ENGINEERING MANUAL

Simple & Clean Stainless Steel Construction

Multiple Curves, Inclines & Declines

Industry Best Product Transfers **High Speed Performance** - Up to 250 FPM





Aquo Gard® 7100 SERIES CONVEYORS

The Next Generation in Stainless Flexible Chain Conveyors!



Clean & Innovative Design

- · Smooth frame design for ease of cleaning
- Capable of multiple curves as well as inclines and declines on a single conveyor
- Plain bend corners with 610 mm (24 in) on centerline radius use FDA approved oil impregnated wear strips
- Inclines and declines available up to 30 degrees
 - o Incline angles are integrated into the intermediate modules

Innovative Transfer Options

- Powered Transfers
 - o Provides smooth in line transfer of small parts
 - Series driven off of drive or idler module
 - o Transfers parts as small as 76 mm (3 in) in diameter
- Standard Tails Side to Side Transfer
 - Side by side drive / idler tail
 - o 25 mm (1 in) from chain edge to edge
- Side Transfer Modules
 - o Intermediate module that brings chain past the frame edge
 - 3 mm (1/8 in) from chain edge to edge



Compact Drive Module & Idler Tail

- Idler Tail
 - 305 mm (12 in) long
 - Bearings are located inboard
 - Flush design for side transfers
 - Sprocket comes standard for added shaft or powered transfer
- Drive Tail
 - 610 mm (24 in) long with a 127 mm (5 in) diameter sprocket
 - o Catenary belt take-up with sight gauge
 - o Motor can be mounted to the side or underneath



The Benefits of a Dorner AquaGard 7100 Series Conveyor

Industry Ready

- 300 Series Stainless Steel frame
- All materials are FDA approved plastics and Stainless Steel

Quality Construction

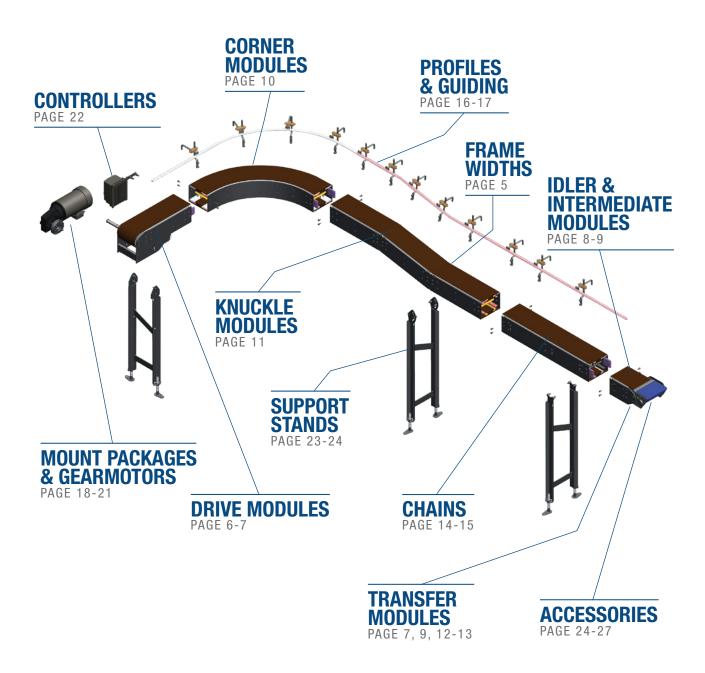
- FDA approved oil impregnated wear strips on curves
- · Bolt together construction for modularity and future add-ons

Time Saving

- Dorner's online configurator engineers simple or complex conveyors to meet your needs in minutes
- The industry leading tool delivers a complete 3D CAD assembly model for instant validation of fit
- 7100 Series conveyors are shipped in sub-assemblies for fast and simple installation



CONVEYOR FEATURES PAGE 4

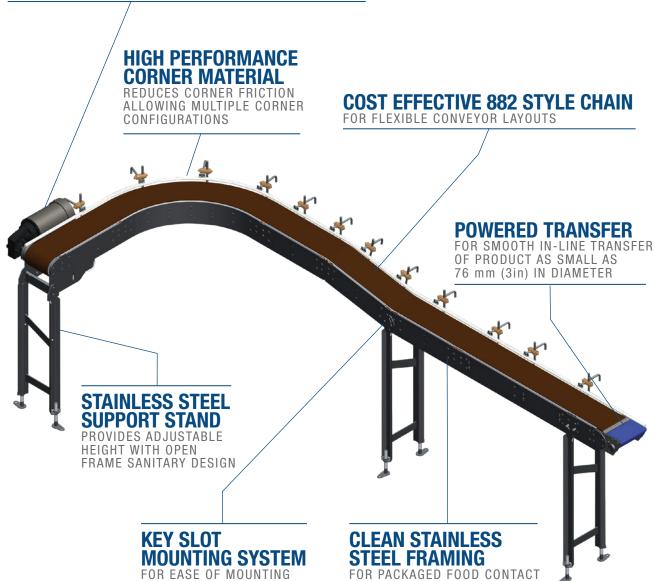




OPTIONAL STAINLESS STEEL GEARMOTORS

FOR IMPROVED DURABILITY IN WASHDOWN ENVIRONMENTS

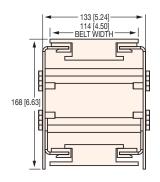
ACCESSORIES





114 mm (4-1/2 in) Wide

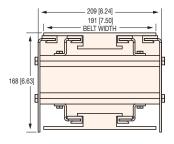
- Maximum load: 4 kg/m (30 lbs/ft)
- Maximum total load: 227 kg (500 lbs) non-accumulated
- Maximum length: 30 m (99 ft)
- Maximum speed: 68 m/min (222 ft/min)





191 mm (7-1/2 in) Wide

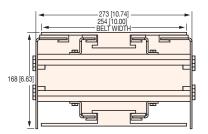
- Maximum load: 5 kg/m (35 lbs/ft)
- Maximum total load: 272 kg (600 lbs) non-accumulated
- Maximum length: 30 m (98 ft)
- Maximum speed: 68 m/min (222 ft/min)





254 mm (10 in) Wide

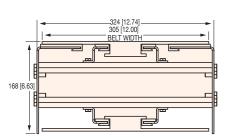
- Maximum load: 6 kg/m (40 lbs/ft)
- Maximum total load: 316 kg (700 lbs) non-accumulated
- Maximum length: 30 m (99 ft)
- Maximum speed:68 m/min (222 ft/min)





305 mm (12 in) Wide

- Maximum load: 6 kg/m (40 lbs/ft)
- Maximum total load: 316 kg (700 lbs) non-accumulated
- Maximum length: 30 m (99 ft)
- Maximum speed:68 m/min (222 ft/min)



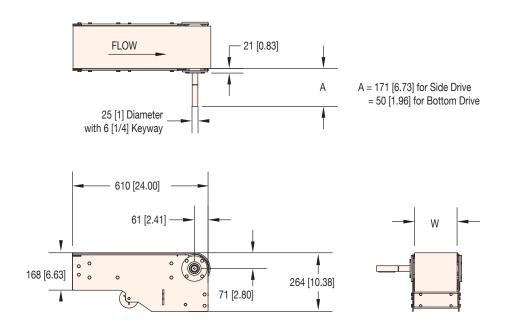
Note: Conveyor modules may be made up of several length of conveyor frames. Maximum length frame is 120 in) (3048mm). **Note:** Dimensions = mm (in)





Catenary Drive Module

- Length: 610 mm (2 ft)
- Drive Sprocket: 10 tooth, 38 mm (1.5 in) pitch
- Pitch Diameter: 123 mm (4.85 in)
- Internally located Stainless Steel bearings with H1 FDA approved lubricant
- Flush Side Tails provide side transfer capability with 25 mm (1 in) from belt edge to belt edge
- Maximum incline or decline: 30°
- Uses catenary loop for belt take-up with site gauge
- Optional 25 mm (1 in) diameter x 38 mm (1.5 in) long dual output shaft for common driven conveyors

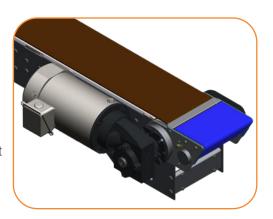


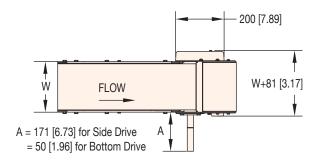
For part number information, see page 7

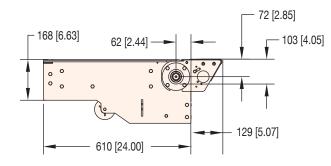


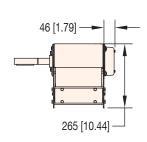
Catenary Drive Module with Outfeed Powered Transfer

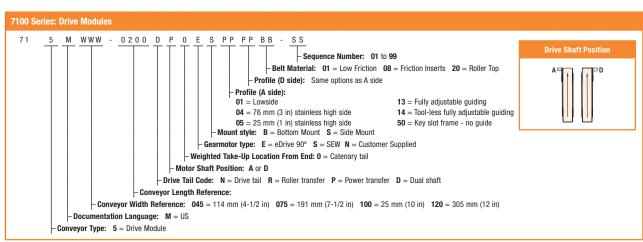
- Powered transfer for small part in-line transfer applications
- Length: 737 mm (29 in)
- Drive Sprocket: 10 tooth, 38 mm (1.5 in) pitch
- Pitch Diameter: 123 mm (4.85 in)
- Internally located Stainless Steel bearings with H1 FDA approved lubricant
- Maximum incline or decline: 7°
- Not available for friction top or roller top chain
- Powered transfer is 8 mm (.031 in) micro pitch chain series driven off drive module
- Transfer parts as small as 76 mm (3 in) in diameter
- Uses catenary loop with site gauge for belt take-up











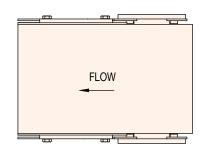
Note: Due to the wide variety of drive setups and applications, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)

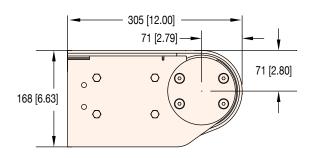


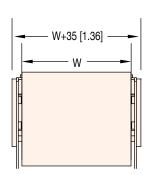


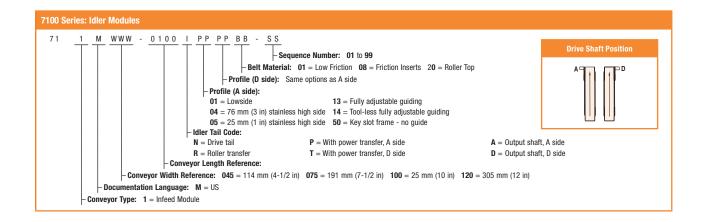
Idler Module

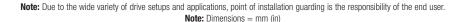
- Length: 305 mm (12 in)
- Idler Sprocket: 10 tooth, 38 mm (1.5 in) pitch
- Internally located Stainless Steel bearings with H1 FDA approved lubricant
- Flush Side Tails provide side transfer capability with 25 mm (1 in) from belt edge to belt edge
- Optional 25 mm (1 in) diameter x 38 mm (1.5 in) long output shaft for encoders and other devices







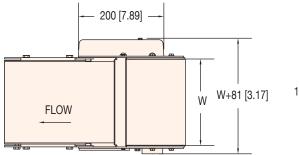


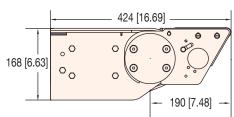


Idler Module with Infeed Powered Transfer

- Powered transfer for small part in-line transfer applications
- Lengths: 424 mm (16.69 in)
- Idler Sprocket: 10 tooth, 38 mm (1.5 in) pitch
- Internally located Stainless Steel bearings with H1 FDA approved lubricant
- Flush Side Tails provide side transfer capability with 25 mm (1 in) from belt edge to belt edge
- Not available for friction top chain or roller top chain
- Power transfer is 8 mm micro pitch chain series driven off idler module
- Transfer parts as small as 76 mm (3 in) in diameter





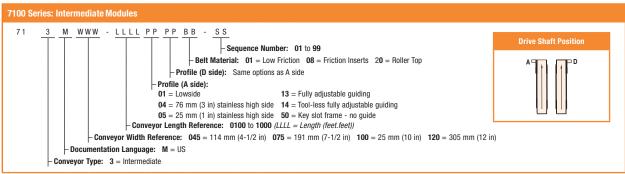


For part number information, see page 8

Intermediate Module

- · Length:
 - Minimum = 310 mm (12 in)
 - Maximum = 3048 mm (10 ft)
- Bolt together construction
- Frame width only 13 mm (1/2 in) wider then chain width
- Available with keyslot attachment method



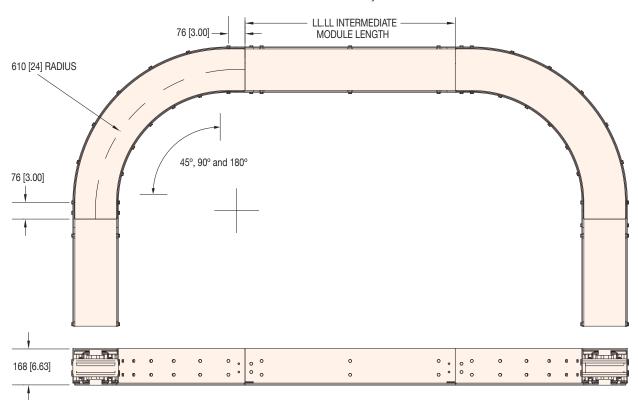


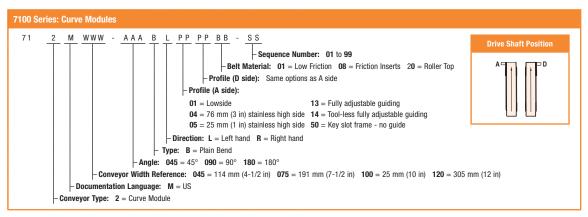




Plain Bend Corner

- · Angles:
 - 45°, 90° and 180°
 - Other angles available, contact factory
- Radius at centerline of chain: 610 mm (24 in)
- Nyoil® FG, FDA approved lubricated nylon is used for inside corner wearstrips
- Product can be wider than the chain
- Can mount directly to drive and idler tails without the need for an intermediate frame
- Larger and smaller radii available, contact factory
- Wheel bend corners are available for 114 mm (4-1/2 in) wide chain, contact factory for details





Note: Due to the wide variety of drive setups and applications, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)

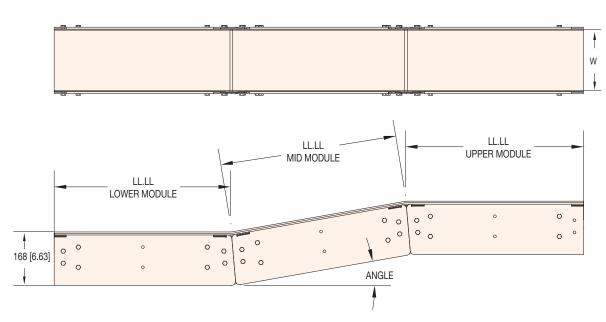


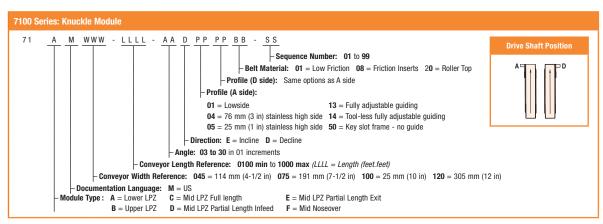
Knuckle Module

- Angles: 3° to 30° in 1° increments
- Incline angles of 10° and higher require friction top chain
- Can mount directly to drive modules, idler modules and plain bend corners without the need for an intermediate frame
- · Compatible with incline or decline configurations
- Length:

Minimum: 305 mm (1 ft)Maximum: 15240 mm (50 ft)





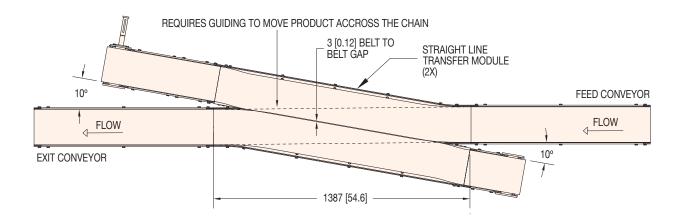






In-Line Transfer Module

- Provides the capability for product transfers with conveyors in-line
- Conveyor chains are 33 mm (1/8 in) edge to edge
- Requires (2) modules; one on each conveyor
- Requires guiding to move product across chain
- Angle: 10°
- Length: 1387 mm (54.6 in)
- Compatible with low friction chain only
- Can mount directly to drive and idler modules without the need for an intermediate frame

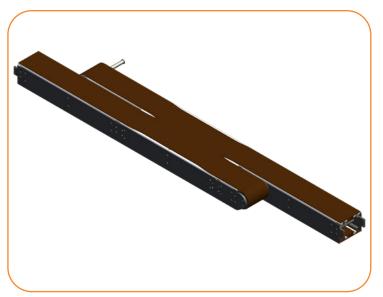


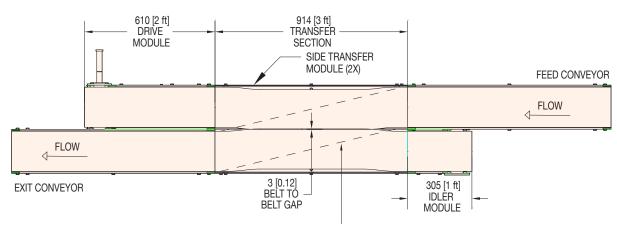
Contact factory for ordering details.



Side Transfer Module

- Provides the capability for product transfers with conveyors side by side
- Conveyor chains are 33 mm (1/8 in) edge to edge
- Side transfer module brings chain past frame edge and then back on center line with frame
- Requires (2) modules; one on each conveyor
- Requires plow guiding to move product across chain
- Length: 914 mm (36 in)
- · Compatible with low friction chain only
- Can mount directly to drive and idler modules without the need for an intermediate frame





REQUIRES PLOW GUIDING TO MOVE PRODUCT ACCROSS THE CHAIN

Contact factory for ordering details.

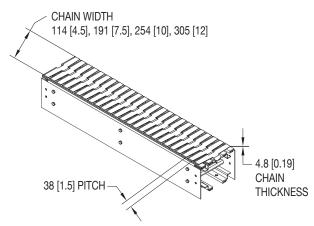


Chain Selection Guide

Standard Chain									
Туре	Part Number	Belt Specifications	Color	Pin Material	Maximum Incline*	Maximum Chain Temperature**	Minimal Chain Temperature	Chain Tensile Strength	FDA Approved
Low Friction	01	Acetal	Light Brown	Stainless Steel	7°	200°F (93°C)	-40°F (-40°C)	291 kg (641 lbs) [2850N]	Yes
Friction Insert	08	Acetal with Grip Top Insert	Light Brown Chain with Black insert	Stainless Steel	30°	140°F (60°C)	-40°F (-40°C)	291 kg (641 lbs) [2850N]	No

^{*} Maximum Incline is provided for reference only. Product testing is recommended.

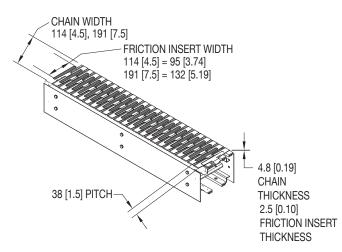
Low Friction





Friction Insert

(Available in 114 mm (4-1/2 in) and 191 mm (7-1/2 in) wide only)





Note: Dimensions = mm (in)



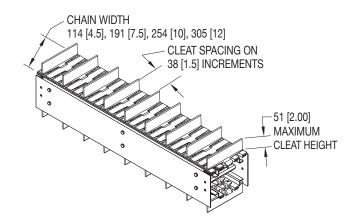
^{**} Part temperature can typically exceed chain temperature by 20° to 30°F assuming parts are not stopped on the chain for long durations.

Chain Selection Guide

Specialty Chain									
Туре	Part Number	Belt Specifications	Color	Pin Material	Maximum Incline*	Maximum Chain Temperature**	Minimal Chain Temperature	Chain Tensile Strength	FDA Approved
Cleated	Contact Factory	Acetal	Light Brown	Stainless Steel	60°	200°F (93°C)	-40°F (-40°C)	291 kg (641 lbs) [2850N]	Yes
Accumulation Roller Top	20	Acetal with Acetal Rollers	Light Brown with Blue Rollers	Stainless Steel	0°	194°F (90°C)	-40°F (-40°C)	291 kg (641 lbs) [2850N]	No

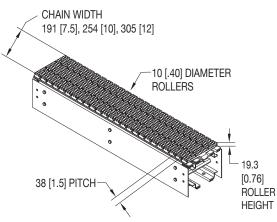
^{*} Maximum Incline is provided for reference only. Product testing is recommended.

Cleated



Accumulation Roller Top

(Available in 191 mm (7-1/2 in), 254 mm (10 in) and 305 mm (12 in) wide only)



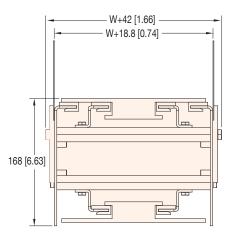


Note: Dimensions = mm (in)



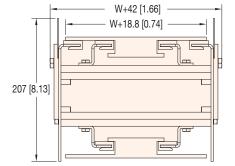
^{**} Part temperature can typically exceed chain temperature by 20° to 30°F assuming parts are not stopped on the chain for long durations.





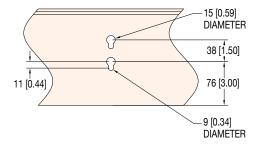
Profile 04: 76 mm (3 in) High Side

- Stainless Steel high side with #4 brush finish
- Extends 76 mm (3.0 in) above belt surface
- Guide opening width: frame width + 102 mm (0.74 in)
- Guiding cold bent to fit around all corners



Profile 05: 38 mm (1.5 in) High Side

- Stainless Steel high side with #4 brush finish
- Extends 38 mm (1.5 in) above belt surface
- Guide opening width: frame width + 102 mm (0.74 in)
- Guiding cold bent to fit around all corners

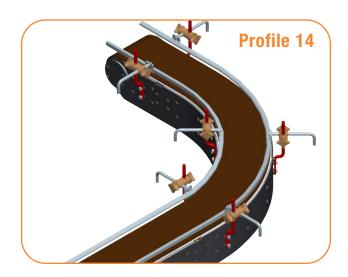


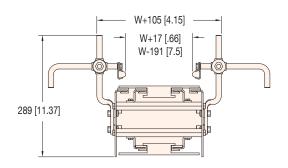
Profile 50: Key Slot Frame Only

- No guiding provided
- Conveyor frame is equipped with key slot mounting for customer guiding
- Slots on 406 mm (16 in) centers dependent on conveyor length
- (2) Key hole mounts per location
- For use with Accessory Mounting Bolt, see page 26

Note: Due to the wide variety of drive setups and applications, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)

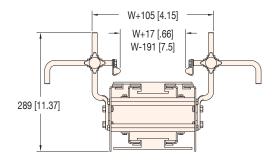






Profile 13: Fully Adjustable Guide

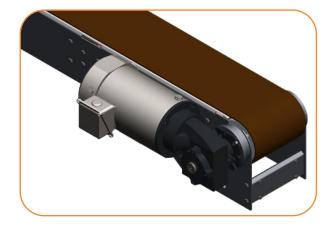
- Stainless Steel rail with UHMW round face
- Guide height is adjustable to 124 mm (4.9 in) above belt surface
- UHMW face width is adjustable to 76 mm (3 in) inside and 8 mm (0.3 in) outside conveyor edge per side
- Overall width to outside of supports: frame width + 368 mm (14.5 in)
- Corner modules equipped with flexible UHMW support rail



Profile 14: Tool-less Fully Adjustable Guide

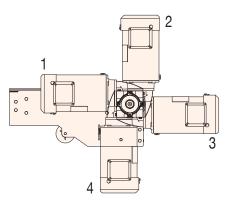
- Equipped with tool-less handles at adjustment points
- Stainless Steel rail with UHMW round face
- Guide height is adjustable to 24 mm (4.9 in) above belt surface
- UHMW face width is adjustable to 76 mm (3 in) inside and 76 mm (3 in) outside conveyor edge per side
- Overall width to outside of supports: frame width + 368 mm (14.5 in)
- Corner modules equipped with flexible UHMW support rail



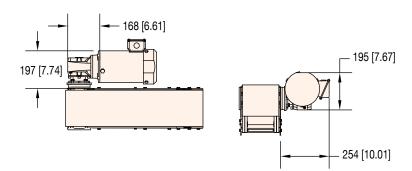


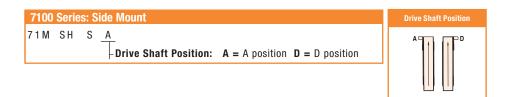
Side Mount Packages

- Hollow shaft gearmotor with Stainless Steel shafting
- Direct coupled to conveyor shaft for space reduction
- Motor can be mounted in position 1, 2, 3 or 4
- Compatible with standard and powered transfer drive modules



Mounting Positions



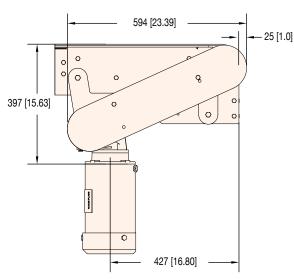


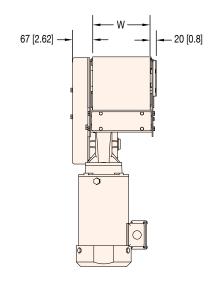




Bottom Mount Packages

- Hollow shaft gearmotor with bolt in Stainless Steel shafting
- Gearmotor mounted below the conveyor for space reduction
- Includes 1:1 ratio timing belt drive with cover
- Motor can only be mounted vertical down
- Compatible with standard and powered transfer drive modules
- 762 mm (30 in) minimum top of belt height







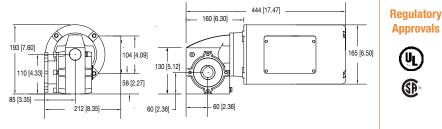




Fixed Speed



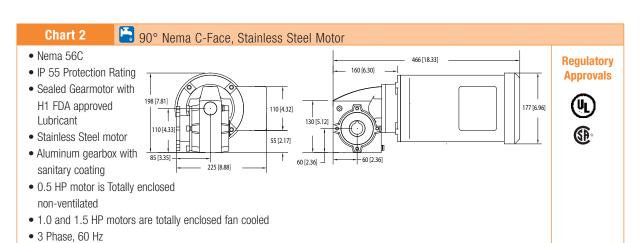
- Nema 56C
- IP 55 Protection Rating
- · Sealed Gearmotor with H1 FDA approved Lubricant
- FDA approved white epoxy painted motor
- Aluminum gearbox with sanitary coating
- Totally enclosed non-ventilated motor
- 3 Phase, 60 Hz





Approvals

Part Number	Belt S	Speed	RPM	Нр	kW	Volts	FLA	in	Nm
rait Nullibel	M/min	Ft/min	nrivi	пр	KVV	VOILS	FLA	lbs.	INIII
71M060HS423FN	11	37	29	0.5	0.37	230/460	1.6/0.8	442	50
71M040HS423FN	17	56	44	0.5	0.37	230/460	1.6/0.8	486	55
71M030HS423FN	22	74	58	1	0.74	208-230/460	3.5-3.2/1.6	487	55
71M020HS423FN	33	110	87	1	0.74	208-230/460	3.5-3.2/1.6	407	46
71M015HS423FN	45	148	117	1	0.74	208-230/460	3.5-3.2/1.6	470	53
71M010HS423FN	68	222	175	1.5	1.11	208-230/460	4.6-4.2/2.1	442	50



Part Number	Belt S	Speed	RPM	l lo	kW	Volts	FLA	in	Nim
Part Number	M/min	Ft/min	KPIVI	Нр	KVV	VOILS	FLA	lbs.	Nm
71M060HZS423FN 71M040HZS423FN 71M030HZS423FN 71M020HZS423FN 71M015HZS423FN 71M010HZS423FN	11 17 22 33 45 68	37 56 74 110 148 222	29 44 58 87 117 175	0.5 0.5 1 1 1 1	0.37 0.37 0.74 0.74 0.74 1.11	230/460 230/460 208-230/460 208-230/460 208-230/460 208-230/460	1.6/0.8 1.6/0.8 3.5-3.2/1.6 3.5-3.2/1.6 3.5-3.2/1.6 4.6-4.2/2.1	442 486 487 407 470 442	50 55 55 46 53 50

C € Note: When buying a gearmotor only without the starter, the customer must supply their own on/off switch and motor overload protection to comply with the CE Safety Directive.

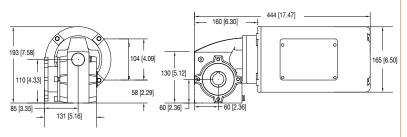
FLA = Full Load Amperes Some motors and gear reducers may normally operate hot to the touch. Consult factory for specific operating temperatures. Note: Dimensions = mm (in)



Variable Speed



- Nema 56C
- IP 55 Protection Rating
- Sealed Gearmotor with H1 FDA approved Lubricant
- FDA approved white epoxy painted motor
- · Aluminum gearbox with sanitary coating
- · Totally enclosed non-ventilated motor
- 3 Phase, 6 to 60 Hz
- Order controller separately, see page 22







Regulatory

Approvals

6.96 [177]

oraci contaction coparatory, coo page 22									
Part Number	Belt S	Speed	RPM	Нр	kW	Volts	FLA	in	Nm
rait Number	M/min	Ft/min	TAT IVI	ПР	NVV	VUILS	TLA	lbs.	INIII
71M060HS423EN 71M040HS423EN 71M030HS423EN 71M020HS423EN 71M015HS423EN 71M010HS423EN	1-11 2-17 2-22 3-33 5-45 7-68	4-37 6-56 7-74 11-110 15-148 22-222	29 44 58 87 117 175	0.5 0.5 1 1 1	0.37 0.37 0.74 0.74 0.74 1.11	230/460 230/460 208-230/460 208-230/460 208-230/460 208-230/460	1.6/0.8 1.6/0.8 3.5-3.2/1.6 3.5-3.2/1.6 3.5-3.2/1.6 4.6-4.2/2.1	442 486 487 407 470 442	50 55 55 46 53 50

90° Nema C-Face, Stainless Steel Motor, VFD Rated Chart 4

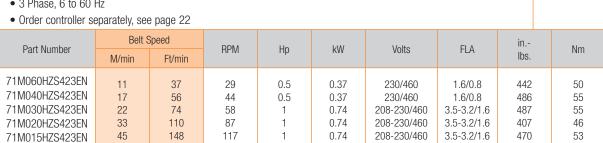
225 [8.88]

- Nema 56C
- IP 55 Protection Rating
- · Sealed Gearmotor with H1 FDA approved Lubricant
- · Stainless Steel motor
- Aluminum gearbox with sanitary coating
- 0.5 HP motor is totally enclosed non-ventilated
- 1.0 and 1.5 HP motors are totally enclosed fan cooled

110 [4.33]

• 3 Phase, 6 to 60 Hz

71M010HZS423EN



1.11

208-230/460

1.5

110 [4.32]

55 [2.17]

130 [5.12]

60 [2.36] -

C € Note: When buying a gearmotor only without the starter, the customer must supply their own on/off switch and motor overload protection to comply with the CE Safety Directive.

222

175

FLA = Full Load Amperes Some motors and gear reducers may normally operate hot to the touch. Consult factory for specific operating temperatures. Note: Dimensions = mm (in)

4.6-4.2/2.1

442

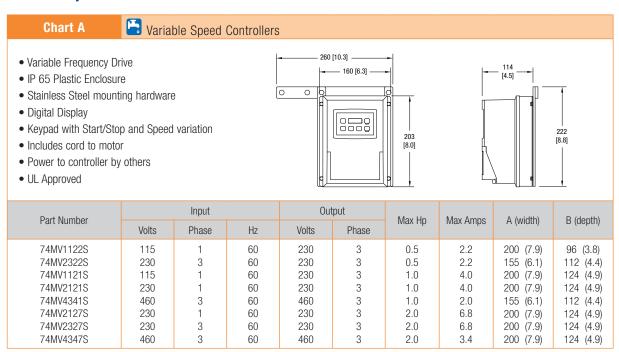
50

466 [18.33]

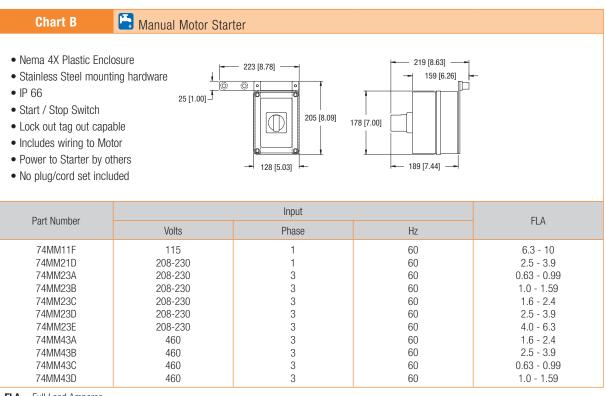
160 [6.30]



Variable Speed Controllers



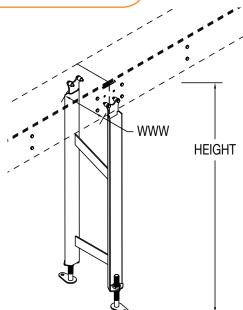
MANUAL MOTOR STARTER



FLA = Full Load Amperes



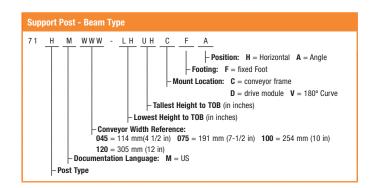




Support Stand

- Welded 7 ga Stainless Steel construction
- 2B Finish
- ± 51 mm (2 in) height adjustment
- Top of Belt Heights:
 - Minimum: 508 mm (20 in)
 - Maximum: 2,464 mm (97 in)
 - o Available in 25 mm (1 in) height increments
- (3) Mounting Configurations:
 - o Horizontal Mount
 - ∘ ± 45° angle mount
 - o Drive Module mount
- Equipped with a Stainless Steel foot for floor mounting
- Stand must be lagged to the floor

Top of Belt Height Chart						
Stand Type	Minimum Height	Maximum Height				
Horizontal Mount	508 mm (20 in)	2,464 mm (97 in)				
Angle Mount	508 mm (20 in)	2,464 mm (97 in)				
Drive Module Mount*	584 mm (23 in)	2,464 mm (97 in)				



*A Drive Modules equipped with a bottom mount package have a 762 mm (30 in) minimum height

Note: Due to the wide variety of conveyor and stand options along with possible configurations, stability of the final setup is the responsibility of the end user. **Note:** Due to the wide variety of drive setups and applications, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)



Horizontal Ceiling Supports



Specifications

- All components are Stainless Steel brushed to #4 finish
- Includes a pair of mounting brackets and hardware for support on both sides of conveyor
- Compatible with 13 mm (1/2 in) threaded support rod (not provided)

Part No. 71HCS

Adjustable Angle Ceiling Supports

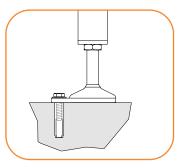


Specifications

- All components are Stainless Steel brushed to #4 finish
- Includes a pair of mounting brackets and hardware for support on both sides of conveyor
- Compatible with 13 mm (1/2 in) threaded support rod (not provided)
- Mounting block pivots to support incline mounts from 0° to 60°

Part No. 71ACS

Sanitary Floor Anchor Kits - Type 1



Specifications

- 10 mm x 40 mm (3/8 in x 1.57 in) drop in
- Stainless Steel
- Anchor is flush with floor upon removal of bolt
- Two (2) per anchor kit

Part No. FAS-1

Sanitary Floor Anchor Kits - Type 2



Specifications

- 10 mm x 70 mm (3/8 in x 2-3/4 in)
- Stainless Steel
- Threaded anchor bolt protrudes above floor after installation
- Two (2) per anchor kit

Part No. FAS-2

Note: Due to the wide variety of conveyor and stand options along with possible configurations, stability of the final setup is the responsibility of the end user. Note: Dimensions = mm (in)



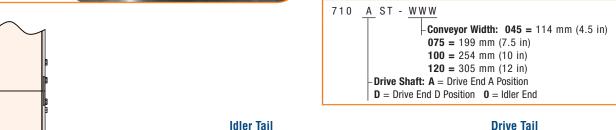
Roller Transfer Plate



Specifications 114 mm (4.5 in) wide

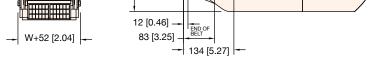
- 114 mm (4.5 in) wide to 305 mm (12 in) wide
- Includes 11 mm (0.43 in) diameter rollers mounted in transfer plate
- Adjustable mounting to fine tune small parts transfer
- All brackets and fasteners are Stainless Steel

7100 Series: Roller Transfer Plate

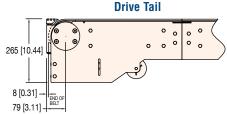


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172 [6.76]



Overhead Guide



Specifications

- For part hold down or cover closing
- Adjustable height and position across width
- Round nose UHMW guide with Stainless Steel backing
- Lengths: .9 m to 3 m (3 ft to 10 ft) in 25 mm (1 in) increments
- Horizontal Brackets provided for every .6 m (2 ft) of length
- Available in standard adjustable and tool-less adjustable mount styles
- All brackets and fasteners are Stainless Steel
- Does not include vertical mounting post. To be used with profiles 13 thru 18 or upper guide assembly.



Note: Due to the wide variety of set-ups and installations, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)

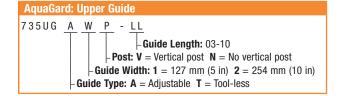


Upper Guide



Specifications

- Used for guiding lids and/or tall parts
- Round nose UHMW guide with Stainless Steel backing
- Equipped with or without tall adjustable height bracket
- Length: 9 m to 3 m (3 ft to 10 ft) in 25 mm (1 in) increments
- (2) width adjusting options (standard 127 mm [5 in]) post, 254 mm [10 in] post)
- Brackets provided for every .6 m (2 ft) of length
- · Available in standard adjustable and tool-less adjustable mount styles
- All brackets and fasteners are Stainless Steel



Accessory Mounting Bar



Specifications

- Used for mounting adjustable devices such as photoeyes and sensors
- Used with Dorner Key Slot System (Profiles 13, 14 and 50)
- Can be mounted directly to frame or in combination with guide brackets
- 2 Versions:
 - .9 m (3 ft) bar used to mount to 610 mm (24 in) hole pattern in frames
 - .3 m (1 ft) L shape used to mount at tail ends
- Compatible with Value Guide blocks (VG-021-02)
- All brackets and fasteners are Stainless Steel

AquaGard: Accessory Mounting Bar 7 3 5 A M LL - Tail Version: 01 = 25 mm (1 in) tail 03 = 76 mm (3 in) tail

M8 Accessory Mounting Bolt



Specifications

- Stainless Steel mounting hardware
- M8-1.25 Male mounting stud
- Used with Dorner key-slot system (Profiles 13, 14 and 50)
- Eliminates the need to access the inside of the frame
- Package of 10 pieces
- Includes M8 Nut

Part No. 735M8-10 M8 Accessory Mounting Bolt w/Nut (package of 10 pieces)

Note: Due to the wide variety of set-ups and installations, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)



Photo Eye and Reflector Mounting Brackets

Specifications

- · Compatible with accessory mounting bar
- Mounts standard 18 mm barrel or nose mount photo eyes or sensors
- · Attach bracket or accessories without frame modifications
- · Adjustable along the length of mounting bar
- Adjustable height and angle positioning
- All adjustment screws located outside the food zone
- (3) Photo Eye Types
 - Thru beam includes (2) mounts
 - Reflector includes (1) photo eye mount and (1) reflector mound (reflector included)
 - Convergent includes (1) photo eye mount
- Accessory Mounting Bar Style: (3) Mount versions:
 - To fixed post (does not include mounting post)
 - To fixed post (includes mounting post)
 - To accessory mounting bar (includes Value Guide Block and adjustable post)



AquaGard: Photo Eye Bracket - Accessory Mounting Bar Style

7 3 5 PM - FP

Post Type:

NP = Fixed Post w/o post included

FP = Fixed Post w/ post included

AM = Accessory Mount

Mount Type:

PM = Photoeye MountRM = Reflective MountCM = Convergent Mount

Drip Pans



Specifications

- Widths: 152 mm to 1,524 mm (6 in to 60 in) available in 51 mm (2 in) increments
- Lengths: 610 mm to 25,375 mm (24 in to 999 in) available in 25 mm (1 in) increments maximum section lengths of 2,997 mm (118 in)
- Tool-less hook design for fast removal and rapid cleaning
- Provides a 51 mm (2 in) window for clean-out access without removal
- All pans equipped with a 25 mm (1 in) containment lip on all sides
- Contact factory for additional options

Note: Due to the wide variety of set-ups and installations, point of installation guarding is the responsibility of the end user. **Note:** Dimensions = mm (in)



Materials and Chemical Resistance:

Conveyor Frames, Plastics and Conveyor Chain					
The following is a list of base materials used in the 7100 Series conveyor:					
Material Conveyor Component					
Acetal Copolymer, POM	Conveyor Chains				
Polypropylene, PP	Not Used				
Polyamide, PA	Chain Sprockets, Corner Wear Strips				
UHMW-PE Slide Rail, Adjustable Guide Face					
Thermoplastic Elastomer, TPE Modular Belt Friction Insert					

The materials used in the 7100 Series product can resist many chemicals, however some should be avoided. Avoid the following:

- Acids with PH less than 4
- Bases with PH higher than 9

Resistance to Materials: Conveyor Frames, Plastics and Conveyor Chains

The following table provides the resistance to materials used in the conveyor to several chemicals. Application testing is recommended to determine long term material durability.

Legend:

Acids	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Acetic acid	3	1	4	1	2
Benzoic acid	3	1	4	1	4
Boric acid	3	1	2	1	2
Citric acid	3	1	2	1	2
Chromic acid	4	1	4	1	3
Hydrofluoric acid	4	1	4	1	4
Hydrochloric acid	4	1	4	1	3
Hydro cyanic acid	4	Х	4	1	1
Nitric acid	4	1	4	1	3
Oleic acid	3	1	2	1	1
Oxalic acid	4	1	2	1	1
Phosphoric acid	4	1	4	1	3
Sulphuric acid	4	2	4	1	3
Tartaric acid	3	1	2	1	1
Basic Compounds	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Ammonia	1	1	2	1	2
Calcium hydroxide	1	Х	2	1	4
Caustic soda	1	Х	2	1	3
Potassium hydroxide	1	1	2	1	4



Resistance to Materials: Conveyor Frames, Plastics and Modular Belting *(continued)*

Legend:

Salts	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Potassium bicarbonate	2	Χ	2	1	1
Potassium permanganate	2	2	4	1	1
Sodium cyanic	2	Χ	2	1	4
Sodium hydrochloride	3	Χ	4	1	4
Acid salt	2	Х	3	1	Х
Basic salt	1	Χ	2	1	Х
Neutral salt	1	X	2	1	Х
Organic Compounds	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Acetone	1	1	1	1	1
Aniline	2	1	3	1	1
Benzene	1	3	2	4	1
Benzine	2	Х	2	3	1
Butyl alcohol	2	Х	2	1	1
Carbon disulphide	1	3	2	3	1
Carbon tetrachloride	1	3	1	3	2
Chloroform	1	4	3	4	Х
Ethyl acetate	1	1	2	1	1
Ethyl alcohol	1	Χ	2	1	1
Heptane	2	1	1	2	X
Methyl alcohol	1	Χ	2	1	2
Methyl ethyl ketone	1	2	1	2	2
Nitrobenzene	2	2	2	1	1
Phenol	3	1	4	1	1
Gases	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Carbon dioxide	3	1	1	1	1
Carbon monoxide	2	Х	1	1	1
Chlorine	2	4	4	3	1
Hydrogen Sulfide	3	1	1	1	1
Sulphur dioxide	2	1	3	1	1
Other	Acetal POM	Polypropylene	Polyamide PA	UHMW-PE	Aluminum
Carbon tetrachloride	1	3	1	3	2
Beer	1	1	2	1	1
Fruit juice	1	2	2	1	2
Gasoline	1	1	2	1	1
Milk	1	1	1	1	1
Oil	1	3	1	1	1
Vinegar	1	1	2	1	1



Bearings and Lubrication:

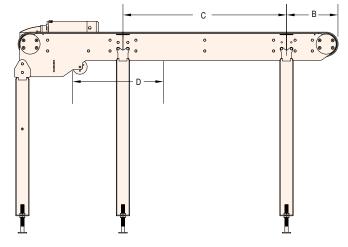
All bearings on the 7100 Series conveyor are sealed and lubricated for life. No grease zerk is available and no greasing over the life of the product is required.

All gearmotors used on the 7100 series conveyor are sealed and may be mounted in any position. Changing gear oil lubrication may be needed over the life of the gearbox. Please check the appropriate gearmotor manual for instructions.

Support Stand Locations:

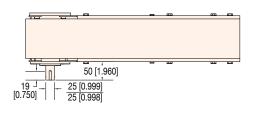
Support Stand Locations							
Symbol	Description	Value					
А	Maximum distance back at drive end*	N/A					
В	Maximum distance back at idler end	914 mm (36 in)					
С	Maximum distance between supports	3048 mm (120 in)					
D	Maximum distance away from frame split	610 mm (24 in)					

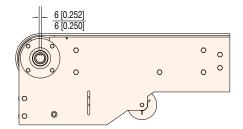
^{*}Note: Support must be located at drive end.



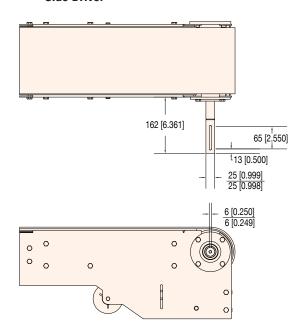
Conveyor Drive Shaft Tolerances:

Bottom Drive:





Side Drive:

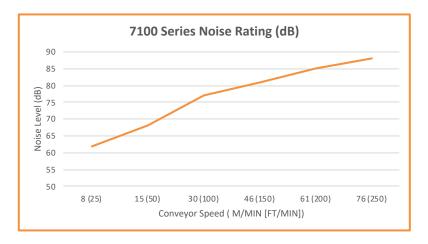


Conveyor Noise Level (Decibel Ratings)

The actual noise level generated by the conveyor depends on several factors; the installation configuration, the product running on the conveyor, the surrounding equipment, the conveyor options and belt speed. The noise level generated by the conveyor is typically less than the general noise level of factory equipment.

Generally a higher belt speed will result in a higher noise level. The following charts provide basic decibel ratings for a typical conveyor arrangements.

7100 Series Conveyors:



Maximum Load Capacity

The following Load Capacity Charts **do not** take into account the conveyor configuration, length or gearmotor selection. Your specific conveyor may not be capable of the maximum load condition. Please confirm your maximum load per application with the Dorner DTools program at www.dornerconveyors.com.

All load capacities shown are non-accumulated evenly distributed loads.

7100 Series Chain Conveyor					
Belt Width Direction 1, Pulling the Belt					
114 mm (4-1/2 in) wide	227 (500 lbs)				
191 mm (7-1/2 in) wide	272 (600 lbs)				
254 mm (10 in) wide	318 (700 lbs)				
305 mm (12 in) wide	318 (700 lbs)				

Note: Curve conveyor load capacity is very dependent on conveyor configuration and number of curves. Please confirm your maximum load per application with the Dorner DTools program at www.dornerconveyors.com.

No Load Torque

No load torque is the amount of torque required to turn an empty conveyor. The torque value varies by conveyor length and configuration. Please confirm your no load torque and maximum load per application with the Dorner DTools program at www.dornerconveyors.com.



Chain and Coefficient of Friction

The coefficient of friction is used to determine the load a conveyor can carry. It affects a conveyor in two ways: the friction that exists between the conveyor belt and the bed surface, and if accumulating product the friction that exists between the conveyor top surface and the product.

Coefficient of Friction, between the bottom of the conveyor belt and bed surface						
Product Surfaces Application Condition Coefficient of Friction						
7100 Series Modular Belt						

Coefficient of Friction, between the top surface of conveyor chain and product:

7100 Series Chain				
The following table provides the coefficient of friction between acetal modular belt and various products. All factors below are assuming dry conditions.				
Product Being Accumulated	Typical Coefficient of Friction			
Steel	0.25			
Glass	0.20			
Aluminum	0.25			
Plastic	0.25			
Wood	0.30			
Paper and Cardboard	0.30			

Calculating Conveyor Belt Speed

7100 Series Flexible Chain Conveyors:

To calculate the conveyor belt speed you need to know the following factors:

- Drive sprocket pitch diameter
 - 123 mm (4.85 in) for straight conveyors
- Number of teeth of pulley located at drive roller (if equipped)
- Number of teeth of pulley located at gearmotor (if equipped)
- RPM of gearmotor

Belt Speed (ft/min) = (Drive pitch diameter/12)*(3.14)*(RPM of gearmotor)* $\frac{\text{(Teeth at gearmotor)}}{\text{(Teeth at drive roller)}}$

Example:

7100 Series Conveyor with a Bottom mount with a 58 tooth pulley located at the drive roller and a 58 tooth pulley located on the gearmotor. The gearmotor is a 20:1 ratio with 87 RPM output.

Belt Speed (ft/min) = (4.85/12)*(3.14)*(87)*(58/58)

Belt speed (ft/min) = 110 ft/min



Calculating Conveyor Load Capacity

There are several factor that effect the overall conveyor load of the 7100 Series conveyor. These include:

- Conveyor size and configuration
- Conveyor speed
- Application temperature
- Product accumulation
- Number of starts and stops per hour

Located online at www.dornerconveyors.com is the Dorner conveyor configuration tool, DTools. This tool allows you to configure your conveyor layout and determine the maximum load capacity for the conveyor. It is suggested that this program be used to calculate the conveyor load as the calculation is quite complicated. This configuration program however does not take into account temperature, dirty conditions, and conveyor starts and stops. If these conditions are part of your application please use the load reducing factors as shown below.

Maximum Load = (Load from DTools)(Temperature Factor)(Start/Stop Factor)

Temperature Factor					
Ambient temperature can negatively affect the capacity of the conveyor.					
Temperature F	Temperature C	Temperature Factor			
-4	-20	1.0			
32	0	1.0			
68	20	1.0			
104	40	0.9			
140	60	0.8			

Start / Stop Factor

Frequent Start / Stops of the conveyor can negatively affect the capacity of the conveyor. All start / stop applications must use a soft start mechanism such as a Frequency Inverter with a 1 second acceleration cycle.

Application Condition	Start / Stop Factor	
Continuous Run or 1 start/stop per hour	1.0	
Maximum 10 starts/stop per hour	0.83	
Maximum 30 starts/stop per hour	0.70	
Greater than 30 starts/stop per hour	0.62	



Regulatory Approvals:

Conveyors:

All Dorner 7100 Series standard conveyors (not including gearmotors and controllers) are CE approved. CE approval follows the provisions of the following directives; Machine Directive 2006/42/EC, EU Low Voltage Directive 2006/95/EC, and EMC Directive 2004/108/EC. All conveyors are marked with the CE symbol on the Dorner serial number tag located on the conveyor frame. Contact the factory for the CE Declaration of Conformity.

All Dorner 7100 Series standard conveyors (not including gearmotors and controllers) are designed and manufactured in accordance with the restrictions defined in the "Restriction of Hazardous Substances" directive, citation 2002/95/EC, commonly known as RoHS. All conveyors are marked with the RoHS symbols on the Dorner serial number tag located on the conveyor frame.

Gearmotors and Controllers:

All Dorner 7100 Series gearmotors and controllers carry one or more of the following approvals. Products are not covered by each approval. Please see the appropriate part number on the Gearmotor and controller charts located in this manual. In addition, regulatory symbols are located on the product information tags located on the product.

CE	CE marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation, in practice by the Product Directives. CE Marking on a product ensures the free movement of the product within the European Union (EU).
RoHS	This directive restricts (with exceptions) the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment. It is closely linked with the Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC which sets collection, recycling and recovery targets for electrical goods and is part of a legislative initiative to solve the problem of huge amounts of toxic e-waste.
AI °	The UL Recognized Component mark is for products intended to be installed in another device, system or end product. This Recognized Component Mark is for the United States only. When a complete product or system containing UL Recognized Components is evaluated, the end-product evaluation process can be streamlined.
c FL ° us	The UL Recognized Component mark is for products intended to be installed in another device, system or end product. This Recognized Component Mark is for the United States and Canada. When a complete product or system containing UL Recognized Components is evaluated, the end-product evaluation process can be streamlined.
EP ®	CSA International (Canadian Standards Association), is a provider of product testing and certification services for electrical, mechanical, plumbing, gas and a variety of other products. Recognized in the U.S., Canada and around the world, CSA certification marks indicate that a product, process or service has been tested to a Canadian or U.S. standard and it meets the requirements of an applicable CSA standard or another recognized document used as a basis for certification.
c UL us	The UL Listing Mark means UL found that representative product samples met UL's safety requirements. These requirements are primarily based on UL's own published standards for safety. The C-UL-US Mark indicates compliance with both Canadian and U.S. requirements. The products with this type of Mark have been evaluated to Canadian safety requirements and U.S. safety requirements.



7100 Series Conveyors are Best for:

- Packaging
- Bottling
- Dry Food Processing
- Secondary Packaging
- Inclines, Declines & Curves
- Part Handling
- Transfers
- Long Lengths

- Elevation Changes
- Accumulation
- Buffering

Sizes & Measurements

Chain Width	114 mm (4.5 in)	190.5 mm (7.5 in)	254 mm (10 in)	305 mm (12 in)
Frame Width	127 mm (5 in)	205 mm (8 in)	267 mm (10.5 in)	317.5 mm (12.5 in)
Max Part Width	241 mm (9.5 in)	31.75 mm (12.5 in)	381 mm (15 in)	432 mm (17 in)
Max Length	30.5 m (100 ft)			

Loads & Speeds

- Loads up to 317.5 kg (700 lbs)
- Speeds up to 101 m/min (222 ft/min)

Flexible Chain Types

- Standard
 - O Low Friction
 - Friction Insert
 - Roller Top
- Specialty
 - Metal Chain
 - O Grip Top Chain
 - Cleated Chain



Low Friction

Friction Insert

Roller Top

Guiding Options



Fully Adjustable



Stainless High Sides

Stands

- Fixed Foot Support Stands
- Stainless Steel, 2B Finish
- Durable Welded 7 ga Construction
- Incline Mount Version for Angled Applications
- Other Options Also Available



Adjustable Outboard Guides Also Available

Transfers

- Industry-Best Transfers
- Multiple Mounting Configurations



Powered Transfer



Roller Transfer



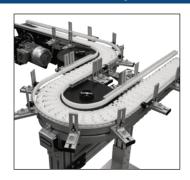
Side to Side Transfer

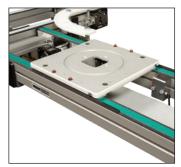


Industrial & Automation Conveyors







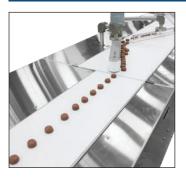


Sanitary Conveyors





Engineered Solutions





Parts & Service





Online Configurator



Warranty



TRANSFORMING CONVEYOR AUTOMATION

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