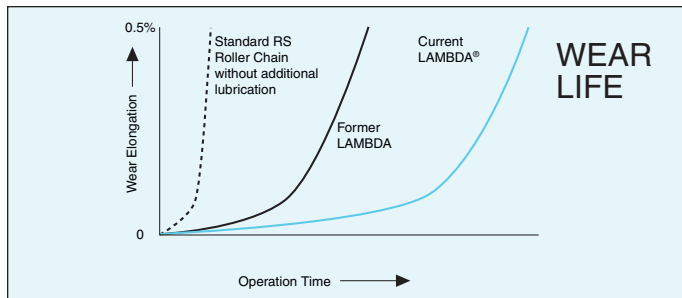


Lambda Chain

Lube-free Drive Chain

- Maintenance-free
- Even longer wear life
- Increased operating temperatures

UNIQUE PATENTED DESIGN



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).

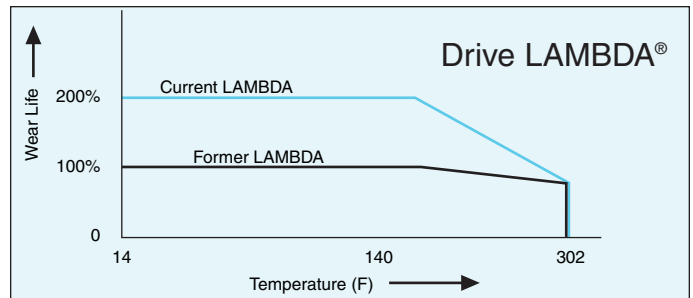
LAMBDA Drive Chain means real savings for your operation

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

Better than ever for lube-free applications

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

- Outlasts our former LAMBDA Chain without additional lubrication.
- Outstanding performance in temperatures up to 302°F.
- Available in single and double strand — from RSD40 to RSD140.
- Factory pre-loaded to minimize initial stretch.



LAMBDA Drive Chain is ideal for clean applications, where machines and conveyed materials must be free from contact with oil, or when lubrication is difficult. If product contamination is a concern, if lubrication is difficult, or if you simply want to reduce maintenance costs, choose LAMBDA Chain from U.S. Tsubaki.

Select the LAMBDA Chain that’s right for your operation

Standard LAMBDA Drive Chain works in temperatures up to 302°F, with a wide range of sizes and types for special applications.

Start Saving Immediately

Maximize the efficiency of your existing system without costly design or reconfiguration changes. LAMBDA Chain is directly interchangeable with most standard ASME/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.

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

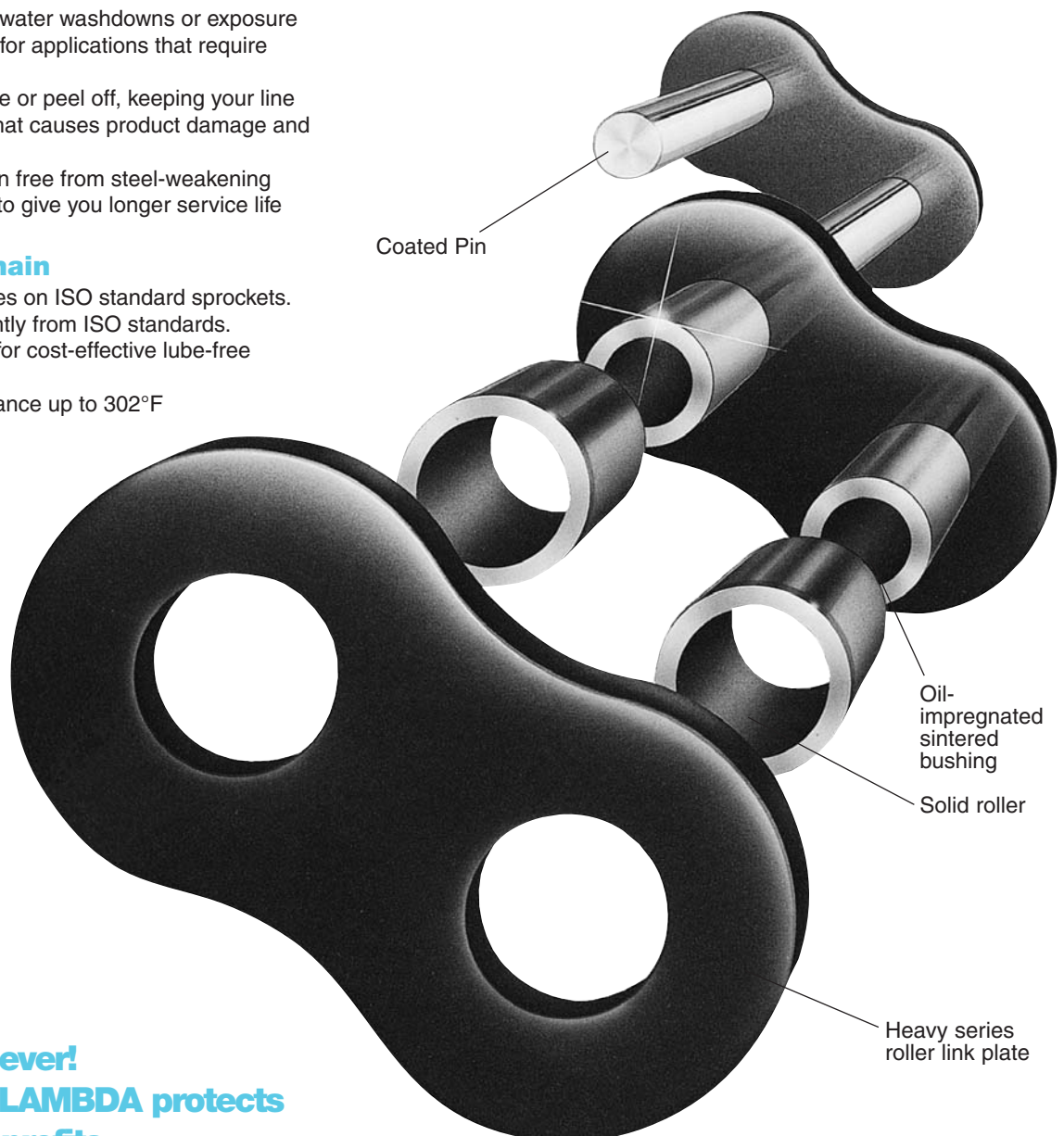
Corrosion-resistant lube-free chain with the strength of carbon steel. You get:

- 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

BS/DIN LAMBDA Chain

Lube-free chain that operates on ISO standard sprockets. Some dimensions vary slightly from ISO standards.

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



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

U.S. TSUBAKI LAMBDA® CHAINS



LAMBDA for lube-free drive applications

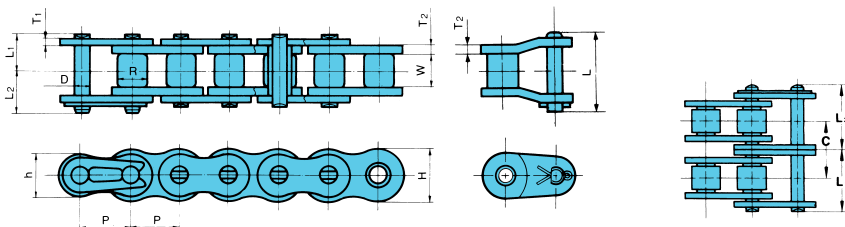
- Operates in temperatures up to 302°F
- Same maximum allowable load as our standard RS chain
- Available in sizes from RSD40 to RSD140

Single Strand Drive LAMBDA®

U.S. TSUBAKI Chain No.	Standard Type of Pin*	Pitch P	Roller Dia. 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®

U.S. TSUBAKI Chain No.	Standard Type of Pin*	Pitch P	Roller Dia. 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	C			
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.

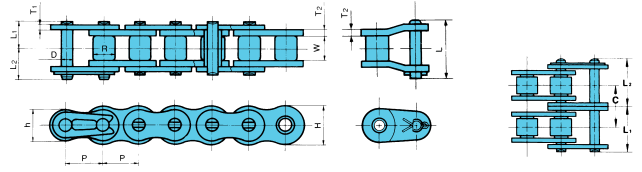
** Width between roller link plates (W) is slightly narrower than ANSI standard, however this chain runs on standard sprockets.

Note:

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.

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®

U.S. TSUBAKI	Standard Type of Pin*	Pitch	Roller Dia.	Width Between Roller Link Plates	Link Plates				Pin				Average Tensile Strength lbs.	Maximum Allowable Load lbs.	Approx. Weight lbs./ft.
					PLP Thickness	RLP Thickness	RLP Height	PLP Height	D	L ₁	L ₂	L			
Chain No.		P	R	W**	T ₁	T ₂	H	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®

U.S. TSUBAKI	Standard Type of Pin*	Pitch	Roller Dia.	Width Between Roller Link Plates	Link Plates				Pin			Average Tensile Strength lbs.	Maximum Allowable Load lbs.	Approx. Weight lbs./ft.	
					PLP Thickness	RLP Thickness	RLP Height	PLP Height	D	L ₁	L ₂				C
Chain No.		P	R	W**	T ₁	T ₂	H	h	D	L ₁	L ₂	C			
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

LAMBDA for international standards

- Operates in temperatures up to 302°F
- Replaces BS/DIN chain
- Cost effective, lube-free operation

* 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.

- Note:
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.

BS/DIN Drive LAMBDA®

U.S. TSUBAKI	Pitch	Roller Dia.	Width Between Roller Link Plates	Link Plates				Pin				Average Tensile Strength lbs.	Approx. Weight lbs./ft.
				PLP Thickness	RLP Thickness	RLP Height	PLP Height	D	L ₁	L ₂	L		
Chain No.	P	R	W**	T ₁	T ₂	H	h	D	L ₁	L ₂	L		
RSD08B-LAMBDA	.500	.335	.305	.060	.080	.472	.409	.175	.346	.411	.787	4,230	0.47
RSD10B-LAMBDA	.625	.400	.380	.080	.080	.591	.512	.200	.406	.472	.886	6,080	0.70
RSD12B-LAMBDA	.750	.475	.460	.094	.094	.713	.614	.225	.486	.565	1.138	9,060	1.01

- Note:
1. Although some dimensions differ from British Standard (BS/DIN), the primary dimensions are identical, enabling BS-compatible LAMBDA to engage perfectly with British Standard sprockets.
 2. The heavy roller link plates slightly increase the width, which means drive LAMBDA connecting links are required.

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 on page A-22 should be taken into account when the chains are used under various operating conditions.

RSD50-LAMBDA®

No. of Teeth	HORSEPOWER RATINGS									
Small Spkt.	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						

RSD40-LAMBDA®

No. of Teeth	HORSEPOWER RATINGS										
Small Spkt.	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	0.43	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						

RSD60-LAMBDA®

No. of Teeth	HORSEPOWER RATINGS									
Small Spkt.	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	10.7					
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	26.7	
15	2.37	4.42	6.38	8.27	10.1	11.9	15.4	18.9	22.2		
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						