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for gravity rollers

42300 W. Nine Mile Rd., Novi, MI 48375 248-349-1009

FRAME SELECTIONS

INTRODUCTION

Lathrup Industries manufactures a wide variety of gravity conveyors, standard and customized alike. We offer ball transfer tables, along with gravity roller conveyors in a straight curve, and spur sections. Load capacity charts containing important information for frames, rollers and the given support centers are included for your guidance. For specifications falling outside the above parameters or for special applications not listed, please contact us to see to your material handling needs.

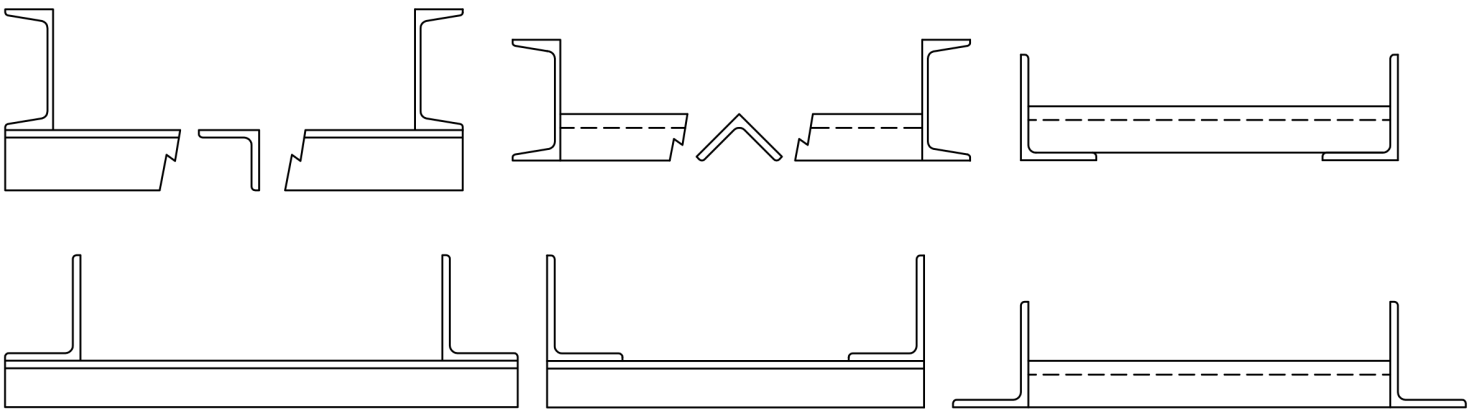
VARIABLE FRAME RAIL STYLES

Although the conveyor frames are usually the same on both sides of a gravity conveyor, other variations are possible. On occasion, it may be more economical to use a combination of different size channels or even channels and angles. The location of these are commonly in areas with heavy and large products such as heavy molds and pallets.

Another style is made up of three rails, also known as “three rail construction.” This type of construction is used in gravity curves a lot, but can also provide extra support and greater capacity with gravity straight sections. The following page contains a chart with variations of frame rails, along with frame capactiy chart for various side frames.

TYPES OF FRAMES

There are many types of frames to choose from. The most common are formed channels, structural channels, structural angles, and flat stock. The conveyor frames are commonly the same on both sides and are connected with welded cross braces. Below are some illustrations of common frame and angle configurations.



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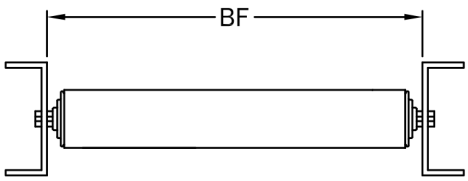
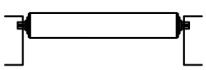
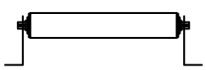
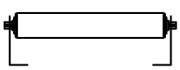
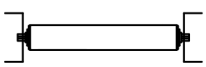
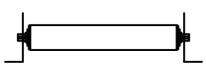
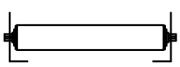
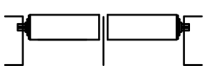
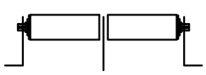
GRAVITY ROLLER CONVEYOR

STANDARD INFORMATION

Wide variety of side frames built to specified width and length requirements. Additional frames are available. Rigid welded construction. Gravity rollers from 1″ through 4″ diameter. Roller spacing: 1 1/2″, 3″, 4″, and 6″ are typical. Other spacings are available.



	Frame Capacity (lbs.)	
Side Frame	5' Support	10' Support
L 2 x 1_1/2 x 3/16	850	200
[2_1/2 x 1 x 12 GA.	1,300	350
L 2_1/2 x 2 x 3/16	1,700	420
L 2_1/2 x 2 x 1/4	2,000	550
[3 x 4.1#	5,800	1,400
L 3 x 2 x 3/16	2,100	580
L 3 x 2 x 1/4	2,800	960
[3_1/2 x 1_1/2 x 10 GA.	3,300	1,200
[4 x 5.4#	10,000	3,300
L 4 x 3 x 5/16	6,500	2,900
[5 x 1_1/2 x 7 GA.	6,800	3,400
[5 x 6.7#	16,000	6,600
L 5 x 3_1/2 x 5/16	10,000	5,000
[5_1/2 x 1_1/2 x 10 GA.	5,500	2,400
[6 x 8.2#	22,000	11,000
[8 x 11.5#	43,000	21,000
[10 x 15.3#	71,000	35,000
[10 x 20.0#	83,000	41,000
[12 x 20.7#	113,000	56,000
[15 x 40.0#	180,000	92,000

STYLE	A	B	C
1			
2			
3			
4			

OTHER OPTIONS

- Gravity Curves with Straight or Tapered Rollers

- Gravity Spurs

-″H″ Type Leg Supports

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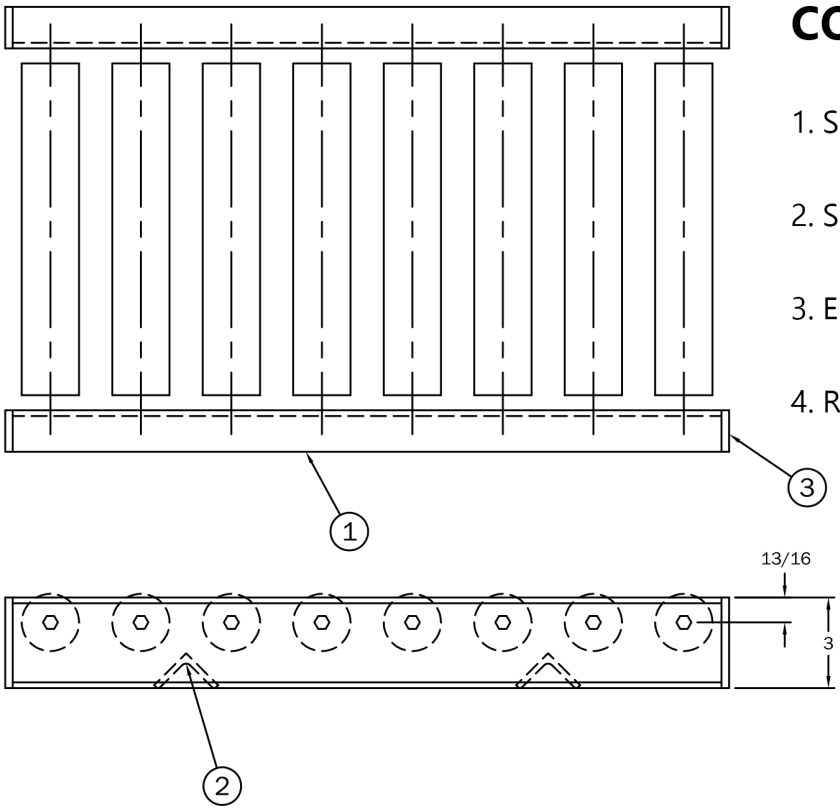
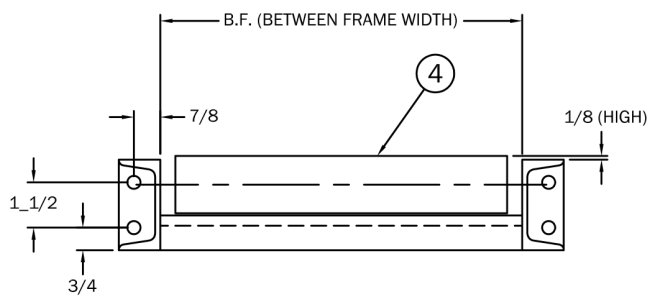
GRAVITY ROLLER CONVEYOR 3” ROLLER SPACING





COMPONENTS

1. Siderails - 3 x 4.1# Structural Channel

2. Spreaders - 1 1/2 x 1 1/2 x 3/16 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 1.9 O.D.

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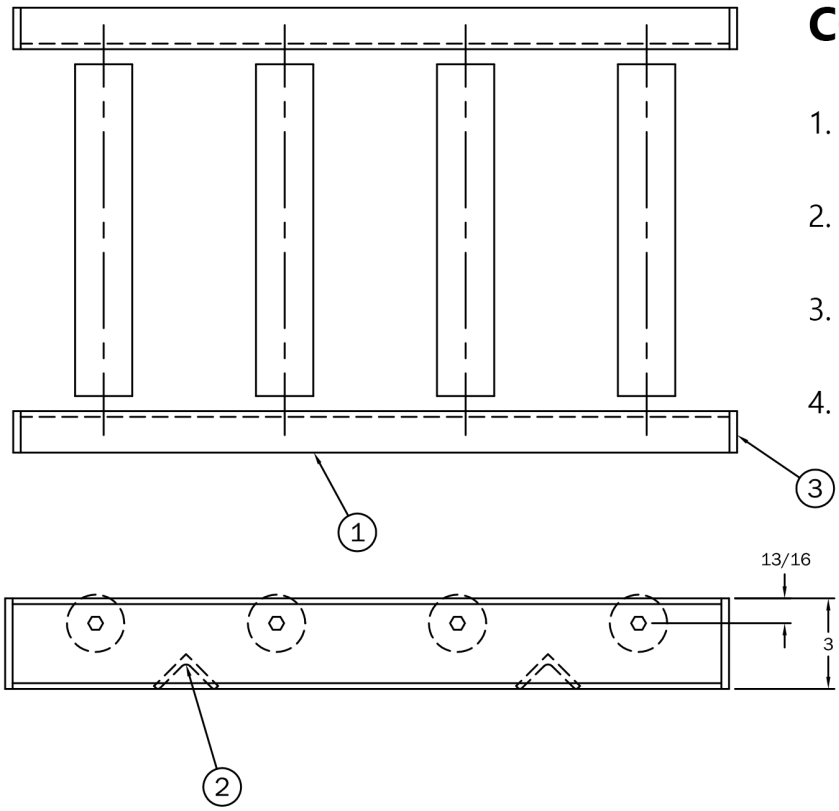
GRAVITY ROLLER CONVEYOR 6” ROLLER SPACING



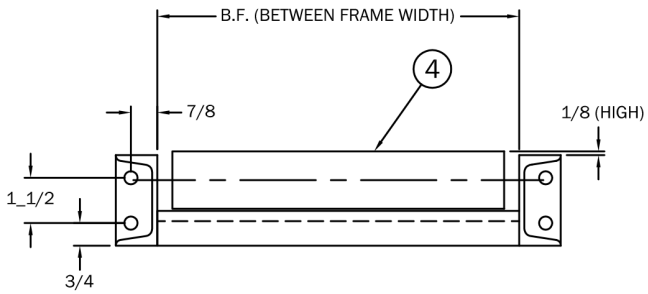
COMPONENTS

1. Siderails - 3 x 4.1# Structural Channel

2. Spreaders - 1 1/2 x 1 1/2 x 3/16 Stuctural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 1.9 O.D.



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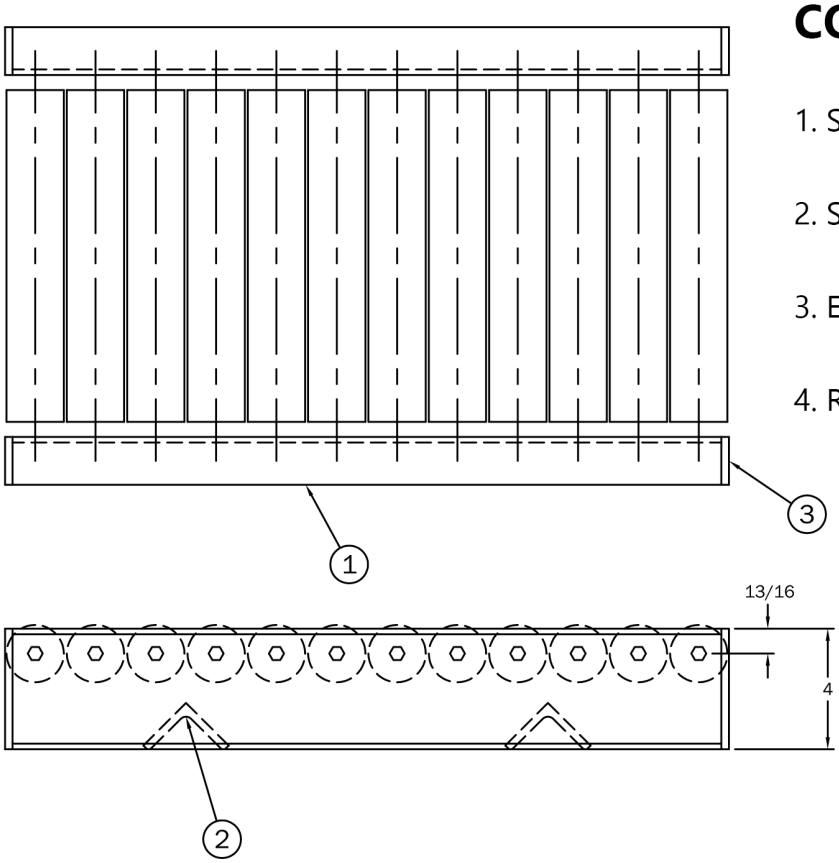
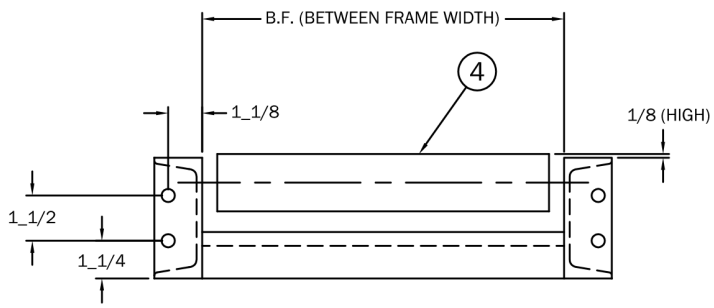
GRAVITY ROLLER CONVEYOR 2” ROLLER SPACING



COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel
2. Spreaders - 2 x 2 x 1/4 Structural Angle
3. End Couplers - 1/4 Plate
4. Rollers - 1.9 O.D.



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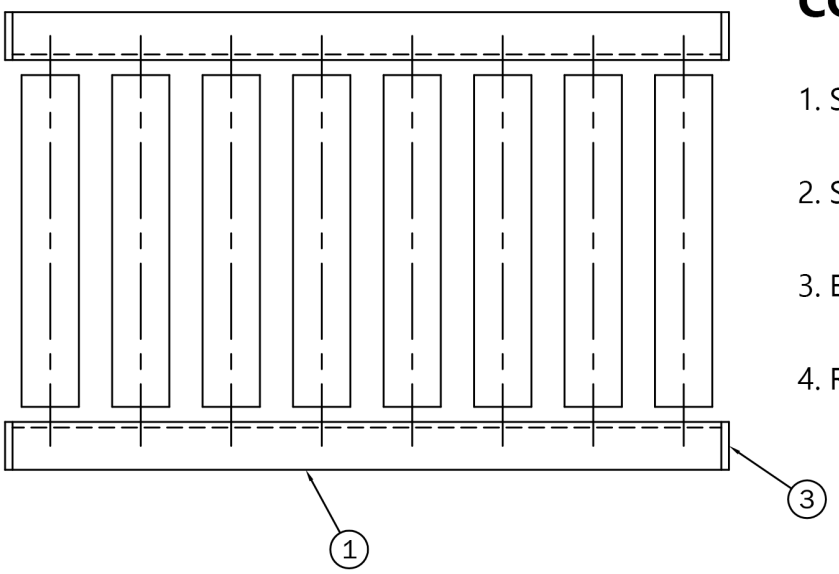
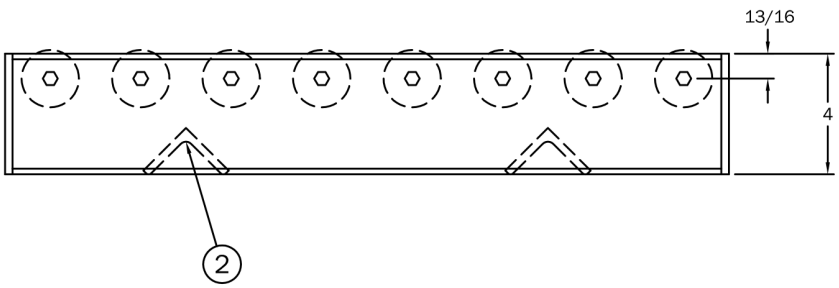
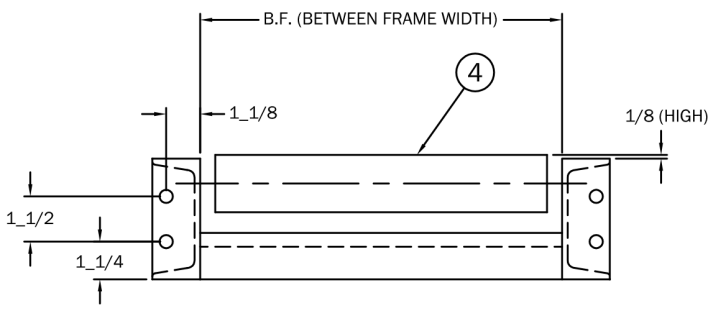
GRAVITY ROLLER CONVEYOR 3” ROLLER SPACING







COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 1.9 O.D.

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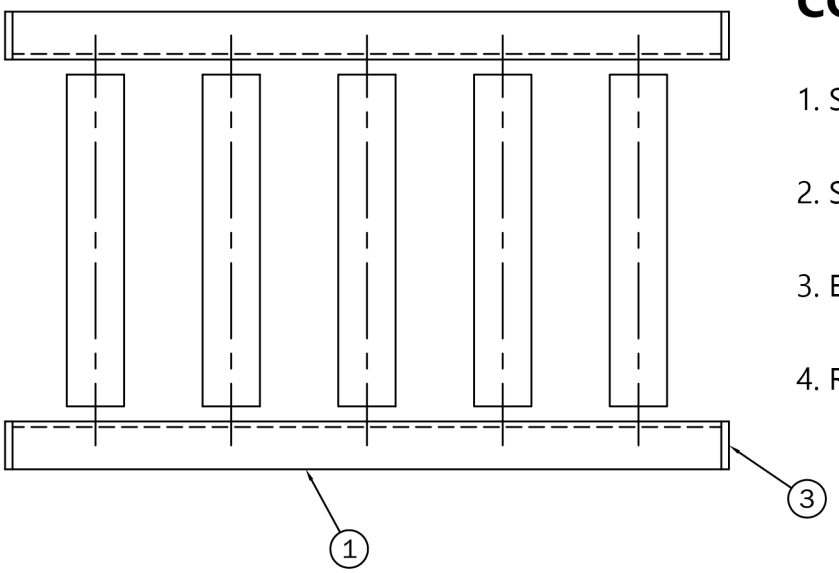
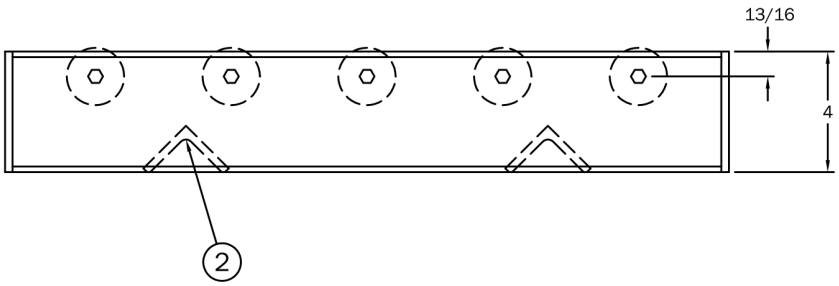
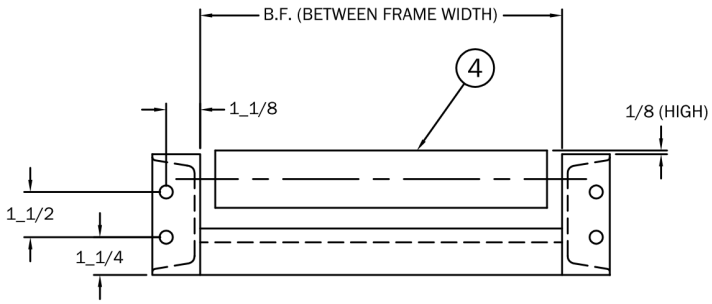
GRAVITY ROLLER CONVEYOR 4 1/2" ROLLER SPACING







COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 1.9 O.D.

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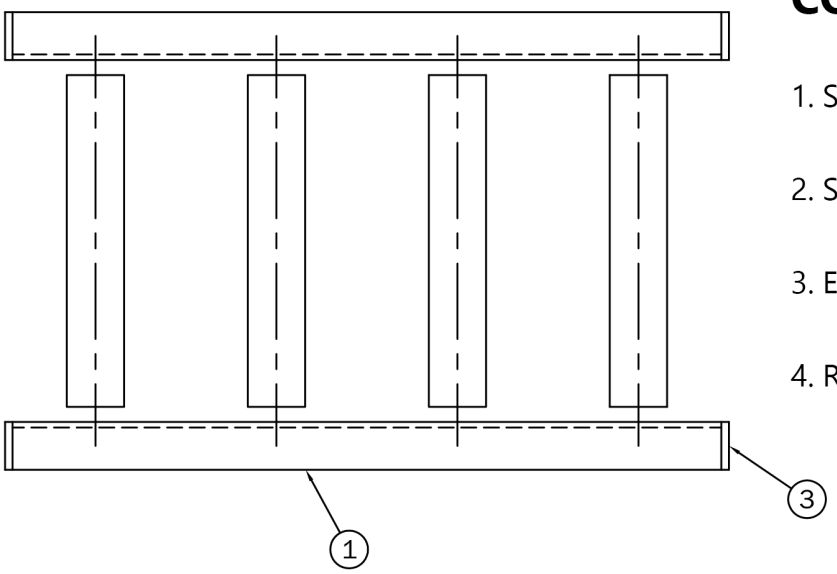
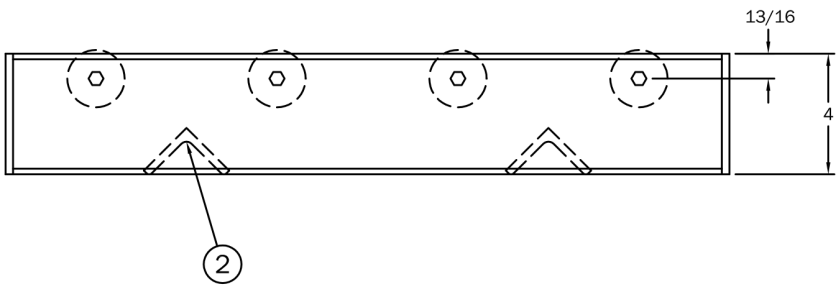
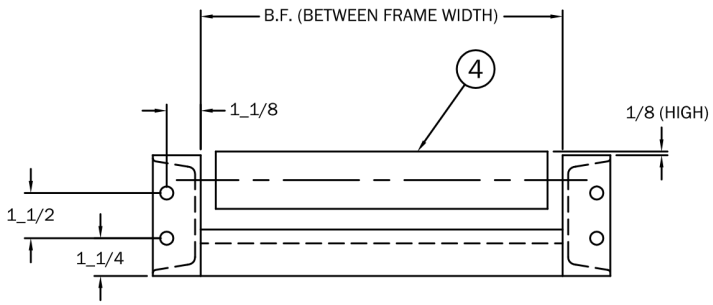
GRAVITY ROLLER CONVEYOR 6” ROLLER SPACING







COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 1.9 O.D.

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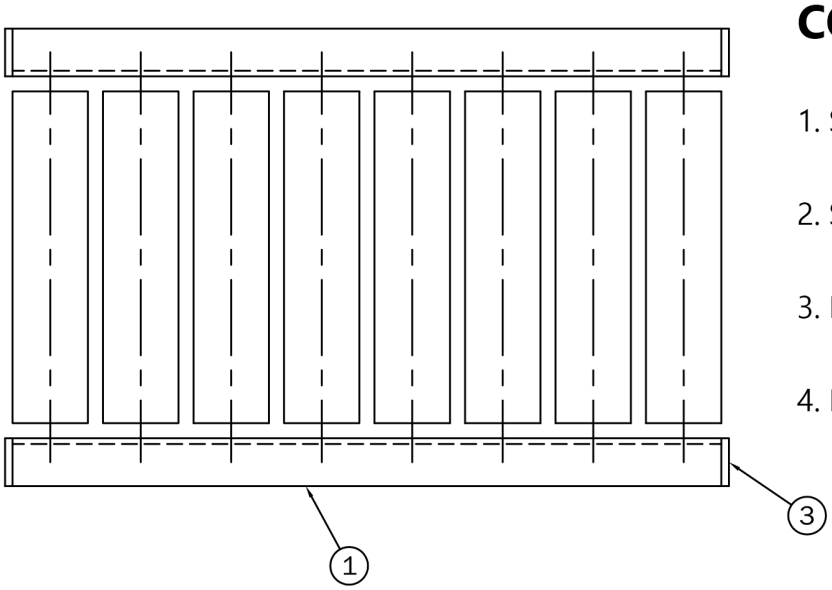
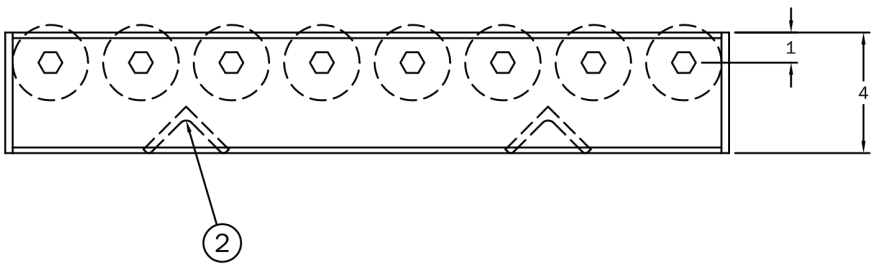
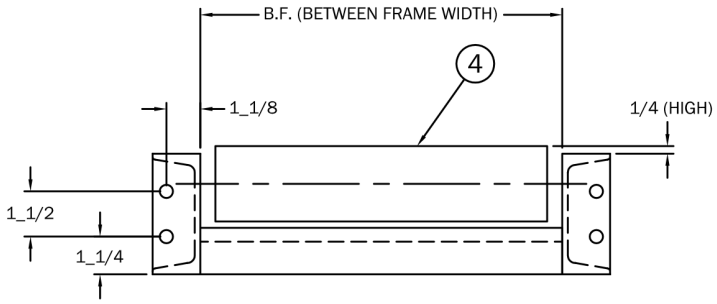
GRAVITY ROLLER CONVEYOR 3” ROLLER SPACING







COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 2 1/2 O.D.

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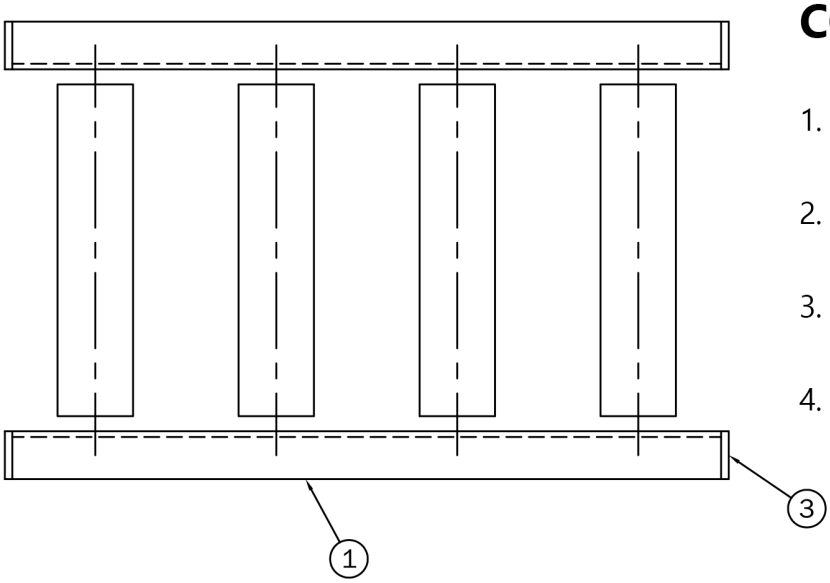
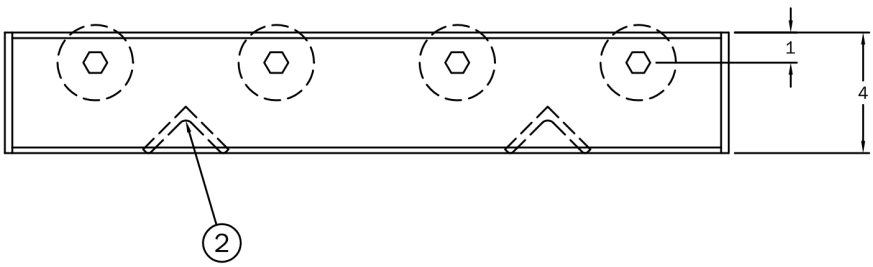
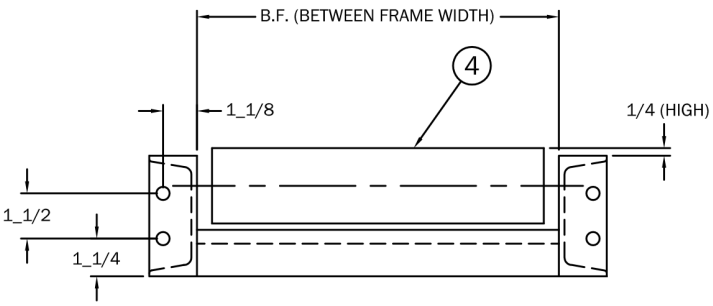
GRAVITY ROLLER CONVEYOR 6” ROLLER SPACING







COMPONENTS

1. Siderails - 4 x 5.4# Structural Channel
2. Spreaders - 2 x 2 x 1/4 Structural Angle
3. End Couplers - 1/4 Plate
4. Rollers - 2 1/2 O.D.

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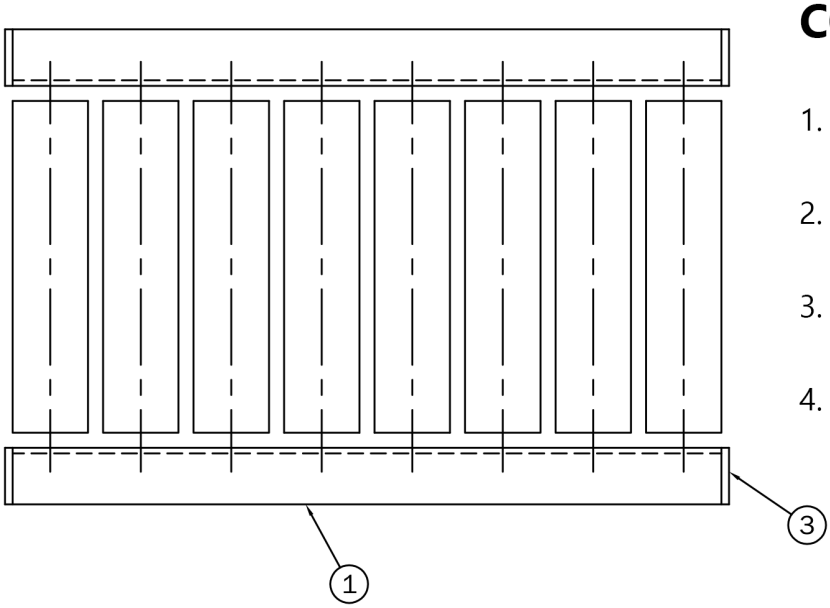
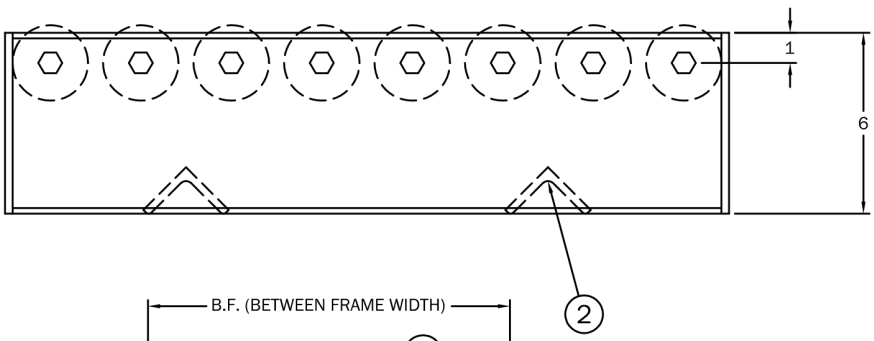
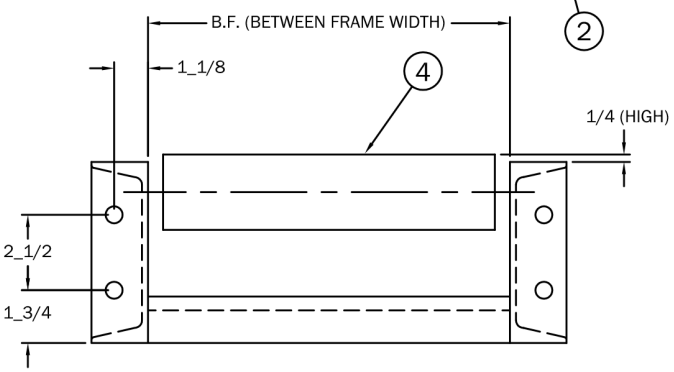
GRAVITY ROLLER CONVEYOR 3” ROLLER SPACING







COMPONENTS

1. Siderails - 6 x 8.2# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 2 1/2 O.D.

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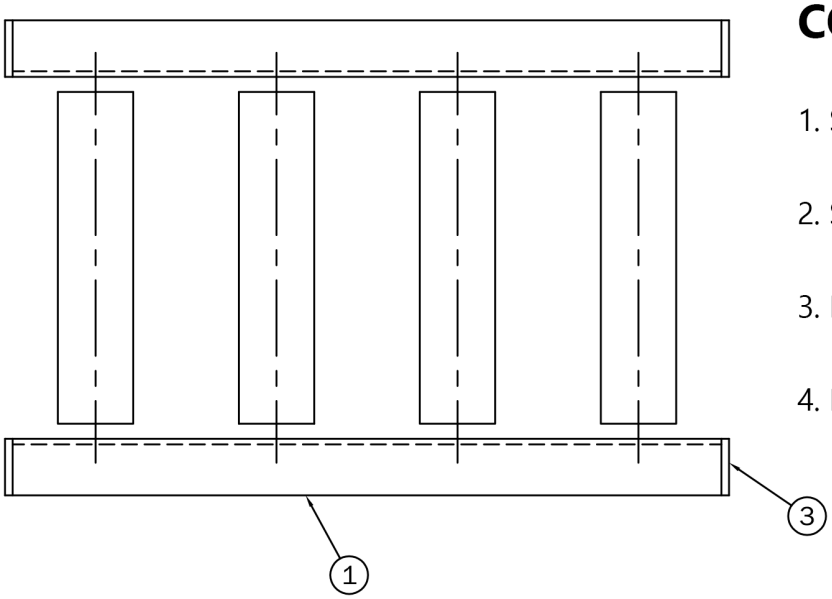
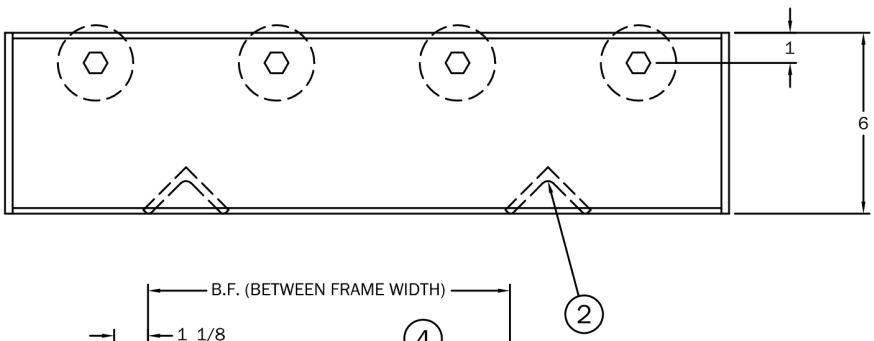
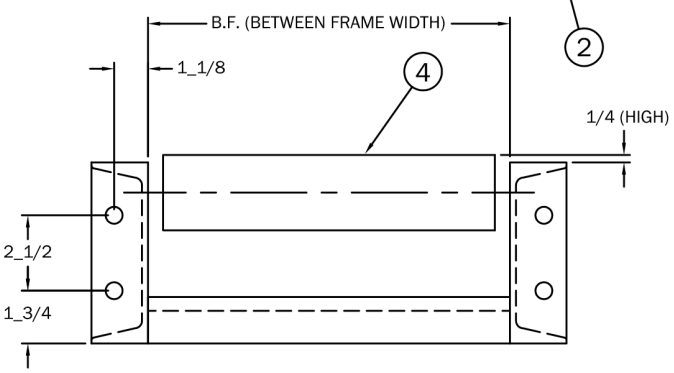
GRAVITY ROLLER CONVEYOR 6” ROLLER SPACING







COMPONENTS

1. Siderails - 6 x 8.2# Structural Channel
2. Spreaders - 2 x 2 x 1/4 Structural Angle
3. End Couplers - 1/4 Plate
4. Rollers - 2 1/2 O.D.

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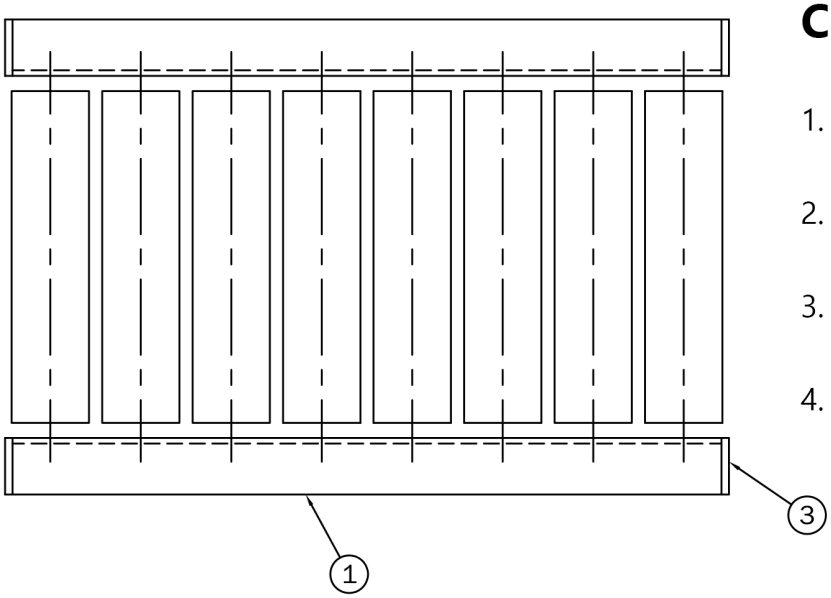
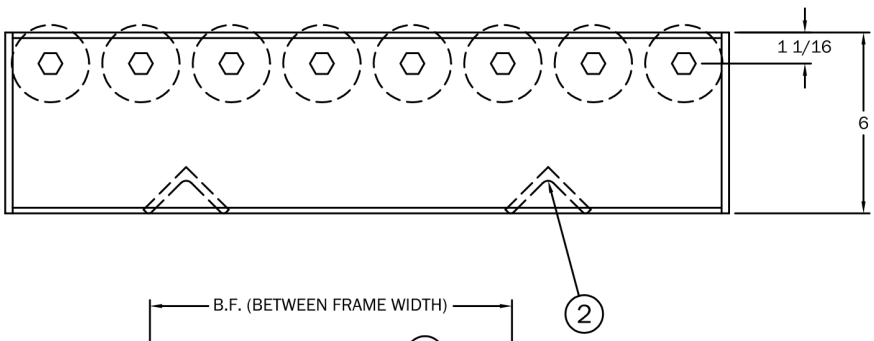
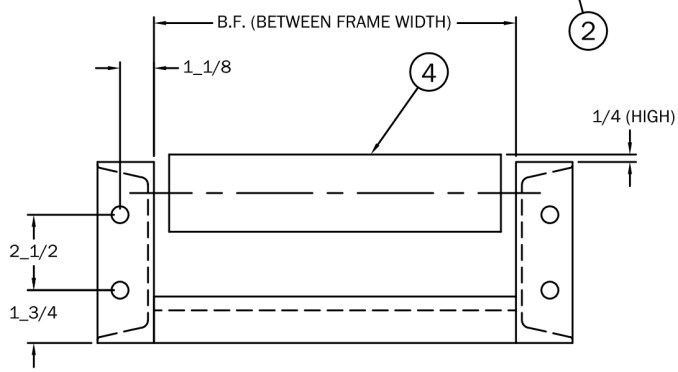
GRAVITY ROLLER CONVEYOR 3” ROLLER SPACING







COMPONENTS

1. Siderails - 6 x 8.2# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 2 9/16 O.D.

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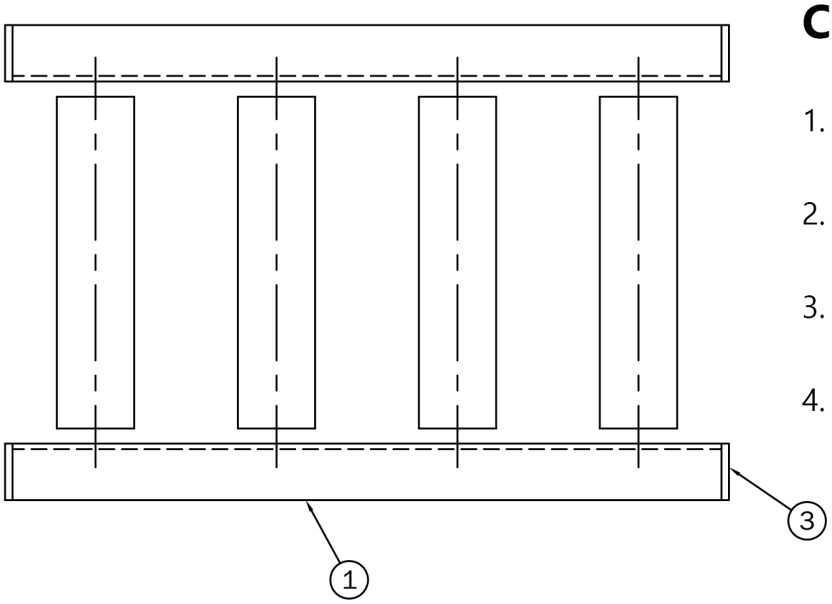
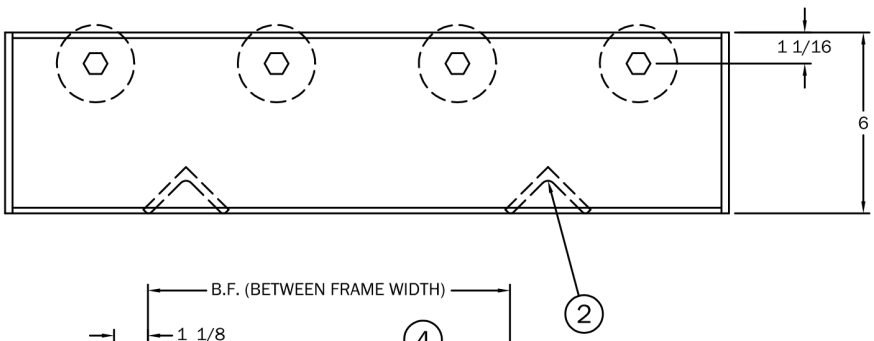
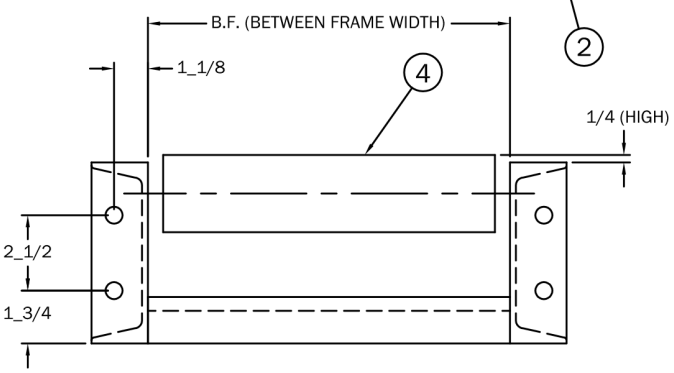
GRAVITY ROLLER CONVEYOR 6” ROLLER SPACING







COMPONENTS

1. Siderails - 6 x 8.2# Structural Channel

2. Spreaders - 2 x 2 x 1/4 Structural Angle

3. End Couplers - 1/4 Plate

4. Rollers - 2 9/16 O.D.

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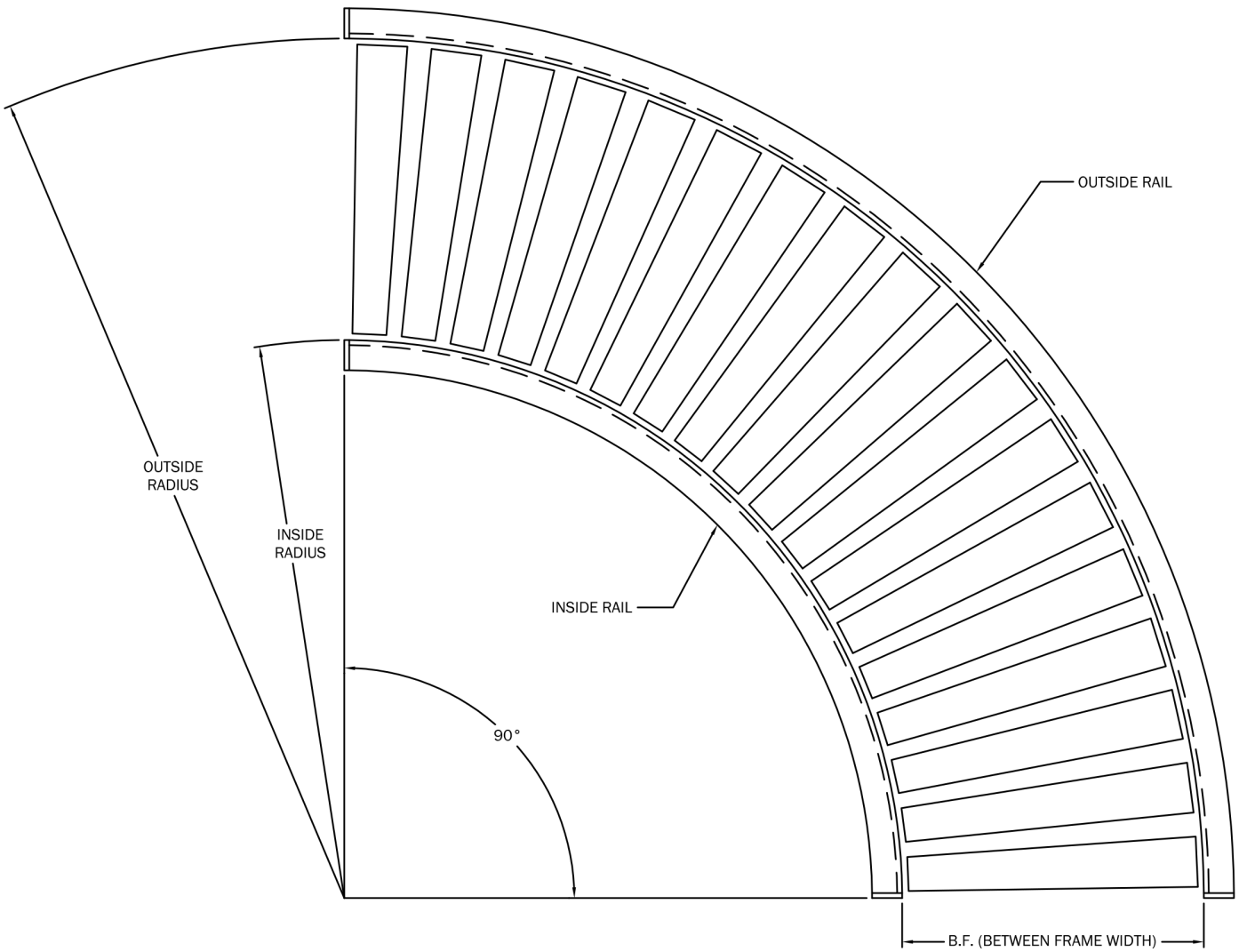
GRAVITY CURVE

GRAVITY CURVES

Our gravity curve conveyors can be built with straight or tapered rollers. Notice from the illustration below that the outside radius minus the inside radius equals the B.F., or between frame width. Unlike straight conveyors, gravity curve conveyors have "equivalent" roller centers. This means that axle holes will be closer together on the inside rail than the outside rail. Refer to page 3 for frame styles and capactiy. Gravity curve conveyors have the same "per foot" capacity as straight sections.



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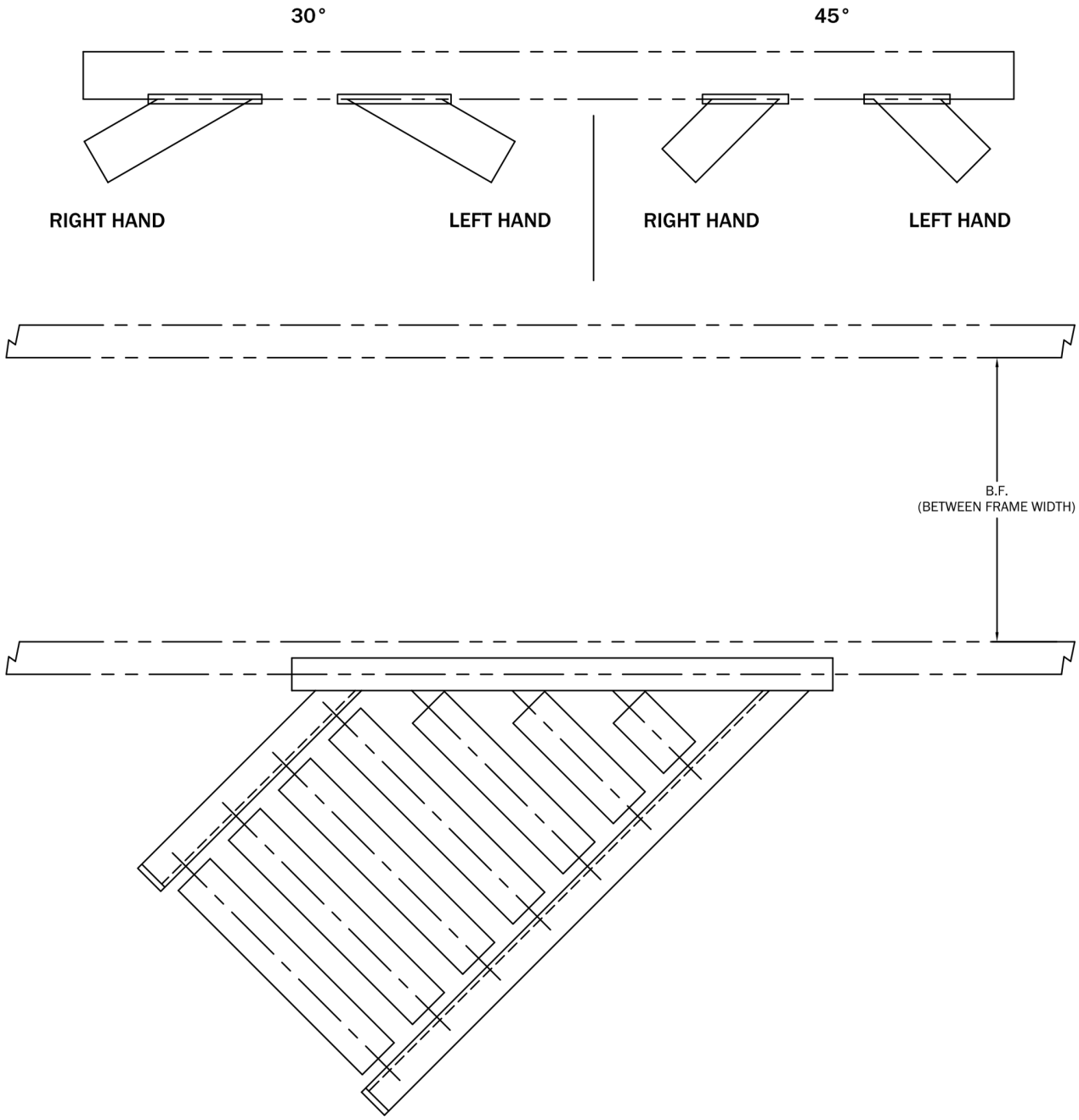
GRAVITY SPUR

GRAVITY SPURS

We offer gravity roller spur conveyors in 30° and 45°, right or left hand. These conveyors are used to transfer products from one conveying line onto another. They are suitable for merging or diverging operations.



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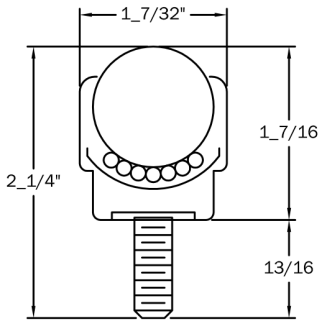
BALL TRANSFERS

BALL TRANSFERS

Below is a selection of ball transfers we use on our ball transfer tables. The main ball is available in 1", 1 1/4", and 1 1/2" diameters. Ball material is either carbon steel, stainless steel, or nylon. Take a look at the selection below for available options.

1" Diameter

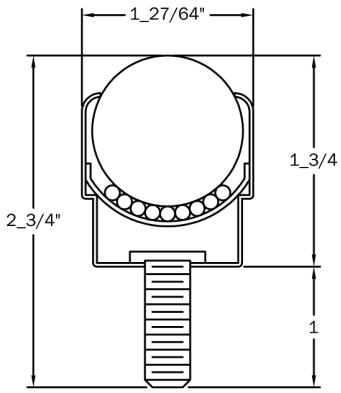
Designed for multiple unit installation, these versatile ball transfers are engineered for either ball up or ball down mounting. The HSC is constructed of a drawn steel housing with black oxide finish. The 1" Diameter ball transfer has a 5/16-18 x 13/16" stud.



PART NO.	BALL MATERIAL	HOUSING	LOADING CAPACITY
HSC	CARBON STEEL	CARBON STEEL*	100 LBS.
NHSC	NYLON	CARBON STEEL*	75 LBS.

* = with black oxide finish.

1 1/4" Diameter



PART NO.	BALL MATERIAL	HOUSING	LOADING CAPACITY
1_1/4 HSC	CARBON STEEL	CARBON STEEL*	250 LBS. BALL UP

* = with black oxide finish.

1. Stamped/Drawn Carbon Housing
2. Carbon Steel Balls
3. Black Oxide Finish
4. 3/8-16 x 1" Stud

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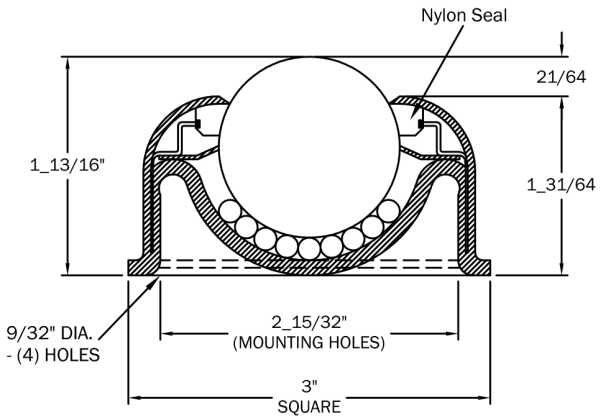
BALL TRANSFERS

1 1/2 Diameter

This heavy duty ball transfer has a 1 1/2" main ball that rotates (90) 3/16" support balls. The four-hole flange facilitates easy installation. The nylon seal prevents entry of dirt and foreign matter while the armored protective cover provides ultimate protection against damage. Available in all-stainless steel for additional strength and durability. The 1 1/2 NFMC with its nylon main ball provides protection from marking sensitive surfaces.

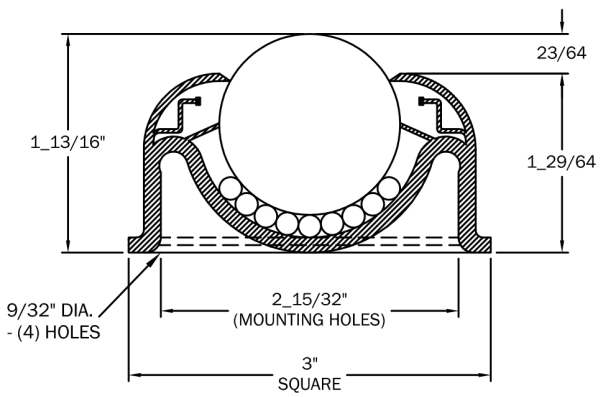


PART NO.	BALL MATERIAL	HOUSING	LOADING CAPACITY
1_1/2 FMC	CARBON STEEL	CARBON STEEL**	250 LBS.
1_1/2 FMS	STAINLESS STEEL	STAINLESS STEEL	350 LBS.
1_1/2 NFMC	NYLON	CARBON STEEL**	250 LBS.
1_1/2 NFMS	NYLON	STAINLESS STEEL	250 LBS.

** = zinc plated.

1 1/2" Diameter

This heavy duty ball transfer has a 1 1/2" main ball that rotates on (90) 3/16" support balls. The four-hole flange facilitates easy installation. Available in all-stainless steel for additional strength and durability.



PART NO.	BALL MATERIAL	HOUSING	LOADING CAPACITY
1_1/2 EFMC	CARBON STEEL	CARBON STEEL**	250 LBS.
1_1/2 EFMS	STAINLESS STEEL	STAINLESS STEEL	350 LBS.

** = zinc plated.

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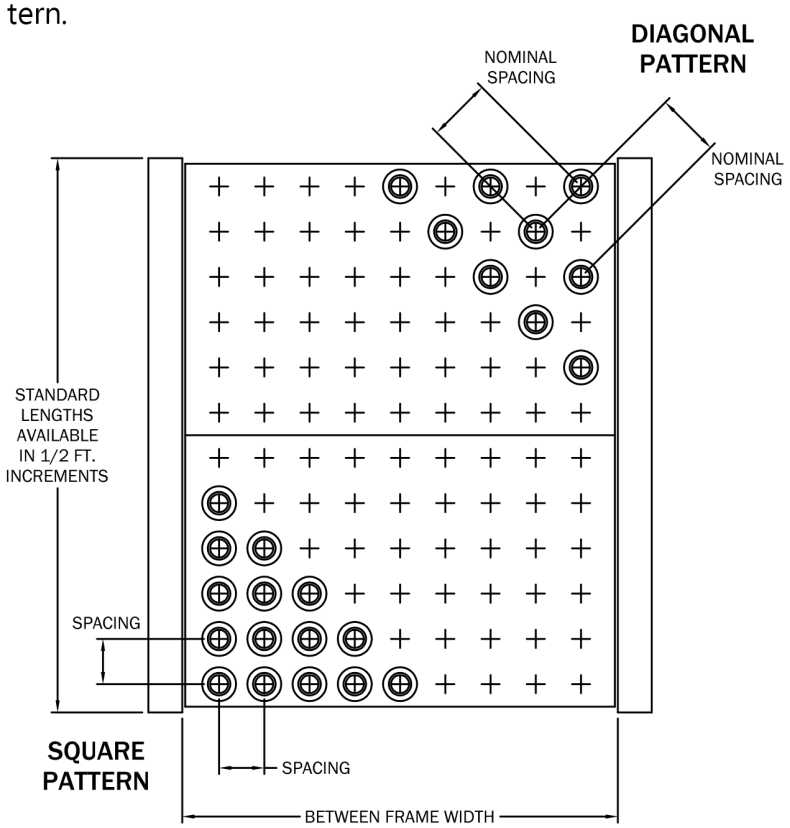
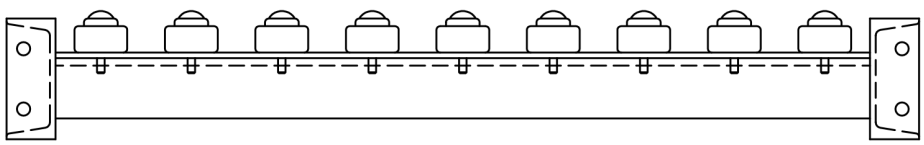
BALL TRANSFER TABLE

BALL TRANSFER TABLE

Ball transfer tables are used where the product needs to manually rotate or move in any direction. Notice the illustration below of the diagonal square patterns. Also, there is a weight chart for the 3 1/2″ x 1 1/2″ x 10 ga. formed steel channel with welded 10 ga. pans. We have between frame widths of 13″ to 39′ in one inch increments, and lengths of 2 ft. to 10 ft. in 1/2 foot increments. Spacings available are 2′, 4′ and 6′ in the square pattern, and 3″ and 6″ nominal in the diagonal pattern.



3_1/2" DEEP FRAMES (WEIGHT PER FOOT)					
BETWEEN FRAME WIDTH	2" CENTERS SQUARE	3" CENTERS DIAGONAL	4" CENTERS SQUARE	6" CENTERS SQUARE	6" CENTERS DIAGONAL
13	28	22	20	----	----
14	29	23	21	----	----
15	32	24	21	18	18
16	33	25	22	19	19
17	35	26	23	20	20
18	36	27	24	21	21
19	38	28	24	21	21
20	39	29	25	22	22
21	42	30	26	22	22
22	43	31	27	23	23
23	45	33	28	24	24
24	46	34	29	25	25
25	49	35	30	26	26
26	50	36	31	27	27
27	52	37	31	27	27
28	53	38	32	28	28
29	55	39	33	29	29
30	56	40	34	30	30
31	59	42	35	30	30
32	60	43	36	31	31
33	62	44	37	31	31
34	63	45	38	32	32
35	66	46	38	33	33
36	67	47	39	34	34
37	69	49	40	34	34
38	70	50	41	35	35
39	72	51	41	35	35



END VIEW OF A BALL TRANSFER TABLE

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