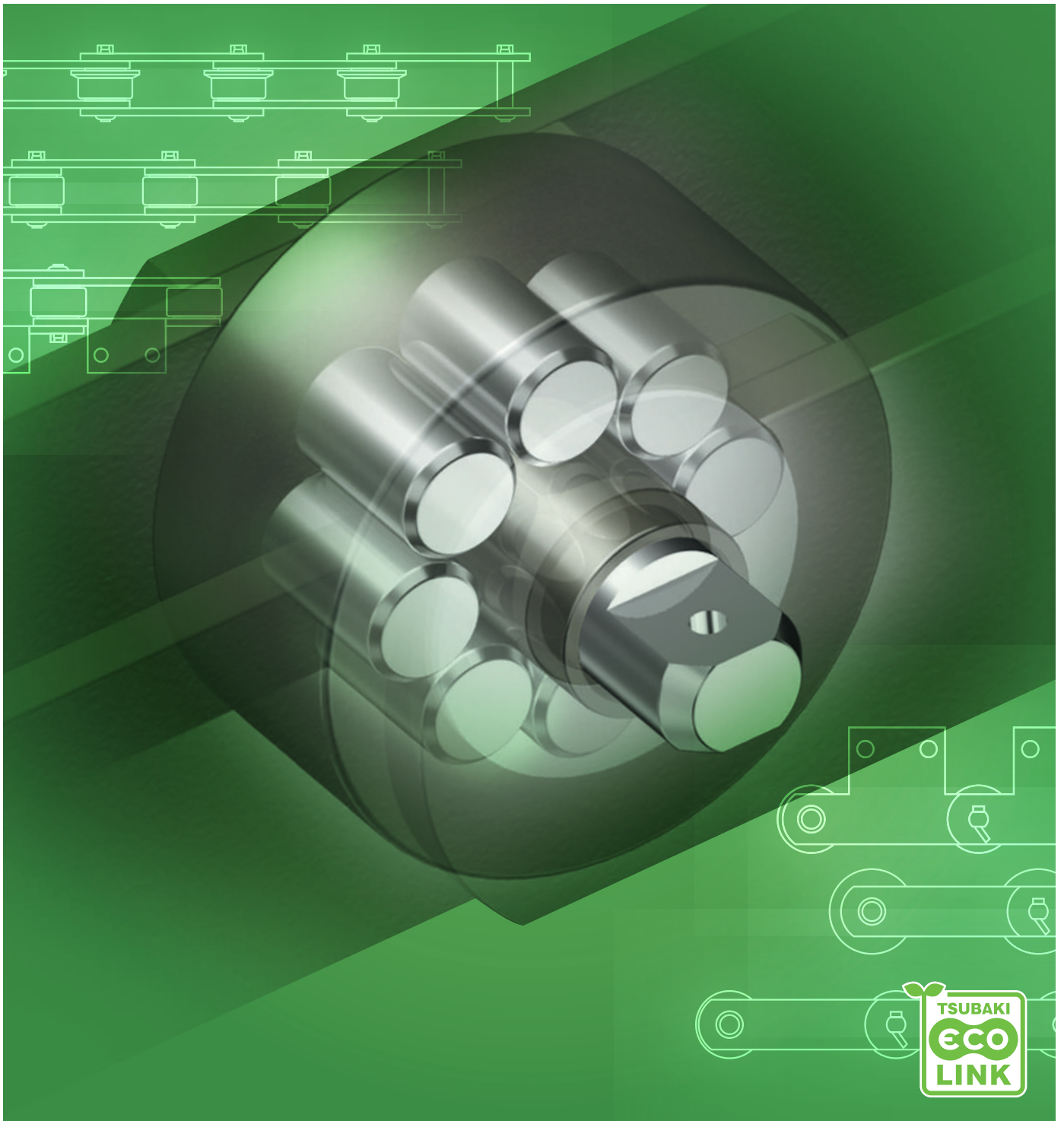


TSUBAKI Bearing Roller Conveyor Chain



CONTENTS

Bearing Roller Conveyor Chain

Features	03
Application Examples	05
Sample Customizations	06
Standard Series	07
Anti-Dust Series	09
Lube-Free Series (Standard Specs)	11
Lube-Free Series (Completely Lube-Free Specs)	13
Lube-Free Series (Water Resistant Specs)	15
Attachment Dimensional Chart	17
List of Series	19
Q&A	20
Notes on Use	21
For Safe Use	22

Bearing Roller Conveyor Chain

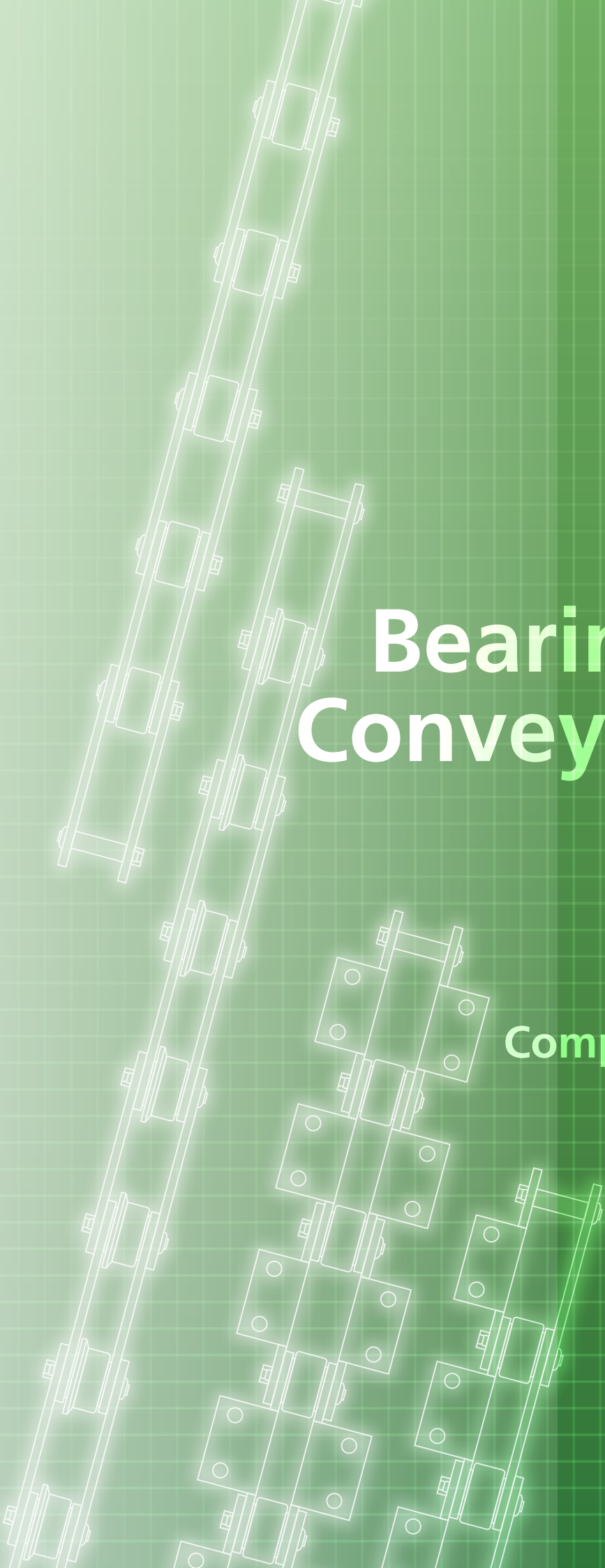
General Use

Dust Resistant

Lube Free

Completely Lube Free

Water Resistant



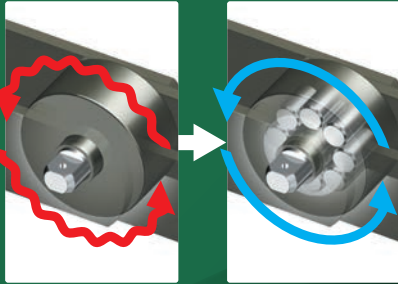
Tough, Eco-Friendly—Tsubaki Bearing Roller Conveyor Chain

Reduces Chain Running Resistance

Chain running resistance reduced by

Minimizes poor roller rotation and decreases rail wear

Cylindrical bearings ensure smooth roller rotation and reduce rail wear. Roller wear life is also dramatically increased.



$\frac{1}{3}$

Cylindrical bearings

Reduces Required Drive

Reduces motor capacity $\frac{1}{2.5}$

Less power consumed means $\frac{1}{3}$ less CO₂ emissions

Smaller motor means **30%** cost savings

Reduces chain replacement labor by $\frac{1}{3}$



With New Installations

Standard RF Conveyor Chain

Bearing Roller Conveyor Chain

Chain load

RF26250F **2 sizes down** RF12250BF

0.08 (When lubed) **1/3 the coefficient of friction** 0.03

31.4kN (3200kgf) **1/3 the chain load** 11.8kN (1200kgf)

13.5kW **1/2.5 the required kW** 5.1kW

Can help make your conveyor more compact and reduce energy costs

When Replacing Existing Chain

Standard RF Conveyor Chain

Bearing Roller Conveyor Chain

Chain load

RF26250F **Same size** RF26250BF

0.08 (When lubed) **1/3 the coefficient of friction** 0.03

31.4kN (3200kgf) **1/3 the chain load** 11.8kN (1200kgf)

13.5kW **1/2.5 the required kW** 5.1kW

1 **3x the wear life** Over 3x

Offers superior chain service life, can help reduce conveyor maintenance labor and costs

has a line-up of s to suit your needs.

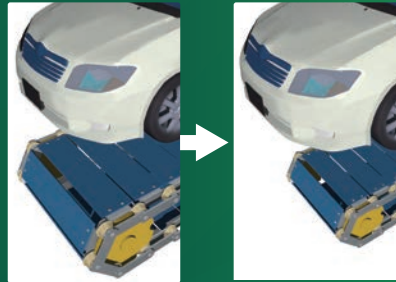


Over **3X**
the wear life

Note: Water resistant series has twice the wear life of RF Series

Chain load and required drive are only 1/3 of standard conveyor chains. This allows users to choose a smaller size chain, as well as reduce the size of their conveyor and necessary drive power, for greater cost savings.

Longer Wear Life



Stable Conveyance

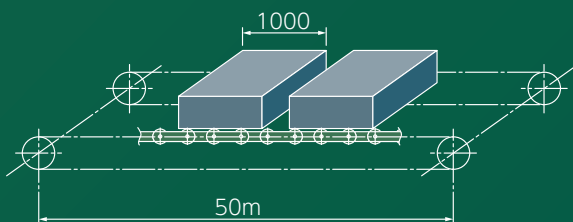
Prevents stick-slip phenomenon at low speeds
Preventing stick-slip and providing smooth movement ensures stable conveyance and eliminates motion sickness on assembly lines for higher productivity.



Selection

1. Refer to the Tsubaki Large Size Conveyor Chains & Sprockets catalog for selection.
2. Requirements for selection:
 - Roller rotation coefficient of friction See pg. 19.
 - Operating temperature range See pg. 19.
 - Sprocket
All series/specifications can use sprockets for RF Conveyor Chains. See pg. 19 for sprocket number of teeth.
 - Roller allowable load
Roller allowable load is the allowable load for one roller on a load-type conveyor. Roller allowable load assumes a guide rail tensile strength of 400N/m²(41kgf/m²). When using A attachments, compare attachment allowable loads and use the lower of the values.

Sample Selection Conditions



Equip. length: 50m
 Speed: 10m/min
 Chain pitch: 250
 Conveyed items: 2000kgf/each x 40
 No. of chain strands: 2
 F rollers with A2 attachments selected

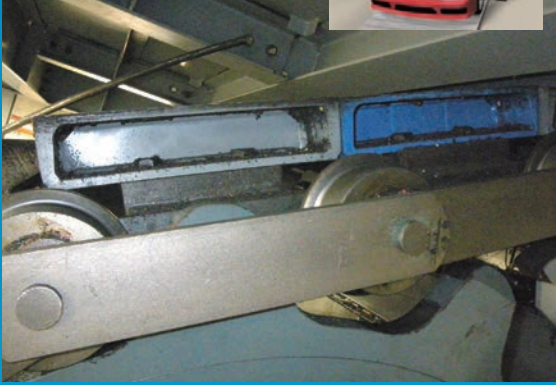
Line-Up to Suit Any Application



Application Examples

Standard Series

Completed vehicle conveyance



Lube-Free Series

Web roll conveyance



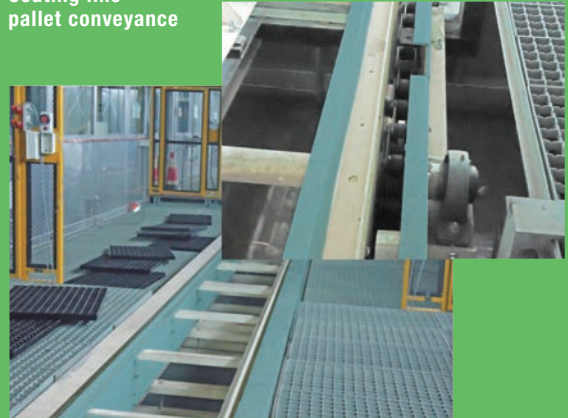
Anti-Dust Series

Casting conveyance
(in contact with molding sand)



Lube-Free Series

Coating line
pallet conveyance



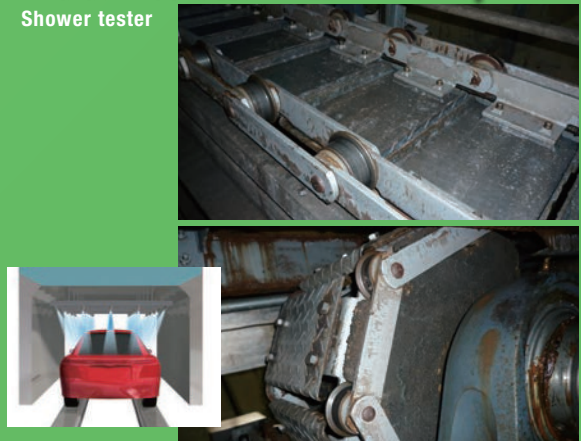
Anti-Dust Series

Waste conveyance
(scrap iron, rocks, etc.)



Water Resistant Lube-Free Specs

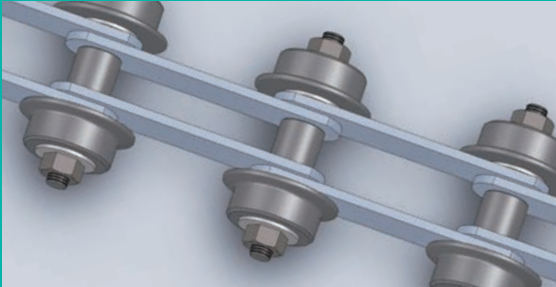
Shower tester



Sample Customizations

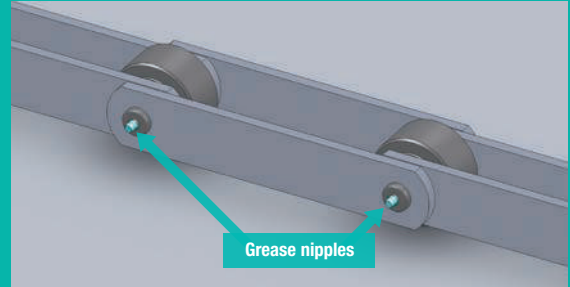
Bearing Outboard Rollers

Easy roller replacement



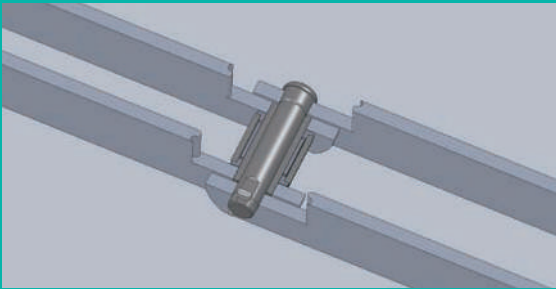
With Grease Nipples

Easy lubrication



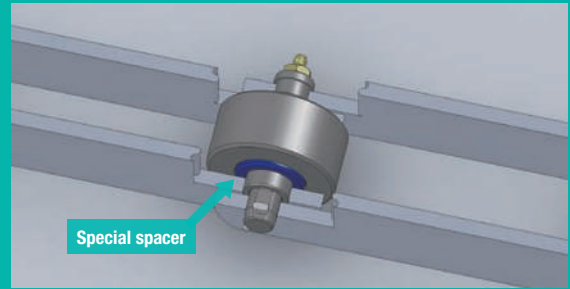
BS Bearing Rollers

Same size as S Rollers on Standard Series



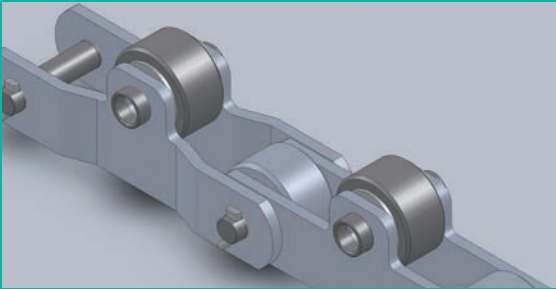
Heat Resistant

Max. operating temp.: 150°C



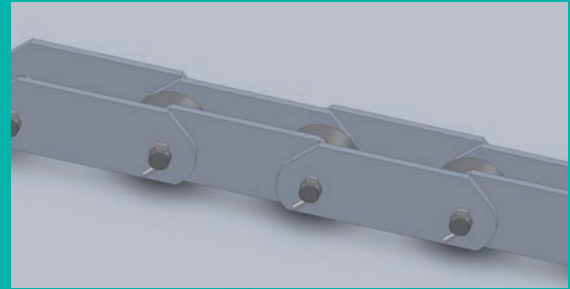
Bearing Top Rollers

Reduces load during accumulation



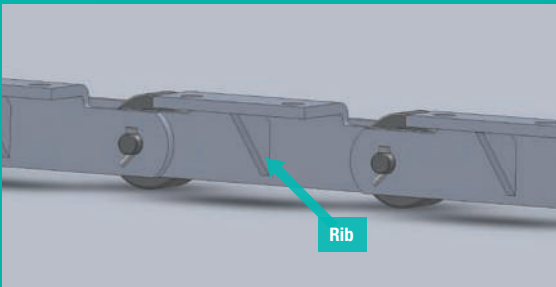
Deep Link

Allows direct conveyance, even with BR rollers



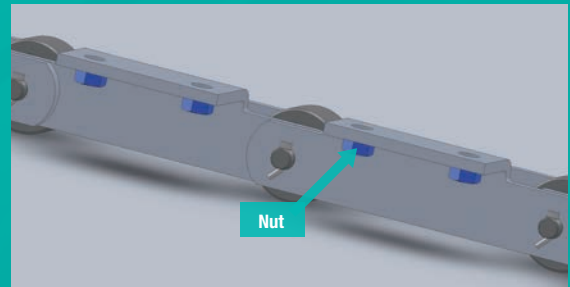
With Ribbed Attachments

Higher attachment allowable load



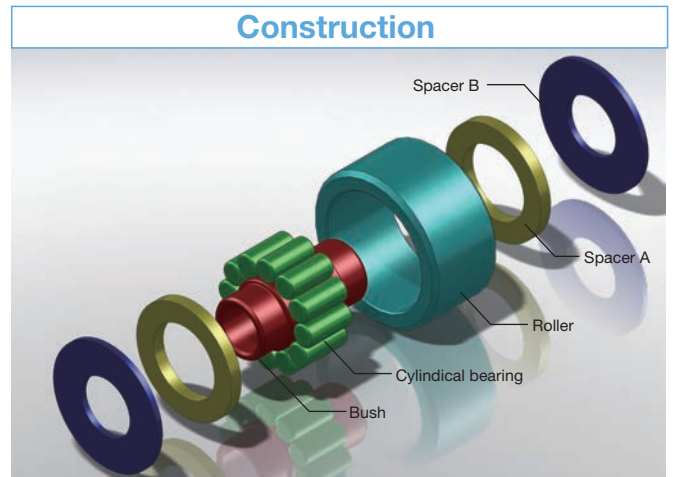
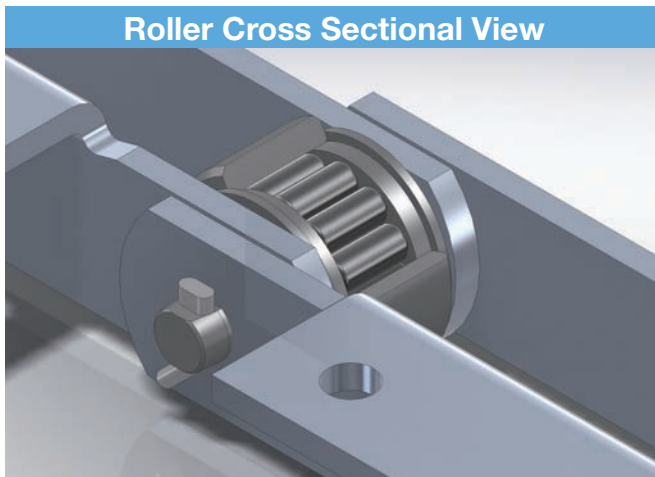
Attachments with Nuts

Easy attachment

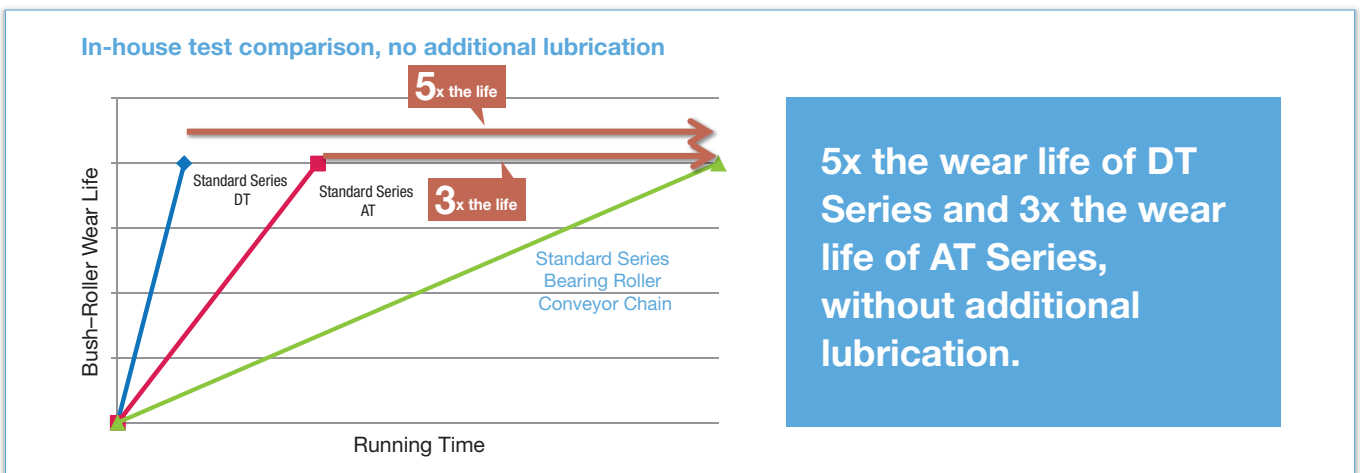


Standard Series

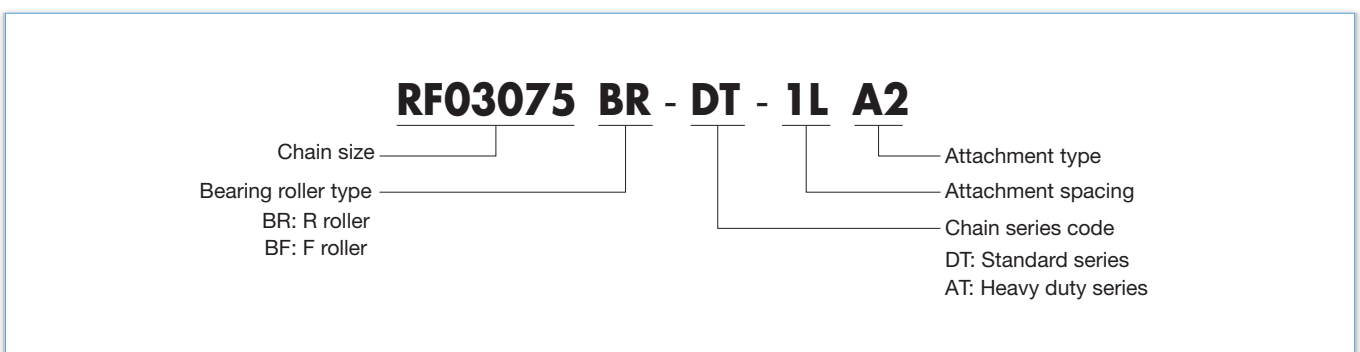
Standard Series Bearing Roller Conveyor Chain features a unique construction of cylindrical bearings between rollers and bushes. (Patented) These rollers have the same dimensions as R and F Rollers on standard RF Conveyor Chain.



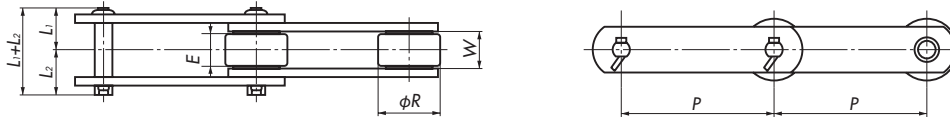
Features



Chain Numbering Example



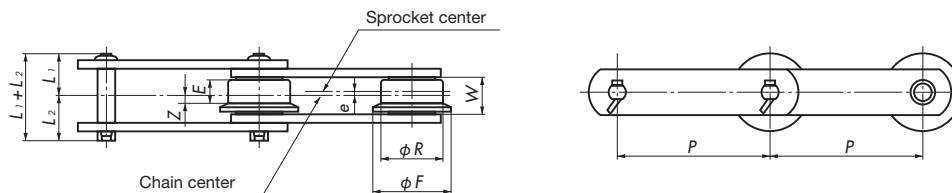
BR Roller



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Contact Width <i>E</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF03075	75	16.1	38.0	18.0	20.0	31.8	14.0	1.96{200}	2.8	4.20{430}	7.85{800}
RF03100	100										
RF05100	100	22.0	53.5	25.0	28.5	40.0	19.0	3.04{310}	5.2	9.80{1000}	14.7{1500}
RF05125	125										
RF05150	150										
RF08125	125	27.0	65.5	31.0	34.5	44.5	24.0	4.12{420}	5.9	11.2{1140}	14.7{1500}
RF08150	150										
RF10100	100	30.0	69.0	33.0	36.0	50.8	26.0	5.49{560}	10.0	16.1{1650}	23.5{2400}
RF10125	125										
RF10150	150										
RF12200	200	37.1	83.5	40.5	43.0	65.0	32.0	8.34{850}	11.6	26.6{2710}	36.3{3700}
RF12250	250										
RF17200	200	51.4	109.5	51.5	58.0	80.0	44.0	14.1{1440}	20.0	35.0{3570}	54.9{5600}
RF17250	250										
RF17300	300										
RF26250	250	57.2	116.5	55.5	61.0	100.0	50.0	19.6{2000}	26.0	44.9{4570}	72.6{7400}
RF26300	300										
RF26450	450										
RF36300	300	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	40.0	68.0{6930}	97.1{9900}
RF36450	450										
RF36600	600										

- Note: 1. Contact a Tsubaki representative for imperial sizes.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.

BF Roller

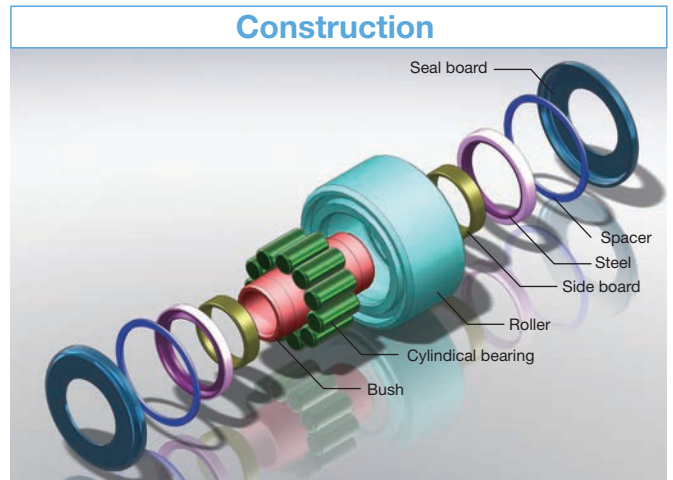
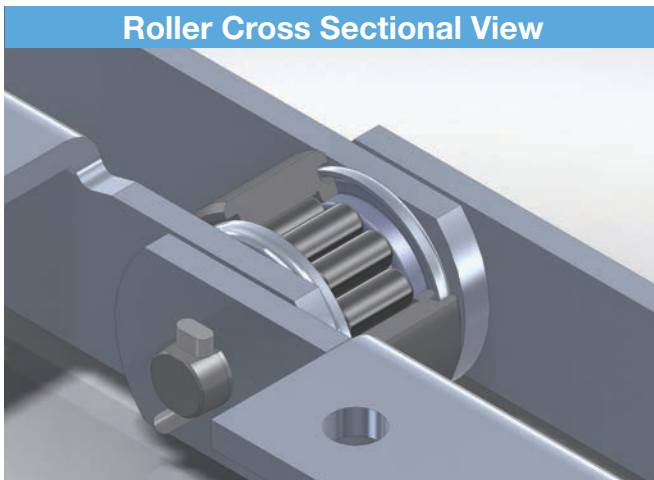


Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>F</i>	Contact Width <i>E</i>	Off- Center <i>e</i>	<i>Z</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF03075	75	16.1	38.0	18.0	20.0	31.8	42.0	11.0	1.5	4.3	1.27{130}	2.9	4.20{430}	7.85{800}
RF03100	100													
RF05100	100	22.0	53.5	25.0	28.5	40.0	50.0	14.0	2.5	4.5	1.96{200}	5.4	9.80{1000}	14.7{1500}
RF05125	125													
RF05150	150													
RF08125	125	27.0	65.5	31.0	34.5	44.5	55.0	18.0	2.5	6.5	2.65{270}	6.2	11.2{1140}	14.7{1500}
RF08150	150													
RF10125	125	30.0	69.0	33.0	36.0	50.8	65.0	20.0	3.0	7.0	3.43{350}	9.0	16.1{1650}	23.5{2400}
RF10150	150													
RF12200	200	37.1	83.5	40.5	43.0	65.0	80.0	24.0	4.0	8.0	5.49{560}	12.1	26.6{2710}	36.3{3700}
RF12250	250													
RF17200	200	51.4	109.5	51.5	58.0	80.0	100.0	34.0	5.0	12.0	9.81{1000}	21.0	35.0{3570}	54.9{5600}
RF17250	250													
RF17300	300													
RF26250	250	57.2	116.5	55.5	61.0	100.0	125.0	38.0	6.0	13.0	13.7{1400}	27.0	44.9{4570}	72.6{7400}
RF26300	300													
RF26450	450													
RF36300	300	66.7	146.0	68.0	78.0	125.0	150.0	42.0	7.0	14.0	18.6{1900}	42.0	68.0{6930}	97.1{9900}
RF36450	450													
RF36600	600													

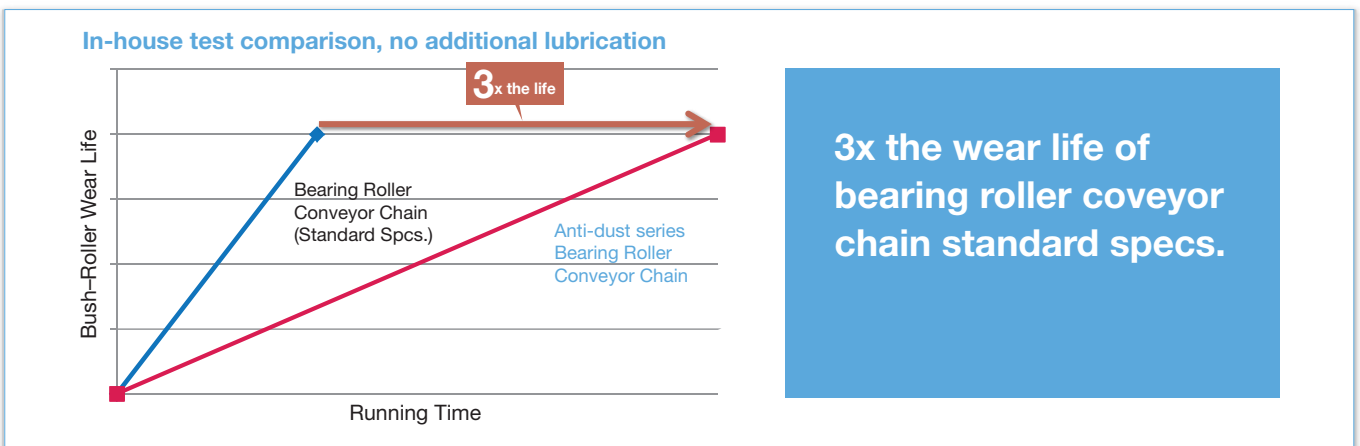
- Note: 1. Contact a Tsubaki representative for imperial sizes.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Anti-Dust Series

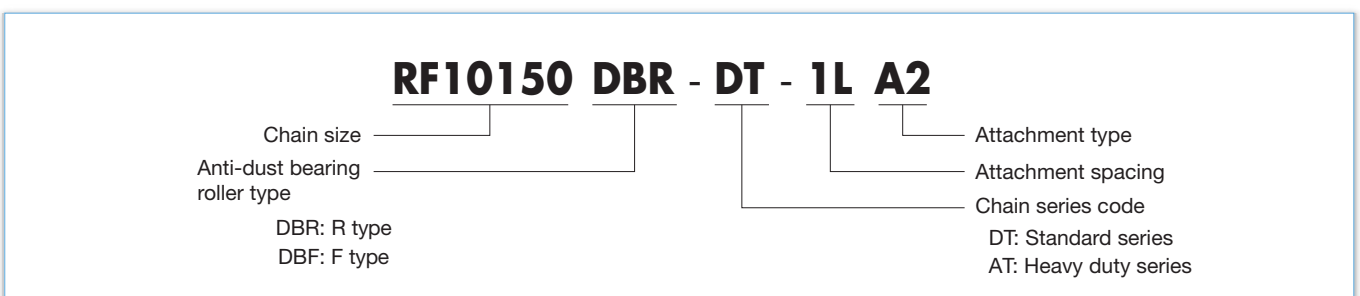
Anti-Dust Series Bearing Roller Conveyor Chain uses a labyrinth construction and seal to make it harder for dust and debris to infiltrate compared to our Standard Series. (Patented)
 These rollers have the same dimensions as R and F Rollers on standard RF Conveyor Chain.



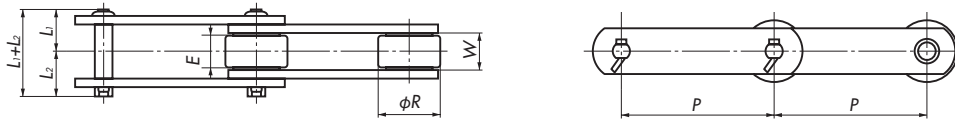
Features



Chain Numbering Example



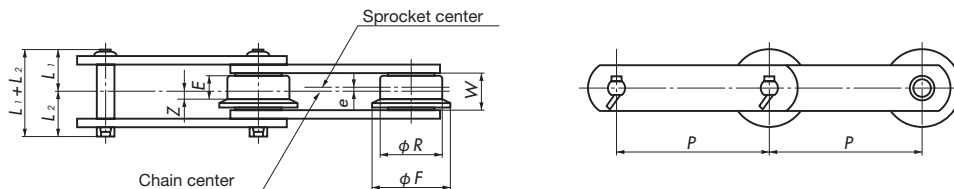
DBR Roller



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Contact Width <i>E</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF10100	100							10.0			
RF10125	125	30.0	69.0	33.0	36.0	50.8	26.0	5.49{560}	8.7	16.1{1650}	23.5{2400}
RF10150	150							8.0			
RF12200	200							11.6			
RF12250	250	37.1	83.5	40.5	43.0	65.0	32.0	8.34{850}	10.4	26.6{2710}	36.3{3700}
RF17200	200							20.0			
RF17250	250	51.4	109.5	51.5	58.0	80.0	44.0	14.1{1440}	17.0	35.0{3570}	54.9{5600}
RF17300	300							16.0			
RF26250	250							26.0			
RF26300	300	57.2	116.5	55.5	61.0	100.0	50.0	19.6{2000}	23.0	44.9{4570}	72.6{7400}
RF26450	450							19.0			
RF36300	300							40.0			
RF36450	450	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	32.0	68.0{6930}	97.1{9900}
RF36600	600							28.0			

- Note: 1. Chain cannot be used for conveyance in environments where it will be fully covered in dust.
 2. Periodically lubricate the base chain using the grease nipple on the pin head.
 3. Base chain is compatible with General Use Conveyor Chains and can use current sprockets.
 4. Do not use in corrosive environments. (Exposed to or submersed in water, etc.)
 5. The above dimensions are nominal dimensions and may differ from actual dimensions.

DBF Roller

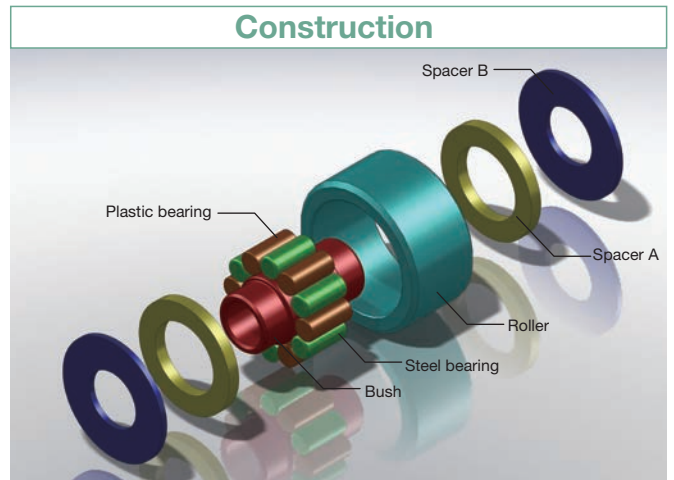
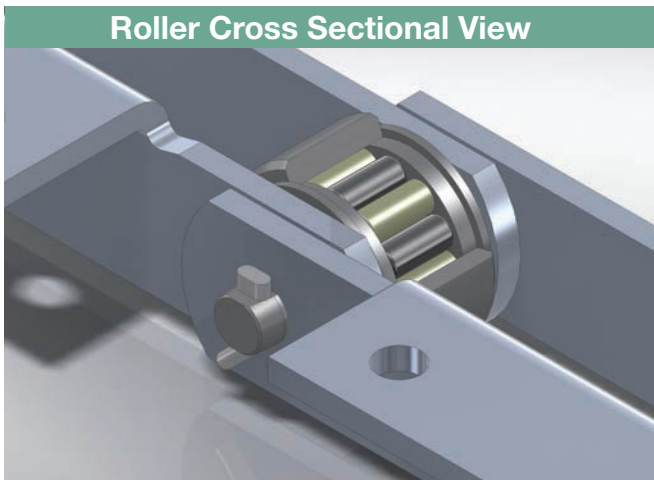


Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>F</i>	Contact Width <i>E</i>	Off- Center <i>e</i>	<i>Z</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF10125	125	30.0	69.0	33.0	36.0	50.8	65.0	20.0	3.0	7.0	3.43{350}	9.0	16.1{1650}	23.5{2400}
RF10150	150										8.3	8.3		
RF12200	200										12.1	12.1		
RF12250	250	37.1	83.5	40.5	43.0	65.0	80.0	24.0	4.0	8.0	5.49{560}	10.8	26.6{2710}	36.3{3700}
RF17200	200										21.0	21.0		
RF17250	250	51.4	109.5	51.5	58.0	80.0	100.0	34.0	5.0	12.0	9.81{1000}	18.0	35.0{3570}	54.9{5600}
RF17300	300										16.0	16.0		
RF26250	250										27.0	27.0		
RF26300	300	57.2	116.5	55.5	61.0	100.0	125.0	38.0	6.0	13.0	13.7{1400}	24.0	44.9{4570}	72.6{7400}
RF26450	450										19.0	19.0		
RF36300	300										42.0	42.0		
RF36450	450	66.7	146.0	68.0	78.0	125.0	150.0	42.0	7.0	14.0	18.6{1900}	33.0	68.0{6930}	97.1{9900}
RF36600	600										29.0	29.0		

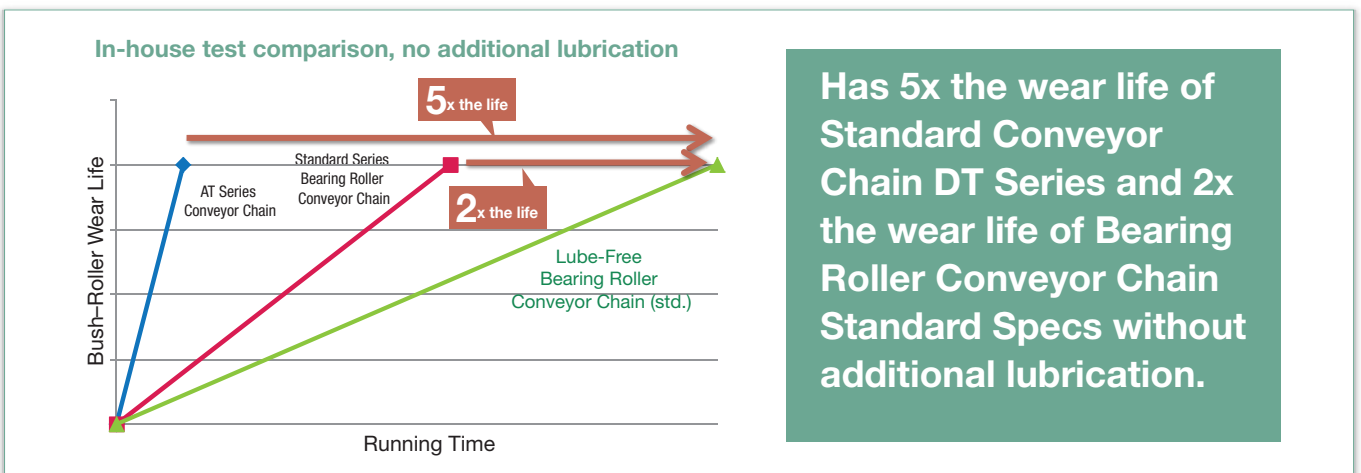
- Note: 1. Chain cannot be used for conveyance in environments where it will be fully covered in dust.
 2. Periodically lubricate the base chain using the grease nipple on the pin head.
 3. Base chain is compatible with General Use Conveyor Chains and can use current sprockets.
 4. Do not use in corrosive environments. (Exposed to or submersed in water, etc.)
 5. The above dimensions are nominal dimensions and may differ from actual dimensions.

Lube-Free Series (Standard Specs)

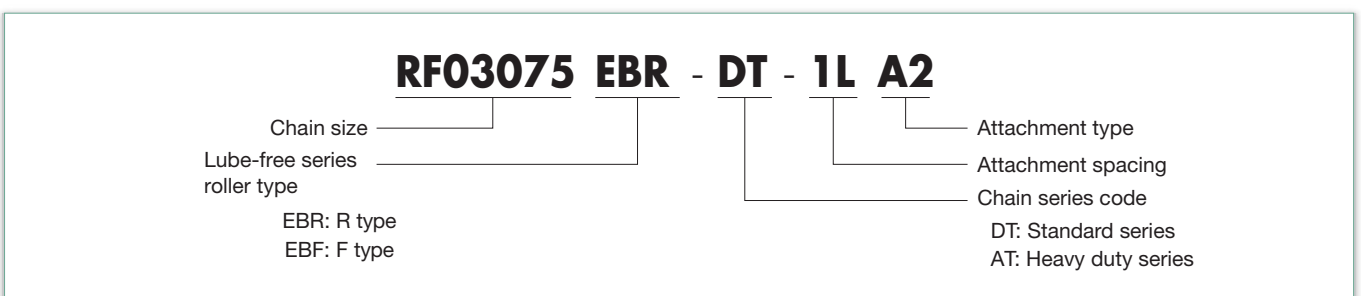
Lube-Free Series Bearing Roller Conveyor Chain uses special cylindrical bearings with self-lubricating functions between the bushes and rollers. The rollers can be used without additional lubrication. (Patented)
 These rollers have the same dimensions as R and F Rollers on standard RF Conveyor Chain.



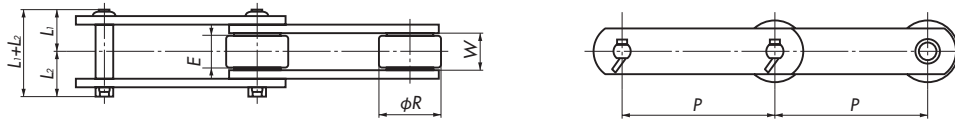
Features



Chain Numbering Example



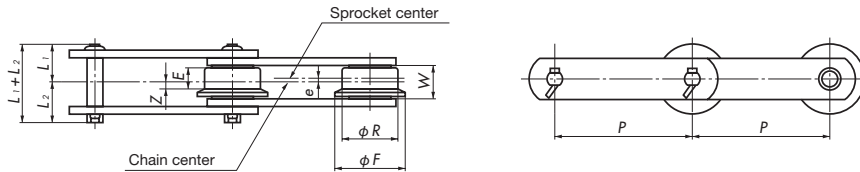
EBR Roller



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>E</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF03075	75	16.1	38.0	18.0	20.0	31.8	14.0	1.96{200}	2.8	2.94{300}	5.50{560}
RF03100	100										
RF05100	100	22.0	53.5	25.0	28.5	40.0	19.0	3.04{310}	5.2	6.86{700}	10.3{1050}
RF05125	125										
RF05150	150	27.0	65.5	31.0	34.5	44.5	24.0	4.12{420}	5.9	7.84{800}	10.3{1050}
RF08125	125										
RF08150	150	30.0	69.0	33.0	36.0	50.8	26.0	5.49{560}	10.0	11.3{1150}	16.5{1680}
RF10100	100										
RF10125	125	37.1	83.5	40.5	43.0	65.0	32.0	8.34{850}	8.7	18.6{1900}	25.4{2590}
RF10150	150										
RF12200	200	51.4	109.5	51.5	58.0	80.0	44.0	14.1{1440}	11.6	24.5{2500}	38.4{3920}
RF12250	250										
RF17200	200	57.2	116.5	55.5	61.0	100.0	50.0	19.6{2000}	20.0	31.4{3200}	50.8{5180}
RF17250	250										
RF17300	300	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	16.0	47.6{4850}	68.0{6930}
RF26250	250										
RF26300	300	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	23.0	47.6{4850}	68.0{6930}
RF26450	450										
RF36300	300	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	40.0	47.6{4850}	68.0{6930}
RF36450	450										
RF36600	600	66.7	146.0	68.0	78.0	125.0	56.0	27.5{2800}	32.0	47.6{4850}	68.0{6930}
RF36600	600										

Note: 1. Contact a Tsubaki representative for imperial sizes.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

EBF Roller

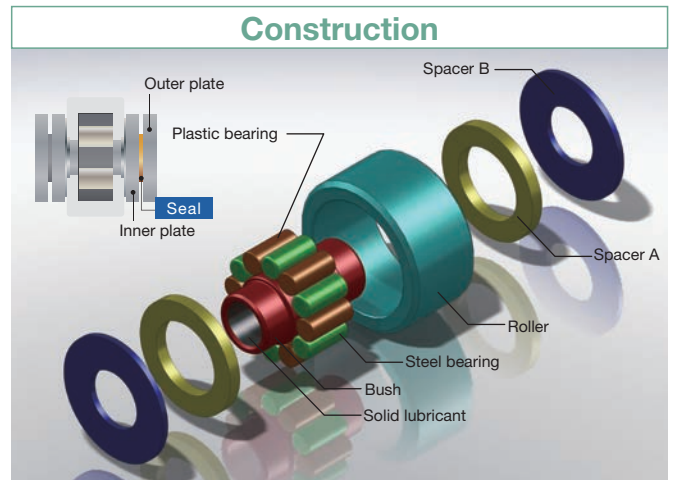
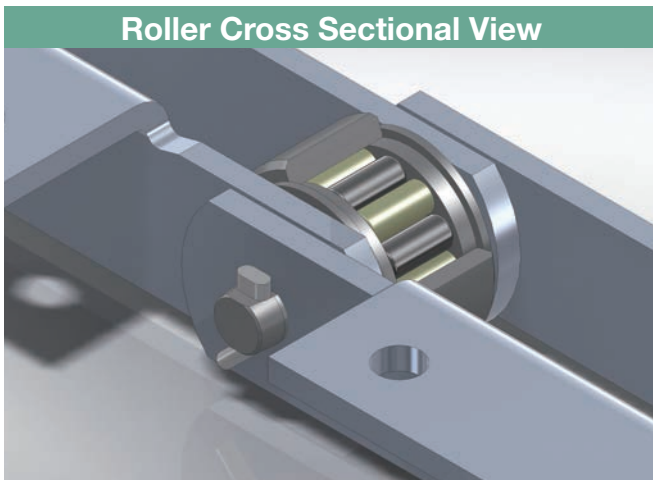


Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>F</i>	Contact Width <i>E</i>	Off- Center <i>e</i>	<i>Z</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF03075	75	16.1	38.0	18.0	20.0	31.8	42.0	11.0	1.5	4.3	1.27{130}	2.9	29.4{300}	5.50{560}
RF03100	100													
RF05100	100	22.0	53.5	25.0	28.5	40.0	50.0	14.0	2.5	4.5	1.96{200}	5.4	6.86{700}	10.3{1050}
RF05125	125													
RF05150	150	27.0	65.5	31.0	34.5	44.5	55.0	18.0	2.5	6.5	2.65{270}	6.2	7.84{800}	10.3{1050}
RF08125	125													
RF08150	150	30.0	69.0	33.0	36.0	50.8	65.0	20.0	3.0	7.0	3.43{350}	9.0	11.3{1150}	16.5{1680}
RF10125	125													
RF10150	150	37.1	83.5	40.5	43.0	65.0	80.0	24.0	4.0	8.0	5.49{560}	12.1	18.6{1900}	25.4{2590}
RF12200	200													
RF12250	250	51.4	109.5	51.5	58.0	80.0	100.0	34.0	5.0	12.0	9.81{1000}	18.0	24.5{2500}	38.4{3920}
RF17200	200													
RF17250	250	57.2	116.5	55.5	61.0	100.0	125.0	38.0	6.0	13.0	13.7{1400}	27.0	31.4{3200}	50.8{5180}
RF17300	300													
RF26250	250	66.7	146.0	68.0	78.0	125.0	150.0	42.0	7.0	14.0	18.6{1900}	42.0	47.6{4850}	68.0{6930}
RF26300	300													
RF26450	450	66.7	146.0	68.0	78.0	125.0	150.0	42.0	7.0	14.0	18.6{1900}	33.0	47.6{4850}	68.0{6930}
RF36300	300													
RF36450	450	66.7	146.0	68.0	78.0	125.0	150.0	42.0	7.0	14.0	18.6{1900}	29.0	47.6{4850}	68.0{6930}
RF36600	600													

Note: 1. Contact a Tsubaki representative for imperial sizes.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

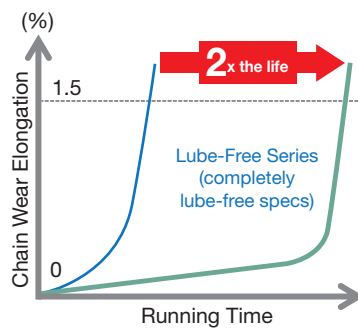
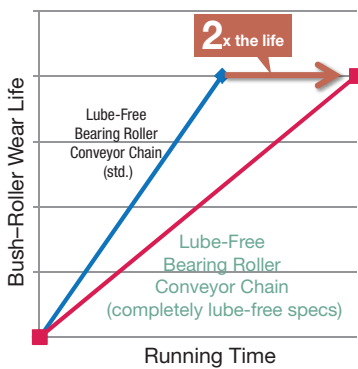
Lube-Free Series (Completely Lube-Free Specs)

Completely Lube-Free Bearing Roller Conveyor Chain uses special cylindrical bearings with self-lubricating functions between the bushes and rollers, and further includes a solid lubricant to eliminate the need for additional lubrication.



Features

In-house test comparison, no additional lubrication



- Bush-roller
2x the wear life of Bearing Roller Conveyor Chain (standard specs) without additional lubrication.
- Pin-bush
2x the wear life of Lube-Free Series (standard specs) without additional lubrication.

Chain Numbering Example

RF10150 AEB R - DT - 1L A2

Chain size ———— RF10150

AEB: Lube-free series completely lube-free specs ———— AEB

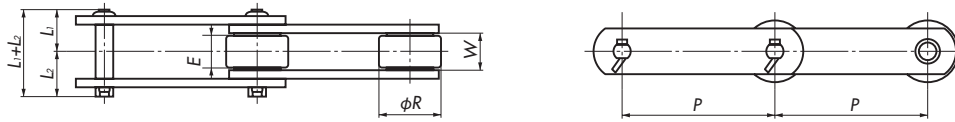
Roller type
R: R roller
F: F roller ———— R

Attachment type ———— A2

Attachment spacing ———— 1L

Chain series code
DT: Standard series
AT: Heavy duty series ———— DT

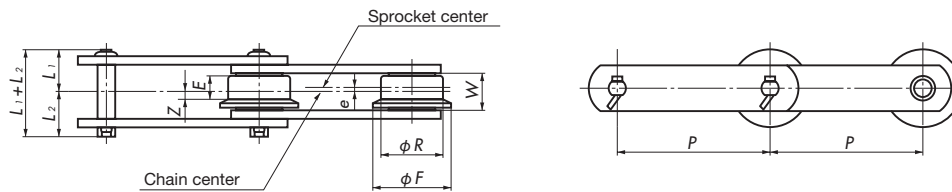
AEBR Roller



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Contact Width <i>E</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF05100	100	23.0	58.0	27.0	31.0	40.0	19.0	3.04{310}	5.2	6.86{700}	10.3{1050}
RF05125	125										
RF05150	150										
RF08125	125	28.5	70.5	33.5	37.0	44.5	24.0	4.12{420}	5.9	7.84{800}	10.3{1050}
RF08150	150										
RF10100	100	31.5	74.0	35.5	38.5	50.8	26.0	5.49{560}	10.0	11.3{1150}	16.5{1680}
RF10125	125										
RF10150	150										
RF12200	200	37.5	87.0	42.0	45.0	65.0	32.0	8.34{850}	11.6	18.6{1900}	25.4{2590}
RF12250	250										
RF17200	200	51.5	113.0	53.5	59.5	80.0	44.0	14.1{1440}	20.0	24.5{2500}	38.4{3920}
RF17250	250										
RF17300	300										
RF26250	250	57.5	120.0	57.5	62.5	100.0	50.0	19.6{2000}	26.0	31.4{3200}	50.8{5180}
RF26300	300										

Note: 1. This chain is interchangeable with standard large size conveyor chain and can use the existing sprocket. However, the L1 + L2 dimension is different.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.

AEBF Roller

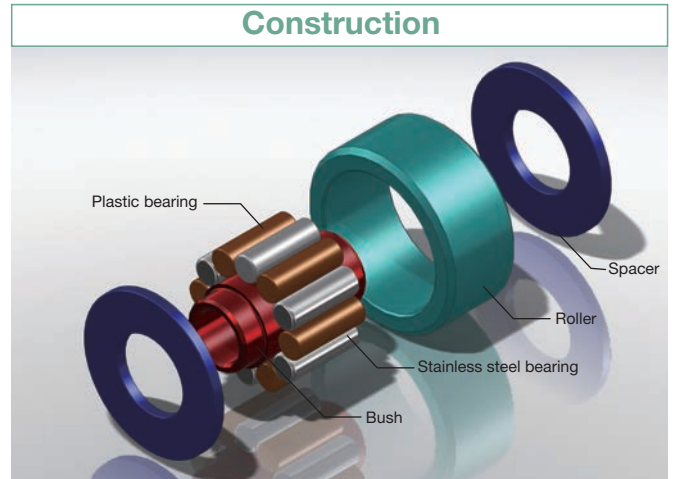
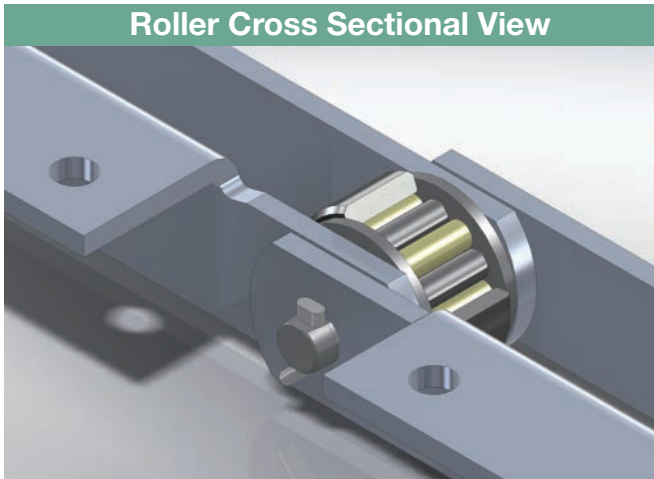


Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>F</i>	Contact Width <i>E</i>	Off- Center <i>e</i>	<i>Z</i>			DT Series kN{kgf}	AT Series kN{kgf}
RF05100	100	23.0	58.0	27.0	31.0	40.0	50.0	14.0	2.5	4.5	1.96{200}	5.4	6.86{700}	10.3{1050}
RF05125	125													
RF05150	150													
RF08125	125	28.5	70.5	33.5	37.0	44.5	55.0	18.0	2.5	6.5	2.65{270}	6.2	7.84{800}	10.3{1050}
RF08150	150													
RF10125	125	31.5	74.0	35.5	38.5	50.8	65.0	20.0	3.0	7.0	3.43{350}	9.0	11.3{1150}	16.5{1680}
RF10150	150													
RF12200	200	37.5	87.0	42.0	45.0	65.0	80.0	24.0	4.0	8.0	5.49{560}	12.1	18.6{1900}	25.4{2590}
RF12250	250													
RF17200	200	51.5	113.0	53.5	59.5	80.0	100.0	34.0	5.0	12.0	9.81{1000}	21.0	24.5{2500}	38.4{3920}
RF17250	250													
RF17300	300													
RF26250	250	57.5	120.0	57.5	62.5	100.0	125.0	38.0	6.0	13.0	13.7{1400}	27.0	31.4{3200}	50.8{5180}
RF26300	300													

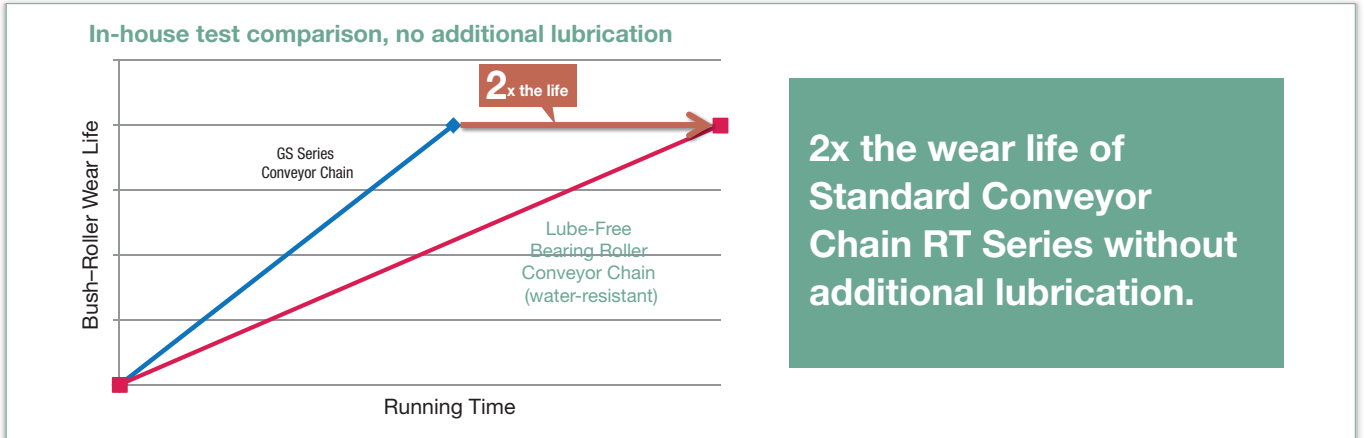
Note: 1. This chain is interchangeable with standard large size conveyor chain and can use the existing sprocket. However, the L1 + L2 dimension is different.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Lube-Free Series (Water Resistant Specs)

Lube-Free Series Water Resistant Bearing Roller Conveyor Chain features stainless steel cylindrical bearings and special cylindrical bearings with self-lubricating functions between bushes and rollers. The rollers can be used without additional lubrication, even in contact with water. (Patented)



Features



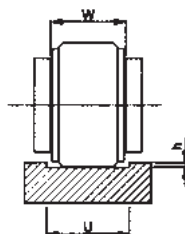
Chain Numbering Example

RF03075 WEBR GS - 1L A2

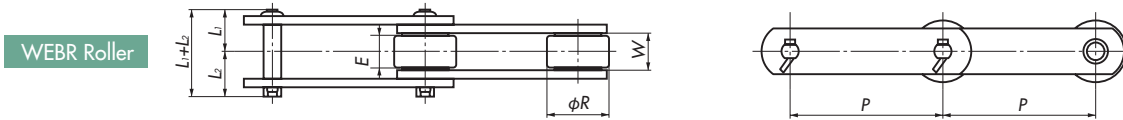
Chain size _____
 Lube-free series, water resistant specs _____
 roller type WEBR: R type
 WEBF: F type _____
 Attachment type _____
 Attachment spacing _____
 Chain series code _____
 GS: Corrosion resistant series

⚠ Rail mounting

When using Lube-free Series Water Resistant Specs, be sure to use a grooved rail. There is little difference in roller and spacer diameters, so the groove width (U) needs to be larger than the inner link inner width (W). Recommended rail groove depth can be found in the table on the right.

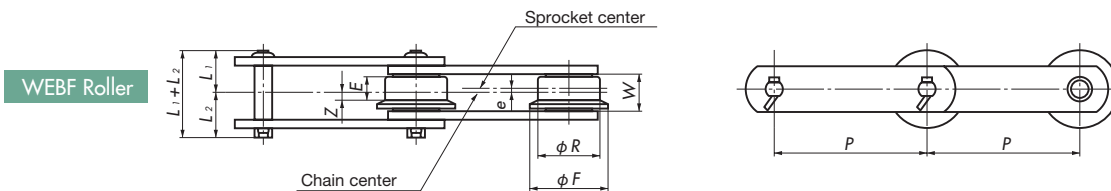


Chain size	Rail groove depth h
RF03	1.6
RF05	1.6
RF08	1.6
RF10	2.1
RF12	2.1
RF17	2.1
RF26	2.1
RF36	2.6



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load kN{kgf}
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Contact Width <i>E</i>			
RF03075	75	16.1	38.0	18.0	20.0	31.8	12.3	1.37{140}	2.8	2.94{300}
RF03100	100								2.4	
RF05100	100	22.0	53.5	25.0	28.5	40.0	17.0	2.13{220}	5.2	6.86{700}
RF05125	125								4.5	
RF05150	150								4.2	
RF08125	125	27.0	65.5	31.0	34.5	44.5	21.0	2.88{290}	5.9	7.84{800}
RF08150	150								5.6	
RF10100	100	30.0	69.0	33.0	36.0	50.8	23.0	3.84{390}	10.0	11.3{1150}
RF10125	125								8.7	
RF10150	150								8.0	
RF12200	200	37.1	83.5	40.5	43.0	65.0	28.0	5.84{600}	11.6	18.6{1900}
RF12250	250								10.4	
RF17200	200	51.4	109.5	51.5	58.0	80.0	40.0	9.87{1010}	20.0	24.5{2500}
RF17250	250								17.0	
RF17300	300								16.0	
RF26250	250	57.2	116.5	55.5	61.0	100.0	46.0	13.7{1400}	26.0	31.4{3200}
RF26300	300								23.0	
RF36300	300	66.7	146.0	68.0	78.0	125.0	55.0	19.3{1970}	40.0	47.6{4850}

Note: 1. Contact a Tsubaki representative for imperial sizes.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.



Chain Size	Pitch <i>P</i>	Inner Link Inner Width <i>W</i>	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load kN{kgf}
			<i>L</i> ₁ + <i>L</i> ₂	<i>L</i> ₁	<i>L</i> ₂	Diameter <i>R</i>	Flange Diameter <i>F</i>	Contact Width <i>E</i>	Off- Center <i>e</i>	<i>Z</i>			
RF03075	75	16.1	38.0	18.0	20.0	31.8	42.0	9.1	1.6	3.0	0.89{90}	2.9	2.94{300}
RF03100	100											2.5	
RF05100	100	22.0	53.5	25.0	28.5	40.0	50.0	13.0	2.0	4.5	1.37{140}	5.4	6.86{700}
RF05125	125											4.6	
RF05150	150											4.4	
RF08125	125	27.0	65.5	31.0	34.5	44.5	55.0	17.0	2.0	6.5	1.86{190}	6.2	7.84{800}
RF08150	150											5.8	
RF10125	125	30.0	69.0	33.0	36.0	50.8	65.0	18.5	2.3	7.0	2.40{240}	9.0	11.3{1150}
RF10150	150											8.3	
RF12200	200	37.1	83.5	40.5	43.0	65.0	80.0	22.0	3.0	8.0	3.84{390}	12.1	18.6{1900}
RF12250	250											10.8	
RF17200	200	51.4	109.5	51.5	58.0	80.0	100.0	32.0	4.0	12.0	6.87{700}	21.0	24.5{2500}
RF17250	250											18.0	
RF17300	300											16.0	
RF26250	250	57.2	116.5	55.5	61.0	100.0	125.0	36.0	5.0	13.0	9.59{980}	27.0	31.4{3200}
RF26300	300											24.0	
RF36300	300	66.7	146.0	68.0	78.0	125.0	150.0	43.0	6.0	15.5	13.0{1330}	42.0	47.6{4850}

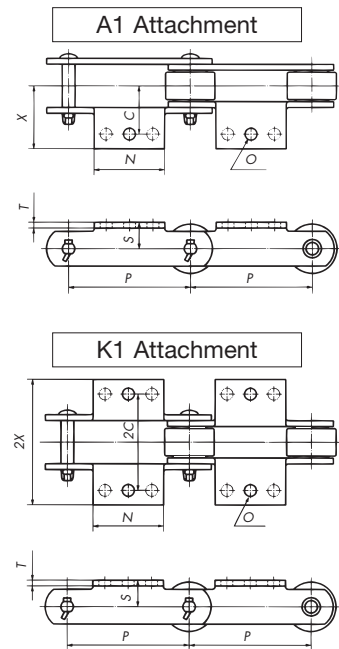
Note: 1. Contact a Tsubaki representative for imperial sizes.
 2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Attachment Dimensional Chart

A1/K1 Attachments

Chain Size	Bearing Roller Type		Pitch P	S	C	2C	X	2X	N	T	O	Bolt Used	Additional Mass/Each kg
	R Roller	F Roller											
RF03075	○	○	75	20	30	60	46	92	55	3.2	10	M8	0.06
RF03100	○	○	100						65				0.07
RF05100	○	○	100	22	35	70	47	94	65	4.5	10	M8	0.07
RF05125	○	○	125						75				0.08
RF05150	○	○	150	28	50	100	64	128	85	6.3	12	M10	0.10
RF08125	○	○	125						80				0.19
RF08150	○	○	150	28	50	100	67	134	90	6.3	12	M10	0.23
RF10100	○	—	100						70				0.16
RF10125	○	○	125	38	60	120	79	158	80	7.9	15	M12	0.18
RF10150	○	○	150						90				0.20
RF12200	○	○	200	45	75	150	100	200	120	9.5	15	M12	0.44
RF12250	○	○	250						170				0.61
RF17200	○	○	200	55	80	160	108	216	120	9.5	15	M12	0.64
RF17250	○	○	250						170				0.88
RF17300	○	○	300	55	80	160	108	216	220	9.5	15	M12	1.26
RF26250	○	○	250						170				1.01
RF26300	○	○	300	220	1.34								

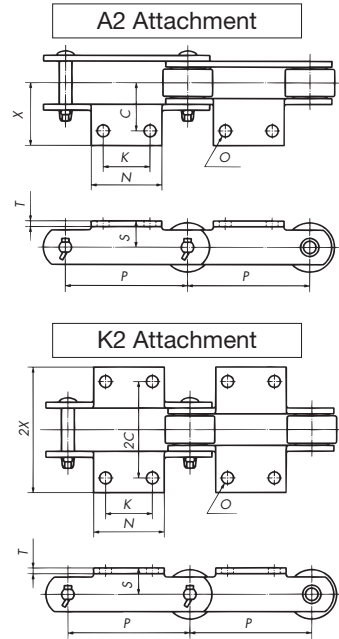
- Note: 1. The weight of the A attachment in the table is the additional weight per attachment. This value should be double for K attachments.
 2. Please contact a Tsubaki representative if the A or K attachment side face requires a guide.
 3. When attaching a slat or the like between two strands of chain, the slats should be attached to either outer link-outer link or inner link-inner link.
 4. Imperial sizes available upon request. 5. The above dimensions are nominal dimensions and may differ from actual dimensions.



A2/K2 Attachments

Chain Size	Bearing Roller Type		Pitch P	S	C	2C	X	2X	N	K	T	O	Bolt Used	Additional Mass/Each kg
	R Roller	F Roller												
RF03075	○	○	75	20	30	60	46	92	55	30	3.2	10	M8	0.06
RF03100	○	○	100						65	40				0.07
RF05100	○	○	100	22	35	70	47	94	65	40	4.5	10	M8	0.07
RF05125	○	○	125						75	50				0.08
RF05150	○	○	150	28	50	100	64	128	85	60	6.3	12	M10	0.10
RF08125	○	○	125						80	50				0.19
RF08150	○	○	150	28	50	100	67	134	90	60	6.3	12	M10	0.23
RF10100	○	—	100						70	40				0.16
RF10125	○	○	125	38	60	120	79	158	80	50	7.9	15	M12	0.18
RF10150	○	○	150						90	60				0.20
RF12200	○	○	200	45	75	150	100	200	120	80	9.5	15	M12	0.44
RF12250	○	○	250						170	125				0.61
RF17200	○	○	200	55	80	160	108	216	120	80	9.5	15	M12	0.64
RF17250	○	○	250						170	125				0.88
RF17300	○	○	300	55	80	160	108	216	220	180	9.5	15	M12	1.26
RF26250	○	○	250						170	125				1.01
RF26300	○	○	300	220	180	1.34								

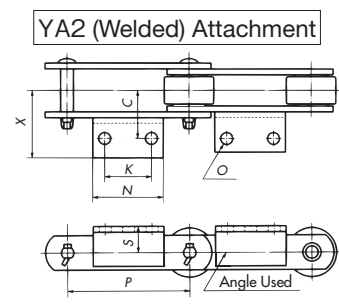
- Note: 1. The weight of the A attachment in the table is the additional weight per attachment. This value should be double for K attachments.
 2. Please contact a Tsubaki representative if the A or K attachment side face requires a guide.
 3. When attaching a slat or the like between two strands of chain, the slats should be attached to either outer link-outer link or inner link-inner link.
 4. Imperial sizes available upon request. 5. The above dimensions are nominal dimensions and may differ from actual dimensions.



YA2 (Welded) Attachments

Chain Size	Bearing Roller Type		Pitch P	S	C	2C	X	2X	N	K	O	Angle Used	Bolt Used	Additional Mass/Each kg
	R Roller	F Roller												
RF26450	○	○	450	55	80	160	123.5	247	320	280	15	L75 × 75 × 9	M12	3.19
RF36300	○	○	300	70	100	200	160	320	160	100	19	L100 × 100 × 10	M16	2.40
RF36450	○	○	450						330	280				4.90
RF36600	○	○	600						410	360				6.10

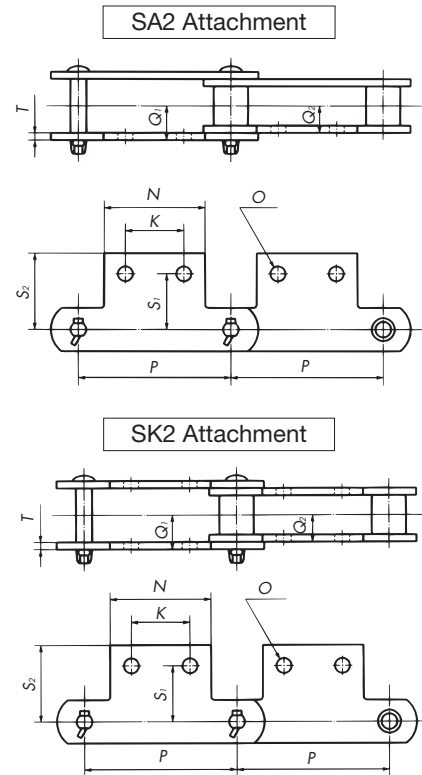
- Note: 1. When attaching a slat or the like between two strands of chain, the slats should be attached to either outer link-outer link or inner link-inner link.
 2. Imperial sizes available upon request. 3. The above dimensions are nominal dimensions and may differ from actual dimensions.



SA2/SK2 Attachments

Chain Size	Bearing Roller Type		Pitch P	S ₁	S ₂	Q ₁	Q ₂	N	K	T	O	Bolt Used	Additional Mass/Each kg
	R	F											
	Roller	Roller											
RF03075	○	—	75	33	49	15.5	11.5	55	30	3.2	10	M8	0.06
RF03100	○	—	100					65	40				0.07
RF05100	○	—	100	33.4	50.7	21	15.5	65	40	4.5	10	M8	0.07
RF05125	○	—	125					75	50				0.08
RF05150	○	—	150					85	60				0.10
RF08125	○	—	125	46.1	60.7	27	20	80	50	6.3	12	M10	0.19
RF08150	○	—	150					90	60				0.23
RF10100	○	—	100	46.1	63	28.5	21.5	70	40	6.3	12	M10	0.16
RF10125	○	—	125					80	50				0.18
RF10150	○	—	150					90	60				0.20
RF12200	○	—	200	55	75.7	35.5	26.5	120	80	7.9	15	M12	0.44
RF12250	○	—	250					170	125				0.61

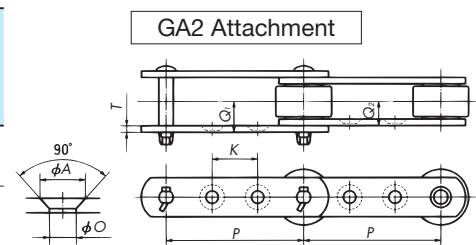
Note: 1. When attaching a slat or the like between two strands of chain, the slats should be attached to either outer link-outer link or inner link-inner link.
 2. Imperial sizes available upon request.
 3. The above dimensions are nominal dimensions and may differ from actual dimensions.



GA2 Attachments

Chain Size	Bearing Roller Type		Pitch P	K	T	Q ₁	Q ₂	A	O	Max. Length of Attached Bolt		Bolt Used
	R	F								Outer Link	Inner Link	
	Roller	Roller										
RF03075	○	—	75	30	3.2	15.5	11.5	13.5	8	26	19	M6
RF03100	○	—	100	50								
RF05100	○	—	100	40	4.5	21	15.5	15	10	36	26	M8
RF05125	○	○	125	50								
RF05150	○	○	150	60								
RF08150	○	○	150	60	6.3	27	20	20	12	45	31	M10
RF10100	—	—	100	30								
RF10125	○	—	125	40	6.3	28.5	21.5	20	12	49	35	M10
RF10150	○	○	150	60								
RF12200	○	○	200	80								
RF12250	○	○	250	125	7.9	35.5	26.5	26	15	63	45	M12
RF17200	○	○	200	70								
RF17250	○	○	250	110	9.5	45.5	35	26	15	81	61	M12
RF17300	○	○	300	150								
RF26300	○	○	300	140	9.5	48.5	38	26	15	88	67	M12
RF26450	○	○	450	220								
RF36450	○	○	450	220	12.7	60	46	32	19	105	75	M16
RF36600	○	○	600	300								

Note: 1. The weight of a GA2 attachment is the same as the weight of the base chain.
 2. When attaching a slat or the like between two strands of chain, the slats should be attached to either outer link-outer link or inner link-inner link.
 3. Imperial sizes available upon request.
 4. The above dimensions are nominal dimensions and may differ from actual dimensions.



Contact a Tsubaki representative regarding attachments for Completely Lube-Free Bearing Roller Conveyor Chain.

List of Series

Series Specification		Standard Series				Lube-Free Series					
		Standard Specs		Anti-Dust Specs		Standard Specs		Completely Lube-Free Specs		Water Resistant Specs	
Type		BR BF		DBR DBF		EBR EBF		AEBR AEBF		WEBR WEBF	
Operating Environment		Room temperature, away from water and dust		Dust may be present (cannot be used when chain will be buried in dust)		Room temperature, away from water and dust		Room temperature, away from water and dust		Room temperature, in contact with water	
Roller Lubrication		Requires regular lube		Requires regular lube		Can be used without lubricating the roller		Packaged and shipped lubed, no further lubing necessary		Packaged and shipped lubed, no further lubing necessary (cannot be used in dust environments)	
Operating Temperature Range		-20°C to 80°C (can be manufactured to withstand up to 150°C)		-10°C to 80°C		-20°C to 50°C		-20°C to 50°C		0°C to 50°C	
Roller Allowable Load	R Roller	Chain Size	RF03	1.96kN { 200kgf}	—	—	1.96kN { 200kgf}	—	—	1.37kN { 140kgf}	
			RF05	3.04kN { 310kgf}	—	—	3.04kN { 310kgf}	3.04kN { 310kgf}	2.13kN { 220kgf}		
			RF08	4.12kN { 420kgf}	—	—	4.12kN { 420kgf}	4.12kN { 420kgf}	2.88kN { 290kgf}		
			RF10	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	3.84kN { 390kgf}		
			RF12	8.34kN { 850kgf}	8.34kN { 850kgf}	8.34kN { 850kgf}	8.34kN { 850kgf}	8.34kN { 850kgf}	5.84kN { 600kgf}		
			RF17	14.1kN {1440kgf}	14.1kN {1440kgf}	14.1kN {1440kgf}	14.1kN {1440kgf}	14.1kN {1440kgf}	9.87kN {1010kgf}		
			RF26	19.6kN {2000kgf}	19.6kN {2000kgf}	19.6kN {2000kgf}	19.6kN {2000kgf}	19.6kN {2000kgf}	13.7kN {1400kgf}		
			RF36	27.5kN {2800kgf}	27.5kN {2800kgf}	27.5kN {2800kgf}	27.5kN {2800kgf}	27.5kN {2800kgf}	19.3kN {1970kgf}		
	F Roller	Chain Size	RF03	1.27kN { 130kgf}	—	—	1.27kN { 130kgf}	—	—	0.89kN { 90kgf}	
			RF05	1.96kN { 200kgf}	—	—	1.96kN { 200kgf}	1.96kN { 200kgf}	1.37kN { 140kgf}		
			RF08	2.65kN { 270kgf}	—	—	2.65kN { 270kgf}	2.65kN { 270kgf}	1.86kN { 190kgf}		
			RF10	3.43kN { 350kgf}	3.43kN { 350kgf}	3.43kN { 350kgf}	3.43kN { 350kgf}	3.43kN { 350kgf}	2.40kN { 240kgf}		
			RF12	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	5.49kN { 560kgf}	3.84kN { 390kgf}		
			RF17	9.81kN {1000kgf}	9.81kN {1000kgf}	9.81kN {1000kgf}	9.81kN {1000kgf}	9.81kN {1000kgf}	6.87kN { 700kgf}		
			RF26	13.7kN {1400kgf}	13.7kN {1400kgf}	13.7kN {1400kgf}	13.7kN {1400kgf}	13.7kN {1400kgf}	9.59kN { 980kgf}		
			RF36	18.6kN {1900kgf}	18.6kN {1900kgf}	18.6kN {1900kgf}	18.6kN {1900kgf}	18.6kN {1900kgf}	13.0kN {1330kgf}		
	Coefficient of Roller Rotation Friction		0.03		0.05*		0.03		0.03		0.03
	Chain Allowable Speed	Sprocket No. of Teeth	6	15m/min	15m/min	—	—	—			
8			25m/min	25m/min	15m/min	15m/min	15m/min				
10			30m/min	30m/min	20m/min	20m/min	20m/min				
12			30m/min	30m/min	25m/min	25m/min	25m/min				

*As Anti-Dust Series chain is designed for use in dusty environments, its coefficient of friction is slightly higher.
 • See the Tsubaki Large Size Conveyor Chains & Sprockets catalog for selection.

Q&A

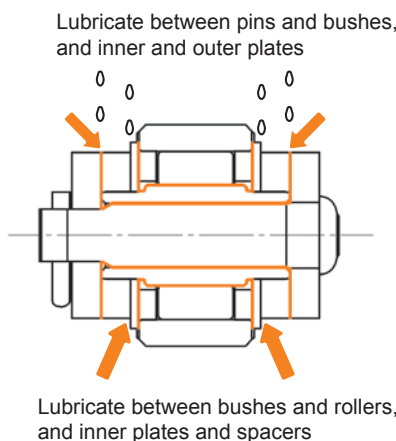
1 What is the difference between Tsubaki Bearing Roller Conveyor Chain and competitor bearing roller conveyor chain?

Tsubaki Bearing Roller Conveyor Chain uses a unique construction with cylindrical bearings inside the roller. Competitor chains just use two standard ball bearings.

Although bush–roller life is roughly the same with both types of construction, ball bearings receive load on their point contact and so generally have a lower allowable load than cylindrical bearings and their linear contact. Cylindrical bearings are also tough against impacts—impacts will damage the retainer of ball bearings, which easily leads to poor rotation.

2 Should I lubricate Bearing Roller Conveyor Chain?

We apply grease to inside the bearing rollers before we ship your chain from our plant. Although lubrication frequency will vary with the operating conditions, you should lubricate between pins–bushes and bushes–rollers once every 1–3 months (before you start hearing abnormal noises). (See the diagram below.)



Grease nipples are also available upon request. (See pg. 6.) Consider Tsubaki’s Lube-Free Bearing Roller Conveyor Chain when you wish to avoid additional lubrication or when you wish to avoid contaminating conveyed items with lube.

3 Setting the allowable speed and sprocket number of teeth (pg. 19)

Bearing Roller Conveyor Chain’s allowable speed is established by the strength of the rollers (cylindrical bearings) when engaging the sprocket. The less teeth a sprocket has, the higher the force acting on the roller during engagement, and the rollers (cylindrical bearings) will not be able to handle the load.

4 What is stick-slip?

Stick-slip, also called “surging,” is a type of self-induced oscillation where the chain repeatedly starts and stops, despite there being continuous drive from the drive source. Stick-slip generally happens on conveyors over 10m long and with chain speeds less than 15m/min. The causes of stick-slip include a fluctuating coefficient of friction between bushes and rollers, insufficient chain strength, or even insufficient rail or conveyor strength. In situations where it is caused by a fluctuating coefficient of friction, then using Bearing Roller Conveyor Chain can minimize this surging.

Q&A

5 Are the benefits of Bearing Roller Conveyor Chain worth the price?

When replacing existing chain, the initial costs will be higher but you will be able to reduce overall costs. (See table below.)

	AT Series Conveyor Chain	Standard Bearing Roller Conveyor Chain
Initial costs	60	100
Wear life	1	3
Replacement costs	5000 yen/hour x 4 people x 12 hours (half day) x 3 times = JPY 720,000	5000 yen/hour x 4 people x 12 hours (half day) x 1 time = JPY 240,000
Chain cost	60 x 3 replacements = 180	100 x 1 replacement = 100
Total costs	180 + JPY 720,000 = 252	100 + JPY 240,000 = 124

Note: Simulation with Bearing Roller Conveyor Chain costs as our benchmark of 100 and AT Series as 60.

Bearing Roller Conveyor Chain has half the total costs of standard conveyor chain.

Users can additionally reduce their electric bill thanks to the lower required motor kW and prevent production losses arising from stopping the line during replacement. (See the charts at the bottom of pg. 3.) And even with new installations, since Bearing Roller Conveyor Chain has a higher roller allowable load than standard conveyor chain users can go a chain size down. A smaller chain size means more compact equipment, which can lead to lower overall costs.

Notes on Use

- 1) Allowable loads are determined by roller–rail contact surface wheel load and bearing bending strength. Use rails with SS400 or stronger material. Do not use bearing rollers with curved rails.
- 2) For lubed specifications, lack of lubrication will cause poor rotation. Use non-lubed or water resistant specifications in environments where the chain may come into contact with water.
- 3) Do not use in acidic or alkaline environments. Water resistant specifications (SUS400 Series parts) may rust in certain usage environments.
- 4) Poor rail installation, sprocket misalignment, or other equipment side operating conditions will cause an excessive thrust load to act on the chain in the direction of roller rotation. Adjust rails and sprockets to avoid this issue.

For Safe Use



Warning

Observe the following points to prevent hazardous situations.

- Do not use chains or accessories (peripheral devices and parts) for anything other than their original purpose.
- Never perform additional work on the chain.
 - Do not anneal the various parts of the chain.
 - Do not clean the chain with acids or alkalis, as they may cause cracking.
 - Never electroplate the chain or its parts, as this may cause cracking due to hydrogen embrittlement.
 - Do not weld the chain, as the heat may cause cracking or a reduction in strength.
 - When heating or cutting the chain with a torch, remove the links immediately adjacent and do not use them again.
- When there is a need to replace a damaged (fractured) portion of a chain, always replace the whole chain with a new product rather than replacing only the damaged or fractured portion.
- When using a chain and sprocket on suspension equipment, establish a safety fence and strictly prevent entry to the area directly below the suspended object.
- Always install hazard protection devices (safety covers, etc.) for the chain and sprocket.
- Immediately stop using the chain if it comes into contact with a substance that can cause embrittlement cracking (acid, strong alkali, battery fluid, etc.) and replace with a new chain.
- When installing, removing, inspecting, maintaining, and lubricating the chain:
 - Perform the work according to the instruction manual or this catalog.
 - Always turn off the power switch to the equipment beforehand and make sure that it cannot be turned on accidentally.
 - Secure the chain and sprocket so that they cannot move freely.
 - Use a press or other special tool to cut and connect chain, and cut and connect using the proper procedures.
 - Wear clothing and protective gear (safety glasses, gloves, safety shoes, etc.) that are appropriate for the work.
 - Only experienced personnel should replace chains and sprockets.
- Install hazard protection devices (safety equipment, etc.) on suspension equipment using Leaf Chain to prevent hazard or injury in the event of chain failure.
- Install protection equipment for safety on the equipment side when using chain on personnel transport devices or lifting equipment.



Caution

Observe the following points to prevent accidents.

- Only handle chains and sprockets after thoroughly understanding their structure and specifications.
- When installing chains and sprockets, inspect them in advance to confirm that they have not been damaged in transport.
- Always regularly inspect and maintain your chains and sprockets.
- Chain strength varies according to manufacturer. When selecting a chain based on a Tsubaki catalog always use the corresponding Tsubaki product.
- Minimum tensile strength refers to the failure point when a load is applied to the chain once and does not refer to the allowable operational load.
- Lubricate connecting links (CL/OL) before assembling onto the base chain.
- Always ensure that the final customer receives the instruction manual.
 - If you do not have the instruction manual, contact a Tsubaki representative with the product name, series name, and chain/model number to receive the appropriate manual.
- The product information given in this catalog is mainly for selection purposes. Thoroughly read the instruction manual before actually using this product, and use the product properly.

Warranty

1. Warranty Period

Products manufactured by Tsubakimoto Chain Co. ("Products") are warranted against defects in materials and workmanship for eighteen (18) months from the date of shipment from the factory or twelve (12) months from the date the Products are first placed into operation (calculated from the date the Products have been installed on the customer's equipment), whichever comes first.

2. Scope of Warranty

During the warranty period, if defects arise in the Products when installed, used, and maintained correctly in accordance to Tsubakimoto Chain's catalogs, installation manuals (including any documents specially prepared and provided to the customer) and the like, Tsubakimoto Chain will repair or replace such defective Products thereof free of charge upon confirmation of said defect by Tsubakimoto Chain. This warranty shall only apply to Products received, and Tsubakimoto Chain shall not be liable for the following costs and/or damages (including installation manuals or other documents specially prepared and provided to the customer):

- (1) Costs required for removing the defective Products from or re-installing the replacement Products on the customer's equipment for replacement or repair of the defective Product, as well as any associated installation costs.
- (2) Costs required to transport the customer's equipment, if needed, to a repair shop or the like.
- (3) Any consequential or indirect damages or loss of profits or benefits the customer may incur due to the defects or repair of the Products.

3. Out of Warranty Service and Repair

Regardless of the warranty period, Tsubakimoto Chain will provide investigation, repair, and/or manufacture of the Products for a fee should the Products experience problems or anomalies under the following situations.

- (1) Placement, installation (including connecting and disconnecting), lubrication, or maintenance of the Products not in accordance with Tsubakimoto Chain's catalogs, installation manuals (including documents specially prepared and provided to the customer), or the like.
- (2) Use of the Products (including operating conditions, environment, and allowances) not in accordance with Tsubakimoto Chain's catalogs, installation manuals (including documents specially prepared and provided to the customer), or the like.
- (3) Inappropriate disassembly, modification, or processing of the Products by the customer.
- (4) Use of the Products with damaged or worn products. (Example: Use of the Products with a worn sprocket, drum, rail, or the like.)
- (5) When the operating conditions exceed the performance of the Products as selected using the Tsubakimoto Chain selection method.
- (6) Use of the Products in conditions other than what have been discussed.
- (7) When consumables such as bearings, oil seals, and lubricant in the Products deplete, wear, or degrade.
- (8) When secondary damage occurs to the Products due to initial or primary damage or failure to the customer's equipment.
- (9) Damage or failure of the Products due to forces majeure such as natural disasters.
- (10) Damage or failure of the Products due to unlawful conduct by third parties.
- (11) Damage or failure of the Products due to causes not attributable to Tsubakimoto Chain

The logos, brand names, or product names in this catalog are trademarks or registered trademarks of Tsubakimoto Chain Co. in Japan and other countries.



TSUBAKIMOTO CHAIN CO.

Japan	Headquarters	+81 6-6441-0011	http://tsubakimoto.com
-------	--------------	-----------------	-------------------------------------------------------------

Global Group Companies

AMERICAS

United States of America	U.S. Tsubaki Power Transmission, LLC	+1 847-459-9500	http://www.ustsubaki.com/
Brazil	Tsubaki Brasil Equipamentos Industriais Ltda.	+55 11-3253-5656	http://tsubaki.ind.br/
Canada	Tsubaki of Canada Limited	+1 905-676-0400	http://tsubaki.ca/

EUROPE

Netherlands	Tsubakimoto Europe B.V.	+31 78-6204000	http://tsubaki.eu/
France	Kabelschlepp France S.A.R.L.	+33 1-34846365	http://kabelschlepp.fr/
Germany	Tsubaki Deutschland GmbH	+49 89-2000-133-80	http://tsubaki.de/
	Tsubaki Kabelschlepp GmbH	+49 2762-4003-0	http://tsubaki-kabelschlepp.com/
Italy	Kabelschlepp Italia S.R.L.	+39 0331-350962	http://kabelschlepp.it/
Russia	OOO Tsubaki Kabelschlepp	+7 499-4180212	http://kabelschlepp.ru/
Spain	Tsubaki Ibérica Power Transmission S.L.	+34 911-873450	http://tsubaki.es/
United Kingdom	Tsubakimoto U.K. Ltd.	+44 1623-688-700	http://tsubaki.eu/

INDIAN OCEAN RIM

Singapore	Tsubakimoto Singapore Pte. Ltd.	+65 6861-0422/3/4	http://tsubaki.sg/
Australia	Tsubaki Australia Pty. Limited	+61 2-9704-2500	http://tsubaki.com.au/
India	Tsubaki India Power Transmission Private Limited	+91 44-7101-2000	http://tsubaki.in/
Indonesia	PT. Tsubaki Indonesia Trading	+62 21-89458898	http://tsubakimoto.co.id/
Malaysia	Tsubaki Power Transmission (Malaysia) Sdn. Bhd.	+60 3-8966-2020	http://tsubaki.my/
New Zealand	Tsubaki Australia Pty. Limited - New Zealand Branch	+64 9-352-2085	http://tsubaki.com.au/
Philippines	Tsubakimoto Philippines Corporation	+63 2-808-0067	http://tsubaki.ph/
Thailand	Tsubakimoto (Thailand) Co., Ltd.	+66 2-262-0667/8/9	http://tsubaki.co.th/
Vietnam	Tsubakimoto Vietnam Co., Ltd.	+84 24-6274-1449	http://tsubaki.net.vn/

EAST ASIA

Korea	Tsubakimoto Korea Co., Ltd.	+82 2-2183-0311	http://tsubakimoto-tck.co.kr/
Taiwan	Taiwan Tsubakimoto Co.	+886 3-3293827	http://tsubakimoto.com.tw/

CHINA

China	Tsubakimoto Chain (Shanghai) Co., Ltd.	+86 21-53966651/2	http://tsubaki-sh.cn/
-------	----------------------------------------	-------------------	-----------------------------------------------------------



The Tsubaki Eco Link logo is used only on products that satisfy the standards for environmental friendliness set by the Tsubaki Group.