



Roller Chain Division

LAMBDA[®] Chain

The Next Generation of Lube-Free Roller Chain



Better than ever!

- Maintenance-Free
- Even Longer Wear Life
- Increased Operating Temperatures

Unique Patented Design

The Next Generation of Lube-Free Roller Chain

LAMBDA[®] Drive and Conveyor Chain

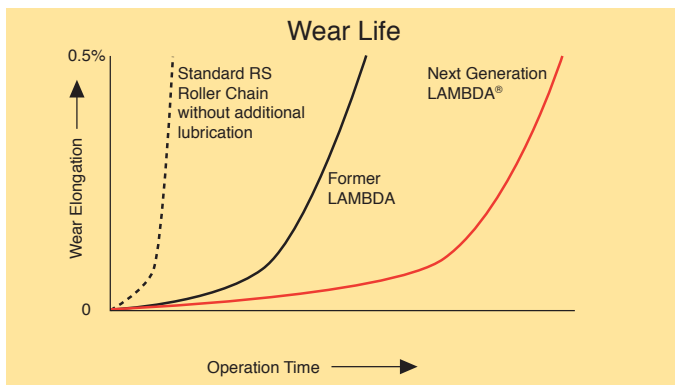
We built in all the oil you need!



LAMBDA[®] Chain delivers the ultimate in power transmission technology ... long-term operation without additional lubrication. Packaging ... food processing ... any application that must be lube-free needs LAMBDA Chain to improve performance. LAMBDA Chain saves you time and money, because you get reduced downtime and lower maintenance costs.

As the number one lube-free chain in the market, we've made LAMBDA Chain better than ever! Next Generation LAMBDA Chain is built for better, longer-lasting performance in maintenance-free operations:

- Outlasts standard chain without post-lubrication
- Operates in higher temperatures
- Keeps your operation running clean



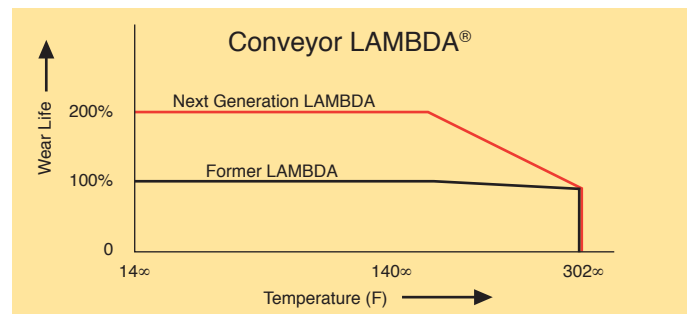
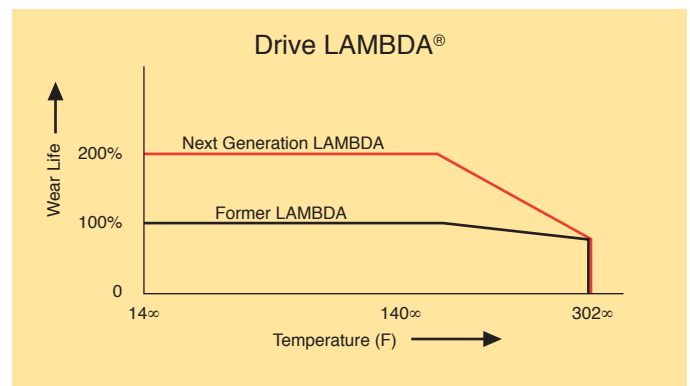
Next Generation LAMBDA Chain outlasts standard chain without post-lubrication. It outlasts our former LAMBDA Chain up to twice as long in normal temperature range (+14°F ~ +140°F).

Next Generation LAMBDA for Your Operation

You can't find better lube-free performance than Next Generation LAMBDA drive and conveyor chain. We enhanced the technology to make the longest-lasting lube-free chain.

Our patented design combines a special oil-impregnated sintered bushing and coated pin for long-term internal lubrication. The solid roller engages cleanly with sprockets, creating smooth articulation, reducing chain pull, and lengthening your system's wear life.

- Outlasts our former LAMBDA Chain up to twice as long in temperatures as high as 140°F
- Outstanding performance in temperatures up to 302°F
- Smooth roller engagement reduces sprocket wear and lengthens your system's service life
- Available in single and double strand — from RSC35 to RSC100 and from RSD40 to RSD140 — to meet more application needs



Make a Clean Profit on Lube-Free Applications

When your operation requires “clean,” when machines and conveyed materials must be free from contact with oil, or when lubrication is difficult, Next Generation LAMBDA Chain is the right choice.

- Reduce maintenance costs
- Eliminate product contamination
- Reduce downtime
- Increase sprocket life

Next Generation LAMBDA® Chain for Special Applications

In addition to our standard sizes and types of LAMBDA Chain, we offer Next Generation LAMBDA Chain for special applications:

LAMBDA Chain with NEPTUNE® Coating

Corrosion-resistant lube-free chain with the strength of carbon steel. You get:

- Excellent corrosion resistance to extend wear life in applications that require water washdowns or exposure to moisture (not suitable for applications that require contact with food)
- Protection that won't flake or peel off, keeping your line free from the exposure that causes product damage and premature chain wear
- Strong, dependable chain free from steel-weakening hydrogen embrittlement to give you longer service life

Engineering Class LAMBDA Chain Heavy-duty lube-free chain designed to prolong wear life under rigorous operating conditions. You get:

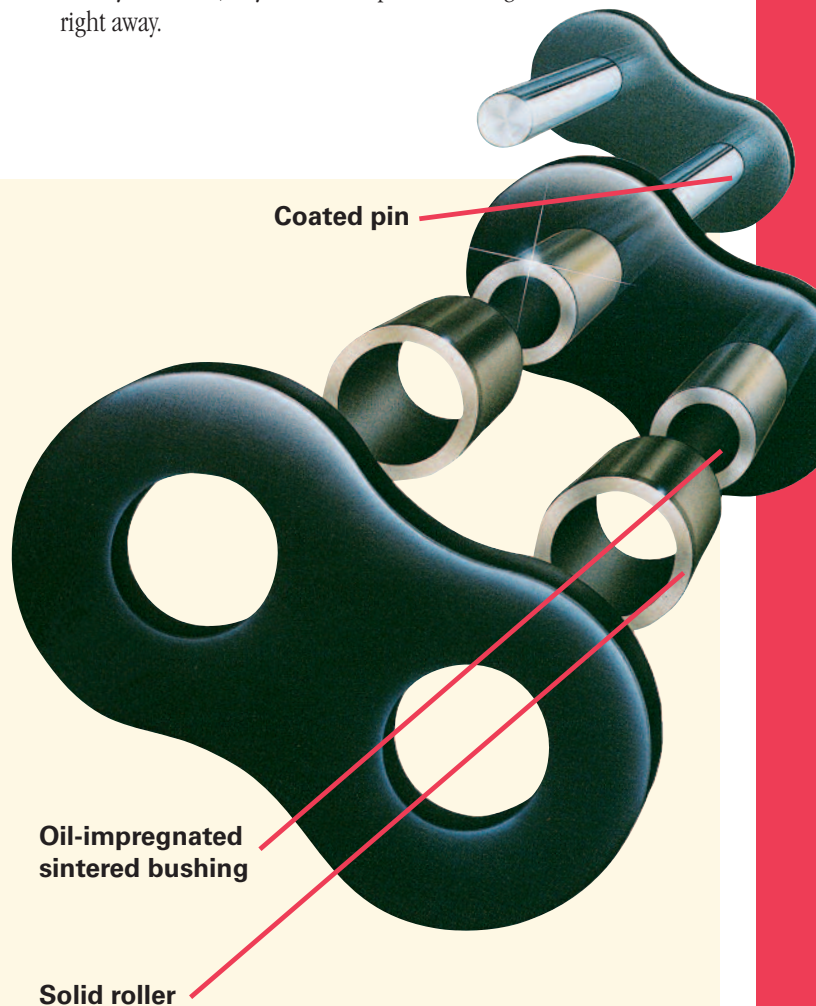
- High-quality chain that can withstand applications where lubrication is not an option
- Outstanding performance with longer wear life, less downtime for maintenance, and increased productivity

BS/DIN LAMBDA Chain Lube-free chain that operates on ISO standard sprockets.

- Replaces BS/DIN chain for cost-effective lube-free operations
- Extra temperature resistance up to 302°F

Start Saving Immediately

Maximize the efficiency of your existing system without costly design or reconfiguration changes. Next Generation LAMBDA Chain is directly interchangeable with most standard ANSI chain and will articulate smoothly with sprockets. And LAMBDA Chain is in stock and ready when you need it, so your line is up and running right away.



Now better than ever!
Next Generation LAMBDA protects applications and profits

Contents

Next Generation

LAMBDA® CHAIN SERIES

- Strong, reliable operation with longer wear life than standard or other chains
- Lube-free, which means less downtime and reduced maintenance and operating costs
- Oil-impregnated bushings minimize chain elongation
- Smooth roller engagement reduces sprocket wear and replacement costs
- Up and running quickly, LAMBDA directly replaces ANSI chain in most applications — no expensive reconfiguration required
- Ideal when lubrication is impractical or impossible
- Same maximum allowable loads as our standard chains

Next Generation

DRIVE LAMBDA® CHAIN

Note: Selection Guidelines for Drive LAMBDA are on pages 15–21.

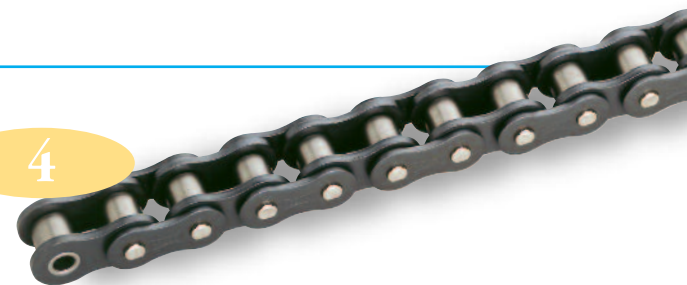
RS Drive LAMBDA

Single Strand Drive LAMBDA 4

Double Strand Drive LAMBDA 4

LAMBDA for lube-free drive applications.

- Operates in temperatures up to 302°F
- Same maximum allowable load as our standard RS chain
- Available in sizes from RSD40 to RSD140



Nickel-Plated RS Drive LAMBDA

Nickel-Plated Single Strand Drive LAMBDA 5

Nickel-Plated Double Strand Drive LAMBDA 5

LAMBDA for corrosion resistance.

- Operates in temperatures up to 302°F
- Ideal for mildly corrosive environments
- Long-lasting and lube-free



Next Generation

CONVEYOR LAMBDA® CHAIN

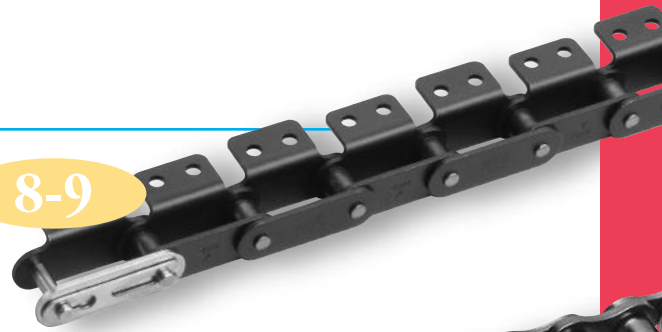
Note: Selection Guidelines for Conveyor LAMBDA are on pages 22-24.

Single Pitch Conveyor LAMBDA 6-7

Double Pitch Conveyor LAMBDA 8-9

LAMBDA for conveyor applications.

- Operates in temperatures up to 302°F
- Cost-effective, lube-free conveyor chain for your operation
- A variety of attachments for industry specific applications



Nickel-Plated Single Pitch Conveyor LAMBDA 6-7

Nickel-Plated Double Pitch Conveyor LAMBDA 8-9

LAMBDA for corrosion resistance in conveyor applications.

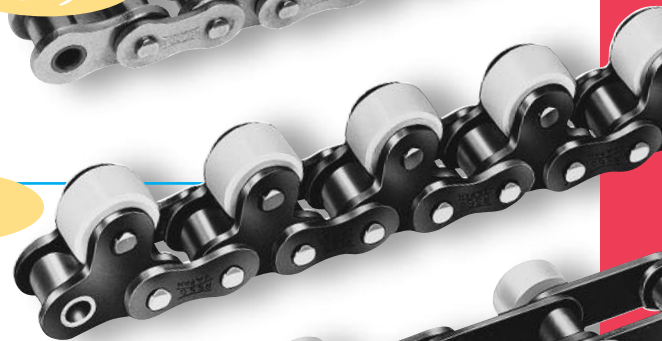
- Operates in temperatures up to 302°F
- Ideal for mildly corrosive environments
- Long-lasting and lube-free



Plastic Top Roller Conveyor LAMBDA 10

LAMBDA for accumulating conveyors.

- Narrow width accumulating chain
- Lube-free operation
- Operates in temperatures up to 176°F (due to plastic components)



Plastic Outboard Roller Conveyor LAMBDA 11

LAMBDA for accumulating conveyors.

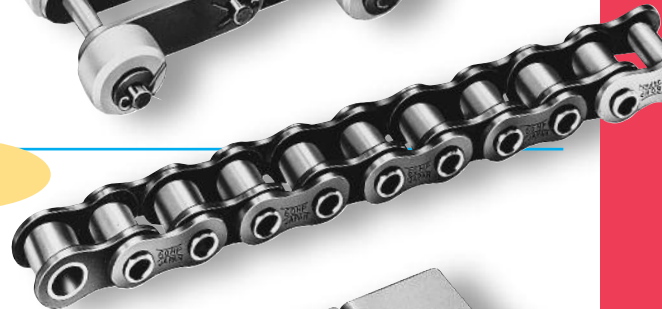
- Lube-free with a low center of gravity
- Long wear life
- Operates in temperatures up to 176°F (due to plastic components)



Hollow Pin Conveyor LAMBDA 12

LAMBDA for hollow pin applications.

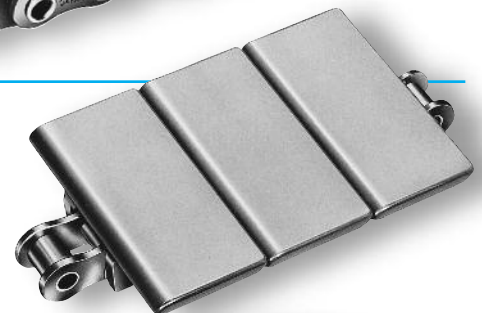
- Attachments or crossrods can be inserted at any pitch spacing
- Single and double pitch sizes available



TN/TS Top Plate Conveyor LAMBDA 13-14

LAMBDA for special conveyor applications.

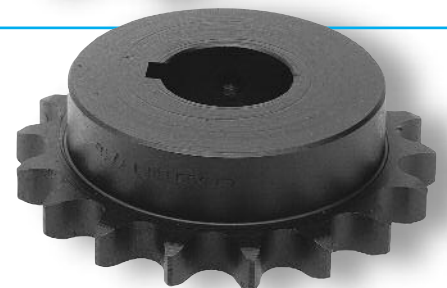
- Plastic or stainless top plates for optimal performance
- Nickel-plated base chain for mildly corrosive environments
- TN Series operates in temperatures up to 176°F (due to plastic components)
- TS Series operates in temperatures up to 302°F



SPROCKETS 18-19

Complete your LAMBDA System with durable sprockets from U.S. Tsubaki.

- One source shopping for chains and sprockets of consistent, outstanding quality
- Hardened teeth available for maximum durability
- Manufactured to our high quality standards to ensure proper load distribution to the sprocket teeth



RS Drive LAMBDA®



LAMBDA for lube-free drive applications.

- Operates in temperatures up to 302°F
- Same maximum allowable load as our standard RS chain
- Available in sizes from RSD40 to RSD140

RS Drive LAMBDA®

Single Strand Drive LAMBDA

All dimensions are in inches unless otherwise indicated.

Chain Number	Standard Type of Pin*	Pitch P	Roller Diameter R	Width Between Roller Link Plates W**	Link Plates				Pin				Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
					PLP Thickness T ₁	RLP Thickness T ₂	RLP Height H	PLP Height h	D	L ₁	L ₂	L			
RSD40-LAMBDA	R	.500	.312	.297	.060	.080	.472	.409	.156	.344	.411	.787	4,300	816	0.47
RSD50-LAMBDA	R	.625	.400	.365	.080	.094	.591	.512	.200	.423	.490	.945	7,050	1,430	0.75
RSD60-LAMBDA	R	.750	.469	.483	.094	.125	.713	.614	.234	.541	.616	1.260	9,920	1,980	1.16
RSD80-LAMBDA	R	1.000	.625	.609	.125	.156	.949	.819	.312	.675	.797	1.571	17,600	3,310	1.86
RSD100-LAMBDA	C/R	1.250	.750	.736	.156	.187	1.185	1.024	.375	.813	.939	1.870	26,500	5,070	2.89
RSD120-LAMBDA	C/R	1.500	.875	.974	.187	.220	1.425	1.228	.437	1.014	1.179	2.323	37,500	6,830	4.30
RSD140-LAMBDA	C/R	1.750	1.000	.974	.220	.252	1.661	1.433	.500	1.091	1.268	2.508	48,500	9,040	5.40

Double Strand Drive LAMBDA

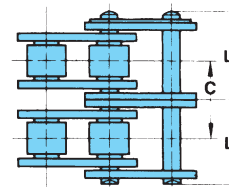
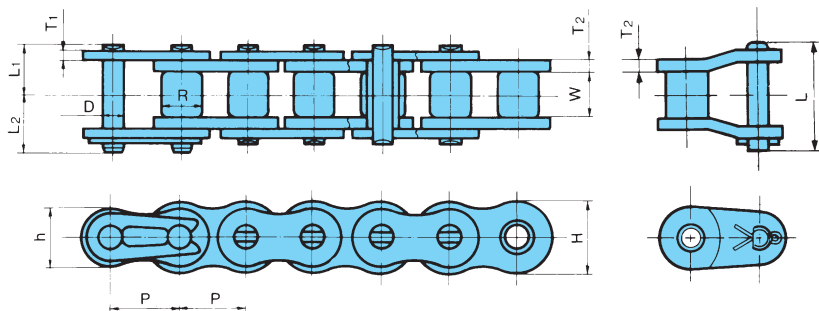
Chain Number	Standard Type of Pin*	Pitch P	Roller Diameter R	Width Between Roller Link Plates W**	Link Plates				Pin			Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)	
					PLP Thickness T ₁	RLP Thickness T ₂	RLP Height H	PLP Height h	D	L ₁	L ₂				
RSD40(H)-2LAMBDA	R	.500	.312	.297	.080	.080	.472	.409	.156	.689	.754	.646	8,600	1,390	1.00
RSD50(H)-2LAMBDA	R	.625	.400	.365	.094	.094	.591	.512	.200	.825	.892	.776	14,100	2,430	1.64
RSD60(H)-2LAMBDA	R	.750	.469	.483	.125	.125	.713	.614	.234	1.083	1.181	1.028	19,840	3,370	2.41
RSD80(H)-2LAMBDA	R	1.000	.625	.609	.156	.156	.949	.819	.312	1.358	1.492	1.283	35,200	5,630	4.15
RSD100(H)-2LAMBDA	C	1.250	.750	.736	.187	.187	1.185	1.024	.375	1.630	1.736	1.539	53,000	8,620	6.07
RSD120(H)-2LAMBDA	C	1.500	.875	.974	.220	.220	1.425	1.228	.437	2.014	2.171	1.924	75,000	11,600	8.67
RSD140(H)-2LAMBDA	C	1.750	1.000	.974	.252	.252	1.661	1.433	.500	2.163	2.343	2.055	97,000	15,400	11.01

* R indicates riveted, C indicates cottered, C/R indicates available with cottered or riveted pins.

**Width between roller link plates (W) is slightly narrower than ANSI standard, however this chain runs on standard sprockets.

Notes:

1. Drive and Conveyor series LAMBDA chains cannot be intercoupled or interchanged.
2. The heavy roller link plates slightly increase the width, which means Drive LAMBDA connecting links are required.
3. Connecting links for RSD80-LAMBDA to RSD140-LAMBDA and RSD80(H)-2LAMBDA to RSD140(H)-2LAMBDA have cottered pins.
4. Double Strand Drive LAMBDA requires heavy-series sprockets.



Nickel-Plated RS Drive LAMBDA®



LAMBDA for corrosion resistance.

- Operates in temperatures up to 302°F
- Ideal for mildly corrosive environments
- Long-lasting and lube-free

Nickel-Plated Single Strand Drive LAMBDA

All dimensions are in inches unless otherwise indicated.

Chain Number	Standard Type of Pin*	Pitch P	Roller Diameter R	Width Between Roller Link Plates W**	Link Plates				Pin				Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
					PLP Thickness T ₁	RLP Thickness T ₂	RLP Height H	PLP Height h	D	L ₁	L ₂	L			
RSD40NP-LAMBDA	R	.500	.312	.297	.060	.080	.472	.409	.156	.344	.411	.787	4,300	683	0.47
RSD50NP-LAMBDA	R	.625	.400	.365	.080	.094	.591	.512	.200	.423	.490	.945	7,050	1,210	0.75
RSD60NP-LAMBDA	R	.750	.469	.483	.094	.125	.713	.614	.234	.541	.616	1.260	9,920	1,630	1.16
RSD80NP-LAMBDA	R	1.000	.625	.609	.125	.156	.949	.819	.312	.675	.797	1.571	17,600	2,870	1.86
RSD100NP-LAMBDA	C	1.250	.750	.736	.156	.187	1.185	1.024	.375	.813	.939	1.870	26,500	4,300	2.89
RSD120NP-LAMBDA	C	1.500	.875	.974	.187	.220	1.425	1.228	.437	1.014	1.179	2.323	37,500	5,730	4.30
RSD140NP-LAMBDA	C	1.750	1.000	.974	.220	.252	1.661	1.433	.500	1.091	1.268	2.508	48,500	7,720	5.40

Nickel-Plated Double Strand Drive LAMBDA

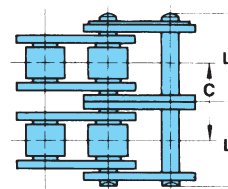
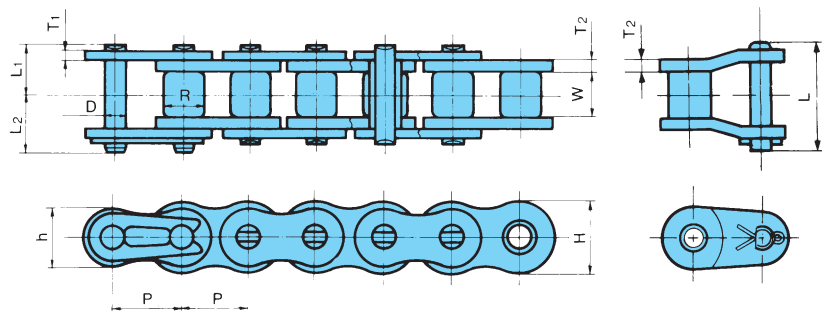
Chain Number	Standard Type of Pin*	Pitch P	Roller Diameter R	Width Between Roller Link Plates W**	Link Plates				Pin			Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)	
					PLP Thickness T ₁	RLP Thickness T ₂	RLP Height H	PLP Height h	D	L ₁	L ₂				
RSD40(H)NP-2LAMBDA	R	.500	.312	.297	.080	.080	.472	.409	.156	.689	.754	.646	8,600	1,160	1.00
RSD50(H)NP-2LAMBDA	R	.625	.400	.365	.094	.094	.591	.512	.200	.825	.892	.776	14,100	2,060	1.64
RSD60(H)NP-2LAMBDA	R	.750	.469	.483	.125	.125	.713	.614	.234	1.083	1.181	1.028	19,840	2,770	2.41
RSD80(H)NP-2LAMBDA	R	1.000	.625	.609	.156	.156	.949	.819	.312	1.358	1.492	1.283	35,200	4,880	4.15
RSD100(H)NP-2LAMBDA	C	1.250	.750	.736	.187	.187	1.185	1.024	.375	1.630	1.736	1.539	53,000	7,310	6.07
RSD120(H)NP-2LAMBDA	C	1.500	.875	.974	.220	.220	1.425	1.228	.437	2.014	2.171	1.924	75,000	9,740	8.67
RSD140(H)NP-2LAMBDA	C	1.750	1.000	.974	.252	.252	1.661	1.433	.500	2.163	2.343	2.055	97,000	13,100	11.01

* R indicates riveted, C indicates cottered.

**Width between roller link plates (W) is slightly narrower than ANSI standard, however this chain runs on standard sprockets.

Notes:

1. Drive and Conveyor series LAMBDA chains cannot be intercoupled or interchanged.
2. The heavy roller link plates slightly increase the width, which means Drive LAMBDA connecting links are required.
3. Connecting links for RSD80NP-LAMBDA to RSD140NP-LAMBDA and RSD80(H)NP-2LAMBDA to RSD140(H)NP-2LAMBDA have cottered pins.
4. Double Strand Drive LAMBDA requires heavy-series sprockets.



Single Pitch Conveyor LAMBDA®

Standard Single Pitch Conveyor LAMBDA

LAMBDA for conveyor applications.

- Operates in temperatures up to 302°F
- Cost-effective, lube-free conveyor chain for your operation
- A variety of attachments for industry specific applications

Now available in sizes from
RSC35 to RSC100 and from
RSC35NP to RSC100NP!

Nickel-Plated Single Pitch Conveyor LAMBDA

LAMBDA for corrosion resistance in conveyor applications.

- Operates in temperatures up to 302°F
- Ideal for mildly corrosive environments
- Long-lasting and lube-free

Single Pitch Conveyor LAMBDA®

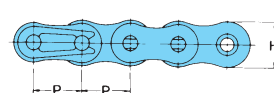
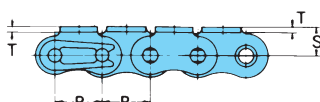
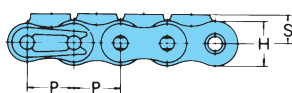
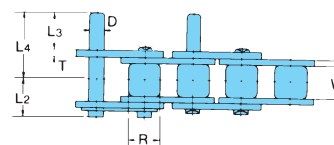
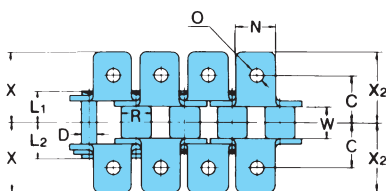
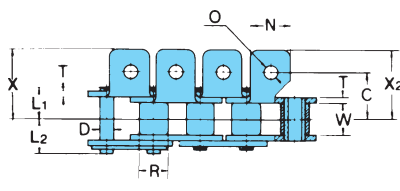
All dimensions are in inches unless otherwise indicated.

Chain Number		Pitch P	Roller Dia. R	Width Between Roller Link Plates W	Link Plates			From Pin Head to C.L. L ₁	From Pin End to C.L. L ₂	Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
Standard	Nickel-Plated				Thickness T	Height H	Dia. D					
RSC35-LAMBDA▲	RSC35NP-LAMBDA▲	.375	※.200	.188	.050	.354	.118	.230	.270	2,115	342	0.22
RSC40-LAMBDA	RSC40NP-LAMBDA	.500	.312	.312	.060	.472	.156	.325	.392	3,530	595	0.43
RSC50-LAMBDA	RSC50NP-LAMBDA	.625	.400	.375	.080	.591	.200	.406	.472	5,730	970	0.70
RSC60-LAMBDA	RSC60NP-LAMBDA	.750	.469	.500	.094	.713	.234	.506	.581	8,380	1,410	1.03
RSC80-LAMBDA	RSC80NP-LAMBDA	1.000	.625	.625	.125	.949	.312	.640	.758	14,300	2,400	1.79
RSC100-LAMBDA	RSC100NP-LAMBDA	1.250	.750	.750	.157	1.185	.375	.778	.900	22,500	3,840	2.69

Chain Number		Attachment Dimensions												Additional weight per attachment (lbs)		
Standard	Nickel-Plated	P	C	C ₁	N	O	S	X	X ₂	X ₃	L ₃	L ₄	D	A&SA Att	K&SK Att	D Att
RSC35-LAMBDA▲	RSC35NP-LAMBDA▲	.375	.375	.375	.311	.102	.250	.563	.563	.573	.375	.575	.118	.002	.004	.002
RSC40-LAMBDA	RSC40NP-LAMBDA	.500	.500	.500	.375	.141	.315	.701	.701	.685	.375	.661	.156	.004	.008	.002
RSC50-LAMBDA	RSC50NP-LAMBDA	.625	.625	.625	.500	.205	.406	.922	.922	.906	.469	.827	.200	.006	.013	.004
RSC60-LAMBDA	RSC60NP-LAMBDA	.750	.750	.719	.625	.205	.469	1.110	1.110	1.057	.563	1.018	.234	.015	.030	.006
RSC80-LAMBDA	RSC80NP-LAMBDA	1.000	1.000	.969	.752	.268	.625	1.441	1.441	1.396	.752	1.335	.312	.028	.057	.154
RSC100-LAMBDA	RSC100NP-LAMBDA	1.250	1.250	1.252	1.000	.343	.780	1.768	1.768	1.732	.937	1.644	.375	.057	.114	.264

- Notes:
1. Conveyor LAMBDA should not be used in drive applications. It is designed for conveyor applications where the speeds are generally lower and the center distances are longer than those found in drive applications. Conveyor series LAMBDA, except for RSC35-LAMBDA, has the same dimensions and the same working load as our standard attachment chain and the same link plate thickness as standard. RSC35 standard connecting links cannot be used for RSC35-LAMBDA due to the difference in pin diameter.
 2. Drive and Conveyor LAMBDA chains cannot be intercoupled.
 3. Connecting links for RSC80-LAMBDA to RSC100-LAMBDA and RSC80NP-LAMBDA to RSC100NP-LAMBDA have cotted pins.
 4. RSC35-LAMBDA lasts up to 5 times longer than standard roller chain without additional lubrication.

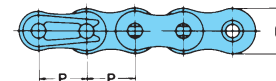
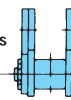
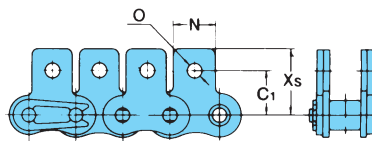
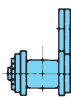
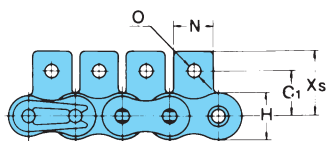
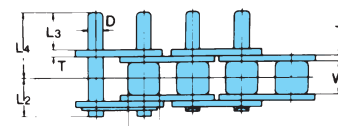
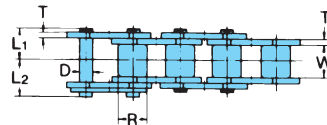
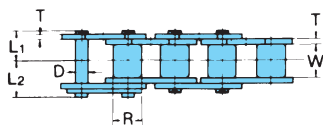
- ▲ Rollerless
- ※ Bushing Diameter



A-1 Attachment

K-1 Attachment

D-1 Attachment



SA-1 Attachment

SK-1 Attachment

D-3 Attachment

Double Pitch Conveyor LAMBDA®

Standard Double Pitch Conveyor LAMBDA

LAMBDA for conveyor applications.

- Operates in temperatures up to 302°F
- Cost-effective, lube-free conveyor chain for your operation
- A variety of attachments for industry-specific applications

Nickel-Plated Double Pitch Conveyor LAMBDA

LAMBDA for corrosion resistance in conveyor applications.

- Operates in temperatures up to 302°F
- Ideal for mildly corrosive environments
- Long-lasting and lube-free

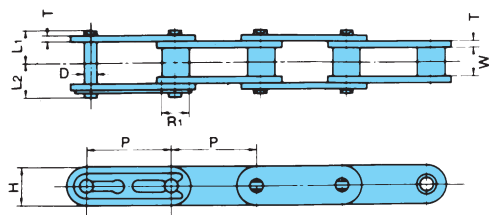
All dimensions are in inches unless otherwise indicated.

Chain Number		Pitch P	"S" Roller R ₁	Roller Dia. "R" Roller R ₂	Width Between Roller Link Plates W	Pin		Link Plate		
Standard	Nickel-Plated					Dia D	Length L ₁	L ₂	Thickness T	Height H
C2040-LAMBDA	C2040NP-LAMBDA	1.000	.312	.625	.312	.156	.325	.392	.060	.472
C2050-LAMBDA	C2050NP-LAMBDA	1.250	.400	.750	.375	.200	.406	.472	.080	.591
C2060H-LAMBDA	C2060HNP-LAMBDA	1.500	.469	.875	.500	.234	.573	.652	.125	.677
C2080H-LAMBDA	C2080HNP-LAMBDA	2.000	.625	1.125	.625	.312	.720	.823	.156	.906
C2100H-LAMBDA	C2100HNP-LAMBDA	2.500	.750	1.562	.750	.375	.858	.964	.187	1.125

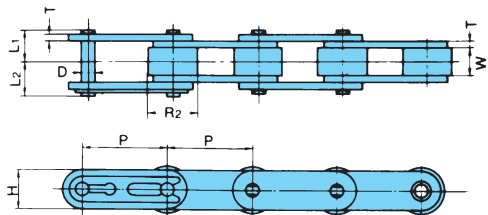
Chain Number		Attachment Dimensions															
Standard	Nickel-Plated	C	C ₁	C ₂	K	N	O	O ₁	S	T	X	X ₂	X _s	D	L ₃	L ₄	G
C2040-LAMBDA	C2040NP-LAMBDA	.500	.437	.535	.374	.752	.142	.205	.358	.060	.760	.693	.780	.156	.374	.663	.161
C2050-LAMBDA	C2050NP-LAMBDA	.626	.563	.626	.469	.937	.205	.268	.437	.080	.953	.866	.969	.200	.469	.833	.201
C2060H-LAMBDA	C2060HNP-LAMBDA	.844	.689	.752	.563	1.126	.205	.343	.579	.125	1.240	1.110	1.205	.234	.563	1.083	.240
C2080H-LAMBDA	C2080HNP-LAMBDA	1.094	.874	1.000	.752	1.500	.268	.406	.752	.156	1.602	1.441	1.594	.312	.752	1.401	.319
C2100H-LAMBDA	C2100HNP-LAMBDA	1.312	1.125	1.250	.938	1.874	.323	.516	.922	.187	1.950	1.768	1.984	.375	.937	1.709	.398

Chain Number		Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)		Additional weight per attachment (lbs)		
Standard	Nickel-Plated			"S" Roller	"R" Roller	A&SA Att	K&SK Att	D Att
C2040-LAMBDA	C2040NP-LAMBDA	3,530	595	0.34	0.58	.006	.013	.002
C2050-LAMBDA	C2050NP-LAMBDA	5,730	970	0.56	0.87	.013	.026	.004
C2060H-LAMBDA	C2060HNP-LAMBDA	8,380	1,410	1.01	1.47	.037	.074	.006
C2080H-LAMBDA	C2080HNP-LAMBDA	14,300	2,400	1.62	2.37	.070	.140	.015
C2100H-LAMBDA	C2100HNP-LAMBDA	22,500	3,840	2.38	3.91	.132	.264	.026

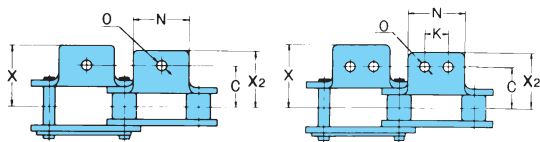
- Notes:
1. Conveyor LAMBDA should not be used in drive applications. It is designed for conveyor applications where the speeds are generally lower and the center distances are longer than those found in drive applications. Conveyor series LAMBDA has the same dimensions and the same working load as our standard attachment chain. All link plates have the same thickness as standard.
 2. Drive and Conveyor LAMBDA chains cannot be intercoupled.
 3. Connecting links for C2080H-LAMBDA to C2100H-LAMBDA and C2080HNP-LAMBDA to C2100HNP-LAMBDA have cottered pins.
 4. Oversize "R" rollers are designated in U.S. Tsubaki Chain Numbers by the number (2), e.g. C2062-LAMBDA is equivalent to C2060-LAMBDA with an oversize "R" roller.



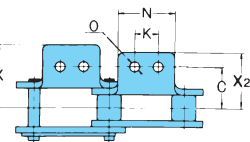
"S" roller type



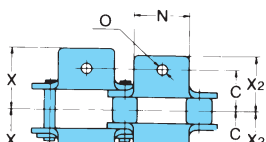
"R" roller type



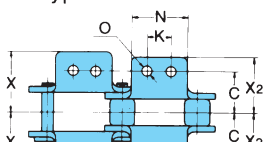
A-1 Attachment



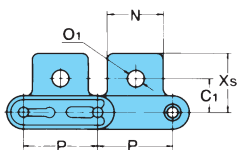
A-2 Attachment



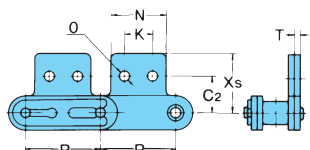
K-1 Attachment



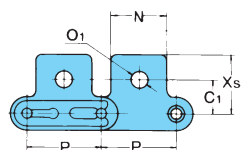
K-2 Attachment



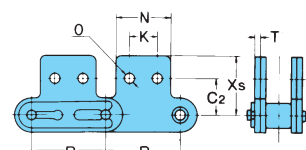
SA-1 Attachment



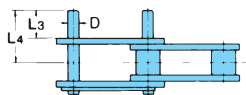
SA-2 Attachment



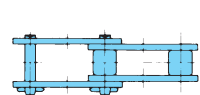
SK-1 Attachment



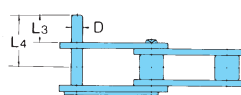
SK-2 Attachment



D-3 Attachment



GK-1 Attachment
(except large roller type)



D-1 Attachment



Plastic Top Roller Conveyor LAMBDA®



LAMBDA for accumulating conveyors.

- Narrow width accumulating chain
- Lube-free operation
- Operates in temperatures up to 176°F (due to plastic components)

Single Pitch Top Roller Conveyor LAMBDA®

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch P	Width Between Roller Link Plates W	Roller Dia. R	Pin			Link Plate	
				D	L ₁	L ₂	H	T
RSC40-LAMBDA-TRP	.500	.312	.312	.156	.325	.392	.472	.060
RSC50-LAMBDA-TRP	.625	.375	.400	.200	.406	.472	.591	.080
RSC60-LAMBDA-TRP	.750	.500	.469	.234	.506	.581	.713	.094

Chain Number	Attachment Dimensions									Approx. Weight (lbs/ft)	
	DF ₁	DF ₂	C _S	N	X _S	l	l ₁	l ₂	d	At Every Link	At Every Second Link
RSC40-LAMBDA-TRP	.433	.625	.500	.374	.687	.520	.325	.380	.156	0.62	0.57
RSC50-LAMBDA-TRP	.591	.750	.626	.500	.876	.638	.406	.469	.200	1.05	0.93
RSC60-LAMBDA-TRP	.709	.875	.720	.626	1.033	.811	.506	.600	.234	1.55	1.36

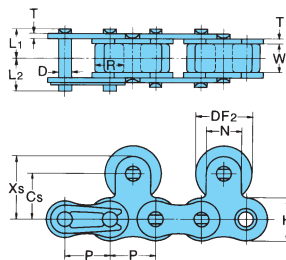
Double Pitch Top Roller Conveyor LAMBDA®

Chain Number	Pitch P	Width Between Roller Link Plates W	Roller Dia. R		Pin			Link Plate	
			"S" roller	"R" roller	D	L ₁	L ₂	H	T
C2040-LAMBDA-TRP	1.00	.312	.312	.625	.156	.325	.392	.472	.060
C2050-LAMBDA-TRP	1.25	.375	.400	.750	.200	.406	.472	.591	.080
C2060H-LAMBDA-TRP	1.50	.500	.469	.875	.234	.573	.652	.677	.125

Chain Number	Attachment Dimensions							Approx. Weight (lbs/ft)	
	DF	C _S	X _S	l ₁	l ₂	d	"S" Roller	"R" Roller	
C2040-LAMBDA-TRP	.625	.591	.827	.333	.396	.205	0.61	0.85	
C2050-LAMBDA-TRP	.750	.748	1.043	.413	.508	.240	0.97	1.28	
C2060H-LAMBDA-TRP	.875	.906	1.244	.581	.699	.318	1.86	2.33	

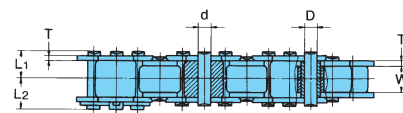
When top rollers are spaced more than every second link.

Note: DF₂

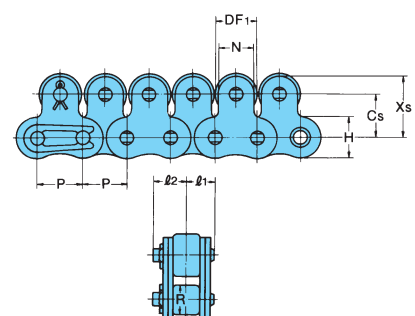


When top rollers are spaced every link.

Note: DF₁



Connecting link is clip type.



Plastic Outboard Roller Conveyor

LAMBDA[®]



LAMBDA for accumulating conveyors.

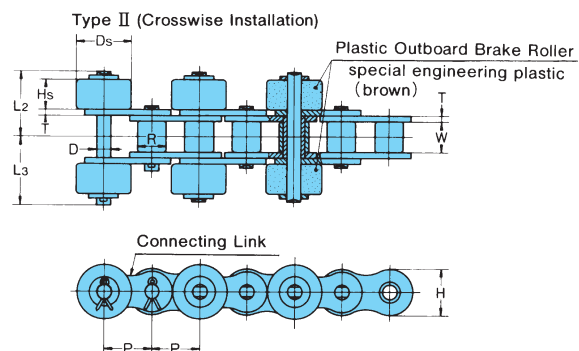
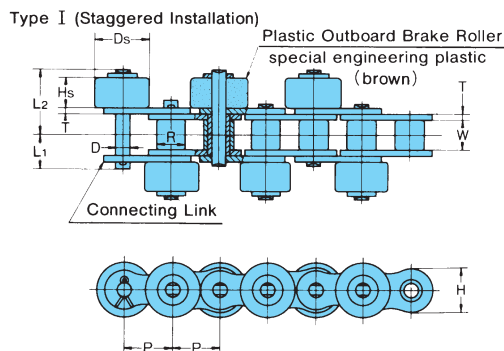
- Lube-free with a low center of gravity
- Long wear life
- Operates in temperatures up to 176°F (due to plastic components)

Single Pitch Plastic Outboard Roller Conveyor LAMBDA[®]

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch P	Roller Dia. R	Width Between Roller Link Plates W	— Link —		— Pin —				- Outboard Roller -		Approx. Weight (lbs/ft)
				T	H	D	L ₁	L ₂	L ₃	D _S	H _S	
RSC40-LAMBDA-PSR	.500	.312	.312	.059	.472	.156	.380	.705	.760	.625	.307	.63
RSC50-LAMBDA-PSR	.625	.400	.375	.079	.591	.200	.469	.850	.913	.750	.370	.95
RSC60-LAMBDA-PSR	.750	.469	.500	.094	.713	.234	.600	1.100	1.195	.875	.496	1.42

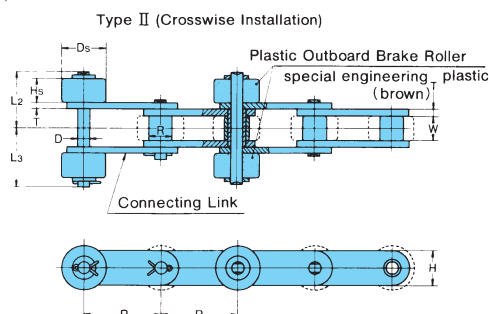
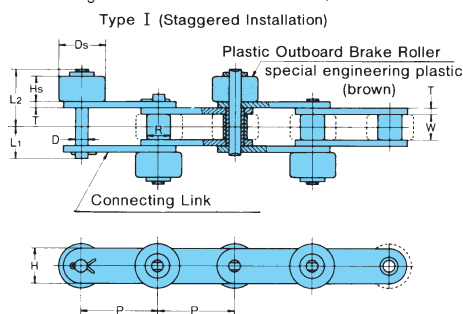
Note: For staggered outboard roller installation, the plastic brake rollers are spaced every third link alternating from right to left. For crosswise outboard roller installation, they are spaced in pairs every sixth link. These configurations are standard.



Double Pitch Plastic Outboard Roller Conveyor LAMBDA[®]

Chain Number	Roller Type	Pitch P	Roller Dia. R	Width Between Roller Link Plates W	— Link —		— Pin —				- Outboard Roller -		Approx. Weight (lbs/ft)
					T	H	D	L ₁	L ₂	L ₃	D _S	H _S	
C2040-LAMBDA-PSR	S	1.00	.312	.312	.059	.472	.156	.380	.705	.760	.625	.307	0.44
C2050-LAMBDA-PSR	S	1.25	.400	.375	.079	.591	.200	.469	.850	.913	.750	.370	0.69
C2060H-LAMBDA-PSR	S	1.50	.469	.500	.126	.677	.234	.667	1.167	1.262	.875	.496	1.21
C2042-LAMBDA-PSR	R	1.00	.625	.312	.059	.472	.156	.380	.909	.965	.906	.512	0.83
C2052-LAMBDA-PSR	R	1.25	.750	.375	.079	.591	.200	.469	.996	1.063	1.063	.512	1.14
C2062H-LAMBDA-PSR	R	1.50	.875	.500	.126	.677	.234	.667	1.183	1.278	1.181	.512	1.77

This diagram shows standard "S" rollers (rollers at chain center) drawn in solid and oversized "R" rollers in dotted lines.



Hollow Pin Conveyor LAMBDA®



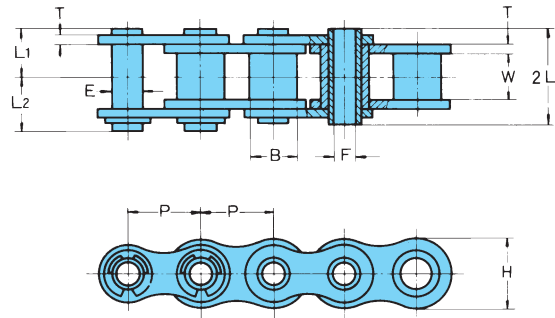
LAMBDA for hollow pin applications.

- Attachments or crossrods can be inserted at any pitch spacing
- Single and double pitch sizes available

Single Pitch Hollow Pin Conveyor LAMBDA®

All dimensions are in inches unless otherwise indicated.

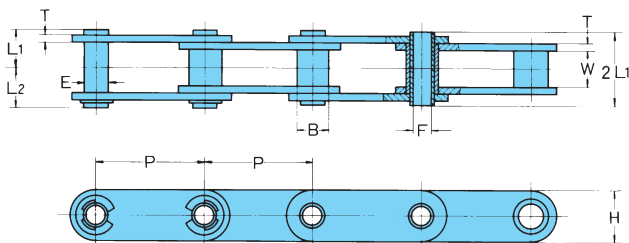
Chain Number	Pitch P	Width Between Bushing Link Plates W	Bushing Dia. B	E	Pin			Link Plate		Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
					Outer Dia. F(MIN)	Inner Dia. L ₁	L ₂	Height H	Thickness T			
RSC40HP-LAMBDA	.500	.312	.312	.224	.157	.315	.374	.472	.060	2,430	331	0.36
RSC50HP-LAMBDA	.625	.375	.400	.284	.202	.396	.459	.591	.080	4,410	573	0.58
RSC60HP-LAMBDA	.750	.500	.469	.330	.236	.494	.561	.713	.094	5,950	772	0.85



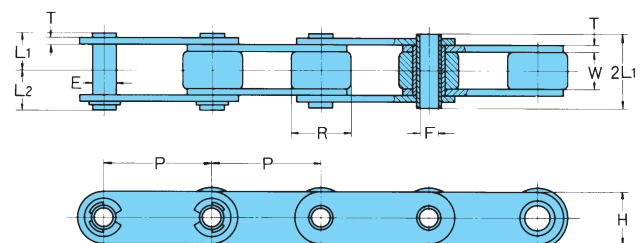
Hollow Pin Conveyor LAMBDA®

Double Pitch Hollow Pin Conveyor LAMBDA®

Chain Number	Pitch P	Width Between Roller Link Plates W	"S" Roller Bush Dia. B	"R" Roller Dia. R	Pin				Link Plate		Average Tensile Strength (lbs)	Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)	
					Outer Dia. E	Inner Dia. F(MIN)	L ₁	L ₂	Height H	Thickness T			Bushed Type	Roller Type
C2040HP-LAMBDA	1.000	.312	.312	.625	.224	.157	.315	.374	.472	.060	2,430	331	0.31	0.55
C2050HP-LAMBDA	1.250	.375	.400	.750	.284	.202	.396	.459	.591	.080	4,410	573	0.50	0.81
C2060HP-LAMBDA	1.500	.500	.469	.875	.330	.236	.494	.561	.677	.094	5,950	772	0.93	1.38



"S" roller (bushed type)



"R" roller

TN/TS Top Plate Conveyor LAMBDA®



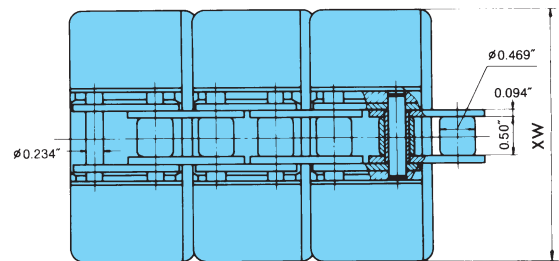
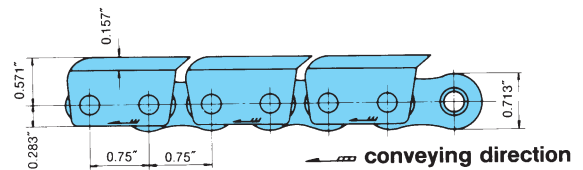
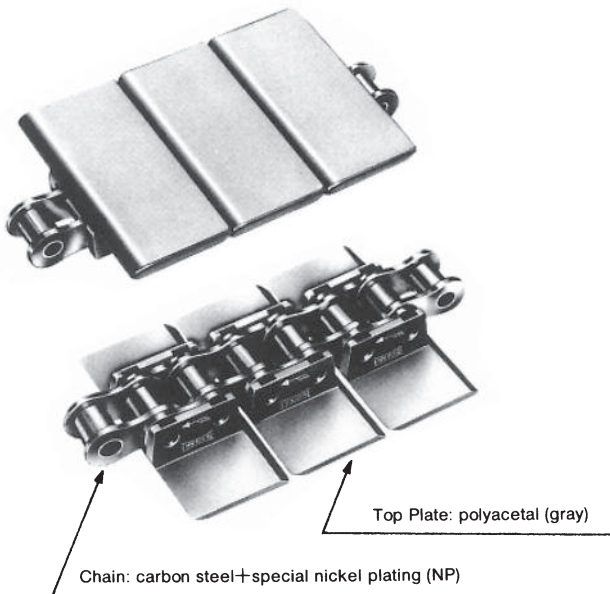
LAMBDA for special conveyor applications.

- Plastic or stainless steel snap-on top plate for optimal performance
- Nickel-plated base chain for mildly corrosive environments
- TN Series operates up to 176°F (due to plastic components)
- TS Series operates in temperatures up to 302°F

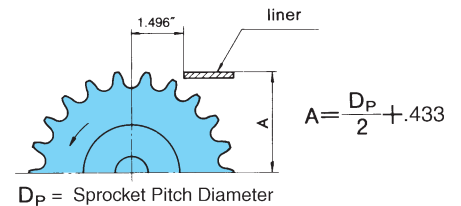
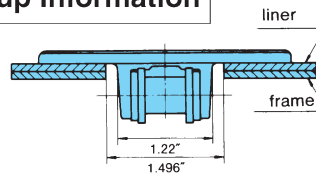
All dimensions are in inches unless otherwise indicated.

PLASTIC TOP PLATE TN SERIES

Chain Number	Top Plate Width XW	Approx. Weight (lbs/ft)	Maximum Allowable Conveying Load (lbs)
TN826NP-LAMBDA	3.25	1.41	1,410
TN1016NP-LAMBDA	4.00	1.48	1,410
TN1143NP-LAMBDA	4.50	1.55	1,410
TN1270NP-LAMBDA	5.00	1.61	1,410
TN1905NP-LAMBDA	7.50	1.88	1,410



Guide Rail Set-up Information

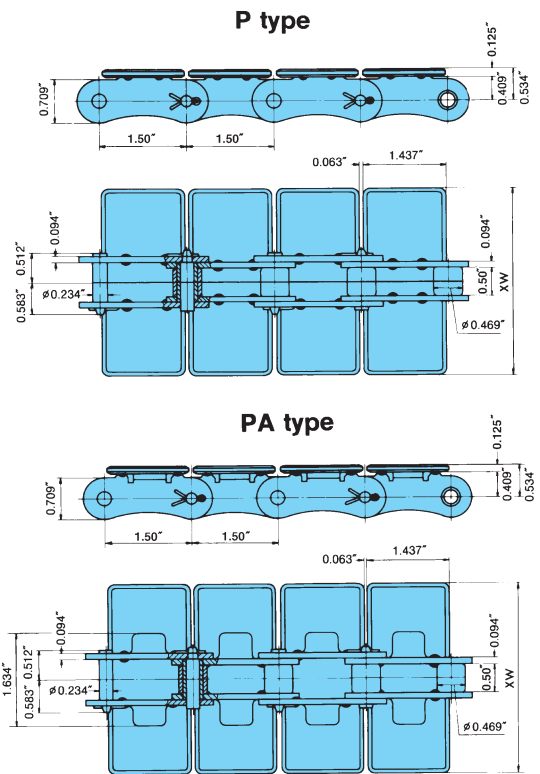
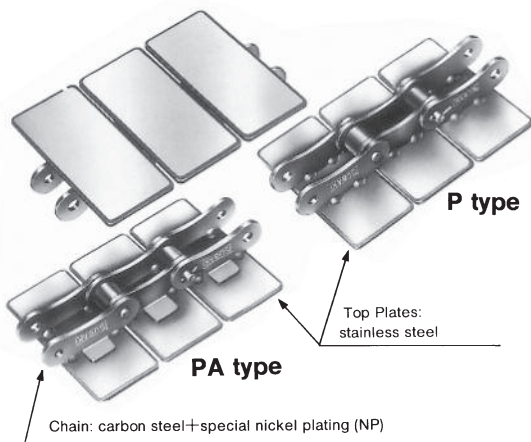


TN/TS Top Plate Conveyor LAMBDA®

STAINLESS STEEL TOP PLATE TS SERIES

Chain Number		Top Plate Width XW	Approx. Weight (lbs/ft)		Maximum Allowable Load (lbs)
P	PA		P	PA	
TS635NP-P-LAMBDA	TS635NP-PA-LAMBDA	2.50	1.8	2.0	660
TS762NP-P-LAMBDA		3.00	2.0	-	660
TS826NP-P-LAMBDA	TS826NP-PA-LAMBDA	3.25	2.2	2.4	660
TS950NP-P-LAMBDA	TS950NP-PA-LAMBDA	3.74	2.4	2.6	660
TS1016NP-P-LAMBDA		4.00	2.5	-	660
TS1100NP-P-LAMBDA	TS1100NP-PA-LAMBDA	4.33	2.6	2.8	660
TS1143NP-P-LAMBDA	TS1143NP-PA-LAMBDA	4.50	2.7	2.9	660
TS1270NP-P-LAMBDA		5.00	2.9	-	660
TS1524NP-P-LAMBDA	TS1524NP-PA-LAMBDA	6.00	3.3	3.5	660
TS1905NP-P-LAMBDA	TS1905NP-PA-LAMBDA	7.50	3.9	4.1	660

Note: Consult U.S. Tsubaki for sprocket selection.



Selection Guidelines

Next Generation Drive LAMBDA[®] Chain

Step 1.

Consider the following factors when selecting Drive LAMBDA.

- Source of power
- Type of machine
- Horsepower (HP) to be transmitted
- RPM of driving and driven shafts
- Diameter of driving and driven shafts
- Center distance between shafts

Step 2.

Determine the service factor.

Use Table I to obtain the appropriate Service Factor value.

Step 3.

Calculate the Design HP rating.

Multiply the HP value by the appropriate Service Factor value to obtain the Design HP rating.

SERVICE FACTOR

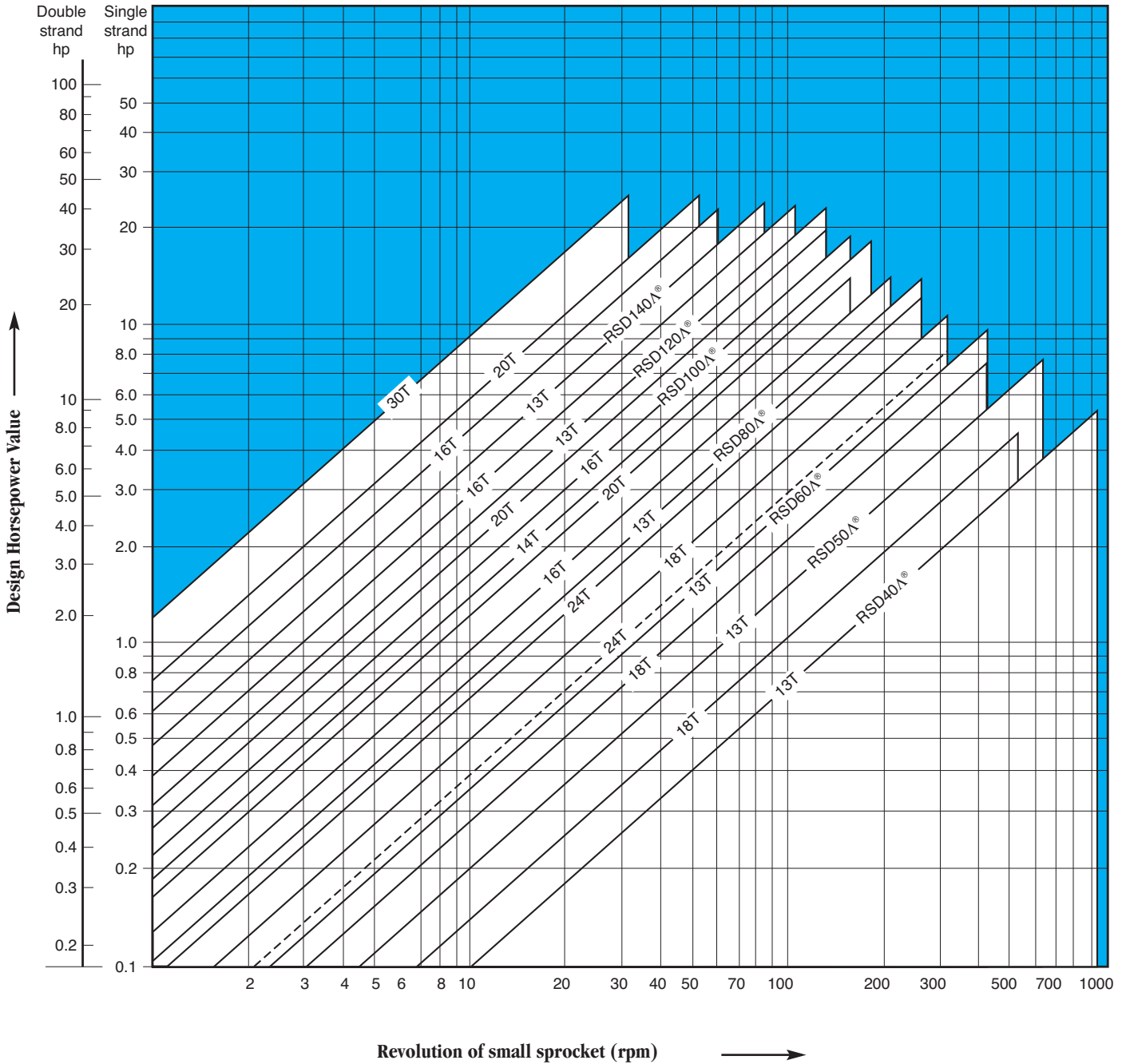
Because the drive capacity of the chain is subject to various application factors, the following table has been designed to rectify power changes in relation to load fluctuation.

Table I. Service Factor

Type of Impact	Machines	Source of Power		
		Electric Motor or Turbine	Internal Combustion Engine	
			With hydraulic drive	Without hydraulic drive
Smooth	Belt conveyors with small load fluctuations, chain conveyors, centrifugal blowers, textile machines, machines with small load fluctuations.	1.0	1.0	1.2
Some Impact	Centrifugal compressors, marine engine conveyors with some load fluctuation, automatic furnaces, dryers, pulverizers, general machine tools, compressors, general work machines, general paper mills.	1.3	1.2	1.4
Large Impact	Presses, construction and mining machines, vibration machines, oil well rigs, rubber mixers, machines with reverse or impact loads.	1.5	1.4	1.7



Table II. Roller Chain Selection Table



How to use this table

This table is used to make a preliminary selection. The horsepower rating table should be used to determine the most appropriate chain and sprocket.

1. Example... Design Horsepower — 7 HP, single strand application.
 - a) Assume that the RPM of the small sprocket is 100. Judging from the intersection point of the design horsepower's value of 7 HP and the RPM value of 100, RSD80-LAMBDA and a sprocket with either 15 teeth or 16 teeth can be selected. Sprockets with 15 teeth are more economical than those with 16 teeth.

- b) Assume that the RPM of the small sprocket is 300. An RS60-13 tooth sprocket is appropriate from the intersection point in the same manner above. The line for RS50-24 teeth can also be seen near the intersection of 7 HP and 300 RPM. Therefore, either RS60-13 teeth or RS50-24 teeth can be selected.
2. When the chain speed is less than 160 ft./min., it is more economical to choose your LAMBDA Roller Chain by the selection method for slow speed drives.

Step 4.

Determine the number of teeth for the small sprocket.

Use Table II to obtain the approximate chain size and the number of teeth for the small sprocket. Compare this information to the Drive LAMBDA® Horsepower Ratings tables and determine if Drive LAMBDA is appropriate for the speed and horsepower of the application. Select the proper chain type, chain size, and sprocket size.

Refer to the number of revolutions of the high speed shaft (the driving shaft when the speed is reduced; the driven shaft when the speed is increased) and the design HP value. For smoother chain drive, a smaller pitch is suggested. If a single strand chain does not satisfy the transmission requirements, use a double strand chain. If there are space limitations, a double strand chain with a smaller pitch may be used.

Step 5.

Check the dimensions of the sprockets.

After determining the number of teeth necessary for the small sprocket, refer to the Sprocket Dimension tables to check if the sprocket diameter satisfies the space limitation.



Step 6.

Determine the number of teeth for the large sprocket.

Multiply the number of teeth for the small sprocket by the speed ratio. More than 15 teeth is suggested. The number of teeth on the large sprocket should be less than 120. By reducing the number of teeth for the small sprocket, the number of teeth for the large sprocket can be reduced.

Basic Formula for Chain Drive

1. Chain Speed (S)

$$S(\text{ft/min}) = \frac{P \cdot N \cdot n}{12}$$

Where

P = Chain pitch (inch)
N = Number of teeth/sprocket
n = Revolutions per minute (rpm)

2. Chain Tension (T)

$$T(\text{lbs}) = \frac{33,000 \times \text{HP}}{S}$$

Where

S = Chain speed (ft/min)
HP = Horsepower to be transmitted (HP)

3. Number of pitches of chain (L)

$$L = \frac{N_1 + N_2}{2} + 2C + \frac{(N_2 - N_1)^2}{4C}$$

Where

N_1 = Number of teeth on large sprocket
 N_2 = Number of teeth on small sprocket
C = Distance between shafts expressed in number of links

Selection Guidelines Drive LAMBDA® *continued*

ANSI SPROCKET DIMENSIONS

No. of Teeth	RS40 1/2" Pitch		RS50 5/8" Pitch		RS60 3/4" Pitch		RS80 1" Pitch		RS100 1 1/4" Pitch		RS120 1 1/2" Pitch		RS140 1 3/4" Pitch	
	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.
11	1.775	2.003	2.219	2.504	2.662	3.004	3.549	4.006	4.437	5.007	5.342	6.009	6.212	7.011
12	1.932	2.166	2.415	2.708	2.898	3.249	3.864	4.332	4.830	5.415	5.796	6.498	6.762	7.581
13	2.089	2.329	2.612	2.911	3.134	3.493	4.179	4.657	5.223	5.821	6.268	6.986	7.313	8.150
14	2.247	2.491	2.809	3.113	3.371	3.736	4.494	4.982	5.617	6.227	6.741	7.472	7.864	8.717
15	2.405	2.652	3.006	3.315	3.607	3.979	4.810	5.305	6.012	6.631	7.215	7.956	8.417	9.282
16	2.563	2.814	3.204	3.517	3.844	4.221	5.126	5.627	6.407	7.034	7.689	8.441	8.971	9.847
17	2.721	2.975	3.401	3.719	4.082	4.462	5.442	5.950	6.803	7.437	8.163	8.924	9.524	10.411
18	2.879	3.135	3.599	3.920	4.319	4.704	5.759	6.271	7.198	7.839	8.638	9.407	10.078	10.974
19	3.038	3.296	3.797	4.120	4.557	4.945	6.076	6.593	7.594	8.241	9.113	9.890	10.632	11.538
20	3.196	3.457	3.995	4.321	4.794	5.185	6.392	6.914	7.991	8.642	9.589	10.371	11.187	12.100
21	3.355	3.617	4.193	4.522	5.032	5.426	6.710	7.235	8.387	9.043	10.064	10.853	11.742	12.661
22	3.513	3.778	4.392	4.722	5.270	5.666	7.027	7.555	8.783	9.444	10.541	11.333	12.297	13.221
23	3.672	3.938	4.590	4.922	5.508	5.907	7.344	7.875	9.180	9.844	11.016	11.814	12.852	13.783
24	3.831	4.098	4.788	5.122	5.746	6.147	7.661	8.196	9.577	10.245	11.492	12.294	13.407	14.343
25	3.989	4.258	4.987	5.322	5.984	6.387	7.979	8.516	9.973	10.645	11.968	12.774	13.963	14.903
26	4.148	4.418	5.185	5.522	6.222	6.627	8.296	8.836	10.370	11.045	12.444	13.254	14.518	15.463
27	4.307	4.578	5.384	5.722	6.460	6.867	8.614	9.156	10.767	11.444	12.291	13.734	15.074	16.022
28	4.466	4.738	5.582	5.922	6.699	7.107	8.931	9.475	11.164	11.844	13.397	14.213	15.629	16.581
29	4.625	4.897	5.781	6.122	6.937	7.346	9.249	9.795	11.561	12.244	13.874	14.692	16.186	17.141
30	4.783	5.057	5.979	6.321	7.175	7.586	9.567	10.114	11.958	12.643	14.351	15.171	16.742	17.700
31	4.942	5.217	6.178	6.521	7.413	7.825	9.885	10.434	12.356	13.043	14.827	15.650	17.298	18.259
32	5.101	5.377	6.376	6.721	7.652	8.065	10.202	10.753	12.753	13.442	15.303	16.130	17.854	18.818
33	5.260	5.536	6.575	6.920	7.890	8.304	10.520	11.072	13.150	13.841	15.780	16.608	18.410	19.376
34	5.419	5.696	6.774	7.120	8.128	8.544	10.838	11.392	13.547	14.240	16.257	17.087	18.966	19.935
35	5.578	5.855	6.972	7.319	8.367	8.783	11.156	11.711	13.945	14.639	16.734	17.567	19.253	20.494
36	5.737	6.015	7.171	7.519	8.605	9.022	11.474	12.030	14.342	15.038	17.211	18.045	20.079	21.053
37	5.896	6.175	7.370	7.718	8.844	9.262	11.792	12.349	14.740	15.437	17.687	18.523	20.635	21.611
38	6.055	6.334	7.568	7.918	9.082	9.501	12.110	12.668	15.137	15.835	18.164	19.002	21.192	22.169
39	6.214	6.494	7.767	8.117	9.321	9.740	12.428	12.987	15.534	16.234	18.641	19.480	21.748	22.727
40	6.373	6.653	7.966	8.316	9.559	9.980	12.745	13.306	15.932	16.633	19.118	19.959	22.305	23.286
41	6.532	6.813	8.165	8.516	9.798	10.219	13.063	13.625	16.329	17.032	19.595	20.437	22.861	23.844
42	6.691	6.972	8.363	8.715	10.036	10.458	13.381	13.944	16.727	17.430	20.072	20.916	23.418	24.402
43	6.850	7.131	8.562	8.914	10.275	10.697	13.700	14.263	17.124	17.829	20.549	21.394	23.974	24.960
44	7.009	7.291	8.761	9.114	10.513	10.936	14.018	14.582	17.522	18.227	21.026	21.872	24.531	25.518
45	7.168	7.451	8.960	9.313	10.752	11.176	14.336	14.901	17.919	18.626	21.503	22.352	25.087	26.077
46	7.327	7.609	9.159	9.512	10.990	11.415	14.654	15.219	18.317	19.024	21.980	22.819	25.644	26.634
47	7.486	7.769	9.357	9.711	11.229	11.654	14.972	15.538	18.715	19.423	22.458	23.307	26.201	27.192
48	7.645	7.928	9.556	9.911	11.467	11.893	15.290	15.857	19.112	19.821	22.935	23.786	26.757	27.750
49	7.804	8.088	9.755	10.111	11.706	12.132	15.608	16.176	19.510	20.219	23.412	24.263	27.314	28.307
50	7.963	8.247	9.954	10.309	11.944	12.371	15.928	16.495	19.908	20.618	23.889	24.741	27.871	28.865
51	8.122	8.407	10.153	10.508	12.183	12.610	16.244	16.813	20.305	21.017	24.366	25.219	28.427	29.423
52	8.281	8.566	10.351	10.707	12.422	12.849	16.562	17.132	20.703	21.415	24.843	25.698	28.984	29.980
53	8.440	8.725	10.550	10.907	12.660	13.088	16.880	17.451	21.100	21.813	25.320	26.176	29.541	30.538
54	8.599	8.885	10.749	11.106	12.899	13.327	17.198	17.769	21.498	22.212	25.798	26.654	30.097	31.096
55	8.758	9.044	10.948	11.305	13.137	13.566	17.517	18.088	21.896	22.610	26.275	27.132	30.654	31.654
56	8.917	9.203	11.147	11.504	13.376	13.805	17.835	18.406	22.293	23.008	26.752	27.610	31.211	32.211
57	9.076	9.363	11.346	11.703	13.615	14.044	18.153	18.725	22.691	23.407	27.229	28.087	31.768	32.769
58	9.236	9.522	11.544	11.902	13.853	14.283	18.471	19.044	23.089	23.805	27.707	28.565	32.324	33.326
59	9.395	9.681	11.743	12.102	14.092	14.522	18.739	19.363	23.486	24.203	28.184	29.043	32.881	33.884
60	9.554	9.841	11.942	12.301	14.330	14.761	19.107	19.681	23.884	24.601	28.661	29.522	33.438	34.442
61	9.713	10.000	12.141	12.500	14.569	15.000	19.426	20.000	24.282	25.000	29.138	29.999	33.995	34.999
62	9.872	10.159	12.340	12.699	14.808	15.238	19.744	20.318	24.680	25.397	29.616	30.477	34.551	35.557
63	10.031	10.318	12.539	12.898	15.046	15.477	20.062	20.637	25.077	25.796	30.093	30.955	35.108	36.114

ANSI Sprocket Dimensions

ANSI SPROCKET DIMENSIONS

No. of Teeth	RS40 1/2" Pitch		RS50 5/8" Pitch		RS60 3/4" Pitch		RS80 1" Pitch		RS100 1 1/4" Pitch		RS120 1 1/2" Pitch		RS140 1 3/4" Pitch	
	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.	Pitch Dia.	Outside Dia.
64	10.190	10.478	12.738	13.097	15.285	15.716	20.380	20.955	25.475	26.194	30.570	31.433	35.665	36.672
65	10.349	10.637	12.936	13.296	15.524	15.955	20.698	21.274	25.873	26.593	31.047	31.911	36.222	37.229
66	10.508	10.796	13.135	13.495	15.762	16.194	21.016	21.593	26.271	26.991	32.002	32.888	36.779	37.787
67	10.667	10.956	13.334	13.694	16.001	16.433	21.335	21.911	26.668	27.389	32.002	32.866	37.336	38.544
68	10.826	11.115	13.533	13.893	16.240	16.672	21.653	22.230	27.066	27.787	32.479	33.344	37.892	38.901
69	10.986	11.274	13.732	14.092	16.478	16.911	21.971	22.548	27.464	28.185	32.957	33.822	38.449	39.459
70	11.145	11.434	13.931	14.292	16.717	17.150	22.289	22.867	27.862	28.584	33.434	34.300	39.006	40.017
71	11.304	11.593	14.130	14.491	16.956	17.388	22.607	23.185	28.259	29.081	33.911	34.777	39.563	40.574
72	11.463	11.752	14.328	14.690	17.194	17.628	22.926	23.504	28.657	29.380	34.388	35.255	40.120	41.131
73	11.622	11.911	14.527	14.889	17.433	17.866	23.244	23.822	29.055	29.778	34.866	35.733	40.677	41.689
74	11.781	12.071	14.726	15.088	17.672	18.105	23.562	24.141	29.453	30.176	35.343	36.211	41.233	42.246
75	11.940	12.229	14.925	15.287	17.910	18.344	23.880	24.459	29.850	30.574	35.820	36.688	41.790	42.803
76	12.099	12.389	15.124	15.486	18.149	18.583	24.198	24.778	30.248	30.973	36.298	37.166	42.347	43.361
77	12.258	12.548	15.323	15.685	18.387	18.822	24.517	25.096	30.646	31.370	36.775	37.644	42.904	43.918
78	12.417	12.708	15.522	15.884	18.626	19.061	24.835	25.415	31.044	31.769	37.252	38.122	43.461	44.475
79	12.577	12.867	15.721	16.083	18.865	19.299	25.153	25.733	31.441	32.166	37.730	38.599	44.018	45.033
80	12.736	13.026	15.920	16.282	19.104	19.539	25.471	26.052	31.839	32.565	38.207	39.078	44.575	45.591
81	12.895	13.185	16.118	16.481	19.342	19.977	25.790	26.370	32.237	32.963	38.684	39.555	45.132	46.147
82	13.054	13.345	16.317	16.681	19.581	20.016	26.108	26.689	32.635	33.361	39.162	40.033	45.689	46.705
83	13.213	13.504	16.516	16.879	19.820	20.255	26.426	27.007	33.033	33.759	39.639	40.510	46.246	47.262
84	13.372	13.663	16.715	17.079	20.058	20.494	26.744	27.326	33.430	34.158	40.116	40.998	46.802	47.819
85	13.531	13.822	16.914	17.277	20.297	20.733	27.063	27.644	33.828	34.555	40.594	41.466	47.359	48.377
86	13.690	13.981	17.113	17.476	20.536	20.791	27.381	27.962	34.226	34.953	41.071	41.943	47.915	48.934
87	13.849	14.141	17.312	17.676	20.774	21.210	27.699	28.281	34.624	35.351	41.548	42.421	48.472	49.491
88	14.009	14.299	17.511	17.874	21.013	21.449	28.017	28.599	35.022	35.749	42.026	42.899	49.029	50.048
89	14.168	14.459	17.710	18.074	21.252	21.688	28.335	28.918	35.419	36.148	42.503	43.376	49.586	50.606
90	14.327	14.618	17.909	18.272	21.490	21.927	28.654	29.236	35.817	36.545	42.981	43.854	50.144	51.163
91	14.486	14.777	18.107	18.471	21.729	22.165	28.972	29.554	36.215	36.943	43.458	44.332	50.700	51.720
92	14.645	14.937	18.306	18.671	21.968	22.404	29.290	29.873	36.613	37.341	43.935	44.809	51.257	52.278
93	14.804	15.096	18.505	18.869	22.206	22.643	29.608	30.191	37.011	37.739	44.412	45.287	51.814	52.835
94	14.963	15.255	18.704	19.069	22.445	22.882	29.927	30.510	37.408	38.138	44.889	45.765	52.371	53.392
95	15.122	15.414	18.903	19.267	22.684	23.121	30.245	30.828	37.806	38.535	45.367	46.242	52.928	53.949
96	15.282	15.573	19.102	19.466	22.922	23.359	30.563	31.146	38.204	38.933	45.844	46.720	53.485	54.507
97	15.441	15.733	19.301	19.666	23.161	23.598	30.881	31.465	38.602	39.331	46.321	47.197	54.002	55.064
98	15.600	15.892	19.500	19.864	23.400	23.837	31.200	31.783	39.000	39.729	46.799	47.675	54.599	55.621
99	15.759	16.051	19.699	20.064	23.638	24.076	31.518	32.102	39.397	40.128	47.277	48.153	55.156	56.178
100	15.918	16.210	19.898	20.262	23.877	24.315	31.836	32.420	39.795	40.525	47.754	48.630	55.713	56.735
101	16.077	16.370	20.097	20.462	24.116	25.554	32.154	32.739	40.193	40.924	48.231	49.108	56.270	57.293
102	16.236	16.529	20.295	20.661	24.355	24.793	32.473	33.058	40.591	41.322	48.709	49.586	56.827	57.850
103	16.395	16.688	20.494	20.860	24.593	25.032	32.791	33.376	40.989	41.720	49.186	50.063	57.384	58.407
104	16.555	16.847	20.693	21.059	24.832	25.271	33.109	33.695	41.387	42.118	49.664	50.541	57.941	58.964
105	16.714	17.006	20.892	21.258	25.071	25.510	33.428	34.013	41.784	42.517	50.141	51.018	58.489	59.522
106	16.873	17.166	21.091	21.457	25.309	25.749	33.746	34.332	42.182	42.915	50.619	51.496	59.055	60.079
107	17.032	17.325	21.290	21.656	25.548	25.987	34.064	34.650	42.580	43.312	51.096	51.974	59.612	60.636
108	17.191	17.484	21.489	21.854	25.787	26.226	34.382	34.968	42.978	43.710	51.573	52.451	60.169	61.193
109	17.350	17.643	21.688	22.054	26.025	26.465	34.701	35.287	43.376	44.108	52.051	52.929	60.726	61.750
110	17.509	17.803	21.887	22.253	26.264	26.704	35.019	35.605	43.774	44.506	52.528	53.406	61.283	62.308
111	17.669	17.962	22.086	22.452	26.503	26.943	35.337	35.924	44.171	44.905	53.005	53.884	61.840	62.865
112	17.828	18.122	22.285	22.651	26.742	27.182	35.655	36.243	44.569	45.304	53.483	54.362	62.397	63.422
113	17.987	18.280	22.484	22.850	26.980	27.421	35.974	36.561	44.967	45.701	53.961	54.844	62.954	63.979
114	18.146	18.440	22.682	23.049	27.219	27.660	36.292	36.879	45.365	46.099	54.438	55.327	63.511	64.536
115	18.305	18.597	22.881	23.246	27.458	27.896	36.610	37.194	45.763	46.493	54.915	55.794	64.086	65.093
116	18.464	18.757	23.080	23.447	27.696	28.136	36.929	37.515	46.161	46.893	55.393	56.272	64.625	65.651
117	18.623	18.917	23.279	23.647	27.935	28.376	37.247	37.835	46.558	47.293	55.870	56.750	65.182	66.208
118	18.783	19.077	23.478	23.846	28.174	28.615	37.565	38.135	46.956	47.691	56.347	57.227	65.739	66.765
119	18.942	19.235	23.677	24.045	28.413	28.853	37.883	38.471	47.354	48.089	56.824	57.705	66.296	67.322
120	19.101	19.394	23.876	24.243	28.651	29.091	38.202	38.789	47.752	48.486	57.301	58.182	66.853	67.879

Selection Guidelines Drive

LAMBDA® *continued*

Horsepower Ratings

The horsepower ratings shown in these charts are based on the following conditions.

1. The chains are operated under ordinary conditions. The ambient temperatures during typical operating conditions range between 14°F and 302°F. They should not be used in an atmosphere in which abrasive dust or corrosive gas is present or where humidity is high.
2. The two transmission shafts are horizontal and the chains are properly installed.
3. The load does not change significantly during transmission. The Service Factors given in Table I should be taken into account when the chains are used under various operating conditions.

RSD40-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS										
	Maximum Speed - Small Sprocket (rpm)										
	10	25	50	100	200	300	400	500	700	900	1000
11	0.08	0.19	0.35	0.64	1.21	1.73	2.24	2.73	3.70	4.65	5.11
12	0.09	0.20	0.38	0.71	1.31	1.90	2.47	3.00	4.07	5.11	
13	0.09	0.23	0.42	0.76	1.43	2.06	2.68	3.28	4.44	5.56	
14	0.11	0.24	0.44	0.83	1.55	2.24	2.91	3.55	4.81		
15	0.11	0.25	0.48	0.90	1.68	2.41	3.14	3.83	5.19		
16	0.12	0.28	0.52	0.97	1.80	2.59	3.35	4.10	5.55		
17	0.13	0.29	0.55	1.03	1.92	2.76	3.58	4.38			
18	0.13	0.31	0.59	1.10	2.04	2.95	3.81	4.66			
19	0.15	0.34	0.62	1.17	2.17	3.12	4.05	4.95			
20	0.16	0.35	0.66	1.23	2.29	3.30	4.28	5.23			
21	0.16	0.38	0.70	1.29	2.41	3.47	4.50	5.51			
22	0.17	0.39	0.72	1.35	2.53	3.66	4.73	5.79			
23	0.17	0.42	0.76	1.42	2.67	3.83	4.97	6.07			
24	0.19	0.23	0.80	1.49	2.79	4.02	5.20				
25	0.20	0.44	0.83	1.55	2.91	4.20	5.44				
26	0.20	0.47	0.87	1.62	3.04	4.38	5.67				
28	0.23	0.51	0.95	1.77	3.30	4.74	6.14				
30	0.24	0.55	1.02	1.90	3.55	5.11					
32	0.25	0.59	1.09	2.04	3.81	5.48					
35	0.28	0.64	1.21	2.24	4.20	6.03					
40	0.32	0.75	1.39	2.59	4.84						
45	0.38	0.84	1.58	2.95	5.50						

RSD50-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS									
	Maximum Speed - Small Sprocket (rpm)									
	10	25	50	100	200	300	400	500	700	900
11	0.16	0.38	0.71	1.33	2.48	3.58	4.64	5.66	6.67	7.67
12	0.19	0.42	0.78	1.46	2.72	3.93	5.09	6.22	7.33	8.42
13	0.20	0.46	0.86	1.59	2.98	4.28	5.55	6.78	7.99	
14	0.21	0.50	0.92	1.73	3.22	4.64	6.00	7.34	8.66	
15	0.23	0.54	0.99	1.86	3.47	5.00	6.47	7.92		
16	0.25	0.58	1.07	2.00	3.73	5.36	6.94	8.48		
17	0.27	0.62	1.14	2.13	3.97	5.72	7.41	9.06		
18	0.28	0.66	1.22	2.27	4.22	6.08	7.88			
19	0.31	0.68	1.29	2.40	4.48	6.45	8.36			
20	0.32	0.72	1.35	2.53	4.73	6.82	8.83			
21	0.34	0.76	1.43	2.68	4.99	7.18	9.32			
22	0.35	0.80	1.50	2.81	5.24	7.56				
23	0.38	0.84	1.58	2.95	5.51	7.93				
24	0.39	0.88	1.66	3.08	5.76	8.30				
25	0.40	0.92	1.73	3.23	6.02	8.67				
26	0.43	0.97	1.81	3.36	6.29	9.05				
28	0.46	1.05	1.96	3.65	6.81	9.81				
30	0.50	1.13	2.10	3.93	7.33					
32	0.54	1.21	2.27	4.21	7.87					
35	0.59	1.33	2.49	4.64	8.66					
40	0.67	1.54	2.87	5.36	10.0					
45	0.76	1.74	3.27	6.08						

RSD60-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS									
	Maximum Speed - Small Sprocket (rpm)									
	10	25	50	100	150	200	250	300	400	500
11	0.29	0.67	1.26	2.35	3.39	4.38	5.36	6.31	8.19	10.0
12	0.32	0.74	1.38	2.59	3.71	4.81	5.88	6.94	8.99	11.0
13	0.35	0.80	1.51	2.81	4.06	5.25	6.42	7.57	9.80	
14	0.39	0.87	1.64	3.06	4.40	5.70	6.96	8.20	10.6	
15	0.42	0.94	1.76	3.28	4.73	6.13	7.49	8.83	11.4	
16	0.44	1.01	1.89	3.52	5.08	6.57	8.04	9.46		
17	0.47	1.09	2.01	3.77	5.41	7.02	8.58	10.1		
18	0.51	1.15	2.14	3.99	5.76	7.47	9.13	10.7		
19	0.54	1.22	2.28	4.24	6.11	7.91	9.68	11.4		
20	0.56	1.29	2.40	4.48	6.46	8.36	10.2	12.0		
21	0.59	1.35	2.53	4.73	6.81	8.82	10.8			
22	0.63	1.42	2.67	4.97	7.16	9.27	11.3			
23	0.66	1.50	2.79	5.21	7.51	9.73	11.9			
24	0.68	1.57	2.92	5.46	7.87	10.2	12.5			
25	0.72	1.64	3.06	5.71	8.22	10.6	13.0			
26	0.75	1.72	3.19	5.95	8.58	11.1				
28	0.82	1.85	3.46	6.45	9.29	12.0				
30	0.87	2.00	3.73	6.94	10.0	13.0				
32	0.94	2.14	3.99	7.45	10.1					
35	1.03	2.36	4.40	8.20	11.8					
40	1.19	2.72	5.08	9.48	13.7					
45	1.35	3.10	5.76	10.8						

RSD80-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS									
	Maximum Speed - Small Sprocket (rpm)									
	10	25	50	75	100	125	150	200	250	300
11	0.66	1.51	2.81	4.06	5.27	6.43	7.57	9.82	12.0	14.2
12	0.72	1.66	3.10	4.46	5.78	7.06	8.32	10.8	13.2	
13	0.79	1.81	3.38	4.87	6.30	7.71	9.07	11.8	14.3	
14	0.86	1.96	3.66	5.27	6.82	8.35	9.84	12.7	15.5	
15	0.92	2.12	3.94	5.68	7.36	8.99	10.6	13.7		
16	0.99	2.27	4.22	6.08	7.88	9.64	11.4	14.7		
17	1.06	2.41	4.52	6.50	8.42	10.3	12.1	15.7		
18	1.13	2.57	4.80	6.92	8.95	11.0	12.9			
19	1.19	2.72	5.09	7.33	9.49	11.6	13.7			
20	1.26	2.88	5.37	7.75	10.0	12.3	14.5			
21	1.33	3.04	5.67	8.16	10.6	12.9	15.3			
22	1.39	3.19	5.96	8.59	11.1	13.5	16.1			
23	1.47	3.35	6.26	9.01	11.7	14.2	16.8			
24	1.54	3.51	6.55	9.44	12.2	14.9				
25	1.61	3.67	6.85	9.85	12.8	15.5				
26	1.68	3.82	7.14	10.3	13.3	16.4				
28	1.82	4.14	7.73	11.1	14.5	17.7				
30	1.96	4.46	8.34	12.0	15.5					
32	2.10	4.78	8.94	12.9	16.6					
35	2.32	5.28	9.84	14.2	18.4					
40	2.67	6.10	11.4	16.4						
45	3.03	6.92	12.9	18.6						

RSD100-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS									
	Maximum Speed - Small Sprocket (rpm)									
	10	25	50	75	100	125	150	175	200	225
11	1.10	2.52	4.70	6.77	8.77	10.7	12.6	14.5	16.4	18.2
12	1.21	2.76	5.16	7.44	9.64	11.8	13.9	15.9	18.0	
13	1.33	3.02	5.63	8.11	10.5	12.8	15.1	17.4		
14	1.43	3.27	6.10	8.78	11.4	13.9	16.4	18.8		
15	1.54	3.52	6.57	9.46	12.3	15.0	17.7			
16	1.65	3.78	7.05	10.1	13.1	16.1	18.9			
17	1.77	4.03	7.52	10.8	14.1	17.2				
18	1.88	4.29	8.00	11.5	14.9	18.2				
19	2.00	4.54	8.48	12.2	15.8	19.3				
20	2.10	4.80	8.97	12.9	16.8	20.5				
21	2.22	5.07	9.45	13.7	17.7					
22	2.33	5.32	9.93	14.3	18.5					
23	2.45	5.59	10.4	15.0	19.4					
24	2.56	5.84	10.9	15.7	20.4					
25	2.68	6.11	11.4	16.5	21.3					
26	2.80	6.38	11.9	17.2						
28	3.03	6.90	12.9	18.6						
30	3.26	7.44	13.9	20.0						
32	3.50	7.97	14.9	21.4						
35	3.86	8.79	16.4							
40	4.45	10.2	18.9							
45	5.05	11.5	21.6							

RSD120-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS											
	Maximum Speed - Small Sprocket (rpm)											
	5	10	15	20	25	30	40	50	60	80	100	125
11	1.09	2.02	2.91	3.78	4.61	5.44	7.04	8.60	10.1	13.1	16.1	19.6
12	1.19	2.22	3.20	4.14	5.07	5.98	7.73	9.46	11.1	14.5	17.7	21.6
13	1.30	2.43	3.48	4.52	5.52	6.51	8.43	10.3	12.2	15.7	19.3	23.5
14	1.41	2.63	3.78	4.89	5.99	7.05	9.14	11.2	13.2	17.0	20.9	
15	1.51	2.83	4.07	5.28	6.45	7.60	9.85	12.0	14.2	18.4	22.5	
16	1.62	3.03	4.37	5.66	6.92	8.15	10.6	12.9	15.1	19.7	24.1	
17	1.73	3.23	4.66	6.04	7.39	8.70	11.3	13.8	16.2	21.0		
18	1.85	3.44	4.96	6.42	7.85	9.25	12.0	14.6	17.3	22.3		
19	1.96	3.65	5.25	6.81	8.32	10.2	12.7	15.5	18.4	23.6		
20	2.06	3.86	5.56	7.20	8.81	10.4	13.4	16.5	19.3	25.0		
21	2.18	4.06	5.86	7.59	9.27	10.9	14.2	17.3	20.4			
22	2.29	4.28	6.17	7.97	9.76	11.5	14.9	18.2	21.4			
23	2.40	4.49	6.46	8.38	10.2	12.1	15.7	19.0	23.4			
24	2.52	4.69	6.77	8.77	10.7	12.6	16.4	20.0	24.5			
25	2.63	4.91	7.08	9.15	11.2	13.2	17.2	20.9	25.6			
26	2.75	5.12	7.37	9.56	11.7	13.8	17.8	21.8				
28	2.98	5.55	7.99	10.3	12.7	14.9	19.3	23.6				
30	3.20	5.98	8.60	11.2	13.7	16.1	20.8	25.5				
32	3.43	6.41	9.23	12.0	14.6	17.3	22.4	27.4				
35	3.78	7.06	10.2	13.2	16.1	19.0	24.5					
40	4.37	8.15	11.7	15.3	18.6	22.0	28.3					
45	4.96	9.26	13.3	17.3	21.2	24.8						

RSD140-LAMBDA®

No. of Teeth Small Spkt.	HORSEPOWER RATINGS										
	Maximum Speed - Small Sprocket (rpm)										
	5	10	15	20	25	30	40	50	60	80	100
11	1.70	3.16	4.57	5.91	7.22	8.51	11.0	13.5	15.9	20.6	25.2
12	1.86	3.48	5.01	6.50	7.93	9.36	12.1	14.9	17.4	22.7	
13	2.04	3.79	5.47	7.08	8.66	10.2	13.2	16.2	19.0	24.7	
14	2.20	4.11	5.92	7.67	9.38	11.1	14.3	17.6	20.6	24.7	
15	2.37	4.42	6.38	8.27	10.1	11.9	15.4	18.9	22.2	26.7	
16	2.55	4.74	6.84	8.86	10.8	12.8	16.5	20.2	23.9		
17	2.72	5.07	7.30	9.46	11.6	13.7	17.7	21.6	25.5		
18	2.90	5.39	7.77	10.1	12.3	14.5	18.8	22.9	27.1		
19	3.07	5.72	8.23	10.7	13.0	15.4	20.0	24.4			
20	3.24	6.04	8.70	11.3	13.8	16.2	21.0	25.7			
21	3.42	6.37	9.18	11.9	14.5	17.2	22.2	27.1			
22	3.59	6.70	9.65	12.5	15.3	18.0	23.3	28.5			
23	3.77	7.02	10.1	13.1	16.1	18.9	24.5				
24	3.94	7.36	10.6	13.7	16.8	19.8	25.6				
25	4.11	7.69	11.1	14.3	17.6	20.6	26.8				
26	4.30	8.03	11.6	15.0	18.4	21.6	27.9				
28	4.66	8.69	12.5	16.2	19.8	23.3	30.3				
30	5.01	9.37	13.5	17.4	21.3	25.2					
32	5.37	10.0	14.5	18.8	22.9	26.9					
35	5.92	11.1	15.9	20.6	25.2	29.8					
40	6.85	12.8	18.4	23.9	29.1						

Selection Guidelines

Next Generation Conveyor LAMBDA[®] Chain

The following procedure is useful for economical and quick conveyor chain selection.

- Step 1. Confirm the operating conditions of the conveyor.
- Step 2. Tentatively select the chain size.
- Step 3. Calculate the design chain tension.
- Step 4. Verify the chain selection.
- Step 5. Verify the allowable roller load.

Step 1.

Confirm the operating conditions of the conveyor.

The following information is needed to design a chain conveyor.

- a. Type of conveyor
(slat conveyor, bucket conveyor, etc.)
- b. Method of chain travel
(horizontal, inclined, vertical)
- c. Type, weight, and size of conveyed materials
- d. Weight of materials to be transported per foot of conveyor length
- e. Conveyor speed
- f. Conveyor length
- g. Considerations for special environments

Step 2.

Tentatively select chain size.

To tentatively select the chain size, estimate the chain tension (T) by the following formula. A chain with an allowable load equal to or greater than the above calculated chain tension may be tentatively selected.

$$T \text{ (lbs)} = M_T \cdot f \cdot k_1 \dots \dots \dots (1)$$

Where

- M_T = Total weight of material conveyed (lbs)
- f = Coefficient of friction, sliding and/or rolling
(f_1 and f_2 of Tables I and II, see page 23)
- k_1 = Chain speed coefficient (Table III, see page 24)

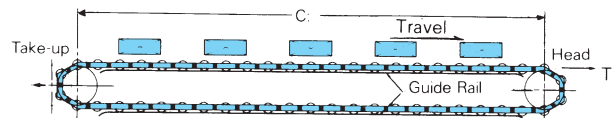
Step 3.

Calculate the chain tension.

Next, the chain tension should be calculated using the actual weight of the conveyor chain and material conveyed, as shown below.

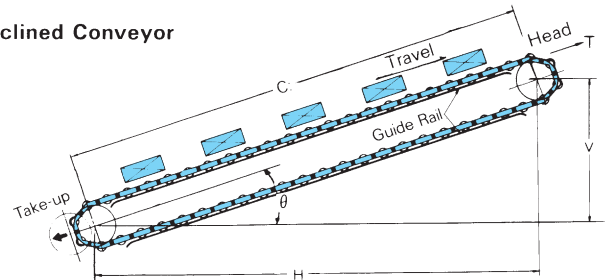
1. Chain rolling

Horizontal Conveyor



$$T = (M + 2.1w) f_1 C \dots \dots \dots (2)$$

Inclined Conveyor



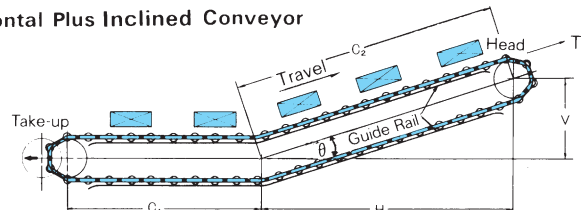
$$T = (M + w)(f_1 C \cos \theta + C \sin \theta) + 1.1w(f_1 C \cos \theta - C \sin \theta) \dots \dots \dots (3)$$

When $(f_1 C \cos \theta - C \sin \theta) < 0$, $1.1w(f_1 C \cos \theta - C \sin \theta) = 0$

$$\text{or } T = (M + w)(V + f_1 H) + 1.1w(f_1 H - V) \dots \dots \dots (4)$$

When $(f_1 H - V) < 0$, $1.1w(f_1 H - V) = 0$

Horizontal Plus Inclined Conveyor



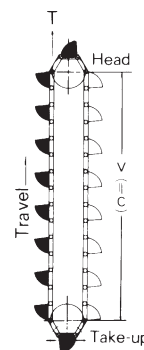
$$T = (M + 2.1w) f_1 C_1 + (M + w)(f_1 C_2 \cos \theta + C_2 \sin \theta) + 1.1w(f_1 C_2 \cos \theta - C_2 \sin \theta) \dots \dots \dots (5)$$

When $(f_1 C_2 \cos \theta - C_2 \sin \theta) < 0$, $1.1w(f_1 C_2 \cos \theta - C_2 \sin \theta) = 0$

$$\text{or } T = (M + 2.1w) f_1 C_1 + (M + w)(V + f_1 H) + 1.1w(f_1 H - V) \dots \dots \dots (6)$$

When $(f_1 H - V) < 0$, $1.1w(f_1 H - V) = 0$

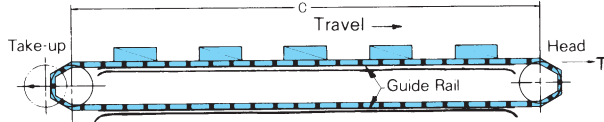
Vertical Conveyor



$$T = (M + w)V \dots \dots \dots (7)$$

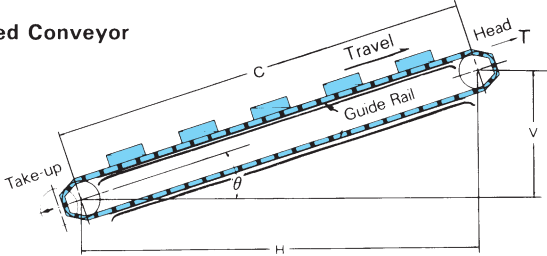
2. Chain sliding

Horizontal Conveyor



$$T = (M + 2.1w)f_2 C \dots\dots\dots (8)$$

Inclined Conveyor



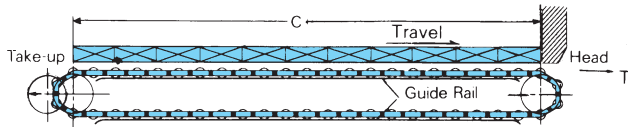
$$T = (M + w)(f_2 C \cos \theta + C \sin \theta) + 1.1w(f_2 C \cos \theta - C \sin \theta) \dots\dots\dots (9)$$

When $(f_2 C \cos \theta - C \sin \theta) < 0$, $1.1w(f_2 C \cos \theta - C \sin \theta) = 0$

$$\text{or } T = (M + w)(V + f_2 H) + 1.1w(f_2 H - V) \dots\dots\dots (10)$$

When $(f_2 H - V) < 0$, $1.1w(f_2 H - V) = 0$

Horizontal Conveyor for Top Roller Chain and Plastic Outboard Roller Chain



$$T = \left\{ M(f_1 + f_2) + 2.1w \frac{f_1 + f_2}{2} \right\} C \dots\dots (11)$$

3. Calculate the required power

Calculate the required power to drive the conveyor from the following formula.

Horizontal and/or Inclined Conveyor

$$HP = \frac{T \cdot S}{33,000 \times \eta} \dots\dots\dots (12)$$

Vertical Conveyor

$$HP = \frac{M \cdot V \cdot S}{33,000 \times \eta} \dots\dots\dots (13)$$

Where

- T = Chain tension (lbs.)
- w = Weight of chain and attachments per ft.(lbs./ft.)
- M = Weight of material conveyed per ft.(lbs./ft.)
- V = Vertical center distance of conveyor (ft.)
- H = Horizontal center distance of conveyor (ft.)
- C = Center distance between sprocket (ft.)
- f₁ = Coefficient of rolling friction between chain and guide rail (Table I)
- f₂ = Coefficient of sliding friction between chain and guide rail (Table II)
- η = Transmission efficiency
- S = Speed = $\frac{P \cdot N \cdot n}{12}$ (ft./min.)
- P = Chain pitch (inch)
- N = Number of teeth
- n = Sprocket speed (rpm)

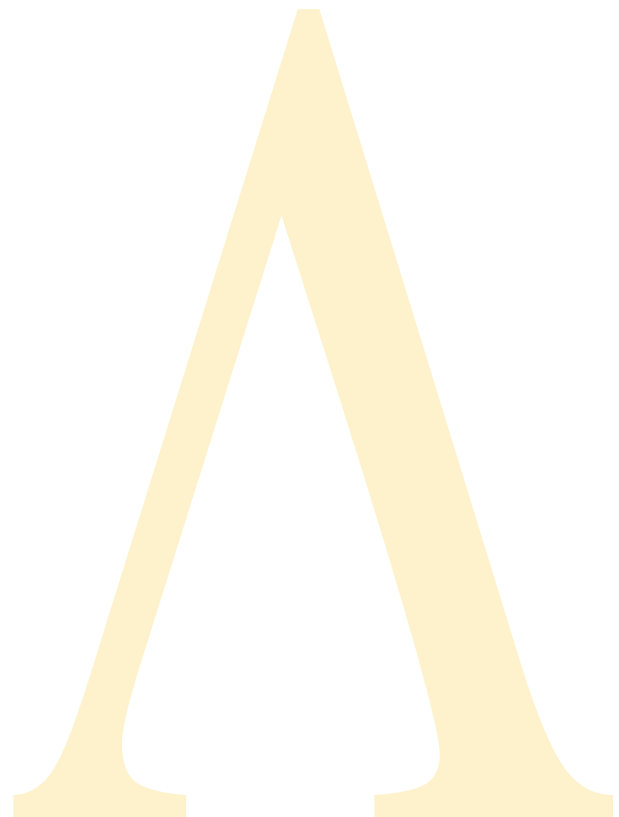
Table I. Coefficient of Rolling Friction (f₁)

Type of Roller	Coefficient (f ₁)
Oversize "R"	0.08
Standard "S"	0.14
Side or Top roller (plastic)	0.06

Note: Side or top roller (f₁) to be used for accumulating load calculation.

Table II. Coefficient of Sliding Friction (f₂)

Chain	Dry	Lubricated
LAMBDA®	0.3	0.2



Selection Guidelines Conveyor LAMBDA® *continued*

Step 4.

Verify chain selection.

Multiply the chain tension (T) by the chain speed coefficient (k₁) listed in Table III and verify the following formula.

$$T \times k_1 \leq \text{Max allowable load of the chain} \dots\dots\dots(14)$$

Table III. Chain Speed Coefficient (k₁)

Chain Speed (ft/min)	Speed Factor (k ₁)
0 ~ 50	1.0
50 ~ 100	1.2
100 ~ 160	1.4
160 ~ 230	1.6
230 ~ 300	2.2
300 ~ 360	2.8
360 ~ 400	3.2

Step 5.

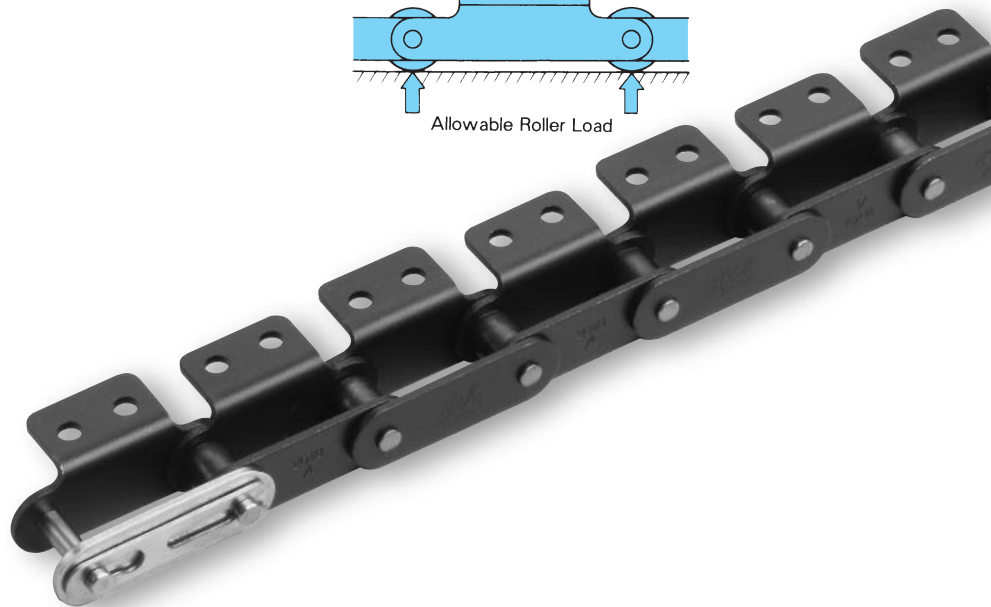
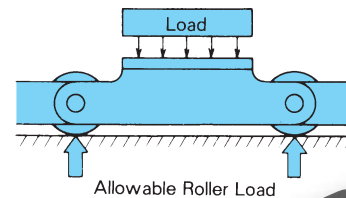
Verify the allowable roller load.

When the load is carried on the rollers, the total weight of the chain and load per roller should not exceed the allowable roller load shown in Table IV.

Table IV. Allowable Roller Load (lbs/roller)

Chain No.	Roller	Oversize Roller	Standard Roller
C2040	RS40	143	33
C2050	RS50	220	44
C2060H	RS60	353	66
C2080H	RS80	595	121
C2100H	RS100	882	176

Note: Oversize "R" rollers are available only for double pitch roller chains.



Selection Guidelines for Top Roller, Outboard Roller, and Top Plate LAMBDA®

For detailed selection procedures, please consult our General Catalog or contact U.S.Tsubaki.

You can't find
better lube-free
performance than
LAMBDA[®]
Drive and
Conveyor Chain



from
U.S. Tsubaki, Inc.

 **TSUBAKI**

LAMBDA[®] Chain — better than ever for your lube-free applications.



- Outlasts every other chain without post-lubrication
- Operates in higher temperatures
- Keeps your operation running clean

To find out which size and type of LAMBDA Chain is right for you, call 1-800-323-7790.



U.S. Tsubaki, Inc.

Corporate Headquarters
301 E. Marquardt Drive
Wheeling, IL 60090
Tel: (800) 323-7790
Tel: (847) 459-9500
Fax: (847) 459-9515

Web Site: www.ustsubaki.com

Roller Chain Division
821 Main Street
Holyoke, MA 01040
Tel: (800) 628-9037
Tel: (413) 536-1576
Fax: (413) 534-8239

Distributed by:

NOTE: IN ACCORDANCE WITH THE POLICY OF U.S. TSUBAKI, INC., TO CONSISTENTLY IMPROVE ITS PRODUCTS, THE SPECIFICATIONS IN THIS BROCHURE ARE SUBJECT TO CHANGE WITHOUT NOTICE. **FOR CURRENT TERMS AND CONDITIONS OF SALE, SEE OUR CURRENT PRICE LIST.**