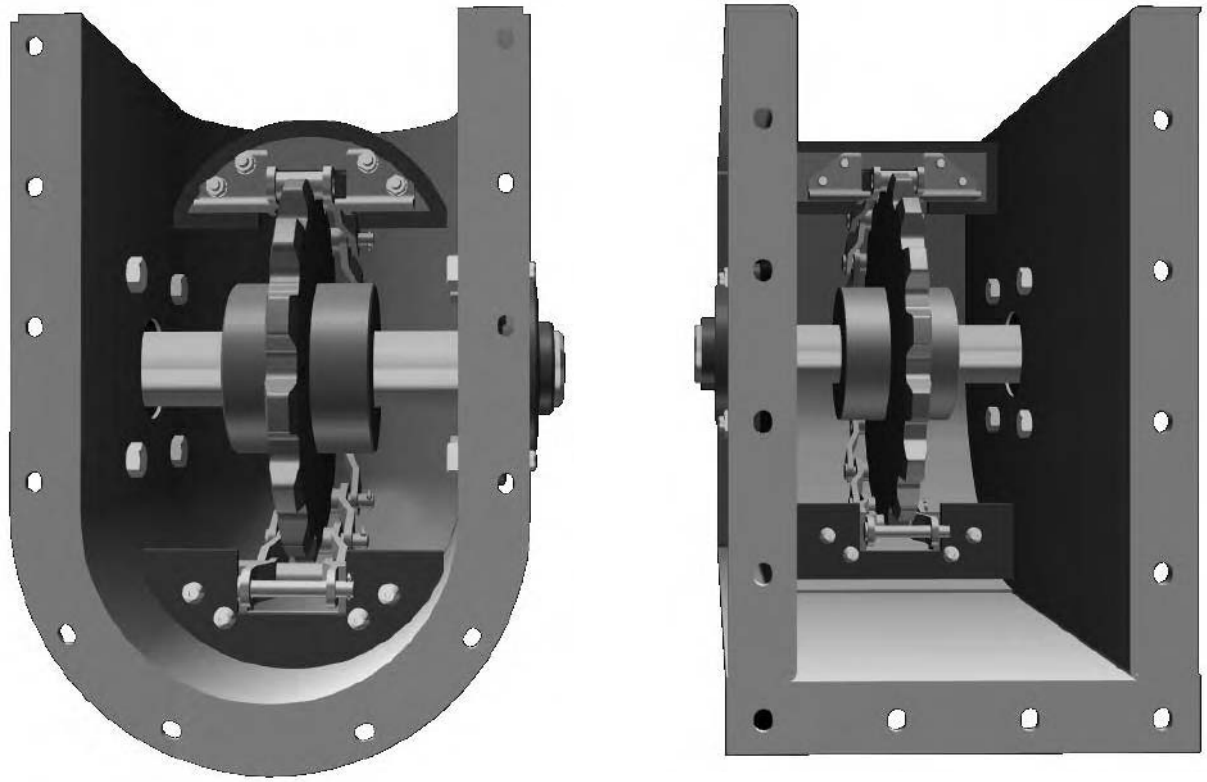
Drag Conveyors Section VII

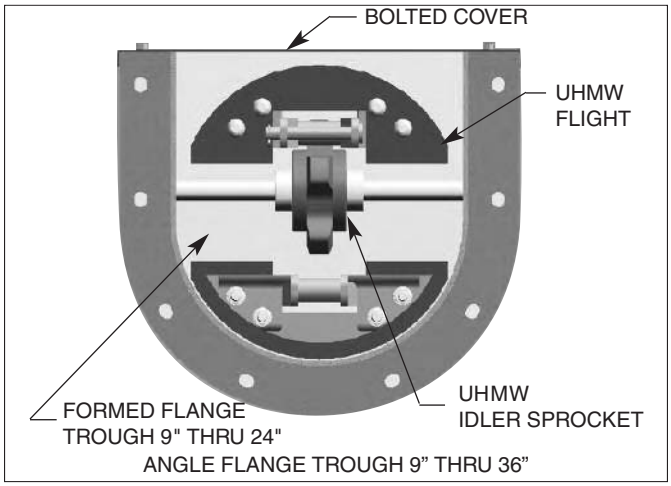


SECTION VII

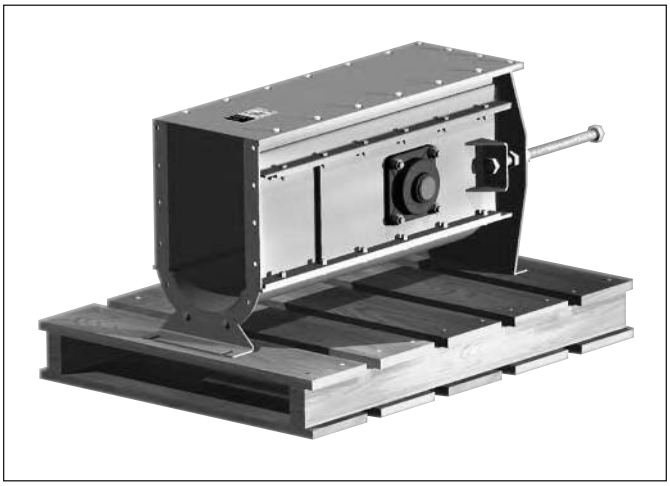
DRAG CONVEYOR SECTION VII

*Conveyors shown without cover for illustration purposes only. Please follow manufacturing safety guidelines when operating conveyors.

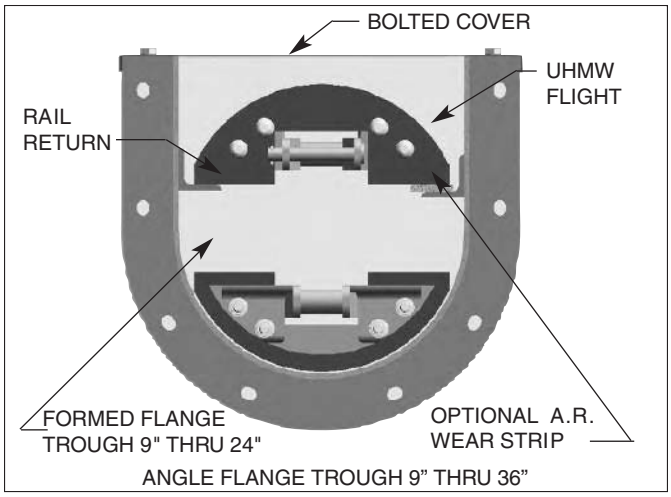
Round Bottom Drag Conveyor



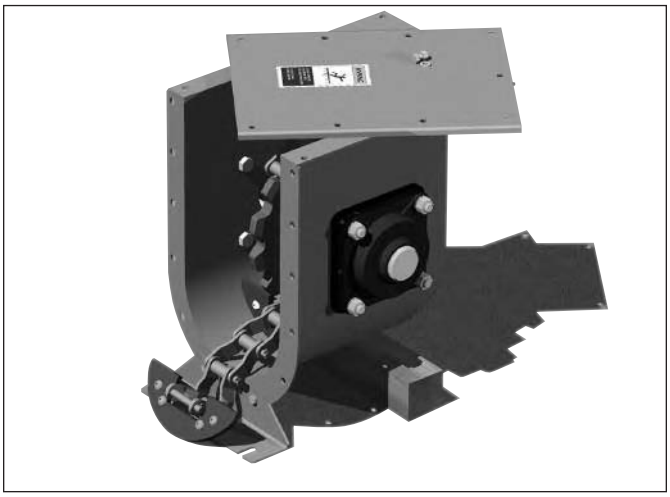
Idler Return



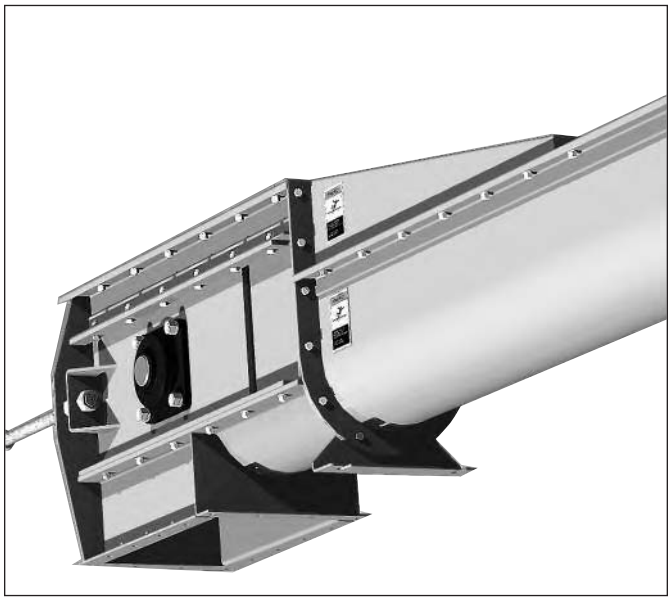
Round Bottom Tail Take-up



Rail Return



Self-Cleaning Tail



Head Take-up

Standard Features

- Bolted Flanged Covers
- Welded Steel Chain
- Jig Welded Flight Attachment
- UHMW Flights
- Heavy Duty Form Flange Trough
- Heat Treated Sprockets
- Rail Return System
- Flow Through Inlets
- Heavy Duty Backing Plate

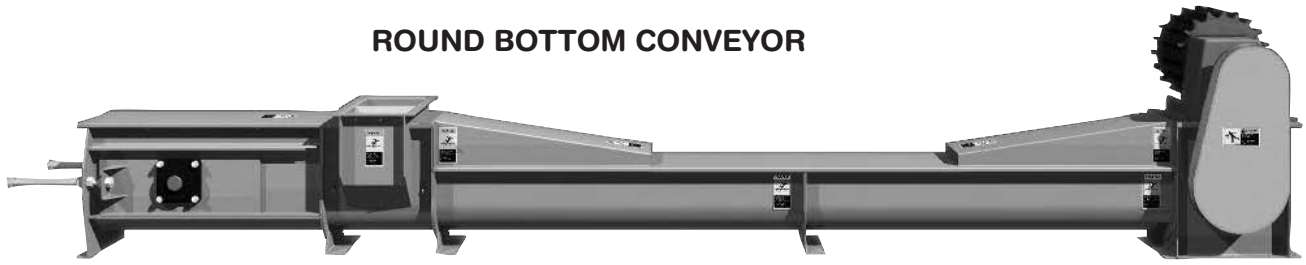
Popular Options

- By-Pass Inlets
- Hip Roof Cover
- Self-Cleaning Tail Section
- Intermediate Discharge
- Bend Section
- Flight Saver Idler Return System
- Optional A.R. Wear Strip
- Split Sprockets

*Conveyors shown without cover for illustration purposes only. Please follow manufacturing safety guidelines when operating conveyors.

Round Bottom Drag Conveyor

ROUND BOTTOM CONVEYOR



Capacity FPM/RPM

Series	Size	100 FPM		125 FPM		150 FPM		175 FPM		200FPM	
		CFH	RPM	CFH	RPM	CFH	RPM	CFH	RPM	CFH	
900	9″	2040	33	2600	41	3050	50	3500	58	4080	66
1200	12″	3475	33	4300	41	5200	50	6075	58	6950	66
1400	14″	4750	33	5900	40	7100	50	8300	58	9500	66
1600	16″	6050	32	7600	40	9150	48	10600	56	12100	64
1800	18″	8100	32	10150	40	12300	48	14300	56	16200	64
2000	20″	10500	23	13000	29	15650	35	18200	40	21000	46
2400	24″	14800	23	18150	29	22000	35	25750	40	29600	46

Note: Dimensions not certified for construction.

NOTES:

1. *Capacities are based on 100% loading with free-flowing grains at 48 pounds per cubic foot.*
2. *Selection of conveyors should be based upon material characteristics.*
3. *Capacities and speeds will vary for other types of materials and for materials conveyed at an incline.*

Please consult factory if you have any questions concerning your application.

Material Thickness and Approximate Shipping Weights

Series	Adj. Tail	Weight[1]	Bypass	Weight	Fixed Head	Weight	Intermediate				Cover
							Standard Duty	Weight[2]	Specifiic Duty	Weight[2]	
900	3⁄16	367	3⁄16	89	3⁄16″	187	14 ga.	185	3⁄16	255	14 ga.
1200	3⁄16	394	3⁄16	127	3⁄16″	210	12 ga.	285	3⁄16	420	14 ga.
1400	3⁄16	412	3⁄16	140	3⁄16″	221	12 ga.	310	3⁄16	460	14 ga.
1600	3⁄16	475	3⁄16	160	3⁄16″	257	12 ga.	365	3⁄16	520	14 ga.
1800	3⁄16	575	3⁄16	238	3⁄16″	281	10 ga.	507	3⁄16	640	12 ga.
2000	1⁄4	856	3⁄16	295	3⁄16″	486	10 ga.	578	3⁄16	705	12 ga.
2400	1⁄4	899	3⁄16	370	3⁄16″	665	10 ga.	742	3⁄16	870	12 ga.

NOTES:

1. *Tail and head weights shown include bearings, shafts, and standard sprockets.*
2. *Intermediate weights include return rails and bolted covers.*

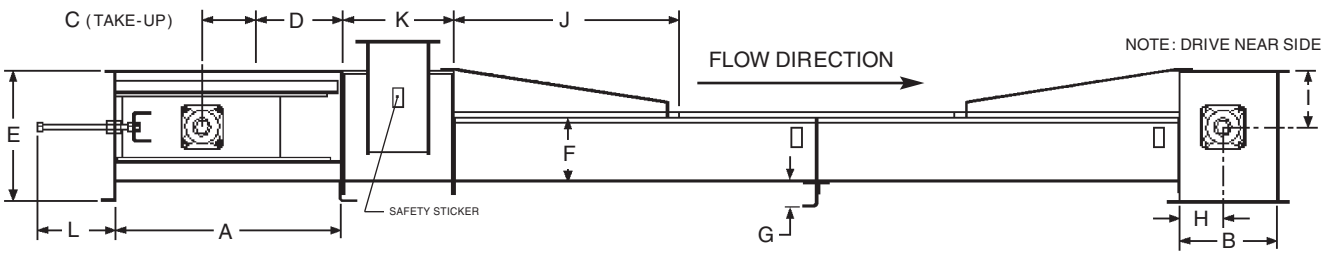
6", 30", and 36" Drag conveyors are also available upon request. Please contact Thomas for quote.

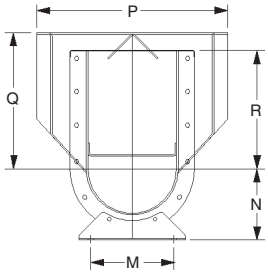
Thomas has designed its Round Bottom with the user in mind. We have incorporated larger heat-treated sprockets into our designs to reduce noise, vibration and chordal action while increasing chain and sprocket life. Our goal is to reduce maintenance and operating costs for the user.

We offer the Round Bottom Drag with either a rail return or optional Flight Saver Idler return system. Both systems assure long life and quiet operation.

All drag flights are a (food safe) white UHMW polyethylene material attached to welded steel chain, with exception of the 6" drag conveyor which uses combination chain.

Round Bottom Drag Conveyor



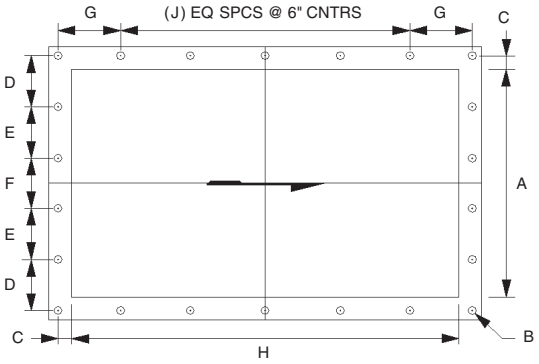


BY-PASS INLET

SERIES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R
900	38	18	9	14¼	21⅝	11⅛	3³⁄₁₆	9	9⁵⁄₁₆	36	18	13	9⅜	8⅜	20⅞	15⅓	13⁵⁄₁₆
1200	38	20	9	14¼	23¾	14¼	2¹⁵⁄₁₆	10	9¹³⁄₁₆	36	21	13	12¼	9½	24⅜	15⅓	13⁵⁄₁₆
1400	38	20	9	14¼	24	16¾	3³⁄₁₆	10	10⁵⁄₁₆	36	23	13	13½	10¾	24⅜	15⅓	13⁵⁄₁₆
1600	38	24	9	14¼	26	19⅛	3⁵⁄₁₆	12	11⁵⁄₁₆	36	25	13	14⅞	11⅞	28⅜	16¼	14¼
1800	38	24	9	14¼	27½	21⅝	3¹¹⁄₁₆	22	11¹³⁄₁₆	24	27	13	16	13¼	29	16	14¼
2000	41	29	12	16	33¼	24	4¼	14½	14⅞	24	29	16	19¼	14⅞	34	20½	18½
2400	41	34	12	16	36½	29	5⁷⁄₁₆	17	15¹³⁄₁₆	24	33	16	20	18¹⁄₁₆	39	20⅝	18⅝

SERIES	A	B	C	D	E	F	G	H	J
900	10	7⁄16	1	4	—	4	4	18	2
1200	13	7⁄16	1¼	5⅛	—	5¼	5¼	20	2
1400	15	7⁄16	1¼	3½	3½	3½	5¼	20	2
1600	17	7⁄16	1¼	3¾	4	4	3⅝	24	2
1800	19	7⁄16	1¼	4³⁄₁₆	4⅜	4⅜	3⅝	24	2
2000	21	9⁄16	1½	4⅞	4¾	4¾	4	29	4
2400	25	9⁄16	1½	5⅝	5⅝	5½	6½	34	4

NOTE: Dimensions not certified for construction.



BY-PASS INLET, HEAD & INTERMEDIATE DISCHARGE

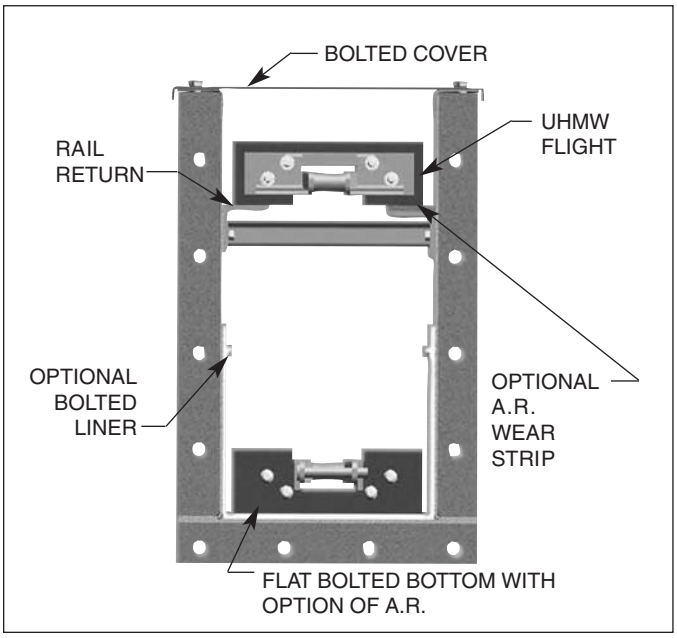
WARNING AND SAFETY REMINDER

LOCK OUT POWER before removing covers, guards or before servicing. Exposed moving parts can cause severe injury.

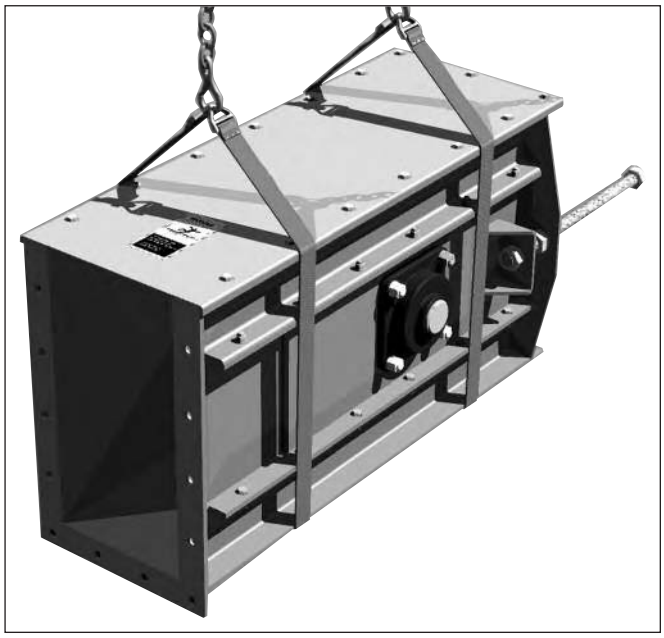
Note: Dimensions not certified for construction.

*Conveyors shown without cover for illustration purposes only. Please follow manufacturing safety guidelines when operating conveyors.

Flat Bottom Drag Conveyor



Rail Return



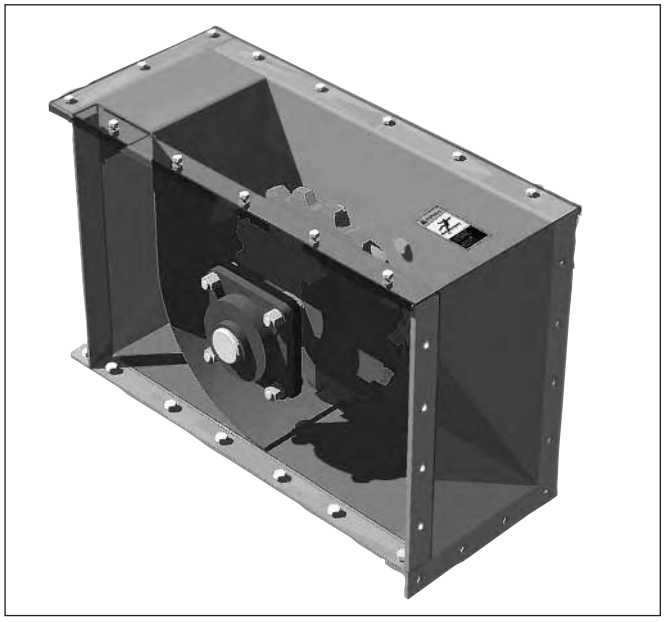
Flat Bottom Tail Take-Up

Standard Features

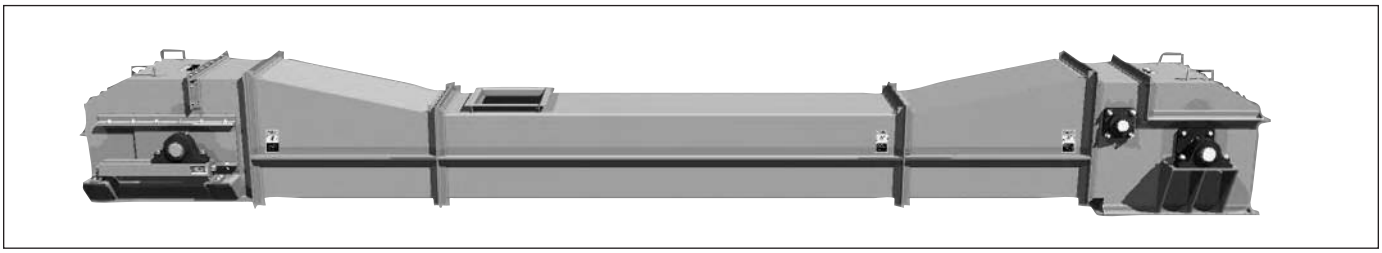
- Bolted Replaceable Bottom
- Bolted Flanged Covers
- Jig Welded Flight Attachment
- UHMW Flights
- Heat Treated Sprockets
- Rail Return System
- Flow Through Inlets
- Heavy Duty Backing Plate

Popular Options

- Intermediate Discharge
- Liners of Various Materials
- A.R. Steel Bottom Plate
- Controlled Feed Inlets
- Split Sprockets



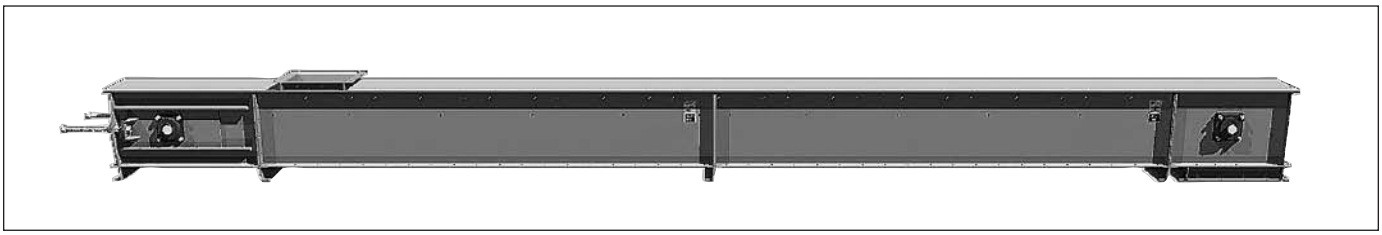
Self-Cleaning Tail



Super Duty Conveyor

*Conveyors shown without cover for illustration purposes only. Please follow manufacturing safety guidelines when operating conveyors.

Flat Bottom Drag Conveyor



Flat Bottom Conveyor

SERIES	1 FPM	100 FPM		125 FPM		150 FPM		175 FPM		200 FPM	
	CFH	CFH	RPM	CFH	RPM	CFH	RPM	CFH	RPM	CFH	RPM
1809	28.13	2,813	37	3,516	46	4,220	55	4,923	65	5,626	74
2409	54.38	5,438	27	6,798	34	8,157	40	9,517	47	10,876	54
2412	68.25	6,825	27	8,531	34	10,238	40	11,944	47	13,650	54
2414	78.75	7,875	27	9,844	34	11,813	40	13,781	47	15,750	54
2416	89.25	8,925	27	11,156	34	13,388	40	15,619	47	17,850	54
2418	96.19	9,619	27	12,024	34	14,429	40	16,833	47	19,238	54
3016	111.56	11,156	23	13,945	29	16,734	34	19,523	40	22,312	46
3018	121.13	12,113	23	15,141	29	18,170	34	21,198	40	24,226	46
3020	133.88	13,388	23	16,735	29	20,082	34	23,429	40	26,776	46
3024	159.38	15,938	23	19,923	29	23,907	34	27,892	40	31,876	46

NOTES:

1. *Capacities are based on 90% loading with free-flowing grains at 48 pounds per cubic foot.*
2. *Selection of conveyors should be based upon material characteristics.*
3. *Capacities and speeds will vary for other types of materials and for materials conveyed at an incline.*
4. *Capacities at 90% bed depth.*

Please consult factory if you have any questions concerning your application.

MATERIAL THICKNESS & APPROXIMATE SHIPPING WEIGHTS							
SERIES	ADJ. TAIL	WGT.	HEAD	WGT.	INTERMEDIATE		COVER
					STD. DUTY	WGT.	
1809	10 GA.	333	10 GA.	206	10 GA.	403	14 GA.
2409	10 GA.	432	10 GA.	277	10 GA.	460	14 GA.
2412	10 GA.	454	10 GA.	306	10 GA.	492	14 GA.
2414	10 GA.	467	10 GA.	315	10 GA.	514	14 GA.
2416	10 GA.	482	10 GA.	322	10 GA.	532	14 GA.
2418	10 GA.	497	10 GA.	335	10 GA.	544	12 GA.
3016	3/16	642	3/16	438	10 GA.	655	12 GA.
3018	3/16	655	3/16	452	10 GA.	679	12 GA.
3020	3/16	690	3/16	485	10 GA.	703	12 GA.
3024	3/16	749	3/16	613	10 GA.	745	12 GA.

NOTES:

1. *Tail and head weights shown include bearings, shafts and standard sprockets.*
2. *Intermediate weights include return rails, and bolted covers.*

Warning And Safety Reminder

LOCK OUT POWER before removing covers, guards or before servicing. Exposed moving parts can cause severe injury.

Thomas offers a complete line of standard Flat Bottom Drags to handle capacities up to 31,876 CFH.

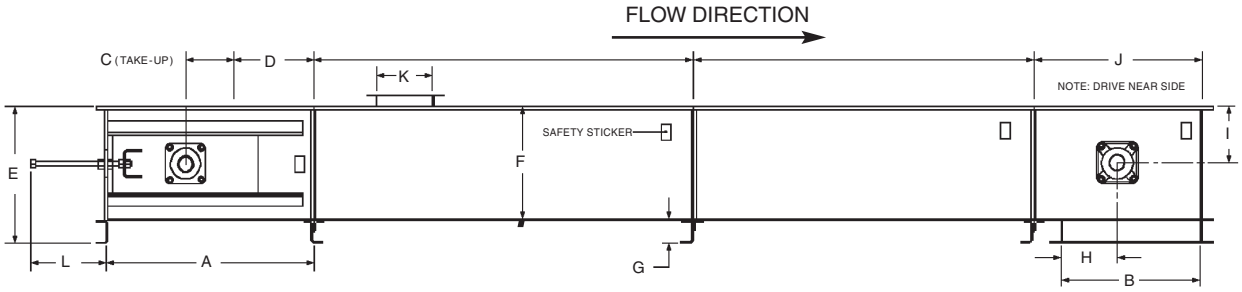
Super Duty Flat Bottom drags have been successfully used in applications with conveyors reaching lengths of over 660 feet and large capacities.

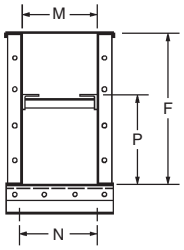
The Flat Bottom drag conveyor is constructed with heavy-duty formed channel sides, with replaceable bolted bottoms and covers. The replaceable rail return system is offered with an optional rail liner when wear is a concern.

The Flat Bottom drag conveyor is especially suited for handling free flowing grains. When heavier abrasive materials need to be conveyed, contact about our Mill Duty Drag conveyor with Forged Chain.

Note: Dimensions not certified for construction.

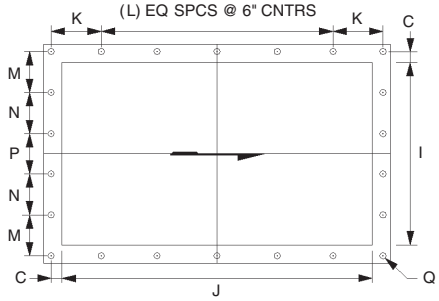
Flat Bottom Drag Conveyor



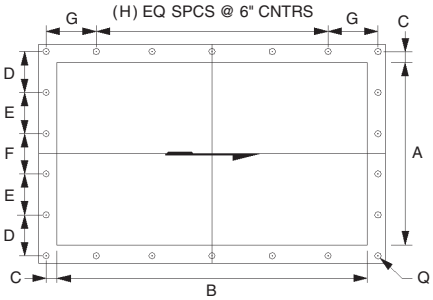


Flat Intermediate

SERIES	A	B	C	E	F	G	H	I	J	K	L	M	N	P
1809	37	25	9	18½	14¼	4	17¾	7¼	30	16	13	10	9⅜	9
2409	37	25	9	24½	20¼	4	15	10⅛	30	16	13	10	9⅜	16
2412	37	30	9	24½	20¼	4	17½	10⅛	35	18	13	13	12¼	16
2414	37	30	9	24½	20¼	4	17½	10⅛	35	20	13	15	13½	16
2416	37	30	9	24½	20¼	4	17½	10⅛	35	22	13	17	14⅞	16
2418	37	30	9	24½	20¼	4	17½	10⅛	35	25	13	19	16	16
3016	37	36	9	29½	25¼	4	20½	12⅝	41	22	13	17	14⅞	19½
3018	37	36	9	29½	25¼	4	20½	12⅝	41	25	13	19	16	19½
3020	37	36	9	29½	25¼	4	20½	12⅝	41	27	13	21	19¼	19½
3024	37	36	9	29½	25¼	4	20½	12⅝	41	31	13	25	20	19½



Head & Intermediate Discharge



Standard Inlet

SERIES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q
1809	7	16	1	4½	***	***	3	2	10	25	3½	3	4	***	4	7/16
2409	7	16	1	4½	***	***	3	2	10	25	3½	3	4	***	4	7/16
2412	10	18	1¼	4	***	***	4¼	2	13	30	4¼	4	5⅛	***	5¼	7/16
2414	12	20	1¼	4½	***	***	5¼	2	15	30	4¼	4	3½	3½	3½	7/16
2416	14	22	1¼	3¼	3¼	3¼	3¼	3	17	30	4¼	4	3¾	4	4	7/16
2418	15	25	1½	3½	3½	3½	5	3	19	30	4¼	4	4 7/16	4⅜	4⅜	9/16
3016	14	22	1½	3¼	3¼	3¼	3¼	3	17	36	4½	5	3¾	4	4	7/16
3018	15	25	1½	3½	3½	3½	5	3	19	36	4½	5	4 7/16	4⅜	4⅜	9/16
3020	17	27	1½	4	4	4	6	3	21	36	4½	5	4⅞	4¾	4¾	9/16
3024	21	31	1½	3¾	3¾	3¾	5	4	25	36	4½	5	5⅝	5½	5½	9/16

Note: Dimensions not certified for construction.

Flat Bottom Drag Conveyor

Mill Duty Conveyor

Standard Features

- Forged Chain and Steel Flights
- A.R. Steel Return Tray or Rail Return System
- Spring Loaded Take-up
- Split Sprockets

Popular Options

- A.R. Steel Side Liners
- By-pass Inlet
- Self-cleaning Tail

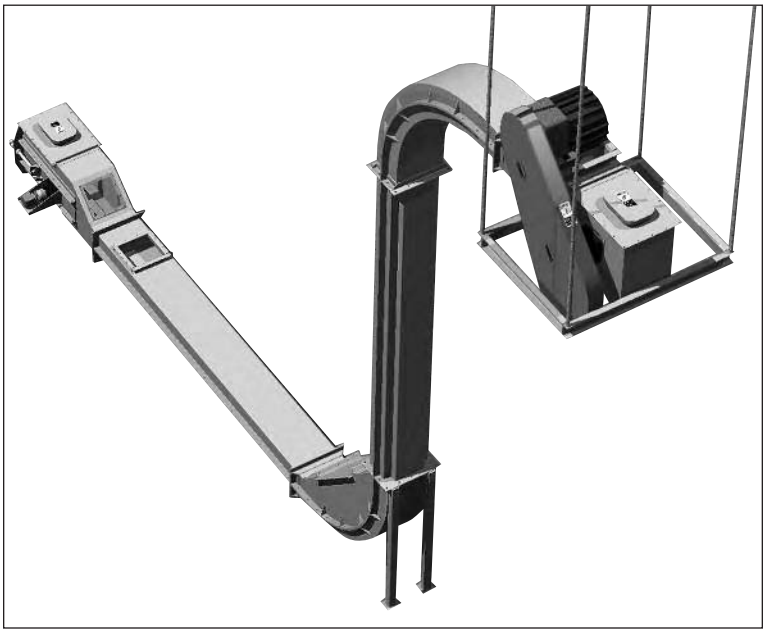
The Mill Duty Drag is designed for handling heavy and abrasive materials, such as limestone, aggregate, and sand.

Please consult factory if you have any questions concerning your application.

Capacities and Speeds					
SERIES	FPM	25 FPM		50 FPM	
	CFH	CFH	RPM	CFH	RPM
1200 MD	58	1400	8	2800	16
1600 MD	96	2400	7.5	4800	15
2000 MD	130	3250	5	6500	10
2400 MD	192	4800	5	9600	10

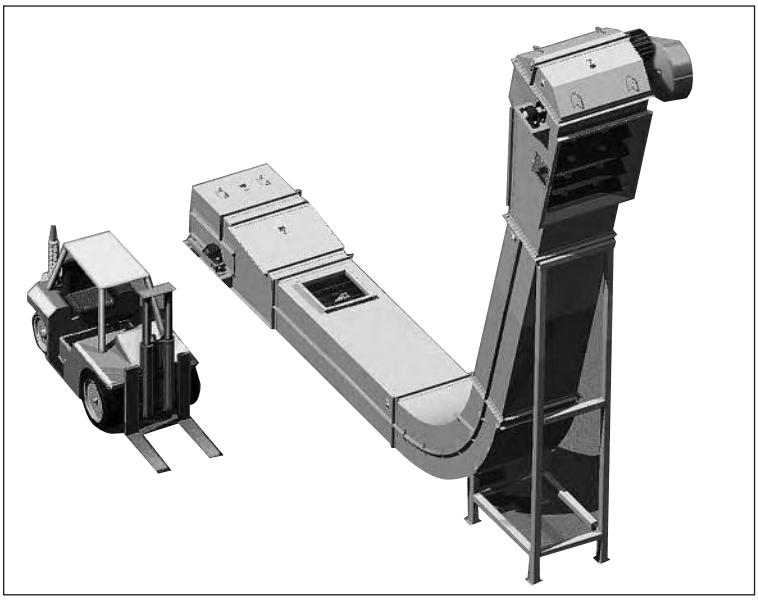
Warning And Safety Reminder

LOCK OUT POWER before removing covers, guards or before servicing. Exposed moving parts can cause severe injury.



Special Application Drag

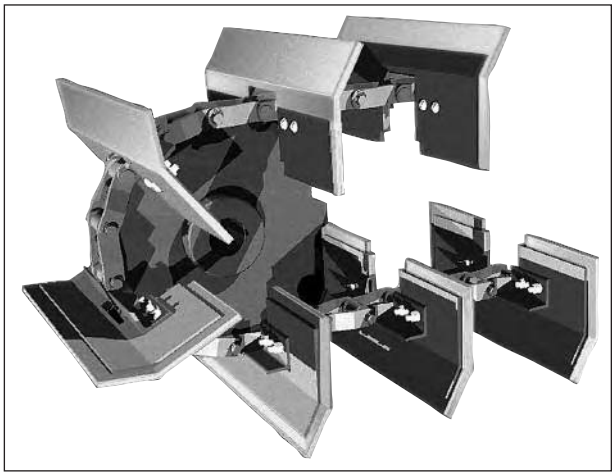
Built Take-up



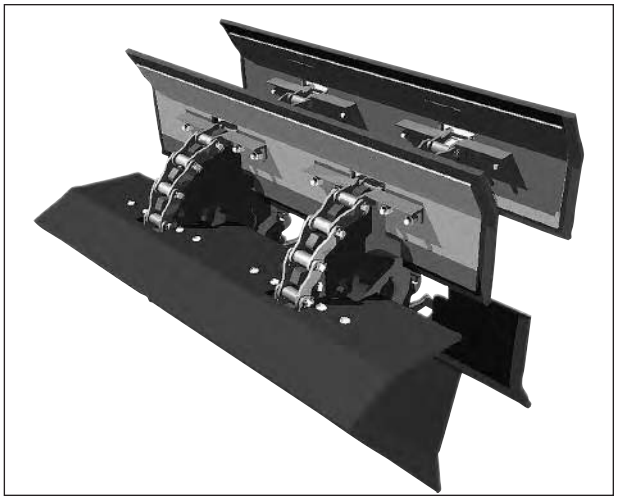
L-Path Conveyor

S-Path Conveyor

Series	1FPM	50 FPM		75 FPM		100 FPM	
	CFH	CFH	RPM	CFH	RPM	CFH	RPM
57	12	600	17	900	26	1200	35
610	20	1000	11	1500	16-1/2	2000	22
913	35	1750	8	2625	12	3500	16
1020	58	2900	11	4350	16-1/2	5800	22
1224	87	4350	11	6525	16-1/2	8700	22
1236	129	6450	10	9675	15	12900	20
1342	150	7500	10	11250	15	15000	20



Single Chain Configuration



Double Chain Configuration

NOTES:

1. *Capacities are based on the handling of non-abrasive materials (as listed).*
   - *Cotton Seed Hulls • Cotton Seed Meal • Delinted Cotton Seed*
   - *Ground Feed • Whole Soybeans • Hot Soybean Meal*
   - *Whole Corn • Whole Rice*
2. ***CAUTION*** *should be observed when handling fine granular materials (as listed).*
   - *Wheat Flour • Sugar • Powdered Lime • Starch*
   - *Carbon Black • Soda Ash*

CHAIN FEATURES

- Welded Steel or Forged Chain
- UHMW Flights
- Jig Welded Attachments
- Heavy Duty Backing Plates

Please consult factory if you have any questions concerning your application.

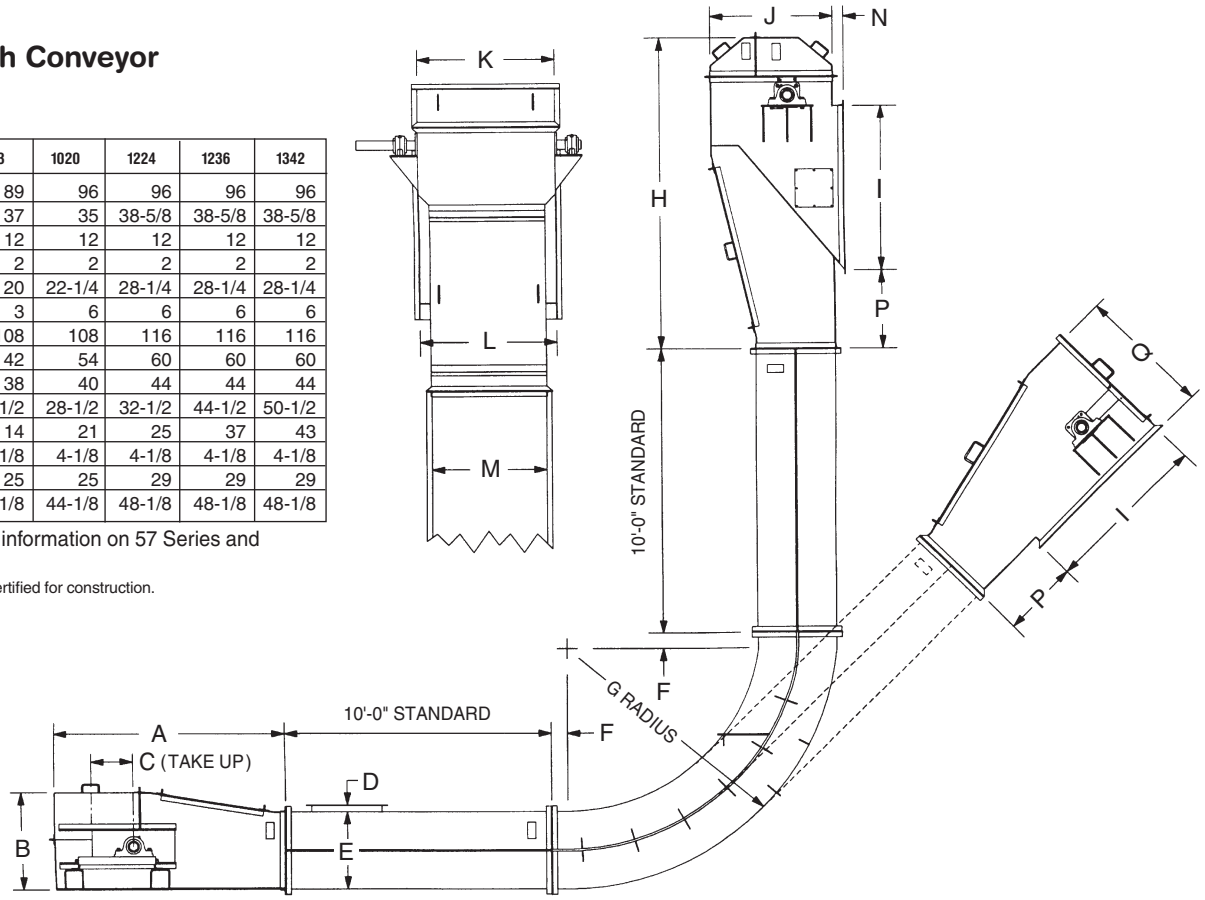
L-Path
Drag Conveyor

L-Path Conveyor

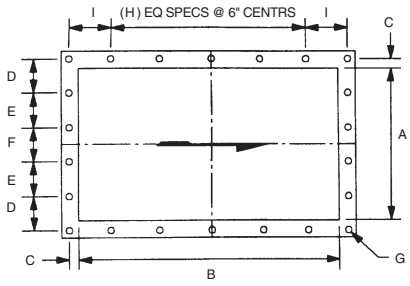
Series	610	913	1020	1224	1236	1342
A	68	89	96	96	96	96
B	29	37	35	38-5/8	38-5/8	38-5/8
C	12	12	12	12	12	12
D	2	2	2	2	2	2
E	14-1/2	20	22-1/4	28-1/4	28-1/4	28-1/4
F	3	3	6	6	6	6
G	82	108	108	116	116	116
I	36	42	54	60	60	60
J	32	38	40	44	44	44
K	18-3/4	22-1/2	28-1/2	32-1/2	44-1/2	50-1/2
L	11	14	21	25	37	43
N	4-1/8	4-1/8	4-1/8	4-1/8	4-1/8	4-1/8
P	21-1/2	25	25	29	29	29
Q	36-1/8	42-1/8	44-1/8	48-1/8	48-1/8	48-1/8

Consult factory for information on 57 Series and other sizes.

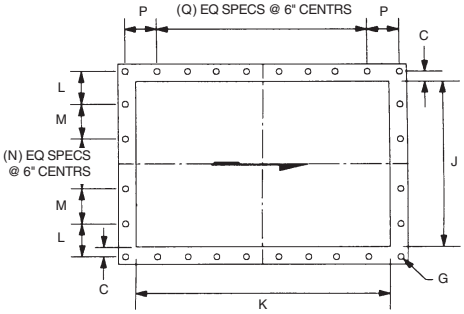
Note: Dimensions not certified for construction.



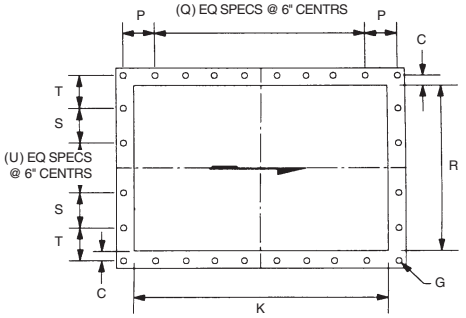
Standard Inlet



Head Discharge 45°– 90°



Head Discharge 0°– 45°



SERIES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U
610	7	16	1	4½	***	***	7/16	2	3	18¾	36	4⅜	***	2	4	5	11	***	3½	3½
913	10	18	1¼	4	***	4½	7/16	2	4¼	22½	42	4⅜	4¾	1	4¼	6	14	4¾	3½	1
1020	17	27	1½	4	4	4	9/16	3	6	29	54	4	***	4	4½	8	21	4½	4½	1
1224	21	31	1½	4¾	4¾	5	9/16	4	5	33	60	***	***	6	4½	9	25	***	5	3
1236	33	43	1½	4½	6	6	9/16	6	5	45	60	***	***	8	4½	9	37	***	5	5
1342	38	48	1½	5½	6	6	9/16	7	4½	51	60	4½	4½	6	4½	9	43	4	4	5

Note: Dimensions not certified for construction.

Thomas Conveyor does not install conveyor; consequently it is the responsibility of the contractor, installer, owner and user to install, maintain and operate the conveyor, components and conveyor assemblies in such a manner as to comply with the Williams-Steiger Occupational Safety and Health Act and with all state and local laws and ordinances and the American National Standard Institute (ANSI) B20.1 Safety Code.

In order to avoid an unsafe or hazardous condition, the assemblies or parts must be installed and operated in accordance with the following minimum provisions.

1. Conveyors shall not be operated unless all covers and/or guards for the conveyor and drive unit are in place. If the conveyor is to be opened for inspection cleaning, maintenance or observation, the electric power to the motor driving the conveyor must be LOCKED OUT in such a manner that the conveyor cannot be restarted by anyone; however remote from the area, until conveyor cover or guards and drive guards have been properly replaced.
2. If the conveyor must have an open housing as a condition of its use and application, the entire conveyor is then to be guarded by a railing or fence in accordance with ANSI standard B20.1-1993, with special attention given to section 6.12.
3. Feed openings for shovel, front loaders or other manual or mechanical equipment shall be constructed in such a way that the conveyor opening is covered by a grating. If the nature of the material is such that a grating cannot be used, then the exposed section of the conveyor is to be guarded by a railing or fence and there shall be a warning sign posted.
4. Do not attempt any maintenance or repairs of the conveyor until power has been LOCKED OUT.
5. Always operate conveyor in accordance with these instructions and those contained on the caution labels affixed to the equipment.
6. Do not place hands or feet in the conveyor.
7. Never walk on conveyor covers, grating or guards.
8. Do not use conveyor for any purpose other than that for which it was intended.
9. Do not poke or prod material into the conveyor with a bar or stick inserted through the openings.
10. Keep area around conveyor drive and control station free of debris and obstacles.
11. Always regulate the feeding of material into the unit at a uniform and continuous rate.
12. Do not attempt to clear a jammed conveyor until power has been **LOCKED OUT**.
13. Do not attempt field modification of conveyor or components.
14. drag conveyors are not normally manufactured or designed to handle materials that are hazardous to personnel. These materials which are hazardous include those that are explosive, flammable, toxic or otherwise dangerous to personnel. Conveyors may be designed to handle these materials. Conveyors are not manufactured or designed to comply with local, state or federal codes for unfired pressure vessels. If hazardous materials are to be conveyed or if the conveyor is to be subjected to internal or external pressure, Thomas should be consulted prior to any modifications.

Thomas insists that disconnecting and locking out the power to the motor driving the unit provides the only real protection against injury. Secondary safety devices are available; however, the decision as to their need and the type required must be made by the owner-assembler as we have no information regarding plant wiring, plant environment, the interlocking of the drag conveyor with other equipment, extent of plant automation, etc. Other devices should not be used as a substitute for locking out the power prior to removing guards or covers. We caution that use of the secondary devices may cause employees to develop a false sense of security and fail to lock out power before removing covers or guards. This could result in a serious injury should the secondary device fail or malfunction.

There are many kinds of electrical devices for interlocking of conveyors and conveyor systems such that if one conveyor in a system or process is stopped other equipment feeding it, or following it can also be automatically stopped.

Electrical controls, machinery guards, railings, walkways, arrangement of installation, training of personnel, etc., are necessary ingredients for a safe working place. It is the responsibility of the contractor, installer, owner and user to supplement the materials and services furnished with these necessary items to make the conveyor installation comply with the law and accepted standards.

Conveyor inlet and discharge openings are designed to connect to other equipment or machinery so that the flow of material into and out of the conveyor is completely enclosed.

One or more caution signs (as illustrated below) are attached to conveyor housings, conveyor covers and screw elevator housings. Please order replacement caution labels should the labels attached to this equipment become illegible.

The label shown below has been reduced in size. The actual size is printed next to the label. For more detailed instructions and information, please request a free copy of our “Drag Conveyor Safety, Installation, Operation, Maintenance Instructions.”

The Conveyor Equipment Manufacturer’s Association (CEMA) has produced an audio-visual presentation entitled “Safe Operation of Screw Conveyors, Drag Conveyors, and Bucket Elevators.” Thomas encourages acquisition and use of this source of safety information.

LABEL A ACTUAL SIZE 5" x 2½"

LABEL C ACTUAL SIZE 5" x 2½"

PROMINENTLY DISPLAY IN WORK AREAS

Use **Label “A”** on Belt Guard

Use **Label “B”** on Ends of Trough, Middle of Covers and at Inlet Opening. (Use Vertical or Horizontal Label Depending on Space Available)

Use **Label “C”** on Top of Covers.

LABEL B
ACTUAL SIZE 3" x 6"