

Product Manual
Gravity Wheel Conveyor
Application Guidelines, Specifications,
Installation Procedures, Maintenance, and
Spare Parts



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Read these documents thoroughly before attempting to perform maintenance or repairs to the applicable Intelligrated conveyor system components or devices. Exercise extreme caution when working around moving and rotating conveyor equipment. Wear the proper clothing and safety equipment. DO NOT attempt to perform any maintenance until the equipment is de-energized, locked out and tagged out in accordance with established company procedures.

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Section A Product Summary

Section B Application Guidelines

Introduction ----- B-1

Developing Wheel Conveyor Specifications ----- B-2

 Step 1 – Load Characteristics ----- B-2

 Step 2 – Operating Conditions ----- B-2

 Step 3 – Frame Capacity ----- B-2

 Step 4 – Wheel Pattern ----- B-2

 Step 5 – Wheel Selection ----- B-2

 Step 6 – Wheel Capacity ----- B-3

 Step 7 – Conveyor Width ----- B-3

 Step 8 – Conveyor Pitch ----- B-3

Section C Specifications

Light Duty Straight Section &
Light Duty Straight Section Dense Pattern (DP) ----- C-1

Light Duty Curve Section &
Light Duty Curve Section Dense Pattern (DP)- ----- C-4

Light Duty Junction ----- C-6

Light Duty Vertical Gate ----- C-8

Light Duty Swivel Wheel Switches ----- C-11

Pallet Storage Rails ----- C-13

Medium Duty Straight Section ----- C-15

Medium Duty Curve Section ----- C-17

Medium Duty Junction ----- C-19

Medium Duty Vertical Gate ----- C-21

Very High Speed Straight Section ----- C-24

Very High Speed Junction ----- C-26

Very High Speed Curve – 70° ----- C-28

Couplers ----- C-30

Section D Engineering Data

Determining Conveyor Width (W) ----- D-1

Section E Layout Dimensions

Style 5/6/7/8 - 90°, 60°, 45°, 30° Curve ----- E-1

Style 14/18 - 30°, 45° Straight Junctions ----- E-2

Style 21 - 90° Curve Junction ----- E-3

Section F Accessories

Section G Installation Procedures

Introduction G-1

 Accepting Shipment G-1

 Shortages or Errors G-1

 Lost or Damaged Shipment G-1

 Claims and Returns G-1

 Codes and Standards G-1

 Warning Signs G-2

 Safety Features G-2

 Parts Replacement G-2

 Factory Assistance G-2

Assembling the Conveyor G-3

Section H Maintenance

Scheduled Maintenance H-2

Section I Spare Parts

Introduction I-1

Wheel Sections I-2

Wheel Junctions I-3

Vertical Gate Sections I-4

Light Duty Swivel Wheel Switch I-4

Pallet Storage Rails I-5

Common Parts I-6

Section J Product Index

Light Duty - 2.5 Channel - Straight J-1

Light Duty - 2.5 Channel - Straight - Dense Pattern J-2

Light Duty - 2.5 Channel - Curve - 2'6"IR J-3

Light Duty - 2.5 Channel - Curve - 2'-6"IR - Dense Pattern J-4

Light Duty - 2.5 Channel - Junction J-5

Light Duty - 2.5 Channel - Junction - 2'-6"IR J-6

Light Duty - 2.5 Channel - Vertical Gate J-7

Light Duty - 2.5 Channel - Miscellaneous J-8

Medium Duty - 3.5 Channel - Straight J-10

Medium Duty - 3.5 Channel - Curve - 2'-6"IR J-11

Medium Duty - 3.5 Channel - Curve - True Taper J-12

Medium Duty - 3.5 Channel - Junction Straight J-13

Medium Duty - 3.5 Channel - Junction Curve - 2'-6"IR - True Taper J-14

Medium Duty - 3.5 Channel - Vertical Gate J-15

Medium Duty - 3.5 Channel - Vertical Gate J-16

Very High Speed Gravity Wheel Conveyor - 2.5 Channel J-17

SECTION A: PRODUCT SUMMARY

Components	Wheel Conveyor Type	
	Light-Duty	Medium-Duty
General Specifications		
Widths - "W"	10", 16", & 22"	16", 22", 28", 34", & 40"
Wheels	Steel, Aluminum, Nylon, Polypropylene, & H.D. Steel	Steel, Aluminum, Nylon, Polypropylene, & H.D. Steel
Channel Rail (Steel)	2-1/2" x 1-1/16" x #12 ga.	3-1/2" x 1-1/4" x #10 ga.
Finish	Powder-Coat Grey	Powder-Coat Grey
Straight Sections		
Lengths	10'-0" & 5'-0"	10'-0" & 5'-0"
Wheels Per Foot (WPF)	10" W = 10, 12, & 14 16" W = 12, 14, 16, & 18 22" W = 16, 18, 20, & 22	16" W = 20; 22" W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers	3"	3"
Couplers	Quick-Eez; Hook & Rod	Splice Flat
Curve Sections - 26IR		
Arcs	30°, 45°, 60°, & 90°	30°, 45°, 60°, & 90°
Wheels Per Foot (WPF)	10" W = 14 16" W = 18 22" W = 22	16" W = 20; 22" W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers	2.625" @ IR	1-1/2" at IR
Couplers	Quick-Eez; Rod and Rod	Splice Flat
Curve Sections - TTF		
Arcs		30°, 45°, 60° & 90°
Wheels Per Foot (WPF)		16" W = 20; 22" W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers		1-1/2" @ IR
Junctions - Straight (30° & 45°)		
Length	5'-0" (All widths)	16", 22" & 28" W = 5'-0" 34" & 40" W = 7'-6"
Wheels Per Foot (WPF)	10" W = 14 16" W = 18 22" W = 22	16" W = 20; 22" W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers	3"	3"

Components	Wheel Conveyor Type	
	Light-Duty	Medium-Duty
Junctions - Curve (90)		
Frame Type	26IR	26IR & TTF
Wheels Per Foot (WPF)	10" W = 14 16" W = 18 22" W = 22	16" W = 20; 22' W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers	1-1/2" @ IR	1-1/2" @ IR
Vertical Gates		
Length	3'-0", 3'-6" & 4'-0"	3'-0", 3'-6" & 4'-0"
Wheels Per Foot (WPF)	10" W = 14 16" W = 18 22" W = 22	16" W = 20; 22' W = 28 28" W = 38; 34" W = 48 40" W = 56
Axle Centers	3"	3"
Lift Assist	Gas-Spring Unit(s)	Gas-Spring Unit(s)
Channel Rail (Aluminum)	2-1/2" x 1-1/16" x 12" ga.	3-1/2" x 1-1/4" x 10" ga.
Crossmember	Welded Angle	Welded Angle
Connection	2-1/2"	3-1/2", 6-3/8", & 10"
Finish	Safety Yellow	Safety Yellow
Switch (2-Way & 3-Way)		
Type	2-Way & 3-Way	
Wheels	Steel (No. 100)	
Wheels Per Foot (WPF)	10" W = 10 16" W = 14 22" W = 18	
Spur Arc	45°	
Air Components	Double Solenoid-Actuated 4-Way Valve (120 VAC - 60 Hz); 1-1/8" x 1" Double Acting Cylinder	
Electrical Control	Not Included	
8-Pallet Storage Rail		
Length	8'-8" & 10'-0"	
Axle Centers	1-1/2", 2" & 3"	
Options	Stops and Friction Pads	

Components	Wheel Conveyor Type	
	(LD) Dense Pattern	(VHS) Very High Speed
General Specifications		
Widths - "W"	10" & 16"	22", 28" & 34"
Wheels	Steel, Aluminum, Nylon, Polypropylene, & H.D. Steel	H. D. Steel
Channel Rail (Steel)	2-1/2" x 1" x #12 ga.	2-1/2" x 1" x #12 ga.
Finish	Powder-Coat Grey	Powder-Coat Grey
Straight Sections		
Lengths	10'-0" & 5'-0"	1'-0", 2'-0", 3'-0", 4'-0" & 10'-0"
Wheels Per Foot (WPF)	10" W = 36 16" W = 64	22" W = 34 28" W = 46 34" W = 58
Axle Centers	1-1/2"	2-1/2"
Couplers	Splice Flat	Splice Flat
Curve Sections		
Inside Radius (IR)	26"	40"
Arcs	45° & 90°	70°
Wheels Per Foot (WPF)	10" W = 36 16" W = 64	22" W = 34 28" W = 46 34" W = 58
Axle Centers	1-1/2" at IR	2-1/2"
Couplers	Splice Flat	Splice Flat
Junctions - Straight (20°)		
Length		10'-3-1/32"
Wheels Per Foot (WPF)		22" W = 34 28" W = 46 34" W = 58
Axle Centers		2-1/2"

SECTION B: APPLICATION GUIDELINES

Introduction

Gravity wheel conveyors provide the simplest and most economical means of moving product. They consist of a series of wheels mounted on a common axle supported by frame rails, and are available in portable and permanently installed models.

Portable gravity wheel conveyors (light duty) are light enough to be easily dismantled and moved from one location to another.

Permanently installed gravity wheel conveyors (light-duty or medium duty) can be used alone or interfaced with other types of conveyor equipment.

Gravity wheel conveyors can be installed either pitched or level.

Pitched conveyors rely on the natural force of gravity and product weight to move product. Examples of pitched conveyors are found in storage (accumulation) lines and the loading and unloading of trucks. Level conveyors, on the other hand, rely on manual push. These “push lines” are typically found in product sorting and staging operations.

Gravity wheel conveyors are ideal for applications where low initial investment, minimal maintenance, and design simplicity are critical.

Developing Wheel Conveyor Specifications

Step 1 – Load Characteristics

Analyze the size, weight and conveying surface of the conveyed items:

- A flat, smooth, and firm surface must contact the wheels.
- Place small items in a conveyable tote.
- Determine the “live load.”

Step 2 – Operating Conditions

1. Determine the method of loading and unloading.
2. For high-impact loading, use heavy-duty steel wheels.
3. Identify the operating environment (clean/dusty; dry/humid; hot/cold):
 - For a clean and dry environment, use plain bearing wheels.
 - For a high heat environment, use plain steel wheels.
 - For a high humidity environment, use polypropylene/nylon wheels

Step 3 – Frame Capacity

All frame capacities listed below assume evenly distributed loading. Deduct the weight of the section before determining “section” capacity.

LD (light-duty) frame (2-1/2” deep x 12 ga.):

- 10’ sections with supports @ 10’-0” ctrs. - 350 lbs./ft.
- 5’/10’ sections with supports @ 5’-0” ctrs. - 520 lbs./ft.
- 5’/10’ sections fully-supported, limited by no. of wheels/capacity

MD (medium-duty) frame (3-1/2” deep x 10 ga.):

- 10’ sections with supports @ 10’-0” ctrs. - 110 lbs./ft.
- 5’/10’ sections with supports @ 5’-0” ctrs. - 1400 lbs./ft.
- 5’/10’ sections fully-supported, limited by no. of wheels/capacity

Step 4 – Wheel Pattern

To determine if a product (with a flat, smooth, and firm bottom surface) will convey satisfactorily, the following conditions must be met:

- The shortest load must have at least 3 axles under it at all times
- The narrowest load must have at least 1 axle with 3 wheels under it at all times

Step 5 – Wheel Selection

Select the appropriate wheel based on the conveyor’s operating conditions:

- No. 100 steel wheel, open type, steel balls, non-greased; used for clean and dry applications.
- No. 100A aluminum wheel, open type, steel balls, non-greased; used to reduce weight for portable (clean and dry) applications.
- No. N97 nylon wheel, open type, molded bushing; used for high moisture applications.
- No. 100P polypropylene, open type, stainless steel balls, non-greased; used for clean and dry applications.
- No. HD100 steel, open type, steel balls, non-greased; used for severe-duty (clean and dry) applications.

Step 6 – Wheel Capacity

Divide the weight of the heaviest product by the number of supporting wheels. The wheel capacity will usually exceed the capacity of the frame. These are the wheel types and their capacities:

- No. 100 steel wheel - 35 lbs. capacity.
- No. 100A aluminum wheel - 35 lbs. capacity.
- No. 100P polypropylene - 25 lbs. capacity.
- No. N97 nylon - 15 lbs. capacity.
- No. HD100 steel - 100 lbs. capacity.

Step 7 – Conveyor Width

First, determine the width in terms of “W” (distance between frame rails). Then, determine if the product width exceeds conveyor width (“W”). If so, the maximum product width must not exceed “W” x 1.25; order straight sections and curve sections of the same “W.” If the product width does not exceed conveyor width (“W”), refer to Table D.1 Curve Selection Formula; order straight sections and curve sections of the same “W.”

Step 8 – Conveyor Pitch

The grades listed below are approximate for average conditions, and should be used for layout purposes. They are for plain-type wheels:

- Cartons (1 to 5 lbs.) - 3/4” inch of drop per foot of conveyor length.
- Cartons (5 to 15 lbs.) - 5/8” drop per foot of conveyor length.
- Cartons (15 to 50 lbs.) - 1/2” of drop per foot of conveyor length.
- Cartons (50 to 75 lbs.) - 3/8” of drop per foot of conveyor length.

SECTION C: SPECIFICATIONS

**Light Duty Straight Section &
Light Duty Straight Section Dense Pattern (DP)**

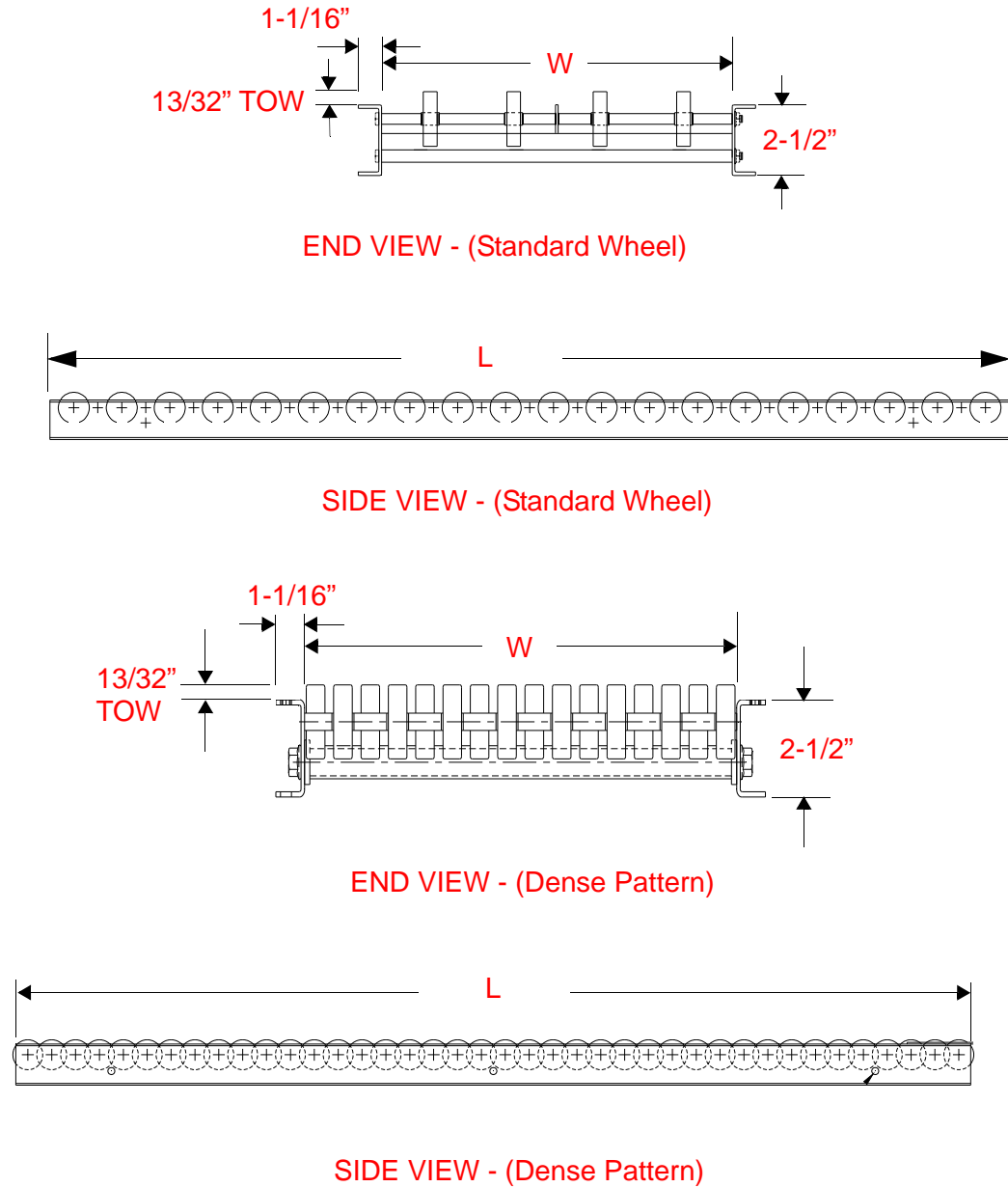


Figure C - 1 – Light Duty Wheel Conveyor - Straight Sections

DESIGNATION

GWS

STYLE

01L

LENGTHS

5'-0" and 10'-0"

WIDTHS

10", 16", 22" W (Dense Pattern - 10" and 16" W only)

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. HD Steel (100# cap.)

WHEELS PER FOOT

10" W = 10, 12, and 14 WPF; Dense Pattern = 36 WPF (See Figure C - 2)

16" W = 12, 14, 16, and 18 WPF; Dense Pattern = 64 WPF (See Figure C - 2)

22" W = 16, 18, 20, and 24 WPF (See Figure C - 2)

AXLE CENTERS

3" with 1-1/2" end spacing(s); dense pattern -1-1/2" with 3/4" end spacings

"TOW"

"Top Of Wheel" is 13/32" above top flange of frame

FRAME RAIL

2-1/2" deep x 1-1/16" x 12 ga. formed steel channel

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

4 per 10'-0"; 3 per 5'-0"

CENTER FLATS

1" x 10 ga.

1 per 10" W; 2 per 16" W; 3 per 22" W

Dense Pattern - None

STANDARD COUPLER

None

OPTIONAL COUPLER

Hook & Rod or Quick-Ezz; Dense Pattern - none

CAPACITY

350 lbs. (less section weight) distributed on 10' section supported at 10' centers

FINISH

Powder-coated medium gray

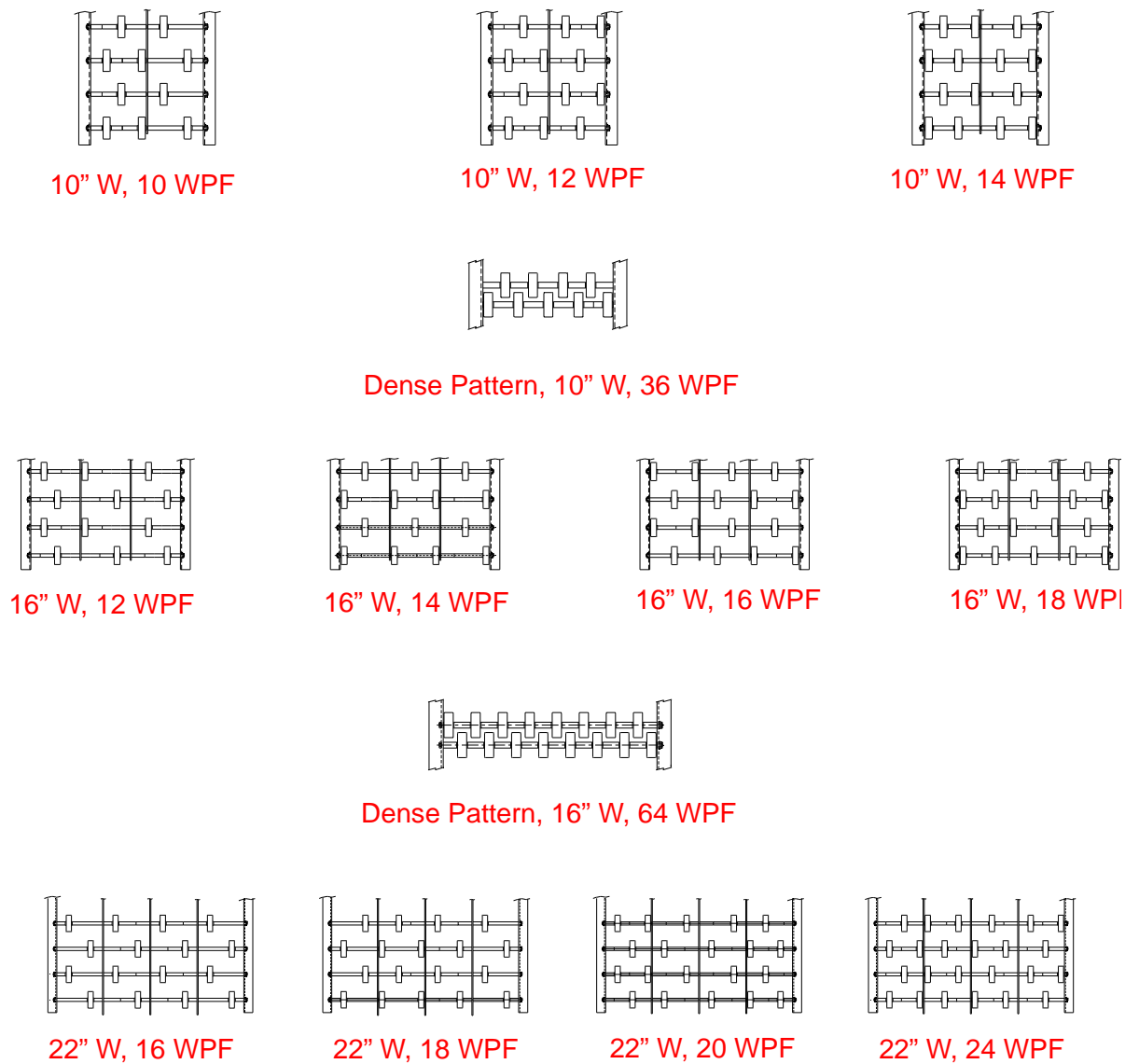


Figure C - 2 – Light Duty Wheel Conveyor - Wheel Patterns

Light Duty Curve Section & Light Duty Curve Section Dense Pattern (DP)

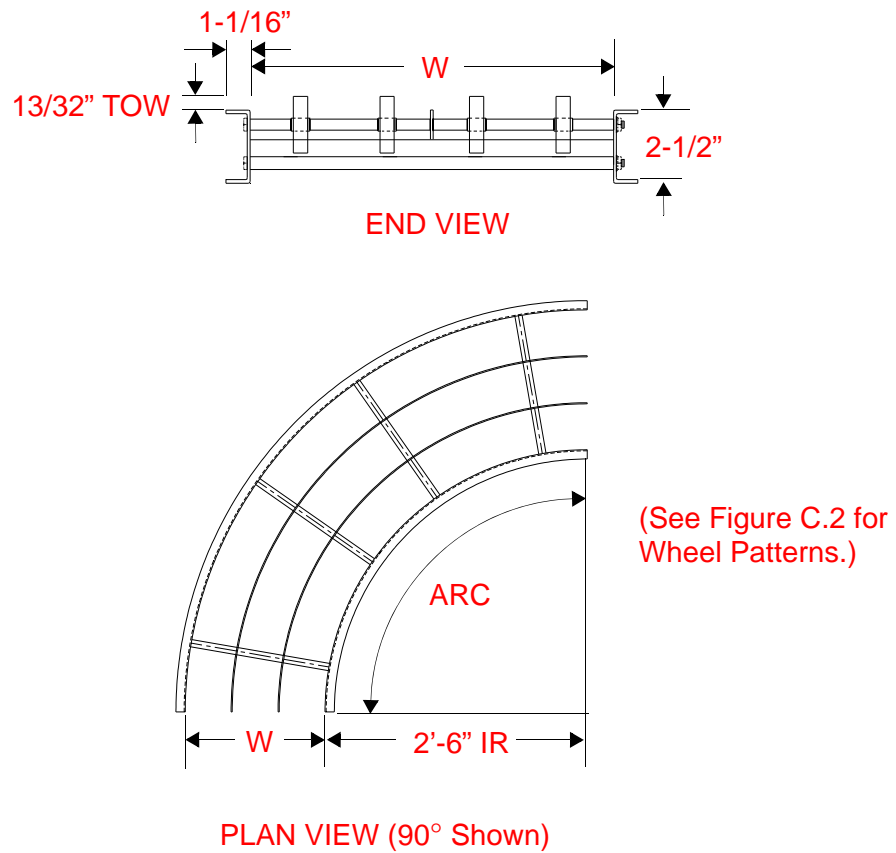


Figure C - 3 – Light Duty Curve Section

DESIGNATION

GWC

(STYLE) ARCS

(05L) 90°

(06L) 60° (Not available for dense pattern)

(07L) 45°.

(08L) 30° (Not available for dense pattern)

WIDTHS

10", 16", 22" W (dense pattern - 10" and 16" W only)

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

10" W = 14 WPF (see Figure C - 2)

16" W = 18 WPF (see Figure C - 2)

22" W = 24 WPF (see Figure C - 2)

Dense Pattern - 10" W = 36 WPF, 16" W = 64 WPF (see Figure C - 2)

AXLE CENTERS

1-1/2" with 3/4" end spacing at inside rail

"TOW"

"Top Of Wheel" is 13/32" above top flange of frame

FRAME RAIL

2-1/2" deep x 1" x 12 ga. formed steel channel

FRAME TYPE

2'-6" inside radius (IR)

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

4 per 90°; 3 per 60° and 45°; 2 per 30°

CENTER FLATS

1" x 10 ga.

One (1) per 10" W; two (2) per 16" W; three (3) per 22" W

STANDARD COUPLER

None

OPTIONAL COUPLER

Rod (on both ends) or Quick-Ezz; Dense Pattern - none

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

Light Duty Junction

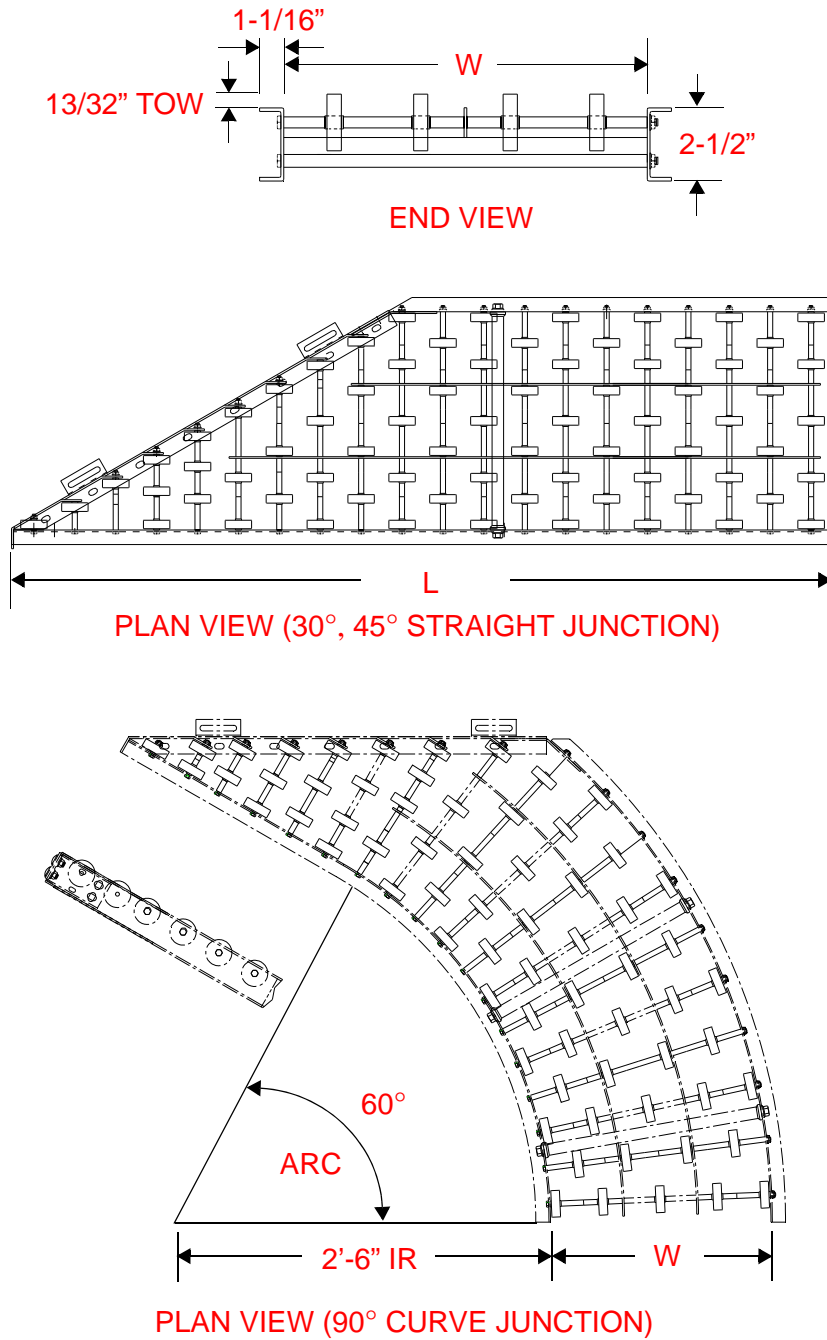


Figure C - 4 – Light Duty Wheel Conveyor Junctions (LMRD Assembly Shown)

DESIGNATION

GWJ

(STYLE) ANGLE

(14L) 30° straight

(18L) 45° straight

(21L) 90° curve

WIDTHS/LENGTH

10", 16", 22" W = 5'-0" L

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated

OPTIONAL WHEELS

No. N95 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

10" W = 14 WPF (see Figure C - 2)

16" W = 18 WPF (see Figure C - 2)

22" W = 24 WPF (see Figure C - 2)

AXLE CENTERS

Straight - 3" with 1-1/2" end spacing

Curve - 1-1/2" with 3/4" end spacing

"TOW"

"Top Of Wheel" is 13/32" above top flange of frame

FRAME RAIL

2-1/2" deep x 1-1/16" x 12 ga. formed steel channel

FRAME TYPE

(21L) 26IR - 2'-6" inside radius (IR) (all widths)

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

4 per 90°; 3 per 60° and 45°; 2 per 30°

CENTER FLATS

1" x 10 ga.

1 per 10" W; 2 per 16" W; 3 per 22" W

STANDARD COUPLER

1 per 10" W; 2 per 16" W; 3 per 22" W

OPTIONAL COUPLER

Hook brackets mounted at one end

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

ASSEMBLY

RMLD (Right-hand merge, left-hand divert)

LMRD (Left-hand merge, right-hand divert)

Light Duty Vertical Gate

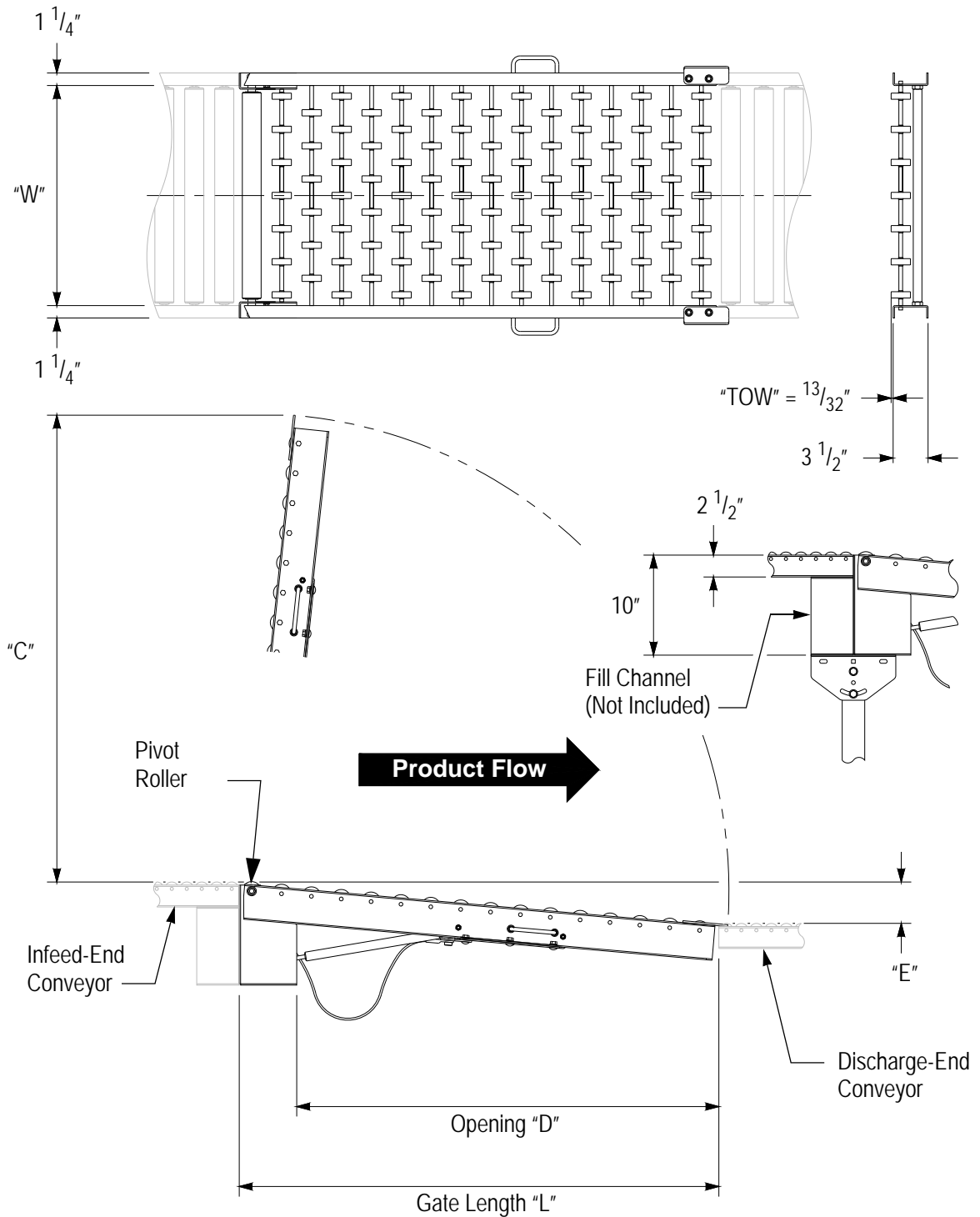


Figure C - 5 – Light Duty Vertical Gate (See Table C.1)

Table C.1 – Vertical Gate Variable Dimensions (See Figure C - 5)

“L”	“C”	“D”	“E” (Recommended)
3' - 0"	34 ¹¹ / ₁₆ "	30 ¹ / ₄ "	3"
3' - 6"	40 ¹¹ / ₁₆ "	36 ¹ / ₄ "	3 ¹ / ₂ "
4' - 0"	46 ¹¹ / ₁₆ "	42 ¹ / ₄ "	4"

Note that the maximum allowable slope in the “down” position is 6°.

DESIGNATION

VGW

STYLE

01L

LENGTHS

3'-0" and 4'-0"

WIDTHS

10", 16", 22" W

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. H.D. Steel (100# cap.)

PIVOT ROLLER

No. 187P with 3/4" dia. shaft; plain semi-precision bearing

LIFT ASSIST

One or two gas springs

Designed lift force = 25 Lbs.

POSITION SENSOR

Limit switch with rotary arm actuator (for spring-loaded gate only)

WHEELS PER FOOT

10" W = 14 WPF (see Figure C - 2)

16" W = 18 WPF (see Figure C - 2)

22" W = 24 WPF (see Figure C - 2)

AXLE CENTERS

3" with 1-1/2" end spacing

“TOW”

“Top Of Wheel” is 13/32" above top flange of frame

FRAME RAIL

2-1/2" deep x 1" x 12 ga. formed aluminum channel with welded tubular spreader

CENTER FLATS

1" x 10 ga. (1 per 10" W; 2 per 16" W; 3 per 22" W)

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Safety yellow (pivoting section)

CONNECTION

Attachment components to connect to 2-1/2" deep terminal end of adjoining (upstream) conveyor

Light Duty Swivel Wheel Switches

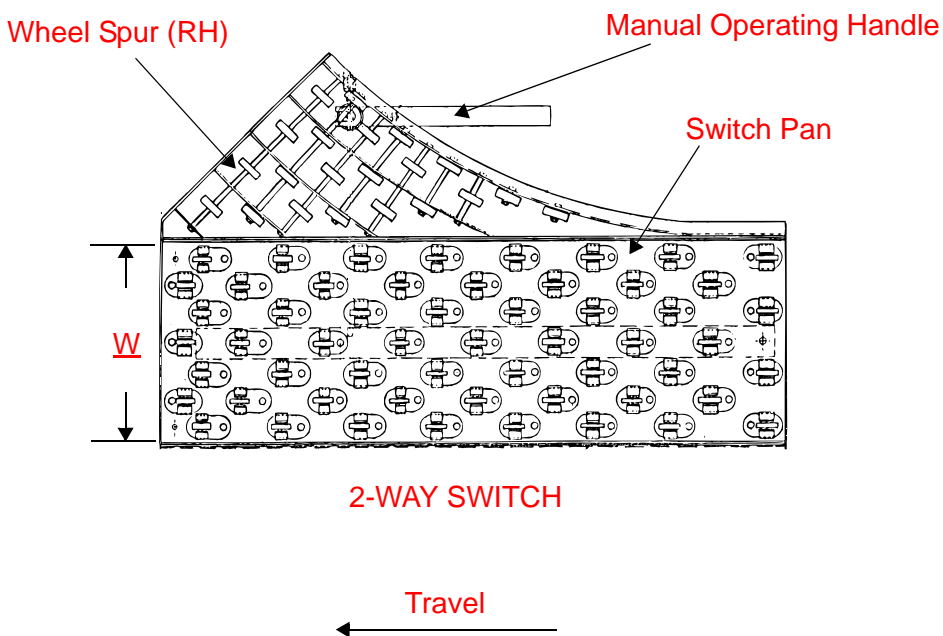
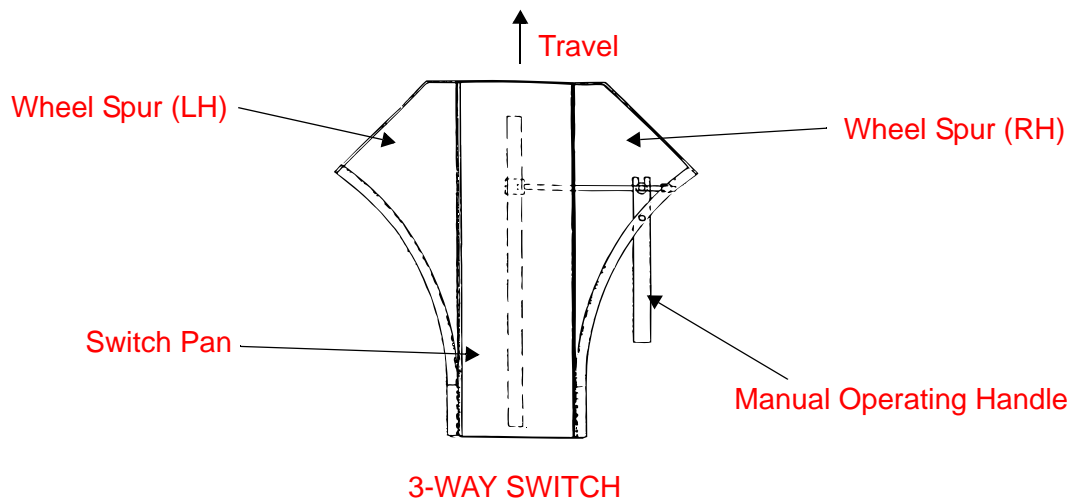


Figure C - 6 – Light Duty Wheel Conveyor - Swivel Wheel Switches

DESIGNATION

WSA (Air-controlled); WSM (Manually-controlled)

STYLE

01L

TYPE

2-Way and 3-Way

OPERATION/ACTUATION

Manual 2-way; shift lever mounted on spur side

Manual 3-way; shift lever mounted on both sides

Automatic 2-way; 1 air cylinder (1-1/8" bore x 1" stroke)

Automatic 3-way; 2 air cylinders (1-1/8" bore x 1" stroke)

WIDTHS

10", 16", 22" W

WHEELS

No. 100 Steel (35# cap.) 1-15/16 dia. x 11/16" wide, zinc-plated, open-type bearing mounted in pivoting trunnions

WHEELS PER FOOT

10" W = 10 WPF

16" W = 14 WPF

22" W = 18 WPF

WHEEL CENTERS

3"

"TOW"

"Top Of Wheel" is 13/32" above top flange of frame

SPUR FRAME

Weldment; 2-1/2" deep x 12 ga., steel channel, center flat(s) and end crossmember

SWITCH PAN

Formed 12 ga. galv.

AIR COMPONENTS

1-1/8" bore x 1" stroke, double-acting cylinder; 1/8" NPT

Double solenoid-actuated 4-way valve; 120 VAC, 60 Hz; 1/8" NPT

AIR PRESSURE

60 psi (minimum)

CAPACITY

Equal to or greater than straight section with same specifications

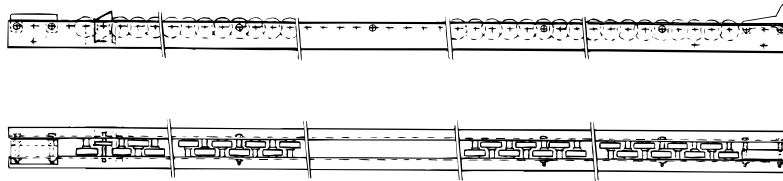
FINISH

Frame rails - powder-coated medium gray

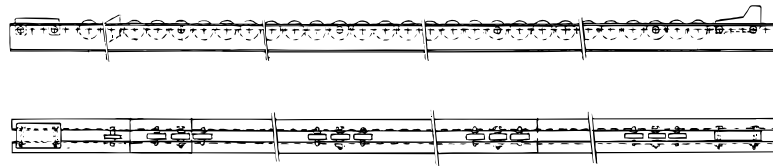
Wheels/Trunnions - zinc-plated

Pan - galvanized

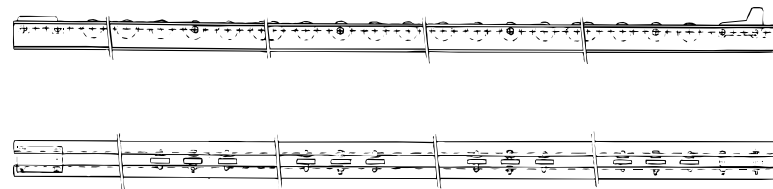
Pallet Storage Rails



PALLET STORAGE RAIL - 1-1/2" CENTERS



PALLET STORAGE RAIL - 2" CENTERS



PALLET STORAGE RAIL - 3" CENTERS

Figure C - 7 – Pallet Storage Rails

DESIGNATION

PSR

LENGTHS

10'-0" and 8'-8"

AXLE CENTERS

1-1/2"; 2"; 3"

"TOW"

"Top Of Wheel" is 13/32" above top flange of frame

STANDARD WHEELS

H.D. Steel (100# cap.) 1-15/16" dia. x 11/16" wide, zinc-plated

FRAME RAIL

2-1/2" deep x 1" x 12 ga. formed steel channel

CROSSMEMBER

Bolted axle of wheels at 18" centers

FINISH

Powder-coated medium gray

Medium Duty Straight Section

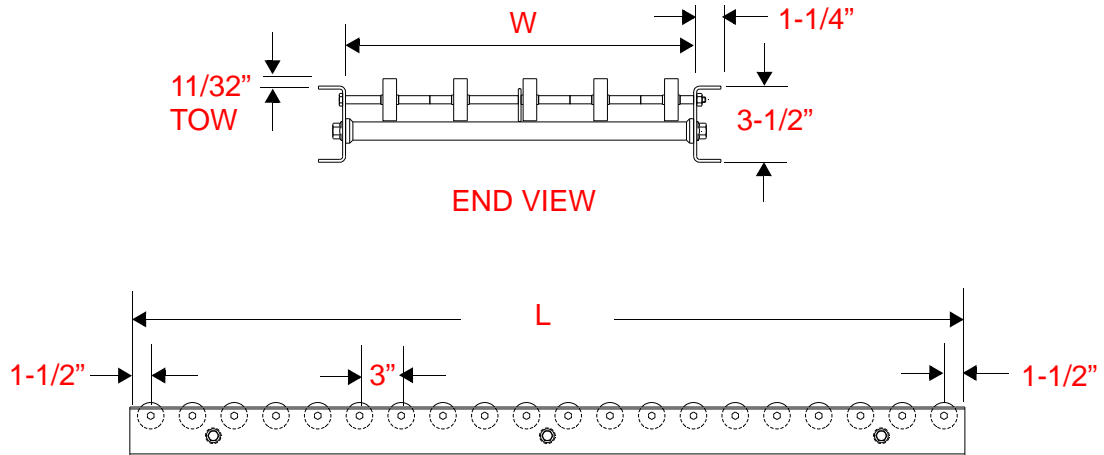


Figure C - 8 – Medium Duty Wheel Conveyor - Straight Section

DESIGNATION
GWS

STYLE
01M

LENGTHS
5'-0" and 10'-0"

WIDTHS
16", 22", 28", 34", 40" W

STANDARD WHEELS
No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated, open-type bearing

OPTIONAL WHEELS
No. N97 Nylon (15# cap.)
No. 100P Polypropylene w/stainless steel balls (25 lbs. cap.)
No. H.D. Steel (100# cap.)

WHEELS PER FOOT
16" W = 20 WPF (see Figure C - 9)
22" W = 28 WPF (see Figure C - 9)
28" W = 38 WPF (see Figure C - 9)
34" W = 48 WPF (see Figure C - 9)
40" W = 56 WPF (see Figure C - 9)

AXLE CENTERS
3" with 1-1/2" end spacing(s)

"TOW"
"Top Of Wheel" is 11/32" above top flange of frame

FRAME RAIL
3-1/2" deep x 1-1/4" x 10 ga. formed steel channel

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

CENTER FLATS

1" x 10 ga.; 1 per 16" W; 2 per 22"/28" W; 3 per 34"/40" W

COUPLER

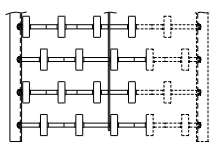
Splice flat (see Figure C - 18)

CAPACITY

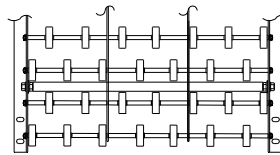
1100 lbs. (less section weight) distributed on 10' section supported at 10' centers

FINISH

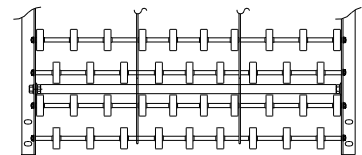
Powder-coated medium gray



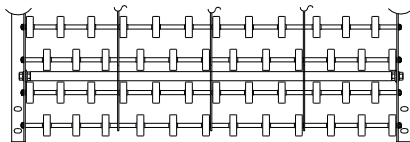
16" W, 20 WPF



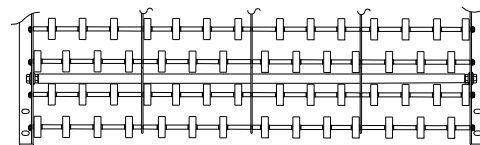
22" W, 28 WPF



28" W, 38 WPF



34" W, 48 WPF



40" W, 56 WPF

Figure C - 9 – Medium Duty Wheel Patterns

Medium Duty Curve Section

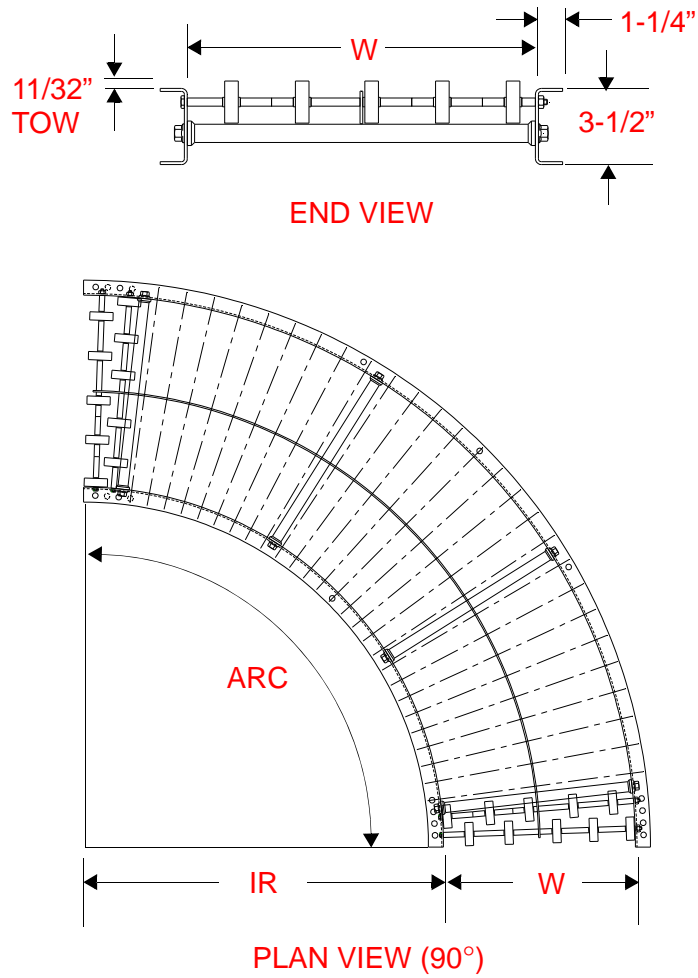


Figure C - 10 – Medium Duty Wheel Conveyor Curve Section

DESIGNATION

GWC

(STYLE) ARC

(05M) 90°

(06M) 60°

(07M) 45°

(08M) 30°

WIDTHS

16", 22", 28", 34", 40" W

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated, open-type bearing

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/ss balls (25# cap.)

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

16" W = 20 WPF (see Figure C - 9)

22" W = 28 WPF (see Figure C - 9)

28" W = 38 WPF (see Figure C - 9)

34" W = 48 WPF (see Figure C - 9)

40" W = 56 WPF (see Figure C - 9)

AXLE CENTERS

1-1/2" with 3/4" end spacing at inside rail

"TOW"

"Top Of Wheel" is 11/32" above top flange of frame

FRAME RAIL

3-1/2" deep x 1-1/4" x 10 ga. formed steel channel

FRAME TYPE/RADIUS

26IR - 2'-6" inside radius (IR) (all widths)

TTF - 16" W = 2'-6" IR; 22" W = 3'-4" IR; 28" W = 4'-0" IR; 34", 40" W = 5'-0" IR

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

CENTER FLATS

1" x 10 ga.

1 per 16" W; 2 per 22"/28" W; 3 per 34"/40" W

COUPLER

Splice flat (see Figure C - 18)

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

Medium Duty Junction

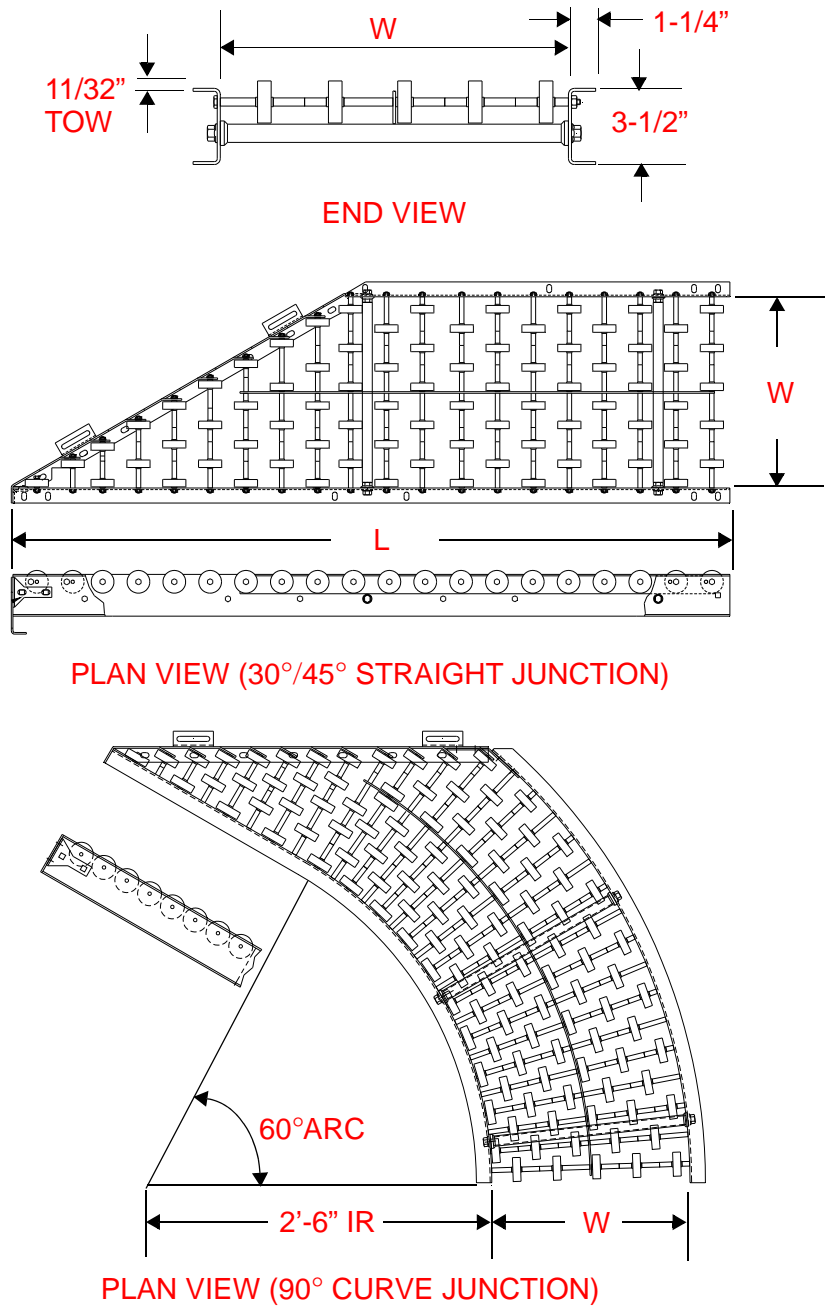


Figure C - 11 – Medium Duty Wheel Conveyor - Junctions (LMRD Assembly Shown)

DESIGNATION

GWJ

(STYLE) ANGLE

(14M) 30° straight

(18M) 45° straight

(21M) 90° curve

WIDTHS/LENGTH

16", 22", 28" W = 5'-0" L; 34", 40" W = 7'-6" L

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated, open-type bearing

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

16" W = 20 WPF (see Figure C - 9)

22" W = 28 WPF (see Figure C - 9)

28" W = 38 WPF (see Figure C - 9)

34" W = 48 WPF (see Figure C - 9)

40" W = 56 WPF (see Figure C - 9)

AXLE CENTERS

Straight - 3" with 1-1/2" end spacing

Curve - 1-1/2" with 3/4" end spacing

"TOW"

"Top Of Wheel" is 11/32" above top flange of frame

FRAME RAIL

3-1/2" deep x 1-1/4" x 10 ga. formed steel channel

FRAME TYPE

Types 26IR and TTF (for Style 21M 90° Curve Junction)

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

Bolted end crossmember with formed roller axle tabs at the spur end

CENTER FLATS

1" x 10 ga.; 1 per 16" W; 2 per 22"/28" W; 3 per 34"/40" W

COUPLER

Splice flat (see Figure C - 18)

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

ASSEMBLY

RMLD (Right-hand merge, left-hand divert)

LMRD (Left-hand merge, right-hand divert)

Medium Duty Vertical Gate

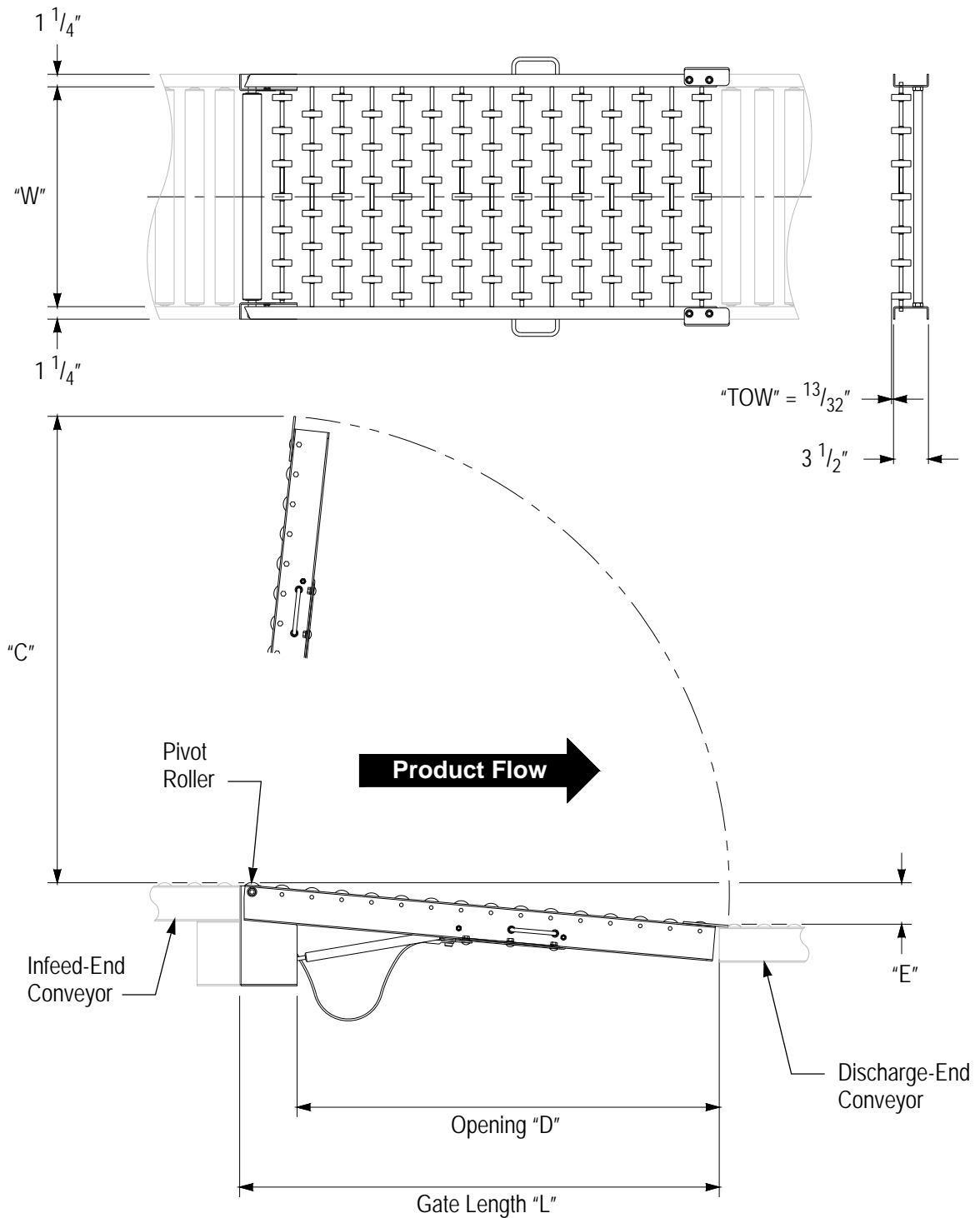


Figure C - 12 – Medium Duty Wheel Conveyor - Vertical Gate

Table C.2 – Variable Dimensions – Medium-Duty Vertical Gate (See Figure C -

"L"	"C"	"D"	"E" (Recommended)
3' - 0"	34 ¹¹ / ₁₆ "	30 ¹ / ₄ "	3"
4' - 0"	46 ¹¹ / ₁₆ "	42 ¹ / ₄ "	4"

12)

Note that the maximum allowable slope in the "down" position is 6°.

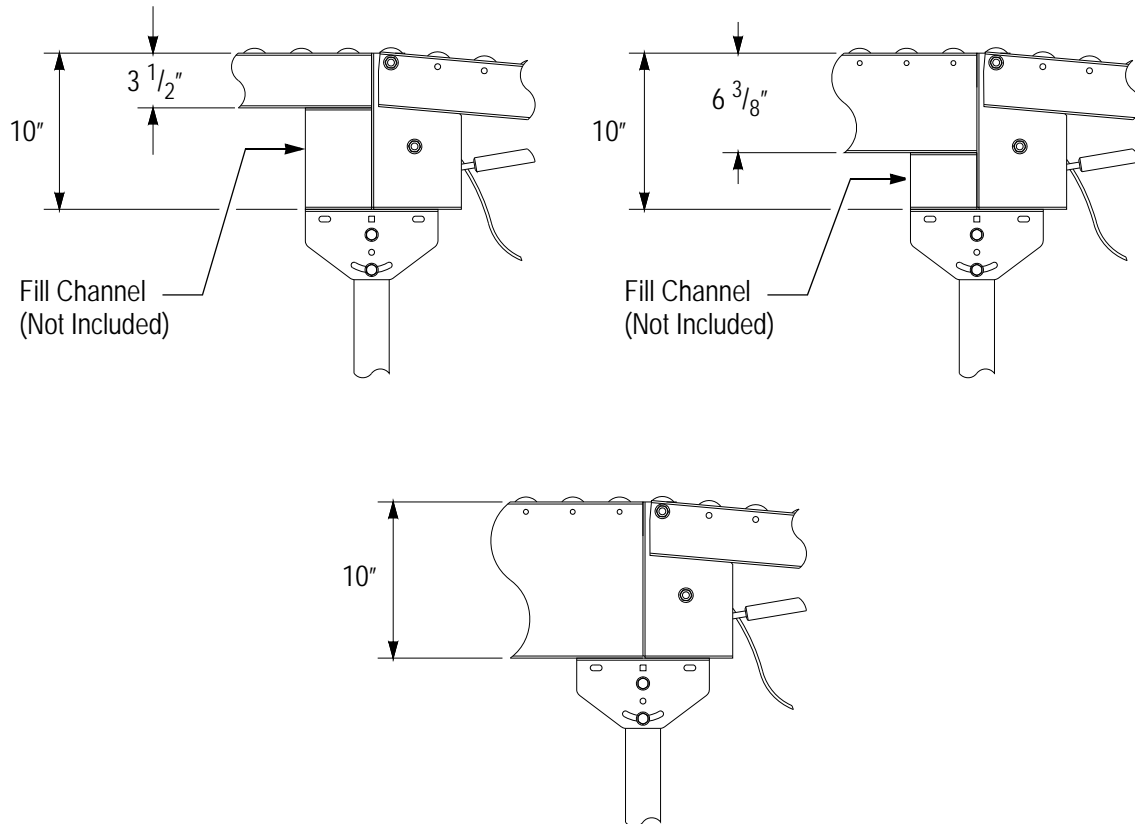


Figure C - 13 – Conveyor Connections – Medium-Duty Vertical Gates

DESIGNATION

VGW

STYLE

01M

LENGTHS

3'-0" and 4'-0"

WIDTHS

16", 22", 28", 34", 40" W

STANDARD WHEELS

No. 100 Steel (35# cap.) 1-15/16" dia. x 11/16" W, zinc-plated, open-type bearing

OPTIONAL WHEELS

No. N97 Nylon (15# cap.)

No. 100P Polypropylene w/stainless steel balls (25# cap.)

No. H.D. Steel (100# cap.)

PIVOT ROLLER

No. 187P with 3/4" dia. shaft; plain semi-precision bearing

LIFT ASSIST

One or two gas springs.

Designed lift force: 25 Lbs.

POSITION SENSOR

Limit switch with rotary arm actuator (for spring-loaded gate only)

WHEELS PER FOOT

16" W = 20 WPF (see Figure C - 9)

22" W = 28 WPF (see Figure C - 9)

28" W = 38 WPF (see Figure C - 9)

34" W = 48 WPF (see Figure C - 9)

40" W = 56 WPF (see Figure C - 9)

AXLE CENTERS

3" with 1-1/2" end spacing

"TOW"

"Top Of Wheel" is 11/32" above top flange of frame

FRAME RAIL

3-1/2" deep x 1-1/2" x 10 ga. formed aluminum channel with welded tubular spreader

CENTER FLATS

1" x 10 ga.; 1 per 16" W; 2 per 22"/28" W; 3 per 34"/40" W

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Safety yellow (pivoting section)

Powder-coated medium gray (other components)

CONNECTION

Attachment components to connect to 3-1/2", 6-3/8", or 10" deep terminal end of adjoining (upstream) conveyor

Very High Speed Straight Section

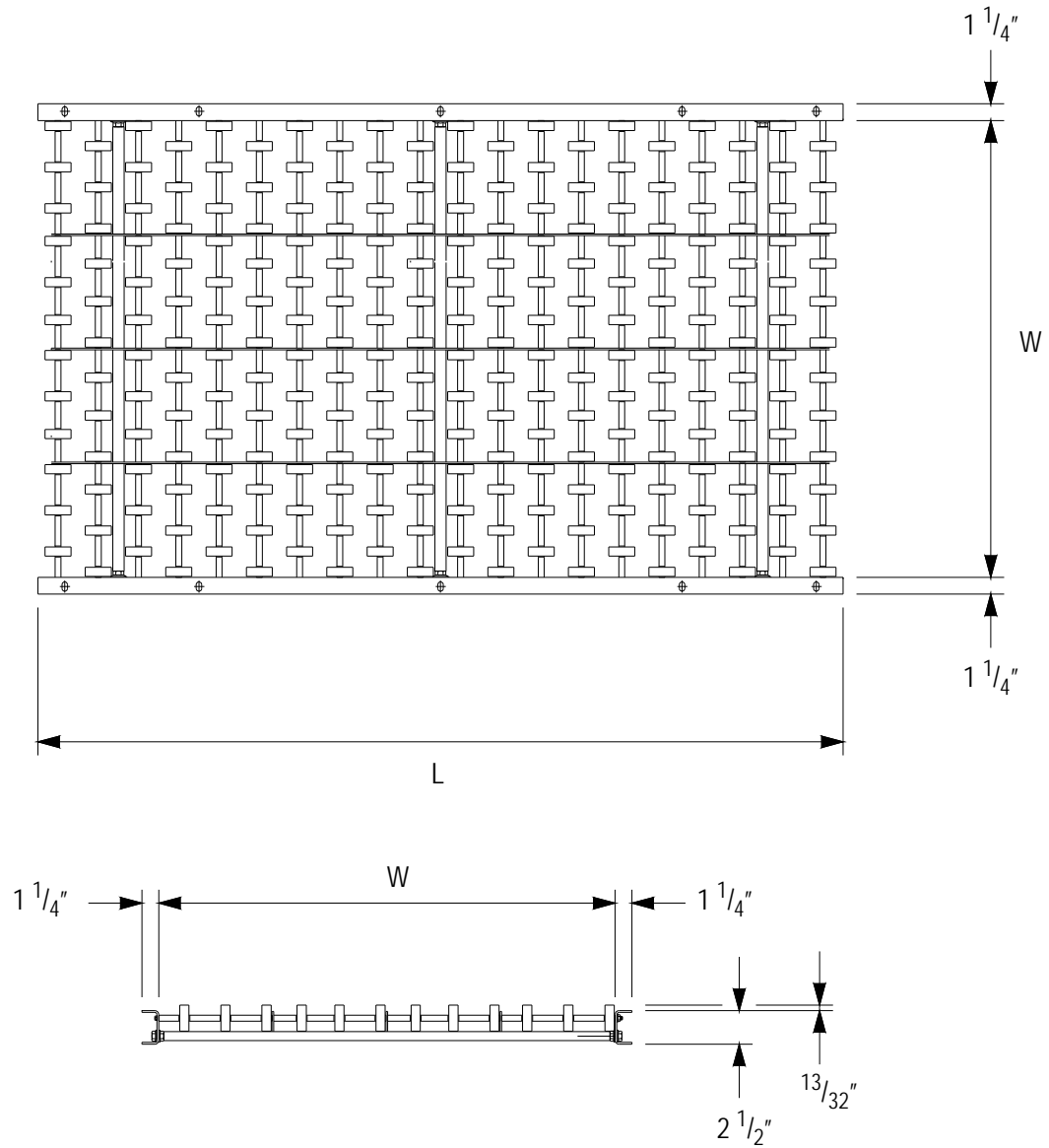


Figure C - 14 – Very High Speed Straight Section

DESIGNATION

GWS VHS

WIDTHS

22", 28" & 34"

LENGTHS

1'-0", 2'-0", 3'-0", 4'-0", 5'-0" & 10'-0"

STANDARD WHEELS

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

22" W = 34 WPF

28" W = 46 WPF

34" W = 58 WPF

AXLE CENTERS

3"

"TOW"

"Top Of Wheel" is 13/32" above top flange of side rail

SIDE RAILS

2-1/2" deep x 1-1/4" flange x 12 ga. formed steel channel

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

CENTER FLATS

1-1/2" x 10 ga.

22" W: 2 center flats

28" W: 2 center flats

34": 3 center flats

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

Very High Speed Junction

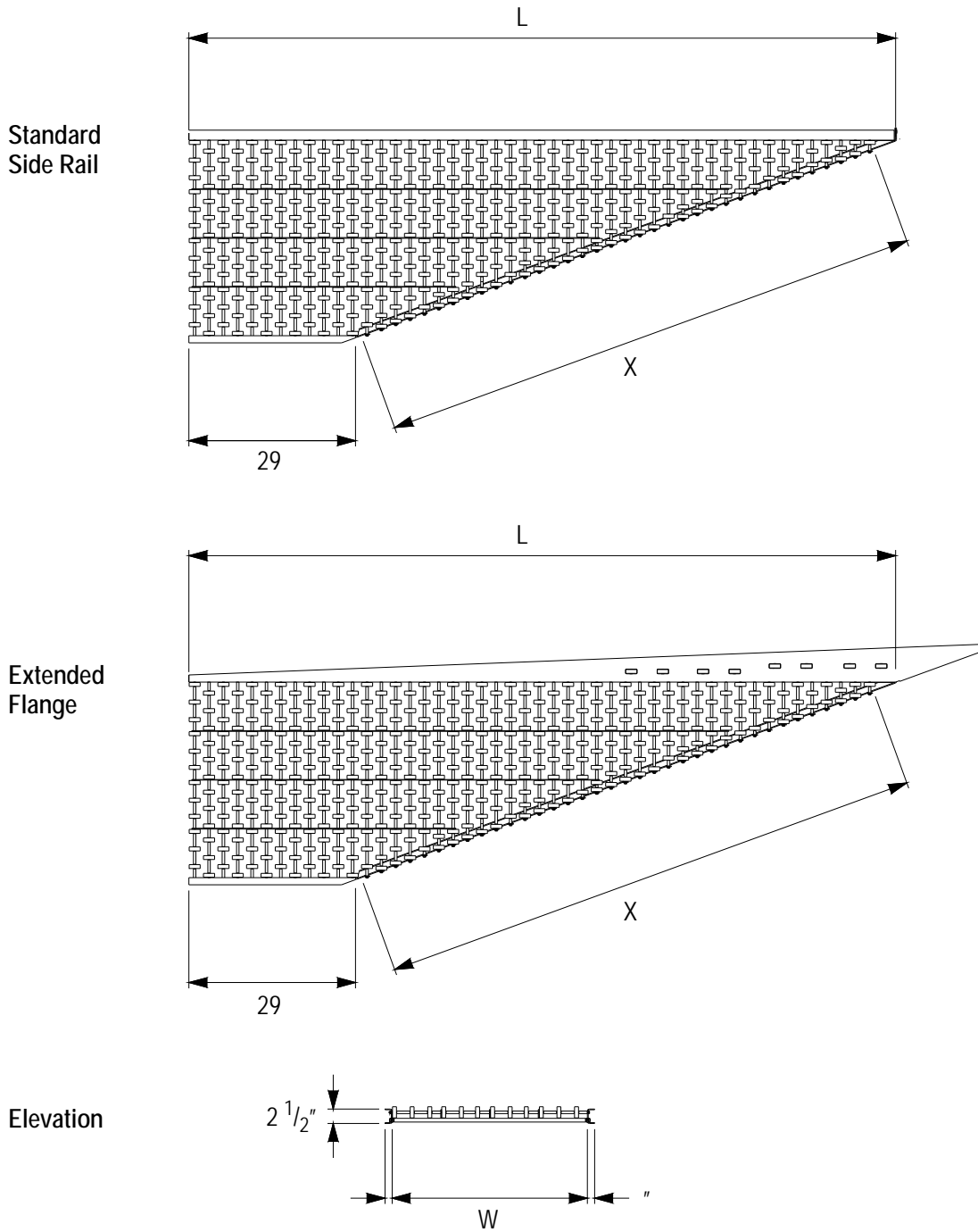


Figure C - 15 – Very High Speed Junctions

DESIGNATION

GWJ VHS 20D

ANGLE

20° straight

WIDTHS & LENGTHS

22" W = 90-3/16"

28" W = 9'-10-11/16" L

34" W = 10'-3-1/32" L

DIAGONAL (DIMENSION "X")

22" W = 61-7/16"

28" W = 81-1/2"

34" W = 95-11/16"

STANDARD WHEELS

No. H.D. Steel (100# cap.)

WHEELS PER FOOT

22" W = 34 WPF

28" W = 46 WPF

34" W = 58 WPF

AXLE CENTERS

2-1/2"

"TOW"

"Top Of Wheel" is 9/16" above top flange of frame

FRAME RAIL

2-1/2" deep x 1-1/4" flange x 12 ga. formed steel channel

STD (Standard)

EXTFL (Extended flange)

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

CENTER FLATS

1-1/2" x 10 ga.

22" W: 2 center flats

28" W: 2 center flats

34": 3 center flats

CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

ASSEMBLY

LH (Left-hand divert)

RH (Right-hand divert)

Very High Speed Curve – 70°

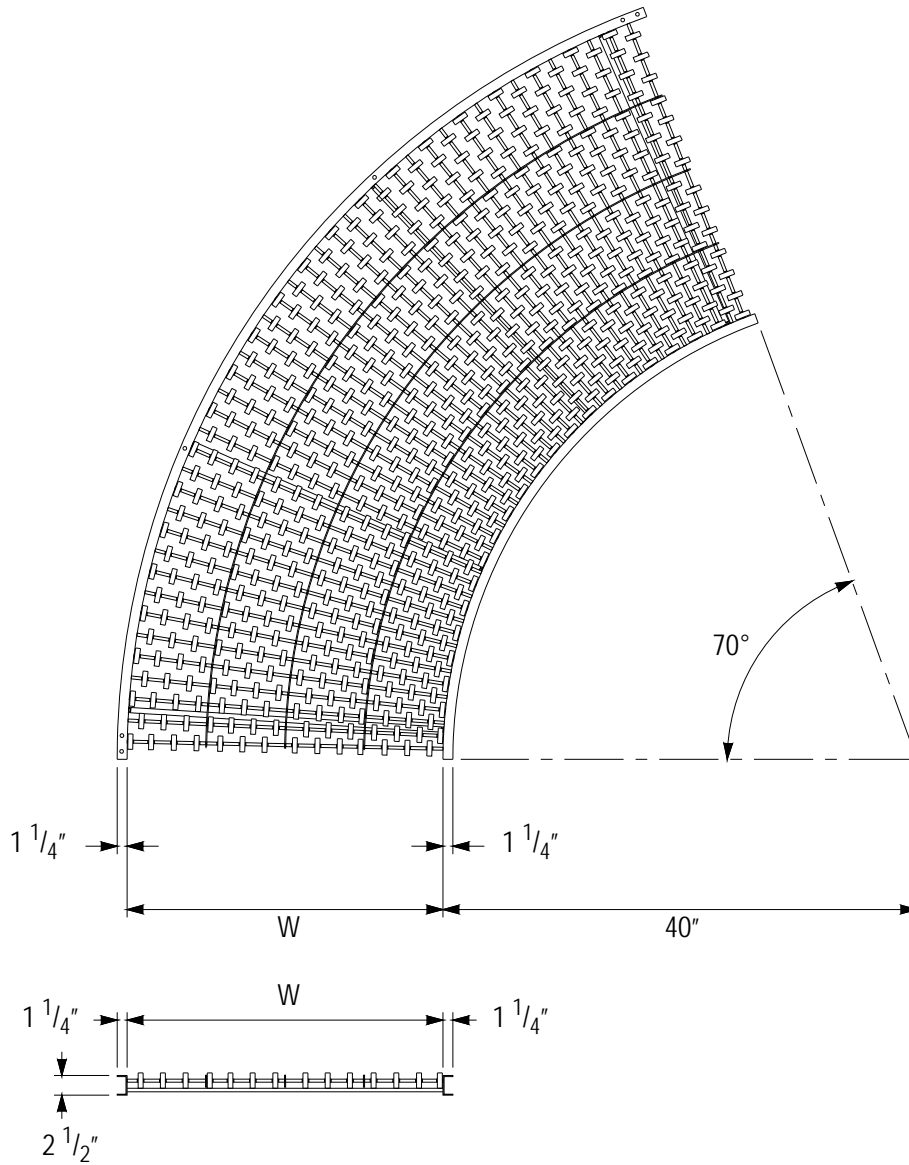


Figure C - 16 – Very High Speed Curve – 70°

DESIGNATION

GWC VHS 70D

WIDTHS

22", 28" & 34"

ANGLE

70°

INSIDE RADIUS

40"

STANDARD WHEELS

No. H.D. Steel (100# cap.)

AXLE CENTERS

1-9/16" (At inside radius)

"TOW"

"Top Of Wheel" is 13/32" above top flange of side rail

SIDE RAILS

2-1/2" deep x 1-1/4" flange x 12 ga. formed steel channel

CROSSMEMBER

Bolted type; 0.84" dia. with welded nut inserts

CENTER FLATS

1-1/2" x 10 ga.

22" W: 2 center flats

28" W: 2 center flats

34": 3 center flats

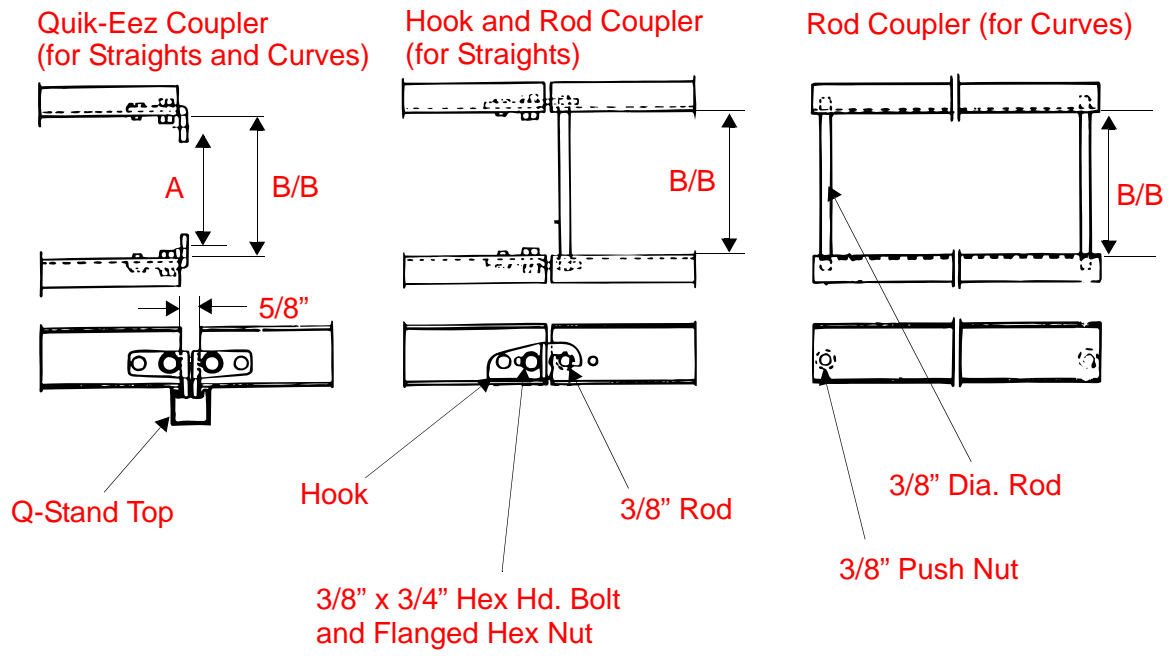
CAPACITY

Equal to or greater than straight section with same specifications

FINISH

Powder-coated medium gray

Couplers



B/B	A
10"	8-1/2"
1'-2-1/2"	16"
1'-8-12"	22"

Figure C - 17 – Light Duty Gravity Conveyor - Optional Couplers

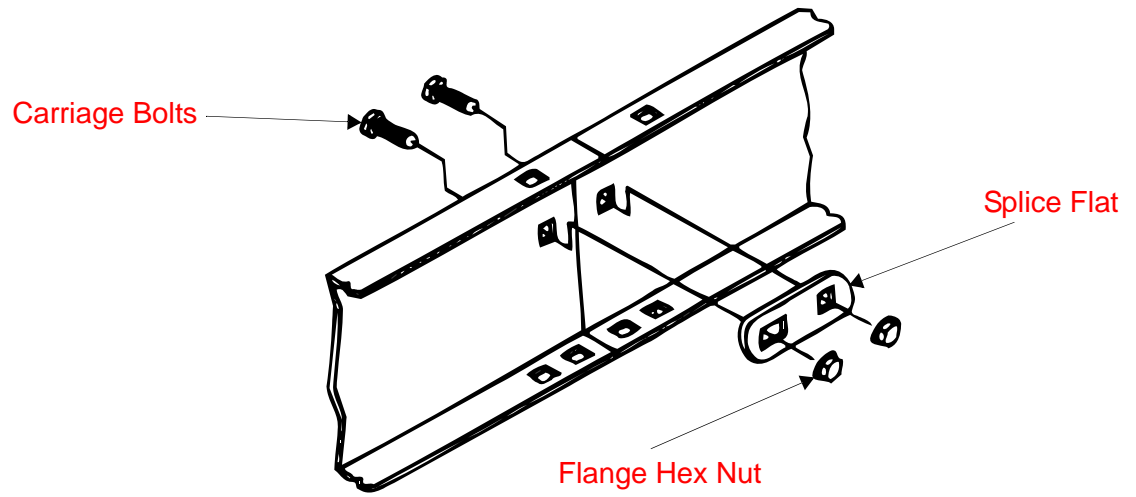


Figure C - 18 – Splice Flat Coupler - Medium Duty

SECTION D: * ENGINEERING DATA

Determining Conveyor Width (W)

The width of the conveyor should be at least 2" greater than the width of the widest product to be handled. The product width is the dimension perpendicular to the direction of travel. The proper conveyor width should be the next larger standard width. Standard widths are 16", 22", 28", 34", and 40". However, this applies only to straight sections.

When a system includes curves, the formula shown in Figure D - 1 may be used to determine the proper width.

When the required width for a curve is wider than the corresponding straight conveyors, the additional width can be made up by using standoff brackets with the side guides instead of a wider curve. The brackets allow the guides to be mounted two inches outside both conveyor side frames.

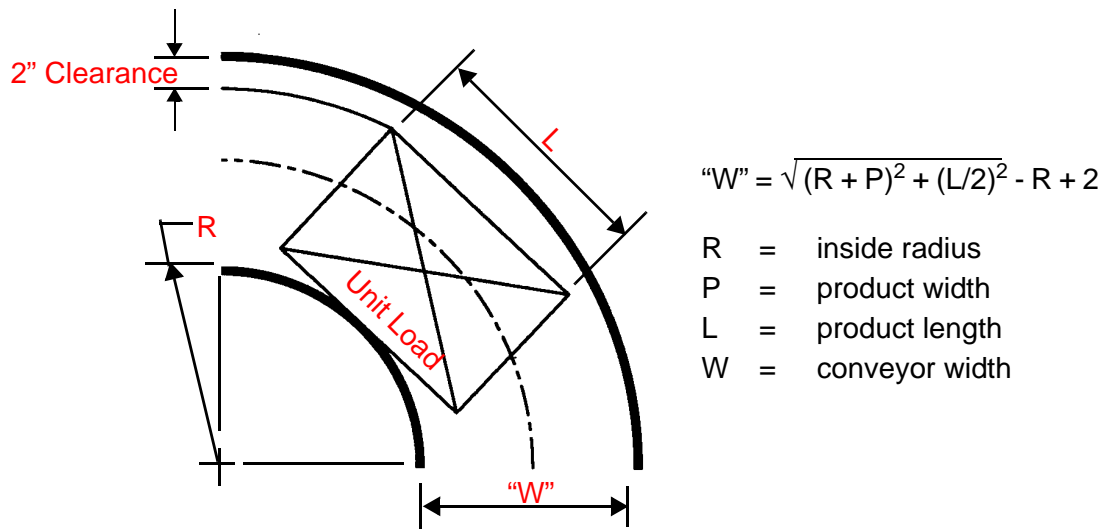


Figure D - 1 – Calculation of Width for Curve Section

SECTION E: LAYOUT DIMENSIONS

Use the following information for designing the layout of the CS Gravity Wheel Conveyor. Note that layout dimensions for very-high-speed gravity wheel conveyors were not available at the time of publication. All dimensions are in inches.

Style 5/6/7/8 - 90°, 60°, 45°, 30° Curve

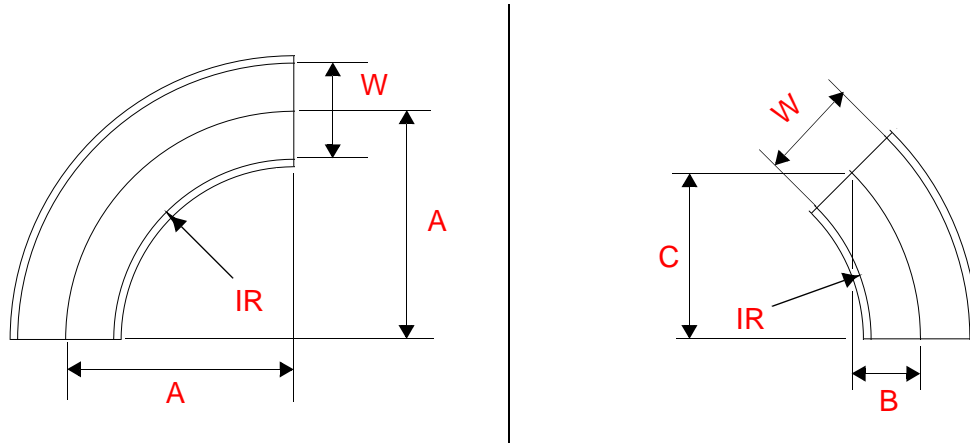


Figure E - 1 – Style 5/6/7/8 - 90°/60°/45°/30° Curve

Table E-1 Style 5/6/7/8 - 90°/60°/45°/30° Curve Dimensions

STYLE	ARC	DIM.	10"	16"	22"	28"	34"	40"
Type 26IR FRAME								
		IR	30"	30"	30"	30"	30"	30"
05	90°	A	35"	38"	41"	44"	47"	50"
06	60°	B	17-1/2"	19"	20-1/2"	22"	23-1/2"	25"
		C	30-5/16"	32-15/16"	35-1/2"	38-1/8"	40-11/16"	43-5/16"
07	45°	B	10-1/4"	11-1/8"	12"	12-7/8"	13-3/4"	14-5/8"
		C	24-3/4"	26-7/8"	29"	31-1/8"	33-1/4"	35-3/8"
08	30°	B	4-11/16"	5-1/16"	5-1/2"	5-7/8"	6-5/16"	6-11/16"
		C	17-1/2"	19"	20-1/2"	22"	23-1/2"	25"
Type TTF FRAME								
		IR		30"	40"	48"	60"	60"
05	90°	A		38"	51"	62"	77"	80"
06	60°	B		19"	25-1/2"	31"	38-1/2"	40"
		C		32-15/16"	44-3/16"	53-11/16"	66-11/16"	69-5/16"
07	45°	B		11-1/8"	14-15/16"	18-3/16"	22-9/16"	23-7/16"
		C		26-7/8"	36-1/16"	43-13/16"	54-7/16"	56-9/16"
08	30°	B		5-1/16"	6-13/16"	8-5/16"	10-5/16"	10-11/16"
		C		19"	25-1/2"	31"	38-1/2"	40"

Style 14/18 - 30°, 45° Straight Junctions

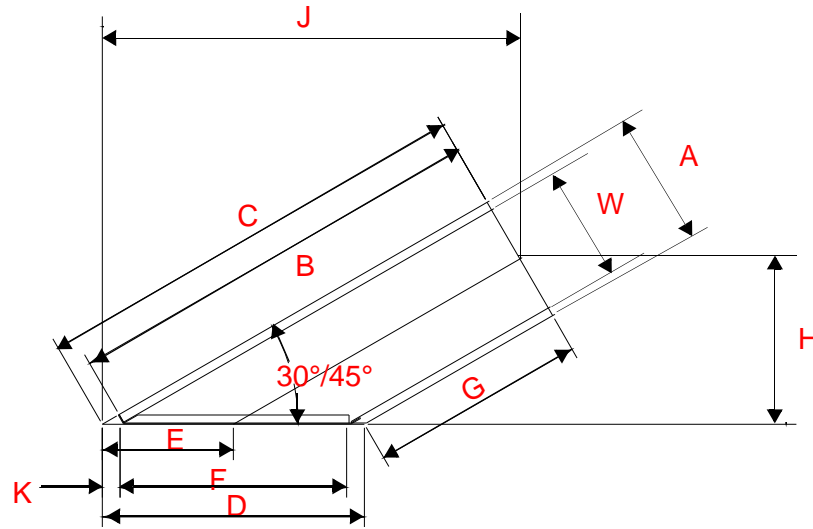


Figure E - 2 – Style 14/18 - 30°, 45° Light Duty Straight Junction

Table E-2 Style 14/18 - 30°, 45° Light Load Straight Junction Dimensions

W	A	B	C	D	E	F	G	H	J	K
LIGHT-DUTY - STYLE 14 - 30 Degree STRAIGHT JUNCTION										
10"	12-1/8"	60"	61-3/16"	24-1/4"	12-1/8"	20"	40-3/16"	25-11/16"	56-9/16"	2-1/8"
16"	18-1/8"	60"	61-3/16"	36-1/4"	18-1/8"	32"	30-7/16"	23-1/16"	58-1/16"	2-1/8"
22"	24-1/8"	60"	61-3/16"	48-1/4"	24-1/8"	44"	20-1/16"	20-1/2"	59-9/16"	2-1/8"
LIGHT-DUTY - STYLE 18 - 45 Degree STRAIGHT JUNCTION										
10"	12-1/8"	60"	61-3/16"	17-1/8"	8-9/16"	14-1/8"	48-15/16"	38-7/8"	47-7/16"	1-1/2"
16"	18-1/8"	60"	61-3/16"	25-5/8"	12-13/16"	22-5/8"	42-15/16"	36-3/4"	49-9/16"	1-1/2"
22"	24-1/8"	60"	61-3/16"	34-1/8"	17-1/16"	31-1/8"	36-15/16"	34-5/8"	51-11/16"	1-1/2"
MEDIUM-DUTY - STYLE 14 - 30 Degree STRAIGHT JUNCTION										
16"	18-1/2"	60"	62-3/16"	37"	18-1/2"	32"	30-1/8"	23-1/16"	58-7/16"	2-1/2"
22"	24-1/2"	60"	62-3/16"	49"	24-1/2"	44"	19-3/4"	20-1/2"	59-15/16"	2-1/2"
28"	20-1/2"	60"	62-3/16"	61"	30-1/2"	56"	9-5/16"	17-7/8"	61-7/16"	2-1/2"
34"	36-1/2"	90"	92-3/16"	73"	36-1/2"	68"	28-15/16"	30-1/4"	88-15/16"	2-1/2"
40"	42-1/2"	90"	92-3/16"	85"	42-1/2"	80"	18-9/16"	27-11/16"	90-7/16"	2-1/2"
MEDIUM-DUTY - STYLE 18 - 45 Degree STRAIGHT JUNCTION										
16"	18-1/2"	60"	61-1/4"	26-3/16"	13-1/16"	22-5/8"	42-3/4"	36-3/4"	49-7/8"	1-3/4"
22"	24-1/2"	60"	61-1/4"	34-5/8"	17-5/16"	31-1/8"	36-3/4"	34-5/8"	52"	1-3/4"
28"	20-1/2"	60"	61-1/4"	43-1/8"	21-9/16"	39-5/8"	30-3/4"	32-1/2"	54-1/16"	1-3/4"
34"	36-1/2"	90"	91-1/4"	51-5/8"	25-13/16"	48-1/16"	54-3/4"	51-5/8"	77-7/16"	1-3/4"
40"	42-1/2"	90"	91-1/4"	60-1/8"	30-1/16"	59-9/16"	48-3/4"	49-1/2"	79-9/16"	1-3/4"

Style 21 - 90° Curve Junction

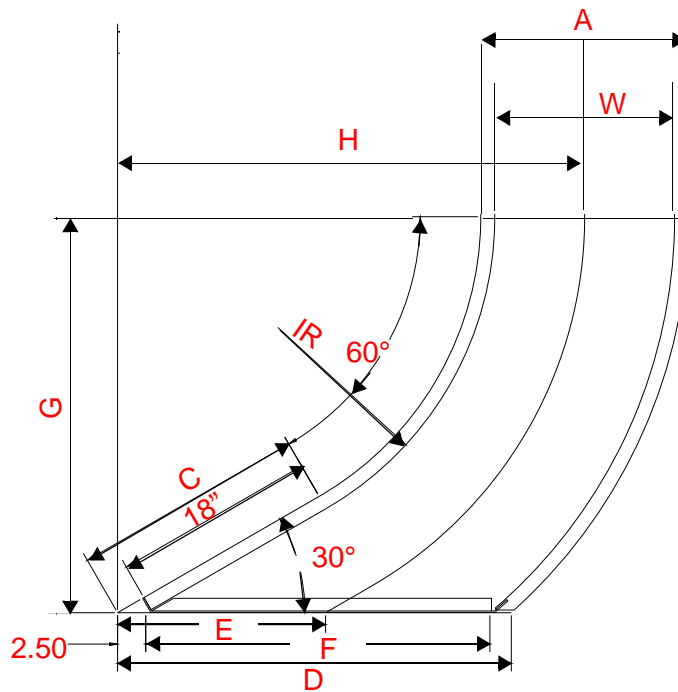


Figure E - 3 – Style 21 90° Curve Junction

Table E-3 – Style 21 90° Curve Junction Dimensions

W	IR	A	C	D	E	F	G	H	K
LIGHT-DUTY - 90 Degree CURVE JUNCTION / 26IR FRAME									
10"	30"	12-1/8"	20-5/16"	24-1/4"	12-1/8"	19-15/16"	35-1/4"	38-1/8"	2-1/8"
16"	30"	18-1/8"	20-5/16"	34-3/8"	17-3/8"	30-5/8"	35-1/4"	41-1/8"	2-1/8"
22"	30"	24-1/8"	20-5/16"	42-13/16"	24-1/8"	39-1/4"	35-1/4"	44-1/8"	2-1/8"
MEDIUM-DUTY - 90 Degree CURVE JUNCTION / 26IR FRAME									
16"	30"	18-1/2"	20-5/8"	35-1/16"	17-13/16"	30-5/8"	35-1/4"	41-9/16"	2-1/2"
22"	30"	24-1/2"	20-5/8"	43-1/2"	24-9/16"	39-5/16"	35-1/4"	44-9/16"	2-1/2"
28"	30"	20-1/2"	20-5/8"	51-3/16"	29-15/16"	47-1/8"	35-1/4"	47-9/16"	2-1/2"
34"	30"	36-1/2"	20-5/8"	58-1/2"	34-11/16"	54-1/2"	35-1/4"	50-9/16"	2-1/2"
40"	30"	42-1/2"	20-5/8"	65-1/2"	39-1/16"	61-9/16"	35-1/4"	53-9/16"	2-1/2"
MEDIUM-DUTY - 90 Degree CURVE JUNCTION / TTF FRAME									
16"	30"	18-1/2"	20-5/8"	35-1/16"	17-13/16"	30-5/8"	35-1/4"	41-9/16"	2-1/2"
22"	40"	24-1/2"	20-5/8"	44-1/8"	24-1/2"	39-7/8"	43-7/8"	49-9/16"	2-1/2"
28"	48"	20-1/2"	20-5/8"	52-3/4"	30-1/16"	48-9/16"	50-13/16"	56-9/16"	2-1/2"
34"	60"	36-1/2"	20-5/8"	61-9/16"	35-5/16"	57-7/16"	61-3/16"	65-9/16"	2-1/2"
40"	60"	42-1/2"	20-5/8"	69-1/4"	40-1/16"	65-1/8"	61-3/16"	68-9/16"	2-1/2"

SECTION F: ACCESSORIES

SECTION G: INSTALLATION PROCEDURES

Introduction

Accepting Shipment

Immediately upon delivery, check that all equipment received agrees with the bill of lading or carrier's freight bill. Any shipping discrepancy or equipment damage should be clearly noted on the freight bill before signing.

Shortages or Errors

Report any shortages or errors to the Customer Service in writing within ten (10) days after receipt of shipment.

Note: It is very important that you compare the Order Acknowledgment against the actual material received when you receive the shipment so you have enough lead time to order any missing parts. If you find that a part is missing during assembly, you may have to discontinue assembly while you wait for the part to arrive.

Lost or Damaged Shipment

Report lost shipments to our Shipping Department.

If shipping damage is evident upon receipt of the conveyor, note the extent of the damage on the freight bill and immediately contact the transportation carrier to request an inspection. Do not destroy the equipment crating and packing materials until the carrier's agent has examined them. Unless otherwise agreed by the seller, the Purchaser (user) shall be responsible for filing claims with the transportation carrier. A copy of the inspection report along with a copy of the freight bill should be sent to our Traffic Department.

Claims and Returns

All equipment furnished in accordance with the Manufacturer's Agreement is not returnable for any reason except when authorized in writing by the Seller. Notification of return must be made to the Customer Service Department, and if approved, a "Return Authorization Tag" will be sent to the Purchaser (user). The return tag, sealed in the "Return Authorization Envelope" should be securely affixed to the exterior surface on any side of the shipping carton (not Top or Bottom), or affixed to any smooth flat surface on the equipment, if not boxed.

Send authorized return shipment(s) transportation charges prepaid to the address indicated on the Return Authorization Tag. If initial shipment is refused, the Purchaser (User) shall be liable for all freight charges, extra cost of handling, and other incidental expenses.

Codes and Standards

The conveyor equipment is designed and manufactured to comply with the American National Standard Institute's "SAFETY STANDARDS FOR CONVEYORS AND RELATED EQUIPMENT" (ANSI B20.1) and with the National Electrical Code (ANSI/NFPA70).

The Purchaser/User shall be familiar with, and responsible for, compliance with all codes and regulations having jurisdiction regarding the installation, use, and maintenance of this equipment.

Warning Signs

Warning signs and labels posted on or near the conveyor equipment shall not be removed, painted over, or altered at any time. All safety devices, warning lights, and alarms associated with the conveyor system should be regularly tested for proper operation and serviced as needed. If the original safety item(s) become defective or damaged, refer to the conveyor parts list or bills-of-materials for replacement part numbers.

Safety Features

- Do turn off conveyor power source(s) and affix appropriate lockout/tagout device(s) to operating controls before servicing the equipment. ONLY trained and qualified personnel who are aware of the safety hazards should perform equipment adjustments or required maintenance while the conveyor is in operation.
- Do observe all warning signs, lights, and alarms associated with the conveyor operation and maintenance, and be alert at all times to automatic operation(s) of adjacent equipment.
- Do use extreme caution near moving conveyor parts to avoid the hazard of hands, hair, and clothing being caught.
- Do not sit on, stand on, walk, ride, or cross (over or under) the conveyor at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.
- Do not attempt to repair any equipment while the conveyor is running, replace any conveyor component without appropriate replacement parts, or modify the conveyor system without prior approval by the manufacturer.
- Do not operate the conveyor until all safety guards are securely in place, all tools and non-product materials are removed from or near the conveying surfaces, and all personnel are in safe positions.
- Do not remove or modify any safety devices provided on or with the conveyor.
- Do not clear jams or reach into any unit before first turning off the equipment power source(s) and affixing appropriate lockout/tagout device(s).

Parts Replacement

To minimize production downtime, selected conveyor spare parts should be stocked for replacement of defective components when required. If quantity requirements or code numbers are not indicated on the conveyor parts list, refer to the equipment bill(s)-of-materials. For added convenience, a list of selected spare parts is included in this manual (see Section I).

Factory Assistance

Contact Field Service for installation, operation, or maintenance assistance, or Customer Service and Support for replacement parts.

Assembling the Conveyor

1. Before starting installation, remove any shipping braces and filler blocks and check the alignment of the frames and wheels of each section. Corner-to-corner diagonal frame measurements of each conveyor section should be equal within 1/16".
2. Starting at one end of the conveyor, position the floor supports or overhead hangers to the first conveyor section, and fasten into place. For additional information, refer to *Product Manual 5310*.

SECTION H: MAINTENANCE

Recommended service checks and equipment maintenance are outlined below for typical, intermittent-duty conveyor applications. Additional maintenance and servicing schedule adjustments may be required for continuous-duty operation or extreme environmental conditions.

All newly installed equipment should be frequently inspected and serviced as needed during the first 40 hours of operation; thereafter, an appropriate maintenance program should be established and followed (see Table H-1).

Maintaining separate service log sheets on each type of conveyor is recommended for plants operating more than one shift. Each log sheet should show dates, detailed inspection service information, and name or initials of person(s) performing the equipment inspection or service for future reference.

CAUTION: Before performing maintenance on a conveyor, make certain that the conveyor's power disconnect is locked in the OPEN position and tagged to prevent accidental or unexpected application of power. Do not perform maintenance while the conveyor is running unless specifically instructed to do so in this manual.

Note: Other than checking of chain tension, it is NOT necessary to have the conveyor turned ON in order to perform any of the work described in this section. Maintenance must be performed only by qualified personnel who are trained in normal and emergency operations of the conveyor and who are knowledgeable of all safety devices, their locations, and functions.

Before restarting a conveyor:

- Remove all foreign objects from the conveyor.
- Be sure that all guards and safety devices are properly installed and working.
- Make sure that all persons are clear of the conveyor and are aware that the conveyor is about to be restarted.

Table H-1 Scheduled Maintenance

	Components	Item Check									
		Lubrication	Oil Level	Tension	Wear	Alignment	Fasteners	Set Screws	Proper Position	Physical Condition	Operation
Weekly	Carrier Wheels								X	X	X
	Electrical Devices								X	X	X
	General Structure						X			X	X
	Safety Guards & Devices								X	X	X
Monthly	Supports & Hangers						X			X	
	Vertical Gates								X		X

Scheduled Maintenance

Intervals indicated for performing maintenance should be considered for an 8 hour per day operation. An application may subject the equipment to conditions that would necessitate more frequent maintenance. This may best be determined by performing maintenance more frequently when the conveyor is first put into operation, and then lengthening the intervals based on experience.

SECTION I: SPARE PARTS

Introduction

The purpose of this section is to identify parts for a quality preventative maintenance program and to minimize the chances for extended down time.

The following pages illustrate the location of these parts as they apply to each particular unit. Keep in mind that these illustrations apply only to the standard product line. These items will show on the bill-of-material as a coded item.

Wheel Sections

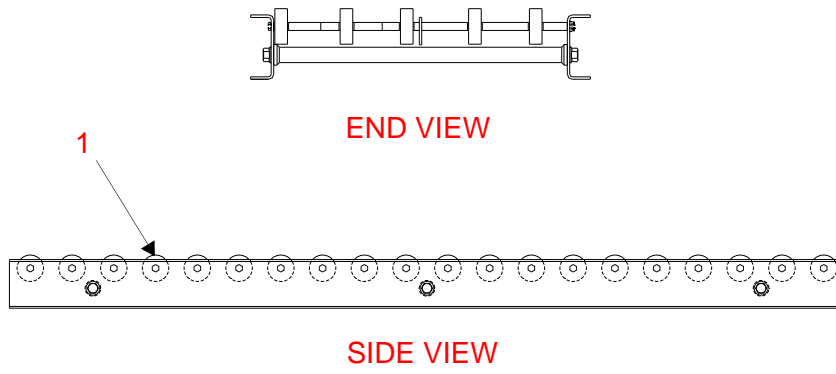


Figure I - 1 – Straight Wheel Section

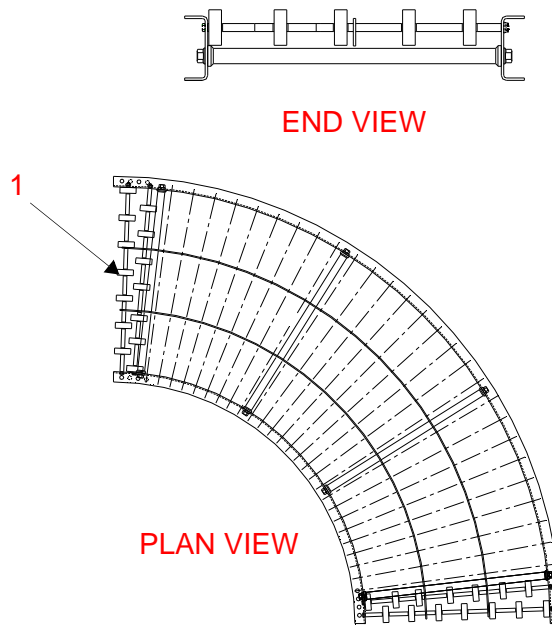


Figure I - 2 – Curve Wheel Section

Wheel Junctions

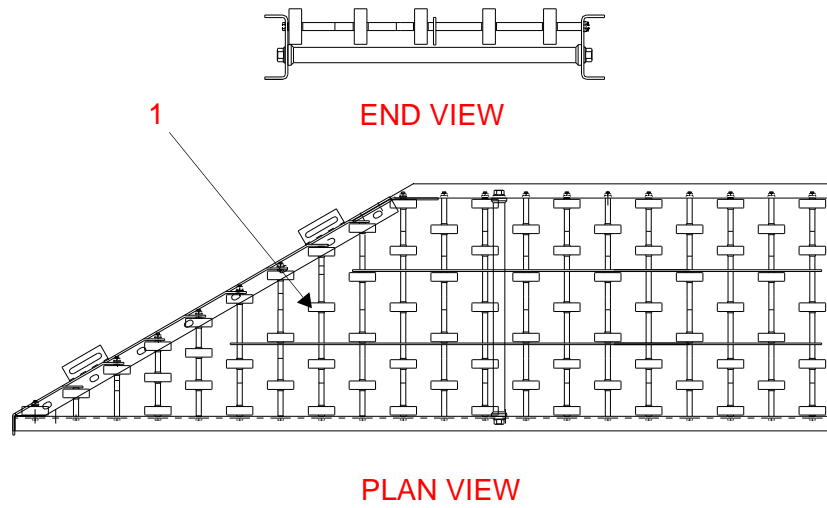


Figure I - 3 – Straight Wheel Junction

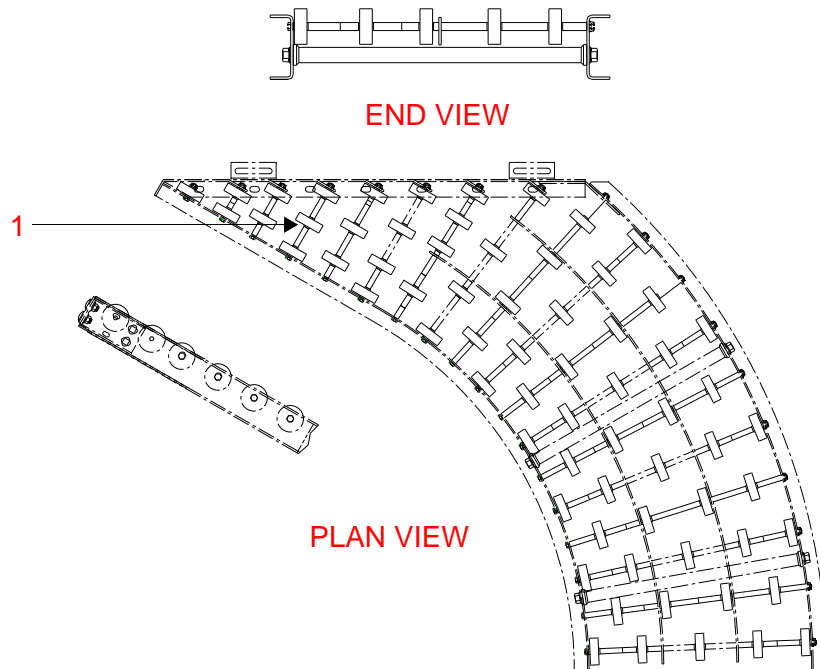


Figure I - 4 – Curve Wheel Junction

Vertical Gate Sections

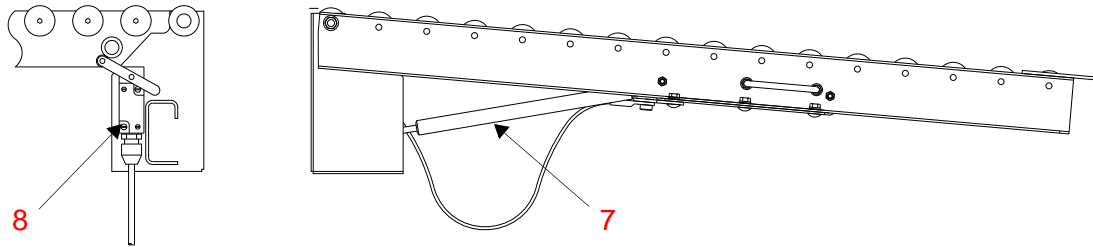


Figure I - 5 – Vertical Gate Sections

Light Duty Swivel Wheel Switch

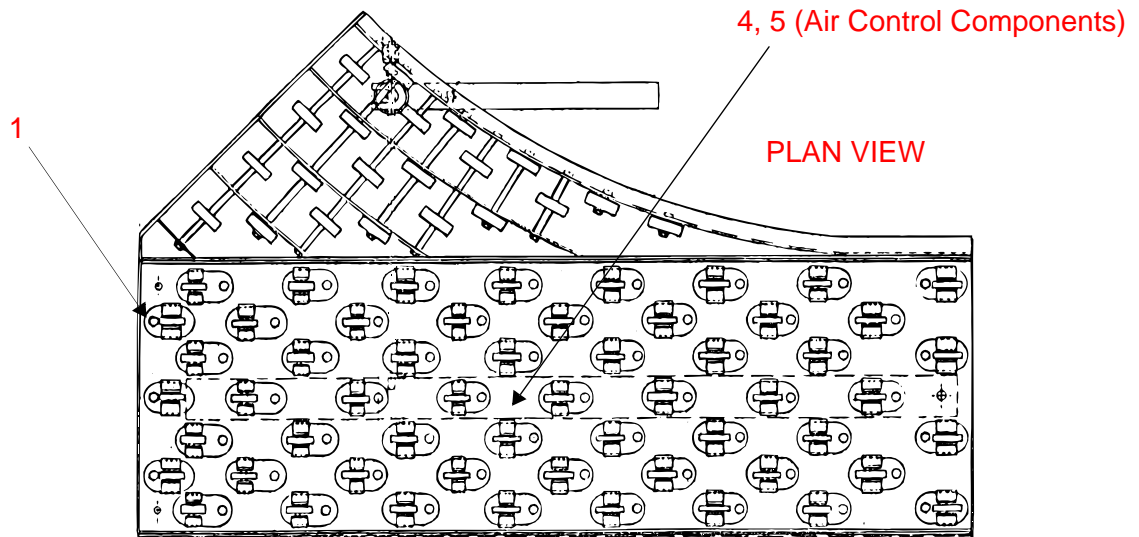


Figure I - 6 – Light Duty Swivel Wheel Switch

Pallet Storage Rails

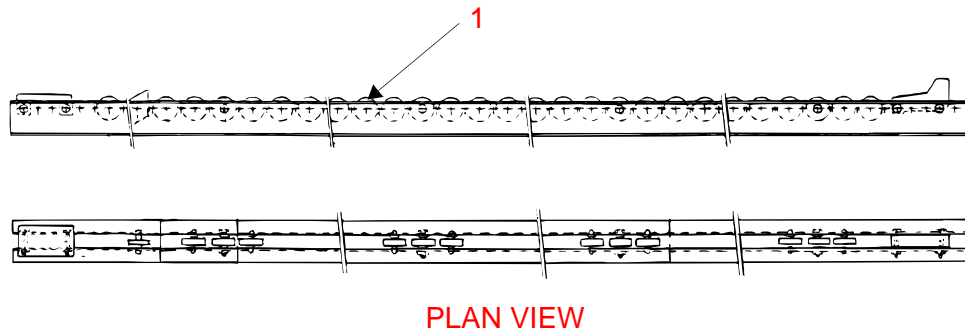


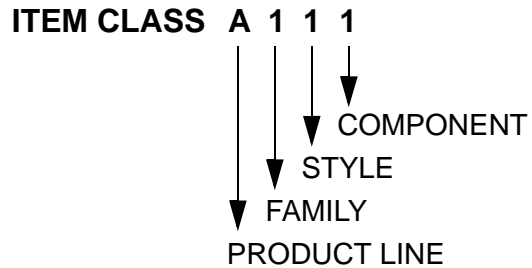
Figure I - 7 – Pallet Storage Rails

Common Parts

Key No.	Part Description	Part Numbers
1	Wheel - Steel, No. 100 (35# Cap.)	34-0420
	Wheel - Alum., No. 100AL (35# Cap.)	34-0430
	Wheel - Nylon, No. N-97 (35# Cap.)	34-0380
	Wheel - Polypropylene, No. 100P (25# Cap.)	34-0491
	Wheel - H.D. Steel, No. 100HD, Plain (100# Cap.)	34-0442
2	Roller - No. 187PL / Gate Pivot - 10" (no axle)	50-9875
	Roller - No. 187PL / Gate Pivot - 16" (no axle)	50-9870
	Roller - No. 187PL / Gate Pivot - 22" (no axle)	50-9871
	Roller - No. 187PL / Gate Pivot - 28" (no axle)	50-9872
	Roller - No. 187PL / Gate Pivot - 34" (no axle)	50-9873
	Roller - No. 187PL / Gate Pivot - 40" (no axle)	50-9874
3	Limit Switch E50BRI - Rotary, Spring Ret.	30-2673
	LS Actuator Arm E50KL201	30-9523
4	Valve, 4-Way, Dbl. Solenoid-Actuated (120 VAC, 60 Hz)	27-9529
5	Cylinder (for 2-Way Switch), 1-1/8" Bore x 1" Stroke (1 Required)	27-1400
	Cylinder (for 3-Way Switch), 1-1/8" Bore x 1" Stroke (2 Required)	27-1402
6	Gas Spring	381033
7	Limit Switch, 10W – 34W	562972
	Limit Switch, 40W	562973

SECTION J: PRODUCT INDEX

Light Duty - 2.5 Channel - Straight



(F1) WHEELS
 (F2) COUPLER

DESCRIPTION	DWG. NO.	10 WPF	12 WPF	14 WPF	16 WPF	18 WPF	20 WPF	24 WPF
GWS 5-0 __WPF 2.5CH W10	19574 D	427355	427183	427184	NA	NA	NA	NA
GWS 5-0 __WPF 2.5CH W16	19575 D	NA	427339	427340	427341	427342	NA	NA
GWS 5-0 __WPF 2.5CH W22	19576 D	NA	NA	NA	427343	427344	427345	427346

ITEM CLASS A 1 1 2

(F1) WHEELS
 (F2) COUPLER

DESCRIPTION	DWG. NO.	10 WPF	12 WPF	14 WPF	16 WPF	18 WPF	20 WPF	24 WPF
GWS 10-0 __WPF 2.5CH W10	19517 D	427356	427185	427186	NA	NA	NA	NA
GWS 10-0 __WPF 2.5CH W16	19517 D	NA	427347	427348	427349	427350	NA	NA
GWS 10-0 __WPF 2.5CH W22	19517 D	NA	NA	NA	427351	427352	427353	427354

WPF = Wheels Per Foot "

Light Duty - 2.5 Channel - Straight - Dense Pattern
ITEM CLASS A 1 1 1

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 36 WPF	16" W 64 WPF
GWS 5-0 __WPF 2.5CH W__	17660 D	429512	NA
GWS 5-0 __WPF 2.5CH W__	17678 D	NA	429516

ITEM CLASS A 1 1 2

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 36 WPF	16" W 64 WPF
GWS 10-0 __WPF 2.5CH W__	17676 D	429511	NA
GWS 10-0 __WPF 2.5CH W__	17677 D	NA	429515

Light Duty - 2.5 Channel - Curve - 2'6"IR

ITEM CLASS A 1 2 1

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWC 30D 2-6 __WPF 2.5CH W__	19521 D	427375	427377	427379

ITEM CLASS A 1 2 2

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWC 45D 2-6 __WPF 2.5CH W__	19522 D	427376	427378	427380

ITEM CLASS A 1 2 3

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWC 60D 2-6 __WPF 2.5CH W__	19523 D	427371	427373	427381

ITEM CLASS A 1 2 4

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWC 90D 2-6 __WPF 2.5CH W__	19524 D	427372	427374	427382

Light Duty - 2.5 Channel - Curve - 2'-6"IR - Dense Pattern
ITEM CLASS A 1 2 2

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 36 WPF	16" W 64 WPF
GWC 45D 2-6 36WPF 2.5CH W10	17662 D	429514	NA
GWC 45D 2-6 64WPF 2.5CH W16	17667 D	NA	429518

ITEM CLASS A 1 2 4

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 36 WPF	16" W 64 WPF
GWC 90D 2-6 36WPF 2.5CH W10	17661 D	429513	NA
GWC 90D 2-6 64WPF 2.5CH W16	17679 D	NA	429517

Light Duty - 2.5 Channel - Junction

ITEM CLASS A 1 3 2

(F1) WHEELS

(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWJ 30D 2.5CH RMLD W10	19634 D	427055	NA	NA
GWJ 30D 2.5CH LMRD W10	19634 D	427056	NA	NA
GWJ 30D 2.5CH RMLD W16	19635 D	NA	427057	NA
GWJ 30D 2.5CH LMRD W16	19635 D	NA	427058	NA
GWJ 30D 2.5CH RMLD W22	19636 D	NA	NA	427059
GWJ 30D 2.5CH LMRD W22	19636 D	NA	NA	427060

ITEM CLASS A 1 3 3

(F1) WHEELS

(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWJ 45D 2.5CH RMLD W10	19637 D	427061	NA	NA
GWJ 45D 2.5CH LMRD W10	19637 D	427062	NA	NA
GWJ 45D 2.5CH RMLD W16	19638 D	NA	427063	NA
GWJ 45D 2.5CH LMRD W16	19638 D	NA	427064	NA
GWJ 45D 2.5CH RMLD W22	19639 D	NA	NA	427065
GWJ 45D 2.5CH LMRD W22	19639 D	NA	NA	427066

LMRD = Left Hand Merge/Right Hand Diverge

RMLD = Right Hand Merge/Left Hand Diverge

Light Duty - 2.5 Channel - Junction - 2'-6"IR
ITEM CLASS A 1 4 1

(F1) WHEELS
(F2) COUPLER

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
GWJ 90D RMLD 2-6 2.5CH W__	19565 D	427489	NA	NA
GWJ 90D LMRD 2-6 2.5CH W__	19565 D	427490	NA	NA
GWJ 90D RMLD 2-6 2.5CH W__	19563 D	NA	427459	NA
GWJ 90D LMRD 2-6 2.5CH W__	19563 D	NA	427460	NA
GWJ 90D RMLD 2-6 2.5CH W__	19564 D	NA	NA	427461
GWJ 90D LMRD 2-6 2.5CH W__	19564 D	NA	NA	427462

LMRD = Left Hand Merge/Right Hand Diverge
RMLD = Right Hand Merge/Left Hand Diverge
2-6 = 2'-6" Inside Radius
90D = 90 Degree Spur

Light Duty - 2.5 Channel - Vertical Gate

ITEM CLASS A 4 2 1

(F1) WHEELS R
(F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
VGW GASPR 3-0 __WPF 2.5CH W__	19958	427664	427667	427643

ITEM CLASS A 4 2 4

(F1) WHEELS R
(F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
VGW GASPR 3-6 __WPF 2.5CH W__	19958	427665	427668	427644

ITEM CLASS A 4 2 2

(F1) WHEELS R
(F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	10" W 14 WPF	16" W 18 WPF	22" W 24 WPF
VGW GASPR 4-0 __WPF 2.5CH W__	19958	427666	427669	427645

MAN = Manual
GASPR = Gas Spring
WPF = Wheels Per Foot

Light Duty - 2.5 Channel - Miscellaneous

ITEM CLASS A 1 1 9

The items listed below have no features and options.

DESCRIPTION	DWG. NO.	10'-0" L	8'-6" L
PSR WHEEL __-__ 1.5C	17788 B	422671	422683
PSR WHEEL __-__ 1.5C PADS	17789 B	422672	422684
PSR WHEEL __-__ 1.5C STOP	17790 B	422673	422685
PSR WHEEL __-__ 1.5C STOP&PADS	17791 B	422674	422686
PSR WHEEL __-__ 2C	17792 B	422675	422687
PSR WHEEL __-__ 2C PADS	17793 B	422676	422688
PSR WHEEL __-__ 2C STOP	17788 B	422677	422689
PSR WHEEL __-__ 2C STOP&PADS	17795 B	422678	422690
PSR WHEEL __-__ 3C	17796 B	422679	422691
PSR WHEEL __-__ 3C PADS	17797 B	422680	422692
PSR WHEEL __-__ 3C STOP	17798 B	422681	422693
PSR WHEEL __-__ 3C STOP&PADS	17799 B	422682	422694

ITEM CLASS A 5 1 1

DESCRIPTION	DWG. NO.	PART NO.
SWITCH CONVEYOR 2WAY MAN RH10	15255 D	510405
SWITCH CONVEYOR 2WAY MAN LH10	15255 D	510410
SWITCH CONVEYOR 2WAY MAN RH16	15257 D	510425
SWITCH CONVEYOR 2WAY MAN LH16	15257 D	510420
SWITCH CONVEYOR 2WAY MAN RH22	15259 D	510442
SWITCH CONVEYOR 2WAY MAN LH22	15259 D	510443

ITEM CLASS A 5 1 2

DESCRIPTION	DWG. NO.	PART NO.
SWITCH CONVEYOR 2WAY AIR RH10	17860 D	519503
SWITCH CONVEYOR 2WAY AIR LH10	17860 D	519505
SWITCH CONVEYOR 2WAY AIR RH16	17860 D	519504
SWITCH CONVEYOR 2WAY AIR LH16	17860 D	519506
SWITCH CONVEYOR 2WAY AIR RH22	17860 D	519507
SWITCH CONVEYOR 2WAY AIR LH22	17860 D	519508

ITEM CLASS A 5 2 1

DESCRIPTION	DWG. NO.	PART NO.
SWITCH CONVEYOR 3WAY MAN RL10	15255 D	510430
SWITCH CONVEYOR 3WAY MAN RL16	15257 D	510440
SWITCH CONVEYOR 3WAY MAN RL22	15259 D	510444

ITEM CLASS A 5 2 2

DESCRIPTION	DWG. NO.	PART NO.
SWITCH CONVEYOR 3WAY AIR RL10	17900 D	519509
SWITCH CONVEYOR 3WAY AIR RL16	17900 D	519510
SWITCH CONVEYOR 3WAY AIR RL22	17900 D	519511

Medium Duty - 3.5 Channel - Straight

ITEM CLASS A 1 5 1

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWS 5-0 __WPF 3.5CH W__	19518 D	427357	427358	427359	427360	427361

ITEM CLASS A 1 5 2

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWS 10-0 __WPF 3.5CH W__	19519 D	427362	427363	427364	427365	427366

WPF = Wheels Per Foot

Medium Duty - 3.5 Channel - Curve - 2'-6"IR

ITEM CLASS A 1 6 1

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWC 30D 2-6 __WPF 3.5CH W__	19525 D	427383	427384	427385	427386	427387

ITEM CLASS A 1 6 2

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWC 45D 2-6 __WPF 3.5CH W__	19526 D	427388	427389	427390	427391	427392

ITEM CLASS A 1 6 3

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWC 60D 2-6 __WPF 3.5CH W__	19527 D	427393	427394	427395	427396	427397

ITEM CLASS A 1 6 4

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWC 90D 2-6 __WPF 3.5CH W__	19528 D	427398	427399	427400	427401	427402

WPF = Wheels Per Foot
 2-6 = 2'-6" Inside Radius
 30D = 30 Degree

Medium Duty - 3.5 Channel - Curve - True Taper

ITEM CLASS A 1 6 1

(F1) WHEELS

R

DESCRIPTION	DWG. NO.	22" W 3'-4" IR 28 WPF	28" W 4'-0" IR 38 WPF	34" W 5'-0" IR 48 WPF	40" W 5'-0" IR 56 WPF
GWC 30D _-__WPF 3.5CH W__	19531 D	427411	427412	427413	427414

ITEM CLASS A 1 6 2

(F1) WHEELS

DESCRIPTION	DWG. NO.	22" W 3'-4" IR 28 WPF	28" W 4'-0" IR 38 WPF	34" W 5'-0" IR 48 WPF	40" W 5'-0" IR 56 WPF
GWC 45D _-__WPF 3.5CH W__	19532 D	427415	427416	427417	427418

ITEM CLASS A 1 6 3

(F1) WHEELS

DESCRIPTION	DWG. NO.	22" W 3'-4" IR 28 WPF	28" W 4'-0" IR 38 WPF	34" W 5'-0" IR 48 WPF	40" W 5'-0" IR 56 WPF
GWC 60D _-__WPF 3.5CH W__	19533 D	427419	427420	427421	427422

ITEM CLASS A 1 6 4

(F1) WHEELS

DESCRIPTION	DWG. NO.	22" W 3'-4" IR 28 WPF	28" W 4'-0" IR 38 WPF	34" W 5'-0" IR 48 WPF	40" W 5'-0" IR 56 WPF
GWC 90D _-__WPF 3.5CH W__	19534 D	427423	427424	427425	427426

WPF = Wheels Per Foot

90D = 90 Degree

IR = Inside Radius

Medium Duty - 3.5 Channel - Junction Straight

ITEM CLASS A 1 7 2

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWJ 30D RMLD __WPF 3.5CH W16	19538 D	427439	NA	NA	NA	NA
GWJ 30D LMRD __WPF 3.5CH W16		427440	NA	NA	NA	NA
GWJ 30D RMLD __WPF 3.5CH W22	19539 D	NA	427441	NA	NA	NA
GWJ 30D LMRD __WPF 3.5CH W22		NA	427442	NA	NA	NA
GWJ 30D RMLD __WPF 3.5CH W28	19540 D	NA	NA	427443	NA	NA
GWJ 30D LMRD __WPF 3.5CH W28		NA	NA	427444	NA	NA
GWJ 30D RMLD __WPF 3.5CH W34	19541 D	NA	NA	NA	427445	NA
GWJ 30D LMRD __WPF 3.5CH W34		NA	NA	NA	427446	NA
GWJ 30D RMLD __WPF 3.5CH W40	19543 D	NA	NA	NA	NA	427447
GWJ 30D LMRD __WPF 3.5CH W40		NA	NA	NA	NA	427448

ITEM CLASS A 1 7 3

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWJ 45D RMLD __WPF 3.5CH W16	19538 D	427449	NA	NA	NA	NA
GWJ 45D LMRD __WPF 3.5CH W16		427450	NA	NA	NA	NA
GWJ 45D RMLD __WPF 3.5CH W22	19539 D	NA	427451	NA	NA	NA
GWJ 45D LMRD __WPF 3.5CH W22		NA	427452	NA	NA	NA
GWJ 45D RMLD __WPF 3.5CH W28	19540 D	NA	NA	427453	NA	NA
GWJ 45D LMRD __WPF 3.5CH W28		NA	NA	427454	NA	NA
GWJ 45D RMLD __WPF 3.5CH W34	19542 D	NA	NA	NA	427455	NA
GWJ 45D LMRD __WPF 3.5CH W34		NA	NA	NA	427456	NA
GWJ 45D RMLD __WPF 3.5CH W40	19544 D	NA	NA	NA	NA	427457
GWJ 45D LMRD __WPF 3.5CH W40		NA	NA	NA	NA	427458

LMRD = Left Hand Merge/Right Hand Diverge

RMLD = Right Hand Merge/Left Hand Diverge

Medium Duty - 3.5 Channel - Junction Curve - 2'-6"IR - True Taper

ITEM CLASS A 1 8 1

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWJ 90D RMLD 2-6 __WPF 3.5 W16	19546 D	427463	NA	NA	NA	NA
GWJ 90D LMRD 2-6 __WPF 3.5 W16		427464	NA	NA	NA	NA
GWJ 90D RMLD 2-6 __WPF 3.5 W22	19547 D	NA	427465	NA	NA	NA
GWJ 90D LMRD 2-6 __WPF 3.5 W22		NA	427466	NA	NA	NA
GWJ 90D RMLD 2-6 __WPF 3.5 W28	19548 D	NA	NA	427467	NA	NA
GWJ 90D LMRD 2-6 __WPF 3.5 W28		NA	NA	427468	NA	NA
GWJ 90D RMLD 2-6 __WPF 3.5 W34	19549 D	NA	NA	NA	427469	NA
GWJ 90D LMRD 2-6 __WPF 3.5 W34		NA	NA	NA	427470	NA
GWJ 90D RMLD 2-6 __WPF 3.5 W40	19550 D	NA	NA	NA	NA	427471
GWJ 90D LMRD 2-6 __WPF 3.5 W40		NA	NA	NA	NA	427472

(F1) WHEELS

DESCRIPTION	DWG. NO.	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
GWJ 90D RMLD 3-4__WPF 3.5 W22	19570 D	427491	NA	NA	NA
GWJ 90D LMRD 3-4__WPF 3.5 W22		427492	NA	NA	NA
GWJ 90D RMLD 4-0__WPF 3.5 W28	19571 D	NA	427493	NA	NA
GWJ 90D LMRD 4-0__WPF 3.5 W28		NA	427494	NA	NA
GWJ 90D RMLD 5-0__WPF 3.5 W34	19572 D	NA	NA	427495	NA
GWJ 90D LMRD 5-0__WPF 3.5 W34		NA	NA	427496	NA
GWJ 90D RMLD 5-0__WPF 3.5 W40	19573 D	NA	NA	NA	427497
GWJ 90D LMRD 5-0__WPF 3.5 W40		NA	NA	NA	427498

LMRD = Left Hand Merge/Right Hand Diverge

RMLD = Right Hand Merge/Left Hand Diverge

Medium Duty - 3.5 Channel - Vertical Gate

ITEM CLASS A 4 2 1

(F1) WHEELS R
 (F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
VGW GASPR 3-0 __WPF 3.5 CH W__	19961	427670	427673	427676	427679	427682

ITEM CLASS A 4 2 4

(F1) WHEELS R
 (F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
VGW GASPR 3-6 __WPF 3.5 CH W__	19961	427671	427674	427677	427680	427683

ITEM CLASS A 4 2 2

(F1) WHEELS R
 (F2) LIMIT SWITCH N

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
VGW GASPR 4-0 __WPF 3.5 CH W__	19961	427672	427675	427678	427681	427684

	6.5	3.62	0
SUPPORT CONNECTOR CHANNEL SCC __	370167	370401	370161

GASPR = Spring
 WPF = Wheels Per Foot

Medium Duty - 3.5 Channel - Vertical Gate

ITEM CLASS A 4 3 1

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
VGW 3-0 MAN __WPF 3.5" CONN W__	19561 D	427214	427205	427206	427207	427208
VGW 3-0 MAN __WPF 6-3/8" CONN W__	19561 D	427554	427555	427556	427557	427558
VGW 3-0 MAN __WPF 10" CONN W__	19561 D	427564	427565	427566	427567	427568

ITEM CLASS A 4 3 2

(F1) WHEELS

DESCRIPTION	DWG. NO.	16" W 20 WPF	22" W 28 WPF	28" W 38 WPF	34" W 48 WPF	40" W 56 WPF
VGW 4-0 MAN __WPF 3.5" CONN W__	19561 D	427209	427210	427211	427212	427213
VGW 4-0 MAN __WPF 6-3/8" CONN W__	19561 D	427549	427550	427551	427552	427553
VGW 4-0 MAN __WPF 10" CONN W__	19561 D	427559	427560	427561	427562	427563

MAN = Manual

WPF = Wheels Per Foot

Very High Speed Gravity Wheel Conveyor - 2.5 Channel

20° Junctions – Standard

Conveyor Width (W)	22"	28"	34"
Drawing Number	19654 D00	19656 D01	19658 D00
GWJ VHS 20D 90.187/___RH STD	427593	427597	427601
GWJ VHS 20D 90.187/___LH STD	427594	427598	427602

20° Junctions – Extended Flange

Conveyor Width (W)	22"	28"	34"
Drawing Number	19655 D00	19657 D03	19659 D01
GWJ VHS 20D 90.187/___RH EXTFL	427595	427599	427603
GWJ VHS 20D 90.187/___LH EXTFL	427596	427600	427604

70° Curves

Conveyor Width (W)	22"	28"	34"
Drawing Number	19651 D01	19652 D00	19653 D00
Wheels Per Foot (WPF)	34	46	58
GWC VHS 70D W___WPF 2.5CHAN	427589	427590	427591

Straight Sections

Conveyor Width (W)	22"	28"	34"
Wheels Per Foot (WPF)	34	46	58
Drawing Number	19648 D00	19649 D01	19650 D01
GWS VHS 1-0/___WPF 2.5CHAN	427571	427577	427583
GWS VHS 2-0/___WPF 2.5CHAN	427572	427578	427584
GWS VHS 3-0/___WPF 2.5CHAN	427573	427579	427585
GWS VHS 4-0/___WPF 2.5CHAN	427574	427580	427586
GWS VHS 5-0/___WPF 2.5CHAN	427575	427581	427587
GWS VHS 10-0/___WPF 2.5CHAN	427576	427582	427588

