

ADVANTAGES:

- **High Density, Sloping-Face Make-up or Claim Conveyor**
- **90 FPM, Clockwise or Counter-clockwise operation**
- **Modular design allows flexibility and versatility of system design**

OVERVIEW:

The slope plate conveyor is a high capacity, sloping-face, baggage conveyor which features a number of overlapping flites that are linked together, providing an endless, re-circulating conveyor surface. This unit is suitable for baggage claim and / or baggage make-up functions in high-density airports.

Normally operating at a speed of 90 feet per minute, the slope plate is capable of travelling in either a clockwise or counter-clockwise direction. Loading of the unit can be achieved by feeding baggage from above or below the center of the device at any point along the upper perimeter of the conveying surface.

Manufactured with durable materials, finished to the highest standards, and complimented with leading-edge mechanical and electrical components, this robust and reliable design meets or exceeds all industry standards.



CONVEYING SURFACE

- 63" (1600mm) Conveying width
- 22.5° Sloped surface
- Polyurethane arresting buffers
- Heavy duty support wheels

The conveying surface is comprised of individual rectangular, overlapping flites, angled 22.5° from horizontal, that are supported by structural splines and load bearing wheels, which are directly coupled to the main conveyor chain.

Flites are mechanically fastened to formed steel splines to provide the necessary structural support. The lower end of each flite is fitted with polyurethane buffers to cushion baggage as it is discharged, and slides down from the feed conveyor. The entire flite and spline assembly forms an integral link in the main conveying chain, which is positively engaged by the drive chain. A restraint strap, fixed between the articulating ends of each spline, ensures that the correct pitch distance is maintained between flites.

Each flite and spline assembly is supported by an upper and a lower heavy-duty support wheel. The support wheels are comprised of a high-density plastic tire molded onto a precision, sealed-for-life ball bearing.

FLITES

- 14 gauge stainless steel (type 304, #4 finish) complete with leading edge, underside wear strip -or-
- ¼" (6mm) textured ABS plastic

The quality-controlled flites meet and exceed the dynamic and static loads specified for slope plate conveyors and will support a live load weight of 250 pounds (114.40kgs), experiencing no undue deflection or damage.

The overall flite-assembly design results in superior strength and flexibility while providing the wear and abrasion resistance properties necessary to withstand both known and anticipated wear and tear in modern airport terminals.

FRAMEWORK

- Modular design
- Robust, fully-supported frame structure

A modular approach to the framework allows the slope plate conveyor to be manufactured, shipped, and assembled efficiently and economically.

A-frame cross-section supports are constructed using formed steel components and welded in quality-controlled fixtures. These frames form the rigid, grid-like support structure to which the guide rails, bearing tracks, and cross-bracing members are bolted, and later welded to, making a continuous, fully supported frame structure. The entire unit is mounted above the floor, supported and levelled on robust screw adjustable legs.

All components of the framework structure are treated with a protective, rust-inhibiting finish.

CONVEYOR TRIM / FINISHING

- Top of outer trim: 18" (457mm) minimum above floor level
- 12 gauge stainless steel, type 304, #4 brush finish

Slope plate conveyors operating in public areas for baggage claim functions are finished with 12 gauge stainless steel, while slope plates operating for baggage make-up are finished in galvanized mild steel.

Slope plate conveyors, intended for baggage claim functions, typically require the open center area to be enclosed and finished. This is accomplished by installing fire-rated, plywood decking material level with the top of the inner up-stand panelling, supported by a metal framework, and finished with decorative covering. An access hatch is provided over the motor / gearbox unit to allow for maintenance.

An optional, protective bumper rail can be provided around the circumference of the unit to deflect any potential damage from baggage carts and tugs.

DRIVE

- Caterpillar drive system

The slope plate conveyor drive module incorporates the proven caterpillar drive principal. Operating in a horizontal, triangular configuration, the endless, precision transmission chain, complete with drive-lugs connected at regular intervals, engage the main conveying chain, moving the conveyor along its path. No less than two flite assemblies are positively engaged at any time, resulting in a direct mechanical link between the drive chain and the conveying surface.

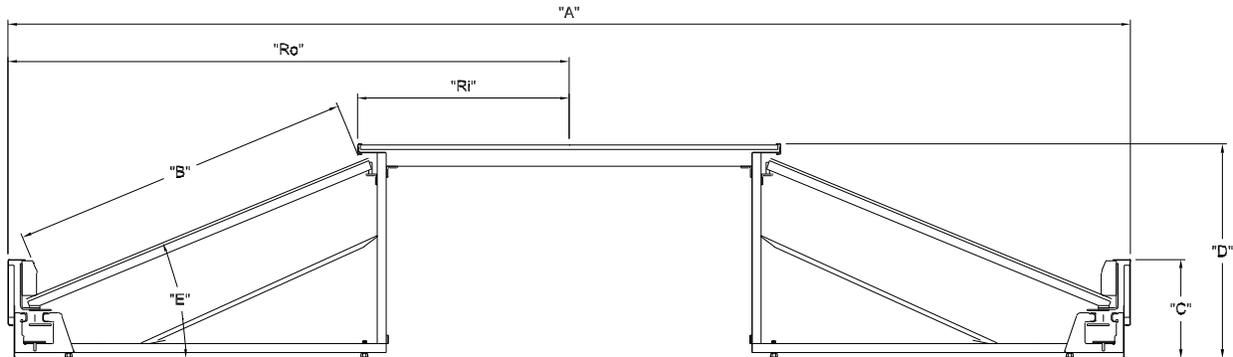
MOTOR / REDUCER

- SEW Eurodrive constant speed gear motors, or equivalent
- Variable Frequency Drive

Powered by a direct drive motor / gearbox, assembly selected for reliability, low noise characteristics and ease of maintenance, the unit is complimented by a variable frequency drive (VFD). This combination provides the speed reduction required and an electronic soft start / stop function, allowing for smooth acceleration and deceleration, with minimal shock loading.

As an added benefit, the unit can be adjusted down to 1-2 fpm (0.005-0.010 mps) for inspection and maintenance.

The gear motor and wall mounted control cabinet are typically located on the non-public side of operations to accommodate regular access and maintenance.

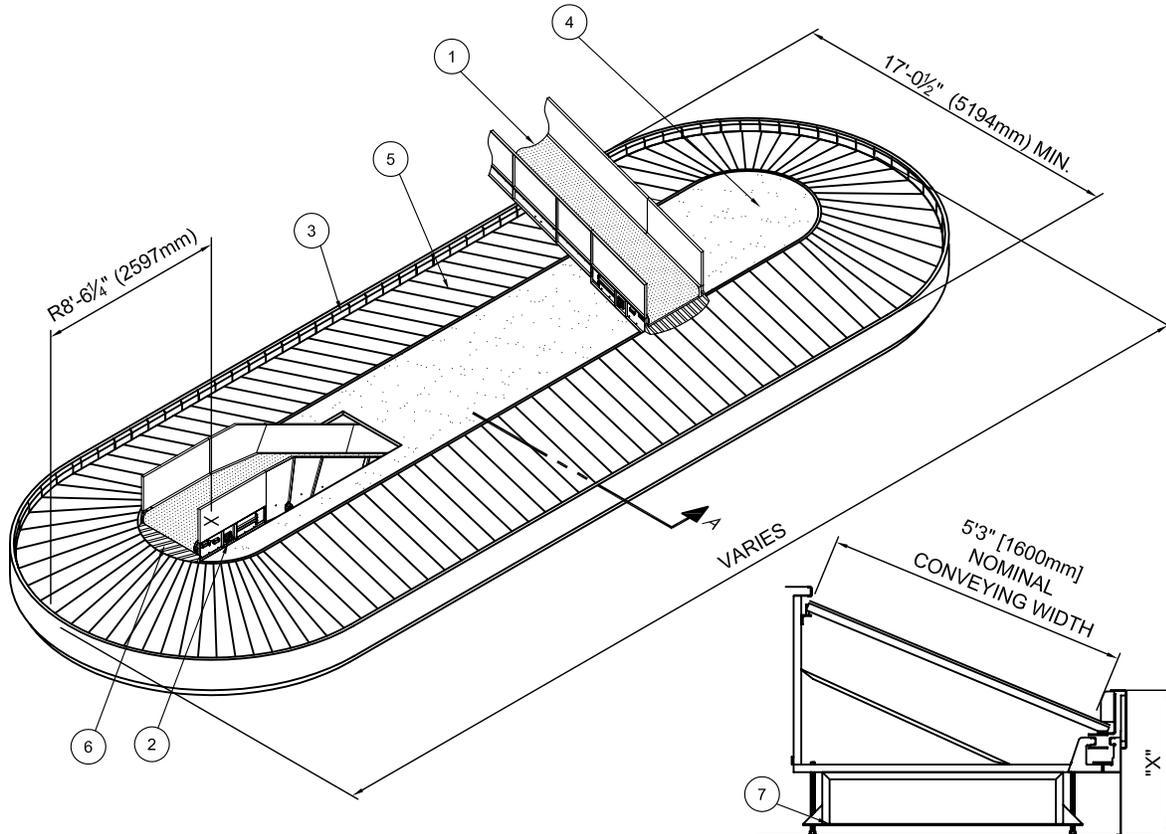


SLOPE PLATE CONVEYOR SPECIFICATIONS	
Description	G&S Standards
Dimensions	
Overall Width ("A")	17'-0 ¹ / ₈ " (5185mm) minimum
Conveying Width ("B")	63" (1600mm)
Floor to Outer Trim Height ("C")	18" (457mm) minimum
Floor to Inner Trim Height ("D")	39 ³ / ₈ " (975mm) minimum
Flite Angle/Pitch ("E")	22.5°
Inner Radius ("Ri")	38 ¹ / ₂ " (978mm)
Outer Radius ("Ro")	102" (2591mm)
Standard Module Length	9'-10 ¹ / ₈ " (3000mm)
Specifications	
Speed	90 ft/min (27.43 m/min)
Conveying Surface (Public)	12 ga Stainless Steel
Conveying Surface (Air Side)	Black ABS

Materials & Finish		
Application	Public View	Non-Public View
Trim / Finish	12 ga Stainless Steel, Type 304, #4 Brush	12 ga Galvanized Mild Steel

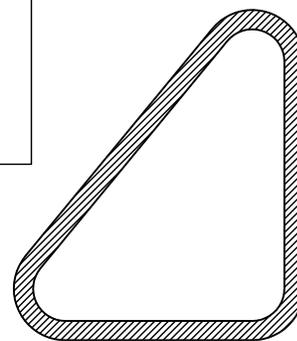
Drive Options				
Application	Standard		Optional	
	Make	Model	Make	Model
90 Deg. Reducer	SEW Eurodrive	SA - Hollow Shaft ST - TorqLOC	Dodge	Ti-Gear

SLOPE PLATE CONVEYOR



ITEM	COMPONENT
1	Overhead Feed-on Conveyor
2	Tunnel Feed-on Conveyor
3	Moving Buffers
4	Optional Infill
5	Conveying Flites
6	Spill Plate
7	Leg Extension (For 2'-0"-2'-6" Heights)

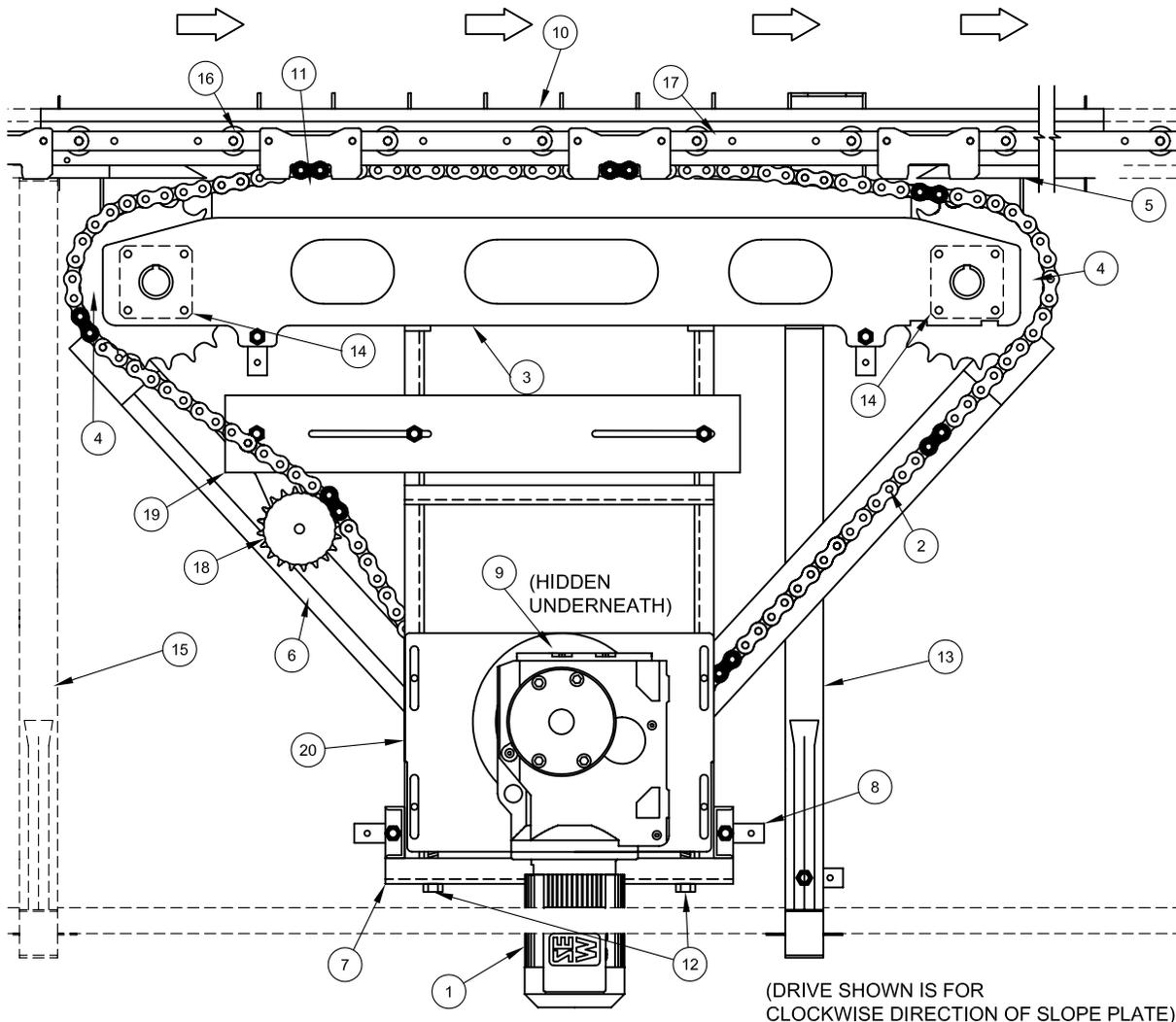
"X":
1'-6" -- Typical for Baggage Claim Applications
2'-0"–2'-6" – Typical for Baggage Make-up Applications



TYPICAL LAYOUTS

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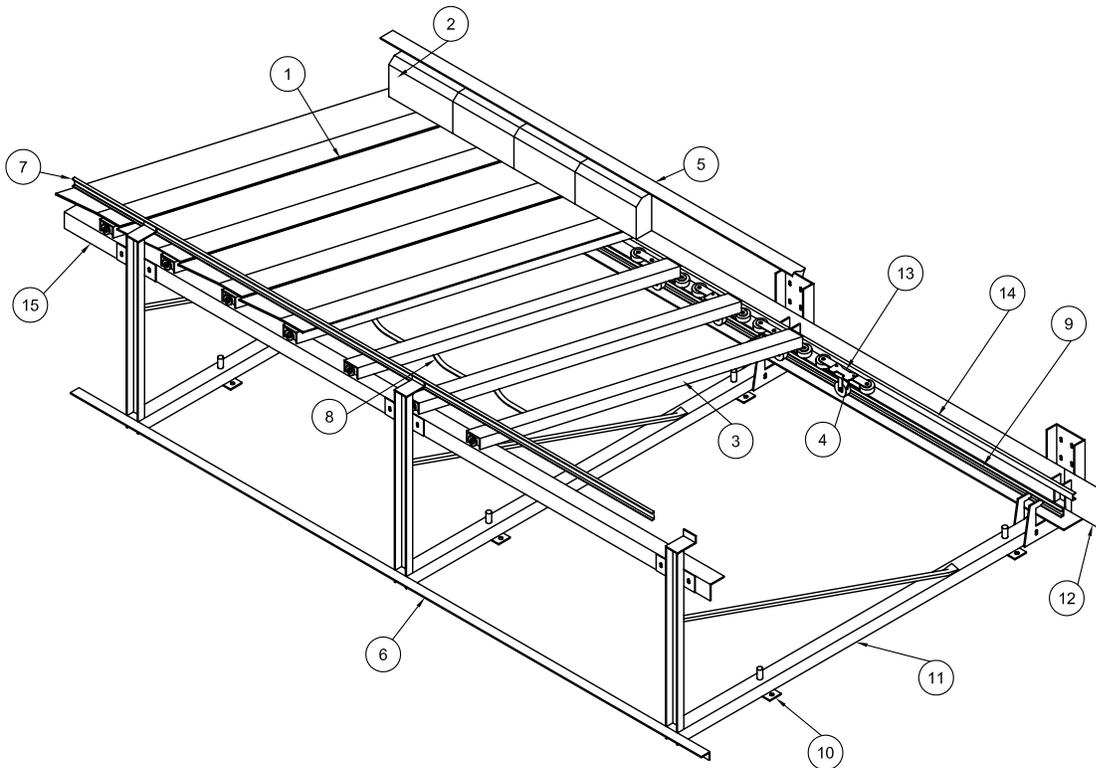
CATERPILLAR DRIVE UNIT FOR A SLOPE PLATE CONVEYOR



ITEM	COMPONENT
1	Motor/Gearbox Assembly
2	Caterpillar Drive Chain
3	Caterpillar Drive Body Assembly
4	Chain Idler Sprockets
5	Main Chain Guide Rails
6	Caterpillar Chain Supports/Drip Tray
7	Motor Mount Frame
8	Leveling Feet
9	Drive Sprocket
10	Comb Assembly
11	Caterpillar Chain Ramp
12	Take-up Bolts
13	Drive A-Frame
14	Bearings
15	Slope Plate Framework
16	Slope Plate Main Chain
17	Dog Plate (TYP)
18	Chain Tensioner Assembly
19	Tensioner Adjustment Plate
20	Take-up Plate

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SLOPE PLATE CONVEYOR MODULE



ITEM	COMPONENT
1	Flite-Conveying Surface (ABS or S/S)
2	Buffer
3	Spline
4	Main Chain Assembly
5	Lower Trim (S/S or Galv.)
6	Lower Tie Rail
7	Upper Trim (S/S or Galv.)
8	Strapping
9	Guide Rails
10	Leveling Feet
11	A-Frame (TYP)
12	Toe Kick c/w Trim Supports
13	Drive Dog Plate
14	Lower Wheel Rail
15	Upper Wheel Rail

ADVANTAGES:

- **Modular Components**
- **rust Construction**
- **Flexible Configurations**

OVERVIEW:

The pallet loop conveyor features a recirculating loop of crescent shaped pallets linked together, providing an endless, articulating conveyor surface which can be configured to many shapes. This unit is suitable for baggage claim and baggage make-up functions in airports of all sizes.

Normally operating speed of 90 feet per minute, and capable of traveling clockwise or counter-clockwise, the device can be either manually or automatically loaded.

Manufactured with durable materials, finished to the highest standards, and complimented with leading-edge mechanical and electrical components, this robust and reliable design meets or exceeds all industry standards.



GENERAL

The conveying surface is comprised of individual crescent shaped pallets that are mechanically fastened to an underlying series of carriages. Any number of carriages can be linked together to provide an endless set of linkages, completing a continuous conveying loop.

Each carriage and pallet assembly is supported by two parallel, load-carrying wheel raceways. Populated with wheels every 4" (102mm), the result is a minimum of ten wheels supporting the pallet and its load at any point along the conveyor's length. The large number of support wheels provides superior load bearing capabilities, reduced friction, and smooth, quiet operation.

The bearing and guide wheels are constructed using a high density plastic tire molded onto a precision, sealed-for-life ball bearing.

PALLETS

Each pallet contains a structural steel core that is accurately molded and suspended in black polyurethane, resulting in a consistent skin depth of 0.075" (2mm) that is finished flat and true.

The quality controlled pallets meet and exceed the dynamic and static loads specified for pallet loop conveyors, supporting a dead weight of 250 pounds (113.4 kg) and a live load of 70 pounds per foot (104.16 kg/m), while experiencing no undue deflection or damage.

The overall pallet design results in superior strength and provides the wear and abrasion resistance to withstand both known and anticipated wear and tear in modern airport terminals.

Pallets are typically manufactured with a ¼" (6mm) steel core with an overall nominal thickness, of ⅜" (10mm), after the moulding process. A 5/16" (8mm) steel core is also available.

CARRIAGES

Carriages are fabricated from mild steel, machined to the designed 19½” (495mm) pitch-length, then fitted with a self-aligning joint. A pair of drive-lugs, located on the underside and offset to one side, positively engages the drive chain. An electro-galvanized coating is applied to the finished carriage for lasting protection.

Each carriage is fashioned with a center guide wheel assembly which leads each pallet / carriage assembly along and around the pre-formed track way.

FRAMEWORK

The pallet loop framework, assembled in 10’-0” (3048mm) long straight and 90° curve modules, is manufactured from formed and structural steel sections. The center guide rails and bed rails form a continuous, fully supported frame structure. The formed unit is mounted above the floor, and supported and levelled on robust screw adjustable legs.

CONVEYOR TRIM / FINISHING

Pallet loops utilized for *baggage claim* functions are finished with 12 gauge stainless steel (type 304, # 4 brush finish) in public areas, and in areas unseen by the public, 12 gauge galvanized mild steel is used.

Pallet loops utilized for *baggage make-up*, are finished in galvanized mild steel.

An optional guard rail provides protection from baggage carts and tugs potentially causing undue damage to the device. These can be placed at strategic locations or can be fully encompassing.

Typically, baggage is prevented from spilling into the center of the pallet loop by providing a formed, 7¼” (184mm) tall, up-stand trim panel, usually forming part of an optional center infill.

CENTER INFILL

Pallet loops, intended for baggage claim functions, typically require the open center area to be enclosed and finished. This is accomplished by installing fire-rated, plywood decking material level with the top of the inner up-stand panelling, supported by a metal framework, and finished with decorative covering.

When a drive unit is installed in a public area, an access hatch is required over the motor / gearbox unit to allow for regular maintenance.

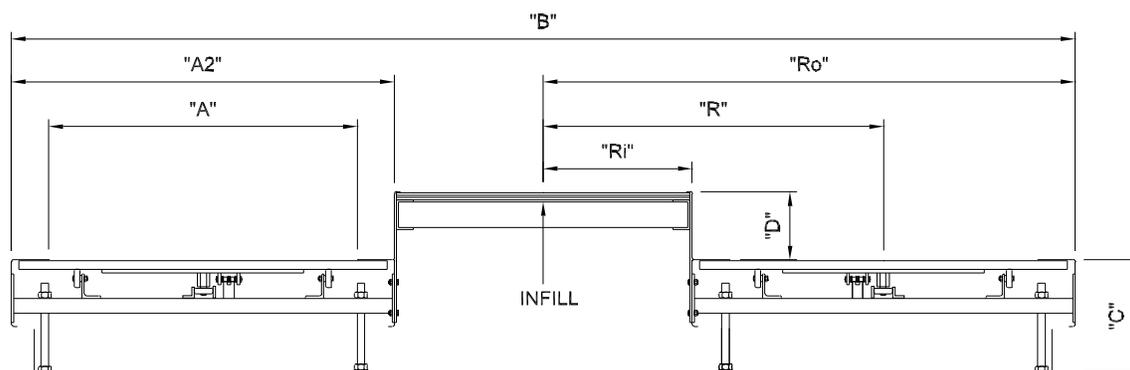
DRIVE

The pallet loop drive module incorporates the proven caterpillar drive principal, where an endless chain meshes with and drives against lugs affixed to the underside of the carriages. No less than two carriages are positively engaged at any time, resulting in a direct mechanical link between the gear motor and the conveying surface.

Powered by a direct drive motor / gearbox, assembly selected for reliability, low noise characteristics and ease of maintenance, the unit is complimented by a variable frequency drive (VFD). This combination provides the speed reduction required and an electronic soft start / stop function, allowing for smooth acceleration and deceleration, with minimal shock loading.

As an added benefit, the unit can be adjusted down to 1-2 fpm (0.005-0.010 mps) for inspection and maintenance.

The gear motor and wall mounted control cabinet are *typically* located on the non-public side of operations to accommodate regular access and maintenance. Other drive methods are available, but this is the proven and preferred method.

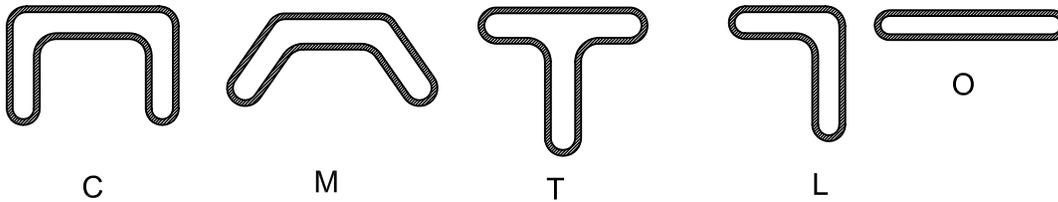
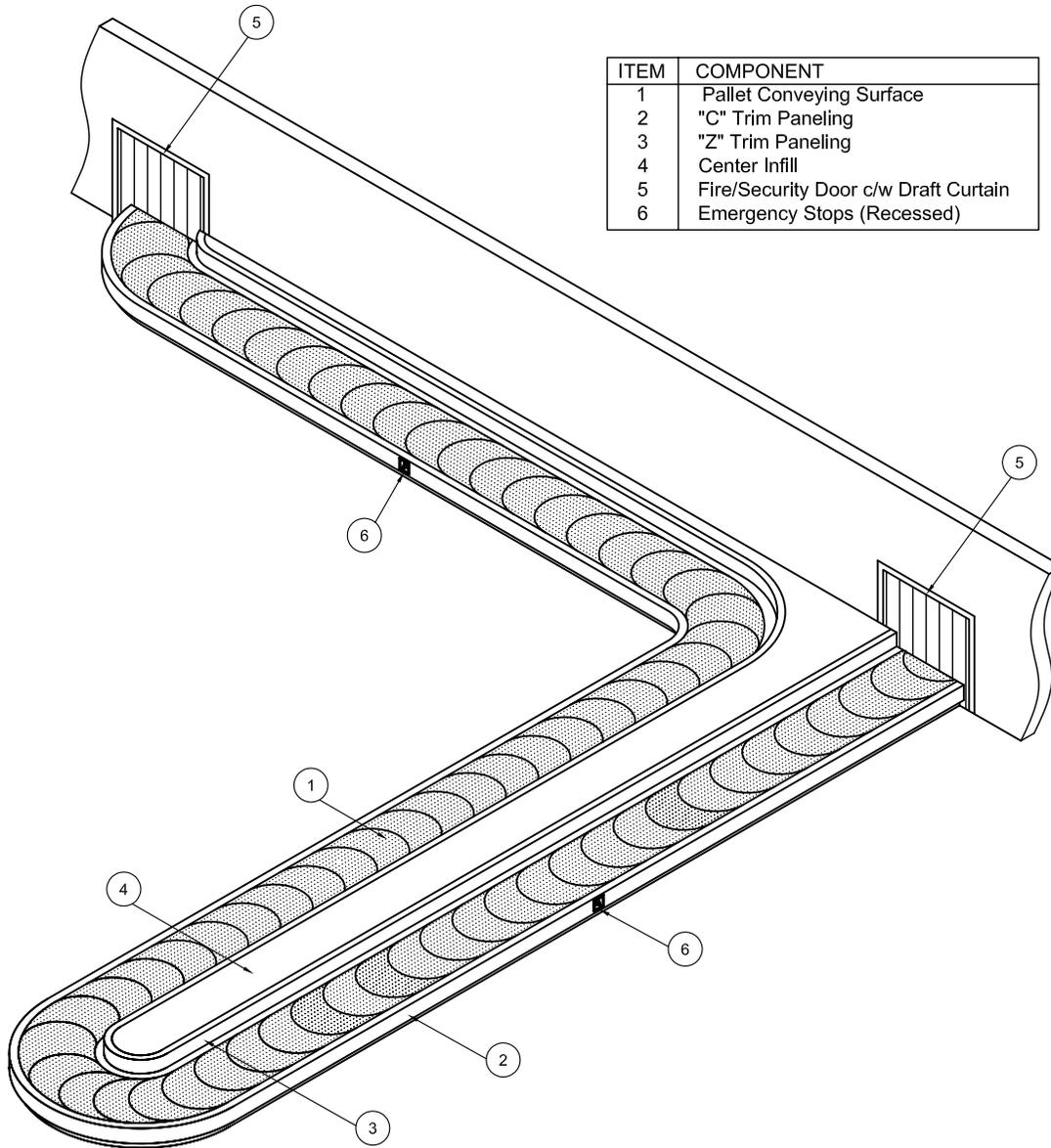


PALLET LOOP CONVEYOR SPECIFICATIONS	
Description	G&S Standards
Dimensions	
Exposed Moving Width ("A")	32 11/16" (830mm)
Effective Conveying Width ("A2")	40 9/16" (1030mm)
Overall Width ("B")	9'-4 5/8" (2861mm) minimum
Floor to Pallet Height ("C")	12" (305mm) minimum
Upstand Height ("D")	7 1/4" (184mm)
Centreline Radius ("R")	36" (914mm)
Inner Radius ("Ri")	15 3/4" (400mm)
Outer Radius ("Ro")	56 1/4" (1429mm)
Standard Module Length	9'-10 1/8" (3000mm)
Specifications	
Speed	90 ft/min (27.43 m/min)
Pallet Pitch	19 1/2" (495mm)
Pallet Core Material	1/4" (6mm) or 5/16" (8mm) Structural Steel
Pallet Outer Material	Black Polyurethane

Materials & Finish		
Application	Public View	Non-Public View
Trim / Finish	12 ga Stainless Steel, Type 304, #4 Brush	12 ga Mild Steel, Galvanized
Toe Kick	6" (152mm) Black Cove Base on 12 ga Mild Steel	12 ga Galvanized Mild Steel

Drive Options				
Application	Standard		Optional	
	Make	Model	Make	Model
90 Deg. Reducer	SEW Eurodrive	SA - Hollow Shaft ST - TorqLOC	Morse	
			Dodge	Ti-Gear
Belt Drive			Baldor (motor)	
			Reliance (motor)	
			Dodge (speed reducer)	TXT

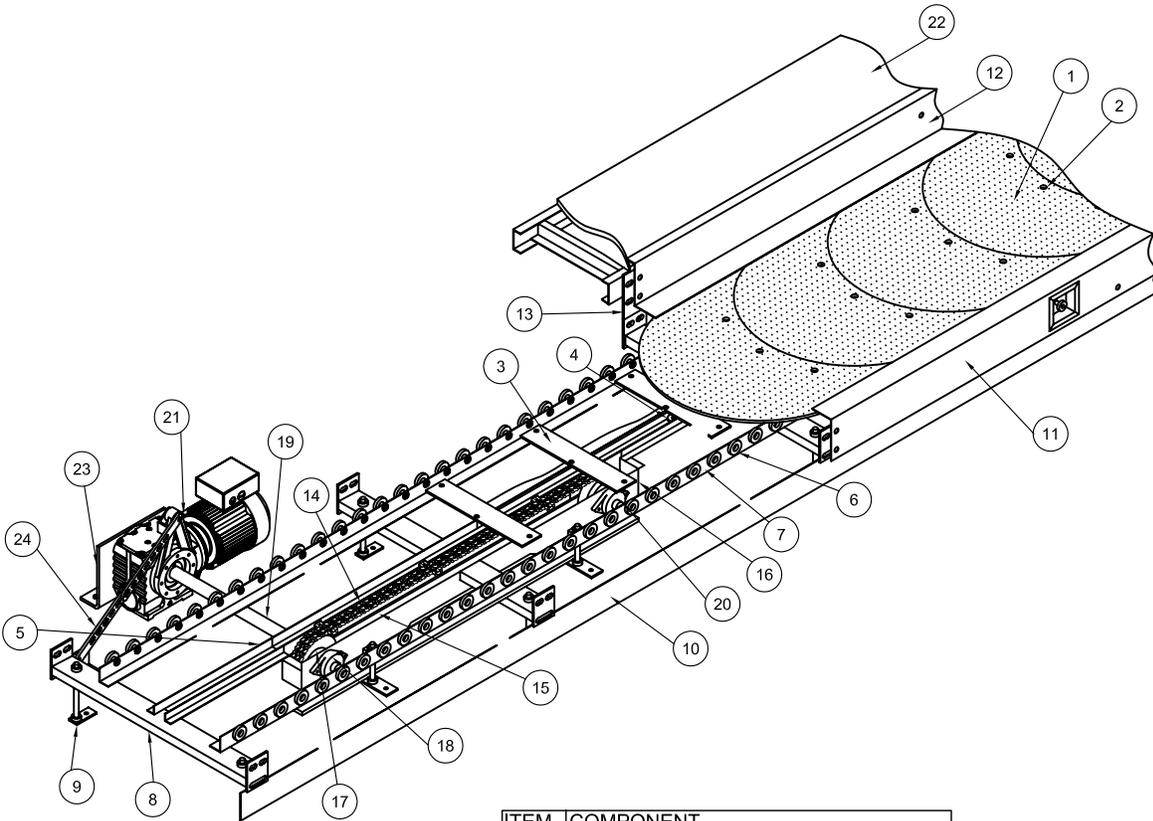
PALLET LOOP CONVEYOR



TYPICAL PLAN LAYOUTS

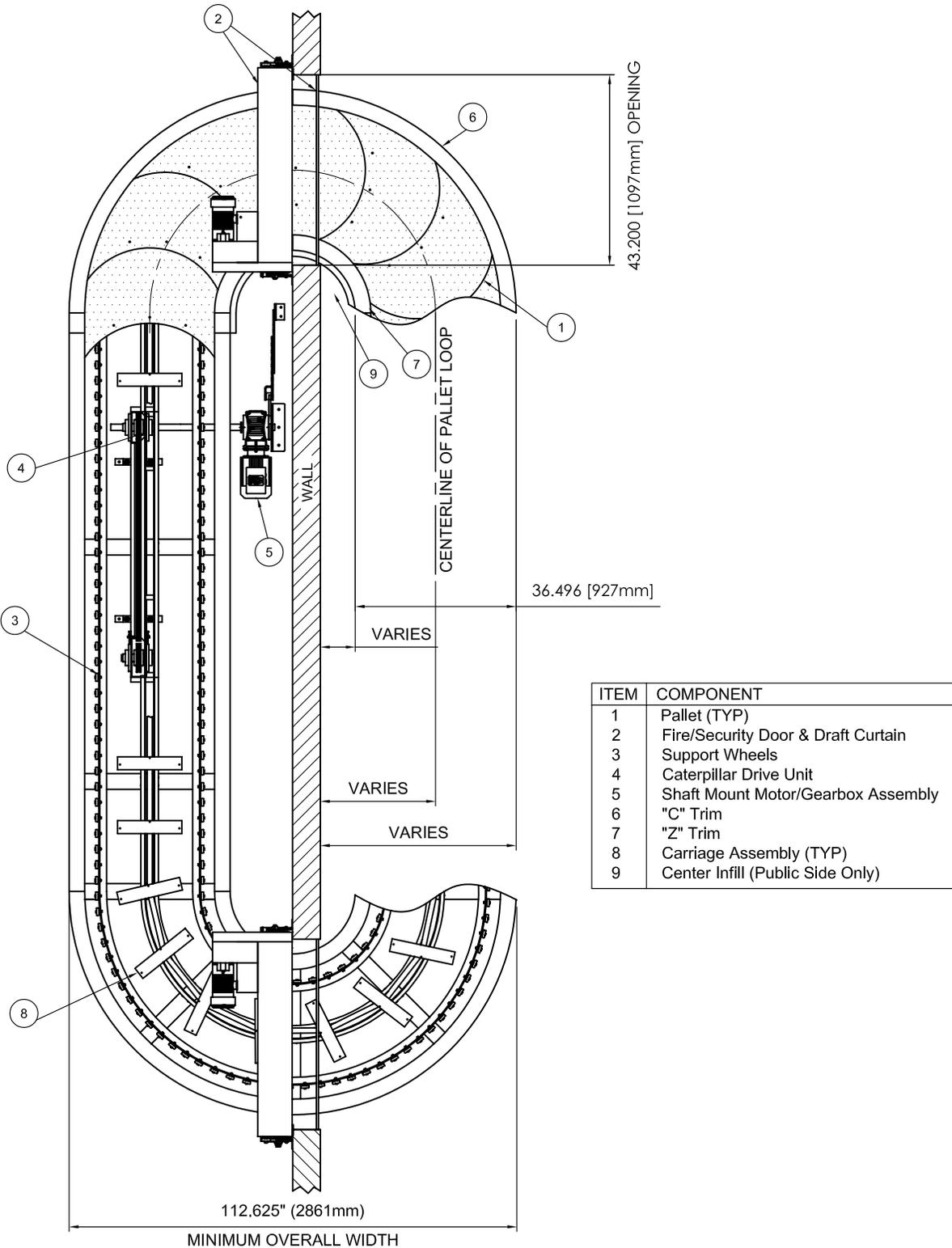
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PALLET LOOP DRIVE



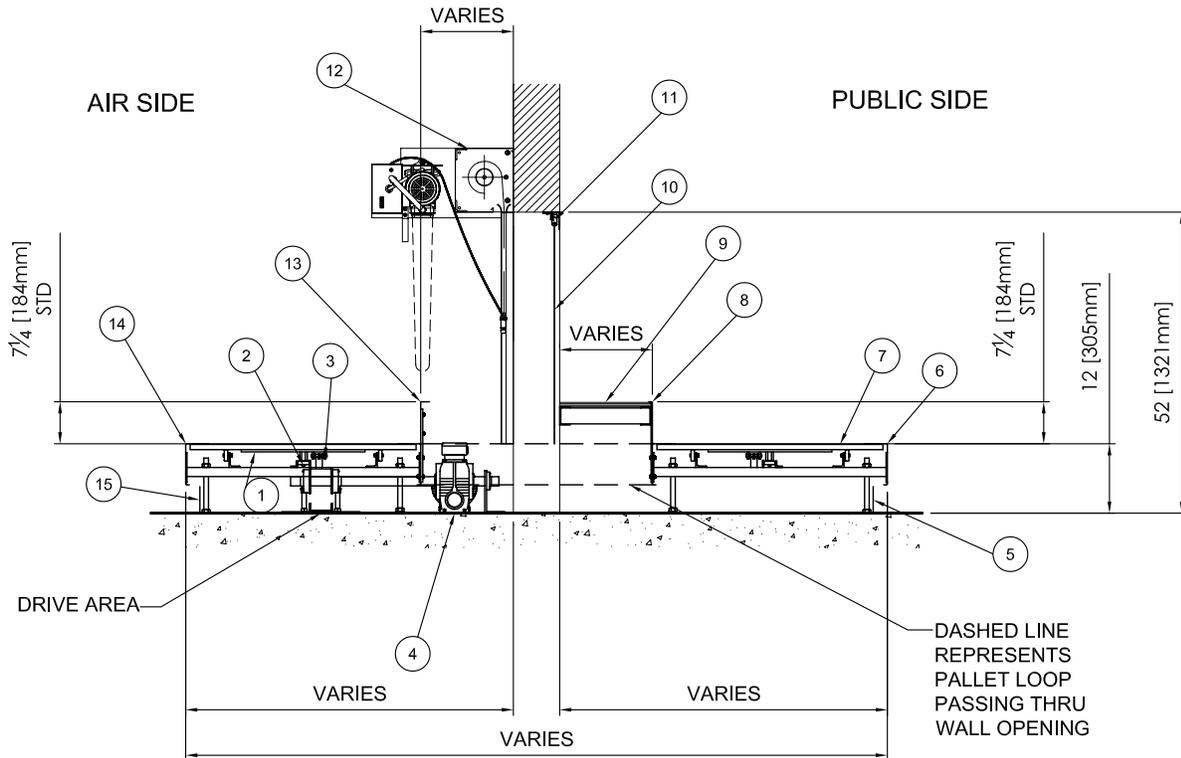
ITEM	COMPONENT
1	Pallet
2	Pallet Countersunk Screws
3	Carriage Assembly
4	Guide Wheel Assembly
5	Center Guide Rail
6	Bed Wheel Assembly
7	Bed Rail
8	Cross Tie
9	Adjustable Leg
10	Toe Kick Plate
11	C-Trim (Lower)
12	Z-Trim (Upper)
13	Upstand
14	Caterpillar Drive Chain
15	Teflon Drive Ramp
16	Drive Frame
17	Sprocket
18	Bearing (Two-Bolt)
19	Drive Shaft
20	Idler Shaft
21	Motor/Gearbox Shaft Mount Assembly
22	Infill Decking (Public Side Only)
23	Outboard Bearing Bracket
24	Torque Arm

PLAN VIEW OF A THRU-WALL PALLET LOOP CONVEYOR



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SECTION VIEW OF A THRU-WALL PALLET LOOP CONVEYOR



ITEM	COMPONENT
1	Carriage
2	Center Guide Assembly
3	Drive Dog Plates
4	Shaft Mount Motor/Gearbox Assembly
5	6" Vinyl Cove Base on Galv. Steel Toekick
6	S/S "C" Trim in Public Area
7	Pallet Surface
8	S/S "Z" Trim in Public Area (12" Optional)
9	Infill Carpeting (By Others)
10	Draft Curtain
11	Door Trim (Optional)
12	Fire/Security Door c/w Operator
13	Galvanized High Side in Baggage Area (7/4" Standard; 12"-21" Optional)
14	Galvanized "C" Trim in Baggage Area
15	Galvanized Steel Toekick

ADVANTAGES:

- **Durable, Rugged Construction**
- **Simple Design; Built to Suit Site-Specific Dimensions**
- **Trimmed and finished with stainless steel**

OVERVIEW:

The oversized baggage slide is ideal for presenting large, oversized articles for baggage claim purposes. Designed with ergonomics in mind, the low profile design allows oversized baggage to be easily retrieved by the public.

Manufactured to suit site-specific dimensions, a typical baggage slide is comprised of an extra wide stainless steel surface that is sloped at a gentle angle of inclination through a wall opening. The exposed public end is bordered on three sides with four inch wide side guards set at eight inches off the ground.

Designed with operations staff in mind, the airside dispensing height typically matches the height of baggage tugs. This allows operations staff to easily and safely present the oversized baggage to the public.

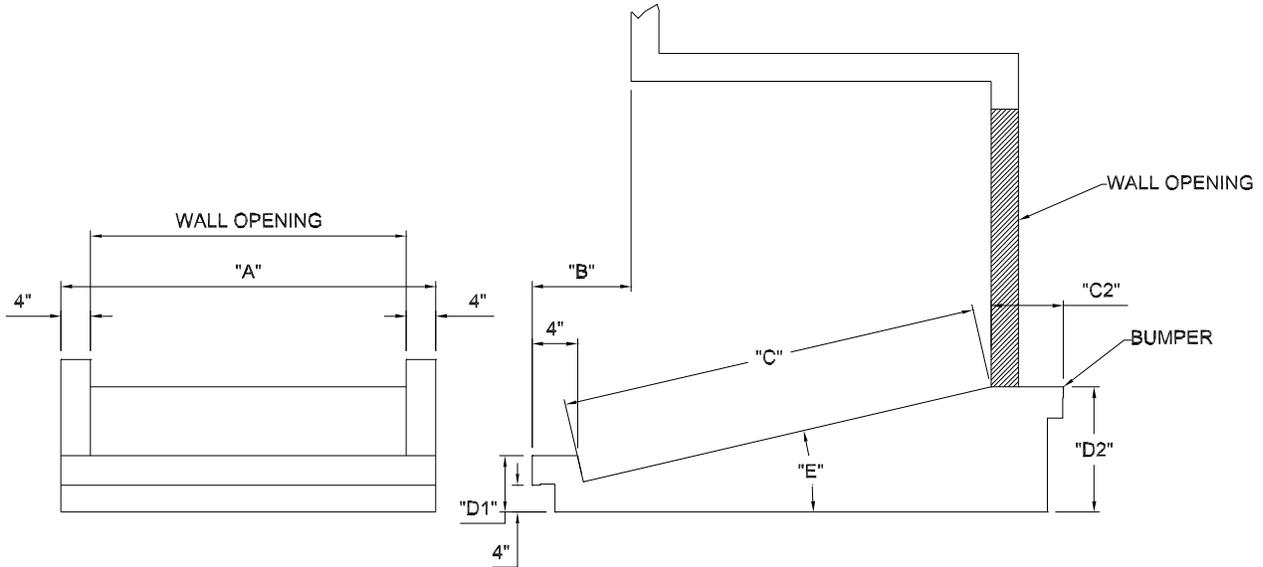
The resulting overall design is both aesthetically pleasing and ergonomically sensitive.



ADDITIONAL OPTIONS

An optional polyurethane rubber bumper can be installed at the bottom of the oversized baggage slide to prevent any undue damage caused as baggage comes to rest against the front rail.

A stainless steel gravity roller surface can also be added to the slide. With the assistance of gravity, baggage is easily promoted to the front of the slide and readily accessible to the public.



OVERSIZE BAGGAGE SLIDE SPECIFICATIONS	
Description	G&S Standards
Dimensions	
Overall Width ("A")	As per site conditions
Slide Protrusion ("B")	As per site conditions
Length ("C1")	105" (2667mm) maximum
Sill Length ("C2")	Optional; as per site conditions
Floor to Top of Trim @ Outfeed ("D1")	8" (203mm) minimum
Floor to Top of Trim @ Infeed ("D2")	As per site conditions