

LAMBDA CHAIN

LUBE FREE OPERATION



REVEAL THE BENEFITS



the advantages



LAMBDA chain delivers the ultimate in power transmission technology... long-term operation without additional lubrication. Any application that must be lube-free needs LAMBDA chain to improve performance. It saves you time and money, as it reduces down time as well as maintenance costs.

LAMBDA chain is now available to all customers to support them in their operations whether they are currently lubricating or not.

TSUBAKI, the pioneer in lube-free roller chain products since 1988, has recently developed and released a new series of lube-free chains, engineered on the basis of years of experience in the automotive industry and world-wide applications.

TSUBAKI's goal is to achieve 'customer's delight' by supporting and contributing to YOUR operations.



Calculate your savings now...

- OWNERSHIP PERFORMANCE
- EASY OPERATION

LOWER PURCHASING COSTS

Lower frequency of ordering due to high quality and long economic life of the chain
No purchasing of lubricants or lubrication systems



HIGHER PRODUCTION PERFORMANCE

No unforeseen down time due to chain breakdown
Less time for maintenance and therefore more time for production



PROACTIVE (REDUCED) MAINTENANCE

No expensive labour costs due to lubrication (manual)
Chain life calculation allows you to reorder in time



CLEANER HANDLING

Keep applications running clean (products, machines, floor)



CAREFREE LIFE

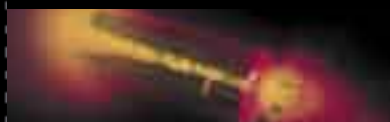
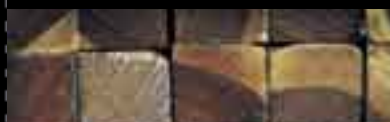
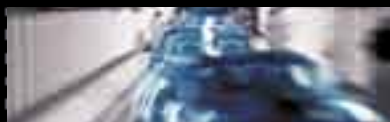
No unexpected handling due to chain performance
More time to spend on critical areas in the production field

Application

KEEPS YOUR
APPLICATION
RUNNING CLEAN

NO PRODUCT
CONTAMINATION

REDUCES
DOWN TIME AND
MAINTENANCE
COSTS



FOOD & BEVERAGE

PACKAGING

PRINTING

PERSONAL CARE

ELECTRONIC APPLIANCES

AUTOMOTIVE

LUMBER

TEXTILE

LIGHTING

This is just a summary of application areas

Technical Evolution

As the pioneer in the lube-free chain market, TSUBAKI will reveal some of the key elements behind LAMBDA's outstanding performance:

A special oil-impregnated sintered bushing in combination with a special coated pin for long-term internal lubrication is the secret of TSUBAKI LAMBDA's LONG ECONOMIC LIFE AND WEAR RESISTANCE.

In addition, TSUBAKI provides you with some well-known features that are applied on related products from the world's leading chain manufacturer to ensure maximum benefit for you.

Easy cutting: you have the option to disassemble LAMBDA chain easily without sacrificing any performance.

Ring coining: breakage of chain at connecting links is no issue at TSUBAKI thanks to this unique feature.

The combination of all chain parts forms the ideal TSUBAKI DNA for this unique product.

TSUBAKI LAMBDA has outstanding performance in temperatures up to 150° C.

Easy cutting

Oil-impregnated sintered bushing

Special coated pin

Ring coining



X-LAMBDA

Ultra long life series

DUAL PROTECTION FOR ULTRA-LONG LIFE

X-LAMBDA chain is a quantum leap for power transmission technology. We start with a special coated pin and oil-impregnated sintered bushing for long-term internal lubrication. Then we extend the protection with special felt seals (patent pending) that lock in lube while keeping dirt and abrasives out. The result? X-LAMBDA chain lasts up to ten times longer than any other lube-free chain.

X-LAMBDA CHAIN FOR YOUR OPERATION

When your operation needs to run clean, when machines and conveyed materials must be free from contact with oil, or when lubrication is difficult, X-LAMBDA chain can extend the life of YOUR operation drastically.

GET UP AND RUNNING RIGHT AWAY

Maximize the efficiency of your existing system without costly design changes.

- Available in BS/DIN and ANSI standard to meet more application needs
- Outstanding performance in temperatures up to 150° C

‘Lock out dirt,
lock in lube’



Test the product that will exceed your expectations

Felt Seal

LAMBDA WP

Corrosion-resistant lube-free series
(with the strength of carbon steel)

YOUR BEST DEFENSE AGAINST CORROSION

Corrosion attacks your profits with line breaks, down time, and frequent costly chain replacements. In operations exposed to water, seawater or outdoor conditions, LAMBDA WP (waterproof) keeps your lines moving while enjoying the benefits of a LAMBDA chain.

- Better corrosion resistance than standard, nickel-plated and even zinc-plated roller chains thanks to LAMBDA WP's unique double surface treatment applied before chain assembly to extend the economic life.
- Protection that will not 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.

LAMBDA WP FOR YOUR OPERATION

When your operation needs water wash downs or is exposed to moisture and lubrication is not possible or desirable, LAMBDA WP can support YOUR operation most efficiently.

GET UP AND RUNNING RIGHT AWAY

Maximum strength and corrosion resistance and lube-free

- Available in BS/DIN and ANSI standard to meet more application needs
- Available in simplex and duplex sizes
- Available for numerous types of standard and special attachments
- Outstanding performance in temperatures up to 150° C

For applications that require direct contact with food, please consult us to learn more about our stainless steel line-up.



LAMBDA Product line-up

DRIVE CHAIN

△ BS/DIN Drive Chain

△ ANSI Drive Chain

LAMBDA drive chain is available in simplex and duplex sizes

△ WP Chain

Corrosion-resistant Chain

(DP and NP executions are available upon request)

X-LAMBDA

Ultra-long life through felt seal

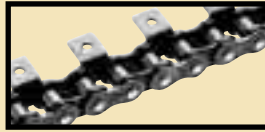
△ Curved Chain

Side-flexing type

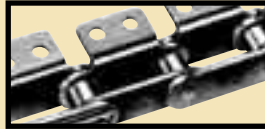


CONVEYOR CHAIN

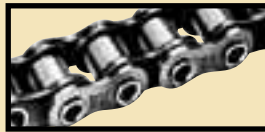
△ Attachment Chain
Standard and special attachment available



△ RF Double Pitch Chain
Standard and special attachment available



△ Hollow Pin Chain
Pins with hollow centres



△ RF Roller Chain
For conveying items directly on chain



X-LAMBDA
Ultra-long life through felt seal



△ Snap Cover Chain
For conveying items directly on chain



△ Plastic Outboard Roller Chain
Free Flow Chain with accumulation function



△ Plastic Top Roller Chain
Free Flow Chain with accumulation function



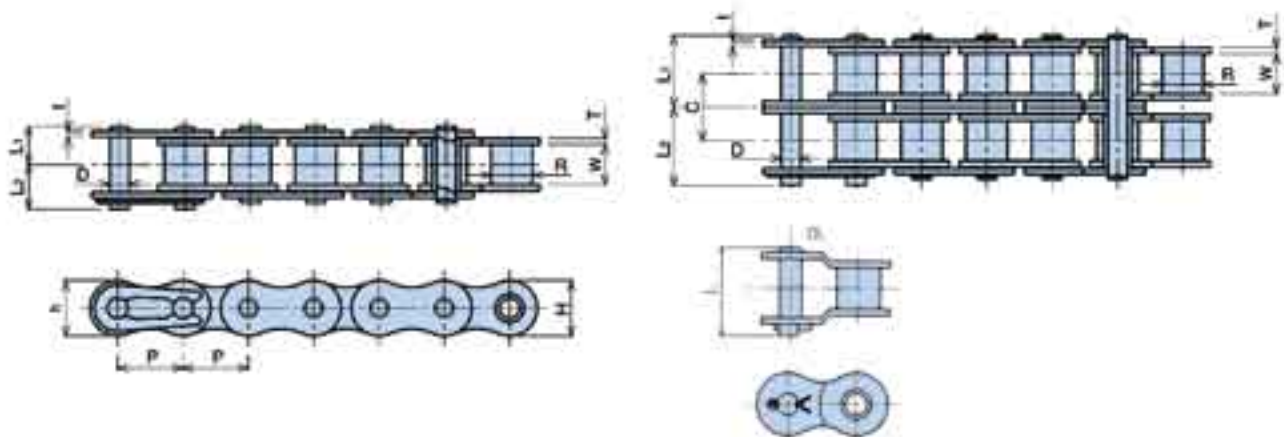
△ Double Plus Chain
Free Flow Chain with accumulation function
High-speed conveyance and low noise



△ TS Top Chain
For conveying items directly on chain



BS/DIN Drive Series



BS/DIN 8187 compatible drive chain

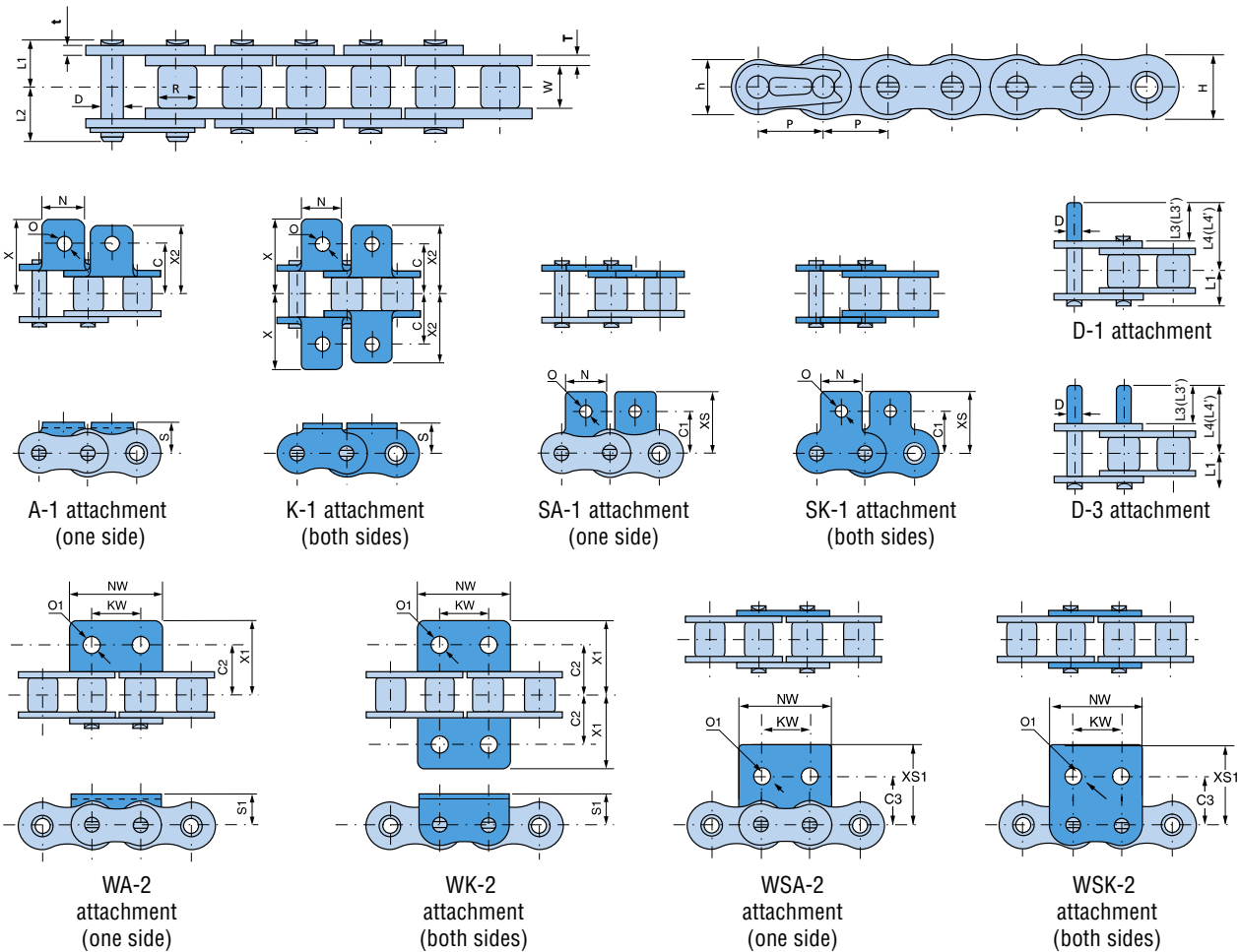
All dimensions are in millimetres

	#ISO BS/DIN	Pitch	Roller diameter	Width between inner link plates	Pin						Link plates				Transverse pitch	ISO min. tensile strength	Approx. mass	No. of links/unit
					Lambda			X-Lambda			T _(RL)	t _(PL)	H	h				
Chain number	No.	P	R	W	D	L1	L2	L	L1	L2	T _(RL)	t _(PL)	H	h	C	kN(kgf)	kg/m	(5mts)
SINGLE STRAND																		
RF06B LAMBDA	06B	9.525	6.35	5.72	3.28	6.1	7.7	15.1	-	-	1.3	1.0	8.2	8.2	-	8.9 (910)	0.39	526
RS08B LAMBDA	08B	12.70	8.51	7.75	4.45	8.4	10.0	18.6	9.0	10.6	1.6	1.6	12.0	10.4	-	17.8 (1820)	0.70	394
RS10B LAMBDA	10B	15.875	10.16	9.65	5.08	9.55	11.25	20.8	10.3	12.0	1.5	1.5	14.7	13.7	-	22.2 (2260)	0.95	316
RS12B LAMBDA	12B	19.05	12.07	11.68	5.72	11.1	13.0	24.4	11.9	13.8	1.8	1.8	16.1	16.1	-	28.9 (2950)	1.25	264
RS16B LAMBDA	16B	25.40	15.88	17.02	8.28	17.75	19.95	39.3	18.55	20.75	4.0	3.2	21.0	21.0	-	60.0 (6120)	2.70	198
RS20B LAMBDA	20B	31.75	19.05	19.56	10.19	19.9	23.1	46.6	-	-	4.4	3.4	26.4	26.0	-	95.0 (9690)	3.85	158
RS24B LAMBDA	24B	38.10	25.40	25.40	14.63	26.65	31.85	61.7	-	-	6.0	5.6	33.4	31.2	-	160.0 (16300)	7.45	132
DOUBLE STRAND																		
RF06B LAMBDA-2	06B-2	9.525	6.35	5.72	3.28	11.2	12.8	25.9	-	-	1.3	1.0	8.2	8.2	10.24	16.9 (1720)	0.75	526
RS08B LAMBDA-2	08B-2	12.70	8.51	7.75	4.45	15.3	16.9	34.5	-	-	1.6	1.6	12.0	10.4	13.92	31.1 (3170)	1.35	394
RS10B LAMBDA-2	10B-2	15.875	10.16	9.65	5.08	17.85	19.55	39.4	-	-	1.5	1.5	14.7	13.7	16.59	44.5 (4540)	1.85	316
RS12B LAMBDA-2	12B-2	19.05	12.07	11.68	5.72	20.85	22.75	45.9	-	-	1.8	1.8	16.1	16.1	19.46	57.8 (5890)	2.50	264
RS16B LAMBDA-2	16B-2	25.40	15.88	17.02	8.28	33.55	35.75	73.4	-	-	4.0	3.2	21.0	21.0	31.88	106.0 (10800)	5.40	198
RS20B LAMBDA-2	20B-2	31.75	19.05	19.56	10.19	38.25	41.45	84.6	-	-	4.4	3.4	26.4	26.0	36.45	170.0 (17300)	7.65	158
RS24B LAMBDA-2	24B-2	38.10	25.40	25.40	14.63	50.8	56.0	112.8	-	-	6.0	5.6	33.4	31.2	48.36	280.0 (28600)	14.65	132

Notes:

1. Connecting link pin type RF06B - RS16B LAMBDA = clip type; RS20B - RS24B LAMBDA = cottered type.
2. RF06B LAMBDA single and double strand has flat-shaped link plates.
3. Intermediate plate of RF06B LAMBDA-2 and RS08B LAMBDA-2 has one solid plate.
4. Centre sink riveting is applied for RS08B - RS16B. Double stake riveting is applied to all other sizes including multi-strand chain.
5. X- LAMBDA is wider than the corresponding LAMBDA chain.
6. X- LAMBDA double strand chain is not available. X- LAMBDA offset links are not available.
7. Warning: previous generations of Lambda chain can not be connected with the above chains due to different dimensions.

BS/DIN Conveyor Series



BS/DIN 8187 compatible conveyor chain with attachments

All dimensions are in millimetres

Chain number	Pitch P	Roller diam. R	Width between inner link plates W	Link plate				Pin						Approx. mass kg/m	
				T	t	H	h	D	L1	L2	L3	L4	(L3')		(L4')
RS08B LAMBDA	12.70	8.51	7.75	1.6	1.6	12.0	10.4	4.45	8.4	10.0	9.5	17.0	14.7	22.2	0.70
RS10B LAMBDA	15.875	10.16	9.65	1.5	1.5	14.7	13.7	5.08	9.55	11.25	11.9	20.25	17.8	26.15	0.95
RS12B LAMBDA	19.05	12.07	11.68	1.8	1.8	16.1	16.1	5.72	11.1	13.0	14.3	24.1	20.8	30.6	1.25
RS16B LAMBDA	25.40	15.88	17.02	4.0	3.2	21.0	21.0	8.28	17.75	19.95	19.1	35.25	33.2	49.35	2.70

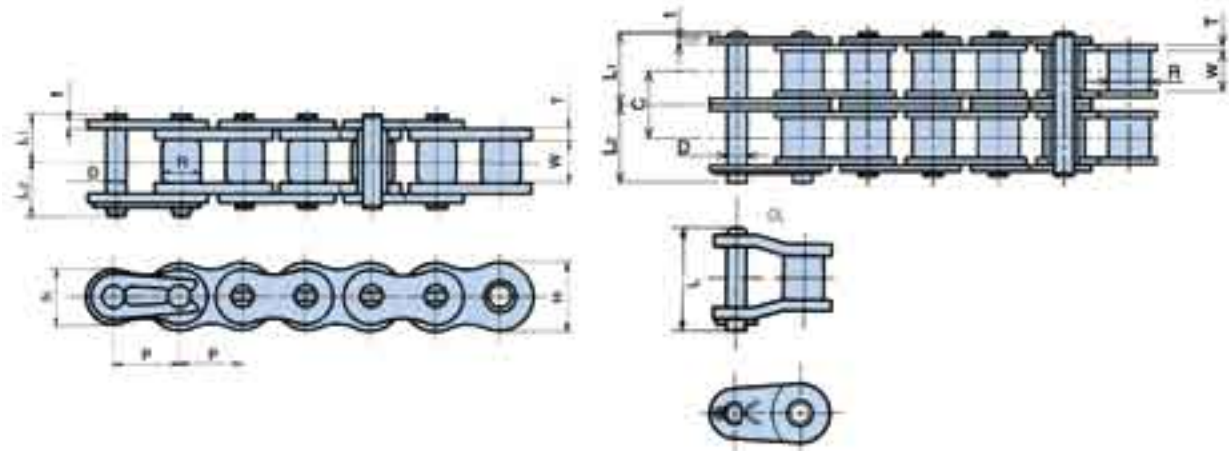
Chain number	C	C1	N	O	S	X	X2	XS	D
RS08B LAMBDA	11.9	12.7	11.4	4.2	8.9	19.05	17.15	19.3	4.45
RS10B LAMBDA	15.9	15.9	12.7	5.0	10.2	22.25	20.6	22.9	5.08
RS12B LAMBDA	19.05	22.2	16.5	7.1	13.5	29.85	27.8	32.05	5.72
RS16B LAMBDA	23.8	23.9	24.3	6.7	15.2	37.35	34.4	34.1	8.28

Chain number	C2	C3	NW	KW	O1	S1	X1	XS1
RS08B LAMBDA	12.7	13.1	24.6	12.7	4.9	8.9	20.3	20.7
RS10B LAMBDA	15.9	16.6	30.0	15.9	5.0	10.2	22.85	23.6
RS12B LAMBDA	17.45	17.6	34.8	19.1	5.5	11.4	25.65	25.75
RS16B LAMBDA	28.6	26.0	46.0	25.4	8.1	15.9	39.25	36.7

Notes:

1. Connecting link pin type RS08B - RS16B LAMBDA = clip type.
2. Duplex extended pin (L3') and (L4') are additions to the range.
3. Please consult Tsubaki for special attachments.

ANSI Drive Series



ANSI/DIN 8188 compatible drive chain

All dimensions are in millimetres

Chain number	Pitch P	Roller diameter R	Width between inner link plates W*	Link plates				Pin				Transverse pitch C	Average tension strength KN (kgf)	Maximum allowable tension KN (kgf)	Approx. mass kg/m	
				t	T	H	h	D	L1	L2	L					
SINGLE STRAND																
RSD40 LAMBDA	12.70	7.95	7.55	1.5	2.0	12.0	10.4	3.97	8.78	10.45	20.0	-	19.1 (1,950)	3.63 (370)	0.70	
RSD50 LAMBDA	15.875	10.16	9.26	2.0	2.4	15.0	13.0	5.09	10.75	12.45	24.0	-	31.4 (3,200)	6.37 (650)	1.11	
RSD60 LAMBDA	19.05	11.91	12.28	2.4	3.2	18.1	15.6	5.96	13.75	15.65	32.0	-	44.1 (4,500)	8.83 (970)	1.72	
RSD80 LAMBDA	25.40	15.88	15.48	3.2	4.0	24.1	20.8	7.94	17.15	20.25	39.9	-	78.5 (8,000)	14.7 (1500)	2.77	
RSD100 LAMBDA	31.75	19.05	18.70	4.0	4.8	30.1	26.0	9.54	20.65	23.85	47.5	-	118.0 (12,000)	22.6 (2300)	4.30	
RSD120 LAMBDA	38.10	22.23	24.75	4.8	5.6	36.2	31.2	11.11	25.75	29.95	59.0	-	167.0 (17,000)	30.4 (3100)	6.40	
RSD140 LAMBDA	44.45	25.40	24.75	5.6	6.4	42.2	36.4	12.71	27.70	32.20	63.7	-	216.0 (22,000)	40.2 (4100)	8.10	

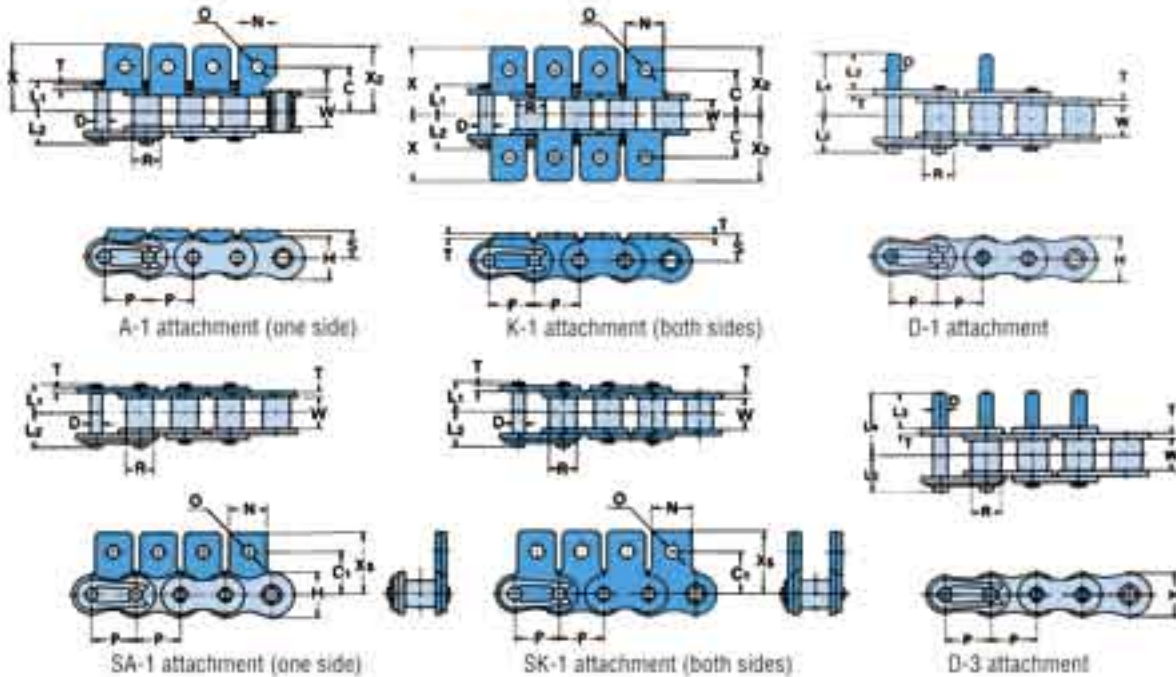
Chain number	Pitch P	Roller diameter R	Width between inner link plates W*	Link plates				Pin				Transverse pitch C	Average tension strength KN (kgf)	Maximum allowable tension KN (kgf)	Approx. mass kg/m	
				t	T	H	h	D	L1	L2	L					
DOUBLE STRAND																
RSD40 LAMBDA-2	12.70	7.95	7.55	1.5	2.0	12.0	10.4	3.97	16.5	18.1	15.4	38.2 (3,900)	5.8 (518)	1.4		
RSD50 LAMBDA-2	15.875	10.16	9.26	2.0	2.4	15.0	13.0	5.09	20.2	22.0	19.0	62.8 (6,400)	8.92 (910)	2.2		
RSD60 LAMBDA-2	19.05	11.91	12.28	2.4	3.2	18.1	15.6	5.96	26.05	28.05	24.52	88.3 (9,000)	12.4 (1260)	3.4		
RSD80 LAMBDA-2	25.40	15.88	15.48	3.2	4.0	24.1	20.8	7.94	32.7	35.9	31.10	157.0 (16,000)	20.6 (2100)	5.5		
RSD100 LAMBDA-2	31.75	19.05	18.70	4.0	4.8	30.1	26.0	9.54	39.5	42.5	37.60	235.0 (24,000)	31.6 (3220)	8.6		

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

Notes:

1. Connecting link pin type RSD40 - 60 LAMBDA = clip type; RSD80 - 140 LAMBDA = cottered type.
2. Drive and Conveyor series LAMBDA chains cannot be intercoupled or interchanged.
3. The heavy roller link plates slightly increase the width, which means Drive LAMBDA connecting links are required.
4. Due to link plate thickness, LAMBDA double strand chains require special sprockets.
5. Offset links for LAMBDA double strand chains are not available.

ANSI Conveyor Series



ANSI/DIN 8188 compatible conveyor chain with attachments

All dimensions are in millimetres

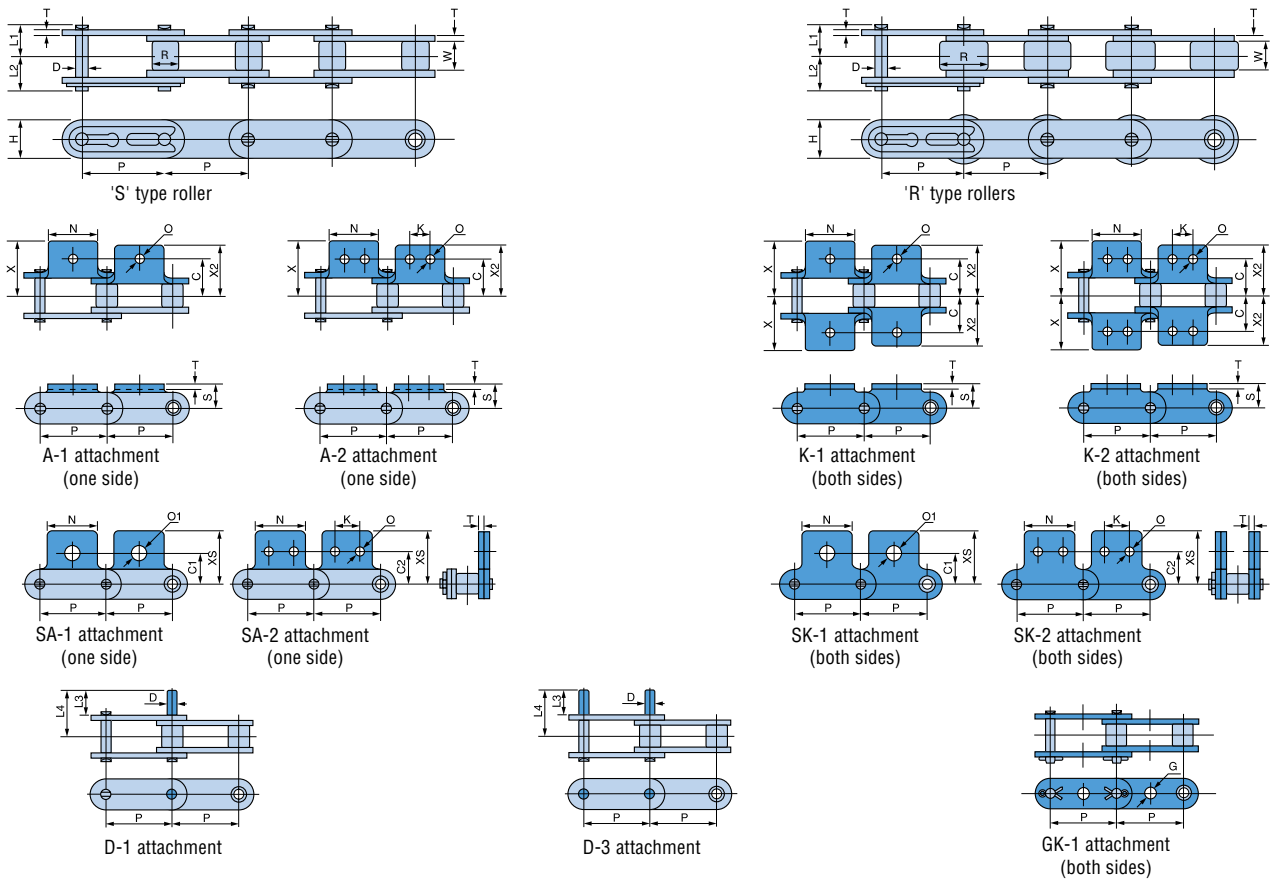
Chain number	Pitch	Roller diameter	Width between inner link plates	Link plates			Pin			Average tensile strength	Maximum allowable tension	Approx. mass
	P	R	W	T	H	h	D	L1	L2	KN (kgf)	KN (kgf)	kg/m
RSC35 LAMBDA	9.525	(5.08)	4.78	1.25	9.0	7.8	3.00	5.85	6.85	9.41 (960)	1.52 (155)	0.33
RSC40 LAMBDA	12.70	7.94	7.95	1.5	12.0	10.4	3.97	8.25	9.95	15.7 (1,600)	2.65 (270)	0.64
RSC50 LAMBDA	15.875	10.16	9.53	2.0	15.0	13.0	5.09	10.30	12.00	25.5 (2,600)	4.31 (440)	1.04
RSC60 LAMBDA	19.05	11.91	12.70	2.4	18.1	15.6	5.96	12.85	14.75	37.3 (3,800)	6.28 (640)	1.53
RSC80 LAMBDA	25.40	15.88	15.88	3.2	24.1	20.8	7.94	16.25	19.25	63.7 (6,500)	10.7 (1,090)	2.66
RSC100 LAMBDA	31.75	19.05	19.05	4.0	30.1	26.0	9.54	19.75	22.85	100.0 (10,200)	17.1 (1,740)	3.99

Chain number	C	C1	N	O	S	X	X2	Xs	D	L3	L4
RSC35 LAMBDA	9.5	9.5	7.9	3.4	6.35	14.3	14.3	14.55	3.00	9.5	14.6
RSC40 LAMBDA	12.7	12.7	9.5	3.6	8.0	17.8	17.8	17.4	3.97	9.5	16.75
RSC50 LAMBDA	15.9	15.9	12.7	5.2	10.3	23.4	23.4	23.05	5.08	11.9	21.0
RSC60 LAMBDA	19.05	18.3	15.9	5.2	11.9	28.2	28.2	26.85	5.96	14.3	25.75
RSC80 LAMBDA	25.4	24.6	19.1	6.8	15.9	36.6	36.6	35.45	7.94	19.1	33.85
RSC100 LAMBDA	31.75	31.8	25.4	8.7	19.8	44.9	44.9	44.0	9.54	23.8	41.75

Notes:

1. Connecting link pin type RSC35 - 60 LAMBDA = clip type; RSC80 - 100 LAMBDA = cottered type.
2. Conveyor LAMBDA should not be used in drive applications. It is designed for conveyor applications where the speeds are generally lower and the centre 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. RS35 standard connecting links cannot be used for RSC35 LAMBDA due to the difference in pin diameter.
3. RSC35 LAMBDA is bushed type.
4. Drive and Conveyor LAMBDA chains cannot be intercoupled.
5. Please consult Tsubaki for special attachments.

ANSI Double Pitch Conveyor Series



ANSI compatible double pitch conveyor chain with attachments

All dimensions are in millimetres

Chain number	Pitch P	Roller diameter R		Width between inner link plates W	Link plates		Pin			Average tensile strength KN (kgf)	Maximum allowable tension KN (kgf)	Approx. mass kg/m	
		'S'-type	'R'-type		T	H	D	L1	L2			'S'-type	'R'-type
RFC2040 LAMBDA	25.40	7.92	15.88	7.95	1.5	12.0	3.97	8.25	9.95	15.7 (1,600)	2.65 (270)	0.51	0.87
RFC2050 LAMBDA	31.75	10.16	19.05	9.53	2.0	15.0	5.09	10.30	12.0	25.5 (2,600)	4.31 (440)	0.84	1.30
RFC2060 LAMBDA	38.10	11.91	22.23	12.70	3.2	17.2	5.96	14.55	16.55	37.3 (3,800)	6.28 (640)	1.51	2.19
RFC2080 LAMBDA	50.80	15.88	28.58	15.88	4.0	23.0	7.94	18.30	20.90	63.7 (6,500)	10.7 (1,090)	2.41	3.52
RFC2100 LAMBDA	63.50	19.05	39.69	19.05	4.8	28.6	9.54	21.80	24.50	100.0 (10,200)	17.1 (1,740)	3.54	5.80

Chain number	C	C1	C2	K	N	O	O1	S	T	X	X2	Xs	D	L3	L4	G
RFC2040 LAMBDA	12.7	11.1	13.6	9.5	19.1	3.6	5.2	9.1	1.5	19.3	17.6	19.8	3.97	9.5	16.75	4.1
RFC2050 LAMBDA	15.9	14.3	15.9	11.9	23.8	5.2	6.8	11.1	2.0	24.2	22.0	24.6	5.09	11.9	21.0	5.1
RFC2060 LAMBDA	21.45	17.5	19.1	14.3	28.6	5.2	8.7	14.7	3.2	31.5	28.2	30.6	5.96	14.3	27.45	6.1
RFC2080 LAMBDA	27.8	22.2	25.4	19.1	38.1	6.8	10.3	19.1	4.0	40.7	36.6	40.5	7.94	19.1	35.5	8.1
RFC2100 LAMBDA	33.35	28.6	31.8	23.8	47.6	8.7	14.3	23.4	4.8	49.9	44.9	50.4	9.54	23.8	43.4	10.1

Notes:

1. Connecting link pin type RFC2040 - 2060 LAMBDA = clip type; RFC2080 - 2100 LAMBDA = cottered type; GK-1 cottored type regardless of size.
2. Conveyor LAMBDA should not be used in drive applications. It is designed for conveyor applications where the speeds are generally lower and the centre 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.
3. Attachments are shown with 'S' type roller, although 'R' type rollers are also available.
4. Drive and Conveyor LAMBDA chains cannot be intercoupled.
5. Please consult Tsubaki for special attachments.

REVEAL THE BENEFITS
FOR YOUR APPLICATION
BY INSTALLING
TSUBAKI LAMBDA





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