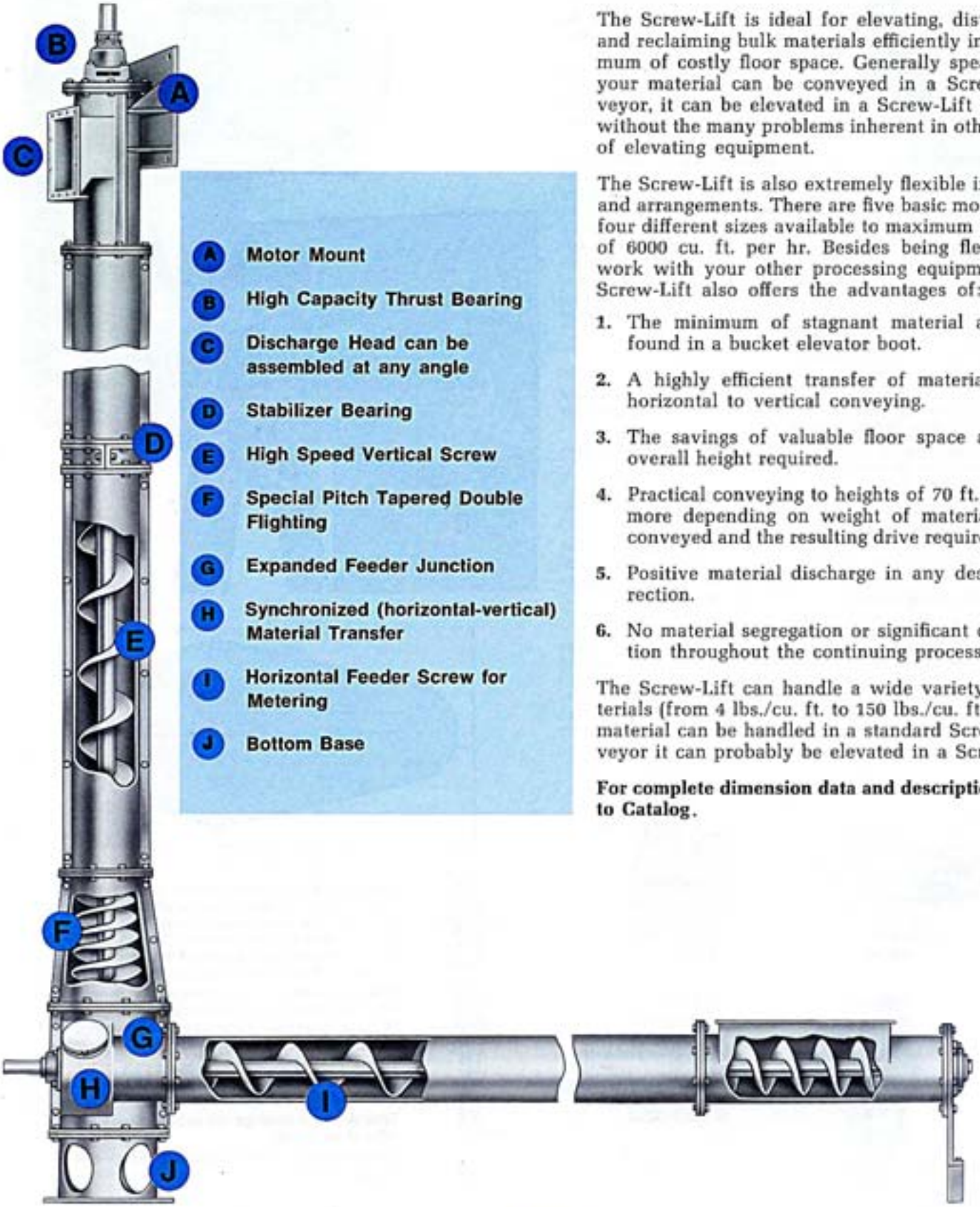
Type B casing is recommended for general drive installations involving moderate speeds. Single oil seals are provided at all shaft openings and are suitable for drip type lubrication.

Type C casing serves mainly as a safety guard. In addition, it provides the moving parts with protection against dirt and foreign objects.

Type A and B casings are usually considered roller chain guards.

Type C casing is usually considered as a V-belt guard.

The Screw-Lift®



- **A** Motor Mount
- **B** High Capacity Thrust Bearing
- **C** Discharge Head can be assembled at any angle
- **D** Stabilizer Bearing
- **E** High Speed Vertical Screw
- **F** Special Pitch Tapered Double Flighting
- **G** Expanded Feeder Junction
- **H** Synchronized (horizontal-vertical) Material Transfer
- **I** Horizontal Feeder Screw for Metering
- **J** Bottom Base

The Screw-Lift is ideal for elevating, distributing and reclaiming bulk materials efficiently in a minimum of costly floor space. Generally speaking, if your material can be conveyed in a Screw Conveyor, it can be elevated in a Screw-Lift . . . and without the many problems inherent in other types of elevating equipment.

The Screw-Lift is also extremely flexible in design and arrangements. There are five basic models and four different sizes available to maximum capacity of 6000 cu. ft. per hr. Besides being flexible to work with your other processing equipment, the Screw-Lift also offers the advantages of:

1. The minimum of stagnant material as often found in a bucket elevator boot.
2. A highly efficient transfer of materials from horizontal to vertical conveying.
3. The savings of valuable floor space and less overall height required.
4. Practical conveying to heights of 70 ft. or even more depending on weight of material being conveyed and the resulting drive requirement.
5. Positive material discharge in any desired direction.
6. No material segregation or significant degradation throughout the continuing process.

The Screw-Lift can handle a wide variety of materials (from 4 lbs./cu. ft. to 150 lbs./cu. ft.). If the material can be handled in a standard Screw Conveyor it can probably be elevated in a Screw-Lift.

For complete dimension data and description, refer to Catalog.

The Screw-Lift® Principle

The Screw-Lift is not just a Screw Conveyor turned on end; it is a combination of standard design parts integrated into one machine for a particular application. This machine operates as a compeltely closed system carrying a relatively low cross-sectional load of material. It utilizes the centrifugal force generated by the high speed of its vertical screw to actually elevate the material. It does not merely extrude the material upwards by jamming more material in behind. In fact, it is designed to insure against jamming, choking and back-pressure. This provides highly efficient operation and minimizes crushing or degradation of friable materials.

STANDARD DESIGN

Inside the expanded feeder junction, the material flow is changed from the horizontal to the vertical direction. The lower portion of the vertical Screw is a special pitch tapered double flight which starts the material moving upwards away from the feeder. These features eliminate back-pressure, choking and material degradation and are standard on all Screw-Lifts.

Also standard on all Screw-Lifts is the use of conveyor screw with precision internal collars fitted in each end. Coupling bolt holes are jig-drilled to assure positive alignment. Split Stabilizer Bearings keep the conveyor and its housing concentric at all times while offering a minimum of resistance to material flow. This provides for a smooth, quiet running unit—even when empty. The standard design of the stabilizer bearing incorporates high density polyethylene. Special bushing material such as canvas base phenolic, self-lubricating bronze with graphite inserts, graphited cast iron, nylon or standard bronze is available.

The Screw-Lift housing is made in four to six foot lengths for ease of assembly and maintenance. It is then split and flanged vertically for accessability as well as strength and rigidity. The closely held tolerance of ¼" clearance between the inside of the housing and the screw minimizes material build-up and facilitates clean-out.

Although normally made of carbon steel, Screw-Lifts that handle corrosive materials may be made of stainless steels or other highly resistant metal, or may be hot dipped galvanized. Surface-hardening (fusing an alloy to the flighting surface for protection against abrasion) is also available.

Where sanitation or change of product requires frequent cleaning, the Quick-Opening type Screw-Lift is recommended. Heavy-duty, quick-release clamps make opening the casing fast and easy while gaskets seal the unit for commercially dust-tight operation.

ESTABLISH THE REQUIRED CAPACITY

Under normal conditions, the Screw-Lift will handle the capacities shown at the given speeds.

Table No. 11

Screw-Lift Diameter, Inches	Nominal Rated Capacity Cu. Ft. Per Hour	Screw-Lift Input Speed RPM
6"	300	300
9"	1000	250
12"	2500	250
16"	6000	190

ESTABLISH THE REQUIRED HORSEPOWER

The formula listed below gives the basic horsepower (HP) required for an operating Screw-Lift. Additional power will be required for starting under load and for overcoming any power loss in the drive assembly or in erection misalignment.

$$HP = \frac{7\ QLF}{1{,}000{,}000} + C$$

Q = Pounds per hour at maximum capacity
L = Screw-Lift height in feet
F = Material H.P. factor from table, pages 12, 13 and 14
C = 1.0 for Types "E", "G" and "H"
1.3 for Types "C" and "J"

SAMPLE PROBLEM

Establish the Screw-Lift specifications for elevating 25,000 lbs. of soybean meal per hour. The required lift height is 45' and the horizontal feeder length required is 10'.

SOLUTION

Refer to the material table No. 6, pages 12 and 13. Note: Soybean Meal average weight per cu. ft. = 40 lbs.
Material class = B26 = (Fine — ⅛ inch mesh and under, Free-flowing — angle of repose 30° to 45° Non-abrasive).
HP Factor .5

Now, dividing 25,000 lbs. per hour, by 40 lbs. per cu. ft., we find the required capacity is 625 cu. ft. per hour. Referring to the Screw-Lift Capacity Chart, we find that a 9" diameter unit will handle this load. By using a horizontal feeder screw under the bottom of the mixer, we will be able to exercise control and so limit the capacity to 625 cu. ft./hr. rather than the maximum that a 9" unit can handle (1,000 cu. ft./hr.). The power requirements can now be figured:

$$HP = \frac{7.0 \times 25{,}000 \times 45 \times .5}{1{,}000{,}000} + 1.3 = 5.3$$

A 7½ HP 900 RPM motor with Vee Belt reduction to 250 RPM screw speed is suggested.

Presuming the popular Type G unit (as pictured) is being used, the feeder is driven separately. The feeder drive is calculated as a normal horizontal Screw Conveyor from the formula shown on page 9.

Dimensional Data and Descriptions

The component section which follows is designed to give you complete dimensional data as well as individual product descriptions so that you may select the exact components to fit your particular needs.

In addition, this section augments the Engineering and Layout sections of this catalog. It is recommended that the basic layout diagram and accompanying table be referred to when selecting components for complete units. See page 17.

We have all the pieces to put together an answer to your bulk material conveying problem. Screw conveyors handle almost any bulk material efficiently and they do it economically compared to other methods. Compact, they fit into tight places, with moving parts inclosed. They're easy to install and simple to maintain. You can run them horizontally, on an incline, and, with our Screw-Lift, straight up.

We will furnish screw conveyors for you, in component parts or complete systems, with features such as automatic lock nuts at conveyor screw connections, jig-drilling of component parts for easy assembly, double flange troughs, latest designs in cover clamps, bearing materials most suitable to your application and many more Screw Conveyor specialties.

We can meet your application needs in helicoid and sectional flight types with adaptations including ribbon, special pitches and tapered — in various gauges of steel, stainless steel and other alloys, including hardened flight surfaces.

Whether your need is for components or a complete system, you can rely on our years of experience as specialists in the engineering and manufacturing of screw conveyors. Consult our specialist engineers without obligation.

Safety Precautions

Since in its usual application a screw conveyor is enclosed, it is fundametally a "safe machine". However, as with any power operated equipment, certain precautions should be exercised to insure that the natural safety provisions of a conveyor assembly are utilized. A conveyor assembly and drive is for the most part custom designed to fulfill its application, therefore, the provisions to insure a safe installation will differ from transaction to transaction.

(1) A conveyor must not be put under power until the trough and cover is in place and secured and power transmission guards in place and closed.

(2) If the conveyor cover or housing is to be opened, the motor must first be locked out electrically in such a way that it can not be restarted by anyone either in the vicinity or remote from the conveyor.

(3) If, because of its application, the conveyor must have open housing, then the entire conveyor must be separated from personnel areas by a fence and warning signs posted.

(4) Open feed hoppers or spouts for shovel, front end loader or other manual or mechanical loading must incorporate a grating. If the characteristics of the material being handled is such that a grating can not be used, then the exposed portion of the conveyor must be guarded by a fence and warning signs posted.

(5) Electrical controls, machinery guards, walkways, machinery arrangement, training of personnel, etc., are all necessary considerations in the creation of a safe, practical installation and are generally not a part of our services. It is the responsibility of the Contractor, Installer, Owner, and User to supplement the materials furnished by Screw Conveyor Corporation to result in a safe conveyor installation and to comply with the Williams-Steiger Occupational Safety and Health Act, state or local laws and ordinances, and the American National Standard Institute Safety Code.

This is a full size facsimile of the adhesive sticker attached at time of shipment to all Screw Conveyor troughs.

Helicoid Conveyor Screws

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

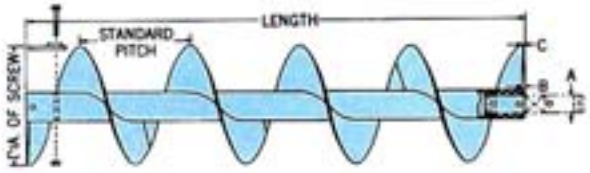
● Dia. of Screw	▲ Size Code	Length of Std. Section	Std. Length Mounted Conveyor			Std. Length Flighting Only			Thickness of Flight		Nominal Pipe I.D.	Outside Dia. of Pipe	Dia. of Coupling "A"
			Part No. Right Hand	Part No. Left Hand	Weight Per Section	Part No. Right Hand	Part No. Left Hand	Weight Per Section	Next to Pipe "B"	Outer Edge "C"			
4"	4H204	9'10½"	101-0214	111-0212	31	120-0146	125-0141	9.0	1/8	1/16	1¼	1⅝	1
4"	4H206	9'10⅜"	101-0354	111-0352	38	120-0211	125-0215	16.0	3/16	3/32	1¼	1⅝	1
6"	6H304	9'10"	101-0420	111-0428	50	120-0286	125-0281	14.0	1/8	1/16	2	2⅜	1½
6"	6H308	9'10"	101-0495	111-0493	64	120-0351	125-0356	28.0	1/4	1/8	2	2⅜	1½
6"	6H312	9'10"	101-0580	111-0568	78	120-0427	125-0422	42.0	3/8	3/16	2	2⅜	1½
9"	9H306	9'10"	101-0636	111-0634	70	120-0567	125-0497	31.0	3/16	3/32	2	2⅜	1½
9"	9H312	9'10"	101-0701	111-0709	101	120-0633	125-0562	62.0	3/8	3/16	2	2⅜	1½
9"	9H406	9'10"	101-0776	111-0774	91	120-0708	125-0638	30.0	3/16	3/32	2½	2⅞	2
9"	9H412	9'10"	101-0842	111-0840	121	120-0773	125-0703	60.0	3/8	3/16	2½	2⅞	2
9"	9H414	9'10"	101-0917	111-0915	131	120-0849	125-0778	70.0	7/16	7/32	2½	2⅞	2
10"	10H306	9'10"	101-0982	111-0980	81	120-0914	125-0844	42.0	3/16	3/32	2	2⅜	1½
10"	10H412	9'10"	101-1055	111-1053	130	120-0989	125-0919	69.0	3/8	3/16	2½	2⅞	2
12"	12H408	11'10"	101-1121	111-1129	140	120-1052	125-0984	67.0	1/4	1/8	2½	2⅞	2
12"	12H412	11'10"	101-1196	111-1194	175	120-1128	125-1057	102.0	3/8	3/16	2½	2⅞	2
12"	12H508	11'9"	101-1261	111-1269	168	120-1193	125-1123	64.0	1/4	1/8	3	3½	2½
12"	12H512	11'9"	101-1337	111-1335	200	120-1268	125-1198	96.0	3/8	3/16	3	3½	2½
12"	12H614	11'9"	101-1402	111-1400	215	120-1334	125-1263	112.0	7/16	7/32	3½	4	3
14"	14H508	11'9"	101-1477	111-1475	170	120-1409	125-1339	84.0	1/4	1/8	3	3½	2½
14"	14H614	11'9"	101-1543	111-1541	236	120-1474	125-1404	132.0	7/16	7/32	3½	4	3
16"	16H610	11'9"	101-1618	111-1616	228	120-1540	125-1479	120.0	5/16	5/32	3½	4	3
16"	16H614	11'9"	101-1758	111-1756	267	120-1680	125-1610	163.0	7/16	7/32	4	4½	3
18"	18H610	11'9"	101-1899	111-1897	292	120-1755	125-1685	144.0	5/16	5/32	4	4½	3
20"	20H610	11'9"	101-1949	111-1947	298	120-1854	125-1701	150.0	5/16	5/32	4	4½	3

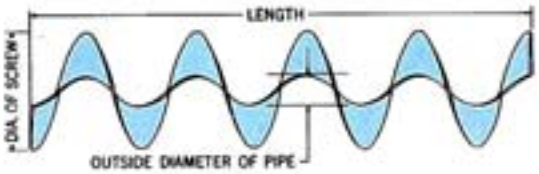
● The pitch of flighting approximately equals conveyor diameter.

▲ For convenience in specifying listed Helicoid Conveyor Screw, Size Codes have been established to designate the type of Conveyor Screw and flighting, pipe and coupling shaft specifications. The figure at the left of the letter indicates the diameter of the Conveyor Screw; the letter H (for Helicoid) designates the type; the first figure following the letter is twice the coupling diameter and the last two figures the nominal thickness of the flighting at the outer edge in 1/64".

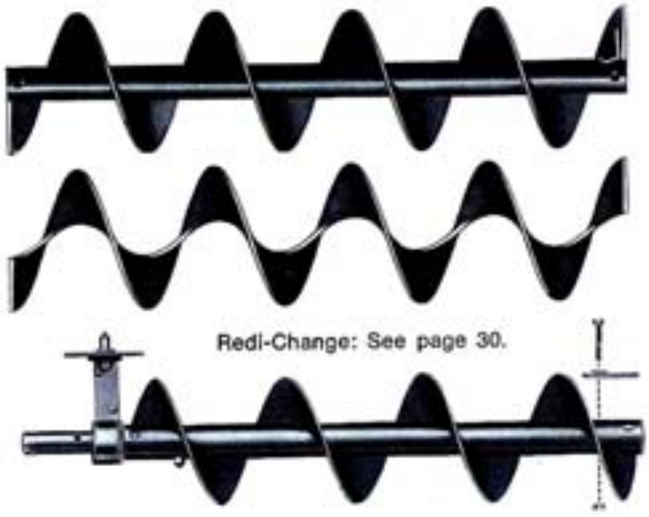
▌ When ordering, specify whether right or left hand, also length desired. Example: 9H306 RH – 9'10" or 9H306 RH – 9'6".

Consult us for Helicoid Conveyor Screws with heavy pipe or special coupling diameters.





Cold rolling of special analysis strip steel into a continuous helix produces a work-hardened, smoothly finished flighting surface. Helicoid flighting is of superior strength with its diameter, pitch and thickness closely controlled. The flighting is then normally fastened to the pipe by intermittent welds and welded steel end lugs. They may be continuously welded on either one or both sides. The pipe has seamless internal collars inserted in both ends of the pipe to accommodate the shafts. Helicoid and Sectional flighting of the same diameter and shaft size are interchangeable. Refer to pages 30 through 33 for special features available on helicoid conveyor screws.



Redi-Change: See page 30.

Sectional Flight Conveyor Screws

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Diameter of Conveyor	Size Code	Length of Standard Section	Part No. Right Hand	Part No. Left Hand	Diameter of Coupling "A"	Gauge or Thickness of Flights "B"	Pipe Size Standard Weight	Weight Per Section	Length of Hanger Bearings
• 6	6S307	9'10"	104-0146	114-0144	1½	12	2	61	2
• 6	6S309	9'10"	104-0211	114-0219	1½	10	2	64	2
• 6	6S312	9'10"	104-0286	114-0284	1½	3/16	2	73	2
6	6S316	9'10"	104-0351	114-0359	1½	¼	2	84	2
• 9	9S307	9'10"	104-0427	114-0425	1½	12	2	69	2
• 9	9S309	9'10"	104-0492	114-0490	1½	10	2	77	2
• 9	9S312	9'10"	104-0567	114-0565	1½	3/16	2	89	2
9	9S316	9'10"	104-0633	114-0631	1½	¼	2	107	2
• 9	9S407	9'10"	104-0708	114-0706	2	12	2½	89	2
• 9	9S409	9'10"	104-0773	114-0771	2	10	2½	98	2
• 9	9S412	9'10"	104-0849	114-0847	2	3/16	2½	109	2
• 9	9S416	9'10"	104-0914	114-0912	2	⅛	2½	123	2
9	9S424	9'10"	104-0955	114-0953	2	⅜	2½	151	2
• 10	10S309	9'10"	104-0989	114-0987	1½	10	2	84	2
10	10S312	9'10"	104-1052	114-1050	1½	3/16	2	100	2
• 10	10S412	9'10"	104-1128	114-1126	2	3/16	2½	118	2
• 12	12S409	11'10"	104-1193	114-1191	2	10	2½	135	2
• 12	12S412	11'10"	104-1268	114-1266	2	3/16	2½	158	2
12	12S416	11'10"	104-1334	114-1332	2	¼	2½	185	2
• 12	12S509	11'9"	104-1409	114-1407	2 7/16	10	3	160	3
• 12	12S512	11'9"	104-1474	114-1472	2 7/16	3/16	3	180	3
12	12S516	11'9"	104-1540	114-1548	2 7/16	⅛	3	205	3
12	12S524	11'9"	104-1615	114-1613	2 7/16	⅜	3	260	3
• 12	12S612	11'9"	104-1680	114-1688	3	3/16	3½	195	3
• 12	12S616	11'9"	104-1755	114-1753	3	¼	3½	218	3
12	12S624	11'9"	104-1821	114-1829	3	⅜	3½	269	3
• 14	14S509	11'9"	104-1896	114-1894	2 7/16	10	3	173	3
14	14S512	11'9"	104-1961	114-1969	2 7/16	3/16	3	200	3
• 14	14S612	11'9"	104-2035	114-2033	3	3/16	3½	213	3
• 14	14S616	11'9"	104-2100	114-2108	3	¼	3½	245	3
14	14S624	11'9"	104-2175	114-2173	3	⅜	3½	308	3
• 16	16S609	11'9"	104-2241	114-2249	3	10	3½	195	3
• 16	16S612	11'9"	104-2316	114-2314	3	3/16	3½	222	3
• 16	16S616	11'9"	104-2381	114-2389	3	¼	3½	258	3
16	16S624	11'9"	104-2456	114-2454	3	⅜	3½	326	3
16	16S632	11'9"	104-2522	114-2520	3	½	3½	398	3
18	18S612	11'9"	104-2597	114-2595	3	3/16	3½	244	3
18	18S616	11'9"	104-2662	114-2660	3	¼	3½	286	3
18	18S624	11'9"	104-2738	114-2736	3	⅜	3½	370	3
18	18S632	11'9"	104-2803	114-2801	3	½	3½	454	3
18	18S712	11'8"	104-2878	114-2876	3 7/16	3/16	4	264	4
18	18S716	11'8"	104-2944	114-2942	3 7/16	¼	4	303	4
18	18S724	11'8"	104-3017	114-3015	3 7/16	⅜	4	380	4
18	18S732	11'8"	104-3082	114-3080	3 7/16	½	4	460	4

Sectional Flight Conveyor Screws

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS (Continued)

▮ Diameter of Conveyor	*† Size Code	Length of Standard Section	Part Number Right Hand	Part Number Left Hand	Diameter of Coupling "A"	Gauge or Thickness of Flights "B"	Pipe Size Standard Weight	Weight Per Section	Length of Hanger Bearings
20	20S612	11'9"	104-3157	114-3155	3	3/16	3½	258	3
20	20S616	11'9"	104-3223	114-3221	3	¼	3½	314	3
20	20S624	11'9"	104-3298	114-3296	3	⅜	3½	398	3
20	20S632	11'9"	104-3363	114-3361	3	½	3½	489	3
20	20S712	11'8"	104-3439	114-3437	3 7/16	3/16	4	277	4
20	20S716	11'8"	104-3504	114-3502	3 7/16	¼	4	323	4
20	20S724	11'8"	104-3579	114-3577	3 7/16	⅜	4	410	4
20	20S732	11'8"	104-3645	114-3643	3 7/16	½	4	500	4
24	24S712	11'8"	104-3710	114-3718	3 7/16	3/16	4	325	4
24	24S716	11'8"	104-3785	114-3783	3 7/16	¼	4	385	4
24	24S724	11'8"	104-3850	114-3858	3 7/16	⅜	4	505	4
24	24S732	11'8"	104-3926	114-3924	3 7/16	½	4	625	4

▮ The pitch of flights is approximately equal to the conveyor diameter on all listed specifications see page 32 for special pitch suggestions.

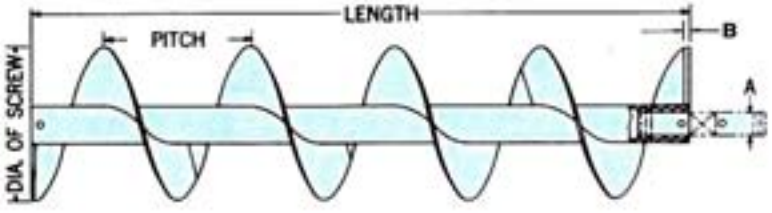
* For convenience in specifying listed Sectional Flight conveyor screw, Size Codes have been established to designate the type of conveyor screw, flights, pipe and coupling shaft specifications. The figure to the left of the letter indicates the diameter of the conveyor screw, the letter "S" (for Sectional Flight) designates the type; the first figure following the letter is twice the coupling diameter and the last two figures the thickness of the flights.

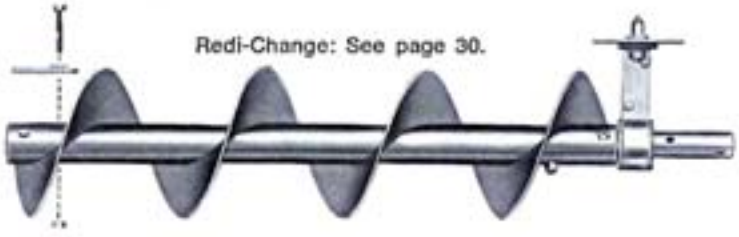
† When ordering, specify whether right or left hand, also length desired. Example: 12S624 RH – 11'9" or 12S624 RH – 13'3½".

● We suggest use of corresponding specifications in Helicoid Conveyor, which can be supplied from stock. We can manufacture Sectional Flight conveyor screws with any special feature desired, such as special diameter, pitch, thickness of flight, pipe size, tubing, solid shaft, etc. Consult us.

Each flight is blanked from a steel plate, formed into a helix and then butt welded together. Sectional flights are formed with a lead longer than their pitch to assure a tight gripping action along the pipe. The flights are then normally fastened to the pipe by intermittent welds and welded steel end lugs. They may be continuously welded on either one or both sides. The pipe has seamless internal collars in each end to accommodate the shafts. Sectional Flight conveyor screws are available in special diameters, thicknesses, pitches and pipe sizes. They also can be obtained in stainless steel, Monel, brass, copper and other metals.

See pages 30 through 33 for special features available on all conveyor screws.





Flights for Sectional Conveyor Screws

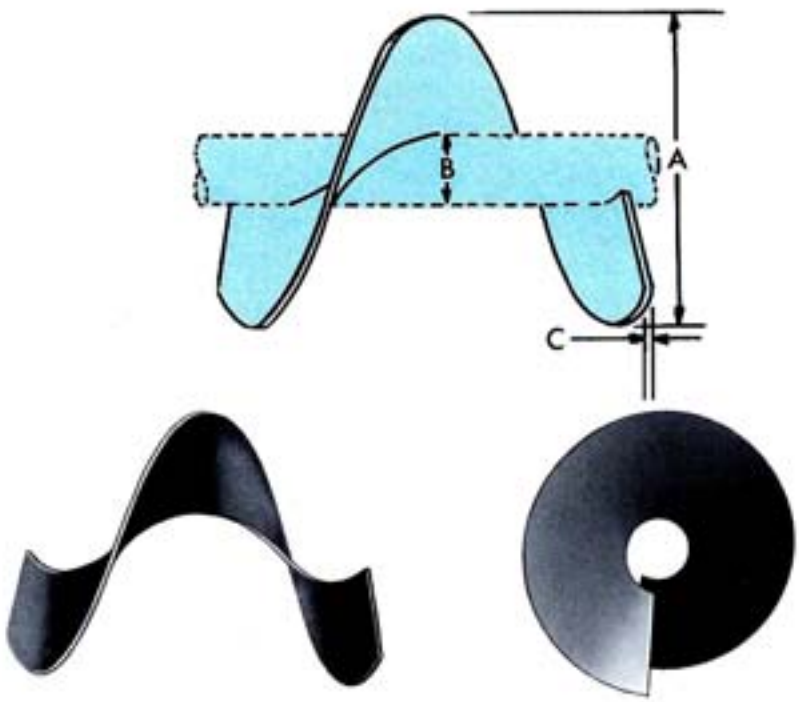
DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Dia. "A"	Pipe Size	Pipe O.D. "B"	Gauge "C"	STANDARD PITCH					HALF PITCH				
				Size* Code	Part No. Right Hand	Part No. Left Hand	Pitch	Wgt.	Size* Code	Part No. Right Hand	Part No. Left Hand	Pitch	Wgt.
6	2	2⅜	12	6F307	130-0284	135-0280	6	1.2	6F307H	131-0218	136-0213	3	.6
6	2	2⅜	10	6F308	130-0350	135-0354	6	1.3	6F308H	131-0283	136-0288	3	1.1
6	2	2⅜	Var.	6F312	130-0422	135-0420	6	1.9	6F312H	131-0358	136-0353	3	1.5
6	2	2⅜	¼	6F316	130-0496	135-0495	6	2.4	6F316H	131-0434	136-0429	3	2.1
8	2	2⅜	12	8F307	130-0531	135-0535	8	2.5	8F307H	131-0654	136-0484	4½	2.0
8	2	2⅜	10	8F308	130-0700	135-0701	8	3.3	8F308H	131-0830	136-0565	4½	2.7
8	2	2⅜	Var.	8F312	130-0771	135-0778	8	4.4	8F312H	131-0705	136-0635	4½	3.6
8	2	2⅜	¼	8F316	130-0847	135-0842	8	6.0	8F316H	131-0775	136-0709	4½	5.0
9	2½	2⅞	12	9F407	130-1056	135-1055	9	2.4	9F407H	131-0981	136-0841	4½	1.9
9	2½	2⅞	10	9F409	130-1126	135-1121	9	3.2	9F409H	131-1056	136-0915	4½	2.6
9	2½	2⅞	Var.	9F412	130-1191	135-1188	9	4.2	9F412H	131-1125	136-0981	4½	3.4
9	2½	2⅞	¼	9F415	130-1263	135-1261	9	5.5	9F415H	131-1196	136-1054	4½	4.5
9	2½	2⅞	⅜	9F424	130-1332	135-1265	9	8.4	9F424H	131-1232	136-1088	4½	6.8
10	2	2⅝	10	10F309	130-1472	135-1462	10	3.6	10F309H	131-1205	136-1120	5	2.3
10	2	2⅝	Var.	10F312	130-1548	135-1477	10	5.3	10F312H	131-1331	136-1196	5	4.5
10	2½	2⅞	Var.	10F412	130-1613	135-1543	10	5.5	10F412H	131-1406	136-1260	5	4.2
12	2½	2⅞	10	12F409	130-1753	135-1818	12	5.5	12F409H	131-1547	136-1336	6	4.7
12	2½	2⅞	Var.	12F412	130-1829	135-1883	12	7.5	12F412H	131-1612	136-1401	6	6.4
12	2½	2⅞	¼	12F416	130-1904	135-1758	12	10.2	12F416H	131-1687	136-1476	6	8.7
12	3	3½	10	12F509	130-2033	135-1898	12	8.4	12F509H	131-1839	136-1542	6	6.6
12	3	3½	Var.	12F512	130-2108	135-1964	12	7.2	12F512H	131-1893	136-1617	6	6.2
12	3	3½	¼	12F516	130-2173	135-2038	12	9.8	12F516H	131-1968	136-1682	6	8.5
12	3	3½	⅜	12F524	130-2240	135-2100	12	14.4	12F524H	131-2032	136-1757	6	12.8
12	3½	4	Var.	12F612	130-2314	135-2244	12	7.0	12F612H	131-2172	136-1823	6	6.0
12	3½	4	¼	12F616	130-2380	135-2319	12	9.1	12F616H	131-2248	136-1898	6	8.0
12	3½	4	⅜	12F624	130-2454	135-2384	12	13.7	12F624H	131-2313	136-1982	6	12.1
14	3	3½	10	14F509	130-2505	135-2525	14	7.8	14F509H	131-2453	136-2102	7	6.5
14	3	3½	Var.	14F512	130-2580	135-2590	14	9.9	14F512H	131-2529	136-2177	7	8.5

Dia. "A"	Pipe Size	Pipe O.D. "B"	Gauge "C"	STANDARD PITCH					HALF PITCH				
				Size* Code	Part No. Right Hand	Part No. Left Hand	Pitch	Wgt.	Size* Code	Part No. Right Hand	Part No. Left Hand	Pitch	Wgt.
14	3½	4	Var.	14F612	130-2678	135-2606	14	9.5	14F612H	131-2594	136-2243	7	7.8
14	3½	4	¼	14F616	130-2742	135-2673	14	12.7	14F616H	131-2663	136-2318	7	10.5
14	3½	4	⅜	14F624	130-3015	135-2947	14	19.0	14F624H	131-2735	136-2383	7	15.7
15	3½	4	10	15F509	130-3296	135-3125	15	9.7	15F509H	131-2806	136-2458	8	8.3
15	3½	4	Var.	15F512	130-3361	135-3291	15	13.0	15F512H	131-2875	136-2534	8	11.0
15	3½	4	¼	15F516	130-3437	135-3358	15	17.5	15F516H	131-2941	136-2599	8	15.0
15	3½	4	⅜	15F524	130-3502	135-3432	15	26.0	15F524H	131-3014	136-2664	8	22.5
15	3½	4	½	15F532	130-3577	135-3507	15	35.5	15F532H	131-3088	136-2739	8	30.0
16	3½	4	Var.	16F612	130-3643	135-3572	16	16.5	16F612H	131-3220	136-2879	9	14.1
16	3½	4	¼	16F616	130-3718	135-3646	16	24.0	16F616H	131-3295	136-2948	9	18.8
16	3½	4	⅜	16F624	130-3783	135-3713	16	36.0	16F624H	131-3360	136-3019	9	28.2
16	3½	4	½	16F632	130-3858	135-3788	16	48.0	16F632H	131-3436	136-3084	9	37.5
18	4	4½	Var.	18F712	130-3924	135-3853	18	17.0	18F712H	131-3501	136-3158	9	13.0
18	4	4½	¼	18F716	130-3996	135-3928	18	22.5	18F716H	131-3576	136-3228	9	17.5
18	4	4½	⅜	18F724	130-4062	135-3994	18	33.5	18F724H	131-3642	136-3293	9	27.0
18	4	4½	½	18F732	130-4138	135-4067	18	45.0	18F732H	131-3717	136-3365	9	36.0
20	3½	4	Var.	20F612	130-4202	135-4133	20	20.0	20F612H	131-3782	136-3431	10	17.5
20	3½	4	¼	20F616	130-4278	135-4208	20	29.0	20F616H	131-3857	136-3506	10	23.0
20	3½	4	⅜	20F624	130-4344	135-4273	20	40.0	20F624H	131-3923	136-3571	10	34.5
20	3½	4	½	20F632	130-4419	135-4349	20	53.0	20F632H	131-3998	136-3647	10	46.0
20	4	4½	Var.	20F712	130-4556	135-4486	20	19.0	20F712H	131-4063	136-3712	10	17.0
20	4	4½	¼	20F716	130-4625	135-4554	20	28.5	20F716H	131-4137	136-3787	10	25.5
20	4	4½	⅜	20F724	130-4690	135-4629	20	38.0	20F724H	131-4202	136-3852	10	32.5
20	4	4½	½	20F732	130-4765	135-4695	20	51.0	20F732H	131-4277	136-3928	10	44.0
24	4	4½	Var.	24F712	130-4831	135-4760	24	30.0	24F712H	131-4343	136-3993	12	28.0
24	4	4½	¼	24F716	130-4905	135-4836	24	40.0	24F716H	131-4418	136-4056	12	34.0
24	4	4½	⅜	24F724	130-4971	135-4901	24	60.0	24F724H	131-4483	136-4133	12	51.0
24	4	4½	½	24F732	130-5044	135-4978	24	80.0	24F732H	131-4558	136-4207	12	68.0

*Size Code follow those indicated for Sectional Flight Screw Conveyor on pages 27 and 28, except the first letter "F" indicates "Flight" and the suffix letter "H" indicates "Half-Pitch."
Example: 12F62 RH or 12F624H RH. The "RH" indicates Right Hand Flights.

Sectional flights are formed from steel plate with a lead slightly longer than their pitch. This assures a tight gripping action when mounted on your pipe. When ordering flights from the table above please specify part number and hand of screw. See page 16. When ordering special flights, please specify pipe or shaft size, pitch, diameter, hand and thickness.



Ribbon Conveyor Screws

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

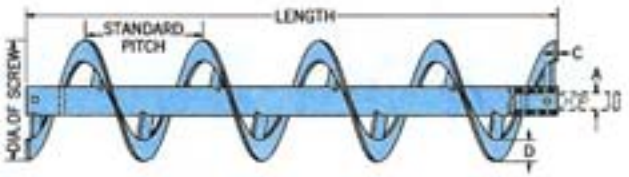
Dia. of Screw	Size† Code	Length of Standard Section	STANDARD MOUNTED CONVEYOR			STANDARD FLIGHTING ONLY			Thickness of Flight "C"	Width of Flight "D"	Pipe Size Nominal Pipe I.D.	Outside Diameter of Pipe	Diameter of Coupling "A"
			Part No. Right Hand	Part No. Left Hand	Weight Per Section	Part No. Right Hand	Part No. Left Hand	Weight Per Flight					
6	6R312	9'10"	106-0144	116-0142	60	132-0142	137-0147	2.0	3/16	1	2	2 3/8	1 1/2
9	9R316	9'10"	106-0219	116-0217	100	132-0217	137-0212	5.0	1/4	1 1/2	2	2 3/8	1 1/2
10	10R316	9'10"	106-0284	116-0282	110	132-0282	137-0287	6.0	1/4	1 1/2	2	2 3/8	1 1/2
12	12R416	11'10"	106-0359	116-0357	180	132-0357	137-0352	9.6	1/4	2	2 1/2	2 7/8	2
12	12R424	11'10"	106-0425	116-0423	204	132-0423	137-0428	12.0	3/8	2 1/2	2 1/2	2 7/8	2
12	12R524	11'9"	106-0490	116-0498	240	132-0498	137-0493	12.0	3/8	2 1/2	3	3 1/2	2 7/16
14	14R524	11'9"	106-0565	116-0563	264	132-0563	137-0568	14.4	3/8	2 1/2	3	3 1/2	2 7/16
14	14R624	11'9"	106-0631	116-0639	288	132-0597	137-0592	14.4	3/8	2 1/2	3 1/2	4	3
16	16R616	11'9"	106-0706	116-0704	264	132-0639	137-0634	12.0	1/4	2 1/2	3 1/2	4	3
16	16R624	11'9"	106-0771	116-0779	324	132-0704	137-0709	18.0	3/8	2 1/2	3 1/2	4	3
18	18R624	11'9"	106-0847	116-0845	360	132-0779	137-0774	24.6	3/8	3	3 1/2	4	3
20	20R724	11'8"	106-0912	116-0910	408	132-0845	137-0840	28.2	3/8	3	4	4 1/2	3 7/16
24	24R724	11'8"	106-0987	116-0985	468	132-0910	137-0915	37.2	3/8	3	4	4 1/2	3 7/16

For convenience in specifying listed Ribbon Flight Conveyor Screw Part Numbers have been established to designate the type of Conveyor Screw flights, pipe and gudgeon specifications.

When ordering Ribbon Flight Conveyor Screw specify Part Number, whether right or left hand and length desired. Example: 16R616 RH-11'9" or 16R616 RH-3'4".

When ordering Ribbon Conveyor Screw Flighting specify as above except add "Flighting Only."

*Horsepower is directly proportional to speed predicated on specified coupling and bolts.



Ribbon conveyor screws are often used in mixing applications, however, their prime application is handling sticky or gummy materials which normally collect where the flights join the pipe. The open design of a ribbon conveyor screw minimizes this problem. When handling dry materials, mixing action results if the cross-sectional load is larger than the face of the flight (dimension D). The ribbon flights are fastened to the pipe by "Nu-Weld" lugs which eliminate the necessity of drilling fastening holes in the mounting pipe and, therefore, assure you of a stronger unit. The pipe has seamless internal collars in each end. Ribbon flight conveyor screws are available in many sizes and specifications other than listed in the table and are available in various materials, stainless steel, Monel, etc. See pages 30 through 33 for special features available on all conveyor screws.

Used to handle sticky materials, the double flight ribbon conveyor screw also provides a more even discharge.

Double flight ribbon mixing conveyor screws consist of an outer ribbon conveyor screw with a smaller diameter inner ribbon of the opposite hand. The pitch of the inner and outer screws is the same. This design moves the material back and forth imparting a thorough mixing action while conveying.

Special Designs Available on All Conveyor Screws

Simply disconnect the REDI-CHANGE section — clamping keys and hanger.

Lift the conveyor section out and perform necessary replacement or repairs.

Replace the conveyor section, bolt the REDI-CHANGE clamping key in place and you are back in production with minimum downtime and expense!

Redi-Change Quick Disconnect Conveyor Screws

The Redi-Change feature allows you to perform conveyor screw changes and repairs without dismantling the entire conveyor. The Redi-Change clamping key is bolted to one end of the conveyor pipe. By disconnecting the Redi-Change section — unbolting the clamping keys and hanger — a complete conveyor section can be lifted out without disturbing any preceding sections. To replace the section, bolt the Redi-Change clamping keys and the hanger in place and you are back in production.

The Redi-Change feature is available on all types of conveyor screws. Although normally supplied with the Redi-Change clamping key in only one end, conveyor sections with a clamping key in both ends are available on request. When assembling the conveyor, place the end with the Redi-Change clamping key nearest the drive end. This will eliminate any need to remove the drive unit for conveyor repairs. When ordering a screw conveyor with the Redi-Change quick disconnect coupling, specify Redi-Change part numbers. Part numbers are for standard length conveyor screw with clamping key on one end.

REDI-CHANGE CONVEYOR SCREW PART NUMBERS

HELICOID CONVEYOR SCREW		
Size Code	Part Number Right Hand	Part Number Left Hand
6CH304	103-0147	113-0145
6CH308	103-0212	113-0210
6CH312	103-0287	113-0285
9CH306	103-0352	113-0350
9CH312	103-0428	113-0426
9CH408	103-0493	113-0491
9CH412	103-0566	113-0566
9CH414	103-0634	113-0632
10CH306	103-0709	113-0707
10CH412	103-0774	113-0772
12CH408	103-0843	113-0848
12CH412	103-0915	113-0913
12CH508	103-0989	113-0985
12CH512	103-1053	113-1051
12CH614	103-1129	113-1127
14CH508	103-1194	113-1192
14CH614	103-1269	113-1267
16CH610	103-1335	113-1333
16CH614	103-1400	113-1408
18CH610	103-1475	113-1473
20CH610	103-1533	113-1531

RIBBON CONVEYOR SCREW		
Size Code	Part Number Right Hand	Part Number Left Hand
6CR312	109-4275	111-8215
9CR316	109-4283	111-8223
10CR316	109-4291	111-8231
12CR416	109-4300	111-8249
12CR424	109-4317	111-8256
12CR524	109-4325	111-8264
14CR524	109-4333	111-8272
14CR624	109-4341	111-8280
16CR616	109-4358	111-8298
16CR624	109-4366	111-8306
18CR624	109-4374	111-8314
20CR724	109-4382	111-8322
24CR724	109-4390	111-8330

SECTIONAL CONVEYOR SCREW		
Size Code	Part Number Right Hand	Part Number Left Hand
6CS307	105-0145	115-0143
6CS309	105-0210	115-0218
6CS312	105-0285	115-0283
6CS316	105-0350	115-0358
9CS307	105-0426	115-0424
9CS309	105-0491	115-0489
9CS312	105-0566	115-0564
9CS316	105-0632	115-0630
9CS407	105-0707	115-0705
9CS409	105-0772	115-0770
9CS412	105-0848	115-0846
9CS416	105-0913	115-0911
9CS424	105-0954	115-0952
10CS309	105-0988	115-0986
10CS312	105-1051	115-1059
10CS412	105-1127	115-1125
12CS408	105-1192	115-1190
12CS412	105-1267	115-1265
12CS416	105-1333	115-1331
12CS509	105-1405	115-1408
12CS512	105-1473	115-1471
12CS516	105-1549	115-1547
12CS524	105-1614	115-1612
12CS612	105-1689	115-1687
12CS616	105-1754	115-1752
12CS624	105-1826	115-1838
14CS580	105-1880	115-1883
14CS612	105-1960	115-1968
14CS812	105-2034	115-2032
14CS816	105-2109	115-2107
14CS824	105-2174	115-2172
16CS580	105-2240	115-2248
16CS612	105-2315	115-2313
16CS616	105-2386	115-2388
16CS624	105-2456	115-2453
16CS632	105-2521	115-2529
18CS612	105-2596	115-2594
18CS616	105-2661	115-2660
18CS624	105-2737	115-2735
18CS632	105-2802	115-2800
18CS712	105-2877	115-2875
18CS716	105-2943	115-2941
18CS724	105-3016	115-3014
18CS732	105-3081	115-3089
20CS612	105-3156	115-3154
20CS616	105-3222	115-3220
20CS624	105-3297	115-3295
20CS632	105-3362	115-3360
20CS712	105-3436	115-3436
20CS716	105-3503	115-3501
20CS724	105-3578	115-3576
20CS732	105-3644	115-3642
24CS712	105-3719	115-3717
24CS716	105-3784	115-3782
24CS724	105-3858	115-3857
24CS732	105-3925	115-3923

Special Designs Available on All Conveyor Screws

Additional Types of Abrasion Resistant Conveyor Screws and Accessories

If desired, conveyor screws may be furnished in abrasion resistant metals, such as 40/50 carbon, T-1, nickel steel or may be coated with Stellite, Postalloy, Airco, etc.

When handling abrasive materials, consideration should be given to protecting conveyor accessories. Hardened couplings, outboard bearings, trough ends and hangers with white iron or hardened surface bearings can be furnished. Troughs of heavy abrasion resistant metals are also available.

Hammond Hard-Surfaced Conveyor Screws

Hammond Hard-Surfaced conveyor screws are designed to prolong the life of flights while handling abrasive materials. An alloy is permanently fused to the carrying side (of a width in relation to the cross-sectional load, see chart) of the flighting face. As shown in the photo, the alloy is also applied along the ends of the flighting up to the pipe to reduce wear at the hanger joints where some material build-up generally occurs.

Conveyor Diameter	Width of Hard Surface	Applicable Conveyor Screw ▲
6	1 "	6H304, 6H308, 6H312 6S307, 6S309, 6S312
9	1½"	9H306, 9H312, 9H406, 9H412 9S307, 9S309, 9S312, 9S407, 9S409, 9S412
10	1½"	10H306, 10H412 10S309, 10S312, 10S412
12	2 "	12H408, 12H412, 12H508, 12H512 12S409, 12S412, 12S509, 12S512, 12S612
14	2 "	14H508 14S509, 14S512, 14S612
16	2½"	16H610 16S609, 16S612
18	2½"	18S612, 18S712
20	3 "	20S612, 20S712
24	3 "	24S712

▲ For Heavier Flight Thickness We Recommend An Overlay Process Such As Stellite, Postalloy or Airco.

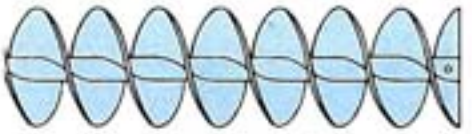
Corrosion Resistant Conveyor Screws

Conveyor screws which must handle corrosive materials may be made of special resistant metals such as stainless steel, Monel, Inconel, Cor-Ten, etc. In addition, they may be hot dip galvanized for protection against mild corrosion.

Stainless Steel Conveyor Screws

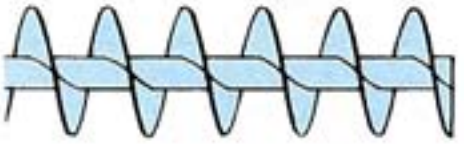
Stainless steel screw conveyors are ideal for use in the food, drug, chemical and virtually all other industries where either sanitation, corrosion or extreme temperatures are a problem. Stainless steel conveyor screws and parts are manufactured to the same specifications as are standard mild steel. The flights can be welded continuously to one or both sides of the pipe and the weld may then be ground to your specifications. Any analysis of stainless steel may be used in the construction of your screw conveyor. Stainless accessories such as hangers, troughs, etc., are also available.

Special Conveyor Screw Designs



Double Flight

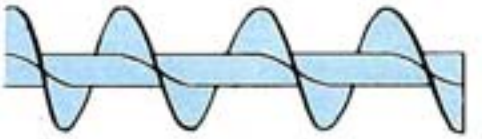
A double flight conveyor screw incorporates two rows of flighting of the same hand wrapped around the conveyor pipe. It creates a more even discharge from the conveyor minimizing surges which is desirable when feeding into a scale hopper. Usually the double flight is required for only the last two or three pitches prior to a discharge to accomplish its purpose.



Short Pitch

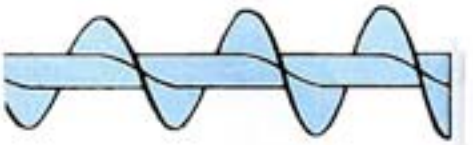
Short pitch, usually half pitch, but may be any pitch under standard full pitch, is often used for the full length of inclined conveyors to maintain efficient conveying action.

In horizontal conveyors as half pitch it is fitted under choke feed hoppers to create a lowering of cross section load beyond the feed area permitting the use of intermediate hanger bearings and extended conveyor lengths. A half pitch conveyor will have half the capacity of a full pitch conveyor under the same cross section load and speed.



Variable Pitch

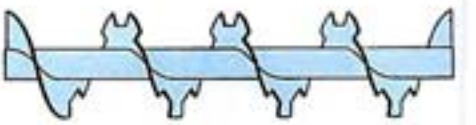
Variable pitch conveyor screws are used as feeder screws under a long storage hopper. They permit a draw off of material for the length of the opening. Otherwise material will flow from the extreme feed end of the opening only and if the hopper is never completely emptied material can stagnate.



Tapered Diameter

Tapered diameter conveyor screws also create a draw off of material for the length of the opening. This construction is often used in conjunction with half pitch to create greater flexibility in conveyor design. When using tapered diameter the trough should also be tapered to minimize the bed of material in the trough at the feed end.

Conveyor assemblies incorporating the modifications above are pictured on page 18 and 19.

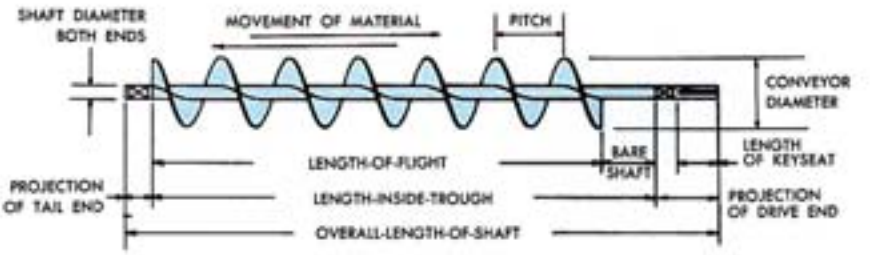


Cut Flights

By cutting deep notches in the flight a very efficient mixing action of dry materials is created particularly at high speeds. The material is chopped and agitated as it is conveyed. This construction is also useful when conveying materials which tend to ball or lump.

Solid Shaft Conveyor Screw

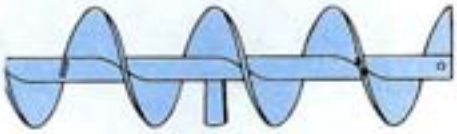
Solid shaft is generally used only on short conveyors operating under extreme loads requiring extra torque capacity. The diagram shows the data required for ordering.



Pipe Bushings and Lugs

Cut and Folded

This construction creates an even greater agitation than cut flights alone. It is also useful in cooling or drying light materials in conjunction with dome type covers.



Mixing Paddles

Any standard conveyor screw of either cut flight or cut and folded flight can be fitted with paddles for additional mixing action and to further retard the flow of material.

These paddles are usually welded in place at the hand opposite to the hand of the screw flighting. They can also be adjustable in hand and pitch.

Paddle Conveyor

For the greatest stirring action when conveying efficiency is not important, the flighting can be eliminated entirely resulting in a paddle conveyor as pictured.

The possible variations in conveyor screw, using the constructions described on the opposite page and above are almost limitless. If in question, consult our engineering department for specific recommendations.

PIPE BUSHINGS

Standard Pipe Size	Shaft Diameter	Part Number	Weight Per 100
1¼	1	141-0224	70
2	1½	141-0331	220
2½	2	141-0448	240
3	2⅞	141-0554	410
3½	3	141-0661	430
4	3	141-0778	630
4	3⅞	141-0885	730

Internal collars are normally used in all types of conveyor screws to create a close fit to the end or coupling shafts. When purchased separately, they are not drilled for the coupling bolts since they and the pipe ends are drilled after assembly.

END LUGS

Size of Conveyor	Nominal Pipe Size	Feed End		Discharge End		Weight Per 100
		Right Hand Part Number	Left Hand Part Number	Right Hand Part Number	Left Hand Part Number	
6"	2	145-0220	145-1434	145-0881	145-2093	6
9"	2-2½	145-0337	145-1541	145-0998	145-2200	16
10"	2-2½	145-0337	145-1541	145-0998	145-2200	16
12"	2½	145-0444	145-1657	145-1103	145-2317	35
12"	3	145-0444	145-1657	145-1103	145-2317	35
12"	3½	145-0444	145-1657	145-1103	145-2317	35
14"	3	145-0550	145-1764	145-1210	145-2424	53
14"	3½	145-0550	145-1764	145-1210	145-2424	53
16"	3½	145-0550	145-1764	145-1210	145-2424	53
18"	3½-4	145-0667	145-1871	145-0667	145-1871	150
20"	3½-4	145-0667	145-1871	145-0667	145-1871	150
24"	4	145-0667	145-1871	145-0667	145-1871	150

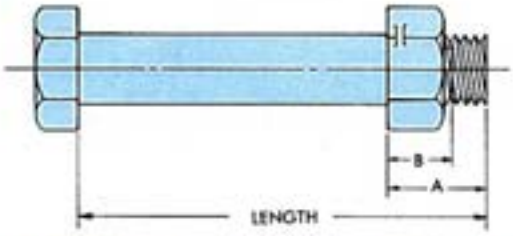
End lugs are made of heavy gauge steel and are designed to provide the greatest amount of support to the conveyor flighting with the least obstruction to the flow of material. When ordering, specify whether lugs are required for the Feed or the Discharge End and whether they are for a Right or Left Hand conveyor.

Formed Steel Lug for Feed End

Formed Steel Lug for Discharge End

Bolts and Coupling Shafts

Tem-U-Lac Coupling Bolts

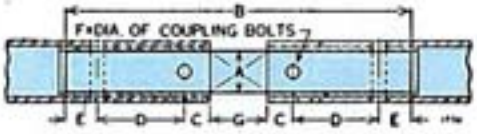


The Tem-U-Lac is a special bolt and nut forged of high analysis steel to give the required toughness for the severe service encountered. It has a hex head and the thread is cut to the proper length so that it does not project into and cut or wear the pipe walls. The self-locking hexagon nut features a stainless steel pin which follows the bolt thread while the nut is being tightened down. This prevents the nut from vibrating or working loose, causing damage and downtime, yet it loosens easily when pressure is applied by an ordinary wrench.

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

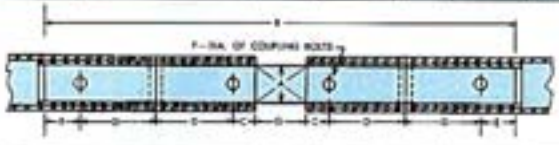
Shaft Diameter	Pipe Size	Bolt Size	Part Number	Weight Per 100	Dimensions A	Dimensions B
1"	1¼	⅜ x 2½	155-6067	10	½	⅜
1½"	2	½ x 3	155-6091	25	¾	½
2"	2½	⅝ x 3⅝	155-6125	45	⅞	⅝
2 7/16"	3	⅝ x 4⅝	155-6158	52	1	⅝
3"	3½	¾ x 5	155-6182	86	1⅛	¾
3"	4	¾ x 5½	155-6257	88	1⅛	¾
3 15/16"	4	⅞ x 5½	155-6299	92	1⅛	⅞

Screw Conveyor Couplings



Made from selected cold rolled steel shafting, coupling shafts are jig-drilled to assure a match with the jig-drilled conveyor pipe. When handling non-abrasive materials, standard cold rolled steel couplings are recommended. Hardened steel couplings are recommended when handling abrasives and are case-hardened with a tough ductile core.

Shaft Size A	PART NUMBER		B	C	D	E	F	G	Wgt.
	Cold Rolled Steel Couplings	Hardened Steel Couplings							
1	147-0228	147-1101	7½	½	2	½	⅜	1½	1.5
1½	147-0335	147-1218	11½	⅞	3	⅞	½	2	5.6
2	147-0442	147-1325	11½	⅞	3	⅞	⅝	2	9.6
2 7/16	147-0558	147-1432	12¾	15/16	3	15/16	⅝	3	16.2
3	147-0772	147-1549	13	1	3	1	¾	3	24.7
3 15/16	147-0689	147-1655	17½	1½	4	1¼	⅞	4	44.5



High Torque Construction

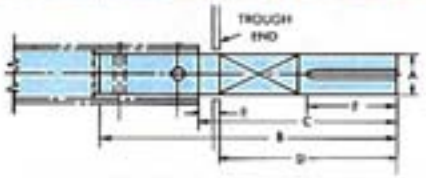
The motor size limitations specified on page 10, can often be increased considerably through the use of three coupling bolts in the end of the conveyor pipe rather than the standard two bolts. The conveyor drive, tail and coupling shafts are jig-drilled to match the three holes in the conveyor pipe. Consult our engineering department for maximum drive sizes.

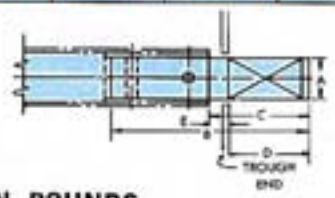
Shaft Size A	PART NUMBER		B	C	D	E	F	G	Wgt.
	Cold Rolled Steel Couplings	Hardened Steel Couplings							
1½	147-0343	147-0350	17½	⅞	3	⅞	½	2	8.5
2	147-0459	147-0467	17½	⅞	3	⅞	⅝	2	14.5
2 7/16	147-0566	147-0574	18¼	15/16	3	15/16	⅝	3	23.8
3	147-0780	147-1556	19	1	3	1	¾	3	36
3 15/16	147-0897	147-0905	25½	1½	4	1¼	⅞	4	65

Drive and End Shafts

Shaft Diameter	DRIVE SHAFTS			
	Without End Seal		With End Seal	
	For #100, #101 Trough End	For #102, #103 Trough End	For #100, #101 Trough End	For #102, #103 Trough End
1	152-0352	152-0212	– –	– –
1½	152-0709	152-0568	152-0774	152-0709
2	152-1053	152-0915	152-1129	152-1053
2 7/16	152-1475	152-1269	152-1541	152-1400
3	152-1897	152-1681	152-1962	152-1822
3 7/16	152-2176	152-2036	152-2242	152-2101

END SHAFTS			
Without End Seal		With End Seal	
For #100, #101 Trough End	For #102, #103 Trough End	For #100, #101 Trough End	For #102, #103 Trough End
150-0354	150-0214	– –	– –
150-0701	150-0560	150-0842	150-0776
150-1196	150-1055	150-1337	150-1261
150-1758	150-1477	150-1824	150-1618
150-2178	150-1964	150-2244	150-2103
150-2459	150-2319	150-2525	150-2384





DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Shaft Size "A"	DRIVE SHAFTS							
	Part Number	B	C	D	E	F	Key Seat	Wgt.
1"	152-0212	7 7/8	4 3/8	3 15/16	15/16	2 1/4	1/4 x 1/8	1.8
1"	152-0352	6 3/8	5 3/8	4 7/16	15/16	2 1/4	1/4 x 1/8	1.9
1½"	152-0568	11½	6 3/4	5½	1¼	3¼	3/8 x 3/16	5.8
1½"	152-0709	13¼	8½	7¼	1¼	3¼	3/8 x 3/16	6.7
1½"	152-0774	14¼	9½	8¼	1¼	3¼	3/8 x 3/16	7.2
2"	152-0915	13⅛	8⅜	7⅛	1¼	4½	½ x ¼	11.7
2"	152-1053	14⅞	10⅛	8⅞	1¼	4½	½ x ¼	13.3
2"	152-1129	16½	11¾	10½	1¼	4½	½ x ¼	14.7
2 7/16"	152-1269	15⅛	10¼	8 7/16	1 15/16	5½	5/8 x 5/16	20.0
2 7/16"	152-1400	16⅛	12	10 5/16	1 15/16	5½	5/8 x 5/16	22.0
2 7/16"	152-1475	17⅛	12½	10 11/16	1 15/16	5½	5/8 x 5/16	23.0
2 7/16"	152-1541	19⅛	14¼	12 7/16	1 15/16	5½	5/8 x 5/16	25.4
3"	152-1681	16⅝	11⅝	9¾	1⅞	6	¾ x ⅜	33.3
3"	152-1822	18⅝	13⅝	11½	1⅞	6	¾ x ⅜	37.0
3"	152-1897	19⅝	14⅝	12¼	1⅞	6	¾ x ⅜	38.3
3"	152-1962	20⅞	15⅞	14	1⅞	6	¾ x ⅜	41.8
3 7/16"	152-2036	20⅝	13⅞	11½	2⅜	7¼	⅞ x 7/16	60.0
3 7/16"	152-2101	22⅛	16⅛	13¾	2⅜	7¼	⅞ x 7/16	66.0
3 7/16"	152-2176	23⅝	16⅞	14½	2⅜	7¼	⅞ x 7/16	68.0
3 7/16"	152-2242	25⅛	19⅛	16¾	2⅜	7¼	⅞ x 7/16	75.0

All shafts normally drilled and keyseated. Keys are not included. If shafts are required with other than standard projection and keyway or with other special specifications details should accompany order.

END SHAFTS						
Shaft Size "A"	Part Number	B	C	D	E	Wgt.
1"	150-0214	5⅜	2⅝	1 11/16	15/16	1.2
1"	150-0354	6⅛	3⅛	2 5/16	15/16	1.4
1½"	150-0560	8¼	3½	2¼	1¼	4.2
1½"	150-0701	9¼	4½	3¼	1¼	4.7
1½"	150-0776	10	5¼	4	1¼	5.0
1½"	150-0842	11	6¼	5	1¼	5.5
2"	150-1055	8⅝	3⅞	2⅝	1¼	7.6
2"	150-1196	10¼	5½	4¼	1¼	9.1
2"	150-1261	10⅝	5⅝	4⅜	1¼	9.2
2"	150-1337	12	7¼	6	1¼	10.7
2 7/16"	150-1477	9⅝	4¾	2 15/16	1 13/16	13.0
2 7/16"	150-1618	11⅜	6½	4 1/16	1 13/16	15.1
2 7/16"	150-1758	11⅞	7	5 5/16	1 13/16	15.8
2 7/16"	150-1824	13⅝	8¾	6 15/16	1 13/16	18.2
3"	150-1964	10⅝	5⅝	3¾	1⅞	21.0
3"	150-2103	12⅝	7⅛	5½	1⅞	24.5
3"	150-2178	13⅝	8⅛	6¼	1⅞	26.0
3"	150-2244	14⅞	9⅛	8	1⅞	29.0
3 7/16"	150-2319	13⅜	8⅛	4¼	2⅜	39.2
3 7/16"	150-2384	15⅛	8⅞	6½	2⅜	45.8
3 7/16"	150-2459	16⅛	9⅝	7¼	2⅜	48.0
3 7/16"	150-2525	18⅛	11⅞	9½	2⅜	54.0

The conveyor drive shaft transmits the rotary motion from the drive unit to the conveyor screw. They are, therefore, of high-quality, cold-rolled steel and are manufactured to closely controlled tolerances to fit the bearing clearances. Drive shaft keyways are accurately cut to transmission specifications and coupling bolt holes are jig-drilled to assure perfect alignment with the jig-drilled conveyor pipe.

End Shafts support the conveyor screw and are of selected steel and are manufactured to close tolerances for proper fit with the end bearing. End shafts are jig-drilled for perfect alignment.

Hangers

DIMENSIONS FOR ALL HANGER STYLES

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

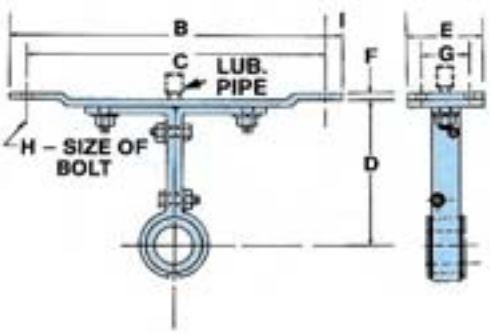
Diameter of Conveyor	Bearing Bore	Weight	▲Bearing Length	A	B	C	D	E	F	G	H	J	K
4	1	4	1½	5	7¾	6¾	3⅝	3	¼	2	⅝	¾	– –
6	1½	6	2	7	9¾	8¾	4½	4	¼	2½	⅝	¾	6
9	1½	8	2	10	13½	12¼	6⅛	4	¼	2½	⅝	1	6
9	2	9	2	10	13½	12¼	6⅛	4	¼	2½	⅝	1	6
10	1½	9	2	11	14½	13¼	6⅝	4	¼	2½	⅝	1	6
10	2	10	2	11	14½	13¼	6⅝	4	¼	2½	⅝	1	6
12	2	14	2	13	17½	15¾	7¾	4	⅜	2½	½	1¼	6½
12	2⅞	20	3	13	17½	15¾	7¾	4	⅜	2½	½	1¼	6½
12	3	22	3	13	17½	15¾	7¾	4	⅜	2½	½	1¼	6½
14	2⅞	23	3	15	19½	17¾	9¼	4	½	2½	½	1⅜	6½
14	3	25	3	15	19½	17¾	9¼	4	½	2½	½	1⅜	6½
16	3	28	3	17	21½	19¾	10⅜	4	½	2½	½	1⅜	6½
18	3	29	3	19	24½	22¼	12⅛	5	½	3½	⅝	1⅜	6½
18	3⅞	31	4	19	24½	22¼	12⅛	5	½	3½	⅝	1⅜	7
20	3	32	3	21	26½	24¼	13½	5	½	3½	⅝	1⅜	6½
20	3⅞	34	4	21	26½	24¼	13½	5	½	3½	⅝	1⅜	7
24	3⅞	40	4	25	30½	28¼	16½	5	½	3½	⅝	1¾	7

Babbitt, bronze and ball bearing hangers come standard with lubrication pipe & grease fitting. Lube pipe & fitting also available with other bearings. Consult our sales office.

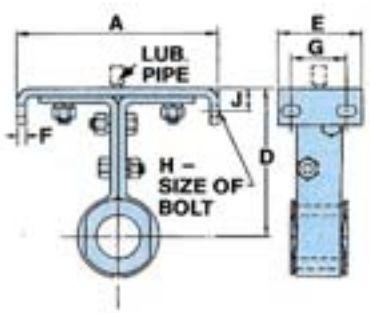
▲ Actual bearing length is 1/16 less than nominal dimension shown here.

These hangers are the most popular styles for the usual conveyor application as they offer the least possible obstruction to the flow of material. The Style 226 is the most popular since it mounts completely inside the trough and, therefore, is more suitable for use with dust-tight or weather-tight covers. Both hangers have wide top bars for greater stability and to permit their mounting across trough flange joints. The standard bearings used are Babbitt, Hard Iron, Arguto Wood, Bronze and Nylon or Nylatron; also available on special order is Bronze Oilite, Gatke, Stellite, Teflon or practically any conceivable bearing material.

Style No. 220

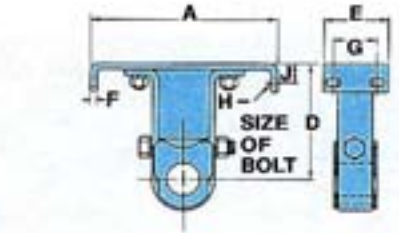


Style No. 226

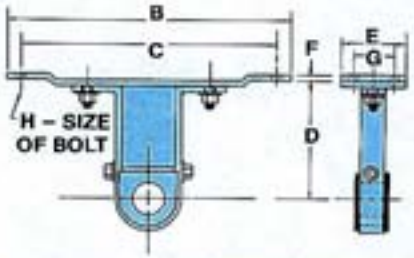


Hangers

These are hangers designed for the most severe abrasive service. The Style 216 is the most popular since it will mount on the inside of the trough and therefore is most suitable for use with dust-tight or weather-tight covers. Both hangers have wide top bars for greater stability and to permit their mounting across trough flange joints. Because of the usual application of these hangers hard iron bearings are standard, however, Arguto Wood bearings are readily available.

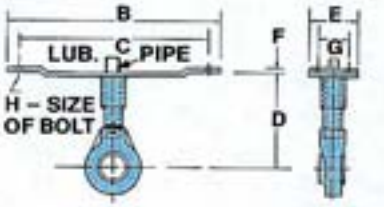


Style No. 230



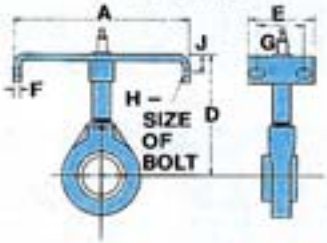
Style No. 216

These hangers feature a self-aligning ball bearing. This results in lower power requirements and quieter operation. They are, therefore, particularly desirable for use in extremely long conveyors or conveyors operating at higher speeds. The Style 260 or 270 hangers are, however, not recommended for use in handling "dirty", gritty or abrasive materials. Alemite bearings are generally furnished although the bearings can also be considered as "Sealed for Life". The Style 270 hanger is the more popular as it mounts completely inside the trough and is, therefore, more suitable for use with dust-tight or weather-tight covers. Both hangers have wide top bars to permit their mounting across trough joints and to provide greater stability which is particularly important when using self-aligning bearings.



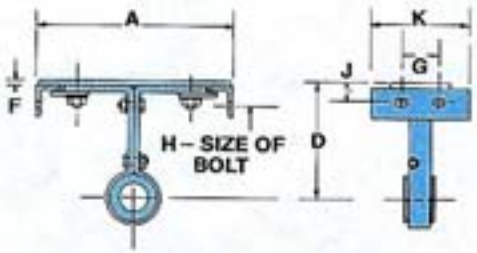
Style No. 260

FLOW OF MATERIAL



Style No. 270

Style No. 326 hanger is designed for use where hot materials are being conveyed and the length requires three or more sections of screw conveyor. The hanger top bar is free to slide on the angle guides to compensate for any unequal expansion between the trough and the screw conveyor. The 326 fits inside the trough beneath the cover and is suitable for use with a dust-tight or weather-proof cover. Its design offers a minimum of resistance to material flow and removable bearings made of special materials can be furnished to meet specific requirements. Hard-iron bearings, normally used with hardened steel conveyor couplings, are standard and will be furnished unless otherwise specified.



Note: Dimensional Data shown on page 36.
Part Numbers shown on page 38.

Expansion
Style No. 326

Hangers

PART NUMBERS FOR ALL HANGER STYLES

Diameter of Conveyor	Bearing Bore	WITH HARD IRON BEARING					WITH WOOD BEARING			
		Style 216 Part Number	Style 230 Part Number	Style 228 Part Number	Style 226 Part Number	Style 326 Part Number	Style 216 Part Number	Style 230 Part Number	Style 228 Part Number	Style 226 Part Number
4	1"	—	—	162-0145	163-0144	—	—	—	162-2612	163-2660
6	1½"	160-0147	161-0146	162-0210	163-0219	164-0143	160-2523	161-1219	162-2661	163-2736
9	1½" 2"	160-0212 160-0287	161-0211 161-0286	162-0285 162-0350	163-0284 163-0359	164-0218 164-0283	160-2598 160-2663	161-1326 161-1391	162-2737 162-2802	163-2801 163-2876
10	1½" 2"	160-0352 160-0428	161-0351 161-0427	162-0426 162-0491	163-0425 163-0490	164-0358 164-0424	160-2739 160-2804	161-1482 161-1557	162-2877 162-2943	163-2942 163-3015
12	2" 2 7/16" 3"	160-0493 160-0568 160-0634	161-0492 161-0567 161-0633	162-0566 162-0632 162-0707	163-0565 163-0631 163-0706	164-0499 164-0564 164-0630	160-2879 160-2945 160-3018	161-1649 161-1706 161-1797	162-3016 162-3081 162-3156	163-3080 163-3155 163-3221
14	2 7/16" 3"	160-0709 160-0774	161-0708 161-0773	162-0772 162-0848	163-0771 163-0847	164-0705 164-0770	160-3083 160-3158	161-1862 161-1938	162-3222 162-3297	163-3296 163-3361
16	3"	160-0840	161-0849	162-0913	163-0912	164-0846	160-3224	161-2019	162-3362	163-3437
18	3" 3 7/16"	160-0915 160-0980	161-0914 161-0989	162-0988 162-1051	163-0987 163-1050	164-0911 164-0986	160-3299 160-3364	161-2167 161-2209	162-3438 162-3503	163-3502 163-3577
20	3" 3 7/16"	160-1053 160-1129	161-1052 161-1128	162-1127 162-1192	163-1126 163-1191	164-1059 164-1125	160-3430 160-3505	161-2316 161-2423	162-3578 162-3644	163-3643 163-3718
24	3 7/16"	160-1194	161-1193	162-1267	163-1266	164-1190	160-3570	161-2506	162-3719	163-3783
30	3 15/16" 4 7/16"	160-1236 N/A	161-1177 N/A	162-1291 162-1309	163-1357 163-1365	164-1224 164-1232				

Diameter of Conveyor	Bearing Bore	WITH BABBITT BEARING		WITH BRONZE BEARING		WITH WHITE NYLON BEARING		WITH ANTI-FRICTION BEARING	
		Style 228 Part Number	Style 226 Part Number	Style 228 Part Number	Style 226 Part Number	Style 228 Part Number	Style 226 Part Number	Style 260 Part Number	Style 270 Part Number
4	1"	162-1408	163-1407	162-5045	163-5044	– –	– –	– –	– –
6	1½"	162-1473	163-1472	162-5110	163-5119	162-3859	163-3924	166-0141	167-0140
9	1½" 2"	162-1549 162-1614	163-1548 163-1613	162-5185 162-5250	163-5184 163-5259	162-3925 162-3990	163-3999 163-4062	166-0216 166-0281	167-0215 167-0280
10	1½" 2"	162-1689 162-1754	163-1688 163-1753	162-5326 162-5391	163-5325 163-5390	162-4063 162-4139	163-4138 163-4203	166-0356 166-0422	167-0355 167-0421
12	2" 2 7/16" 3"	162-1820 162-1895 162-1960	163-1829 163-1894 163-1959	162-5466 162-5532 162-5607	163-5465 163-5531 163-5606	162-4204 162-4279 162-4345	163-4278 163-4344 163-4419	166-0497 166-0562 166-0638	167-0496 167-0561 167-0637
14	2 7/16" 3"	162-2034 162-2109	163-2033 163-2108	162-5672 162-5748	163-5671 163-5747	162-4410 162-4485	163-4484 163-4559	166-0703 166-0778	167-0702 167-0777
16	3"	162-2174	163-2173	162-5813	163-5812	162-4550	163-4625	166-0844	167-0843
18	3" 3 7/16"	162-2240 162-2315	163-2249 163-2314	162-5888 162-5953	163-5887 163-5952	162-4626 162-4659	163-4690 163-4732	166-0919 166-0943	167-0918 167-0942
20	3" 3 7/16"	162-2380 162-2455	163-2389 163-2454	162-6027 162-6092	163-6026 163-6091	162-4691 162-4741	163-4765 163-4799	166-0984 166-1008	167-0983 167-1007
24	3 7/16"	162-2521	163-2520	162-6167	163-6166	162-4782	163-4815	166-1057	167-1056

Note: See pages 36 & 37 for dimensional data.

Hangers

Flared Trough Hanger

Hangers for use in flared troughs may be furnished in any of the fabricated hanger styles shown on pages 36 and 37. A Style 226 modified for a flared trough is pictured. Special hanger designs may be furnished to meet your requirements. Please refer to page 52 for additional information concerning flared troughs. Although normally supplied with babbitted, bronze or hard-iron bearings, Arguto, Micarta, Synthane, Nylon, Bronze Oilite or other types of bearings are available.

Replacement Hanger Bearings

Bearing for
Style 220, 226, 326 Hangers

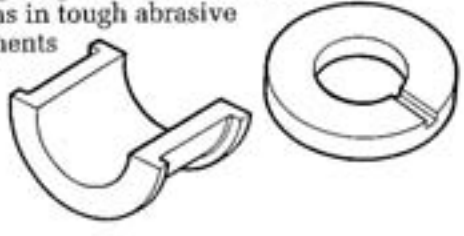
Bearing for
Style 216, 230 Hangers

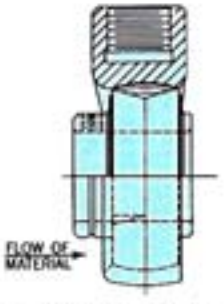
Bearing for
Style 260, 270 Hangers

When ordering bearings for screw conveyor hangers, specify the bore diameter, style of hanger and kind of bearing material.

Enduro-Bearings™ and Enduro-Seals™

Highly efficient bearings and seals, providing long term solutions for operations in tough abrasive environments

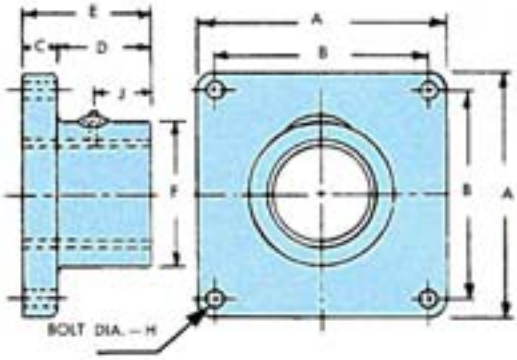




Note: Style 260 and 270 hangers and bearings should be mounted as shown by the "Flow of Material" arrow.

Transmission Flange Bearings

Transmission Flange Bearings are of fabricated steel with the backing and end faces machine finished. Additional clearance is provided at the base of the bolt holes for ease of assembly. The bearings are accurately broached to "transmission" tolerances and the bore is concentric to the flange back. ⅛" Alemite fittings (No. 1610 hydraulic type) are furnished and the bearings are grooved to distribute the lubricant uniformly.



DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

*Shaft Size	Babbitt Bearing Part Number	Bronze Bearing Part Number	A	B	C	D	E	F	H	J	Weight
1"★	205-0284★	205-1126	4★	3 1/16★	3/16	1 7/16	1 1/8	2	3/8	–	3.0
1 7/16"	205-0359	205-1191	5 1/8	4	5/16	2 1/16	3	2 3/8	7/16	1 5/16	6.5
1 1/2"	205-0425	205-1266	5 1/8	4	5/16	2 1/16	3	2 3/8	7/16	1 5/16	6.5
1 15/16"	205-0490	205-1332	6 1/8	5 1/8	3/8	3 1/8	4	2 7/8	5/16	1 7/8	13.0
2"	205-0565	205-1407	6 1/8	5 1/8	3/8	3 1/8	4	2 7/8	5/16	1 7/8	13.0
2 7/16"	205-0631	205-1472	6 7/8	5 7/8	3/8	4 1/8	5	3 1/2	5/16	2 3/8	20.0
2 15/16"	205-0706	205-1548	7 3/4	6	1/2	5	5 1/2	4	3/4	2 3/4	28.0
2 15/16"	205-0771	205-1613	7 3/4	6	1/2	5 1/2	6	4	3/4	3	32.0
3"	205-0847	205-1688	7 3/4	6	1/2	5 1/2	6	4	3/4	3	32.0
3 3/16"	205-0912	205-1753	8 7/16	6 3/4	1/2	6	6 1/2	4 1/2	3/4	3 7/16	39.0

*Bores not listed — on application.
★1" Size available with 2-hole oil impregnated wood bearing only.

Trough Ends

Styles No. 100 and 101

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

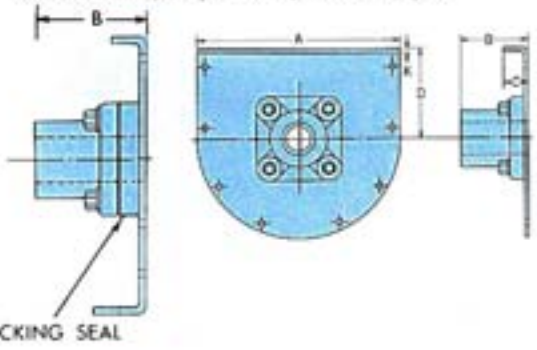
Diameter of Conveyor	Bearing Bore	Style 100		Style 101		A	B		C	D	E	F	G	H	J	K	L ▲	M ★	N	Style 101 Weight with Bearing
		With Bearing ● Part Number	Without Bearing Part Number	With Bearing ● Part Number	Without Bearing Part Number		Without Seal xx	With Seal xx												
4	1	210-1400	264-1405	210-0147	264-0142	8	1 19/32	–	1 1/16	3 3/4	4 5/8	1	1 5/8	3/8	5 3/4	3/16	3 3/16	1 1/4	1/16	8
6	1 1/2	210-1475	264-1470	210-0212	264-0217	9 3/4	3 9/32	4 19/32	1 1/2	4 1/2	5 5/8	1	1 3/4	3/8	8 1/8	3/16	4	1 1/4	1/16	13
9	1 1/2	210-1541	264-1546	210-0287	264-0282	13 1/2	3 1/4	5	1 5/8	6 1/8	7 3/8	1 1/2	2 5/8	1/2	9 3/8	1/4	4	1 1/4	1/16	23
9	2	210-1616	264-1611	210-0352	264-0357	13 1/2	4 1/4	6	1 5/8	6 1/8	7 1/8	1 1/2	2 5/8	1/2	9 3/8	1/4	5 1/8	1 5/8	5/16	29
10	1 1/2	210-1681	264-1686	210-0428	264-0423	14 1/2	3 1/4	5	1 3/4	6 5/8	8 1/8	1 5/8	2 7/8	1/2	9 1/2	1/4	4	1 1/4	1/16	26
10	2	210-1756	264-1827	210-0493	264-0488	14 1/2	4 1/4	6	1 3/4	6 1/8	8 1/8	1 5/8	2 7/8	1/2	9 1/2	1/4	5 1/8	1 5/8	5/16	32
12	2	210-1822	264-1892	210-0568	264-0563	17 1/8	4 1/4	6	2	7 3/4	9 1/8	1 5/8	2 3/4	5/8	12 1/4	1/4	5 1/8	1 5/8	5/16	39
12	2 15/16	210-1897	264-1967	210-0634	264-0639	17 1/8	5 1/4	7	2	7 3/4	9 1/8	1 5/8	2 3/4	5/8	12 1/4	1/4	5 5/8	1 5/8	5/16	50
12	3	210-1962	264-2106	210-0709	264-0704	17 1/8	6 1/4	8	2	7 3/4	9 1/8	1 5/8	2 3/4	5/8	12 1/4	1/4	6	2	3/4	64
14	2 15/16	210-2036	264-2171	210-0774	264-0773	19 1/8	5 9/16	7 1/16	2	9 1/4	10 1/8	1 5/8	2 7/8	5/8	13 1/2	5/16	5 5/8	1 5/8	5/16	65
14	3	210-2101	264-2312	210-0840	264-0845	19 1/8	6 9/16	8 1/16	2	9 1/4	10 1/8	1 5/8	2 7/8	5/8	13 1/2	5/16	6	2	3/4	79
16	3	210-2176	264-2387	210-0915	264-0910	21 1/8	6 9/16	8 1/16	2 1/2	10 5/8	12	2	3 1/4	5/8	14 1/8	5/16	6	2	3/4	90
18	3	210-2242	264-2452	210-0980	264-0985	24 1/4	6 5/8	8 1/8	2 1/2	12 1/8	13 3/8	2	3 1/4	5/8	16	3/8	6	2	3/4	117
18	3 15/16	210-2317	264-2528	210-1053	264-1058	24 1/4	7 5/8	9 1/8	2 1/2	12 1/8	13 3/8	2	3 1/4	5/8	16	3/8	6 1/4	2	3/4	135
20	3	210-2382	264-2583	210-1129	264-1124	26 1/4	6 5/8	8 1/8	2 1/2	13 1/2	15	2 1/4	3 3/4	3/4	18 1/4	3/8	6	2	3/4	133
20	3 15/16	210-2457	264-2568	210-1194	264-1199	26 1/4	7 5/8	9 1/8	2 1/2	13 1/2	15	2 1/4	3 3/4	3/4	19 1/4	3/8	6 1/4	2	3/4	150
24	3 15/16	210-2523	264-2734	210-1269	264-1264	30 1/4	7 5/8	9 1/8	2 1/2	16 1/2	18 1/8	2 1/2	4 1/8	3/4	20	3/8	6 1/4	2	3/4	187

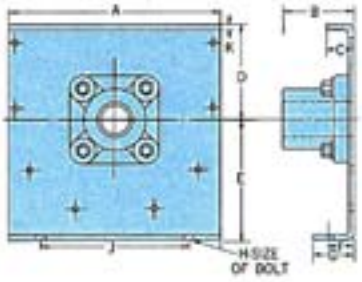
● Babbitt bearings are standard and furnished unless otherwise specified, except 4" size is supplied with two bolt oil impregnated self-aligning bearing only.

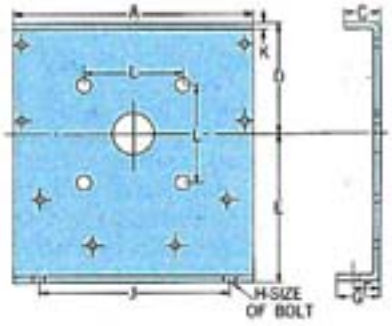
▲ Standard bolt hole centers will be furnished unless otherwise specified.

★ Length for trough end without seals will be furnished unless otherwise specified.
Bearings are furnished with 1/8 (no. 1610 Hydraulic type) Alemite Fitting.

xx Standard seal is packing seal housing as shown on page 45.







These are steel plate trough ends generally fitted with Babbitted Transmission Flange Bearings, although any bearing material may be used such as Bronze, Bronze Oilite, Arguto Wood, Nylon, etc. (for antifriction ball bearing trough ends, see page 42). Replacement Babbitt Bearings are pictured on page 40. In each type the top flange supports the cover of the conveyor. The bottom flange of the Style 101 is for support of the conveyor. When using the style 100 the conveyor must be supported either from above or from a foot on the trough end flange.

Style No. 100

Style No. 101

Trough Ends

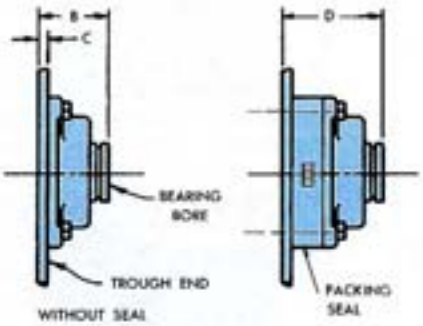
Styles No. 102 and 103

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Diameter of Conveyor	Bearing Bore	WITHOUT FEET		WITH FEET		DIMENSIONS		
		•Part †Number	•Weight	•Part †Number	•Weight	B	C	D
4	1	212-2034	6	212-0772	7	1 5/16	3/16	3 3/8
6	1 1/2	212-2109	10	212-0648	12	2 1/4	3/16	4
9	1 1/2	212-2174	18	212-0913	23	2 9/16	1/4	4 1/16
9	2	212-2240	20	212-0988	25	2 9/16	1/4	4 5/16
10	1 1/2	212-2315	20	212-1051	26	2 5/16	1/4	4 1/16
10	2	212-2390	22	212-1127	28	2 5/16	1/4	4 5/16
12	2	212-2455	27	212-1192	34	2 5/16	1/4	4 5/16
12	2 7/16	212-2521	32	212-1267	39	2 15/16	1/4	4 11/16
12	3	212-2596	41	212-1333	48	3 3/4	1/4	5 1/2
14	2 7/16	212-2661	44	212-1408	54	3	5/16	4 3/4
14	3	212-2737	53	212-1473	63	3 13/16	5/16	5 5/16
16	3	212-2802	61	212-1549	74	3 13/16	5/16	5 5/16
18	3	212-2877	85	212-1614	100	3 7/8	3/8	5 5/8
18	3 7/16	212-2943	92	212-1689	107	4 5/8	3/8	6 5/8
20	3	212-3016	97	212-1754	117	3 7/8	3/8	5 5/8
20	3 7/16	212-3081	104	212-1820	124	4 5/8	3/8	6 5/8
24	3 7/16	212-3155	127	212-1895	160	4 5/8	3/8	6 5/8

† Flange bearings are furnished with ¼" (No. 1610 Hydraulic type) Alemite Fittings.
•Part numbers and weights do not include seal.
Standard seal is packing seal shown on page 45.

Anti-friction trough ends No. 102 and No. 103 are equipped with self-aligning ball bearings which allow for several degrees of end shaft misalignment. Unless for very light duty, these units are not recommended for use with the drive shaft. Chevron end thrusts or another type of rigid bearing support is normally recommended for use with the drive shaft. Refer to page 41 for dimensional data on these style trough ends.

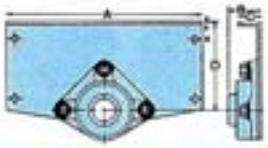


Anti-Friction Style No. 102 pictured without seal

Anti-Friction Style No. 103 pictured with packing seal

Trough Ends

Styles No. 104, 107, 114 and 115



Discharge Trough End

Style No. 104 and Style No. 107

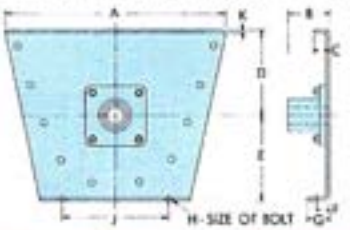
Discharge trough ends are designed for use when the material is to flow out the end of the trough and when the material loading does not exceed 45%.

The Style 104 (pictured above) is fitted with a self-aligning ball bearing. Also available is Style 107 which is fitted with a Babbitted Flange Bearing similar to trough end 100-101 except with a two or three bolt flange depending on bore size. The Style 104 of 1½" or 2" bore is a two bolt flange, other sizes are three bolt flanges.

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Diameter of Conveyor	Bearing Bore	Style 104 †Part Number	Style 107 †Part Number	A	B		C	D	K	Wgt. Style 104
					Style 104	Style 107				
6	1½	220-0145	220-1408	9⅜	2¼	3⅜	1½	4½	⅜	9
9	1½	220-0210	220-1473	13½	2⅜	3¼	1⅜	6⅛	¼	14
9	2	220-0285	220-1549	13½	2⅜	4¼	1⅜	6⅛	¼	16
10	1½	220-0350	220-1614	14½	2⅜	3¼	1¾	6⅝	¼	15
10	2	220-0426	220-1689	14½	2⅜	4¼	1¾	6⅝	¼	17
12	2	220-0491	220-1754	17¼	2⅜	4¼	2	7¾	¼	22
12	2⅜	220-0566	220-1820	17¼	2⅜	5¼	2	7¾	¼	27
12	3	220-0632	220-1895	17¼	3¼	5¼	2	7¾	¼	36
14	2⅜	220-0707	220-1960	19¾	3	5⅜	2	9¼	⅜	32
14	3	220-0772	220-2034	19¾	3⅜	6⅜	2	9¼	⅜	41
16	3	220-0848	220-2109	21¼	3⅜	6⅜	2½	10⅜	⅜	50
18	3	220-0913	220-2174	24¼	3⅜	6⅜	2½	12⅛	⅜	57
18	3⅜	220-0988	220-2240	24¼	4⅜	7⅜	2½	12⅛	⅜	66
20	3	220-1051	220-2315	26¼	3⅜	6⅜	2½	13½	⅜	63
20	3⅜	220-1127	220-2380	26¼	4⅜	7⅜	2½	13½	⅜	70
24	3⅜	220-1192	220-2455	30¼	4⅜	7⅜	2½	16½	⅜	100

† Flange bearings are furnished with ⅛" (No. 1610 Hydraulic type) Alemite Fittings.



Flared Trough End

Style No. 114 and Style No. 115

Flared Trough Ends are formed with a top flange to support the cover and a bottom flange which serves as feet. Its design fits the contour of the Flared Trough (see page 52). A Flared Trough End can be fitted with a babbitted transmission flange bearing (Style No. 114) or an anti-friction self-aligning ball bearing (as shown above, Style No. 115). Flange bearings of Bronze, Arguto Wood, Nylon, Bronze Oilite, etc., are also available. The end plate could also be fitted with a Chevron or Hammond end thrust.

Diameter of Conveyor	Bearing Bore	Babbitt† Bearing Part Number	Ball Bearing* Part Number	A	B		B	C	D	E	F	G	H	J	K	Wgt.
					Style 114	Style 115										
6	1½	230-1190	230-0143	16⅛	3⅜	2¼	2⅜	1½	7	5⅛	1	1¼	⅜	8⅛	7/16	30
9	1½	230-1265	230-0218	21¼	3¼	2⅜	3¼	1⅜	9	7⅛	1½	2⅛	½	9⅛	¼	41
9	2	230-1331	230-0283	21¼	4¼	2⅜	4¼	1⅜	9	7⅛	1½	2⅛	½	9⅛	¼	55
12	2	230-1406	230-0358	26⅛	4⅜	2⅜	4⅜	2	10	9⅛	1⅜	2¼	⅝	12¼	9/16	75
12	2⅜	230-1471	230-0424	26⅛	5⅜	3	5⅜	2	10	9⅛	1⅜	2¼	⅝	12¼	9/16	86
12	3	230-1547	230-0499	26⅛	6⅜	3⅜	6⅜	2	10	9⅛	1⅜	2¼	⅝	12¼	9/16	100
14	2⅜	230-1612	230-0564	28⅛	5⅜	3	5⅜	2	11	10⅛	1⅜	2⅛	⅝	13½	9/16	95
14	3	230-1687	230-0630	28⅛	6⅜	3⅜	5⅜	2	11	10⅛	1⅜	2⅛	⅝	13½	9/16	110
16	3	230-1752	230-0705	32½	6⅜	3⅜	6⅜	2½	11½	12	2	3¼	⅝	14⅛	⅝	146
18	3	230-1828	230-0770	36½	6⅜	3⅜	6⅜	2½	12⅛	13⅜	2	3¼	⅝	16	⅝	167
18	3⅜	230-1893	230-0848	36½	7⅜	4⅜	7⅜	2½	12⅛	13⅜	2	3¼	⅝	16	⅝	185
20	3	230-1968	230-0911	39½	6⅜	3⅜	6⅜	2½	13½	15	2¼	3¾	¾	19¼	⅝	179
20	3⅜	230-2032	230-0986	39½	7⅜	4⅜	7⅜	2½	13½	15	2¼	3¾	¾	19¼	⅝	197
24	3⅜	230-2107	230-1059	45½	7½	4½	7½	2½	16½	18⅛	2½	4⅛	¾	20	½	292

* Transmission quality babbitt of our own specification is used and provides a bearing that has the ability go give excellent service with minimum up-keep. The bearings are accurately broached to "transmission" tolerances and the bore is concentric to the flange back. The babbitt is grooved to distribute the lubricant uniformly.

† Flange bearings are furnished with ⅛" (No. 1610 Hydraulic type) Alemite fittings.

Bolt On Shelf Trough Ends

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS								
Shaft Size	Part Number*	A	B	C	D	E	F	Wgt.
1 1/2	260-1607	8	5/16	3	4 1/2	7 1/2	9 5/16	9
2	260-1615	8	5/16	3 1/2	4 1/2	8 1/4	9 5/16	11
2 7/16	260-1623	8 1/4	1/4	4	5 1/4	9 1/4	9 1/4	17
3	260-1631	8 1/2	1/4	4 1/2	6 1/4	10 1/4	10 1/4	21
3 7/16	260-1649	8 1/4	1/4	5 1/2	6 1/4	12 1/4	10 1/4	26
3 15/16	260-1656	9 1/2	5/8	5 1/2	7 1/2	13	11 1/8	45
4 7/16	260-1664	10	5/8	6	8 1/2	14 1/2	12 5/8	54
4 15/16	260-1672	10 1/4	5/8	7	9 1/4	16 1/4	12 5/8	65

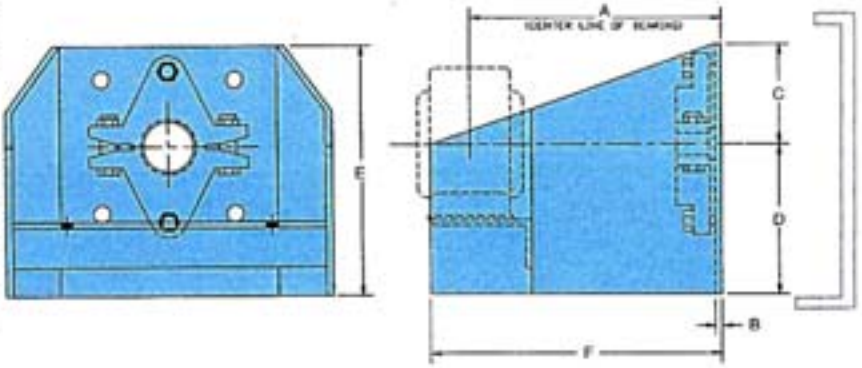
*Part No. Does Not Include Trough End, Bearing, or Seal.

BOLT ON PUMP SEALS	
Shaft Size	Part Number*
1 1/2	271-1406
2	271-1414
2 7/16	271-1422
3	271-1430
3 7/16	271-1448
3 15/16	271-1455
4 7/16	271-1463
4 15/16	271-1471

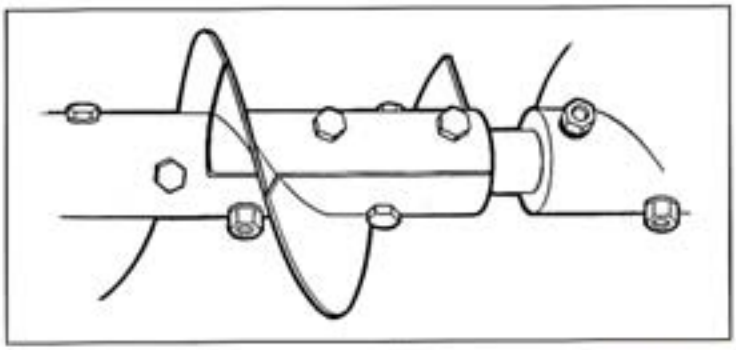
Screw Conveyor Corporation has developed a universal bolt-on shelf and bolt-on pump type seal to be adaptable to existing trough ends. This provides a cost effective alternative for inventory stocking purchases.

The bolt-on shelf allows for the outboard mounting of the bearing making maintenance easy. The shelf not only offers a solid mount for the bearing but provides stability for drives including chain, v-belt, direct connect or use of a shaft mounted reducer. The drive shaft between the bearing and seal is exposed, so the bearing runs cooler.

The bolt-on pump type seal is available in eight standard bore sizes and is also field adaptable on existing trough ends. In order to maintain maximum flexibility, this shelf and trough end arrangement will also accept the traditional split end seal and waste pack seal.



Enduro-Change™ Split Flight Coupling



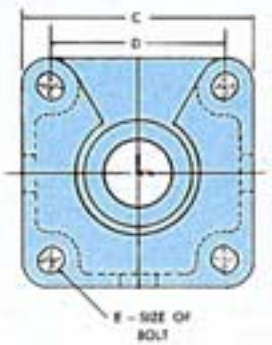
The Enduro-Change™ Split Flight Coupling is an improved version of quick interchange screw sections. It is designed for heavy-duty applications and allows truer alignment. When changing sections the hanger is not disturbed. All bolts are grade 8 with 1144 shafting. The quick disconnect feature is available in either Redi-Change keys (see page 30) or Enduro-Change Split Flight Coupling bushing construction.

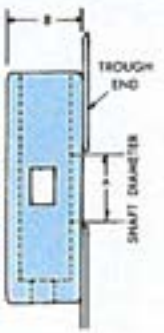
Trough End Dust Seals

WPS Packing Seals

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS							
Shaft Size A	Part Number	Weight	B	C	D	E	WPS PACKING SEAL WITH LIP Part Number
1½	270-0144	5.2	1¾	5⅜	4 to 4⅝	7/16 to ⅝	270-0151
2	270-0219	6.7	1¾	6⅜	4⅝ to 5⅝	7/16 to ⅝	270-0227
2⅞	270-0284	8.0	1¾	7⅜	5⅝ to 6⅞	7/16 to ⅝	270-0292
3	270-0359	12.0	1¾	7⅞	6 to 6⅞	¾	270-0367
3⅞	270-0425	17.0	2¼	9¼	6¾ to 7⅞	¾	270-0433

The Packing Seal housing is designed to protect the trough end bearings from material leakage and to protect the material being conveyed from the bearing lubricant. They can be provided with either lip-type or waste pack seals or combination of both. Waste packing is our standard and will be supplied unless otherwise specified.

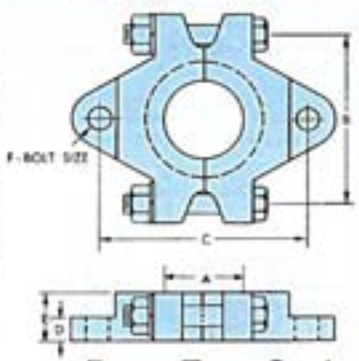




Split Seal Glands

Shaft Size A	Part Number	B	C	D	E	F	Weight
1½	271-0218	3⅛	4½	⅝	1¼	½	4
2	271-0283	4⅛	5¼	⅝	1¼	½	5
2⅞	271-0358	5	6¼	⅝	1¼	⅝	6
3	271-0424	5¼	7¼	⅝	1¼	⅝	8
3⅞	271-0564	6⅞	8¼	⅞	1¾	¾	10

Split seal glands utilize twisted packing to prevent leakage of material being conveyed and to protect the material from bearing lubricant, moisture or dirt contamination. Generally used on shelf type trough ends, the seal glands are split to facilitate assembly and repacking.



Pump Type Seals

The pump seal is intended for the most severe service, particularly when a positive or negative pressure must be maintained. It may also be fitted with lantern rings and air or gas purge fittings. It can be used only with an outboard shelf type trough end.

Chevron® Roller Bearing End Thrust with Trough End

Styles No. 109 and 110

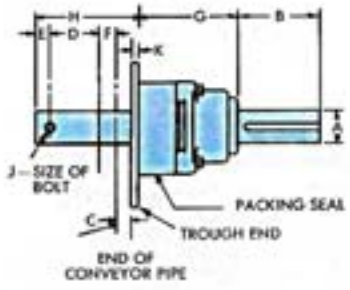
DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

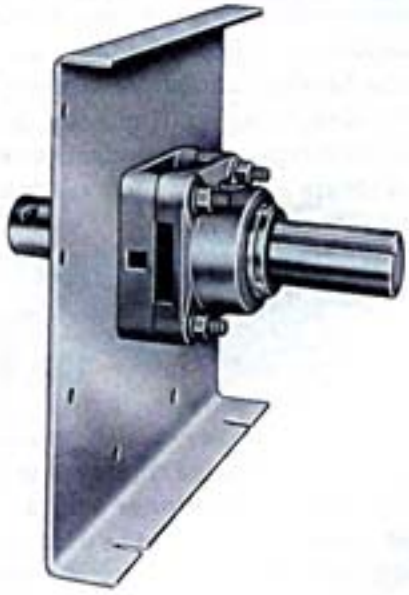
Diameter of Conveyor	Shaft Size A	Dimension		STYLE No. 109 OUTSIDE PATTERN FOR STEEL TROUGH Without Feet			STYLE No. 110 OUTSIDE PATTERN FOR STEEL TROUGH With Feet		
		C	K	Part Number With Drive Shaft	Part Number With End Shaft	Weight With Drive Shaft	Part Number With Drive Shaft	Part Number With End Shaft	Weight With Drive Shaft
6	1½	1 1/16	9/16	242-0149	242-1337	26	240-0141	240-1339	30
9	1½	1	¼	242-0214	242-1402	35	240-0216	240-1404	40
9	2	1	¼	242-0289	242-1477	45	240-0281	240-1479	50
10	1½	1	¼	242-0354	242-1543	37	240-0356	240-1545	43
10	2	1	¼	242-0420	242-1618	47	240-0422	240-1610	53
12	2	1	¼	242-0495	242-1683	52	240-0497	240-1685	60
12	2 7/16	1 5/16	¼	242-0560	242-1758	71	240-0562	240-1750	79
12	3	1 5/8	¼	242-0636	242-1824	97	240-0638	240-1826	105
14	2 7/16	1½	5/16	242-0701	242-1899	83	240-0703	240-1891	94
14	3	1 5/16	5/16	242-0775	242-1964	109	240-0778	240-1965	120
16	3	1 5/16	5/16	242-0842	242-2038	124	240-0844	240-2039	131
18	3	1½	⅜	242-0917	242-2103	133	240-0919	240-2105	158
18	3 7/16	2	⅜	242-0982	242-2178	180	240-0984	240-2170	205
20	3	1½	⅜	242-1055	242-2244	161	240-1057	240-2245	174
20	3 7/16	2	⅜	242-1121	242-2319	208	240-1123	240-2311	221
24	3 7/16	2	⅜	242-1196	242-2384	240	240-1198	240-2388	257

Shaft Size A	B	D	E	F	G	H	J	STANDARD KEYSEAT Width	Depth	Length
1½	5	3	⅜	⅜	5¼	6	½	⅜	3/16	4¾
2	5	3	⅜	⅜	5⅛	6	⅝	½	¼	4¾
2 7/16	5	3	13/16	13/16	5 3/16	6 1/16	⅝	⅝	5/16	4¾
3	6	3	1	1	6¼	6⅛	¾	⅝	⅜	5¾
3 7/16	7	4	1¼	1½	7½	9⅝	⅞	⅞	7/16	6⅝

General dimensions of the trough end are shown on page 41.

Designed to handle medium to heavy thrust loads, the Chevron End Thrust has adequate radial and thrust capacity for practically any application and can absorb thrust in either direction. When starting a Screw Conveyor, thrust is created in the direction opposite to the flow of material. If this thrust is not contained, the hanger bearings, trough end and screw will wear at an increased rate. The Chevron can be furnished with either a drive or end shaft and it is recommended that the Screw Conveyor be driven through this type of thrust unit rather than a ball bearing (self-aligning) type. See page 41 for trough end dimensional data.





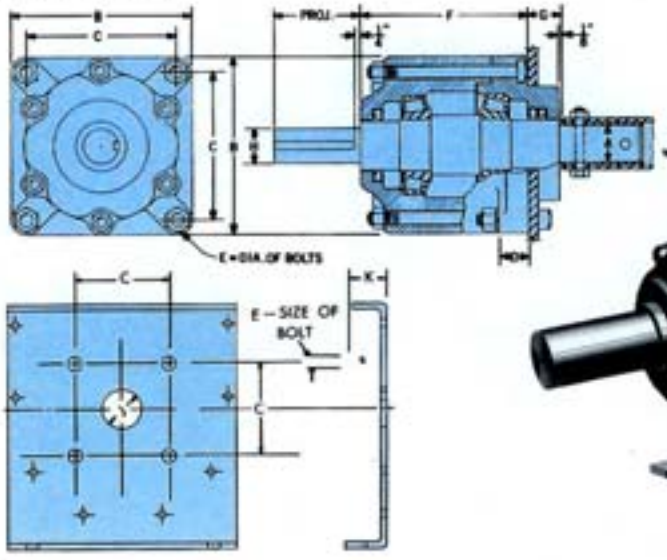
Style No. 110 shown. Style No. 109 is identical except without supporting feet.

Hammond® Roller Bearing End Thrust with Trough End

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS														
Diameter of Shaft A	WITH DRIVE END SHAFT			WITH END SHAFT		B	C	D	E	F	G	H	J	K
	Std. Proj.	*Part Number	Weight ▲	*Part Number	Weight ▲									
1½	4	255-0143	60	255-0465	52	7¼	5⅝	1¼	¾	6¾	1⅝	1¹⁵⁄₁₆	4⅛	1⁷⁄₁₆
2	4½	255-0218	65	255-0499	56	7¼	5⅝	1¼	¾	6¾	1⅝	1¹⁵⁄₁₆	4⅛	1¼
2⁷⁄₁₆	5½	255-0283	80	255-0564	66	8	6¼	1¼	⅞	6¼	1⅝	2⁷⁄₁₆	5⅛	1¹⁵⁄₁₆
3	6	255-0358	145	255-0630	119	10	8	1⅝	1	8¼	1½	2¹⁵⁄₁₆	6⅛	2⅜
3⁷⁄₁₆	7	255-0424	170	255-0705	140	10	8	1⅝	1	8¼	1½	3⁷⁄₁₆	6⅛	2⅜

* Includes Roller Bearing End Thrust with keyseated drive shaft or standard end shaft and ⅛" Alemite Fitting, No. 3630 Hydraulic type.
▲ Weight does not include trough end. See page 41 for trough end only specifications.

This dual tapered roller bearing end thrust is designed for extra-heavy radial and thrust loads in either direction. Although the Hammond Roller Bearing Thrust Bearing is normally mounted on a steel plate trough end, the trough end is not furnished unless specified on the order. See pages 41-43 for trough end style and dimension data.



Bronze Washer Type End Thrust

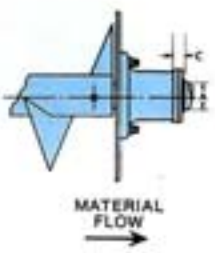
Shaft Size A	STYLE No. BW-1		STYLE No. BW-2		B	AC	Washer Thickness Each
	*Part Number	Weight Per Set	●Part Number	Weight Per Set			
1	275-0149	¾	275-0560	½	.75	.549	¼
1½	275-0214	1	275-0636	¾	.75	.560	¼
2	275-0289	1½	275-0701	1	.75	.572	¼
2⁷⁄₁₆	275-0354	2¼	275-0776	1½	.75	.591	¼
3	275-0420	3	275-0842	2	.75	.608	¼
3⁷⁄₁₆	275-0495	3	275-0917	2	.75	.608	¼

* The assembly consists of one bronze and two steel washers.
●This assembly consists of one machined bronze washer, one steel washer, the Truarc Ring and precision machined ring groove in shaft.
For drive and end shaft dimensions see page 13.
▲This dimension is from the face of trough end hub bearing to the outside of thrust ring groove on the end shaft.

Inside Style No. BW-1

Mounted inside the conveyor trough at the inlet end, this inexpensive assembly handles light to moderate compression thrust loads. It consists of a transmission bronze washer flanked on each side by a machined steel washer.

Outside Style No. BW-2

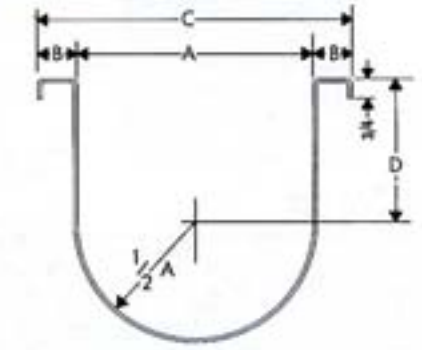


Mounted at the discharge end of the conveyor, this assembly handles light tension thrust loads. The transmission bronze washer is held in place, between the faced trough end bearing hub and a machined steel washer, by a Tru-Arc Thrust Ring.

Double Flanged Trough

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS									
Diameter of Conveyor	Trough Thickness	Size Code	5 Ft. Part Number	10 Ft. Part Number	A	B	C	D	Wgt. Per Foot
4	16	4DF16	301-0931	301-0998	5	1 5/16	8 1/8	3 5/8	4
4	14	4DF14	301-1053	301-1103	5	1 5/16	8 1/8	3 5/8	5
6	16	6DF16	301-0220	301-1210	7	1 7/16	9 1/8	4 1/2	5
6	14	6DF14	301-1319	301-1327	7	1 7/16	9 1/8	4 1/2	6
6	10	6DF10	301-1384	301-1434	7	1 7/16	9 1/8	4 1/2	11
9	14	9DF14	301-0337	301-1541	10	1 13/16	13 5/8	6 1/8	9
9	12	9DF12	301-1640	301-1657	10	1 13/16	13 5/8	6 1/8	12
9	10	9DF10	301-1756	301-1764	10	1 13/16	13 5/8	6 1/8	15
10	14	10DF14	301-1822	301-1871	11	1 13/16	14 5/8	6 5/8	9
10	12	10DF12	301-1939	301-1988	11	1 13/16	14 5/8	6 5/8	13
			6 Ft. Part Number	12 Ft. Part Number					
12	12	12DF12	301-0667	301-2861	13	2 1/4	17 1/2	7 3/4	15
12	10	12DF10	301-2960	301-2978	13	2 1/4	17 1/2	7 3/4	19
14	12	14DF12	301-0774	301-3083	15	2 1/4	19 1/2	9 1/4	18
14	10	14DF10	301-3117	301-3190	15	2 1/4	19 1/2	9 1/4	23
16	12	16DF12	301-0881	301-3307	17	2 1/4	21 1/2	10 5/8	20
16	10	16DF10	301-3406	301-3414	17	2 1/4	21 1/2	10 5/8	25
18	12	18DF12	301-3463	301-3497	19	2 3/4	24 1/2	12 1/8	23
18	10	18DF10	301-3513	301-3521	19	2 3/4	24 1/2	12 1/8	28
20	10	20DF10	301-3620	301-3638	21	2 3/4	26 1/2	13 1/2	31
24	10	24DF10	301-2655	301-3745	25	2 3/4	30 1/2	16 1/2	37

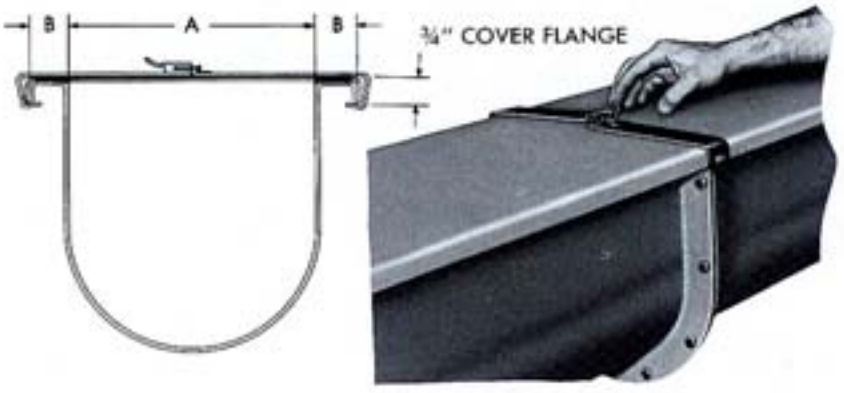
The unique design of the Double Flanged Trough adds considerably to its strength and structural rigidity without adding to its weight. In addition, this construction provides an effective dust-tight seal when used with the "Barron" Flanged Cover. Double Flanged Troughs are available in sizes up to 24" and in gauges up to 10. They can be formed of stainless steel or other alloys. Nu-Weld end flanges are continuously jig-welded on each end to assure alignment and tight connecting joints. If supporting feet are needed, they are spaced at the flange joints. Trough saddles are also available, see page 56.



Barron Flanged Covers

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS								
Size of Conveyor	"BARRON" COVER COMPLETE WITH CLAMPS AND GASKET							"BARRON" CLAMPS ONLY
	Gauge of Steel	Size Code	5 Ft. Part Number	10 Ft. Part Number	A	B	Wgt. per Ft.	Part Number
4	16	4BC16	310-0286	310-3107	5	1⅛	2	320-0227
6	16	6BC16	310-3033	310-3124	7	1⅛	2.5	320-0334
9	14	9BC14	310-3181	310-3231	10	1⅞	4	320-0441
10	14	10BC14	310-0617	310-3348	11	1⅞	4.2	320-0557
			6 Ft. Part Number	12 Ft. Part Number				
12	14	12BC14	310-3355	310-3454	13	2⅝	5	320-0664
14	14	14BC14	310-1185	310-3561	15	2⅝	5.5	320-0771
16	14	16BC14	310-3686	310-3678	17	2⅝	6	320-0888
18	12	18BC12	310-1409	310-3785	19	2 13/16	9.5	320-0995
20	12	20BC12	310-1508	310-3892	21	2 13/16	10.2	320-1100
24	12	24BC12	310-1649	310-4007	25	2 13/16	11.2	320-1217

The Barron Cover is designed for use with a double flanged trough. It is not weather-tight but the gaskets between the cover and trough and under the Barron clamps do provide a degree of weather protection. For greater protection battens can be mounted lapping the cover joints. The cover should then be bolted or screw clamped.
Flanged covers can also be used with angle troughs in which case they should be bolted or screw clamped.



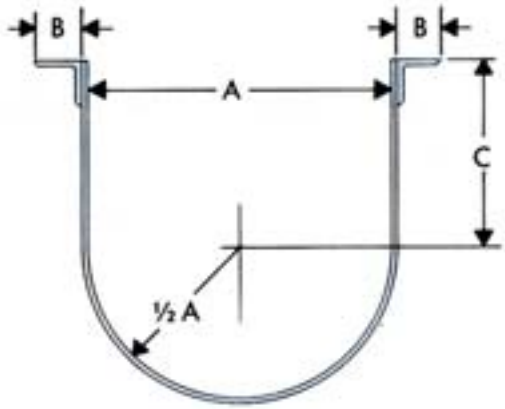
Angle Trough

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Size of Conveyor	Trough Thickness	Size Code	5 Ft. Part Number	10 Ft. Part Number	Wgt. Per Ft.	A	B Size of Angles	C
4	14	4AT14	305-1315	305-1323	7	5	1¼ x 1¼ x 9/64	3⅝
6	14	6AT14	305-1521	305-1547	9	7	1¼ x 1¼ x 9/64	4½
	10	6AT10	305-1638	305-1653	12			
	3/16	6AT07	305-1685	305-1703	15			
8	14	8AT14	305-1745	305-1760	11	10	1½ x 1½ x 9/64	6⅛
	12	8AT12	305-1828	305-1877	14			
	10	8AT10	305-1901	305-1984	17			
	3/16	8AT07	305-2057	305-2099	22			
	¼	8A100	305-2149	305-2156	27			
10	14	10AT14	305-2180	305-2286	12	11	1½ x 1½ x 9/64	6⅝
	12	10AT12	305-2289	305-2313	15			
	3/16	10AT07	305-2404	305-2420	23			
			6 Ft. Part Number	12 Ft. Part Number				
12	12	12AT12	305-3972	305-3994	19	13	2 x 2 x 9/64	7⅛
	10	12AT10	305-4067	305-4079	22			
	3/16	12AT07	305-4137	305-4186	28			
	¼	12A100	305-4251	305-4293	36			

Size of Conveyor	Trough Thickness	Size Code	6 Ft. Part Number	12 Ft. Part Number	Wgt. Per Ft.	A	B Size of Angles	C
14	12	14AT12	305-0894	305-4400	21	15	2 x 2 x 9/64	9¼
	10	14AT10	305-4459	305-4517	25			
	3/16	14AT07	305-4808	305-4824	32			
	¼	14AT00	305-4881	305-4731	41			
16	12	16AT12	305-1139	305-4848	23	17	2 x 2 x 9/64	10¾
	10	16AT10	305-4905	305-4954	28			
	3/16	16AT07	305-5027	305-5068	36			
	¼	16AT00	305-5142	305-5175	46			
18	12	18AT12	305-5241	305-5258	28	19	2½ x 2½ x ¼	12⅛
	10	18AT10	305-5274	305-5282	34			
	3/16	18AT07	305-5351	305-5399	43			
	¼	18AT00	305-5480	305-5506	54			
20	10	20AT10	305-5589	305-5613	37	21	2½ x 2½ x ¼	13½
	3/16	20AT07	305-5688	305-5720	47			
	¼	20AT00	305-5803	305-5837	60			
24	10	24AT10	305-5902	305-5944	42	25	2½ x 2½ x ¼	16½
	3/16	24AT07	305-6009	305-6058	55			
	¼	24AT00	305-6110	305-6165	78			

Angle Trough is fitted with structural steel angles along the top edge of the trough to provide excellent strength and rigidity in all trough sizes and gauges. "Nu-Weld" end flanges are continuously jig-welded to each end to assure alignment and tight connecting joints. Angle Trough can be formed of hot rolled steel, stainless steel or other alloys in all sizes and gauges, and may be hot dip galvanized. Trough modification such as a perforated bottom, a drop bottom for sanitary installations, jacketing for heating or cooling, etc., are available. Although normally furnished with a Tite-Seal Cover other types such as the Dome, Flanged, Hip Roof, etc., are available (see page 54). If supporting feet are needed, they are mounted at the flange joints. Trough saddles are also available, see page 56.



Tite-Seal Covers

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS										
Size of Conveyor	TITE-SEAL COVER WITH CLAMPS AND "U" EDGING							TITE-SEAL CLAMPS ONLY	"U" EDGING ONLY	
	Gauge of Steel	Size Code	5 Ft. Part Number	10 Ft. Part Number	A*	B	Wgt. per Ft.	Part Number	Size Number	Part Number
4	16	4TS16	312-0185	312-2017	7¾	1¼	1.6	322-0225	1	330-0142
6	16	6TS16	312-0300	312-2124	9¾	1¼	2.0	322-0332	1	330-0142
9	14	9TS14	312-2165	312-2231	13¼	1½	3.4	322-0449	1	330-0142
10	14	10TS14	312-0508	312-2348	14¼	1½	3.7	322-0555	1	330-0142
			6 Ft. Part Number	12 Ft. Part Number						
12	14	12TS14	312-1027	312-2454	17¼	2	4.6	322-0662	1	330-0217
14	14	14TS14	312-1183	312-2561	19¼	2	5.2	322-0779	1	330-0217
16	14	16TS14	312-1274	312-2678	21¼	2	5.8	322-0886	1	330-0217
18	12	18TS12	312-1407	312-2785	24¼	2½	8.7	322-0993	2	330-0357
20	12	20TS12	312-1506	312-2892	26¼	2½	9.5	322-1108	2	330-0357
24	12	24TS12	312-1621	312-2900	30¼	2½	11.1	322-1215	2	330-0357

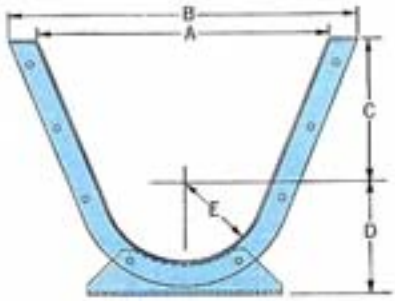
* For trough thickness 16 Ga. through 10 Ga. For use with trough thickness of 5/16" through ¼" increase ¼".

Tite-Seal Covers are designed for use with Angle Trough. They provide a high degree of dust protection. The flat cover is held securely in place by a continuous formed steel "U" edging along both sides of the trough. This "U" edging is fitted with sponge rubber and seals the cover to the trough. Tite-Seal quick-release cover clamps hold the entire assembly in place and yet allow quick access to the trough interior. A gasket attached to the underside of the cover clamp seals the joint between lengths of cover.

Flared Trough

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

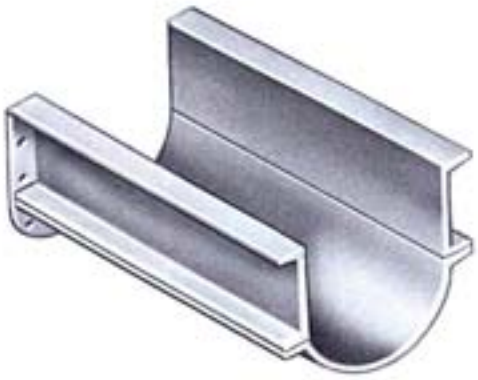
Size of Conveyor	Trough Thickness	Size Code	Part Number 10 Ft.	A	B	C	D	E	Weight Per Foot
6	14	6FT14	308-0223	14	16⅝	7	5⅝	3½	8
	3/16	6FT07	308-0330	14	16⅝	7	5⅝	3½	19
9	14	9FT14	308-0447	18	21½	9	7⅛	5	11
	10	9FT10	308-0553	18	21½	9	7⅛	5	19
	3/16	9FT07	308-0660	18	21½	9	7⅛	5	26
	¼	9FT03	308-0777	18	21½	9	7⅛	5	34
			Part Number 12 Ft.						
12	12	12FT12	308-0884	22	26½	10	9⅝	6½	21
	10	12FT10	308-0991	22	26½	10	9⅝	6½	27
	3/16	12FT07	308-1106	22	26½	10	9⅝	6½	37
	¼	12FT03	308-1213	22	26½	10	9⅝	6½	49
14	12	14FT12	308-1320	24	28½	11	10⅛	7½	23
	10	14FT10	308-1437	24	28½	11	10⅛	7½	30
	3/16	14FT07	308-1544	24	28½	11	10⅛	7½	41
	¼	14FT03	308-1650	24	28½	11	10⅛	7½	55
16	12	16FT12	308-1757	28	32½	11½	12	8½	26
	10	16FT10	308-1874	28	32½	11½	12	8½	33
	3/16	16FT07	308-1981	28	32½	11½	12	8½	44
	¼	16FT03	308-2096	28	32½	11½	12	8½	59
18	10	18FT10	308-2203	31	36½	12⅛	13⅜	9½	36
	3/16	18FT07	308-2310	31	36½	12⅛	13⅜	9½	49
	¼	18FT03	308-2427	31	36½	12⅛	13⅜	9½	65
20	10	20FT10	308-2534	34	39½	13½	15	10½	38
	3/16	20FT07	308-2641	34	39½	13½	15	10½	52
	¼	20FT03	308-2757	34	39½	13½	15	10½	69
24	10	24FT10	308-2864	40	45½	16½	18⅛	12½	44
	3/16	24FT07	308-2971	40	45½	16½	18⅛	12½	60
	¼	24FT03	308-3086	40	45½	16½	18⅛	12½	79



The Flared Trough is designed to allow the standard ½" clearance between the screw and the trough bottom. The flared sides of the trough improve the feeding and conveying action particularly on materials that are not entirely free-flowing or material in large slabs or pieces. The top edges are flanged to provide cover support and Nu-Weld steel end flanges are continuously jig-welded to each end to assure alignment and tight joints. Where conditions require special construction, Flared Troughs may be furnished in stainless steel, Monel or other alloys. Covers are usually bolted on or furnished with screw or spring clamps and may be flat for interior or hip roof for exterior installations.

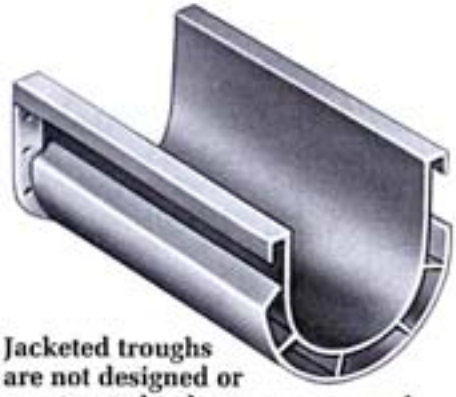
Special Trough Designs

Channel Trough



Channel Trough is made with a separate rolled or formed steel bottom for use where severe abrasion or corrosion factors require frequent trough replacements. The bottom is bolted to the structural steel side channels making a very rigid unit that can be used where trough supports are necessarily widely spaced.

Jacketed Trough



Jacketed troughs are not designed or constructed to be pressure vessels.

The Jacketed Trough is used to carry an agent for heating, cooling or drying the material while it is being conveyed. A formed jacket is continuously welded to a standard trough. This trough may be built to various standards; therefore, please consult our staff engineers before ordering.

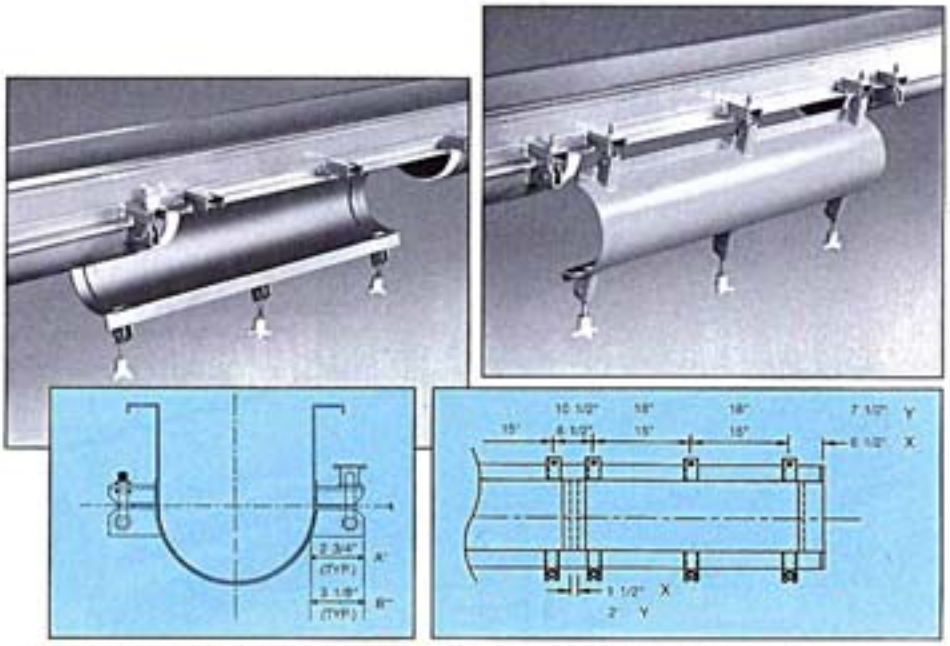
Dust Seal Trough

Dust Seal Troughs are formed with "Z" bars along the top sides and channels across the top width. This forms a continuous pocket into which the flanged (all four sides) cover fits. This pocket can then be filled with sand, sponge rubber or the material being conveyed, to provide a dust-tight seal that will allow quick access to the trough interior.

Tite-Seal™ Drop Bottom Trough

The Tite-Seal Drop Bottom Trough is designed to facilitate quick access to the Screw Conveyor and trough interior where frequent cleaning is required to combat infestation and contamination or build-up of some materials. The trough is equipped with a hinged bottom section that swings open when the clamps are disengaged. The edges of the opening are gasketed to seal when closed. The Tite-Seal Drop Bottom Trough may be of single or double flanged type construction and fitted with your choice of cover.

- ☐ Hinge side and latch side are adjustable to secure seal.
- ☐ Product pressure points are reinforced to prevent leakage.
- ☐ Drop bottom fits standard troughs of 10 Ga. and heavier thickness.



A = Dimensions for 6", 9", 10" and 12" units
B = All larger sizes

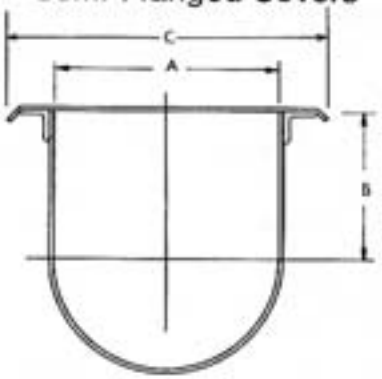
X = Dimensions for 6", 9", and 10" units.
Y = Dimensions for 12", 14", 16", 18", 20", and 24" units.

Additional Trough Covers & Shrouds

DIMENSIONS IN INCHES AND AVERAGE WEIGHT IN POUNDS

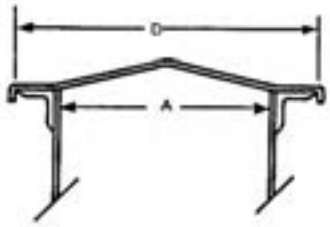
Diameter of Conveyor	SEMI-FLANGED FLAT COVER				HIP ROOF COVER			SHROUDS				A	B	C	D
	5 Ft. Part Number	10 Ft. Part Number	Weight Per Foot	Gauge of Steel	5 Ft. Part Number	10 Ft. Part Number	Weight Per Foot	Length	Part Number	Gauge of Steel	Weight				
4"	314-0157	314-0225	1.6	16	316-0173	316-0223	2	8"	318-0254	12	3.8	5	3⅜	8⅛	8¼
6"	314-0274	314-0332	2.0	16	316-0306	316-0330	2.5	12"	318-0023	12	7.5	7	4½	10½	10
9"	314-0381	314-0449	3.4	14	316-0579	316-0553	4	18"	318-0049	10	20.5	10	6¼	14½	13¾
10"	314-0513	314-0662	3.7	14	316-0529	316-0660	4.2	20"	318-0544	10	24.0	11	6¾	15¼	14¼
	6 Ft. Part Number	12 Ft. Part Number			6 Ft. Part Number	12 Ft. Part Number									
12"	314-0688	314-0779	4.6	14	316-0751	316-1106	5	24"	318-0080	10	35	13	7¼	18⅛	17⅛
14"	314-0803	314-0886	5.2	14	316-0850	316-1213	5.5	28"	318-0767	10	49	15	8¼	20⅛	19⅛
16"	314-0936	314-0993	5.8	14	316-0959	316-1320	6	32"	318-0841	10	65	17	10⅛	22⅛	21⅛
18"	314-1041	314-1108	8.7	12	316-1023	316-1437	9.5	36"	318-0981	10	85	19	12⅛	25⅛	24⅛
20"	314-1157	314-1215	9.5	12	316-1502	316-1544	10.2	40"	318-1096	10	105	21	13⅛	27⅛	26⅛
24"	314-1264	314-1322	11.1	12	316-1635	316-1650	11.2	48"	318-1203	10	153	25	16½	31⅛	30⅛

Semi-Flanged Covers



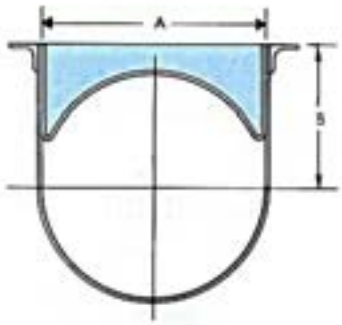
Semi-Flanged covers are flat covers with a slight crimp on both sides for greater strength and rigidity. They can be fastened by bolts, spring or screw clamps. They are not considered weather-proof but through the addition of gaskets and battens at the cover joints a reasonably tight construction can be obtained.

Hip Roof Covers



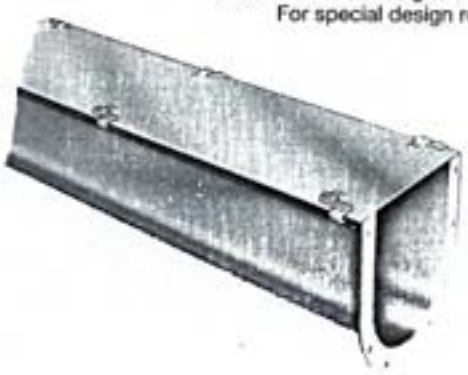
Hip Roof covers are intended for outdoor applications. The cover is flanged down on both sides and fitted with battens at the cover joints. Rubber gaskets are usually furnished all around. Fastening is usually by bolting but screw clamps can also be supplied.

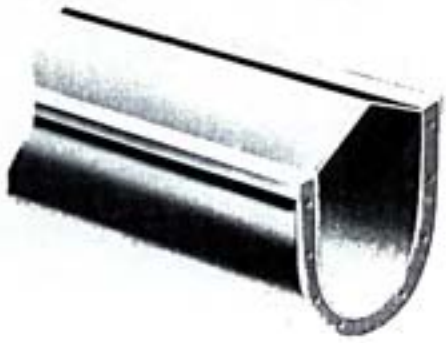
Shrouds



Shrouds are incorporated in feeder conveyors to baffle the flow of material. Shrouds are also designed to fit inside a standard trough to create a tubular effect for inclined operation. Covers of any construction are then used over shrouds as required.

Note: Standard designs are not intended to be weather, rain, air, or pressure tight.
For special design requirements, contact your nearest sales office.

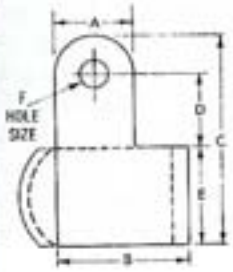


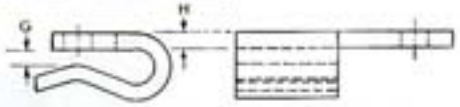


Trough Cover Clamps

Spring Cover Clamp

Steel Spring Cover Clamps are commonly used to fasten flat or semi-flanged covers to the conveyor trough. For dust-tight applications, they may also be fitted over a gasketed cover. Spring Cover Clamps are usually located on 2'6" centers, if gasketed, 15" centers, or closer to suit.



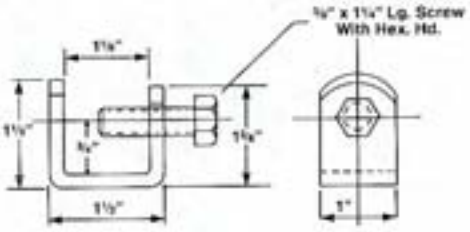


Size Code	Part* Number	A	B	C	D	E	F	G	H	Wgt. Per C
15C	325-0669	⅞	1 5/16	2⅛	1 5/16	1¼	9/32	9/32"	5/16	34
20C	325-1105	1⅛	1 11/16	3¼	1⅛	1½	13/32	¼"	5/16	51

* Part Numbers shown are for clamps for riveting to side angle of trough, if to include bracket for welding to cover as pictured add suffix "B".

Screw Cover Clamp

Screw Clamps may be used for flat or other special trough covers and are usually located on 30" centers or if gasketed, 15" centers, or closer to suit. Screw Clamps are also often used to clamp the bottom of drop bottom troughs.



Part Number	Weight Per C
323-0711	25#

Continuous Cover Clamps

The Continuous Cover Clamp is a heavy-gauge spring clamp furnished in 5' lengths. It is ideally suited to fastening a flat cover to the conveyor trough or for fastening a drop-bottom or quick-opening trough or casing section. The Continuous Clamp can be supplied in black iron or stainless steel, with or without locking pins on the ends.

Size Code	Part Number	A	B	C	Weight Each
40C 5'-0" Length	323-0554	1¼	9/16	½	8

Quick-Release Clamps

See pages 49 and 51 for "Barron" and "Tite-Seal" cover clamps.

"BARRON" Cover Clamp

"TITE-SEAL" COVER CLAMP

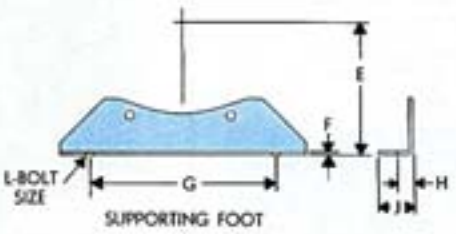
Supporting Feet and Saddles

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Diameter of Conveyor	NU-WELD END FLANGE			SUPPORTING FOOT		SADDLE		A	B	C	D	E	F	G	H	J	L	M	
	Part No. Light Trough	Part No.● Heavy Trough	Wgt.	Part Number	Wgt.	Part Number	Wgt.											Size	No.
4	332-0223	– –	1½	335-0147	1½	337-0145	1½	5¼	8	3⅝	3/16	4⅛	5/16	5¾	⅞	1½	⅝	⅜	6
6	332-0330	332-1757	2	335-0212	2	337-0210	2	7¼	9¾	4½	3/16	5⅛	5/16	8⅛	⅞	1½	⅝	⅜	6
9	332-0447	332-1874	3	335-0287	4½	337-0285	4½	10¼	13½	6⅛	3/16	7⅛	5/16	9⅜	1 1/16	2½	½	⅜	8
10	332-0553	332-1981	4	335-0352	5	337-0350	5	11¼	14½	6⅜	3/16	8⅛	5/16	9½	1 1/16	2 1/16	½	⅜	8
12	332-0660	332-2096	5	335-0428	6	337-0426	6	13¼	17¼	7⅜	¼	9⅛	5/16	12¼	1⅛	2½	⅝	½	8
14	332-0777	332-2203	6½	335-0493	7	337-0491	7	15¼	19¼	9¼	¼	10⅛	¼	13½	1⅛	2½	⅝	½	8
16	332-0884	332-2310	7½	335-0568	7½	337-0566	8	17¼	21¼	10⅛	¼	12	¼	14⅛	1¾	3	⅝	⅝	8
18	332-1320	332-1320	10½	335-0634	9½	337-0632	10	19¼	24¼	12⅛	¼	13⅛	¼	16	1¾	3	⅝	⅝	10
20	332-1437	332-1437	11½	335-0709	12½	337-0707	13	21¼	26¼	13½	¼	15	¼	18¼	2	3½	¾	⅝	10
24	332-1544	332-1544	13½	335-0774	14½	337-0772	15	25¼	30¼	16½	¼	18⅛	¼	20	2¼	4	¾	⅝	12

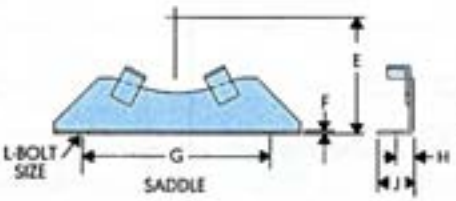
●When ordering for conveyor trough ⅜" thick or heavier, show part number and specify "for heavy trough."

Supporting feet provide the means of aligning and fastening the trough to the floor or existing structure at the trough joints. The trough end height is accurately maintained and the feet permit the removal of a trough end without disturbing the entire unit.



SUPPORTING FOOT

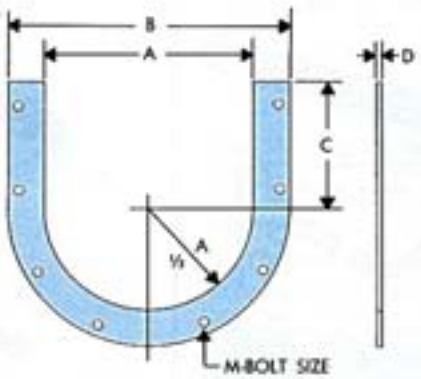
Saddles are used to support the trough between the trough sections and fasten to the floor or existing structures. The total height from the floor is the same as for a trough end with feet.



SADDLE

Flanges

Nu-Weld End Flanges are made of heavy-gauge steel to assure a close accurate fit with the conveyor trough and the trough ends or the following end flange. Bolt holes are jig-punched to assure accurate alignment.



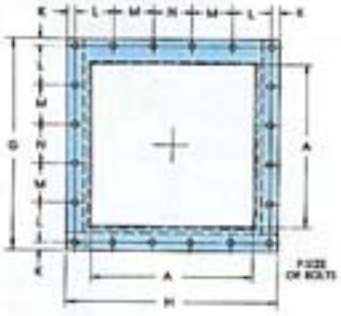
NU-WELD FLANGE

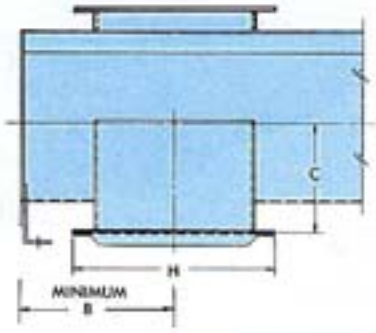
Feed and Discharge Spouts

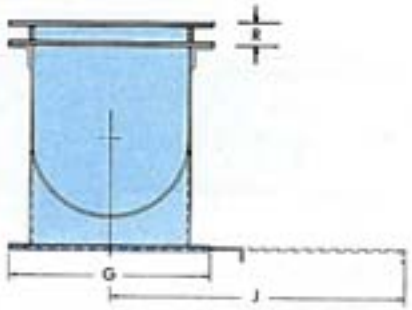
DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Diameter of Conveyor	Gauge of Steel	Without HAND SLIDE		With HAND SLIDE		A	B	C	G-H	J	K	L	M	N	P	R
		Part● Number	Wgt.	Part Number	Wgt.											
4	14	342-0148	2	342-1823	6	5	4½	3¾	7½	11⅛	⅜	2¼		2¼	¼	1⅛
6	14	342-0213	4	342-1898	10	7	6	5	10	14⅛	11/16	2 11/16		3	⅜	1⅜
9	14	342-0353	7	342-1963	16	10	8	7⅛	13	18¾	½	4		4	⅜	2
	10	342-0429	12	342-2037	21	10	8	7⅛	13	18¾	½	4		4	⅜	2
10	14	342-0494	8	342-2102	19	11	9	7⅛	14¼	20⅛	⅝	4 5/16		4⅜	⅜	2¼
	10	342-0569	14	342-2177	25	11	9	7⅛	14¼	20⅛	⅝	4 5/16		4⅜	⅜	2¼
12	12	342-0635	15	342-2243	33	13	10½	8⅛	17¼	24½	⅞	5⅛		5¼	⅜	2¼
	3/16	342-0700	27	342-2318	45	13	10½	8⅛	17¼	24½	⅞	5⅛		5¼	⅜	2¼
14	12	342-0775	19	342-2383	41	15	11½	10⅛	19¼	27⅛	⅞	3½	3½	3½	⅜	2½
	3/16	342-0841	34	342-2458	56	15	11½	10⅛	19¼	27⅛	⅞	3½	3½	3½	⅜	2½
16	12	342-0916	23	342-2524	49	17	13½	11⅛	21¼	30¾	⅞	3¾	4	4	⅜	2½
	3/16	342-0981	38	342-2599	64	17	13½	11⅛	21¼	30¾	⅞	3¾	4	4	⅜	2½
18	12	342-1054	30	342-2664	64	19	14½	12⅜	24¼	33¾	1⅛	4 1/16	4⅛	4⅛	½	2¾
	3/16	342-1120	52	342-2730	86	19	14½	12⅜	24¼	33¾	1⅛	4 1/16	4⅛	4⅛	½	2¾
20	12	342-1195	34	342-2805	84	21	15½	13⅜	26¼	36⅜	1⅛	4⅞	4¼	4¼	½	2¾
	3/16	342-1260	59	342-2870	109	21	15½	13⅜	26¼	36⅜	1⅛	4⅞	4¼	4¼	½	2¾
24	12	342-1336	44	342-2946	108	25	17½	15⅜	30¼	42⅛	1⅛	5⅝	5⅛	5½	½	3
	3/16	342-1401	76	342-3019	140	25	17½	15⅜	30¼	42⅛	1⅛	5⅝	5⅛	5½	½	3

● Part Numbers shown apply to discharge spouts only.
For feed spout indicate size & gauge EXAMPLE: one 12", 3/16" thk feed spout or 14" 12 GA feed spout.







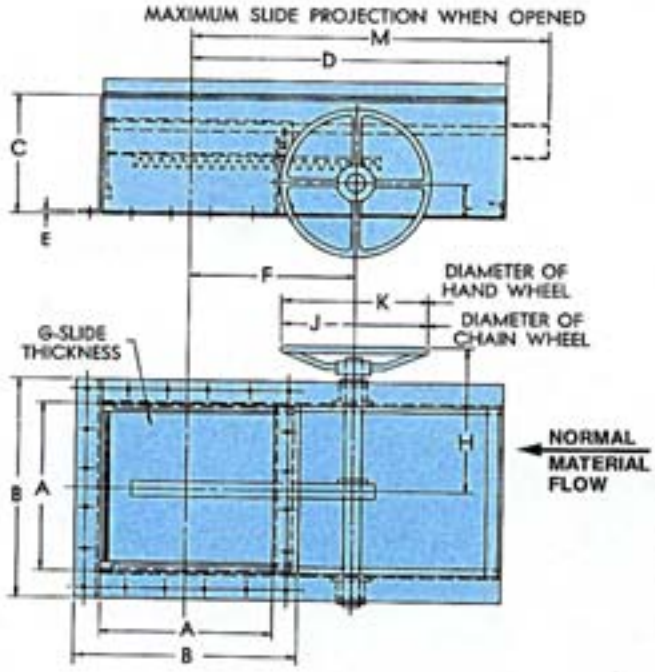
Stub spouts with or without slide gates are fitted to conveyor trough or cover openings. The slide may be mounted on either a feed or discharge spout and may be operated parallel to the trough or at right angles, as required. Spouts of special dimensions, gauges and materials can be supplied to suit installation needs.

1. Discharge without slide
2. Discharge with flat hand slide
3. Plain discharge opening
4. Feed spout without slide
5. Plain feed opening

Rack and Pinion Gates

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS															
Diameter of Conveyor	Gauge of Spout	CURVED SLIDE Part Number	CURVED SLIDE Wgt.	A	B	C	D	E	F	G (Ga.)	H	J	K	L	M
6	14	350-0212	38	7¼	10¼	8	11⅛	14	7⅝	12	11⅜	12	12	2⁷/₁₆	15⅝
	12	350-0287	40	7¼	10¼	8	11⅛	12	7⅝	12	11⅜	12	12	2⁷/₁₆	15⅝
9	12	350-0352	48	10¼	13¼	9½	13⅛	12	9⅛	12	12¹⁵/₁₆	12	12	2⁷/₁₆	20⅛
	10	350-0428	53	10¼	13¼	9½	13⅛	10	9⅛	12	12¹⁵/₁₆	12	12	2⁷/₁₆	20⅛
10	12	350-0493	61	11¼	14¼	10	13⅝	12	9⅝	10	13⁵/₁₆	12	12	2⁷/₁₆	21⅛
	10	350-0568	66	11¼	14¼	10	13⅝	10	9⅝	10	13⁵/₁₆	12	12	2⁷/₁₆	21⅛
12	10	350-0634	81	13¼	17¼	11	15⅝	10	10⅝	10	14⁷/₁₆	12	12	2⁷/₁₆	24⅛
	¼	350-0709	94	13¼	17¼	11	15⅝	¼	10⅝	10	14⁷/₁₆	12	12	2⁷/₁₆	24⅛
*14	10	350-0774	99	15¼	19¼	10¹³/₁₆	17⅝	10	11⅝	10	15⁷/₁₆	12	12	2⅝	27⅛
	¼	350-0840	118	15¼	19¼	10¹³/₁₆	17⅝	¼	11⅝	10	15⁷/₁₆	12	12	2⅝	27⅛
*16	10	350-0915	115	17¼	21¼	11¹³/₁₆	20⅛	10	12⅝	10	16⁷/₁₆	12	12	2⅝	30⅛
	¼	350-0980	138	17¼	21¼	11¹³/₁₆	20⅛	¼	12⅝	10	16⁷/₁₆	12	12	2⅝	30⅛
*18	10	350-1053	150	19¼	24¼	12¹⁵/₁₆	22⅝	10	13⅝	10	17⁵/₁₆	12	12	2⅝	33⅛
	¼	350-1129	170	19¼	24¼	12¹⁵/₁₆	22⅝	¼	13⅝	10	17⁵/₁₆	12	12	2⅝	33⅛
*20	10	350-1194	160	21¼	26¼	13⅛	24⅛	10	14⅛	⅜	18⁵/₁₆	12	12	2⅝	36⅛
	¼	350-1269	183	21¼	26¼	13⅛	24⅛	¼	14⅛	⅜	18⁵/₁₆	12	12	2⅝	36⅛
*24	10	350-1335	202	25¼	30¼	15⅛	29⅛	10	16⅛	⅜	20⁵/₁₆	12	12	2⅝	42⅛
	¼	350-1400	235	25¼	30¼	15⅛	29⅛	¼	16⅛	⅜	20⁵/₁₆	12	12	2⅝	42⅛

* These sizes furnished with double rack and pinions.



See page 57 for flange punching.

Curved Slide

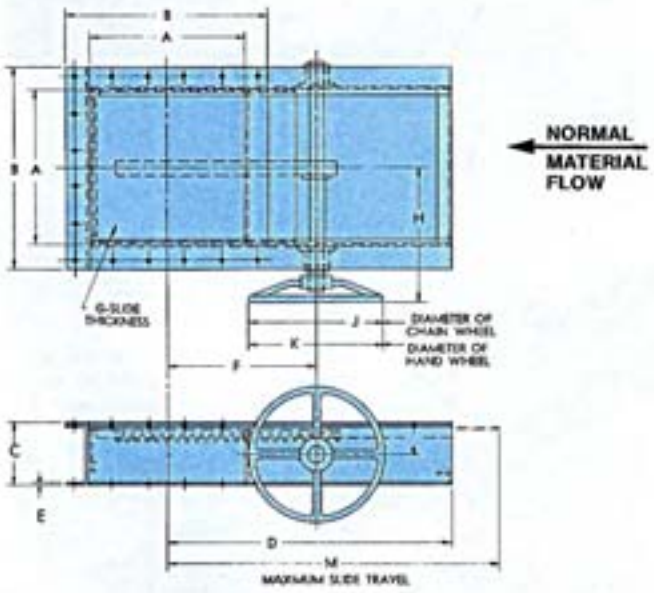
Rack and Pinion discharge gates with curved slides have cut tooth racks welded to the curved slide plate. This engages a cut tooth pinion mounted on a pinion shaft. Operation of the gate is by means of a hand wheel as illustrated. Chain wheels with chain can be supplied if desired. Curved slides conform with the contour of the trough and eliminate all pockets that might trap the material in a spout above a flat slide.

These slides can also be power operated through electric motors or air or hydraulic cylinders. Consult our engineering department for details.

Rack and Pinion Gates

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS															
Diameter of Conveyor	Gauge of Spout	Flat Side Gate Part Number	Flat Side Gate Wgt.	A	B	C	D	E	F	G (Ga.)	H	J	K	L	M
4	14	350-1541	35	5	7½	5	10½	14	6½	10	10⅝	12	12	2	12½
6	14	350-1681	41	7	10	5	11½	14	7½	10	11⅜	12	12	2	15½
9	14	350-1756	52	10	13	5	13	14	9	10	10 15/16	12	12	2	20
	10	350-1822	64	10	13	5	13	10	9	10	10 15/16	12	12	2	20
10	14	350-1897	56	11	14¼	5	13½	14	9½	10	13 5/16	12	12	2	21½
	10	350-1962	70	11	14¼	5	13½	10	9½	10	13 5/16	12	12	2	21½
12	12	350-2036	79	13	17¼	5	15½	12	10½	3/16	14 5/16	12	12	2	24½
	3/16	350-2101	105	13	17¼	5	15½	3/16	10½	3/16	14 5/16	12	12	2	24½
*14	12	350-2176	94	15	19¼	5	17½	12	11½	3/16	15 5/16	12	12	2	27½
	3/16	350-2242	125	15	19¼	5	17½	3/16	11½	3/16	15 5/16	12	12	2	27½
*16	12	350-2317	106	17	21¼	5	20½	12	12½	3/16	16 5/16	12	12	2	30½
	3/16	350-2382	150	17	21¼	5	20½	3/16	12½	3/16	16 5/16	12	12	2	30½
*18	12	350-2457	131	19	24¼	5	22½	12	13½	3/16	17 5/16	12	12	2	33½
	3/16	350-2523	147	19	24¼	5	22½	3/16	13½	3/16	17 5/16	12	12	2	33½
*20	12	350-2598	152	21	26¼	5	24½	12	14½	3/16	18 5/16	12	12	2	36½
	3/16	350-2663	202	21	26¼	5	24½	3/16	14½	3/16	18 5/16	12	12	2	36½
*24	12	350-2739	176	25	30¼	5	29½	12	16½	3/16	20 5/16	12	12	2	42½
	3/16	350-2804	240	25	30¼	5	29½	3/16	16½	3/16	20 5/16	12	12	2	42½

* These sizes furnished with double racks and pinions.



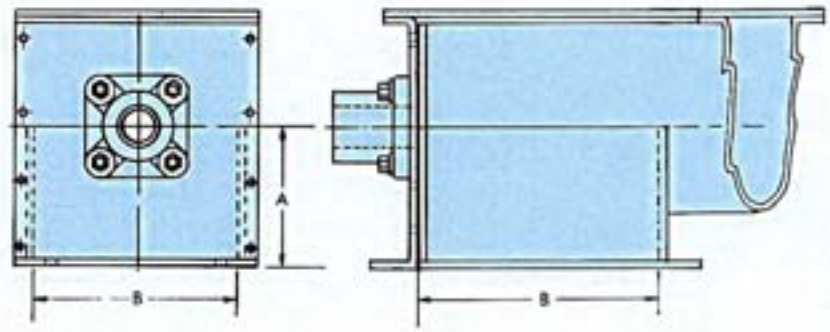
See page 57 for flange punching.

Flat Slide

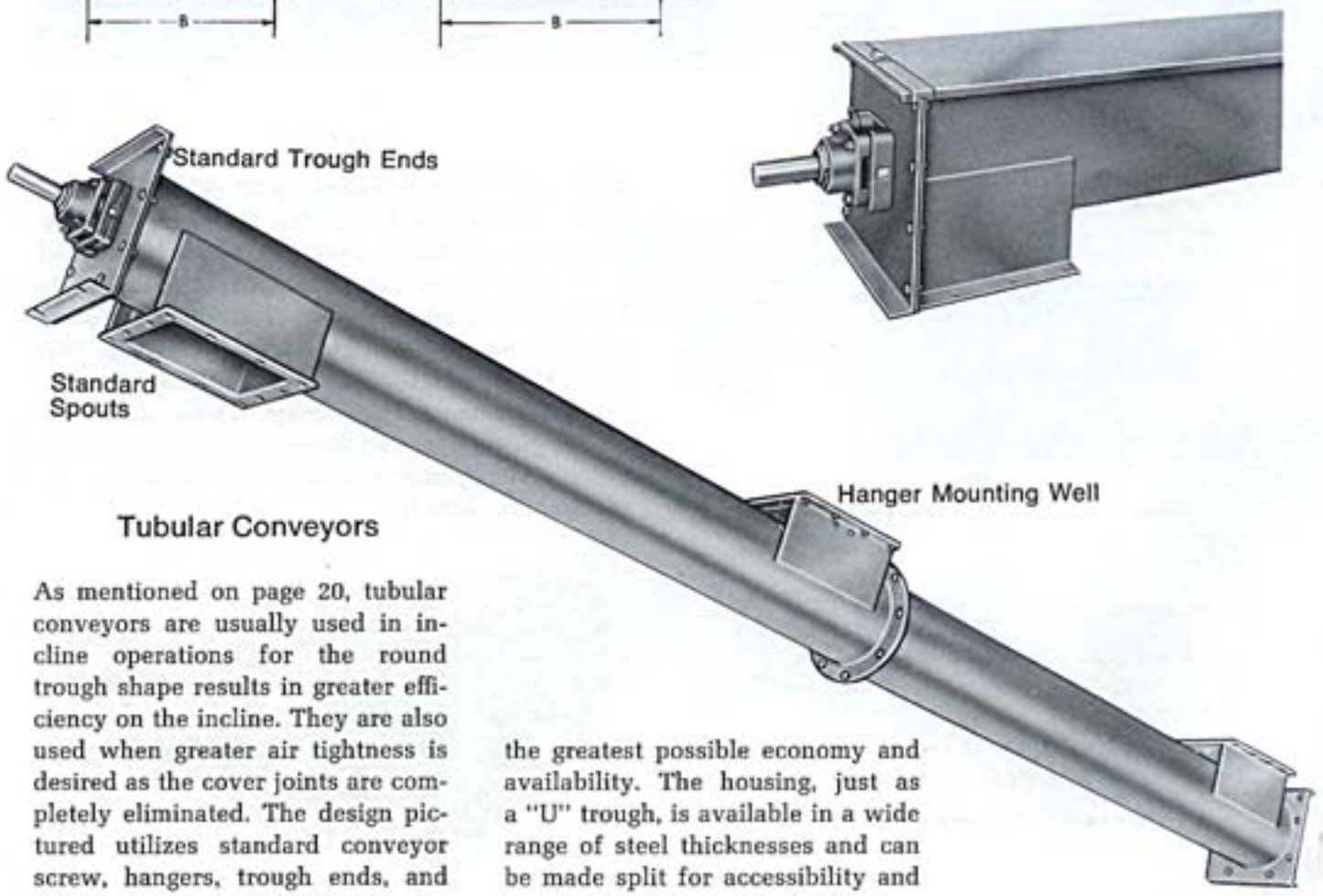
Rack and Pinion discharge gates with flat slides have cut tooth racks welded to the slide plate. This engages a cut tooth pinion which is mounted on a pinion shaft. Operation of the gate is by means of a hand wheel, as illustrated, but chain wheels with chain can be supplied if desired. Flat slides allow operation in any one of the four positions if clearance is adequate. These slides can also be power operated through electric motors, air or hydraulic cylinders. Consult our engineering department for details.

Flush End Discharge

DIMENSIONS IN INCHES					
Diameter of Conveyor	A	B	Diameter of Conveyor	A	B
4	3¾	5	14	10⅝	15
6	5	7	16	11½	17
9	7⅛	10	18	12⅝	19
10	7⅞	11	20	13⅜	21
12	8⅝	13	24	15⅝	25



A discharge assembly as shown on page 57 can be undesirable, if material has a tendency to build up between the edge of the discharge opening and the inside of the trough end plate at the extreme end of the conveyor. To overcome this, the spout can be mounted flush with the end of the trough and the trough end modified to act as the fourth side of the discharge spout. The trough end may be any of the types shown on pages 41 through 44.



Tubular Conveyors

As mentioned on page 20, tubular conveyors are usually used in incline operations for the round trough shape results in greater efficiency on the incline. They are also used when greater air tightness is desired as the cover joints are completely eliminated. The design pictured utilizes standard conveyor screw, hangers, trough ends, and spouts as shown in this catalog for the greatest possible economy and availability. The housing, just as a "U" trough, is available in a wide range of steel thicknesses and can be made split for accessibility and drop bottom or top for cleaning.

Assembly Bolts

Coupling Bolts are normally "Tem-U-Lac" as pictured on page 34.

Assembly Bolts for hangers, trough flanges, trough ends, bolted covers and supporting feet are normally hex head machine bolts with lock washers and hex nuts.

CONVEYOR PART	CONVEYOR AND BOLT SIZES															
	4 x 1		6 x 1 1/2		9 x 1 1/2		9 x 2		10 x 1 1/2		10 x 2		12 x 2		12 x 2 7/16	
	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.
Conveyor Coupling	⅜ x 2½	4	½ x 3	4	½ x 3	4	½ x 3½	4	½ x 3	4	⅝ x 3½	4	⅝ x 3½	4	⅝ x 4½	4
326 Hanger	⅜ x 1	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	½ x 1½	4	½ x 1½	4
216 Hanger	⅜ x 1	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	½ x 1½	4	½ x 1½	4
220 Hanger	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	½ x 1¼	4	½ x 1¼	4
226 Hanger	⅜ x 1	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	½ x 1½	4	½ x 1½	4
230 Hanger	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	½ x 1¼	4	½ x 1¼	4
260 Hanger			⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	⅜ x 1	4	½ x 1¼	4	½ x 1¼	4
270 Hanger			⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	⅜ x 1¼	4	½ x 1½	4	½ x 1½	4
Trough Flange	⅜ x 1	6	⅜ x 1	6	⅜ x 1	8	⅜ x 1	8	⅜ x 1	8	⅜ x 1	8	½ x 1¼	8	½ x 1¼	8
Trough End	⅜ x 1	6	⅜ x 1	6	⅜ x 1¼	8	⅜ x 1¼	8	⅜ x 1¼	8	⅜ x 1¼	8	½ x 1½	8	½ x 1½	8
Bolted Cover	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10
Supporting Foot	⅜ x 1¼	2	⅜ x 1¼	2	⅜ x 1¼	2	⅜ x 1¼	2	⅜ x 1¼	2	⅜ x 1¼	2	½ x 1½	2	½ x 1½	2

CONVEYOR PART	CONVEYOR AND BOLT SIZES															
	12 x 3		14 x 2 7/16		14 x 3		16 x 3		18 x 3		20 x 3		20 x 3 7/16		24 x 3 7/16	
	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.	Bolt	No.
Conveyor Coupling	¾ x 5	4	⅝ x 4½	4	¾ x 5	4	¾ x 5	4	¾ x 5	4	¾ x 5	4	⅞ x 5½	4	⅞ x 5½	4
326 Hanger	½ x 1½	4	½ x 1½	4	½ x 1½	4	½ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4
216 Hanger	½ x 1½	4	½ x 1¾	4	½ x 1¾	4	½ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4
220 Hanger	½ x 1¼	4	½ x 1½	4	½ x 1½	4	½ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4
226 Hanger	½ x 1½	4	½ x 1¾	4	½ x 1¾	4	½ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4
230 Hanger	½ x 1¼	4	½ x 1½	4	½ x 1½	4	½ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4	⅝ x 1½	4
260 Hanger	½ x 1¼	4	½ x 1½	4	½ x 1½	4	½ x 1½	4	⅝ x 1½	4	⅝ x 1½	4				
270 Hanger	½ x 1½	4	½ x 1¾	4	½ x 1¾	4	½ x 1¾	4	⅝ x 1¾	4	⅝ x 1¾	4				
Trough Flange	½ x 1¼	8	½ x 1¼	8	½ x 1¼	8	⅝ x 1¾	8	⅝ x 1¾	10	⅝ x 1¾	10	⅝ x 1¾	10	⅝ x 1¾	12
Trough End	½ x 1½	8	½ x 1½	8	½ x 1½	8	⅝ x 1¾	8	⅝ x 1¾	10	⅝ x 1¾	10	⅝ x 1¾	10	⅝ x 1¾	12
Bolted Cover	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10	⅜ x 1	10
Supporting Foot	½ x 1½	2	½ x 1½	2	½ x 1½	2	⅝ x 1¾	2	⅝ x 1¾	2	⅝ x 1¾	2	⅝ x 1¾	2	⅝ x 1¾	2

Weights & Dimensions

PIPE SIZES NORMALLY USED IN ASSEMBLY OF CONVEYOR SCREW

STANDARD WEIGHT STEEL PIPE

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot	Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot
⅛	.405	.269	.068	.244	5	5.563	5.047	.258	14.617
¼	.540	.364	.088	.424	6	6.625	6.065	.280	18.974
⅜	.675	.493	.091	.567					
½	.840	.622	.109	.850	*7	7.625	7.023	.301	23.544
					8	8.625	8.071	.277	24.696
¾	1.050	.824	.113	1.130	8	8.625	7.981	.322	28.554
1	1.315	1.049	.133	1.678	*9	9.625	8.941	.342	33.907
1¼	1.660	1.380	.140	2.272					
1½	1.900	1.610	.145	2.717	10	10.750	10.192	.279	31.201
					10	10.750	10.136	.307	34.240
2	2.375	2.067	.154	3.652	10	10.750	10.020	.365	40.483
2½	2.875	2.469	.203	5.793	*11	11.750	11.000	.375	45.557
3	3.500	3.068	.216	7.575					
3½	4.000	3.548	.226	9.109	12	12.754	12.090	.330	43.773
					12	12.750	12.000	.375	49.562
4	4.500	4.026	.237	10.790					
*4½	5.000	4.506	.247	12.538					

EXTRA HEAVY STEEL PIPE

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot	Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot
⅛	.405	.215	.095	.314	5	5.563	4.813	.375	20.778
¼	.540	.302	.119	.535					
⅜	.675	.423	.126	.738	6	6.625	5.761	.432	28.573
½	.840	.546	.147	1.087					
¾	1.050	.742	.154	1.473	*7	7.625	6.625	.500	38.048
1	1.315	.957	.179	2.171	8	8.625	7.625	.500	43.388
1¼	1.660	1.278	.191	2.996					
1½	1.900	1.500	.200	3.631	*9	9.625	8.625	.500	48.728
2	2.375	1.939	.218	5.022	10	10.750	9.750	.500	54.735
2½	2.875	2.323	.276	7.661					
					*11	11.750	10.750	.500	60.075
3	3.500	2.900	.300	10.252					
3½	4.000	3.364	.318	12.505	12	12.750	11.750	.500	65.415
4	4.500	3.826	.337	14.983					
*4½	5.000	4.290	.355	17.611					

*These sizes are listed but not commonly used.
△Subject to standard mill tolerance variations

†Permissible variations in weight is plus or minus 5%.

DOUBLE EXTRA HEAVY STEEL PIPE

DIMENSIONS IN INCHES AND AVERAGE WEIGHTS IN POUNDS

Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot	Nominal Pipe Size	△ACTUAL SIZE OD	△ACTUAL SIZE ID	Wall Thickness	†Weight Per Foot
½	.840	.252	.294	1.714	4	4.500	3.152	.674	27.541
¾	1.050	.434	.308	2.440	*4½	5.000	3.580	.710	32.530
1	1.315	.599	.358	3.659	5	5.563	4.063	.750	38.552
1¼	1.660	.896	.382	5.214					
1½	1.900	1.100	.400	6.408	6	6.625	4.897	.864	53.160
2	2.375	1.503	.436	9.029	*7	7.625	5.875	.875	63.079
2½	2.875	1.771	.552	13.695					
					8	8.625	6.875	.875	72.424
3	3.500	2.300	.600	18.583					
3½	4.000	2.728	.636	22.850					

*These sizes are listed but not commonly used.
△Subject to standard mill tolerance variations

†Permissible variations in weight is plus or minus 5%.

Weights & Dimensions

STANDARD SHEET GAUGES

DIMENSIONS IN INCHES AND WEIGHTS IN POUNDS PER SQUARE FOOT

Gauge	MFR'S STD.—STEEL SHEETS U.S. STD.—REVISED			BIRMINGHAM WIRE (BWG) STUBS IRON WIRE		Galvanized Sheet	STAINLESS SHEETS OLD U.S. STD.		
	Fractional	Decimal	Weight	Decimal	Weight		Decimal	Chr. Iron	Chr. Nickel
8	11/64	.1644	6.875	.165	6.7320				
9	5/32	.1495	6.250	.148	6.0384				
10	9/64	.1345	5.625	.134	5.4672	5.781	.1406	5.794	5.906
11	1/8	.1196	5.000	.120	4.8960	5.156	.1250	5.150	5.250
12	7/64	.1046	4.375	.109	4.4472	4.531	.1094	4.506	4.594
13	3/32	.0897	3.750	.095	3.8760	3.906	.0938	3.863	3.938
14	5/64	.0747	3.125	.083	3.3864	3.281	.0781	3.219	3.281
15	9/128	.0673	2.812	.072	2.9376	2.969	.0703	2.897	2.953
16	1/16	.0598	2.500	.065	2.6510	2.656	.0625	2.575	2.625
17	9/160	.0538	2.250	.058	2.3664	2.406	.0563	2.318	2.363
18	1/20	.0478	2.000	.049	1.9992	2.156	.0500	2.060	2.100
19	7/160	.0418	1.750	.042	1.7126	1.906	.0438	1.803	1.838
20	3/80	.0359	1.500	.035	1.4280	1.656	.0375	1.545	1.575
21	11/320	.0329	1.375	.032	1.3056	1.531	.0344	1.416	1.444
22	1/32	.0299	1.250	.028	1.1424	1.406	.0313	1.288	1.313
23	9/320	.0269	1.125	.025	1.0206	1.281	.0281	1.159	1.181
24	1/40	.0239	1.000	.022	.8970	1.156	.0250	1.030	1.050
25	7/320	.0209	.875	.020	.8160	1.031	.0219	.901	.919
26	3/160	.0179	.750	.018	.7344	.906	.0188	.773	.788
27	11/640	.0164	.687	.016	.6528	.844	.0172	.708	.722
28	1/64	.0149	.625	.014	.5712	.781	.0156	.644	.656
29	9/640	.0135	.562	.013	.5304	.719	.0141	.579	.591
30	1/80	.0120	.500	.012	.4896	.656	.0125	.515	.525

WEIGHTS OF STEEL PLATES

DIMENSIONS IN FRACTIONAL INCHES AND WEIGHTS IN POUNDS PER SQUARE FOOT

STEEL PLATES				STAINLESS STEEL PLATES			
Thickness	Weight	Thickness	Weight	Thickness	Weight	Thickness	Weight
1/16	7.65	1 1/4	45.90	1/16	8.295	5/16	18.810
1/4	10.20	1 1/4	51.00	13/64	8.984	21/64	20.155
5/16	12.75	1 3/8	56.10	7/32	9.677	1/2	21.498
3/8	15.30	1 1/2	61.20	15/64	10.369	5/16	24.185
7/16	17.85	1 5/8	66.30	1/4	10.956	3/8	26.614
1/2	20.40	1 3/4	71.40	17/64	11.641	13/16	29.276
9/16	22.95	2	81.60	9/32	12.442	7/8	31.937
5/8	25.50	2 1/4	91.80	5/16	13.437	15/16	34.599
3/4	30.60	2 1/2	102.00	11/32	14.779	3/4	37.260
7/8	35.70	2 3/4	112.20	3/8	16.123	15/16	39.922
1	40.80	3	122.40	13/32	17.467	1	42.582

WEIGHTS OF ROUND AND SQUARE STEEL BARS

Size in Inches	Round ● Weight in Lbs.	Square ■ Weight in Lbs.	Size in Inches	Round ● Weight in Lbs.	Square ■ Weight in Lbs.	Size in Inches	Round ● Weight in Lbs.	Square ■ Weight in Lbs.
1/16	.094	.120	1 1/16	3.380	4.303	3	24.03	30.60
1/32	.1277	.1620	1 1/16	3.766	4.795	3 1/16	28.21	35.91
1/4	.167	.213	1 1/4	4.172	5.313	3 1/2	32.71	41.65
5/32	.2133	.2676	1 5/16	4.600	5.857	3 3/4	37.55	47.81
3/16	.261	.332	1 3/8	5.049	6.428	4	42.73	54.40
11/32	.3137	.3992	1 7/16	5.518	7.026	4 1/4	48.23	61.41
3/8	.376	478	1 1/2	6.008	7.650	4 1/2	54.07	68.85
13/32	.4377	.5562	1 5/8	6.519	8.301	4 3/4	60.25	76.71
7/16	.511	.651	1 3/4	7.051	8.978	5	66.76	85.00
1/2	.668	.850	1 7/8	8.178	10.413	5 1/4	73.60	93.71
9/16	.845	1.076	1 15/16	9.388	11.953	5 1/2	80.78	102.85
5/8	1.043	1.328	2	10.681	13.600	5 3/4	88.29	112.41
11/16	1.262	1.607	2 1/16	12.058	15.353	6	96.13	122.40
3/4	1.502	1.913	2 1/4	13.519	17.213	6 1/2	112.82	143.65
13/16	1.763	2.245	2 5/16	15.062	19.178	7	130.85	166.60
7/8	2.044	2.603	2 1/2	16.690	21.250	7 1/2	150.21	191.25
15/16	2.347	2.988	2 5/8	18.400	23.428	8	170.90	217.60
1	2.670	3.400	2 3/4	20.195	25.713	8 1/2	192.93	245.65
1 1/16	3.015	3.838	2 7/8	22.072	28.103	9	216.30	275.40

AREAS AND VOLUMES

Circumference of circle ..... = 3.1416 × diameter

Diameter of circle ..... = 0.3183 × circumference

Side of a square of equal area ..... = 0.8862 × diameter

Diameter of a circle of equal area ..... = 1.1284 × side of square

Area of a circle ..... = 0.7854 × square of the diameter

Diameter of a circle ..... = 1.1284 × square root of the area

Surface area of a sphere ..... = 3.1416 × square of the diameter

Volume of a sphere ..... = 0.5236 × cube of diameter

Volume of cylinder or prism ..... = area of base × height

Volume of cone or pyramid ..... = 1/3 × area of base × height

Volume of the frustrum of a cone or pyramid ..... = 1/3 × height × (area of upper base + area of lower base + √area of upper base × area of lower base.)

Doubling the diameter of a pipe increases its volume four times; generalizing, increasing the diameter "n" times increases the volume "n²" or "n × n" times.

Index

Screw Conveyor Safety Practices

TO AVOID UNSAFE OR HAZARDOUS CONDITIONS, THE FOLLOWING MINIMUM PROVISIONS MUST BE STRICTLY OBSERVED.

1. (A) **SCREW CONVEYORS SHALL NEVER BE OPERATED UNLESS THE CONVEYOR HOUSING COMPLETELY ENCLOSES THE CONVEYOR MOVING ELEMENTS.** All necessary housings, covers, safety guards, railings, gratings and power transmission guards must be in place. If the conveyor is to be opened for inspection, cleaning or observation, the motor driving the conveyor is to be locked out electrically in such a manner that it cannot be started by anyone, however remote from the area unless the conveyor housing has been closed and all guards are in place. **THE HOUSINGS, COVERS AND GUARDS ARE NECESSARY TO PREVENT ANYONE FROM ENTERING, REACHING, OR FALLING INTO THE MACHINERY, WHICH MAY RESULT IN SERIOUS PERSONAL INJURY.**

(B) If the conveyor must have an open housing as a condition of its use, the **entire open conveyor is then to be guarded by a railing, fence or rugged safety grating.**

(C) Feed openings for shovel, front end loader or other mechanical equipment shall be constructed in such a way that the conveyor is covered by a rugged grating. If the nature of the material is such that a grating can't be used, **then the exposed section of the conveyor is to be guarded by a railing and there shall be warning signs posted.**

2. **DO NOT PLACE HANDS OR FEET IN ANY CONVEYOR OPENING, TO AVOID BEING CAUGHT BETWEEN THE ROTATING CONVEYOR SCREW AND THE CONVEYOR HOUSING.**

3. **DO NOT WALK ON CONVEYOR COVERS OR GRATINGS OR POWER TRANSMISSION GUARDS, TO AVOID FALLING INTO OR AGAINST THE ROTATING CONVEYOR SCREW.**

4. **DO NOT** poke or prod material in the conveyor with a bar or stick, **to avoid being struck by the bar or stick.**

5. **DO NOT** overload conveyor or use it for anything but its intended use.

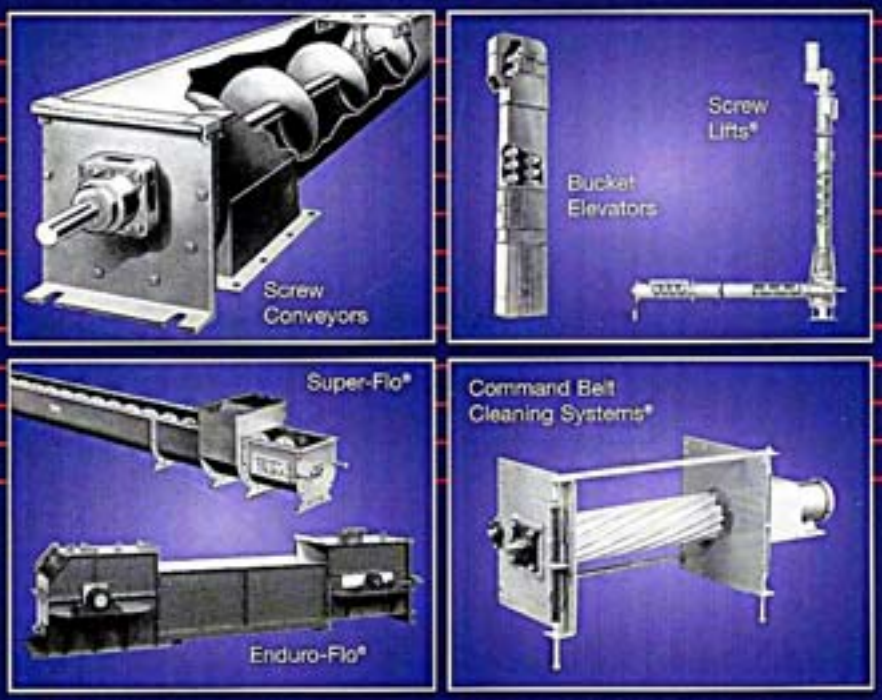
6. **DO** practice good housekeeping

A copy of Screw Conveyor Safety and Service Instructions are shipped as part of every order.

THE EXPERIENCE TO HANDLE IT RIGHT!

Screw Conveyor Corporation

EXPERIENCE IN MOTION



For Over 70 Years We Have Been A Dependable Source For Performance Proven Industrial Bulk Material Handling Equipment. Put Our Experience to Work for You.

THE EXPERIENCE TO HANDLE IT RIGHT!®

Screw Conveyor Corporation

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