

**REXNORD® TABLETOP®
AND MATTOP® CHAIN
ENGINEERING MANUAL**
NORTH AMERICA - ISSUE 4

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SAFETY REQUIREMENTS

PRODUCT SAFETY: Products designed and manufactured by Regal Rexnord are capable of being used in a safe manner; but Regal Rexnord cannot warrant their safety under all circumstances. **PURCHASER MUST INSTALL AND USE THE PRODUCTS IN SAFE AND LAWFUL MANNER IN COMPLIANCE WITH APPLICABLE HEALTH AND SAFETY REGULATIONS AND LAWS AND GENERAL STANDARDS OF REASONABLE CARE; AND IF PURCHASER FAILS TO DO SO, PURCHASER SHALL INDEMNIFY REGAL REXNORD FROM ANY LOSS, COST OR EXPENSE RESULTING DIRECTLY OR INDIRECTLY FROM SUCH FAILURE.**

SAFETY DEVICES: Products are provided with only safety devices identified herein. **IT IS THE RESPONSIBILITY OF PURCHASER TO FURNISH APPROPRIATE GUARDS FOR MACHINERY PARTS** in compliance with **MSHA** or **OSHA** Standards, as well as any other safety devices desired by Purchaser and/or required by law; and **IF PURCHASER FAILS TO DO SO, PURCHASER SHALL INDEMNIFY REGAL REXNORD FROM ANY LOSS, COST OR EXPENSE RESULTING DIRECTLY OR INDIRECTLY FROM SUCH FAILURE.**

⚠ DANGER Indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ CAUTION Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

NOTICE Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock out power prior to chain installation, inspection, maintenance and removal. Working on or near energized equipment can result in severe injury.
- Always use safety glasses to protect eyes. Wear protective clothing, gloves and safety shoes.
- Support the chain to prevent uncontrolled movement of the chain and parts.
- Maintain tools in proper condition and assure their proper use. Use of chain assembly tools is recommended when applicable.
- Do not attempt to connect or disconnect chain unless chain construction is clearly known and understood.
- Do not reuse any sections of damaged chain because they may have been overloaded and weakened.
- If any flame cutting, welding, etc. is to occur in the conveyor vicinity, take adequate precautions to insure that no burning of any chain or other components occurs. If adequate protection cannot be provided, remove the chain and other plastic components from the conveyor and store in a safe location. Thermoplastic and similar materials can burn and give off toxic fumes.

- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.
- Do not open or remove protective guarding if energy is supplied to any part of the equipment. Follow the lockout/tagout procedure according to safety procedures at the facility where the equipment is installed. Failure to follow this instruction could result in severe injury or death.
- **READ AND UNDERSTAND THE INFORMATION IN THIS MANUAL COMPLETELY BEFORE INSTALLING, OPERATING OR MAINTAINING THIS EQUIPMENT.** Failure to follow this instruction could result in severe injury or death.

⚠ CAUTION

- Perform periodic inspections. Equipment may fail prematurely and could become unsafe if not properly inspected and maintained. Failure to follow this instruction could result in mild or moderate personal injury.

For further information about the content in this manual, please contact Regal Rexnord™ Application Engineering at 1.262.376.4800 or flattop.tech.support@regalrexnord.com.

INTRODUCTION

Application Expertise/ Superior Engineering Support

This manual contains information on Rexnord® TableTop®, MatTop® and Multiflex Chain selection, materials, environmental conditions, design recommendations, calculation programs and more.

With over 120 years of experience, we are the industry's most knowledgeable team of conveying experts.

Our chains are manufactured to perform better and last longer. Every chain stamped with the Rexnord brand has undergone extensive research and quality testing, ensuring your conveying needs will be met with the most economical, efficient and reliable means possible.

Our qualified engineering staff is willing and able to assist you on all of your application needs. Regal Rexnord will provide assistance with:

- Chain selection recommendations
- Chain pull calculations
- Product performance analysis
- Product handling tests
- Retrofit information
- Plant surveys
- Run dry surveys
- New product development

Applications Throughout Industry

As expected, Regal Rexnord's broad selection of chain is used throughout a wide variety of applications; such as food processing, beverage, unit handling and industrial applications.

Whenever facilities in each industry need to move, transfer, or deliver product, Regal Rexnord™ chain is the preferred choice.

Online - At Your Fingertips

Let's face it – your time is valuable. At Regal Rexnord, we realize the success of your business depends on up-to-date product information, superior technical support and customer service. That's why we've created regalrexnord.com. It's loaded with product information, useful tools and technical support options to help your business succeed. You can even search for a distributor in your area! Best of all, it's available 24 hours a day, seven days a week. Log on today.

TableTop® and MatTop® CHAIN FEATURES

TableTop Chain Features

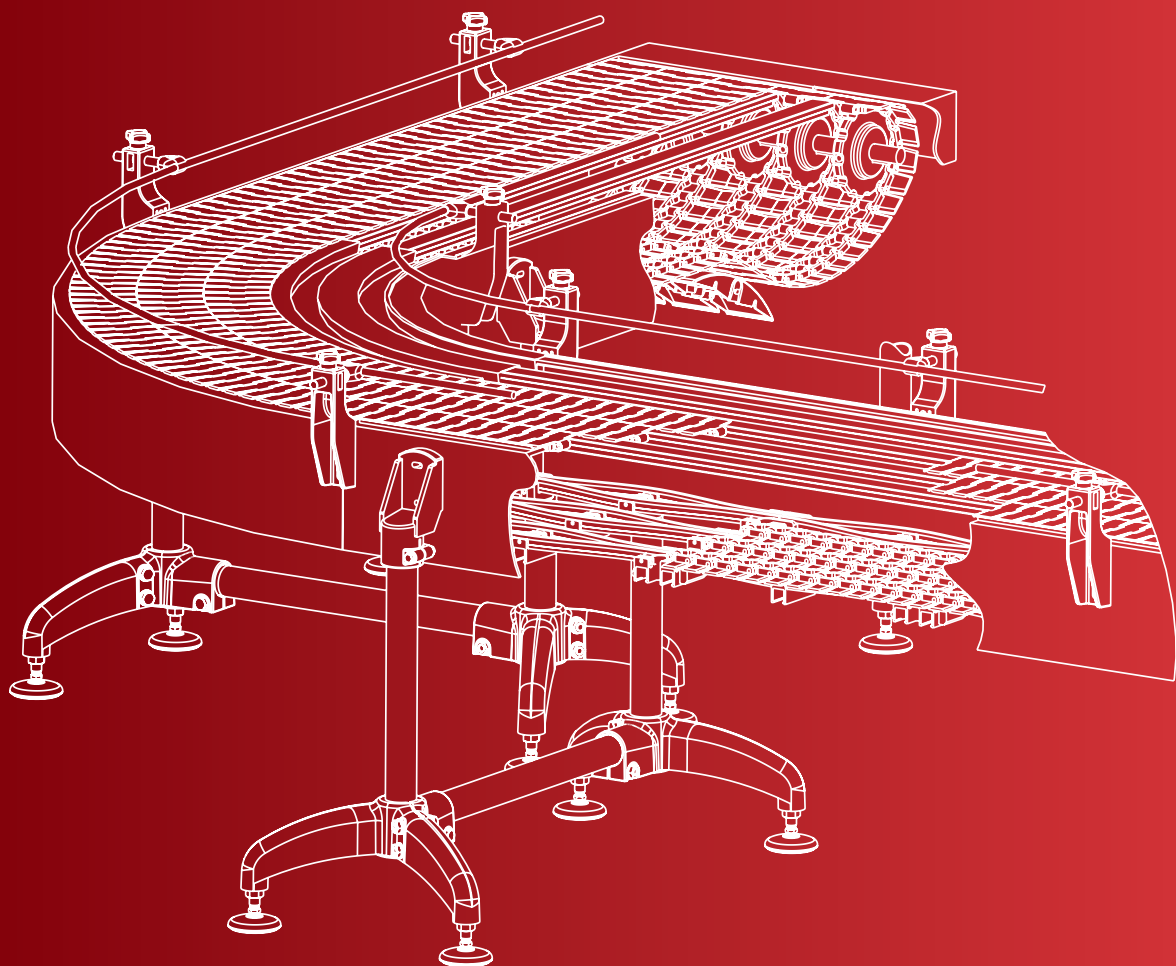
- Available in both metal and plastic materials
- Available in both straight and side-flexing styles
- Available in a wide variety of plastic materials
- Available in both one piece (unit link) and two piece (base chain with snap on top plate) designs
- Only available in Molded to Width (MTW) construction
- The maximum width for plastic chains is 12.00 in (304,8 mm) and the maximum for metal chains is 7.50 in (190,5 mm)
- Can be used with multiple strands and/or variable speed conveyors
- The pins do not extend across the entire width of the chain (hinge width < chain width)

MatTop Chain Features

- Available in virtually any width
- Available in both straight and side-flexing styles
- Available in a wide variety of plastic materials
- Available in a variety of surface styles
- Available in Molded to Width (MTW) and Assembled to Width construction
- MatTop chains can run side by side without any gaps
- Full width pins extend across the entire width of the chain
- There are no gaps between the links when the chain is wrapped around the sprockets
- Available with a variety of attachments:
 - Pushers
 - Sideguards
 - Positrack™*
 - DTS® - DynamicTransfer System™
 - Hold down TABs

* Positrack is believed to be the trademark and/or trade name of AMX, LLC, and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

REXNORD® TABLETOP® CHAINS



TableTop® CHAIN MATERIALS

For more detailed material information, see the [8rxCAT-en](#) Product Catalog.

Materials vary per chain series; see Product Catalog to determine standard versus special materials.

Acetal Family

- LF (Low-Friction)
 - Patented blend of acetal that provides good wear resistance and long service life due to the low coefficient of friction
- HP™ and WHP (High Performance)
 - Patented blend of acetal specifically formulated for dry-running conveyors due to excellent friction characteristics
- PS® (Platinum Series®)
 - Patented blend of acetal specially formulated for high-speed conveying applications
- PSX® (Platinum Series X®)
 - High-speed conveying with little to no external lubrication
 - Long wear life with minimal dusting
- XLG (Low-Friction Acetal, Green)
 - Internally lubricated extra low-friction acetal
- XLA (Low-Friction Acetal, Gray)
 - Internally lubricated extra low-friction acetal

⚠ WARNING AS, HCAS, HC-ESD, & ESD thermoplastic materials should not be used in any potentially explosive environments (Class I) since the possibility for electrostatic discharge still exists. Proper grounding devices should be used, and safety practices followed. A waiver with further details will be supplied by customer care whenever AS, HCAS, HC-ESD, or ESD materials are quoted.

Metal Family

- S (Carbon Steel)
 - A strong, abrasion-resistant, fine-grained, hardened carbon steel with a smooth finish
 - Used in applications requiring high strength, high impact resistance and a hardened chain surface, such as part handling
- SS (Stainless Steel)
 - Non-magnetic, corrosion-resistant, abrasion-resistant austenitic stainless steel
- SSB (Low Magnetic Stainless Steel)
 - A special austenitic stainless steel which allows a magnetic field to pass through without affecting chain tension or drive requirements

Specialty Plastics

- AS (Anti-Static)
 - An electrically conductive acetal formulated to reduce or eliminate nuisance static charge
 - ⚠ WARNING** See below.
- HCAS (High Capacity Anti-Static)
 - Reduces or eliminates nuisance static
 - High capacity acetal resin, requires 10% derate from acetal counterparts
 - ⚠ WARNING** See below.
- BIR (Black Impact-Resistant)
 - Specifically formulated to take constant impact
- ESD (Electrostatic Dissipative)
 - Polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical
 - ⚠ WARNING** See below.

TableTop® CHAIN MATERIALS

Specialty Plastics *Cont.*

- HC-ESD (High Capacity, Electrostatic Dissipative)
 - High capacity polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical
 - Requires 10% derate from polypropylene counterparts

⚠ WARNING HC-ESD thermoplastic material should not be used in any potentially explosive environments (Class I) since the possibility for electrostatic discharge still exists. Proper grounding devices should be used, and safety practices followed. A waiver with further details will be supplied by customer care whenever HC-ESD materials are quoted.
- FTR (Black, Fryer Temperature-Resistant)
 - Formulated to be used in oven/fryer discharge conveyor applications such as snack chips
- GTC (Grey Tough Composite)
 - High-strength, impact-modified composite
 - High-impact resistance, low strength
- BWR (Black Wear-Resistant)
 - BWR may extend chain life up to 5 times in comparison to other plastic materials in applications such as conveying rough machined parts
- WX/BWX (Abrasion-Resistant)
 - A nylon material formulated to be used in abrasive applications where chain is subjected to abrasives such as glass, sand and dirt
- P (Chemical-Resistant)
 - A polyester formulated to reduce or eliminate material degradation in applications where chemicals such as chlorine and phosphorous are present in moderate concentrations
- CR (Extreme Chemical-Resistant)
 - Fluorinated polymer that is chemically resistant to high concentrations of oxidizing agents, acids and bases
- DUV (Ultraviolet-Resistant)
 - Specially formulated acetal
 - Used for outdoor applications with direct exposure to the sun or UV radiation
- MR (Melt-Resistant)
 - A nylon material with a high melting point used to prevent hot objects (product temperature up to 375° F [190° C]) from melting the surface of the chain
- FR (Flame-Retardant)
 - Flame-retardant polyester that meets the requirements of UL Standard 94 V-0 rated combustion
- HS (Heat-Stabilized)
 - Nylon resin designed for environments that contain hot water spray (rinser, sterilizer and pasteurizer applications)
- BSM
 - Acetal-based resin with superior wear and cut resistance
 - Suitable for both dry and wet conditions

NOTICE Since materials vary in strength, refer to the Product Catalog ([8rxCAT-en](#)) for specific chain / material strengths when changing out materials.

Note: Not all materials are available in all chains. Contact Regal Rexnord™ Application Engineering for further assistance.

TableTop® Friction Table Between Chain & Product (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Acetal	PS®	Dry Water Soap & Water Oil	0.18	0.20	0.12	0.23	0.18	0.16	0.18
			0.14	0.18	0.11	NR	0.16	0.15	0.16
			0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	PSX®	Dry Water Soap and & Oil	0.16	0.20	0.12	0.23	0.18	0.16	0.16
			0.13	0.18	0.11	NR	0.16	0.15	0.14
			0.12	0.14	0.10	NR	0.14	0.14	0.12
			-	-	-	NR	-	-	0.10
	HP™, WHP	Dry Water Soap & Water Oil	0.18	0.20	0.12	0.23	0.18	0.18	0.18
			0.14	0.18	0.11	NR	0.16	0.16	0.16
			0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	LF, XL, XLA, XLG	Dry Water Soap & Water Oil	0.20	0.20	0.15	0.30	0.20	0.20	0.25
			0.15	0.18	0.13	NR	0.18	0.18	0.20
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	AS, HCAS	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
	WSM, BSM, SMB	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
DUV	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30	
		0.17	0.18	0.15	NR	0.20	0.20	0.22	
		0.12	0.14	0.10	NR	0.15	0.15	0.15	
		-	-	-	NR	-	-	0.10	
Metal	SS, SSC	Dry Water Soap & Water Oil	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			0.27	0.30	0.29	NR	0.22	0.21	0.30
			0.14	0.15	0.15	NR	0.15	0.14	0.15
			-	-	-	NR	-	-	-
	S	Dry Water Soap & Water Oil	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			0.10	0.10	NR	NR	NR	NR	0.10
	SSB	Dry Water Soap & Water Oil	0.28	0.47	0.35	0.40	0.30	0.30	0.35
			0.19	0.31	0.25	NR	0.20	0.20	0.25
			0.12	0.21	0.15	NR	0.10	0.10	0.15
			-	-	-	NR	-	-	0.15
Nylon	WX, BWX, HTX	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	-
	MR/FTR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	BWR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	HS	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10

NR denotes "not recommended" Dash (-) denotes "combination not tested"

Note: All values shown in this table were obtained through product testing. Actual values may be higher or lower depending on environmental conditions.

TableTop® Friction Table Between Chain & Product (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Polyester	TC	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.23
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	0.10	0.10	0.10
	P	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.22
			0.12	0.14	0.10	NR	0.15	0.10	0.15
			-	-	-	NR	-	-	0.10
	FR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	FRPLUS®	Dry Water Soap & Water Oil	0.14	0.18	0.14	0.30	0.20	0.18	0.25
			0.13	0.16	0.12	NR	0.18	0.16	0.20
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
Fluorinated Polymer	CR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry Water Soap & Water Oil	0.29	0.29	0.24	0.35	0.32	0.28	0.31
			0.19	0.21	0.18	NR	0.24	0.20	0.25
			0.15	0.14	0.10	NR	0.19	0.15	0.17
			-	-	-	NR	-	-	0.10
	ESD	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.12	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
	HUV	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.14	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
	UHS, YPR	Dry Water Soap & Water Oil	0.30	0.29	0.25	0.35	0.32	0.30	0.35
			0.19	0.21	0.19	NR	0.24	0.25	0.25
			0.16	0.14	0.10	NR	0.19	0.20	0.20
			-	-	-	NR	-	-	0.10
Polyethylene	WLT, BLT, LT	Dry Water Soap & Water Oil	0.22	0.24	0.18	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	LUV	Dry Water Soap & Water Oil	0.22	0.24	0.28	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.10
			-	-	-	NR	-	-	0.10
All RubberTop® Products	Dry	-	-	-	0.87***	0.85***	0.85***	-	

** Friction of returnable bottles will depend on the quality of the glass, the amount of roughed up surface, etc.

*** It is not recommended to accumulate on RubberTop products; however, these values can be utilized when determining brake belt or "hold back" calculations.

NR denotes "not recommended" Dash (-) denotes "combination not tested"

TableTop® Friction Table Between Chain & Wearstrip (Fw)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Acetal	PS®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	PSX®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	HP™, WHP	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.14
			0.20	0.16	0.16	0.12
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	LF, XL, XLA, XLG	Dry Water Soap & Water Oil	0.25	0.20	0.20	0.16
			0.20	0.18	0.18	0.14
			0.15	0.15	0.15	0.13
			0.10	0.10	0.10	0.10
	AS, HCAS, HC-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10
	WSM, BSM, SMB, BRSM, BYSM, SYMB, SRMB	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			0.23	0.21	0.21	0.18
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
DUV	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20	
		0.23	0.21	0.21	0.18	
		0.15	0.15	0.15	0.15	
		0.10	0.10	0.10	0.10	
Metal	SS, SSC	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			0.35	0.22	0.22	0.22
			0.15	0.15	0.15	0.15
			0.15	0.10	0.10	0.10
	S	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			NR	NR	NR	0.22
			NR	NR	NR	0.15
			0.10	0.10	0.10	0.10
	SSB	Dry Water Soap & Water Oil	0.50	0.40	0.40	0.40
			0.40	0.30	0.30	0.30
			0.20	0.20	0.20	0.20
			0.20	0.10	0.10	0.10
Nylon	WX, FR-PA	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	NR	NR	NR
	MR, FTR	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	BIR, BWR	Dry Water Soap & Water Oil	0.28	0.22	0.22	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	HS	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			0.25	0.23	0.23	0.22
			0.18	0.18	0.18	0.18
			0.10	0.10	0.10	0.10
	FR-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10
	HTX	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.25
			NR	NR	NR	NR
			NR	NR	NR	NR
			-	-	-	-

NR denotes "not recommended"
Dash (-) denotes "combination not tested"

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

TableTop® Friction Table Between Chain & Wearstrip (Fw)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Polyester	GTC	Dry Water	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
		Soap & Water Oil	0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
	P	Dry Water	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
		Soap & Water Oil	0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
	FR	Dry Water	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
		Soap & Water Oil	0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
FRPLUS	Dry Water	0.18	0.18	0.18	0.16	
		0.16	0.16	0.16	0.14	
	Soap & Water Oil	0.13	0.14	0.14	0.12	
		0.10	0.10	0.10	0.10	
Fluorinated Polymer	CR	Dry Water	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
		Soap & Water Oil	0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry Water	0.35	0.30	0.30	0.26
			0.30	0.25	0.25	0.22
		Soap & Water Oil	0.25	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
	ESD	Dry Water	0.35	0.30	0.30	0.26
			0.25	0.25	0.25	0.22
		Soap & Water Oil	0.20	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
	HUV	Dry Water	0.35	0.30	0.30	0.26
			0.24	0.16	0.16	0.22
		Soap & Water Oil	0.20	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
	UHS, YPR	Dry Water	0.35	0.30	0.30	0.26
			0.30	0.25	0.25	0.22
		Soap & Water Oil	0.25	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
Polyethylene	WLT, BLT, LT	Dry Water	0.28	0.23	0.23	0.21
			0.22	0.20	0.20	0.19
		Soap & Water Oil	0.15	0.15	0.15	0.14
			0.10	0.10	0.10	0.10
	LUV	Dry Water	0.28	0.23	0.23	0.21
			0.22	0.20	0.20	0.19
		Soap & Water Oil	0.15	0.15	0.15	0.14
			0.10	0.10	0.10	0.10

NR denotes "not recommended"
Dash (-) denotes "combination not tested"

TableTop® SPROCKET AND IDLER WHEEL DESIGNATIONS

Regal Rexnord has developed a variety of sprocket and idler materials for various and unique applications. Sprockets are available in plastic and metallic varieties.

Plastic

- Acetal (N)
 - Good corrosion- and wear-resistant properties
 - One-piece sprocket
 - Temperature Range: -40° to +180° F (-40° to +82° C)
- Heat-Stabilized Nylon (HS)
 - Stabilized nylon-based resin for environments that contain hot water spray rinser, sterilizer and pasteurizer applications
 - Resists thermal degradation from 212° F (100° C) water spray
 - Available in select one-piece styles only
 - Temperature Range: +40° to + 240° F (+4° to +116° C)
- LF Acetal (LF)
 - Available in select idler wheel styles only
 - Self-lubricating
 - Temperature Range: -40° to +180° F (-40° to +82° C)
- Glass-Reinforced Nylon (NS)
 - Split sprocket design for ease in assembly and disassembly
 - Excellent wear-resistant properties
 - Temperature Range: -40° to +180° F (-40° to +82° C)
- Chemical-Resistant Fluorinated Polymer
 - Used in applications where chemical resistance is required (i.e. chlorine, phosphorous)
 - Temperature Range: +40° to +240° F (+4° to +116° C)

- KU and KUS (Machined Plastic)
 - KU and KUS do not designate material
 - KU designates solid (one-piece) design and KUS designates a split (two-piece) design
 - Sprockets machined in a variety of plastic materials
 - Flush side for ease in cleaning
 - Sprockets come in a wide variety of pitch diameters and bore sizes

Metallic

- Semi-Steel (Cast Iron)
 - Used in non-corrosive, abrasive environments such as broken glass, metal chips
 - One-piece sprocket
 - Temperature Range: -40 to +350° F (-40° to +177° C)
- SS (Stainless Steel)
 - Used in corrosive, abrasive environments such as vegetable processing, snack and foods
 - Available in select chains only
 - Available in split and one-piece designs
 - Temperature Range: -100 to +800° F (-73° to +427° C)

TableTop® WEARSTRIP MATERIALS

Proper chain and wearstrip selection will provide optimum life. Since a function of the wearstrip is to lower friction and to reduce wear, it is recommended to give careful consideration when selecting the material.

The following general guidelines will help in selecting the proper material for your application.

Plastic

- Acetal
 - Not recommended for use with acetal chains; it is best not to run identical plastics together
- Nylon with Molybdenum Disulfide (MoS₂) filler
 - Recommended for dry applications due to low wear and low friction
 - Especially suited for dry operation on thermoplastic side-flexing chain corners due to its high PV (Pressure-Velocity) rating
 - Typically not recommended in wet applications because it will absorb moisture and expand (if used in wet applications, allow clearance for expansion and movement of fasteners)
 - Typically only used for curves

Metal

- Aluminum
 - NOTICE** NOT RECOMMENDED due to poor wear resistance
- Bronze and Brass
 - Sometimes used with stainless steel chains
 - Typically used for non-sparking and anti-static conditions
 - For bronze — recommended one-half hard temper (Rb 58)
 - For brass — recommended one-half hard (Rb 70 Min) to full hard (Rb 82) temper

- Steel
 - Recommended for non-corrosive, abrasive or high-temperature applications
 - Abrasive particles are less likely to embed in metal wearstrips in comparison to plastic
 - A cold-rolled plain carbon steel is recommended
 - Heat-treated grades — hardened to 25 to 30 Rc is recommended
 - Stainless Steel
 - Recommended for corrosive, abrasive or high-temperature applications
 - Abrasive particles are less likely to imbed in metal wearstrips in comparison to plastic
 - A cold-rolled austenitic grade is recommended which offers the best corrosion-resistant properties
 - Recommended one-quarter hard temper (25 to 35 Rc) with any chain material, especially with thermoplastic
- NOTICE** Softer annealed grades of austenitic are **NOT RECOMMENDED**. Adverse interaction between the chain material and the soft stainless steel might develop. When this happens, the resulting wear debris consists almost entirely of finely divided stainless steel particles, nearly black in color, similar to molybdisulfide or graphite. The wear of the stainless steel might be rapid while the thermoplastic chain by contrast exhibits only slight wear.
- Martensitic stainless steel can also be used when heat-treated (25 to 35 Rc); however, it is not as corrosion-resistant as austenitic
 - Hardness is more critical than grade for better wear resistance

Specialty

- Teflon®*
 - Recommended only for very low-speed/low-load applications
- Lubricant-Impregnated Wood
 - Commonly used in dry abrasive applications (i.e. glass, paper)
 - Not recommended in wet applications

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

TableTop® WEARSTRIP MATERIALS

Specialty Cont.

- UHMWPE (Ultra High Molecular Weight Polyethylene)
 - Recommended for dry or wet applications on straight or side-flexing conveyors
 - Not recommended for abrasive conditions where particles may imbed in the surface and wear the chain
 - Provides lower coefficient of friction than metals
 - Not affected by moisture and more resistant to chemicals than nylon
 - UHMWPE materials can be supplied with various fillers:
 - Ceramic/glass
 - Conductive
 - Oil/wax
- ULF (Ultra Low-Friction)
 - UHMWPE with self-lubricating additive package
 - Consistent low friction
 - Suitable for high-speed conveying where minimal or no external lubrication is present
 - Improved PV (Pressure-Velocity) properties in comparison to other curve materials

NOTICE Wearstrip surface finish is a critical aspect for overall chain life. Recommended wearstrip surface finish values are:

Metal:	32 µin (0,8 µm) Ra
MoS ₂ -Filled Nylon:	63 µin (1,6 µm) Ra
UHMWPE:	125 µin (3,2 µm) Ra

TableTop® LUBRICATION

Lubrication is recommended whenever the application permits. It not only reduces friction, thereby reducing chain tension, but also greatly improves the wear life of the chain and wearstrips. Lubrication offers a constant cleaning effect of both the chain and wearstrip and can also reduce static.

General Recommendations

- Lubrication should contact both the chain and wearstrip.
- When lubricating side-flexing TableTop chains, the lubricant must be applied at the entrance of the inside corner track. Metal side-flexing chains should ALWAYS be lubricated in the corners.
- Depending upon the application, lubrication requirements may vary. Lubricant quality and lubrication frequency can have a great effect on the longevity of the chain. For most common applications, any ISO 68 grade lubricant is satisfactory. For applications with special considerations such as high temperature, chemical compatibility or FDA requirements, please contact your lubrication supplier.

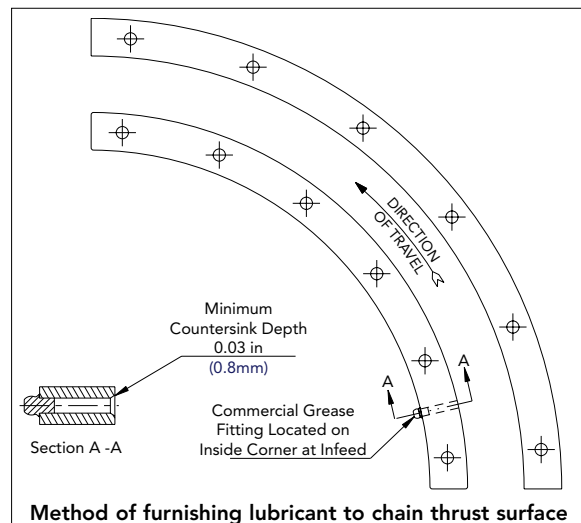
General Types of Lubricants

- Water — Only utilize with corrosion-resistant materials. Can be used as a general lubricant; however, it is not as effective as other types due to friction and chain-cleaning properties.
- Water soluble lubricants and soaps — Only utilize with corrosion-resistant materials. These are excellent lubricants which also help clean the chain.
- Oil base lubricants — These are vegetable, mineral oils or grease which offer high lubricity. Can be used with plastic or metal materials. Recommended to be used on all metal chains whenever practical. Food grade oils are available.

Note: To eliminate or reduce lubrication, contact Regal Rexnord™ Application Engineering to conduct a run-dry survey. 1.262.376.4800. For more information on lubrication types, compatibility, methods, contact a lubricant manufacturer.

Dry Film Lubricants

- A dry lubricant system has many of the same benefits of a run-dry conveyor with the added benefit of a lower coefficient of friction. A dry lubricant is applied by an automatic system with dosing units that put very little lubricant on select areas of the conveyors. The lubricant can be water- or oil-based with Teflon®, silicone or solid micro-particles. The preferred lubricant is an oil and water emulsion. The most critical part of the process is how the lubricant is applied on the chain. This is typically accomplished with the use of brushes, shoes or spray nozzles. The benefit of spray nozzles is the absence of contact with the chain, eliminating the possibility of trapped dirt or debris. The lubricant can also be applied to the inside of a curve for side-flexing conveyors. There are many dry lubricant products on the market which have been specifically formulated for either plastic or metal chains and container types.
- While dry lubricants offer many advantages, conveyor cleanliness considerations should be taken into account since dry lubes do not provide a continuous cleaning process like traditional water and soap lubrication.



Selective Lubrication

- In some applications, the presence of a lubricant cannot be tolerated. For these applications, it is recommended to utilize chains made of HP™, PS® or PSX® acetal material with Molybdenum Disulfide (MoS₂) corners, which offers the lowest coefficient of friction.

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

TableTop® LUBRICATION — OTHER CONSIDERATIONS

Metal Unit Link Chains

- Carbon Steel
 - Light lubricant and rust preventative is applied at the factory to prevent corrosion during shipping and storage
 - Chains should be lubricated upon installation and re-lubricated when necessary
 - Metal side-flexing chains should **ALWAYS** be lubricated in the corners
- Stainless Steel
 - Stainless steel chains are supplied dry from the factory
 - Stainless steel chains can be run dry; however, lubrication will greatly increase their wear life and help reduce noise
 - Metal side-flexing chains should ALWAYS be lubricated in the corners

TableTop Chains with Roller Base Chains

Platetops can be either plastic or metal with the following types of base chains.

- Carbon Steel Base Chains
 - Base chains are supplied with lubricant and rust preventative
 - Base chains do not need to be lubricated when installed
 - Base chains must be re-lubricated when necessary
 - The thrust surface of side-flexing metal platetop chains should **ALWAYS** be lubricated in the corners which will help reduce noise as well as lubricate the chain
- Stainless Steel Base Chains
 - Stainless steel base chains are supplied dry from the factory (with the exception of PS 1873SSL-G, see Product Catalog [\[8rxCAT-en\]](#) for details)
 - Stainless steel base chains can be run dry; however, lubrication will greatly increase their wear life and help reduce noise
 - The thrust surface of side-flexing metal platetop chains should ALWAYS be lubricated in the corners which will help reduce noise as well as lubricate the chain

Cleaning

In many applications, rapid buildup of grease, dirt, grit, sand, spilled syrup and beverage can occur.

These result in:

1. Soiling and damage to the conveyed product
2. Increased work demands for the chain and motor
3. Accelerated sprocket tooth wear
4. Conveyor pulsation and wear
5. Excessive chain wear on the flight and in the joint areas
6. Rapid wear of the wearstrips

Frequent cleaning of the chain and conveyor frame is advised. Agents such as steam, warm water and soap are commonly used. Many times combined “cleaners/lubricants” are applied continuously. Strong caustic agents used with metal chains should not be used with plastic chains. Always rinse cleaning agents completely off of chain and conveyor frame. When excessive amounts of syrup or other liquids, broken glass or debris accumulate, cleaning will be required on a regular basis to remove these undesirable materials. It is advisable to have operating personnel keep brushes and cleaning solutions nearby to remove broken glass and excessive spillage.

NOTICE All cleaners and lubricants must be compatible with chain and conveyor materials. See **page 22** or contact Regal Rexnord.

TableTop® LUBRICATION — OTHER CONSIDERATIONS

Inspection

In the course of conveyor operation, periodic inspection of the chain, sprockets and system is required to detect faults and make repairs before serious damage occurs. It is important to set up a regular inspection and maintenance schedule.

Checklist

1. Look for unusual wear patterns on the chain.
2. Check for excessive gaps between flights due to jam-up or overload.
3. Pulsating, jerky chain operation indicates poor lubrication or a conveyor obstruction.
4. Check deadplate and turntable clearance.
5. Examine sprockets for signs of excessive wear.
6. Examine sprockets for signs of dirt buildup in tooth pockets.
7. Check for sprocket guide ring wear and possible chain misalignment.
8. Check wearstrips for excessive wear.
9. Inspect lubrication system for proper operation.
10. Check the inside curves and the supporting conveyor frame for excess heat buildup which may indicate an obstruction in the curve or a high-friction area.
11. If return support rollers are used, check to ensure rollers are free-turning.

Repair and Replacement

Any malfunctions found during an inspection usually stem from one or more of the following conditions:

1. Severe overloads, jam-ups or wedging of broken glass or crowns.
2. Severe back-flexing of chain on the return carrying ways.
3. Poor lubrication or no lubrication.
4. Interference and obstruction.
5. Worn sprockets.
6. Poor conveyor design.
7. Badly worn or damaged chain.

These causes should be corrected to avoid future problems.

Chain and sprockets should be replaced when:

1. The chain reaches 3% elongation.
2. The chain jumps the sprocket.
3. The flights have worn to about one-half of the original thickness.
4. The conveying surface becomes uneven through wear.
5. The thrust surface of side-flexing chains wears away and exposes the rivet or other metal parts which may cut into wearstrips or other conveyor components.
6. The sprocket teeth develop a hooked profile or the chain tends to "hang up" on the sprocket teeth.

These suggestions on chain and conveyor care serve as a guide toward maintaining continuous, trouble-free operation. Implementation of a conscientious programmed maintenance schedule will lead to many productive hours of conveyor operation.

TableTop® ENVIRONMENTAL CONSIDERATIONS

Abrasive Applications

- Applications with the presence of dirt, sand, glass or metal particles can lead to premature wear of the conveying chain and wearstrips.
- Recommendations:
 - Utilize wearstrips and chains with a hard wear surface
 - If possible, use controls to minimize the amount of accumulation
 - The use of WX chain material and metal sprockets can extend wear life

Chemical Applications

Make sure any chemicals or cleaners used on conveyors are compatible with chain, wearstrip and sprockets. See table on **page 22** for more detailed compatibility information.

Dry Applications

Considerations to be taken when running dry:

- Product backline pressure
- Conveyor cleanliness
- Conveyor pulsation
- Increased component wear

Extreme Temperature Applications

The recommended minimum and maximum operating temperatures for TableTop chain and wearstrips can vary due to the presence of moisture.

Wearstrip Material	Minimum Temperature		Maximum Temperature			
	Dry		Dry		Wet	
	°F	°C	°F	°C	°F	°C
Acetal	-40	-40	180	82	150	66
UHMWPE/ULF	-100	-73	180	82	160	71
Nylon	-40	-40	220	104	NR	NR
Stainless Steel	-100	-73	800	427	250	121
Steel	-40	-40	350	177	NR	NR
Lubricated Impregnated Wood	-50	-46	160	71	160	71

Metal Detector Applications

Plastic chains passing through metal detectors can be supplied with plastic pins on a Made-To-Order (MTO) basis (requires 60% derate).

High-Speed Applications

In any high-speed application, the critical aspect of the conveyor is the corners. The concern with running the chain at high speeds is the PV (Pressure-Velocity) in the corners. If the PV limits are exceeded, the chain or corner track may become damaged due to the heat generated from the high speed and/or load. It is generally recommended to utilize Molybdenum Disulfide (MoS₂) filled Nylon corner tracks in conjunction with PS® or HPT™ materials or selective lubrication for these applications. PSX® chain with ULF corner tracks will provide the best PV capability and least energy consumption.

Long-Length Conveyors/Pulsation Applications

Pulsation or “slip stick” of chain results in a jerking chain motion which can occur in long, slow-speed and dry conveyors. Pulsation can create product stability problems in extreme cases. It can also result in premature chain elongation or the chain jumping drive sprocket teeth. As a general rule of thumb, it is recommended that conveyor lengths do not exceed 100 ft (30 m) per drive, regardless of loading. Regal Rexnord also recommends a 150° minimum wrap on the head sprocket. If necessary, this can be maintained with the use of a snubber roller.

Static Environment Applications

⚠ WARNING

- Under certain conditions, thermoplastic can acquire a static nuisance charge. Static environments are classified as:

Class I: Static spark causes explosion — stainless steel chains are required.

Class II: Static spark is a nuisance charge — low charge will provide slight shock or possible circuit damage.

- All applications utilizing thermoplastic anti-static materials (i.e. AS, ESD) must be approved by Rexnord Application Engineering prior to quoting.

⚠ DANGER Grounding is crucial for the system to reduce static charges.

UV Applications

When conveyor chains are exposed to direct UV (Ultraviolet) or sunlight, DUV stabilized material should be utilized.

TableTop® MATERIAL CHARACTERISTIC TABLE

Material Characteristics	Metal			Thermoplastic												
	S	SS	SSB	HP™ WHP	LF	BWR	AS HCAS	ESD	HS	P	CR	MR	DUV	FR	PS® PSX®	WX BWX
Impact Resistant	•	•	•			•					•	•				•
Wear Resistant	•	•	•	•	•	•									•	•
Chemical Resistant*		•	•								•	•				
High Strength	•	•	•	•	•	•			•	•	•	•	•		•	•
Low Frictional Characteristics				•	•										•	
Capability to Run Dry in Corners				•	•	•						•			•	•
Suitability in Wet Environments		•	•	•	•				•	•	•		•	•	•	
Low Temperature Capability (to 40° F)	•	•	•	•	•	•			•			•	•		•	•
High Temperature Capabilities (to +180° F)	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
Ultra Violet Capabilities	•	•	•			•					•	•				•
Suitability for Class II (Nuisance Static)	•	•	•				•	•								
Suitability for Class I (Explosive Static)		•	•													
Non-magnetic Qualities		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flame Retardance	•	•	•								•			•		
Capability to Convey Hot Products (to +375° F)	•	•	•									•				•
FDA Approval		•	•	•	•					•	•				•	

- | | |
|------------------------------------|---------------------------------|
| S = Carbon Steel | HS = Heat Stabilized |
| SS = Stainless Steel | P = Chemical Resistant |
| SSB = Low Magnetic Stainless Steel | CR = Extreme Chemical Resistant |
| HP = High Performance | MR = Melt Resistant |
| WHP = White High Performance | DUV = Ultraviolet Resistant |
| LF = Low Friction | FR = Flame Retardant |
| BWR = Black Wear Resistant | PS = Platinum Series® |
| AS = Anti-Static | PSX = Platinum Series X |
| HCAS = Anti-Static High Capacity | WX = Abrasion Resistant |
| ESD = Electrostatic Dissipative | BWX = Black Abrasion Resistant |

*See Corrosion Resistance Guide on Page 22 for more details.

TableTop® CORROSION RESISTANCE GUIDE

Common or Chemical Name	Carbon Steel	Austenitic	Acetal	Nylon and MoS ₂ -Filled Nylon	Polyester	Chemically Resistant Fluorinated Polymer	Polypropylene	Polyethylene	Neoprene	EPDM
	S	SS, SSB	AS, HCAS, DUV, HP™, LF, PS®, PSX®, WHP	BWR, HS, MR, WX, BWX	P, FR	CR	ESD	UHMWPE	-	-
Acetic Acid (over 5%-up to 50%)	U	M	U	M	S	S	S	S	M	S
Acetone	U	S	S	S	S	U	S	S	M	S
Alcohol	S	S	S	S	S	S	S	S	S	S
Ammonia	M	S	U	S	S	S	S	S	S	S
Beer	S	S	S	S	S	S	S	S	S	S
Beverages-Soft Drinks	S	S	S	S	S	S	S	S	S	S
Benzene	S	S	S	S	S	S	M	M	M	U
Brine (pickle)	U	M	M	M	S	S	S	S	S	S
Carbon Tetrachloride	M	M	S	S	S	U	M	M	U	U
Chlorine	U	U	U	U	S	S	S	S	U	M
Citric Acid	U	S	M	M	S	S	S	S	S	S
Cyclohexane	-	-	S	-	-	S	U	U	S	S
Ethyl Chloride	-	S	S	S	S	S	M	M	M	M
Formaldehyde	S	S	S	S	S	M	S	S	S	S
Formic Acid	U	U	U	U	S	S	S	S	M	M
Fruit Juices	U	S	S	S	S	S	S	S	S	S
Gasoline	S	S	S	S	S	S	M	M	S	U
Hexane	-	S	S	-	S	S	S	U	S	U
Hydrochloric Acid (up to 2%)	U	U	U	U	S	S	S	S	M	S
Hydrochloric Acid (up to 37%)	U	U	U	U	S	S	M	S	U	M
Hydrogen Peroxide	U	S	U	U	S	S	M	S	M	S
Iodine	U	U	U	U	U	M	M	M	U	U
Isopropanol (isopropyl alcohol)	S	S	S	S	S	S	S	S	S	S
Lactic Acid	U	S	S	M	S	M	S	S	S	S
Methylene Chloride	-	S	S	-	U	M	S	U	U	U
Milk	S	S	S	S	S	S	S	S	S	S
Muriatic Acid	U	U	U	U	S	S	M	S	U	M
Nitric Acid (low concentrations)	U	S	U	U	S	S	S	S	M	S
Oil (vegetable or mineral)	S	S	S	S	S	M	S	S	S	U
Ozonated Water	S	S	M	U	S	S	M	S	U	S
Paraffin	S	S	S	S	S	S	S	S	S	U
Phosphoric Acid (up to 10%)	U	S	U	U	S	S	S	S	S	S
Soap and Water	M	S	S	S	S	S	S	S	S	S
Sodium Chloride	U	M	S	S	S	S	S	S	S	S
Sodium Hydroxide (up to 25%)	U	S	S	U	U	M	S	S	S	S
Sodium Hypochlorite (Bleach)	U	U	U	U	S	S	S	S	U	S
Stearic Acid	U	S	M	S	S	S	S	S	S	M
Sulfuric Acid (up to 40%)	U	U	U	U	S	S	S	S	M	S
Toluene (Toluol)	S	S	M	S	S	M	S	U	U	U
Turpentine	-	S	S	S	S	S	S	U	S	U
Vegetable Juices	M	S	S	S	S	S	S	S	U	S
Vinegar	U	S	S	S	S	M	S	S	S	S
Water (fresh)	U	S	S	S	S	S	S	S	S	S
Whiskey	S	S	S	S	S	S	S	S	S	S
Wine	S	S	S	S	S	S	S	S	S	S
Xylene	S	S	S	S	S	S	U	M	U	U

Dash = Not Tested

M = Marginal

U = Unsatisfactory

S = Satisfactory

Note: General Rules of Thumb — With acetal products, do not use cleaning or lubricating agents with a pH below 4 or above 10.

This table is based on data available by various material suppliers.

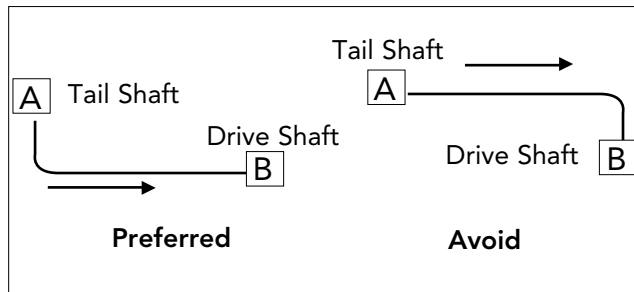
TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Straight-Running Configuration

A long conveyor with a single drive is the simplest and most ideal design. Sometimes several short conveyors are required due to application constraints.

Side-Flexing Configuration

- Because a straight conveyor is not always possible due to flow processes or obstructions in the plant, the designer can incorporate a side-flexing conveyor, which traverses one or more curve.
- When planning a side-flexing conveyor layout, the designer must consider the following factors that affect chain life:
 - Minimize the number of corners and the angle of each corner whenever possible
 - Selective lubrication in the corners must be used with metal side-flexing chains and certain thermoplastic chains, which will prevent excessive noise and premature wear to the chain or corner
 - When conveying from Point A to Point B, design the conveyor so that the drive is positioned furthest from the last corner (see drawing), resulting in lower chain tension and maximizing chain life



Note: In general, the straight section between the corner and the drive shaft must be at least 18 in (457 mm) to allow adequate room for the catenary (see page 36). The tail shaft section should be at least 12 in (305 mm).

- When conveying products 90°, a single side-flexing conveyor offers the following advantages over two separate straight conveyors that have transfer plates between them:
 - Eliminates deadplate transfers or turntables, preventing the product from slipping or stalling
 - Minimizes tipping and jamming
 - Decreases noise
 - Reduces the cost of controls and maintenance by only requiring one drive motor

Note: Make sure that the entire chain path (carry, return, sprocket and catenary sag areas) has plenty of clearance for free chain travel. Make sure all frame and support members, piping, conduits and mounting hardware are well clear of chain path.

NOTICE Consideration should be given to the design of the curves within a conveyor such that if the chain has little to no “allowable twist”, the curve should be designed to NOT change elevation while simultaneously side-flexing through the curve. Doing so on chains that do not twist will bind the chain and lead to chain failure. See table below for allowable twist of various chains.

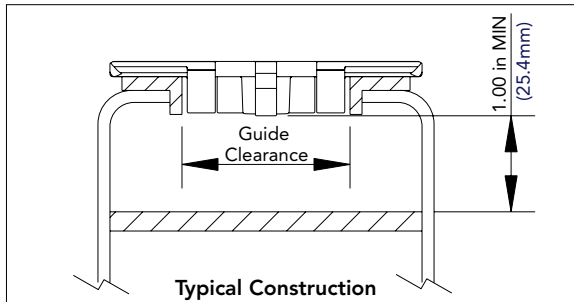
Allowable TableTop Chain Twist	
Chain	Allowable Twist
880 Tab and Bevel	90° in 7'6" of length
879 Tab and Bevel	90° in 7'6" of length
882 Tab and Bevel	90° in 9' of length
1873	360° in 7' of length
3873T-K12	90° in 10' of length
881	90° in 7' of length
815	90° in 9' of length

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

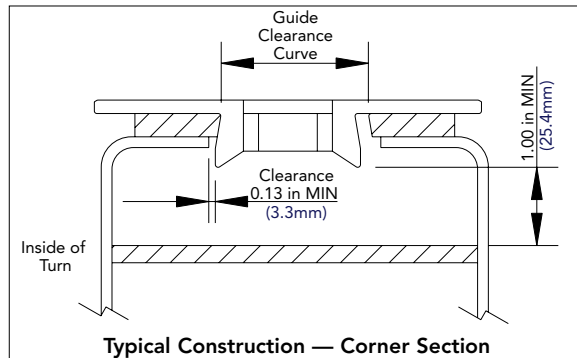
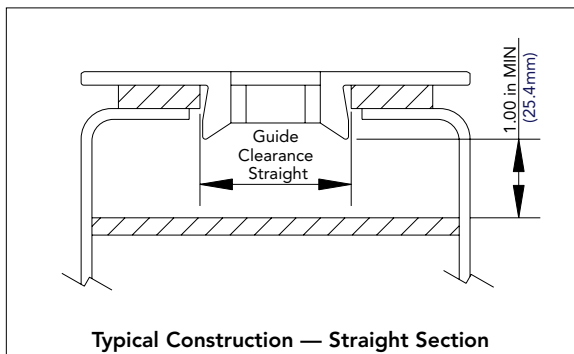
Carryways

Guide clearance is critical for both straight and side-flexing chains. For guide clearance dimensions of individual chains, see table on **page 28** or the Product Catalog.

• Straight-Running

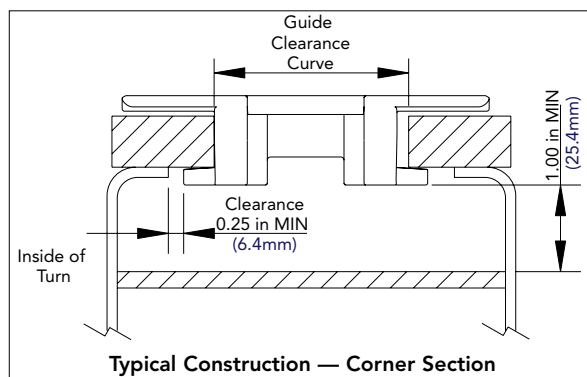
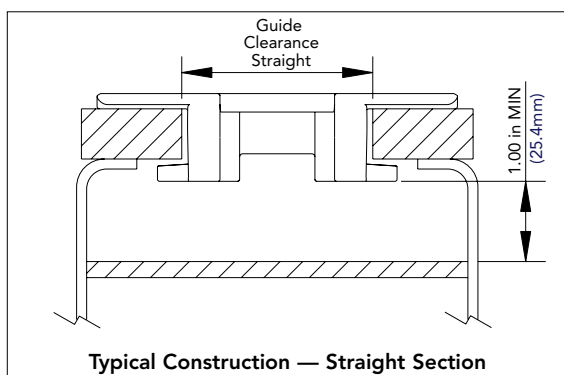


• Side-Flexing — Bevel Design



– Chain can be lifted out of straight sections only for cleaning or inspection

• Side-Flexing — TAB Design



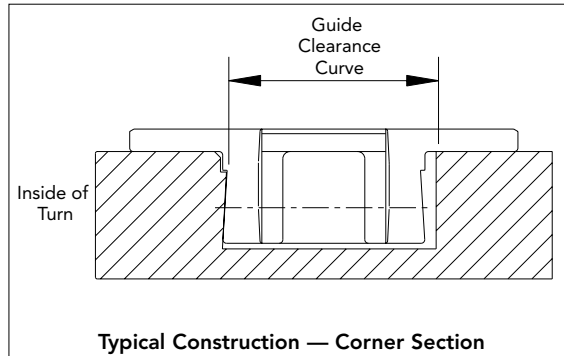
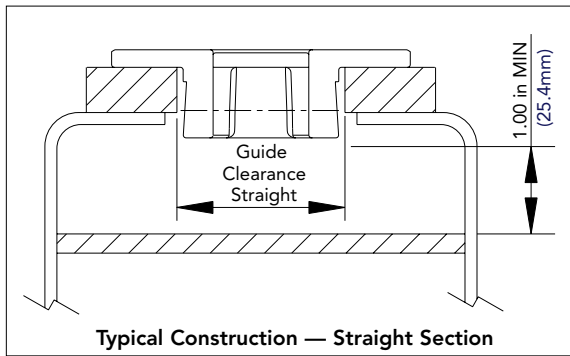
- Positive retention
- TABs hold chain down in incline or decline applications
- Chain top surface wear is decreased if TAB return is utilized
- Once assembled, TAB chain cannot be lifted out of the conveyor track

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TableTop® CONVEYOR DESIGN RECOMMENDATIONS

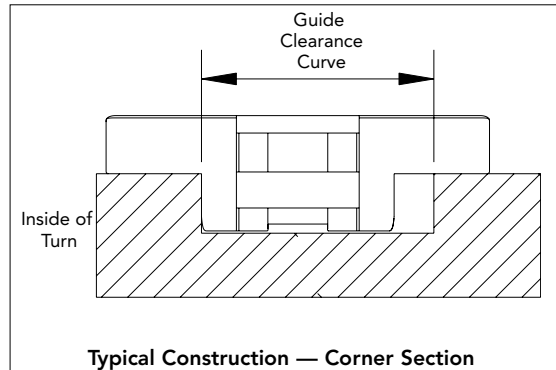
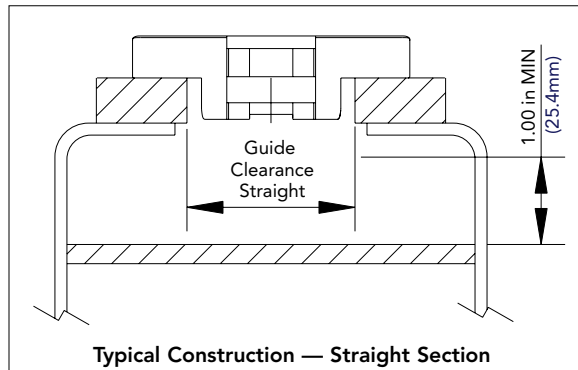
Carryways

• Side-Flexing — LPC (Low Pin Centerline) Design



- Chain can be lifted out of straight and corner sections for cleaning or inspection
- Must utilize corner tracks

• Side-Flexing — Magnetflex® Design

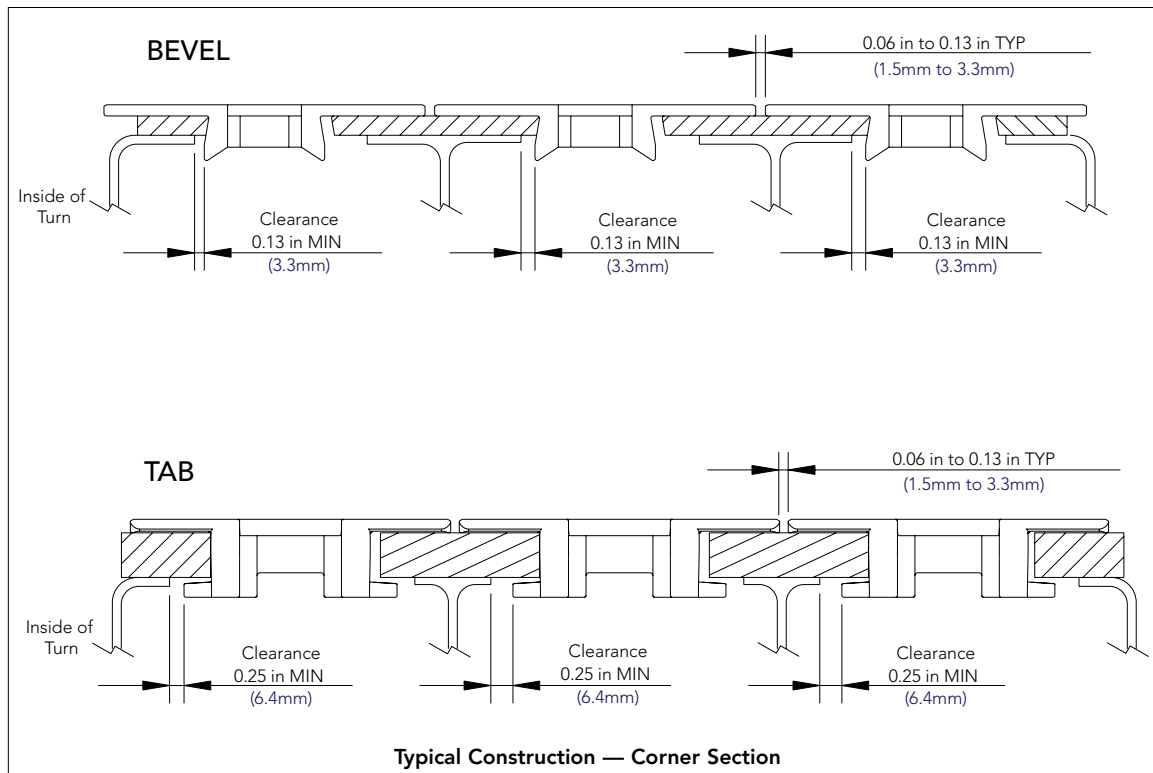


- Chain can be lifted out of straight and corner sections for cleaning or inspection
- Must utilize corner tracks

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Carryways

- Multiple Strands (Corner Section Shown)



- For minimum side-flex radii of individual chains, see table on **page 27**
- Adjacent strands should share a common wearstrip
- Key all sprockets on the head shaft
- Key only one sprocket on the tail shaft, preferably the center strand
- Magnetflex® and LPC chains follow the same guidelines as TAB chains

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Side-Flex Radius Table

Chain Style	Chain Width		Minimum Side-Flex Radius	
	in	mm	in	mm
60	3.25	82,6	19.69	500,0
66	3.25	82,6	19.69	500,0
LPC279	3.25, 4.50, 7.50	82,6, 114,3, 190,5	18.00	457,2
770 TAB	3.25	82,6	11.00	279,4
879, 879 TAB, 880, 880 TAB	3.25	82,6	18.00	457,2
	4.50	114,3	24.00	609,6
880 TAB BO	3.25, 4.50	82,6, 114,3	7.87	200,0
881, 881 TAB	3.25	82,6	18.00	457,2
	4.50, 7.50	114,3, 190,5	24.00	609,6
881 TAB G	3.63	92,1	18.00	457,2
882	4.50, 7.50, 10.00	114,3, 190,5, 254,0	24.00	609,6
882 TAB	3.25, 4.50, 6.00, 7.50, 10.00, 12.00	82,6, 114,3, 152,4, 190,5, 254,0, 304,8	24.00	609,6
882 TAB LBP	3.75	95,3	26.25	666,8
	7.50	190,5	24.00	609,6
882 TAB G	3.75	95,3	24.00	609,6
883 TAB LBP	4.50, 7.50	114,3, 190,5	24.00	609,6
1050 Magnetflex®, 1050 TAB	3.31	84,0	19.69	500,0
LPC1050	3.25	82,6	18.00	457,2
	3.31	84,0	19.69	500,0
	4.50, 7.50	114,3, 190,5	24.00	609,6
1055 Magnetflex	3.31, 4.50	84,0, 114,3	19.69	500,0
1055 TAB	3.31	84,0	19.69	500,0
LPC1055	3.25	82,6	18.00	457,2
	3.31	84,0	19.69	500,0
	4.50, 7.50	114,3, 190,5	24.00	609,6
1673	6	152,4	16.00	406,4
1843 TAB	1.25, 2.00	31,8, 50,8	10.00	254,0
1843 TAB G	1.50	38,1	10.00	254,0
1863 TAB	2.25	57,2	14.00	355,6
1873 TAB	2.25, 3.25, 4.50	57,2, 82,6, 114,3	14.00	355,6
	6.00, 7.50, 10.00	152,4, 190,5, 254,0	18.00	457,2
	12.00	304,8	24.00	609,6
1873 TAB G	3.75	95,3	15.00	381,0
1874 TAB	2.25, 3.25, 4.50	57,2, 82,6, 114,3	15.00	381,0
	6.00	152,4	18.00	457,2
	7.50	190,5	24.00	609,6
1874 TAB G	3.63	92,1	15.00	381,0
1883 TAB	2.50, 3.25	63,5, 82,6	28.00	711,2
3873 TAB	10.00	254,0	18.00	457,2
	12.00	304,8	24.00	609,6
4873 TAB	3.25	82,6	14.00	355,6
4874 TAB	3.25	82,6	15.00	381,0
	6.00	152,4	18.00	457,2
	7.50	190,5	24.00	609,6

Black = Inches Blue = Millimeters

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TableTop® CONVEYOR DESIGN RECOMMENDATIONS

TableTop Chain Track Details

• Straight-Running

Chain Style		60 66 812 815 820 831	821	1864	866	843	863 963	863T
Guide Clearance	in	1.75	5.50	1.38	1.63	0.94	1.44	1.31
	mm	44,5	139,7	35,1	41,3	23,9	36,5	33,3

• Side-Flexing

Chain Style		879B 880B 881B	770T 879T 880T 880BO 881T	882	882T 883T	279	1843	1863 1874 4874 1873 4873 3873	1883	1673		60 66	1050 1055		
Hold Down Style		Bevel	TAB	Bevel	TAB	LPC	TAB	TAB	TAB	Single Bearing	Double Bearing	Magnetflex®	Magnetflex	TAB	LPC
Guide Clearance Straight	in	1.75	1.81	2.44	2.38	1.75	0.88	1.31	1.66	2.25	3.13	1.73	1.73	1.81	1.75
	mm	44,5	46,0	62,0	60,5	44,5	22,3	33,3	42,2	57,2	79,4	44,0	44,0	46,0	44,5
Guide Clearance Corner	in	1.63	1.75	2.28	2.28	1.75	0.84	1.38	1.72	2.25	3.13	1.73	1.73	1.75	1.75
	mm	41,1	44,5	57,9	57,9	44,5	21,3	34,9	43,7	57,2	79,4	44,0	44,0	44,5	44,5
Corner Wearstrip Thickness	in	0.38	0.38	0.63	0.63	0.61	0.38	0.75	0.90	1.25	1.25	0.53	0.51	0.38	0.61
	mm	9,7	9,7	15,9	15,9	15,5	9,7	19,1	22,0	31,8	31,8	13,5	13,0	9,7	15,5

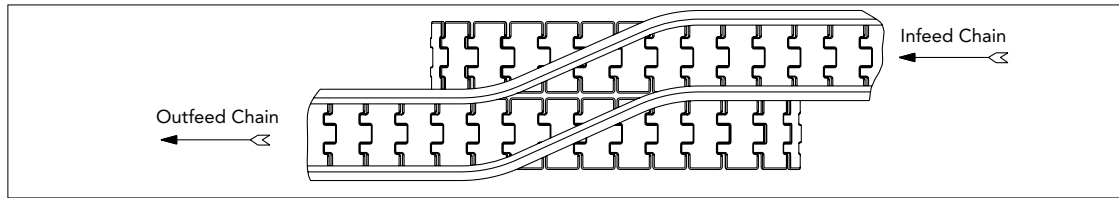
Black = Inches Blue = Millimeters

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

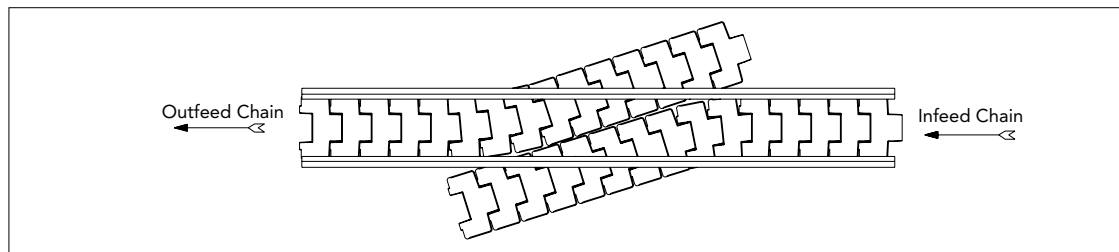
Smooth transfer of the conveyed product from one chain to another is essential. The various methods are described below:

• Side Transfer



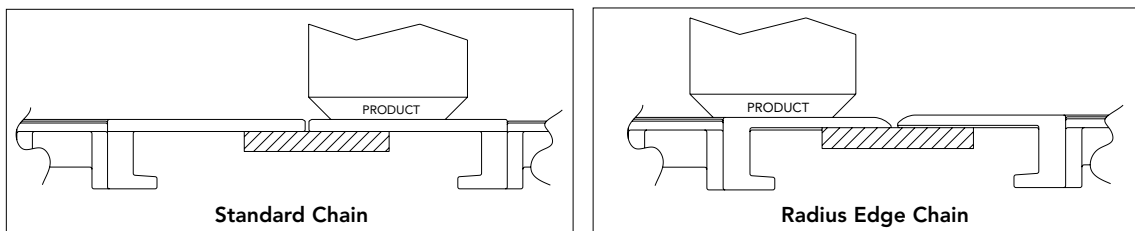
- Adjacent strands of chain should share a common wearstrip
- No stranded products

• Inline Transfer



- Adjacent strands of chain should share a common wearstrip
- Allows product to remain in straight line
- No stranded products

• Radius Edge Chain

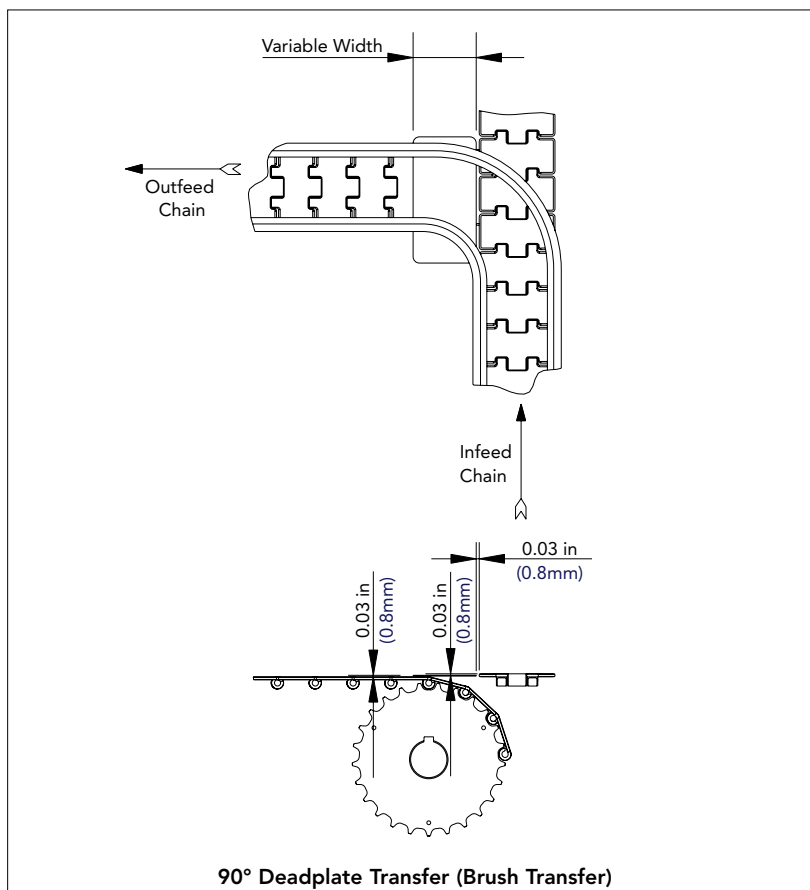
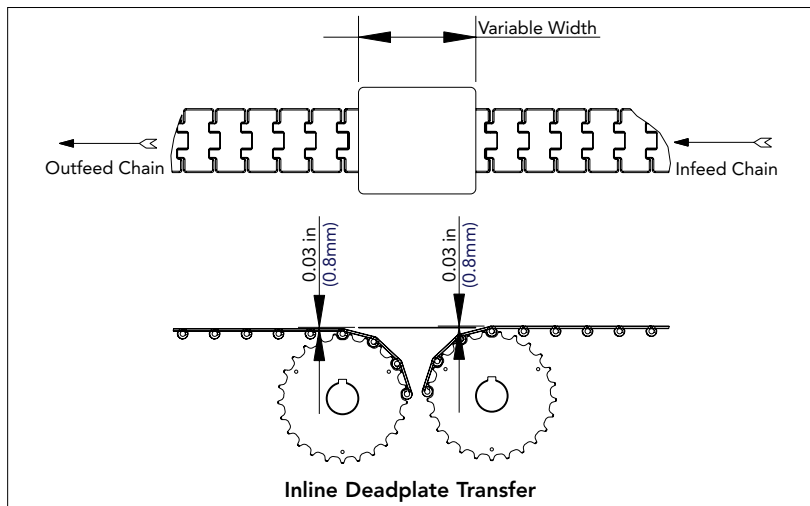


- An option to increase product stability at side transfers for certain products
- "R" designates chains with radius edge

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

• Deadplate Transfers



- For deadplate transfers, products should step down to the adjacent chain or deadplate surface (typically a 0.03 in (0,8 mm) step is recommended)
- Deadplates to be mounted slightly higher than the top surface of the outfeed chain
- Deadplates should be as short as possible
- Deadplate transfers result in stranded product

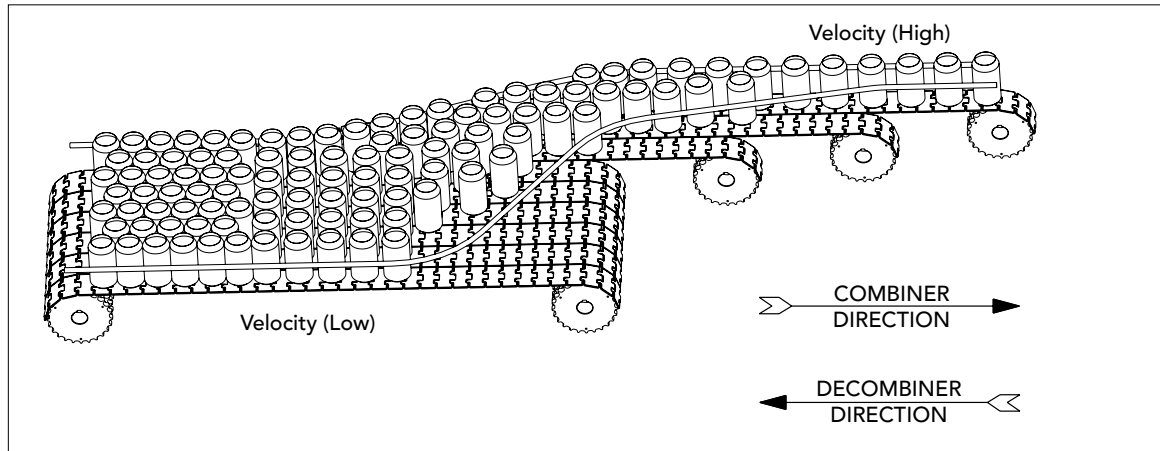
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TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

• Combiners / Decoiners

- Combiners take products from en masse (in mass) to single file
- Decoiners take products from single file to en masse (in mass)



Note: For conveyors using multiple strands of chain, key all sprockets on the head shaft and key only one sprocket on the tail shaft, preferably the center strand.

NOTICE

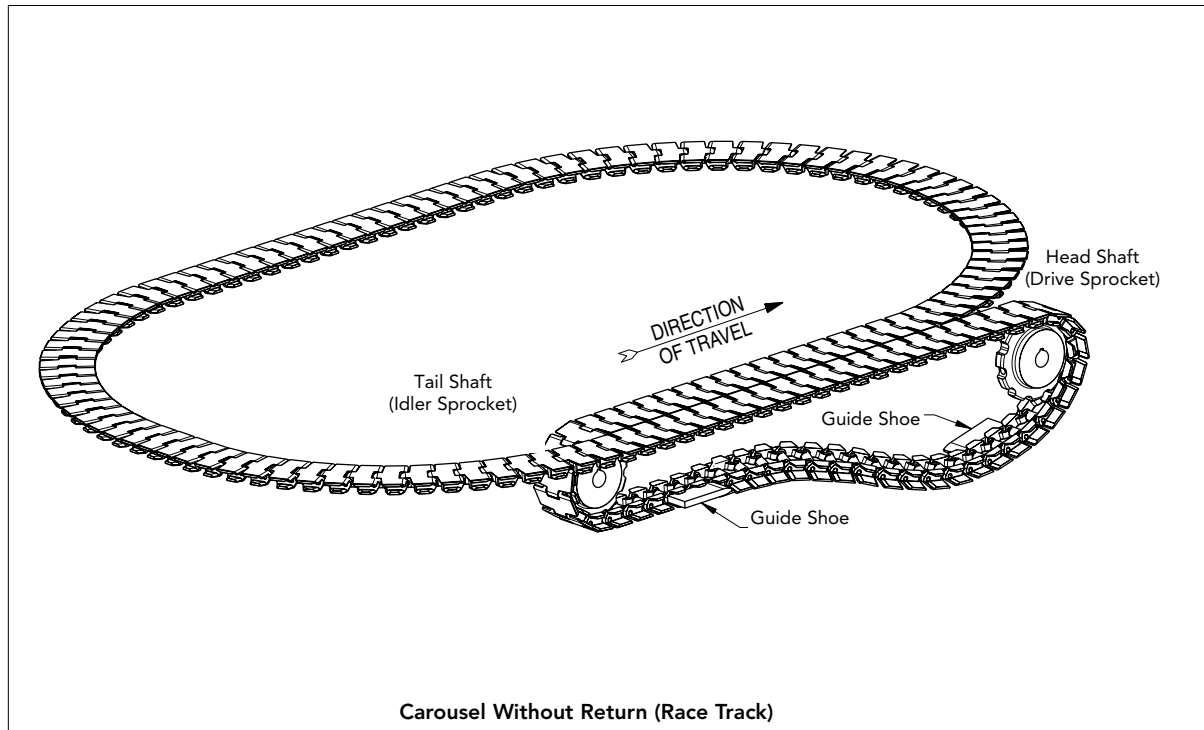
If space permits, use enough lanes to keep speed differentials between adjacent strands to about 50–75 FPM (15–23 MPM), depending on product.

When several chains run side by side, such as on multiple width conveyors and combiners or decoiners, make sure the return chains do not interfere with each other.

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Alternate Drive Configurations

- Offset Wrap Drive
 - Must utilize side-flexing chains
 - There is less chain required in the conveyor because full return is not required



TableTop® CONVEYOR DESIGN RECOMMENDATIONS

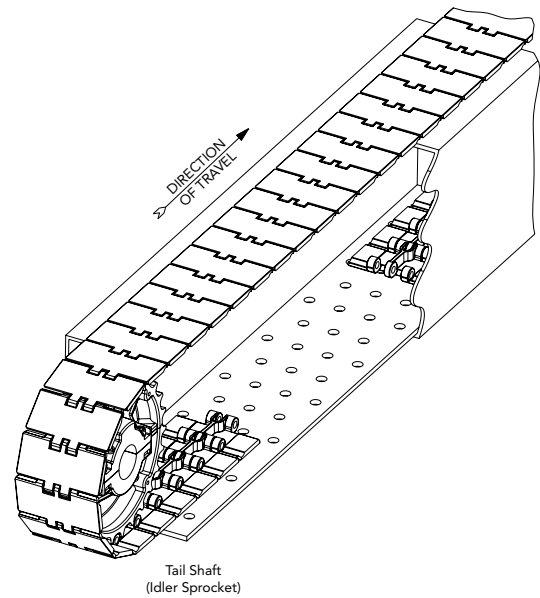
Returnways

TableTop chains can be supported in a variety of ways.

- **Full Width Sliding Return Bed**

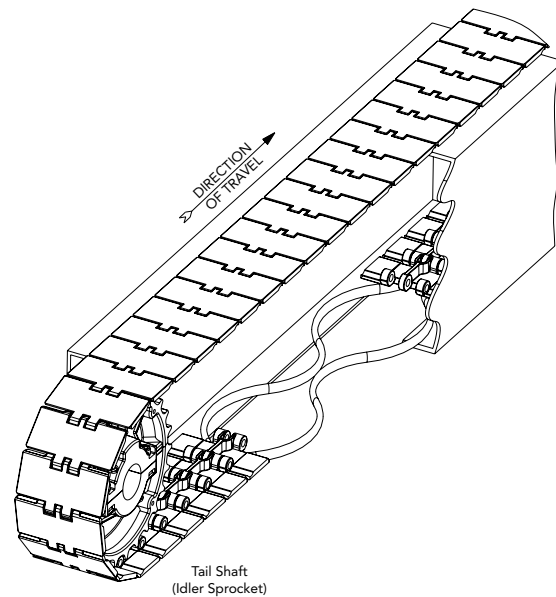
- Continuous sheets extend the full width of the chain and almost the entire length between the tail and drive sprockets
- Plates or sheets should be perforated with slots or holes to allow for drainage and the passage of foreign materials

NOTICE Solid beds should be avoided to eliminate debris buildup and suction effect.



- **Serpentine Style Return**

- The chain is fully supported
- Allows for drainage and the passage of foreign materials



NOTICE When returning chain with molded inserts (RubberTop® or SuperGrip), caution should be taken to ensure that the inserts do not interfere with the return elements.

Possible solutions:

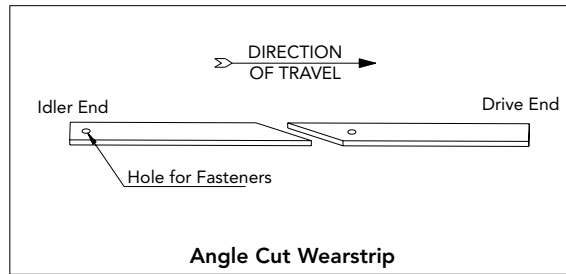
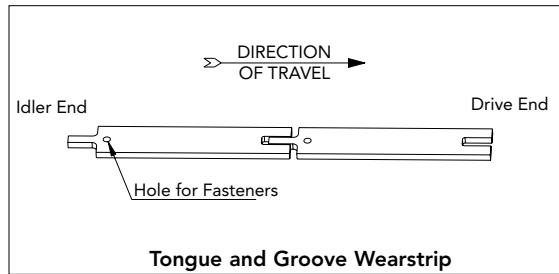
- Return the chain on its TABs
- Return the chain on the outer edge of the links via rollers or wearstrips

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

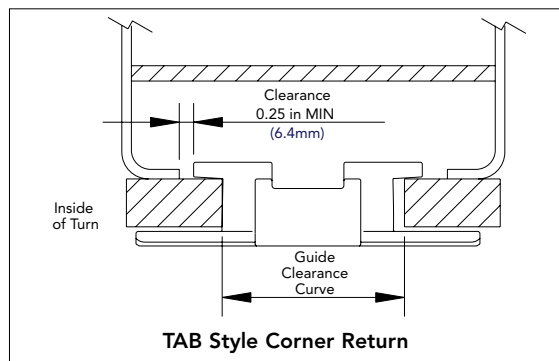
Returnways

• Wearstrip Considerations

- Wearstrips will contract and expand due to environmental conditions. Suggested methods to accommodate this are shown below:



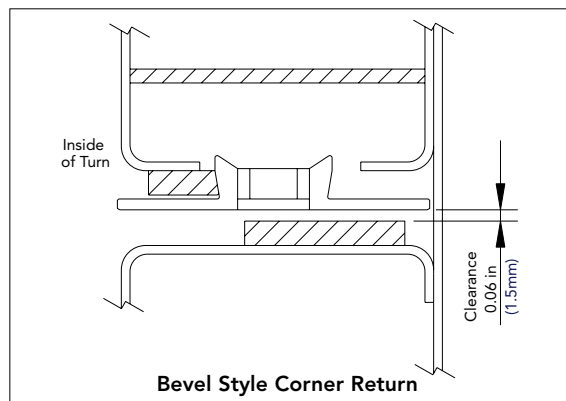
• TAB Style Corner Return



- Allows for reduced top surface wear.

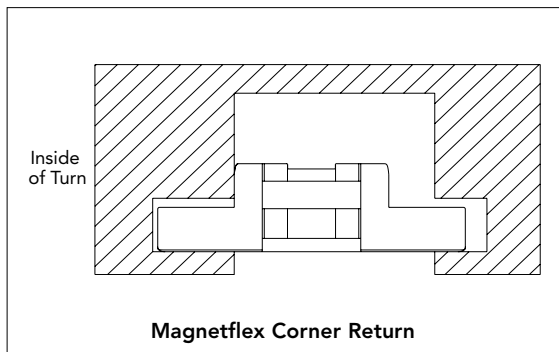
Note: See Product Catalog for available corners

• Bevel Style Corner Return



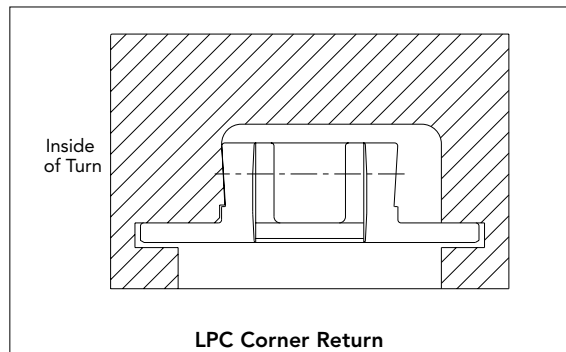
Note: See Product Catalog for available corners

• Magnetflex® Corner Return



Note: See Product Catalog for available corners

• LPC® Corner Return



Note: See Product Catalog for available corners

• General Recommendations

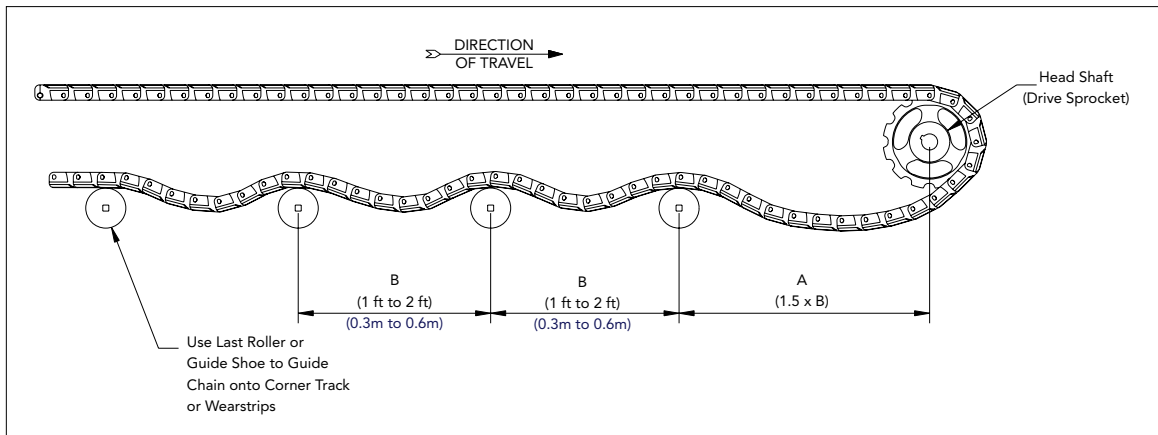
- Allow for thermal expansion of wearstrips
- All wearstrip surfaces that contact the chain should be in line and smooth (i.e. utilize counter sunk hold down screws, remove burrs)

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Roller Return

- The first roller should be located far enough away from the head sprocket to allow for proper catenary sag



- Dimension "A" should be 1.5 to 2 times greater than Dimension "B"
- Rollers are recommended to be at least two times greater than the minimum back-flex radius of the chain

Example: When using 820 Series Chain, the minimum back-flex radius is 1.50 in (38,1 mm); therefore, the minimum roller diameter should be 3.00 in (76,2 mm).

NOTICE Ensure rollers **ALWAYS** spin freely

- If rollers do not turn freely, uneven wear patterns or scalloping on the top carry surface of the chain can occur
- See table below for minimum back-flex radii for specific chains

NOTICE Roller returns are not recommended for roller base chain designs

Back-Flex Radius Table

Chain Style	Min. Back-Flex Radius	
	in	mm
279	2.75	69,9
770TAB	1.50	38,1
812, 812 TAB	3.15	80,0
815, 815 TAB	6.50	165,1
820, 821, 831	1.50	38,1
821 LBP	16.00	406,4
843	6.00	152,4
845	18.00	457,2
863 TAB	12.00	304,8
879, 879 TAB, 880, 880 TAB, 880 TAB BO, 881, 881 TAB, 882, 882 TAB	1.50	38,1
882 TAB LBP	9.00	228,6
883 TAB LBP	2.00	50,8
963	6.00	152,4
1050, 1055, 1060 (TAB, LPC and Magnetflex®)	5.12	130,0
1843 TAB	4.00	101,6
1844, 1863 TAB	6.00	152,4
1864 TAB, 1873 TAB	12.00	304,8
1874 TAB	10.00	254,0
1883 TAB	4.50	114,3
3873 TAB	7.00	177,8
4873 TAB, 4874 TAB	12.00	304,8
60, 66	3.94	100,0
1673	11.00	279,0

Black = Inches Blue = Millimeters

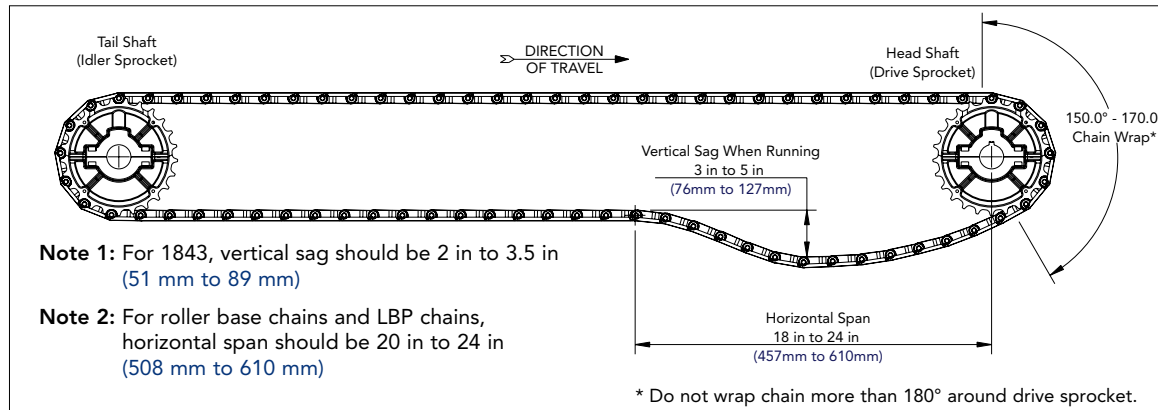
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TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Catenary Sag

- The function of the catenary is to allow a place for excess chain to accumulate
- TableTop chains should never be run tight
- The catenary sag should be measured when running

- If catenary sag is excessive or increases due to wear, it should be adjusted by removing links to obtain the proper sag
- Take-ups are typically not recommended
- The catenary sag should be located as close to the drive as possible



NOTICE The catenary sag area must be free of all obstructions, such as frame cross-members, supports and drive components that can damage chain or inhibit proper catenary sag.

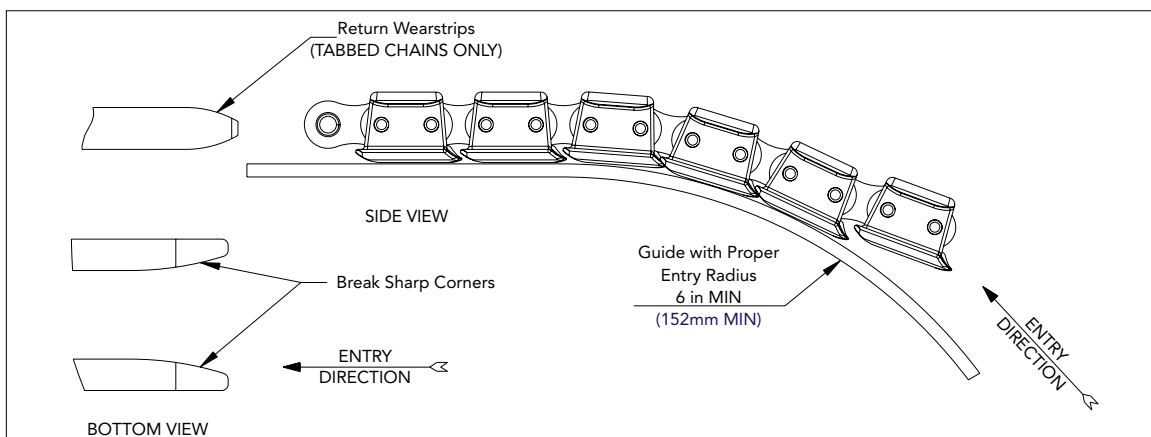
CAUTION It is recommended to keep the sprockets and chain clean of debris and foreign matter. If this is not done, the chain can stick to (not release freely from) the drive sprockets causing the catenary to bounce leading to possible chain damage or breakage. In cases of extreme environments, a hold down roller can be positioned above the catenary near the drive sprocket(s) to keep the chain from overwrapping the drive sprocket(s).

Entry Radius for Sliding Returns

NOTICE A generous entry radius to the return section which permits the chain to feed smoothly into the returnways:

- The entry radius should be greater than the minimum back-flex radius of the chain (see table on page 35)
- Regal Rexnord recommends a 6 in (152 mm) minimum entry radius to prevent non-uniform wear

- When returning a chain on its TABs, guide the chain onto the return wearstrips using a guide shoe (see tables on page 28 for proper guide clearance)
- At the entry of the return wearstrips, provide rounded corners to prevent catching or snagging of the chain flights



Entry Radius for Sliding Returns

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TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Sprocket and Wearstrip Location

- The distance from the end of the wearstrip to the sprocket shaft centerline should equal dimension "C" (one chain flight or pitch); otherwise, the wearstrip will interfere with the free articulation of the chain as it enters the sprocket
- The leading edges of the wearstrip should be beveled
- The following formulas and dimensions used in conjunction with the figure will give the proper shaft and wearstrip positioning

Sprocket Location for Conventional Chains

$$A = (\text{Pitch Diameter}/2) + E$$

C = One Chain Pitch (which ensures support under chain at all times)

E = Centerline of Pin to Bottom of Chain Flight (top of wearstrip)

- See table below for C and E dimensions

Example: For an 820 chain utilizing a 25T sprocket:

$$A = (\text{Pitch Diameter}/2) + E = (6.032 \text{ in}/2) + 0.125 \text{ in} = 3.141 \text{ in}$$

$$C = 1.50 \text{ in}$$

Metric:

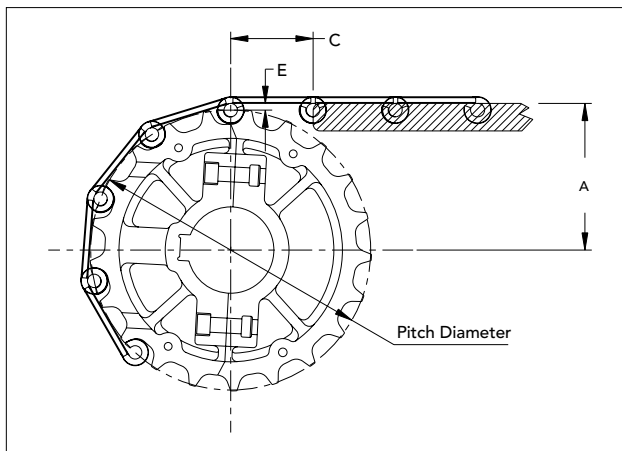
$$A = (\text{Pitch Diameter}/2) + E = (153,21 \text{ mm}/2) + 3,18 \text{ mm} = 79,78 \text{ mm}$$

$$C = 38,1 \text{ mm}$$

Tolerances:

$$A = +.03 \text{ in} / -.00 \text{ in} (+,8 \text{ mm} / -,0 \text{ mm})$$

$$C = +.25 \text{ in} / -.00 \text{ in} (+6,3 \text{ mm} / -,0 \text{ mm})$$



Note: Dimensions apply to both head and tail shafts.

Chain Series	Shaft Drop Values			
	"C" Dimension		"E" Dimension	
	in	mm	in	mm
60	1.50	38,1	0.125	3,18
66	1.50	38,1	0.125	3,18
1673	1.50	38,1	0.650	16,51
LPC279	1.50	38,1	0.470	11,94
770	1.00	25,4	0.234	5,94
812	1.50	38,1	0.125	3,18
815	1.50	38,1	0.125	3,18
820	1.50	38,1	0.125	3,18
821	1.50	38,1	0.125	3,18
LBP821	1.50	38,1	0.125	3,18
831	1.50	38,1	0.094	2,39
843	1.00	25,4	0.234	5,94
845	1.00	25,4	0.234	5,94
863	1.50	38,1	0.406	10,31
879	1.50	38,1	0.109	2,77
880	1.50	38,1	0.141	3,58
881	1.50	38,1	0.125	3,18
882	1.50	38,1	0.188	4,78
LBP882	1.50	38,1	0.188	4,78
LBP883	1.50	38,1	0.188	4,78
963	1.50	38,1	0.406	10,31
1050	1.00	25,4	0.138	3,51
TAB and Magnetflex®	1.00	25,4	0.138	3,51
LPC1050	1.00	25,4	0.470	11,94
1055	1.00	25,4	0.140	3,56
TAB and Magnetflex	1.00	25,4	0.140	3,56
LPC1055	1.00	25,4	0.470	11,94
FTM 1060	1.00	25,4	0.138	3,51
1757	1.50	38,1	0.530	13,46
LBP1757	1.50	38,1	0.940	23,88
1843	1.00	25,4	0.266	6,76
1844	1.00	25,4	0.266	6,76
1863	1.50	38,1	0.406	10,31
1864	1.50	38,1	0.406	10,31
1873	1.50	38,1	0.406	10,31
1874	1.50	38,1	0.438	11,13
1883	2.00	50,8	0.480	12,19
3873	1.50	38,1	0.406	10,31
4873	1.50	38,1	0.406	10,31
4874	1.50	38,1	0.438	11,13

Black = Inches Blue = Millimeters

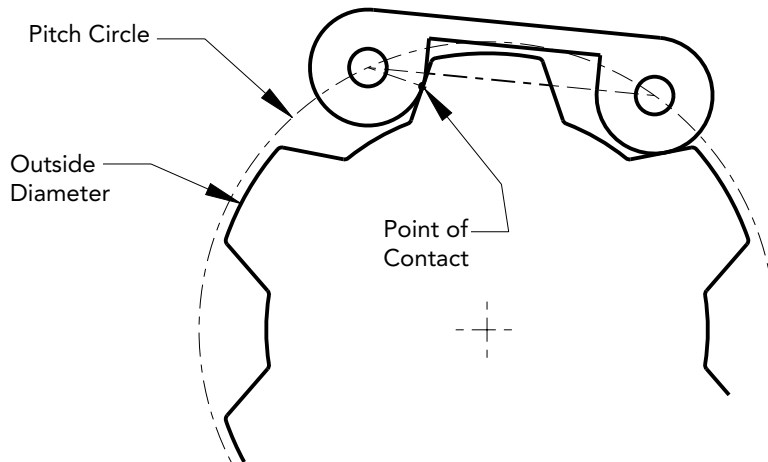
Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Sprocket Pitch Diameter vs. Outside Diameter

In some instances, it is possible for a sprocket's pitch diameter to be larger than the outside diameter. This is not a problem because the link does not contact the sprocket on the pitch circle.

- Why Pitch Diameter Is Larger Than the Outside Diameter on Small Sprockets



- The outside diameter is to the outer tips of the teeth.
- The chain's pins are on the pitch diameter. On a very small sprocket, the chord created by the link causes the point where the sprocket contacts the tooth to be much closer to the sprocket center than the pins and the pitch circle.

Note: Chordal action is defined as the up and down motion of the chain over top dead center of the sprocket centerline. Excessive chordal action can lead to product tippage.

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Roller Chain Sprockets for Two-Piece Chains

TableTop two-piece roller chains operate over standard ANSI sprockets.

Read important note below:

Note: To prevent interference between chain hold down TABs and sprocket hubs, the maximum hub diameters are as follows:

- 1843 TAB — sprocket pitch diameter minus 0.65 in (16,5 mm)
- 1874 TAB, 4874 TAB — sprocket pitch diameter minus 1.30 in (33,0 mm)
- 1883 TAB — sprocket pitch diameter minus 1.65 in (41,9 mm)
- 1863 TAB, 863 TAB, 1873 TAB, 4873 TAB — sprocket pitch diameter minus 1.50 in (38,1 mm)
- 3873 TAB — sprocket pitch diameter minus 1.50 in (38,1 mm)
- 1673 TAB — sprocket pitch diameter minus 1.60 in (40,6 mm)

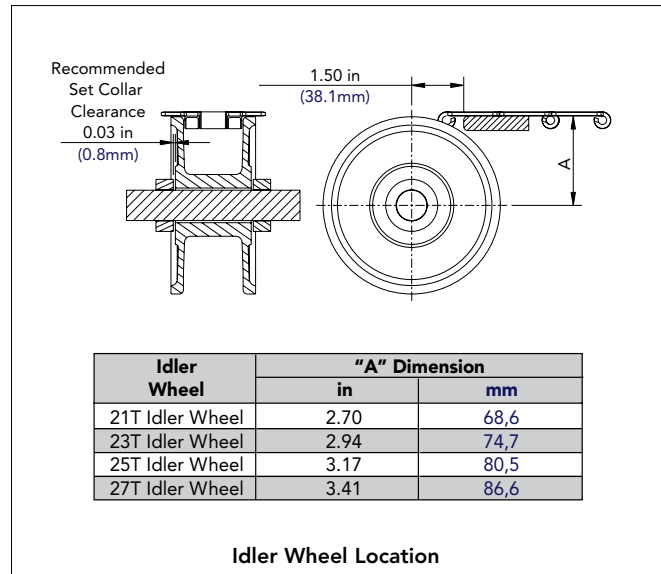
Roller Base Chain and Sprockets		
Chain Series	Base Chain	Sprockets
1843TAB	#1843	ANSI #40
1843TAB G		
845	#843	
1844		
863TAB	#863	ANSI #60
963	#63	
1673		
1863TAB		
1873TAB		
1873TAB G		
1874TAB		
1874TAB G		
3873TAB		
4873TAB		
4874TAB		
1864		
1883TAB	#1883	

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Idler Wheel and Sprocket Location (Stationary Shafts Only)

NOTICE

- The idler wheels can only be used in place of tail shaft sprockets with TableTop one-piece unit link chains
- Idler wheels should not be used with roller base chains
- For proper location and smooth operation, the idler wheels should be mounted slightly below the top of the wearstrips



Shafting Recommendations for Stationary Tail Shafts

- Recommended Materials:
 - Carbon Steel (dry environments only)
 - Stainless Steel
- Suggested Hardness:
 - 25 to 30 Rc
- Suggested Surface Finish:
 - 63 μ in (1,6 μ m) Ra

Note: Regal Rexnord recommends rotating shafts in bearings. If bearings are not used, the following are guidelines for operating TableTop sprockets on stationary shafts:

Sprocket	Max. Recommended Chain Speed	
	FPM	MPM
N - Acetal	0-50	0-15
UHMWPE	0-50	0-15
NS - Nylon, Split	0-100	0-30
LF Bushing (Idler Wheel)	0-300	0-90
Bronze Bushing	0-500	0-150
Bearings	Recommended for Speeds > 500	Recommended for Speeds > 150

TableTop® CONVEYOR DESIGN RECOMMENDATIONS

Keyway and Setscrew Sizes

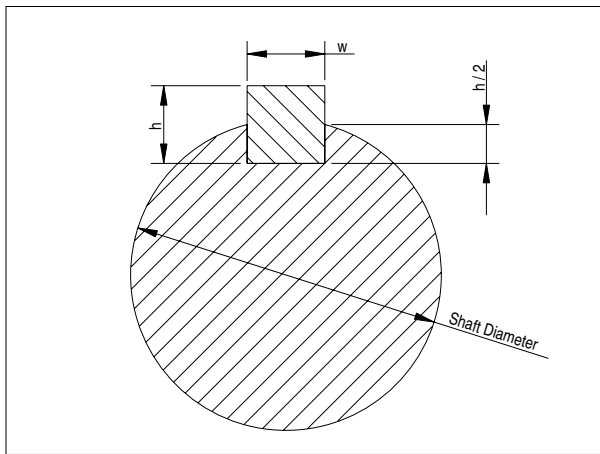
Imperial:

Shaft Diameter	KEYWAY			Setscrew Size
	Key Width (w)	Key Height (h)	Keyseat Depth (h/2)	
> 9/16" to 7/8"	3/16"	3/16"	3/32"	1/4-20
> 7/8" to 1-1/4"	1/4"	1/4"	1/8"	3/8-16
> 1-1/4" to 1-3/8"	5/16"	5/16"	5/32"	3/8-16
> 1-3/8" to 1-3/4"	3/8"	3/8"	3/16"	3/8-16
> 1-3/4" to 2-1/4"	1/2"	1/2"	1/4"	1/2-13
> 2-1/4" to 2-3/4"	5/8"	5/8"	5/16"	1/2-13

Metric:

Shaft Diameter	Key Width (w)	Key Height (h)	Keyseat Depth (h/2)	Setscrew Size
> 22 mm to 30 mm	8 mm	7 mm	3,5 mm	M6 x 1
> 30 mm to 38 mm	10 mm	8 mm	4 mm	M8 x 1,25
> 38 mm to 44 mm	12 mm	8 mm	4 mm	M10 x 1,5
> 44 mm to 50 mm	14 mm	9 mm	4,5 mm	M10 x 1,5
> 50 mm to 58 mm	16 mm	10 mm	5 mm	M12 x 1,75
> 58 mm to 65 mm	18 mm	11 mm	5,5 mm	M12 x 1,75

Black = Inches Blue = Millimeters



Note: Imperial keyed round bore sprockets are available with one setscrew as standard. Additional setscrews can be provided upon request. Metric keyed round bore sprockets are not supplied with a setscrew as standard.

NOTICE If multiple strands share a tail shaft, key only one sprocket and allow others to rotate. Collars should be utilized to prevent lateral movement.

Split Sprocket Bore Nomenclature

Shaft Ready* — Tight fit on the shaft with a keyway and setscrew.

Plain Bore — Same tight fit bore as a shaft ready bore, but without a keyway and setscrew.

Idler Bore — Round bore with a clearance fit (no keyway or setscrew). Designed to spin freely on the shaft.

Rough Stock Bore — Wide tolerance bore used for work in process. Not for use on any shaft. Must be further machined for actual use.

Over Sized Bore — Round bore with a slightly loose fit on the shaft with keyway but no setscrew. Designed to move laterally on the shaft during setup and still transmit torque through the keyway as a drive sprocket in the actual application. Not recommended for axial float in thermal applications.

Split Sprocket Hardware Torque

Torque specs for cap screws on NS sprockets	
Hardware	Torque to
1/4-20 or M6	50 in-lbs (5.7 Nm)
3/8-16 or M10	75 in-lbs (8.5 Nm)

* Some European conveyor OEM's prefer shaft ready sprockets without a set screw (but with a keyway), and have a loose fit on the shaft so they can float axially on the shaft, even after they are tightened down (if split style). In this case, the center 1-2 sprockets should be locked down with use of set collars or other means. If unsure which sprocket bore type a particular sprocket has, contact Regal Rexnord Application Engineering.

TableTop® CALCULATION PROGRAM

The TableTop Calculation Program is available to perform chain pull calculations for specific conveyor applications.

Chain Pull Calculations

- To obtain the most recent calculation program:
 - Download from Technical Support at: rexnord.com > Support
 - Contact Application Engineering
- Prior to performing chain pull calculations, the following information is needed:
 - Chain style, material and width
 - Wearstrip material
 - Corner track material (if utilizing a side-flexing chain)
 - Lubrication conditions (i.e. dry, water, soap and water, oil)
 - Chain speed (FPM) or (MPM)
 - Product weight (lbs/ft) or (kg/m)
 - Product material
 - Number of starts per hour (e.g. indexing conveyors)
 - Percent of time product accumulation occurs (i.e. slippage)
 - Portion of conveyor where product accumulation occurs
 - Conveyor layout with dimensions
- The calculation output sheet contains the following information:
 - Calculated headshaft chain tension
 - Maximum allowable headshaft chain tension
 - Percent of allowable chain tension
 - Total horsepower required with an assumed gearbox efficiency of 100%

Note: If the percent of allowable chain tension is 100% or less, your conveyor application is within chain capacity.

NOTICE The horsepower requirement the program calculates is the “design horsepower” that is required to power the conveyor based on the input parameters. Additional considerations should be made for the type of drive used, efficiency losses in the power train, appropriate service factors and any gearbox manufacturer’s recommendations.

CAUTION Regal Rexnord recommends some sort of soft start for all FlatTop chain conveyor motors, but especially for higher speeds and conveyors with bottom drives. Hard starts add peak loads to the chain, which will shorten the service life. Hard starts can also cause the chain to stretch and bounce in the catenary sag section, sometimes causing the chain to catch in the conveyor frame and become damaged. On bottom drives, hard starts can cause the chain to fall off the drive sprockets and skip teeth.

- For a side-flexing conveyor, the calculation output sheet contains the following information:
 - Calculated corner tension (PV)
 - Maximum allowable corner tension

Note: If the calculated corner tension is less than the maximum allowable corner tension, your conveyor application is within chain PV capacity.

- For a side-flexing roller base chain conveyor, the calculation sheet contains the following information:
 - Calculated adjusted corner tension
 - Maximum allowable adjusted corner tension

Note: If the calculated adjusted corner tension is less than the maximum allowable adjusted corner tension, your conveyor application is within chain capacity.

- The TableTop Calculation Program calculates the following:
 - Carousel conveyor analysis (i.e. offset wrap drive conveyors)
 - Universal conveyor analysis (i.e. alpine systems, multiple loading systems)
 - Catenary sag vs. length vs. tension
 - Catenary sag vs. length vs. excess chain
 - Product backline pressure (due to accumulation)

NOTICE The TableTop Calculation Program does not take environmental conditions into consideration. This calculation program **ONLY** provides information on whether the chain is within capacity.

TableTop® CALCULATION PROGRAM

Calculating Chain Speed, Given Production Output

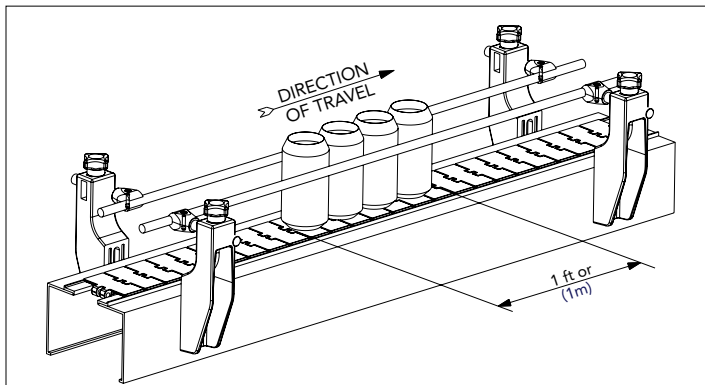
The speed of each chain depends on the production speed (containers per minute), the container size (diameter or length), and product flow (single file or en masse). If en masse (in mass), the conveyor width must also be considered.

Example:

A production line must run at a speed of 1600 containers per minute (CPM). The jars have a 3.00 in (76,2 mm) diameter.

- 1) What is the chain speed when the jars are running single file on SS815-K325 chain?
- 2) What is the chain speed when the jars are running en masse (in mass) on dual strands of SS815-K750 chain?

- Single File (one strand of SS815-K325 chain)



Imperial:

$$\text{Container/ft} = \frac{12 \text{ in/ft}}{\text{Dia. or length of Container (in)}} = \frac{12}{3} = 4 \text{ containers/ft}$$

$$\text{Chain Speed FPM (Feet per minute)} = \frac{\text{CPM (Containers per minute)}}{\text{Containers/ft}} = \frac{1600}{4} = 400 \text{ FPM}$$

Metric:

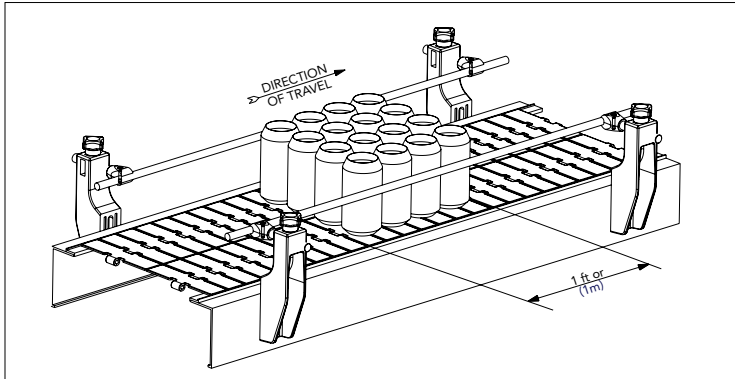
$$\text{Container/m} = \frac{1000\text{mm/m}}{\text{Dia. or length of Container (mm)}} = \frac{1000}{76,2} = 13,1 \text{ containers/m}$$

$$\text{Chain Speed MPM (Meters per minute)} = \frac{\text{CPM (Containers per minute)}}{\text{Container/m}} = \frac{1600}{13,1} = 122,14 \text{ MPM}$$

TableTop® CALCULATION PROGRAM

Calculating Chain Speed, Given Production Output

Mass Flow (dual strands of SS815-K750 chain) (7.50 in (190,5 mm) wide)
 Overall conveyor width = 15 in (381,0 mm)



Imperial:

$$\text{Container/ft}^2 = \frac{166.277}{\text{Dia. (in)}^2} = \frac{166.277}{3^2} = 18.5 \text{ containers/ft}^2$$

$$\text{Conveyor Width (in)} = \# \text{ of strands} \times \text{Flight Width (in)} = 2 \times 7.5 = 15.0 \text{ in}$$

$$\text{Chain Speed (FPM)} = \frac{\text{CPM}}{\text{Containers/ft}^2 \times (\text{Width (in)}/12 \text{ in/ft})} = \frac{1600}{18.5 \times (15/12)} = 70 \text{ FPM}$$

Metric:

$$\text{Container/m}^2 = \frac{1,500,000}{\text{Dia. (mm)}^2} = \frac{1,500,000}{76,22} = 198,1 \text{ containers/m}^2$$

$$\text{Conveyor Width (mm)} = \# \text{ of strands} \times \text{Flight Width (mm)} = 2 \times 190,5 = 381 \text{ mm}$$

$$\text{Chain Speed (MPM)} = \frac{\text{CPM}}{\text{Containers/m}^2 \times (\text{Width (mm)}/12 \text{ mm/m})} = \frac{1600}{198,1 \times (381/1000)} = 21 \text{ MPM}$$

Note:

1. Oval and rectangular containers are usually only run single file. En masse (in mass) conveying of such containers leads to orientation and jamming problems.
2. The actual conveyor speeds are usually about 10-15% faster than the calculated required speeds in order to provide good "product take-away" from the adjacent machinery.
3. The speeds of individual chains on combiners and decombiners depend on mass flow speed, single file speed and the number of strands on the combiner/decombiner.

NOTICE

If space permits, use enough lanes to keep speed differentials between adjacent strands to about 50–75 FPM (15–23 MPM), depending on product.

When several chains run side by side, such as on multiple width conveyors and combiners or decombiners, make sure the return chains do not interfere with each other.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

TableTop® CALCULATION PROGRAM

Calculating Product Weight, Given Production Output

When calculating chain pull, the weight of product per linear unit of measurement (in the direction of chain travel) per individual strand is required.

Example:

Continuing with the previous example, a production line must run at a speed of 1600 Containers Per Minute (CPM). Each jar weighs 1.00 lb (0,454 kg).

- Single File (one strand of SS815-K325 chain)

Imperial:

$$\text{lbs/ft} = (\text{Containers/ft}) \times (\text{lbs/Container}) = 4 \times 1 = 4.0 \text{ lbs/ft}$$

Metric:

$$\text{kg/m} = (\text{Containers/m}) \times (\text{kg/Container}) = 13,1 \times 0,454 = 5,9 \text{ kg/m}$$

- Mass Flow (on each strand of SS815-K750 chain)

Imperial:

$$\begin{aligned} \text{lbs/ft} &= (\text{Containers/ft}) \times (\text{Flight Width (in)}/12 \text{ in/ft}) \times (\text{lbs/Container}) \\ &= 18.5 \times (7.5/12) \times 1 = 11.6 \text{ lbs/ft} \end{aligned}$$

Metric:

$$\begin{aligned} \text{kg/m} &= (\text{Containers/m}) \times (\text{Flight Width (mm)}/1000 \text{ mm/m}) \times (\text{kg/Container}) \\ &= 198,1 \times (190,5/1000) \times 0,454 = 17,1 \text{ kg/m} \end{aligned}$$

TableTop® CALCULATION PROGRAM

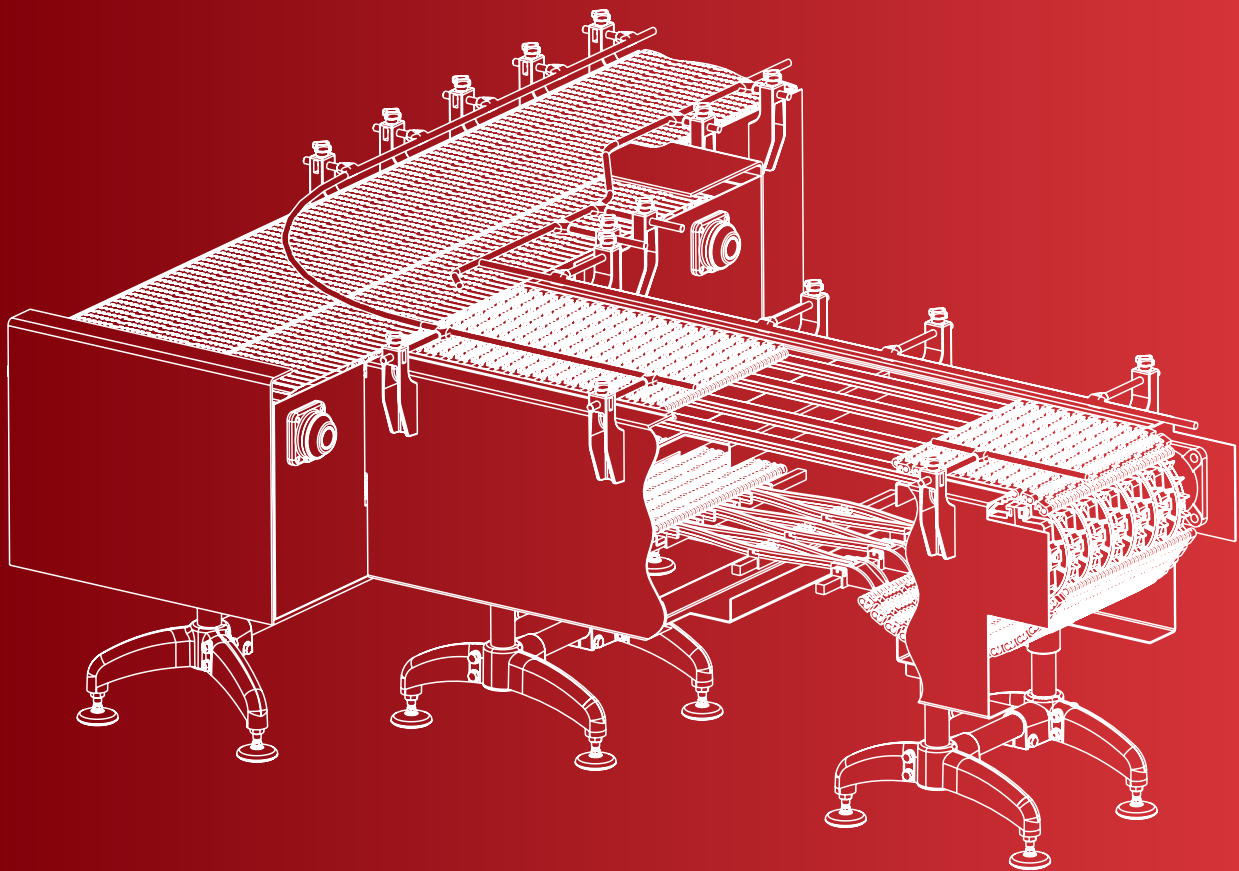
Typical Product Sizes and Weights

Content	Container Material	Container Size	Base Dimensions		Weight Full		Single File		En Masse		
			inches	mm	lbs	kg	lbs/ft	kg/m	lbs/ft ²	kg/m ²	
Dairy	Milk	Paper	1/2 Pint	3 x 3	76,2 x 76,2	0.60	0,27	2.4	3,6	-	-
		Paper	Pint	3 x 3	76,2 x 76,2	1.10	0,50	4.4	6,5	-	-
		Paper	Quart	3-1/8 x 3-1/8	79,4 x 79,4	2.30	1,04	8.8	13,1	-	-
		Paper	1/2 Gallon	4-1/8 x 4-1/8	104,8 x 104,8	4.50	2,04	13.1	19,5	-	-
	Yogurt	Plastic	Gallon	6 x 6	152,4 x 152,4	8.90	4,04	17.8	26,5	-	-
		Plastic	6 oz	2-5/8 Ø	66,7Ø	0.40	0,18	1.8	2,7	9,7	46,9
	Cottage Cheese	Plastic	6 Pack / 4 oz Containers	5 x 7	127 x 177,8	1.57	0,71	3.8	5,6	-	-
		Plastic	1/2 lb	4 Ø	101,6Ø	0.60	0,27	1.8	2,7	6,2	30,3
Plastic		1 lb	4-3/4 Ø	120,7Ø	1.10	0,50	2.8	4,1	8,1	39,4	
Beverages	Concentrated Juice	Paper	12 oz	2-5/8 Ø	66,7Ø	1.00	0,45	4.6	6,8	24,1	117,2
		Plastic	Gallon	6 Ø	152,4Ø	1.17	0,53	2.3	3,5	5,4	26,3
		Glass	Gallon	6 Ø	152,4Ø	3.59	1,63	7.2	10,7	16,6	80,6
	Juice	Paper	6.75 oz Box (Tetra)	1-1/2 x 2-1/4	38,1 x 57,2	0.48	0,22	3.8	5,7	-	-
		Plastic	10 Pack / 6.75 Boxes (Tetra)	3 x 10-1/2	76,2 x 266,7	4.87	2,21	19.5	29,0	-	-
	Soft Drink	Aluminum	250ml PET	2-5/64 Ø	52,9Ø	0.63	0,29	3.6	5,4	24,3	117,4
		Aluminum	12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20,9	101,8
		Plastic	500ml PET	2-37/64 Ø	65,5Ø	1.16	0,53	5.4	8,0	29,0	141,0
		Plastic	20 oz PET	2-7/8 Ø	73,0Ø	1.37	0,62	5.7	8,5	27,6	134,1
		Plastic	1 Liter PET	3-3/16 Ø	81,0Ø	2.31	1,05	8.7	12,9	37,8	183,7
		Plastic	1-1/2 Liter PET	4-3/16 Ø	106,4Ø	3.40	1,54	9.7	14,5	32,2	156,7
		Plastic	2 Liter PET	4-1/2 Ø	114,3Ø	4.40	2,00	11.7	17,5	36,1	175,7
	Beer	Plastic	3 Liter PET	5-1/8 Ø	130,2Ø	6.38	2,89	14.9	22,2	40,4	196,3
		Glass	12 oz	2-1/2 Ø	63,5Ø	1.50	0,68	7.2	10,7	39,9	194,0
		Glass	12 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.20	0,54	5.2	7,8	26,4	128,1
		Glass	16 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.60	0,73	7.0	10,4	35,2	170,8
		Glass	32 oz	2-5/8 Ø	66,7Ø	3.40	1,54	15.5	23,1	82,0	398,6
		Glass	64 oz	3-5/8 Ø	92,1Ø	3.88	1,76	12.8	19,1	49,1	238,6
		Aluminum	12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20,9	101,8
		Paper	12 Pack / 12 oz Cans	10-3/4 x 7-3/4	273,1 x 196,9	10.40	4,72	11.6	17,3	-	-
		Paper	12 Pack Fridge Pack	16 x 4-7/8	406,4 x 123,8	10.32	4,68	7.7	11,5	-	-
		Paper	24 Pack / 12 oz Cans	16 x 10-3/4	406,4 x 273,1	20.16	9,14	15.1	22,5	-	-
		Paper	24 Pack / 12 oz Cans (cube)	10-3/4 x 7-3/4	273,1 x 196,9	20.16	9,14	22.5	33,5	-	-
		Paper	18 Pack / 12 oz Cans	16 x 7-3/4	406,4 x 196,9	14.69	6,66	11.0	16,4	-	-
		Paper	30 Pack / 12 oz Cans	13-1/2 x 7-3/4	342,9 x 196,9	24.48	11,10	21.8	32,4	-	-
	Wine / Champagne	Glass	750ml	2-7/8 Ø	73,0Ø	2.88	1,31	12.0	17,9	57,9	281,9
		Glass	1.5 Liter	4-1/4 Ø	108,0Ø	6.37	2,89	18.0	26,8	58,6	284,9
		Glass	12 oz	2-1/2 Ø	63,5Ø	1.22	0,55	5.9	8,7	32,5	157,8
		Paper	4 Pack / 12 oz Bottles	5-1/8 x 5-1/4	130,2 x 133,4	5.07	2,30	11.9	17,7	-	-
	Coffee	Metal	1/2 lb	4-1/8 Ø	104,8Ø	0.80	0,36	2.3	3,5	7,8	38,0
Metal		1 lb	4-1/8 Ø	104,8Ø	1.30	0,59	3.8	5,6	12,7	61,7	
Metal		2 lb	5-1/4 Ø	133,4Ø	2.50	1,13	5.7	8,5	15,1	73,3	
Metal		3 lb	6-1/4 Ø	158,8Ø	3.80	1,72	7.3	10,9	16,2	78,6	
Food	Baby Food	Glass	Regular	2-3/8 Ø	60,3Ø	0.56	0,25	2.8	4,2	16,5	80,3
	Baby Food	Glass	Junior	2-3/8 Ø	60,3Ø	0.80	0,36	4.0	6,0	23,6	114,8
	Soup	Metal	10.5 oz	2-5/8 Ø	66,7Ø	0.76	0,34	3.5	5,2	18,3	89,1
	Soup	Metal	18.5 oz	3-1/8 Ø	79,4Ø	1.33	0,60	5.1	7,6	22,6	110,0
	Soup	Metal	32 oz	4 Ø	101,6Ø	1.90	0,86	5.7	8,5	19,7	96,0
	Cracker	Paper	10 oz Box	2-1/4 x 5-1/4	57,2 x 133,4	0.72	0,33	3.8	5,7	-	-
	Peanut Butter	Plastic	18 oz	3 Ø	76,2Ø	1.15	0,52	4.6	6,8	21,2	103,3
	Jelly	Glass	32 oz	3-5/16 Ø	84,1Ø	2.15	0,98	7.8	11,6	32,6	158,6
	Jelly	Glass	18 oz	2-5/8 Ø	66,7Ø	1.62	0,73	7.4	11,0	39,1	189,9
	Catsup	Plastic	24 oz	2-1/4 x 3-3/4	57,2 x 95,3	1.63	0,74	8.7	12,9	-	-
	Apple Sauce	Glass	23 oz	3-5/16 Ø	84,1Ø	2.05	0,93	7.4	11,1	31,1	151,2
	Mayonnaise	Glass	32 oz	4 Ø	101,6Ø	3.03	1,37	9.1	13,5	31,5	153,1
	Cereal	Paper	14 oz Box	2-3/8 x 7-1/2	60,3 x 190,5	1.06	0,48	5.4	8,0	-	-
	Vegetable	Metal	14.5 oz	2-15/16 Ø	74,6Ø	1.04	0,47	4.2	6,3	20,0	97,5
	Tuna	Metal	12 oz Can	4 Ø	101,6Ø	0.88	0,40	2.6	3,9	9,1	44,5
Tomato Sauce	Metal	29 oz	4 Ø	101,6Ø	2.07	0,94	6.2	9,2	21,5	104,6	
Cleaners	Dish Soap	Plastic	25 oz	2-7/16 x 3-3/8	61,9 x 85,7	1.78	0,81	8.8	13,0	-	-
	Liquid Laundry Soap	Plastic	22 oz	2 x 3-3/8	50,8 x 85,7	1.60	0,73	9.6	14,3	-	-
	Liquid Laundry Soap	Plastic	32 oz	2-5/8 x 4-1/2	66,7 x 114,3	2.30	1,04	10.5	15,6	-	-
	Liquid Laundry Soap	Plastic	100 oz	5-1/2 x 7-3/4	139,7 x 196	7.01	3,18	15.3	22,8	-	-
	Liquid Bleach	Plastic	Quart	3-1/4 Ø	82,6Ø	2.40	1,09	8.9	13,2	37,8	183,5
	Liquid Bleach	Plastic	1/2 Gallon	4-3/4 Ø	120,7Ø	4.80	2,18	12.1	18,0	35,4	171,9
	Liquid Bleach	Plastic	Gallon	6-1/4 Ø	158,8Ø	9.50	4,31	18.2	27,1	40,4	196,5
Toiletries	Liquid Bleach	Plastic	182 oz	7-1/4 Ø	184,2Ø	8.16	3,70	13.5	20,1	25,8	125,5
	Toilet Paper	Paper	Individual Roll	4-1/4 Ø	108,0Ø	0.23	0,10	0.6	1,0	2,1	10,3
	Toilet Paper	Plastic	4 Pack	4-1/4 x 8-1/2	108 x 215,9	0.93	0,42	2.6	3,9	-	-
Automotive	Toilet Paper	Plastic	24 Pack	12 x 15-1/2	304,8 x 393,7	5.67	2,57	5.7	8,4	-	-
	Tire	Passenger	Typical	28 Ø	711,2Ø	35.00	15,87	-	-	-	-
Tire	Truck	Typical	48 Ø	1219,2Ø	150.00	68,03	-	-	-	-	

Black = Inches Blue = Millimeters

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

REXNORD[®] MATTOP[®] CHAINS



MatTop® CHAIN MATERIALS

For more detailed material information, see the [8rxCAT-en Product Catalog](#).

Materials vary per chain series; see Product Catalog to determine standard versus special materials.

Acetal Family

- **LF (Low-Friction)**
 - Patented blend of acetal that provides good wear resistance and long service life due to the low coefficient of friction
- **HP™ and WHP (High Performance)**
 - Patented blend of acetal specifically formulated for dry-running conveyors due to excellent friction characteristics
- **XLG (Low-Friction Acetal, Green)**
 - Internally lubricated extra low-friction acetal
- **PS® (Platinum Series®)**
 - Patented blend of acetal specially formulated for high-speed conveying applications
- **PSX® (Platinum Series X®)**
 - High-speed conveying with little to no external lubrication
 - Long wear life with minimal dusting

Specialty Plastics

- **AS (Anti-Static)**
 - An electrically conductive acetal formulated to reduce or eliminate nuisance static charge

⚠ WARNING See below.

- **HCAS (High Capacity Anti-Static)**
 - Reduces or eliminates nuisance static
 - High capacity acetal resin, requires 10% derate from acetal counterparts

⚠ WARNING See below.

⚠ WARNING AS, HCAS, HC-ESD, & ESD thermoplastic materials should not be used in any potentially explosive environments (Class I) since the possibility for electrostatic discharge still exists. Proper grounding devices should be used, and safety practices followed. A waiver with further details will be supplied by customer care whenever AS, HCAS, HC-ESD, or ESD materials are quoted.

- **BIR (Black Impact-Resistant)**
 - Specifically formulated to take constant impact
- **ESD (Electrostatic Dissipative)**
 - Polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical

⚠ WARNING See below.

- **HC-ESD (High Capacity, Electrostatic Dissipative)**
 - High capacity polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical
 - Requires 10% derate from polypropylene counterparts

⚠ WARNING See below.

- **FTR (Black, Fryer Temperature-Resistant)**
 - Formulated to be used in oven/fryer discharge conveyor applications such as snack chips
- **GTC (Grey Tough Composite)**
 - High-strength, impact-modified composite
 - High impact resistance, low strength
- **USP (Ultra-Stabilized Polypropylene, Dark Green)**
 - Superior resistance to chemicals used in pasteurizers, warmers and coolers
 - Remains stronger and more flexible than standard polypropylene
- **BWR (Black Wear-Resistant)**
 - BWR may extend chain life up to 5 times in comparison to other plastic materials in applications such as conveying rough machined parts
- **WX/BWX (Abrasion-Resistant)**
 - A nylon material formulated to be used in abrasive applications where chain is subjected to abrasives such as glass, sand and dirt

MatTop® CHAIN MATERIALS

Specialty Plastics *Cont.*

- **P (Chemical-Resistant)**
 - A polyester formulated to reduce or eliminate material degradation in applications where chemicals such as chlorine and phosphorous are present in moderate concentrations
- **CR (Extreme Chemical-Resistant)**
 - Fluorinated polymer that is chemically resistant to high concentrations of oxidizing agents, acids and bases
- **DUV, BUV, YUV, HUV and LUV (Ultraviolet-Resistant)**
 - Specially formulated acetal
 - Used for outdoor applications with direct exposure to the sun or UV radiation
 - DUV, BUV, YUV, RUV — Acetal
LUV — Polyethylene
- **MR (Melt-Resistant)**
 - A nylon material with a high melting point used to prevent hot objects (product temperature up to 375° F [190° C]) from melting the surface of the chain
- **HTX® (Extreme High Temperature)**
 - Specially formulated for heat tunnel applications
 - Designed to eliminate brittle oxidation of chain
 - Suitable for up to 500° F (260° C) heat tunnels
- **FR (Flame-Retardant)**
 - Flame-retardant polyester that meets the requirements of UL Standard 94 V-0 rated combustion
- **FRPLUS® (Flame Retardant Low Friction)**
 - Developed for metal container manufacturing
 - Provides high wear resistance
 - Will not support combustion
 - Low friction can run dry
- **HS (Heat-Stabilized)**
 - Nylon resin designed for environments that contain hot water spray (rinsers, sterilizers and pasteurizer applications)
- **WSM, BSM, BRSM, BYSM, RSM, SRMB, SYMB, YSM and SMB (Cut-Resistant)**
 - Tough acetal material formulated for abrasive and impact loading applications
 - Cut-resistant material commonly used in the meat processing industry on cutting, boning and trimming lines
 - Available in many colors
- **HT, WHT, KHT, BHT, HTB and RHT (High-Temperature)**
 - Polypropylene formulated for high-temperature and general applications in both wet and dry conditions
 - Excellent chemical resistance
- **TC (Tough Composite)**
 - Specially formulated alloy, high strength, toughened composite material
 - Excellent for high-speed case incline and decline conveyors
 - Excellent impact and chemical resistance
- **WLT and BLT (Low-Temperature)**
 - Polyethylene formulated to retain toughness, impact strength and ductility in both dry and wet conditions
 - Good chemical resistance
 - Available in white and blue

Note: Standard pin materials for MatTop Chains include:

- Polypropylene
- Polyethylene
- Acetal
- Polyester (PBT)
- Stainless steel available (typically for severely abrasive environments)

NOTICE Since materials vary in strength, refer to the Product Catalog ([8rxCAT-en](#)) for specific chain / material strengths when changing out materials.

Note: Not all materials are available in all chains. Contact Regal Rexnord Application Engineering for further assistance.

MatTop® FRICTION BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Acetal	PS®	Dry Water Soap & Water Oil	0.18	0.20	0.12	0.23	0.18	0.16	0.18
			0.14	0.18	0.11	NR	0.16	0.15	0.16
			0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	PSX®	Dry Water Soap & Water Oil	0.16	0.20	0.12	0.23	0.18	0.16	0.16
			0.13	0.18	0.11	NR	0.16	0.15	0.14
			0.12	0.14	0.10	NR	0.14	0.14	0.12
			-	-	-	NR	-	-	0.10
	HPT™, WHP	Dry Water Soap & Water Oil	0.18	0.20	0.12	0.23	0.18	0.18	0.18
			0.14	0.18	0.11	NR	0.16	0.16	0.16
			0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	LF, XL, XLA, XLG	Dry Water Soap & Water Oil	0.20	0.20	0.15	0.30	0.20	0.20	0.25
			0.15	0.18	0.13	NR	0.18	0.18	0.20
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	AS, HCAS	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
	WSM, BSM, SMB	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
DUV	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30	
		0.17	0.18	0.15	NR	0.20	0.20	0.22	
		0.12	0.14	0.10	NR	0.15	0.15	0.15	
		-	-	-	NR	-	-	0.10	
Metal	SS, SSC	Dry Water Soap & Water Oil	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			0.27	0.30	0.29	NR	0.22	0.21	0.30
			0.14	0.15	0.15	NR	0.15	0.14	0.15
			-	-	-	NR	-	-	-
	S	Dry Water Soap & Water Oil	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			0.10	0.10	NR	NR	NR	NR	0.10
	SSB	Dry Water Soap & Water Oil	0.28	0.47	0.35	0.40	0.30	0.30	0.35
			0.19	0.31	0.25	NR	0.20	0.20	0.25
			0.12	0.21	0.15	NR	0.10	0.10	0.15
			-	-	-	NR	-	-	0.15
Nylon	WX, BWX, HTX	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	-
	MR/FTR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	BWR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
			NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	HS	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10

NR denotes "not recommended" Dash (-) denotes "combination not tested"

Note: All values shown in this table were obtained through product testing. Actual values may be higher or lower depending on environmental conditions.

MatTop® FRICTION BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Polyester	TC	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.23
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	0.10	0.10	0.10
	P	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.22
			0.12	0.14	0.10	NR	0.15	0.10	0.15
			-	-	-	NR	-	-	0.10
	FR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
FRPLUS®	Dry Water Soap & Water Oil	0.14	0.18	0.14	0.30	0.20	0.18	0.25	
		0.13	0.16	0.12	NR	0.18	0.16	0.20	
		0.12	0.14	0.10	NR	0.15	0.15	0.15	
		-	-	-	NR	-	-	0.10	
Fluorinated Polymer	CR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry Water Soap & Water Oil	0.29	0.29	0.24	0.35	0.32	0.28	0.31
			0.19	0.21	0.18	NR	0.24	0.20	0.25
			0.15	0.14	0.10	NR	0.19	0.15	0.17
			-	-	-	NR	-	-	0.10
	ESD	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.12	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
	HUV	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.14	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
Polyethylene	WLT, BLT, LT	Dry Water Soap & Water Oil	0.22	0.24	0.18	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	LUV	Dry Water Soap & Water Oil	0.22	0.24	0.28	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.10
			-	-	-	NR	-	-	0.10
All RubberTop® Products	Dry	-	-	-	0.87***	0.85***	0.85***	-	

** Friction of returnable bottles will depend on the quality of the glass, the amount of roughed up surface, etc.

*** It is not recommended to accumulate on RubberTop products; however, these values can be utilized when determining brake belt or "hold back" calculations.

NR denotes "not recommended" Dash (-) denotes "combination not tested"

MatTop® FRICTION BETWEEN CHAIN AND WEARSTRIP (Fw)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Acetal	PS®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	PSX®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	HP™, WHP	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.14
			0.20	0.16	0.16	0.12
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	LF, XL, XLA, XLG	Dry Water Soap & Water Oil	0.25	0.20	0.20	0.16
			0.20	0.18	0.18	0.14
			0.15	0.15	0.15	0.13
			0.10	0.10	0.10	0.10
	AS, HCAS, HC-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10
	WSM, BSM, SMB, BRSM, BYSM, SYMB, SRMB	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			0.23	0.21	0.21	0.18
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
DUV	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20	
		0.23	0.21	0.21	0.18	
		0.15	0.15	0.15	0.15	
		0.10	0.10	0.10	0.10	
Metal	SS, SSC	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			0.35	0.22	0.22	0.22
			0.15	0.15	0.15	0.15
			0.15	0.10	0.10	0.10
	S	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			NR	NR	NR	0.22
			NR	NR	NR	0.15
			0.10	0.10	0.10	0.10
	SSB	Dry Water Soap & Water Oil	0.50	0.40	0.40	0.40
			0.40	0.30	0.30	0.30
			0.20	0.20	0.20	0.20
			0.20	0.10	0.10	0.10
Nylon	WX, FR-PA	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	NR	NR	NR
	MR, FTR	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	BIR, BWR	Dry Water Soap & Water Oil	0.28	0.22	0.22	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	HS	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			0.25	0.23	0.23	0.22
			0.18	0.18	0.18	0.18
			0.10	0.10	0.10	0.10
	FR-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10
	HTX®	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.25
			NR	NR	NR	NR
			NR	NR	NR	NR
			-	-	-	-

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Dash (-) denotes "combination not tested"

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MatTop® FRICTION BETWEEN CHAIN AND WEARSTRIP (Fw)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Polyester	GTC	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
	P	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
	FR	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
	FRPLUS®	Dry Water Soap & Water Oil	0.18	0.18	0.18	0.16
			0.16	0.16	0.16	0.14
			0.13	0.14	0.14	0.12
			0.10	0.10	0.10	0.10
Fluorinated Polymer	CR	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			0.23	0.21	0.21	0.20
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry Water Soap & Water Oil	0.35	0.30	0.30	0.26
			0.30	0.25	0.25	0.22
			0.25	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
	ESD	Dry Water Soap & Water Oil	0.35	0.30	0.30	0.26
			0.25	0.25	0.25	0.22
			0.20	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
	HUV	Dry Water Soap & Water Oil	0.35	0.30	0.30	0.26
			0.24	0.16	0.16	0.22
			0.20	0.20	0.20	0.19
			0.10	0.10	0.10	0.10
Polyethylene	WLT, BLT, LT	Dry Water Soap & Water Oil	0.28	0.23	0.23	0.21
			0.22	0.20	0.20	0.19
			0.15	0.15	0.15	0.14
			0.10	0.10	0.10	0.10
	LUV	Dry Water Soap & Water Oil	0.28	0.23	0.23	0.21
			0.22	0.20	0.20	0.19
			0.15	0.15	0.15	0.14
			0.10	0.10	0.10	0.10

NR denotes "not recommended"
Dash (-) denotes "combination not tested"

MatTop® SPROCKET AND IDLER WHEEL DESIGNATIONS

Regal Rexnord has developed a variety of sprocket and idler materials for various and unique applications. Sprockets are available in plastic and metallic varieties.

Plastic

- **Acetal (N)**
 - Good corrosion- and wear-resistant properties
 - One-piece sprocket
 - Temperature Range: -40° to +180° F (-40° to +82° C)
- **Heat-Stabilized Nylon (HS)**
 - Stabilized nylon-based resin for environments that contain hot water spray rinser, sterilizer and pasteurizer applications
 - Resists thermal degradation from 212° F (100° C) water spray
 - Available in select one-piece styles only
 - Temperature Range: -40° to +220° F (-40° to +104° C)
- **Glass-Reinforced Nylon (NS)**
 - Split sprocket design for ease in assembly and disassembly
 - Excellent wear-resistant properties
 - Temperature Range: -40° to +180° F (-40° to +82° C)
- **Chemical-Resistant**
 - Used in applications where chemical resistance is required (i.e. chlorine, phosphorous)
 - PE: Temperature Range: -100° to +80° F (-73° to +27° C)
 - CR: Temperature Range: +40° to +240° F (+4° to +116° C)
- **KU and KUS (Machined Plastic)**
 - KU (one piece) and KUS (split) do not designate material
 - Sprockets machined in a variety of plastic materials
 - Flush side for ease in cleaning
 - Sprockets come in a wide variety of pitch diameters and bore size
 - Can be nylon or UHMWPE

Metallic

- **Semi-Steel (Cast Iron)**
 - Used in non-corrosive, abrasive environments such as broken glass, metal chips
 - One-piece sprocket
 - Temperature Range: -40 to +350° F (-40° to +177° C)
- **SS (Stainless Steel)**
 - Used in corrosive, abrasive environments such as vegetable processing, snack foods
 - Available in select chains only
 - Available in split and one-piece designs
 - Temperature Range: -100 to +800° F (-73° to +427° C)

MatTop® WEARSTRIP MATERIALS

Proper chain and wearstrip selection will provide optimum life. Since a function of the wearstrip is to lower friction and to reduce wear, it is recommended to give careful consideration when selecting the material.

The following general guidelines will help in selecting the proper material for your application.

Plastic

- **Acetal**
 - Not recommended for use with acetal chains; it is best not to run identical plastics together
- **Nylon with Molybdenum Disulfide (MoS₂) filler**
 - Recommended for dry applications due to low wear and low friction
 - Especially suited for dry operation on thermoplastic side-flexing chain corners due to its high PV (Pressure-Velocity) rating
 - Typically not recommended in wet applications because it will absorb moisture and expand (if used in wet applications, allow clearance for expansion and movement of fasteners)
 - Typically only used for curves

Metal

- **Aluminum**
 - **NOTICE** NOT RECOMMENDED due to poor wear resistance
- **Bronze and Brass**
 - Sometimes used with stainless steel chains
 - Typically used for non-sparking and anti-static conditions
 - For bronze — recommended one-half hard temper (Rb 58)
 - For brass — recommended one-half hard (Rb 70 Min) to full hard (Rb 82) temper

- **Steel**
 - Recommended for non-corrosive, abrasive or high-temperature applications
 - Abrasive particles are less likely to embed in metal wearstrips in comparison to plastic
 - A cold-rolled plain carbon steel is recommended
 - Heat treated grades — hardened to 25 to 30 Rc is recommended
- **Stainless Steel**
 - Recommended for corrosive, abrasive or high-temperature applications
 - Abrasive particles are less likely to imbed in metal wearstrips in comparison to plastic
 - A cold-rolled austenitic grade is recommended which offers the best corrosion-resistant properties
 - Recommended one-quarter hard temper (25 to 35 Rc)

NOTICE Softer annealed grades of austenitic are **NOT RECOMMENDED**. Adverse interaction between the chain material and the soft stainless steel might develop. When this happens, the resulting wear debris consists almost entirely of finely divided stainless steel particles, nearly black in color, similar to molydisulfide or graphite. The wear of the stainless steel might be rapid while the thermoplastic chain by contrast exhibits only slight wear.

- Martensitic stainless steel can also be used when heat-treated (25 to 35 Rc); however, it is not as corrosion-resistant as austenitic
- Hardness is more critical than grade for better wear resistance

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

MatTop® WEARSTRIP MATERIALS

Specialty

- **Teflon®**
 - Recommended only for very low-speed/low-load applications
- **Lubricant-Impregnated Wood**
 - Commonly used in dry abrasive applications (i.e. glass, paper)
 - Not recommended in wet applications
- **UHMWPE (Ultra High Molecular Weight Polyethylene)**
 - Recommended for dry or wet applications on straight or side-flexing conveyors
 - Not recommended for abrasive conditions where particles may imbed in the surface and wear the chain
 - Provides lower coefficient of friction than metals
 - Not affected by moisture and more resistant to chemicals than nylon
 - UHMWPE materials can be supplied with various fillers:
 - Ceramic/glass
 - Conductive
 - Oil/wax
- **ULF (Ultra Low-Friction)**
 - UHMWPE with self-lubricating additive package
 - Consistent low friction
 - Suitable for high-speed conveying where minimal or no external lubrication is present
 - Improved PV (Pressure-Velocity) properties in comparison to other curve materials

NOTICE Wearstrip surface finish is a critical aspect for overall chain life. Recommended wearstrip surface finish values are:

Metal:	32 µin (0,8 µm) Ra
MoS ₂ -filled Nylon:	63 µin (1,6 µm) Ra
UHMWPE:	125 µin (3,2 µm) Ra

MatTop® LUBRICATION

Lubrication is recommended whenever the application permits. It not only reduces friction, thereby reducing chain tension, but also greatly improves the wear life of the chain and wearstrips. Lubrication offers a constant cleaning effect of both the chain and wearstrip and can also reduce static.

General Recommendations

- Lubrication should contact both the chain and wearstrip.
- When lubricating side-flexing MatTop chains, the lubricant must be applied at the entrance of the outside corner track.

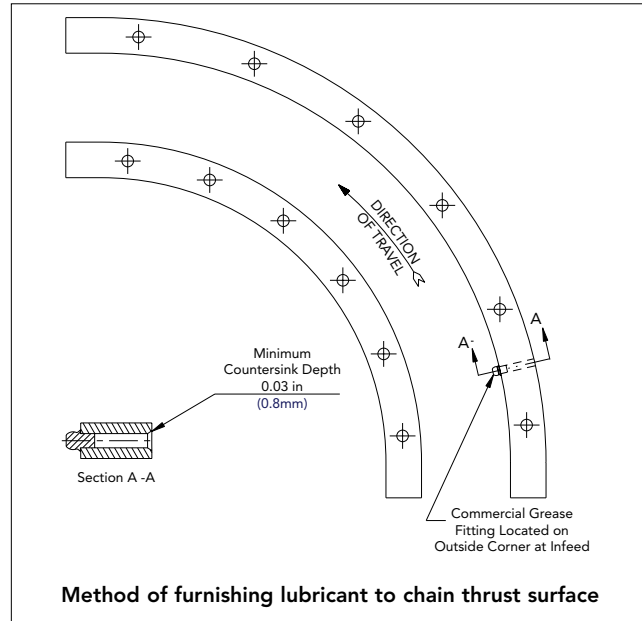
General Types of Lubricants

- Water — Only utilize with corrosion-resistant materials. Can be used as a general lubricant; however, it is not as effective as other types due to friction and chain-cleaning properties.
- Water soluble lubricants and soaps — Only utilize with corrosion-resistant materials. These are excellent lubricants which also help clean the chain.
- Oil base lubricants — These are vegetable, mineral oils or grease which offer high lubricity. Can be used with plastic or metal materials. Recommended to be used on all metal chains whenever practical. Food grade oils are available.

Dry Film Lubricants

- A dry lubricant system has many of the same benefits of a run-dry conveyor with the added benefit of a lower coefficient of friction. A dry lubricant is applied by an automatic system with dosing units that put very little lubricant on select areas of the conveyors. The lubricant can be water- or oil-based with Teflon®, silicone or solid micro-particles. The preferred lubricant is an oil and water emulsion. The most critical part of the process is how the lubricant is applied on the chain. This is typically accomplished with the use of brushes, shoes or spray nozzles. The benefit of spray nozzles is the absence of contact with the chain, eliminating the possibility of trapped dirt or debris. The lubricant can also be applied to the inside of a curve for side-flexing conveyors. There are many dry lubricant products on the market which have been specifically formulated for either plastic or metal chains and container types.

- While dry lubricants offer many advantages, conveyor cleanliness considerations should be taken into account since dry lubes do not provide a continuous cleaning process like traditional water and soap lubrication.



Selective Lubrication

- In some applications, the presence of a lubricant cannot be tolerated. For these applications, it is recommended to utilize chains made of HP™, PS® or PSX® acetal material with Molybdenum Disulfide (MoS₂) corners, which offers the lowest coefficient of friction.

Note: To eliminate or reduce lubrication, contact Regal Rexnord™ Application Engineering to conduct a run-dry survey. 1.262.376.4800

For more information on lubrication types, compatibility, methods, contact a lubricant manufacturer.

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

MatTop® ENVIRONMENTAL CONSIDERATIONS

Abrasive Applications

- Applications with the presence of dirt, sand, glass or metal particles can lead to premature wear of the conveying chain and wearstrips.
- Recommendations:
 - Utilize wearstrips and chains with a hard wear surface
 - If possible, use controls to minimize the amount of accumulation
 - The use of WX chain material and metal sprockets can extend wear life

Chemical Applications

Make sure any chemicals or cleaners used on conveyors are compatible with chain, wearstrip and sprockets. See table on **page 62** for more detailed compatibility information.

Dry Applications

- Considerations to be taken when running dry:
- Product backline pressure
- Conveyor cleanliness
- Conveyor pulsation
- Increased component wear

Extreme Temperature Applications

The recommended minimum and maximum operating temperatures for MatTop chain and wearstrips can vary due to the presence of moisture.

Wearstrip Material	Minimum Temperature		Maximum Temperature			
	Dry		Dry		Wet	
	°F	°C	°F	°C	°F	°C
Acetal	-40	-40	180	82	150	66
UHWMPPE/ULF	-100	-73	180	82	160	71
Nylon	-40	-40	220	104	NR	NR
Stainless Steel	-100	-73	800	427	250	121
Steel	-40	-40	350	177	NR	NR
Lubricated Impregnated Wood	-50	-46	160	71	160	71

Metal Detector Applications

Depending on the sensitivity of the metal detector, different materials can be used.

Metal Detectable Applications

Special materials are available with non-ferrous metal particulate that allow detection as they pass through a metal detector.

Impact-Loading Applications

Polyethylene (LT) and Tough Composite (TC) materials are ideal for impact-loading applications. A solid bed should be utilized in impact-loading areas.

High-Speed Applications

In any high-speed application, the critical aspect of the conveyor is the corners. The concern with running the chain at high speeds is the PV (Pressure-Velocity) in the corners. If the PV limits are exceeded, the chain or corner track may become damaged due to the heat generated from the high speed and/or load. It is generally recommended to utilize Molybdenum Disulfide (MoS₂) filled nylon corner tracks in conjunction with PS® or HP™ materials or selective lubrication for these applications. PSX® chain with ULF corner tracks will provide the best PV capability and least energy consumption.

Long-Length Conveyors/Pulsation Applications

Pulsation or “slip stick” of chain results in a jerking chain motion which can occur in long, slow-speed and dry conveyors. Pulsation can create product stability problems in extreme cases. It can also result in premature chain elongation or the chain jumping drive sprocket teeth. As a general rule of thumb, it is recommended that conveyor lengths do not exceed 100 ft (30 m) per drive, regardless of loading. Regal Rexnord also recommends a 150° minimum wrap on the head sprocket. If necessary, this can be maintained with the use of a snubber roller. However, if an application exceeds 100 ft (30 m), contact engineering for further assistance.

Static Environment Applications

⚠ WARNING

- Under certain conditions, thermoplastic can acquire a static nuisance charge. Static environments are classified as:
 - **Class I:** Static spark causes explosion — stainless steel chains are required.
 - **Class II:** Static spark is a nuisance charge — low charge will provide slight shock or possible circuit damage.
- All applications utilizing thermoplastic anti-static materials (i.e. AS, ESD) must be approved by Regal Rexnord™ Application Engineering prior to quoting.

⚠ DANGER Grounding is crucial for the system to reduce static charges.

UV Applications

- When conveyor chains are exposed to direct UV (Ultraviolet) or sunlight, UV stabilized material should be utilized.

MatTop® MATERIAL CHARACTERISTIC TABLE

Material Characteristics	HP™, WHP	LF, WLF	WLT, BLT	HT, BHT, HTB, KHT, RHT, WHT, USP	BWR	AS, HCAS	ESD, HC-ESD	HS	P	CR	MR	DUV	HUV	LUV	FR	WSM, BSM, SMB	UHS	SMB	TC	PS®, PSX®	WX, BWX	HTX®	FRPLUS®
Impact Resistant			•		•					•	•			•			•		•		•		
Wear Resistant	•	•			•											•	•	•		•	•		•
Chemical Resistant*			•	•					•	•													
Strength	•	•		•	•			•		•	•	•	•			•	•	•		•	•		
Low Frictional Characteristics	•	•																		•			•
Capability to Run Dry in Corners	•	•			•															•	•		
Suitability in Wet Environments	•	•	•	•				•	•	•		•	•	•	•	•	•	•	•	•			
Low Temperature Capability (to 40° F)	•	•	•		•			•			•	•		•		•		•		•	•		•
High Temperature Capabilities (to +180° F)	•	•		•	•	•	•	•	•	•	•	•	•			•		•		•	•	•	•
Ultra Violet Capabilities					•					•	•	•	•	•							•		
Suitability for Class II (nuisance static)						•	•																
Suitability for Class I (explosive static)																							
Non-magnetic Qualities	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flame Retardance										•					•								•
Capability to Convey Hot Products (to +375° F)											•										•	•	
FDA Approval	•	•	•	•					•	•						•		•		•			

HP = High Performance

WHP = White High Performance

LF = Low Friction

BLT = Blue Low Temperature

HT = High Temperature

BHT = Blue High Temperature

HTB = Black High Temperature

KHT = Khaki High Temperature

RHT = Red High Temperature

WHT = White High Temperature

FRPLUS = Flame Retardant Low Friction

BWR = Black Wear Resistant

AS = Anti-Static

ESD = Electrostatic Dissipative

HS = Heat Stabilized

P = Chemical Resistant

CR = Chemical Resistant

MR = Melt Resistant

DUV = Ultraviolet Resistant

HUV = High Temperature Ultraviolet Resistant

LUV = Low Temperature Ultraviolet Resistant

FR = Flame Retardant

WSM = White Special Material

BSM = Black Special Material

SMB = Blue Cut Resistant Acetal

HTX = Extreme High Temperature

TC = Tough Composite

PS = Platinum Series®

WX = Abrasion Resistant

BWX = Black Abrasion Resistant

* See Corrosion Resistance Guide on Page 62 for more details.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CORROSION RESISTANCE GUIDE

Common or Chemical Name	Carbon Steel	Austenitic	Acetal	Nylon and MoS ₂ -Filled Nylon	Polyester	Chemically Resistant Fluorinated Polymer	Polypropylene	Polyethylene
	S	SS	AS, HCAS, BSM, DUV, HP™, LF, PS®, PSX®, SMB, WHP, WSM, XLA, XLG	BWR, HS, MR, WX, BWX	P, FR, TC	CR	BHT, ESD, HT, HTB, HUV, KHT, RHT, WHT, USP	BLT, LUV, UHMWPE, WLT
Acetic Acid (over 5%-up to 50%)	U	M	U	M	S	S	S	S
Acetone	U	S	S	S	S	U	S	S
Alcohol	S	S	S	S	S	S	S	S
Ammonia	M	S	U	S	S	S	S	S
Beer	S	S	S	S	S	S	S	S
Beverages-Soft Drinks	S	S	S	S	S	S	S	S
Benzene	S	S	S	S	S	S	M	M
Brine (pickle)	U	M	M	M	S	S	S	S
Carbon Tetrachloride	M	M	S	S	S	U	M	M
Chlorine	U	U	U	U	S	S	S	S
Citric Acid	U	S	M	M	S	S	S	S
Cyclohexane	-	-	S	-	-	S	U	U
Ethyl Chloride	-	S	S	S	S	S	M	M
Formaldehyde	S	S	S	S	S	M	S	S
Formic Acid	U	U	U	U	S	S	S	S
Fruit Juices	U	S	S	S	S	S	S	S
Gasoline	S	S	S	S	S	S	M	M
Hexane	-	S	S	-	S	S	S	U
Hydrochloric Acid (up to 2%)	U	U	U	U	S	S	S	S
Hydrochloric Acid (up to 37%)	U	U	U	U	S	S	M	S
Hydrogen Peroxide	U	S	U	U	S	S	M	S
Iodine	U	U	U	U	U	M	M	M
Isopropanol (isopropyl alcohol)	S	S	S	S	S	S	S	S
Lactic Acid	U	S	S	M	S	M	S	S
Methylene Chloride	-	S	S	-	U	M	S	U
Milk	S	S	S	S	S	S	S	S
Muriatic Acid	U	U	U	U	S	S	M	S
Nitric Acid (low concentrations)	U	S	U	U	S	S	S	S
Oil (vegetable or mineral)	S	S	S	S	S	M	S	S
Ozonated Water	S	S	M	U	S	S	M	S
Paraffin	S	S	S	S	S	S	S	S
Phosphoric Acid (up to 10%)	U	S	U	U	S	S	S	S
Soap and Water	M	S	S	S	S	S	S	S
Sodium Chloride	U	M	S	S	S	S	S	S
Sodium Hydroxide (up to 25%)	U	S	S	U	U	M	S	S
Sodium Hypochlorite (Bleach)	U	U	U	U	S	S	S	S
Stearic Acid	U	S	M	S	S	S	S	S
Sulphuric Acid (up to 40%)	U	U	U	U	S	S	S	S
Toluene (Toluol)	S	S	M	S	S	M	S	U
Turpentine	-	S	S	S	S	S	S	U
Vegetable Juices	M	S	S	S	S	S	S	S
Vinegar	U	S	S	S	S	M	S	S
Water (fresh)	U	S	S	S	S	S	S	S
Whiskey	S	S	S	S	S	S	S	S
Wine	S	S	S	S	S	S	S	S
Xylene	S	S	S	S	S	S	U	M

Dash = Not Tested

M = Marginal

U = Unsatisfactory

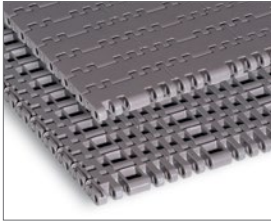
S = Satisfactory

Note: General Rules of Thumb — With acetal products, do not use cleaning or lubricating agents with a pH below 4 or above 10.

This table is based on data available by various material suppliers.

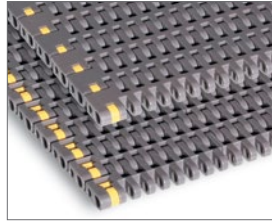
MatTop® CHAIN STYLES

MatTop Chain Surface Styles



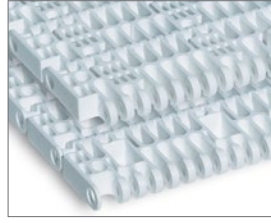
Solid Top

- Not necessarily 0% open area
- General use



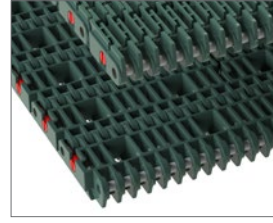
Perforated Top

- Used where air or water flow is required
- Open area from 6 to 30%



Open Area

- Used where the maximum amount of air or water flow is required
- Open area larger than 30%



Raised Rib

- Used where very smooth head transfers are required
- Utilized with transfer combs



Textured Top

- Used to reduce products from sticking to the chain



LBP

- Low backline pressure used to minimize backline pressure between products



Transverse LBP

- Low backline pressure used to transfer products at 90°



**Rubbertop®/
Supergrip™**

- High friction rubber surface used on incline/decline conveyors, brake belts and metering belts

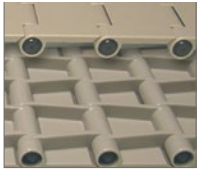


Safety Top

- Provides a slip-resistant surface where people walk on the chain

MatTop® CHAIN STYLES

MatTop Chain Pin Retention Types



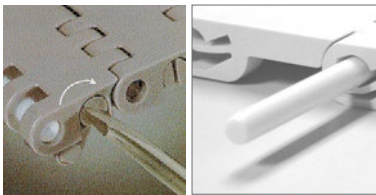
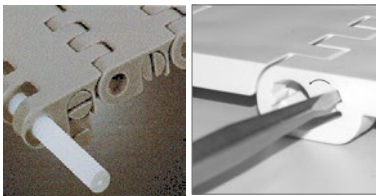
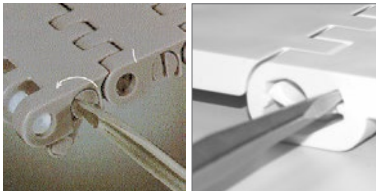
Soldered Head

- Excellent pin retention
- Pins are not reusable
- Soldering iron required
- See table below for MatTop chain pin soldering tips



Plug-Plug, Plug-Blind

- Reusable pin
- No special tools required
- Pin access on one side of the chain for plug-blind design
- Pin access on both sides of the chain for plug-plug design



Offset Pin Hole

- Reusable pin
- No special tools required
- Pin access on both sides of the chain

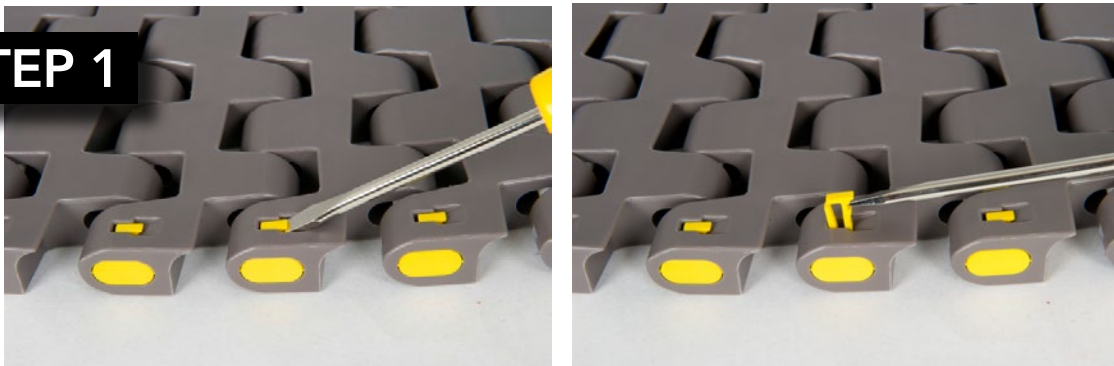
TwistLock® Pin Retention

- Plugs are an integral part of chain
- Reusable pin
- No special tools required
- Pin access on both sides of chain
- Patented design

MatTop® CHAIN STYLES

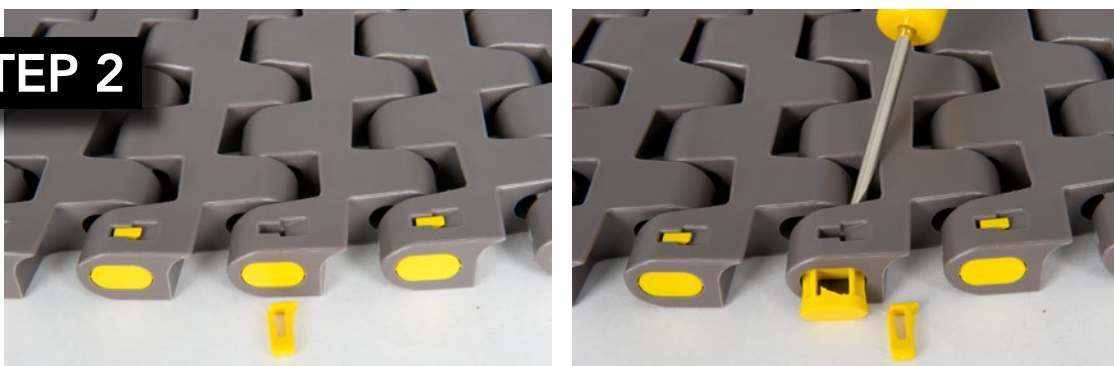
Disassembly (7960 Series)

STEP 1



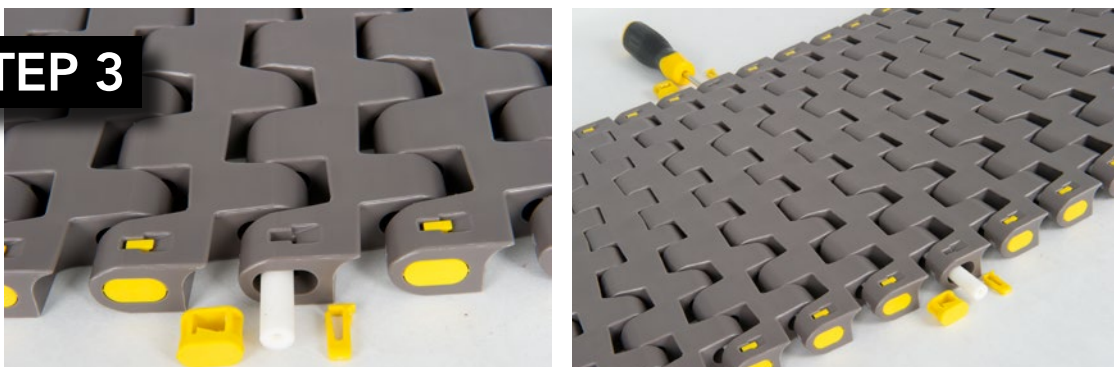
Using a narrow flat-bladed screwdriver, remove retention stake by lifting up on backside of the tab.

STEP 2



With retention stake removed, push wear block out of chain link from back side (as shown).

STEP 3



With both retention stakes and wear blocks removed, push connecting rod out of chain assembly from either side.

Assembly (7960 Series)

All parts are easily reassembled without any tools. Assembly and disassembly are the same for both 7960NT and 7960ST. 7960NT is shown above.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CHAIN STYLES

Disassembly (7956 Series)

- Rotate TwistLock® counterclockwise
- Insert threaded pin-puller into pin
- Remove pin
- Remove TwistLock plug
- Separate attachment from chain link by hand or with flat-bladed screwdriver



7956B



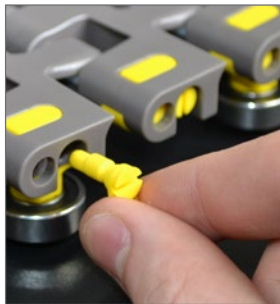
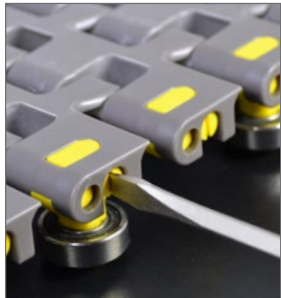
7956GT



7956NT



7956TAB



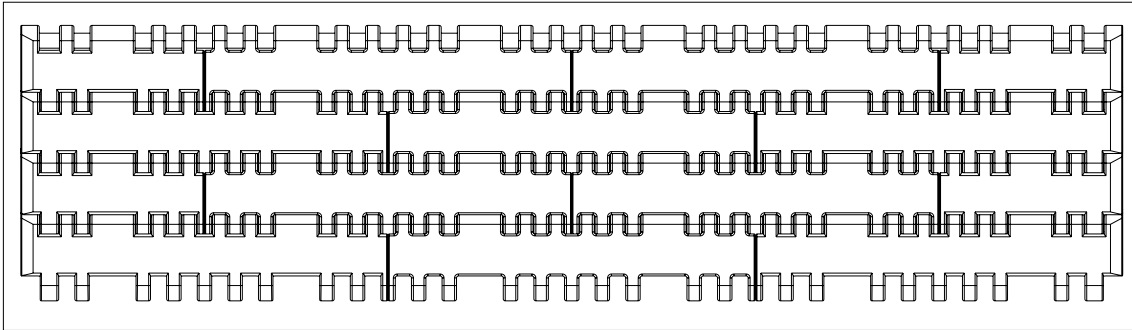
Assembly (7956 Series)

- Reassemble in reverse order

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MatTop® CHAIN STYLES

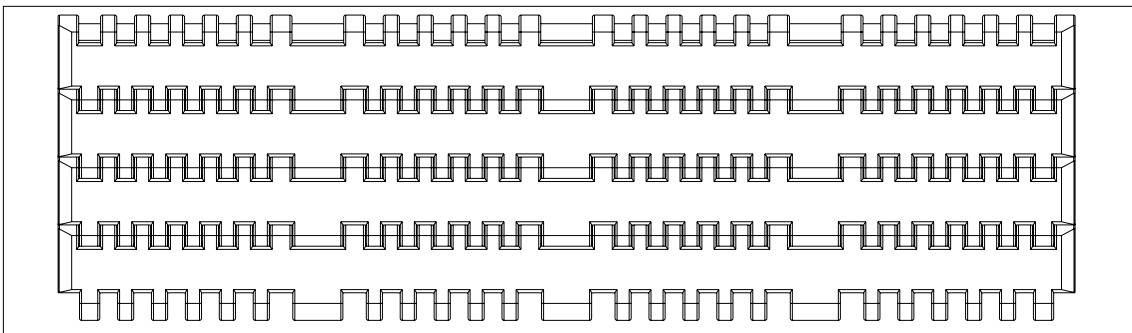
Assembled-to-Width



- Width determined by customer order
- Regal Rexnord stocks families of modules
- Refer to table on **page 126** for specific widths
- “Bricked” construction
- Assembled to customer order

Note: Standard width chains are recommended. For more width increments, “Cut to width” chains are also available (See **page 126**)

Molded-to-Width (MTW)



- Available in standard MatTop chain widths (i.e. 3-1/4 in, 84 mm, 4-1/2 in, 6 in, 7-1/2 in, 12 in, 15 in)
- Refer to table on **page 126** for specific widths
- Available with or without Positrack™ tracking guides in some chain styles
- Stocked in 10 ft lengths

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Straight-Running Configuration

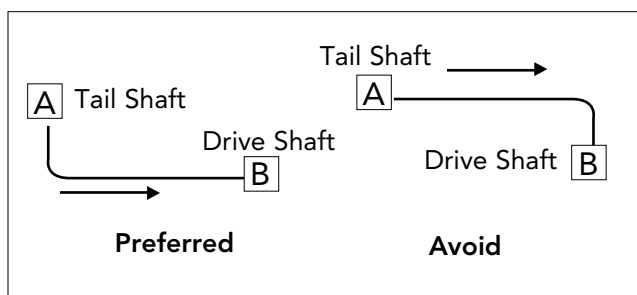
- A long conveyor with a single drive is the simplest and most ideal design. Sometimes several short conveyors are required due to application constraints.

Side-Flexing Configuration

- Because a straight conveyor is not always possible due to flow processes or obstructions in the plant, the designer can incorporate a side-flexing conveyor, which traverses one or more curves.
- When conveying products 90°, the following methods can be utilized:
 - DTS® transfer (DynamicTransfer System™)
 - Side-flexing TableTop® or MatTop chain
 - Deadplate transfer
 - LBP chain with transverse rollers

Note: For more information on transfer details see pages 91 - 99. For transfers other than 90°, side-flexing chains must be utilized.

- When planning a side-flexing conveyor layout, the designer must consider the following factors that affect chain life:
 - Minimize the number of corners and the angle of each corner whenever possible
 - Selective lubrication in the corners should be considered for certain applications, which will prevent excessive noise and premature wear to the chain or corner
 - When conveying from Point A to Point B, design the conveyor so that the drive is positioned furthest from the last corner (see drawing), resulting in lower chain tension and maximizing chain life



- Consideration should be given to the design of the curves within a conveyor such that if the chain has little to no “allowable twist”, the curve should be designed to **NOT** change elevation while simultaneously side-flexing through the curve. Doing so on chains that do not twist will bind the chain and lead to chain failure. Side-flexing MatTop chains have negligible “allowable twist” hence curves should be designed in a horizontal plane and any changes in elevation should be done in the straight sections of the conveyor.

Note: In general, the straight section between the corner and the drive shaft must be at least 24 in (610 mm) to allow adequate room for the catenary (see page 113). The tail shaft section should be at least 12 in (305 mm).

- When conveying products 90°, a single side-flexing conveyor offers the following advantages over two separate straight conveyors that have transfer plates between them:
 - Eliminates deadplate transfers or turntables, preventing the product from slipping or stalling
 - Minimizes tipping and jamming
 - Decreases noise
 - Reduces the cost of controls and maintenance by only requiring one drive motor

Incline/Decline Configuration

- General rules of thumb when designing incline or decline conveyors are as follows:
 - Chain should not be pushed
 - Catenary should be located after the drive shaft
 - Drive shaft should be located at the top of the conveyor for incline conveyors
 - Chains that use pushers, sideguards and high friction inserts need special requirements in the return section (see pages 106 - 112 for examples)

Note: Make sure that the entire chain path (carry, return, sprocket and catenary sag areas) has plenty of clearance for free chain travel. Make sure all frame and support members, piping, conduits and mounting hardware are well clear of chain path.

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Pasteurizers/Coolers/Warmers

- Things to be taken into consideration include:
- Thermal expansion (see **page 70** for details)
 - Length and width
 - Square or hex shafting
- Water flow
- Tracking
- Pasteurizer design manuals are available for more details utilizing 6997

NOTICE If double deck systems are utilized, careful consideration should be taken to ensure adequate clearance for product conveyability on the lower deck.

Vacuum Conveyors

Things to be taken into consideration include:

- Percentage of open area required
- Hole patterns required
 - Footprint of product conveyed
- Standard vacuum chains are 5935, 4705 and 8505
- Other series available with drilled holes on a made-to-order (MTO) basis

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Guide Clearance and Thermal Expansion, Straight-Running, Assembled-to-Width MatTop Chains

- Room Temperature Applications:
 - Guide Clearance (GC) = Chain Width + A
- Elevated Temperature Applications (pasteurizers, warmers, coolers, etc.):
 - Actual width increases by an amount that is dependent upon temperature, chain width and the plastic coefficient of thermal expansion

Coefficients of Thermal Expansion		
Material	inches / Feet / °F	mm / m / °C
Acetal	0.0006	0,09
Polyethylene	0.0015	0,23
Polypropylene	0.0010	0,15
Nylon	0.0005	0,07

Standard Conveyor Guide Clearance			
Dimension A		Conveyor Length	
inches	mm	feet	m
0.38	9,7	Up to 30	Up to 9
0.63	16,0	30 to 50	9 to 15
0.75	19,1	Over 50	Over 15

Standard Conveyor Guide Clearance Calculation of GC at Elevated Temperatures

Example:

- Assume a 12 ft (3,6 m) wide, 45 ft (13,5 m) long pasteurizer operating at an average temperature of 190° F (88° C) and utilizing a polypropylene chain
- The increase in the width (ΔW) due to the temperature of 190° F (88° C) can be found as shown:

Imperial:

$$\Delta W = W \text{ (chain width)} \times \text{CTE} \times \Delta T$$

$$\Delta W = 12 \text{ ft} \times 0.0010 \text{ in/ft/}^\circ\text{F} \times (190-70^\circ \text{ F})$$

$$\Delta W = 1.44 \text{ in}$$

Metric:

$$\Delta W = W \text{ (chain width)} \times \text{CTE} \times \Delta T$$

$$\Delta W = 3,6 \text{ m} \times 0,15 \text{ mm/m/}^\circ\text{C} \times (88-21^\circ \text{ C})$$

$$\Delta W = 36,6 \text{ mm}$$

- Allow for standard clearance, "A", based upon conveyor length
- For a 45 ft (13,5 m) long conveyor, A = 0.63 in (16,0 mm) (from the Standard Conveyor Guide Clearance Table)
- The total GC for this example is:

$$\text{GC} = \text{Chain width at room temperature} + \text{expansion due to temperature} + \text{standard clearance (A)}$$

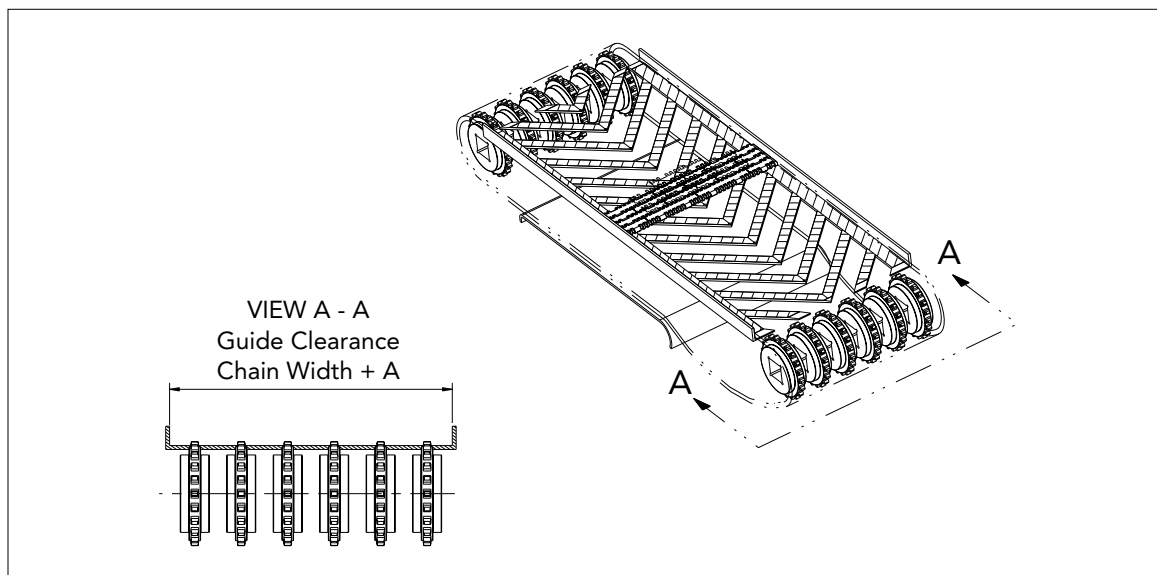
Imperial:

$$\text{GC} = 144 \text{ in} + 1.44 \text{ in} + 0.63 \text{ in} = 146.07 \text{ in}$$

Metric:

$$\text{GC} = 3658 \text{ mm} + 36,6 \text{ mm} + 16,0 \text{ mm}$$

$$= 3710,6 \text{ mm}$$



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Carryways and Returnways

- Guide clearance is critical for both straight and side-flexing chains, especially in extreme-temperature applications (see **page 70** for details). For guide clearance dimensions of side-flexing and Molded-to-Width (MTW) chains containing Positrack™ Tracking Guides, see **pages 77 - 80**, and **88 - 90**, tables on **page 74**, or the Product Catalog ([8rxCAT-en](#)).

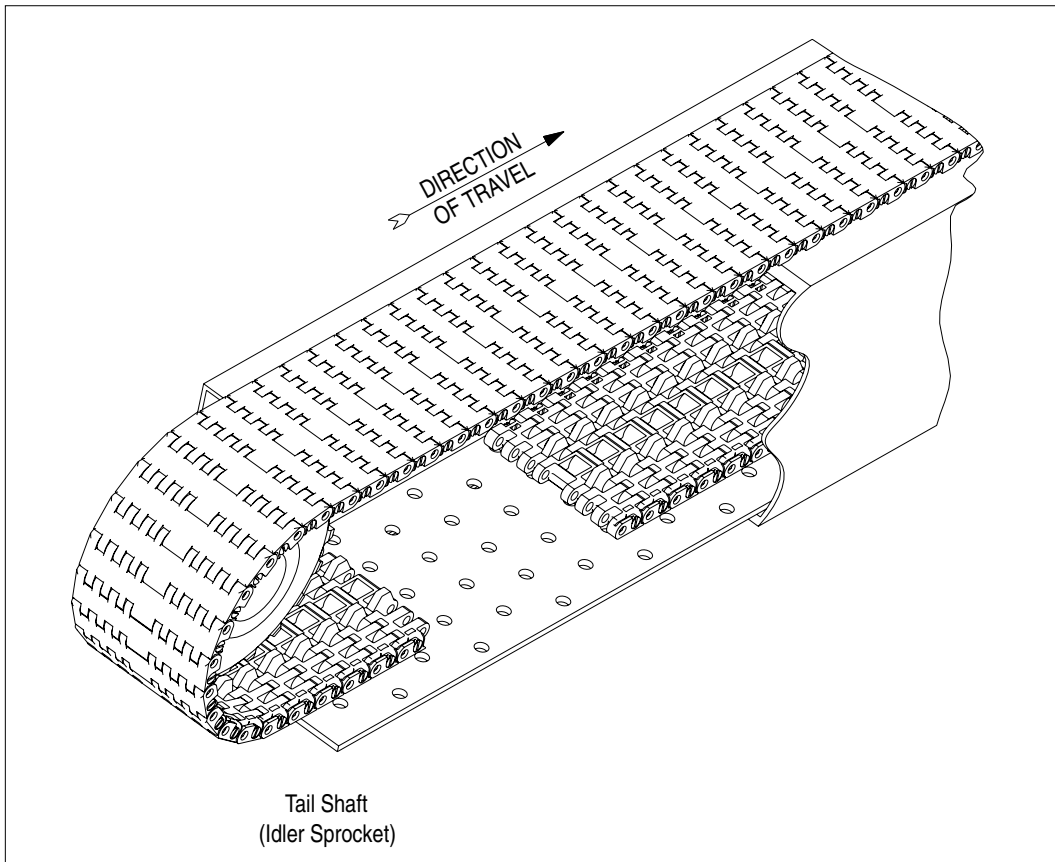
Note: Offset rail, serpentine and chevron patterns are recommended to maximize chain life because they provide uniform wear across the full width of the chain.

- MatTop chains can be supported in a variety of arrangements

NOTICE Allow for thermal expansion of chain (see **page 70**) and wearstrips (see **page 103**)

Full-Width Sliding Carryways or Returnways

- Continuous sheets extend the full width of the chain and almost the entire length between the tail and drive sprockets
- Plates or sheets may be perforated with slots or holes to allow for drainage and the passage of foreign materials
- Not recommended as a return support for wet applications, since a “suction” can be created between the chain and bed
- Recommended in areas of high impact loading

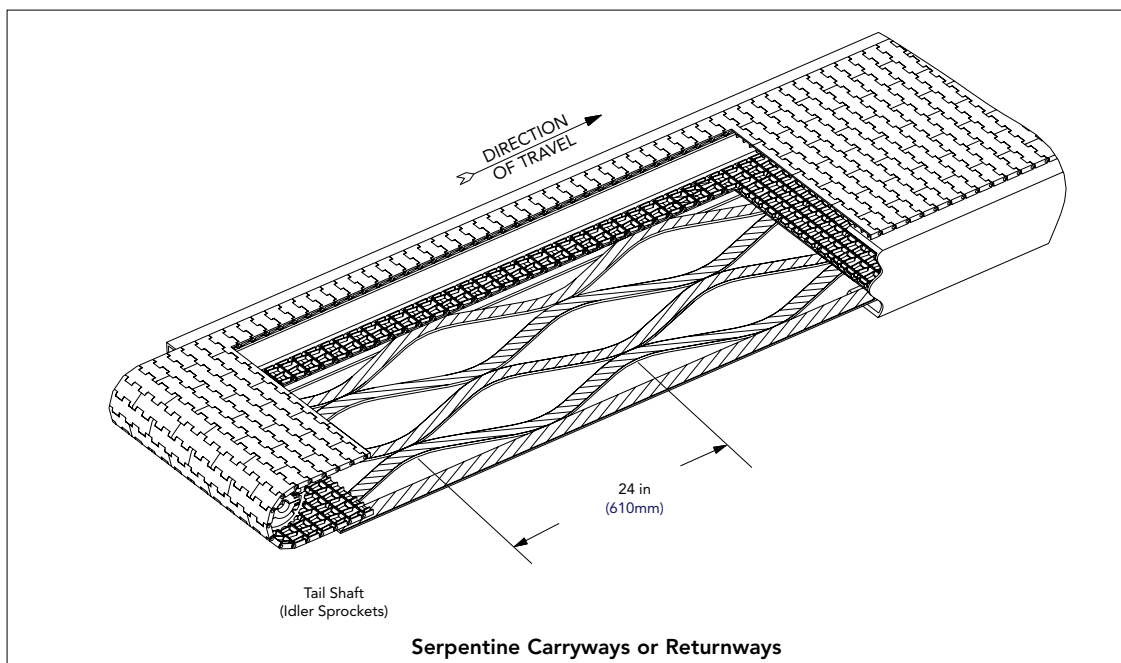
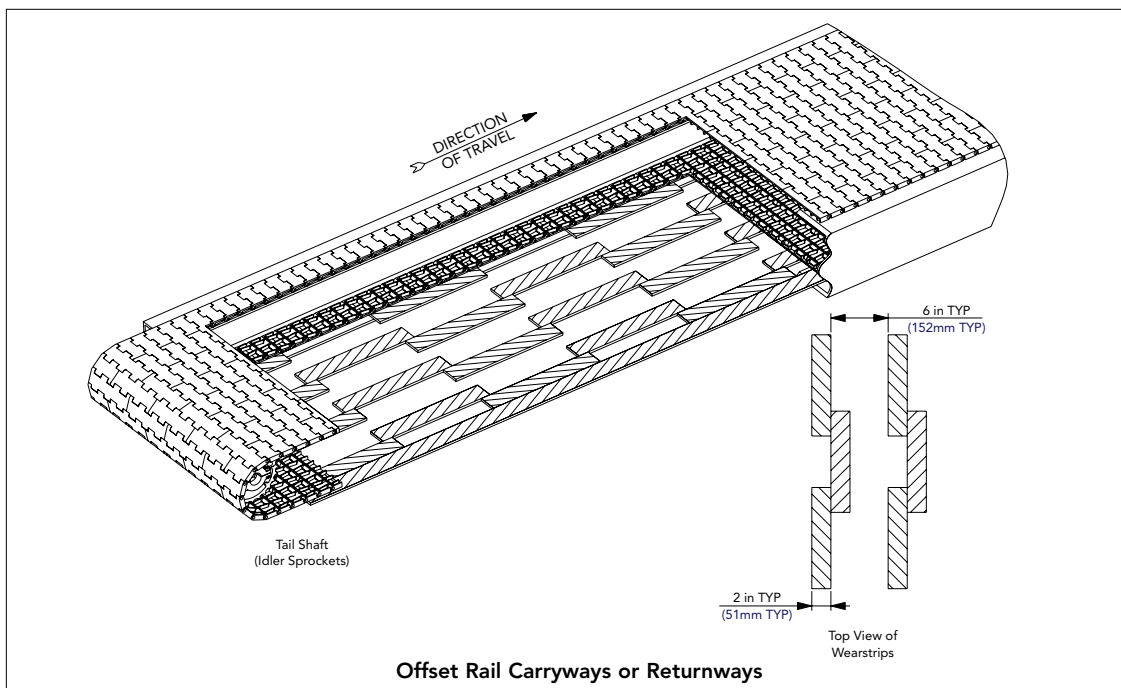


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Carryways and Returnways

- **Offset Rail Style and Serpentine Carryways or Returnways**
 - The chain is fully supported
 - Allows for drainage and the passage of foreign materials

Note: Offset rail, serpentine and chevron patterns are recommended to maximize chain life because they provide uniform wear across the full width of the chain



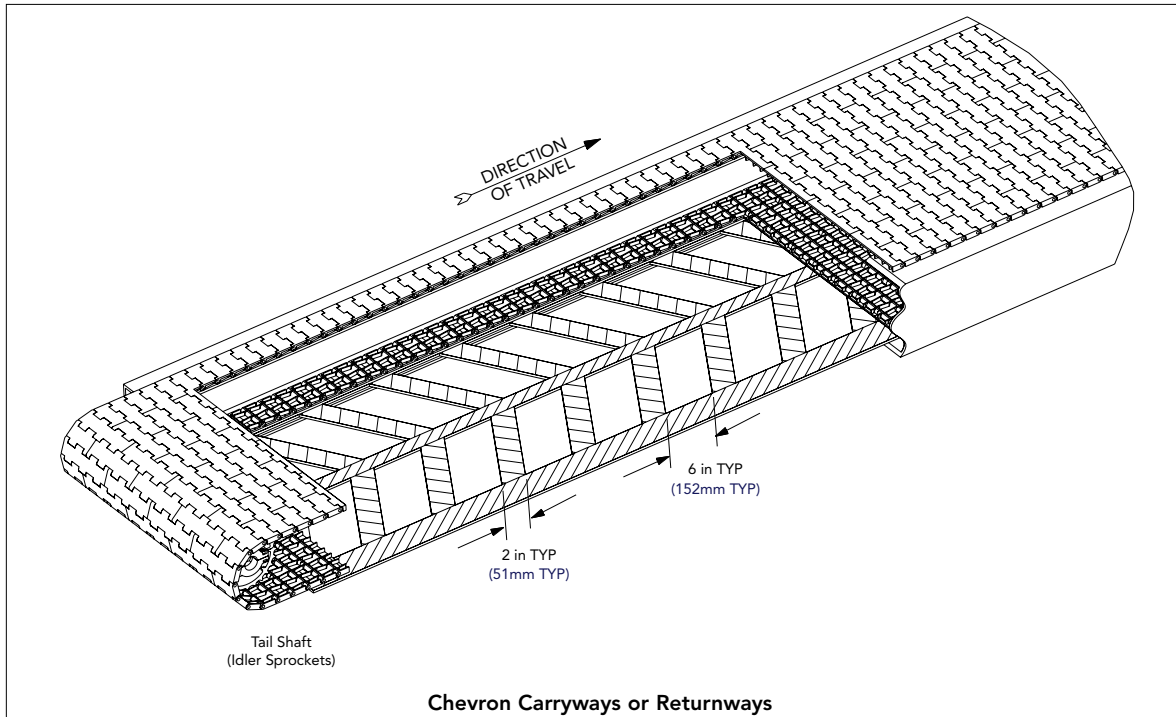
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Carryways and Returnways

- **Chevron Carryways or Returnways**

- The chain is fully supported
- Allows for drainage and the passage of foreign materials

Note: Offset rail, serpentine and chevron patterns are recommended to maximize chain life because they provide uniform wear across the full width of the chain



Other Recommendations

- **Chains with Attachments**

- For chains with attachments, see **pages 107 - 112**
- Offset can only be used for carryway

- **LBP Chains**

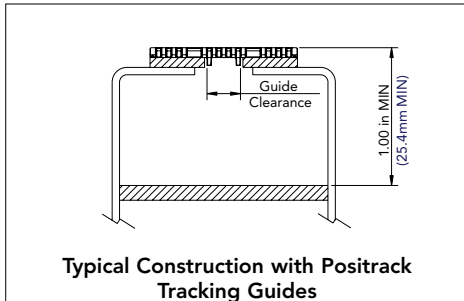
- Offset rails, serpentine, and chevron should only be used in the carryways
- For LBP 7703 chain, the chain can be returned with wearstrips on only the outer edges of the chain, but for widths greater than 24", a center support may be needed, or use of stainless steel pins to "stiffen" the chain, see **page 106**
- For other LBP chains, wearstrips can be positioned between the rollers

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Guide Clearance

Guide clearance is critical for both straight and side-flexing chains. For guide clearance dimensions of Positrack™ chains, see tables below or Product Catalog ([8rxCAT-en](#)). For guide clearance of wide, assembled-to-width MatTop chains at elevated temperatures, see **page 70**. For guide clearance of 7956 and 7960 series, see **pages 77 - 80** (7956B, GT, NT and TAB) and **88 - 90** (7963NT/7966NT and 7963ST/7966ST).

Positrack



Molded-to-Width MatTop Chains with Positrack Tracking Guides

MatTop Chains with Positrack Tracking Guides are usually guided in a manner similar to TableTop® Chains

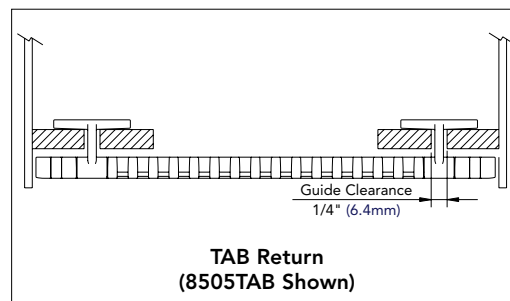
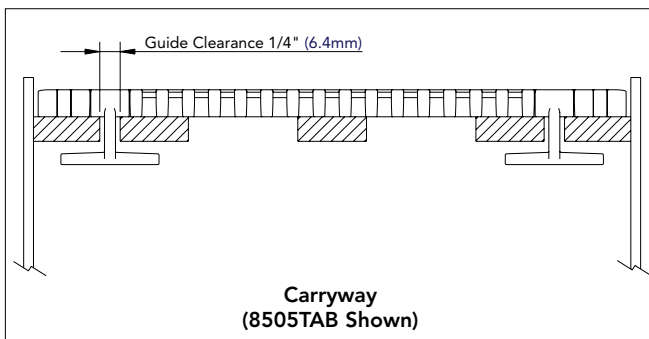
Chain Guide Clearance						
Chain Style		1505 DTS® PT	5705 (MTW) PT 5706 (MTW) PT 5705 DTS PT	7705 (MTW) PT 7706 (MTW) PT 7705 (MTW) PT 7705 DTS PT 7705 DTS-R PT	8505 (MTW) PT 8506 (MTW) PT 8505 DTS PT	1000 FTMTW DP 1000 FGMTW DP 1000 FT FreeFlow 1000 FG FreeFlow
Guide Clearance	in	2.13	1.75	1.75	1.75	1.75
	mm	54,1	44,5	44,5	44,5	44,5

Assembled-to-Width MatTop Chains with Positrack Tracking Guides

For further recommendations, see the Product Catalog ([8rxCAT-en](#))

Chain Guide Clearance				
Chain Style		7705 PT End Modules	8506 and 8506 PT End Modules	1000 FT DP, 1000 FGDP
Guide Clearance	in	1.75	1.75	1.75
	mm	44,5	44,5	44,5

TAB Style (5935/5936 and 8505/8506)

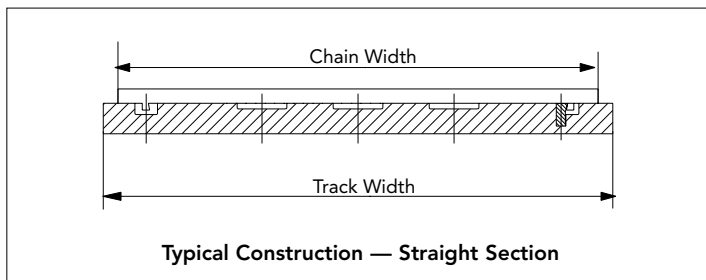


- TABs hold chain down in incline or decline applications
- TABs hold chain in place for vacuum applications

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Guide Clearance

- **Side-Flexing — TAB, GT and Bearing Designs (7956 Chain Series)**
 - ST (Sidetab) (7960 Chain Series)
 - Positive retention
 - For further design recommendations, see the 7956 design manual ([8rx7956dm-en](#)), or the 7960 Design Manual ([FT3-001](#))
- **Side-Flexing — No-TAB Design (7956, 7963 and 7966 Chain Series)**
 - No hold down in the straight sections
 - Chain can be lifted in the straight section for ease in cleaning and maintenance
 - For further design recommendations, see the 7956 design manual ([8rx7956dm-en](#)) or the 7960 series design manual ([FT3-001](#))
- **Side-Flexing — Positrack™ Design (7526 Chain Series)**
 - For further recommendations, see the 7526 section in the Product Catalog ([8rxCAT-en](#)) and 7526 Design Manual ([8rxNOdm-en](#))

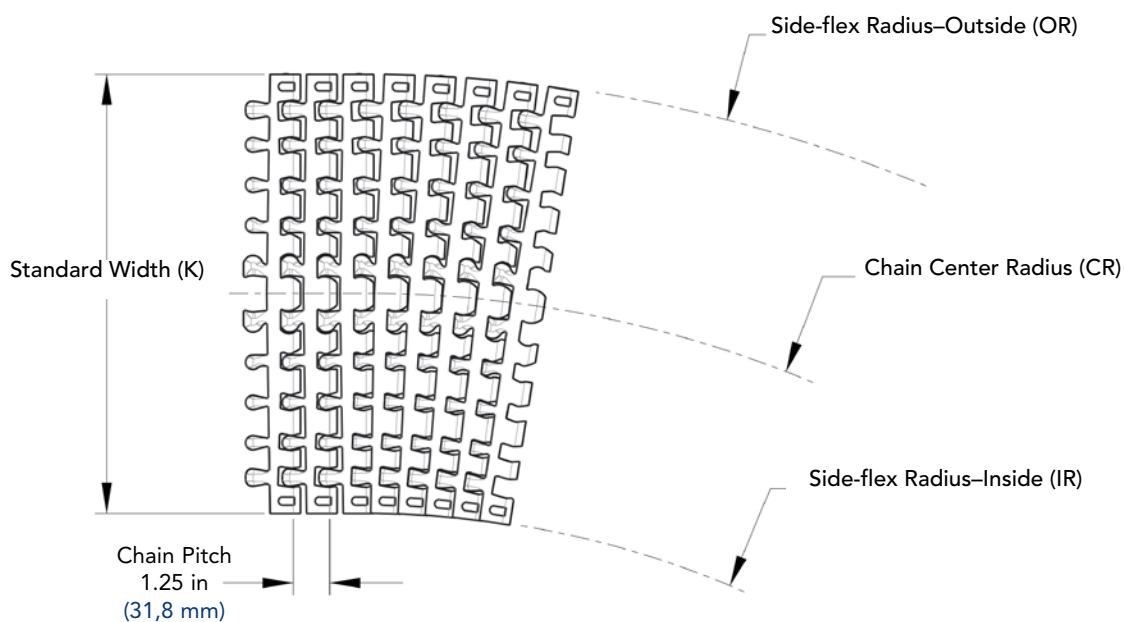


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Chain Selection

Basic Chain Dimensions

7956B, 7956GT, 7956NT and 7956TAB MatTop Chain Minimum Side-Flex Radii							
Standard Width (K)		Side-Flex Radius Inside (IR)		Chain Center Radius (CR)		Side-Flex Radius Outside (OR)	
inch	mm	inch	mm	inch	mm	inch	mm
6	152	12	305	15	381	18	457
12	305	24	610	30	762	36	914
15	381	30	762	37.5	953	45	1143
18	457	36	914	45	1143	54	1372
24	610	48	1219	60	1524	72	1829
30	762	60	1524	75	1905	90	2286

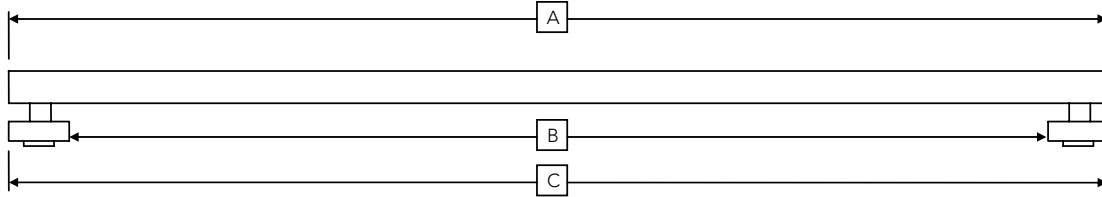


Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

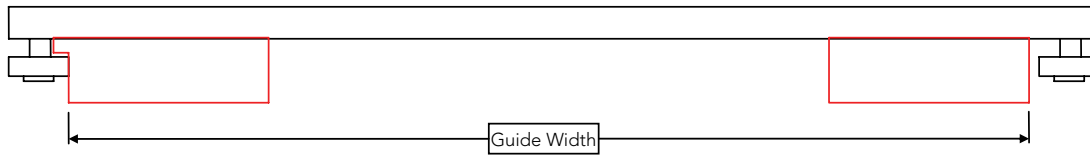
Chain Selection

• Basic Chain Dimensions — 7956B

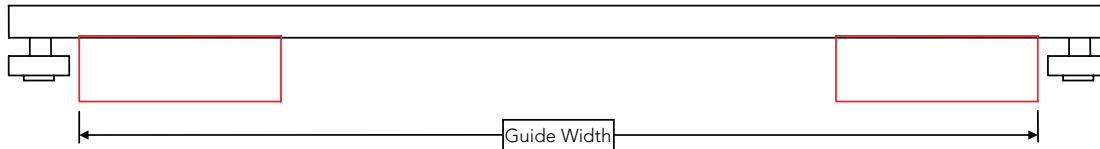


• 7956B — Carryway, Curves

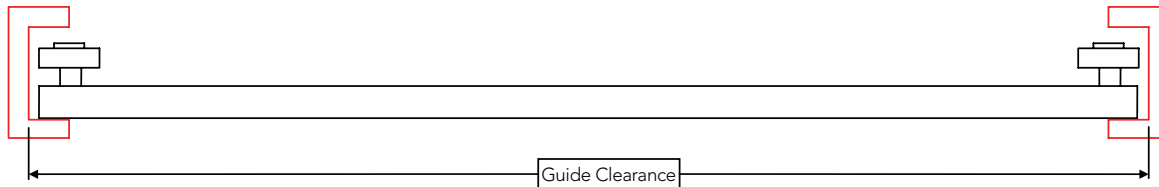
Outside of Curve Inside of Curve



• 7956B — Carryway, Straights



• 7956B — Returnway, Straights and Curves



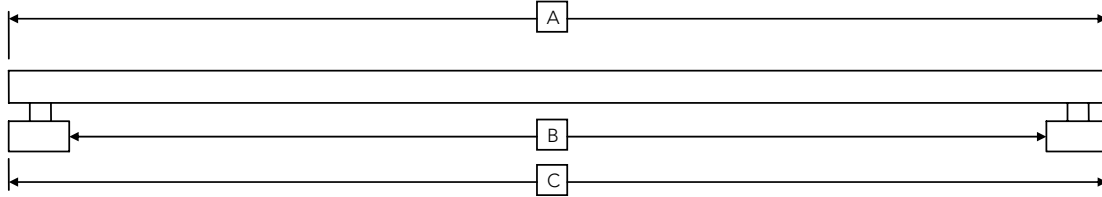
7956B														
Chain Width "A"				Carryway Wearstrip Quantities and Locations			Width Between Bearings "B"		Outside Bearing Width "C"		Recommended Guide Width, Carryway, Straights and Curves		Recommended Guide Clearance, Returnway, Straights and Curves	
Nominal		Actual		Inside	Middle	Outside	inch	mm	inch	mm	inch	mm	inch	mm
inch	mm	inch	mm											
6	152	6.00	152,4	1	0	0	4.41	112,0	6.16	156,5	4.22	107,2	6.34	161,0
12	305	11.98	304,3	1	1	1	10.35	262,9	12.10	307,3	10.16	258,1	12.28	311,9
15	381	14.92	379,0	1	1	1	13.22	335,8	14.97	380,2	13.03	331,0	15.16	385,1
18	457	17.99	456,9	1	2	1	16.27	413,3	18.02	457,7	16.09	408,7	18.22	462,8
24	610	23.97	608,8	1	3	1	22.26	565,4	24.01	609,9	22.06	560,3	24.19	614,4
30	762	29.96	761,0	1	3	1	28.36	720,3	30.11	764,8	28.16	715,3	30.28	769,1

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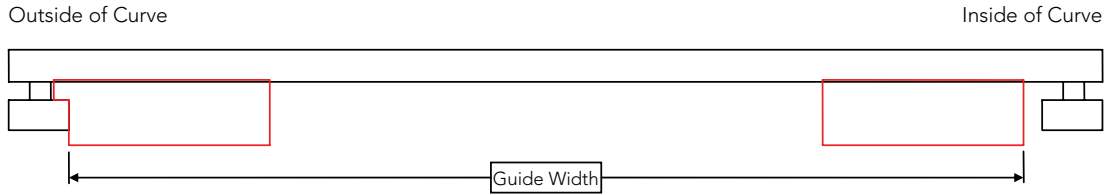
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Chain Selection

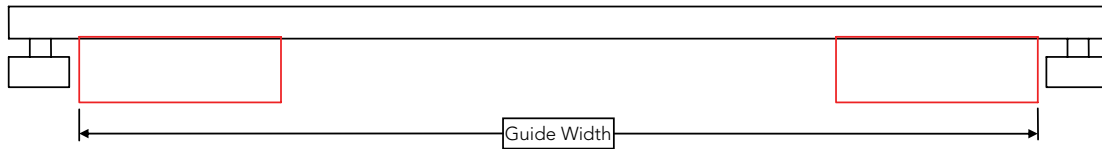
• Basic Chain Dimensions — 7956GT



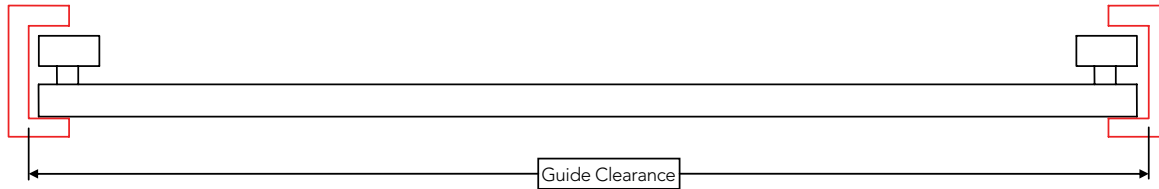
• 7956GT — Carryway, Curves



• 7956GT — Carryway, Straights



• 7956GT — Returnway, Straights and Curves



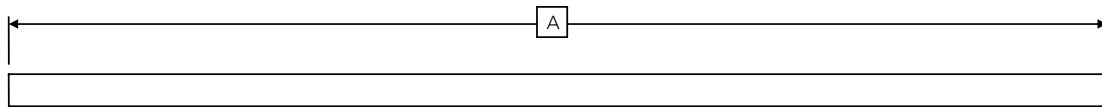
7956GT														
Chain Width "A"				Carryway Wearstrip Quantities and Locations			Width Between GT TABs "B"		Outside GT TAB width "C"		Recommended Guide Width, Carryway, Straights and Curves		Recommended Guide Clearance, Returnway, Straights and Curves	
Nominal		Actual		Inside	Middle	Outside	inch	mm	inch	mm	inch	mm	inch	mm
inch	mm	inch	mm											
6	152	5.99	152,1	1	0	0	4.53	115,1	6.04	153,4	4.34	110,2	6.22	158,0
12	305	11.99	304,5	1	1	1	10.48	266,2	11.99	304,5	10.28	261,1	12.19	309,6
15	381	14.92	379,0	1	1	1	13.32	338,3	14.83	376,7	13.13	333,5	15.13	384,3
18	457	18.00	457,2	1	2	1	16.39	416,3	17.90	454,7	16.19	411,2	18.19	462,0
24	610	23.97	608,8	1	3	1	22.36	567,9	23.86	606,0	22.16	562,9	24.16	613,7
30	762	29.96	761,0	1	3	1	28.49	723,6	30.00	762,0	28.28	718,3	30.19	766,8

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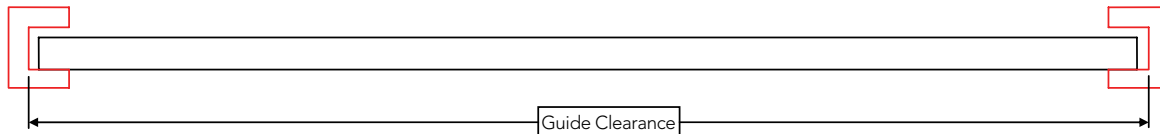
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Chain Selection

- Basic Chain Dimensions — 7956NT



- 7956NT — Carryway and Returnway, Straights and Curves



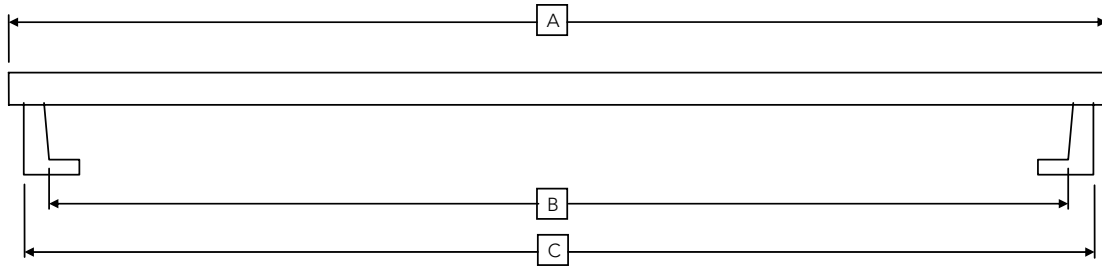
7956NT								
Chain Width "A"				Carryway Wearstrip Quantities and Locations			Recommended Guide Clearance, Carryway and Returnway, Straights and Curves	
Nominal		Actual		Inside	Middle	Outside	inch	mm
inch	mm	inch	mm					
6	152	5.99	152,1	1	0	0	6.19	157,2
12	305	11.99	304,5	1	1	1	12.16	308,9
15	381	14.92	379,0	1	1	1	15.09	383,3
18	457	17.99	456,9	1	2	1	18.19	462,0
24	610	23.97	608,8	1	3	1	24.16	613,7
30	762	29.96	761,0	1	3	1	30.16	766,1

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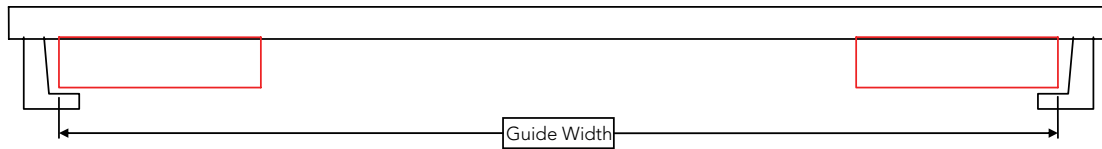
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Chain Selection

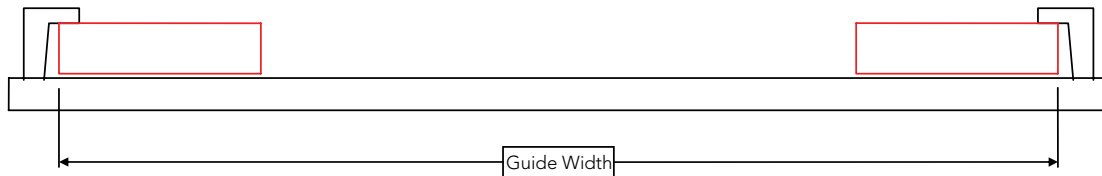
- Basic Chain Dimensions — 7956TAB



- 7956TAB — Carryway, Straights and Curves



- 7956TAB — Returnway, Straights and Curves



7956TAB												
Chain Width "A"				Carryway Wearstrip Quantities and Locations			Width Between TABs "B"		Outside TAB Width "C"		Recommended Guide Width, Carryway and Returnway, Straights and Curves	
Nominal		Actual		Inside	Middle	Outside	inch	mm	inch	mm	inch	mm
inch	mm	inch	mm									
6	152	5.99	152,1	1	0	0	4.90	124,5	5.58	141,8	4.72	119,9
12	305	11.98	304,3	1	1	1	10.85	275,6	11.53	292,9	10.66	270,8
15	381	14.92	379,0	1	1	1	13.69	347,7	14.37	365,0	13.50	342,9
18	457	18.00	457,2	1	2	1	16.76	425,7	17.44	443,0	16.56	420,6
24	610	23.98	609,1	1	3	1	22.74	577,6	23.42	594,9	22.53	572,3
30	762	29.97	761,2	1	3	1	28.81	731,8	29.49	749,1	28.63	727,2

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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

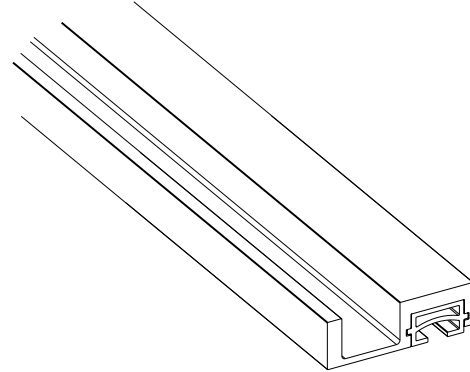
Carry Section Wearstrips

Straight-Running Styles, 7956B, GT, NT and TAB

7956B, 7956GT, 7956NT and 7956TAB MatTop chain styles must be retained in the straights and curves with either a Rexnord® Edge Guide (shown below) or an edge guide manufactured as shown below.

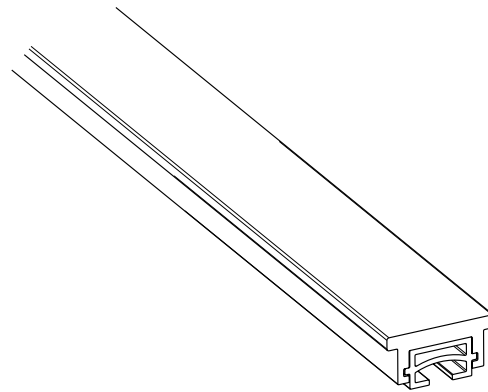
- **Extruded 7956 Straight Guide**

- For use with 7956B and 7956GT chains
- Extruded anodized aluminum rail for strength
- Extruded UHMWPE strips for improved friction
- Mounts with standard carriage bolts
- Designed for smooth and quiet operation
- Sold in 10 ft (3,05 m) sections



- **Extruded 7956 Curve Guide/Wearstrip**

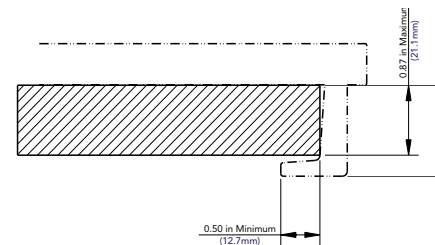
- For use with 7956B and 7956GT MatTop chains
- Extruded anodized aluminum rail for strength
- Extruded UHMWPE strips for improved wear
- Mounts with standard carriage bolts
- Designed for smooth and quiet operation
- Sold in 10 ft (3,05 m) sections



Note: Curve guides are bent to match specific radius. Contact Application Engineering for information needed to order curve sections.

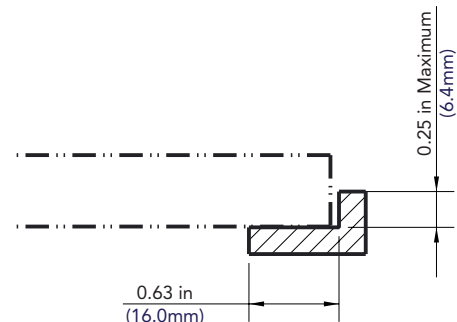
- **7956TAB Edge Guide**

- 7956TAB MatTop chain must be retained in straights and corners under the wearstrip as shown



- **7956NT (No-TAB) Edge Guide**

- 7956NT chain straights must be retained in the straight sections using the wearstrip as shown



Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

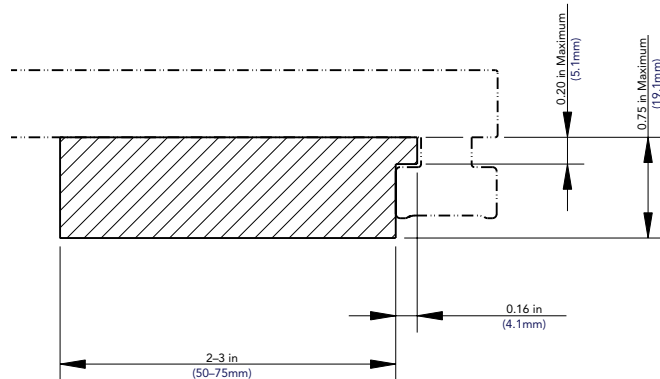
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Carry Section Wearstrips

Corner Wearstrip Style Options, 7956B, GT, NT and TAB

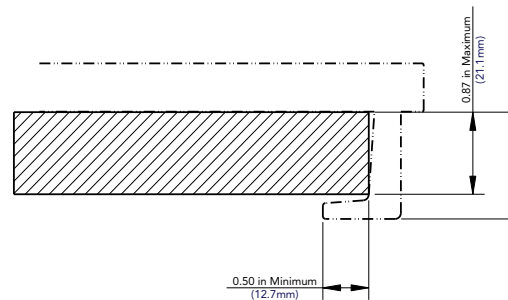
- **7956 B (Bearing) or 7956 GT (Guide TAB) Edge Guide**

- 7956B and 7956GT MatTop chain styles must be retained in the corner with the edge guide as shown. The 7956B or 7956GT attachment is retained under the lip during operation.



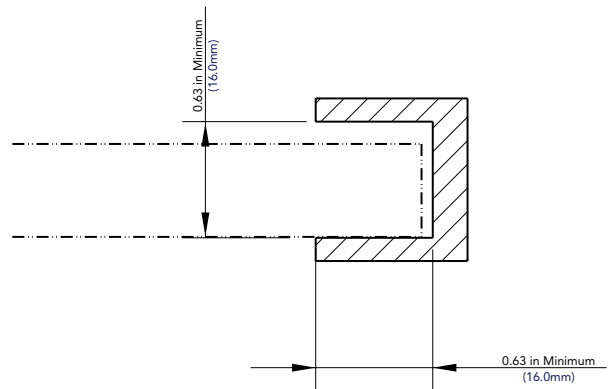
- **7956 TAB Edge Guide**

- 7956TAB MatTop chain must be retained in straights and corners under the wearstrip as shown.



- **7956NT (No-TAB) or C (Channel) Edge Guide**

- 7956NT MatTop chain must be retained in the corner with a pair of edge guides as shown.



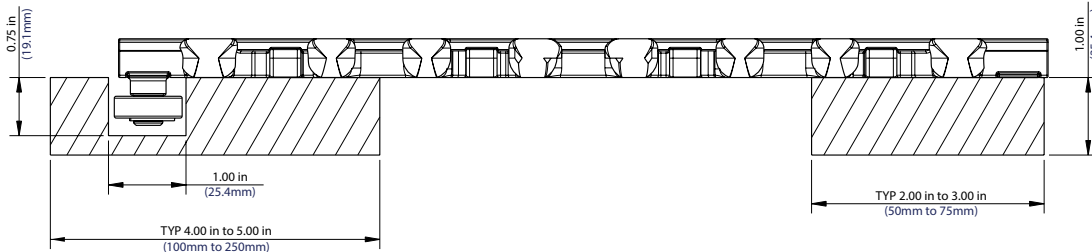
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Carry Section Wearstrips

Edge Guide Dimensions in Straights, 7956B, GT, NT and TAB

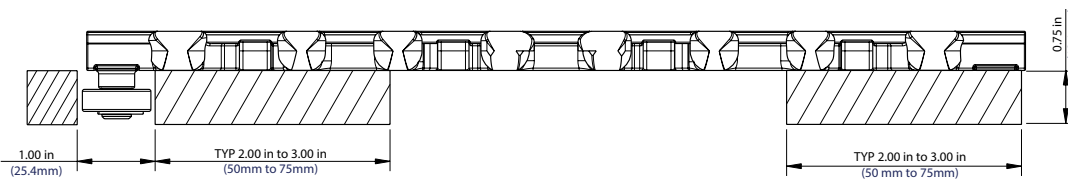
7956 MatTop Series Chains must be retained in the straight as shown if the section is more than 5 ft (1,5 m) long. Chain guides are needed to stop the chain from moving side-to-side. If the distance in the straight is less than 5 ft (1,5 m), the tension in the chain will keep it straight.

- **B and GT Version (option 1)**

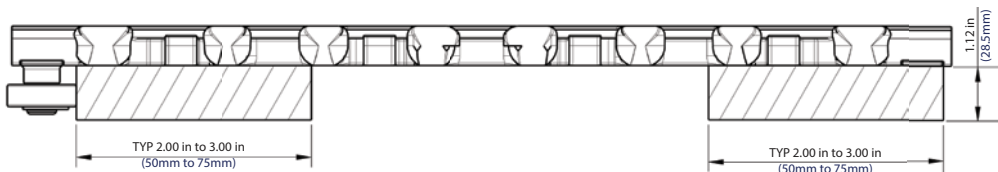


Typical carry configuration—straight (MORE than 5.0 ft [1,5 m])

- **B and GT Version (option 2)**



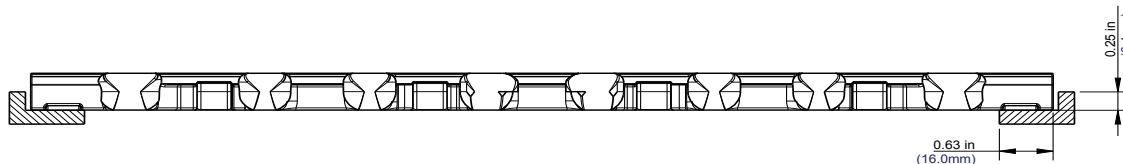
Typical carry configuration—straight (MORE than 5.0 ft [1,5 m])



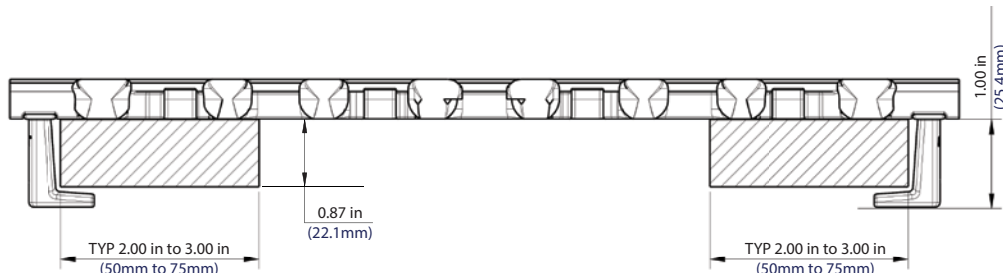
Typical carry configuration—straight (LESS than 5.0 ft [1,5 m])

- **NT Version**

–7956NT MatTop Chain must be retained with edge guide through the entire straight as shown



- **TAB Version**



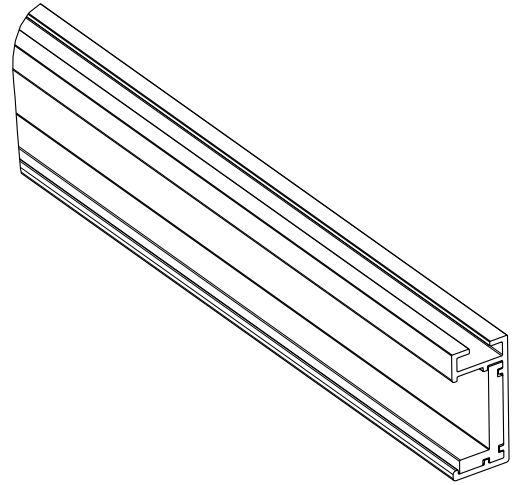
Typical carry configuration

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

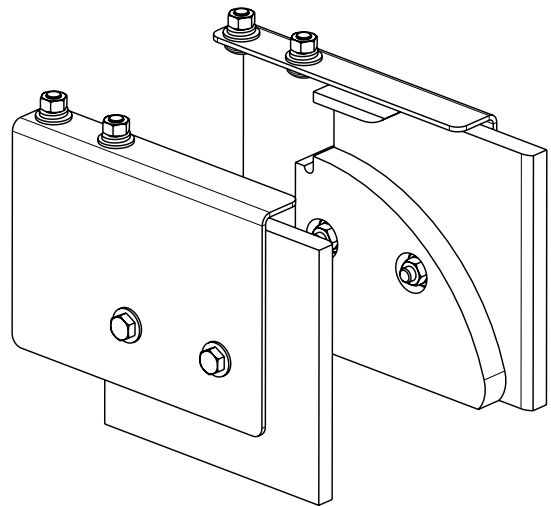
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Return Section Wearstrips

- **Extruded Rexnord® 7956 Return Guide**
 - For use with all MatTop Chains
 - Extruded anodized aluminum rail for strength
 - Extruded UHMWPE strips for improved wear
 - Mounts with standard carriage bolts
 - Designed for smooth and quiet operation
 - Sold in 10 ft (3,05 m) sections



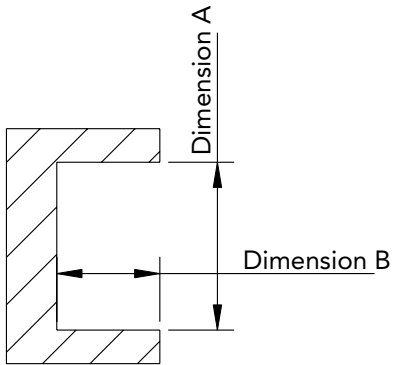
- **Return Shoe Assembly**
 - For use with most MatTop Chains
 - Guides chain into extruded return guides
 - UHMWPE shoe for smooth and quiet operation
 - Includes mounting hardware for easy mounting to end of return guides
 - Sold in pairs



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Return Section Wearstrips

- Curves and Straights
- C-Channel Return Profile, 7956B, 7956GT and 7956NT

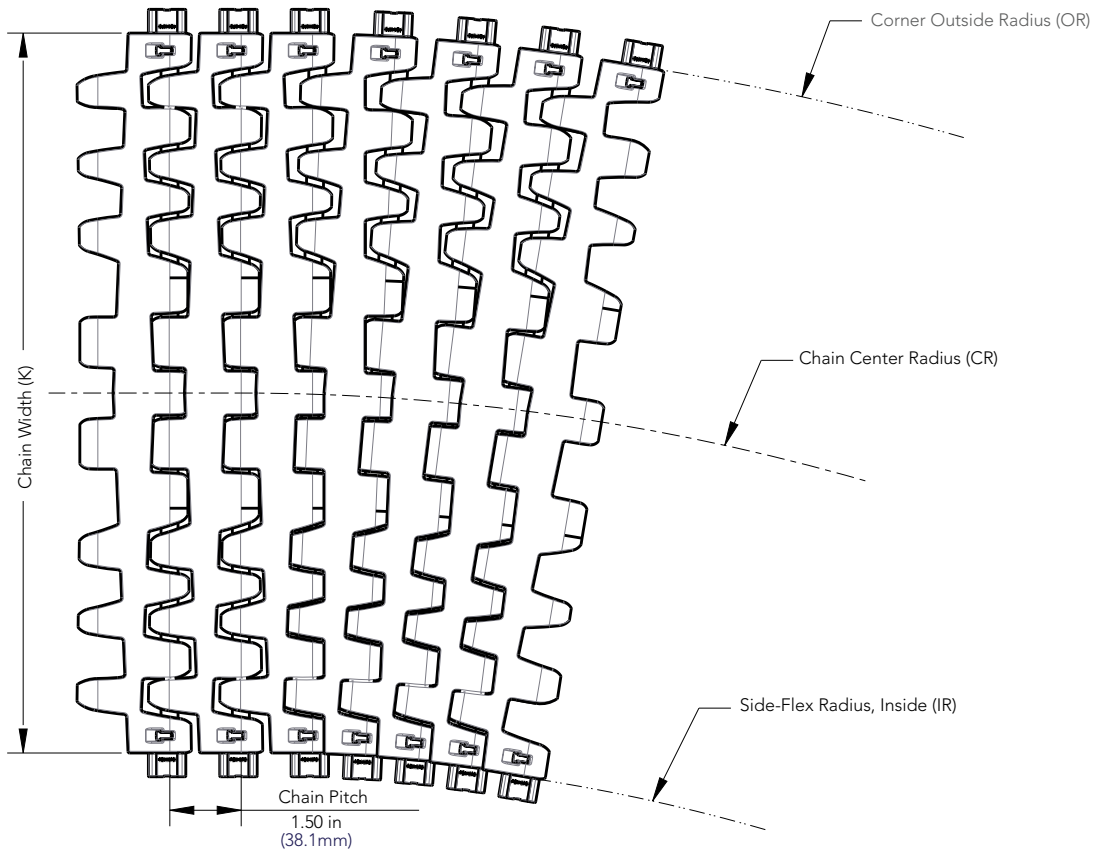


Chain Number	C-Channel Return Wearstrip Dimensions			
	Dimension A (in)	Dimension A (mm)	Dimension B (in)	Dimension B (mm)
7956B, 7956GT	1.25 ±.03	31,8 ±,8	0.63 ±.13	16,0 ±3,30
7956NT	0.63 ±.03	16,0 ±,8	0.63 ±.13	16,0 ±3,30

Note: For 7956NT, this C-Channel Profile can be used in carry and return

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Basic Chain Dimensions — 7963/7966



Chain Number	Standard Width (K)		Side-Flex Radius - Inside (IR)*		Chain Radius - Center (CR)**		Side-Flex Radius - Outside (OR)***	
	inch	mm	inch	mm	inch	mm	inch	mm
7963NT-12	12	305	21.00	533,4	27.00	685,8	33.00	838,2
7963NT-15	15	381	26.25	666,8	33.75	857,3	41.25	1047,8
7966NT-12	12	305	21.00	533,4	27.00	685,8	33.00	838,2
7966NT-15	15	381	26.25	666,8	33.75	857,3	41.25	1047,8
7963ST-12	12	305	21.00	533,4	27.00	685,8	33.00	838,2
7963ST-15	15	381	26.25	666,8	33.75	857,3	41.25	1047,8
7966ST-12	12	305	21.00	533,4	27.00	685,8	33.00	838,2
7966ST-15	15	381	26.25	666,8	33.75	857,3	41.25	1047,8

Note: Drawing depicts 7966ST chain

- * Sideflex radius - inside = 1.75 × chain width
- ** Chain radius - center = 2.25 × chain width
- *** Side-flex radius - outside = 2.75 × chain width

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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

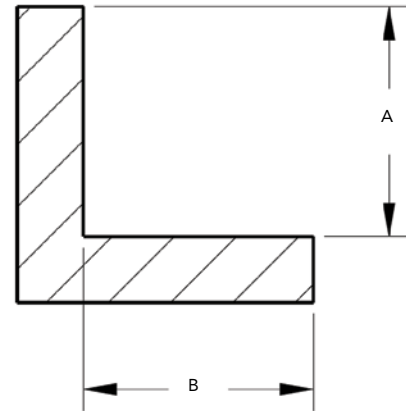
Edge Guide Dimensions — 7963NT/7966NT

The Rexnord® 7963NT and 7966NT MatTop Chain styles are recommended to be retained in straights with the type of edge guide shown.

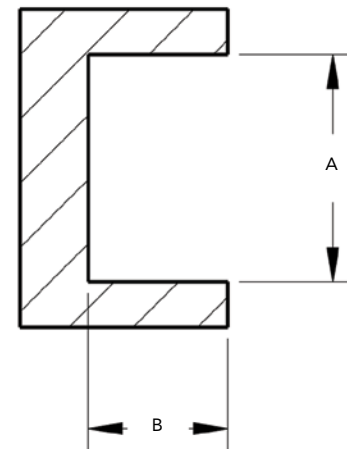
Critical Straight Wearstrip Dimensions				
Chain Number	Dimension A*		Dimension B	
	inch	mm	inch	mm
7963NT-12	0.68	17,5	0.50	12,7
7963NT-15	0.68	17,5	0.50	12,7
7966NT-12	0.68	17,5	0.50	12,7
7966NT-15	0.68	17,5	0.50	12,7

*Maximum allowable height

Note: The Rexnord 7963NT and 7966NT MatTop Chain must be retained in the corner with a pair of edge guides as shown



Critical Curve Wearstrip Dimensions				
Chain Number	Dimension A		Dimension B	
	inch	mm	inch	mm
7963NT-12	0.84	21,4	0.50	12,7
7963NT-15	0.84	21,4	0.50	12,7
7966NT-12	0.84	21,4	0.50	12,7
7966NT-15	0.84	21,4	0.50	12,7



Recommendations for Corners and Straight Sections

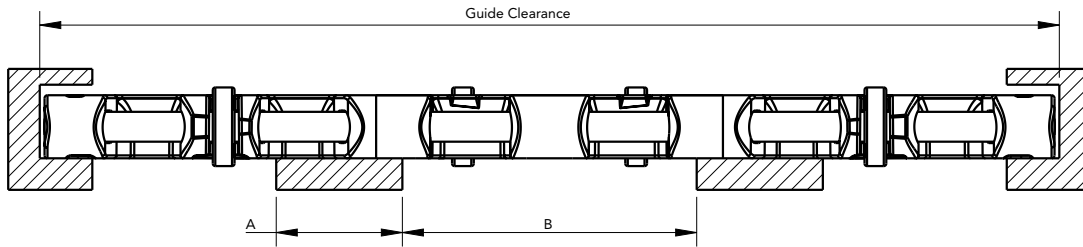
- UHMWPE wearstrips are recommended.
- If required for improved performance, Molybdenum Disulfide (MoS_2) filled nylon wearstrips may be used in corners.
- All sharp wearstrip edges, including corner tracks, should be chamfered to ensure smooth chain movement. Recommended contact surface finish of wearstrips is 32 to 125 μin (0,8 to 3,2 μm) Ra for best wear performance.
- Inside edges of straight and corner sections should contain a lead-in or chamfer for smooth transition.
- Offset rail, serpentine or chevron patterns are recommended to maximize chain life because they provide uniform wear across the full width of the chain. Refer to the Engineering Manual ([8rxEM-en](#)) for more details on carryways and returnways.

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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

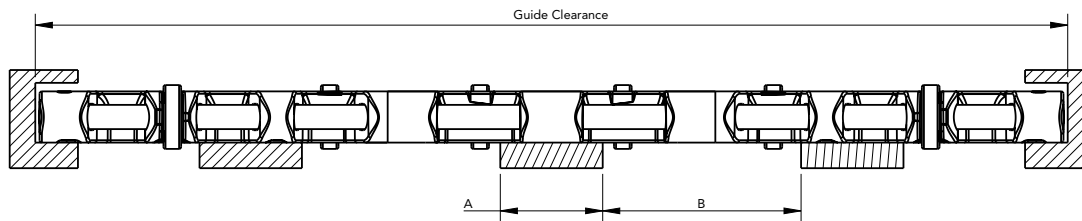
Guide Clearance — 7963NT/7966NT

12-inch width chain



15-inch width chain

Rexnord® 7963NT MatTop Chain shown in drawings



Wearstrip Setup and Guide Clearance						
Chain Number	Recommended Wearstrip Width Dimension A		Distance Between Wearstrips Dimension B		Guide Clearance Carryway & Returnway, Straights & Curves	
	inch	mm	inch	mm	inch	mm
7963NT-12	1.50	40	3.50	87 *	12.25	310
7963NT-15	1.50	40	2.91	72 *	15.25	385
7966NT-12	typ. 1.50	40 min.	typ 3.50	87 max.	12.25	310
7966NT-15	typ. 1.50	40 min.	typ 2.91	72 max.	15.25	385

* Wearstrip location is critical due to LBP roller spacing

- Regal Rexnord recommends a minimum 25-30 percent wearstrip coverage of chain surface area in both carry and return
- Verify maximum package size to ensure sufficient clearance between corner track hold downs

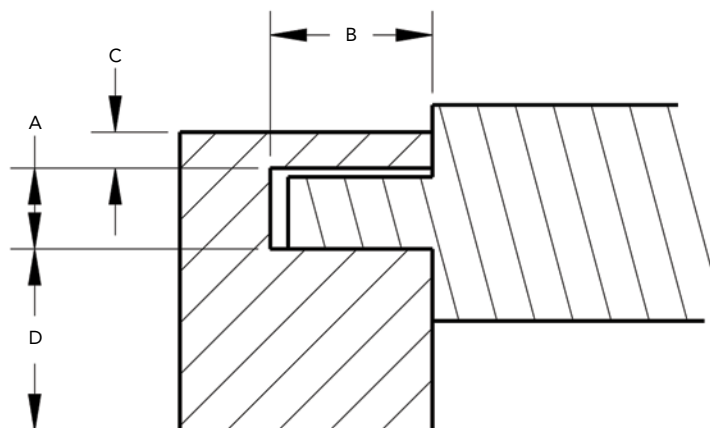
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

7960ST Edge Guide Dimensions — 7963ST/7966ST

- The Rexnord 7963ST and 7966ST MatTop Chain styles must be retained in the corners. We recommend that the chain be retained in the straights with the same type of edge guide shown.

Critical Straight and Curved Wearstrip Dimensions								
Chain Number	Dimension A (max.)		Dimension B		Dimension C		Dimension D	
	inch	mm	inch	mm	inch	mm	inch	mm
7963ST-12	0.28	7	0.56	15	0.13	3,2	*	*
7963ST-15	0.28	7	0.56	15	0.13	3,2	*	*
7966ST-12	0.28	7	0.56	15	0.13	3,2	*	*
7966ST-15	0.28	7	0.56	15	0.13	3,2	*	*

* Dimension D equals the thickness of the wearstrips plus 0.25 in (6,3 mm). This will allow for the bottom of the edge guides and the bottom of the wearstrips to be at the same level for mounting to a common cross support (see **page 90**).

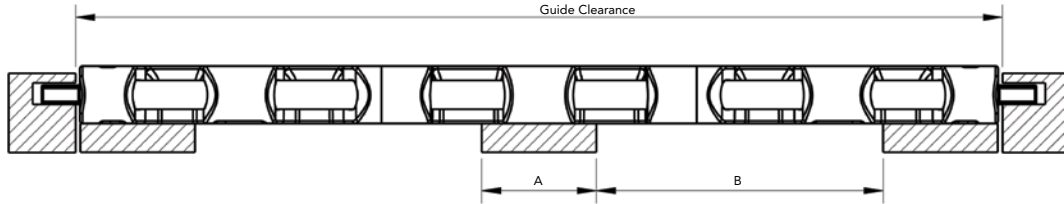


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

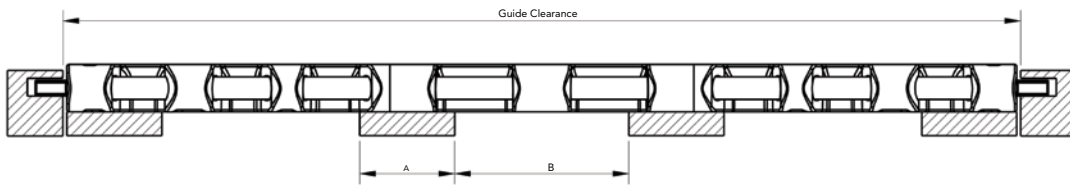
Guide Clearance — 7963ST/7966ST

- The Rexnord® 7963ST and 7966ST MatTop Chains must be retained in the corner with a pair of edge guides as shown.

12-inch width chain



15-inch width chain



Note: Rexnord 7966ST MatTop Chain shown in drawings

Wearstrip Setup and Guide Clearance						
Chain Number	Recommended Wearstrip Width Dimension A		Distance Between Wearstrips Dimension B		Guide Clearance Carryway & Returnway, Straights & Curves	
	inch	mm	inch	mm	inch	mm
7963ST-12	1.50	40	3.50	87 *	12.25	310
7963ST-15	1.50	40	2.91	72 *	15.25	385
7966ST-12	typ. 1.50	40 min.	typ. 3.50	87 max.	12.25	310
7966ST-15	typ. 1.50	40 min.	typ. 2.91	72 max.	15.25	385

* Wearstrip location is critical due to LBP roller spacing

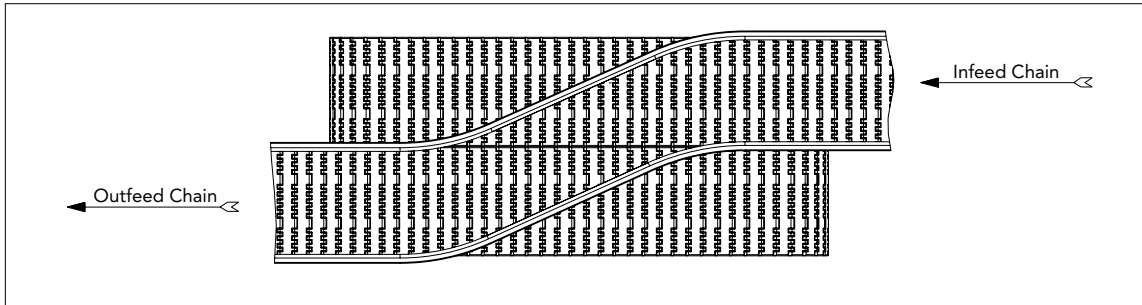
- Rexnord recommends a minimum 25-30 percent wearstrip coverage of chain surface area in both carry and return
- Verify maximum package size to ensure sufficient clearance between corner track hold downs

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

In the operation of MatTop Chain conveyors, smooth transfer of the conveyed product from one chain to another is essential for product protection and prevention of downtime. The various methods are described below.

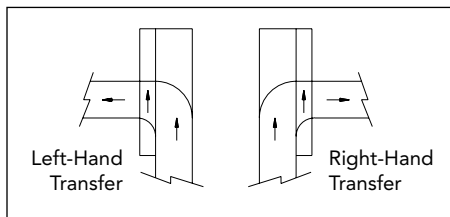
• Side Transfer



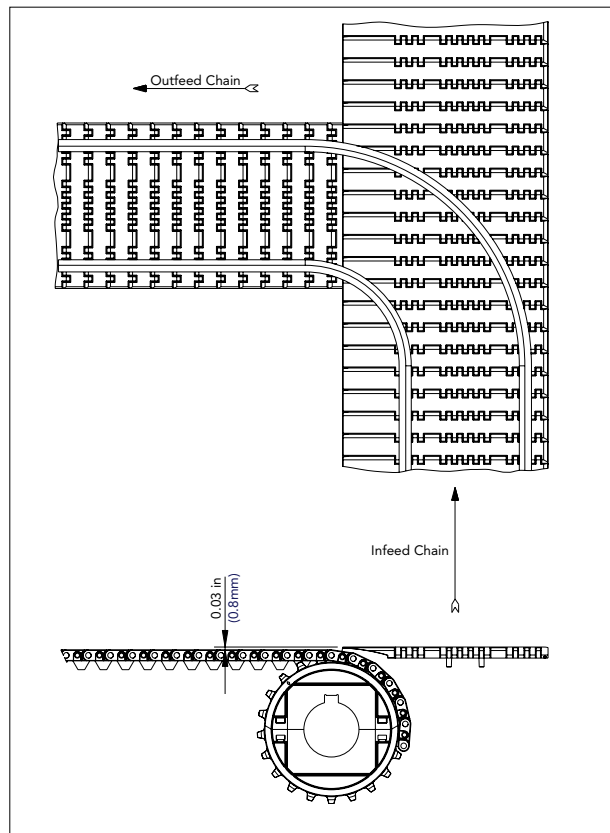
- Note: Adjacent strands of chain should share a common wearstrip
- No stranded products

• DTS® Transfer (DynamicTransfer System™)

- DTS is a self-clearing transfer which eliminates stranded product
- See the diagram below for left-hand and right-hand transfers



- Note: It is difficult to retrofit an existing deadplate transfer with DTS.
- It is recommended to consult with a qualified OEM to discuss the retrofit details

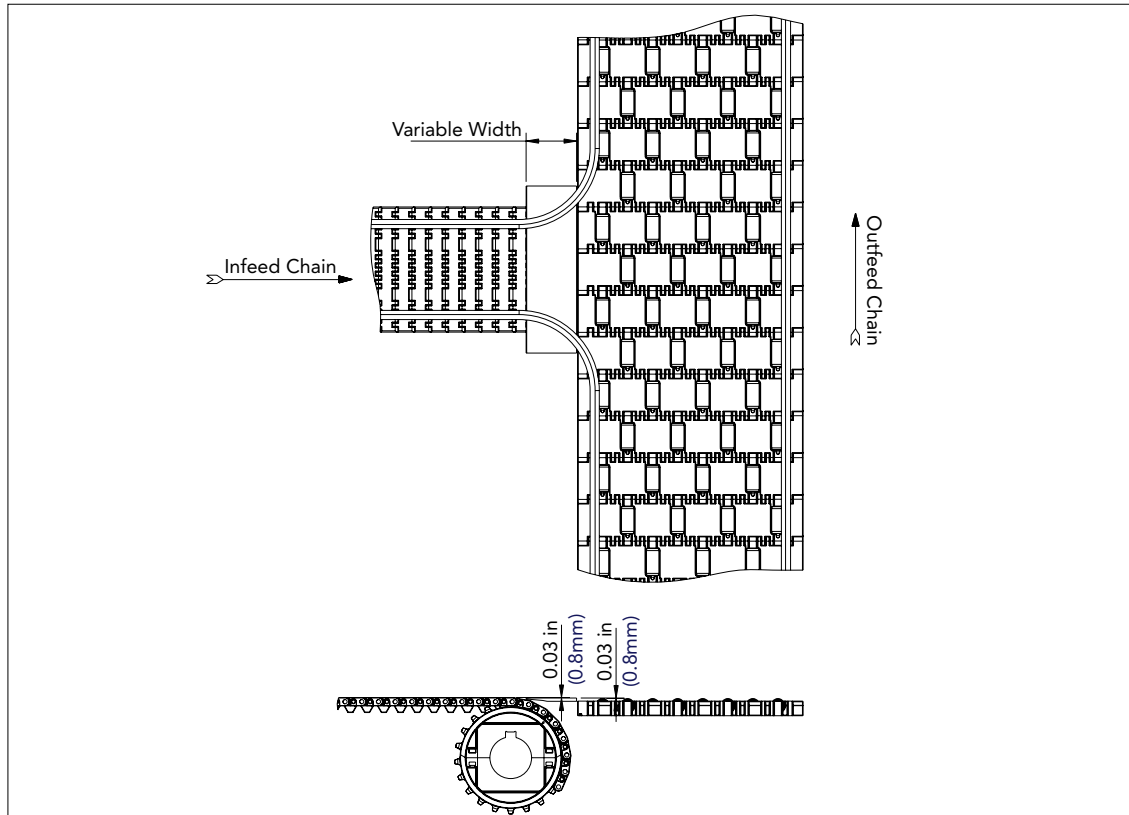


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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

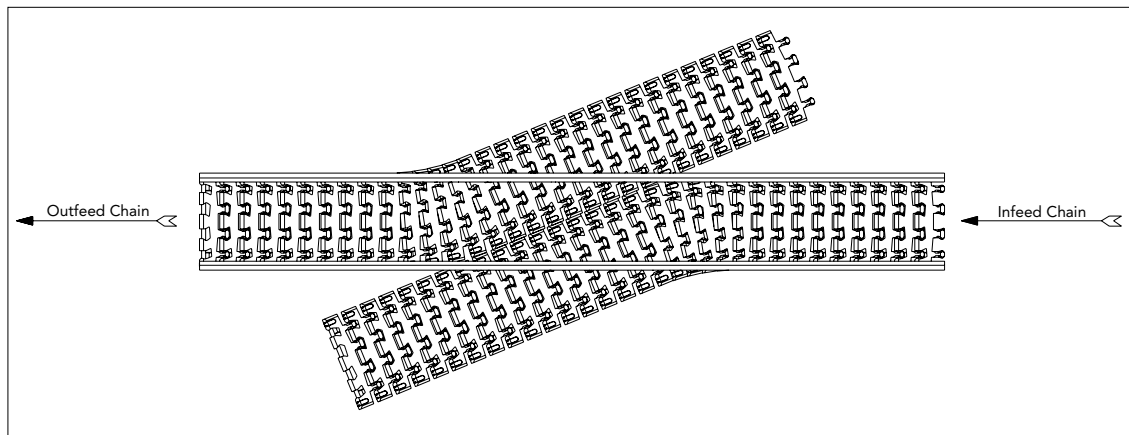
Transfers

• Transverse Roller Transfer



- Infeed chain is to be slightly higher than LBP MatTop Chain with transverse rollers
- Infeed and outfeed conveyors should be mounted as close as possible to each other
- Deadplate should be used if the gap between chains is greater than half of the product bottom surface area to prevent the product from dropping below the LBP chain

• Inline Transfer



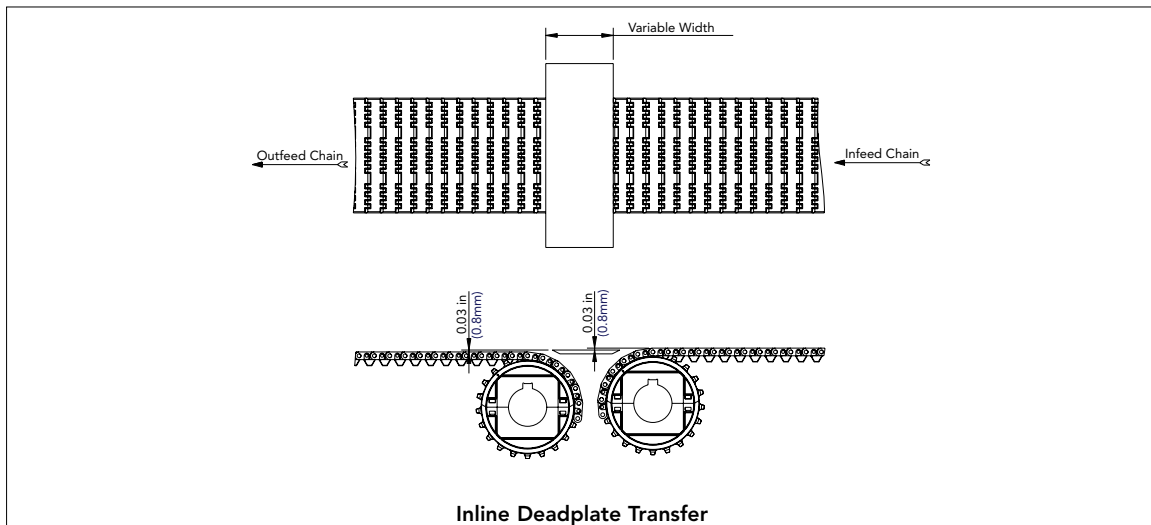
- Note: Adjacent strands of chain should share a common wearstrip
- Allows product to remain in straight line

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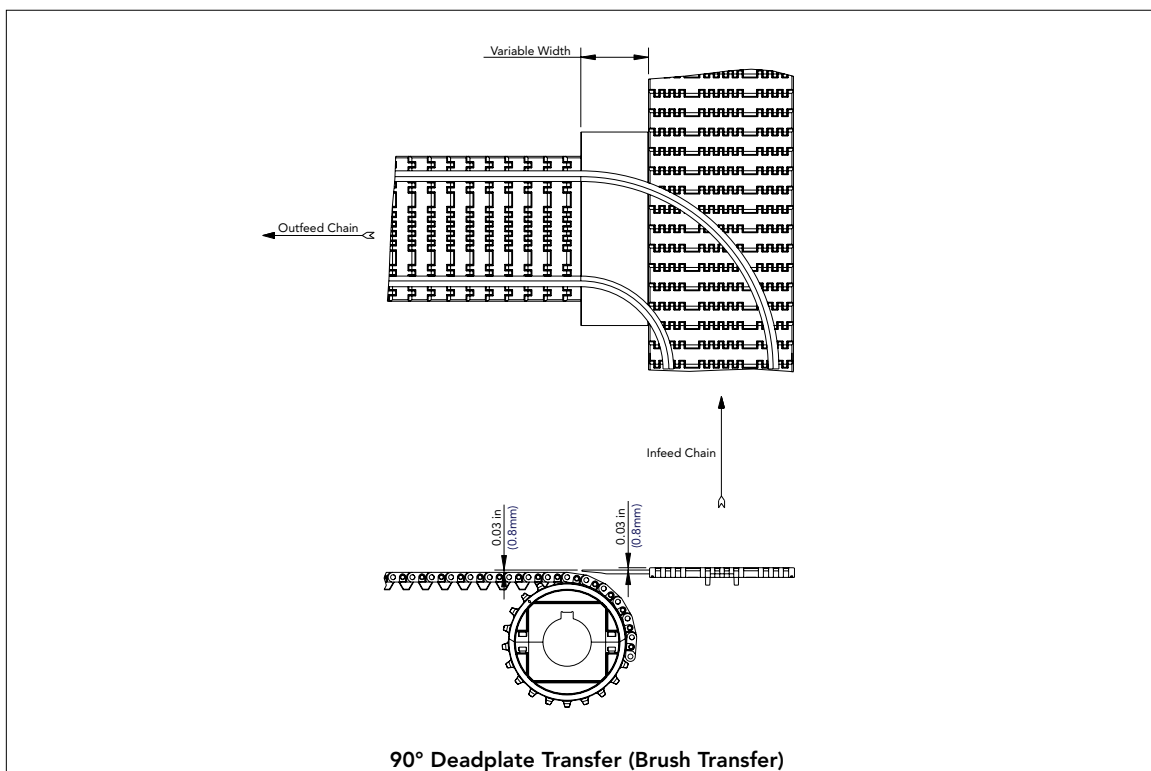
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

• Inline Deadplate Transfer



• 90° Deadplate Transfer



- Note: For deadplate transfers, products should step down to the adjacent chain or deadplate surface (typically 0.03 in [0,8 mm] step is recommended)
- Deadplates to be mounted slightly higher than the top surface of the outfeed chain
- Deadplates should be as short as possible
- Deadplate transfers result in stranded product

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

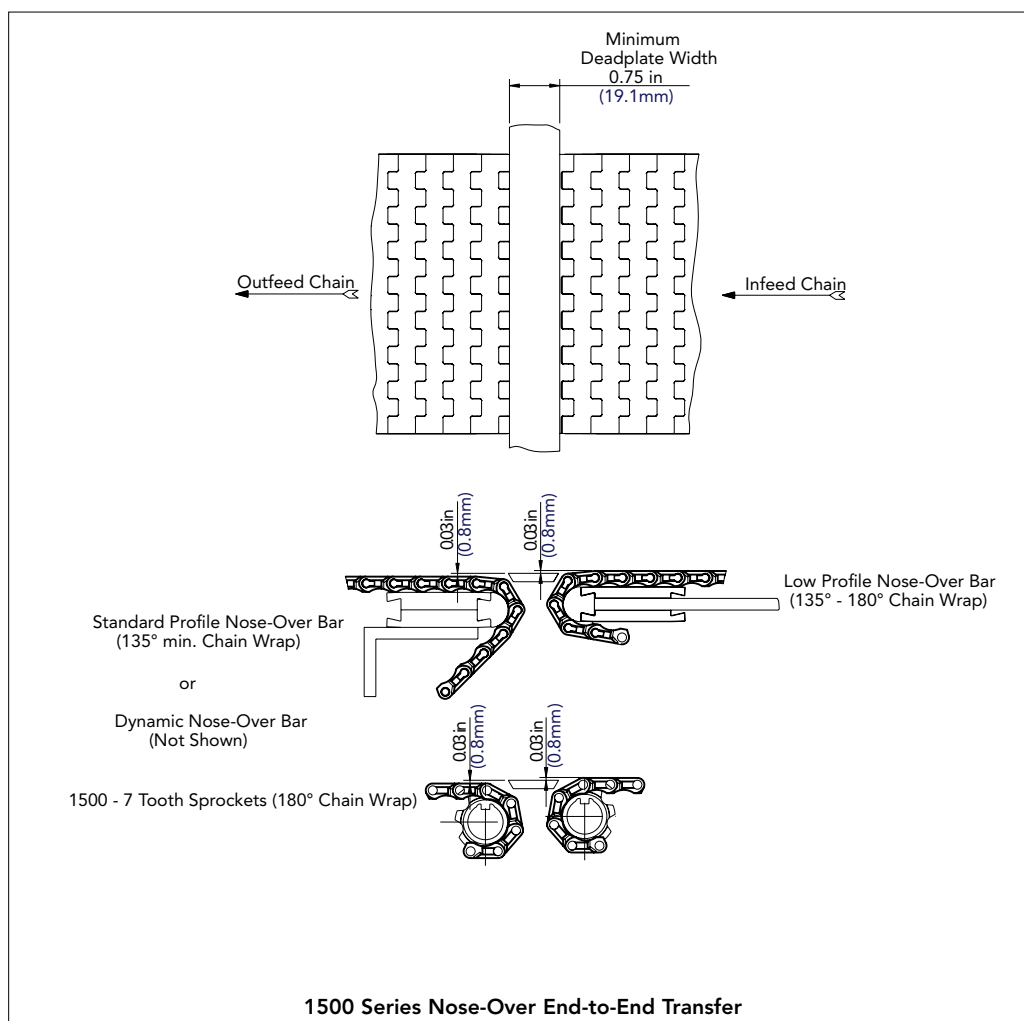
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

• 1500 Series Nose-Over End-to-End Transfer

Things to be taken into consideration include:

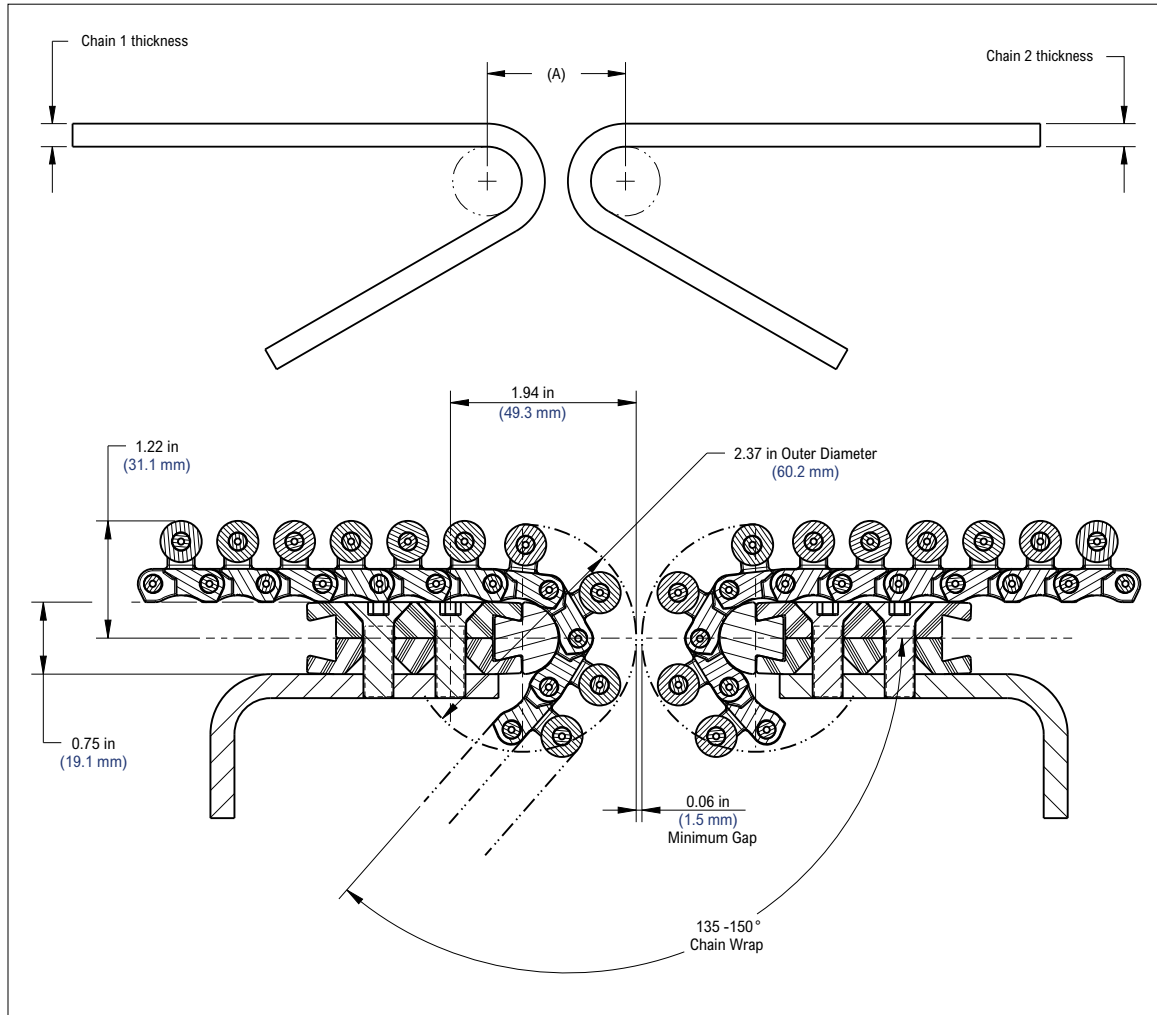
- Chordal action (small pitch is recommended)
- Drive configurations (see **page 100** for details)
- Nose-over bar types:
 - Rotating shaft or dynamic
 - Sliding
- 1500 Series Nose-Over Bar Design Manuals are available for more details ([8rxNOdm-en](#))
- PBT (Polyester) pins must be used for 1500 Series nose-over applications



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

- 1500 Series Nose-Over End-to-End Transfer



Center to Center Nose Bar Distance (A)

Center to Center Nose Bar Distance (A)				
Chain 1		Chain 2		(A) Dimension
Chain Series	Chain Thickness	Chain Series	Chain Thickness	
1505/06	0.34 in (8,7 mm)	1505/06	0.34 in (8,6 mm)	1.53 in (38,8 mm)
1505/06	0.34 in (8,6 mm)	1505RT	0.43 in (10,9 mm)	1.58 in (40,1 mm)
1505/06	0.34 in (8,6 mm)	1503	0.40 in (10,2 mm)	1.59 in (40,4 mm)
1505/06	0.34 in (8,6 mm)	1553	0.85 in (21,5 mm)	1.92 in (48,8 mm)
1505RT	0.43 in (10,9 mm)	1505RT	0.43 in (10,9 mm)	1.64 in (41,7 mm)
1505RT	0.43 in (10,9 mm)	1503	0.40 in (10,2 mm)	1.65 in (41,9 mm)
1505RT	0.43 in (10,9 mm)	1553	0.85 in (21,6 mm)	1.99 in (50,5 mm)
1503	0.40 in (10,2 mm)	1503	0.40 in (10,2 mm)	1.66 in (42,2 mm)
1503	0.40 in (10,2 mm)	1553	0.85 in (21,6 mm)	2.00 in (50,8 mm)
1553	0.85 in (21,6 mm)	1553	0.85 in (21,6 mm)	2.43 in (61,7 mm)

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

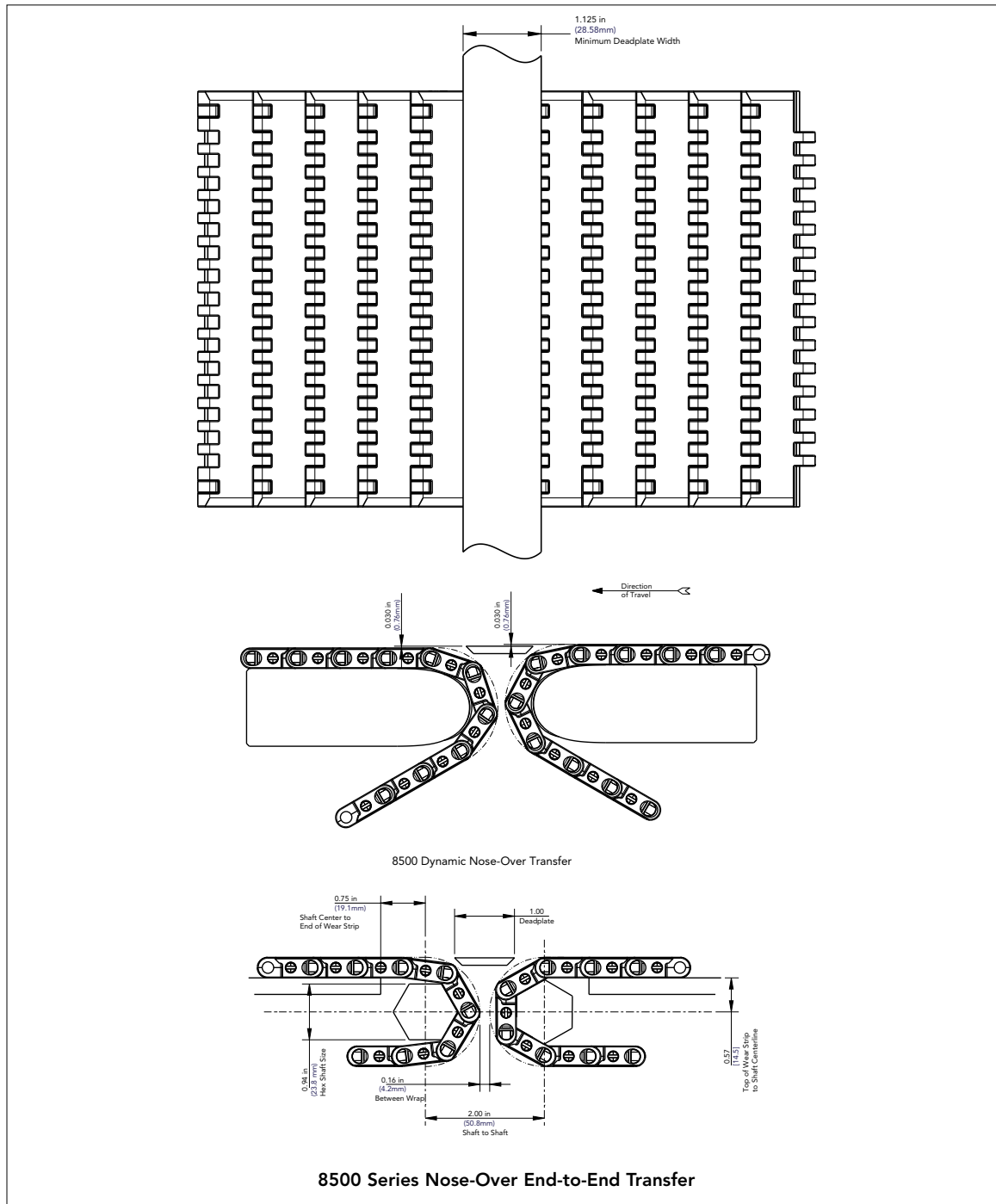
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

- **8500 Series Nose-Over End-to-End Transfer**

Things to be taken into consideration include:

- Chordal action
- Drive configurations (see **page 100** for details)
- Dynamic or rotating hex shaft is recommended for 8500 Series
- 8500 Series Nose-Over Bar Design Manuals are available for more details ([8rxNOdm-en](#))



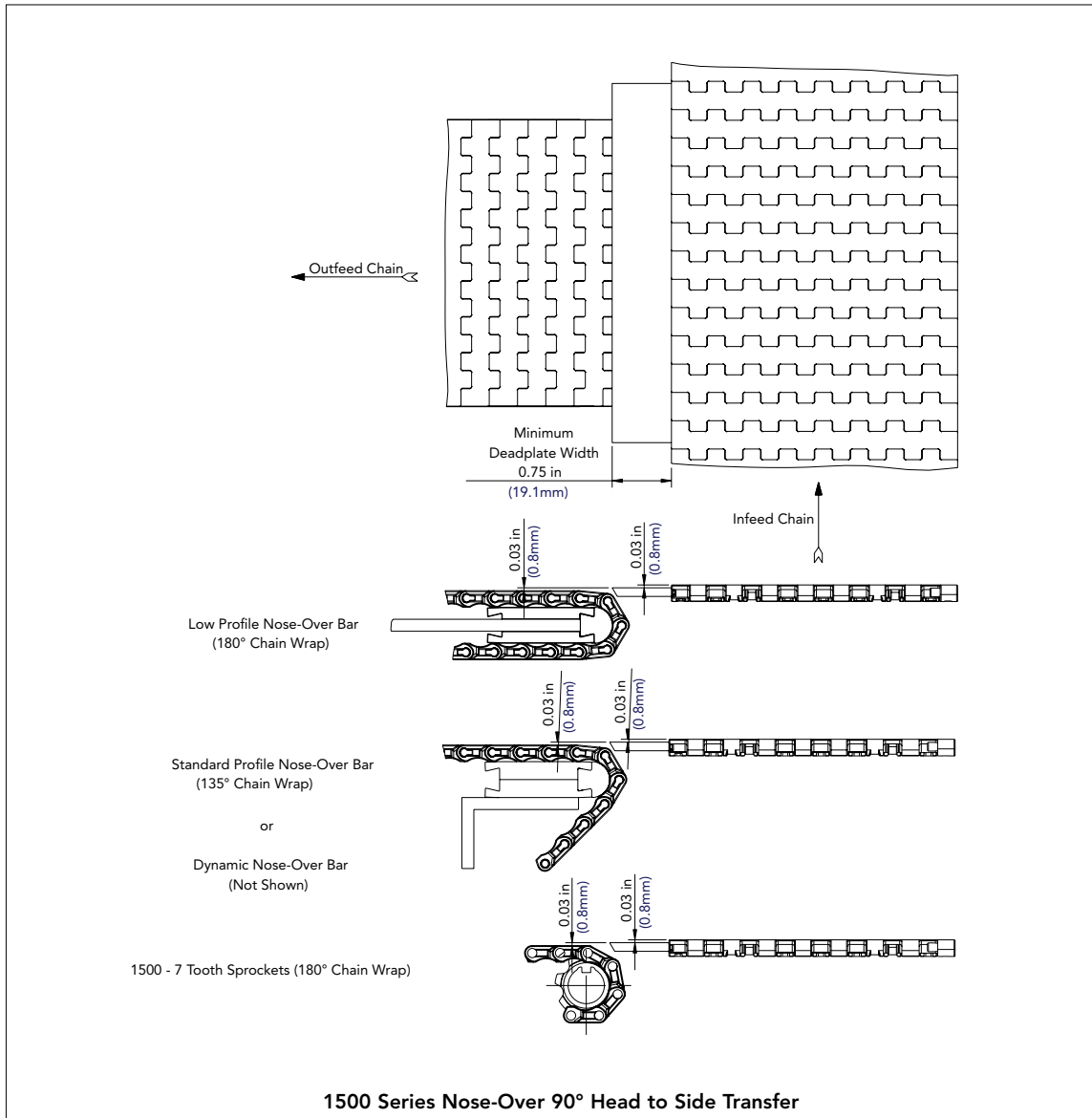
Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

- 1500 Series Nose-Over 90° Head to Side Transfer

See notes on **page 94** for 1500 Series Nose-Over Bar details.



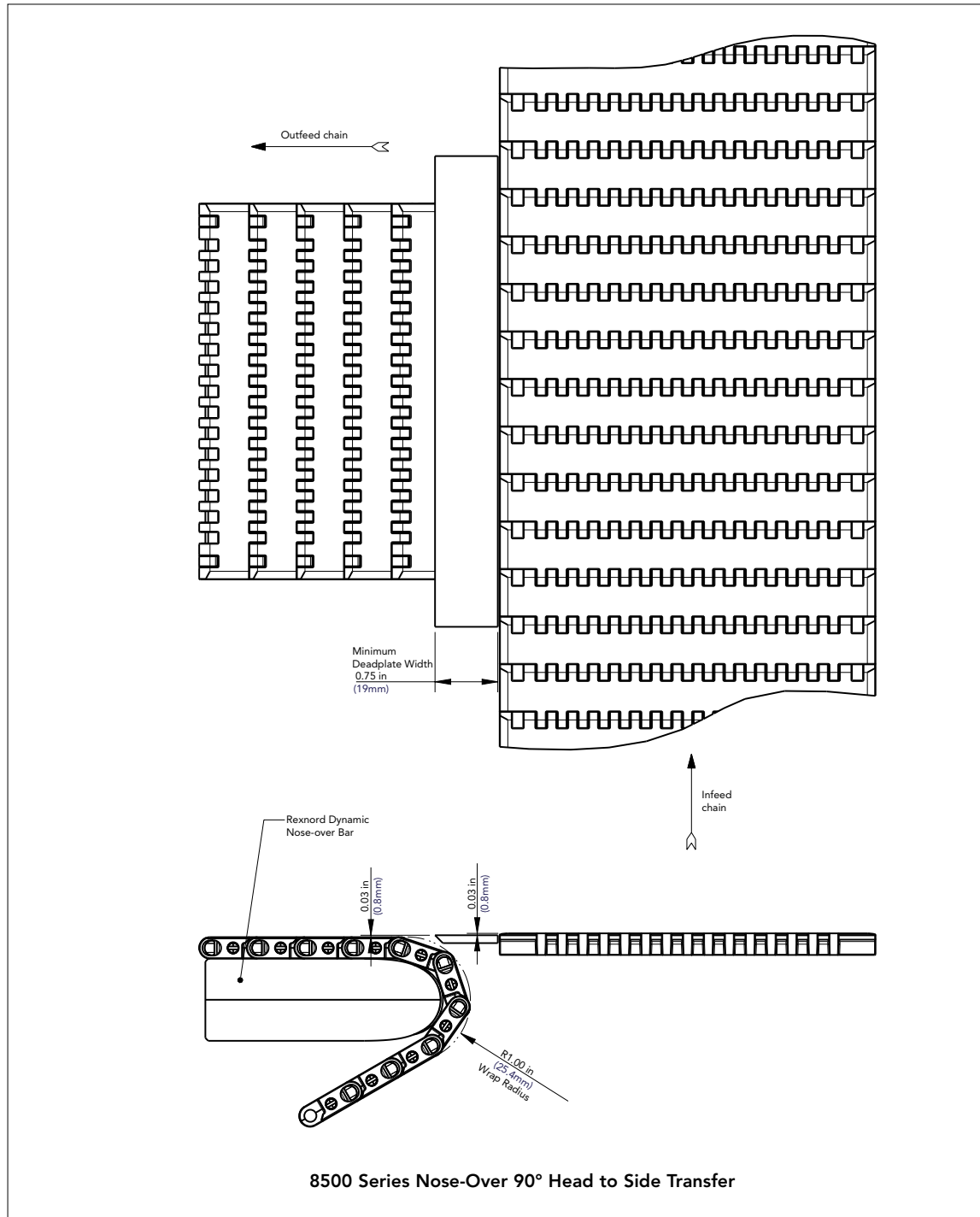
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

- 8500 Series Nose-Over 90° Head to Side Transfer

See notes on page 96 for 8500 Series Nose-Over Bar details.



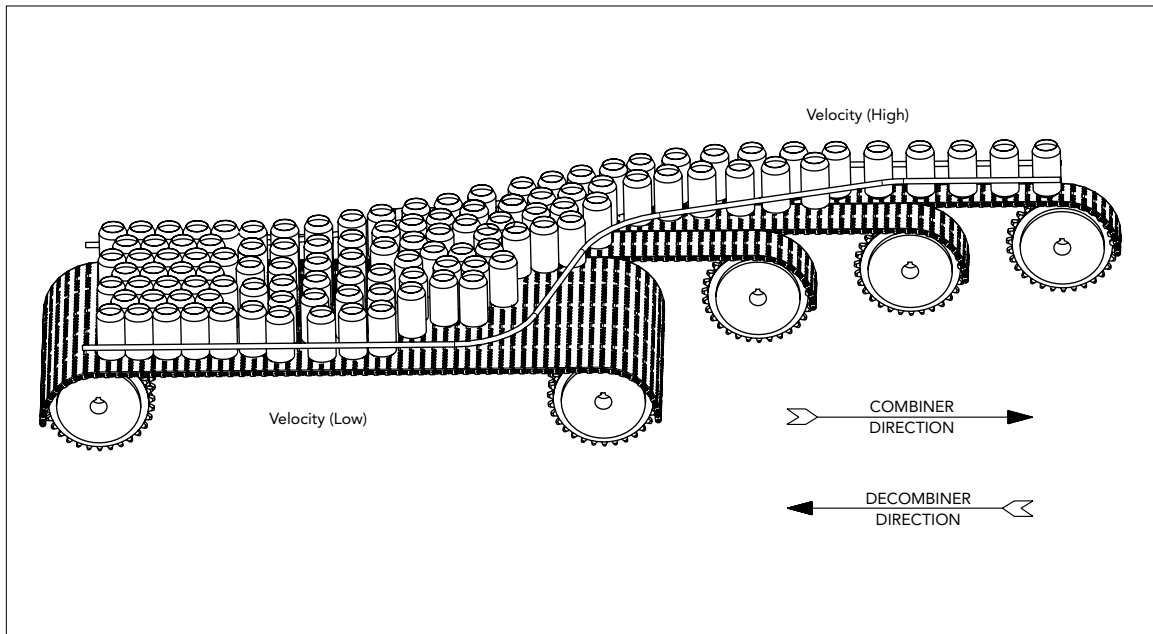
Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Transfers

- **Combiners/Decominers**

- Combiners take products from en masse (in mass) to single file
- Decominers take products from single file to en masse (in mass)



Note: For conveyors using multiple strands of chain, key all sprockets on the head shaft and key only one sprocket on the tail shaft, preferably the center strand.

NOTICE If space permits, use enough lanes to keep speed differentials between adjacent strands to about 50–75 FPM (15–23 MPM), depending on product.

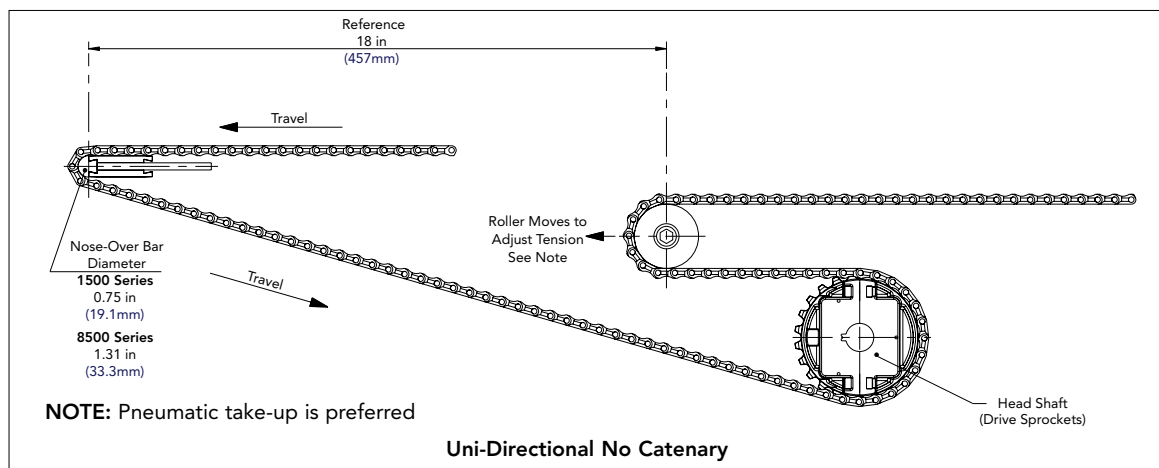
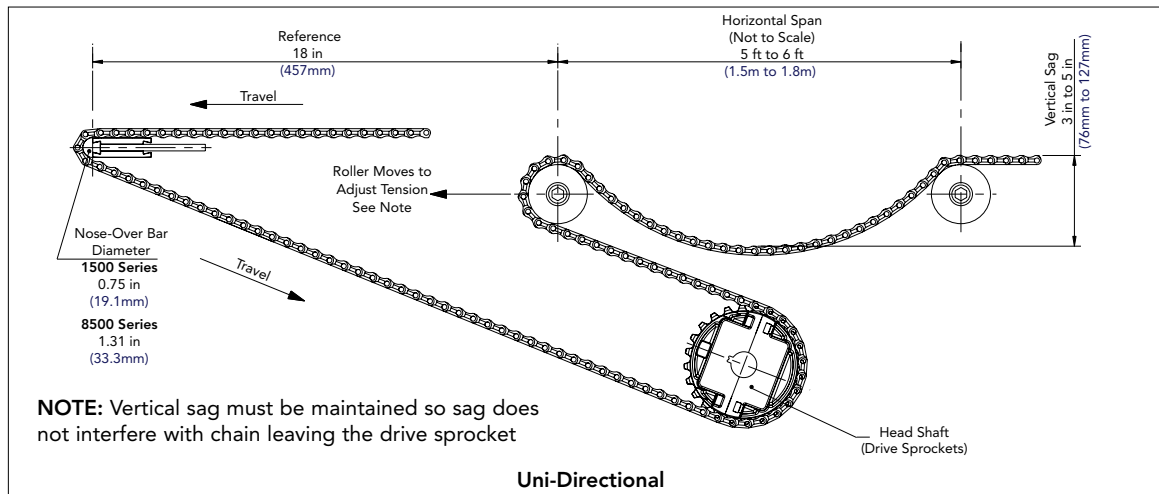
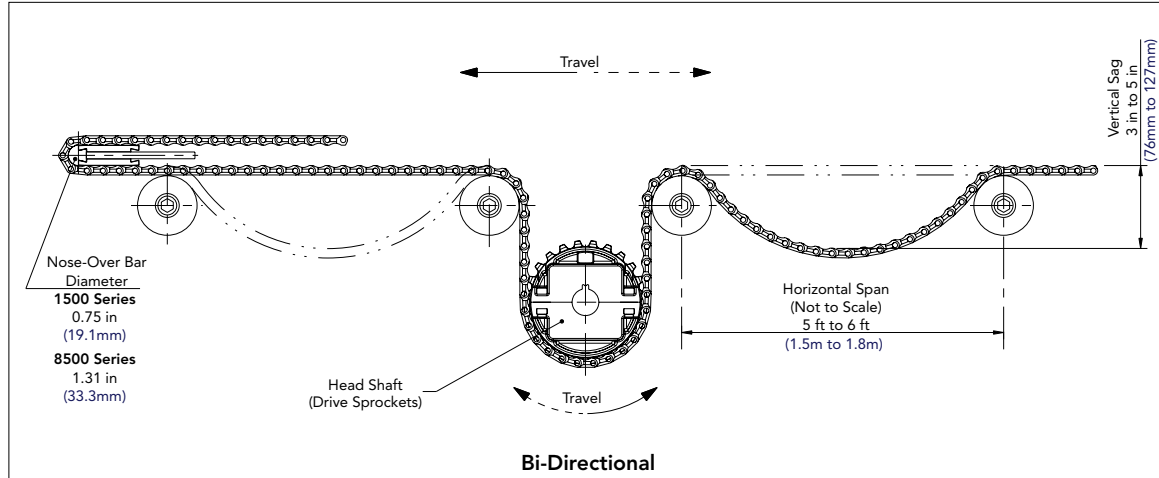
NOTICE When several chains run side by side, such as on multiple width conveyors and combiners or decominers, make sure the return chains do not interfere with each other.

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Alternate Drive Configurations

- **Nose-Over Bar Conveyors**

- Catenary or take-up arrangements will vary based on drive configurations
- 1500 and 8500 Series Nose-Over Bar Design Manuals are available for more details ([8rxNOdm-en](#))



Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Alternate Drive Configurations

- **Bi-Directional Bottom Drive Conveyors (for heavy-duty service)**

- Recommended roller spacing is 2 ft to 3 ft (0,5 m to 1 m), depending on speed and other considerations

Note: Allow for thermal expansion or contraction (see **page 70** for chain information or **page 124** for sprocket information).

- Idler Rollers

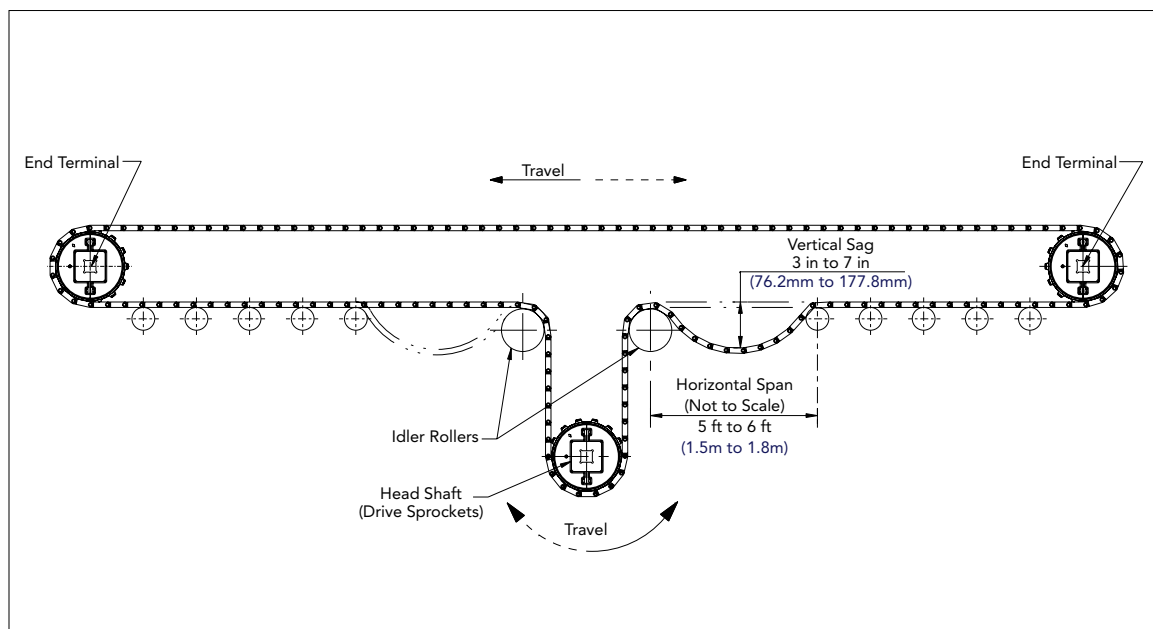
- Idler rollers can be continuous drums or a series of individual rollers
- If individual rollers are used, they should be positioned in line with the drive sprockets
- Roller diameter is recommended to be at least two times greater than the minimum back-flex radius of the chain

- Bottom Drive

- All sprockets must be keyed in line (see **page 124**)

- End Terminals

- For single-strand, continuous-width conveyors, key at least two sprockets, preferably the innermost sprockets

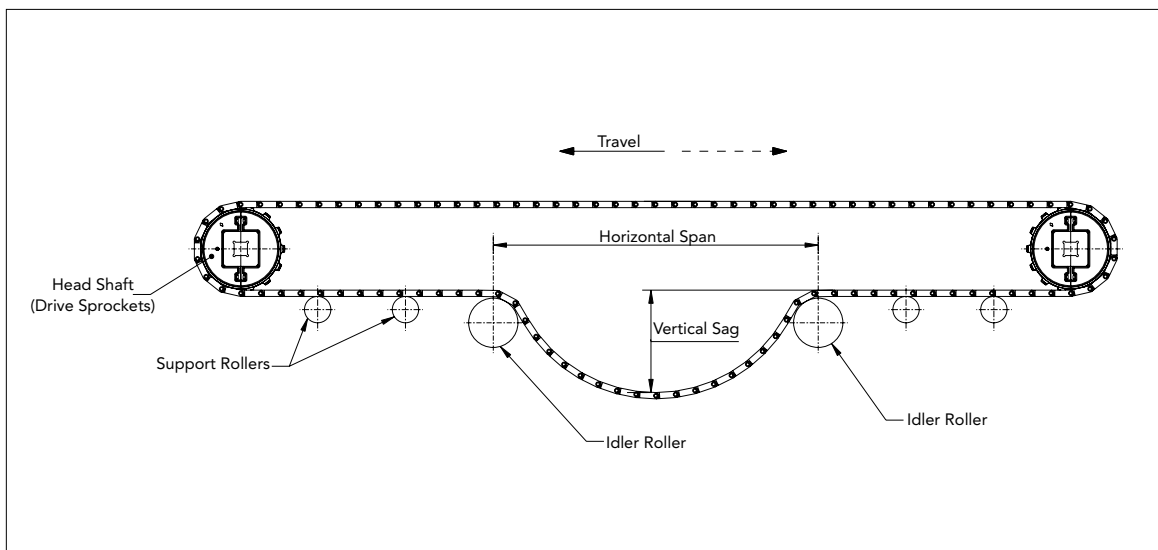


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Alternate Drive Configurations

- **Bi-Directional End Drive Conveyors (for light-duty service)**
 - The end drive method is **ONLY** recommended for very light-duty service conveyors (10 ft to 20 ft [3 m to 6 m] centers) where the chain tension on the carry side can be balanced by the catenary tension
 - Call Application Engineering to determine catenary dimensions for specific applications
 - For applications beyond the capacity of the end drive method, use the bottom drive configuration

Note: Make sure the sprockets are properly aligned on the shaft (see **page 124**).

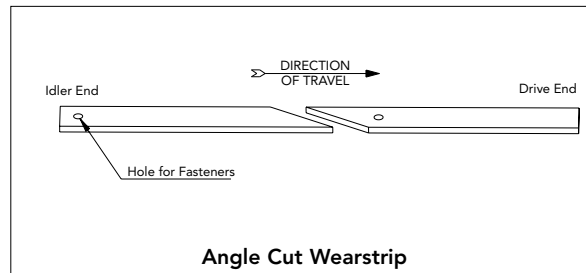
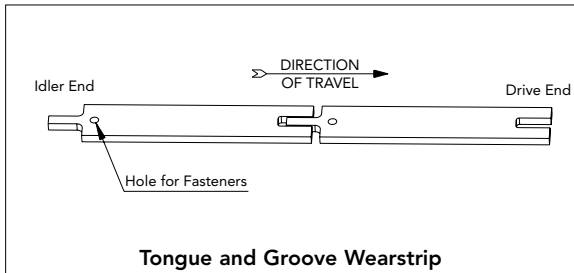


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

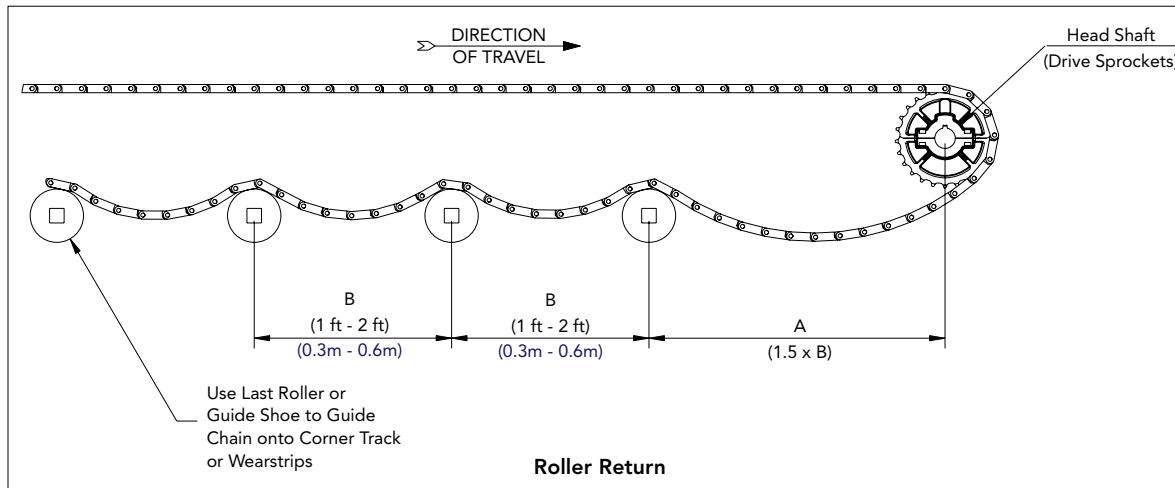
Returnways

• Wearstrip Considerations

- Wearstrips will contract and expand due to environmental conditions. Suggested methods to accommodate this are shown below.



- The first roller should be located far enough away from the head sprocket to allow for proper catenary sag



• Roller Return

- Dimension "A" should be 1.5 to 2 times greater than Dimension "B"
- Roller diameter is recommended to be at least two times greater than the minimum back-flex radius of the chain

Example: When using 4705 Chain Series, the chain minimum back-flex radius is 1.50 in (38,1 mm); therefore, the minimum roller diameter should be 3.00 in (76,2 mm).

NOTICE

- Ensure rollers **ALWAYS** spin freely
- If rollers do not turn freely, uneven wear patterns or scalloping on the top carry surface can occur
- See table for minimum back-flex radii for specific chains
- For offset rail, serpentine and chevron wearstrip configurations, see **pages 72 - 73**

Chain Style	Back-Flex Radius Table	
	Min. Back-Flex Radius	
	in	mm
1000	0.98	25,0
1015	1.50	40,0
1503/1505/1506/1553	1.00	25,4
2011/2015/2016	3.43	87,0
3003/3004	3.75	95,3
3125/3129	3.00	76,2
4705/4706	1.50	38,1
4707	2.00	50,8
5705/5706	1.50	38,1
5935/5936	1.00	25,4
5966	1.50	38,1
5995/5996/5998/5998HD	1.50	38,1
6085	2.00	50,8
6938	1.00	25,4
6995/6999	2.50	63,5
6997	2.75	69,9
7526	0.59	15,0
7703	2.00	50,8
7705 RubberTop®/7705 Supergrip	2.00	50,8
7705/7706/7708/7743	1.00	25,4
7725/7726	1.00	25,4
7956	6.00	152,4
7963/7966	2.50	63,5
8503/8505/8506	1.00	25,4
8507	3.50	88,9
9608	1.50	38,1

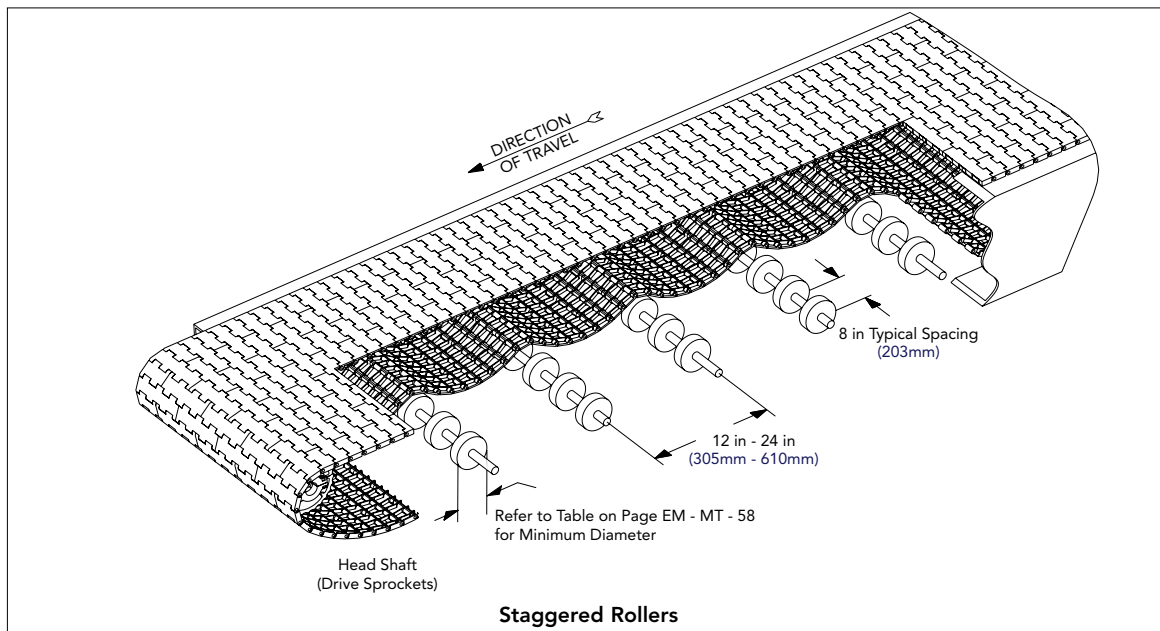
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

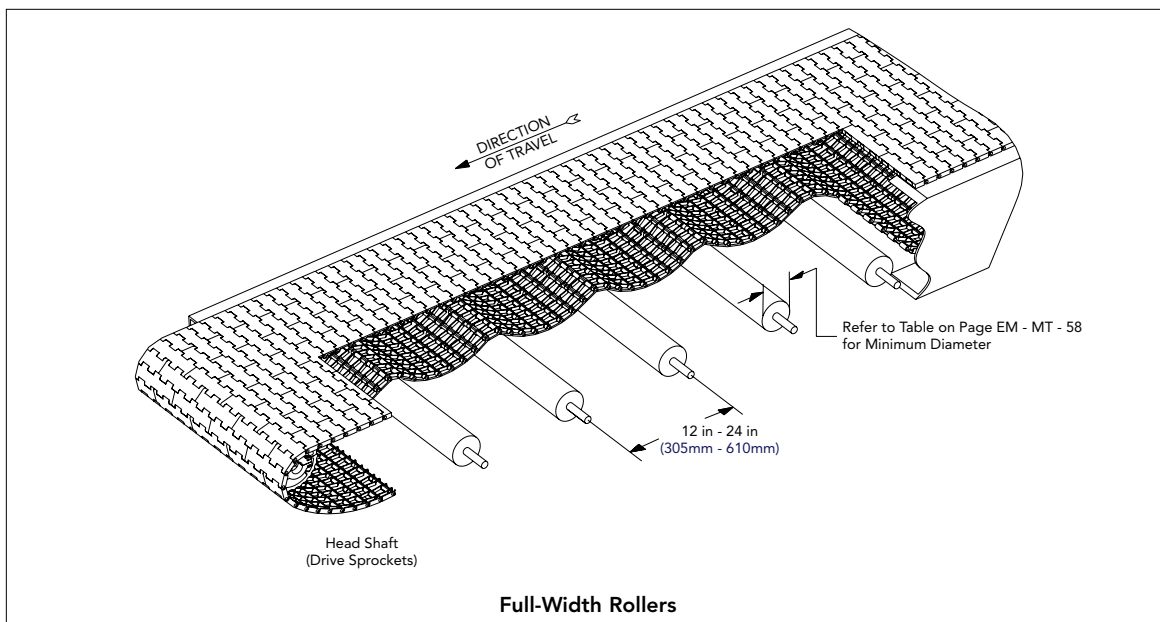
- **Roller Return — Staggered Rollers**

- See table on **page 103** for minimum back-flex radii for specific chains



- **Roller Return — Full-Width Rollers**

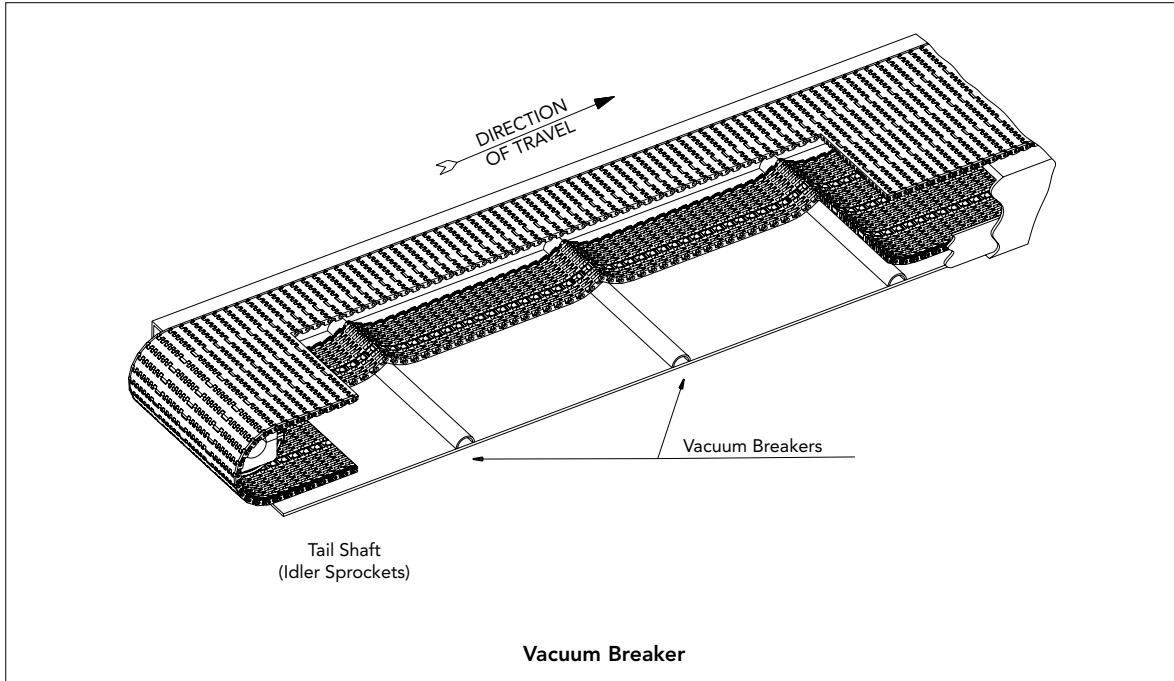
- See table on **page 103** for minimum back-flex radii for specific chains



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

- **Vacuum Breaker**
 - Vacuum breakers can be utilized to reduce “suction” on solid bed returns in “wet” applications
 - Vacuum breakers are typically spaced 2 ft to 5 ft (0,6 m to 1,5 m) apart

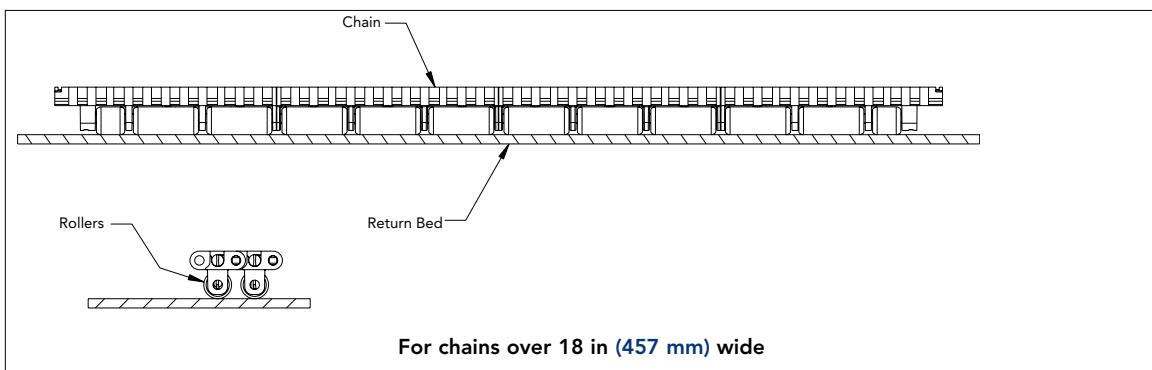
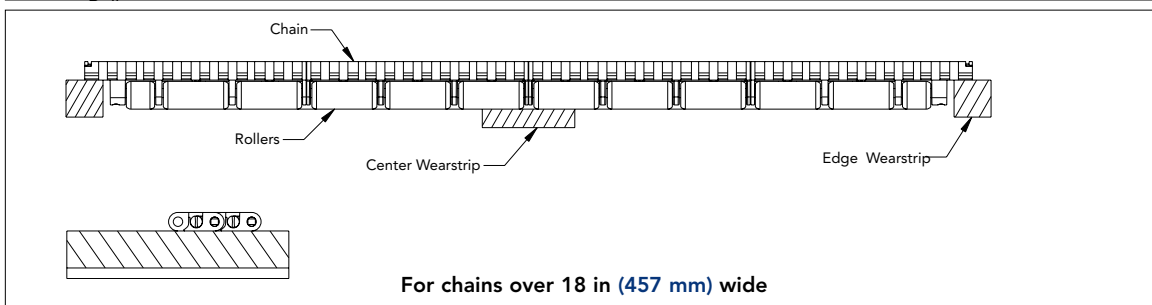
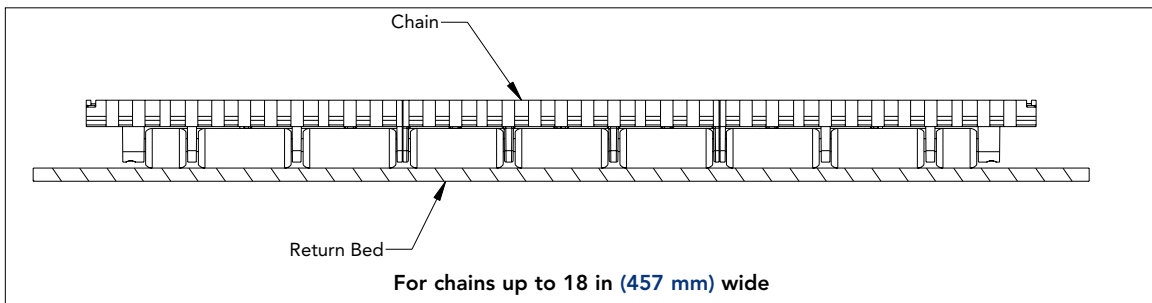
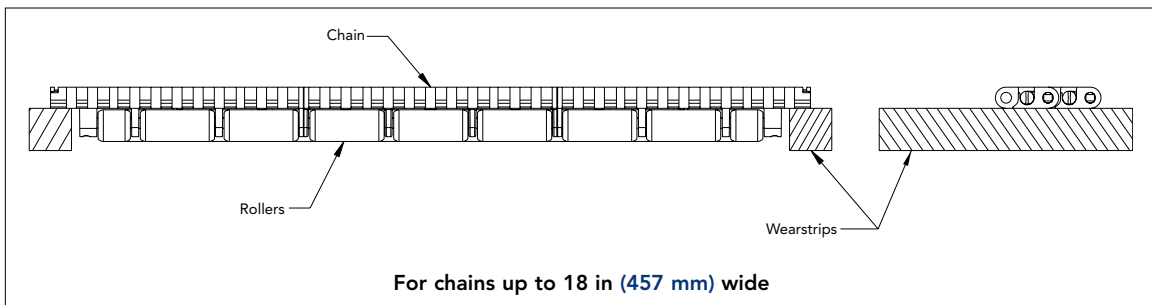
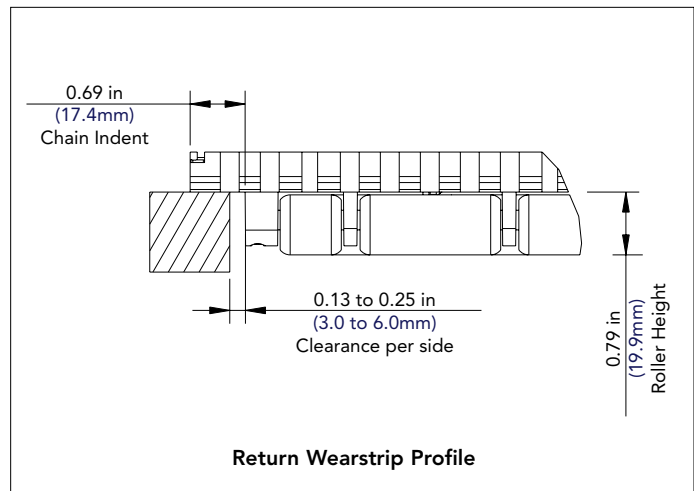


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Supports for Chains with Rollers

Note: Chain shown in drawings is LBP7703 Chain. For all other LBP chains (except 1533 and 1553), the wearstrips should be positioned between the rollers.

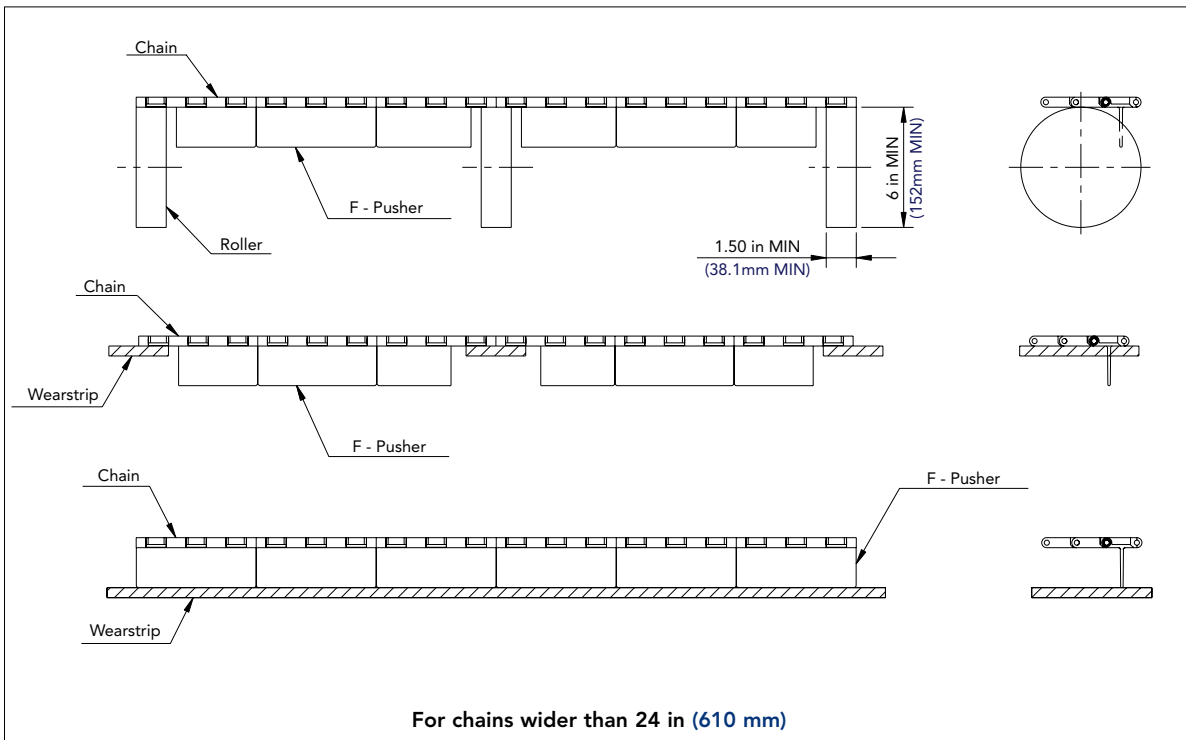
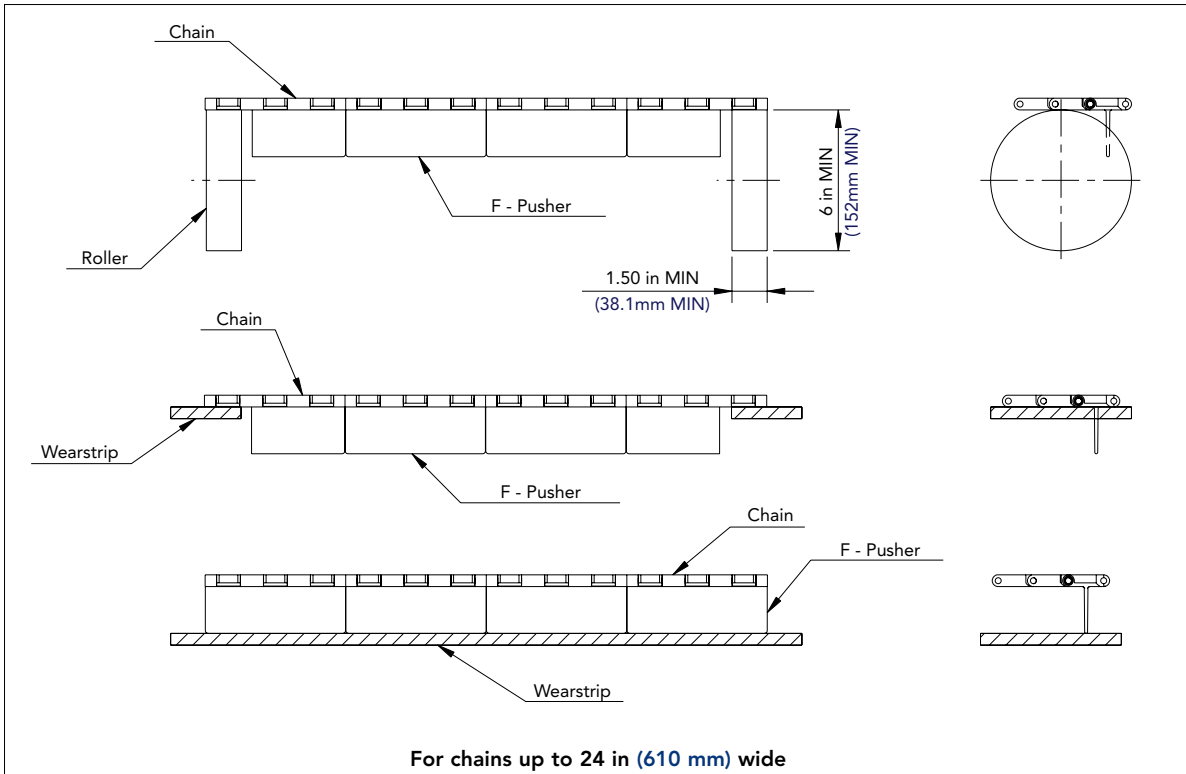


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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

- Supports for Chains with Pushers
 - Allows for reduced top surface wear

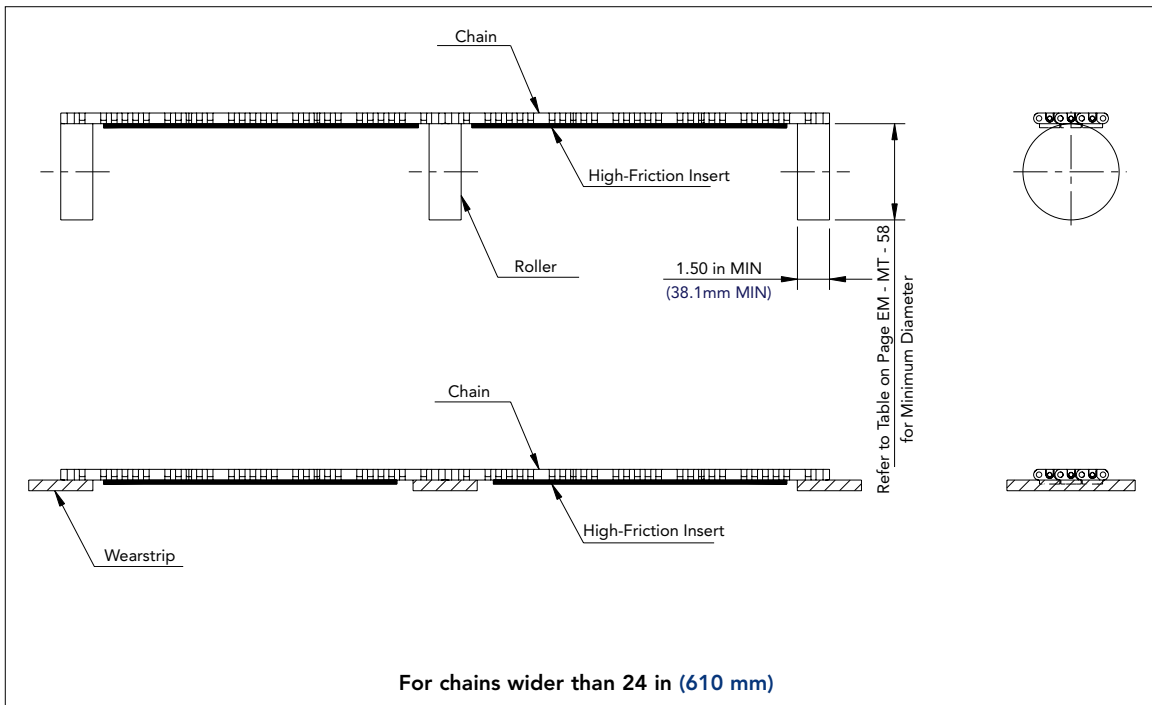
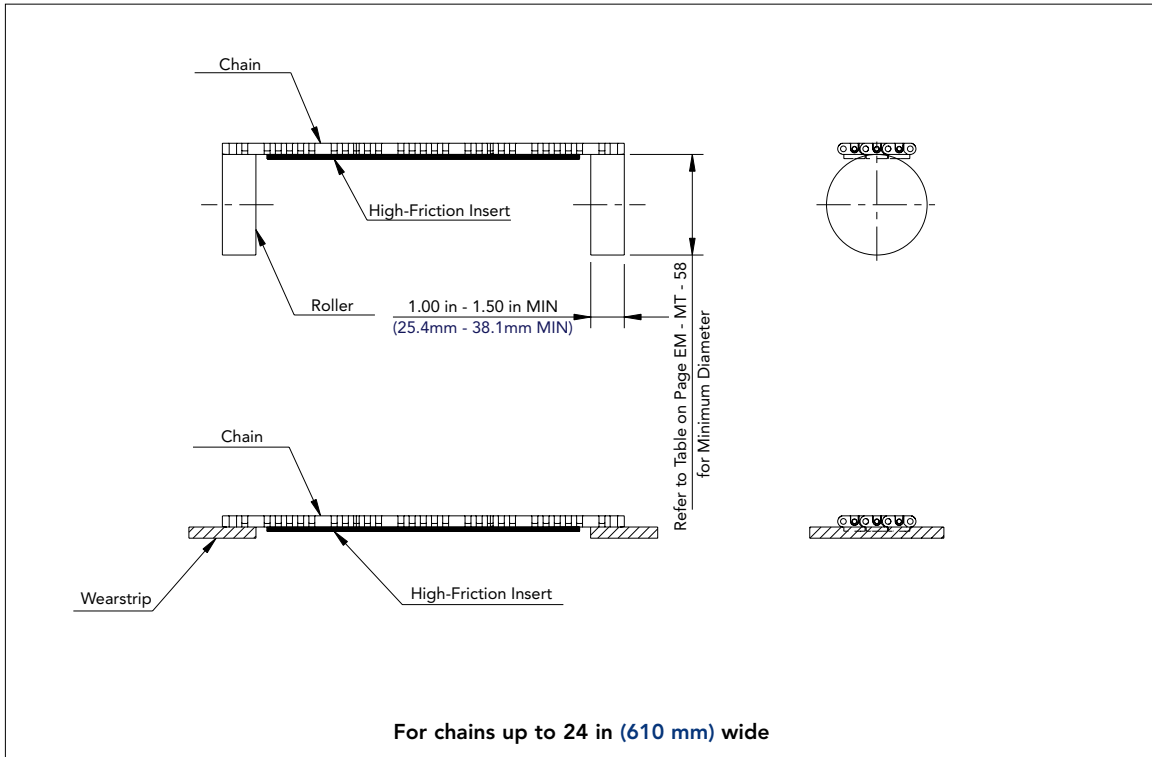


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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

- Supports for Chains with High-Friction Inserts

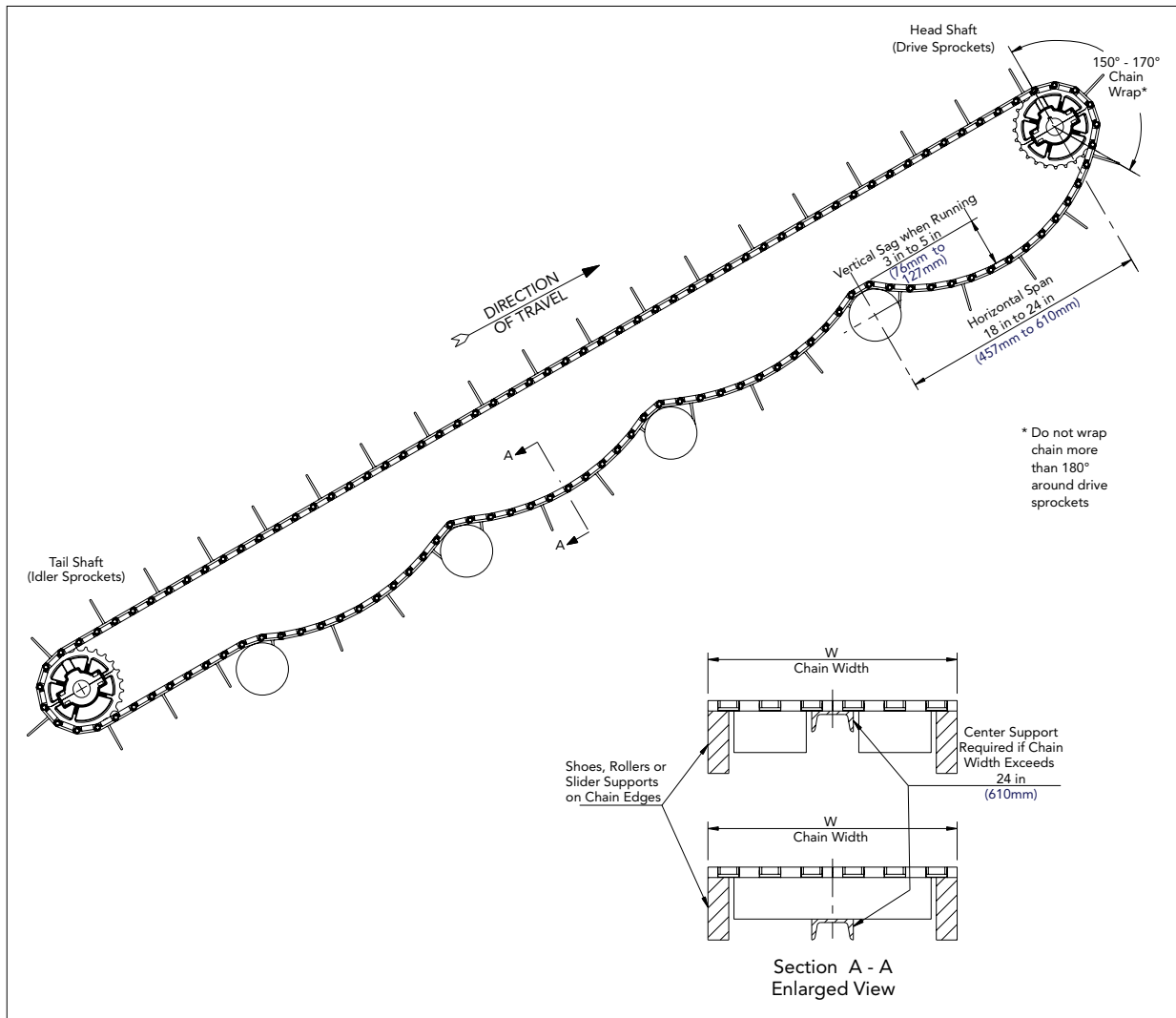


MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Incline Conveyor

- The catenary position depends on the incline angle
- Rollers or shoes **MUST** meet the minimum back-flex radius requirements
- If the incline angle is severe, take-up units may need to be considered
- Spring or pneumatic take-up units are preferred
- Pusher indents provide surface area for return
- Notches within the pusher attachment help to extend the life of the pusher
- A pusher center return support is required for chains wider than 24 in (610 mm)
- Slider supports, shoes or rollers can be utilized in the return sections
- Sideguards can be utilized to capture product
- When abrasives are present, the use of drums or abrasion-resistant idler sprockets should be considered
- Use guard or drip pans when required



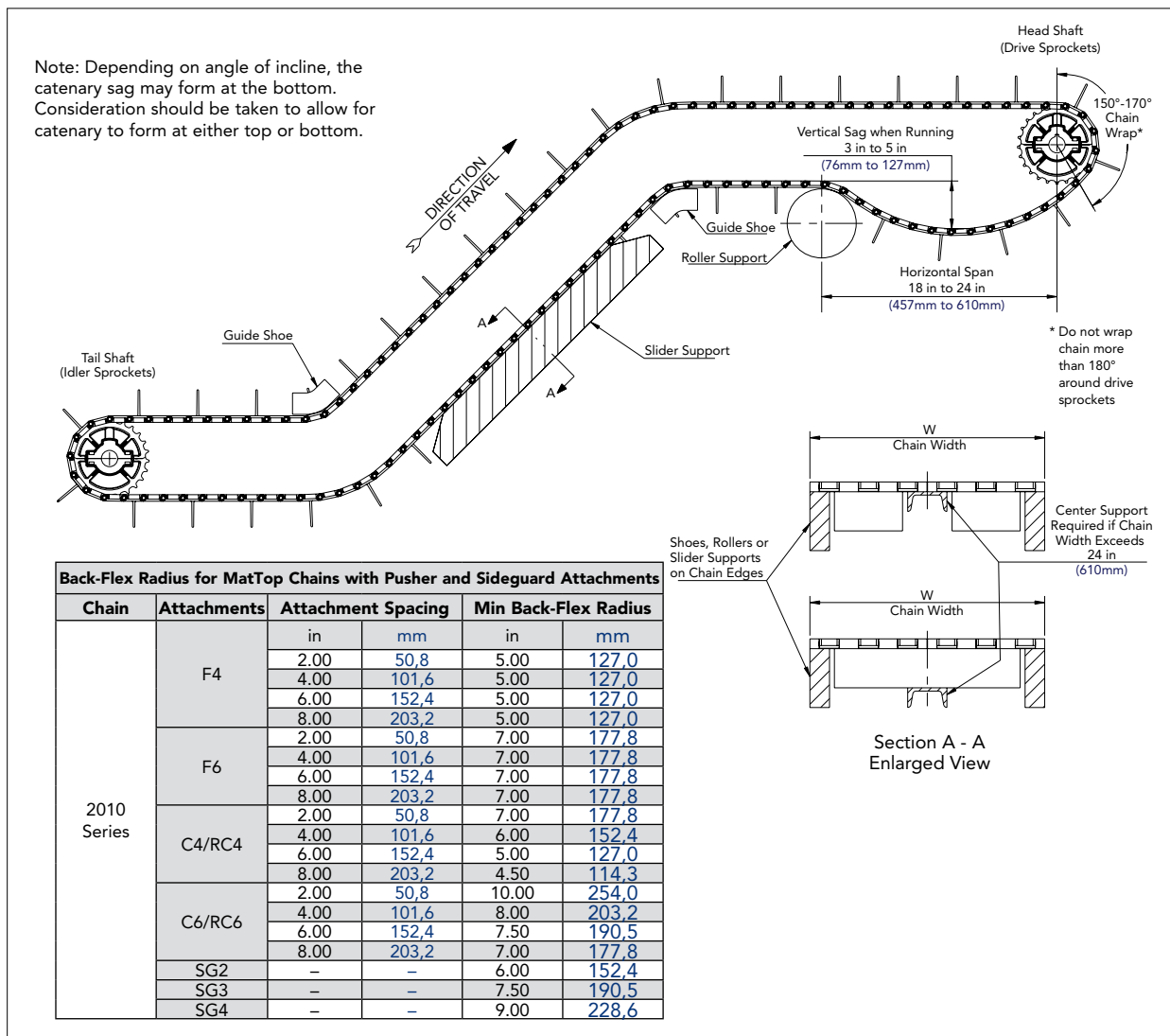
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Incline Conveyor with Transitions

- The catenary position depends on the incline angle
- Rollers or shoes **MUST** meet the minimum back-flex radius requirements
- In carry transition areas, the radius should be as large as possible
- If the incline angle is severe, take-up units may need to be considered
 - Spring or pneumatic take-up units are preferred
- Pusher indents provide surface area for return
- Notches within the pusher attachment help to extend the life of the pusher
- A pusher center return support is required for chains wider than 24 in (610 mm)
- Slider supports, shoes or rollers can be utilized in the return sections
- Sideguards can be utilized to capture product
- When abrasives are present, the use of drums or abrasion resistant idler sprockets should be considered
- Use guard or drip pans when required



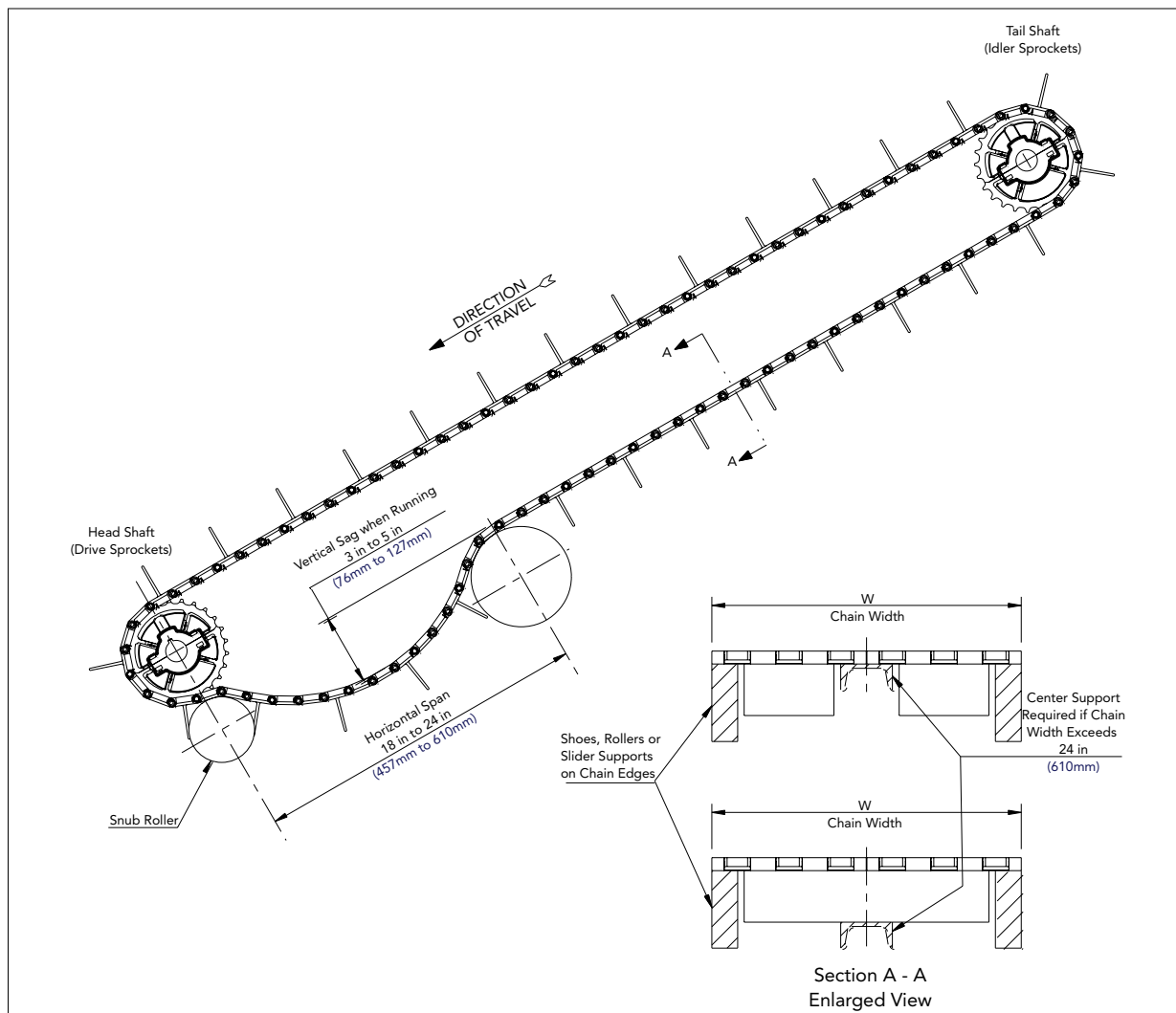
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Decline Conveyor

- A snubber roller can be utilized to maintain a 150° to 180° wrap on drive sprocket
- The catenary position depends on the incline angle
- Rollers or shoes **MUST** meet the minimum back-flex radius requirements
- In carry transition areas, the radius should be as large as possible
- If the decline angle is severe, take-up units may need to be considered
 - Spring or pneumatic take-up units are preferred
- Pusher indents provide surface area for return
- Notches within the pusher attachment help to extend the life of the pusher
- A pusher center return support is required for chains wider than 24 in (610 mm)
- Slider supports, shoes or rollers can be utilized in the return sections
- Sideguards can be utilized to capture product
- When abrasives are present, the use of drums or abrasion-resistant idler sprockets should be considered
- Use guard or drip pans when required



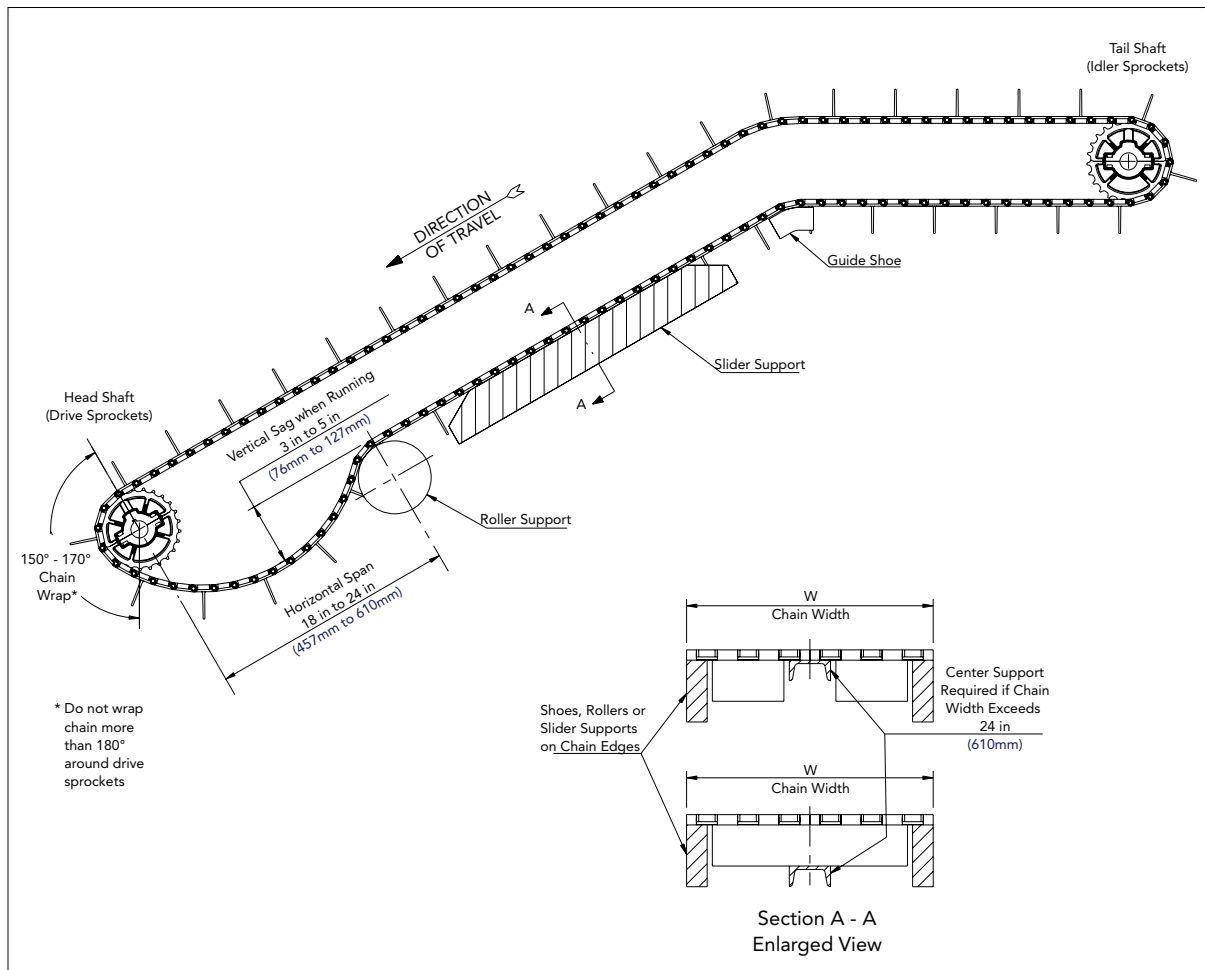
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Decline Conveyor with Transitions

- A snubber roller can be utilized to maintain a 150° to 180° wrap on drive sprocket
- The catenary position depends on the incline angle
- Rollers or shoes **MUST** meet the minimum back-flex radius requirements
- In carry transition areas, the radius should be as large as possible
- If the decline angle is severe, take-up units may need to be considered
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- Pusher indents provide surface area for return
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- A pusher center return support is required for chains wider than 24 in (610 mm)
- Slider supports, shoes or rollers can be utilized in the return sections
- Sideguards can be utilized to capture product
- When abrasives are present, the use of drums or abrasion-resistant idler sprockets should be considered
- Use guard or drip pans when required
- See table on **page 103** for back-flex information



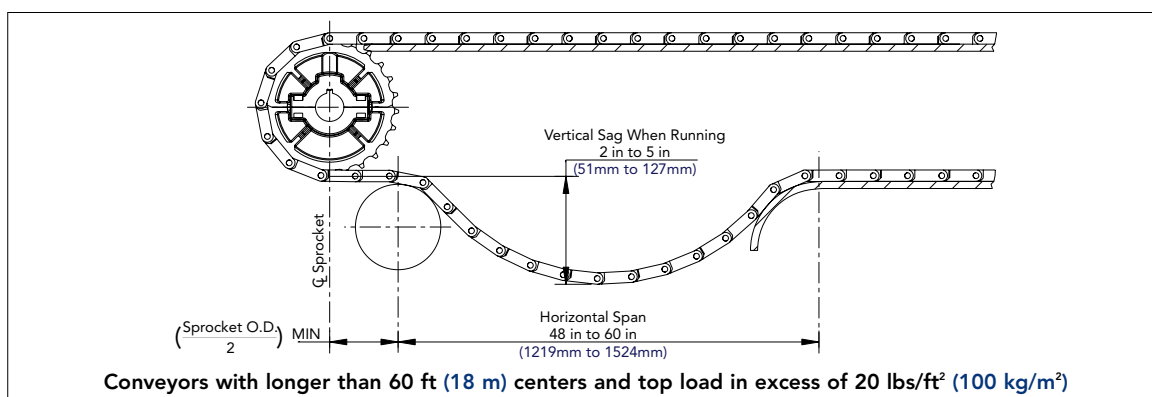
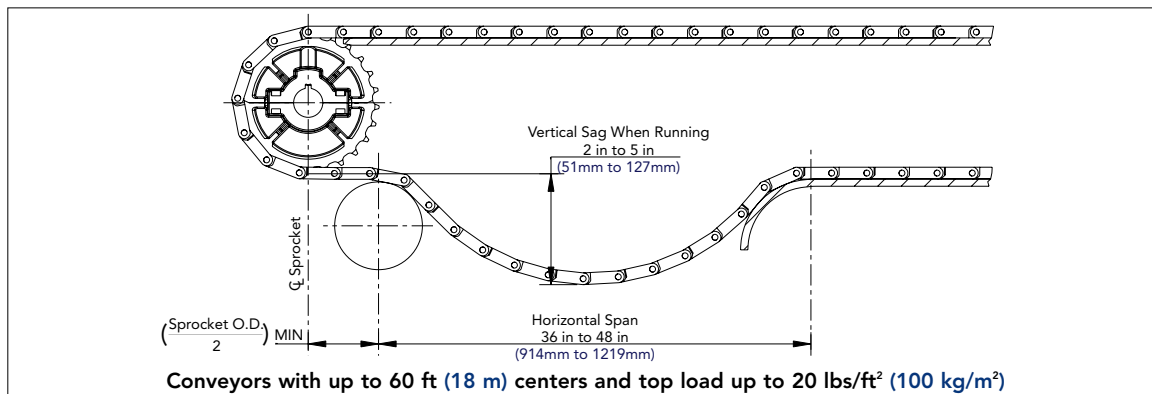
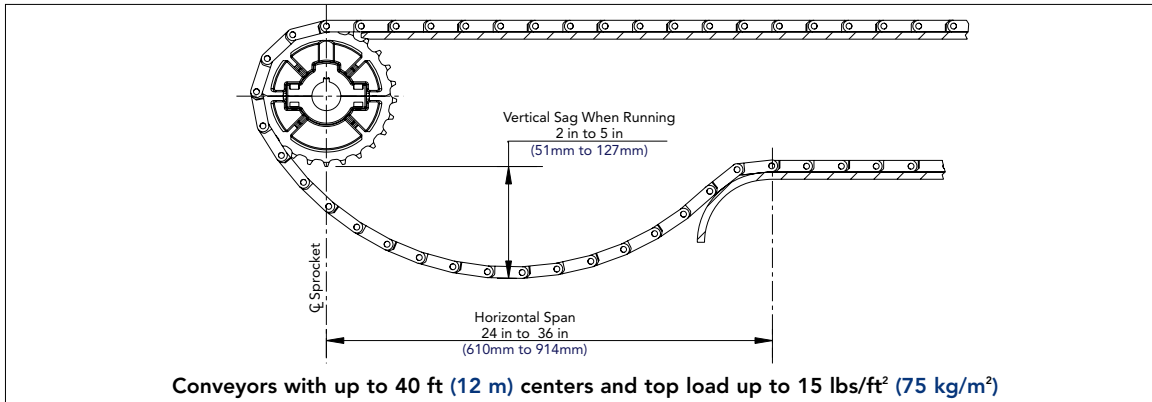
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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Catenary Sag

- The function of the catenary is to allow a place for excess chain to accumulate
- MatTop Chains should never be run tight
- The catenary sag should be measured when running
- If the catenary sag is excessive or increases due to wear, it should be adjusted by removing links to obtain the proper sag (2 pitches must be removed for 3000-Series Chains, Hybrid™ Chains and many chains with side guards)
- Take-ups are typically not recommended
- The catenary sag should be located as close to the drive as possible



NOTICE The catenary sag area must be free of all obstructions, such as frame cross-members, supports and drive components, that can damage chain or inhibit proper catenary sag.

NOTICE It is recommended to keep the sprockets and chain clean of debris and foreign matter. If this is not done, the chain can stick to (not release freely from) the drive sprockets causing the catenary to bounce leading to possible chain damage or breakage. In cases of extreme environments, a hold down roller can be positioned above the catenary near the drive sprocket(s) to keep the chain from overwrapping the drive sprocket(s).

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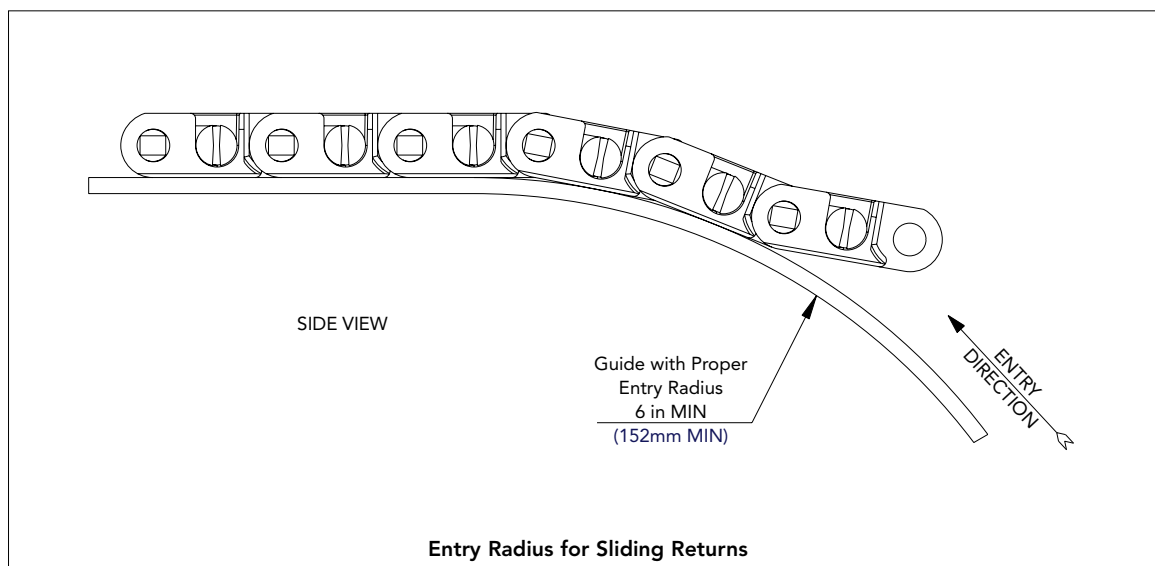
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Entry Radius for Sliding Returns

NOTICE Provide a generous entry radius to the return section which permits the chain to feed smoothly into the returnways

- The entry radius should be greater than the minimum back-flex radius of the chain (see table on page 103)
- Regal Rexnord recommends a 6 in (152 mm) minimum entry radius to prevent non-uniform wear
- When returning 7956 chain on its TABs, guide the chain onto the return wearstrips using a guide shoe (see table on page 80 for proper guide clearance)
- At the entry of the return wearstrips, provide rounded corners to prevent catching or snagging of the chain flights



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Sprocket and Wearstrip Location

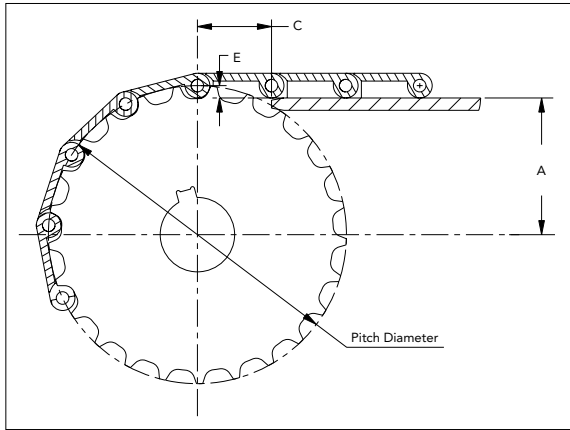
- The distance from the end of the wearstrip to the sprocket shaft centerline should equal dimension "C" (one chain pitch); otherwise, the wearstrip will interfere with the free articulation of the chain as it enters the sprocket
- The leading edges of the wearstrip should be beveled
- The following formulas and dimensions used in conjunction with the figure will give the proper shaft and wearstrip positioning

Sprocket Location For Conventional Chains:

$$A = (\text{Pitch Diameter}/2) - E$$

C = One Chain Pitch (see table)

"C" equals one chain pitch which ensures support under chain at all times.



Note: Dimensions apply for both head and tail shafts

Shaft Drop Values for Conventional Chain					
Chain Series	Chain Number	C Dimension		E Dimension	
		in	mm	in	mm
1000	1000FT/1000FG	1.00	25,4	0.170	4,32
1010	1015	1.00	25,4	0.200	5,08
1500	1503/1505/1506/1553	0.59	15,0	0.190	4,83
1625	1625B-TAB	1.00	25,4	0.312	7,94
2010	2011/2015/2016	2.00	50,8	0.320	8,00
3000	3003/3004	2.50	63,5	0.438	11,11
3120	3125/3129	3.00	76,2	0.630	15,88
3180	3185	3.00	76,2	0.625	15,88
4700	4705/4706	1.50	38,1	0.250	6,35
5700	5705/5706	1.50	38,1	0.250	6,35
5930	5935/5936	0.75	19,1	0.170	4,32
5966	5966	1.50	38,1	0.250	6,35
5990	5995/5996/ 5998/5998HD	2.25	57,2	0.360	9,14
6085	6085	2.00	50,8	0.310	7,87
6938	6938	0.75	19,1	0.170	4,32
6990	6995/6999	2.25	57,2	0.360	9,14
6990H	6995H/6999H	2.27	57,7	0.360	9,14
7526	7526	0.50	12,7	0.250	6,35
7700	7703/7705/ 7706/7708/7743	1.00	25,4	0.250	6,35
7700	7748	1.00	25,4	0.220	5,59
7950	7956	1.25	31,8	0.250	6,35
7960	7963/7966	1.50	38,1	0.375	9,53
8500	8503/8505/8506	0.75	19,1	0.170	4,32
9600	9608	1.50	38,1	0.380	9,65

Example:

For a 5996 chain utilizing a 14T sprocket:

$$A = (\text{Pitch Diameter}/2) - E$$

$$= (10.111 \text{ in}/2) - 0.360 \text{ in} = 4.696 \text{ in}$$

$$C = 2.25 \text{ in}$$

Metric:

$$A = (\text{Pitch Diameter}/2) - E$$

$$= (256,82 \text{ mm}/2) - 9,14 \text{ mm} = 119,27 \text{ mm}$$

$$C = 57,1 \text{ mm}$$

Tolerances:

$$A = +.03 \text{ in} / -.00 \text{ in} (+,8 \text{ mm} / -,0 \text{ mm})$$

$$C = +.25 \text{ in} / -.00 \text{ in} (+6,3 \text{ mm} / -,0 \text{ mm})$$

Note: Above values are good only for sprockets mounted between support tracks. For sprockets mounted in line with support tracks:

$$C = \sqrt{\left(\frac{\text{O.D.}}{2}\right)^2 - (A-t)^2} + 0.125$$

$$A = (\text{Pitch Diameter}/2) - E$$

O.D. = Outside Diameter of Sprockets
t = Wearstrip Thickness

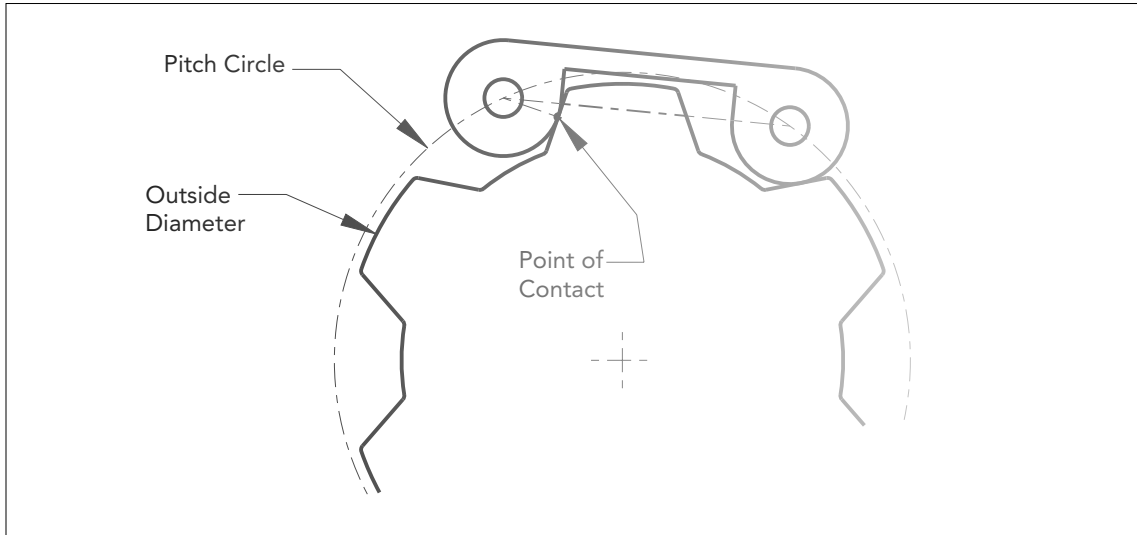
- Wearstrips in line with sprockets can also be angled back on the bottom for more clearance

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Sprocket Pitch Diameter vs. Outside Diameter

In some instances, it is possible for a sprocket's pitch diameter to be larger than the outside diameter. This is not a problem because the link does not contact the sprocket on the pitch circle.

- Why Pitch Diameter Is Larger Than the Outside Diameter on Small Sprockets



- The outside diameter is to the outer tips of the teeth.
- The chain's pins are on the pitch diameter. On a very small sprocket, the chord created by the link causes the point where the sprocket contacts the tooth to be much closer to the sprocket center than the pins and the pitch circle.

Note: Chordal action is defined as the up and down motion of the chain over top dead center of the sprocket centerline. Excessive chordal action can lead to product tippage.

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Sprocket and Wearstrip Location Raised-Rib Chains

- The distance from the end of the wearstrip to the sprocket shaft centerline should equal dimension "C" (one chain pitch); otherwise, the wearstrip will interfere with the free articulation of the chain as it enters the sprocket
- The leading edges of the wearstrip should be beveled
- The following formula and dimensions used in conjunction with the figure will give the proper shaft and wearstrip positioning

Sprocket Location for Raised-Rib Chains:

$$A = (\text{Pitch Diameter}/2) - E$$

C = One Chain Pitch (see table below)

$$D = (\text{Pitch Diameter}/2) + F$$

T = Comb Thickness (see Product Catalog for dimensions)

"C" equals one chain pitch which ensures support under chain at all times.

Shaft Drop Values for Conventional Chain								
Chain Series	B Dimension		C Dimension		E Dimension		F Dimension	
	in	mm	in	mm	in	mm	in	mm
4707	3.25	82,6	1.50	38,1	0.250	6,35	0.500	12,70
6997	3.25	82,6	2.25	57,2	0.360	9,14	0.610	15,49
8507	3.25	82,6	0.75	19,1	0.170	4,32	0.390	9,91

Example:

For a 6997 chain utilizing a 14T sprocket:

$$\begin{aligned} A &= (\text{Pitch Diameter}/2) - E \\ &= (10.111 \text{ in}/2) - 0.360 \text{ in} = 4.696 \text{ in} \\ B &= 3.25 \text{ in} \\ C &= 2.25 \text{ in} \\ D &= (\text{Pitch Diameter}/2) + F \\ &= (10.111 \text{ in}/2) + 0.610 \text{ in} = 5.666 \text{ in} \\ T &= 0.25 \text{ in} \end{aligned}$$

Metric:

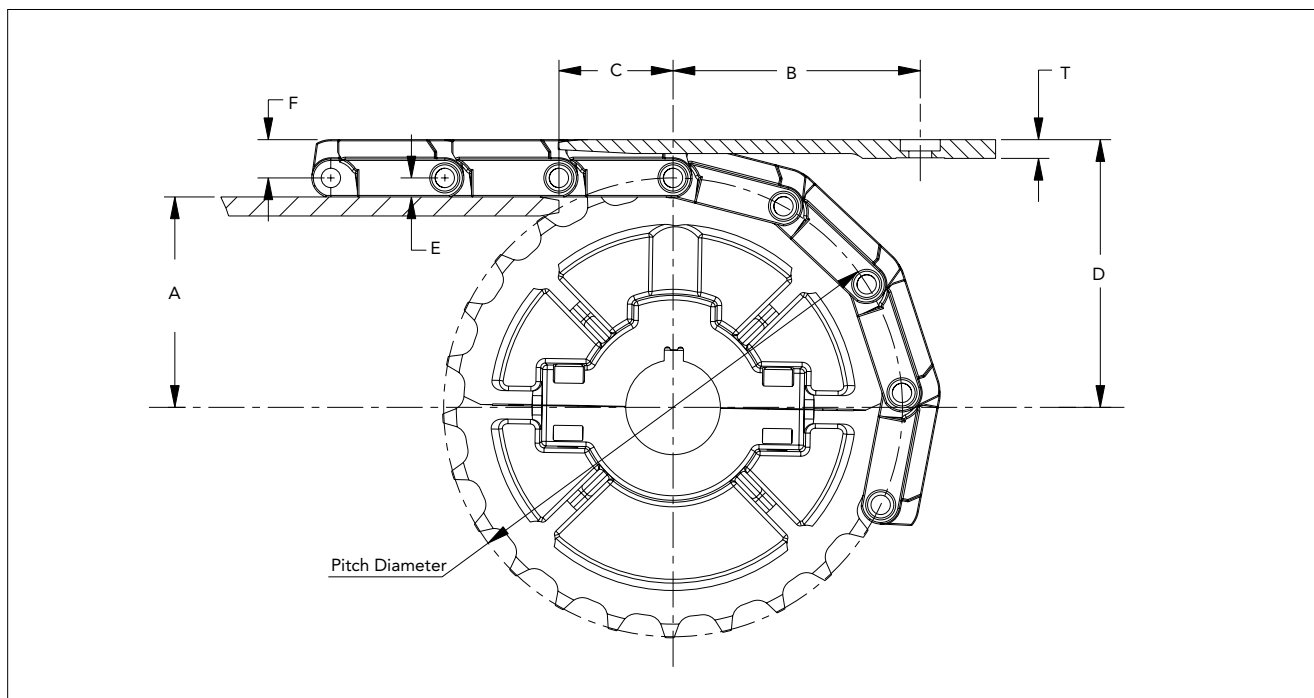
$$\begin{aligned} A &= (\text{Pitch Diameter}/2) - E \\ &= (256,82 \text{ mm}/2) - 9,14 \text{ mm} = 119,27 \text{ mm} \\ B &= 82,6 \text{ mm} \\ C &= 57,2 \text{ mm} \\ D &= (\text{Pitch Diameter}/2) + F \\ &= (256,82 \text{ mm}/2) + 15,49 \text{ mm} = 143,90 \text{ mm} \\ T &= 6,4 \text{ mm} \end{aligned}$$

Tolerances:

$$\begin{aligned} A &= +.03 \text{ in} / -.00 \text{ in} (+,8 \text{ mm} / -,0 \text{ mm}) \\ C &= +.25 \text{ in} / -.00 \text{ in} (+6,3 \text{ mm} / -,0 \text{ mm}) \\ D &= +.00 \text{ in} / -.03 \text{ in} (+,0 \text{ mm} / -,8 \text{ mm}) \end{aligned}$$

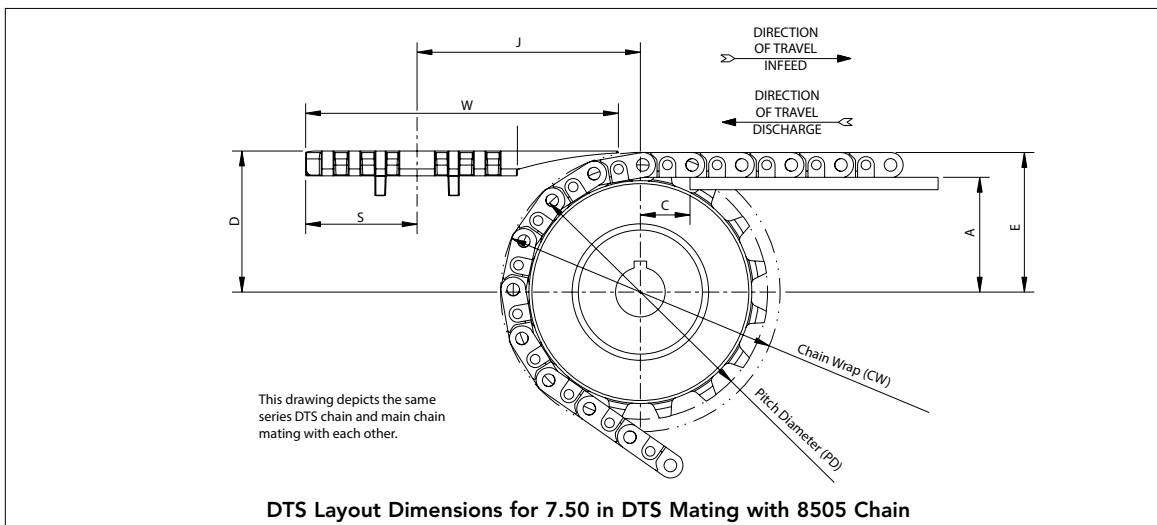
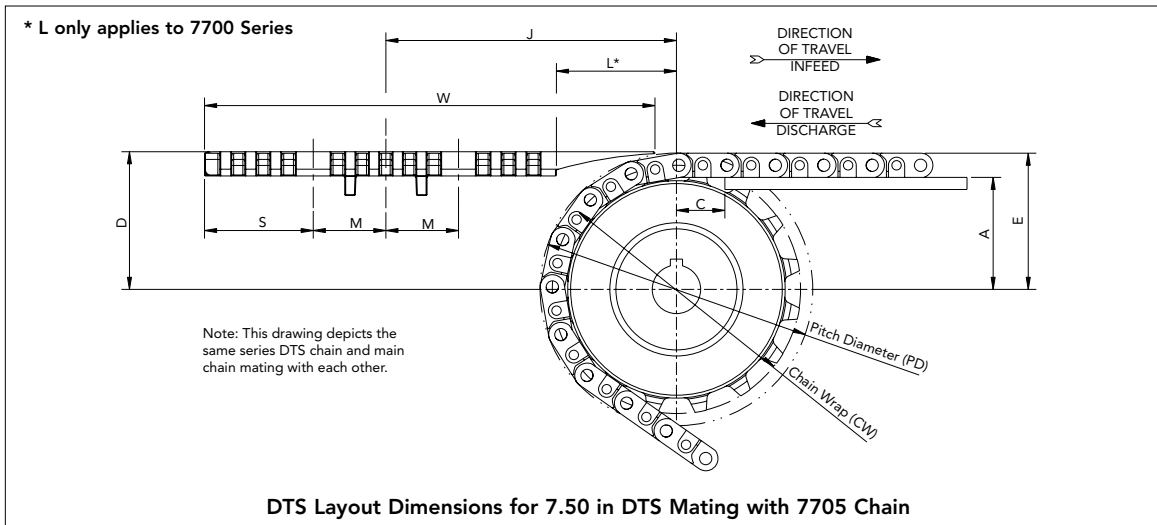
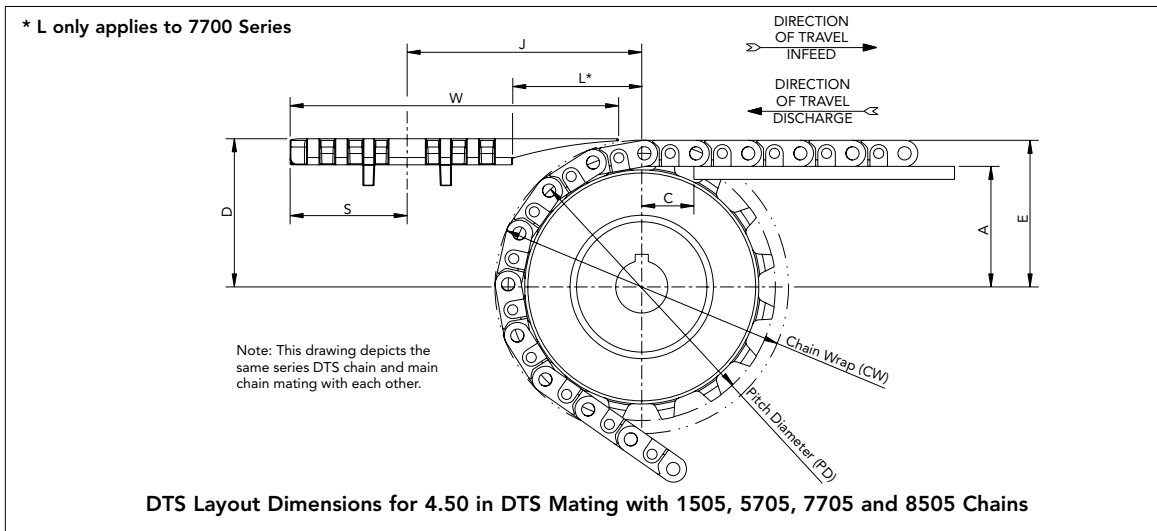
Note: "B" dimension is flexible. One must ensure that the comb fingers extend beyond the sprocket centerline to avoid transfer problems.

NOTICE Mounting sprockets in line with wearstrips is not recommended for chains using comb transfer plates.



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Layout Dimensions for DTS® Chains



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MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Layout Dimensions for DTS® Chains

1505 — 4.50 DTS Mating with 1505											
No. of Spkt. Teeth	PD	A	C	CW	D		E	J		S	W
					Infeed	Discharge		Infeed	Discharge		
24T	4.524	2.07	0.59	4.84	2.45	2.40	2.42	4.17	4.40	2.62	6.29
	114,9	52,6		122,9	62,2	61,0	61,5	105,9	111,8		
32T	6.040	2.83	15,0	6.35	3.21	3.15	3.18	4.24	4.51	66,5	159,8
	153,4	71,8		161,3	81,5	80,0	80,8	107,7	114,6		

5705 — 4.50 DTS Mating with 5705											
No. of Spkt. Teeth	PD	A	C	CW	D		E	J		S	W
					Infeed	Discharge		Infeed	Discharge		
21T	5.089	2.30	1.50	5.59	2.83	2.77	2.80	4.98	5.28	2.25	6.82
	129,3	58,4		142,0	71,9	70,4	71,1	126,5	134,1		
23T	5.560	2.53	38,1	6.06	3.06	3.00	3.03	4.99	5.31	57,2	173,2
	141,2	64,3		153,9	77,7	76,2	77,0	126,7	134,9		
25T	6.032	2.77	38,1	6.53	3.30	3.24	3.27	5.01	5.33	57,2	173,2
	153,2	70,4		165,9	83,8	82,3	83,1	127,3	135,4		
27T	6.504	3.00	38,1	7.00	3.53	3.47	3.50	5.03	5.36	57,2	173,2
	165,2	76,2		177,8	89,7	88,1	88,9	127,8	136,1		

7705 — 4.50 and 7.50 DTS Mating with 7705																
No. of Spkt. Teeth	PD	A	C	CW	D		E	J				L	M	S	W	
					Infeed	Discharge		4.50		7.50						
								Infeed	Discharge	Infeed	Discharge					
16T	5.126	2.31	1.00	5.63	2.84	2.78	2.81	4.58	4.84	6.08	6.34	2.56	2.82	1.50	2.25	6.30
	130,2	58,7		143,0	72,1	70,6	71,4	116,3	122,9	154,4	161,0	65,0	71,6			
18T	5.759	2.63	25,4	6.26	3.16	3.10	3.13	4.61	4.88	6.11	6.38	2.59	2.86	38,1	57,2	160,0
	146,3	66,8		159,0	80,3	78,7	79,5	117,1	124,0	155,2	162,1	65,8	72,6			
21T	6.710	3.11	25,4	7.21	3.64	3.58	3.61	4.65	4.94	6.15	6.44	2.63	2.92	38,1	57,2	160,0
	170,4	79,0		183,1	92,5	90,9	91,7	118,1	125,5	156,2	163,6	66,8	74,2			
31T	9.885	4.69	25,4	10.39	5.22	5.16	5.19	4.77	5.12	6.27	6.62	2.75	3.10	38,1	57,2	160,0
	251,1	119,1		263,9	132,6	131,1	131,8	121,2	130,0	159,3	168,1	69,9	78,7			

8505 — 4.50 DTS Mating with 8505											
No. of Spkt. Teeth	PD	A	C	CW	D		E	J		S	W
					Infeed	Discharge		Infeed	Discharge		
17T	4.120	1.89	0.75	4.46	2.26	2.20	2.23	4.44	4.67	2.32	6.30
	104,6	48,0		113,3	57,4	55,9	56,6	112,8	118,6		
21T	5.079	2.37	19,1	5.42	2.74	2.68	2.71	4.50	4.75	58,9	160,0
	129,0	60,2		137,7	69,6	68,1	68,8	114,3	120,7		
24T	5.800	2.73	19,1	6.14	3.10	3.04	3.07	4.53	4.79	58,9	160,0
	147,3	69,3		156,1	78,7	77,2	78,0	115,1	121,7		
25T	6.040	2.85	19,1	6.38	3.22	3.16	3.19	4.54	4.81	58,9	160,0
	153,4	72,4		162,2	81,8	80,3	81,0	115,3	122,2		
27T	6.521	3.09	19,1	6.87	3.46	3.40	3.43	4.56	4.84	58,9	160,0
	165,6	78,5		174,5	87,9	86,4	87,1	115,8	122,9		

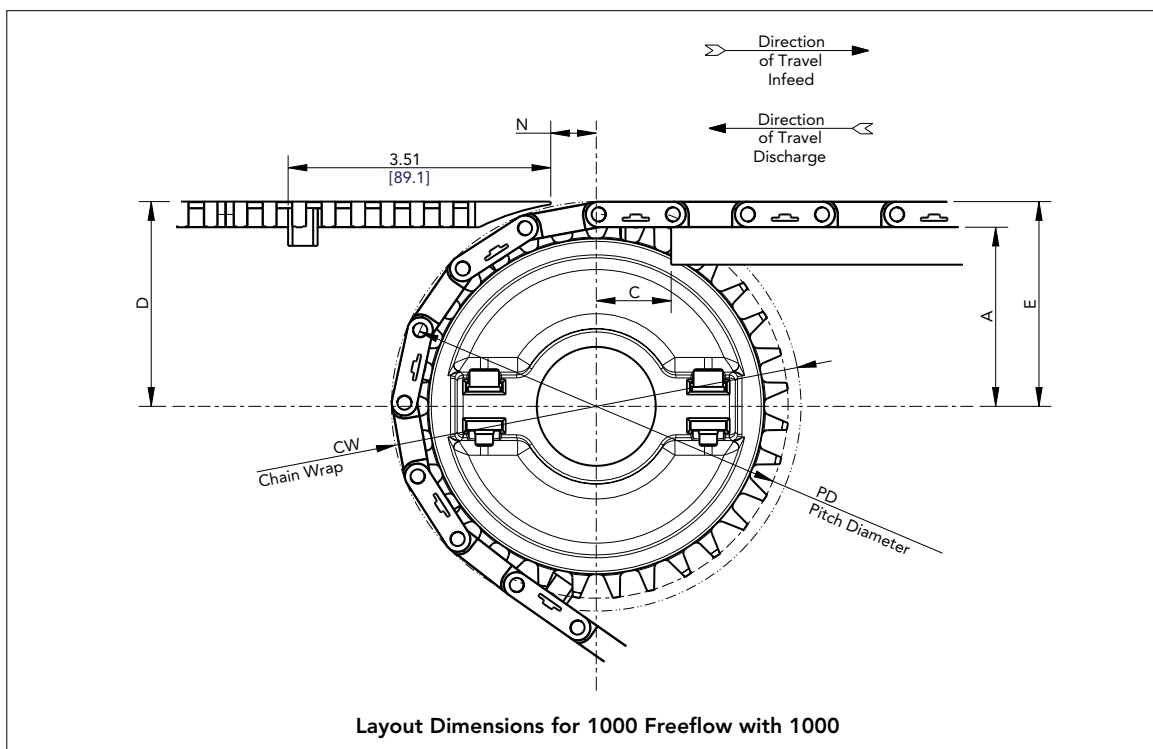
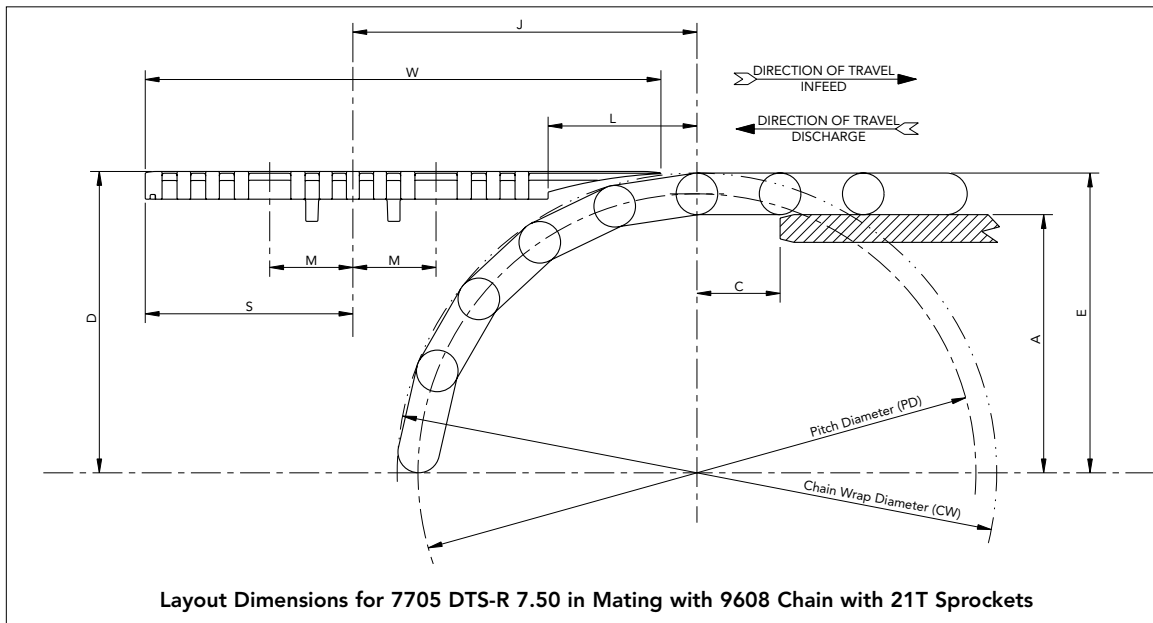
8505 — 7.50 DTS Mating with 8505											
No. of Spkt. Teeth	PD	A	C	CW	D		E	J		S	W
					Infeed	Discharge		Infeed	Discharge		
17T	4.120	1.89	0.75	4.46	2.26	2.20	2.23	6.10	6.33	3.66	9.30
	104,6	48,0		113,3	57,4	55,9	56,7	154,9	160,8		
21T	5.079	2.37	19,1	5.42	2.74	2.68	2.71	6.16	6.41	93,0	236,3
	129,0	60,2		137,7	69,6	68,1	68,8	156,5	162,8		
24T	5.800	2.73	19,1	6.14	3.10	3.04	3.07	6.19	6.46	93,0	236,3
	147,3	69,3		156,0	78,7	77,2	78,0	157,2	164,1		
25T	6.040	2.85	19,1	6.38	3.22	3.16	3.19	6.20	6.48	93,0	236,3
	153,4	72,4		162,1	81,8	80,3	81,0	157,5	164,6		
27T	6.521	3.09	19,1	6.87	3.46	3.40	3.43	6.23	6.51	93,0	236,3
	165,6	78,5		174,5	87,9	86,4	87,1	158,2	165,4		

Black = Inches Blue = Millimeters

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Layout Dimensions for DTS® Chains



Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Layout Dimensions for DTS® Chains

7705 — 4.50 DTS Mating with 9608									
No. of Spkt. Teeth	PD	A	C	CW	D		E	N	
					Infeed	Discharge		Infeed	Discharge
16T	5.13	2.39	1.00	5.47	2.77	2.71	2.74	0.47	0.73
	130,2	60,7	25,4	138,9	70,2	68,7	69,5	11,6	18,4
18T	5.76	2.71	1.00	6.10	3.08	3.02	3.05	0.48	0.77
	146,3	77,5	25,4	155,0	78,2	76,7	77,5	12,2	19,6
20T	6.39	3.02	1.00	6.70	3.40	3.34	3.37	0.50	0.81
	162,4	85,6	25,7	171,1	86,4	84,8	85,6	12,7	20,6

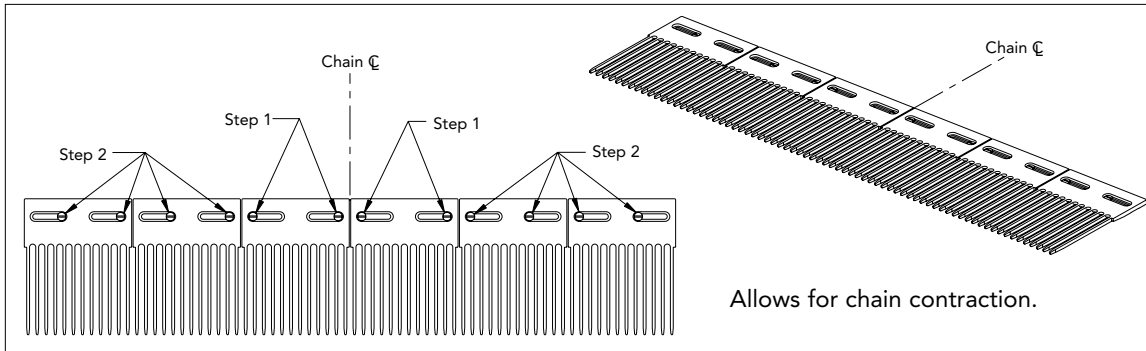
1000 Freeflow with 1000									
No. of Spkt. Teeth	PD	A	C	CW	D		E	N	
					Infeed	Discharge		Infeed	Discharge
16T	5.13	2.39	1.00	5.47	2.77	2.71	2.74	0.47	0.73
	130,2	60,7	25,4	138,9	70,2	68,7	69,5	11,6	18,4
18T	5.76	2.71	1.00	6.10	3.08	3.02	3.05	0.48	0.77
	146,3	77,5	25,4	155,0	78,2	76,7	77,5	12,2	19,6
20T	6.39	3.02	1.00	6.70	3.40	3.34	3.37	0.50	0.81
	162,4	85,6	25,7	171,1	86,4	84,8	85,6	12,7	20,6

Black = Inches Blue = Millimeters

Note: DTS-C® Design Manual is available for more details ([8rxDTS-Cdm-en](#))

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

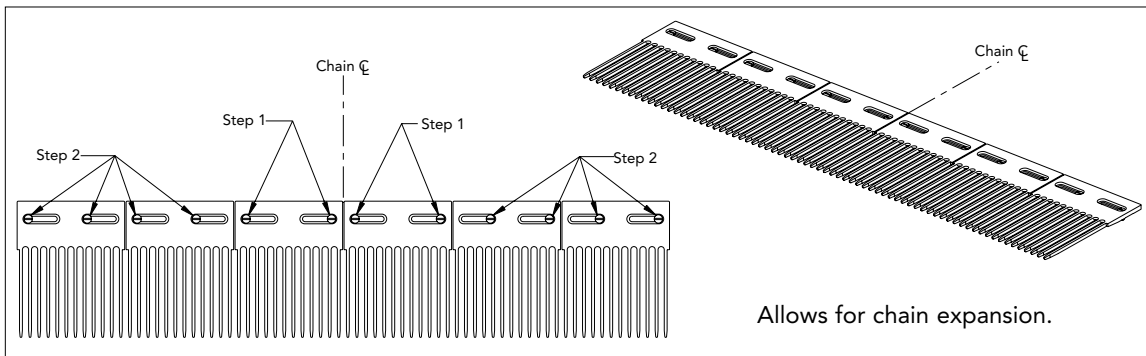
Transfer Comb Installation



- **Low-Temperature Application**

STEP 1 Secure the two centermost transfer plates in order to track the chain

STEP 2 Position the fasteners in the remaining transfer plates to the corresponding right side or left side of the slots to allow for contraction at low temperatures



- **High-Temperature Application**

STEP 1 Secure the two centermost transfer plates in order to track the chain

STEP 2 Position the fasteners in the remaining transfer plates to the corresponding right side or left side of the slots to allow for expansion at high temperatures

Note: This arrangement will allow these transfer plates to move as required to accommodate changes in the chain width up to 1.50 in (38,1 mm).

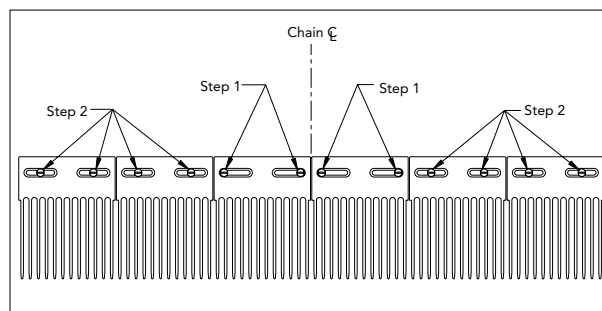
- **Room Temperature Application**

STEP 1 Secure the two centermost transfer plates in order to track the chain

STEP 2 The transfer plates to the left and right should have fasteners centered in the mounting slots

- **Combs**

- A variety of styles and materials are available



MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Shafting Recommendations for Rotating Shafts

- **Recommended Materials:**
 - Carbon Steel — best for obtaining high hardness and good finish; used only in non-corrosive environments
 - Stainless Steel — good finish and chemical resistance; best for wash down or wet applications
- **Suggested Hardness:**
 - Shaft material and finish affect sprocket bore wear; typically the harder the shaft, the better the wear
 - General recommendation is 25 to 30 Rc
- **Suggested Surface Finish:**
 - Surface finish of the shaft affects wear; rough surfaces will abrade the sprocket bores
 - General recommendation is 63 µin (1,6 µm) Ra
- **Straightness Tolerance:**
 - General recommendation is within 1/32 inch (0,8 mm) over the shaft length
- **Twist Tolerance:**
 - General recommendation is maximum of 1/8 degree/ft (0,4 degree/m) of shaft length
- **TIR Tolerance (Total Indicator Run-out):**
 - General recommendation is maximum of 1/32 inch (0,8 mm)

Note: Shafting over 10 feet (3,0 m) long that meets the requirements listed above can be difficult to obtain. For this reason, two shafts can be coupled together to form the required length.

NOTICE In using split shafts, it is important to ensure that the shafts are coupled in time with respect to the sprocket keyway or the flats of the square.

Shafting Recommendations for Stationary Tail Shafts

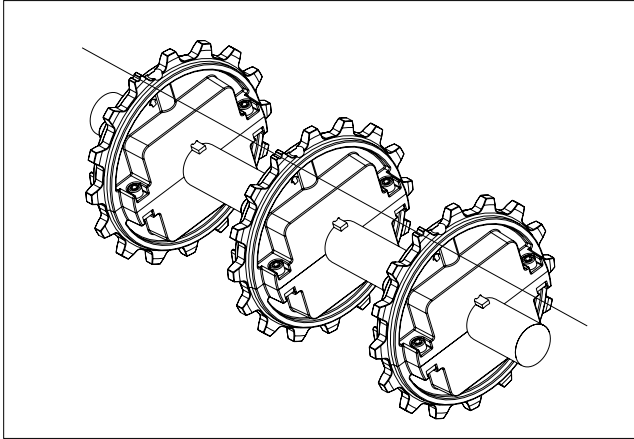
- **Recommended Materials:**
 - Carbon Steel (dry environments only)
 - Stainless Steel
- **Suggested Hardness:**
 - 25 to 30 Rc
- **Suggested Surface Finish:**
 - 63 µin (1,6 µm) Ra

Note: Rexnord recommends rotating shafts in bearings. If bearings are not used, the following are guidelines for operating MatTop sprockets on stationary shafts:

Sprocket	Max. Recommended Chain Speed	
	FPM	MPM
N - Acetal	0-50	0-15
UHMWPE	0-50	0-15
NS - Nylon, Split	0-100	0-30
LF Bushing (Idler Wheel)	0-300	0-90
Bronze Bushing	0-500	0-150
Bearings	Recommended for Speeds > 500	Recommended for Speeds > 150

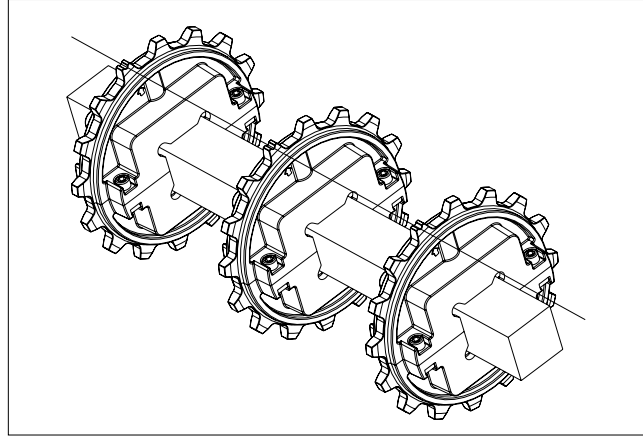
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Round Bore Sprockets



- Use round bore sprockets on conveyors operating at room temperature
- When installing the sprockets, make sure that all sprocket faces are positioned the same way on the shaft (shown in drawing)
- After positioning all the sprockets in line with the sprocket tooth pockets in the chain, secure the sprockets with setscrews or set collars

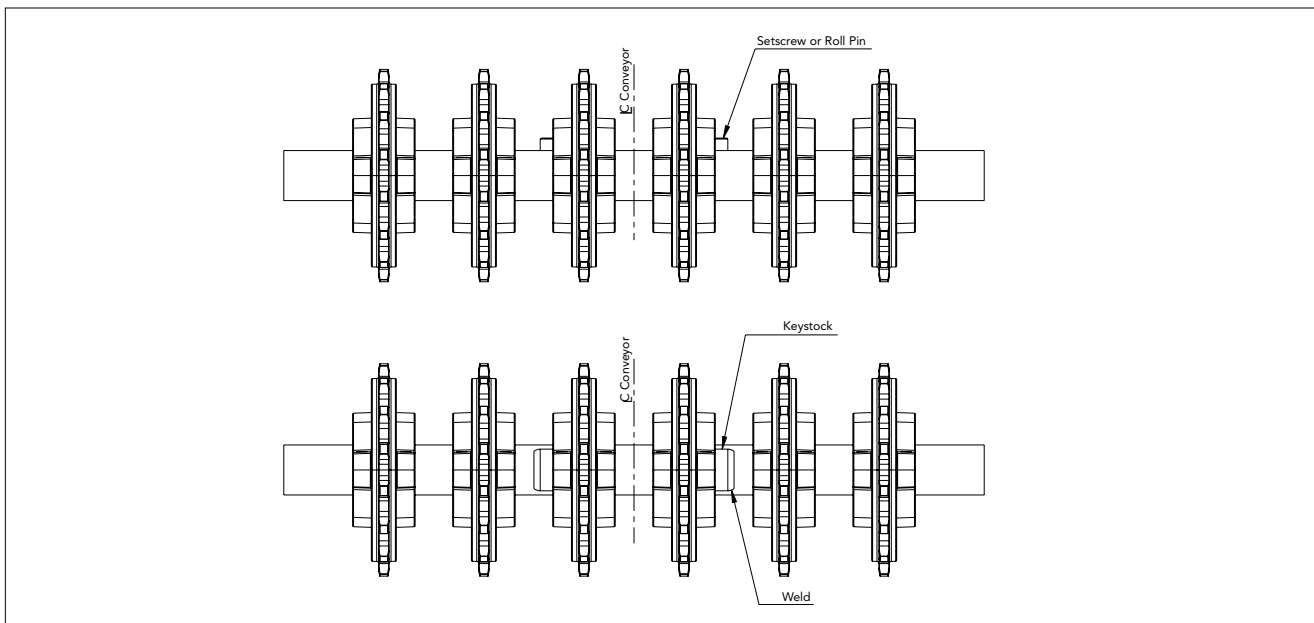
Square and Hex Bore Sprockets



- Use square bore sprockets on conveyors intended for use at elevated or lower temperatures (warmer, pasteurizer, cooler and freezer applications)
- When installing the sprockets, make sure that all sprocket faces are positioned the same way on the shaft (shown in drawing)

Locking Methods

- It is generally recommended to lock the center sprocket(s) to the shaft using setscrews or set collars. The other sprockets should "float" axially.



Note: Close up view of the center sprocket(s) indicates the method of locking the sprocket to the shaft (i.e. keystock, roll pin, snap rings, set collars).

NOTICE For 6085 chains, lock all sprockets in place.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

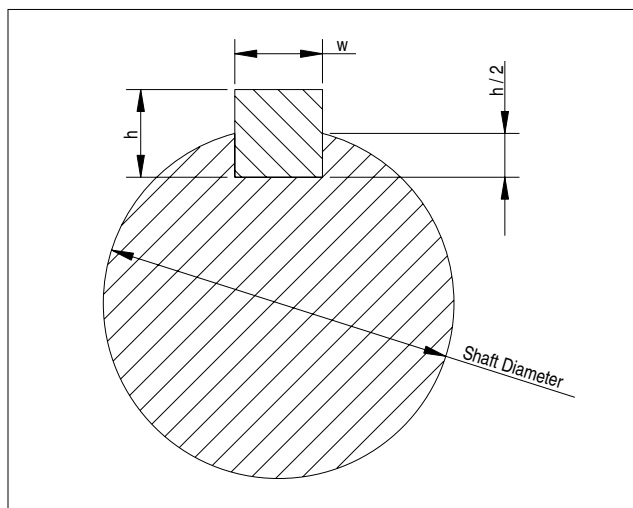
MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Keyway and Setscrew Sizes

Imperial:		KEYWAY			
Shaft Diameter	Key Width (w)	Key Height (h)	Keyseat Depth (h/2)	Setscrew Size	
> 9/16" to 7/8"	3/16"	3/16"	3/32"	1/4-20	
> 7/8" to 1-1/4"	1/4"	1/4"	1/8"	3/8-16	
> 1-1/4" to 1-3/8"	5/16"	5/16"	5/32"	3/8-16	
> 1-3/8" to 1-3/4"	3/8"	3/8"	3/16"	3/8-16	
> 1-3/4" to 2-1/4"	1/2"	1/2"	1/4"	1/2-13	
> 2-1/4" to 2-3/4"	5/8"	5/8"	5/16"	1/2-13	

Metric:		KEYWAY			
Shaft Diameter	Key Width (w)	Key Height (h)	Keyseat Depth (h/2)	Setscrew Size	
> 22 mm to 30 mm	8 mm	7 mm	3,5 mm	M6 x 1	
> 30 mm to 38 mm	10 mm	8 mm	4 mm	M8 x 1,25	
> 38 mm to 44 mm	12 mm	8 mm	4 mm	M10 x 1,5	
> 44 mm to 50 mm	14 mm	9 mm	4,5 mm	M10 x 1,5	
> 50 mm to 58 mm	16 mm	10 mm	5 mm	M12 x 1,75	
> 58 mm to 65 mm	18 mm	11 mm	5,5 mm	M12 x 1,75	

Black = Inches
Blue = Millimeters



Note: Imperial keyed round bore sprockets are available with one setscrew as standard. Additional setscrews can be provided upon request. Metric keyed round bore sprockets are not supplied with a setscrew as standard.

NOTICE If multiple strands share a tail shaft, key only one sprocket and allow others to rotate. Collars should be utilized to prevent lateral movement.

Split Sprocket Bore Nomenclature

Shaft Ready — Tight fit on the shaft with a keyway and setscrew.

Plain Bore — Same tight fit bore as a shaft ready bore, but without a keyway and setscrew.

Idler Bore — Round bore with a clearance fit (no keyway or setscrew). Designed to spin freely on the shaft.

Rough Stock Bore — Wide tolerance bore used for work in process. Not for use on any shaft. Must be further machined for actual use.

Over Sized Bore — Round bore with a slightly loose fit on the shaft with keyway but no setscrew. Designed to move laterally on the shaft during setup and still transmit torque through the keyway as a drive sprocket in the actual application. Not recommended for axial float in thermal applications.

Split Sprocket Hardware Torque

Torque specs for cap screws on NS sprockets	
Hardware	Torque to
1/4-20 or M6	50 in-lbs (5.7 Nm)
3/8-16 or M10	75 in-lbs (8.5 Nm)

MatTop® CONVEYOR DESIGN RECOMMENDATIONS

Available Chain Widths (MTW vs Standard vs Nonstandard)

Chain Series	MTW Molded to Width Chains	Standard (uncut)				Nonstandard (cut)				Accessories						
		Minimum Chain Width		Chain Width Increment		Minimum Chain Width		Chain Width Increment		Pushers	Curved Pushers	Buckets	Sideguards	DTS-C®	Hold Down TAB's	Vacuum Holes
		(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)							
1000 FG/FT Metric	84 mm	3.35	85	3.35	85	1.97	50	0.20	5							
1000 FFTP/FFGP FreeFlow Metric	85 mm	3.35	85	3.35	85	1.97	50	0.20	5							
1000 RRR	38 mm	-	-	-	-	-	-	-	-							
1015	24 in	24	609,6	-	-	4 (1/2 increments up to 24)		1 in (1 in increments 24 in and wider)		■						
1503	-	12	304,8	6	152,4	6	152,4	3	76,2							
1505 / 1506	3 in, 4.5 in, 6 in, 38 mm, 46 mm	3	76,2	3	76,2	4.5	114,3	0.75	19,05	■		■				
1505 RubberTop™	-	3	76,2	3	76,2	4.5	114,3	0.75	19,05							
1505 DTS® (w/PT)	6.3 in	-	-	-	-	-	-	-	-							
1553	-	10.04	255	3.35	85	-	-	-	-							
1625B-TAB	-	12	304,8	3	76,2	-	-	-	-							
2011	-	8	203,2	2	50,8	6	152,4	2/3	16,93	■	■	■	■			
2015	-	6	152,4	2	50,8	4 2/3	118,53	2/3	16,93	■	■	■	■			
2016	-	8	203,2	2	50,8	6	152,4	2/3	16,93	■	■	■	■			
3000	-	4.5	114,3	1.5	38,1	-	-	-	-							
3125 / 3129	4 in, 8 in	4	101,6	4	101,6	6	152,4	2	-	■		■				
3185	3.2 in	-	-	-	-	-	-	-	-							
3185 RubberTop	3.2 in	-	-	-	-	-	-	-	-							
4705	6 in	6	152,4	6	152,4	2	50,8	Any width possible		■		■		■	■	
4706	6 in	6	152,4	6	152,4	2	50,8	Any width possible		■		■				
4707	6 in	6	152,4	6	152,4	2	50,8	1	25,4					■		
5705 / 5706	3.25 in, 4.5 in, 6 in, 7.5 in, 15 in	6	152,4	3	76,2	3	76,2	1	25,4	■						
5705 RubberTop	-	6	152,4	3	76,2	3	76,2	1	25,4							
5705 / 5706 (w/PT)	3.25 in, 4.5 in	-	-	-	-	-	-	-	-							
5705 DTS (w/PT)	6.3 in	-	-	-	-	-	-	-	-							
5935	3 in	9	228,6	3	76,2	3	76,2	0.75	19,05	■		■		■	■	
5936	-	18	457,2	6	152,4	2.25	57,15	0.75	19,05	■		■		■	■	
5966	-	18	457,2	6	152,4	4-11/16 in (3 in possible)		Contact Regal Rexnord™ Engineering		■		■				
5995	-	9	228,6	3	76,2	3	76,2	0.5	12,7							
5996	-	18	457,2	6	152,4	4.5	114,3	0.5	12,7	■		■				
5998	-	18	457,2	6	152,4	5	127	0.5	12,7	■		■				
6085	3 in, 6 in	3	76,2	3	76,2	3 3/5	91,44	3/5	15,24	■		■				
6938	3 in, 6 in	3	76,2	3	76,2	3.75	95,25	0.75	19,05	■		■				
6995 / 6999	-	18	457,2	6	152,4	5	127	0.5	12,7	■		■				
6995H / 6999H	-	12	304,8	3	76,2	9	228,6	3	76,2							
6997	12 in	12	304,8	6	152,4	5	127	0.5	12,7					■		
7526 Metric	-	10.04	255	3.34	85	6.69	170	0.66	17							
7703	-	9	228,6	3	76,2	5 in (3 in possible)		1	25,4							
7705 / 7706	3.25 in, 4.5 in, 6 in, 7.5 in, 15 in	6	152,4	3	76,2	5 in (3 in possible)		0.5	12,7							
7705 (w/PT)	3.25 in, 4.5 in, 7.5 in, 84 mm	-	-	-	-	-	-	-	-							
7706 (w/PT)	3.25 in, 4.5 in, 7.5 in	-	-	-	-	-	-	-	-							
7705 DTS (w/PT)	6.3 in, 9.3 in	-	-	-	-	-	-	-	-							
7705 DTS-R (w/PT)	6.3 in, 9.3 in	-	-	-	-	-	-	-	-							
7705 / 7706 Metric	-	10.04	255	3.34	85	5.59	142	Contact Regal Rexnord Engineering								
7705 Metric (w/PT)	-	10.04	255	3.34	85	5.59	142	Contact Regal Rexnord Engineering								
7705 RubberTop	-	9	228,6	3	76,2	9.5	241,3	0.5	12,7							
7705 SuperGrip™	4 in, 6 in	9	228,6	3	76,2	9.5	241,3	0.5	12,7							
7708	-	9	228,6	3	76,2	5 in (3 in possible)		0.5	12,7							
7743	-	9	228,6	3	76,2	-	-	-	-							
7956	6 in, 12 in, 15 in, 18 in, 24 in, 30 in	-	-	-	-	-	-	-	-							Bearing, GT, TAB
7963/7966	12 in, 15 in	12	304,8	0.5	12,7	-	-	-	-							
8503	-	3	76,2	3	76,2	-	-	-	-							
8505	2.33 in, 3.25 in, 85 mm, 4.5 in, 6 in, 7.5 in, 12 in	9	228,6	3	76,2	2 1/3	59,26	1/3	8,5	■		■		■	■	
8505 DTS (w/PT)	6.3 in, 9.3 in	-	-	-	-	-	-	-	-							
8505 Metric	-	10.04	255	3.34	85	3.34	85	1/3	8,5							
8505 RubberTop	-	9	228,6	3	76,2	2 1/3	59,26	1/3	8,5							
8506	2.33 in, 3.25 in, 85 mm, 4.5 in, 6 in, 7.5 in, 12 in	9	228,6	3	76,2	2 1/3	59,26	1/3	8,5	■		■		■	■	
8505 / 8506 (w/PT)	2.33 in, 3.25 in, 85 mm, 4.5 in, 6 in, 7.5 in, 12 in	9	228,6	3	76,2	2 1/3	59,26	1/3	8,5	■		■		■	■	
8507	-	18	457,2	6	152,4	3	76,2	0.5	12,7							

* Actual Chain Width = Effective (or Nominal) Chain Width (Multiples of 3 in [76,2 mm] + 0.75 in [19,0 mm])

Black = Inches Blue = Millimeters

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

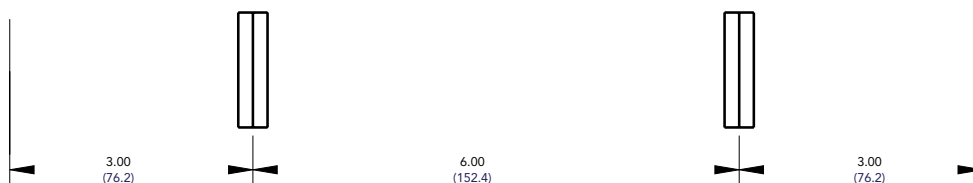
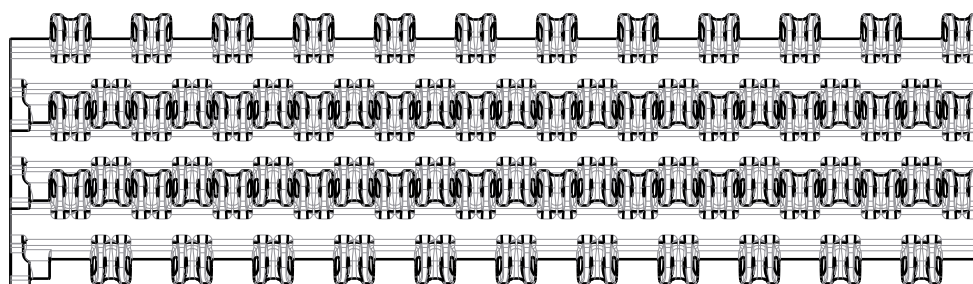
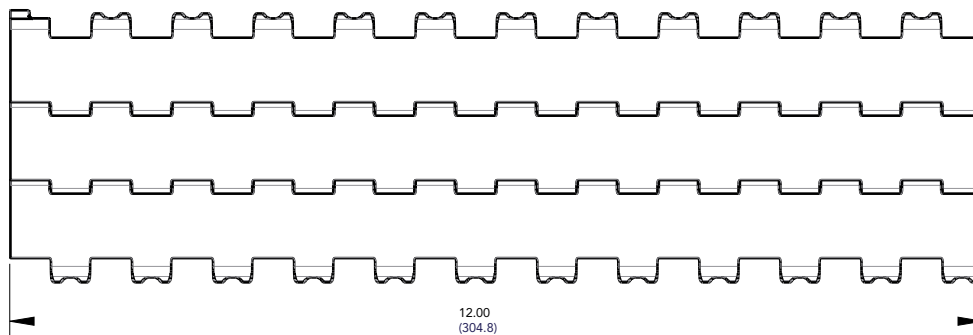
1000 Chain Series (FT, FTDP, FFTP, FG, FGDP, FFGP)

Sprockets can be positioned anywhere except the very outer pockets
or at the joints between modules (every 85 mm).

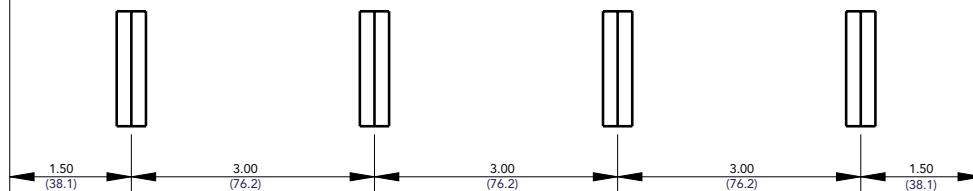
MatTop® SPROCKET LOCATIONS

1010 Chain Series (1015)

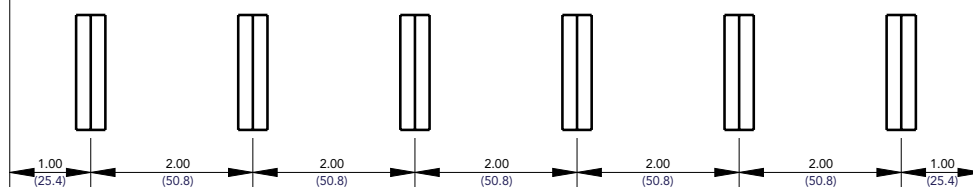
Assembled to Width and Molded to Width



2 Sprockets:
0-33% Capacity



4 Sprockets:
34-66% Capacity



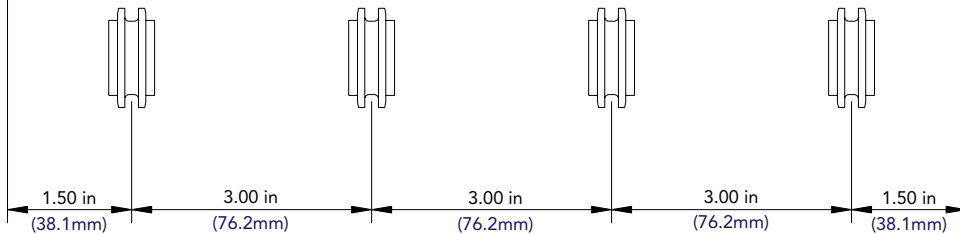
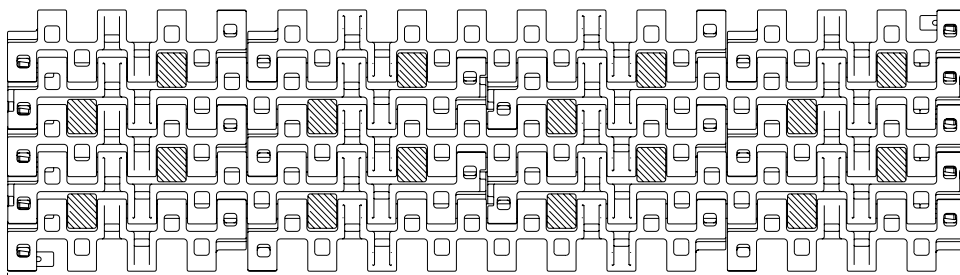
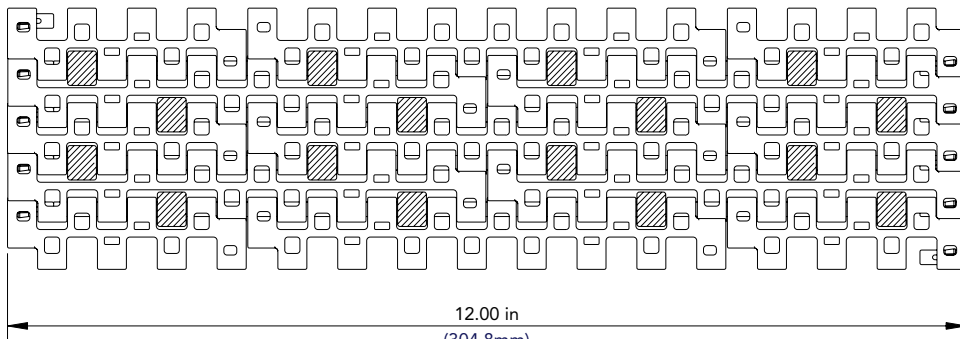
6 Sprockets:
67-100% Capacity

1015 — 12.00 in — MTW

MatTop® SPROCKET LOCATIONS

1500 Chain Series (1503/1505/1506)

Assembled to Width — 1503/1505/1506



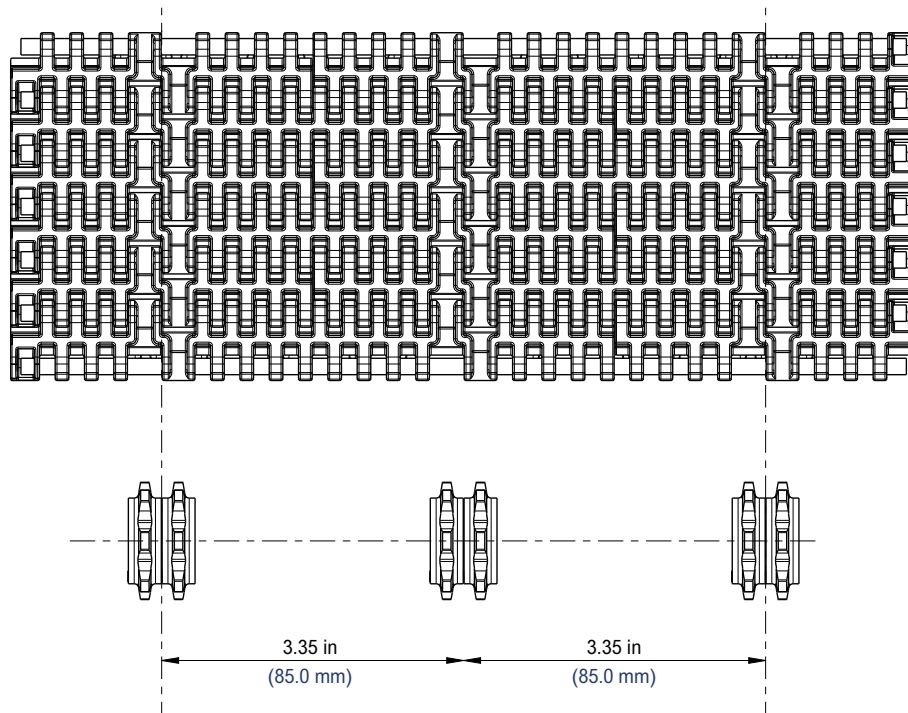
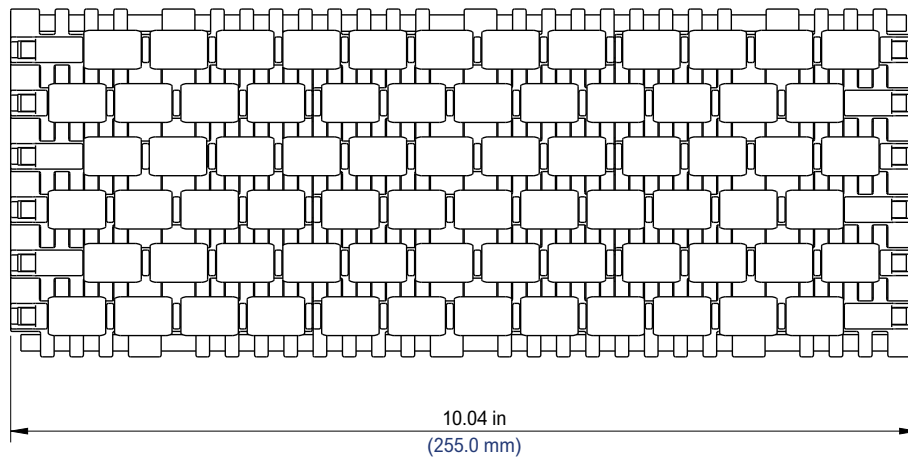
4 Sprockets:
0-100% Capacity

LBPHP 1503 — 12.00 in — Assembled to Width

MatTop® SPROCKET LOCATIONS

1500 Chain Series (1533/1553)

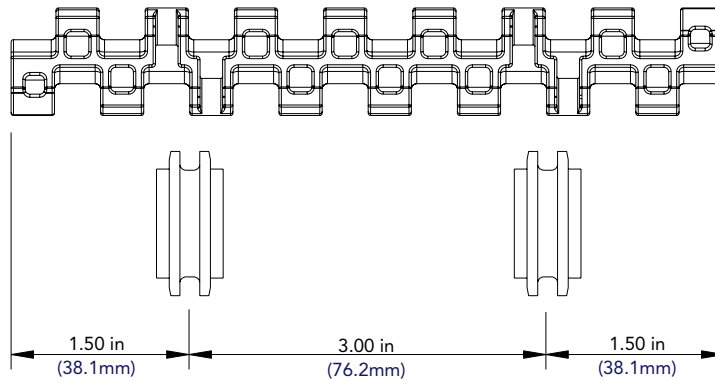
Assembled to Width — 1533/1553



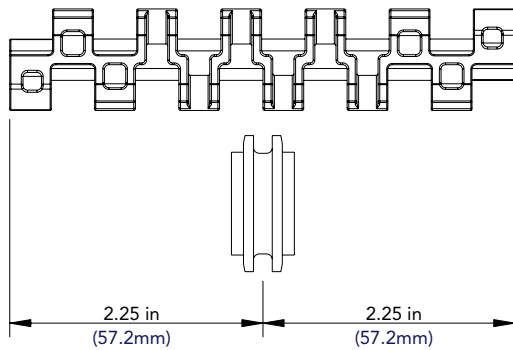
MatTop® SPROCKET LOCATIONS

1500 Chain Series (1505/1506)

Molded to Width — 1505/1506

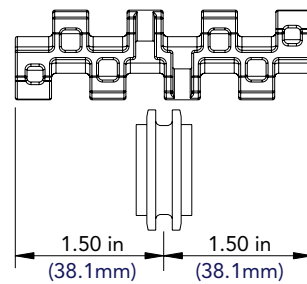


1505 — 6.00 in — MTW



NOTE: If using cut width 4.50 in, must use H-style KU sprocket.

1505 — 4.50 in — MTW

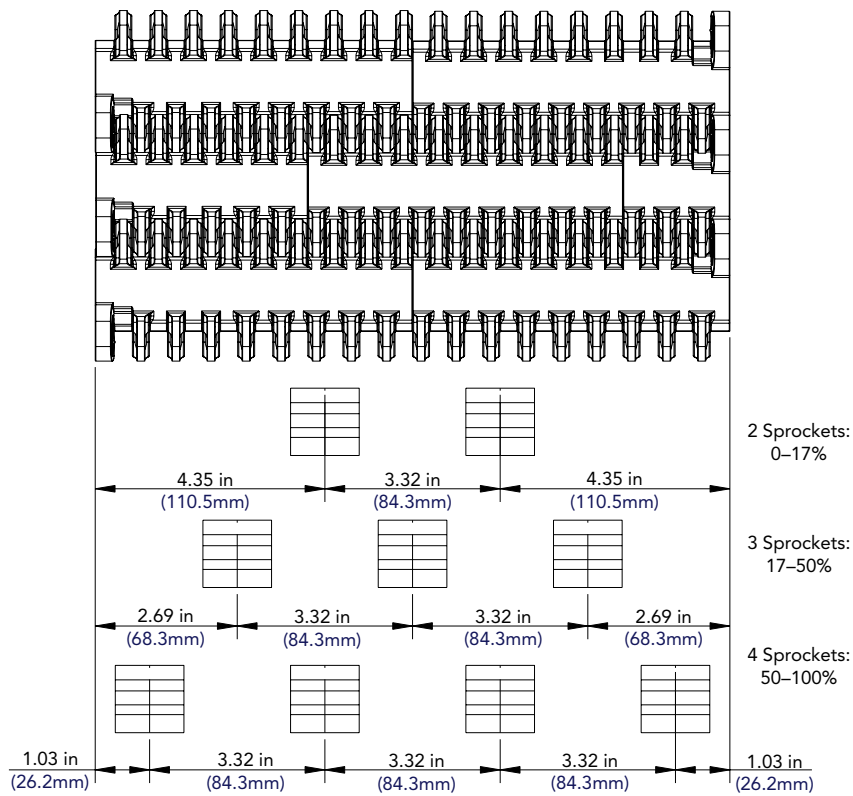
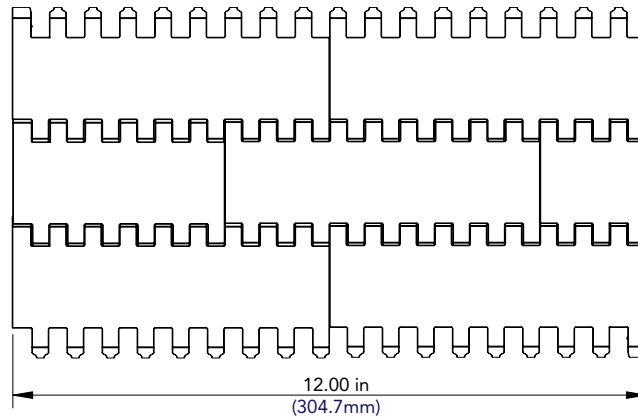


1505 — 3.00 in — MTW

MatTop® SPROCKET LOCATIONS

2010 Chain Series (2011/2015/2016)

Assembled to Width — 2011/2015/2016

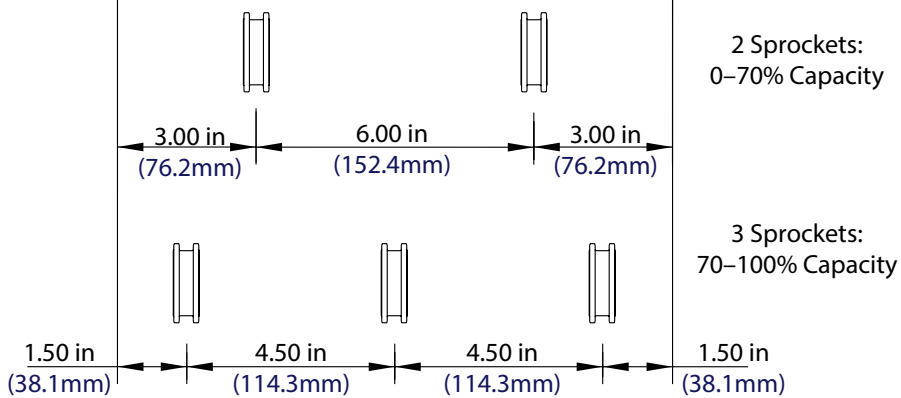
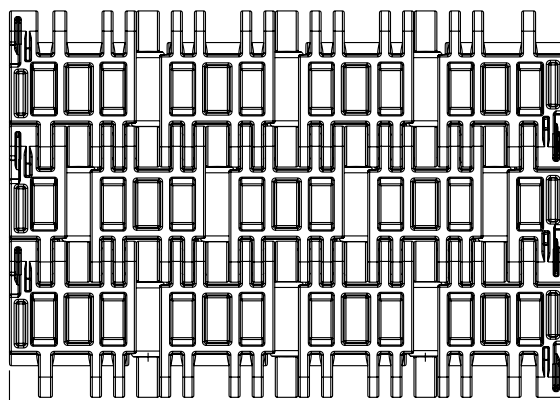
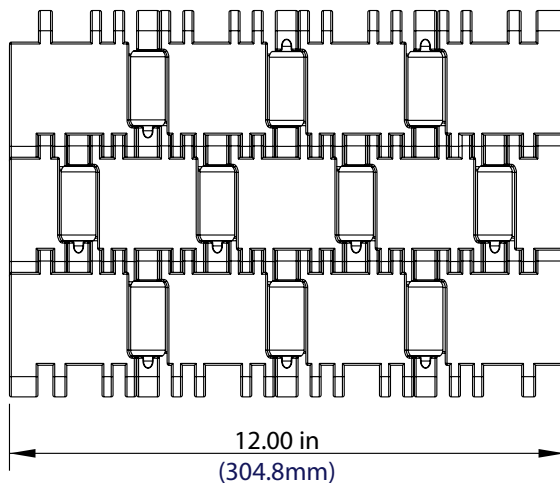


2015 — 12.00 in — Assembled to Width

MatTop® SPROCKET LOCATIONS

3000 Chain Series (3003/3004)

Assembled to Width — 3003/3004

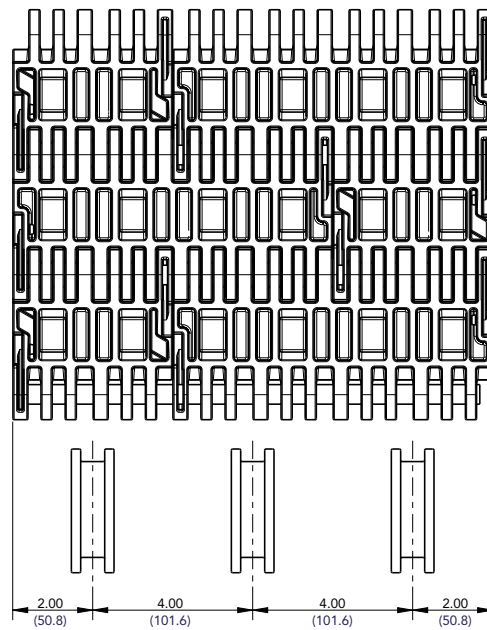
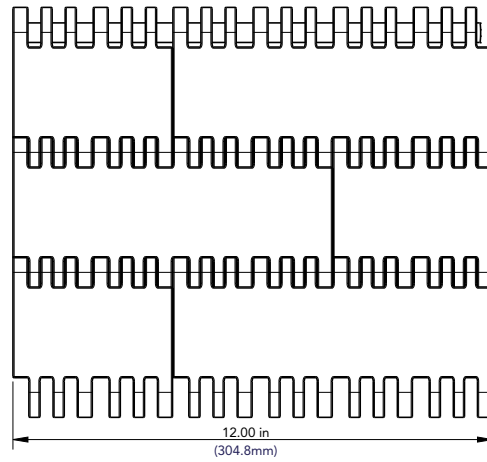


3004 — 12.00 in — Assembled to Width

MatTop® SPROCKET LOCATIONS

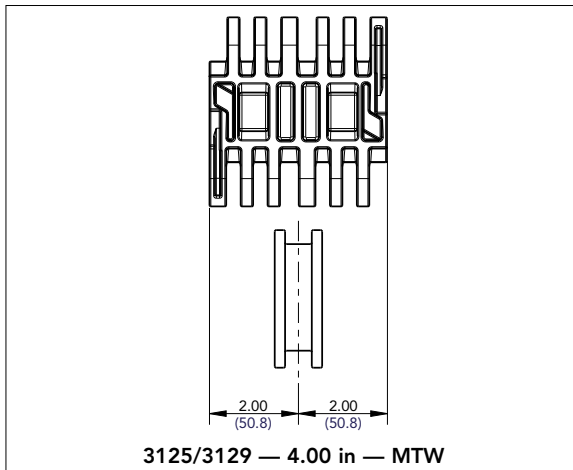
3120 Chain Series (3125/3129)

Assembled to Width — 3125/3129

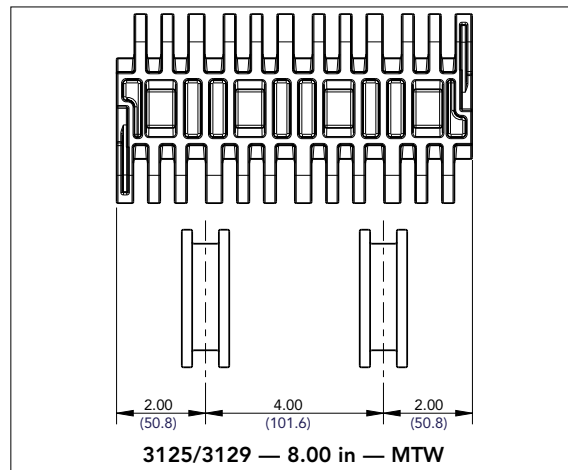


3125/3129 — 12.00 in — Assembled to Width

Molded to Width — 3125/3129



3125/3129 — 4.00 in — MTW



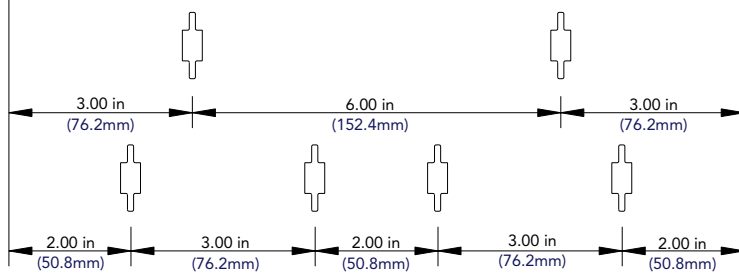
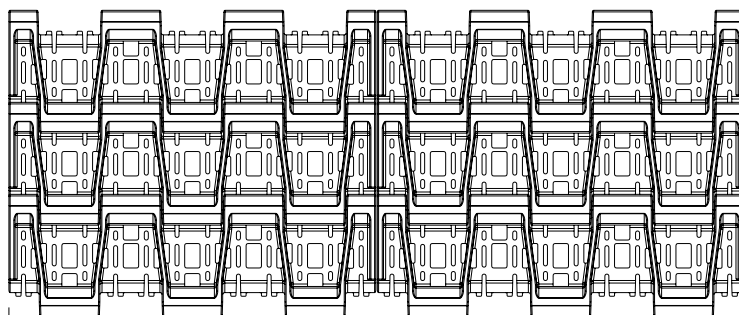
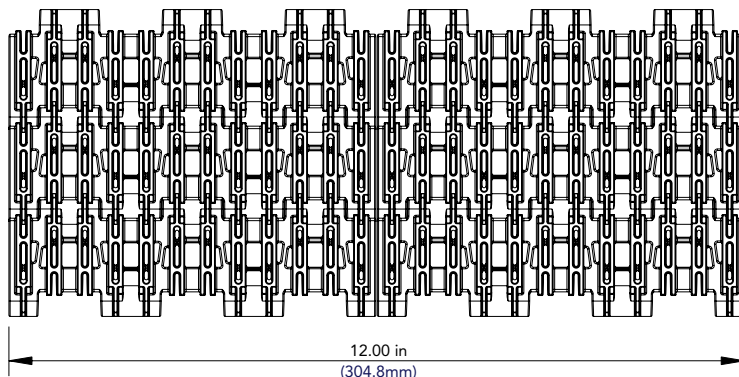
3125/3129 — 8.00 in — MTW

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

4700 Chain Series Using 5700 Sprockets (4705/4706)

Assembled to Width — 4705/4706



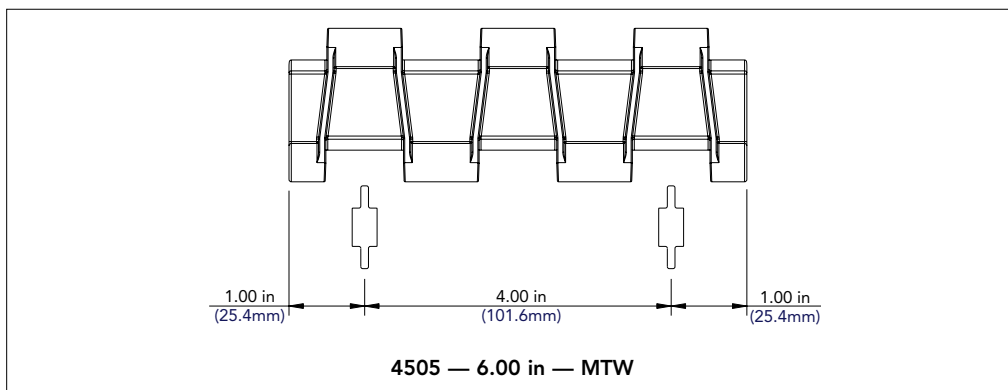
2 Sprockets:
0–80% Capacity
(without Transfer Comb)

4 Sprockets:
80–100% Capacity
(without Transfer Comb)

4 Sprockets:
0–100% Capacity
(with Transfer Comb)

4705 — 12.00 in — Assembled to Width

Molded to Width — 4705/4706



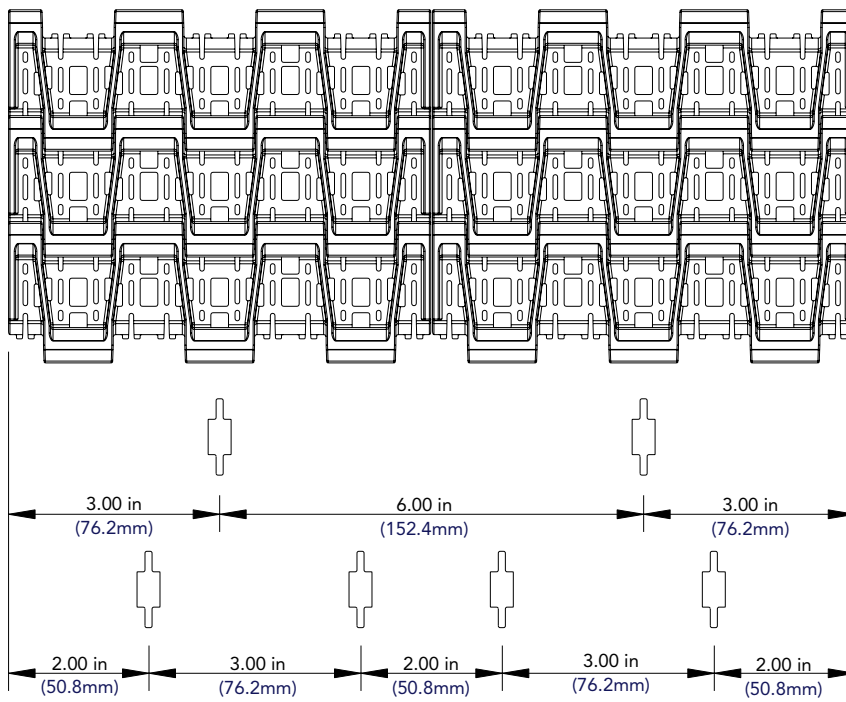
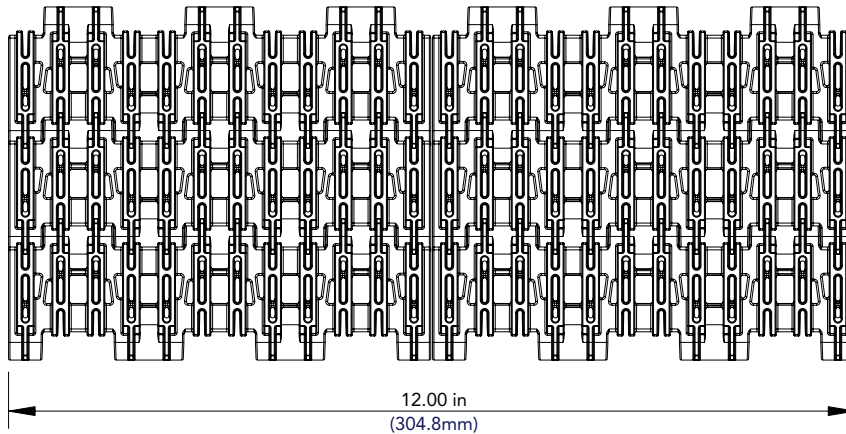
4705 — 6.00 in — MTW

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

4700 Chain Series Using 5700 Sprockets (4707)

Assembled to Width — 4707



2 Sprockets:
0–80% Capacity
(without Transfer Comb)

4 Sprockets:
80–100% Capacity
(without Transfer Comb)

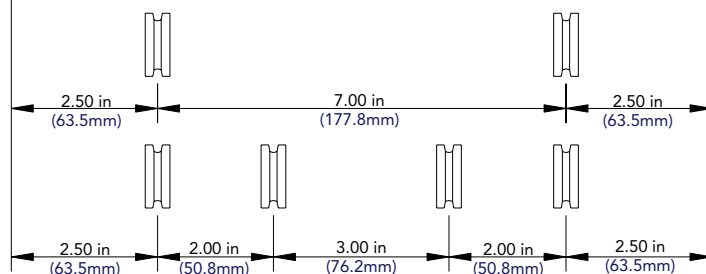
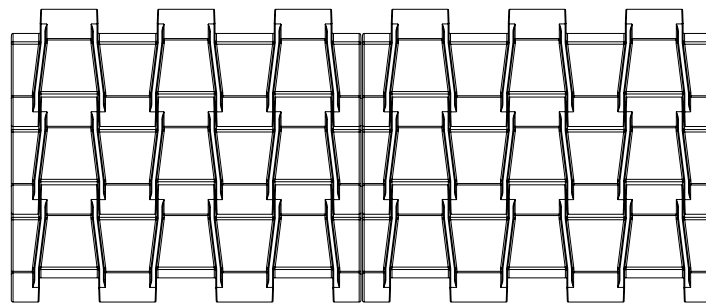
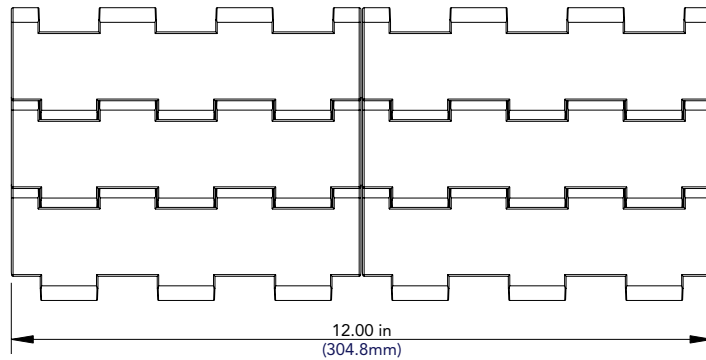
4 Sprockets:
0–100% Capacity
(with Transfer Comb)

4707 — 12.00 in — Assembled to Width

MatTop® SPROCKET LOCATIONS

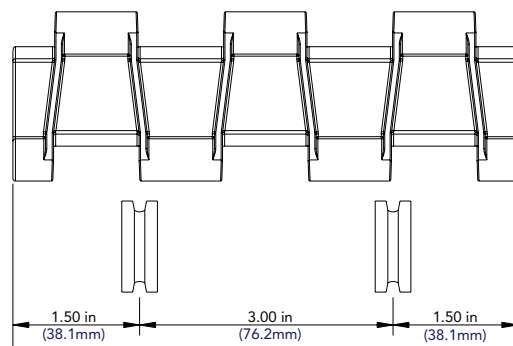
4700 Chain Series Using 820 Sprocket (4705/4706)

Assembled to Width — 4705/4706



4705 — 12.00 in — Assembled to Width

Molded to Width — 4705/4706



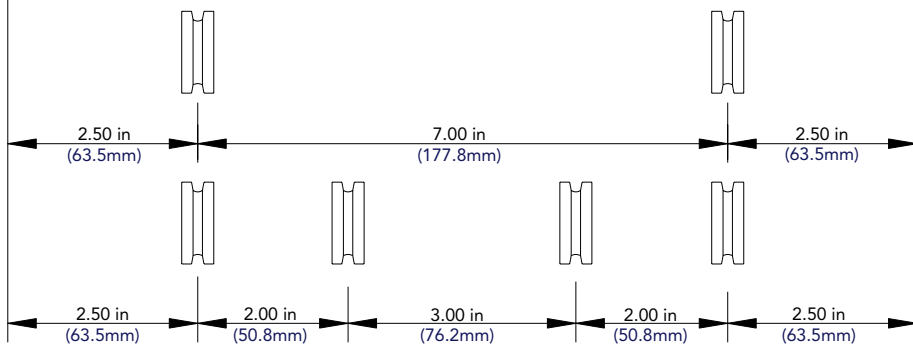
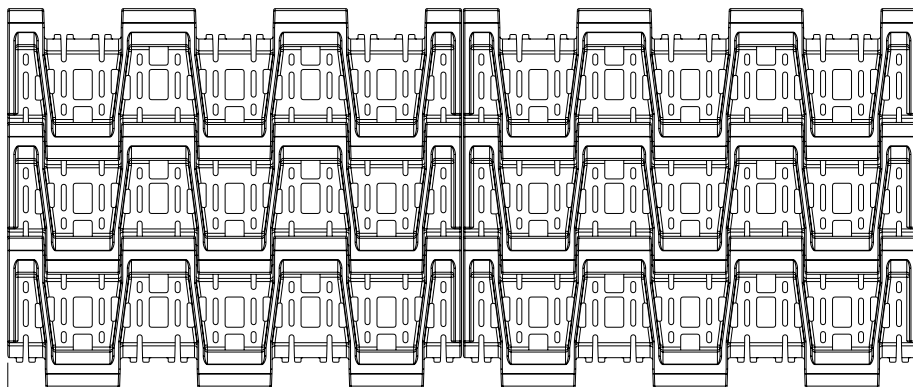
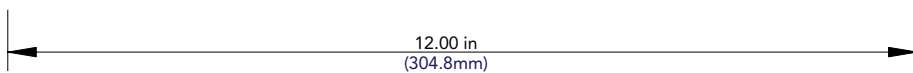
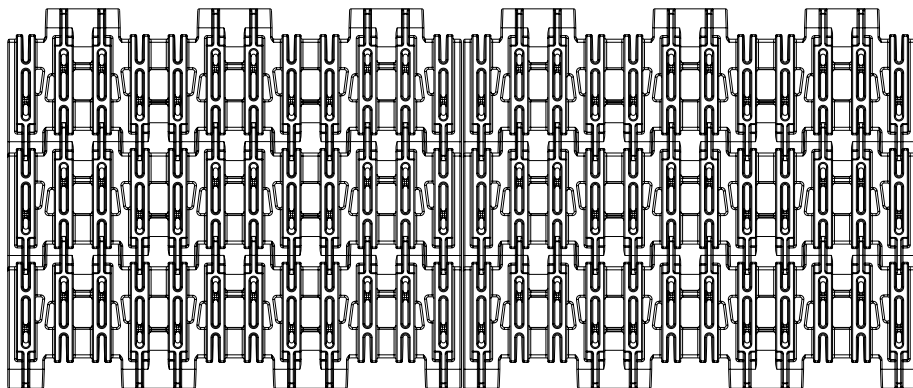
4705 — 6.00 in — MTW

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

4700 Chain Series Using 820 Sprockets (4707)

Assembled to Width — 4707



2 Sprockets:
0-80% Capacity
(without Transfer Comb)

4 Sprockets:
80-100% Capacity
(without Transfer Comb)

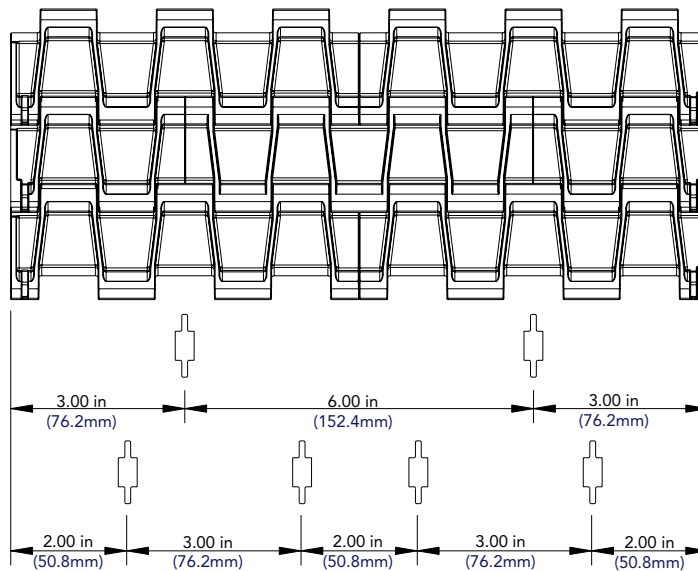
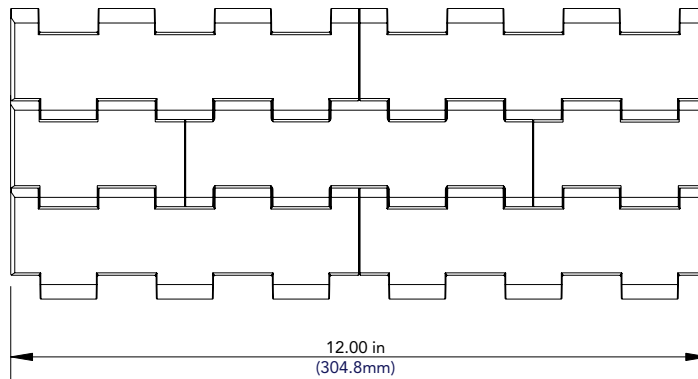
4 Sprockets:
0-100% Capacity
(with Transfer Comb)

4707 — 12.00 in — Assembled to Width

MatTop® SPROCKET LOCATIONS

5700 Chain Series Using 5700 Sprockets (5705/5706)

Assembled to Width — 5707/5706

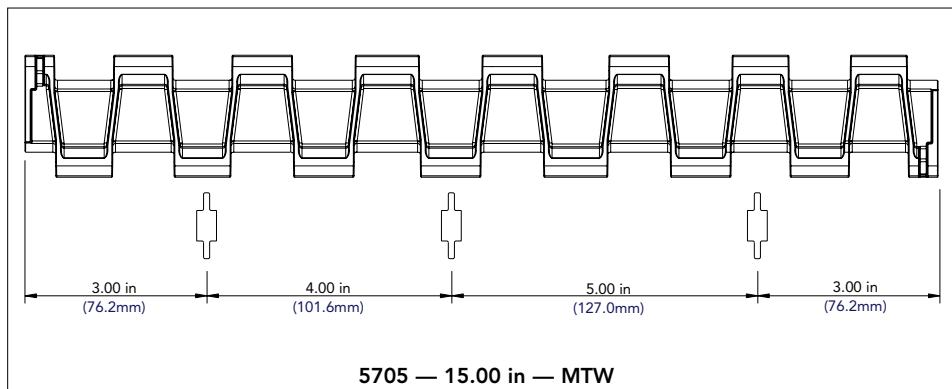


2 Sprockets:
0–50% Capacity

4 Sprockets:
50–100% Capacity

5705 — 12.00 in — Assembled to Width

Molded to Width — 5705/5706



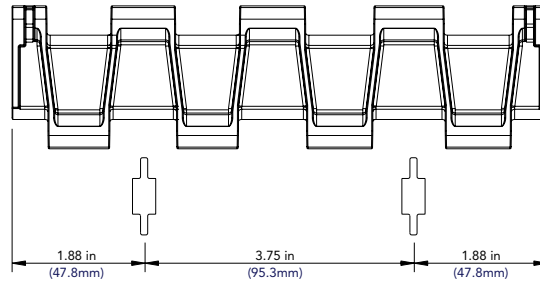
5705 — 15.00 in — MTW

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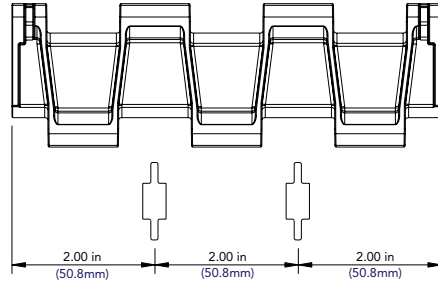
MatTop® SPROCKET LOCATIONS

5700 Chain Series Using 5700 Sprockets (5705/5706)

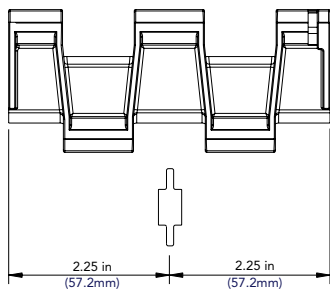
Molded to Width — 5705/5706



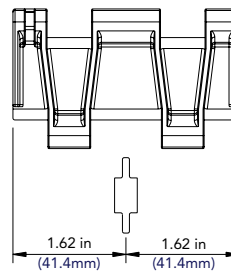
5705 — 7.50 in — MTW



5705 — 6.00 in — MTW



5705 — 4.50 in — MTW

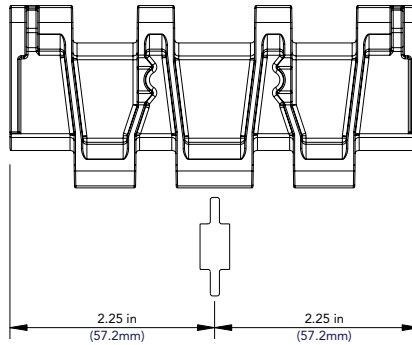


5705 — 3.25 in — MTW

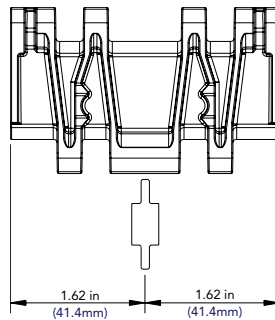
MatTop® SPROCKET LOCATIONS

5700 Chain Series with Positrack Tracking Guide Using 5700 Sprockets (5705/5706)

Molded to Width — 5705/5706



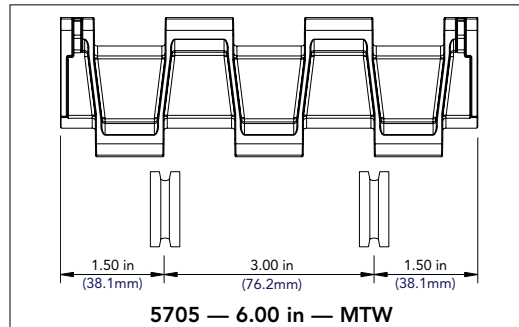
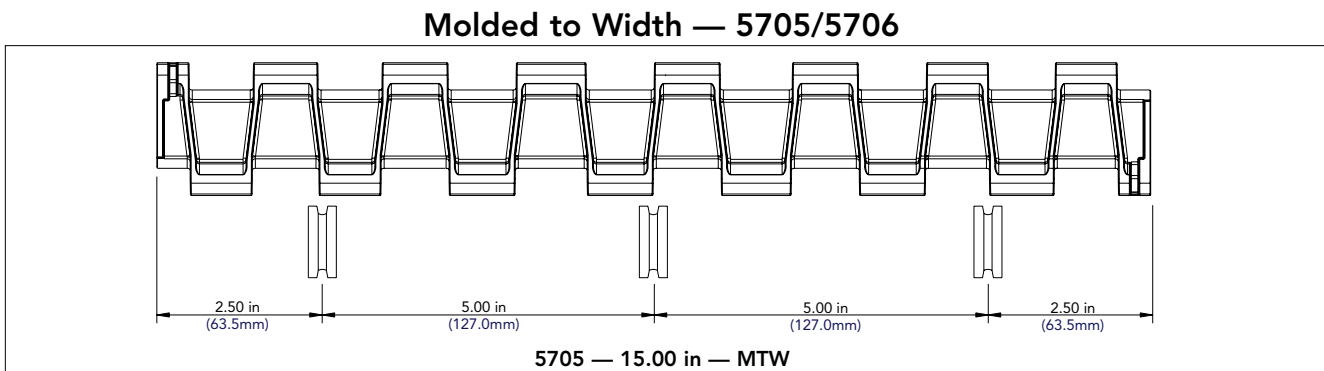
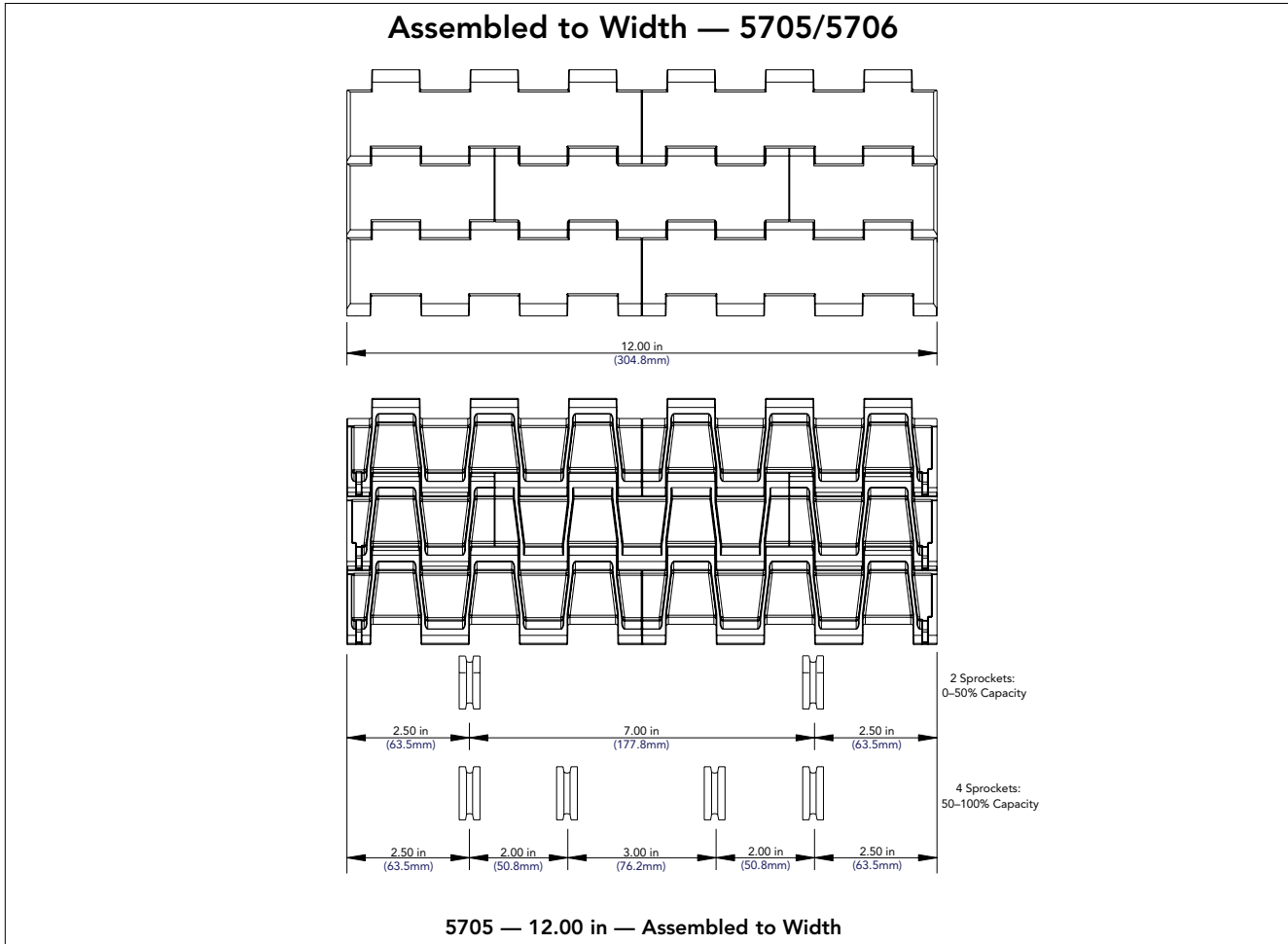
5705 — 4.50 in — MTW Positrack Tracking Guides



5705 — 3.25 in — MTW Positrack Tracking Guides

MatTop® SPROCKET LOCATIONS

5700 Chain Series Using 820 Sprockets (5705/5706)

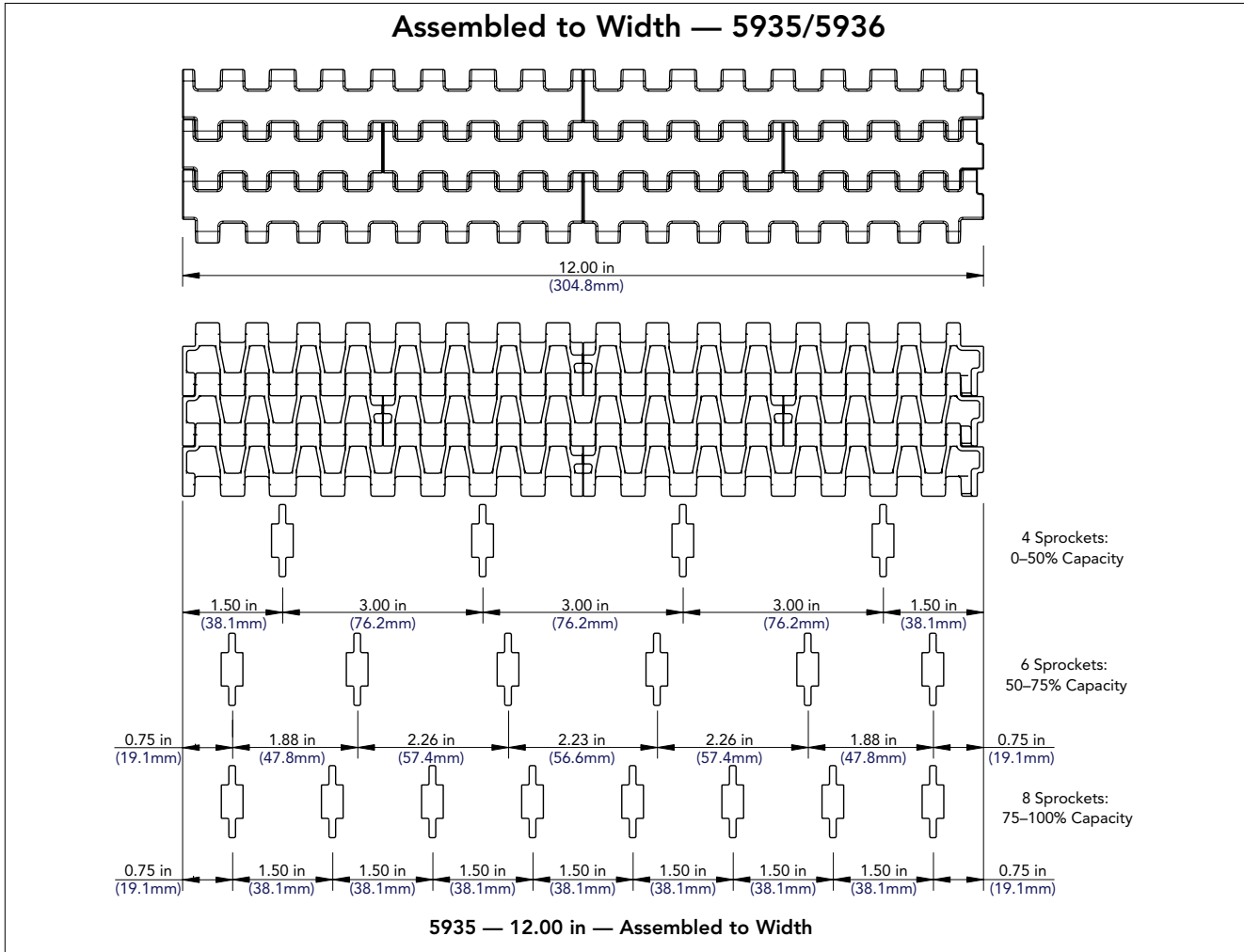


Note: 820 Style Sprockets not recommended for 5705 MTW 3 in and 4.50 in (sprockets will be off center)

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

5930 Chain Series (5935/5936)



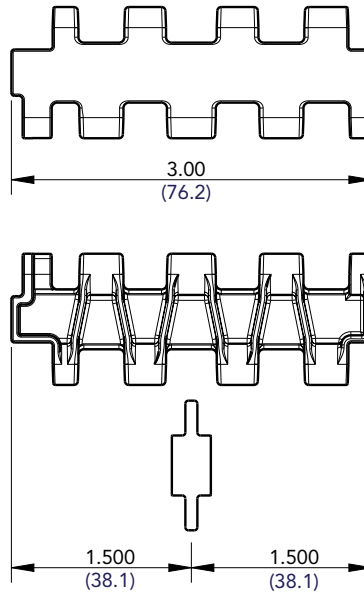
Note: 5936 — 12 in Assembled to Width chain has a different bricking pattern than above, but has the same sprocket locations.

NOTICE Do not position sprockets at seam between link modules.

MatTop® SPROCKET LOCATIONS

5930 Chain Series (5935)

Molded to Width — 5935

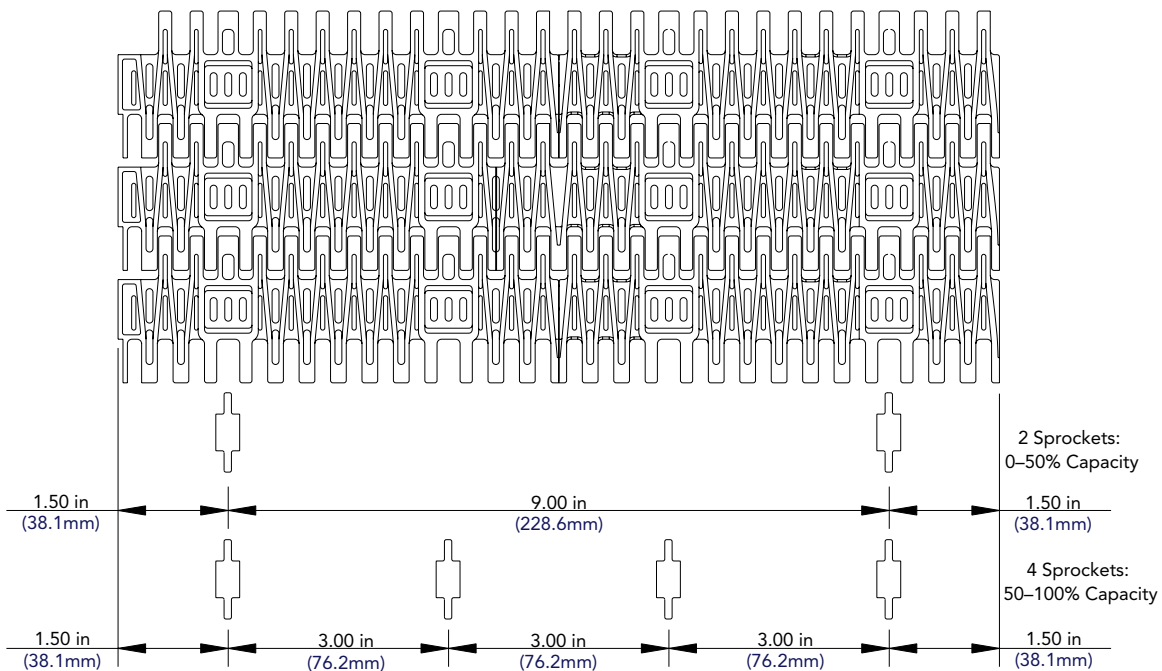
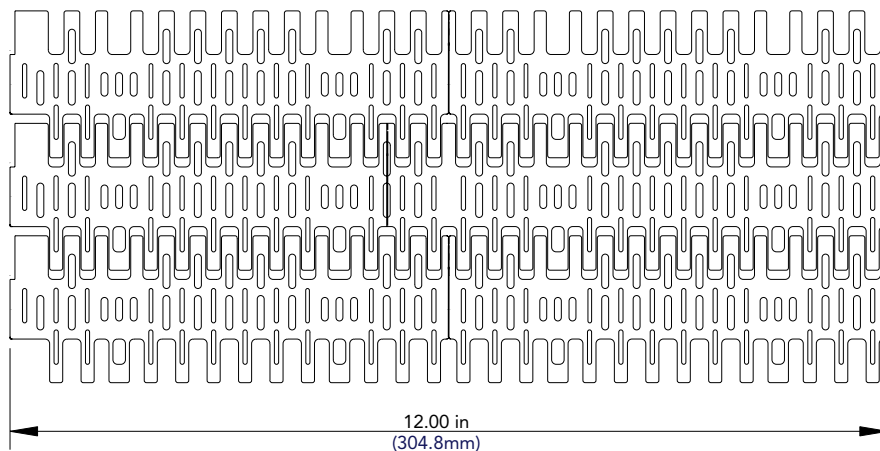


5935 — 3.00 in — MTW

MatTop® SPROCKET LOCATIONS

5960 Chain Series (5966)

Assembled to Width — 5966

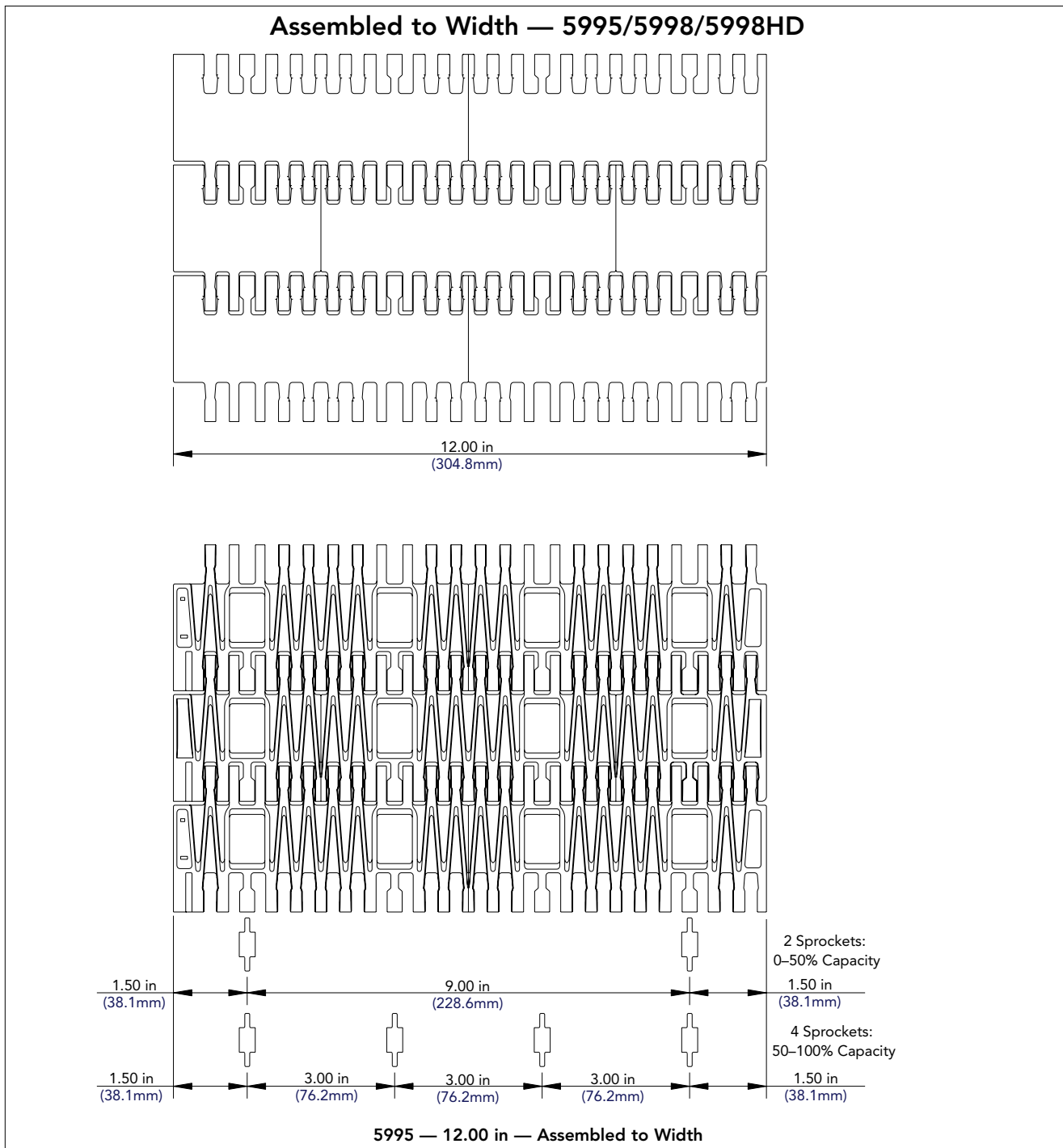


5966 — 12.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

5990 Chain Series (5995/5998/5998HD)

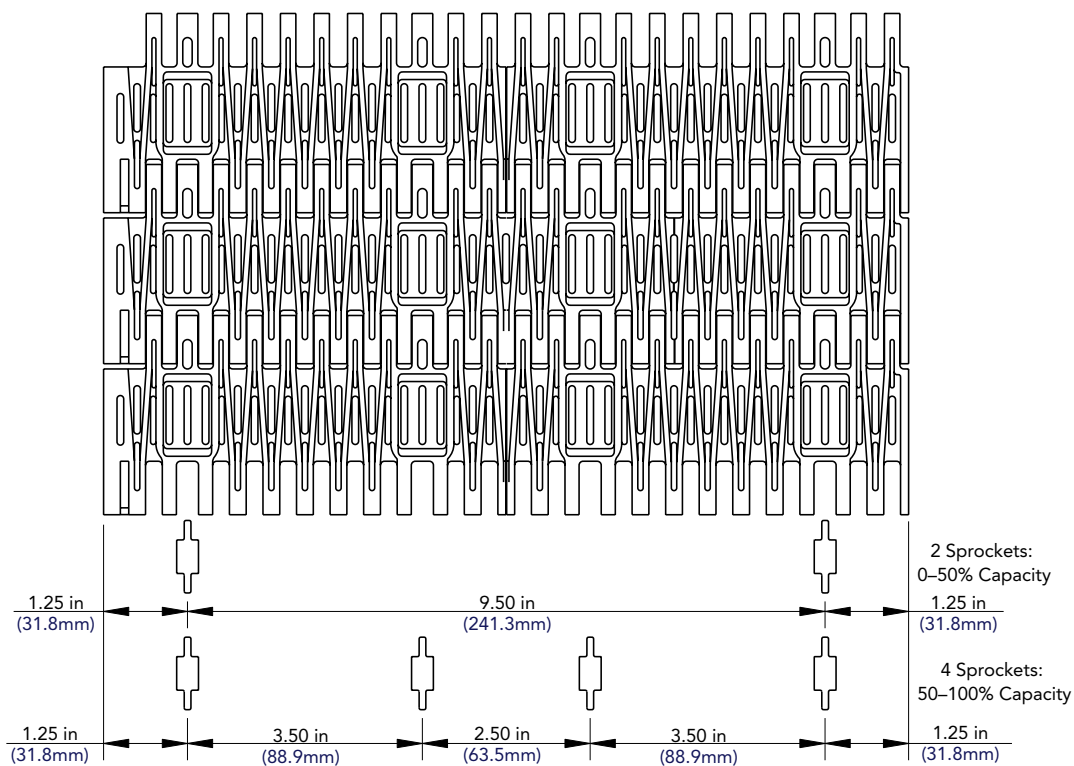
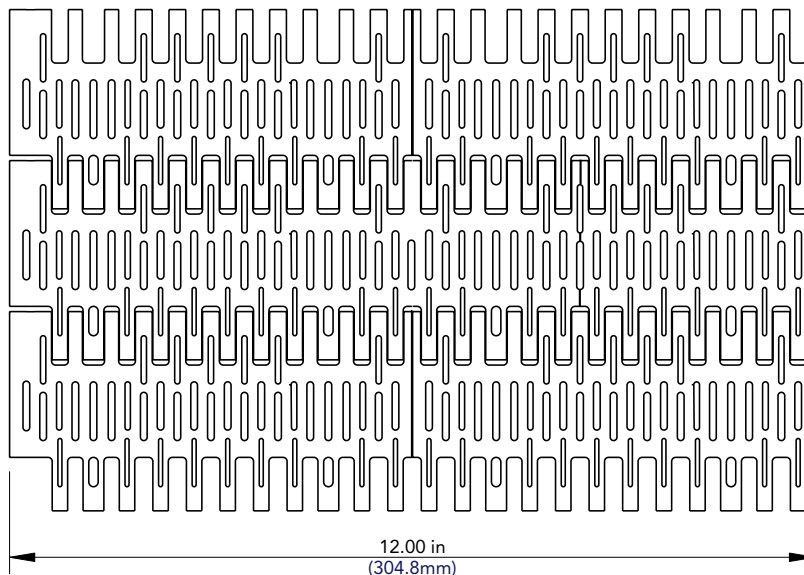


Note: 5998 and 5998HD — 12 in Assembled to Width chains have a different bricking pattern than above but have the same sprocket locations.

MatTop® SPROCKET LOCATIONS

5990 Chain Series (5996)

Assembled to Width — 5996

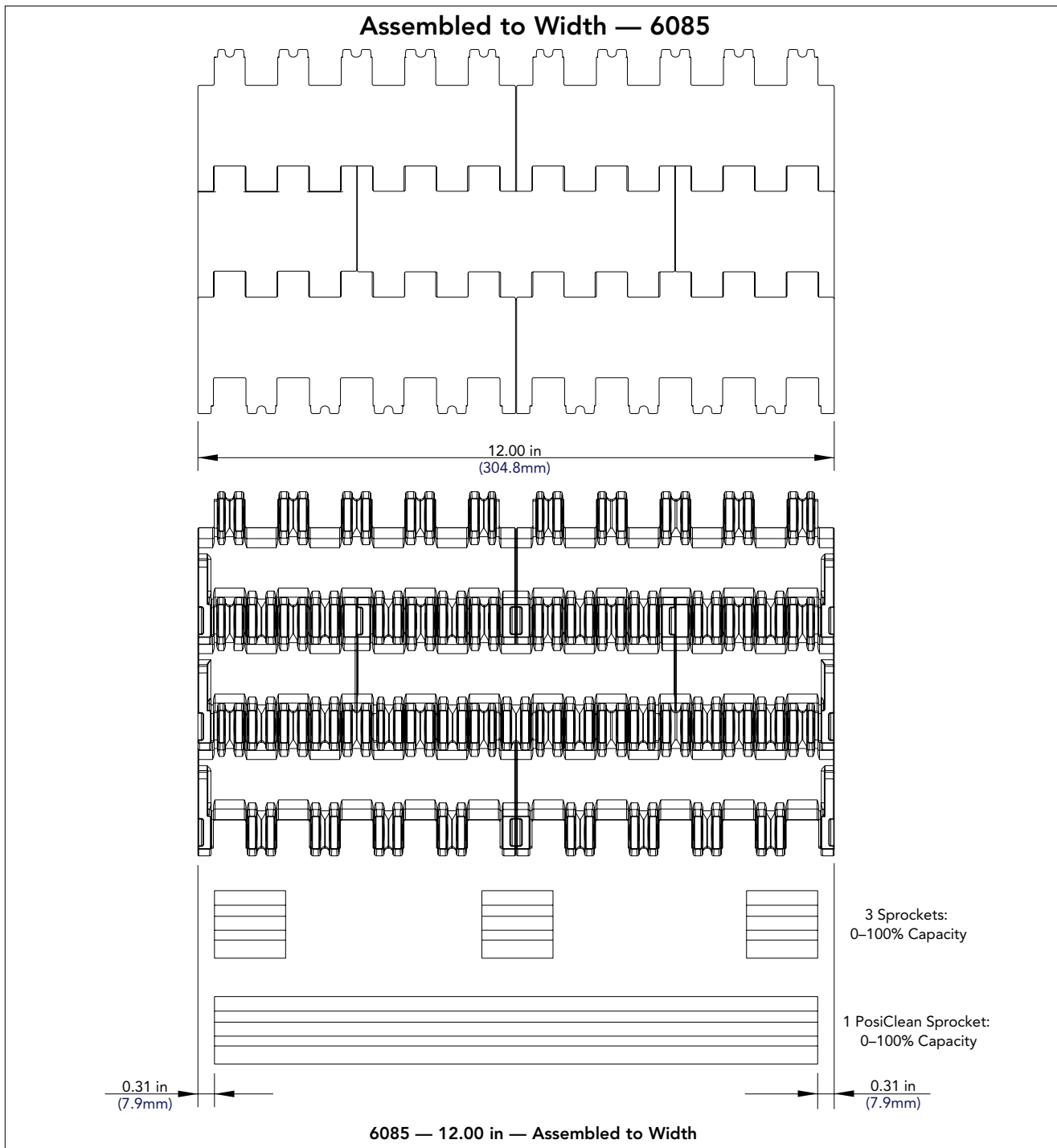


5996 — 12.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6080 Chain Series (6085)

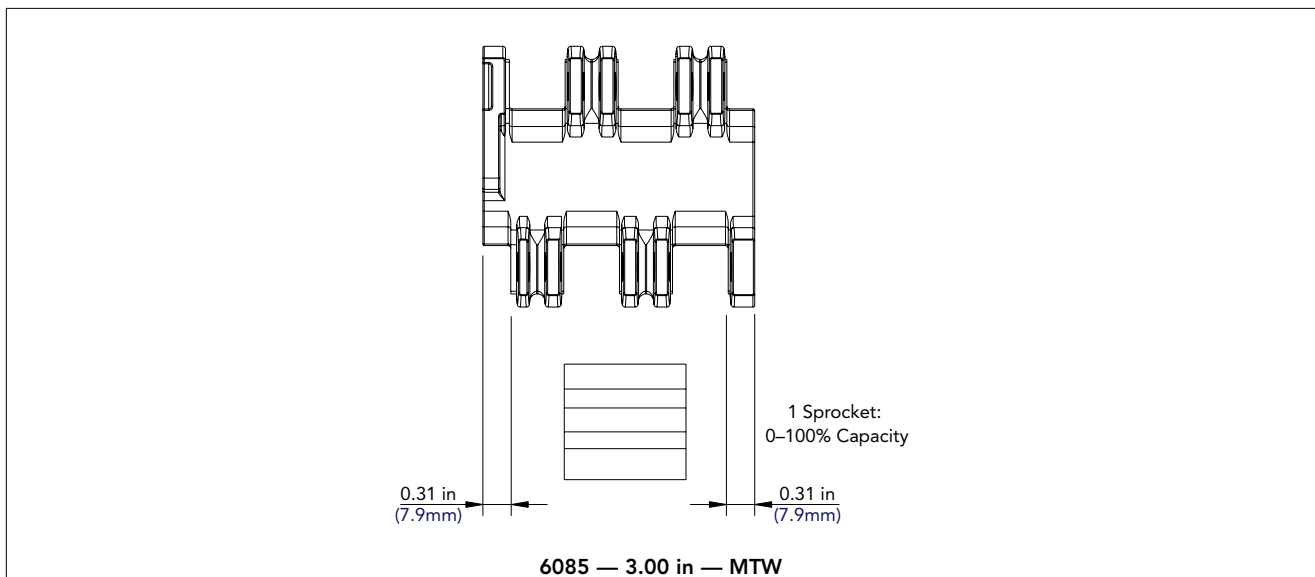
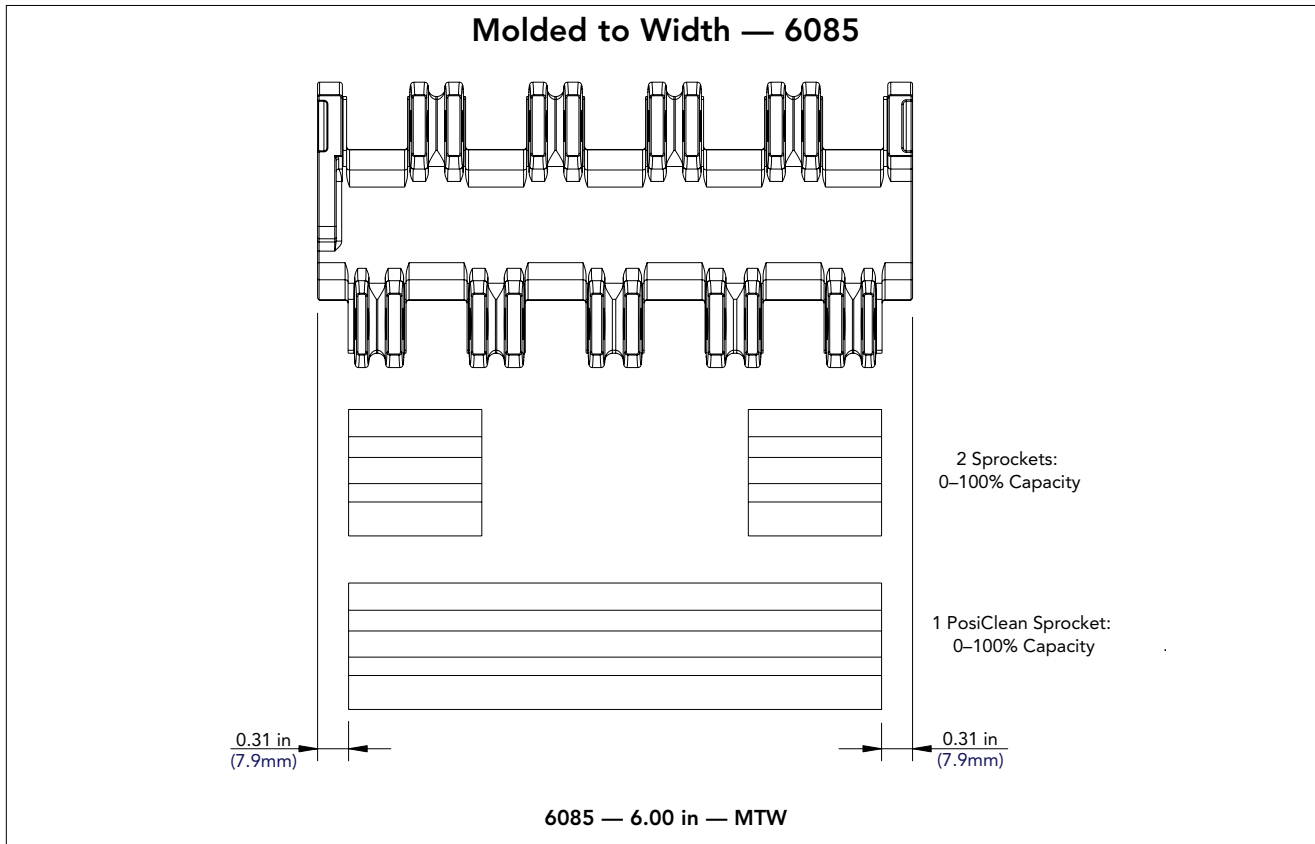


Note: 6085 has no sprocket pockets. Sprockets can be placed anywhere along the width of the chain inside the 0.31 in (7,9 mm) edge dimensions.

MatTop® SPROCKET LOCATIONS

6080 Chain Series (6085)

Molded to Width — 6085



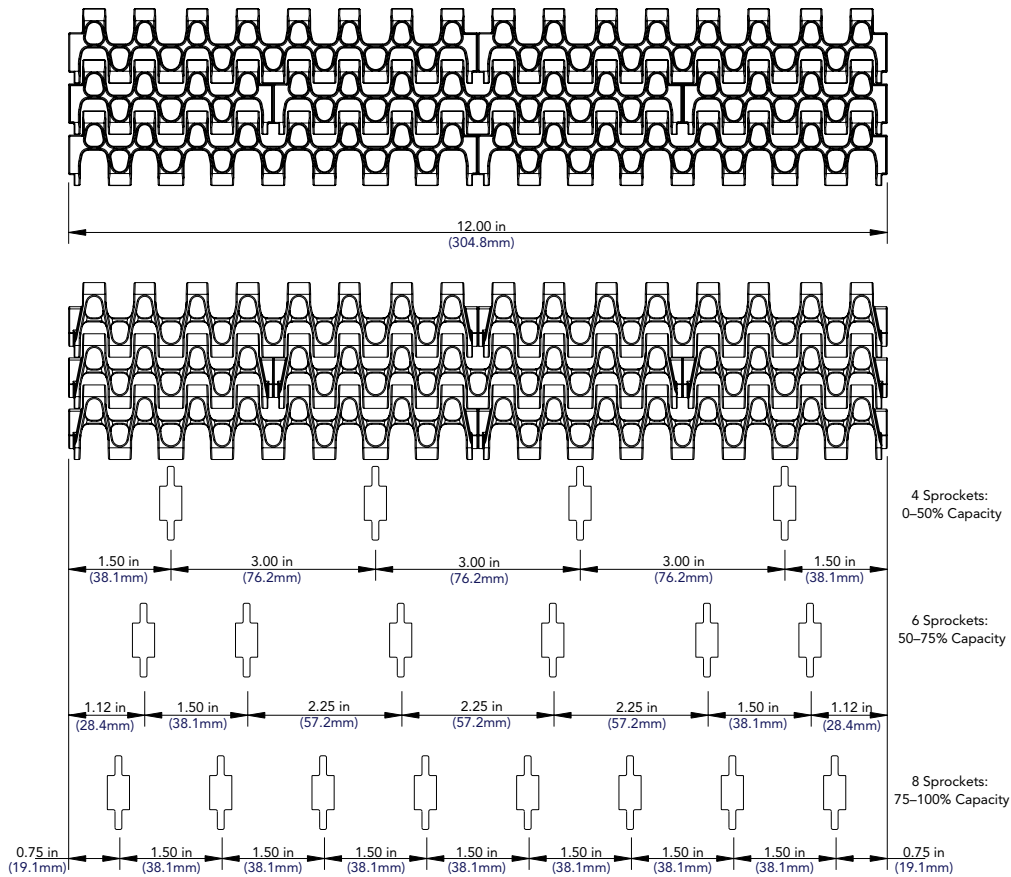
Note: 6085 has no sprocket pockets. Sprockets can be placed anywhere along the width of the chain inside the 0.31 in (7,9 mm) edge dimensions.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6930 Chain Series (6938)

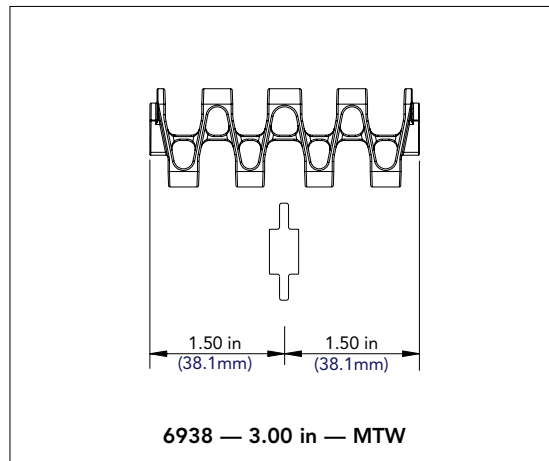
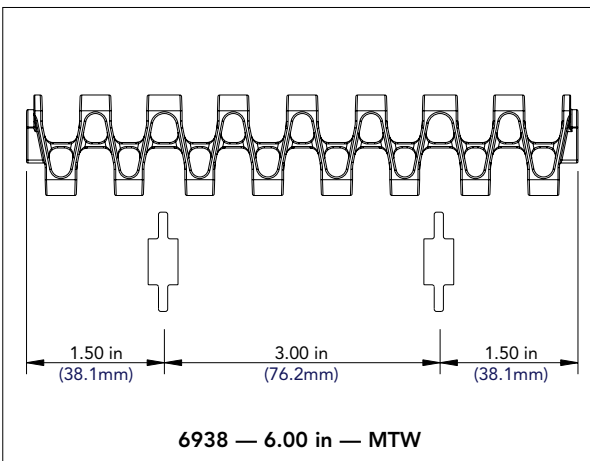
Assembled to Width — 6938



NOTICE The 6938 chain is to be driven by the solid portion of the chain, NOT the exposed pin portion.

6938 — 12.00 in — Assembled to Width

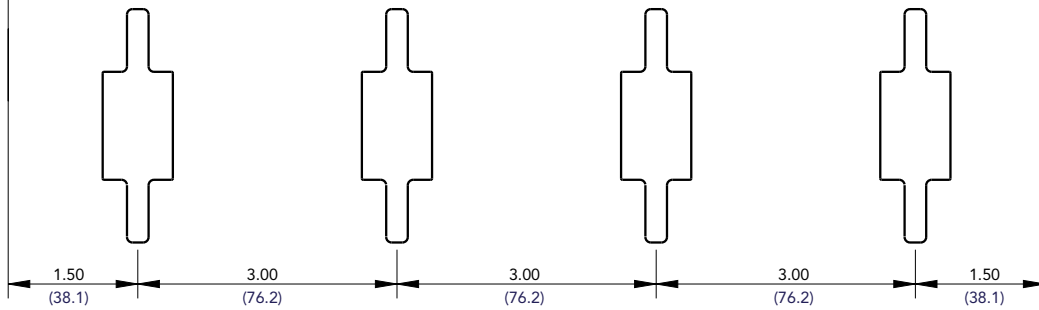
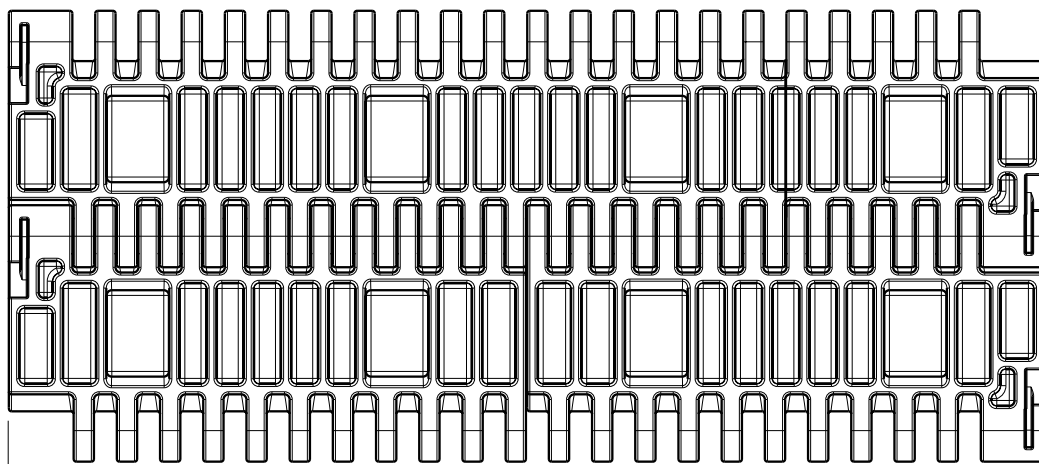
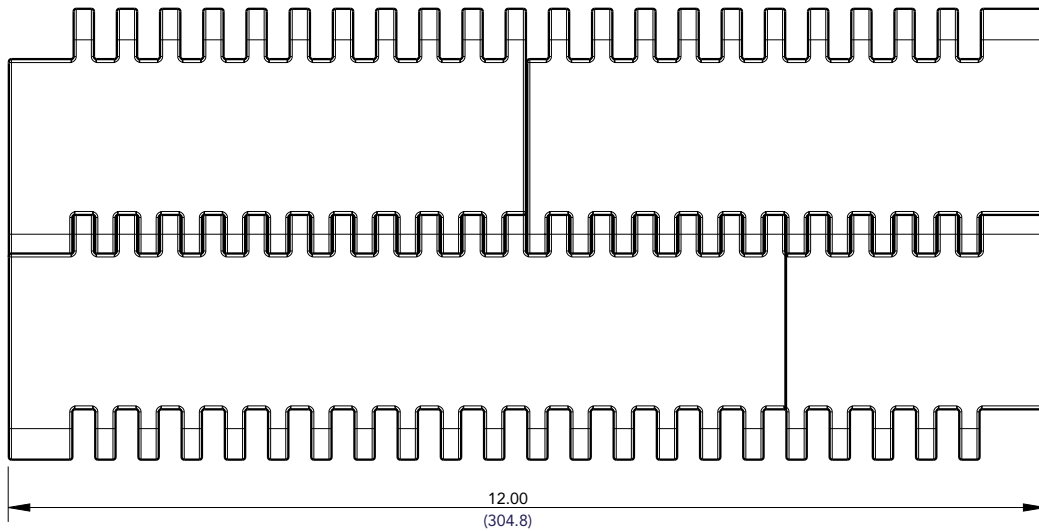
Molded to Width — 6938



MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995/6997/6999)

Assembled to Width — 6995/6997/6999



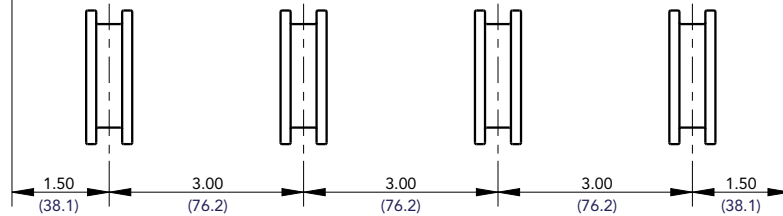
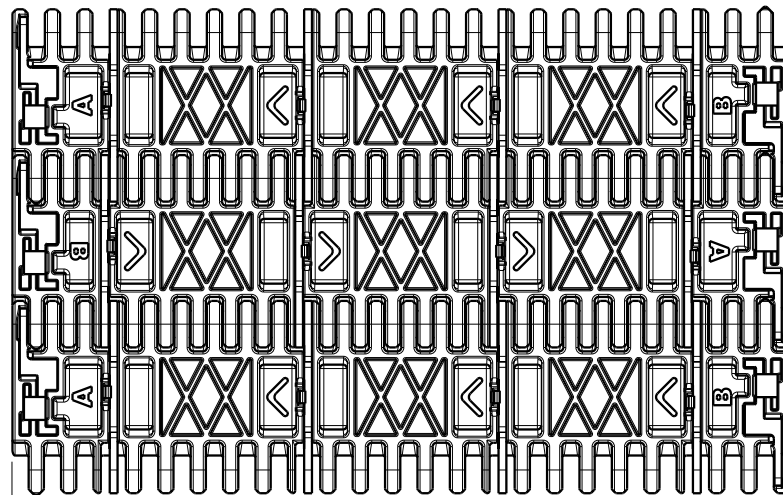
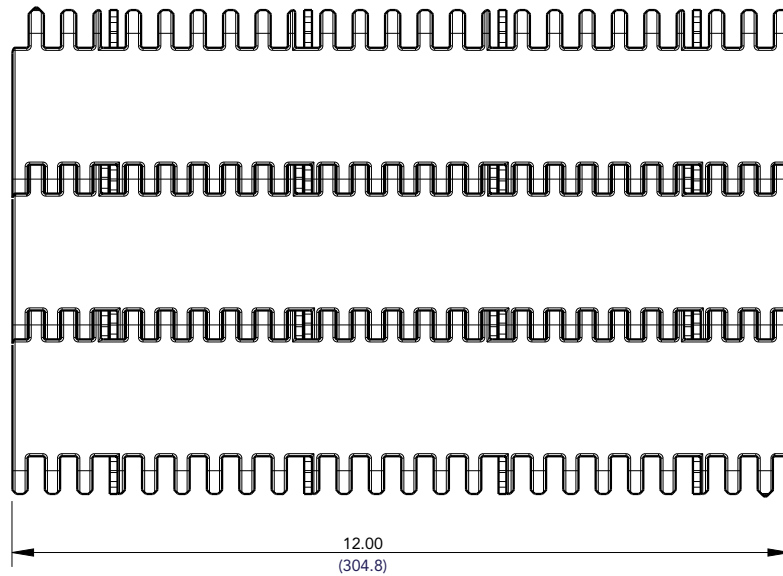
6995 — 12.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width and Molded to Width — 6995H4/6999H4

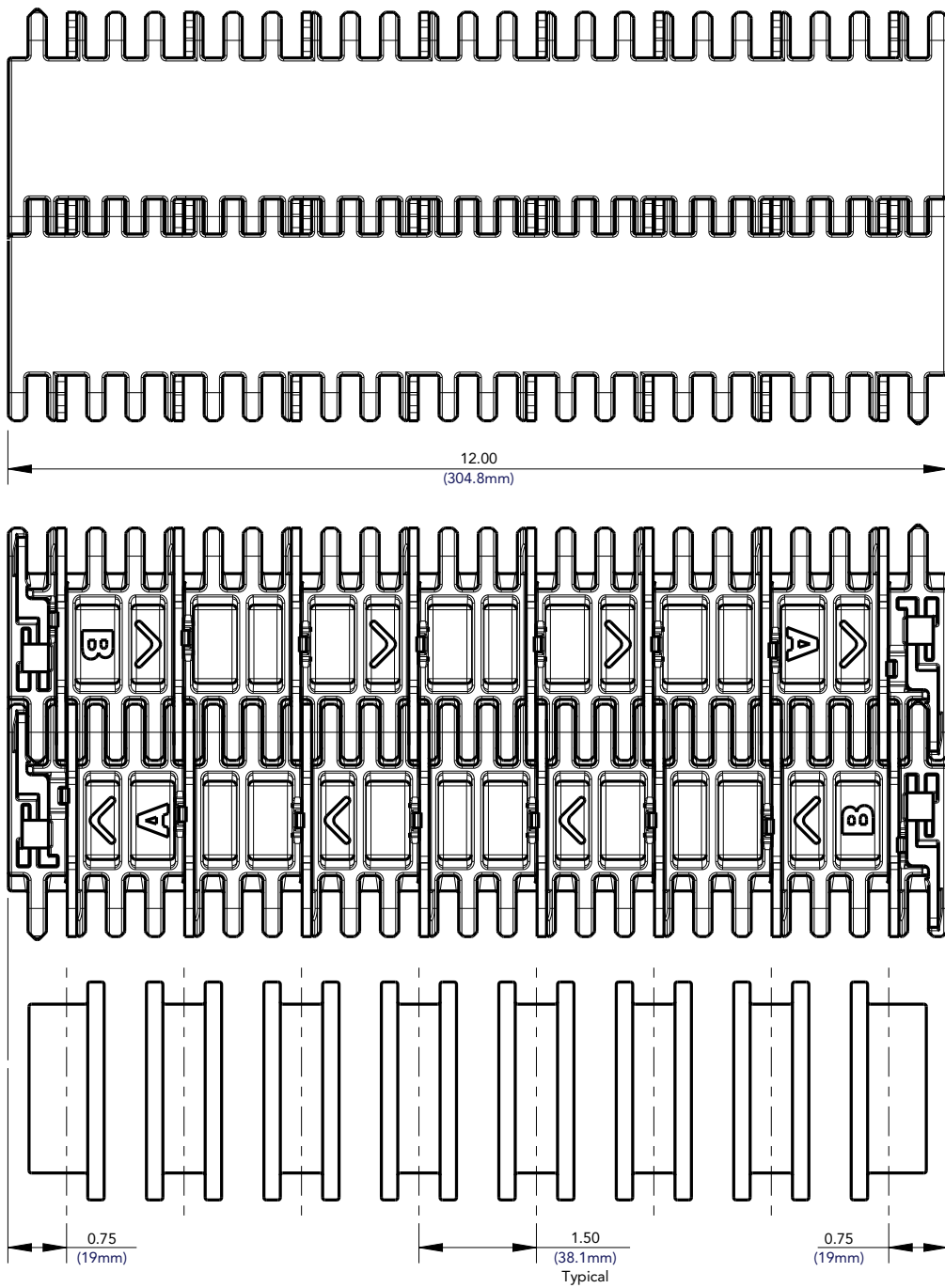


6995H4 — 12.00 in — MTW

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Molded to Width — 6995H8/6999H8 — 12.00 in



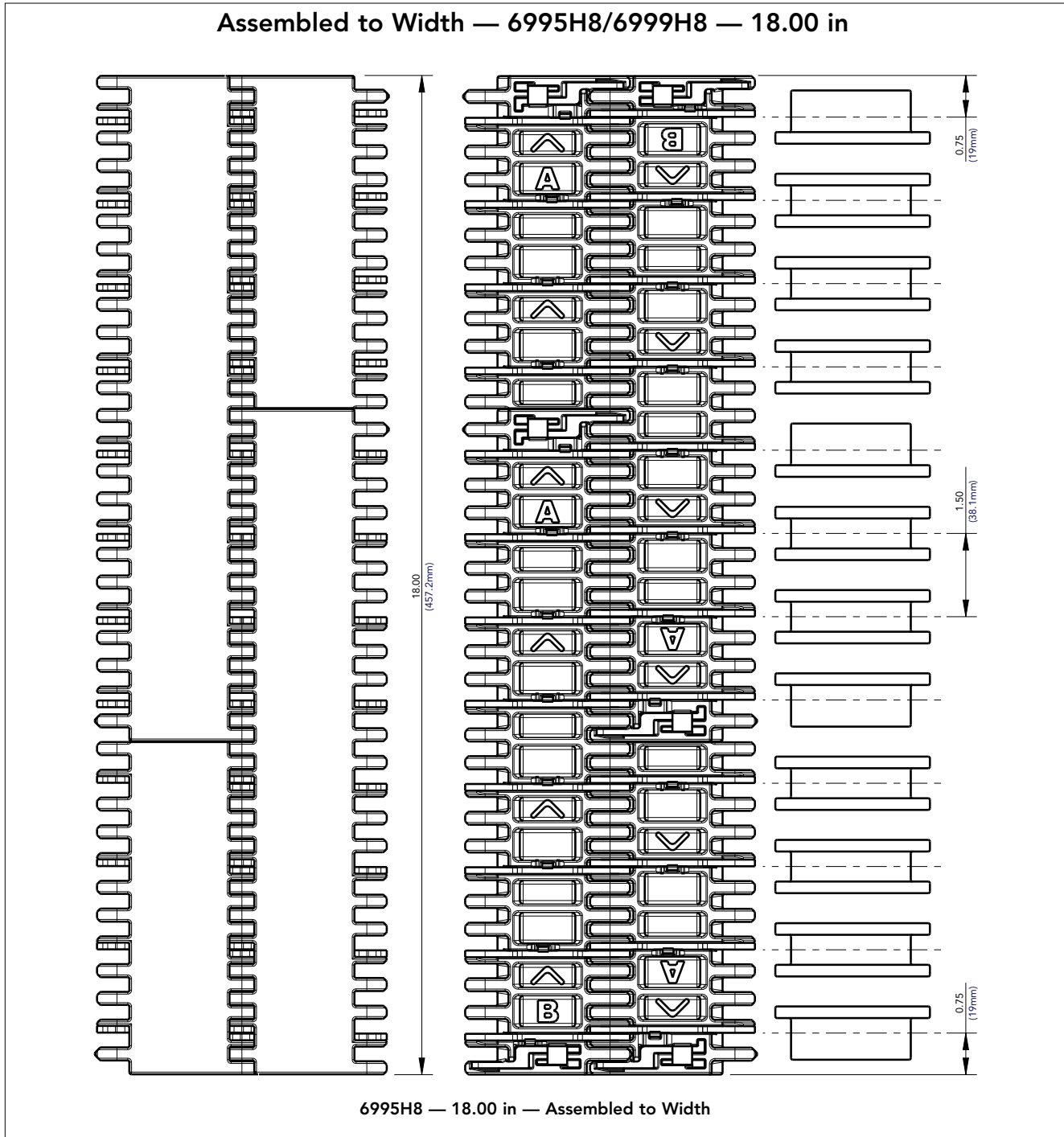
6995H8 — 12.00 in — MTW

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 18.00 in

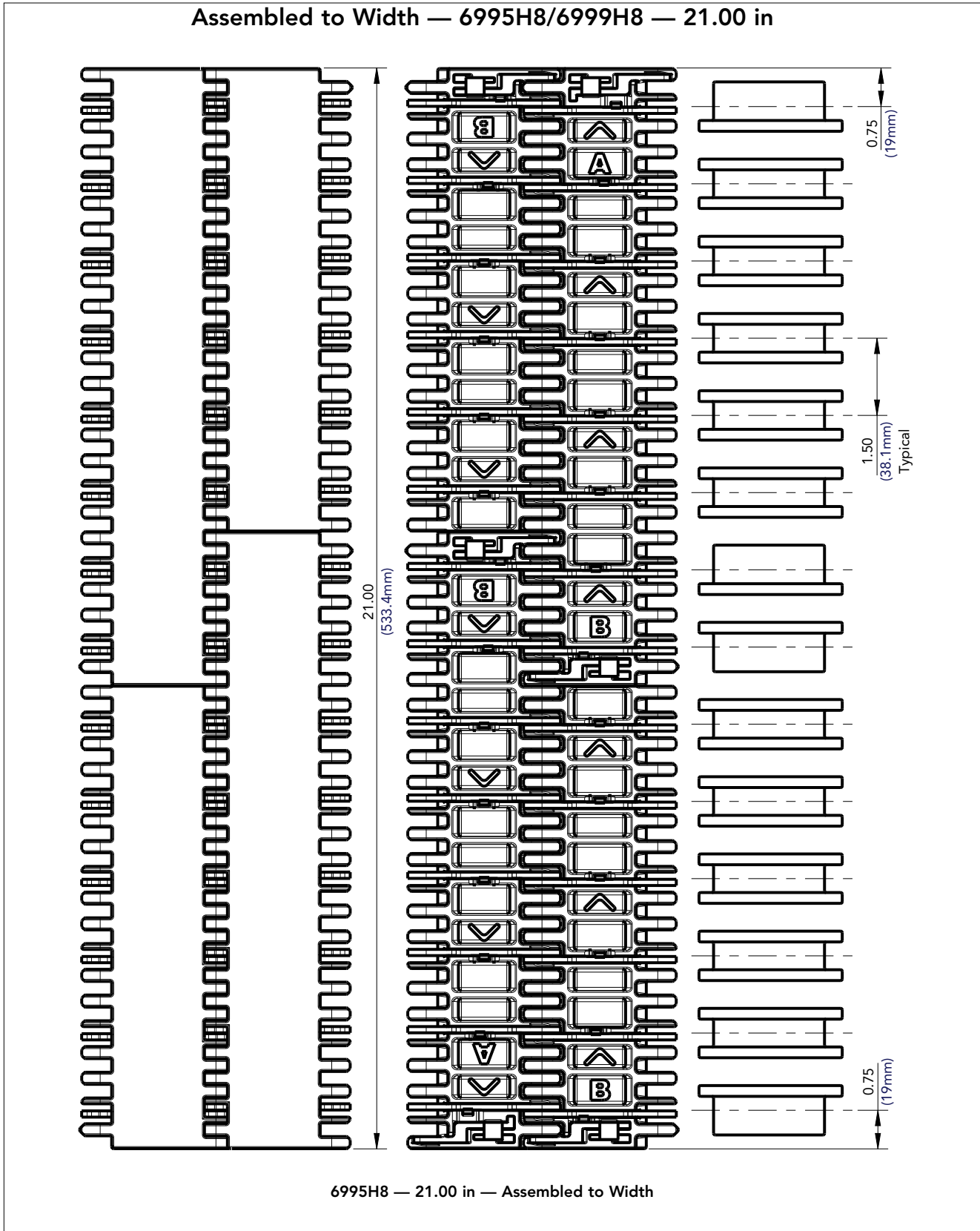


Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

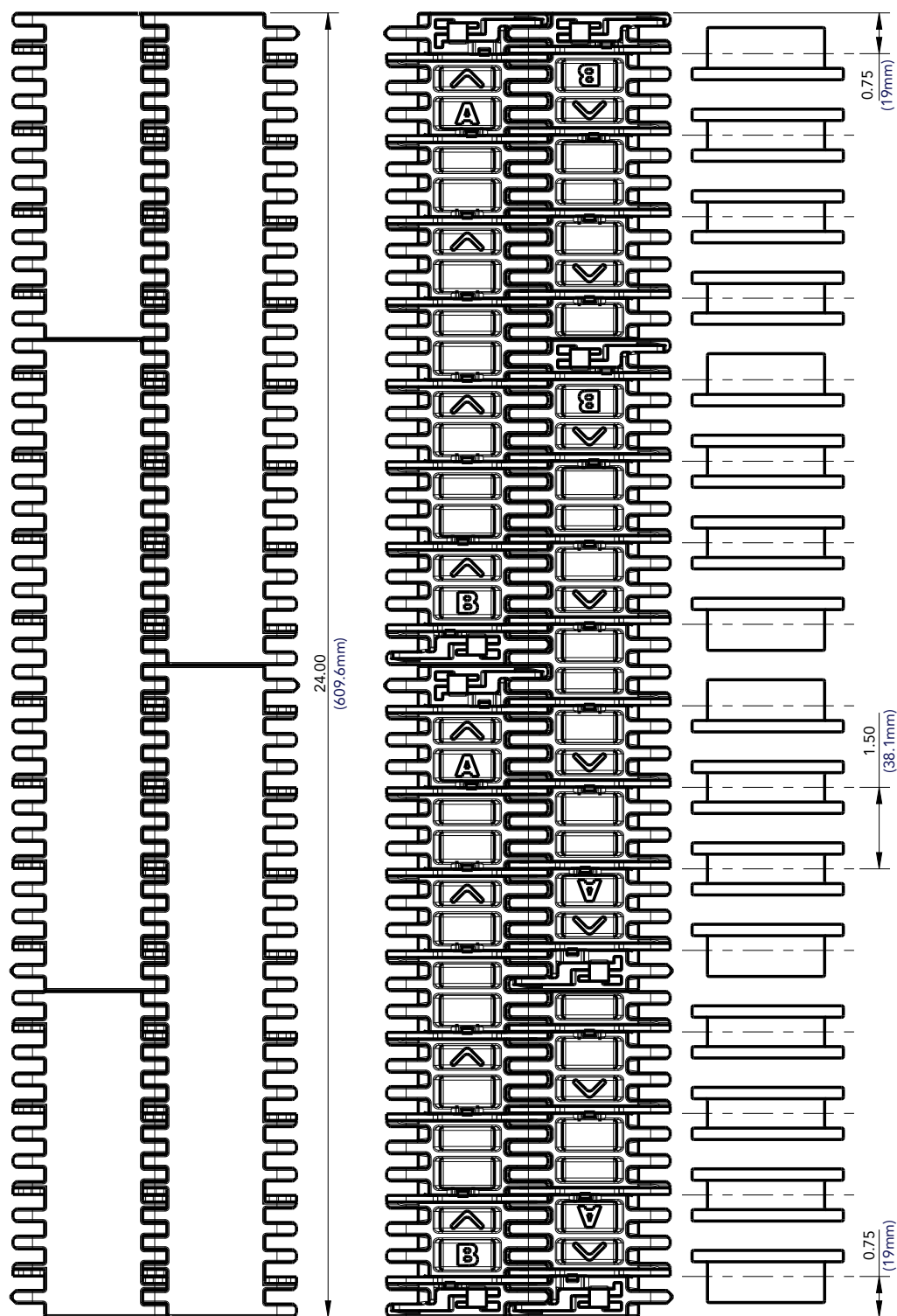
Assembled to Width — 6995H8/6999H8 — 21.00 in



MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 24.00, 36.00, 48.00, 60.00 in, etc.



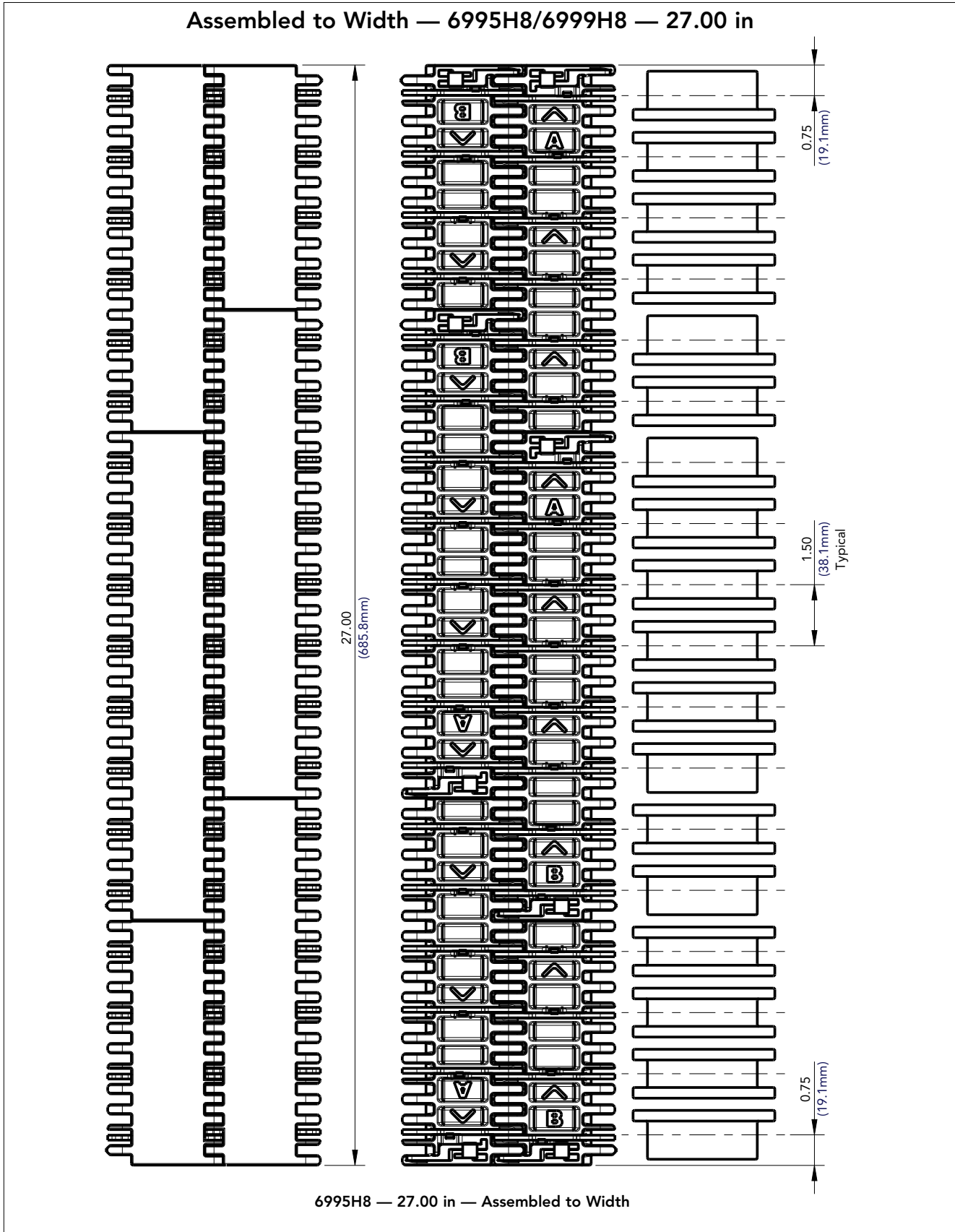
6995H8 — 24.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 27.00 in

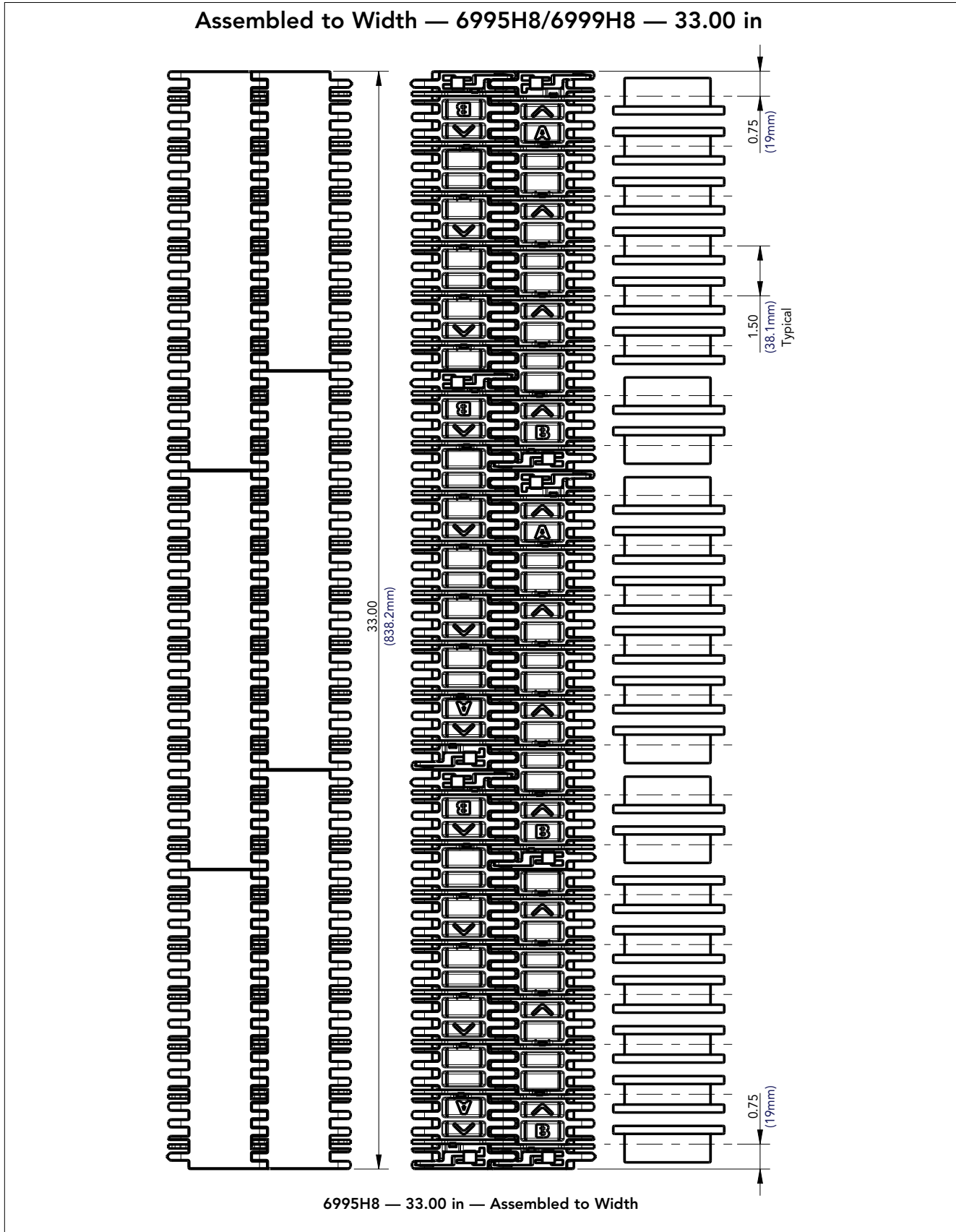


Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 33.00 in

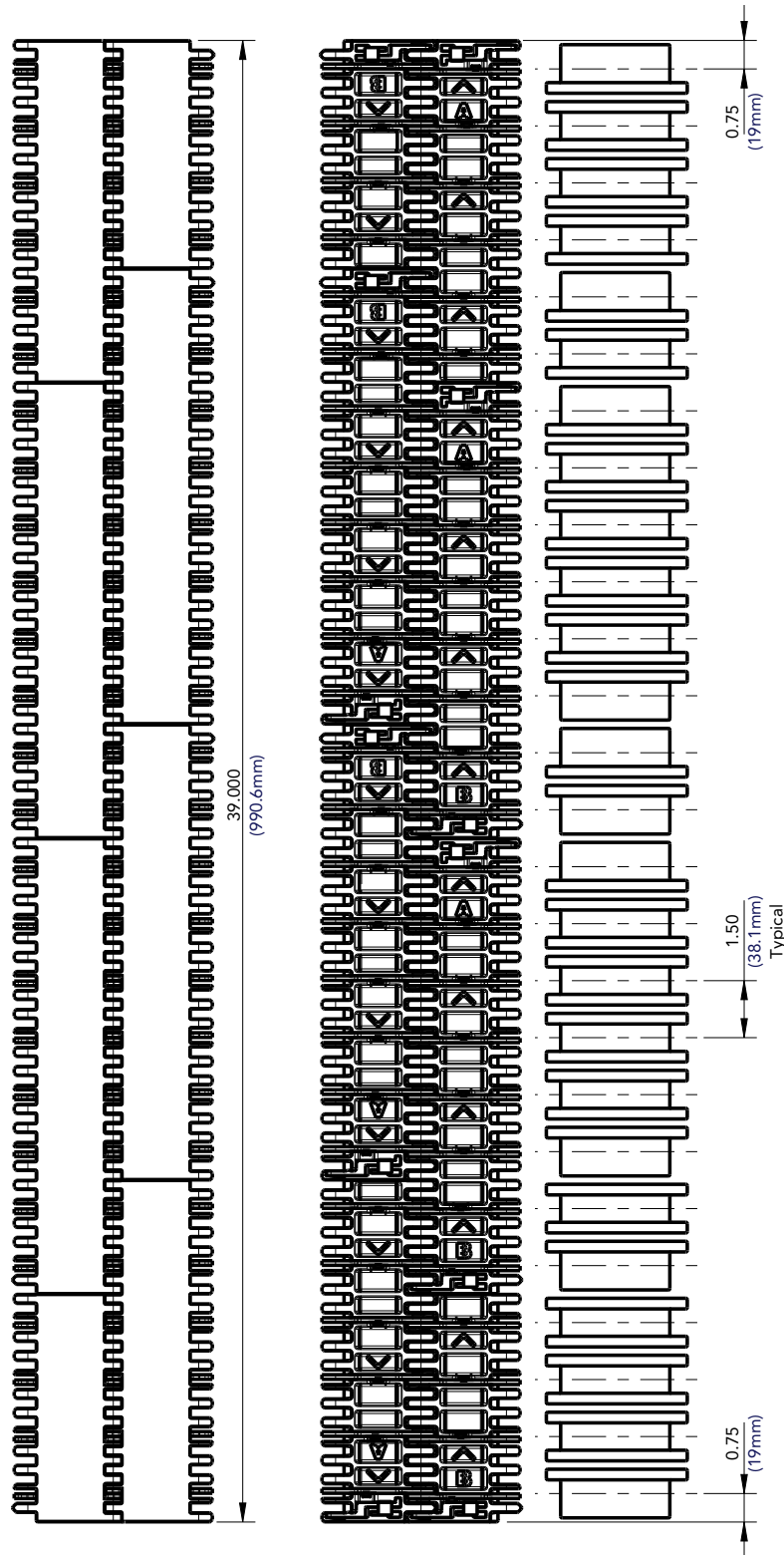


Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 39.00, 51.00, 63.00, 75.00 in, etc.



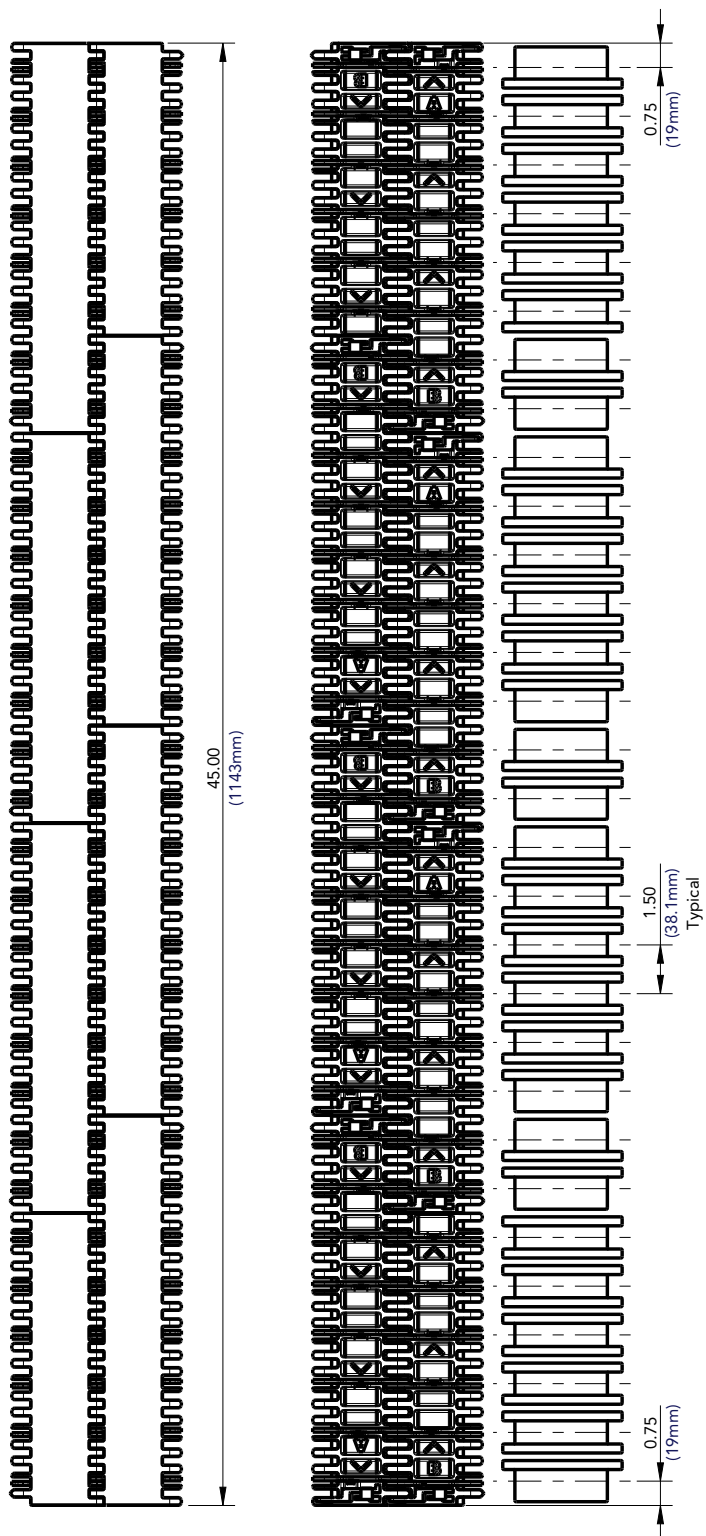
6995H8 — 39.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

6990 Chain Series (6995H4/6995H8/6999H4/6999H8)

Assembled to Width — 6995H8/6999H8 — 45.00, 57.00, 69.00, 81.00 in, etc.



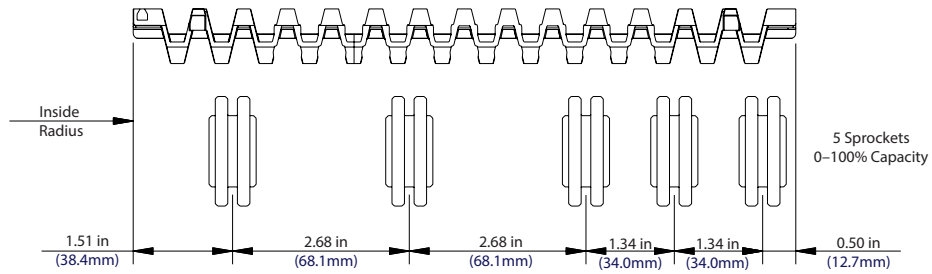
6995H8 — 45.00 in — Assembled to Width

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

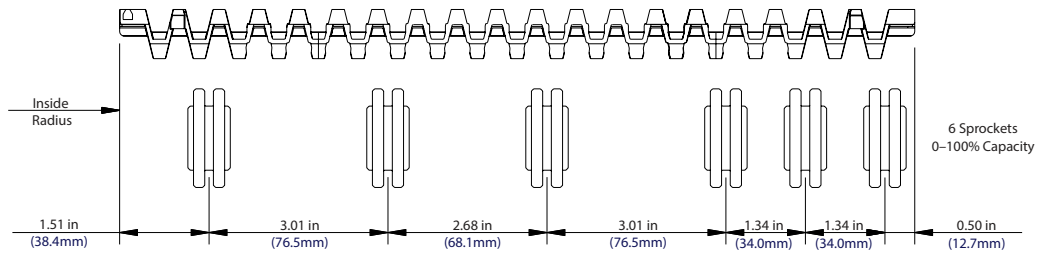
MatTop® SPROCKET LOCATIONS

7526 Chain Series (7526)

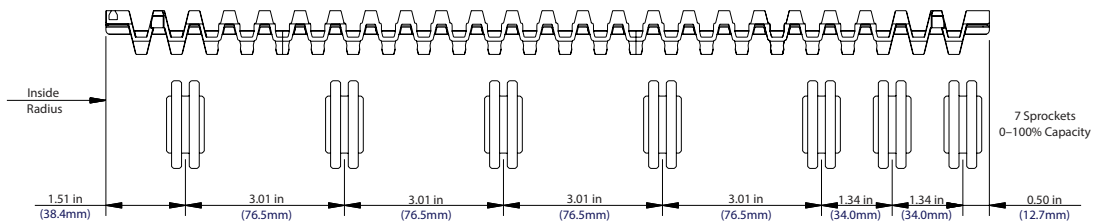
Assembled to Width — 7526



7526 — 255 mm — Assembled to Width



7526 — 340 mm — Assembled to Width



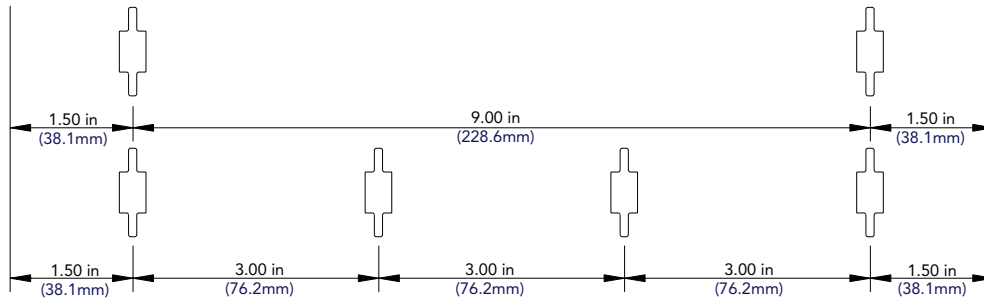
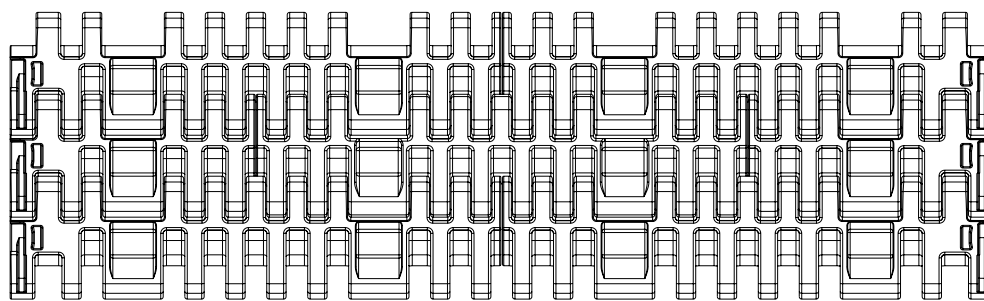
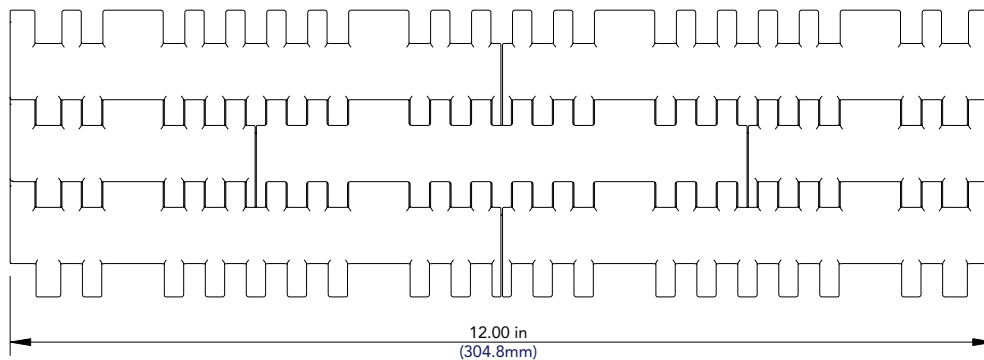
7526 — 425 mm — Assembled to Width

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MatTop® SPROCKET LOCATIONS

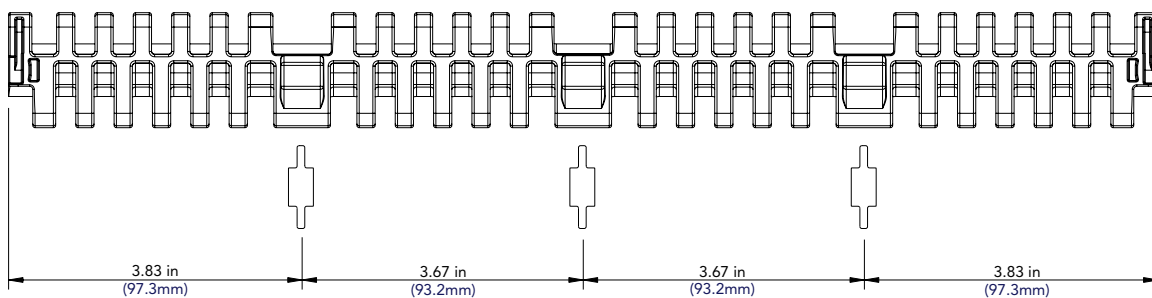
7700 Chain Series (7705/7706)

Assembled to Width — 7705/7706



7705 — 12.00 in — Assembled to Width

Molded to Width — 7705/7706



7705 — 15.00 in — MTW

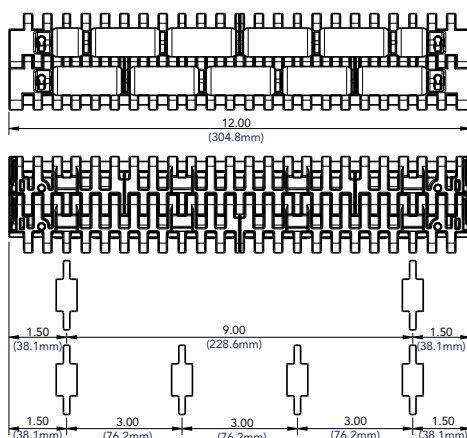
Note: 7705 MTW and 7705 ATW cannot couple.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

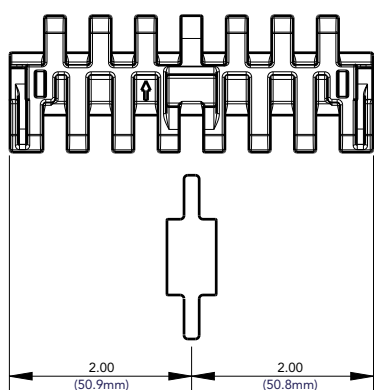
7700 Chain Series (7703/7705SG/7743)

Assembled to Width — 7703

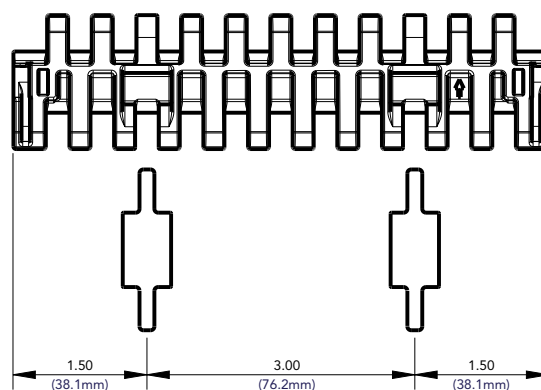


7703 — Assembled to Width

Molded to Width — 7705SG

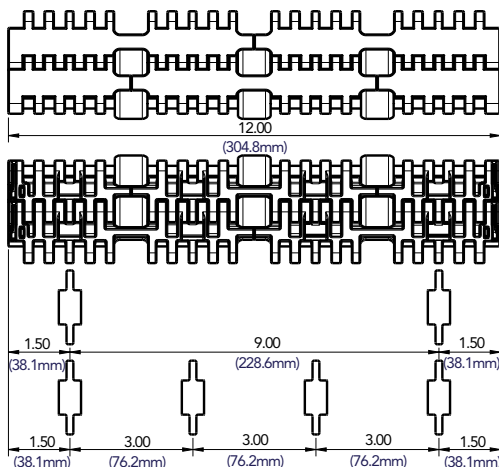


7705SG — 4.00 in — MTW



7705SG — 6.00 in — MTW

Assembled to Width — 7743



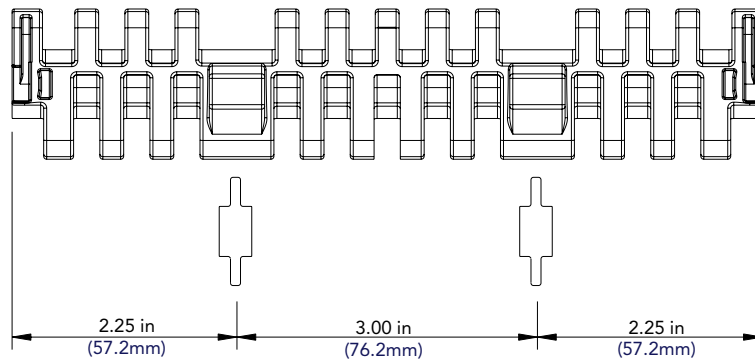
7743 — Assembled to Width

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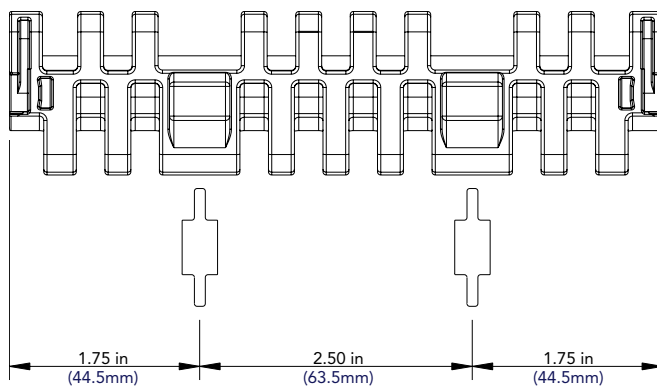
MatTop® SPROCKET LOCATIONS

7700 Chain Series (7705/7705)

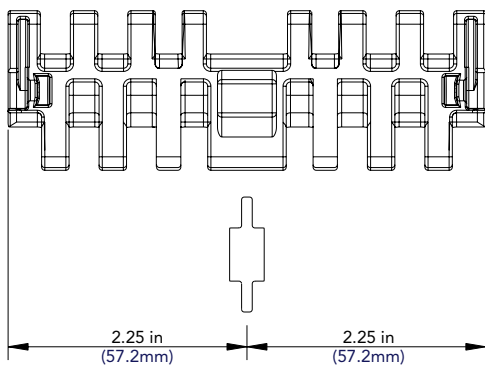
Molded to Width — 7705/7706



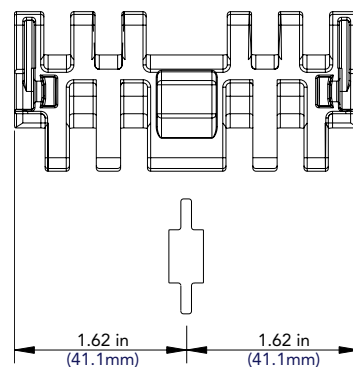
7705 — 7.50 in — MTW



7705 — 6.00 in — MTW



7705 — 4.50 in — MTW



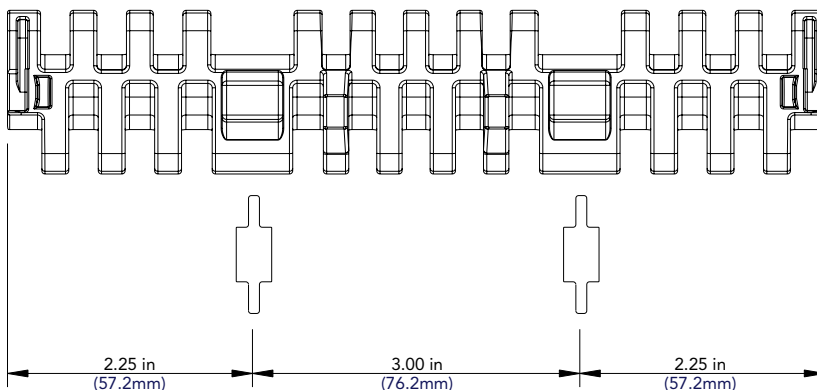
7705 — 3.25 in — MTW

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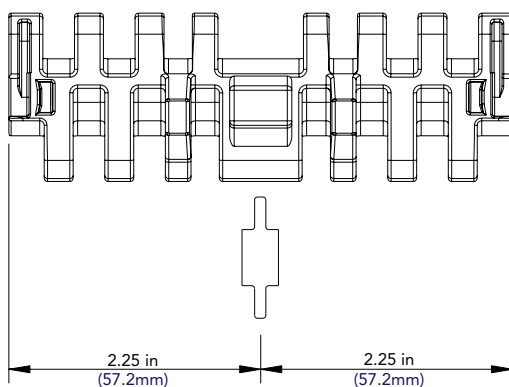
MatTop® SPROCKET LOCATIONS

7700 Chain Series with Positrack Tracking Guides (7705/7705 Metric/7706)

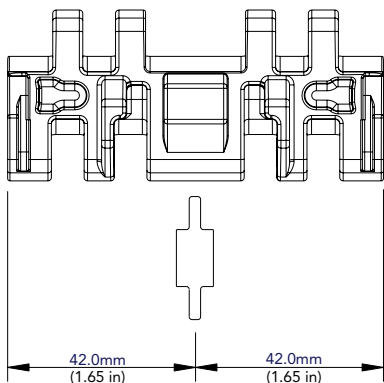
Molded to Width — 7705/7706



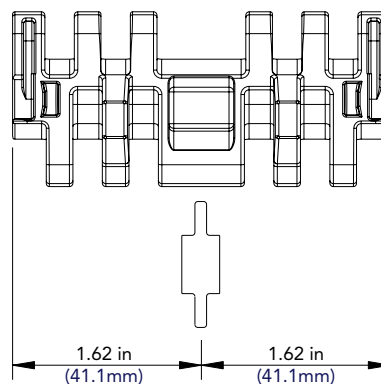
7705 — 7.50 in — MTW Positrack Tracking Guides



7705 — 4.50 in — MTW Positrack Tracking Guides



7705 — 84mm — MTW Positrack Tracking Guides

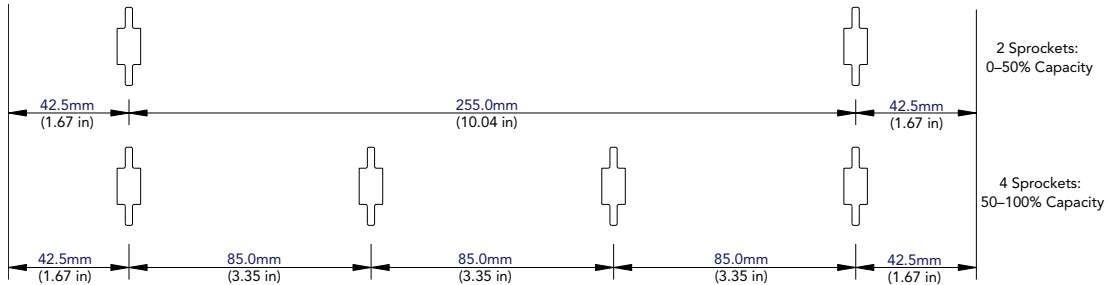
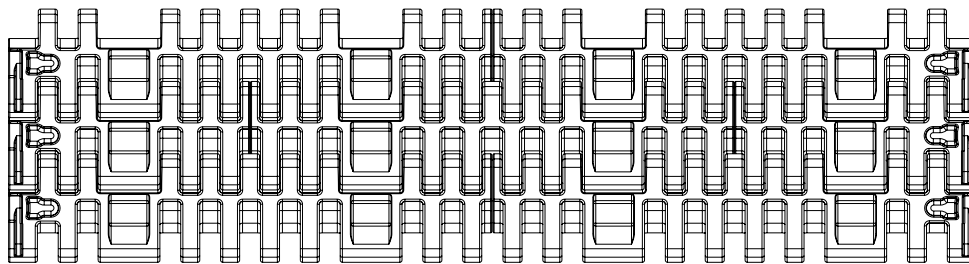
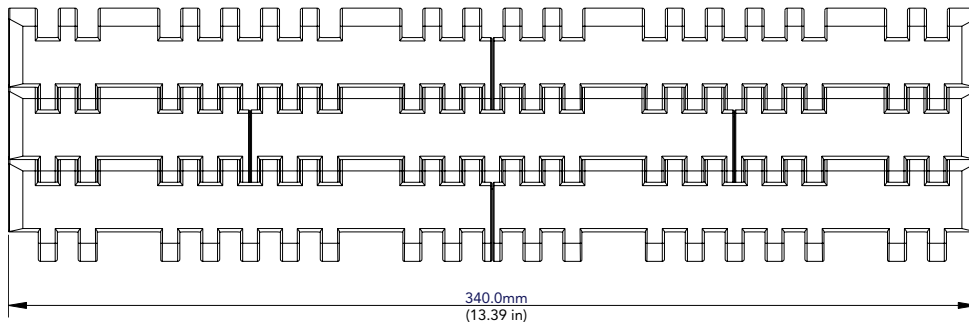


7705 — 3.25 in — MTW Positrack Tracking Guides

MatTop® SPROCKET LOCATIONS

7700 Metric Chain Series (7705)

Assembled to Width — 7705

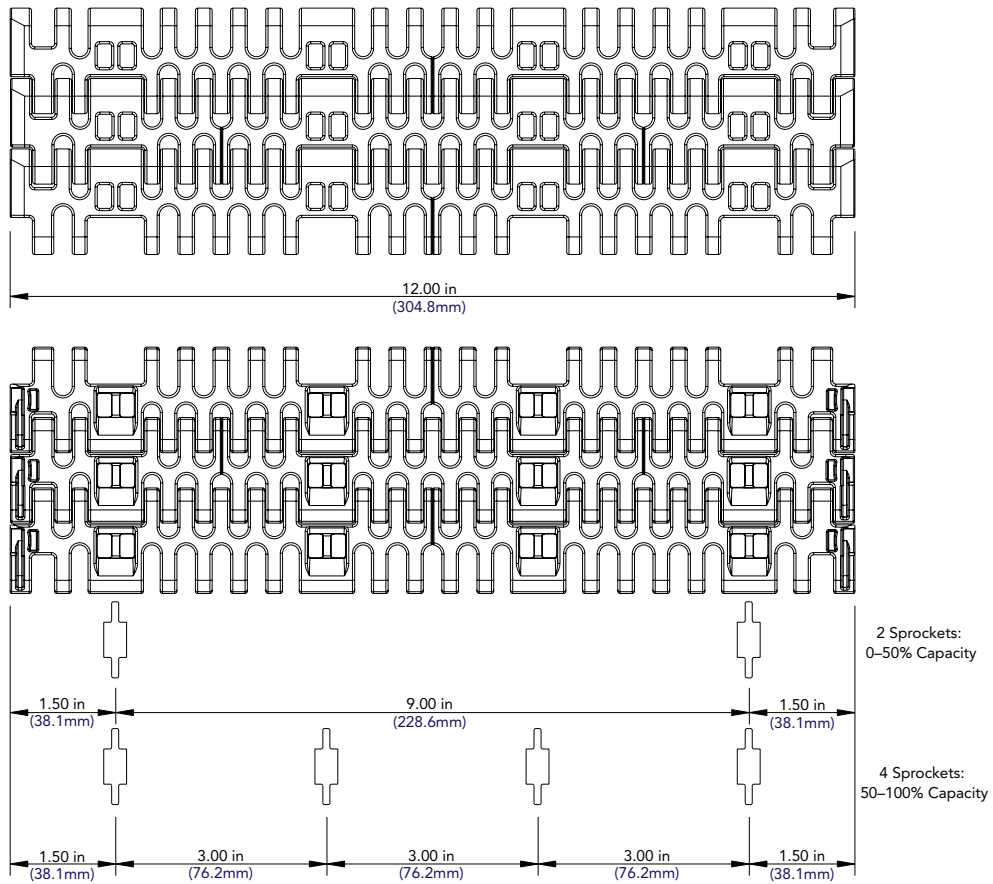


7705 — 340 mm — Assembled to Width

MatTop® SPROCKET LOCATIONS

7700 Chain Series (7708)

Assembled to Width — 7708

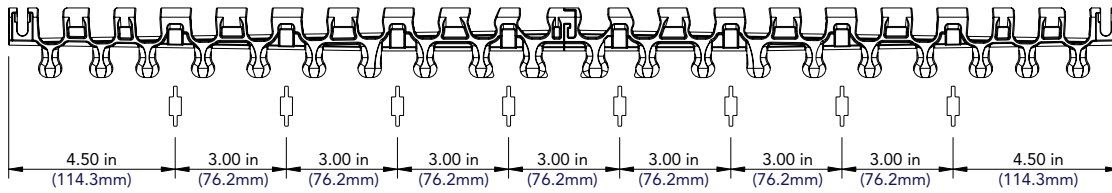


7708 — 12.00 in — Assembled to Width

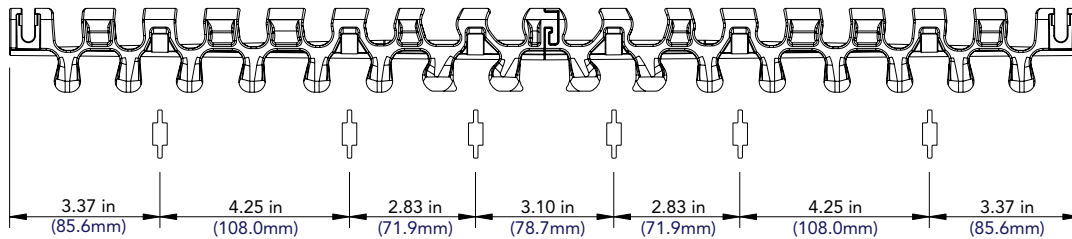
MatTop® SPROCKET LOCATIONS

7956 Chain Series (7956TAB, 7956NT, 7956B and 7956GT)

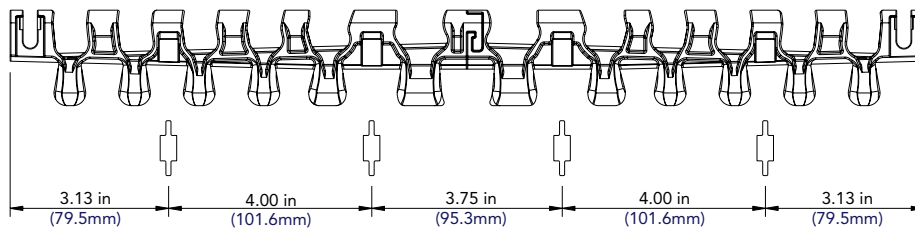
Molded to Width — 7956



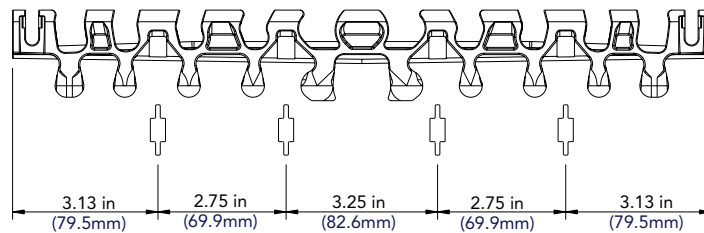
7956 — 30.00 in — MTW



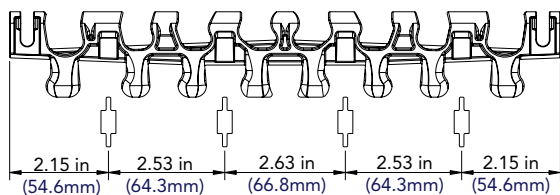
7956 — 24.00 in — MTW



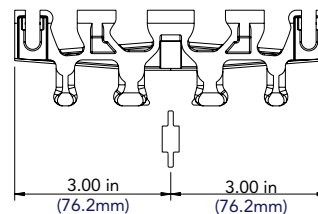
7956 — 18.00 in — MTW



7956 — 15.00 in — MTW



7956 — 12.00 in — MTW

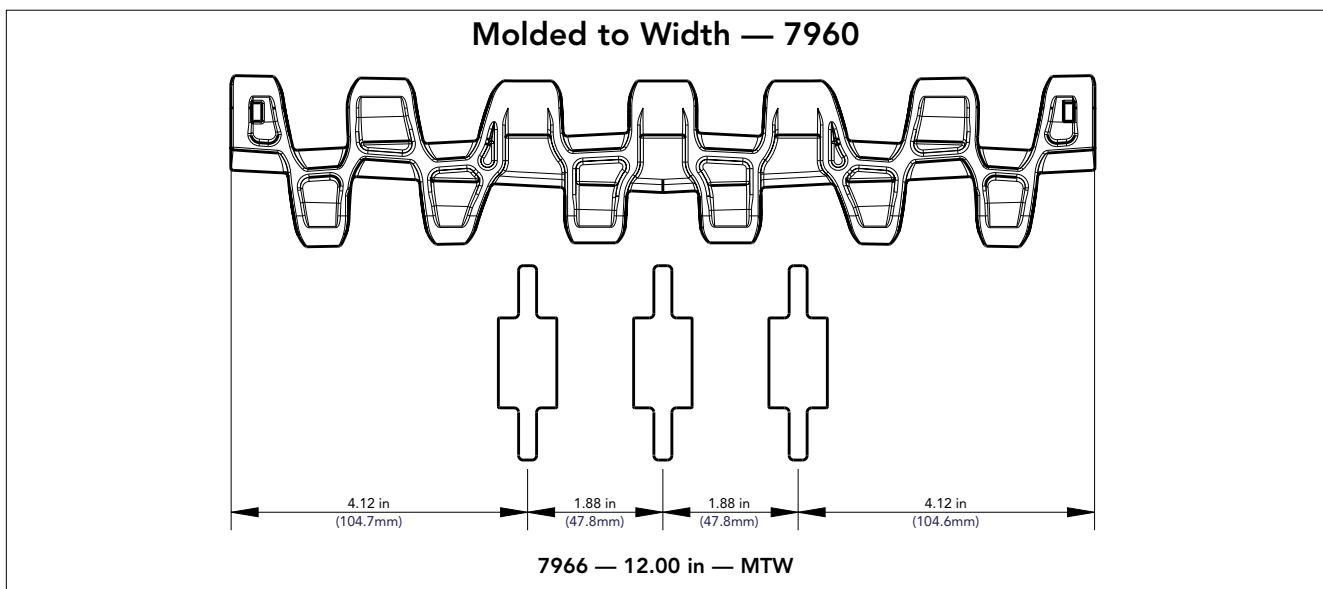
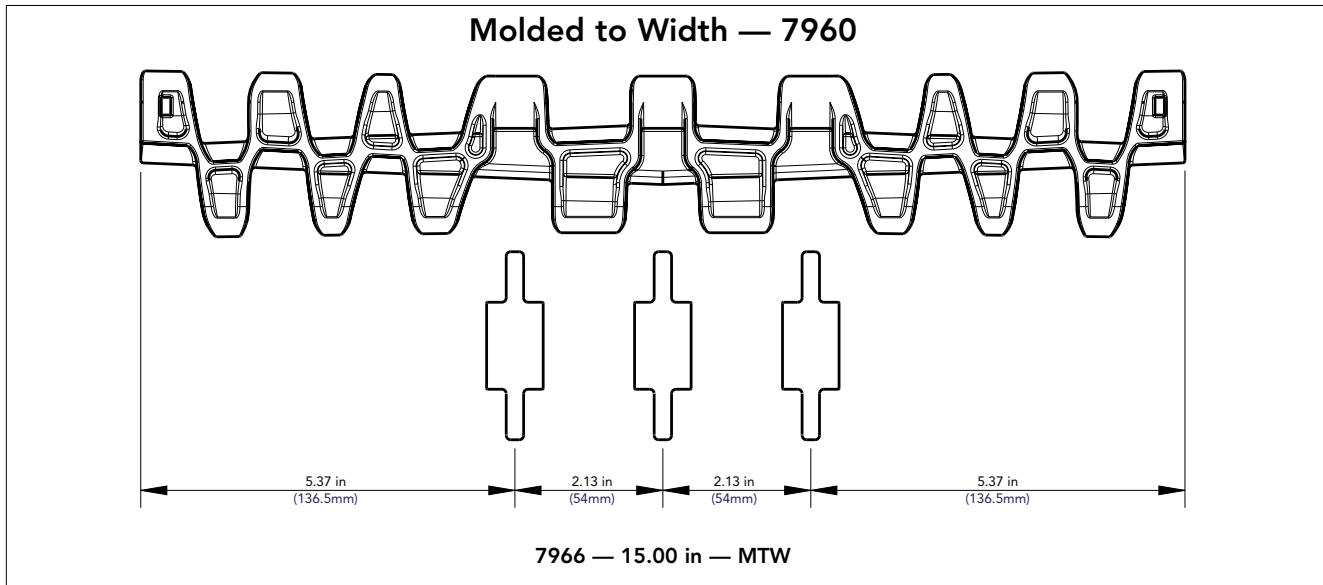


7956 — 6.00 in — MTW

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MatTop® SPROCKET LOCATIONS

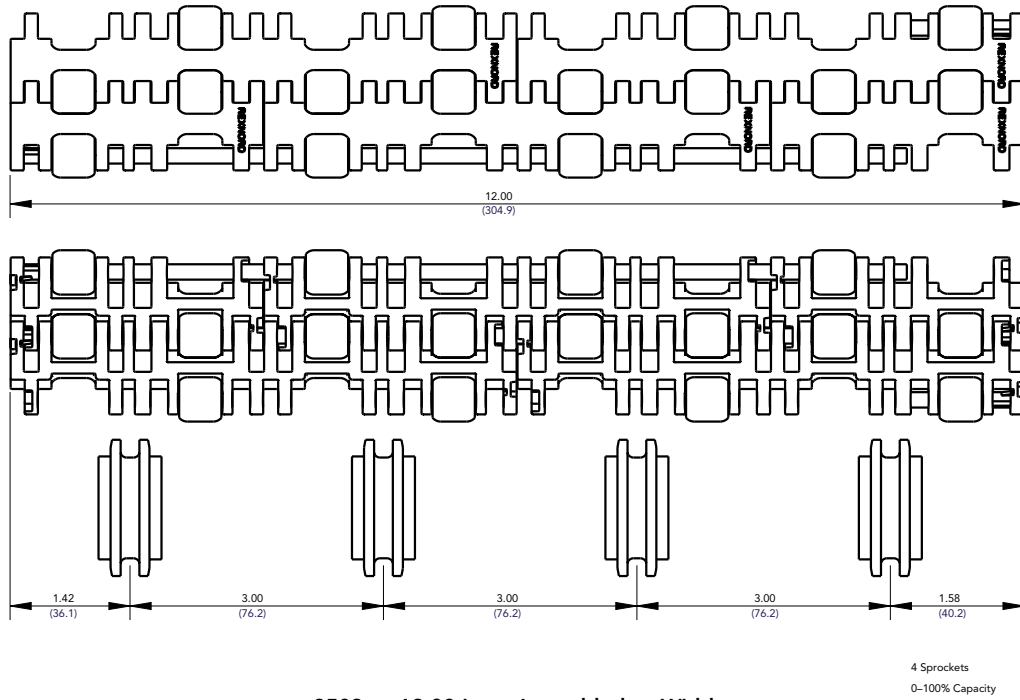
7960 Chain Series (7963NT/7963ST/7966NT/7966ST)



MatTop® SPROCKET LOCATIONS

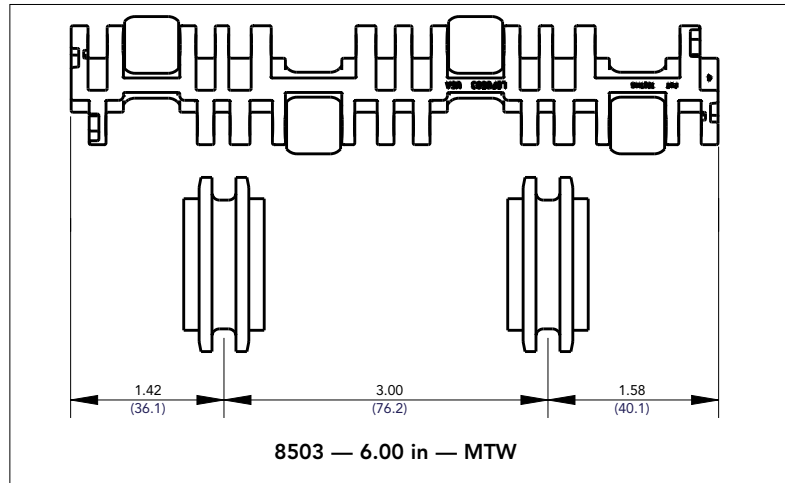
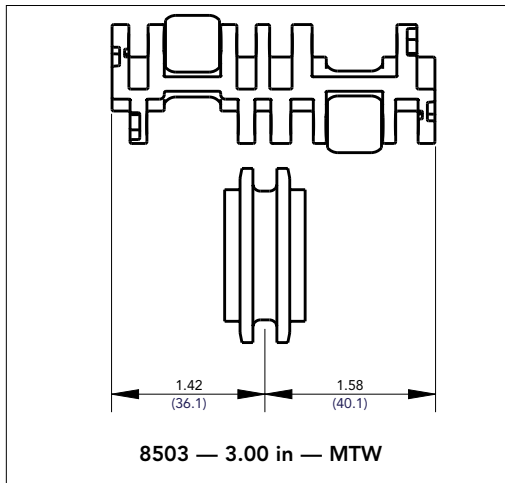
8500 Chain Series (8503)

Assembled to Width — 8503



8503 — 12.00 in — Assembled to Width

Molded to Width — 8503

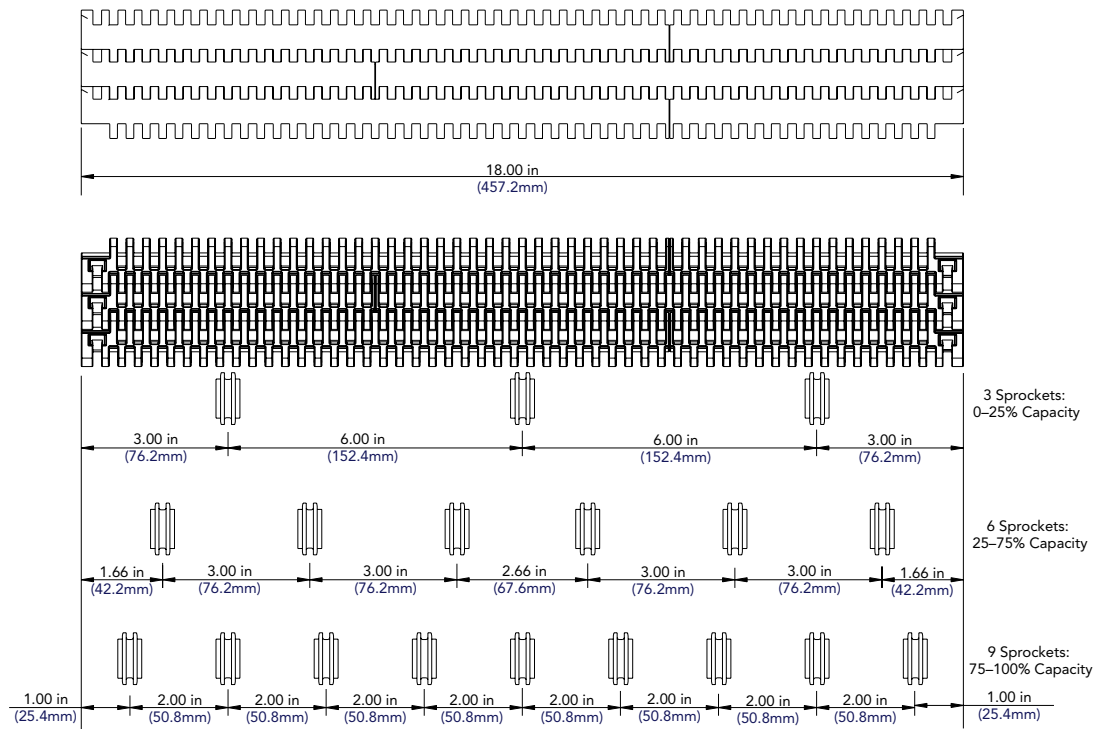


Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® SPROCKET LOCATIONS

8500 Chain Series (8505/8505RT/8506)

Assembled to Width — 8505/8505RT/8506

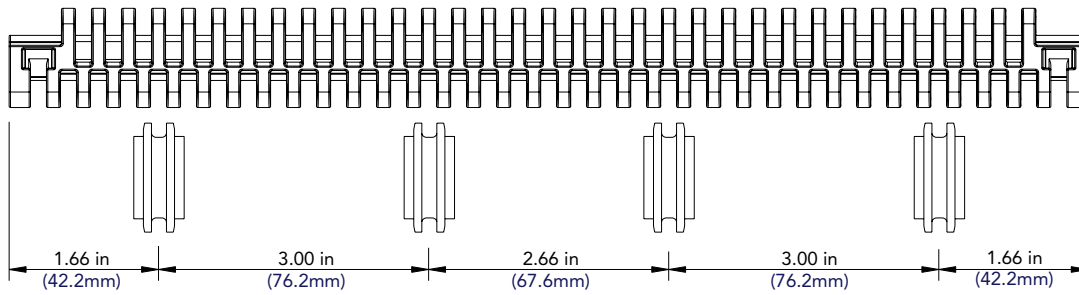


8505 — 18.00 in — Assembled to Width

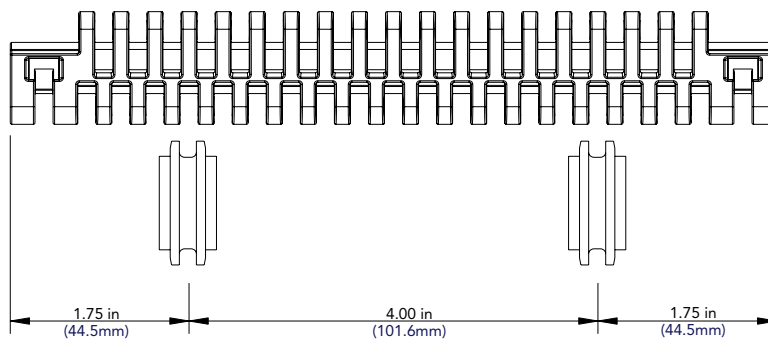
MatTop® SPROCKET LOCATIONS

8500 Chain Series (8505/8506)

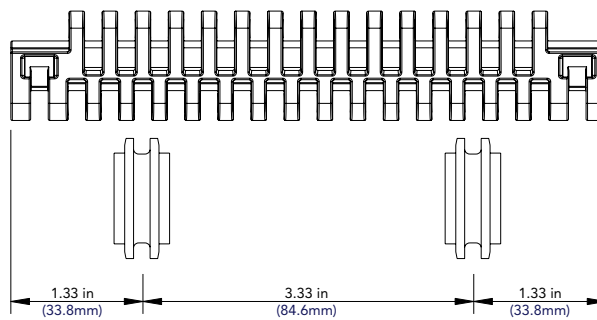
Molded to Width — 8505/8506



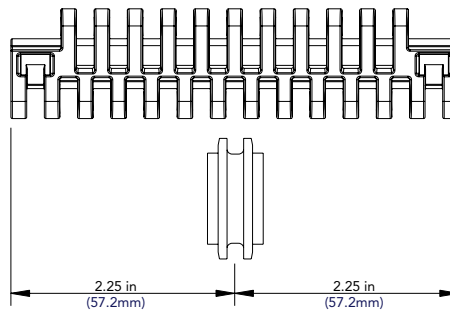
8505/8506 — 12.00 in — MTW



8505/8506 — 7.50 in — MTW



8505/8506 — 6.00 in — MTW



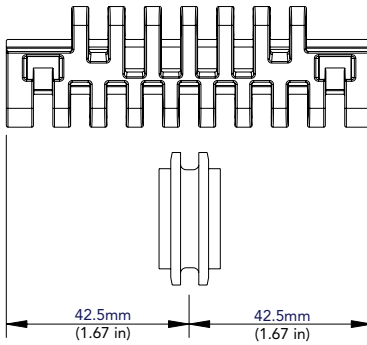
8505/8506 — 4.50 in — MTW

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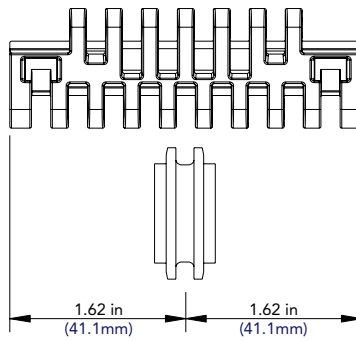
MatTop® SPROCKET LOCATIONS

8500 Chain Series (8505/8506)

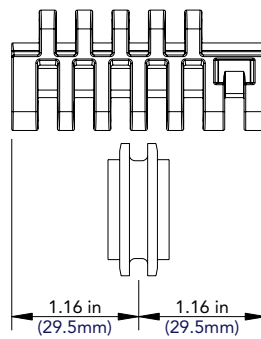
Molded to Width — 8505/8506



8505/8506 — 85 mm — MTW



8505/8506 — 3.25 in — MTW

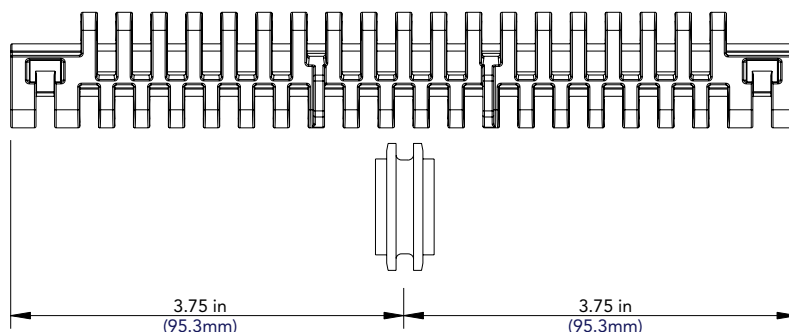


8505/8506 — 2.33 in — MTW

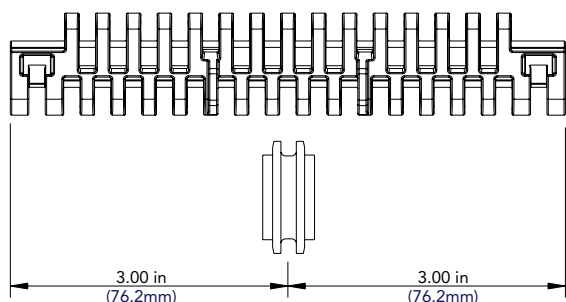
MatTop® SPROCKET LOCATIONS

8500 Chain Series with Positrac™ Tracking Guides (8505/8506/8506 Metric)

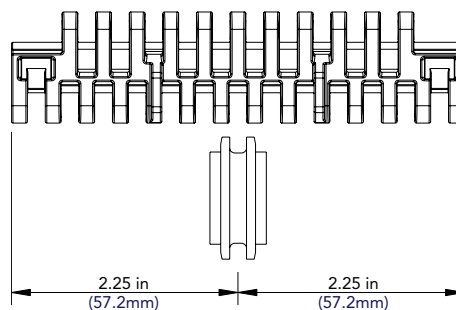
Molded to Width — 8505/8506



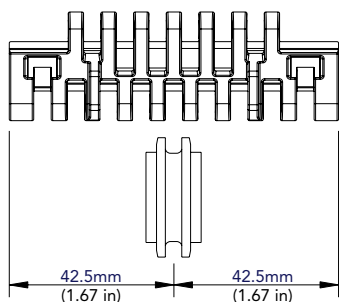
8505/8506 — 7.50 in — MTW Positrac Tracking Guides



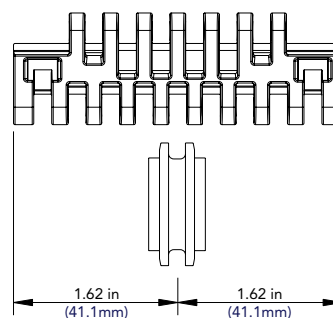
8505/8506 — 6.00 in — MTW Positrac Tracking Guides



8505/8506 — 4.50 in — MTW Positrac Tracking Guides



8505/8506 — 85 mm — MTW Positrac Tracking Guides

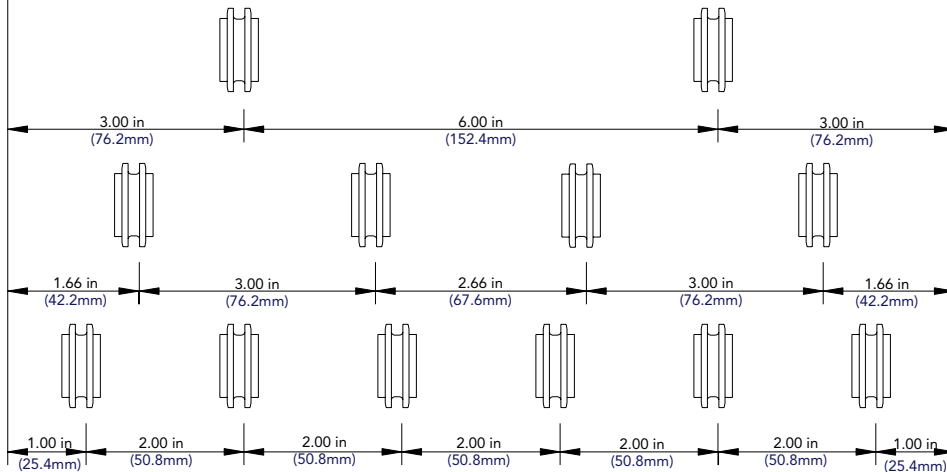
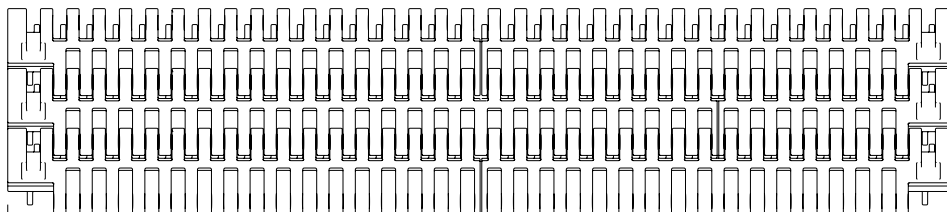
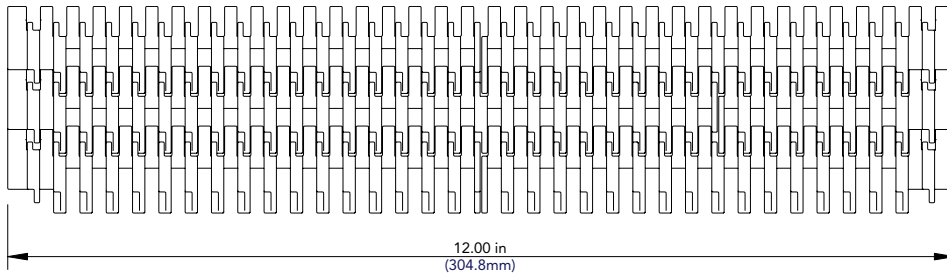


8505/8506 — 3.25 in — MTW Positrac Tracking Guides

MatTop® SPROCKET LOCATIONS

8500 Chain Series (8507)

Assembled to Width — 8507



2 Sprockets:
0-25% Capacity
(without Transfer Comb)

4 Sprockets:
25-75% Capacity
(without Transfer Comb)

4 Sprockets:
0-25% Capacity
(with Transfer Comb)

6 Sprockets:
75-100% Capacity
(without Transfer Comb)

6 Sprockets:
25-100% Capacity
(with Transfer Comb)

8507 — 12.00 in — Assembled to Width

MatTop® CALCULATION PROGRAM

The MatTop Calculation Program is available to perform chain pull calculations for specific conveyor applications.

Chain Pull Calculations

- **To obtain the most recent calculation program:**

- Download from Technical Support at:
<https://www.rexnord.com/shop/flattop-calculator-app>

- Contact Application Engineering

- **Prior to performing chain pull calculations, the following information is needed:**

- Chain style, material and width
- Drive configuration (i.e. end drive, bottom drive)
- Wearstrip material
- Corner track material (if utilizing a side-flexing chain)
- Lubrication conditions (i.e. dry, water, soap and water, oil)
- Chain speed (FPM) or (MPM)
- Product weight (lbs/ft²) or (kg/m²)
- Product material
- Percent of time product accumulation occurs (i.e. slippage)
- Portion of conveyor where product accumulation occurs
- Conveyor layout with dimensions
- Change in elevation
- Sprocket pitch diameter

- **The calculation output sheet contains the following information:**

- Maximum allowable headshaft chain tension (per temperature)
- Percent of allowable chain tension (per temperature)
- Number of sprockets required per shaft
- Tension per chain width
- Total horsepower required with an assumed gearbox efficiency of 100%
- Total torque required
- Minimum shaft diameter required

Note: If the percent of allowable chain tension is 100% or less, your conveyor application is within chain capacity.

NOTICE The horsepower requirement the program calculates is the “design horse power” that is required to power the conveyor based on the input parameters. Additional considerations should be made for the type of drive used, efficiency losses in the power train, appropriate service factors, as well as any gearbox manufacturer’s recommendations.

NOTICE Regal Rexnord recommends some sort of soft start for all FlatTop® chain conveyor motors, but especially for higher speeds and conveyors with bottom drives. Hard starts add peak loads to the chain, which will shorten the service life. Hard starts can also cause the chain to stretch and bounce in the catenary sag section, sometimes causing the chain to catch in the conveyor frame and become damaged. On bottom drives, hard starts can cause the chain to fall off the drive sprockets and skip teeth.

- **For a side-flexing conveyor, the calculation output sheet contains the following information:**

- Calculated corner tension (PV)
- Maximum allowable corner tension

Note: If the calculated corner tension is less than the maximum allowable corner tension, your conveyor application is within chain PV capacity.

- **The MatTop Calculation Program calculates the following:**

- MatTop conveyor and shafting analysis
- Catenary sag vs. length vs. tension
- Catenary sag vs. length vs. excess chain
- Product backline pressure (due to accumulation)

Note: The MatTop Calculation Program does not take environmental conditions into consideration. This calculation program **ONLY** provides information on whether the chain is within capacity.

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MatTop® CALCULATION PROGRAM

IMPORTANT FORMULAS (Metric)

<p>Conveyor Speed</p> <p>Containers/m = $\frac{1000 \text{ mm/m}}{\text{Dia. or Length of Container (mm)}}$</p> <p>m/min = $\frac{\text{CPM}}{\text{Containers/m}}$</p>	<p>Product Weight</p> <p>kg/m = Containers/m x kg/Container</p>
<p>Mass Flow:</p> <p>MatTop Chain: Containers/m² = $\frac{1,150,000}{\text{Dia. (mm)}^2}$</p> <p>m/min = $\frac{\text{CPM}}{\text{Containers/m}^2 \times (\text{Width [mm]}/1000 \text{ mm/m})}$</p> <p>Note: For TableTop Chain: Conveyor Width = # of Strands x Flight Width (mm)</p>	<p>For MatTop Chain: kg/m² = Containers/m² x kg/Container</p> <p>For TableTop Chain: kg/m = Containers/m² x kg/Container x (Flight Width [mm]/1000mm/m)</p>
<p>Bulk Flow:</p> <p>kg/min = $\frac{\text{Tonnes/hour} \times 1000 \text{ kg/Tonne}}{60 \text{ min/hour}}$</p> <p>m/min = $\frac{\text{Density (kg/m}^3\text{)} \times \text{H (m)} \times \text{W (m)}}{\text{kg/min}}$</p>	<p>kg/m² = Density (kg/m³) x H (m)</p>
<p>Knowing Headshaft RPM:</p> <p>m/min = $\frac{\text{Eff. Spk1 Teeth (n)} \times \text{Pitch (mm)} \times \text{RPM}}{1000 \text{ mm/m}}$</p> <p>OR:</p> <p>~ $\frac{\text{P.D. (mm)} \times \text{Pl} \times \text{RPM}}{1000 \text{ mm/m}}$</p>	
<p>Power</p> <p>KW = $\frac{\text{Chain Pull (N)} \times \text{m/min}}{60,000}$</p> <p>OR:</p> <p>= $\frac{\text{Torque (N-m)} \times \text{RPM}}{9550}$</p>	<p>NOTES ON POWER:</p> <p>For TableTop Chain: Chain Pull = chain tension x # of strands where chain tension is in newtons</p> <p>For MatTop Chain: Chain Pull = chain tension x chain width (m) where chain tension is in N/m of MatTop chain width</p> <p>Remember to apply appropriate service factors and take drive train efficiencies into account.</p>
<p>Sprocket Dimensions</p> <p>Spkt P.D. = $\frac{\text{Chain Pitch (mm)}}{\text{SIN (180/n)}}$</p>	

IMPORTANT FORMULAS (Imperial)

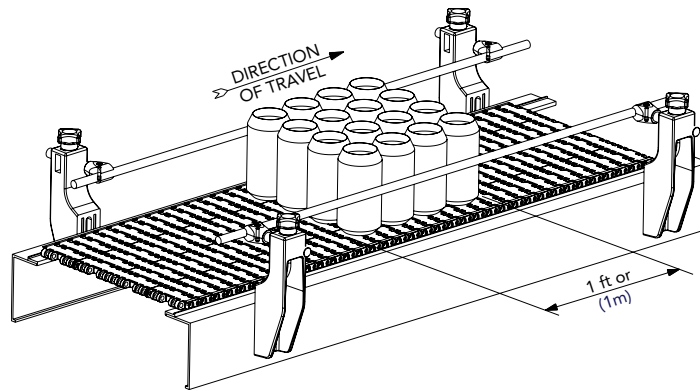
<p>Conveyor Speed</p> <p>Containers/ft = $\frac{12 \text{ in/ft}}{\text{Dia. or Length of Container (in)}}$</p> <p>FPM = $\frac{\text{CPM}}{\text{Containers/ft}}$</p>	<p>Product Weight</p> <p>lbs/ft = Containers/ft x lbs/Container</p>
<p>Mass Flow:</p> <p>Containers/ft² = $\frac{166,277}{\text{Dia. (in)}^2}$</p> <p>FPM = $\frac{\text{CPM}}{\text{Containers/ft}^2 \times (\text{Width [in]}/12 \text{ in/ft})}$</p> <p>Note: For TableTop Chain: Conveyor Width = # of Strands x Flight Width (in)</p>	<p>For MatTop Chain: lbs/ft² = Containers/ft² x lbs/Container</p> <p>For TableTop Chain: lbs/ft = Containers/ft² x lbs/Container x (Flight Width [in]/12in/ft)</p>
<p>Bulk Flow:</p> <p>lbs/min = $\frac{\text{IPH} \times 2000 \text{ lbs/ton}}{60 \text{ min/hour}}$</p> <p>FPM = $\frac{\text{Density (lbs/ft}^3\text{)} \times \text{H (ft)} \times \text{W (ft)}}{\text{lbs/min}}$</p>	<p>lbs/ft² = Density (lbs/ft³) x H (ft)</p>
<p>Knowing Headshaft RPM:</p> <p>FPM = $\frac{\text{Eff. Spk1 Teeth (n)} \times \text{Pitch (in)} \times \text{RPM}}{12 \text{ in/ft}}$</p> <p>OR:</p> <p>~ $\frac{\text{P.D. (in)} \times \text{Pl} \times \text{RPM}}{12 \text{ in/ft}}$</p>	
<p>Horsepower</p> <p>HP = $\frac{\text{Chain Pull (lbs)} \times \text{FPM}}{33,000}$</p> <p>OR:</p> <p>= $\frac{\text{Torque (ft/lb)} \times \text{RPM}}{5252}$</p>	<p>NOTES ON HORSEPOWER:</p> <p>For TableTop Chain: Chain Pull = chain tension x # of strands Where chain tension is in lbs</p> <p>For MatTop Chain: Chain Pull = chain tension x chain width (ft) Where chain tension is in lbs/ft of MatTop chain width</p> <p>Remember to apply appropriate service factors and take drive train efficiencies into account.</p>
<p>Sprocket Dimensions</p> <p>Spkt P.D. = $\frac{\text{Chain Pitch (in)}}{\text{SIN (180/N)}}$</p>	

MatTop® CALCULATION PROGRAM

Calculating Chain Speed, Given Production Output

• Unit Handling

- When handling individual containers or packages, the speed of MatTop Chain is determined using the same method as for TableTop Chain (see **pages 43 - 47**). Likewise, the product weight is figured in the same manner, with one exception: for en masse (in mass) conveyors, always use the product weight per area (ft² or m²), regardless of the actual chain width.



• Example:

An incline dewatering belt must run tomatoes at a speed of 100 tons per hour (TPH) (90,7 tonnes per hour). The density of the tomatoes is 65 lbs/ft³ (1041 kg/m³). The chain width is 3.00 ft (0,91 m) and the estimated average height of the product on the incline is 0.25 ft (0,08 m).

- Initial chain selection = HUV5998-36 in w/ F4 Pusher Flights every 6th Pitch

Imperial:

$$\text{lbs/min} = \frac{\text{TPH} \times 2000 \text{ lbs/ton}}{60 \text{ min/hour}} = \frac{100 \times 2000}{60} = 3,333 \text{ lbs/min}$$

$$\text{Chain Speed (FPM)} = \frac{\text{lbs/min}}{\text{Density (lbs/ft}^3\text{)} \times \text{H (ft)} \times \text{W (ft)}} = \frac{3,333}{65 \times 0.25 \times 3.00} = 68 \text{ FPM}$$

Metric:

$$\text{kg/min} = \frac{\text{Tonnes/hour} \times 1000 \text{ kg/tonne}}{60 \text{ min/hour}} = \frac{90,7 \times 1000}{60} = 1512 \text{ kg/min}$$

$$\text{Chain Speed (MPM)} = \frac{\text{kg/min}}{\text{Density (kg/m}^3\text{)} \times \text{H (m)} \times \text{W (m)}} = \frac{1512}{1041 \times 0,08 \times 0,91} = 20 \text{ MPM}$$

Note: The actual conveyor speeds are usually about 10–15% faster than the calculated required speed in order to provide good “product take-away” from the adjacent machinery.

MatTop® CALCULATION PROGRAM

Calculating Product Weight, Given Production Output

- **Bulk Handling**

- For bulk product conveying, the chain speed depends on the production speed (tons per hour), the product density (weight or mass per unit of volume), the chain width and the estimated height of the product on the chain

Note: When calculating chain tension, the weight of product per area (lbs/ft² or kg/m²) is required.

- **Example:**

An incline dewatering belt must run tomatoes at a speed of 100 tons per hour (TPH) (90,7 tonnes per hour). The density of the tomatoes is 65 lbs/ft³ (1041 kg/m³). The chain width is 3.00 ft (0,91 m) and the estimated average height of product on the incline is 0.25 ft (0,08 m).

- Initial chain selection = HUV5998-36 in w/ F4 Pusher Flights every 6th Pitch

Imperial:

$$\text{lbs/ft} = \text{Density (lbs/ft}^3) \times \text{H (ft)} = 65 \times 0.25 = 16.3 \text{ lbs/ft}$$

Metric:

$$\text{kg/m} = \text{Density (kg/m}^3) \times \text{H (m)} = 1041 \times 0.08 = 83,3 \text{ kg/m}$$

Note: The actual conveyor speeds are usually about 10–15% faster than the calculated required speeds in order to provide good “product take-away” from the adjacent machinery.

- The following table provides an estimate of bulk density for various produce products:

Product	Bulk Density	
	Imperial	Metric
	lb/ft ³	kg/m ³
Beets	44	700
Cabbage	31	500
Carrots	34	550
Parsnips	34	550
Potatoes	42	670
Pumpkins & Squash	37	600
Rutabagas & Turnips	37	600
Tomatoes — Small	42.5	681
Tomatoes — Medium	42.9	687
Tomatoes — Large	38.6	619
Tomatoes — Mixed	43.3	694
Onions	41	650

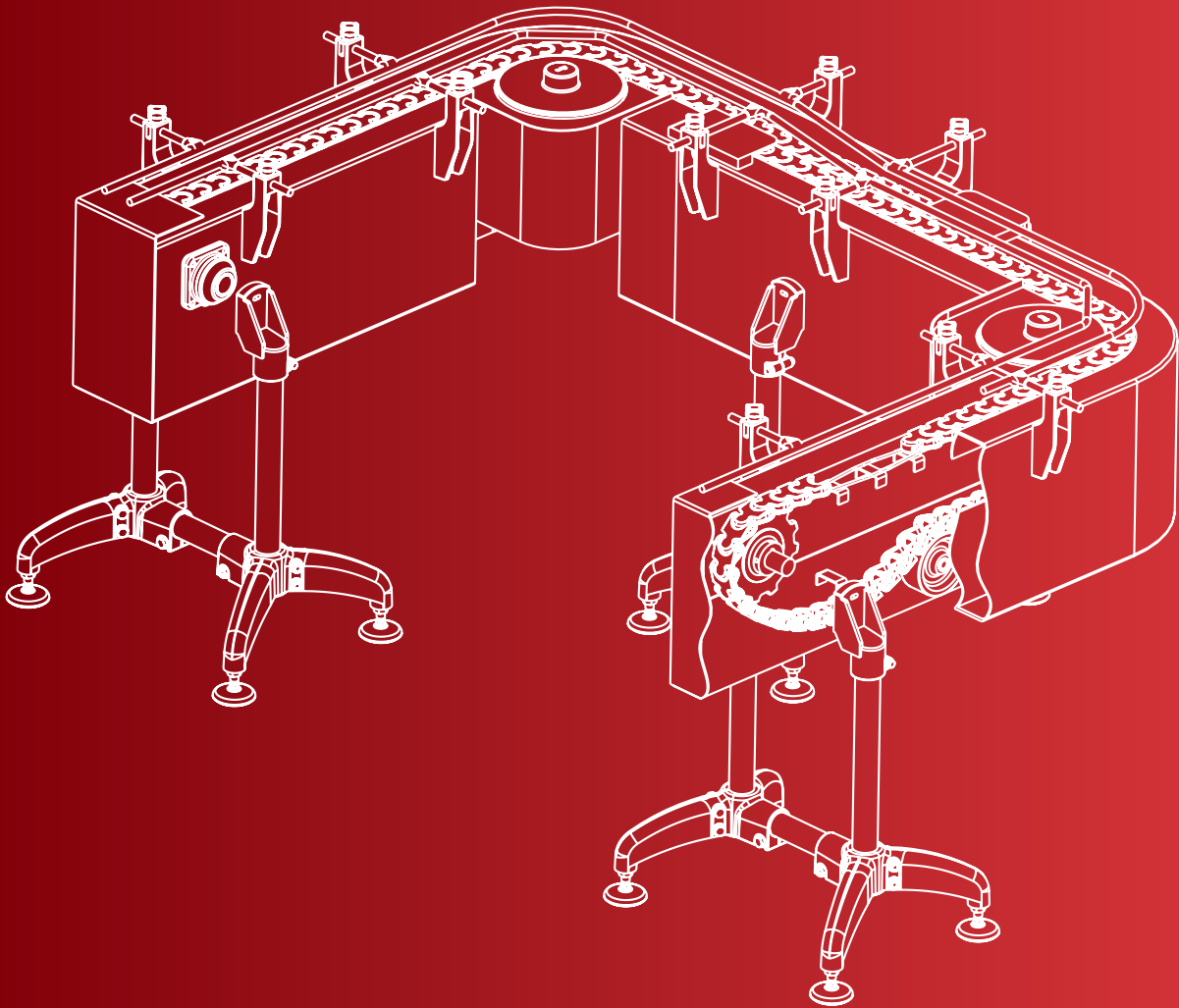
MatTop® CALCULATION PROGRAM

Typical Product Sizes and Weights

Content		Container Material	Container Size	Base Dimensions		Weight Full		Single File		En Masse		
				inches	mm	lbs	kg	lbs/ft	kg/m	lbs/ft²	kg/m²	
Dairy	Milk	Paper	1/2 Pint	3 x 3	76,2 x 76,2	0.60	0,27	2.4	3,6	-	-	
		Paper	Pint	3 x 3	76,2 x 76,2	1.10	0,50	4.4	6,5	-	-	
		Paper	Quart	3-1/8 x 3-1/8	79,4 x 79,4	2.30	1,04	8.8	13,1	-	-	
		Paper	1/2 Gallon	4-1/8 x 4-1/8	104,8 x 104,8	4.50	2,04	13.1	19,5	-	-	
		Plastic	Gallon	6 x 6	152,4 x 152,4	8.90	4,04	17.8	26,5	-	-	
	Yogurt	Plastic	6 oz	2-5/8 Ø	66,7Ø	0.40	0,18	1.8	2,7	9.7	46,9	
		Plastic	6 Pack / 4 oz Containers	5 x 7	127 x 177,8	1.57	0,71	3.8	5,6	-	-	
	Cottage Cheese	Plastic	1/2 lb	4 Ø	101,6Ø	0.60	0,27	1.8	2,7	6.2	30,3	
		Plastic	1 lb	4-3/4 Ø	120,7Ø	1.10	0,50	2.8	4,1	8.1	39,4	
Plastic		2 lb	5 Ø	127Ø	2.30	1,04	5.5	8,2	15.3	74,4		
Beverages	Concentrated Juice	Paper	12 oz	2-5/8 Ø	66,7Ø	1.00	0,45	4.6	6,8	24.1	117,2	
		Plastic	Gallon	6 Ø	152,4Ø	1.17	0,53	2.3	3,5	5.4	26,3	
		Glass	Gallon	6 Ø	152,4Ø	3.59	1,63	7.2	10,7	16.6	80,6	
		Paper	6.75 oz Box (Tetra)	1-1/2 x 2-1/4	38,1 x 57,2	0.48	0,22	3.8	5,7	-	-	
	Soft Drink	Plastic	10 Pack / 6.75 Boxes (Tetra)	3 x 10-1/2	76,2 x 266,7	4.87	2,21	19.5	29,0	-	-	
		Aluminum	250ml PET	2-5/64 Ø	52,9Ø	0.63	0,29	3.6	5,4	24.3	117,4	
		Aluminum	12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20.9	101,8	
		Plastic	500ml PET	2-3/764 Ø	65,5Ø	1.16	0,53	5.4	8,0	29.0	141,0	
		Plastic	20 oz PET	2-7/8 Ø	73,0Ø	1.37	0,62	5.7	8,5	27.6	134,1	
		Plastic	1 Liter PET	3-3/16 Ø	81,0Ø	2.31	1,05	8.7	12,9	37.8	183,7	
		Plastic	1-1/2 Liter PET	4-3/16 Ø	106,4Ø	3.40	1,54	9.7	14,5	32.2	156,7	
		Plastic	2 Liter PET	4-1/2 Ø	114,3Ø	4.40	2,00	11.7	17,5	36.1	175,7	
		Plastic	3 Liter PET	5-1/8 Ø	130,2Ø	6.38	2,89	14.9	22,2	40.4	196,3	
		Beer	Glass	12 oz	2-1/2 Ø	63,5Ø	1.50	0,68	7.2	10,7	39.9	194,0
	Glass		12 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.20	0,54	5.2	7,8	26.4	128,1	
	Glass		16 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.60	0,73	7.0	10,4	35.2	170,8	
	Glass		32 oz	2-5/8 Ø	66,7Ø	3.40	1,54	15.5	23,1	82.0	398,6	
	Glass		64 oz	3-5/8 Ø	92,1Ø	3.88	1,76	12.8	19,1	49.1	238,6	
	Aluminum		12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20.9	101,8	
	Paper		12 Pack / 12 oz Cans	10-3/4 x 7-3/4	273,1 x 196,9	10.40	4,72	11.6	17,3	-	-	
	Paper		12 Pack Fridge Pack	16 x 4-7/8	406,4 x 123,8	10.32	4,68	7.7	11,5	-	-	
	Paper		24 Pack / 12 oz Cans	16 x 10-3/4	406,4 x 273,1	20.16	9,14	15.1	22,5	-	-	
	Paper		24 Pack / 12 oz Cans (cube)	10-3/4 x 7-3/4	273,1 x 196,9	20.16	9,14	22.5	33,5	-	-	
	Paper		18 Pack / 12 oz Cans	16 x 7-3/4	406,4 x 196,9	14.69	6,66	11.0	16,4	-	-	
	Paper		30 Pack / 12 oz Cans	13-1/2 x 7-3/4	342,9 x 196,9	24.48	11,10	21.8	32,4	-	-	
	Wine / Champagne	Glass	750ml	2-7/8 Ø	73,0Ø	2.88	1,31	12.0	17,9	57.9	281,9	
		Glass	1.5 Liter	4-1/4 Ø	108,0Ø	6.37	2,89	18.0	26,8	58.6	284,9	
		Glass	12 oz	2-1/2 Ø	63,5Ø	1.22	0,55	5.9	8,7	32.5	157,8	
		Paper	4 Pack / 12 oz Bottles	5-1/8 x 5-1/4	130,2 x 133,4	5.07	2,30	11.9	17,7	-	-	
	Coffee	Metal	1/2 lb	4-1/8 Ø	104,8Ø	0.80	0,36	2.3	3,5	7.8	38,0	
		Metal	1 lb	4-1/8 Ø	104,8Ø	1.30	0,59	3.8	5,6	12.7	61,7	
		Metal	2 lb	5-1/4 Ø	133,4Ø	2.50	1,13	5.7	8,5	15.1	73,3	
		Metal	3 lb	6-1/4 Ø	158,8Ø	3.80	1,72	7.3	10,9	16.2	78,6	
	Food	Baby Food	Glass	Regular	2-3/8 Ø	60,3Ø	0.56	0,25	2.8	4,2	16.5	80,3
		Baby Food	Glass	Junior	2-3/8 Ø	60,3Ø	0.80	0,36	4.0	6,0	23.6	114,8
		Soup	Metal	10.5 oz	2-5/8 Ø	66,7Ø	0.76	0,34	3.5	5,2	18.3	89,1
		Soup	Metal	18.5 oz	3-1/8 Ø	79,4Ø	1.33	0,60	5.1	7,6	22.6	110,0
		Soup	Metal	32 oz	4 Ø	101,6Ø	1.90	0,86	5.7	8,5	19.7	96,0
		Cracker	Paper	10 oz Box	2-1/4 x 5-1/4	57,2 x 133,4	0.72	0,33	3.8	5,7	-	-
		Peanut Butter	Plastic	18 oz	3 Ø	76,2Ø	1.15	0,52	4.6	6,8	21.2	103,3
Jelly		Glass	32 oz	3-5/16 Ø	84,1Ø	2.15	0,98	7.8	11,6	32.6	158,6	
Jelly		Glass	18 oz	2-5/8 Ø	66,7Ø	1.62	0,73	7.4	11,0	39.1	189,9	
Catsup		Plastic	24 oz	2-1/4 x 3-3/4	57,2 x 95,3	1.63	0,74	8.7	12,9	-	-	
Apple Sauce		Glass	23 oz	3-5/16 Ø	84,1Ø	2.05	0,93	7.4	11,1	31.1	151,2	
Mayonnaise		Glass	32 oz	4 Ø	101,6Ø	3.03	1,37	9.1	13,5	31.5	153,1	
Cereal		Paper	14 oz Box	2-3/8 x 7-1/2	60,3 x 190,5	1.06	0,48	5.4	8,0	-	-	
Vegetable		Metal	14.5 oz	2-15/16 Ø	74,6Ø	1.04	0,47	4.2	6,3	20.0	97,5	
Tuna		Metal	12 oz Can	4 Ø	101,6Ø	0.88	0,40	2.6	3,9	9.1	44,5	
Tomato Sauce		Metal	29 oz	4 Ø	101,6Ø	2.07	0,94	6.2	9,2	21.5	104,6	
Cleaners		Dish Soap	Plastic	25 oz	2-7/16 x 3-3/8	61,9 x 85,7	1.78	0,81	8.8	13,0	-	-
	Liquid Laundry Soap	Plastic	22 oz	2 x 3-3/8	50,8 x 85,7	1.60	0,73	9.6	14,3	-	-	
	Liquid Laundry Soap	Plastic	32 oz	2-5/8 x 4-1/2	66,7 x 114,3	2.30	1,04	10.5	15,6	-	-	
	Liquid Laundry Soap	Plastic	100 oz	5-1/2 x 7-3/4	139,7 x 196	7.01	3,18	15.3	22,8	-	-	
	Liquid Bleach	Plastic	Quart	3-1/4 Ø	82,6Ø	2.40	1,09	8.9	13,2	37.8	183,5	
	Liquid Bleach	Plastic	1/2 Gallon	4-3/4 Ø	120,7Ø	4.80	2,18	12.1	18,0	35.4	171,9	
	Liquid Bleach	Plastic	Gallon	6-1/4 Ø	158,8Ø	9.50	4,31	18.2	27,1	40.4	196,5	
	Liquid Bleach	Plastic	182 oz	7-1/4 Ø	184,2Ø	8.16	3,70	13.5	20,1	25.8	125,5	
Toiletries	Toilet Paper	Paper	Individual Roll	4-1/4 Ø	108,0Ø	0.23	0,10	0.6	1,0	2.1	10,3	
	Toilet Paper	Plastic	4 Pack	4-1/4 x 8-1/2	108 x 215,9	0.93	0,42	2.6	3,9	-	-	
	Toilet Paper	Plastic	24 Pack	12 x 15-1/2	304,8 x 393,7	5.67	2,57	5.7	8,4	-	-	
Automotive	Tire	Passenger	Typical	28 Ø	711,2Ø	35.00	15,87	-	-	-	-	
	Tire	Truck	Typical	48 Ø	1219,2Ø	150.00	68,03	-	-	-	-	

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com

MULTIFLEX CHAINS



Multiflex CONVEYOR CHAIN MATERIALS

For more detailed material information, see the [8rxCAT-en Product Catalog](#).

Materials vary per chain series; see Product Catalog to determine standard versus special materials.

Acetal Family

- **LF (Low-Friction)**
 - Patented blend of acetal that provides good wear resistance and long service life due to the low coefficient of friction
- **HP™ and WHP (High Performance)**
 - Patented blend of acetal specifically formulated for dry-running conveyors due to excellent friction characteristics
- **PS® (Platinum Series®)**
 - Patented blend of acetal specially formulated for high-speed conveying applications
- **PSX® (Platinum Series X®)**
 - High-speed conveying with little to no external lubrication
 - Long wear life with minimal dusting
- **XLG (Low-Friction Acetal, Green)**
 - Internally lubricated extra low-friction acetal
- **XLA (Low-Friction Acetal, Gray)**
 - Internally lubricated extra low-friction acetal

Metal Family

- **AC (Armour Clad)**
 - Austenitic stainless steel cladding available with a variety of plastic link materials
 - Excellent for conveying raw castings, rough parts

Specialty Plastics

- **AS (Anti-Static)**
 - An electrically conductive acetal formulated to reduce or eliminate nuisance static charge
 - ⚠ WARNING** See below.
- **HCAS (High Capacity Anti-Static)**
 - Reduces or eliminates nuisance static
 - High capacity acetal resin, requires 10% derate from acetal counterparts
 - ⚠ WARNING** See below.
- **BIR (Black Impact-Resistant)**
 - Specifically formulated to take constant impact
- **ESD (Electrostatic Dissipative)**
 - Polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical
 - ⚠ WARNING** See below.
- **HC-ESD (High Capacity, Electrostatic Dissipative)**
 - High capacity polypropylene formulated for conveying sensitive products such as electronics and computer chips where controlling static charge or static decay is critical
 - Requires 10% derate from polypropylene counterparts
 - ⚠ WARNING** See below.

⚠ WARNING AS, HCAS, HC-ESD, & ESD thermoplastic materials should not be used in any potentially explosive environments (Class I) since the possibility for electrostatic discharge still exists. Proper grounding devices should be used, and safety practices followed. A waiver with further details will be supplied by customer care whenever AS, HCAS, HC-ESD, or ESD materials are quoted.

Multiflex CONVEYOR CHAIN MATERIALS

Specialty Plastics *Cont.*

- **GTC (Grey Tough Composite)**
 - High-strength, impact modified composite
 - High impact resistance, low strength
- **BWR (Black Wear-Resistant)**
 - BWR may extend chain life up to 5 times in comparison to other plastic materials in applications such as conveying rough machined parts
- **WX/BWX (Abrasion-Resistant)**
 - A nylon material formulated to be used in abrasive applications where chain is subjected to abrasives such as glass, sand and dirt
- **P (Chemical-Resistant)**
 - A polyester formulated to reduce or eliminate material degradation in applications where chemicals such as chlorine and phosphorous are present in moderate concentrations
- **CR (Extreme Chemical-Resistant)**
 - Fluorinated polymer that is chemically resistant to high concentrations of oxidizing agents, acids and bases
- **DUV (Ultraviolet-Resistant)**
 - Specially formulated acetal
 - Used for outdoor applications with direct exposure to the sun or UV radiation
- **MR (Melt-Resistant)**
 - A nylon material with a high melting point used to prevent hot objects (product temperature up to 375° F [190° C]) from melting the surface of the chain
- **FR (Flame-Retardant)**
 - Flame-retardant polyester that meets the requirements of UL Standard 94 V-0 rated combustion
- **HS (Heat-Stabilized)**
 - Nylon resin designed for environments that contain hot water spray (rinser, sterilizer and pasteurizer applications)
- **BSM**
 - Acetal-based resin with superior wear and cut resistance
 - Suitable for both dry and wet conditions

NOTICE Since materials vary in strength, refer to the Product Catalog ([8rxCAT-en](#)) for specific chain / material strengths when changing out materials.

Note: Not all materials are available in all chains. Contact Regal Rexnord Application Engineering for further assistance.

Multiflex FRICTION TABLE BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Acetal	PS®	Dry Water	0.18	0.20	0.12	0.23	0.18	0.16	0.18
			0.14	0.18	0.11	NR	0.16	0.15	0.16
		Soap & Water Oil	0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	PSX®	Dry Water	0.16	0.20	0.12	0.23	0.18	0.16	0.16
			0.13	0.18	0.11	NR	0.16	0.15	0.14
		Soap & Water Oil	0.12	0.14	0.10	NR	0.14	0.14	0.12
			-	-	-	NR	-	-	0.10
	HP™, WHP	Dry Water	0.18	0.20	0.12	0.23	0.18	0.18	0.18
			0.14	0.18	0.11	NR	0.16	0.16	0.16
		Soap & Water Oil	0.12	0.14	0.10	NR	0.14	0.14	0.13
			-	-	-	NR	-	-	0.10
	LF, XL, XLA, XLG	Dry Water	0.20	0.20	0.15	0.30	0.20	0.20	0.25
			0.15	0.18	0.13	NR	0.18	0.18	0.20
		Soap & Water Oil	0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	AS, HCAS	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
		Soap & Water Oil	NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	NR
	WSM, BSM, SMB	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
		Soap & Water Oil	0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
DUV	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30	
		0.17	0.18	0.15	NR	0.20	0.20	0.22	
	Soap & Water Oil	0.12	0.14	0.10	NR	0.15	0.15	0.15	
		-	-	-	NR	-	-	0.10	
Metal	SS, SSC	Dry Water	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			0.27	0.30	0.29	NR	0.22	0.21	0.30
		Soap & Water Oil	0.14	0.15	0.15	NR	0.15	0.14	0.15
			-	-	-	NR	-	-	-
	S	Dry Water	0.34	0.35	0.33	0.43	0.31	0.30	0.38
			NR	NR	NR	NR	NR	NR	NR
		Soap & Water Oil	NR	NR	NR	NR	NR	NR	NR
			0.10	0.10	NR	NR	NR	NR	0.10
	SSB	Dry Water	0.28	0.47	0.35	0.40	0.30	0.30	0.35
			0.19	0.31	0.25	NR	0.20	0.20	0.25
		Soap & Water Oil	0.12	0.21	0.15	NR	0.10	0.10	0.15
			-	-	-	NR	-	-	0.15
Nylon	WX/BWX	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
		Soap & Water Oil	NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	-
	MR/FTR	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
		Soap & Water Oil	NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	BWR	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			NR	NR	NR	NR	NR	NR	NR
		Soap & Water Oil	NR	NR	NR	NR	NR	NR	NR
			-	-	-	NR	-	-	0.10
	HS	Dry Water	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
		Soap & Water Oil	0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10

** Friction of returnable bottles will depend on the quality of the glass, the amount of roughed up surface, etc.

*** It is not recommended to accumulate on RubberTop® products; however, these values can be utilized when determining brake belt or “hold back” calculations.

NR denotes “not recommended” Dash (-) denotes “combination not tested”

Note: All values shown in this table were obtained through product testing. Actual values may be higher or lower depending on environmental conditions.

Multiflex FRICTION TABLE BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Product Material						
	Chain Material	Lubrication Condition	Aluminum	Returnable Glass Bottles**	Non-Returnable Glass Bottles	Paper	Plastic (Crates, Shrink)	Plastic (PET)	Steel
Polyester	TC	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.23
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	0.10	0.10	0.10
	P	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.21	0.21	0.22
			0.12	0.14	0.10	NR	0.15	0.10	0.15
			-	-	-	NR	-	-	0.10
	FR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
Fluorinated Polymer	CR	Dry Water Soap & Water Oil	0.25	0.27	0.20	0.33	0.25	0.25	0.30
			0.17	0.18	0.15	NR	0.20	0.20	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry Water Soap & Water Oil	0.29	0.29	0.24	0.35	0.32	0.28	0.31
			0.19	0.21	0.18	NR	0.24	0.20	0.25
			0.15	0.14	0.10	NR	0.19	0.15	0.17
			-	-	-	NR	-	-	0.10
	ESD	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.12	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
	HUV	Dry Water Soap & Water Oil	0.28	0.29	0.22	0.35	0.30	0.30	0.35
			0.19	0.21	0.17	NR	0.25	0.25	0.25
			0.16	0.14	0.10	NR	0.20	0.20	0.20
			-	-	-	NR	-	-	0.10
Polyethylene	WLT, BLT, LT	Dry Water Soap & Water Oil	0.22	0.24	0.18	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.15
			-	-	-	NR	-	-	0.10
	LUV	Dry Water Soap & Water Oil	0.22	0.24	0.28	0.30	0.22	0.22	0.28
			0.17	0.17	0.14	NR	0.18	0.18	0.22
			0.12	0.14	0.10	NR	0.15	0.15	0.10
			-	-	-	NR	-	-	0.10
	All RubberTop® Products	Dry	-	-	-	0.87***	0.85***	0.85***	-

** Friction of returnable bottles will depend on the quality of the glass, the amount of roughed up surface, etc.

*** It is not recommended to accumulate on RubberTop products; however, these values can be utilized when determining brake belt or "hold back" calculations.

NR denotes "not recommended" Dash (-) denotes "combination not tested"

Multiflex FRICTION TABLE BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Acetal	PS®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	PSX®	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.12
			0.20	0.16	0.16	0.11
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	HPT™, WHP	Dry Water Soap & Water Oil	0.22	0.18	0.18	0.14
			0.20	0.16	0.16	0.12
			0.15	0.14	0.14	0.11
			0.10	0.10	0.10	0.10
	LF, XL, XLA, XLG	Dry Water Soap & Water Oil	0.25	0.20	0.20	0.16
			0.20	0.18	0.18	0.14
			0.15	0.15	0.15	0.13
			0.10	0.10	0.10	0.10
	AS, HCAS, HC-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10
	WSM, BSM, SMB, BRSM, BYSM, SYMB, SRMB	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20
			0.23	0.21	0.21	0.18
			0.15	0.15	0.15	0.15
			0.10	0.10	0.10	0.10
DUV	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.20	
		0.23	0.21	0.21	0.18	
		0.15	0.15	0.15	0.15	
		0.10	0.10	0.10	0.10	
Metal	SS, SSC	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			0.35	0.22	0.22	0.22
			0.15	0.15	0.15	0.15
			0.15	0.10	0.10	0.10
	S	Dry Water Soap & Water Oil	0.40	0.30	0.30	0.30
			NR	NR	NR	0.22
			NR	NR	NR	0.15
			0.10	0.10	0.10	0.10
	SSB	Dry Water Soap & Water Oil	0.50	0.40	0.40	0.40
			0.40	0.30	0.30	0.30
			0.20	0.20	0.20	0.20
			0.20	0.10	0.10	0.10
Nylon	WX, FR-PA	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	NR	NR	NR
	MR, FTR	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	BIR, BWR	Dry Water Soap & Water Oil	0.28	0.22	0.22	0.20
			NR	NR	NR	NR
			NR	NR	NR	NR
			0.10	0.10	0.10	0.10
	HS	Dry Water Soap & Water Oil	0.30	0.28	0.28	0.25
			0.25	0.23	0.23	0.22
			0.18	0.18	0.18	0.18
			0.10	0.10	0.10	0.10
	FR-ESD	Dry Water Soap & Water Oil	0.30	0.25	0.25	0.22
			NR	NR	NR	NR
			NR	NR	NR	NR
			NR	0.10	0.10	0.10

NR denotes "not recommended"
Dash (-) denotes "combination not tested"

Multiflex FRICTION TABLE BETWEEN CHAIN AND PRODUCT (Fm)

Base Material	Chain Material		Wearstrip Material			
	Chain Material	Lubrication Condition	Steel and Stainless Steel	UHMWPE	MoS ₂ -Filled Nylon	ULF
Polyester	GTC	Dry	0.30	0.25	0.25	0.22
			Water	0.23	0.21	0.21
		Soap & Water	0.15	0.15	0.15	0.15
			Oil	0.10	0.10	0.10
	P	Dry	0.30	0.25	0.25	0.22
			Water	0.23	0.21	0.21
		Soap & Water	0.15	0.15	0.15	0.15
			Oil	0.10	0.10	0.10
	FR	Dry	0.30	0.25	0.25	0.22
			Water	0.23	0.21	0.21
		Soap & Water	0.15	0.15	0.15	0.15
			Oil	0.10	0.10	0.10
Fluorinated Polymer	CR	Dry	0.30	0.25	0.25	0.22
			Water	0.23	0.21	0.21
		Soap & Water	0.15	0.15	0.15	0.15
			Oil	0.10	0.10	0.10
Polypropylene	HT, WHT, RHT, KHT, HTB, BHT, YP, XP, USP	Dry	0.35	0.30	0.30	0.26
			Water	0.30	0.25	0.25
		Soap & Water	0.25	0.20	0.20	0.19
			Oil	0.10	0.10	0.10
	ESD	Dry	0.35	0.30	0.30	0.26
			Water	0.25	0.25	0.25
		Soap & Water	0.20	0.20	0.20	0.19
			Oil	0.10	0.10	0.10
	HUV	Dry	0.35	0.30	0.30	0.26
			Water	0.24	0.16	0.16
		Soap & Water	0.20	0.20	0.20	0.19
			Oil	0.10	0.10	0.10
Polyethylene	WLT, BLT, LT	Dry	0.28	0.23	0.23	0.21
			Water	0.22	0.20	0.20
		Soap & Water	0.15	0.15	0.15	0.14
			Oil	0.10	0.10	0.10
	LUV	Dry	0.28	0.23	0.23	0.21
			Water	0.22	0.20	0.20
		Soap & Water	0.15	0.15	0.15	0.14
			Oil	0.10	0.10	0.10

NR denotes "not recommended"
Dash (-) denotes "combination not tested"

Multiflex SPROCKET AND IDLER WHEEL DESIGNATIONS

Regal Rexnord has developed a variety of sprocket and idler materials for various and unique applications. Sprockets are available in plastic and metallic varieties.

Plastic

- **Acetal (N)**
 - Good corrosion- and wear-resistant properties
 - One-piece sprocket
 - Temperature Range: -40° to +180° F
(-40° to +82° C)
- **LF Acetal (LF)**
 - Available in select idler wheel styles only
 - Self-lubricating
 - Temperature Range: -40° to +180° F
(-40° to +82° C)
- **KU and KUS (Machined Plastic)**
 - KU and KUS do not designate material
 - KU designates solid (one-piece) design and KUS designates a split (two-piece) design
 - Sprockets machined in a variety of plastic materials
 - Flush side for ease in cleaning
 - Sprockets come in a wide variety of pitch diameters and bore sizes

Metallic

- **Semi-Steel (Cast Iron)**
 - Used in non-corrosive, abrasive environments such as broken glass, metal chips
 - One-piece sprocket
 - Temperature Range: -40 to +350° F
(-40° to +177° C)

Multiflex WEARSTRIP MATERIALS

Proper chain and wearstrip selection will provide optimum life. Since a function of the wearstrip is to lower friction and to reduce wear, it is recommended to give careful consideration when selecting the material.

The following general guidelines will help in selecting the proper material for your application:

Plastic

- **Acetal**
 - Not recommended for use with acetal chains; it is best not to run identical plastics together
- **Nylon with Molybdenum Disulfide (MoS₂) Filler**
 - Recommended for dry applications due to low wear and low friction
 - Especially suited for dry operation on thermoplastic side-flexing chain corners due to its high PV (Pressure-Velocity) rating
 - Typically not recommended in wet applications because it will absorb moisture and expand (if used in wet applications, allow clearance for expansion and movement of fasteners)
 - Typically only used for curves

Metal

- **Aluminum**
 - **NOT RECOMMENDED** due to poor wear resistance
- **Bronze and Brass**
 - Sometimes used with stainless steel chains
 - Typically used for non-sparking and anti-static conditions
 - For bronze — recommended one-half hard temper (Rb 58)
 - For brass — recommended one-half hard (Rb 70 Min) to full hard (Rb 82) temper

- **Steel**
 - Recommended for non-corrosive, abrasive or high-temperature applications
 - Abrasive particles are less likely to imbed in metal wearstrips in comparison to plastic
 - A cold-rolled plain carbon steel is recommended
 - Heat treated grades — hardened to 25 to 30 Rc is recommended

Stainless Steel

- Recommended for corrosive, abrasive or high-temperature applications
- Abrasive particles are less likely to imbed in metal wearstrips in comparison to plastic
- A cold-rolled austenitic grade is recommended which offers the best corrosion resistant properties
- Recommended one-quarter hard temper (25 to 35 Rc) with any chain material, especially with thermoplastic

NOTICE Softer annealed grades of austenitic are **NOT RECOMMENDED**. Adverse interaction between the chain material and the soft stainless steel might develop. When this happens, the resulting wear debris consists almost entirely of finely divided stainless steel particles, nearly black in color, similar to molybdisulfide or graphite. The wear of the stainless steel might be rapid while the thermoplastic chain by contrast exhibits only slight wear.

- Martensitic stainless steel can also be used when heat-treated (25 to 35 Rc); however, it is not as corrosion-resistant as austenitic
- Hardness is more critical than grade for better wear resistance

Specialty

- **Teflon®***
 - Recommended only for very low-speed/low-load applications
- **Lubricant-Impregnated Wood**
 - Commonly used in dry abrasive applications (i.e. glass, paper)
 - Not recommended in wet applications

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

Multiflex WEARSTRIP MATERIALS

Specialty Cont.

- **UHMWPE (Ultra High Molecular Weight Polyethylene)**
 - Recommended for dry or wet applications on straight or side-flexing conveyors
 - Not recommended for abrasive conditions where particles may imbed in the surface and wear the chain
 - Provides lower coefficient of friction than metals
 - Not affected by moisture and more resistant to chemicals than nylon
 - UHMWPE materials can be supplied with various fillers:
 - Ceramic/glass
 - Conductive
 - Oil/wax
- **ULF (Ultra Low-Friction)**
 - UHMWPE with self-lubricating additive package
 - Consistent low friction
 - Suitable for high-speed conveying where minimal or no external lubrication is present
 - Improved PV (Pressure-Velocity) properties in comparison to other curve materials

NOTICE Wearstrip surface finish is a critical aspect for overall chain life. Recommended wearstrip surface finish values are:

Metal: 32 μin (0,8 μm) Ra

MoS₂-Filled Nylon: 63 μin (1,6 μm) Ra

UHMWPE: 125 μin (3,2 μm) Ra

Multiflex LUBRICATION

Lubrication is recommended whenever the application permits. It not only reduces friction, thereby reducing chain tension, but also greatly improves the wear life of the chain and wearstrips. Lubrication offers a constant cleaning effect of both the chain and wearstrip and can also reduce static.

General Recommendations

- Lubrication should contact both the chain and wearstrip.
- When lubricating side-flexing TableTop chains, the lubricant must be applied at the entrance of the inside corner track. Metal side-flexing chains should ALWAYS be lubricated in the corners.
- Depending upon the application, lubrication requirements may vary. Lubricant quality and lubrication frequency can have a great effect on the longevity of the chain. For most common applications, any ISO 68 grade lubricant is satisfactory. For applications with special considerations such as high temperature, chemical compatibility, FDA requirements, please contact your lubrication supplier.

General Types of Lubricants

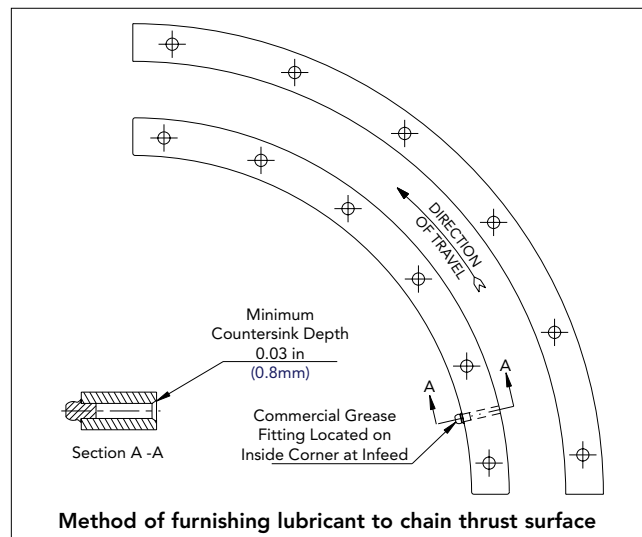
- Water — Only utilize with corrosion-resistant materials. Can be used as a general lubricant; however, it is not as effective as other types due to friction and chain-cleaning properties.
- Water soluble lubricants and soaps — Only utilize with corrosion-resistant materials. These are excellent lubricants which also help clean the chain.
- Oil base lubricants — These are vegetable, mineral oils or grease which offer high lubricity. Can be used with plastic or metal materials. Recommended to be used on all metal chains whenever practical. Food grade oils are available.

Note: To eliminate or reduce lubrication, contact Regal Rexnord™ Application Engineering to conduct a run-dry survey. 1.262.376.4800

For more information on lubrication types, compatibility, methods, contact a lubricant manufacturer.

Dry Film Lubricants

- A dry lubricant system has many of the same benefits of a run-dry conveyor with the added benefit of a lower coefficient of friction. A dry lubricant is applied by an automatic system with dosing units that put very little lubricant on select areas of the conveyors. The lubricant can be water- or oil-based with Teflon®, silicone or solid micro-particles. The preferred lubricant is an oil and water emulsion. The most critical part of the process is how the lubricant is applied on the chain. This is typically accomplished with the use of brushes, shoes or spray nozzles. The benefit of spray nozzles is the absence of contact with the chain, eliminating the possibility of trapped dirt or debris. The lubricant can also be applied to the inside of a curve for side-flexing conveyors. There are many dry lubricant products on the market which have been specifically formulated for either plastic or metal chains and container types.
- While dry lubricants offer many advantages, conveyor cleanliness considerations should be taken into account since dry lubes do not provide a continuous cleaning process like traditional water and soap lubrication.



Selective Lubrication

- In some applications, the presence of a lubricant cannot be tolerated. For these applications, it is recommended to utilize chains made of PSX®, HP™ or PS® acetal material with Molybdenum Disulfide (MoS₂) filled nylon corner tracks, which offers the lowest coefficient of friction.

*Teflon is believed to be the trademark and/or trade name of The Chemours Company and is not owned or controlled by Regal Rexnord Corporation or its affiliates.

Multiflex LUBRICATION

Cleaning

In many applications, rapid build-up of grease, dirt, grit, sand, spilled syrup and beverage can occur. These result in:

1. Soiling and damage to the conveyed product
2. Increased work demands for the chain and motor
3. Accelerated sprocket tooth wear
4. Conveyor pulsation and wear
5. Excessive chain wear on the flight and in the joint areas
6. Rapid wear of the wear strips.

Frequent cleaning of the chain and conveyor frame is advised. Such agents as steam, warm water and soap are commonly used. Many times combined "cleaner/lubricants" are applied continuously. Strong caustic agents used with metal chains should not be used with plastic chains. Always rinse cleaning agents completely off of chain and conveyor frame. When excessive amounts of syrup or other liquids, broken glass or debris accumulate, cleaning will be required on a regular basis to remove these undesirable materials. It is advisable to have operating personnel keep brushes and cleaning solutions nearby to remove broken glass and excessive spillage.

NOTICE All cleaners and lubricants must be compatible with chain and conveyor materials. See **page 197** or contact Regal Rexnord.

Inspection

In the course of conveyor operation, periodic inspection of the chain, sprockets and system is required to detect faults and make repairs before serious damage occurs. The important thing is to set up a regular inspection and maintenance schedule.

Checklist

1. Look for unusual wear patterns on the chain.
2. Check for excessive gap between flights due to jam-up or overload.
3. Pulsating, jerky chain operation indicates poor lubrication or a conveyor obstruction.
4. Check deadplate and turntable clearance.
5. Examine sprockets for signs of excessive wear.
6. Examine sprockets for signs of dirt buildup in tooth pockets.
7. Check for sprocket guide ring wear and possible chain misalignment.
8. Check the ways and wear strips for excessive wear.
9. Inspect lubrication system for proper operation.
10. Check the inside curves and the supporting conveyor frame for excess heat buildup which may indicate an obstruction in the curve or a high-friction area.
11. If return support rollers are used, check to ensure rollers are free-turning.

Repair and Replacement

Any malfunctions found during an inspection usually stem from one or more of the following conditions:

1. Severe overloads, jam-ups or wedging of broken glass or crowns.
2. Severe back-flexing of chain on the return carrying ways.
3. Poor lubrication or no lubrication.
4. Interference and obstruction.
5. Worn sprockets.
6. Poor conveyor design.
7. Badly worn or damaged chain.

These causes should be corrected to avoid future problems.

Chain and sprockets should be replaced when:

1. The chain reaches 3% elongation.
2. The chain jumps the sprocket.
3. The flights have worn to about one-half of the original thickness.
4. The conveying surface becomes uneven through wear.
5. The thrust surface of side-flexing chains wears away and exposes the rivet or other metal parts which may cut into wearstrips or other conveyor components.
6. The sprocket teeth develop a hooked profile or the chain tends to "hang up" on the sprocket teeth.

These suggestions on chain and conveyor care serve as a guide toward maintaining continuous, trouble-free operation. Implementation of a conscientious programmed maintenance schedule will lead to many productive hours of conveyor operation.

Multiflex ENVIRONMENTAL CONSIDERATIONS

Abrasive Applications

- Applications with the presence of dirt, sand, glass or metal particles can lead to premature wear of the conveying chain and wearstrips.
- Recommendations:
 - Utilize wearstrips and chains with a hard wear surface
 - If possible, use controls to minimize the amount of accumulation
 - The use of WX chain material and metal sprockets can extend wear life

Chemical Applications

- Make sure any chemicals or cleaners used on conveyors are compatible with chain, wearstrip and sprockets. See table on **page 197** for more detailed compatibility information.

Dry Applications

- Considerations to be taken when running dry:
 - Product backline pressure
 - Conveyor cleanliness
 - Conveyor pulsation
 - Increased component wear
- **Extreme Temperature Applications**
 - The recommended minimum and maximum operating temperatures for Multiflex chain and wearstrips can vary due to the presence of moisture.

Wearstrip Material	Minimum Temperature		Maximum Temperature			
	Dry		Dry		Wet	
	°F	°C	°F	°C	°F	°C
Acetal	-40	-40	180	82	150	66
UHMWPE/ULF	-100	-73	180	82	160	71
Nylon	-40	-40	220	104	NR	NR
Stainless Steel	-100	-73	800	427	250	121
Steel	-40	-40	350	177	NR	NR
Lubricated Impregnated Wood	-50	-46	160	71	160	71

Metal Detector Applications

- Plastic chains passing through metal detectors can be supplied with plastic pins on a Made-To-Order (MTO) basis (requires 60% Derate).

High-Speed Applications

- In any high-speed application, the critical aspect of the conveyor is the corners. The concern with running the chain at high speeds is the PV (Pressure-Velocity) in the corners. If the PV limits are exceeded, the chain or corner track may become damaged due to the heat generated from the high speed and/or load. It is generally recommended to utilize Molybdenum Disulfide (MoS₂) Filled Nylon corner tracks in conjunction with PS® or HP™ materials or selective lubrication for these applications. PSX® chain with ULF corner tracks will provide the best PV capability and least energy consumption.

Long-Length Conveyors/Pulsation Applications

- Pulsation or “slip stick” of chain results in a jerking chain motion which can occur in long, slow-speed and dry conveyors. Pulsation can create product stability problems in extreme cases. It can also result in premature chain elongation or the chain jumping drive sprocket teeth. As a general rule of thumb, it is recommended that conveyor lengths do not exceed 100 ft (30 m) per drive, regardless of loading. Regal Rexnord also recommends a 150° minimum wrap on the head sprocket. If necessary, this can be maintained with the use of a snubber roller.

Static Environment Applications

⚠ WARNING

- Under certain conditions, thermoplastic can acquire a static nuisance charge. Static environments are classified as:
 - **Class I:** Static spark causes explosion — stainless steel chains are required.
 - **Class II:** Static spark is a nuisance charge — low charge will provide slight shock or possible circuit damage.
- All applications utilizing thermoplastic anti-static materials (i.e. AS, ESD) must be approved by Regal Rexnord™ Application Engineering prior to quoting.

⚠ DANGER Grounding is crucial for the system to reduce static charges.

UV Applications

- When conveyor chains are exposed to direct UV (Ultraviolet) or sunlight, DUV stabilized material should be utilized.

Multiflex MATERIAL CHARACTERISTIC TABLE

Material Characteristics	Metal			Thermoplastic												
	S	SS	SSB	HP™ WHP	LF	BWR	AS HCAS	ESD	HS	P	CR	MR	DUV	FR	PS® PSX®	WX BWX
Impact-Resistant	•	•	•			•					•	•				•
Wear-Resistant	•	•	•	•	•	•									•	•
Chemical-Resistant*		•	•								•	•				
High Strength	•	•	•	•	•	•			•	•	•	•	•		•	•
Low Frictional Characteristics				•	•										•	
Capability to Run Dry in Corners				•	•	•						•			•	•
Suitability in Wet Environments		•	•	•	•				•	•	•		•	•	•	
Low-Temperature Capability (to 40°F)	•	•	•	•	•	•			•			•	•		•	•
High-Temperature Capabilities (to +180°F)	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
Ultra Violet Capabilities	•	•	•			•					•	•				•
Suitability for Class II (nuisance static)	•	•	•				•	•								
Suitability for Class I (explosive static)		•	•													
Non-magnetic Qualities		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flame Retardance	•	•	•								•			•		
Capability to Convey Hot Products (to +375°F)	•	•	•									•				•
FDA Approval		•	•	•	•					•	•				•	

- | | |
|------------------------------------|---------------------------------|
| S = Carbon Steel | HS = Heat-Stabilized |
| SS = Stainless Steel | P = Chemical-Resistant |
| SSB = Low Magnetic Stainless Steel | CR = Extreme Chemical-Resistant |
| HP = High Performance | MR = Melt-Resistant |
| WHP = White High Performance | DUV = Ultraviolet-Resistant |
| LF = Low-Friction | FR = Flame-Retardant |
| BWR = Black Wear-Resistant | PS = Platinum Series® |
| AS = Anti-Static | PSX = Platinum Series X® |
| HCAS = Anti-Static High Capacity | WX = Abrasion-Resistant |
| ESD = Electrostatic Dissipative | BWX = Black Abrasion-Resistant |

*See Corrosion Resistance Guide on Page 197 for more details.

Multiflex CORROSION RESISTANCE GUIDE

Common or Chemical Name	Carbon Steel	Austenitic	Acetal	Nylon and MoS ₂ -Filled Nylon	Polyester	Chemically Resistant Fluorinated Polymer	Polypropylene	Polyethylene	Neoprene	EPDM
	S	SS, SSB	AS, HCAS, DUV, HP™, LF, PS®, PSX®, WHP	BWR, HS, MR, WX, BWX	P, FR	CR	ESD	UHMWPE		
Acetic Acid (over 5%-up to 50%)	U	M	U	M	S	S	S	S	M	S
Acetone	U	S	S	S	S	U	S	S	M	S
Alcohol	S	S	S	S	S	S	S	S	S	S
Ammonia	M	S	U	S	S	S	S	S	S	S
Beer	S	S	S	S	S	S	S	S	S	S
Beverages-Soft Drinks	S	S	S	S	S	S	S	S	S	S
Benzene	S	S	S	S	S	S	M	M	M	U
Brine (pickle)	U	M	M	M	S	S	S	S	S	S
Carbon Tetrachloride	M	M	S	S	S	U	M	M	U	U
Chlorine	U	U	U	U	S	S	S	S	U	M
Citric Acid	U	S	M	M	S	S	S	S	S	S
Cyclohexane	-	-	S	-	-	S	U	U	S	S
Ethyl Chloride	-	S	S	S	S	S	M	M	M	M
Formaldehyde	S	S	S	S	S	M	S	S	S	S
Formic Acid	U	U	U	U	S	S	S	S	M	M
Fruit Juices	U	S	S	S	S	S	S	S	S	S
Gasoline	S	S	S	S	S	S	M	M	S	U
Hexane	-	S	S	-	S	S	S	U	S	U
Hydrochloric Acid (up to 2%)	U	U	U	U	S	S	S	S	M	S
Hydrochloric Acid (up to 37%)	U	U	U	U	S	S	M	S	U	M
Hydrogen Peroxide	U	S	U	U	S	S	M	S	M	S
Iodine	U	U	U	U	U	M	M	M	U	U
Isopropanol (isopropyl alcohol)	S	S	S	S	S	S	S	S	S	S
Lactic Acid	U	S	S	M	S	M	S	S	S	S
Methylene Chloride	-	S	S	-	U	M	S	U	U	U
Milk	S	S	S	S	S	S	S	S	S	S
Muriatic Acid	U	U	U	U	S	S	M	S	U	M
Nitric Acid (low concentrations)	U	S	U	U	S	S	S	S	M	S
Oil (vegetable or mineral)	S	S	S	S	S	M	S	S	S	U
Ozonated Water	S	S	M	U	S	S	M	S	U	S
Paraffin	S	S	S	S	S	S	S	S	S	U
Phosphoric Acid (up to 10%)	U	S	U	U	S	S	S	S	S	S
Soap and Water	M	S	S	S	S	S	S	S	S	S
Sodium Chloride	U	M	S	S	S	S	S	S	S	S
Sodium Hydroxide (up to 25%)	U	S	S	U	U	M	S	S	S	S
Sodium Hypochlorite (Bleach)	U	U	U	U	S	S	S	S	U	S
Stearic Acid	U	S	M	S	S	S	S	S	S	M
Sulfuric Acid (up to 40%)	U	U	U	U	S	S	S	S	M	S
Toluene (Toluol)	S	S	M	S	S	M	S	U	U	U
Turpentine	-	S	S	S	S	S	S	U	S	U
Vegetable Juices	M	S	S	S	S	S	S	S	U	S
Vinegar	U	S	S	S	S	M	S	S	S	S
Water (fresh)	U	S	S	S	S	S	S	S	S	S
Whiskey	S	S	S	S	S	S	S	S	S	S
Wine	S	S	S	S	S	S	S	S	S	S
Xylene	S	S	S	S	S	S	U	M	U	U

Dash = Not Tested M = Marginal U = Unsatisfactory S = Satisfactory

Note: General Rules of Thumb — With acetal products, do not use cleaning or lubricating agents with a pH below 4 or above 10.

This table is based on data available by various material suppliers.

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Multiflex CONVEYOR DESIGN RECOMMENDATIONS

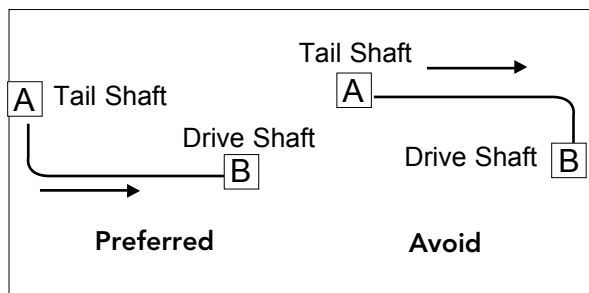
Straight-Running Configuration

- A long conveyor with a single drive is the simplest and most ideal design. Sometimes several short conveyors are required due to application constraints

Side-Flexing Configuration

Note: In general, the straight section between the corner and the drive shaft must be at least 18 in (457 mm) to allow adequate room for the catenary (see **page 210**). The tail shaft should be at least 12 in (305 mm).

- Depending on chain style, corner discs or corner tracks can be utilized
- Corner discs are used to guide the chain without significant increase in chain tension
- When conveying from Point A to Point B, design the conveyor so that the drive is positioned furthest from the last corner (see drawing), resulting in lower chain tension and maximizing chain life



NOTICE Consideration should be given to the design of the curves within a conveyor such that if the chain has little to no “allowable twist”, the curve should be designed to NOT change elevation while simultaneously side-flexing through the curve. Doing so on chains that do not twist will bind the chain and lead to chain failure. Multiflex chains have negligible “allowable twist” hence curves should be designed so as NOT to change elevation while side-flexing through the curve.

Straight-Running and Side-Flexing Configuration

- The conveyor frame is designed to support the chain on the bottom of the link
- For applications where debris is a concern, an open design, such as a serpentine design, is preferred over full-width support
- The serpentine design prevents the buildup of debris in the track and distributes the wear evenly across the bottom of the link
- Abrasive applications should utilize steel or stainless steel wearstrips
- Wet abrasive applications should utilize stainless steel wearstrips and pins
- Non-abrasive conditions should utilize UHMWPE or Molybdenum Disulfide (MoS₂) Filled Nylon Wearstrips

NOTICE Multiflex Chains should not be twisted.

NOTICE 1700, 1702, 1755, 1765, 2550 and 2565 chains MUST utilize corner discs.

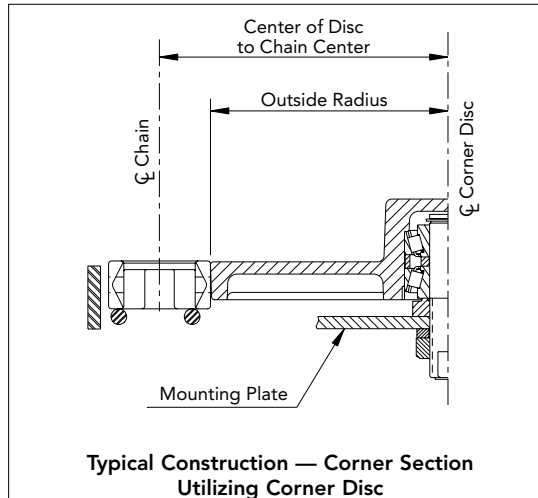
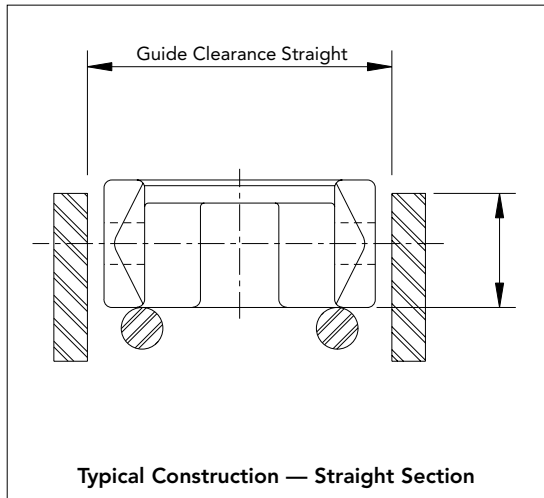
Note: Make sure that the entire chain path (carry, return, sprocket and catenary sag areas) has plenty of clearance for free chain travel. Make sure all frame and support members, piping, conduits and mounting hardware are well clear of chain path.

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Carryways

Guide clearance is critical for Multiflex Chains. For guide clearance dimensions of individual chains, see table on **page 203** or Product Catalog ([8rxCAT-en](#)).

• Side-Flexing — Straight Edge Design



- Chain can be lifted out of straight sections for cleaning or inspection
- Longer conveyors can be achieved with the use of corner discs

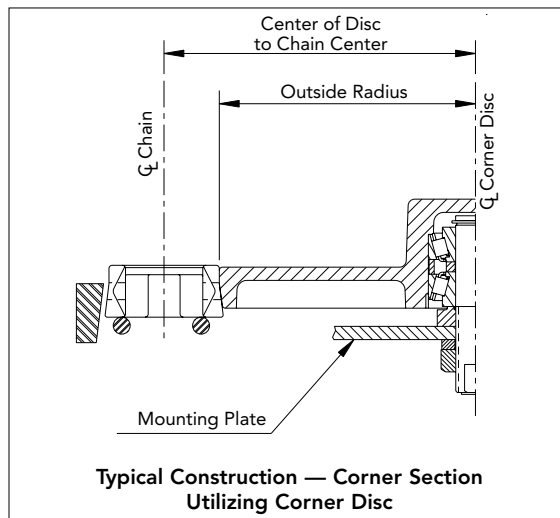
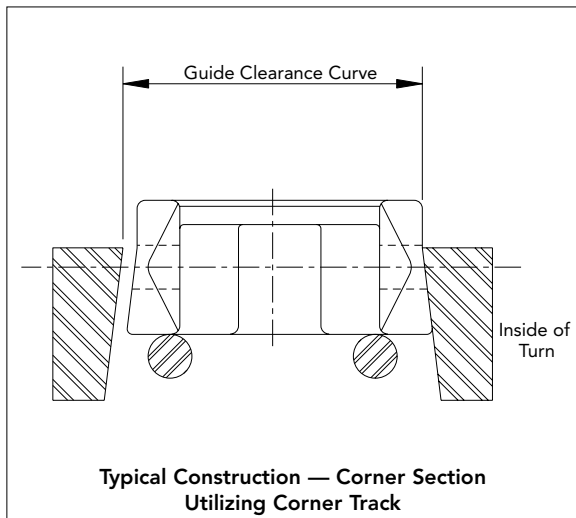
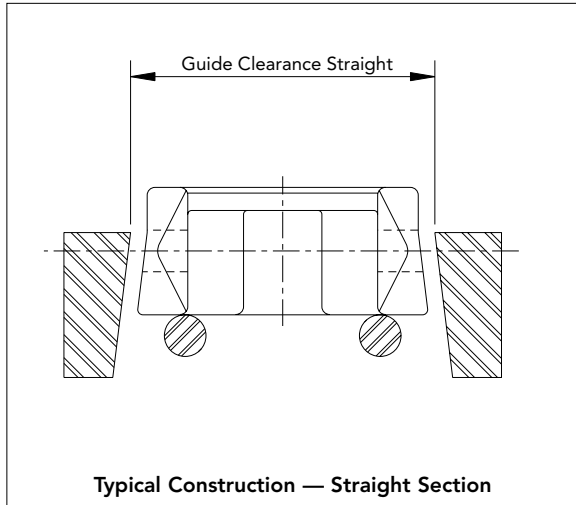
NOTICE 1700, 1702, 1755, 1765, 2550 and 2565 chains **MUST** utilize corner discs.

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Carryways

Guide clearance is critical for Multiflex Chains. For guide clearance dimensions of individual chains, see table on **page 203** or Product Catalog ([8rxCAT-en](#)).

- **Side-Flexing — Bevel Design**



- Chain can be lifted out of straight sections for cleaning or inspection
- Longer conveyors can be achieved with the use of corner discs

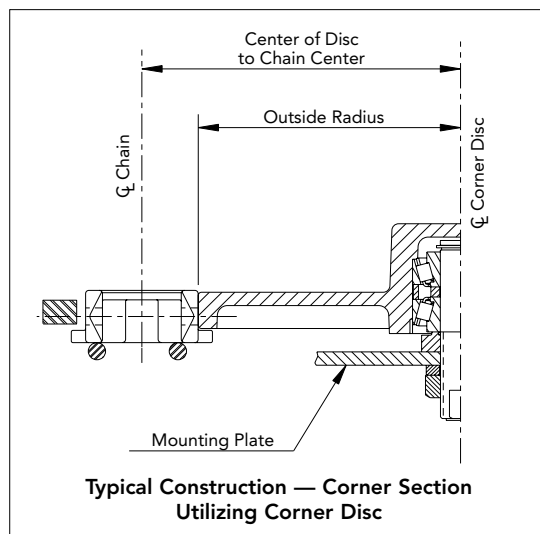
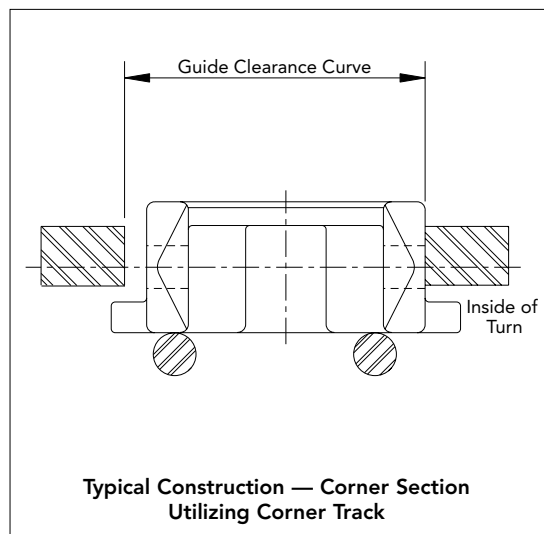
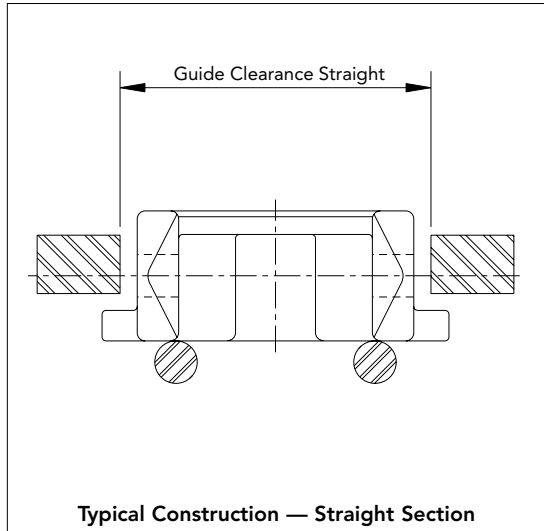
NOTICE 1700, 1702, 1755, 1765, 2550 and 2565 chains **MUST** utilize corner discs.

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Carryways

Guide clearance is critical for Multiflex Chains. For guide clearance dimensions of individual chains, see table on **page 203** or Product Catalog ([8rxCAT-en](#)).

• Side-Flexing — TAB Design



- Positive retention
- TABs hold chain down in incline or decline applications
- Chain top surface wear is decreased if the TAB return is utilized
- Longer conveyors can be achieved with the use of corner discs
- Once assembled, the TAB chain cannot be lifted out of the conveyor track

NOTICE 1700, 1702, 1755, 1765, 2550 and 2565 chains **MUST** utilize corner discs.

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Multiflex SIDE-FLEX RADIUS TABLE

Chain Style	Chain Width		Minimum Side-Flex Radius	
	in	mm	in	mm
1700	2.17	55,1	5.75	146,1
AC 1700	2.17	55,1	5.75	146,1
1701	2.09	53,1	5.75	146,1
1701 TAB	2.09	53,1	5.75	146,1
AC 1701 TAB	2.09	53,1	5.75	146,1
1702	2.09	53,1	5.75	146,1
1755	1.09	27,7	5.38	136,5
1757 TAB	3.25	82,6	6.00	152,4
LBP 1757 TAB	3.25	82,6	6.00	152,4
1757 TAB G	3.25	82,6	8.00	203,2
1765	2.17	55,1	4.92	125,0
2500 TAB	2.63	66,8	9.50	241,3
2550 TAB	3.50	88,9	9.50	241,3
2565	3.50	88,9	9.50	241,3

Black = Inches Blue = Millimeters

Multiflex GUIDE CLEARANCE TABLE

Chain Style		1701	1701T AC 1701T	2500T	AC 1700 1700 1765	1702	1755	1757T LBP 1757T 1757T G	2550T 2565
Hold Down Style		Bevel	TAB	TAB	N/A	N/A	N/A	TAB	TAB
Guide Clearance Straight	in	2.19	2.34	2.97	2.28	2.34	1.20	2.44	3.76
	mm	55,6	59,5	75,4	58,0	59,4	30,5	61,9	95,4
Guide Clearance Corner	in	2.34	2.25	2.81	N/A	N/A	N/A	*	N/A
	mm	59,4	57,2	71,4	N/A	N/A	N/A	*	N/A
Corner Wearstrip Thickness	in	0.63	0.63	0.75	Must Use Corner Disc	Must Use Corner Disc	Must Use Corner Disc	*	Must Use Corner Disc
	mm	16,0	16,0	19,0				*	

* Regal Rexnord only offers corner discs for these chains; however corner tracks can be utilized.

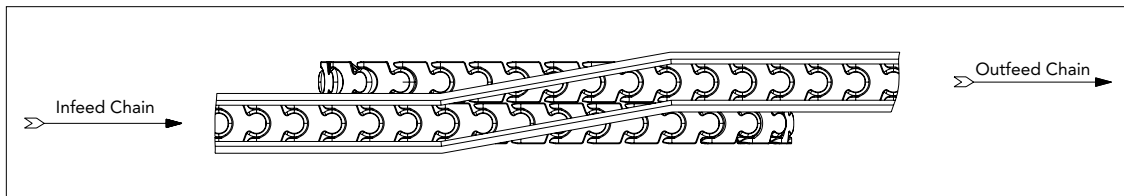
Black = Inches Blue = Millimeters

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Transfers

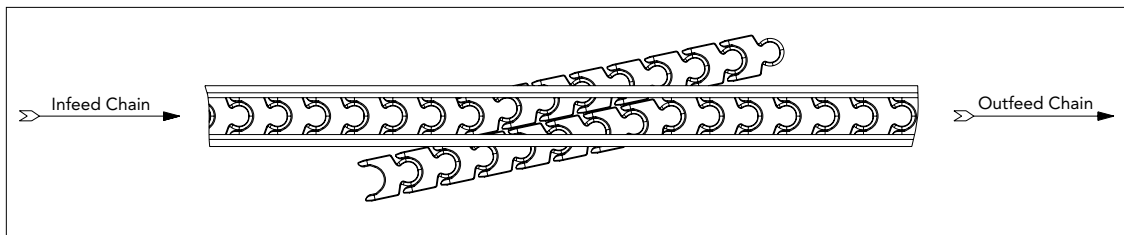
Smooth transfer of the conveyed product from one chain to another is essential. The various methods are described below:

• Side Transfer



- Adjacent strands of chain should share a common wearstrip
- No stranded products

• Inline Transfer



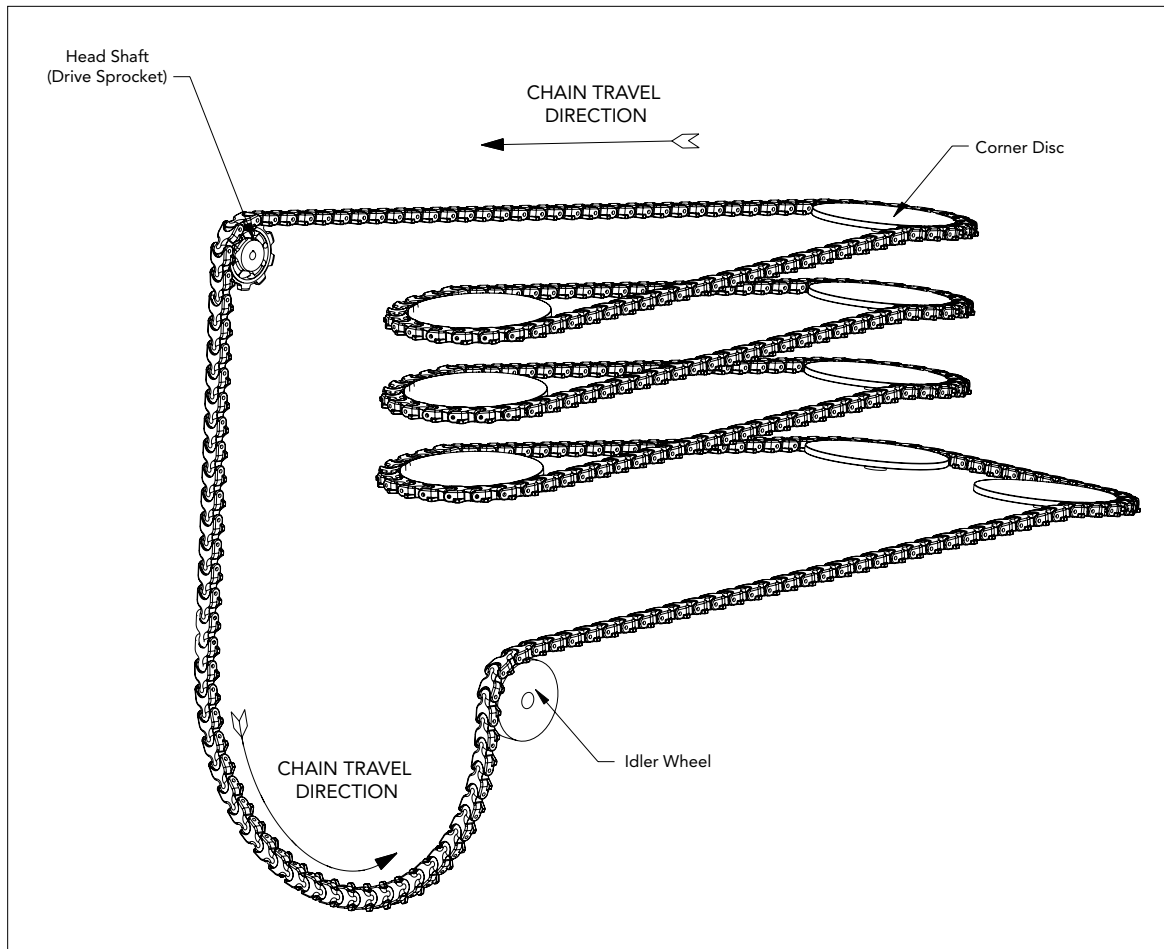
- Adjacent strands of chain should share a common wearstrip
- Allows product to remain in straight line
- No stranded products

Note: These arrangements are used in an offset wrap drive, which allows a single strand of chain to be used; see **page 32** (TableTop® Section) for offset wrap drive details.

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Alternate Drive Configurations

• Alpine Conveyor



- Multiflex chains have the ability to elevate or lower products in a very compact area. This figure shows a typical elevating system and how the chain is returned in a non-standard configuration.
- Full return is not required
- The chain hangs straight down from the drive sprocket and side-flexes back up into the tail section
- Elevators can be designed with free-hanging (catenary sag) and sliding returns
- Roller returns are not recommended
- The straight and corner return sections can be the same as the carry section
- The chain is run in the conveyor upside down through the return section
- Depending on chain design, discs may have to be mounted upside down in the return

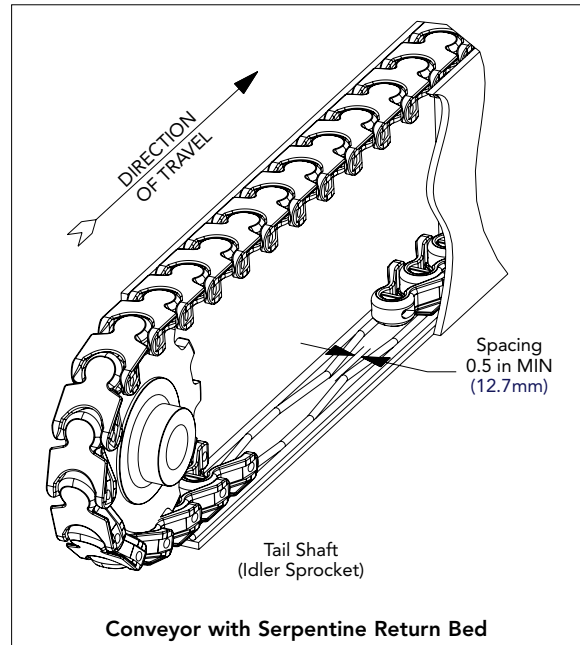
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Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Returnways

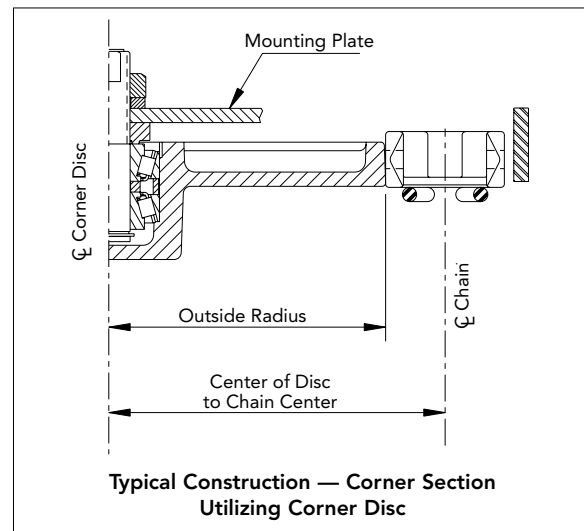
• Serpentine Style Return

- A wide selection of chain returns are possible with Multiflex chains which offers considerable conveyor design freedom
- The chain is fully supported
- Allows for drainage and the passage of foreign materials



• Side-Flexing — Straight Edge Design

- The corner disc in the return section is mounted in the same manner as in the carry section
- Depending on chain design, discs may have to be mounted upside down in the return



Note: When returning chain with molded inserts (HPM), caution should be taken to ensure that the inserts do not interfere with the return elements.

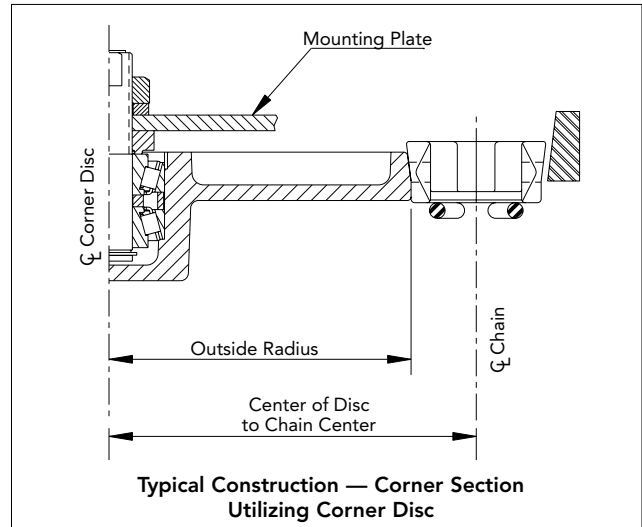
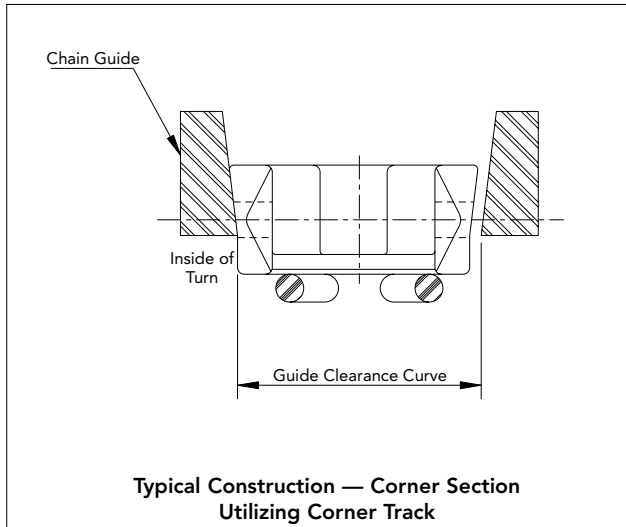
Possible solutions:

- Return the chain on its TABs
- Return the chain on the outer edge of the links via rollers or wearstrips

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

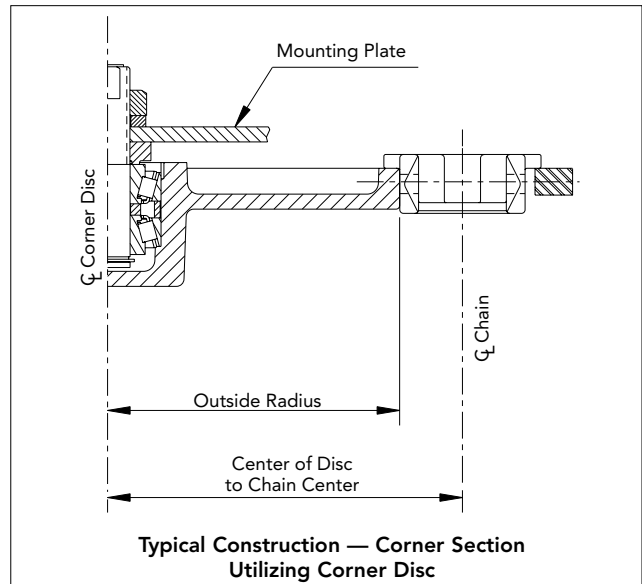
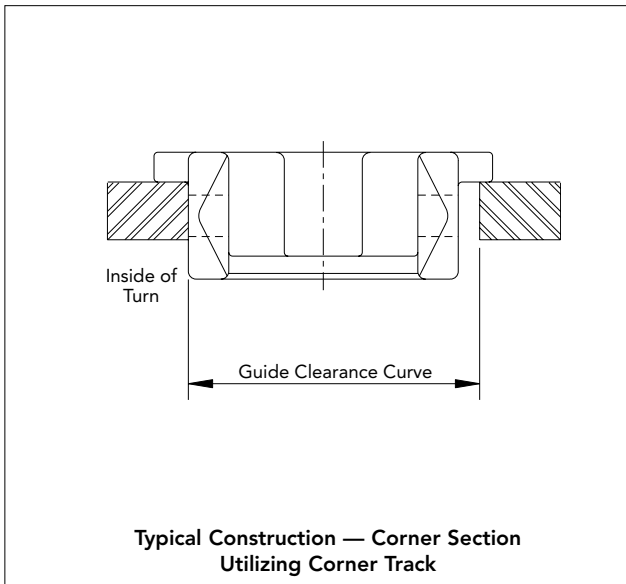
Returnways

• Side-Flexing — Bevel Design



- The corner disc in the return section is mounted in the same manner as in the carry section
- Depending on chain design, discs may have to be mounted upside down in the return

• Side-Flexing — TAB Design



NOTICE 1700, 1702, 1755, 1765, 2550 and 2565 chains MUST utilize corner discs.

- The corner disc in the return section is mounted in the same manner as in the carry section
- Depending on chain design, discs may have to be mounted upside down in the return

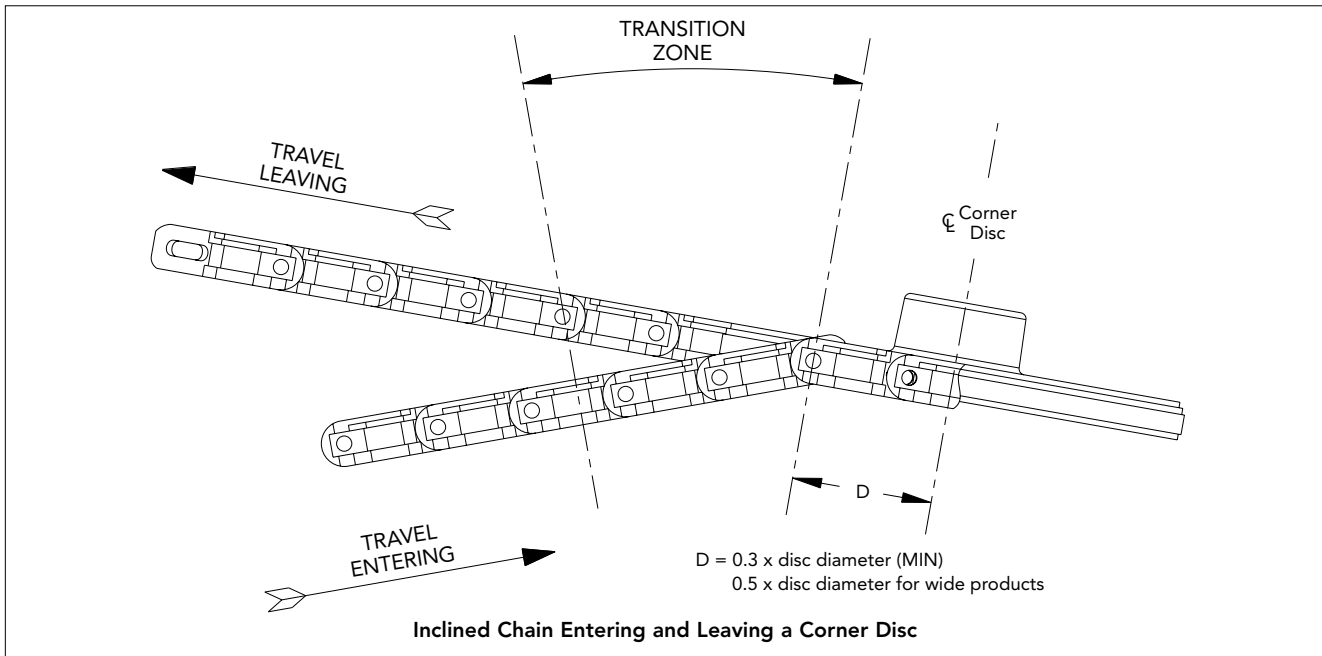
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Multiflex CONVEYOR DESIGN RECOMMENDATIONS

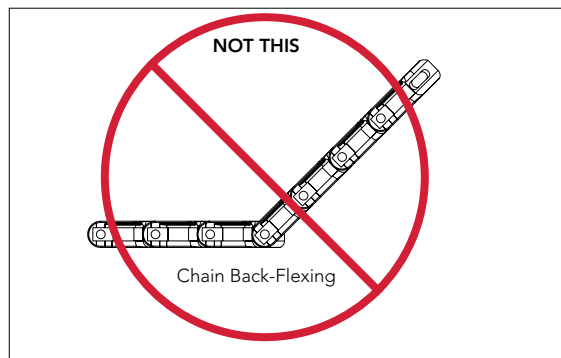
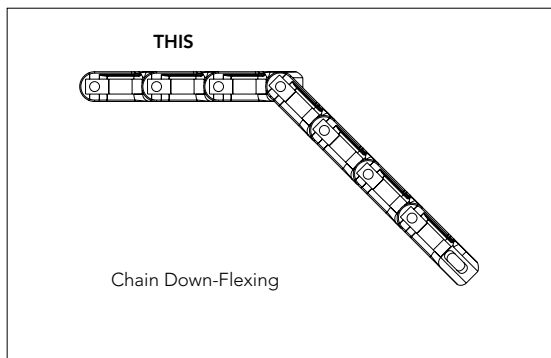
Multiflex Incline Conveyors

NOTICE To ensure proper functioning of these conveyors it is important that:

- The chain enters and leaves the disc in the same plane as the disc
- In the transition zone, the wearstrips should be curved to accomplish smooth transition from one plane to the next
- The maximum angle of incline or decline for an application depends on product stability and friction between chain and product



- When inclining, the chain must pass through a transition zone **prior** to entering the disc
- The disc should be tipped so that it lies in the same plane as the chain exiting the disc



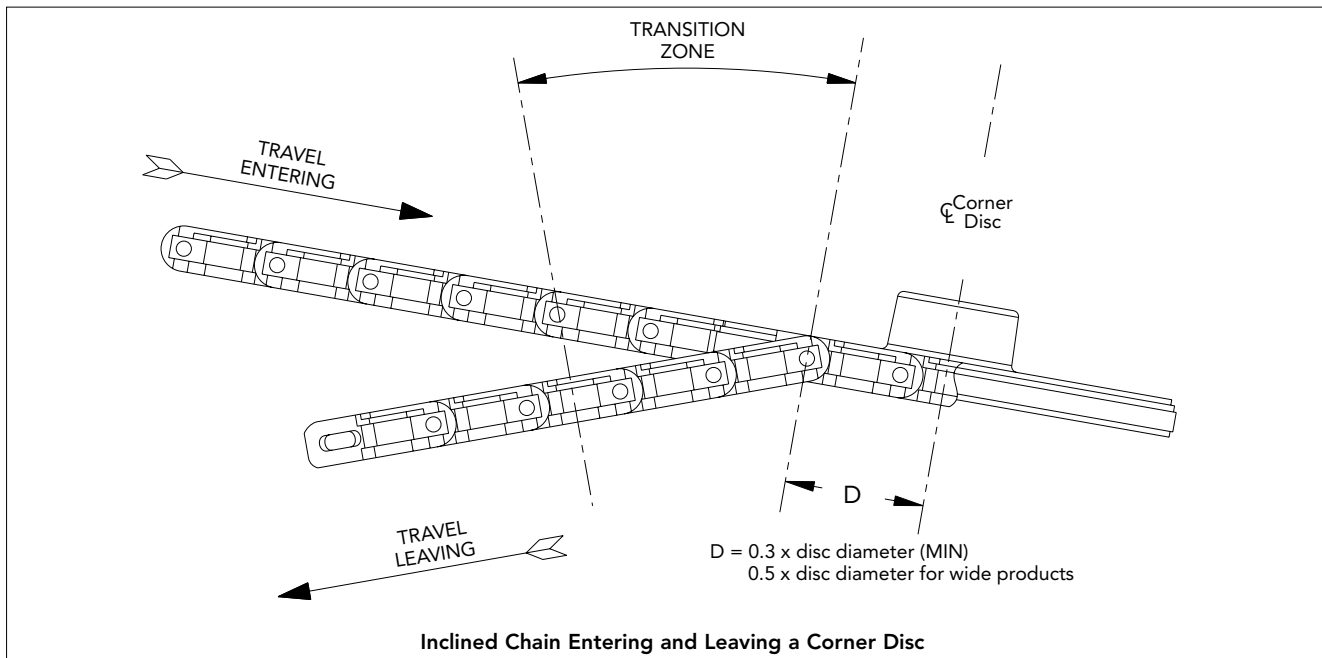
- Any change in angle of chain travel should be made by down-flexing the chain as shown
- Back-flexing through a change in angle will cause the chain to rise out of the conveyor frame

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

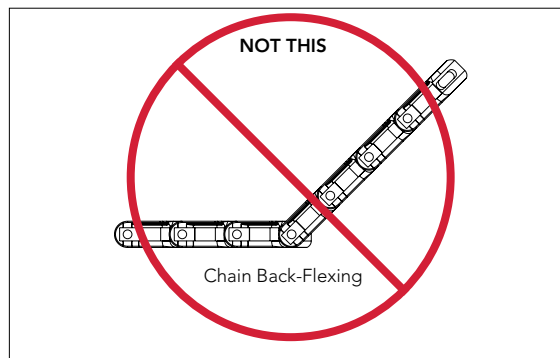
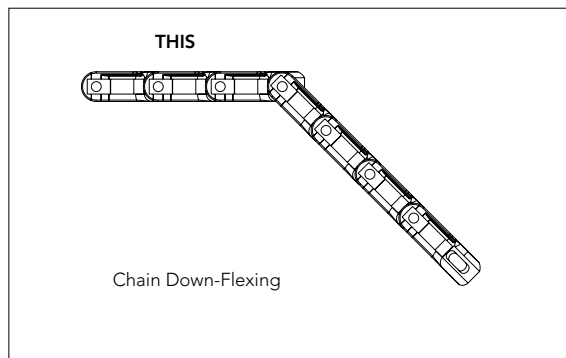
Multiflex Decline Conveyors

NOTICE To ensure proper functioning of these conveyors it is important that:

- The chain enters and leaves the disc in the same plane as the disc
- In the transition zone, the wearstrips should be curved to accomplish smooth transition from one plane to the next
- The maximum angle of incline or decline for an application depends on product stability and friction between chain and product



- When declining, the chain must pass through a transition zone **after** exiting the disc
- The disc should be tipped so that it lies in the same plane as the chain entering the disc



- Any change in angle of chain travel should be made by down-flexing the chain as shown
- Back-flexing through a change in angle will cause the chain to rise out of the conveyor frame

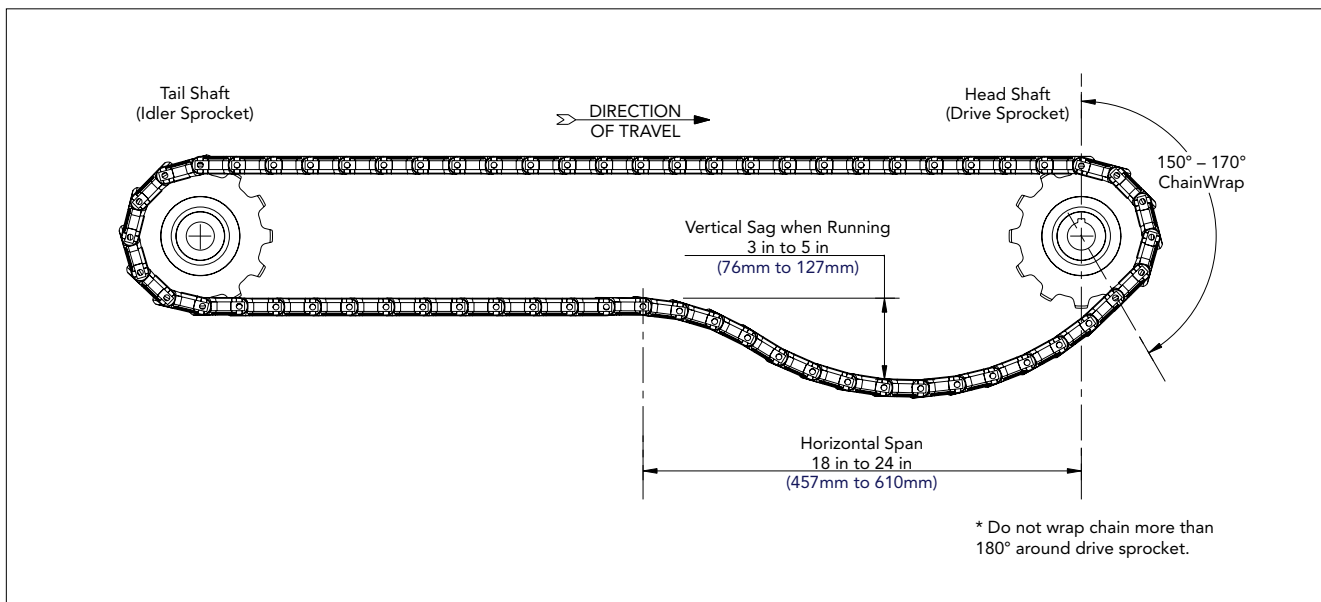
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Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Catenary Sag

- The function of the catenary is to allow a place for excess chain to accumulate
- Multiflex chains should never be run tight
- The catenary sag should be measured when running
- If catenary sag is excessive or increases due to wear, it should be adjusted by removing links to obtain the proper sag
- Take-ups are typically not recommended
- The catenary sag should be located as close to the drive as possible



Note: The catenary sag area must be free of all obstructions, such as frame cross-members, supports, drive components, that can damage chain or inhibit proper catenary sag.

⚠ CAUTION It is recommended to keep the sprockets and chain clean of debris and foreign matter. If this is not done, the chain can stick to (not release freely from) the drive sprockets causing the catenary to bounce leading to possible chain damage or breakage. In cases of extreme environments, a hold down roller can be positioned above the catenary near the drive sprocket(s) to keep the chain from overwrapping the drive sprocket(s).

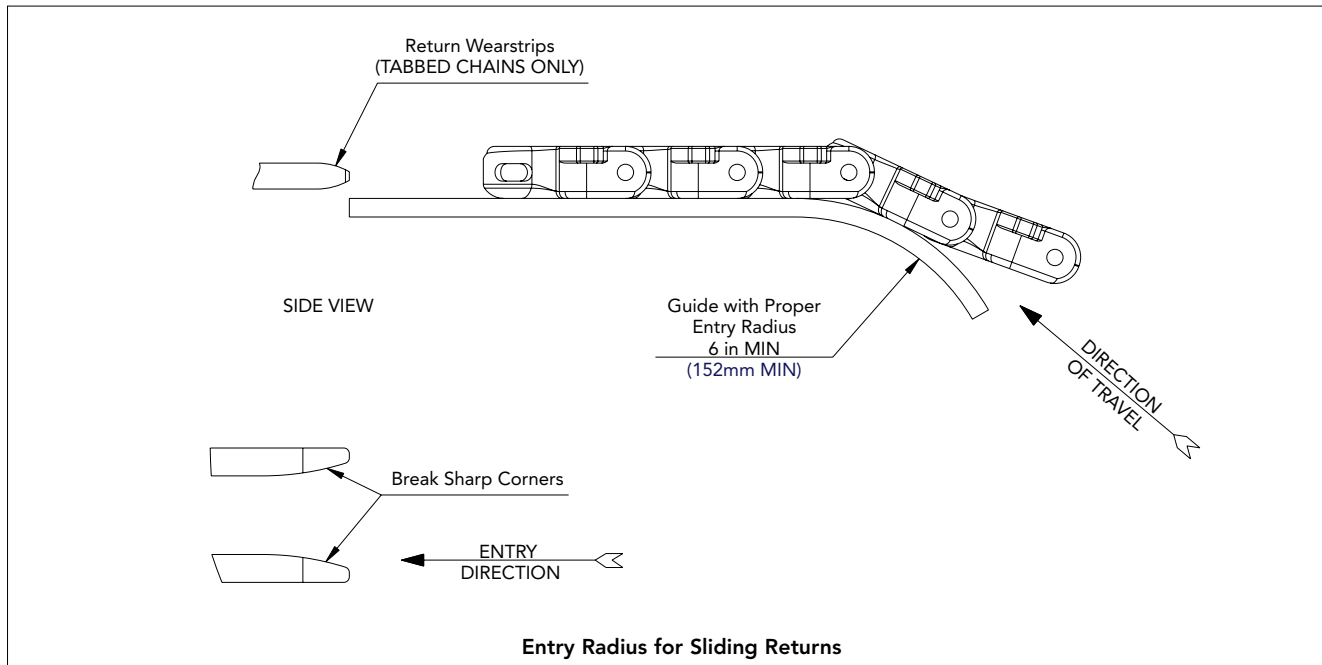
Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Returnways

• Entry Radius for Sliding Returns

NOTICE Provide a generous entry radius to the return section which permits the chain to feed smoothly into the returnways

- The entry radius should be greater than the minimum back-flex radius of the chain (see table below)
- Rexnord recommends a 6 in (152 mm) minimum entry radius to prevent non-uniform wear
- When returning a chain on its TABs, guide the chain onto the return wearstrips using a guide shoe (see table on **page 203** for proper guide clearance)
- At the entry of the return wearstrips, provide rounded corners to prevent catching or snagging of the chain flights



Back-Flex Radius Table

Chain Style	Min. Back-Flex Radius	
	in	mm
1700, AC1700, 1701, 1701TAB, AC1701TAB, 1702, 1755, 2500TAB, 2550TAB	1.50	38,1
2565	3.50	88,9
1757TAB, LBP1757TAB	4.00	101,6
1765	2.50	63,5

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Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Sprocket and Wearstrip Location

- The distance from the end of the wearstrip to the sprocket shaft centerline should equal dimension "C" (one chain pitch); otherwise the wearstrip will interfere with the free articulation of the chain as it enters the sprocket.
- The leading edges of the wearstrip should be beveled
- The following formulas and dimensions used in conjunction with the figure will give the proper shaft and wearstrip positioning:

Sprocket Location for Conventional Chains

$$A = (\text{Pitch Diameter}/2) - E$$

C = One Chain Pitch (which ensures support under chain at all times)

– See table below for C and E dimensions

Example: For a 1700 chain utilizing a 10T sprocket:

$$A = (\text{Pitch Diameter}/2) - E = (6.369 \text{ in}/2) - 0.470 \text{ in} = 2.715 \text{ in}$$

$$C = 1.97 \text{ in}$$

Metric:

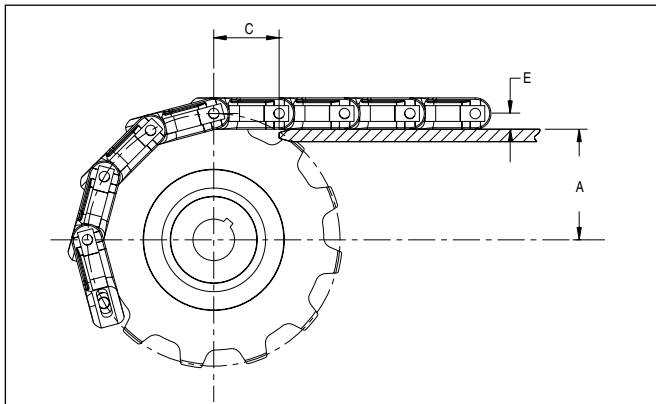
$$A = (\text{Pitch Diameter}/2) - E = (161,77 \text{ mm}/2) - 11,94 \text{ mm} = 68,95 \text{ mm}$$

$$C = 50,0 \text{ mm}$$

Tolerances:

$$A = +.03 \text{ in} / -.00 \text{ in} (+,8 \text{ mm} / -,0 \text{ mm})$$

$$C = +.25 \text{ in} / -.00 \text{ in} (+6,3 \text{ mm} / -,0 \text{ mm})$$



Shaft Drop Values — For Conventional Chains					
Chain Series	Chain Numbers	"C" Dimension		"E" Dimension	
		in	mm	in	mm
1700	1700, AC1700	1.97	50,0	0.470	11,94
1701	1701	1.97	50,0	0.480	12,19
1701TAB	1701TAB, AC1701TAB	1.97	50,0	0.480	12,19
1702	1702	1.97	50,0	0.480	12,19
1755	1755	1.58	40,0	0.250	6,35
1765	1765	1.97	50,0	0.470	11,94
2500TAB	2500TAB	3.00	76,2	0.700	17,78
2550TAB	2550TAB	3.00	76,2	0.700	17,78
2565	2565	3.00	76,2	0.700	17,78

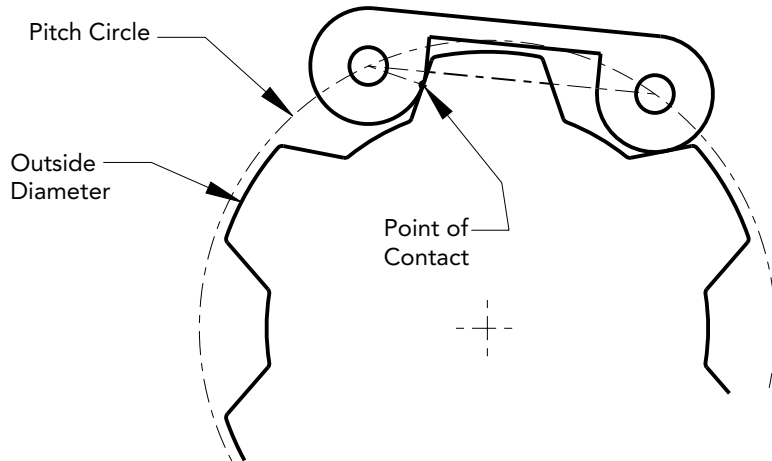
Note: For 1757 chains, see page 37 (TableTop® section).

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Sprocket Pitch Diameter vs. Outside Diameter

In some instances, it is possible for a sprocket's pitch diameter to be larger than the outside diameter. This is not a problem because the link does not contact the sprocket on the pitch circle.

- **Why Pitch Diameter Is Larger Than the Outside Diameter on Small Sprockets**



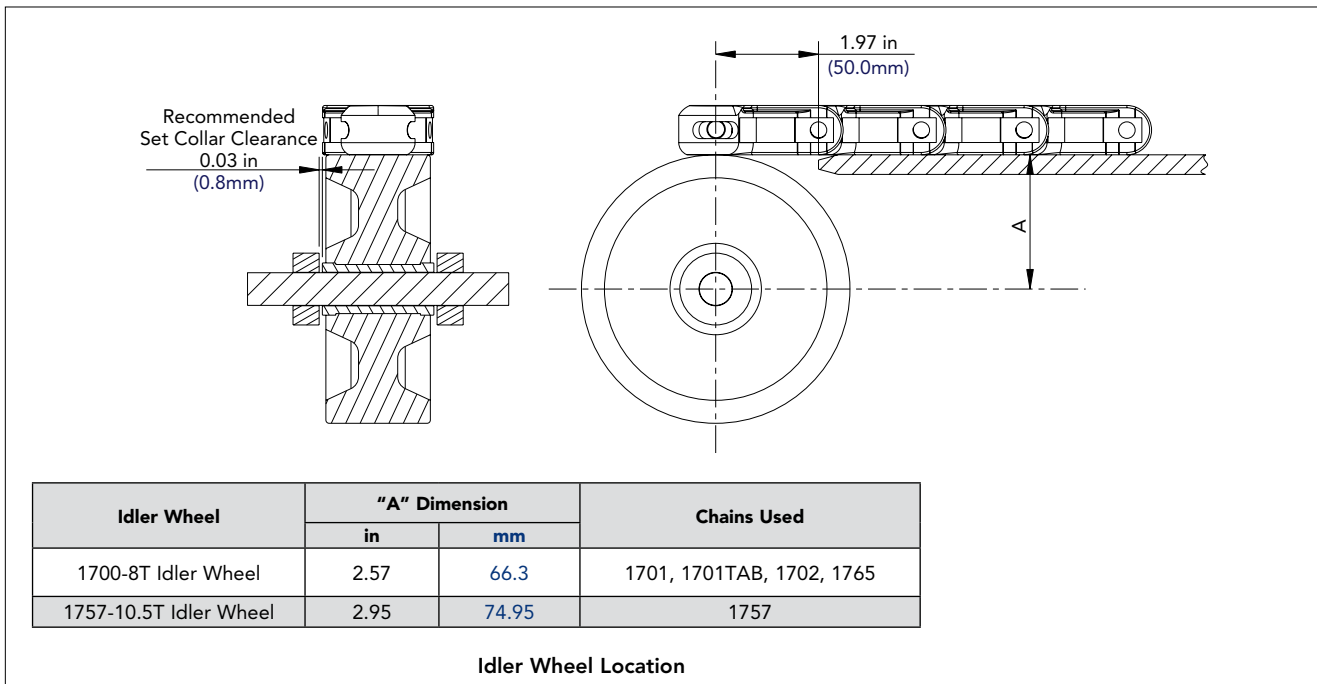
- The outside diameter is to the outer tips of the teeth.
- The chain's pins are on the pitch diameter. On a very small sprocket, the chord created by the link causes the point where the sprocket contacts the tooth to be much closer to the sprocket center than the pins and the pitch circle.

Note: Chordal action is defined as the up and down motion of the chain over top dead center of the sprocket centerline. Excessive chordal action can lead to product tippage.

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Idler Wheel and Sprocket Location (Stationary Shafts Only)

For proper location and smooth operation, the idler wheels should be mounted slightly below the top of the wearstrips



Shafting Recommendations for Stationary Tail Shafts

- **Recommended Materials:**
 - Carbon Steel (dry environments only)
 - Stainless Steel
- **Suggested Hardness:**
 - 25 to 30 Rc
- **Suggested Surface Finish:**
 - 63 μ in (1,6 μ m) Ra

Note: Regal Rexnord recommends rotating shafts in bearings. If bearings are not used, the following are guidelines for operating Multiflex sprockets on stationary shafts:

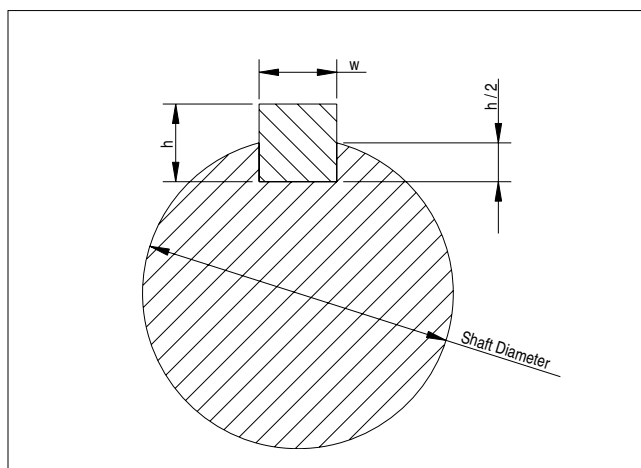
Sprocket	Max. Recommended Chain Speed	
	FPM	MPM
N - Acetal	0-50	0-15
UHMWPE	0-50	0-15
NS - Nylon, Split	0-100	0-30
LF Bushing (Idler Wheel)	0-300	0-90
Bronze Bushing	0-500	0-150
Bearings	Recommended for Speeds > 500	Recommended for Speeds > 150

Multiflex CONVEYOR DESIGN RECOMMENDATIONS

Keyway and Setscrew Sizes

Imperial:				
Shaft Diameter	KEYWAY			Setscrew Size
	Key Width (w)	Key Height (h)	Keyseat at Depth (h/2)	
> 9/16" to 7/8"	3/16"	3/16"	3/32"	1/4-20
> 7/8" to 1-1/4"	1/4"	1/4"	1/8"	3/8-16
> 1-1/4" to 1-3/8"	5/16"	5/16"	5/32"	3/8-16
> 1-3/8" to 1-3/4"	3/8"	3/8"	3/16"	3/8-16
> 1-3/4" to 2-1/4"	1/2"	1/2"	1/4"	1/2-13
> 2-1/4" to 2-3/4"	5/8"	5/8"	5/16"	1/2-13

Metric:				
Shaft Diameter	KEYWAY			Setscrew Size
	Key Width (w)	Key Height (h)	Keyseat at Depth (h/2)	
> 22 mm to 30 mm	8 mm	7 mm	3,5 mm	M6 x 1
> 30 mm to 38 mm	10 mm	8 mm	4 mm	M8 x 1,25
> 38 mm to 44 mm	12 mm	8 mm	4 mm	M10 x 1,5
> 44 mm to 50 mm	14 mm	9 mm	4,5 mm	M10 x 1,5
> 50 mm to 58 mm	16 mm	10 mm	5 mm	M12 x 1,75
> 58 mm to 65 mm	18 mm	11 mm	5,5 mm	M12 x 1,75



Note: Imperial keyed round bore sprockets are available with one setscrew as standard. Additional setscrews can be provided upon request. Metric keyed round bore sprockets are not supplied with a setscrew as standard.

NOTICE If multiple strands share a tail shaft, key only one sprocket and allow others to rotate. Collars should be utilized to prevent lateral movement.

Split Sprocket Bore Nomenclature

Shaft Ready — Tight fit on the shaft with a keyway and setscrew.

Plain Bore — Same tight fit bore as a shaft ready bore, but without a keyway and setscrew.

Idler Bore — Round bore with a clearance fit (no keyway or setscrew). Designed to spin freely on the shaft.

Rough Stock Bore — Wide tolerance bore used for work in process. Not for use on any shaft. Must be further machined for actual use.

Over Sized Bore — Round bore with a slightly loose fit on the shaft with keyway but no setscrew. Designed to move laterally on the shaft during setup and still transmit torque through the keyway as a drive sprocket in the actual application. Not recommended for axial float in thermal applications.

Multiflex TableTop® CALCULATION PROGRAM

The TableTop Calculation Program is available to perform chain pull calculations for specific conveyor applications.

Chain Pull Calculations

• To obtain the most recent calculation program:

- Download from Technical Support at:
<https://www.rexnord.com/shop/flattop-calculator-app>
- Contact Application Engineering

• Prior to performing chain pull calculations, the following information is needed:

- Chain style, material and width
- Wearstrip material
- Corner disc or corner track material
- Lubrication conditions (i.e. dry, water, Soap & Water, oil)
- Chain speed (FPM) or (MPM)
- Product weight (lbs/ft) or (kg/m)
- Product material
- Number of starts per hour (e.g. indexing conveyors)
- Percent of time product accumulation occurs (i.e. slippage)
- Portion of conveyor where product accumulation occurs
- Conveyor layout with dimensions

• The calculation output sheet contains the following information:

- Calculated headshaft chain tension
- Maximum allowable headshaft chain tension
- Percent of allowable chain tension
- Total horsepower required with an assumed gearbox efficiency of 100%
- Calculated corner tension (PV)
- Maximum allowable corner tension

Friction Formulas

When inclining or declining, the coefficient of friction must be modified between chain and wearstrip (Fw)

$$\text{Incline: } Fw_{\text{incline}} = (Fw_{\text{horizontal}} \times \text{Cos}\theta) + \text{Sin}\theta$$

$$\text{Decline: } Fw_{\text{decline}} = (Fw_{\text{horizontal}} \times \text{Cos}\theta) - \text{Sin}\theta$$

Note: For an example of calculating chain speed, see page 44 (TableTop® Section). See page 189 for friction values.

Note: If the percent of allowable chain tension is 100% or less, your conveyor application is within chain capacity.

NOTICE The horsepower requirement the program calculates is the “design horsepower” that is required to power the conveyor based on the input parameters. Additional considerations should be made for the type of drive used, efficiency losses in the power train, appropriate service factors, as well as any gearbox manufacturer’s recommendations.

CAUTION Regal Rexnord recommends some sort of soft start for all FlatTop chain conveyor motors, but especially for higher speeds and conveyors with bottom drives. Hard starts add peak loads to the chain, which will shorten the service life. Hard starts can also cause the chain to stretch and bounce in the catenary sag section, sometimes causing the chain to catch in the conveyor frame and become damaged. On bottom drives, hard starts can cause the chain to fall off the drive sprockets and skip teeth.

Note: If the calculated corner tension is less than the maximum allowable corner tension, your conveyor application is within chain PV capacity.

• The TableTop Chain Calculation Program calculates the following:

- Carousel conveyor analysis (i.e. offset wrap drive conveyors)
- Universal conveyor analysis (i.e. alpine systems, multiple loading systems)
- Catenary sag vs. length vs. tension
- Catenary sag vs. length vs. excess chain
- Product backline pressure (due to accumulation)

NOTICE The TableTop Calculation Program does not take environmental conditions into consideration. This calculation program ONLY provides information on whether the chain is within capacity.

Multiflex TableTop® CALCULATION PROGRAM

Typical Product Sizes and Weights

Content		Container Material	Container Size	Base Dimensions		Weight Full		Single File		En Masse		
				inches	mm	lbs	kg	lbs/ft	kg/m	lbs/ft ²	kg/m ²	
Dairy	Milk	Paper	1/2 Pint	3 x 3	76,2 x 76,2	0.60	0,27	2.4	3,6	–	–	
		Paper	Pint	3 x 3	76,2 x 76,2	1.10	0,50	4.4	6,5	–	–	
		Paper	Quart	3-1/8 x 3-1/8	79,4 x 79,4	2.30	1,04	8.8	13,1	–	–	
		Paper	1/2 Gallon	4-1/8 x 4-1/8	104,8 x 104,8	4.50	2,04	13.1	19,5	–	–	
		Plastic	Gallon	6 x 6	152,4 x 152,4	8.90	4,04	17.8	26,5	–	–	
	Yogurt	Plastic	6 oz	2-5/8 Ø	66,7Ø	0.40	0,18	1.8	2,7	9.7	46,9	
		Plastic	6 Pack / 4 oz Containers	5 x 7	127 x 177,8	1.57	0,71	3.8	5,6	–	–	
	Cottage Cheese	Plastic	1/2 lb	4 Ø	101,6Ø	0.60	0,27	1.8	2,7	6.2	30,3	
		Plastic	1 lb	4-3/4 Ø	120,7Ø	1.10	0,50	2.8	4,1	8.1	39,4	
Plastic		2 lb	5 Ø	127Ø	2.30	1,04	5.5	8,2	15.3	74,4		
Beverages	Concentrated Juice	Paper	12 oz	2-5/8 Ø	66,7Ø	1.00	0,45	4.6	6,8	24.1	117,2	
		Plastic	Gallon	6 Ø	152,4Ø	1.17	0,53	2.3	3,5	5.4	26,3	
	Juice	Glass	Gallon	6 Ø	152,4Ø	3.59	1,63	7.2	10,7	16.6	80,6	
		Paper	6.75 oz Box (Tetra)	1-1/2 x 2-1/4	38,1 x 57,2	0.48	0,22	3.8	5,7	–	–	
		Plastic	10 Pack / 6.75 Boxes (Tetra)	3 x 10-1/2	76,2 x 266,7	4.87	2,21	19.5	29,0	–	–	
		Aluminum	250ml PET	2-5/64 Ø	52,9Ø	0.63	0,29	3.6	5,4	24.3	117,4	
		Aluminum	12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20.9	101,8	
	Soft Drink	Plastic	500ml PET	2-3/764 Ø	65,5Ø	1.16	0,53	5.4	8,0	29.0	141,0	
		Plastic	20 oz PET	2-7/8 Ø	73,0Ø	1.37	0,62	5.7	8,5	27.6	134,1	
		Plastic	1 Liter PET	3-3/16 Ø	81,0Ø	2.31	1,05	8.7	12,9	37.8	183,7	
		Plastic	1-1/2 Liter PET	4-3/16 Ø	106,4Ø	3.40	1,54	9.7	14,5	32.2	156,7	
		Plastic	2 Liter PET	4-1/2 Ø	114,3Ø	4.40	2,00	11.7	17,5	36.1	175,7	
		Plastic	3 Liter PET	5-1/8 Ø	130,2Ø	6.38	2,89	14.9	22,2	40.4	196,3	
		Beer	Glass	12 oz	2-1/2 Ø	63,5Ø	1.50	0,68	7.2	10,7	39.9	194,0
			Glass	12 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.20	0,54	5.2	7,8	26.4	128,1
	Glass		16 oz Non-Returnable	2-3/4 Ø	69,9Ø	1.60	0,73	7.0	10,4	35.2	170,8	
	Glass		32 oz	2-5/8 Ø	66,7Ø	3.40	1,54	15.5	23,1	82.0	398,6	
	Glass		64 oz	3-5/8 Ø	92,1Ø	3.88	1,76	12.8	19,1	49.1	238,6	
	Aluminum		12 oz	2.6 Ø	66,0Ø	0.85	0,39	3.9	5,8	20.9	101,8	
	Paper		12 Pack / 12 oz Cans	10-3/4 x 7-3/4	273,1 x 196,9	10.40	4,72	11.6	17,3	–	–	
	Paper		12 Pack Fridge Pack	16 x 4-7/8	406,4 x 123,8	10.32	4,68	7.7	11,5	–	–	
	Paper		24 Pack / 12 oz Cans	16 x 10-3/4	406,4 x 273,1	20.16	9,14	15.1	22,5	–	–	
	Paper		24 Pack / 12 oz Cans (cube)	10-3/4 x 7-3/4	273,1 x 196,9	20.16	9,14	22.5	33,5	–	–	
	Wine / Champagne	Paper	18 Pack / 12 oz Cans	16 x 7-3/4	406,4 x 196,9	14.69	6,66	11.0	16,4	–	–	
		Paper	30 Pack / 12 oz Cans	13-1/2 x 7-3/4	342,9 x 196,9	24.48	11,10	21.8	32,4	–	–	
		Glass	750ml	2-7/8 Ø	73,0Ø	2.88	1,31	12.0	17,9	57.9	281,9	
		Glass	1.5 Liter	4-1/4 Ø	108,0Ø	6.37	2,89	18.0	26,8	58.6	284,9	
		Glass	12 oz	2-1/2 Ø	63,5Ø	1.22	0,55	5.9	8,7	32.5	157,8	
		Paper	4 Pack / 12 oz Bottles	5-1/8 x 5-1/4	130,2 x 133,4	5.07	2,30	11.9	17,7	–	–	
	Coffee	Metal	1/2 lb	4-1/8 Ø	104,8Ø	0.80	0,36	2.3	3,5	7.8	38,0	
Metal		1 lb	4-1/8 Ø	104,8Ø	1.30	0,59	3.8	5,6	12.7	61,7		
Metal		2 lb	5-1/4 Ø	133,4Ø	2.50	1,13	5.7	8,5	15.1	73,3		
Metal		3 lb	6-1/4 Ø	158,8Ø	3.80	1,72	7.3	10,9	16.2	78,6		
Food	Baby Food	Glass	Regular	2-3/8 Ø	60,3Ø	0.56	0,25	2.8	4,2	16.5	80,3	
	Baby Food	Glass	Junior	2-3/8 Ø	60,3Ø	0.80	0,36	4.0	6,0	23.6	114,8	
	Soup	Metal	10.5 oz	2-5/8 Ø	66,7Ø	0.76	0,34	3.5	5,2	18.3	89,1	
	Soup	Metal	18.5 oz	3-1/8 Ø	79,4Ø	1.33	0,60	5.1	7,6	22.6	110,0	
	Soup	Metal	32 oz	4 Ø	101,6Ø	1.90	0,86	5.7	8,5	19.7	96,0	
	Cracker	Paper	10 oz Box	2-1/4 x 5-1/4	57,2 x 133,4	0.72	0,33	3.8	5,7	–	–	
	Peanut Butter	Plastic	18 oz	3 Ø	76,2Ø	1.15	0,52	4.6	6,8	21.2	103,3	
	Jelly	Glass	32 oz	3-5/16 Ø	84,1Ø	2.15	0,98	7.8	11,6	32.6	158,6	
	Jelly	Glass	18 oz	2-5/8 Ø	66,7Ø	1.62	0,73	7.4	11,0	39.1	189,9	
	Catsup	Plastic	24 oz	2-1/4 x 3-3/4	57,2 x 95,3	1.63	0,74	8.7	12,9	–	–	
	Apple Sauce	Glass	23 oz	3-5/16 Ø	84,1Ø	2.05	0,93	7.4	11,1	31.1	151,2	
	Mayonnaise	Glass	32 oz	4 Ø	101,6Ø	3.03	1,37	9.1	13,5	31.5	153,1	
	Cereal	Paper	14 oz Box	2-3/8 x 7-1/2	60,3 x 190,5	1.06	0,48	5.4	8,0	–	–	
	Vegetable	Metal	14.5 oz	2-15/16 Ø	74,6Ø	1.04	0,47	4.2	6,3	20.0	97,5	
	Tuna	Metal	12 oz Can	4 Ø	101,6Ø	0.88	0,40	2.6	3,9	9.1	44,5	
	Tomato Sauce	Metal	29 oz	4 Ø	101,6Ø	2.07	0,94	6.2	9,2	21.5	104,6	
	Cleaners	Dish Soap	Plastic	25 oz	2-7/16 x 3-3/8	61,9 x 85,7	1.78	0,81	8.8	13,0	–	–
Liquid Laundry Soap		Plastic	22 oz	2 x 3-3/8	50,8 x 85,7	1.60	0,73	9.6	14,3	–	–	
Liquid Laundry Soap		Plastic	32 oz	2-5/8 x 4-1/2	66,7 x 114,3	2.30	1,04	10.5	15,6	–	–	
Liquid Laundry Soap		Plastic	100 oz	5-1/2 x 7-3/4	139,7 x 196	7.01	3,18	15.3	22,8	–	–	
Liquid Bleach		Plastic	Quart	3-1/4 Ø	82,6Ø	2.40	1,09	8.9	13,2	37.8	183,5	
Liquid Bleach		Plastic	1/2 Gallon	4-3/4 Ø	120,7Ø	4.80	2,18	12.1	18,0	35.4	171,9	
Liquid Bleach		Plastic	Gallon	6-1/4 Ø	158,8Ø	9.50	4,31	18.2	27,1	40.4	196,5	
Toiletries	Liquid Bleach	Plastic	182 oz	7-1/4 Ø	184,2Ø	8.16	3,70	13.5	20,1	25.8	125,5	
	Toilet Paper	Paper	Individual Roll	4-1/4 Ø	108,0Ø	0.23	0,10	0.6	1,0	2.1	10,3	
	Toilet Paper	Plastic	4 Pack	4-1/4 x 8-1/2	108 x 215,9	0.93	0,42	2.6	3,9	–	–	
Toilet Paper	Plastic	24 Pack	12 x 15-1/2	304,8 x 393,7	5.67	2,57	5.7	8,4	–	–		
Automotive	Tire	Passenger	Typical	28 Ø	711,2Ø	35.00	15,87	–	–	–	–	
	Tire	Truck	Typical	48 Ø	1219,2Ø	150.00	68,03	–	–	–	–	

Contact Regal Rexnord™ Application Engineering for more information 1.262.376.4800 or flattop.tech.support@regalrexnord.com



All Rexnord® Chain is formed or molded from the highest quality materials available. From low friction to high temperature, we offer the widest selection of materials specifically tailored around the needs of our customers. We are committed to ongoing research and development allowing us to adapt to our customers and their demanding application requirements.

Regal Rexnord™ Materials

See the [8rxCAT-en](#) catalog for detailed information.

MATERIAL INDEX — See the [8rxCAT-en](#) catalog for detailed information.

Material Prefix	Description	Primary Components	FDA Approved
AS	Anti-Static	Electrically conductive acetal (POM)	No
BHT	Blue High Temperature	Polypropylene (PP)	Yes
BIR	Black Impact Resistant	Impact resistant nylon (PA)	No
BLT	Blue Low Temperature	Polyethylene (HDPE)	Yes
BRSM	Black Cut Resistant with Red End Links	Cut and abrasive wear resistant acetal (POM)	Yes
BSM	Black Cut Resistant	Cut and abrasive wear resistant acetal (POM)	Yes
BUV	Blue Acetal Ultraviolet Resistant	Ultraviolet resistant acetal (POM)	No
BWR	Black Wear Resistant	Wear resistant nylon (PA) composite	No
BWX	Black Abrasion Resistant Polyamide	Abrasion resistant nylon (PA)	No
BYSM	Black Cut Resistant with Yellow End Links	Cut and abrasive wear resistant acetal (POM)	Yes
CR	Extreme Chemical Resistant	Fluorinated polymer	Yes
Dry-PT®	Dry PET Low Friction (Lime Green)	Advanced performance polymer alloy designed for run dry PET container applications	Yes
DUV	Acetal Ultraviolet Resistant	Ultraviolet resistant acetal (POM)	No
EPDM	Ethylene propylene rubber	Ethylene propylene rubber	No
ESD	Electrostatic Dissipative	Electrically conductive polypropylene (PP)	No
FR	Flame Retardant	Flame retardant polyester (PBT)	No
FR-ESD	Flame Retardant Electrostatic Dissipative	Flame retardant electrostatic dissipative Nylon (PA)	No
FRPLUS®	Flame Retardant Low Friction	High performance flame retardant polymer	No
FR-PA	Flame Retardant Nylon	Flame retardant Nylon (PA)	No
FTR	Fryer Temperature Resistant	Fryer Temperature Resistant Nylon (PA).	Yes
GTC	Grey Tough Composite	High strength, impact modified composite.	No
GTC	Grey Tough Composite Friction Top	High strength, impact modified composite with high friction pads.	No
HCAS	High Capacity Anti-static	High capacity Anti-static acetal (POM)	No
HC-ESD	High Capacity Electrostatic Dissipative	High capacity electrostatic dissipative acetal (POM)	No
HP™	High Performance	High performance, internally lubricated acetal (POM)	Yes
HP	High Performance Friction Top	High performance HP with molded high friction pads	No
HS	Heat Stabilized	Heat stabilized nylon (PA)	No
HT	High Temperature	Polypropylene (PP)	Yes
HT	High Temperature Friction Top	High temperature polypropylene with TPE high friction pads	No
HTB	Black High Temperature	Polypropylene (PP)	Yes
HTX™	Extreme High Temperature	Leading edge advanced polymer designed specifically for heat shrink tunnels	No
HUV	High Temperature Ultraviolet Resistant	Ultraviolet resistant polypropylene (PP)	No
KHT	Khaki High Temperature Friction Tope	Polypropylene (PP)	Yes
LF	Low Friction	Low friction acetal (POM)	Yes
LT	Low Temperature	Low temperature polyethylene	Yes
LUV	Low Temperature Ultraviolet Resistant	Ultraviolet resistant polyethylene (HDPE)	No
MR	Melt Resistant	Melt resistant nylon (PA)	No
Neoprene	Neoprene	Neoprene	No
P	Chemical Resistant	Polyester (PBT)	Yes
PS®	Platinum Series®	High speed, Platinum Series internally lubricated acetal (POM)	Yes
PSX®	Platinum Series X®	High speed, Platinum Series internally lubricated acetal (POM)	Yes
RHT	Red High Temperature	Polypropylene (PP)	Yes
RLD	Red Low Temperature Detectable	Polyethylene (HDPE) and nonferrous metal particulate	Yes
RSM	Red Cut Resistant	Cut and abrasive wear resistant acetal (POM)	Yes
S	Carbon Steel	Carbon steel	No
SMB	Blue Cut Resistant	Cut and abrasive wear resistant acetal (POM)	Yes
SRMB	Blue Cut Resistant with Red End Links	Cut and abrasive wear resistant acetal (POM)	Yes
SS	Stainless Steel	Austenitic stainless steel	Yes
SSB	Stainless Steel Low Magnetic	Low ferromagnetic austenitic stainless steel	Yes
SYMB	Blue Cut Resistant with Yellow End Links	Cut and abrasive wear resistant acetal (POM)	Yes
USP	Ultra Stabilized Polypropylene	Polypropylene (PP) and Chemical Stabilizers	Yes
WHP	White High Performance	High performance, internally lubricated acetal (POM)	Yes
WHT	White High Temperature Friction Top	Polypropylene (PP)	Yes
WLT	White Low Temperature	Polyethylene (HDPE)	Yes
WSM	White Cut Resistant	Cut and abrasive wear resistant acetal (POM)	Yes
WX	Green Abrasion Resistant Polyamide	Abrasion Resistant Polyamide (PA) Composite	No
XLA	Internally Lubricated Polyacetal	Internally lubricated polyacetal (POM)	Yes
XLG	Low Friction Acetal	Internally lubricated polyacetal (POM)	Yes
YSM	Yellow Cut Resistant	Cut and abrasive wear resistant acetal (POM)	Yes
YUV	Yellow Acetal Ultraviolet Resistant	Ultraviolet resistant acetal (POM)	No

REXNORD® TableTop® AND MatTop® APPLICATION INFORMATION SHEET

Regal Rexnord™ Corporation

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Submitted by: _____ Phone: _____

Company: _____ Contact: _____ Phone: _____

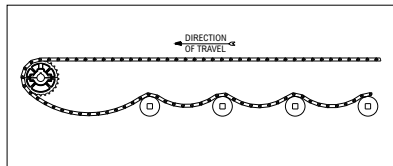
Is this application... Existing application Retrofit application New application

Chain style: _____ Width: _____ Material: _____ Length: _____

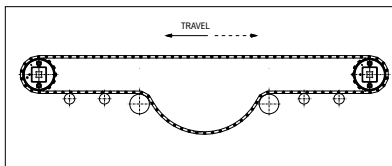
Any attachments or special requirements (If so, please describe in detail)?

What drive configuration?

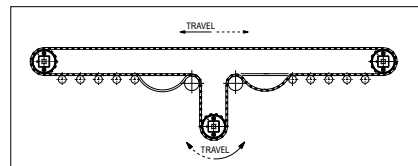
Uni-Directional



Bi-Directional, End-Drive



Bi-Directional, Bottom Drive



Desired sprocket size: _____

Product information (product description, dimensions, weight per item):

Product weight (lbs/ft for TableTop or lbs/ft² for MatTop): _____

Wearstrip material: _____ **Ambient/Chain temperature:** _____

% of time accumulation occurs (% slip): _____ **Length of conveyor accumulation occurs:** _____

Number of starts and stops per hour: _____ **Speed** (FPM or MPM): _____

Lubrication (specify): _____

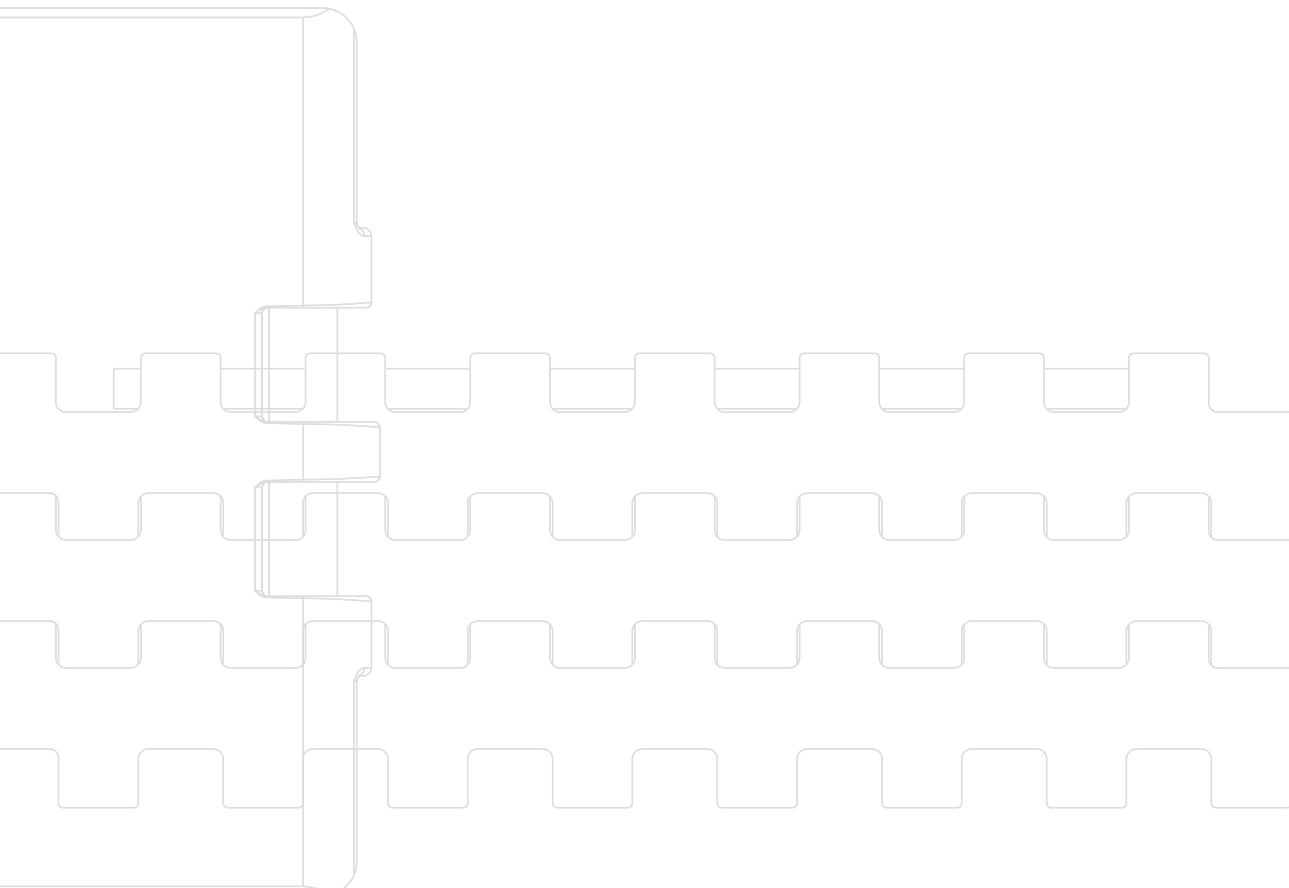
Environment: Abrasive: Chemicals: Bacteria: Other: (specify) _____

- If chemicals are present in the application, please obtain MSDS sheets for the chemical in question.
- Any other special design considerations (i.e. impact loading, FDA approval, special type of transfer, special materials)

Is special chain material required? _____
 (i.e. Ultra Violet stabilized (DUV, HUV, or LUV), Anti-static (AS), Melt Resistant (MR), etc.)

IMPORTANT: Please attach a conveyor layout or schematic.
 (include lengths, curves, radius of curves, drive locations, inclines, elevators)

All items in **UNDERLINE** will need to be filled in before calculations can be performed.



Automation and Motion Control Regal Rexnord

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