FEECO INTERNATIONAL

CONVEYOR SYSTEMS

TOMORROW'S PROCESSES, **TODAY.**

FEECO.com

SINCE 1951

ABOUT

Since 1951, FEECO has been designing and supplying custom bulk material handling systems for industries around the world. Whether you're looking for a single piece of equipment, or a complete system, we can offer you a customized solution tailored to your unique handling needs.

RUGGED, YET REFINED

You can rest assured when you purchase FEECO equipment, you're getting a system that was built with longevity in mind. Our engineers work closely with our in-house fabricators to ensure everything is crafted just right. Our conveyors are built to provide reliable and efficient handling, despite challenging process conditions.

CUSTOM SOLUTIONS

What sets FEECO apart from our competitors is not just the quality of craftsmanship, but the level of customization we offer. We look at our customers' unique needs, from facility layout, to material characteristics and process goals, in order to design a system that operates at optimal efficiency and accomplishes exactly what the customer is looking for. Our familiarity with hundreds of materials allows us to provide you with the best handling solution possible.

WHO WE WORK WITH

Many of the world's most notable companies, across nearly all industries, rely on FEECO for innovative solutions in process design, engineering, and manufacturing, including:

KOHLER

PotashCorp
Helping Nature Provide

GP Georgia-Pacific

we energies

Mosaic

Cargill

Fertilizer on an inclined belt conveyor

INDUSTRIES WE SERVE

- Chemical
- Fertilizer & Granulation
- Mining & Minerals
- Power Generation
- Forest Products
- Waste Transformation

COMMONLY PROCESSED MATERIALS

- Aggregates
- Animal Feeds
- Biomass Products
- Clinker
- Coal
- Copper Ore
- Fertilizer Products
- Frac Sand
- Grain
- Gypsum
- Inorganic Chemicals
- Iron Ore
- Lignite
- Limestone
- Nickel
- Organic Chemicals
- Petroleum Coke
- Potash
- Pulp & Paper Products
- Sulfur
- Woodchips

RUGGED HANDLING SOLUTIONS

TROUGHED BELT CONVEYORS

For a labeled diagram of components, visit
FEECO.com/belt-conveyors/

The troughed belt conveyor is one of FEECO International's most commonly used pieces of equipment for material handling. Troughed belt conveyors are capable of handling nearly any type of material and are available in configurations 18" to 72" wide, with capacities up to 8,000 TPH. Standard troughed belt conveyors are usually comprised of conveyor belting, riding on heavy-duty troughed idlers, ranging in angles from 20°-45°, each securely mounted to a structural steel frame. Troughed belt conveyors can be run at various inclined angles, typically between 0°-20° (30° with cleated/chevron belting).

FEECO specializes in large, heavy-duty belt conveyors that are engineered for long-lasting performance. Advantages include:

CUSTOMIZATION

Every conveyor manufactured at FEECO is engineered, designed, and manufactured per each customer's specifications. This process allows us to create equipment that will be the exact length and width at the angle required for your unique handling needs.

HANDLING AGAINST THE ELEMENTS

All of FEECO's troughed belt conveyors can either be equipped with weather covers, or integrated with gallery enclosures. Both options allow for material transfer outside of building structures without risking exposure of the material or equipment to outdoor elements.

PRECISE ENGINEERING

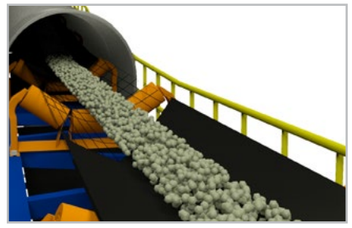
FEECO relies on precise engineering for creating robust and reliable material handling equipment. Whether a conveyor is horizontal or at an incline, curved or straight, our Engineering Department can design a handling system to meet the needs of both small and large projects.

ADDITIONAL COMPONENTS

All FEECO belt conveyors are available with a multitude of additional components to increase customization and flexibility. Some of the most common options include:

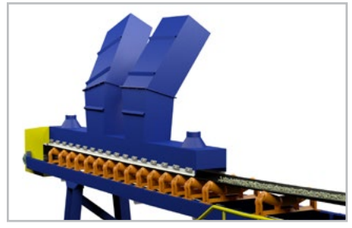
- Walkways & Service Platforms
- Belt Cleaners/Scrapers
- Weather Covers
- Loading Skirtboards
- Transfer Chutes
- Safety Cables and Shut-offs
- Belt Scale (Used for tracking quantity/interval of time)

Troughed belt conveyor ▶



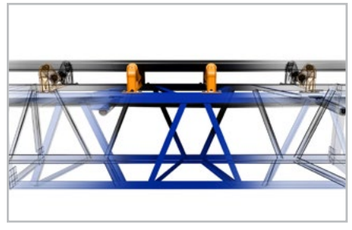
INCREASED CAPACITY

One of the greatest benefits of the troughed belt conveyor over a flat belt is increased capacity. The trough design contains and arranges the material in one continuous stream, while at the same time, eliminating spillage. The troughed belt can also help shield the material from unforeseen forces, such as airflow from other equipment operating nearby.



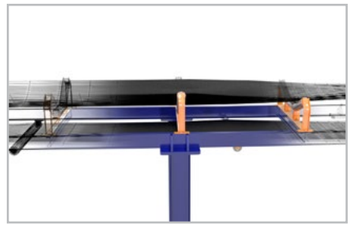
DUST CONTROL AT LOAD POINTS

Integrated skirtboard and exhaust ports provide additional control for each customer's specific scenario. These are usually located at the tail section of the conveyor, where the material is loaded onto the belt. This design has dual functionality; it centers the material on the belt and contains dust and fines. Oftentimes, a dust pick-off point is also located at the top of the discharge hood.



TRUSS FRAME

Heavy-duty box truss frames are available in several standard depths. This type of frame construction is utilized when long spans are required between support points. In addition to span length, other load factors, such as wind, snow, etc., are accounted for in proper truss selection.



CHANNEL FRAME

The channel frame is typically utilized for conveyors that do not require long spans between supports. This frame type is also often used when located close to grade, thus not requiring a cantilevered walkway.

REVERSING SHUTTLE CONVEYORS

For a labeled diagram of components, visit
FEECO.com/reversing-shuttle-conveyors/

The reversing shuttle conveyor is used for building an in-line, continuous pile, or for feeding multiple fixed discharge points. Similar in form to a troughed belt conveyor, reversing shuttle conveyors are designed with traveling shuttle functionality. The shuttle functionality allows the conveyor to be moved along a track, as well as convey material in both directions, creating opportunity for extreme flexibility.

The conveyor is typically half the length of the track rails; for example, a 100' long shuttle conveyor would have the ability to transport material throughout the length of a 200' storage facility.

The most important design advantages of a FEECO reversing shuttle conveyor involve:

STATIONARY INLET

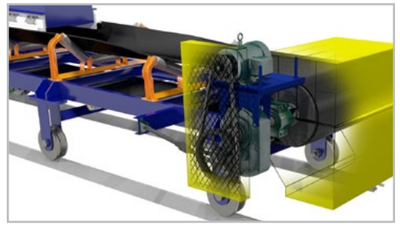
A stationary material feed chute allows for processed material to be directed to one central location. This reduces or eliminates the need for complex chute systems or diverters to get the product to the desired locations.

REVERSIBLE BELT DIRECTION

The reversing terminology refers to added control of the belt's conveying direction. The ability to control this means that the reversing shuttle conveyor is not restricted to which end of the conveyor material can discharge from.

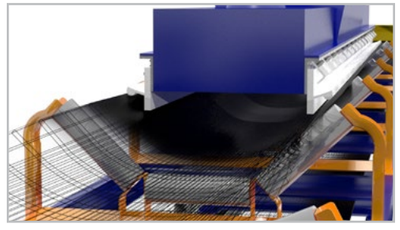
REMOTE / AUTOMATION

Reversing shuttle conveyors can either be controlled from a remote location, such as a control room, by trained personnel, or automatically, through an automated program. This greatly reduces the labor cost of sorting and storing materials.



DRIVE COMPONENTS

Only heavy-duty, high-quality drive components are used for FEECO reversing shuttle conveyors. All of the moving components, from the trolley wheels to the drive motors, have been engineered to ensure continued functionality and reliability.



TROUGHED IDLERS

Much like the drive components, only the highest quality CEMA idlers are selected for FEECO conveyor equipment. A commonly overlooked component, idlers can cause substantial belt wear and equipment downtime when not functioning properly. Making the investment for equipment designed and engineered with quality components will greatly reduce maintenance costs and downtime.

BELT **FEEDERS**

Belt feeders are used to provide a controlled discharge rate of material. They are commonly used when material that is either stockpiled or loaded (at an uncontrolled rate) in a bin or hopper needs to be introduced into the system at a controlled feed rate.

FEECO belt feeders offer a variety of beneficial features, including:

- Engineered hopper/feed bin
- Fully enclosed belt skirting
- Manual material leveling gate
- Variable speed

For a labeled diagram of components, visit
FEECO.com/belt-feeders/

Belt Feeder in fabrication

BELT **TRIPPERS**

FEECO belt trippers are custom designed and built to accommodate your desired specifications, with the same guidelines you can expect from all of our equipment (i.e., precision engineering, quality components, and heavy-duty construction). The purpose of the belt tripper, or traveling tripper, is to add versatility and functionality to a troughed belt conveyor, including:

ENHANCED STORAGE CAPABILITIES

The belt tripper's ability to travel along the length of a conveyor allows for greater storage options. The tripper can be moved to pre-designated locations and discharge material, or travel continuously at a constant speed for layered stacking in a large storage structure.

CUSTOM DESIGN FOR SPECIFIC APPLICATIONS

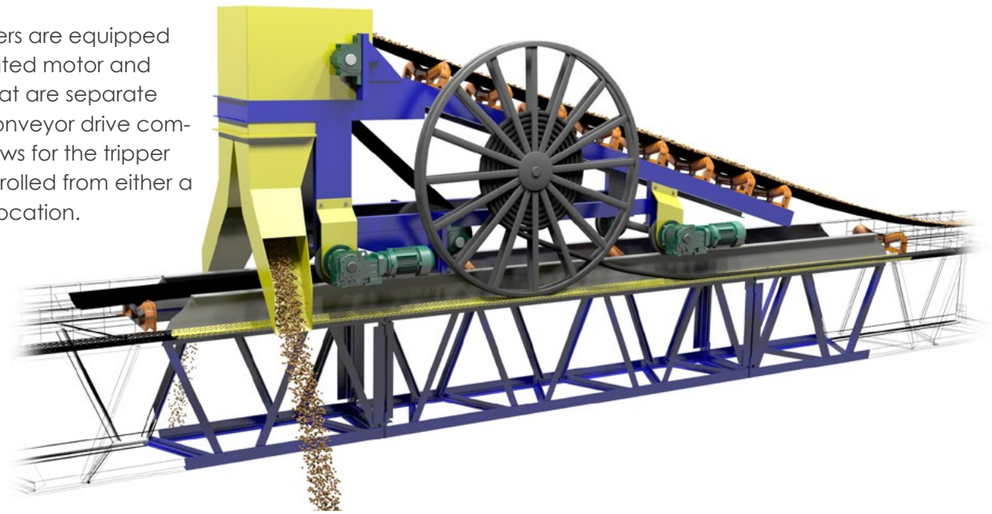
FEECO belt trippers are designed to meet the customer's specific needs; this means the options are based solely on how each customer wants the material flow redirected. Some of the more common options are: one-, two-, or three-way discharge chutes with diverter and/or auxiliary feeders (e.g. screw feeder, reversible belt feeder, etc.).

ENGINEERED PULLEY LOOP

The conveyor belting travels through a set of pulleys which create the material "trip," or discharge point and then redirect the belt back on to the idlers. This "pulley loop" is designed so the conveyor belting will experience a very limited amount of stress, eliminating the opportunity for premature wear and stretching.

DIRECT DRIVE

FEECO belt trippers are equipped with direct-mounted motor and gear reducers that are separate from the main conveyor drive components. This allows for the tripper travel to be controlled from either a remote or local location.



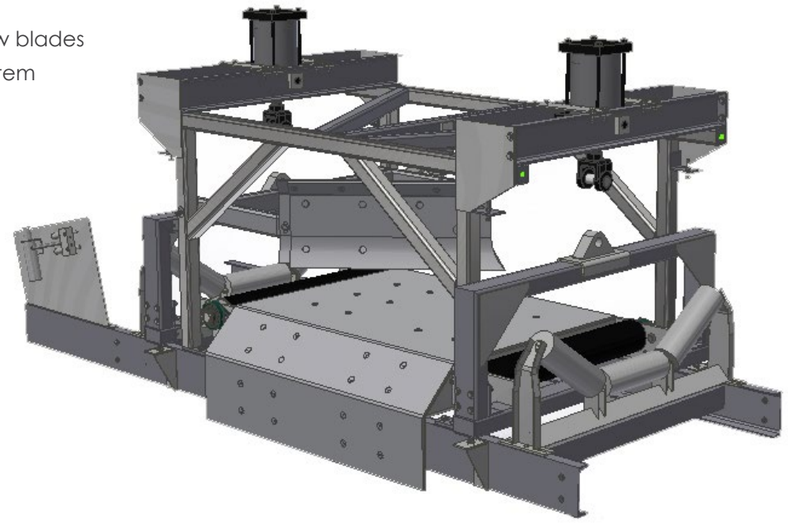
For a labeled diagram of components, visit
FEECO.com/belt-trippers-belt-plows/

Belt Plow
in operation

BELT **PLOWS**

FEECO belt plows are designed to increase a belt conveyor's material discharge control capabilities. Much like belt trippers, belt plows can release material on either side of the belt at pre-designated locations. Belt plows have several features that increase versatility, including:

- Pneumatically actuated plow blades
- Integrated belt flattening system
- UHMW plow blades



For a labeled diagram of components, visit
FEECO.com/belt-trippers-belt-plows/

STEEP INCLINE CONVEYORS

Steep incline conveyors can be a great substitute for drag chain or conveyor/ bucket elevator configurations, because of the reduced noise and the elimination of transfer points.

FEECO steep incline conveyors are designed to transport bulk materials at inclines ranging from 18° to 90°, while still maintaining the feed and discharge properties of a standard belt conveyor. The advantages of this unique design include:

REDUCED MATERIAL DEGRADATION

Through "L" and "S" configurations, transfer points are eliminated, allowing for smooth, continuous conveying.

HANDLING EFFICIENCY

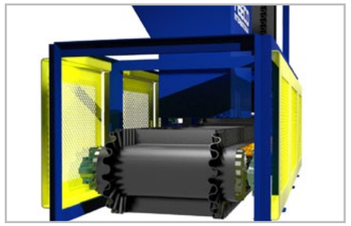
Corrugated sidewalls contain the material, reducing spillage along the conveyor path and loading points, while cleats, located at calculated positions, capture the material and eliminate fallback.

LESS SPACE REQUIREMENTS

Steeper geometric options of the steep incline conveyor reduce the length requirements to reach the desired elevation when compared to conventional conveyors, eliminating wasted space.

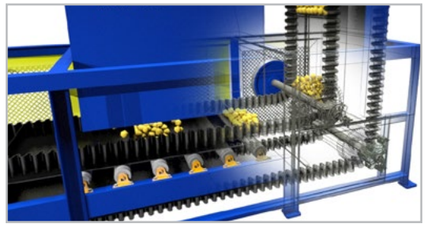
For a labeled diagram of components, visit FEECO.com/steep-incline-conveyors/

Steep Incline Conveyor with tramp metal magnet and metal detector



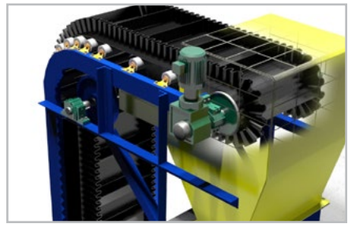
BELTING DESIGN

The steep incline conveyor uses flexible corrugated sidewall belting, which contains the material and permits loose material such as fertilizer, coal fines, chemicals, assembly parts, scrap materials, grain, or other bulk materials to be conveyed without spilling. Cleated belting, which prevents fallback of the material when conveying at steep angles up to 90°, is available.



MATERIAL TRANSFER

Loading points remain clean with custom-designed inlet hoppers, which maximize loading capacity for straight incline, horizontal, and "L" and "S" configurations. Turning wheel assemblies are incorporated to direct belting up the desired incline. Fully enclosed systems are available to protect material and reduce dust. This all-in-one design eliminates transfer points, preventing product degradation and spillage, and allowing for smooth, continuous conveying.

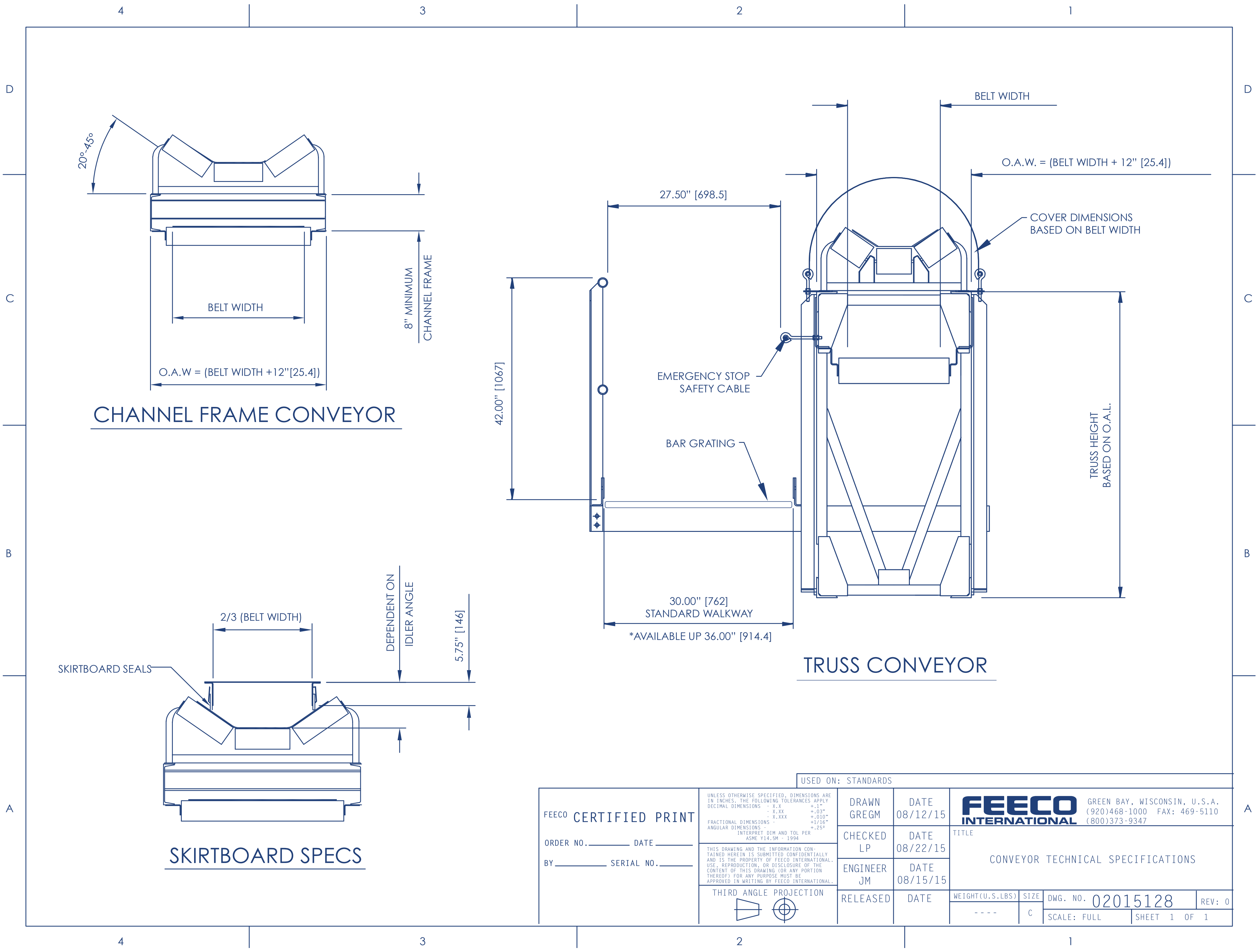


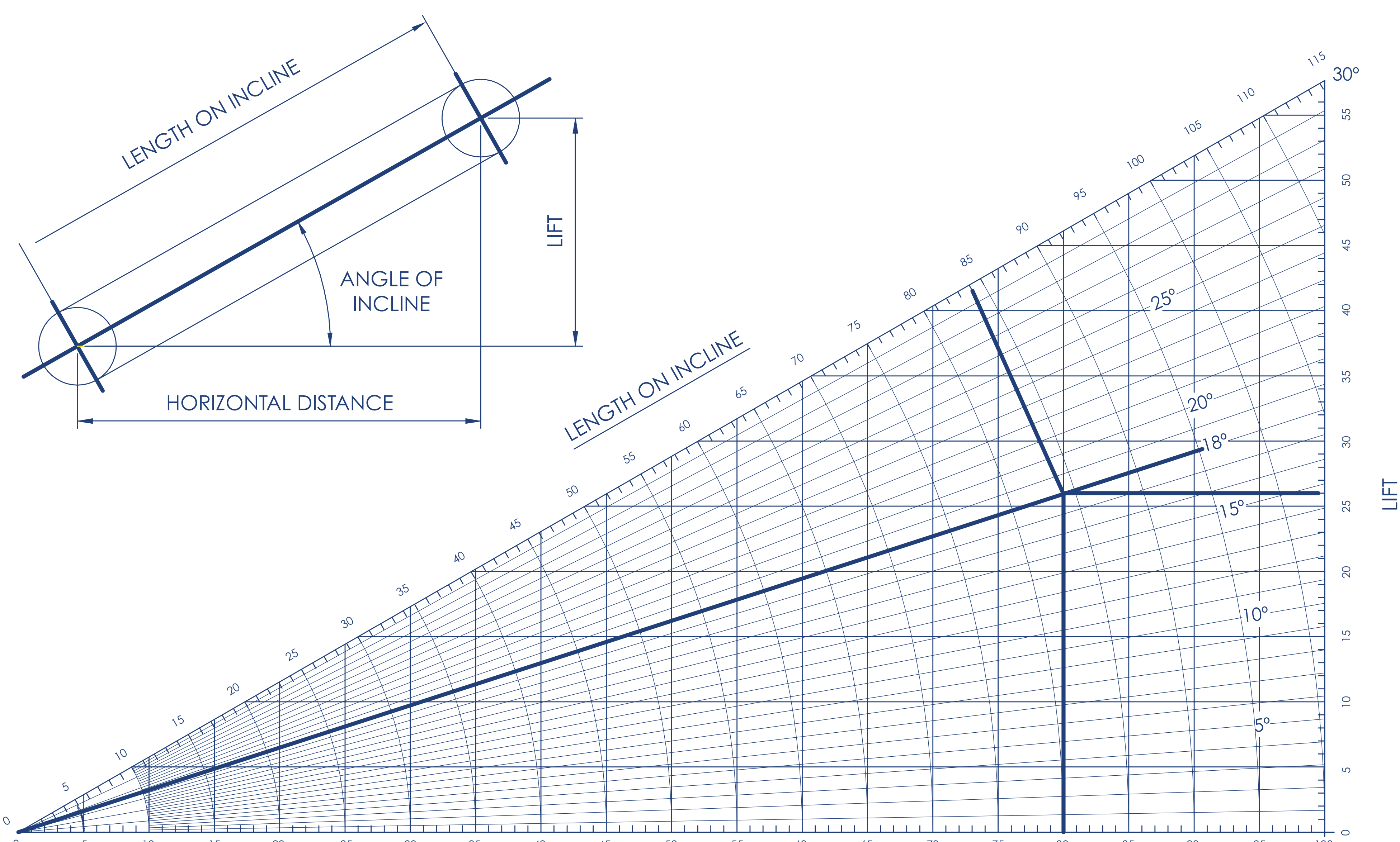
DRIVE ASSEMBLY

Head and tail sections come fully assembled with shop-mounted pulleys and complete drive systems. The picture above illustrates a shaft-mounted reducer with a direct-mount drive motor. Other drive options such as belt and chain systems are also available. Back stops can either be mounted internally to the reducer, or externally on the conveyor head shaft.

CONVEY

AT ANY ANGLE


CHANNEL FRAME CONVEYOR
20°-45°
BELT WIDTH
O.A.W = (BELT WIDTH +12"[25.4])
8" MINIMUM
CHANNEL FRAME
TRUSS CONVEYOR
BELT WIDTH
O.A.W. = (BELT WIDTH + 12" [25.4])
COVER DIMENSIONS
BASED ON BELT WIDTH
27.50" [698.5]
42.00" [1067]
EMERGENCY STOP
SAFETY CABLE
BAR GRATING
TRUSS HEIGHT
BASED ON O.A.L.
30.00" [762]
STANDARD WALKWAY
*AVAILABLE UP 36.00" [914.4]
SKIRTBOARD SPECS
2/3 (BELT WIDTH)
SKIRTBOARD SEALS
DEPENDENT ON
IDLER ANGLE
5.75" [146]
USED ON: STANDARDS
FEECO CERTIFIED PRINT
ORDER NO. DATE
BY SERIAL NO.
THIRD ANGLE PROJECTION
DRAWN GREGM DATE 08/12/15
CHECKED LP DATE 08/22/15
ENGINEER JM DATE 08/15/15
RELEASED DATE
FEECO INTERNATIONAL
GREEN BAY, WISCONSIN, U.S.A.
(920)468-1000 FAX: 469-5110
(800)373-9347
TITLE
CONVEYOR TECHNICAL SPECIFICATIONS
WEIGHT(U.S.LBS) ----
SIZE C
DWG. NO. 02015128
REV: 0
SCALE: FULL
SHEET 1 OF 1



HORIZONTAL DISTANCE

For dimensions greater than the limits of the chart, divide the given dimensions by a figure to bring length within the range of the chart. Multiply the result by the same figure to restore the proportions. Example: 160 ft. horizontal distance, 52 ft. lift. Dividing by 2 = 80 ft. and 26 ft. Intersection of vertical line from 80 ft. horizontal distance and horizontal line from 26 ft. lift = length on incline of 84 ft. at the 18° line. Actual incline conveyor length is then 84 x 2, or 168 ft.

ENGINEERING BELT CONVEYOR **HORSEPOWER**

The conveyor belt capacity charts below show tons per hour (TPH) based on material weighing 100 lbs. per cubic foot, 20° material surcharge angle with three equal length rolls on troughing idlers.

Table No. 1 - H.P. to Drive Empty Conveyor for each 100 FPM Belt Speed*

Width "W" (inches)	Center to Center Length "L" (feet)													
	50	100	150	200	250	300	400	500	600	700	800	1000	1200	1400
18	.3	.4	.5	.6	.7	.8	.9	1.1	1.3	1.5	1.6	2.0		
20	.4	.5	.6	.7	.8	.9	1.0	1.2	1.4	1.6	1.8	2.2	-	-
24	.5	.6	.7	.8	.9	1.0	1.3	1.5	1.7	1.9	2.2	2.6		
30	.6	.7	.9	1.0	1.2	1.3	1.6	1.9	2.2	2.5	2.8	3.3	3.9	
36	.7	.9	1.1	1.3	1.5	1.6	2.0	2.4	2.7	3.1	3.5	4.2	4.9	-
42	.9	1.1	1.3	1.6	1.8	2.0	2.5	2.9	3.3	3.8	4.2	5.1	6.0	
48	1.1	1.3	1.6	1.9	2.1	2.4	3.0	3.5	4.0	4.6	5.1	6.2	7.2	8.3
54	1.3	1.6	1.9	2.2	2.5	2.8	3.5	4.1	4.7	5.3	6.0	7.2	8.5	9.7
60	1.5	1.8	2.2	2.6	2.9	3.3	4.1	4.8	5.5	6.3	7.0	8.5	9.9	11.4

Table No. 2 - H.P. to Convey Material Horizontally - Any Speed, Any Material

Tons per Hour "T"	Center to Center Length "L" (feet)													
	50	100	150	200	250	300	400	500	600	700	800	1000	1200	1400
50	.3	.4	.5	.5	.6	.7	.8	1.0	1.1	1.3	1.4	1.7	2.0	2.3
100	.6	.8	.9	1.1	1.2	1.4	1.7	2.0	2.3	2.6	2.9	3.5	4.1	4.7
150	.9	1.1	1.4	1.6	1.8	2.0	2.5	3.0	3.4	3.9	4.3	5.2	6.1	7.0
200	1.2	1.5	1.8	2.1	2.4	2.7	3.3	3.9	4.5	5.2	5.8	7.0	8.2	9.4
250	1.5	1.9	2.3	2.7	3.0	3.4	4.2	4.9	5.7	6.4	7.2	8.7	10.2	11.7
300	1.8	2.3	2.7	3.2	3.6	4.1	5.0	5.9	6.8	7.7	8.6	10.5	12.3	14.1
350	2.1	2.7	3.2	3.7	4.2	4.8	5.8	6.9	8.0	9.0	10.1	12.2	14.3	16.4
400	2.4	3.0	3.6	4.2	4.8	5.5	6.7	7.9	9.1	10.3	11.5	13.9	16.4	18.8
450	2.7	3.4	4.1	4.8	5.5	6.1	7.5	8.9	10.2	11.6	13.0	15.7	18.4	21
500	3.0	3.8	4.5	5.3	6.1	6.8	8.3	9.8	11.4	12.9	14.4	17.4	20	23
550	3.3	4.2	5.0	5.8	6.7	7.5	9.2	10.8	12.5	14.2	15.8	19.2	22	26
600	3.6	4.5	5.5	6.4	7.3	8.2	10.0	11.8	13.6	15.5	17.3	21	25	28
650	3.9	4.9	5.9	6.9	7.9	8.9	10.8	12.8	14.8	16.7	18.7	23	27	31
700	4.2	5.3	6.4	7.4	8.5	9.5	11.7	13.8	15.9	18.0	20	24	29	33
800	4.8	6.1	7.3	8.5	9.7	10.9	13.3	15.8	18.2	21	23	28	33	38
900	5.5	6.8	8.2	9.5	10.9	12.3	15.0	17.7	20	23	26	31	37	42
1000	6.1	7.6	9.1	10.6	12.1	13.6	16.7	19.7	23	26	29	35	41	47
1100	6.7	8.3	10.0	11.7	13.3	15.0	18.3	22	25	28	32	38	45	52
1200	7.3	9.1	10.9	12.7	14.5	16.4	20	24	27	31	35	42	49	56
1300	7.8	9.8	11.8	13.8	15.8	17.7	22	26	30	33	37	45	53	61
1400	8.5	10.6	12.7	14.8	17.0	19.1	23	28	32	36	40	49	57	66
1500	9.1	11.4	13.6	15.9	18.2	20	25	29	34	39	43	52	61	70
1600	9.7	12.1	14.5	17.0	19.4	22	27	32	36	41	46	56	65	75
1700	10.3	12.9	15.5	18.0	21	23	28	33	39	44	49	59	70	80
1800	10.9	13.6	16.4	19.1	22	25	30	35	41	46	52	63	74	85
1900	11.5	14.4	17.3	20	23	26	32	37	43	49	55	66	78	89
2000	12.1	15.2	18.2	21	24	27	33	39	45	52	58	70	82	94

Example problem on next page.

Table No. 3 - Additional Horsepower Required for Each Tripper

	Width of Belt (inches)								
	18	20	24	30	36	42	48	54	60
H.P. to add for fixed or hand propelled Tripper	1.00	1.40	1.70	2.50	3.20	4.50	6.00	7.50	9.00
H.P. to add for self-propelling Tripper	1.10	1.50	2.00	2.80	3.60	5.00	7.00	8.00	10.00

ENGINEERING BELT CONVEYOR **HORSEPOWER**

Table No. 4 - H.P. to Elevate and Lower Material - Any Speed, Any Material

Tons per Hour "T"	Lift or Drop "H" (feet)													
	5	10	15	20	25	30	40	50	60	80	100	125	150	200
25	.2	.3	.4	.5	.6	.8	1.0	1.3	1.5	2.0	2.5	3.2	3.8	5.1
50	.3	.5	.8	1.0	1.3	1.5	2.0	2.5	3.0	4.0	5.1	6.3	7.6	10.1
75	.4	.8	1.1	1.5	1.9	2.3	3.0	3.8	4.5	6.1	7.6	9.5	11.4	15.2
100	.5	1.0	1.5	2.0	2.5	3.0	4.0	5.1	6.1	8.1	10.1	12.6	15.2	20
125	.6	1.3	1.9	2.5	3.2	3.8	5.1	6.3	7.6	10.1	12.6	15.8	18.9	25
150	.8	1.5	2.3	3.0	3.8	4.5	6.1	7.6	9.1	12.1	15.2	18.9	23	30
175	.9	1.8	2.7	3.5	4.4	5.3	7.1	8.8	10.6	14.1	17.7	22	27	35
200	1.0	2.0	3.0	4.0	5.1	6.1	8.1	10.1	12.1	16.2	20	25	30	40
225	1.1	2.3	3.4	4.5	5.7	6.8	9.1	11.4	13.6	18.2	23	28	34	45
250	1.3	2.5	3.8	5.1	6.3	7.6	10.1	12.6	15.2	20	25	32	38	51
300	1.5	3.0	4.5	6.1	7.6	9.1	12.1	15.2	18.2	24	30	38	45	61
350	1.8	3.5	5.3	7.1	8.8	10.6	14.1	17.7	21	28	35	44	53	71
400	2.0	4.0	6.1	8.1	10.1	12.1	16.2	20	24	32	40	51	61	81
450	2.3	4.5	6.8	9.1	11.4	13.6	18.2	23	27	36	45	57	68	91
500	2.5	5.1	7.6	10.1	12.6	15.2	20	25	30	40	51	63	76	101
550	2.8	5.6	8.3	11.1	13.9	16.7	22	28	33	44	56	69	83	111
600	3.0	6.1	9.1	12.1	15.2	18.2	24	30	36	48	61	76	91	121
700	3.5	7.1	10.6	14.1	17.7	21	28	35	42	57	71	88	106	141
800	4.0	8.1	12.1	16.2	20	24	32	40	48	65	81	101	121	162
900	4.5	9.1	13.6	18.2	23	27	36	45	55	73	91	114	136	182
1000	5.1	10.1	15.2	20	25	30	40	51	61	81	101	126	152	202
1100	5.6	11.1	16.7	22	28	33	44	56	67	89	111	139	167	222
1200	6.1	12.1	18.2	24	30	36	48	61	73	97	121	152	182	242
1300	6.6	13.1	19.7	26	33	39	53	66	79	105	131	164	197	263
1400	7.1	14.1	21	28	35	42	57	71	85	113	141	177	212	283
1500	7.6	15.2	23	30	38	45	61	76	91	121	152	189	227	303
1600	8.1	16.2	24	32	40	48	65	81	97	129	162	202	242	
1700	8.6	17.2	26	34	43	52	69	86	103	137	172	215	258	
1800	9.1	18.2	27	36	45	55	73	91	109	145	182	227	273	-
1900	9.6	19.2	29	38	48	58	77	96	115	154	192	240	288	
2000	10.1	20	30	40	51	61	81	101	121	162	202	253	303	
2100	10.6	21	32	42	53	64	85	106	127	170	212	265		-
2200	11.1	22	33	44	56	67	89	111	133	178	222	278		
2300	11.6	23	35	46	58	70	93	116	139	186	232	290		
2400	12.1	24	36	48	61	73	97	121	145	194	242	303	-	-
2500	12.6	25	38	51	63	76	101	126	152	202	253			
2600	13.1	26	39	53	66	79	105	131	158	210	263			
2800	14.1	28	42	57	71	85	113	141	170	226	283	-	-	-
3000	15.2	29	45	61	76	91	121	152	182	242	303			

Table No. 5 - Additional Horsepower for Drive Losses

Cast Tooth Gears	Cut Tooth Gears, Roller Chain, or "V" Belt Drives	Speed Reducers, Spur, or Helical Type
Add 10% for each Reduction	Add 5% for each Reduction	Add 5%

HORSEPOWER **CALCULATION**

With the information given in Tables 1-5 inclusive, the total horsepower required can be determined.

Example: Assume a 24" belt conveyor with 300 horizontal centers, a 40 foot rise, and a belt speed of 400 feet per minute. Conveyor to handle 195 tons of coal per hour. Anti-friction idlers and terminal bearings to be used throughout.

Table No. 1 shows that we will require 1.0 H.P. for each 100 feet per minute belt speed to drive empty conveyor, or a total of 4.0 H.P. for a conveyor traveling 400 FPM. Table No. 2 shows that approximately 2.7 H.P. will be required to convey 195 tons over a horizontal distance of 300 feet. Table No. 4 shows that approximately 8 H.P. is required to elevate 195 TPH of material 40 feet. Table No. 3 gives the additional H.P. required to drive the tripper, but as no tripper would be required on the conveyor, we are considering this figure is omitted.

By adding the horsepowers determined from Tables 1, 2, and 4, we get an effective H.P. of 14.7. Table No. 5 gives the additional horsepower required for the power loss in various types of drives. Assume the conveyor we have under consideration is driven by a helical gear reducer and roller chain drive. We would then have to add 10% of the effective H.P. to take care of the power loss, or 1.5 H.P. This would give us a motor H.P. of 16.2 in which case, we would recommend a 20 H.P. motor. Where conveyor is to be started under load, a high starting torque motor should be used.

CAPACITY CHARTS

The conveyor belt capacity charts below show tons per hour (TPH) based on material weighing 100 lbs. per cubic foot, 20° material surcharge angle with three equal length rolls on troughing idlers.

TPH WITH 20° TROUGHING IDLERS													
Belt Width (inches)	**Cross Load Section (Sq. Ft.)**	Belt Speed in Feet per Minute (FPM)											
		100	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**
18	.180	54	80	110	135	160	190	218	243	270	-	-	-
24	.333	100	150	200	250	300	350	400	450	500	550	600	-
30	.533	160	240	320	400	480	560	640	720	800	880	960	1040
36	.780	235	350	470	585	700	820	935	1050	1170	1290	1400	1520
42	1.100	330	495	660	825	980	1155	1320	1485	1650	1815	1980	2140
48	1.467	440	660	880	1100	1320	1540	1760	1980	2200	2420	2640	2860
54	1.900	570	855	1140	1420	1710	2000	2280	2560	2850	3130	3420	3700
60	2.400	720	1080	1440	1800	2160	2520	2880	3240	3600	3960	4320	4680

Note: Capacities of flat belts are taken at one-half of those listed above.

TPH WITH 35° TROUGHING IDLERS													
Belt Width (inches)	**Cross Load Section (Sq. Ft.)**	Belt Speed in Feet per Minute (FPM)											
		100	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**
18	.225	66	100	135	170	200	235	270	305	338	-	-	-
24	.416	125	187	250	310	380	435	500	560	625	685	750	-
30	.666	200	300	400	500	600	700	800	900	1000	1100	1200	1300
36	1.000	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950
42	1.410	420	635	845	1060	1270	1480	1690	1900	2120	2320	2540	2750
48	1.875	560	845	1125	1400	1690	1970	2250	2530	2810	3090	3370	3660
54	2.470	740	1110	1480	1850	2220	2600	2960	3340	3700	4080	4450	4820
60	3.120	935	1400	1870	2340	2800	3280	3740	4200	4680	5150	5610	6100

TPH WITH 45° TROUGHING IDLERS													
Belt Width (inches)	**Cross Load Section (Sq. Ft.)**	Belt Speed in Feet per Minute (FPM)											
		100	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**
24	.483	145	217	290	360	435	508	580	650	725	795	870	-
30	.773	232	348	465	580	695	810	930	1040	1160	1270	1390	1500
36	1.130	335	510	680	850	1020	1190	1360	1530	1700	1860	2040	2200
42	1.595	478	720	960	1200	1440	1680	1910	2150	2390	2630	2870	3110
48	2.127	640	955	1275	1600	1910	2230	2550	2870	3190	3500	3820	4150
54	2.760	830	1240	1655	2070	2480	2900	3310	3720	4140	4550	4960	5380
60	3.480	1040	1570	2090	2610	3130	3660	4180	4700	5220	5740	6260	6800

Belt Width (inches)	**Maximum Size of *Lumps (inches)**		**MAXIMUM BELT SPEEDS - Feet Per Minute (FPM)**		
	Equal Size Lumps	Mixed with 90% Fines	Light, Free-Flowing Material (Grain, Pulverized Coal) 50 lb./cu. ft.	Average Material (Sand, Gravel, Stone, Coal, Fine Ore) 100 lb./cu. ft.	Abrasive Material (Coal, Screened Lump Coke) 30 to 50 lb./cu. ft.
18	3	5	500	500	400
24	5	8	600	600	450
30	6	11	700	650	500
36	8	15	800	650	500
42	10	18	800	650	500
48	12	21	800	650	500
54	14	24	800	650	500
60	16	28	800	650	500

**Due to different characteristics of some materials, the above table is based on general conformities.*

▲ **Troughed Belt Conveyors with weather covers**

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