Innovation in Motion
TSUBAKI

TSUBAKI
LARGE SIZE CONVEYOR CHAINS & SPROCKETS

SMART Conveyor Chain™

Large Size Conveyor Chains & Sprockets

TSUBAKI ECO LINK

The Evolution of the Conveyor Chain

New Tsubaki SMART Conveyor Chain™

Three Types of Chain to

Basic and Advanced Models

Our standard conveyor chain line-up, made simple.

Our line-up features eight models of basic and advanced conveyor chains.

Basic Models

- **DT** — General Use
- **AT** — Heavy Duty
- **GS** — Corrosion Resistant
- **SS** — Heat/Chemical Resistant

New Advanced Models

- **DTA** — Better corrosion resistance
- **ATA** — Better corrosion resistance and higher max. allowable load
- **GSA** — Better corrosion resistance and higher max. allowable load
- **SSA** — Better wear resistance

Consider Tsubaki's advanced conveyor chains, with longer service life over our basic models

New selection method!

Simple allowable load selection

We've switched from the previous safety factor selection to a new allowable load selection method based on maximum allowable load to help you make the smart chain choice!

Select the optimal chain for your operating environment

Tsubaki's new SMART Conveyor Chain concept takes a century of chain manufacturing know-how and evolves it to create a conveyor chain that meets the needs of customers today and tomorrow.

Provide the Best Solution.

Industry Specific Chains

Providing the optimal chain for the right application and the right industry.

Function Specific Products

Providing the right chain and solution to meet your needs.

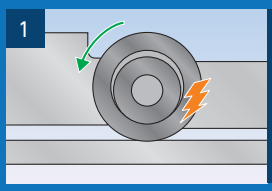
NEW

Now It's Easy to Make Tsubaki's new advanced large

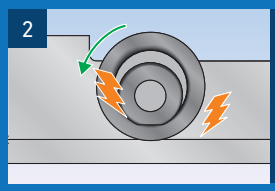
DTA Series

Available sizes: RF03 – RF36 (with F or R rollers only)

Has 3x the bush – roller wear resistance of DT Series.



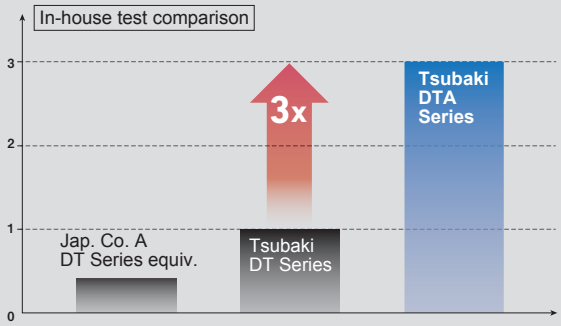
A roller normally rolls atop a rail, and the bush slides against the roller.



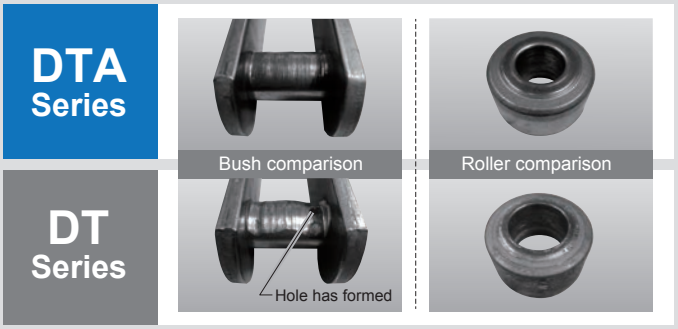
This promotes wear and leads to a shorter chain life.

The new DTA Series provides a better solution

Bush – Roller Wear Performance



Wear Comparison over the Same Time Period



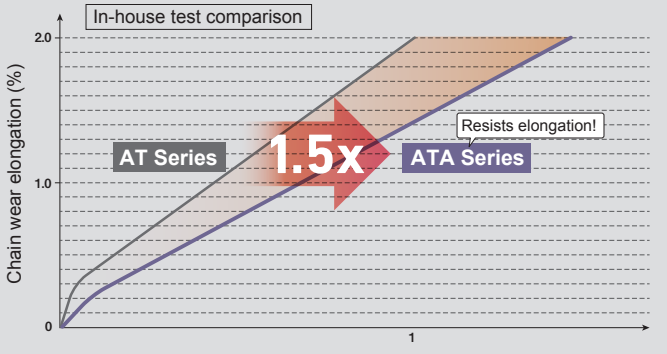
ATA Series

Available sizes: RF08 – RF36 (with F or R rollers only)

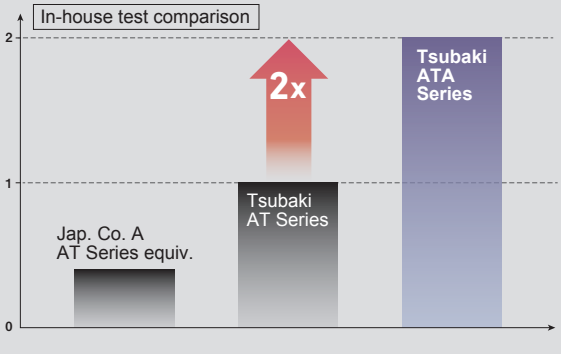
Features better wear resistance and maximum allowable load than AT Series!

Pin – bush wear performance	Bush – roller wear performance	Max. allowable load
1.5x better	2x better	20% higher

Pin – Bush Wear Resistance



Bush – Roller Wear Performance



the SMART Selection

size conveyor chains

Better corrosion resistance and allowable load!

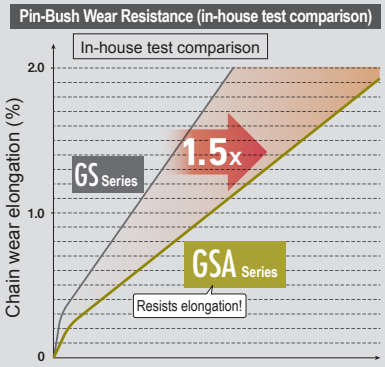
GSA Series

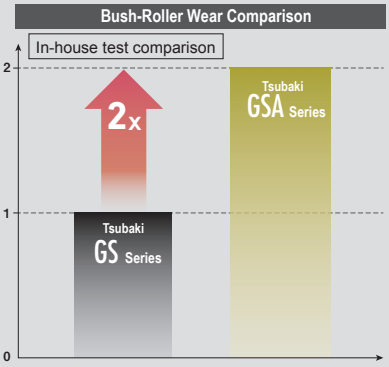
Available sizes RF03 – RF26 sizes

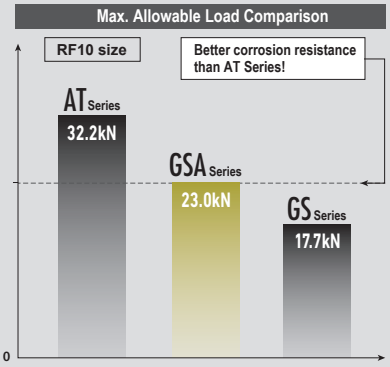
Better wear resistance and higher max. allowable load than GS Series!

Pin-bush wear performance	Bush-roller wear performance	Max. allowable load/roller allowable load*
1.5x better	2x better	1.3x better

*For R rollers only







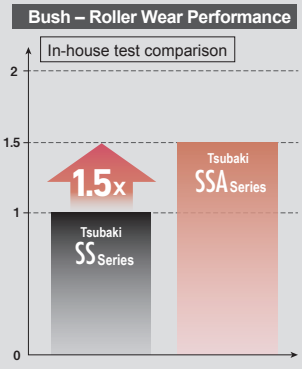
SSA Series

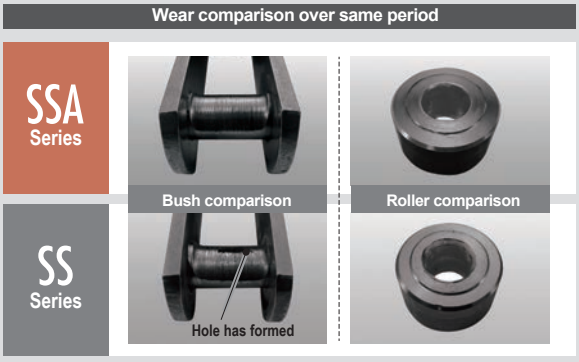
Available sizes RF03 – RF26 sizes

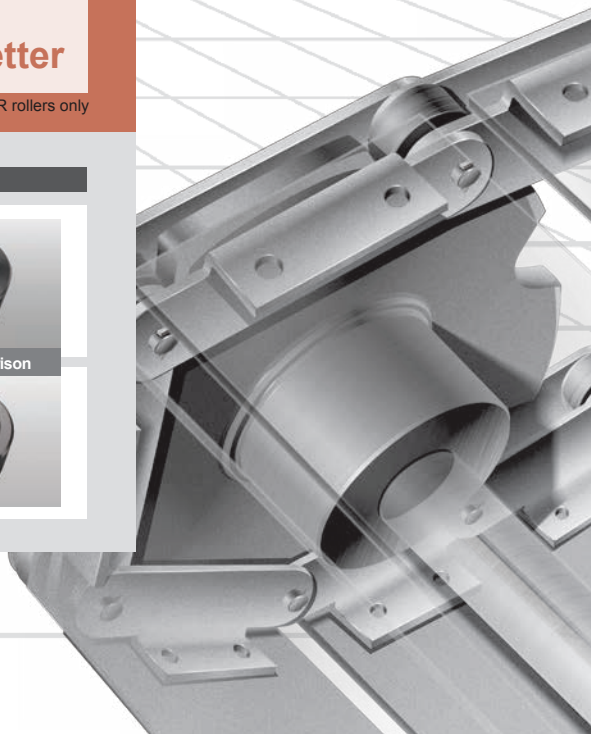
Better wear resistance than SS Series!

Bush – roller wear performance	Roller allowable load*
1.5x better	1.3x better

*For R rollers only







CONTENTS

The Tsubaki Group cares about the environment. That is why we have established standards for evaluating the environmental friendliness of our products. Only products that meet our exacting guidelines are recognized as eco-products and certified with the Tsubaki Eco Link logo.

General Use, Wear Resistant/Heavy Duty, and Corrosion Resistant Large Size Conveyor Chain

Basic & Advanced Models

Specialty Conveyor Chain

Industry Specific Products

Function Specific Products

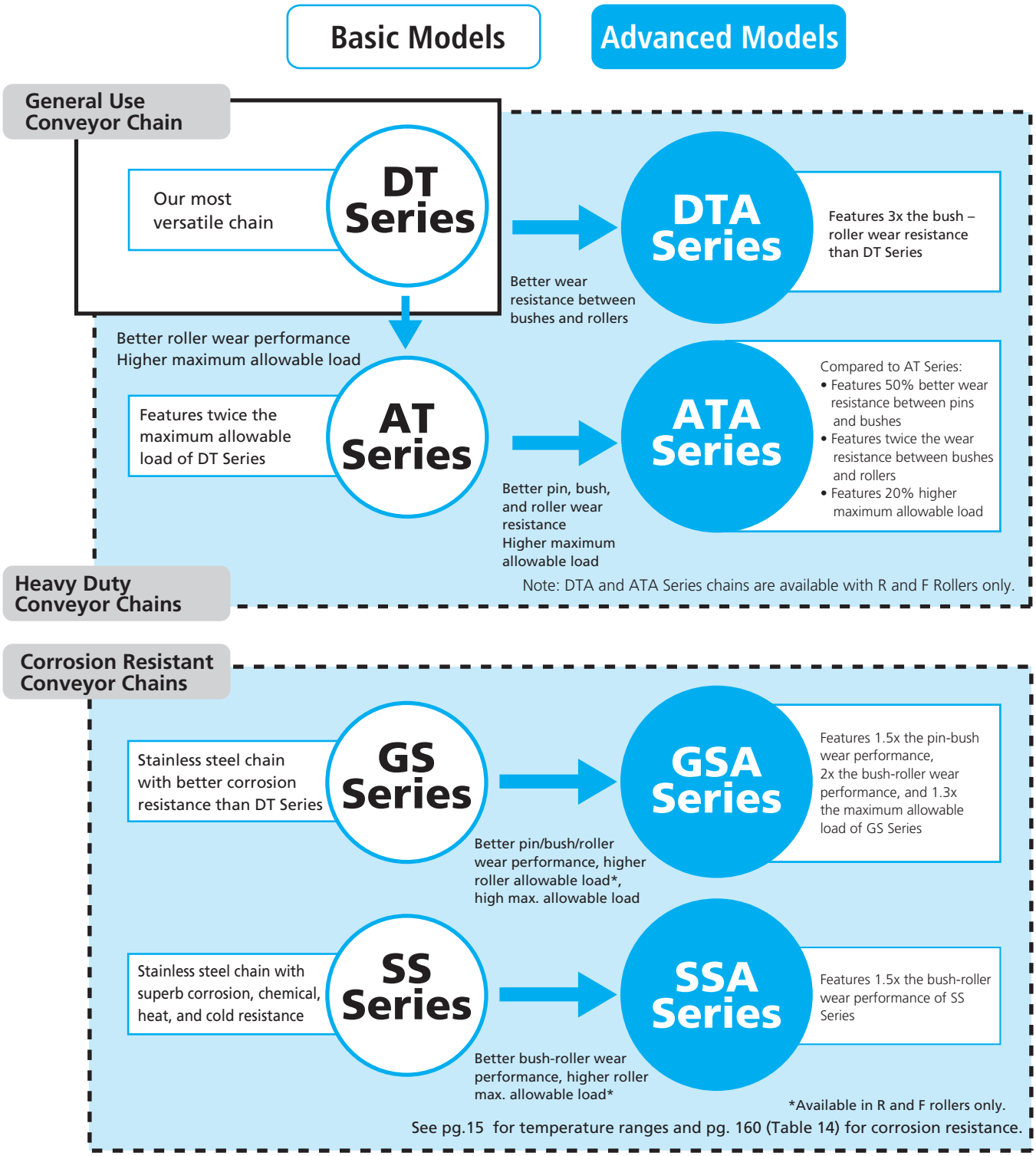
Wide Selection of Large Size Conveyor Chains

Three types of chain to provide the best solution.

Basic and Advanced Models

We've added advanced versions of our four basic series.
Now it's easy to make the smart selection.

Maximum allowable load varies by size and combination of materials.
Always confirm the maximum allowable load when considering any chain series.



See pg.15 for temperature ranges and pg. 160 (Table 14) for corrosion resistance.

Note: Based on in-house wear test comparisons. The amount of service life increase will vary depending on your operating conditions.

Industry Specific Products

Our line-up of industry specific chains is based on our experience in specialized industries of every kind. These chains can also be used in other industries as well.

See pg. 53

Cement Industry (powder conveyance)

See pg. 71

Biomass Power Generation

See pg. 73

Waste Disposal Facilities

See pg. 93

Automotive Industry

See pg. 65

Steel Industry (super heavy load conveyance)

See pg. 76

Food Industry

See pg. 79

Water Treatment Industry

Function Specific Products

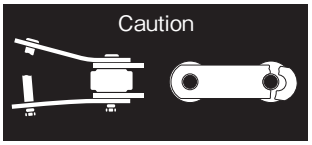
Let us propose a specification with a combination of materials to match your application needs. Contact a Tsubaki representative for more information.

	Application		Features	Series Name/ Code	Page
Normal/dusty environments	Chain elongation resistance	Normal	Better wear performance between pins and bushes than DT Series	CT	115
		Heavy duty	Twice the max. allowable load of CT Series	BT	115
		Wear resistant	Twice the wear performance between pins and bushes than BT Series	FB	63
	Bush–roller wear resistance	Wear resistant	Better wear performance between bushes and rollers, can use a variety of material combinations (only available with R/F Rollers)	DB	116
			Three times the wear performance between bushes and rollers than BT Series	FA	58
Slightly corrosive environments	Chain corrosion and wear elongation resistance	Normal	Same max. allowable load as DT Series but with better pin-bush corrosion resistance	MT	115
		Heavy duty	Same max. allowable load as GS Series but with better pin-bush corrosion resistance	VT	115
	Bush–roller corrosion wear resistance	Normal	Same max. allowable load as DT Series but with better pin-bush-roller corrosion resistance	RT	115
		Heavy duty	Same max. allowable load as GS Series but with better pin-bush-roller corrosion resistance	YT	115
Bush–roller wear resistance for heavy loads, energy savings, and to prevent stick-slipping			Chain uses unique cylindrical bearings inside the rollers to provide a low coefficient of friction and higher roller allowable load. Standard, water resistant, dust resistant, and lube-free specs available.	Bearing Roller Conveyor Chain	101
High precision stopping applications (indexing conveyance)			Chain whose construction minimizes elongation — ideal for high precision stopping/indexing applications	Bearing Bush Conveyor Chain	95
Clean environments (lube-free operation)			Chain that can be used without additional lubrication (Cannot be used in dusty or corrosive environments)	Lambda Plastic Roller Conveyor Chain	78
Free flow (accumulation)			Chain where the conveyance speed is 2.3x the chain speed thanks to the ratio between large and small rollers	Double Plus Conveyor Chain	97
			Chain with a top roller attached to the top of the chain between chain pitches. Directly conveys items on the top rollers.	Top Roller Conveyor Chain	98
			Chain with outboard rollers on the side. Outboard rollers can be used for accumulation or they can run on a rail.	Outboard Roller Conveyor Chain	99
Direct conveyance			Chain with wide plates and R Rollers. Items can be conveyed directly atop the plates.	Deep Link Conveyor Chain	67
			Chain with a simple construction and excellent durability. Has the largest tensile strength for its mass, and is extremely tough.	Block Chain	69

Precautions Before Use

Always read this catalog and make the proper selection before using your Large Conveyor Chain. Ensure that all maintenance personnel are familiar with the related sections.
Values given in this catalog are both in SI International Units and {Gravimetric Units}.
The dimensions given in this catalog are nominal dimensions and may differ from actual dimensions.

Read the Following Before Use



The Large Conveyor Chain is a convenient part of machinery for compact conveyance, but this does not mean it has unlimited life.

1. The conveyor chain is an expendable item requiring periodic checks and replacement.

2. The conveyor chain may ride up on the sprocket or break from wear elongation. Lubrication will help extend the wear life of your chain.

3. Wear between the bushings and the rollers may cause interference between the link plates and guide rails, increasing tension on the chain. This may lead to an increase in motor power consumption or cause chain failure. Avoid this problem with proper lubrication or by using bearing rollers.

4. Excessive tension may cause chain failure. Including inertial forces and other forces when making the proper selection can help avoid this problem.

5. Corrosion and other environmental factors can cause chain failure. Selecting material in light of usage conditions can help avoid this problem.

6. Poor centering and other layout problems can shorten the life of your chain, leading to chain failure. Installing equipment properly can help avoid this problem.

7. In situations where chain failure may pose a danger to human life or major damage to machinery, install the proper safety equipment to ensure against chain failure and potentially dangerous situations.

8. Select a chain based on any existing regulations based on rules or guidelines for chain selection and the maximum allowable load. The chain selected should have an ample amount of both.

9. Widening plate holes, reducing the pin diameter, or heating the chain to make pin insertion and removal easier will remarkably decrease the performance of your chain and lead to accidents.

Principles for Rationalizing Conveyance

1. Minimize conveyance distance.
2. Maximize conveyor operating rate.
3. Select the appropriate chain.
   Selecting the optimal conveyor type can tie directly into rationalizing conveyance. Read this catalog carefully to select the appropriate type of chain conveyor and rationalize your conveyance situation.

Features and Points for Chain Conveyors

Features

1. Can generally convey items of any shape or size.
2. Can increase applicable range of conveyor length, direction of conveyance, and usage conditions.
3. Conveys accurately with no slippage.
4. Can maintain a high endurance and efficiency.

Points

1. While no slippage is a benefit, it is necessary to select chain in light of shock impact resistance.
2. Fluctuations in speed will result from the mechanical nature of chain and sprocket engagement.

The Three Basic Chain Dimensions

The three basic dimensions of conveyor chain are pitch, roller diameter, and inner link inner width. When these dimensions are the same, the chain and sprocket are compatible. (1 pitch = 1 link)

1. C-Pin (CP)

The most important role of the c-pin is connecting the inner link to the outer link. Along with the plate, it receives chain tension along the direction of travel while receiving vertical reactive forces from the conveyed items. The outer diameter of the c-pin suffers wear from sliding against the bush inner diameter when the chain articulates. The c-pin is an essential strength-bearing part and requires high wear resistance.

2. Bush (B)

The bush is a strength-bearing part, receiving tension from the chain during sprocket engagement, but its major role is as a bearing part. The outer diameter of the bush suffers wear from sliding against the roller inner diameter during roller rotation, while the bush inner diameter suffers wear from sliding against the outer diameter of the c-pin when the chain articulates. Bush inner diameter wear is directly expressible as pitch elongation.

3. Roller (R-R, F-R, S-R, M-R, N-R)

Forms a slip fit with the bush. Rotates when engaging with the sprocket, while alleviating the shock and wear from the teeth. Rotation also lowers running resistance.

Note: ( ) denotes codes for part names as found on drawings.

4. Plate (PLP-A, PLP-B, BLP)

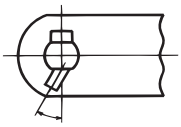
The plate mainly receives the tensile load along the chain's direction of travel while receiving vertical reactive forces while supporting the conveyed item. The outer plate and inner plate slide against each other during chain articulation, as well as against the sides of the sprocket teeth during sprocket engagement. Plate holes are either round or flat.

5. Attachments

For attaching items to the chain.

6. T-pin

After the outer plate is press-fitted to the c-pin, a T-pin is inserted and bent to prevent the c-pin from falling out.

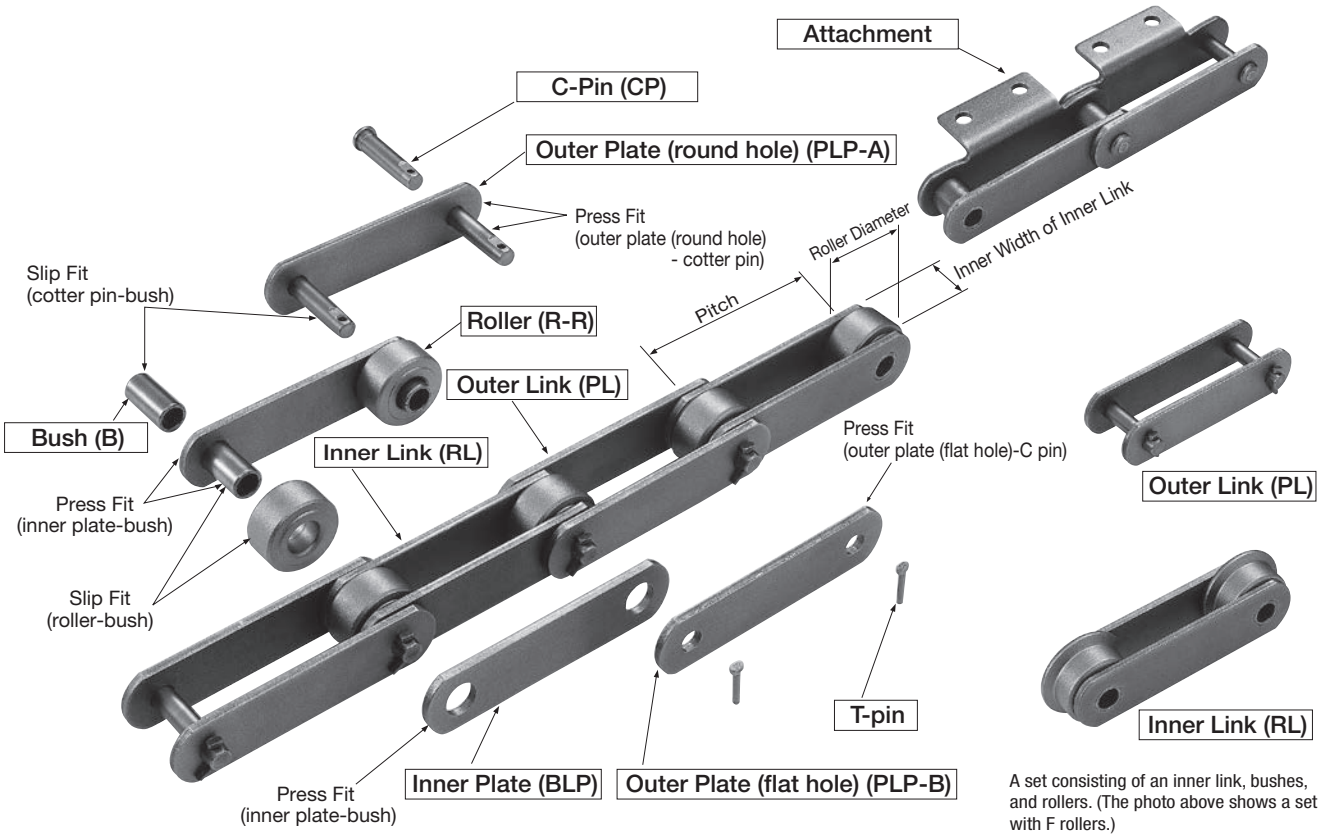


30° or more

Bend 30° or more, or so that the end of the T-pin does not exceed the height of the plate.

For Safety

Never weld additional parts onto an assembled chain. Doing so may cause chain kinking or twisting due to plate deformation, further reducing part hardness and leading to embrittlement fracture from the welding heat.



A set consisting of an inner link, bushes, and rollers. (The photo above shows a set with F rollers.)

Slip Fit

There is a continuous loose fit between the shafts and holes when fitted together.

Press Fit

There is a continuous interferential fit between the shafts and holes when fitted together.

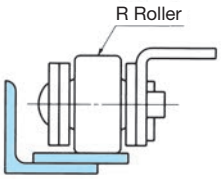
Note: Total large size conveyor chain length tolerance is ±0.25%.
The dimensions given in this catalog are nominal dimensions and may differ from actual dimensions.

Roller Types

Tsubaki Conveyor Chains use three basic roller types.

1. R Rollers

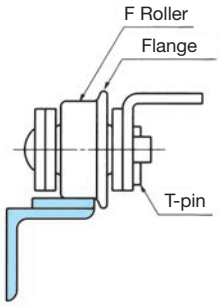
Tsubaki's most basic, versatile roller type. It has a large allowable load and low frictional resistance.



The outer diameter of the roller is larger than the height of the link plate.

2. F Rollers

Flange rollers are a simple way to prevent side oscillation. They are perfect for rough usage conditions and regular slat conveyance. Be careful when using K attachments, as the attachment area may contact the roller flange.

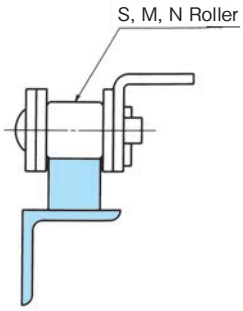


There is a flange on the roller, attached on the T-pin side, that acts as a guide.

3. S, M, and N Rollers

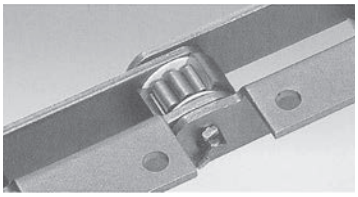
Sprockets alleviate impact and wear when engaging the chain. They have higher running resistance than R and F Rollers, allowing them to suffer less wear.

S Rollers: Roller outer diameter is smaller than the plate width.
M Rollers: Roller outer diameter is slightly larger than with S Rollers.
N Rollers: Same roller outer diameter as M rollers, with larger pin diameters for added strength (for RF26 and RF36 sizes only).



Other roller types

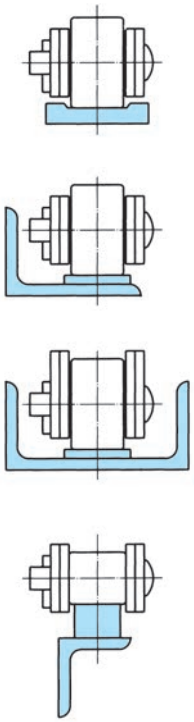
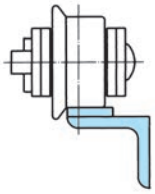
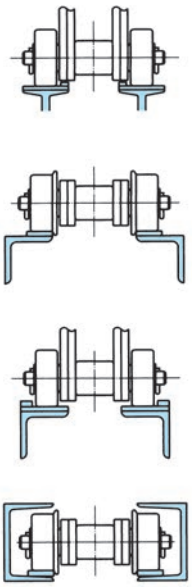
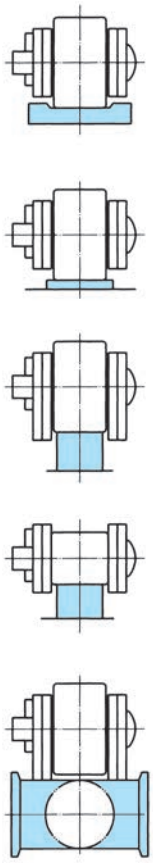
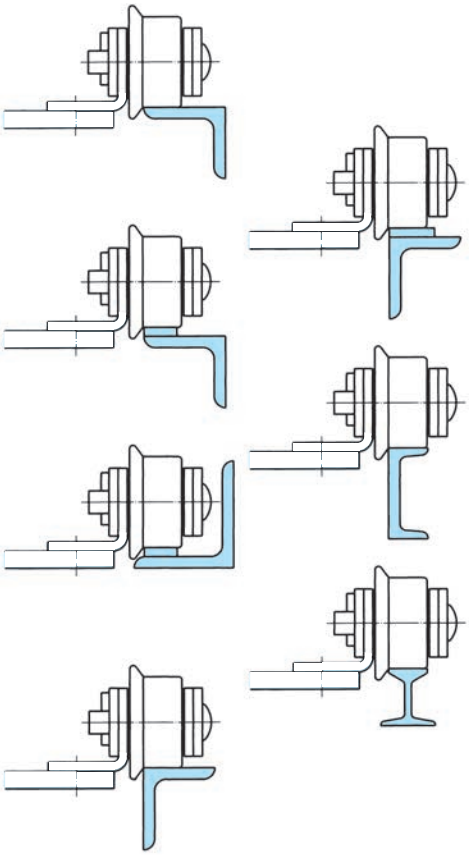
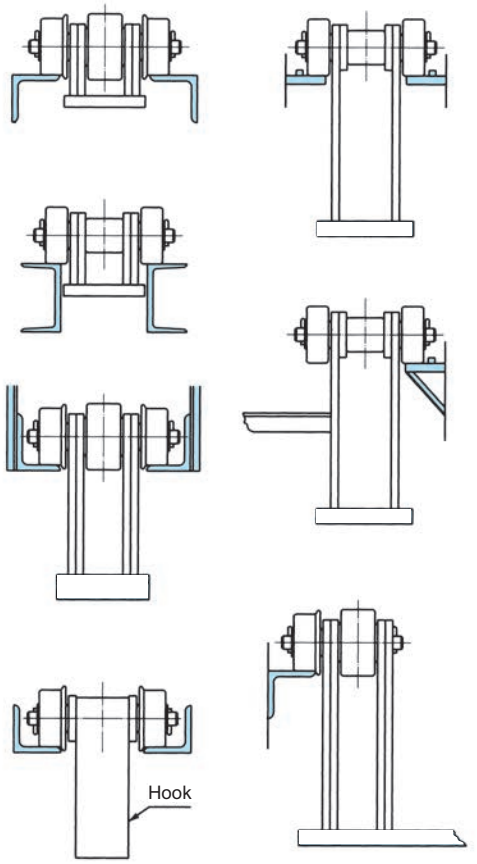
Bearing Rollers



Tsubaki Bearing Roller Conveyor Chain, with its unique cylindrical bearings in the rollers, is able to provide longer wear life and suppression of stick-slip phenomenon, and reduce required power. R, F, and S roller types available. See pg. 101 for more information.

Conveyor Chain Guides

The following shows examples of ways to guide the carry and return sides by roller type for smooth conveyance.

	R (S) Rollers	F Rollers	Outboard Rollers
Carry Side			
Return Side			

Attachment Types

Attachments can be attached at any link spacing. Refer to pg. 20 Attachment Spacing for more information.

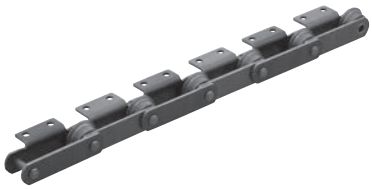
1. Standard Attachments (A1, A2, A3, K1, K2, K3, GA2, GA4)

Standard attachments are both economical and versatile.

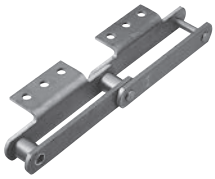
A Attachments

A attachments have a bent link plate on one side. They are referred to as A1, A2, or A3 attachments, depending on the number of bolt holes.

A1 Attachment



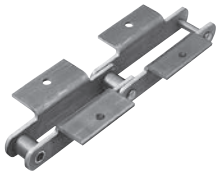
A2 Attachment



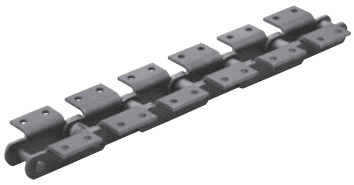
A3 Attachment

K Attachments

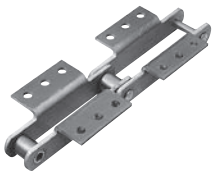
K attachments have a bent link plate on both ends. They are referred to as K1, K2 or K3 attachments, depending on the number of bolt holes.



K1 Attachment



K2 Attachment



K3 Attachment

GA Attachments

GA attachments have holes in the link plate itself. They are referred to as GA2 or GA4 attachments, depending on the number of bolt holes.

GA2 Attachment

GA4 Attachment

⚠ Never weld additional parts onto a chain.

1) Chain kinking or twisting due to plate distortion.
2) Brittle fracture and/or strength loss from heat.

■ Attachment Positioning

Attachments will be positioned as follows unless specified elsewise.

1) Attachments will be attached on the outer link when attached on even numbered links.
2) A and GA2 attachments will be attached on the T-pin side. (See pg. 25.)
3) GA4 attachments will be attached on the T-pin of opposing sides. (See pg. 27.)
4) Flanges for F rollers will be attached on the T-pin side. (See pg. 25.)

2. Specialty Attachments

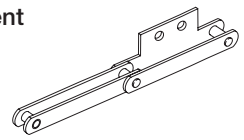
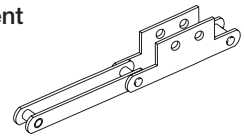
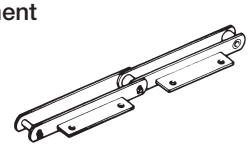
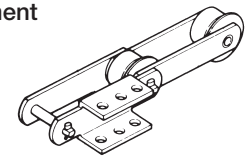
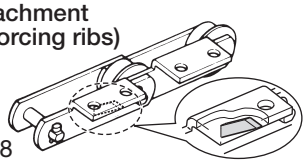
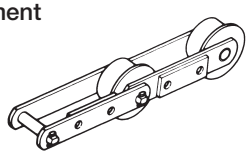
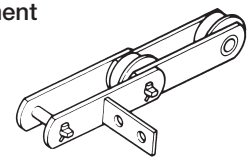
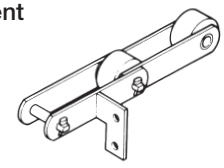
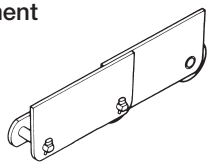
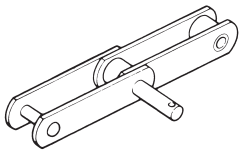
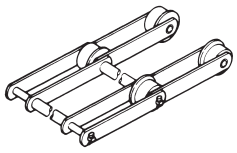
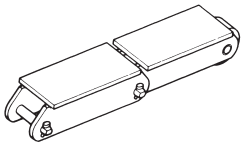
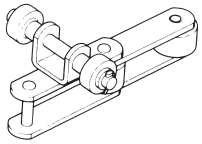
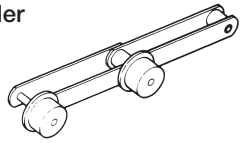
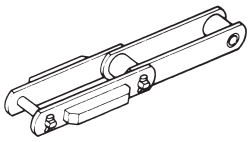
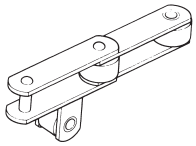
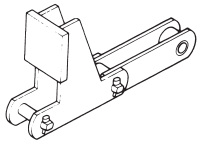
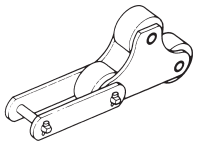
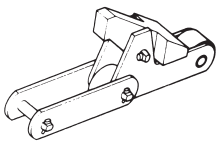
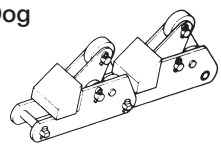
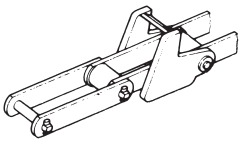
See other sections of this catalog for more information.

Flow Conveyor Chain	Deep Link Conveyor Chain	Outboard Roller Conveyor Chain	Top Roller Conveyor Chain
			
Pg. 55	Pg. 69	Pg. 98	Pg. 99

Attachment Types

3. Special Attachments (Integrated Attachment Chain)

See the appropriate page for more information.

SA Attachment Note: See Attachment section		Straight attachment on one side	
SK Attachment Note: See Attachment section		Straight attachment on both sides	
CA2 Attachment Pg. 118		Used to attach a mesh or slat with no spacing	
AA3 Attachment Pg. 118		Stronger model — object attachment fits in between	
A2R Attachment (w/reinforcing ribs) Pg. 118		Increased flexural rigidity over A attachment	
MG2 Attachment Pg. 119		Allows for one mounted jig to be used	
AS2 Attachment Pg. 119		Uses scraper or flight attachment	
AF2 Attachment Pg. 119		Uses deep scraper or flight attachment	
WSA0 Attachment Pg. 120		Prevents conveyed items from overspilling	
Extended Pin (Type: EP) Pg. 120		Objects attach easily to pin end	
Stay Pin (Type: TN) Pg. 120		Attachment can be laid directly on stay pin, or mesh can be attached	
Top Plate (Type: TP) Pg. 121		Prevents damage to conveyed items	
Trolley Roller (Type: TRO) Pg. 121		Used in long distance, horizontal applications	
Outboard Roller (Type: OR) Pg. 121		Provides support for heavy loads	
Guide Shoe (Type: GS) Pg. 122		Prevents lateral movement	
Guide Roller (Type: GR) Pg. 122		Used in horizontal applications	
Fixed Dog (Type: KD) Pg. 123		Conveys by pushing	
Dog Roller (Type: RD) Pg. 123		Conveys round items by pushing	
Tilting Dog (Type: CD) Pg. 124		Can accumulate items on top of the conveyor	
Roller Tilting Dog (Type: RCD) Pg. 124		Can accumulate round items	
Ducking Dog (Type: DD) Pg. 124		Conveyed item will remain in fixed position	

Large Size Conveyor Chain Line-up

	Application	Chain Name	Features	Operating Temperature Range	Series
Basic and Advanced Models	General use	**DT Series**	Our most versatile chain	−20℃ to 200℃	General Use Conveyor Chain
		DTA Series (available in R/F Rollers only)	Features 3x the bush-roller wear performance of DT Series	−20℃ to 200℃	Heavy Duty Conveyor Chain
		AT Series	Features 2x the max. allowable load of DT Series. Same bush-roller wear performance as DTA Series	−20℃ to 400℃	
		ATA Series (available in R/F Rollers only)	Features 1.2x the maximum load, 1.5x the pin-bush wear performance, and 2x the bush-roller wear performance of AT Series	−20℃ to 200℃	
	Corrosion, cold, and chemical resistance	**GS Series**	Stainless steel chain with better corrosion resistance than DT Series (SUS400 series stainless steel)	−20℃ to 400℃ *3	Corrosion Resistant Conveyor Chain
		GSA Series	Features 1.3x the max. allowable load, 1.5x the pin-bush wear performance, and 2x the bush-roller wear performance of GS Series	−20℃ to 200℃	
		SS Series	Stainless steel chain with superior corrosion, chemical, heat, and cold resistance (SUS300 Series stainless steel)	−20℃ to 400℃ *3	
		SSA Series	Features 1.5x the bush-roller wear performance of SS Series	−20℃ to 200℃	
Industry Specific Chains	For flow conveyors	**Flow Conveyor Chain**	Available with a variety of flow attachments	−20℃ to 200℃ *1	Specialty Conveyor Chain
	Bush-roller wear resistance on flow conveyors	**FA Series**	Features a special surface treatment for better wear performance	−20℃ to 200℃	
	For bucket elevators	**Bucket Elevator Conveyor Chain**	Attachments ensure the same buckets can be used if they are the same pitch	−20℃ to 200℃ *1*2	
	To counter chain elongation	**FB Series**	Uses a solid lubricant between pins and bushes and a seal mechanism between links to minimize chain elongation	−15℃ to 200℃ *4	
	For waste treatment	**Waste Incineration Conveyor Chain**	Available in a variety of specifications ideal for conveying material in various waste treatment processes	−20℃ to 200℃	
	For steel mills	**Coil Transfer Conveyor Chain**	Extremely highly durable chain for conveying especially heavy items	−20℃ to 200℃ *1	
	Direct conveyance	**Deep Link Conveyor Chain**	Wide plates enable direct conveyance of items	−20℃ to 200℃	
	For free flow use	**Double Plus Conveyor Chain**	Can convey items at 2.3x the chain speed	−20℃ to 200℃ *1	
		Outboard Roller Conveyor Chain	Distributes loads over outboard rollers	−20℃ to 200℃ *1	
		Top Roller Conveyor Chain	Enables direct conveyance of items on the top rollers	−20℃ to 200℃	
	For indexing conveyance	**Bearing Bush Conveyor Chain**	Uses needle bearings to minimize elongation	−10℃ to 60℃ *1	
	Lube-free use	**Lambda Plastic Roller Conveyor Chain**	Provides long service life under lube-free conditions. Can minimize the generation of wear debris	0℃ to 50℃	
	Special applications	**Block Chain**	Extremely durable with a high tensile strength	−20℃ to 400℃ *3	
		Block Chain for Flow Conveyors	For conveying especially wear inducing items	−20℃ to 400℃ *3	
		WD Series Drag Chain	Exceptionally durable and wear resistant drag chain	−20℃ to 400℃ *3	
Function Specific Chains	Bush-roller wear resistance Low friction Heavy loads Energy saving Compact operations	**Standard Bearing Roller Conveyor Chain (previous model)**	Uses cylindrical bearings in the roller for a low coefficient of friction and a high roller allowable load	−20℃ to 80℃	Heavy Load Conveyor Chain (Bearing Roller Conveyor Chain)
		Anti-Dust Series Bearing Roller Conveyor Chain	For use in dusty environments	−20℃ to 80℃	
		Standard Lube-Free Bearing Roller Conveyor Chain	Can be used without lubricating the rollers (bush-roller joint)	−20℃ to 50℃	
		Completely Lube-Free Bearing Roller Conveyor Chain	Can be used without any additional lubrication	−20℃ to 50℃	
		Water Resistant Lube-Free Bearing Roller Conveyor Chain	Can be used in contact with water	0℃ to 50℃	
	Bush-roller wear resistance	**Shoulder Bush Conveyor Chain**	Uses a bush that increases the roller allowable load and wear resistance	−20℃ to 200℃ *1	Specialty Conveyor Chain

Special part surface treatments for better corrosion resistance available.

*1 Operating temperature varies by chain series. Temperatures shown are for DT Series.
*2 400°C for Y Series.
*3 Contact a Tsubaki representative regarding use under -20°C and over 400°C.
*4 Operating temperature range varies with construction. Contact a Tsubaki representative for more information.

Large Size Conveyor Chain Line-up

Chain Size																								Page
Metric Pitches																Imperial Pitches								
RF03	RF05	RF08	RF10	RF12	RF17	RF26	RF36	RF52	RF60	RF90	RF120	RF280	RF360	RF440	RF430	RF204	RF450	RF650	RF214	RF205	RF6205	RF212	
●	●	●	●	●	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●	From pg.24
●	●	●	●	●	●	●	●																
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			●	●	●	●	●		●	●	●												61
		●	●	●	●	●	●	●	●														63
●	●	●	●	●	●	●																	73
																							70
●	●	●	●	●	●	●	●	●															69
●	●	●	●	●	●	●	●														●		97
●	●	●	●	●	●	●	●								●		●				●		98
●	●	●	●	●	●																●		99
●	●	●	●	●	●	●	●																95
●	●																						78
NF30	NF40	NF56	NF63	NF70	NF115	NF140	NF180	NF210	NF250	NF280													67
●	●	●	●	●	●	●	●	●	●	●													
●		●																					68
																							64
●	●	●	●	●	●	●	●										●						103
			●	●	●	●	●																105
●	●	●	●	●	●	●	●																107
	●	●	●	●	●	●																	109
●	●	●	●	●	●	●	●																111
			●	●	●	●	●																116

Other combinations than those shown above available. (●: Dimensions shown in this catalog.)

Other pitch sizes available. Contact a Tsubaki representative for more information.

Ordering Large Size Conveyor Chains

When ordering large size conveyor chain, you will need to specify chain size/series, chain length (number of links), attachment spacing, and formation. The following provides the general ordering method and cautions.

1. Ordering example

Indicate base chain and attachments in your chain number, taking care not to make mistakes, when placing your order.
Refer to the individual product page for chain numbering.

Chain Number

RF03075R-DT-1L A2

- Chain Size
- Roller Type
- Chain Series
- Attachment Spacing
- Attachment Type

Qty.	Unit
400	L

Legend

L : Links
H : Strands
K : Pcs

2. Cautions when ordering large size conveyor chain

Unlike drive chains and attachment chains, large size conveyor chains are ordered in links instead of units.

2.1 Formation when ordering in total number of links

1) Large size conveyor chain will generally be shipped in standard lengths (3m) + extra parts based on the total number of links in your order. Depending on chain size/pitch and attachment spacing, the chain may not be sent in 3m lengths. Indicate if a certain shipping configuration is required.

1) Example when ordering RF03100R-DT-1LA2, 500L
(Packing) 30L x 16H + 20L x 1H Total: 500L

2) When ordering RF03100R-DT-1LA2, 500L (250L x 2H)
(Packing) 30L x 16H + 10L x 2H Total: 500L

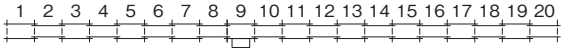
3) When ordering RF03100R-DT-4LA2, 280L (not in standard lengths of 3m)

> Caution
> Standard lengths may vary depending on chain size/pitch and attachment spacing.
> Standard lengths are normally 3m.

4) When ordering RF03100R-DT-6LA2, 38L (quantity is indivisible due to attachment spacing)
(Packing) 30L x 1H + 8L x 1H (att. every 2 links) Total: 38L

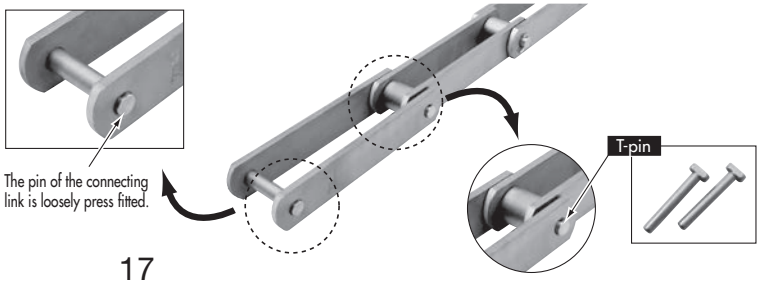
> Caution
> Attachments can also be on extra parts. Indicate when attachments are not required.
> Consider using an easily divisible attachment spacing.

5) When ordering RF03100R-DT-A2, 20 links (special formation: A2 att. every 9 links)



> Caution
> Attachments can also be on extra parts. Indicate when attachments are not required.
> Consider using an easily divisible attachment spacing.

2) Standard lengths (3m) will feature an outer link on one end and an inner link on the other. Add additional chain lengths onto this standard length to create the desired length. Connecting links are shipped loosely press fitted. (See photo below.)



Note: Delivery of the chain may differ depending on chain and attachment shape.

Ordering Large Size Conveyor Chains

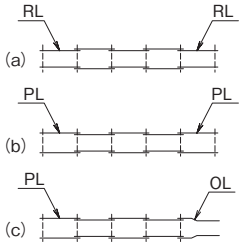
2.2 A chain assembled to your specified chain length, end formation, attachment spacing, etc. is considered a special assembly.

2.2.1 When total length has an even number of links

1) One end of the chain will be the outer link, while the other end the inner link.
2) Refer to pg. 20 3. Attachment Spacing for specifying the position and spacing of attachments.

2.2.2 When total length has an odd number of links

a) Both ends inner links (RL – RL)
b) Both ends outer links (PL – PL)
c) One end outer link, other end offset link (PL – OL)



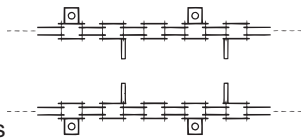
> Caution
> When using an odd number of links, be sure to specify the end formation as per a) – c) above. C) requires a separate fee for an offset link.

2.2.3 When using chain in parallel

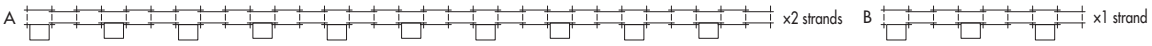
1) Half assembled in mirror image

Attachments on a set of chains to be used in parallel are manufactured to be symmetrical. (See fig. on right.) Ex.: When RF03100R-6LA2-5LEP1 is needed half assembled in mirror image, you will need to indicate this on the order. However, you will need to indicate when the direction of T-pin bending needs to be symmetrical as well. Ordering strands in parallel does not mean that they will be in mirror image. The following examples show when half assembled in mirror image is appropriate and when not.

Ex. RF03100R-6LA2-5LEP1

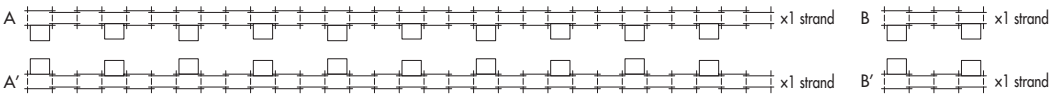


1) When ordering RF03100R-DT-3LA2, total 68L (half assembled in mirror image not specified)
Shipped as: A: 30L x 2H, B: 8L x 1H (w/3 att.)



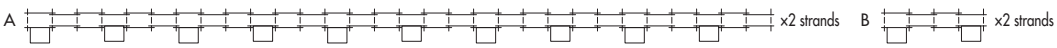
> Caution
> When ordering chain, we will assume that the chains will be used in single strands (and not in parallel). Please indicate when two or more strands will be used, or when half assembled in mirror image is required.

2) When ordering RF03100R-DT-3LA2, total 68L half assembled in mirror image
Shipped as: A: 30L x 1 strand, B: 4L x 1H (w/2 att.) as per the diagram
A': 30L x 1 strand, B': 4L x 1H (w/2 att.) mirror image of diagram



> Caution
> We will only manufacture chains as per Ex. 2 when instructed to half assemble in mirror image.

3) When ordering RF03100R-DT-3LA2, total 68L (34L x 2H) (half assembled in mirror image not specified)
Shipped as: A: 30L x 2H, B: 4L x 2H(w/2 att.)



> Caution
> We will arrange the number of links so that there are two strands, but it will not be manufactured as half assembled in mirror image. There are applications where not manufacturing half assembled in mirror image will result in problems.

Ordering Large Size Conveyor Chains

2) Matched and tagged in pairs

Chain lengths will vary within standard tolerance. When it is desirable to minimize the relative difference in total chain length in a set of chains to be used in parallel, the chain is matched and tagged in pairs. Indicate one of the following two methods when ordering. Contact a Tsubaki representative for details.

Note: Total large size conveyor chain tolerance is +0.25% per 1m length. Chains half assembled in mirror image cannot be matched and tagged in pairs. Only available when strands are not interchangeable.

1) When ordering minimal matched tolerance differences

The overall length of several sets of standard lengths (3m) is measured, and without performing the match and tag process we will assemble the chain randomly based on the results of statistical and technical data. If the results are not appropriate, we will measure the total length of all strands and assemble.

2) When ordering matched and tagged to within XXmm

Total length of each standard length (3m) is measured and assembled within the relative difference specified. There are limits to precision depending on chain model and size. Contact a Tsubaki representative for more information.

Delivery: Different colored tags are attached to the left and right sides at fixed intervals (3m). Connecting order for the chain is written on the tag.

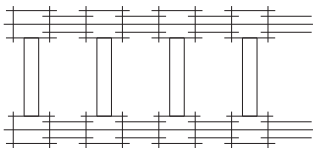
Note: There is an extra charge for chains matched and tagged in pairs. Contact a Tsubaki representative for more information.

2.2.4 Double row chains

Double row chains (two strands of chain with scrapers, stay pins, etc. attached) are counted as a single unit. One pitch of chain equals one link.

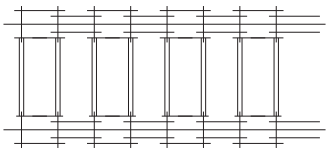
1) Scraper every 2 links, 8 links = 8 links x 1 strand as shown in the figure below

Note: Indicate whether the scraper is to be shipped connected or separate.



2) Stay pin (TN) every link, 8 links = 8 links x 1 strand as shown in the figure below

Note: Chains with stay pins (TN) are usually shipped with the stay pins separate. Even when shipped disassembled, one pitch of double row chain is still one link. Contact a Tsubaki representative regarding shipping the chain with stay pins connected.



2.2.5 Long chain lengths

Long length formations refer to chains with total lengths over a standard length (3m). There are limits to long length formations depending on chain size due to transportation and handling issues. Contact a Tsubaki representative for details.

2.2.6 Rust prevention

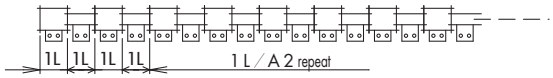
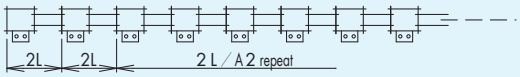
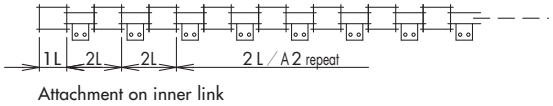
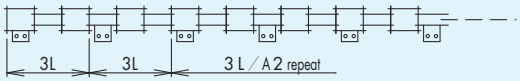
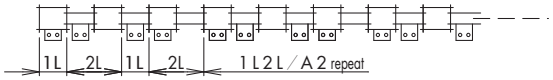
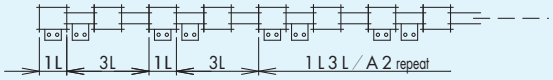
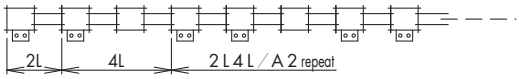
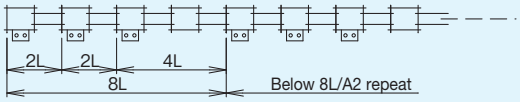
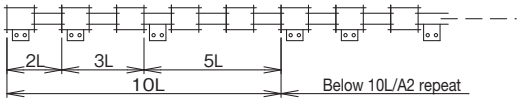
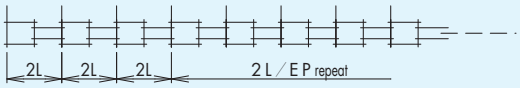
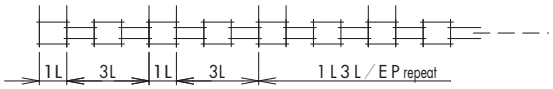
Large size conveyor chains are not coated with a rust preventative oil when shipped. Please indicate when a rust preventative oil is required when ordering.

Note: There is an extra charge for rust prevention treatment.

Long chain lengths refer to chains with total lengths over a standard length (3m). There are limits on long chain lengths depending on chain size due to transportation and handling problems. Contact a Tsubaki representive for details.

Ordering Large Size Conveyor Chains

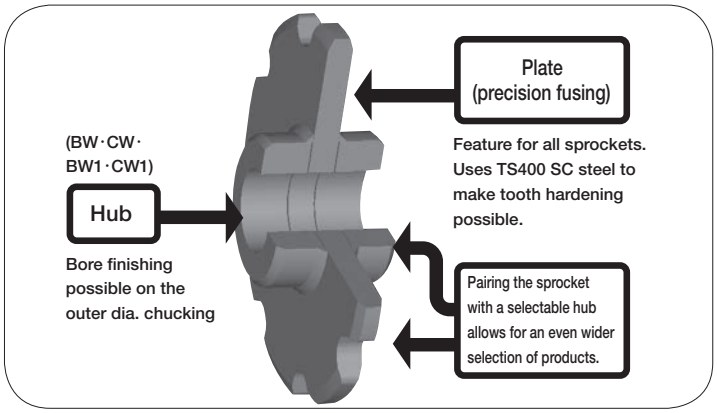
3. Attachment Spacing

Numbering Example	Basic Attachment Coding	Connecting Link Att. Type	Diagram
RF12200R-1LA2 ○ =1	○ LA2	A2	
RF12200R-2LA2 ○ =2	○ LA2	A2	
RF12200R-2LA2RL ○ =2	○ LA2RL	No attachment	
RF12200R-3LA2 ○ =3	○ LA2	A2	
RF12200R-1L2LA2 ○ =1, △ =2	○ L △ LA2	A2	
RF12200R-1L3LA2 ○ =1, △ =3	○ L △ LA2	A2	
RF12200R-2L4LA2 ○ =2, △ =4	○ L △ LA2	A2	
RF12200R-2L2L4LA2 ○ =2, △ =2, □ =4	○ L △ L □ LA2	A2	
RF12200R-2L3L5LA2 ○ =2, △ =3, □ =5	○ L △ L □ LA2	A2	
RF12200R-2LEP ○ =2 EP: Extended pin (see pg. 120)	○ LEP	EP single side	
RF12200R-1L3LEP ○ =1, △ =3 EP: Extended pin (see pg. 120)	○ L △ LEP	EP both sides	

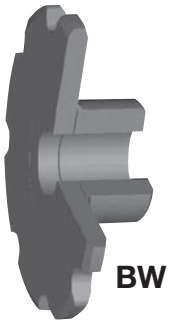
Large Size Conveyor Chain Sprocket Configuration

Features of RF Conveyor Chain Sprockets

The unique material used for the plate has allowed us to give our sprockets the optimal induction hardening treatment. This has increased the wear resistance and transmission capacity of the sprocket while lowering its cost.

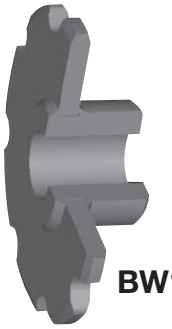


1. Types



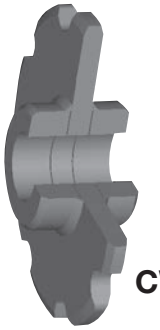
BW type

A hub is welded onto a single side of the sprocket plate. Suitable for RF205 or RF10150 chain and below.



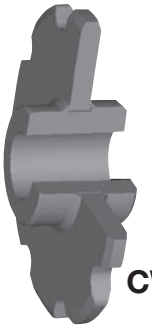
BW1 type

A hub is passed through the sprocket plate. While only protruding from one side, both sides are welded. Suitable for RF6205 or RF12200 chain and above.



CW type

Hubs are welded to both sides of the sprocket plate. Suitable for RF205 or RF10150 chain and below.



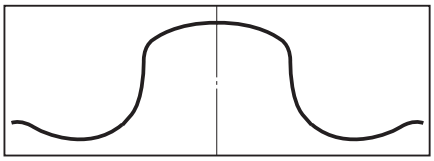
CW1 type

A hub is passed through the sprocket plate. Both sides of the hub protrude and are welded. Suitable for RF6205 or RF12200 chain and above.

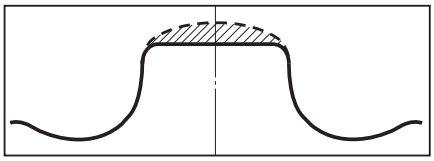
2. Teeth Profiles

2-1 Profiles

S1: Teeth are rounded



S2: Teeth are flat (cross-hatching represents shape if S1 were cut)



S2 type teeth are standard when chains with K attachments are used and slats or other items will interfere with the sprocket outer diameter. Indicate S2 type teeth when using chains with K attachments.

2-2 Specifications

● **Normal series (Code: N)**

These non-heat treated specifications are suitable for low load, low wear applications.

● **Hardened Tooth Series (Code: Q)**

The teeth have been induction hardened. Suitable for when wear resistance is required, or under heavy load conditions. The follow chart shows the usage classification for both normal and strong specifications.

Usage Classification for Normal and Strong Series

Chain Series	Roller Type	Drive Side		Driven Side	
		Normal Conditions	Wear-Inducing Conditions	Normal Conditions	Wear-Inducing Conditions
DT/DTA Series	S	Q	Q	N	Q
	R	N	Q	N	N
	F	N	Q	N	N

Chain Series	Roller Type	Drive Side		Driven Side	
		Normal Conditions	Wear-Inducing Conditions	Normal Conditions	Wear-Inducing Conditions
AT/ATA Series	S	Q	Q	N	Q
	R	Q	Q	N	Q
	F	Q	Q	N	Q

The above classifications are based on standard usage conditions. Contact a Tsubaki representative regarding use in extremely wear-inducing, heavy load environments.

Large Size Conveyor Chain Sprocket Configuration

3. Series

3-1 Finished Bore Series

The bore dimensions are processed under the following specifications so that time-consuming shaft processing can be finished quickly for delivery. Does not come with a set screw.

Standard Bore Processing Specifications

Bore Tolerance	Keyway Width Tolerance (aligned with tooth)	Tap Processing
H8	JISB1301-1996 Standard type Js9	Two taps processed at 120° intervals, with one of them located on the keyway.
	Old JISB1301-1959 Type 2 E9	

Inform your Tsubaki representative of the following if processing specifications other than the above are required.

・Bore shape, diameter, and tolerance ・Keyway type, size, and tolerance ・Tap size and position

3-2 Selectable Hubs

Selectable hubs are a stock item designed as specialty hubs for conveyor sprockets. Users can freely select dimensions not listed in the catalog for specialty items. See page 48 for more details.

3-3 Keyway

For special sprockets, refer to the above example and specify the materials,dimensions,shapes, and processing instructions through drawings and specification sheets. Indicate areas with dimensions that differ from the catalog dimensions.

4. Large Size Conveyor Chain Sprocket Precision

4-1 Tooth Width

The dimensional tolerance of the tooth width of each sprocket is shown in each size table.

4-2 Overall Sprocket Length

The following table shows the tolerance of the overall length of each sprocket.

Unit: mm

Model / Overall Length	BW CW	BW1 CW1
Up to 80	0, -1.0	±0.3
More than 80, up to 150	0, -1.2	±0.5
More than 150, up to 200	0, -1.4	
More than 200, up to 300	0, -1.8	

4-3 Run-out

The eccentricity and face run-out based on the outer diameter of the hub are shown in the following table.

Unit: mm

Outer Dia.	Eccentricity	Face Run-Out
Up to 200	Max. 1.0	Max. 1.0
More than 200, up to 630	Max. 1.5	Max. 1.5
More than 630, up to 1250	Max. 2.5	Max. 2.5

4-4 Keyway Center and Tooth Center

The off-center of the keyway center and tooth center based on the circumference are shown in the following table.

Unit: mm

Outer Dia.	Off-Center
Up to 400	Max. 3.0
More than 400, up to 800	Max. 4.0
More than 800	Max. 6.0

Sprocket Ordering

Please include both the product code and model number when ordering to eliminate any confusion. You will find both product codes and model numbers for each product in the dimensional tables.

1) If a product code is provided

Model number

RF03075 R 6T-BW N

- RF03075: Chain size
- R: Roller type
- 6T: No. of teeth
- BW: Type
- N: Tooth specs (Normal: N, Strong: Q)

2) If no product code is provided

Product with Standard Finished Bore

Model number

RF05150 R 8T CW Q H 50 J

- RF05150: Chain size
- R: Roller type
- 8T: No. of teeth
- CW: Type (BW CW BW1 CW1)
- Q: Normal : N, Strong : Q
- H: Bore tolerance H : H8
- 50: Bore dia. 50 : 50mm
- J: Keyway tolerance J : Js9, E : E9

Special Sprockets

Model number

RF36200 R 13T CW1-TK

- RF36200: Chain size
- R: Roller type
- 13T: No. of teeth
- CW1: Type
- TK: Special processing

For special sprockets, refer to the above example and specify the materials, dimensions, shapes, and processing instructions through drawings and specification sheets. Indicate areas with dimensions that differ from the catalog dimensions.

Strength Table

Unit: kN{kgf}

	Chain Size		General Use Conveyor Chain	Heavy Duty Conveyor Chain			Corrosion Resistant Conveyor Chain			
	Series		DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
Metric	RF03075 RF03100	Max. allowable load	4.20{430}	4.20{430}	9.95{1010}	—	5.40{550}	7.02{720}	2.80{280}	2.80{280}
		Min. tensile strength	32.4{3300}	32.4{3300}	65.5{6700}	—	46.8{4800}	46.8{4800}	32.2{3300}	32.2{3300}
	RF05075 RF05100 RF05125 RF05150	Max. allowable load	9.80{1000}	9.80{1000}	20.3{2070}	—	10.8{1100}	14.0{1450}	5.70{580}	5.70{580}
		Min. tensile strength	67.6{6900}	67.6{6900}	127{13000}	—	95.7{9800}	95.7{9800}	62.3{6400}	62.3{6400}
	RF08125 RF08150	Max. allowable load	11.2{1140}	11.2{1140}	20.3{2070}	24.3{2480}	12.3{1250}	16.0{1650}	5.70{580}	5.70{580}
		Min. tensile strength	74.6{7600}	74.6{7600}	117{12000}	127{13000}	108{11000}	108{11000}	62.3{6400}	62.3{6400}
	RF10100 RF10125 RF10150	Max. allowable load	16.1{1650}	17.6{1790}	32.3{3290}	38.7{3950}	17.7{1800}	23.0{2350}	9.00{920}	9.00{920}
		Min. tensile strength	107{11000}	107{11000}	169{17000}	200{20500}	155{16000}	155{16000}	98.5{10000}	98.5{10000}
	RF12200 RF12250	Max. allowable load	26.6{2710}	26.6{2710}	39.9{4060}	47.8{4880}	26.5{2700}	34.5{3500}	11.0{1120}	11.0{1120}
		Min. tensile strength	160{16500}	160{16500}	249{25500}	249{25500}	230{23500}	230{23500}	123{12500}	123{12500}
	RF17200 RF17250 RF17300	Max. allowable load	35.0{3570}	35.0{3570}	55.3{5640}	66.3{6770}	35.8{3650}	46.5{4750}	15.5{1580}	15.5{1580}
		Min. tensile strength	213{22000}	213{22000}	336{34000}	348{35500}	308{31500}	308{31500}	171{17500}	171{17500}
	RF26200 RF26250 RF26300 RF26450	Max. allowable load	44.9{4570}	44.9{4570}	74.3{7580}	89.1{9090}	46.1{4700}	59.9{6100}	20.8{2120}	20.8{2120}
		Min. tensile strength	285{29000}	285{29000}	448{45500}	464{47500}	411{42000}	411{42000}	228{23500}	228{23500}
	RF36250 RF36300 RF36450 RF36600	Max. allowable load	68.0{6930}	68.0{6930}	97.4{9930}	117{11900}	—	—	—	—
		Min. tensile strength	457{46500}	457{46500}	614{62500}	614{62500}	—	—	—	—
	RF52300 RF52450 RF52600	Max. allowable load	71.4{7280}	—	147{15000}	—	—	—	—	—
		Min. tensile strength	481{49000}	—	953{97000}	—	—	—	—	—
	RF60300 RF60350 RF60400	Max. allowable load	71.4{7280}	—	149{15200}	—	—	—	—	—
		Min. tensile strength	479{49000}	—	1010{103000}	—	—	—	—	—
	RF90350 RF90400 RF90500	Max. allowable load	113{11500}	—	233{23700}	—	—	—	—	—
		Min. tensile strength	754{77000}	—	1600{163000}	—	—	—	—	—
	RF120400 RF120600	Max. allowable load	159{16200}	—	316{32200}	—	—	—	—	—
		Min. tensile strength	1060{108000}	—	2180{222000}	—	—	—	—	—
	RF280400 RF280600	Max. allowable load	—	—	434{44300}	—	—	—	—	—
		Min. tensile strength	—	—	2700{276000}	—	—	—	—	—
	RF360400 RF360600	Max. allowable load	—	—	519{52900}	—	—	—	—	—
		Min. tensile strength	—	—	3210{328000}	—	—	—	—	—
	RF440400 RF440600	Max. allowable load	—	—	637{65000}	—	—	—	—	—
		Min. tensile strength	—	—	3990{407000}	—	—	—	—	—
Imperial	RF430	Max. allowable load	7.70{790}	—	14.0{1430}	—	8.35{850}	—	4.00{410}	—
		Min. tensile strength	49.7{5100}	—	89.4{9100}	—	71.9{7300}	—	44.0{4500}	—
	RF204	Max. allowable load	11.2{1140}	—	20.3{2070}	—	12.3{1250}	—	5.70{580}	—
		Min. tensile strength	74.6{7600}	—	117{12000}	—	108{11000}	—	62.3{6400}	—
	RF450	Max. allowable load	11.2{1140}	—	20.3{2070}	—	12.3{1250}	—	5.70{580}	—
		Min. tensile strength	74.6{7600}	—	117{12000}	—	108{11000}	—	62.3{6400}	—
	RF650	Max. allowable load	11.2{1140}	—	20.3{2070}	—	14.2{1450}	—	5.70{580}	—
		Min. tensile strength	115{11700}	—	127{13000}	—	127{13000}	—	62.3{6400}	—
	RF214	Max. allowable load	18.1{1850}	—	34.3{3500}	—	18.6{1900}	—	10.3{1050}	—
		Min. tensile strength	112{11500}	—	237{24000}	—	162{16500}	—	120{12000}	—
	RF205	Max. allowable load	18.1{1850}	—	34.3{3500}	—	18.6{1900}	—	10.3{1050}	—
		Min. tensile strength	112{11500}	—	237{24000}	—	162{16500}	—	120{12000}	—
	RF6205	Max. allowable load	26.6{2710}	—	39.9{4060}	—	26.5{2700}	—	11.0{1120}	—
		Min. tensile strength	160{16500}	—	249{25500}	—	230{23500}	—	123{12500}	—
	RF212	Max. allowable load	35.0{3570}	—	55.3{5640}	—	35.8{3650}	—	15.5{1580}	—
		Min. tensile strength	213{22000}	—	336{34000}	—	308{31500}	—	171{17500}	—

Note 1. Maximum allowable load values are guaranteed values of performance based on Tsubaki standards. When using a competitor chain with similar tensile strength, be aware that wear, fatigue, and other conditions may cause a large difference in actual chain life to arise.
2. Contact a Tsubaki representative regarding average tensile strength.

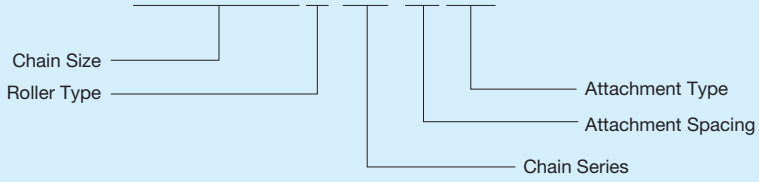
General Use, Wear Resistant/Heavy Duty, and Corrosion Resistant Large Size Conveyor Chain

Basic Models (DT, AT, GS ,SS)
and
Advanced Models (DTA, ATA, GSA, SSA)

Ordering General Use, Wear Resistant/Heavy Duty, and Corrosion Resistant Conveyor Chain

Chain Numbering Example

RF03075R-AT-1LA2



Ordering Example

Chain Size: RF03 Pitch: 75mm Roller Type: R
Material Specification: AT Series
Attachment Spacing/Type: A2 every link
Quantity: 400 links

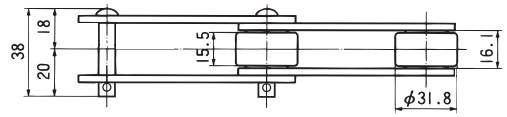
Chain Number	Quantity	Unit
RF03075R-AT-1LA2	400	L

General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

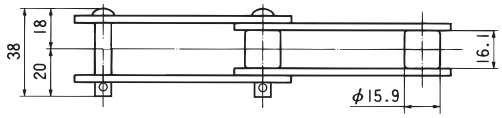
Metric Pitches (Dimensions) RF03075 • RF03100

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF03075 **RF03100**	4.20{430}	4.20{430}	9.95{1010}	—	5.40{550}	7.02{720}	2.80{280}	2.80{280}

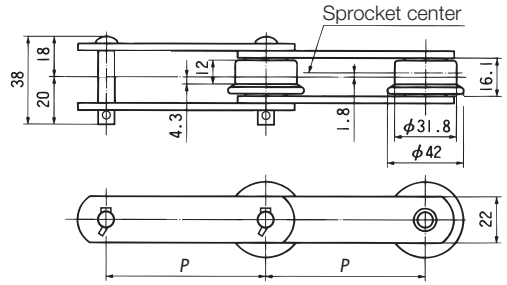
R Roller

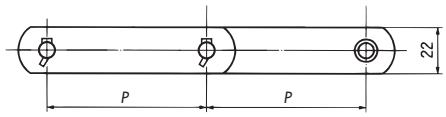


S Roller



F Roller

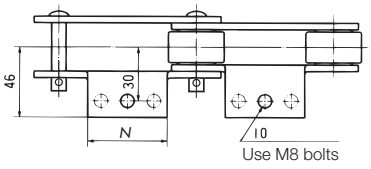




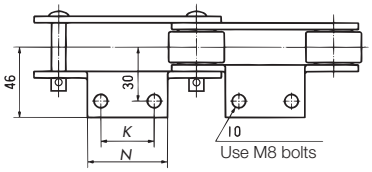
T-pin Nominal Diameter
φ 3 (2.6) × 15 ℓ

Note: Actual diameter given inside parentheses ( ).

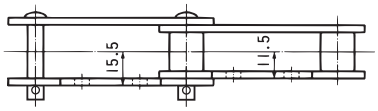
A1 (A3) Attachment



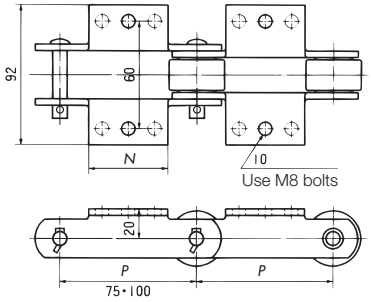
A2 Attachment



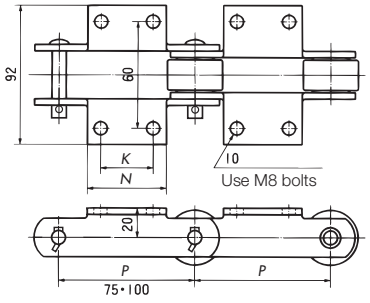
SA2 Attachment



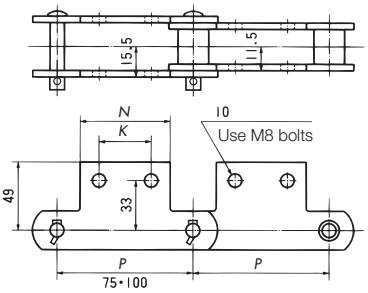
K1 (K3) Attachment



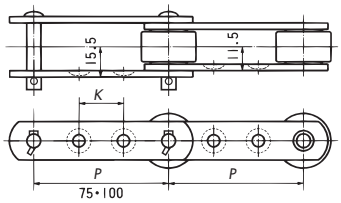
K2 Attachment



SK2 Attachment

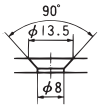


GA2 Attachment



Use M6 bolts

Max. length
Outer link: 26
Inner link: 18

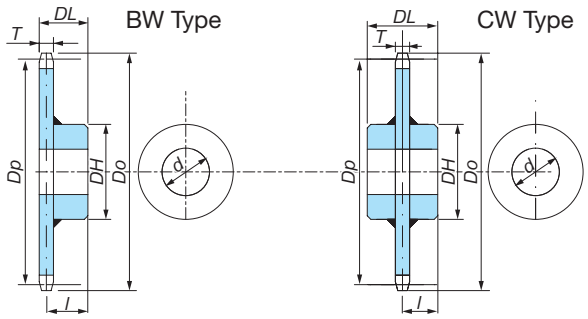


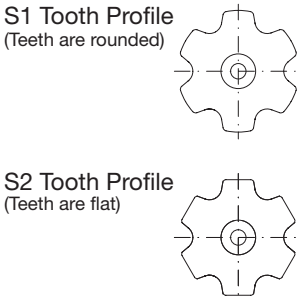
Chain Size	Pitch P	Attachment			Attachment and Roller Combinations				Approximate Mass kg/m			A Attachment Mass kg/each
		A・K・SA・SK		GA2								
		N	K	K	A1 K1	A2 K2	SA2 SK2	GA2	R Roller	F Roller	S Roller	
RF03075	75	55	30	30	R/F/S	R/F/S	R/S	R/S	2.8	2.9	1.8	0.06
RF03100	100	65	40	50	R/F/S	R/F/S	R/S	R/S	2.4	2.5	1.6	0.07

Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. Contact a Tsubaki representative if using a guide on A or K attachment sides.
3. Attachments written in ▭ are standard attachments.
4. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF03075 R 6T - BW N

- Chain size: RF03075
- Roller type: R
- No. of teeth: 6T
- Hub type: BW·CW
- Tooth hardening: Hardened : Q, Normal : N



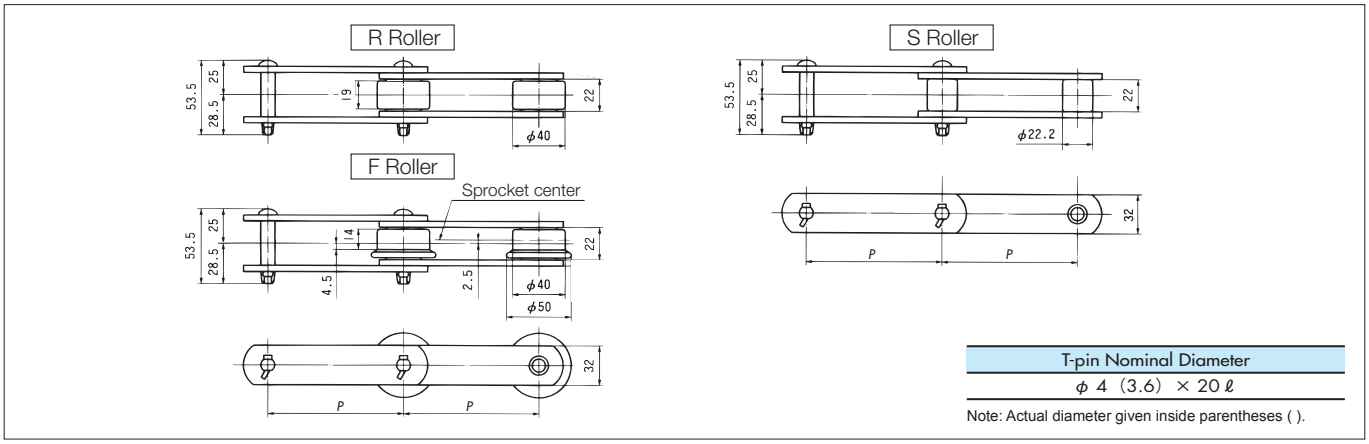


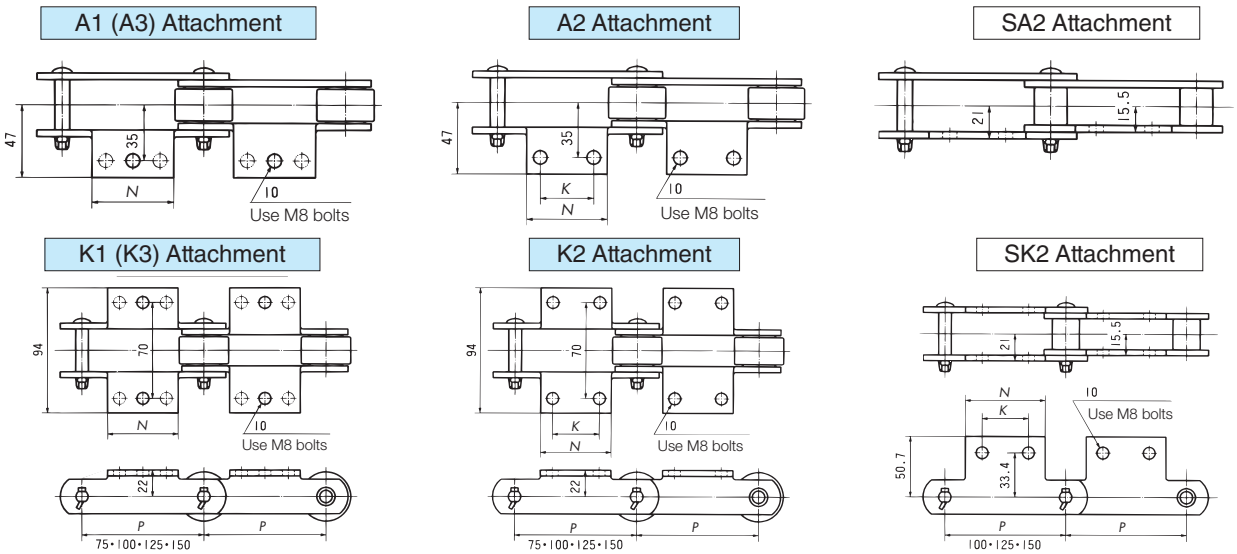
	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW Type		CW Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	**RF03075R** (75)	6	150.0	158	11.9	S1	18	50	73	57	3.0	SB1	51.0	SC1	28.5
		8	196.0	209		S1	18	55	83	62	4.8	SB2	56.0	SC2	31.0
		10	242.7	259		S1	18	60	93	67	7.1	SB3	61.0	SC3	33.5
		12	289.8	308		S1	18	60	93	67	9.0	SB3	61.0	SC3	33.5
	RF03100R (100)	6	200.0	206	11.9	S2	18	55	83	62	4.9	SB2	56.0	SC2	31.0
		8	261.3	272		S2	18	60	93	67	7.8	SB3	61.0	SC3	33.5
		10	323.6	336		S1	18	65	98	72	11.1	SB4	66.0	SC4	36.0
		12	386.4	401		S1	18	65	98	72	14.4	SB4	66.0	SC4	36.0
F Roller	**RF03075F** (75)	6	150.0	158	8.9	S1	18	50	73	54	2.6	SB1	49.5	SC1	27.0
		8	196.0	209		S1	18	55	83	59	4.1	SB2	54.5	SC2	29.5
		10	242.7	259		S1	18	60	93	64	6.0	SB3	59.5	SC3	32.0
		12	289.8	308		S1	18	60	93	64	7.4	SB3	59.5	SC3	32.0
	RF03100F (100)	6	200.0	208	8.9	S2	18	55	83	59	4.2	SB2	54.5	SC2	29.5
		8	261.3	273		S2	18	60	93	64	6.5	SB3	59.5	SC3	32.0
		10	323.6	336		S1	18	65	98	69	9.2	SB4	64.5	SC4	34.5
		12	386.4	401		S1	18	65	98	69	11.6	SB4	64.5	SC4	34.5
S Roller	**RF03075S** (75)	6	150.0	158	11.9	S1	18	50	73	57	3.0	SB1	51.0	SC1	28.5
		8	196.0	206		S1	18	55	83	62	4.8	SB2	56.0	SC2	31.0
		10	242.7	252		S1	18	60	93	67	7.1	SB3	61.0	SC3	33.5
		12	289.8	299		S1	18	60	93	67	9.0	SB3	61.0	SC3	33.5
	RF03100S (100)	6	200.0	212	11.9	S2	18	55	83	62	4.9	SB2	56.0	SC2	31.0
		8	261.3	269		S1	18	60	93	67	7.8	SB3	61.0	SC3	33.5
		10	323.6	333		S1	18	65	98	72	11.1	SB4	66.0	SC4	36.0
		12	386.4	396		S1	18	65	98	72	14.4	SB4	66.0	SC4	36.0

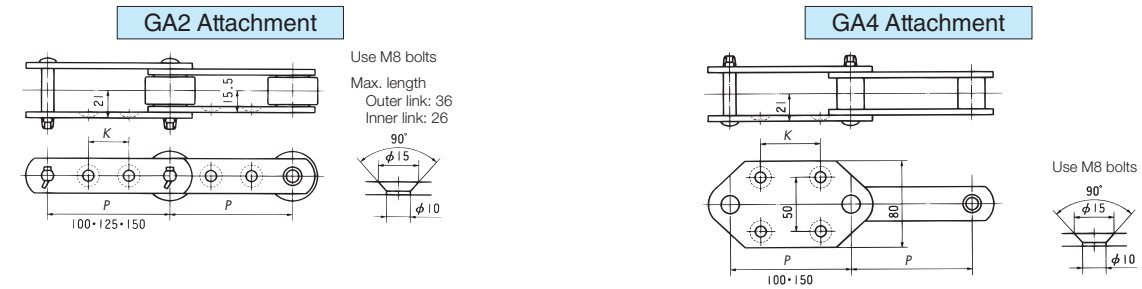
Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Metric Pitches (Dimensions) RF05075 • RF05100 • RF05125 • RF05150

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF05075	9.8{1000}	9.8{1000}	20.3{2070}	—	10.8{1100}	14.0{1450}	5.70{580}	5.70{580}
RF05100								
RF05125								
RF05150								





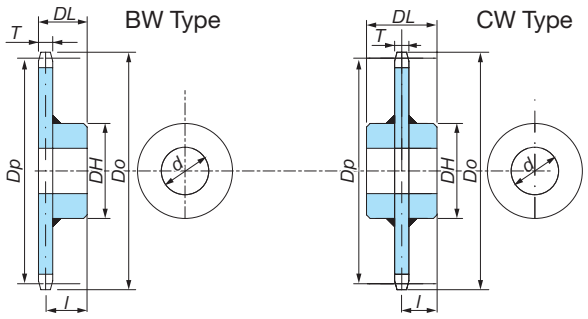


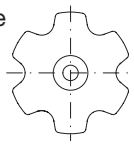
Chain Size	Pitch P	Attachment				Attachment and Roller Combinations					Approximate Mass kg/m			A Attachment Mass kg/each	GA4 Attachment Mass kg/each
		A・K・SA・SK		GA2	GA4										
		N	K	K	K	A1 K1	A2 K2	SA2 SK2	GA2	GA4	R Roller	F Roller	S Roller		
RF05075	75	55	30	–	–	S	S	–	–	–	–	–	4.3	0.06	–
RF05100	100	65	40	40	50	R/F/S	R/F/S	R/S	R/S	S	5.2	5.4	3.8	0.07	4.6
RF05125	125	75	50	50	–	R/F/S	R/F/S	R/S	R/F/S	–	4.5	4.6	3.4	0.08	–
RF05150	150	85	60	60	70	R/F/S	R/F/S	R/S	R/F/S	S	4.2	4.4	3.3	0.10	4.1

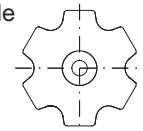
Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link.
3. Contact a Tsubaki representative if using a guide on A or K attachment sides.
4. Attachments written in ▭ are standard attachments.
5. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF05100 R 6T - BW N

- Chain size: RF05100
- Roller type: R
- No. of teeth: 6T
- Hub type: BW·CW
- Tooth hardening: Hardened : Q, Normal : N



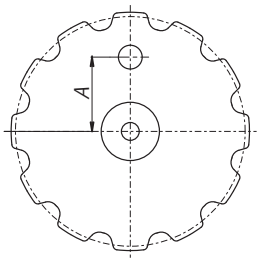

S1 Tooth Profile
(Teeth are rounded)


S2 Tooth Profile
(Teeth are flat)

	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW Type		CW Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	RF05100R (100)	6	200.0	205	18	S1	28	75	107	86	8.8	SB5	77.0	SC5	43.0
		8	261.3	273		S1	28	75	107	86	12.0	SB5	77.0	SC5	43.0
		10	323.6	340		S1	33	80	117	94	17.4	SB6	85.0	SC6	47.0
		12	386.4	405		S1	33	85	127	104	24.4	SB7	95.0	SC7	52.0
	RF05125R (125)	6	250.0	258	18	S2	28	75	107	86	11.3	SB5	77.0	SC5	43.0
		8	326.6	340		S2	33	80	117	94	17.6	SB6	85.0	SC6	47.0
		10	404.5	421		S2	33	85	127	104	26.0	SB7	95.0	SC7	52.0
		12	483.0	499		S1	33	95	137	116	36.4	SB8	107.0	SC8	58.0
	RF05150R (150)	6	300.0	306	18	S2	33	80	117	94	15.8	SB6	85.0	SC6	47.0
		8	392.0	403		S2	33	85	127	104	24.9	SB7	95.0	SC7	52.0
		10	485.4	501		S2	33	95	137	116	36.7	SB8	107.0	SC8	58.0
		12	579.6	597		S2	33	95	137	116	47.8	SB8	107.0	SC8	58.0
F Roller	RF05100F (100)	6	200.0	205	11.9	S1	28	75	107	80	7.3	SB5	74.0	SC5	40.0
		8	261.3	273		S1	28	75	107	80	9.4	SB5	74.0	SC5	40.0
		10	323.6	340		S1	33	80	117	88	13.5	SB6	82.0	SC6	44.0
		12	386.4	405		S1	33	85	127	98	18.8	SB7	92.0	SC7	49.0
	RF05125F (125)	6	250.0	258	11.9	S2	28	75	107	80	9.0	SB5	74.0	SC5	40.0
		8	326.6	340		S2	33	80	117	88	13.6	SB6	82.0	SC6	44.0
		10	404.5	421		S2	33	85	127	98	19.9	SB7	92.0	SC7	49.0
		12	483.0	499		S1	33	95	137	110	27.7	SB8	104.0	SC8	55.0
	RF05150F (150)	6	300.0	306	11.9	S2	33	80	117	88	12.4	SB6	82.0	SC6	44.0
		8	392.0	403		S2	33	85	127	98	19.2	SB7	92.0	SC7	49.0
		10	485.4	501		S2	33	95	137	110	27.9	SB8	104.0	SC8	55.0
		12	579.6	597		S2	33	95	137	110	35.2	SB8	104.0	SC8	55.0
S Roller	RF05075S (75)	8	196.0	209	18	S1	28	75	107	86	8.6	SB5	77.0	SC5	43.0
		10	242.7	256		S1	28	75	107	86	10.9	SB5	77.0	SC5	43.0
		12	289.8	303		S1	33	80	117	94	15.1	SB6	85.0	SC6	47.0
	RF05100S (100)	6	200.0	213	18	S2	28	75	107	86	8.8	SB5	77.0	SC5	43.0
		8	261.3	273		S1	28	75	107	86	12.0	SB5	77.0	SC5	43.0
		10	323.6	337		S1	33	80	117	94	17.4	SB6	85.0	SC6	47.0
		12	386.4	400		S1	33	85	127	104	24.4	SB7	95.0	SC7	52.0
	RF05125S (125)	6	250.0	262	18	S2	28	75	107	86	11.3	SB5	77.0	SC5	43.0
		8	326.6	344		S2	33	80	117	94	17.6	SB6	85.0	SC6	47.0
		10	404.5	417		S1	33	85	127	104	26.0	SB7	95.0	SC7	52.0
		12	483.0	496		S1	33	95	137	116	36.4	SB8	107.0	SC8	58.0
	RF05150S (150)	6	300.0	311	18	S2	33	80	117	94	15.8	SB6	85.0	SC6	47.0
		8	392.0	407		S2	33	85	127	104	24.9	SB7	95.0	SC7	52.0
		10	485.4	501		S2	33	95	137	116	36.7	SB8	107.0	SC8	58.0
		12	579.6	592		S1	33	95	137	116	47.8	SB8	107.0	SC8	58.0

Note: RF05075R-F sprockets have a special contour. The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF05125	12	155	1
RF05150	10	160	1
	12	190	1

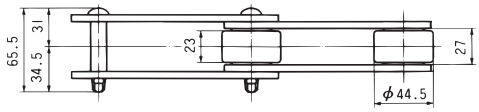
Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

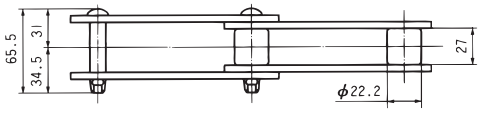
Metric Pitches (Dimensions) RF08125 • RF08150

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF08125 **RF08150**	11.2{1140}	11.2{1140}	20.3{2070}	24.3{2480}	12.3{1250}	16.0{1650}	5.70{580}	5.70{580}

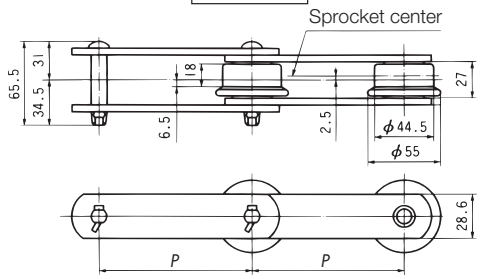
R Roller

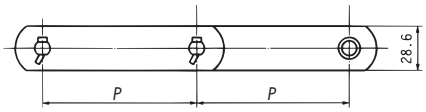


S Roller



F Roller

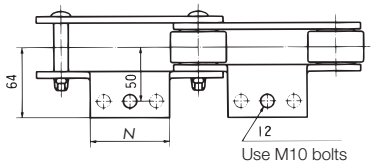




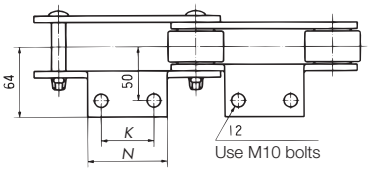
T-pin Nominal Diameter
ϕ 4 (3.6) × 20 ℓ

Note: Actual diameter given inside parentheses ( ).

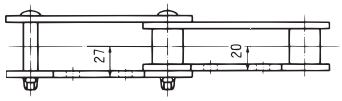
A1 (A3) Attachment



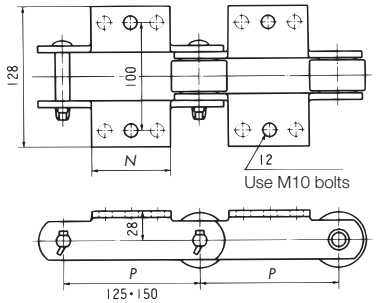
A2 Attachment



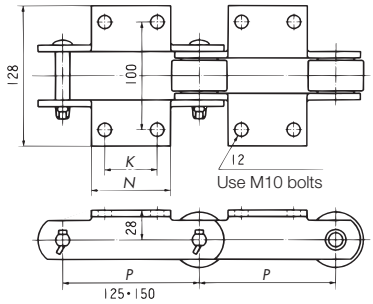
SA2 Attachment



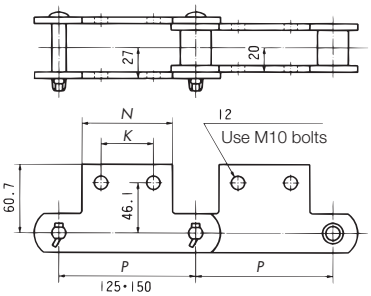
K1 (K3) Attachment



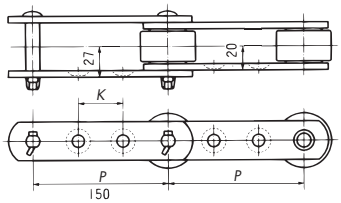
K2 Attachment



SK2 Attachment

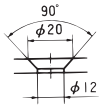


GA2 Attachment



Use M10 bolts

Max. length
Outer link: 45
Inner link: 31

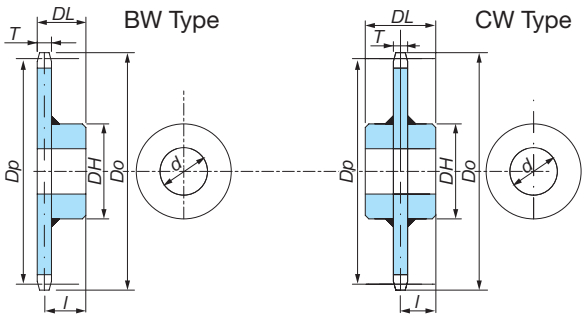


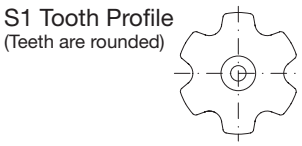
Chain Size	Pitch P	Attachment			Attachment and Roller Combinations				Approximate Mass kg/m			A Attachment Mass kg/each
		A・K・SA・SK		GA2								
		N	K	K	A1 K1	A2 K2	SA2 SK2	GA2	R Roller	F Roller	S Roller	
RF08125	125	80	50	–	R/F/S	R/F/S	R/S	–	5.9	6.2	4.2	0.19
RF08150	150	90	60	60	R/F/S	R/F/S	R/S	R/F/S	5.6	5.8	4.0	0.23

Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. Contact a Tsubaki representative if using a guide on A or K attachment sides.
3. Attachments written in ▭ are standard attachments.
4. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF08125 R 6T - BW N

- Chain size: RF08125
- Roller type: R
- No. of teeth: 6T
- Hub type: BW·CW
- Tooth hardening: Hardened : Q, Normal : N

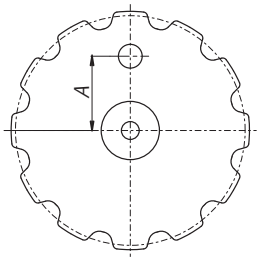




	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW Type		CW Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	RF08125R (125)	6	250.0	264	22	S2	28	75	107	90	12.8	SB5	79.0	SC5	45.0
		8	326.6	347		S2	33	80	117	98	20.2	SB6	87.0	SC6	49.0
		10	404.5	426		S1	33	85	127	108	30.0	SB7	97.0	SC7	54.0
		12	483.0	508		S1	33	95	137	120	42.2	SB8	109.0	SC8	60.0
	RF08150R (150)	6	300.0	312	22	S2	33	80	117	98	18.0	SB6	87.0	SC6	49.0
		8	392.0	410		S2	33	85	127	108	28.7	SB7	97.0	SC7	54.0
		10	485.4	508		S2	33	95	137	120	42.5	SB8	109.0	SC8	60.0
		12	579.6	605		S2	33	95	137	120	56.1	SB8	109.0	SC8	60.0
F Roller	RF08125F (125)	6	250.0	264	15	S2	28	75	107	83	10.2	SB5	75.5	SC5	41.5
		8	326.6	347		S2	33	80	117	91	15.7	SB6	83.5	SC6	45.5
		10	404.5	426		S1	33	85	127	101	23.0	SB7	93.5	SC7	50.5
		12	483.0	508		S1	33	95	137	113	32.1	SB8	105.5	SC8	56.5
	RF08150F (150)	6	300.0	312	15	S2	33	80	117	91	14.1	SB6	83.5	SC6	45.5
		8	392.0	410		S2	33	85	127	101	22.1	SB7	93.5	SC7	50.5
		10	485.4	508		S2	33	95	137	113	32.4	SB8	105.5	SC8	56.5
		12	579.6	605		S2	33	95	137	113	41.6	SB8	105.5	SC8	56.5
S Roller	RF08125S (125)	6	250.0	270	22	S2	28	75	107	90	12.8	SB5	79.0	SC5	45.0
		8	326.6	340		S1	33	80	117	98	20.2	SB6	87.0	SC6	49.0
		10	404.5	418		S1	33	85	127	108	30.0	SB7	97.0	SC7	54.0
		12	483.0	496		S1	33	95	137	120	42.2	SB8	109.0	SC8	60.0
	RF08150S (150)	6	300.0	318	22	S2	33	80	117	98	18.0	SB6	87.0	SC6	49.0
		8	392.0	403		S1	33	85	127	108	28.7	SB7	97.0	SC7	54.0
		10	485.4	499		S1	33	95	137	120	42.5	SB8	109.0	SC8	60.0
		12	579.6	593		S1	33	95	137	120	56.1	SB8	109.0	SC8	60.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF08125	12	155	1
RF08150	10	155	1
	12	190	1

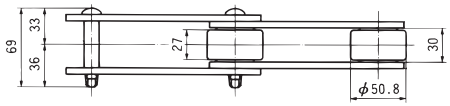
Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

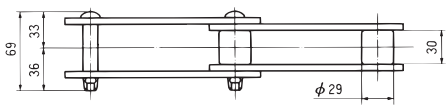
Metric Pitches (Dimensions) RF10100 • RF10125 • RF10150

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF10100	16.1{1650}	17.6{1790}	32.3{3290}	38.7{3950}	17.7{1800}	23.0{2350}	9.00{920}	9.00{920}
RF10125								
RF10150								

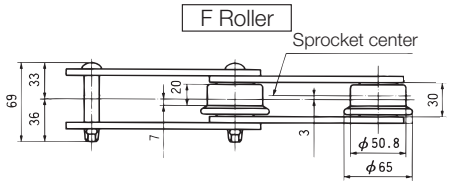
R Roller



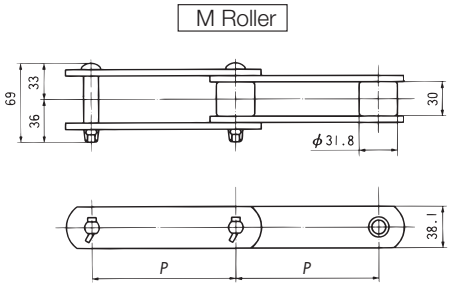
S Roller



F Roller



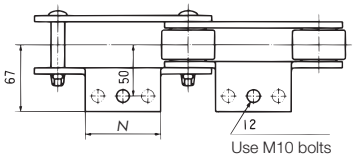
M Roller



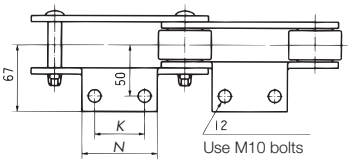
T-pin Nominal Diameter
φ 4 (3.6) × 25 ℓ

Note: Actual diameter given inside parentheses ( ).

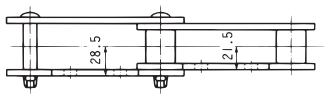
A1 (A3) Attachment



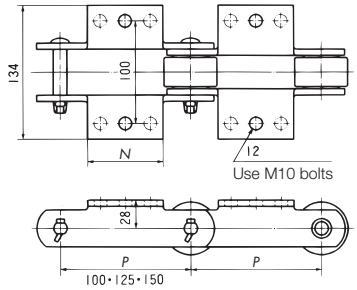
A2 Attachment



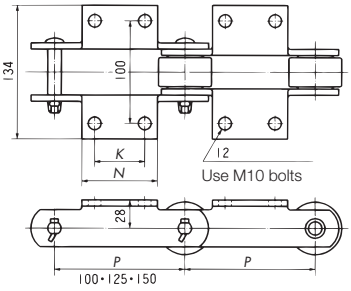
SA2 Attachment



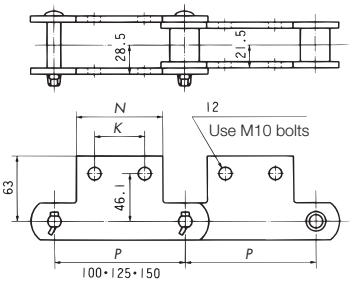
K1 (K3) Attachment



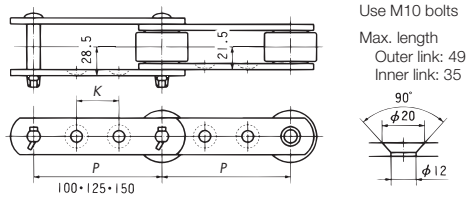
K2 Attachment



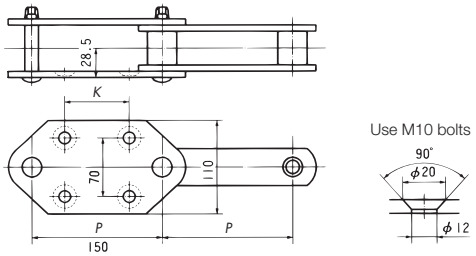
SK2 Attachment



GA2 Attachment



GA4 Attachment

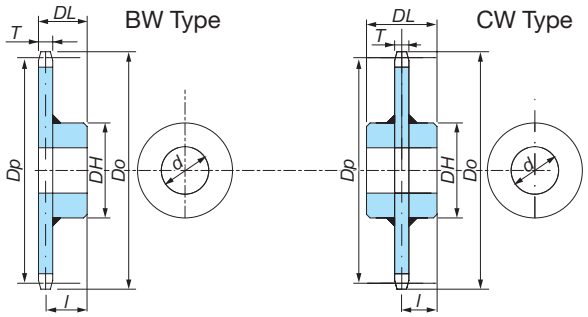


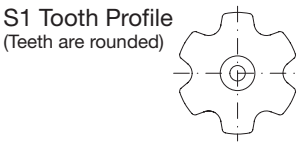
Chain Size	Pitch P	Attachment				Attachment and Roller Combinations					Approximate Mass kg/m				A Attachment Mass kg/ each	GA4 Attachment Mass kg/ each
		A・K・SA・SK		GA2	GA4	A1 K1	A2 K2	SA2 SK2	GA2	GA4	R Roller	F Roller	S Roller	M Roller		
		N	K	K	K											
RF10100	100	70	40	30	–	R/S/M	R/S/M	R/S/M	S/M	–	10	–	7.0	7.3	0.16	–
RF10125	125	80	50	40	–	R/F/S/M	R/F/S/M	R/S/M	R/S/M	–	8.7	9.0	6.3	6.5	0.18	–
RF10150	150	90	60	60	75	R/F/S/M	R/F/S/M	R/S/M	R/F/S/M	S/M	8.0	8.3	5.9	6.1	0.20	7.7(7.9)

Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link. Values in parentheses ( ) are for M Rollers.
3. Contact a Tsubaki representative if using a guide on A or K attachment sides.
4. Attachments written in ▭ are standard attachments.
5. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF10100 R 6T - BW N

- Chain size: RF10100
- Roller type: R
- No. of teeth: 6T
- Hub type: BW·CW
- Tooth hardening: Hardened : Q, Normal : N

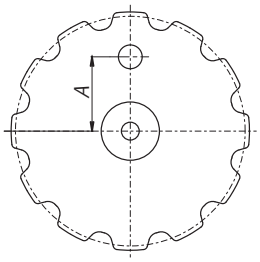




	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW Type		CW Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	**RF10100R** (100)	6	200.0	214	22	S1	28	75	107	90	9.8	SB5	79.0	SC5	45.0
		8	261.3	282		S1	33	85	127	108	17.1	SB7	97.0	SC7	54.0
		10	323.6	349		S1	33	95	137	120	24.7	SB8	109.0	SC8	60.0
		12	386.4	414		S1	38	100	147	123	32.6	SB9	112.0	SC9	61.5
	RF10125R (125)	6	250.0	262	22	S2	33	85	127	108	16.3	SB7	97.0	SC7	54.0
		8	326.6	343		S1	33	95	137	120	25.0	SB8	109.0	SC8	60.0
		10	404.5	426		S1	38	100	147	123	34.5	SB9	112.0	SC9	61.5
		12	483.0	508		S1	38	110	157	133	47.3	SB10	122.0	SC10	66.5
	RF10150R (150)	6	300.0	309	22	S2	33	95	137	120	22.7	SB8	109.0	SC8	60.0
		8	392.0	408		S2	38	100	147	123	33.2	SB9	112.0	SC9	61.5
		10	485.4	506		S2	38	110	157	133	47.6	SB10	122.0	SC10	66.5
		12	579.6	601		S1	38	115	167	144	65.2	SB11	133.0	SC11	72.0
F Roller	**RF10125F** (125)	6	250.0	263	15	S2	33	85	127	101	13.6	SB7	93.5	SC7	50.5
		8	326.6	343		S1	33	95	137	113	20.4	SB8	105.5	SC8	56.5
		10	404.5	426		S1	38	100	147	116	27.5	SB9	108.5	SC9	58.0
		12	483.0	508		S1	38	110	157	126	37.3	SB10	118.5	SC10	63.0
	RF10150F (150)	6	300.0	310	15	S2	33	95	137	113	18.9	SB8	105.5	SC8	56.5
		8	392.0	409		S2	38	100	147	116	26.6	SB9	108.5	SC9	58.0
		10	485.4	507		S2	38	110	157	126	37.5	SB10	118.5	SC10	63.0
		12	579.6	601		S1	38	115	167	137	50.8	SB11	129.5	SC11	68.5
S Roller	**RF10100S** (100)	6	200.0	219	22	S2	28	75	107	90	9.8	SB5	79.0	SC5	45.0
		8	261.3	279		S1	33	85	127	108	17.1	SB7	97.0	SC7	54.0
		10	323.6	341		S1	33	95	137	120	24.7	SB8	109.0	SC8	60.0
		12	386.4	404		S1	38	100	147	123	32.6	SB9	112.0	SC9	61.5
	RF10125S (125)	6	250.0	267	22	S2	33	85	127	108	16.3	SB7	97.0	SC7	54.0
		8	326.6	343		S1	33	95	137	120	25.0	SB8	109.0	SC8	60.0
		10	404.5	422		S1	38	100	147	123	34.5	SB9	112.0	SC9	61.5
		12	483.0	500		S1	38	110	157	133	47.3	SB10	122.0	SC10	66.5
	RF10150S (150)	6	300.0	315	22	S2	33	95	137	120	22.7	SB8	109.0	SC8	60.0
		8	392.0	413		S2	38	100	147	123	33.2	SB9	112.0	SC9	61.5
		10	485.4	503		S1	38	110	157	133	47.6	SB10	122.0	SC10	66.5
		12	579.6	597		S1	38	115	167	144	65.2	SB11	133.0	SC11	72.0

Note: RF10100F sprockets have a special contour. The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions

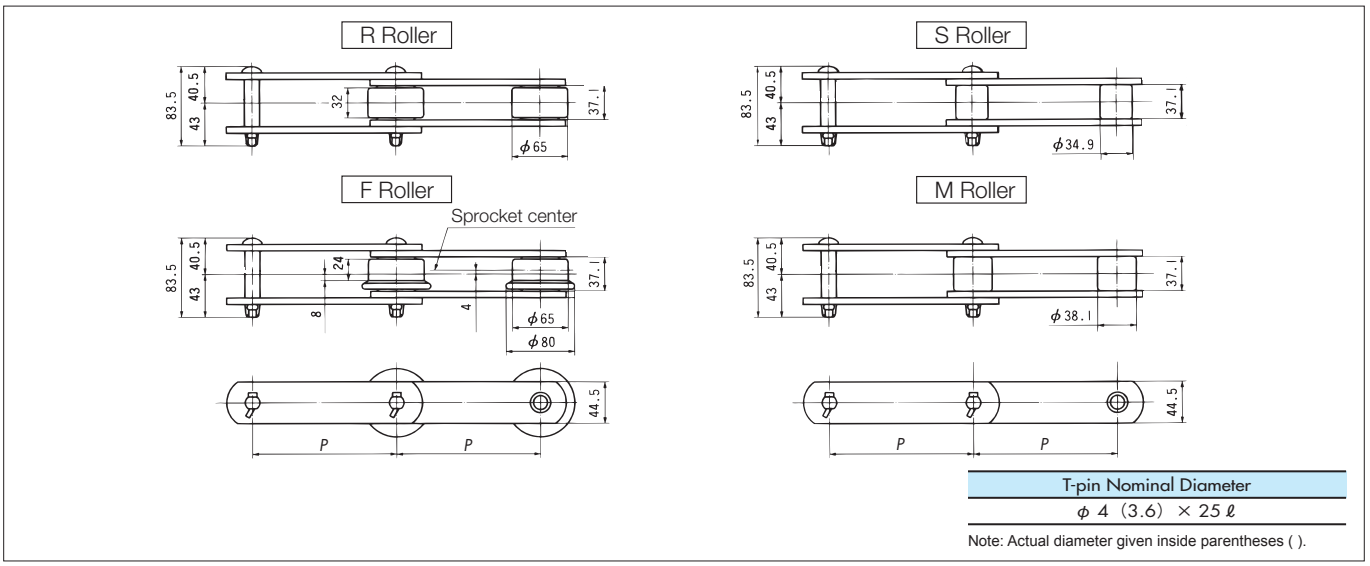


TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF10125	12	155	1
RF10150	10	155	1
	12	185	1

Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

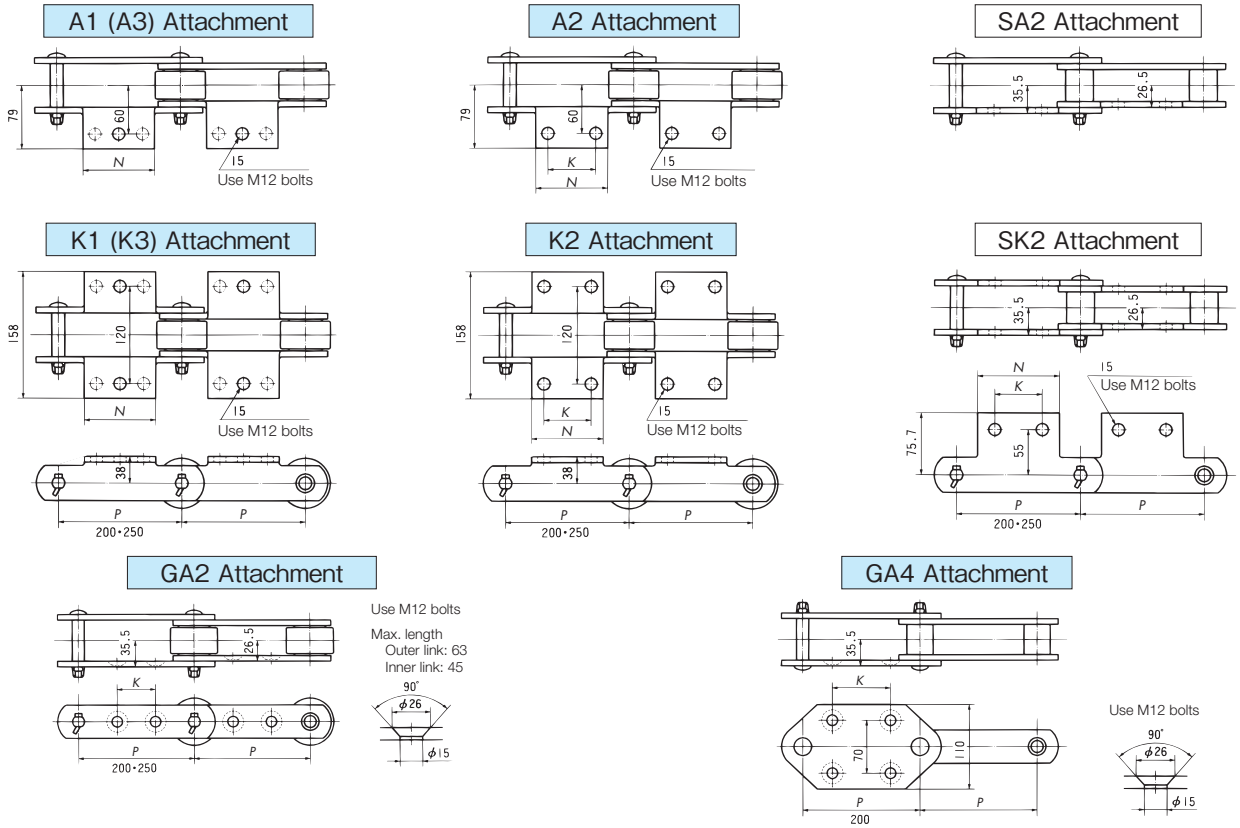
Metric Pitches (Dimensions) RF12200 • RF12250

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF12200 **RF12250**	26.6{2710}	26.6{2710}	39.9{4060}	47.8{4880}	26.5{2700}	34.5{3500}	11.0{1120}	11.0{1120}



T-pin Nominal Diameter
ϕ 4 (3.6) × 25 ℓ

Note: Actual diameter given inside parentheses ( ).

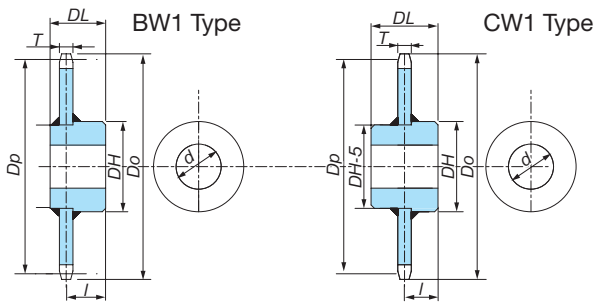


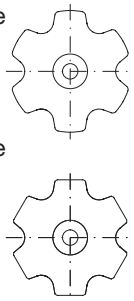
TSUBAKI Chain Number	Pitch P	Attachment				Attachment and Roller Combinations					Approximate Mass kg/m				A Attachment Mass kg/ each	GA4 Attachment Mass kg/ each
		A・K・SA・SK		GA2	GA4	A1 K1	A2 K2	SA2 SK2	GA2	GA4	R Roller	F Roller	S Roller	M Roller		
		N	K	K	K											
RF12200	200	120	80	80	100	R/F/S/M	R/F/S/M	R/S/M	R/F/S/M	S/M	11.6	12.1	8.3	8.6	0.44	10.3 (10.6)
RF12250	250	170	125	125	–	R/F/S/M	R/F/S/M	R/S/M	R/F/S/M	–	10.5	10.8	7.8	8.0	0.61	–

Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link. Values in parentheses ( ) are for M Rollers.
3. Contact a Tsubaki representative if using a guide on A or K attachment sides.
4. Attachments written in ▭ are standard attachments.
5. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF12200 R 6T - BW1 N

- Chain size
- Roller type
- No. of teeth
- Hub type: BW1·CW1
- Tooth hardening: Hardened : Q, Normal : N

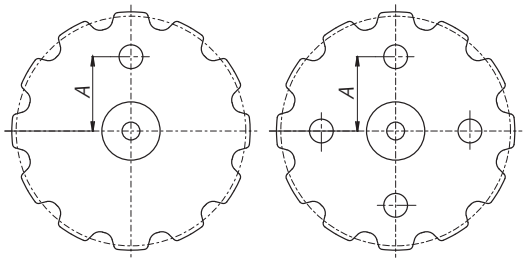




	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW1 Type		CW1 Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	RF12200R (200)	6	400.0	418	28	S2	55	110	157	135	41.3	TB2	110.0	TC2	67.5
		8	522.6	551		S2	60	120	177	150	67.4	TB3	125.0	TC3	75.0
		10	647.2	682		S2	65	130	187	160	96.6	TB4	135.0	TC4	80.0
		12	772.7	810		S2	75	145	207	180	136.9	TB5	155.0	TC5	90.0
	RF12250R (250)	6	500.0	515	28	S2	60	120	177	150	63.4	TB3	125.0	TC3	75.0
		8	653.3	680		S2	65	130	187	160	97.9	TB4	135.0	TC4	80.0
		10	809.0	841		S2	75	145	207	180	146.8	TB5	155.0	TC5	90.0
		12	965.9	1002		S2	80	160	227	200	207.7	TB6	175.0	TC6	100.0
F Roller	RF12200F (200)	6	400.0	418	18	S2	55	110	157	135	33.0	TB2	115.0	TC2	67.5
		8	522.6	551		S2	60	120	177	150	52.5	TB3	130.0	TC3	75.0
		10	647.2	682		S2	65	130	187	160	72.9	TB4	140.0	TC4	80.0
		12	772.7	810		S2	75	145	207	180	102.8	TB5	160.0	TC5	90.0
	RF12250F (250)	6	500.0	515	18	S2	60	120	177	150	49.9	TB3	130.0	TC3	75.0
		8	653.3	680		S2	65	130	187	160	73.8	TB4	140.0	TC4	80.0
		10	809.0	841		S2	75	145	207	180	109.1	TB5	160.0	TC5	90.0
		12	965.9	1002		S2	80	160	227	200	153.4	TB6	180.0	TC6	100.0
S Roller	RF12200S (200)	6	400.0	421	28	S2	55	110	157	135	41.3	TB2	110.0	TC2	67.5
		8	522.6	544		S1	60	120	177	150	67.4	TB3	125.0	TC3	75.0
		10	647.2	668		S1	65	130	187	160	96.6	TB4	135.0	TC4	80.0
		12	772.7	794		S1	75	145	207	180	136.9	TB5	155.0	TC5	90.0
	RF12250S (250)	6	500.0	521	28	S2	60	120	177	150	63.4	TB3	125.0	TC3	75.0
		8	653.3	674		S2	65	130	187	160	97.9	TB4	135.0	TC4	80.0
		10	809.0	830		S1	75	145	207	180	146.8	TB5	155.0	TC5	90.0
		12	965.9	987		S1	80	160	227	200	207.7	TB6	175.0	TC6	100.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



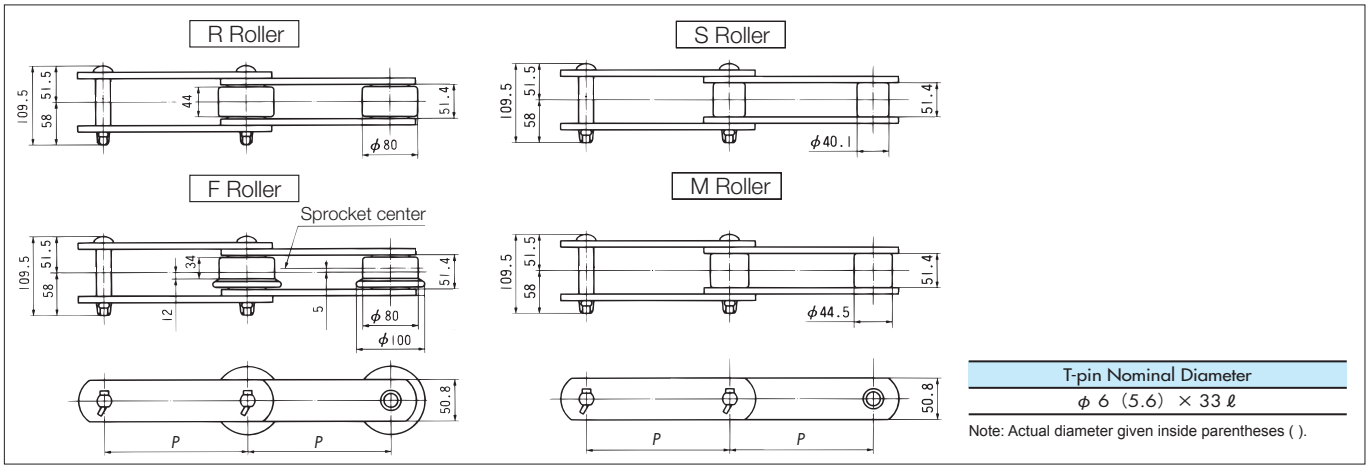
TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF12200	8	160	1
	10	205	1
	12	250	4
RF12250	6	155	1
	8	210	1
	10	260	4
	12	315	4

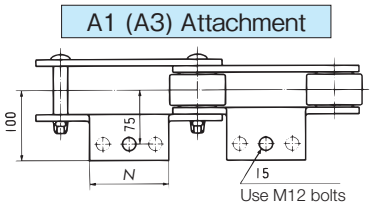
Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

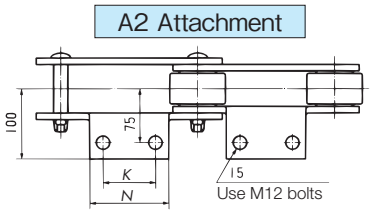
General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

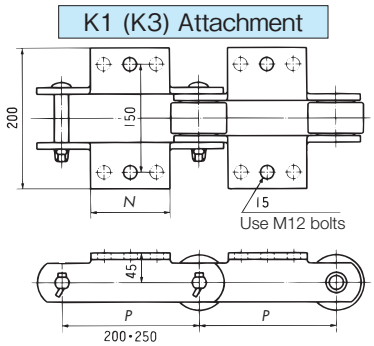
Metric Pitches (Dimensions) RF17200 • RF17250 • RF17300

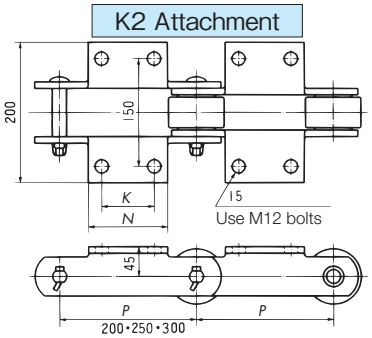
Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF17200	35.0{3570}	35.0{3570}	55.3{5640}	66.3{6770}	35.8{3650}	46.5{4750}	15.5{1580}	15.5{1580}
RF17250								
RF17300								

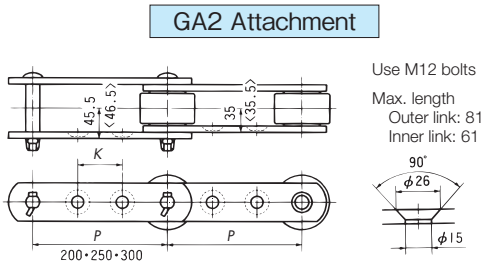


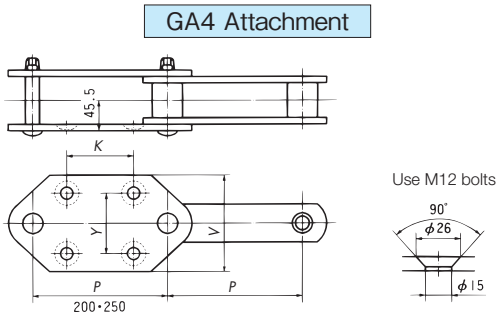










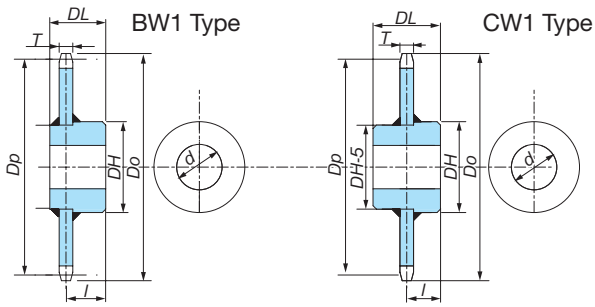


Chain Size	Pitch P	Attachment						Attachment and Roller Combinations					Approximate Mass kg/m				A Attachment Mass kg/ each	GA4 Attachment Mass kg/ each
		A・K		GA2	GA4			A1 K1	A2 K2	YA2 (welded)	GA2	GA4	R Roller	F Roller	S Roller	M Roller		
		N	K	K	K	V	Y											
RF17200	200	120	80	70	100	120	80	R/F/S/M	R/F/S/M	–	R/F/S/M	S/M	20	21	12	13	0.64	14 (15)
RF17250	250	170	125	110	140	150	100	R/F/S/M	R/F/S/M	–	R/F/S/M	S/M	17	18	11	12	0.88	15 (16)
RF17300	300	220	180	150	–	–	–	–	R/F/S/M	–	R/F/S/M	–	16	16	11	11	1.26	–

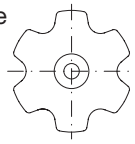
Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link. Values in parentheses ( ) are for M Rollers.
3. Values in < > are for SS Series.
4. Contact a Tsubaki representative if using a guide on A or K attachment sides.
5. Attachments written in ▭ are standard attachments.
6. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF17200 R 6T - BW1 N

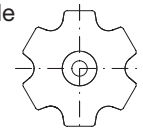
- Chain size
- No. of teeth
- Hub type: BW1·CW1
- Roller type
- Tooth hardening: Hardened : Q; Normal : N



S1 Tooth Profile (Teeth are rounded)



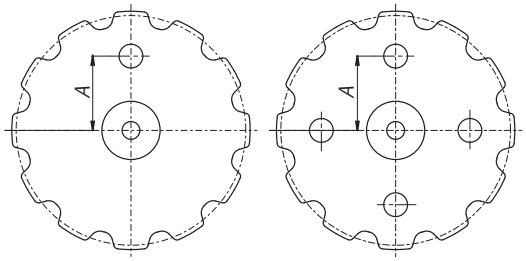
S2 Tooth Profile (Teeth are flat)



	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW1 Type		CW1 Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	**RF17200R** (200)	6	400.0	428	40	S2	60	120	177	150	57.3	TB3	118.0	TC3	75.0
		8	522.6	561		S2	75	145	207	180	98.1	TB5	148.0	TC5	90.0
		10	647.2	691		S1	75	145	207	180	134.0	TB5	148.0	TC5	90.0
		12	772.7	821		S1	80	160	227	200	190.1	TB6	168.0	TC6	100.0
	RF17250R (250)	6	500.0	524	40	S2	65	130	187	160	83.3	TB4	128.0	TC4	80.0
		8	653.3	689		S2	75	145	207	180	135.9	TB5	148.0	TC5	90.0
		10	809.0	851		S2	80	160	227	200	204.2	TB6	168.0	TC6	100.0
		12	965.9	1013		S2	80	160	227	220	278.5	TB7	188.0	TC7	110.0
	RF17300R (300)	6	600.0	621	40	S2	75	145	207	180	119.5	TB5	148.0	TC5	90.0
		8	783.9	816		S2	80	160	227	200	194.4	TB6	168.0	TC6	100.0
		10	970.8	1010		S2	80	160	227	220	280.8	TB7	188.0	TC7	110.0
		12	1159.1	1204		S2	85	175	247	240	395.7	TB9	208.0	TC9	120.0
F Roller	**RF17200F** (200)	6	400.0	428	28	S2	60	120	177	150	47.8	TB3	125.0	TC3	75.0
		8	522.6	561		S2	75	145	207	180	81.0	TB5	155.0	TC5	90.0
		10	647.2	691		S1	75	145	207	180	106.2	TB5	155.0	TC5	90.0
		12	772.7	821		S1	80	160	227	200	149.8	TB6	175.0	TC6	100.0
	RF17250F (250)	6	500.0	524	28	S2	65	130	187	160	67.4	TB4	135.0	TC4	80.0
		8	653.3	689		S2	75	145	207	180	107.5	TB5	155.0	TC5	90.0
		10	809.0	851		S2	80	160	227	200	159.7	TB6	175.0	TC6	100.0
		12	965.9	1013		S2	80	160	227	220	213.3	TB7	195.0	TC7	110.0
	RF17300F (300)	6	600.0	621	28	S2	75	145	207	180	96.0	TB5	155.0	TC5	90.0
		8	783.9	816		S2	80	160	227	200	152.8	TB6	175.0	TC6	100.0
		10	970.8	1010		S2	80	160	227	220	214.9	TB7	195.0	TC7	110.0
		12	1159.1	1204		S2	85	175	247	240	300.8	TB9	215.0	TC9	120.0
S Roller	**RF17200S** (200)	6	400.0	438	40	S2	60	120	177	150	57.3	TB3	118.0	TC3	75.0
		8	522.6	547		S1	75	145	207	180	98.1	TB5	148.0	TC5	90.0
		10	647.2	671		S1	75	145	207	180	134.0	TB5	148.0	TC5	90.0
		12	772.7	797		S1	80	160	227	200	190.1	TB6	168.0	TC6	100.0
	RF17250S (250)	6	500.0	535	40	S2	65	130	187	160	83.3	TB4	128.0	TC4	80.0
		8	653.3	677		S1	75	145	207	180	135.9	TB5	148.0	TC5	90.0
		10	809.0	833		S1	80	160	227	200	204.2	TB6	168.0	TC6	100.0
		12	965.9	990		S1	80	160	227	220	278.5	TB7	188.0	TC7	110.0
	RF17300S (300)	6	600.0	633	40	S2	75	145	207	180	119.5	TB5	148.0	TC5	90.0
		8	783.9	827		S2	80	160	227	200	194.4	TB6	168.0	TC6	100.0
		10	970.8	995		S1	80	160	227	220	280.8	TB7	188.0	TC7	110.0
		12	1159.1	1183		S1	85	175	247	240	395.7	TB9	208.0	TC9	120.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



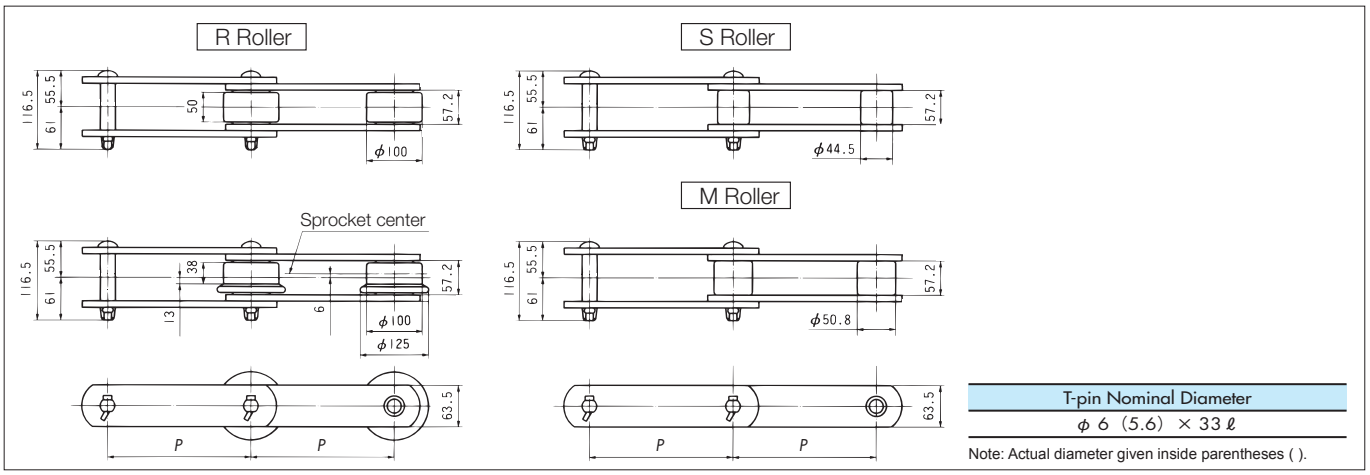
Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

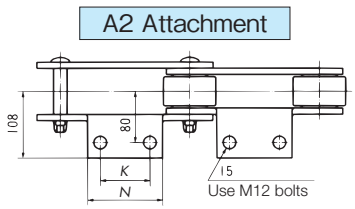
TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF17200	10	200	1
	12	245	4
RF17250	8	200	1
	10	255	4
	12	310	4
RF17300	6	185	1
	8	250	4
	10	315	4
	12	380	4

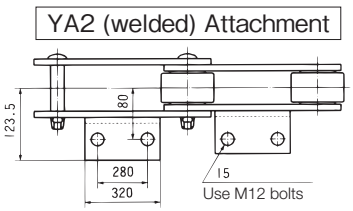
General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

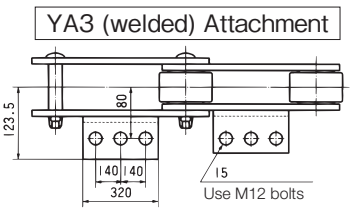
Metric Pitches (Dimensions) RF26200 • RF26250 • RF26300 • RF26450

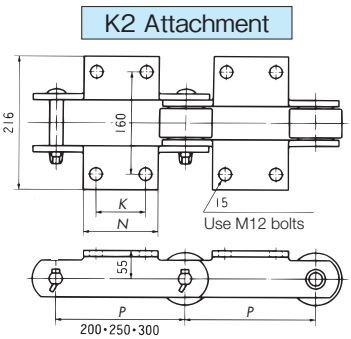
Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF26200	44.9{4570}	44.9{4570}	74.3{7580}	89.1{9090}	46.1{4700}	59.9{6100}	20.8{2120}	20.8{2120}
RF26250								
RF26300								
RF26450								

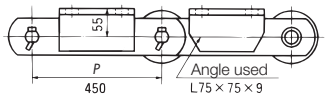


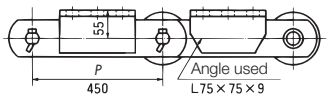


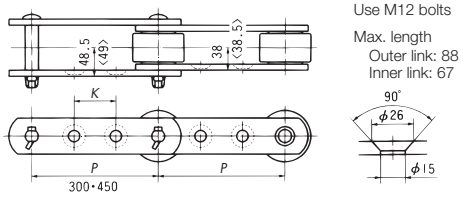


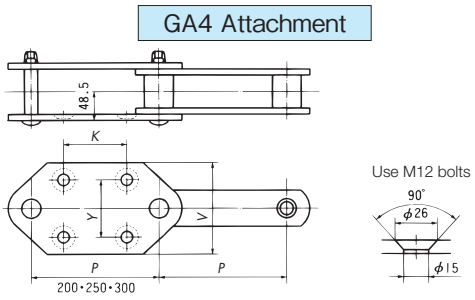










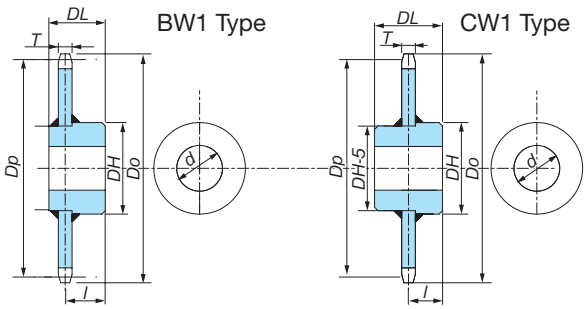


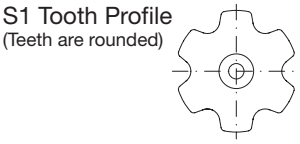
Chain Size	Pitch P	Attachment						Attachment and Roller Combinations					Approximate Mass kg/m				A Attachment Mass kg/ each	GA4 Attachment Mass kg/ each
		A・K		GA2	GA4													
		N	K	K	K	V	Y	A2 K2	YA2 (welded)	YA3 (welded)	GA2	GA4	R Roller	F Roller	S Roller	M Roller		
RF26200	200	120	80	–	100	120	80	S/M	–	–	–	S/M	–	–	16	17	0.74	19 (20)
RF26250	250	170	125	–	140	150	100	R/F/S/M	–	–	–	S/M	26	27	15	16	1.01	18 (19)
RF26300	300	220	180	140	180	150	100	R/F/S/M	–	–	R/F/S/M	S/M	23	24	14	15	1.34	17 (18)
RF26450	450	See dwg	See dwg	220	–	–	–	–	R/F/S/M	R/F/S/M	R/F/S/M	–	19	19	13	13	3.19	–

Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link. Values in parentheses ( ) are for M Rollers.
3. Values in < > are for SS Series.
4. Contact a Tsubaki representative if using a guide on A or K attachment sides.
5. Attachments written in ▭ are standard attachments.
6. The dimensions given above are nominal dimensions and may differ from actual dimensions.

RF26200 R 6T - BW1 N

- Chain size
- Roller type
- No. of teeth
- Hub type: BW1·CW1
- Tooth hardening: Hardened : Q; Normal : N

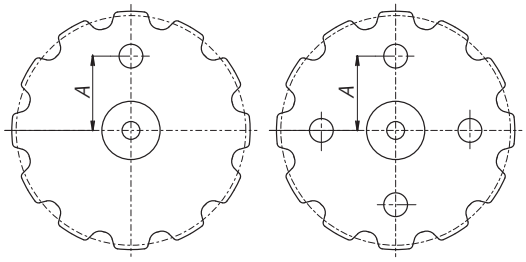




	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW1 Type		CW1 Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	**RF26250R** (250)	6	500.0	536	45	S2	75	145	207	180	98.7	TB5	144.0	TC5	90.0
		8	653.3	703		S2	80	160	227	200	159.7	TB6	164.0	TC6	100.0
		10	809.0	864		S1	85	175	247	240	244.1	TB9	204.0	TC9	120.0
		12	965.9	1026		S1	85	175	247	240	321.4	TB9	204.0	TC9	120.0
	RF26300R (300)	6	600.0	631	45	S2	80	160	227	220	146.7	TB7	184.0	TC7	110.0
		8	783.9	829		S2	85	175	247	240	233.0	TB9	204.0	TC9	120.0
		10	970.8	1025		S1	85	175	247	240	324.0	TB9	204.0	TC9	120.0
		12	1159.1	1219		S1	95	190	267	270	456.4	TB11	234.0	TC11	135.0
F Roller	**RF26250F** (250)	6	500.0	536	30	S2	75	145	207	180	79.6	TB5	150.0	TC5	90.0
		8	653.3	703		S2	80	160	227	200	125.0	TB6	170.0	TC6	100.0
		10	809.0	864		S1	85	175	247	240	189.3	TB9	210.0	TC9	120.0
		12	965.9	1026		S1	85	175	247	240	240.7	TB9	210.0	TC9	120.0
	RF26300F (300)	6	600.0	631	30	S2	80	160	227	220	118.2	TB7	190.0	TC7	110.0
		8	783.9	829		S2	85	175	247	240	181.9	TB9	210.0	TC9	120.0
		10	970.8	1025		S1	85	175	247	240	242.5	TB9	210.0	TC9	120.0
		12	1159.1	1219		S1	95	190	267	270	338.8	TB11	240.0	TC11	135.0
S Roller	**RF26200S** (200)	6	400.0	427	45	S1	75	145	207	180	73.8	TB5	144.0	TC5	90.0
		8	522.6	547		S1	75	145	207	180	105.1	TB5	144.0	TC5	90.0
		10	647.2	674		S1	80	160	227	200	157.5	TB6	164.0	TC6	100.0
		12	772.7	800		S1	85	175	247	240	228.2	TB9	204.0	TC9	120.0
	RF26250S (250)	6	500.0	527	45	S1	75	145	207	180	98.7	TB5	144.0	TC5	90.0
		8	653.3	680		S1	80	160	227	200	159.7	TB6	164.0	TC6	100.0
		10	809.0	836		S1	85	175	247	240	244.1	TB9	204.0	TC9	120.0
		12	965.9	993		S1	85	175	247	240	321.4	TB9	204.0	TC9	120.0
	RF26300S (300)	6	600.0	648	45	S2	80	160	227	220	146.7	TB7	184.0	TC7	110.0
		8	783.9	811		S1	85	175	247	240	233.0	TB9	204.0	TC9	120.0
		10	970.8	998		S1	85	175	247	240	324.0	TB9	204.0	TC9	120.0
		12	1159.1	1186		S1	95	190	267	270	456.4	TB11	234.0	TC11	135.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



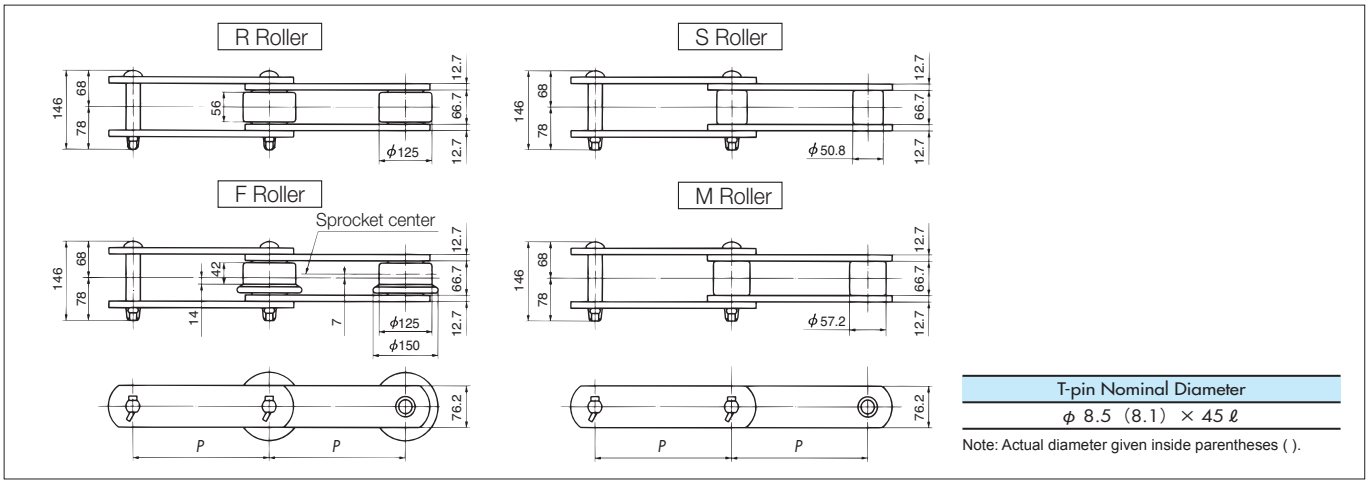
Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

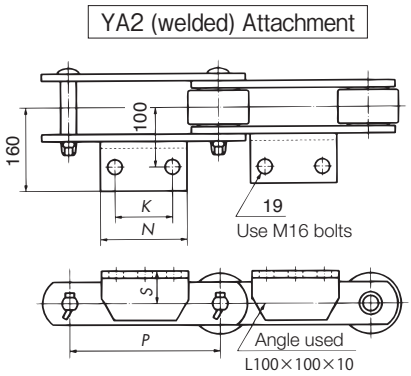
TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF26200	10	195	1
	12	235	4
RF26250	8	195	1
	10	250	4
	12	305	4
RF26300	6	175	1
	8	240	4
	10	305	4
	12	370	4

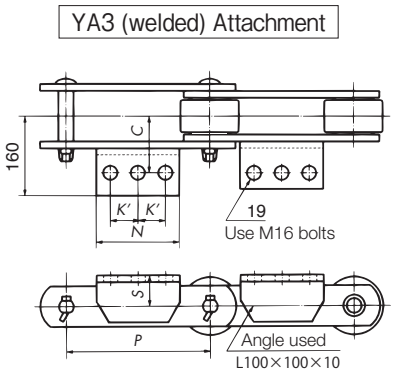
General Use, Heavy Duty, and Corrosion Resistant Conveyor Chains

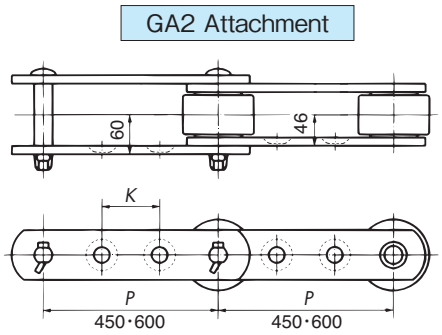
Metric Pitches (Dimensions) RF36250 • RF36300 • RF36450 • RF36600

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF36250	68.0{6930}	68.0{6930}	97.4{9930}	117{11900}	–	–	–	–
RF36300								
RF36450								
RF36600								



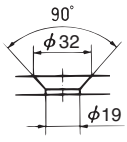


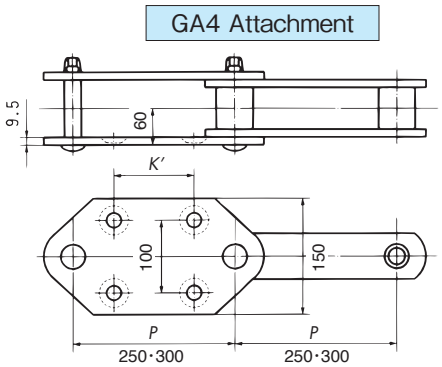


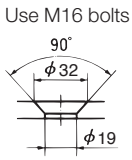


Use M16 bolts

Max. length
Outer link: 105
Inner link: 75







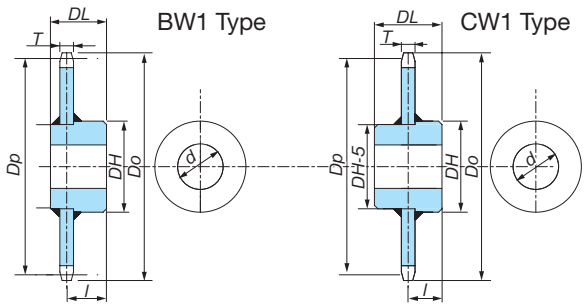
Chain Size	Pitch P	Attachment						Attachment and Roller Combinations				Approximate Mass kg/m				YA Attachment Mass kg/ each	GA4 Attachment Mass kg/ each
		YA2		YA3		GA2	GA4										
		N	K	K	K′	K	K′	YA2 (welded)	YA3 (welded)	GA2	GA4	R Roller	F Roller	S Roller	M Roller		
RF36250	250	–	–	–	–	–	140	–	–	–	S/M	–	–	25	26	–	29 (30)
RF36300	300	160	100	–	–	–	180	R/F/S/M	–	–	S/M	40	42	23	24	2.4	27 (28)
RF36450	450	330	280	330	140	220	–	R/F/S/M	R/F/S/M	R/F/S/M	–	32	33	21	21	4.9	–
RF36600	600	410	360	410	180	300	–	R/F/S/M	R/F/S/M	R/F/S/M	–	28	29	19	20	6.1	–

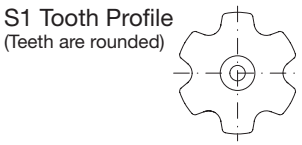
Note 1. The mass of A attachments in the chart is the additional mass (kg) per attachment. For K attachments, multiply this number by two.
2. The mass of the GA4 attachment in the chart is the mass (kg/m) when S Rollers are attached every other link. Values in parentheses ( ) are for M Rollers.
3. Contact a Tsubaki representative if using a guide on A or K attachment sides.
4. The dimensions given above are nominal dimensions and may differ from actual dimensions.

Sprockets for RF36 – RF440 Chain (BW1/CW1)

RF36300 R 6T - BW1 N

- Chain size
- Roller type
- No. of teeth
- Hub type: BW1·CW1
- Tooth hardening: Hardened : Q; Normal : N



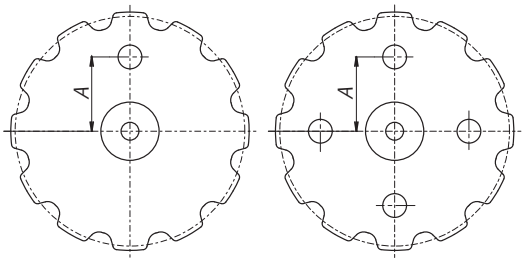


General Use/Heavy Duty/ Corrosion Resistant

	TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW1 Type		CW1 Type	
			Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance l	Hub No.	Center Distance l
R Roller	**RF36300R** (300)	6	600.0	653	55	S2	85	175	247	220	174.2	TB8	178.0	TC8	110.0
		8	783.9	853		S2	95	190	267	240	276.2	TB10	198.0	TC10	120.0
		10	970.8	1046		S1	95	190	267	270	398.9	TB11	228.0	TC11	135.0
		12	1159.1	1234		S1	100	210	297	260	550.8	TB12	218.0	TC12	130.0
F Roller	**RF36300F** (300)	6	600.0	653	33.7	S2	85	175	247	220	135.0	TB8	188.0	TC8	110.0
		8	783.9	853		S2	95	190	267	240	204.9	TB10	208.0	TC10	120.0
		10	970.8	1046		S1	95	190	267	270	284.5	TB11	238.0	TC11	135.0
		12	1159.1	1234		S1	100	210	297	260	386.0	TB12	228.0	TC12	130.0
S Roller	**RF36250S** (250)	6	500.0	530	55	S2	80	160	227	200	122.9	TB6	158.0	TC6	100.0
		8	653.3	684		S1	85	175	247	240	203.5	TB9	198.0	TC9	120.0
		10	809.0	839		S1	95	190	267	240	289.8	TB10	198.0	TC10	120.0
		12	965.9	996		S1	95	190	267	270	395.7	TB11	228.0	TC11	135.0
	RF36300S (300)	6	600.0	631	55	S1	85	175	247	220	174.2	TB8	178.0	TC8	110.0
		8	783.9	814		S1	95	190	267	240	276.2	TB10	198.0	TC10	120.0
		10	970.8	1001		S1	95	190	267	270	398.9	TB11	228.0	TC11	135.0
		12	1159.1	1190		S1	100	210	297	260	550.8	TB12	218.0	TC12	130.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Dimensions



TSUBAKI Chain Number	No. of Teeth	Hanging Hole Dim. A	No. of Hanging Holes
RF36250	8	185	1
	10	240	4
	12	295	4
RF36300	8	230	4
	10	300	4
	12	365	4

Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.

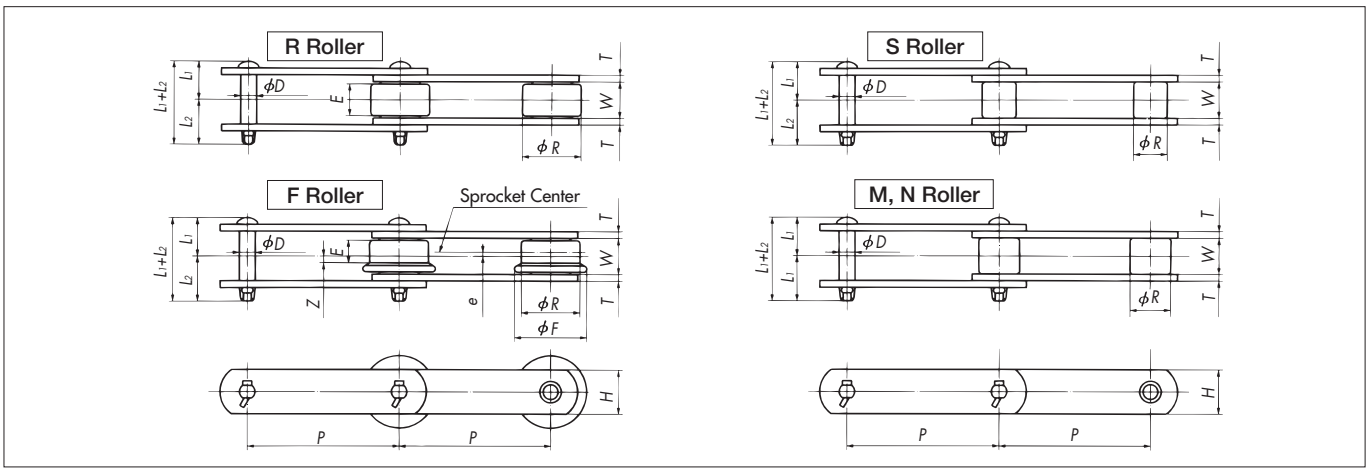
RF52 – RF440

Meter Pitch (Attachment Dimensions) RF52300 to RF440600

T-pin Nominal Diameter			
RF52	ϕ8.5(8.1)×50ℓ	**RF90**	ϕ10(9.7)×65ℓ
RF60	ϕ8.5(8.1)×50ℓ	**RF120**	ϕ10(9.7)×70ℓ

Note: Actual diameter given inside parentheses ( ).

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF52300 RF52450 RF52600	71.4{7280}	–	147{15000}	–	–	–	–	–
RF60300 RF60350 RF60400	71.4{7280}	–	149{15200}	–	–	–	–	–
RF90350 RF90400 RF90500	113{11500}	–	233{23700}	–	–	–	–	–
RF120400 RF120600	159{16200}	–	316{32200}	–	–	–	–	–
RF280400 RF280600	–	–	434{44300}	–	–	–	–	–
RF360400 RF360600	–	–	519{52900}	–	–	–	–	–
RF440400 RF440600	–	–	637{65000}	–	–	–	–	–



Chain Number		Pitch P	Roller									Width between Inner Link Plates W
			R Roller		F Roller					S Roller	M N Roller	
Chain Size	Roller Type		Dia. R	Contact Width E	Dia. R	Flange Dia. F	Contact Width E	Off-Center e	Z	Dia. R	Dia. R	
RF52300 RF52450 RF52600	R/F/S R/F/S R/F/S	300 450 600	140	65	140	170	49	8	16.5	57.2	–	77
RF60300 RF60350 RF60400	R/F/N R/F/N R/F/N	300 350 400	140	65	140	170	49	8	16.5	–	70	77
RF90350	N	350	–	–	–	–	–	–	–	–	85	88
RF90400 RF90500	R/F/N R/F/N	400 500	170	76	170	205	56	10	18			
RF120400	R/N	400	200	87	–	–	–	–	–	–	100	100
RF120600	R/F/N	600			200	240	64	11.5	20.5			
RF280400	N	400	–	–	–	–	–	–	–	–	120	120
RF280600	R/N	600	220	105								
RF360400	N	400	–	–	–	–	–	–	–	–	130	130
RF360600	R/N	600	230	115								
RF440400	N	400	–	–	–	–	–	–	–	–	145	145
RF440600	R/N	600	250	130								

Note: Sprockets for RF52 and above are made to order. Contact a Tsubaki representative for details.

Chain Size	Plate		Pin				Approximate Mass kg/m				Standard Attachment & Roller Combinations		
	Height H	Thickness T	Dia. D	L_1+L_2	L_1	L_2	R Roller	F Roller	S Roller	M N Roller	YA2 (Welded)	YA3 (Welded)	GA2
RF52300	76.2	16	31.8	172	82	90	55	58	30	–	R/F/S		
RF52450							43	45	26	–	R/F/S	R/F	R/F/S
RF52600							37	38	25	–	R/F/S	R/F	R/F/S
RF60300	90	12.7	35.0	160.5	77	83.5	54	57	–	32	R/F/N		
RF60350							49	51	–	30	R/F/N	R/F/N	
RF60400							45	47	–	28	R/F/N	R/F/N	
RF90350	110	16	42.0	185	89.5	95.5	–	–	–	49	N		
RF90400							74	78	–	46	R/F/N		
RF90500							65	68	–	42	R/F/N	R/F/N	
RF120400	130	19	50.0	211.5	103.5	108	113	–	–	69	R/N		
RF120600							88	92	–	59	R/F/N	R/F/N	
RF280400	160 (135)	19	56.0	242	118.5	123.5	–	–	–	90			
RF280600							112	–	–	75			
RF360400	170 (160)	22	61.0	258	126.5	131.5	–	–	–	112			
RF360600							135	–	–	92			
RF440400	185 (170)	25	68.0	285	140	145	–	–	–	145			
RF440600							175	–	–	120			

Note: 1. R, F, S, M, and N indicate roller types for standard attachments.
2. For H dimensions with parentheses, the dimensions for the outer and inner links differ. The value in parentheses indicates outer link dimensions.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

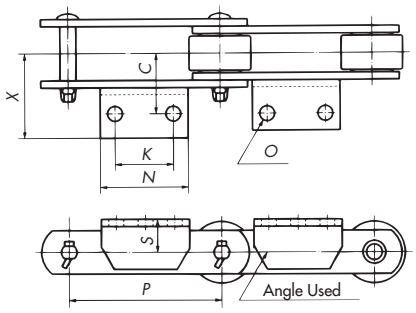
Meter Pitch (Attachment Dimensions)
RF52300 to RF120600

YA2 (Welded) Attachment

Chain Number		P	S	C	X	K	N	O	Angle Used	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type										
RF52300	R/F/S	300	80	120	172	100	160	24	L100×100×13	M20	3.1
RF52450	R/F/S	450				280	330				6.3
RF52600	R/F/S	600				360	410				7.8
RF60300	R/F/N	300	90	115	165	110	170	24	L100×100×13	M20	3.2
RF60350	R/F/N	350				160	220				4.2
RF60400	R/F/N	400				200	260				5.0
RF90350	N	350	100	140	210	100	180	28	L130×130×15	M24	5.2
RF90400	R/F/N	400				150	230				6.6
RF90500	R/F/N	500				260	340				9.8
RF120400	R/N	400	120	150	220	120	200	28	L130×130×15	M24	5.8
RF120600	R/F/N	600				320	400				11.5

Note 1. Angle dimensions are different for stainless steel series. Contact a Tsubaki representative for more information.
2. Contact a Tsubaki representative if using a guide on the attachment side.

YA2 (Welded) Attachment

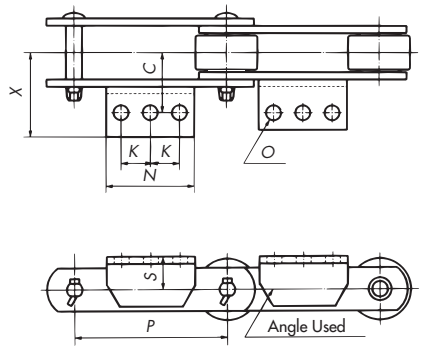


YA3 (Welded) Attachment

Chain Number		P	S	C	X	K	N	O	Angle Used	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type										
RF52450	R/F	450	80	120	172	140	330	24	L100×100×13	M20	6.3
RF52600	R/F	600				180	410				7.8
RF60350	R/F/N	350	90	115	165	80	220	24	L100×100×13	M20	4.2
RF60400	R/F/N	400				100	260				5.0
RF90500	R/F/N	500	100	140	210	130	340	28	L130×130×15	M24	9.8
RF120600	R/F/N	600	220	150	220	160	400	28	L130×130×15	M24	11.5

Note 1. Angle dimensions are different for stainless steel series. Contact a Tsubaki representative for more information.
2. Contact a Tsubaki representative if using a guide on the attachment side.

YA3 (Welded) Attachment

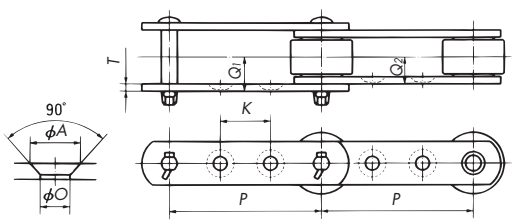


GA2 Attachment

Chain Number		P	K	T	Q_1	Q_2	A	O	Max. Length of Attachment Bolt		Bolt Used
Chain Size	Roller Type								Outer Link	Inner Link	
RF52450	R/F/S	450	200	16	72	54.5	38	24	125	90	M20
RF52600	R/F/S	600	300								

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

GA2 Attachment



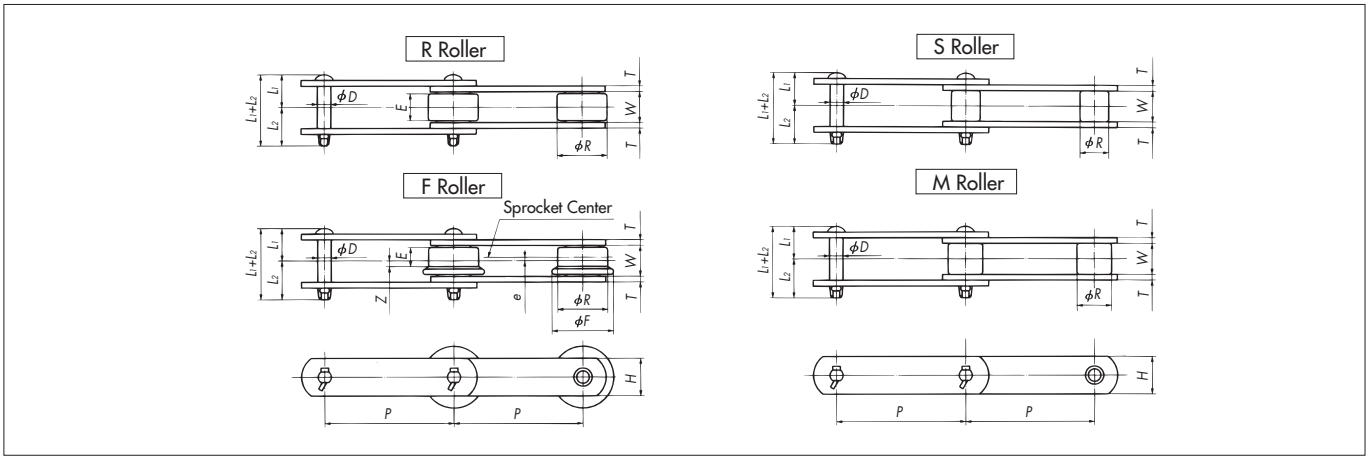
Inch Sizes

Imperial Pitch (Chain Dimensions)

T-pin Nominal Diameter			
RF430 RF204 RF450 RF650	ϕ4(3.6)×20ℓ	**RF214 RF205 RF6205**	ϕ4(3.6)×25ℓ
		RF212	ϕ6(5.6)×33ℓ

Note: Actual diameter given inside parentheses ( ).

Chain Size	Maximum Allowable Load kN{kgf}							
	DT Series	DTA Series	AT Series	ATA Series	GS Series	GSA Series	SS Series	SSA Series
RF430	7.70{790}	–	14.0{1430}	–	8.35{850}	–	4.00{410}	–
RF204	11.2{1140}	–	20.3{2070}	–	12.3{1250}	–	5.70{580}	–
RF450	11.2{1140}	–	20.3{2070}	–	12.3{1250}	–	5.70{580}	–
RF650	11.2{1140}	–	20.3{2070}	–	14.2{1450}	–	5.70{580}	–
RF214	18.1{1850}	–	34.3{3500}	–	18.6{1900}	–	10.3{1050}	–
RF205	18.1{1850}	–	34.3{3500}	–	18.6{1900}	–	10.3{1050}	–
RF6205	26.6{2710}	–	39.9{4060}	–	26.5{2700}	–	11.0{1120}	–
RF212	35.0{3570}	–	55.3{5640}	–	35.8{3650}	–	15.5{1580}	–



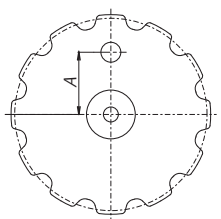
Chain Number		Pitch *P*	Roller									Width between Inner Link Plates *W*
			R Roller		F Roller					S Roller Dia. *R*	M N Roller Dia. *R*	
Chain Size	Roller Type		Dia. *R*	Contact Width *E*	Dia. *R*	Flange Dia. *F*	Contact Width *E*	Off-Center *e*	*Z*			
RF430	R/S	101.6	38.1	19	–	–	–	–	–	20.1	–	22.6
RF204	S	66.27	–	–	–	–	–	–	–	22.2	–	27
RF450	R/F/S	101.6	44.5	24	44.5	55	18	2.5	6.5	22.2	–	27
RF650	R/F/S/M	152.4	50.8	26	50.8	65	20	3	7	25.8	31.8	30.2
RF214	R/S/M	101.6	44.5	27	–	–	–	–	–	31.8	34.9	31.6
RF205	S	78.11	–	–	–	–	–	–	–	31.8	–	37.1
RF6205	R/F/S/M	152.4	57.2	32	57.2	70	25	3.5	9	34.9	38.1	37.1
RF212	R/S/M	152.4	69.9	32.5	–	–	–	–	–	40.1	44.5	37.1

Chain Size	Plate		Pin				Approximate Mass kg/m				Standard Attachment & Roller Combinations				
	Height *H*	Thickness *T*	Dia. *D*	L_1+L_2	L_1	L_2	R Roller	F Roller	S Roller	M N Roller	A1(A3) K1(K3)	A2 K2	SA2 SK2	GA2	GA4
RF430	25.4	4.8〈5.0〉	9.7	55	25.5	29.5	4.4	–	3.0	–	R/S	R/S	R/S		
RF204	28.6	6.3〈6.0〉	11.3	65.5	31	34.5	–	–	5.5	–	S	S			
RF450	28.6	6.3〈6.0〉	11.3	65.5	31	34.5	6.9	7.2	4.6	4.8	R/F/S	R/F/S	R/S		
RF650	38.1	6.3〈6.0〉	11.3	69	32.5	36.5	7.9	8.2	5.7	6.1	R/F/S/M	R/F/S/M	R/S/M	R/F/S/M	S/M
RF214	38.1	7.9	15.9	77.5	37.5	40	10.5	–	8.7	9.1	R/S/M	R/S/M	R/S/M		
RF205	38.1	7.9	15.9	83.5	40.5	43	–	–	10.3	–	S	S		–	
RF6205	44.5	7.9	15.9	83.5	40.5	43	12.2	12.6	9.2	9.5	R/F/S/M	R/F/S/M	R/S/M	R/F/S/M	S/M
RF212	50.8	9.5〈10.0〉	19.1	95.5	44.5	51	18	–	13	13	R/S/M	R/S/M	R/S/M		

Note: Numbers in < > denote SS Series, while other numbers are the same for all series.
The above dimensions are nominal dimensions and may differ from actual dimensions.

Table of Hanging Hole Diameter

Note: Hanging holes are not available on sprockets with numbers of teeth or chain numbers not listed.



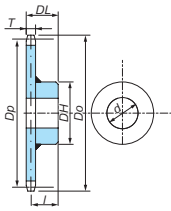
Chain Number	No. of Teeth	Hanging Hole Dim. *A*	No. of Hanging Holes
RF650	8	230	1
	10	155	1
	12	190	1
RF6205	10	155	1
	12	190	1
RF212	12	185	1

Sprockets for Inch Sizes (BW/CW/BW1/CW)

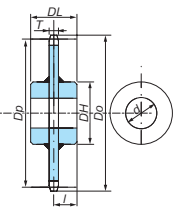
RF430 R 6T – BW N

- Chain size
- No. of teeth
- Roller type
- Hub type: BW/CW
- Tooth hardening: Hardened: Q, Normal: N

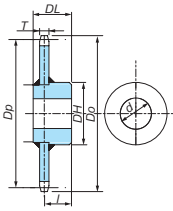
BW Type



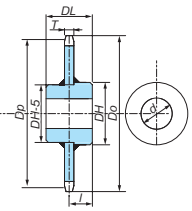
CW Type



BW1 Type



CW1 Type



S1 Tooth Profile (Teeth are rounded)

S2 Tooth Profile (Teeth are flat)

Available chain sizes: RF430 – RF214

Available chain sizes: RF6205 & RF212

General Use/Heavy Duty/ Corrosion Resistant

R Roller

TSUBAKI Chain Number (Chain Pitch)	No. of Teeth N	Basic Sprocket Dimensions and Shape				Standard Series					BW1 Type		CW1 Type	
		Pitch Circle Dia. Dp	Outer Dia. Do	Tooth Width T	Tooth Profile	Bore Dia. d Pilot Bore	Bore Dia. d Max.	Hub Dia. DH	Total Length DL	Approx. Weight kg	Hub No.	Center Distance I	Hub No.	Center Distance I
RF430R (101.6)	6	203.2	211	18	S1	18	60	93	73	7.4	SB3	64.0	SC3	36.5
	8	265.5	277		S1	18	65	98	78	11.2	SB4	69.0	SC4	39.0
	10	328.8	345		S1	28	75	107	86	16.4	SB5	77.0	SC5	43.0
	12	392.6	411		S1	28	75	107	86	21.5	SB5	77.0	SC5	43.0
RF450R (101.6)	6	203.2	217	22	S1	28	75	107	90	10.0	SB5	79.0	SC5	45.0
	8	265.5	286		S1	28	75	107	90	13.9	SB5	79.0	SC5	45.0
	10	328.8	354		S1	33	80	117	98	20.4	SB6	87.0	SC6	49.0
	12	392.6	419		S1	33	85	127	108	28.7	SB7	97.0	SC7	54.0
RF650R (152.4)	6	304.8	321	22	S1	33	80	117	98	18.3	SB6	87.0	SC6	49.0
	8	398.2	422		S1	33	85	127	108	29.3	SB7	97.0	SC7	54.0
	10	493.2	521		S1	33	95	137	120	43.5	SB8	109.0	SC8	60.0
	12	588.8	618		S1	33	95	137	120	57.5	SB8	109.0	SC8	60.0
RF214R (101.6)	6	203.2	230	24	S1	28	75	107	92	10.5	SB5	80.0	SC5	46.0
	8	265.5	292		S1	33	95	137	122	20.9	SB8	110.0	SC8	61.0
	10	328.8	356		S1	33	95	137	122	26.5	SB8	110.0	SC8	61.0
	12	392.6	419		S1	38	100	147	125	35.1	SB9	113.0	SC9	62.5
RF6205R (152.4)	6	304.8	330	28	S2	50	100	147	125	27.0	TB1	100.0	TC1	62.5
	8	398.2	432		S2	55	110	157	135	41.1	TB2	110.0	TC2	67.5
	10	493.2	528		S1	60	120	177	150	62.2	TB3	125.0	TC3	75.0
	12	588.8	623		S1	60	120	177	150	80.0	TB3	125.0	TC3	75.0
RF212R (152.4)	6	304.8	339	28	S1	55	110	157	135	29.8	TB2	110.0	TC2	67.5
	8	398.2	440		S1	60	120	177	150	47.6	TB3	125.0	TC3	75.0
	10	493.2	535		S1	65	130	187	160	66.2	TB4	135.0	TC4	80.0
	12	588.8	631		S1	75	145	207	180	93.7	TB5	155.0	TC5	90.0

F Roller

RF450F (101.6)	6	203.2	217	15	S1	28	75	107	83	8.2	SB5	75.5	SC5	41.5
	8	265.5	286		S1	28	75	107	83	10.4	SB5	75.5	SC5	41.5
	10	328.8	354		S1	33	80	117	91	15.7	SB6	83.5	SC6	45.5
	12	392.6	419		S1	33	85	127	101	22.0	SB7	93.5	SC7	50.5
RF650F (152.4)	6	304.8	321	18	S2	33	80	117	94	16.1	SB6	85.0	SC6	47.0
	8	398.2	422		S2	33	85	127	104	25.4	SB7	95.0	SC7	52.0
	10	493.2	521		S2	33	95	137	116	37.5	SB8	107.0	SC8	58.0
	12	588.8	618		S1	33	95	137	116	49.0	SB8	107.0	SC8	58.0
RF6205F (152.4)	6	304.8	330	18	S2	50	100	147	125	22.6	TB1	105.0	TC1	62.5
	8	398.2	432		S2	55	110	157	135	32.8	TB2	115.0	TC2	67.5
	10	493.2	528		S1	60	120	177	150	49.1	TB3	130.0	TC3	75.0
	12	588.8	623		S1	60	120	177	150	60.6	TB3	130.0	TC3	75.0

S Roller

RF430S (101.6)	6	203.2	215	18	S1	18	60	93	73	7.4	SB3	64.0	SC3	36.5
	8	265.5	277		S1	18	65	98	78	11.2	SB4	69.0	SC4	39.0
	10	328.8	341		S1	28	75	107	86	16.4	SB5	77.0	SC5	43.0
	12	392.6	405		S1	28	75	107	86	21.5	SB5	77.0	SC5	43.0
RF204S (66.27)	8	173.2	187	22	S1	18	65	98	82	7.5	SB4	71.0	SC4	41.0
	10	214.5	228		S1	28	75	107	90	10.6	SB5	79.0	SC5	45.0
	12	256.0	269		S1	28	75	107	90	13.3	SB5	79.0	SC5	45.0
RF450S (101.6)	6	203.2	217	22	S1	28	75	107	90	10.0	SB5	79.0	SC5	45.0
	8	265.5	279		S1	28	75	107	90	13.9	SB5	79.0	SC5	45.0
	10	328.8	342		S1	33	80	117	98	20.4	SB6	87.0	SC6	49.0
	12	392.6	406		S1	33	85	127	108	28.7	SB7	97.0	SC7	54.0
RF650S (152.4)	6	304.8	320	22	S1	33	80	117	98	18.3	SB6	87.0	SC6	49.0
	8	398.2	414		S1	33	85	127	108	29.3	SB7	97.0	SC7	51.5
	10	493.2	509		S1	33	95	137	120	43.5	SB8	109.0	SC8	59.5
	12	588.8	604		S1	33	95	137	120	57.5	SB8	109.0	SC8	59.5
RF214S (101.6)	6	203.2	222	24	S1	28	75	107	92	10.5	SB5	80.0	SC5	46.0
	8	265.5	285		S1	33	95	137	122	20.9	SB8	110.0	SC8	61.0
	10	328.8	348		S1	33	95	137	122	26.5	SB8	110.0	SC8	61.0
	12	392.6	412		S1	38	100	147	125	35.1	SB9	113.0	SC9	62.5
RF205S (78.11)	8	204.1	223	28	S1	33	80	117	104	12.9	SB6	90.0	SC6	52.0
	10	252.8	272		S1	33	85	127	114	18.8	SB7	100.0	SC7	54.5
	12	301.8	321		S1	33	95	137	126	26.2	SB8	112.0	SC8	62.5
RF6205S (152.4)	6	304.8	330	28	S2	50	100	147	125	27.0	TB1	100.0	TC1	62.5
	8	398.2	432		S1	55	110	157	135	41.1	TB2	110.0	TC2	67.5
	10	493.2	528		S1	60	120	177	150	62.2	TB3	125.0	TC3	75.0
	12	588.8	623		S1	60	120	177	150	80.0	TB3	125.0	TC3	75.0
RF212S (152.4)	6	304.8	339	28	S1	55	110	157	135	29.8	TB2	110.0	TC2	67.5
	8	398.2	440		S1	60	120	177	150	47.6	TB3	125.0	TC3	75.0
	10	493.2	535		S1	65	130	187	160	66.2	TB4	135.0	TC4	80.0
	12	588.8	631		S1	75	145	207	180	93.7	TB5	155.0	TC5	90.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Inch Sizes

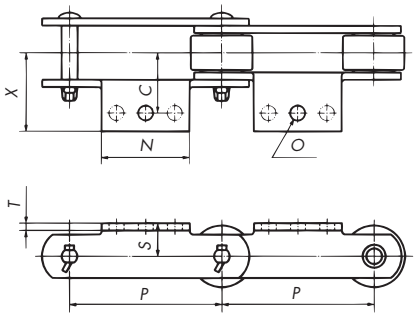
Imperial Pitch (Attachment Dimensions)

A1 (A3) Attachment

Chain Number		P	S	C	X	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type									
RF430	R/S	101.6	22	40	54	70	4.8〈5.0〉	12	M10	0.11
RF204	S	66.27	24	45	60	35	6.3〈6.0〉	12	M10	0.07
RF450	R/F/S	101.6	28	50	64	70	6.3〈6.0〉	12	M10	0.18
RF650	R/F/S/M	152.4	32	50	64	90	6.3〈6.0〉	12	M10	0.23
RF214	R/S/M	101.6	35	55	73	80	7.9	15	M12	0.28
RF205	S	78.11	30	55	73	45	7.9	12	M10	0.13
RF6205	R/F/S/M	152.4	38	60	79	100	7.9	15	M12	0.37
RF212	R/S/M	152.4	45	65	83	100	9.5〈10.0〉	15	M12	0.47

Note: A3 attachment not available for RF204 & RF205.

A1 (A3) Attachment

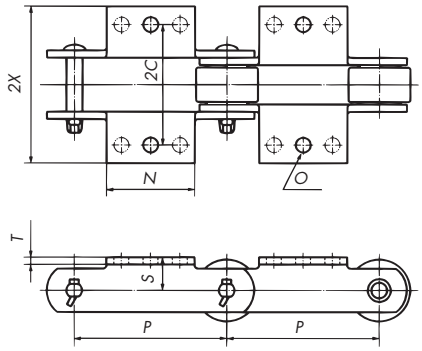


K1 (K3) Attachment

Chain Number		P	S	2C	2X	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type									
RF430	R/S	101.6	22	80	108	70	4.8〈5.0〉	12	M10	0.22
RF204	S	66.27	24	90	120	35	6.3〈6.0〉	12	M10	0.14
RF450	R/F/S	101.6	28	100	128	70	6.3〈6.0〉	12	M10	0.36
RF650	R/F/S/M	152.4	32	100	128	90	6.3〈6.0〉	12	M10	0.44
RF214	R/S/M	101.6	35	110	146	80	7.9	15	M12	0.56
RF205	S	78.11	30	110	146	45	7.9	12	M10	0.26
RF6205	R/F/S/M	152.4	38	120	158	100	7.9	15	M12	0.74
RF212	R/S/M	152.4	45	130	166	100	9.5〈10.0〉	15	M12	0.94

Note: K3 attachment not available for RF204 & RF205.

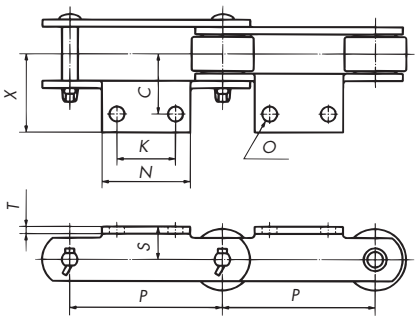
K1 (K3) Attachment



A2 Attachment

Chain Number		P	S	C	X	K	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type										
RF430	R/S	101.6	22	40	54	40	70	4.8〈5.0〉	12	M10	0.11
RF204	S	66.27	24	45	60	35	55	6.3〈6.0〉	12	M10	0.11
RF450	R/F/S	101.6	28	50	64	40	70	6.3〈6.0〉	12	M10	0.18
RF650	R/F/S/M	152.4	32	50	64	60	90	6.3〈6.0〉	12	M10	0.22
RF214	R/S/M	101.6	35	55	73	40	80	7.9	15	M12	0.28
RF205	S	78.11	35	60	75	30	65	7.9	12	M10	0.22
RF6205	R/F/S/M	152.4	38	60	79	60	100	7.9	15	M12	0.37
RF212	R/S/M	152.4	45	65	83	60	100	9.5〈10.0〉	15	M12	0.47

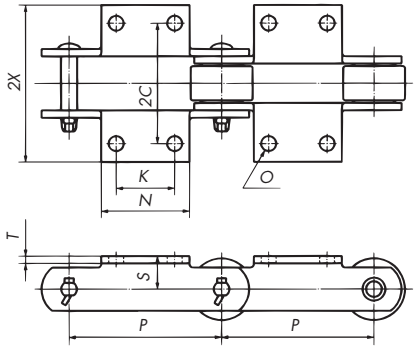
A2 Attachment



K2 Attachment

Chain Number		P	S	2C	2X	K	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type										
RF430	R/S	101.6	22	80	108	40	70	4.8〈5.0〉	12	M10	0.22
RF204	S	66.27	24	90	120	35	55	6.3〈6.0〉	12	M10	0.22
RF450	R/F/S	101.6	28	100	128	40	70	6.3〈6.0〉	12	M10	0.36
RF650	R/F/S/M	152.4	32	100	128	60	90	6.3〈6.0〉	12	M10	0.44
RF214	R/S/M	101.6	35	110	146	40	80	7.9	15	M12	0.56
RF205	S	78.11	35	120	150	30	65	7.9	12	M10	0.44
RF6205	R/F/S/M	152.4	38	120	158	60	100	7.9	15	M12	0.74
RF212	R/S/M	152.4	45	130	166	60	100	9.5〈10.0〉	15	M12	0.94

K2 Attachment



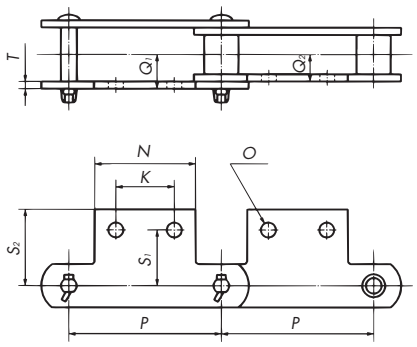
Note 1. Numbers in < > denote SUS300 Series stainless steel, while other numbers are the same for all series.
2. X and 2X values for A and K attachments are approximate values. Contact a Tsubaki representative if using a guide on the A or K attachment sides.
3. Attachments written in ▭ are standard attachments.
4. The above dimensions are nominal dimensions and may differ from actual dimensions.

Inch Sizes

SA2 Attachment

Chain Number		P	S_1	S_2	Q_1	Q_2	K	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type											
RF430	R/S	101.6	37.6	51.6	22	16	40	70	4.8〈5.0〉	12	M10	0.10
RF450	R/S	101.6	47.6	60.7	27	20	40	70	6.3〈6.0〉	12	M10	0.16
RF650	R/S/M	152.4	50	63	28.5	21.5	60	90	6.3〈6.0〉	12	M10	0.20
RF214	R/S/M	101.6	50	70	32.5	23.5	40	80	7.9	15	M12	0.25
RF6205	R/S/M	152.4	55	75.7	35.5	26.5	60	100	7.9	15	M12	0.33
RF212	R/S/M	152.4	60	83.6	38.5	28	60	100	9.5〈10.0〉	15	M12	0.43

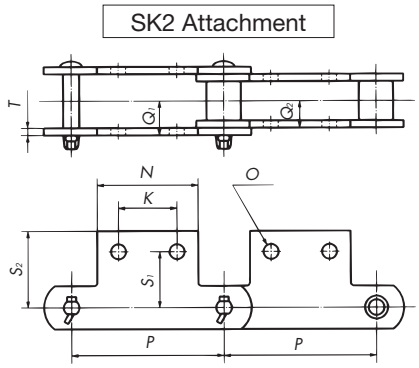
SA2 Attachment



SK2 Attachment

Chain Number		P	S_1	S_2	Q_1	Q_2	K	N	T	O	Bolt Used	Additional Mass/Each kg
Chain Size	Roller Type											
RF430	R/S	101.6	37.6	51.6	22	16	40	70	4.8〈5.0〉	12	M10	0.20
RF450	R/S	101.6	47.6	60.7	27	20	40	70	6.3〈6.0〉	12	M10	0.32
RF650	R/S/M	152.4	50	63	28.5	21.5	60	90	6.3〈6.0〉	12	M10	0.40
RF214	R/S/M	101.6	50	70	32.5	23.5	40	80	7.9	15	M12	0.50
RF6205	R/S/M	152.4	55	75.7	35.5	26.5	60	100	7.9	15	M12	0.66
RF212	R/S/M	152.4	60	83.6	38.5	28	60	100	9.5〈10.0〉	15	M12	0.86

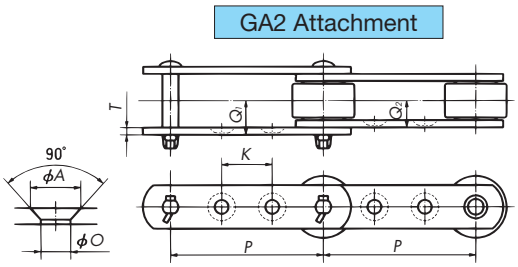
SK2 Attachment



GA2 Attachment

Chain Number		P	K	T	Q_1	Q_2	A	O	Max. Length of Attachment Bolt		Bolt Used
Chain Size	Roller Type								Outer Link	Inner Link	
RF650	R/S/M	152.4	60	6.3〈6〉	28.5	21.5	20	12	49	35	M10
RF6205	R/S/M	152.4	50	7.9	35.5	26.5	26	15	63	45	M12

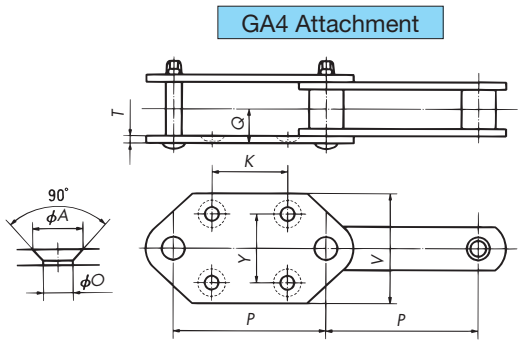
GA2 Attachment



GA4 Attachment

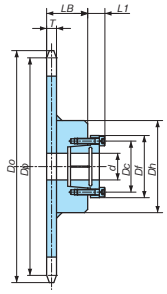
Chain Number		P	V	K	Y	T	Q	A	O	Bolt Used	Mass for Attachment/2 ℓ kg/m	
Chain Size	Roller Type										S Roller	M Roller
RF650	S/M	152.4	110	75	70	6.3	28.5	20	12	M10	7.5	7.9
RF6205	S/M	152.4	110	75	70	7.9	35.5	26	15	M12	11.2	11.5

GA4 Attachment

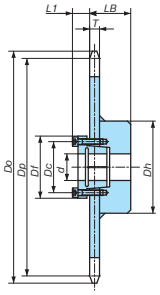


Note 1. Numbers in < > denote SUS300 Series stainless steel, while other numbers are the same for all series.
2. Attachments written in ▭ are standard attachments.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

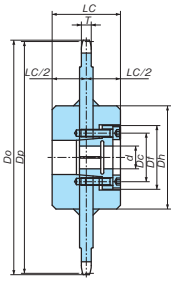
Lock Series



BW type **A**



BW type **B**



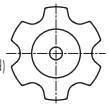
CW

Model Number

RF03075R8T BW Q S38 A

- Chain no.
- Sprocket type: BW or CW
- Bore dia.: Q : Hardened teeth; N : Normal teeth
- Sleeve mounting type: A or B (For BW sprockets only)

S1 tooth profile (Teeth are rounded)



S2 tooth profile (Teeth are flat)

Sleeve Dimensions

Sleeve No.	*Df*	*Dc*	*L1*	Bolt Size MxL	Tightening Torque N·m
S4	56	46	15.5	M5×20	10.0
S5	66	56	17.5	M5×22	10.0
S6	80	68	21	M6×25	16.8

Blank: For DT Chain use only *: DT and AT Chain use

R Roller

TSUBAKI Chain Number	No. of Teeth	Chain Pitch	Tooth Width *T*	Pitch Circle Dia. *Dp*	Outer Dia. *Do*	Tooth Profile	With S4 Sleeve Hub Dia. *Dh*	With S4 Sleeve BW *LB*	With S4 Sleeve CW *LC*	With S5 Sleeve Hub Dia. *Dh*	With S5 Sleeve BW *LB*	With S5 Sleeve CW *LC*	With S6 Sleeve Hub Dia. *Dh*	With S6 Sleeve BW *LB*	With S6 Sleeve CW *LC*	Sleeve No.	S4			S5			S6				
																Bore Dia. *d*	28	30	32	35	38	40	42	45	48	50	55
																Max. Permissible Transmission Torque [N・m]							1302	1395	1488	1550	1705
																	462	495	528	771	837	881	1627	1743	1860	1937	2131
																	616	661	705	963	1046	1101	1953	2092	2232	2325	2557
RF03075	6	75	11.9	150.00	158	S1	83	37	62																		
	8	75	11.9	195.98	209	S1	83	37	62	107	41	70	117	57	103								*	*	*	*	*
	10	75	11.9	242.71	259	S1				107	41	70	137	61	110									*	*	*	*
	12	75	11.9	289.78	308	S1				127	43	73	177	58	103									*	*	*	*
RF03100	6	100	11.9	200.00	206	S2	117	43	74	107	41	70															
	8	100	11.9	261.31	272	S2				107	41	70	137	61	110										*	*	*
	10	100	11.9	323.61	336	S1				127	43	73	137	61	110	Applicable range										*	*
	12	100	11.9	386.37	401	S1							137	61	110												
RF05100	8	100	18.0	261.31	272	S1							137	67	116												
	10	100	18.0	323.61	340	S1							177	64	109												
RF05125	6	125	18.0	250.00	256	S2							137	67	116												
	8	125	18.0	326.64	338	S2							177	64	109												
RF05150	6	150	18.0	300.00	304	S2							177	64	109												

F Roller

TSUBAKI Chain Number	No. of Teeth	Chain Pitch	Tooth Width *T*	Pitch Circle Dia. *Dp*	Outer Dia. *Do*	Tooth Profile	With S4 Sleeve Hub Dia. *Dh*	With S4 Sleeve BW *LB*	With S4 Sleeve CW *LC*	With S5 Sleeve Hub Dia. *Dh*	With S5 Sleeve BW *LB*	With S5 Sleeve CW *LC*	With S6 Sleeve Hub Dia. *Dh*	With S6 Sleeve BW *LB*	With S6 Sleeve CW *LC*	Sleeve No.	S4			S5			S6				
																Bore Dia. *d*	28	30	32	35	38	40	42	45	48	50	55
																Max. Permissible Transmission Torque [N・m]							1302	1395	1488	1550	1705
																	462	495	528	771	837	881	1627	1743	1860	1937	2131
																	616	661	705	963	1046	1101	1953	2092	2232	2325	2557
RF03075	6	75	8.9	150.00	158	S1	83	34	59																		
	8	75	8.9	195.98	209	S1	83	34	59	107	38	67	117	54	100								*	*	*	*	*
	10	75	8.9	242.71	259	S1				107	38	67	137	58	107									*	*	*	*
	12	75	8.9	289.78	308	S1				127	40	70	177	55	100									*	*	*	*
RF03100	6	100	8.9	200.00	206	S2	117	40	71	107	38	67															
	8	100	8.9	261.31	272	S2				107	38	67	137	58	107										*	*	*
	10	100	8.9	323.61	336	S1				127	40	70	137	58	107	Applicable range										*	*
	12	100	8.9	386.37	401	S1							137	58	107												
RF05100	8	100	11.9	261.31	273	S1							137	61	110												
	10	100	11.9	323.61	340	S1							177	58	103												
RF05125	6	125	11.9	250.00	256	S2							137	61	110												
	8	125	11.9	326.64	338	S2							177	58	103												
RF05150	6	150	11.9	300.00	304	S2							177	58	103												

S Roller

TSUBAKI Chain Number	No. of Teeth	Chain Pitch	Tooth Width *T*	Pitch Circle Dia. *Dp*	Outer Dia. *Do*	Tooth Profile	With S4 Sleeve Hub Dia. *Dh*	With S4 Sleeve BW *LB*	With S4 Sleeve CW *LC*	With S5 Sleeve Hub Dia. *Dh*	With S5 Sleeve BW *LB*	With S5 Sleeve CW *LC*	With S6 Sleeve Hub Dia. *Dh*	With S6 Sleeve BW *LB*	With S6 Sleeve CW *LC*	Sleeve No.	S4			S5			S6				
																Bore Dia. *d*	28	30	32	35	38	40	42	45	48	50	55
																Max. Permissible Transmission Torque [N・m]							1302	1395	1488	1550	1705
																	462	495	528	771	837	881	1627	1743	1860	1937	2131
																	616	661	705	963	1046	1101	1953	2092	2232	2325	2557
RF03075	6	75	11.9	150.00	158	S1	83	37	62																		
	8	75	11.9	195.98	206	S1	83	37	62	107	41	70	117	57	103								*	*	*	*	*
	10	75	11.9	242.71	252	S1				107	41	70	137	61	110									*	*	*	*
	12	75	11.9	289.78	299	S1				127	43	73	177	58	103									*	*	*	*
RF03100	6	100	11.9	200.00	210	S2	107	41	70	107	41	70															
	8	100	11.9	261.31	269	S2				107	41	70	137	61	110										*	*	*
	10	100	11.9	323.61	333	S1				127	43	73	137	61	110											*	*
	12	100	11.9	386.37	396	S1							137	61	110	Applicable range											
RF05075	10	75	18.0	242.71	256	S1							137	67	116												
	12	75	18.0	289.78	303	S1							177	64	109												
RF05100	8	100	18.0	261.31	273	S1							137	67	116												
	10	100	18.0	323.61	337	S1							177	64	109												
RF05125	6	125	18.0	250.00	262	S2							137	67	116												
	8	125	18.0	326.64	340	S2							177	64	109												
RF05150	6	150	18.0	300.00	310	S2							177	64	109												

Hanging holes available for some sizes. Refer to pgs. 28–43 for details.

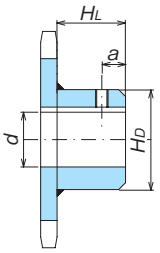
Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Dedicated selectable hubs are in stock and designed for conveyor sprockets. The following section provides information on the standard bore diameters, key specifications, and tap specifications for these hubs. Hubs in dimensions other than the standard dimensions specified in the catalog can be chosen freely.

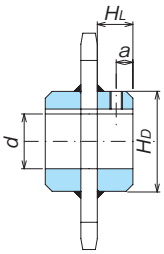
1. Hub Selection

The standard bore diameter for each selectable hub is listed below. Select the desired standard bore diameter from the corresponding hub number.

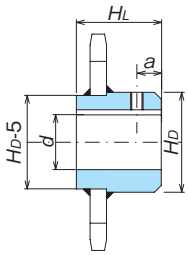
BW selectable hub
Hub no.: SB1 – SB11



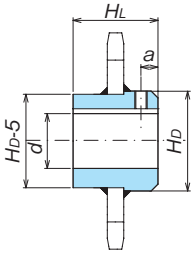
CW selectable hub
Hub no.: SC1 – SC12



BW1 selectable hub
Hub no.: TB1 – TB12



CW1 selectable hub
Hub no.: TC1 – TC12



Bore Processing Range • Bore processing • Keyway processing • Set screw tap (two points at 120° intervals)
Note: No set screws are provided.

BW Selectable Hub

Hub No.	Max. Bore Dia. d_{max}	Pilot Bore Dia. d	Hub Dia. H_D	Hub Length H_L	Tap Position a	Weight (kg)	Standard Bore Dia. Finished Bore Dia. d Tolerance H8																		
							25	28	30	35	38	40	45	50	55	60	65	70	75	80	85	90	95	100	110	115
SB1	50	18	73	45	12	1.4	■	■	■	■	■	■	■	■												
SB2	55	18	83	50	15	2.0		■	■	■	■	■	■	■	■											
SB3	60	18	93	55	15	2.8			■	■	■	■	■	■	■	■										
SB4	65	18	98	60	15	3.4				■	■	■	■	■	■	■	■									
SB5	75	28	107	68	18	4.5					■	■	■	■	■	■	■	■	■							
SB6	80	33	117	76	18	5.9						■	■	■	■	■	■	■	■	■						
SB7	85	33	127	86	18	8.0							■	■	■	■	■	■	■	■	■					
SB8	95	33	137	98	24	10.7								■	■	■	■	■	■	■	■	■	■			
SB9	100	38	147	101	24	12.6									■	■	■	■	■	■	■	■	■	■		
SB10	110	38	157	111	24	15.9										■	■	■	■	■	■	■	■	■	■	
SB11	115	38	167	122	30	19.9											■	■	■	■	■	■	■	■	■	■

CW Selectable Hub

Hub No.	Max. Bore Dia. d_{max}	Pilot Bore Dia. d	Hub Dia. H_D	Hub Length H_L	Tap Position a	Weight (kg)	Standard Bore Dia. Finished Bore Dia. d Tolerance H8																					
							25	28	30	35	38	40	45	50	55	60	65	70	75	80	85	90	95	100	110	115	120	130
SC1	50	18	73	22.5	8	0.7	■	■	■	■	■	■	■	■														
SC2	55	18	83	25.0	10	1.0		■	■	■	■	■	■	■	■													
SC3	60	18	93	27.5	10	1.4			■	■	■	■	■	■	■	■												
SC4	65	18	98	30.0	10	1.7				■	■	■	■	■	■	■	■											
SC5	75	28	107	34.0	12	2.2					■	■	■	■	■	■	■	■	■									
SC6	80	33	117	38.0	12	3.0						■	■	■	■	■	■	■	■	■								
SC7	85	33	127	43.0	12	4.0							■	■	■	■	■	■	■	■	■							
SC8	95	33	137	49.0	16	5.3								■	■	■	■	■	■	■	■	■	■					
SC9	100	38	147	50.5	16	6.3									■	■	■	■	■	■	■	■	■	■				
SC10	110	38	157	55.5	16	7.9										■	■	■	■	■	■	■	■	■	■			
SC11	115	38	167	61.0	20	9.9											■	■	■	■	■	■	■	■	■	■		
SC12	130	38	187	70.5	20	14.6												■	■	■	■	■	■	■	■	■	■	■

Note: Two hubs are used for each sprocket.

BW1 Selectable Hub

Hub No.	Max. Bore Dia. d_{max}	Pilot Bore Dia. d	Hub Dia. H_D	Hub Length H_L	Tap Position a	Weight (kg)	Standard Bore Dia. Finished Bore Dia. d Tolerance H8																					
							50	55	60	65	70	75	80	90	95	100	110	120	130	140	145	150	160	170	175	180	190	200	210
TB1	100	50	147	125	24	14.7		■	■	■	■	■	■	■	■	■													
TB2	110	55	157	135	24	18.0			■	■	■	■	■	■	■	■	■												
TB3	120	60	177	150	30	25.6				■	■	■	■	■	■	■	■	■											
TB4	130	65	187	160	30	30.3					■	■	■	■	■	■	■	■	■										
TB5	145	75	207	180	30	41.3							■	■	■	■	■	■	■	■	■								
TB6	160	80	227	200	30	55.6								■	■	■	■	■	■	■	■	■	■						
TB7	160	80	227	220	30	61.2								■	■	■	■	■	■	■	■	■	■						
TB8	175	85	247	220	36	72.9								■	■	■	■	■	■	■	■	■	■	■	■				
TB9	175	85	247	240	36	79.5								■	■	■	■	■	■	■	■	■	■	■	■				
TB10	190	95	267	240	36	92.1									■	■	■	■	■	■	■	■	■	■	■	■			
TB11	190	95	267	270	36	103.6									■	■	■	■	■	■	■	■	■	■	■	■			
TB12	210	100	297	260	36	125.3										■	■	■	■	■	■	■	■	■	■	■	■	■	■

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Selecting Hub Specifications & Dimensions

CW1 Selectable Hub

Hub No.	Max. Bore Dia. d_{max}	Pilot Bore Dia. d	Hub Dia. H_D	Hub Length H_L	Tap Position a	Weight (kg)	Standard Bore Dia. — Finished Bore Dia. d Tolerance H8																							
							50	55	60	65	70	75	80	90	95	100	110	120	130	140	145	150	160	170	175	180	190	200	210
TC1	100	50	147	125	16	14.7																							
TC2	110	55	157	135	16	18.0																							
TC3	120	60	177	150	20	25.6																							
TC4	130	65	187	160	20	30.3																							
TC5	145	75	207	180	20	41.3																							
TC6	160	80	227	200	20	55.6																							
TC7	160	80	227	220	20	61.2																							
TC8	175	85	247	220	24	72.9																							
TC9	175	85	247	240	24	79.5																							
TC10	190	95	267	240	24	92.1																							
TC11	190	95	267	270	24	103.6																							
TC12	210	100	297	260	24	125.3																							

2. Keyway and Tap Specifications and Dimensions

■ **Keyway tolerance**

JIS key (JISB1301-1996)
Standard key type (Js9)
Old JIS (JISB1301-1959)
Parallel key type 2 (E9)

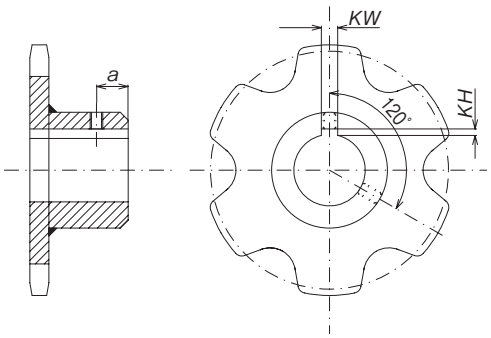
■ **Keyway phase**

Phase alignment processing of tooth center and key center.

■ **Tap holes for set screws**

Open the tap holes at 120° intervals. One of the holes must be located on the keyway. Refer to the list of selectable hub specifications and dimensions for size “a” in the direction of the shaft.

Note: No set screws are provided.



JIS Standard Key – Keyway Width Tolerance Js9				Old JIS Key Type 2 – Keyway Width Tolerance E9			
Applicable Bore Dia.	Keyway Width KW	Keyway Depth KH	Tap Size MX	Applicable Bore Dia.	Keyway Width KW	Keyway Depth KH	Tap Size MX
More than 22, up to 30	8	3.3	M 6	More than 20, up to 30	7	3	M 6
More than 30, up to 38	10	3.3	M 8	More than 30, up to 40	10	3.5	M 8
More than 38, up to 44	12	3.3		More than 40, up to 50	12	3.5	
More than 44, up to 50	14	3.8		More than 50, up to 60	15	5	
More than 50, up to 58	16	4.3	M10	More than 60, up to 70	18	6	M10
More than 58, up to 65	18	4.4		More than 70, up to 80	20	6	M12
More than 65, up to 75	20	4.9	M12	More than 80, up to 95	24	8	
More than 75, up to 85	22	5.4		More than 95, up to 110	28	9	M16
More than 85, up to 95	25	5.4	M16	More than 110, up to 125	32	10	M20
More than 95, up to 110	28	6.4		More than 125, up to 140	35	11	
More than 110, up to 130	32	7.4	M20	More than 140, up to 160	38	12	
More than 130, up to 150	36	8.4		More than 160, up to 180	42	13	
More than 150, up to 170	40	9.4		More than 180, up to 200	45	14	M24
More than 170, up to 220	45	10.4	M24	More than 200, up to 224	50	15.5	
More than 200, up to 230	50	11.4		More than 224, up to 250	56	17.5	

3. Model Number

Use the following model legend to specify your desired sprocket dimensions and selectable hub.

RF10150 R 8T SC11 Q H80J

- RF10150: Chain size
- R: Roller type
- 8T: No. of teeth
- SC11: Hub type
- Q: Tooth hardening — Hardened : Q, Normal : N
- H80J: Finished bore size. Leave blank for products with pilot bores.

When selecting a hub, select an outer diameter smaller than those listed below to avoid interference between the hub outer diameter and the chain link plates or plate balance holes.

No. of Teeth / TSUBAKI Chain No.	6T	8T	10T	12T
RF03075	83	129	176	223
RF03100	126	195	257	320
RF05075	–	120	167	214
RF05100	114	183	248	311
RF05125	158	243	326	235
RF05150	201	303	245	305
RF08125	162	246	324	235
RF08150	205	307	235	305
RF10100	107	169	232	294
RF10125	150	235	313	235
RF10150	194	296	235	295
RF12200	273	245	335	425
RF12250	235	345	445	555
RF17200	265	392	325	415
RF17250	352	325	435	545
RF17300	295	425	555	685
RF26200	242	365	315	395
RF26250	336	315	425	535
RF26300	275	405	535	665
RF36250	315	295	405	515
RF36300	408	385	525	655
RF430	125	194	262	328
RF204	–	105	149	193
RF450	121	184	248	312
RF650	198	302	235	305
RF214	110	179	246	313
RF205	–	122	174	225
RF6205	190	294	235	305
RF212	183	286	388	295

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Special Sprockets

Any worn teeth can be removed from the sprocket and replaced individually.

Replaceable Tooth Insert Sprocket

Just the worn teeth can be removed and replaced individually

Available Chain Roller Types	S, M, and N Rollers	
Material	Teeth	Alloy steel
	Base sprocket	Rolled steel for general structural use
Applications	Long life series using high strength steel for the teeth. Ideal for conveying fly ash and other highly wear-inducing material (bucket elevators, flow conveyors, etc.).	

Ring Type Tooth Insert Sprockets

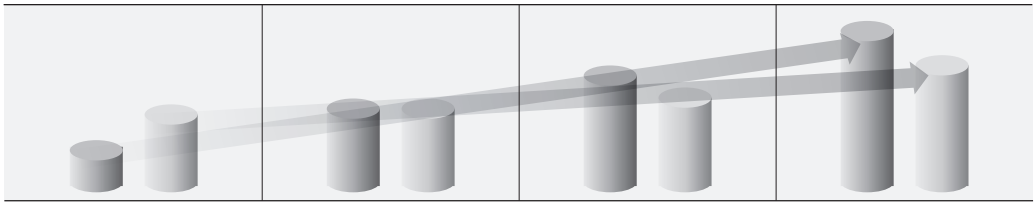
Available Chain Roller Types	R, F, S, M, and N Rollers	
Material	Teeth	Carbon steel for machine structural use
	Base sprocket	Rolled steel for general structural use
Applications	Block type split sprockets can be used with R and F Rollers. Split sprockets can be used on slat conveyors, apron conveyors, scraper conveyors, and a wide variety of other conveyors.	

Split Sprockets

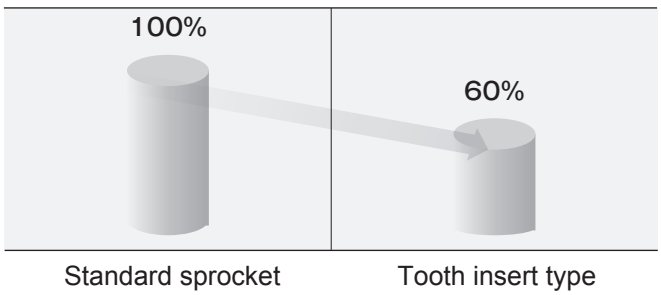
Available Chain Types	Metric	RF3075 to RF10150
	Imperial	RF205 to RF650
Available Roller Types	R, F, and S Rollers	
Material	Teeth	Carbon steel for machine structural use
	Hub	Rolled steel for general structural use
Tooth Hardening Method	Induction hardening	
Applications	Long shafts with multiple strands of chain, equipment with narrow installation spaces, etc.	

Note: Available in principle with bores finished.

Comparison of Running Costs with New Sprockets



Comparison of Replacement Labor

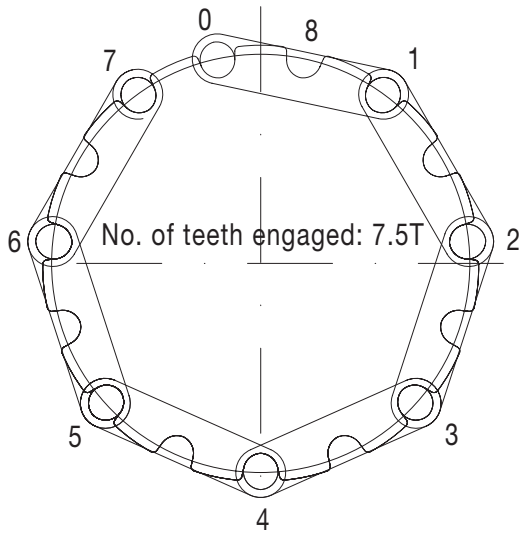


Shows an example of replacing just the teeth, with replacing the entire sprocket as our benchmark of 100. For standard sprockets, comparison assumes removing and mounting sprockets, shafts, etc.

● Hunting Tooth (Double Duty) Sprockets

These sprockets have an odd number of teeth (7.5T, 12.5T, etc.) and are half the pitch of the chain. Every time the sprocket makes one revolution, the chain engages with one set of teeth, ahead of the previously engaged set. Ideal for when there are severe wear conditions acting on the teeth. Select a standard hub with Hunting Tooth sprockets.

Hunting Tooth (Double Duty) Sprocket



Effectively doubles the number of teeth.

Formula for Sprocket Dimensions

● Pitch diameter

$Dp = P/\sin(180°/N)$

P = Chain pitch (mm)

N = Sprocket number of teeth

● Outer diameter (rough)

Precision welded teeth : $Do = Dp + 0.6R$

Machine cut teeth : $Do = Dp + 0.4R$

R = Chain roller diameter (mm)

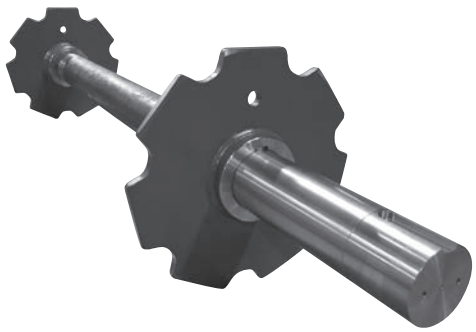
Hunting Tooth Sprocket Number of Teeth and Plate Dimensions Unit : mm

TSUBAKI Chain Number	No. of Engaging Teeth	Pitch Dia. *Dp*	Outer Dia. (*Do*)	Tooth Width *T*
RF03075S	7.5	184.4	194	11.9
	12.5	301.6	311	
RF03100S	7.5	245.9	253	
	12.5	402.1	412	
RF05100S	7.5	245.9	257	18
	12.5	402.1	416	
RF05125S	7.5	307.3	313	
	12.5	502.6	516	
RF05150S	7.5	368.8	369	
	12.5	603.2	616	
RF08125S	7.5	307.3	321	22
	12.5	502.6	516	
RF08150S	7.5	368.8	378	
	12.5	603.2	617	
RF10125S	7.5	307.3	322	
	12.5	502.6	520	
RF10150S	7.5	368.8	378	
	12.5	603.2	621	
RF430S	7.5	249.8	260	18
	12.5	408.5	421	
RF450S	7.5	249.8	263	22
	12.5	408.5	422	
RF650S	7.5	374.7	390	22
	12.5	612.8	628	
RF12200S	7.5	491.7	510	28
	12.5	804.2	825	
RF12250S	7.5	614.6	623	
	12.5	1005.3	1026	
RF17200S	7.5	491.7	516	40
	12.5	804.2	828	
RF17250S	7.5	614.6	637	
	12.5	1005.3	1029	
RF17300S	7.5	737.6	749	
	12.5	1206.3	1230	
RF6205S	7.5	374.7	396	22
	12.5	612.8	634	

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Sprockets with shaft

Tsubaki can also deliver sprockets with the shaft attached, saving you from troublesome assembly work.

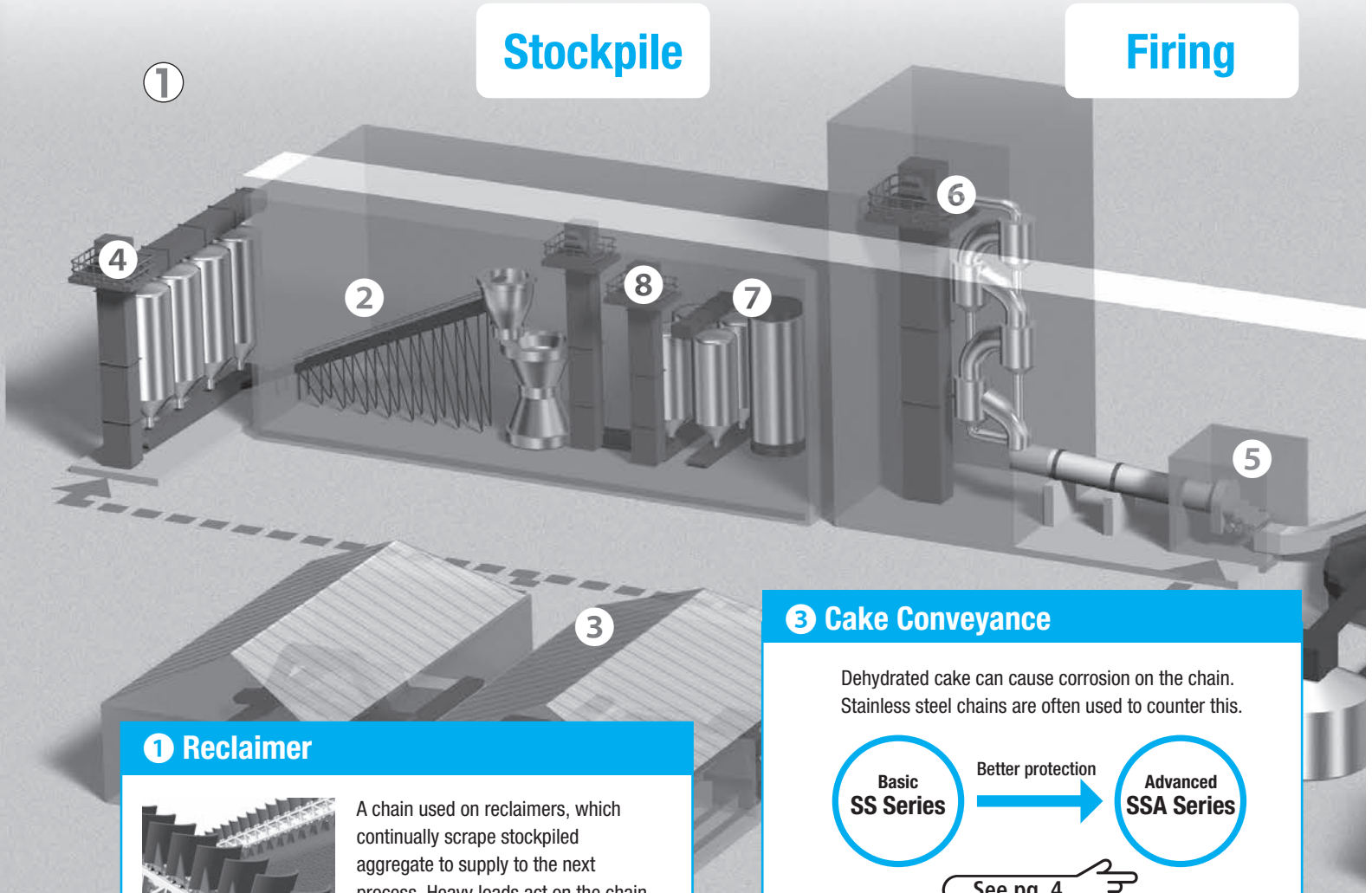


Industry Specific Products

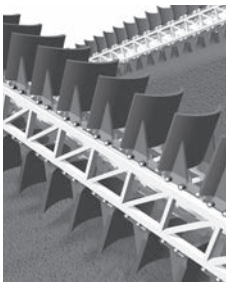
Tsubaki offers a line-up of industry specific products that have a proven track record in conveyors in a variety of industries. Contact a Tsubaki representative about how you can put these specifications to work in other industries as well.

Conveyor Chains for the Cement Industry

Conveyor chains specially designed for the stockpile, firing, and finishing processes.



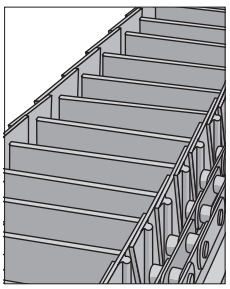
1 Reclaimer



A chain used on reclaimers, which continually scrape stockpiled aggregate to supply to the next process. Heavy loads act on the chain, which can cause premature roller wear. Reclaimer chains are specially designed for use with various materials and in various conditions.

Contact a Tsubaki representative.

2 Apron Conveyor



A chain used on conveyors that convey raw material and fuel on an apron. Dust can have a huge influence on roller wear.

	Basic Model	Advanced Model
Short conveyors	DT Series	DTA Series
Long conveyors	AT Series	ATA Series

When even longer life is needed…

Bearing Roller Conveyor Chain Anti-Dust Specifications

See pg. 101

3 Cake Conveyance

Dehydrated cake can cause corrosion on the chain. Stainless steel chains are often used to counter this.

Basic **SS Series** → Better protection → Advanced **SSA Series**

See pg. 4

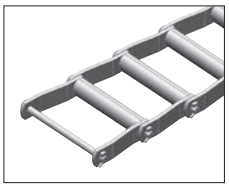
4 Outdoor Conveyor

Ideal chain for use outdoors.

Basic **GS Series** → Better protection → Advanced **GSA Series**

See pg. 4

5 Clinker Conveyor (Drag Conveyor)



A drag chain for conveying clinker. Conveys by pushing the conveyed material with the leading face of the bush.

■ **WD Series**
Drag Conveyor Chain

See pg. 64

Finishing

6 Fuel Conveyance

A chain that conveys fuel such as coal, coal dust, and other highly abrasive material.

Basic **GS Series** → Better protection → Advanced **GSA Series**

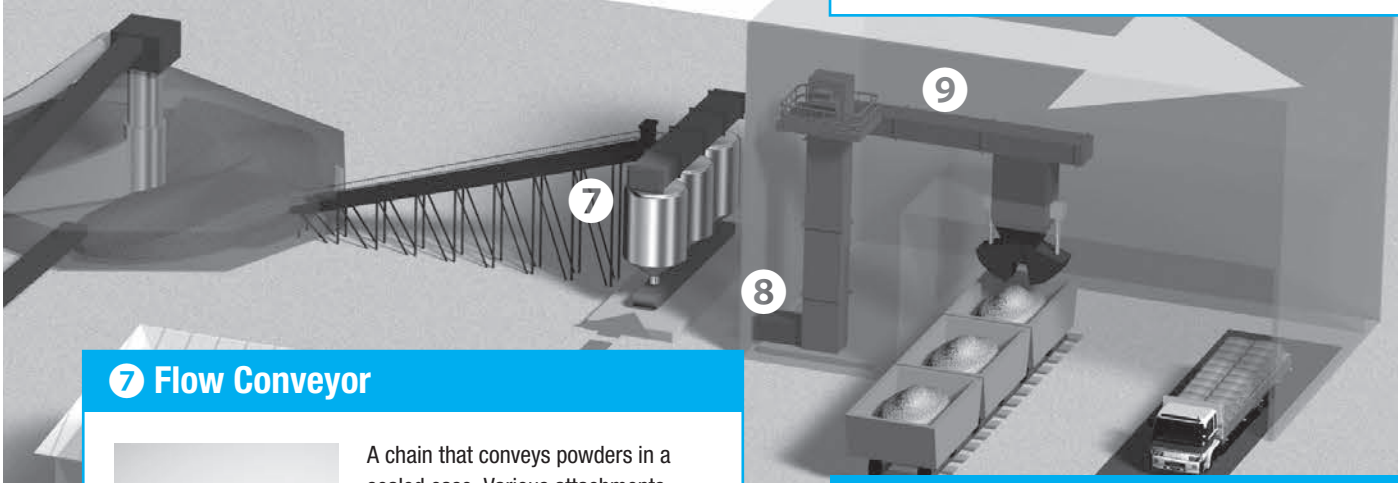
■ **Y Series: Coal dust conveyance**

9 Product Conveyance

A chain that conveys cement products. Cement products can infiltrate chain joints, so protection against wear is necessary.

■ **Pin-bush wear protection: CT Series & BT Series**

See pgs. 61, 115



7 Flow Conveyor

A chain that conveys powders in a sealed case. Various attachments are available for different types of conveyed material.

■ **General use: DT/AT Series**
■ **Coal dust conveyance: RT Series**

See pg. 55

■ **Fly ash conveyance: FA Series**

See pg. 58

Dust Collector Conveyor

A conveyor chain that collects dust generated in various processes.

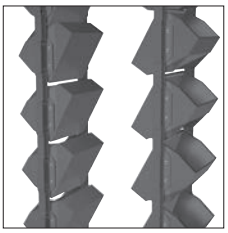
■ **General use: CT/BT Series**
■ **For corrosive environments**
Poor articulation protection: MT Series
Poor roller rotation protection: RT Series

See pg. 115

Tsubaki offers the ideal clearance for any material.

Contact a Tsubaki representative.

8 Bucket Elevator



A chain that scrapes up and conveys powders in a sealed case. The focus is on wear protection and fatigue strength.

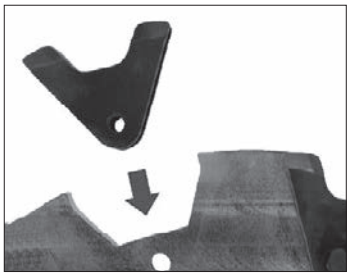
■ **General use: CT/BT Series**
■ **Coal dust conveyance: RT/YT Series**

See pg. 61

■ **Fly ash conveyance: FB Series**

See pg. 63

Special Block Tooth Insert Sprockets

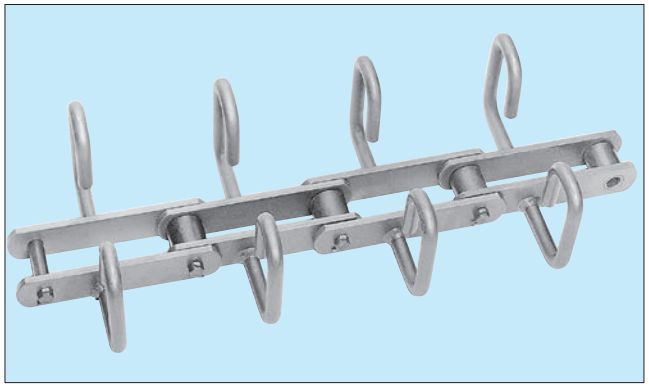


Special sprockets used in highly wear inducing environments or when sprocket replacement is difficult.

See pg. 50

Flow Conveyor Chain

Horizontal Flow Conveyor Chain



Flow Conveyor Chain conveys powders in a sealed case, which prevents dispersal, making it optimal for conveying loose materials safely.

This attachment chain is designed just for flow conveyors, and boasts Tsubaki's advanced technology and numerous examples of success. Tsubaki offers different attachment types to match any application requirement.

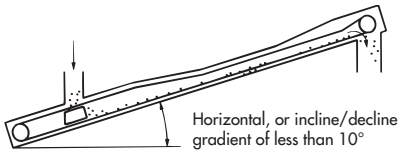
Carbon steel attachments are standard, but stainless steel attachments can be manufactured upon request.

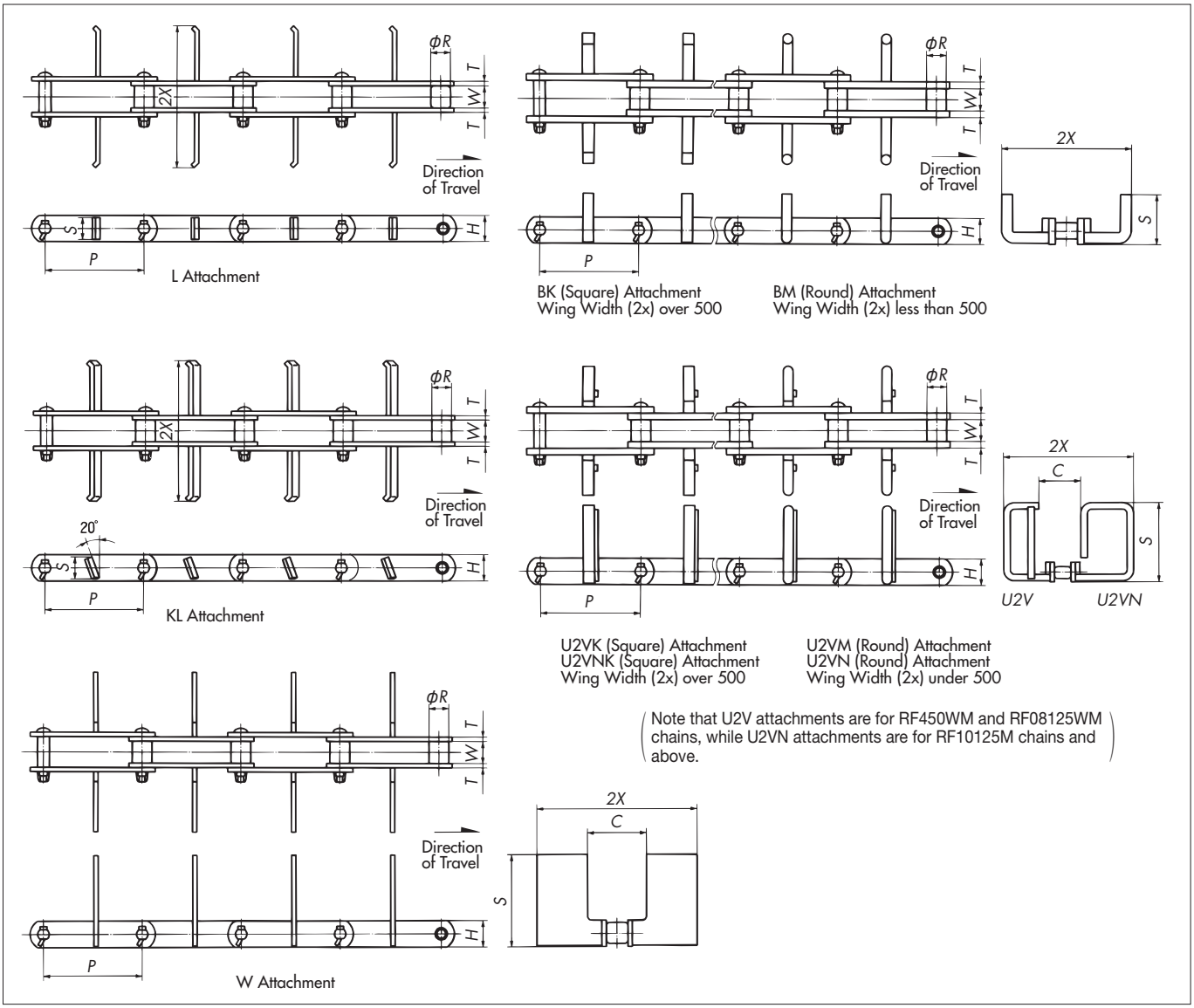
The base chain is either standard conveyor chain or reinforced AT Series, but users can select other specifications to match the nature of the conveyed material.

■ **Consider replaceable tooth sprockets as well.**

■ **Coal Dust Chain:** Tsubaki recommends the RT Series for conveying corrosive coal dust.

■ Standard Free Flow Chain





Note that U2V attachments are for RF450WM and RF08125WM chains, while U2VN attachments are for RF10125M chains and above.

Flow Conveyor Chain

Chain Size and Roller Type	Former Chain Number	Case Inner Width	Pitch *P*	Roller Diameter *R*	Inner Link Inner Width *W*	Plate		DT Series		AT Series	
						Height *H*	Thickness *T*	Max. Allowable Load kN{kgf}	Min. Tensile Strength kN{kgf}	Max. Allowable Load kN{kgf}	Min. Tensile Strength kN{kgf}
RF450WM	F4·FW4	150	101.6	25.4	27	31.8	6.3	15.4{1570}	93.5{9500}	20.3{2070}	127{13000}
RF08125WM		200	125	25.4	27	31.8	6.3	15.4{1570}	93.5{9500}	20.3{2070}	127{13000}
RF10125M		200	125	31.8	30	38.1	6.3	16.1{1650}	107{11000}	32.3{3290}	200{20500}
RF10150M		270	150								
RF6205M	F6·FA6	270	152.4	38.1	37.1	44.5	7.9	26.6{2710}	160{16500}	39.9{4060}	249{25500}
RF12200M		350	200	38.1	37.1	44.5	7.9	26.6{2710}	160{16500}	39.9{4060}	249{25500}
RF17200M		350	200	44.5	51.4	50.8	9.5	35.0{3570}	213{22000}	55.3{5640}	336{34500}
RF17250M		450	250								
RF26200M	F8·FA8	410	200	50.8	57.2	63.5	9.5	44.9{4580}	285{29000}	74.3{7580}	448{45500}
RF26250N		450	250					42.7{4360}	260{26500}	80.6{8220}	551{56000}
RF26300N		580	300								
RF36300M	F12·FA12	580	300	57.2	66.7	76.2	12.7	68.0{6930}	457{46500}	97.4{9440}	614{62500}
RF36300N								–	–	124{12600}	777{79000}

Chain Size and Roller Type	Wing Width *2X*	L Attachment		KL Attachment		B Attachment		U2V(U2VN) Attachment			W Attachment		
		Height *S*	Mass kg/m	Height *S*	Mass kg/m	Height *S*	Mass kg/m	Height *S*	*C*	Mass kg/m	Height *S*	*C*	Mass kg/m
RF450WM	135	28.6	6.5	28.6	6.5	55	7.4	80	60	9.1	80	80	8.1
RF08125WM	185	28.6	6.5	28.6	6.5	80	8.2	115	85	10.1	115	85	10.3
RF10125M	185	31.8	8.1	31.8	8.1	80	8.9	115	85	10.1	115	85	11.3
RF10150M	250					100	9.8	140	105	12	140	105	13.0
RF6205M	250	38.1	12	38.1	12	100	14.4	140	105	18.5	140	105	17.2
RF12200M	330	40	12	40	12	125	16.3	185	130	20	185	130	22.6
RF17200M	330	46	17	46	17	125	18.7	185	130	23	185	130	26.3
RF17250M	430					160	19.3	230	135	23.7	230	135	31.5
RF26200M	390	58	28	58	28	150	25	233	100	33.4	233	100	41.7
RF26250N	430		23		23	160	25	230	135	29	230	135	35.7
RF26300N	560		23		23	200	27	290	160	30.6	290	160	53.0
RF36300M	560	70	34	70	34	200	27	290	160	40	290	160	61.3
RF36300N													

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Attachment Types and Applications

Attachment Type	Application
L	Conveying grain or cement
KL	Conveying adhesive powder
W	Conveying powder that flashes easily
BM (Round)	Conveying loose material like flour or cement with higher conveying efficiency than L attachments
BK (Square)	Conveying massive, loose, or adhesive materials that are hard to convey with B (Round) attachments
U2VM (Round), U2VNM (Round)	For use on larger or inclined conveyors
U2VK (Square), U2VNK (Square)	Conveying massive, loose, or adhesive materials that are hard to convey with U2V(U2VN)M attachments

Ordering Horizontal Flow Conveyor Chain

Chain Numbering Example

RF17250M-DT-1L KL45

- Chain Size
- Roller Type
- Chain Series
- Attachment Spacing
- Attachment Spacing

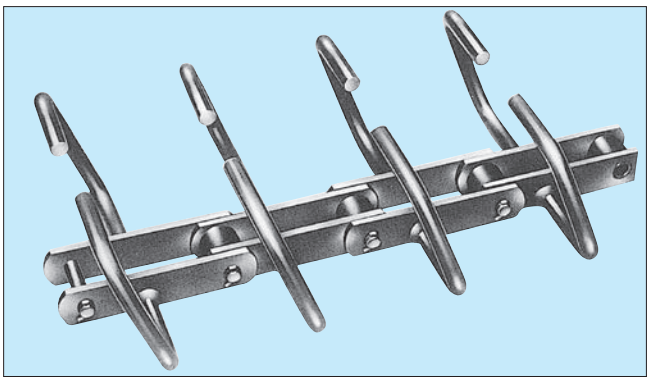
Ordering Example

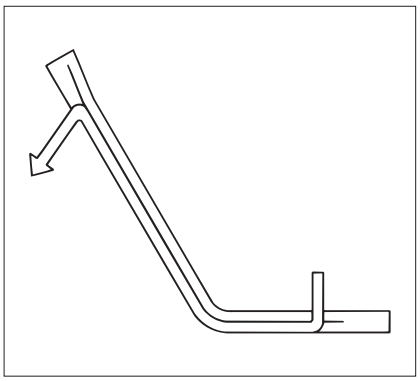
Chain Size: RF17 Pitch: 250mm Roller Type: M Roller
Chain Specs: Standard DT Series
Attachment Spacing/Type: KL every link
Inner Case Width: 450mm
Quantity: 400 links

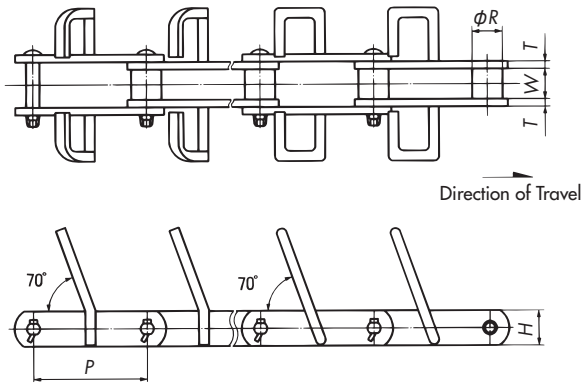
Chain Number	Quantity	Unit
RF17250M-DT-1LKL45	400	L

Flow Conveyor Chain

Inclined Flow Conveyor Chain





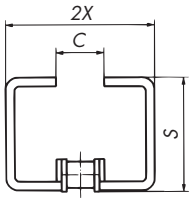


UK (Square) Attachment
(Wing width 2x: over 500)

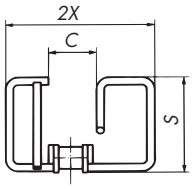
UM (Round) Attachment
(Wing width 2x: under 500)

Attachment Type and Application

Attachment Type	Application
UM (Round)	Conveying general loose materials
UK (Square)	Conveying massive, loose, or adhesive materials
U2M (Round), U2NM (Round)	Conveying materials at a higher efficiency than UM
U2K (Square), U2NK (Square)	Conveying materials at a higher efficiency than UK



U Attachment



U2 Attachment
(For RF450WM)

U2N Attachment
(For RF10125M and over)

Chain Size and Roller Type	Case Inner Width	Pitch P	Roller Dia. R	Inner Link Inner Width W	Plate Height H	Plate Thickness T	Wing Width 2X	U Attachment Height S	U Attachment C	U Attachment Mass kg/m	U2(U2N) Attachment Height S	U2(U2N) Attachment C	U2(U2N) Attachment Mass kg/m	DT Series Max. Allowable Load kN{kgf}	DT Series Min. Tensile Strength kN{kgf}	AT Series Max. Allowable Load kN{kgf}	AT Series Min. Tensile Strength kN{kgf}
RF450WM	160	101.6	25.4	27	31.8	6.3	145	110	50	10.1	110	50	10.9	15.4{1570}	93.5{9500}	20.3{2070}	127{13000}
RF10125M	240	125	31.8	30	38.1	6.3	225	140	65	14.3	140	65	15.7	16.1{1650}	107{11000}	32.3{3290}	200{20500}
RF6205M	320	152.4	38.1	37.1	44.5	7.9	300	175	80	20.1	175	80	21.7	26.6{2710}	160{16500}	39.9{4060}	249{25500}
RF17200M	410	200	44.5	51.4	50.8	9.5	390	220	100	27.9	220	100	30.3	35.0{3570}	213{22000}	55.3{5640}	336{34500}
RF26200M	410	200	50.8	57.2	63.5	9.5	390	220	100	30.9	220	100	33.3	44.9{4570}	285{29000}	74.3{7580}	448{45500}
RF26200N														42.7{4360}	260{26500}	80.6{8220}	551{56000}
RF36300M	500	300	57.2	66.7	76.2	12.7	480	260	120	42.5	260	120	44.8	68.0{6930}	457{46500}	97.4{9940}	614{62500}
	600						580	305	140	47	305	140	48.1				
RF36300N	500	300	57.2	66.7	76.2	12.7	480	260	120	42.5	260	120	44.8	–	–	124{12600}	777{79000}
	600						580	305	140	47	305	140	48.1				

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Inclined Flow Conveyor Chain

Chain Numbering Example

RF6205M-DT-1LUM32

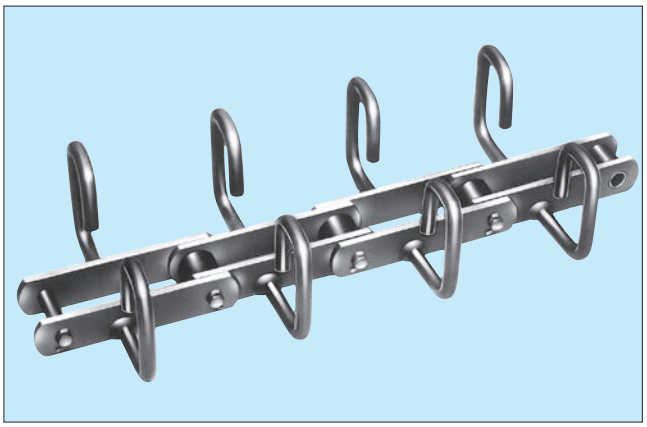
- RF6205 — Chain Size
- M — Roller Type
- DT — Chain Series
- 1 — Attachment Spacing
- U — Attachment Type
- M — Inner Case Width

Ordering Example

Chain Size: RF6205 Pitch: 152.4mm Roller Type: M Roller
Chain Specs: Standard DT Series
Attachment Spacing/Type: U every link
Inner Case Width: 320mm
Quantity: 400 links

Chain Number	Quantity	Unit
RF6205M-DT-1LUM32	400	L

FA Series Fly Ash Conveyor Chain



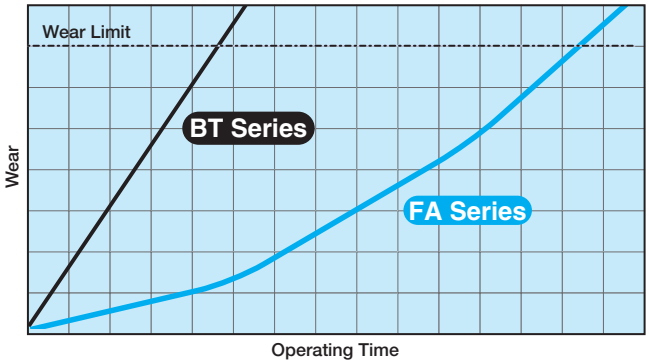
When wear is a problem

Coal fly ash, a highly abrasive constituent of cement, has seen increasing use in recent years. In order to extend the wear life of our Fly Ash Conveyor Chain, we further improved our popular Anti-Wear Series and implemented a special hardening treatment that gives remarkable strength to the rollers' anti-wear properties, greatly increasing wear life.

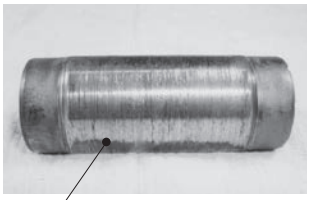
Optimal for Fly Ash Conveyance

3x the chain life

Chain Life Comparison (Bushing/Roller Wear)
Compared to Tsubaki BT Series

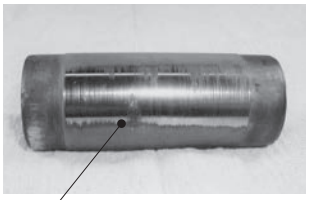


Bush wear comparison after use



BT Series

Fly ash has infiltrated between bush and roller, causing abrasive wear on the bush outer diameter.



FA Series

Fly ash has infiltrated between bush and roller, but the special hardening on the bush outer diameter has greatly reduced wear.

Applications

Fly ash conveyor lines in cement tankers and cement factories, and on other extremely abrasive conveyor lines.

Application Example

This Flow Chain with W attachments is finding use in this fly ash conveyor line.

Note:
- Sprocket teeth must be tempered hardened steel.
- Take measures to prevent wear on rails.

Ordering Fly Ash Flow Conveyor Chain

Chain Numbering Example

RF36300N-FA-1LU2M60

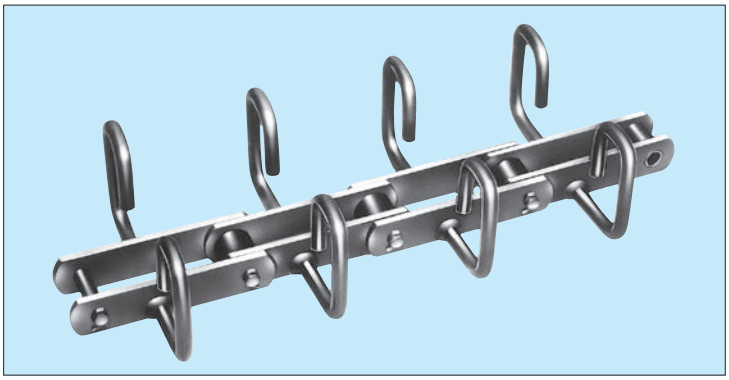
- Chain Size
- Roller Type
- Inner Case Width
- Attachment Type
- Attachment Spacing
- Chain Series

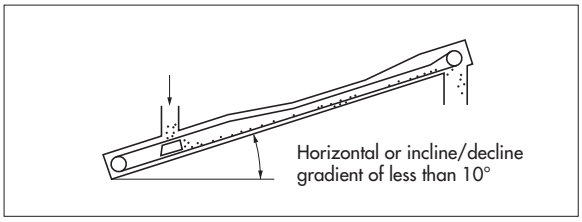
Ordering Example

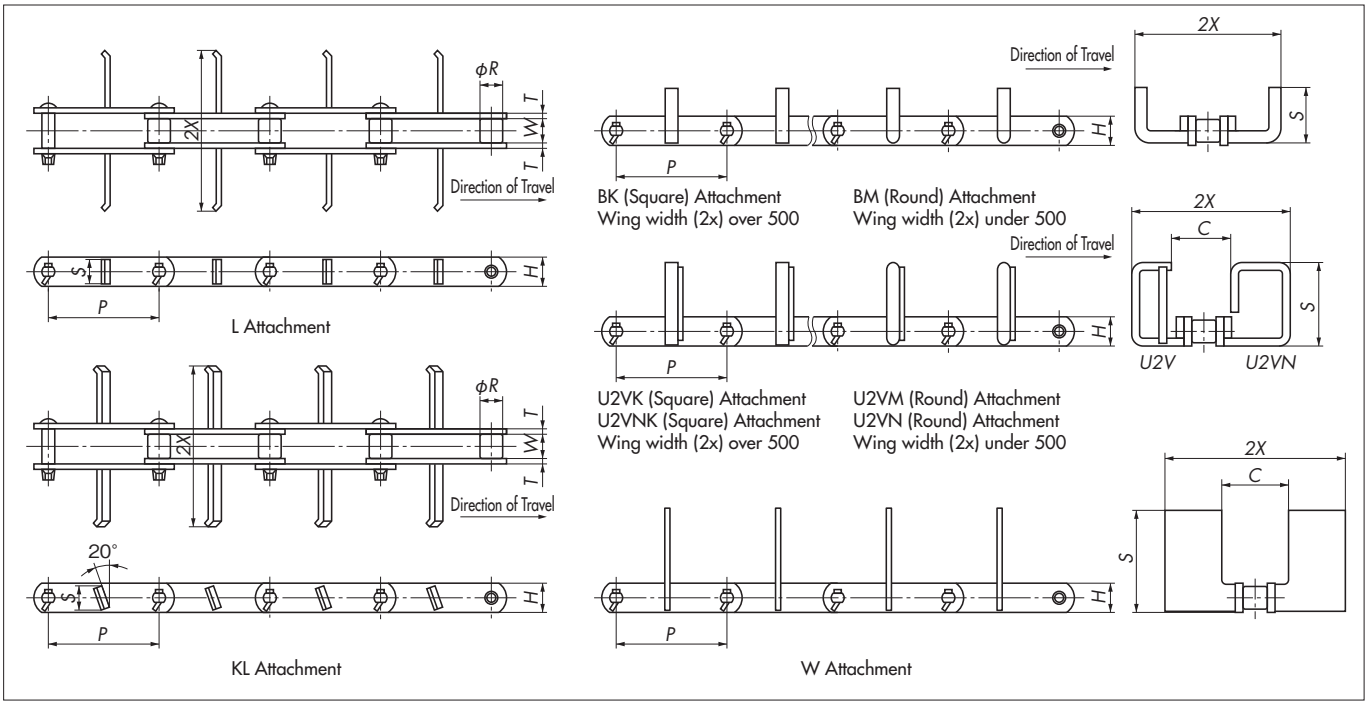
Chain Size: RF36 Pitch: 300mm Roller Type: N Roller
Chain Specs: FA Series
Attachment Spacing/Type: U2 every link
Inner Case Width: 600mm
Quantity: 400 links

Chain Number	Quantity	Unit
RF36300N-FA-1LU2M60	400	L

FA Series Fly Ash Conveyor Chain (Horizontal Conveyance)





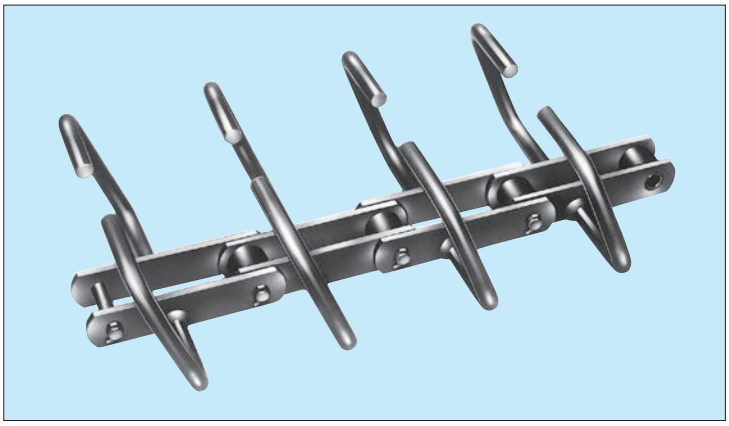


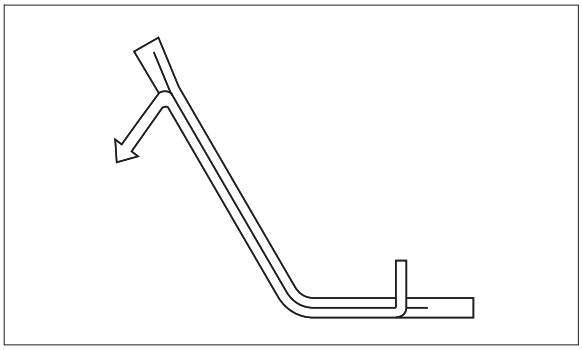
Chain Size and Roller Type	Nominal Size	Case Inner Width	Pitch *P*	Roller Diameter *R*	Inner Link Inner Width *W*	Plate		FA Series	
						Height *H*	Thicknes *T*	Max. Allowable Load kN{kgf}	Min. Tensile Strength kN{kgf}
RF17200M	35	350	200	44.5	51.4	50.8	9.5	55.3{5640}	348{35500}
RF17250M	45	450	250						
RF26200M	41	410	200	50.8	57.2	63.5	9.5	74.3{7580}	464{47500}
RF26250N	45	450	250					80.6{8220}	551{56000}
RF26300N	58	580	300						
RF36300N	58	580	300	57.2	66.7	76.2	12.7	124{12500}	777{79000}
RF36350N	75	750	350						
RF60350N	75	750	350	70	77	90	12.7	149{15000}	1010{103000}

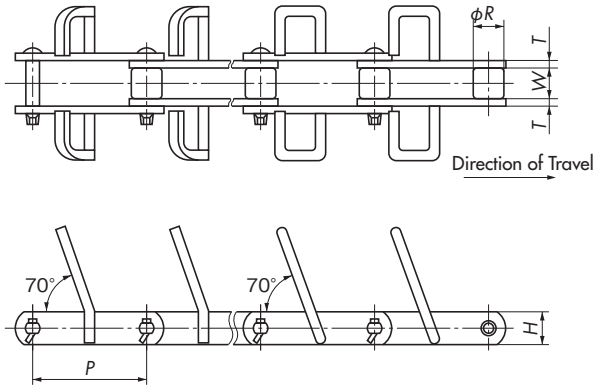
Chain Size and Roller Type	Wing Width *2X*	L Attachment		KL Attachment		B Attachment		U2V(U2VN) Attachment			W Attachment		
		Height *S*	Mass kg/m	Height *S*	Mass kg/m	Height *S*	Mass kg/m	Height *S*	*C*	Mass kg/m	Height *S*	*C*	Mass kg/m
RF17200M	330	46	17	46	17	125	18.7	185	130	23	185	130	26.3
RF17250M	430					160	19.3	230	135	23.7	230	135	31.5
RF26200M	390	58	28	58	28	150	25	233	100	33.4	233	100	41.7
RF26250N	430		23		23	160		230	135	29	230	135	35.7
RF26300N	560					200	27	290	160	30.6	290	160	53.0
RF36300N	560	70	34	70	34	200	37	290	160	40	290	160	61.3
RF36350N	720		36		36	240	47	350	180	67	350	180	76.3
RF60350N	720	84	46	84	46	240	54	350	180	75	350	180	85

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

FA Series Fly Ash Conveyor Chain (Inclined Conveyance)

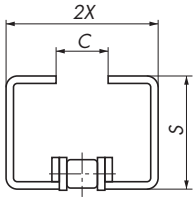




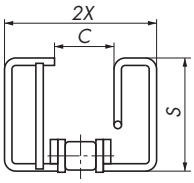


UK (Square) Attachment
(Wing width 2x: over 500)

UM (Round) Attachment
(Wing width 2x: under 500)



U Attachment



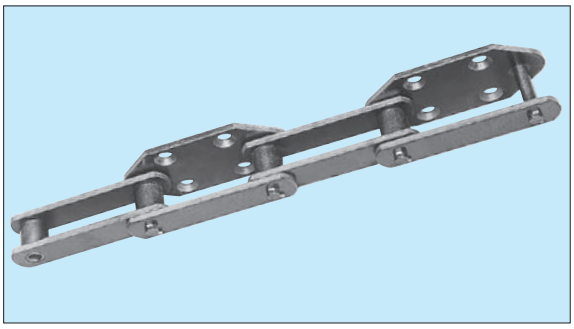
U2 Attachment U2N Attachment

Chain Size and Roller Type	Nominal Size	Case Inner Width	Pitch *P*	Roller Dia. *R*	Inner Link Inner Width *W*	Plate		Wing Width *2X*	U Attachment			U2(U2N) Attachment			FA Series	
						Height *H*	Thickness *T*		Height *S*	*C*	Mass kg/m	Height *S*	*C*	Mass kg/m	Max. Allowable Load kN{kgf}	Min. Tensile Strength kN{kgf}
RF17200M	41	410	200	44.5	51.4	50.8	9.5	390	220	100	27.9	220	100	30.3	55.3{5640}	348{35500}
RF26200M	41	410	200	50.8	57.2	63.5	9.5	390	220	100	30.9	220	100	33.3	74.3{7580}	464{47500}
RF26200N															80.6{8220}	551{56000}
RF36300N	50	500	300	57.2	66.7	76.2	12.7	480	260	120	42.5	260	120	44.8	124{12600}	777{103000}
	60	600						580	305	140	47	305	140	48.1		

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

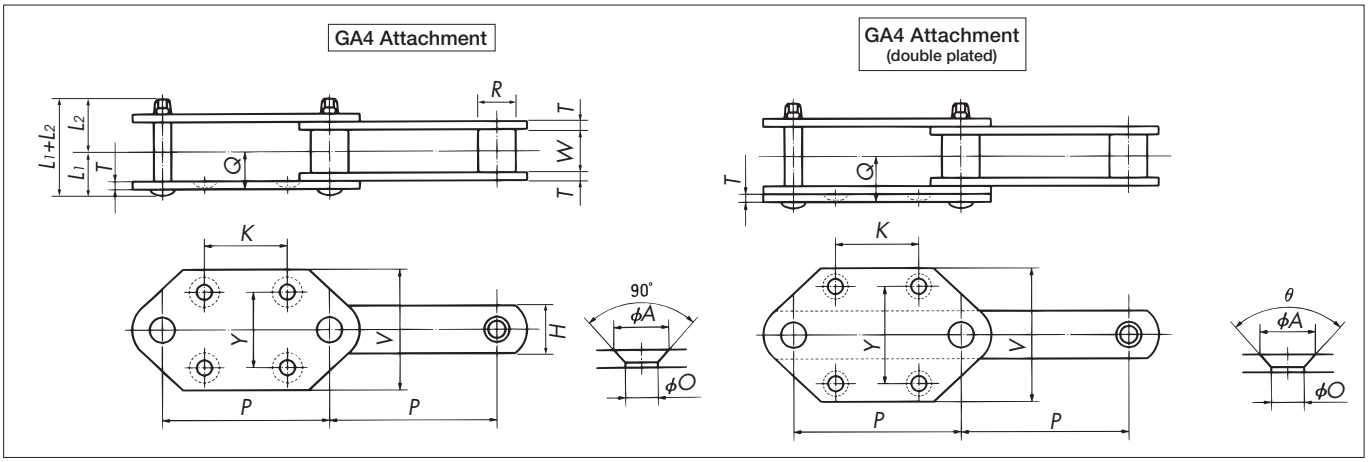
Bucket Elevator Conveyor Chain

Specialty chain with high wear resistance and fatigue strength.



Standard Wear Resistant Series ····· CT or BT Series
This chain focuses on highly wear inducing cement, with optimal part material, hardness, and spacing for cement conveyance.

Coal Dust Series ····· RT or Y Series
Specially designed chain for conveying corrosive coal dust.



Chain Size and Roller Type	Pitch P	Roller Dia. R	Inner Link Inner Width W	Plate		Pin			Max. Allowable Load							
				Height H	Thickness T	L1+L2	L1	L2	CT Series		BT Series		RT Series		Y Series	
									kN	{kgf}	kN	{kgf}	kN	{kgf}	kN	{kgf}
B10150S	150	29	30	38.1	6.3	69	33	36	17.6	{1790}	32.3	{3290}	17.6	{1790}	17.7	{1800}
B12006S	152.4	34.9	37.1	44.5	7.9	83.5	40.5	43	26.6	{2710}	39.9	{4060}	26.5	{2700}	26.5	{2700}
B12200S	200															
B17200S	200	40.1	51.4	50.8	9.5	109.5	51.5	58	35.0	{3570}	55.3	{5640}	35.0	{3570}	35.8	{3650}
B17250S	250															
B26200N	200	50.8	57.2	63.5	9.5	117	56	61	42.7	{4350}	80.6	{8220}	42.7	{4350}	43.6	{4450}
B26250N	250															
B26300N	300					129.5※	68.5※									
B36250N	250	57.2	66.7	76.2	12.7	147	69	78	–	–	127	{13000}	–	–	72.6	{7400}
B36300N	300					159※	81※									
B36350N	350															
B60300N	300	70	77	90	12.7	172※	88※	84	–	–	149	{15200}	–	–	79.9	{8150}
B60350N	350															
B60400N	400					177※	93※									
B90350N	350	85	88	110	16	197.5※	102※	95.5	–	–	233	{23700}	–	–	125	{12750}
B90400N	400					201.5※	106※									
B120400N	400	100	100	130	19	227.5※	119.5※	108	–	–	316	{32200}	–	–	179	{18250}

Note: ※ indicates GA4 attachment (double plated) dimensions. The above dimensions are nominal dimensions and may differ from actual dimensions.

■ Contact a Tsubaki representative regarding replaceable tooth insert sprockets.

Bucket Elevator Conveyor Chain

GA4 Attachment

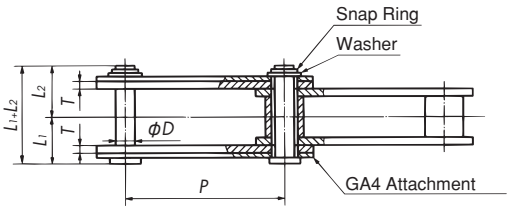
Chain Size and Roller Type	P	V	K	Y	T	Q	A	O	θ	Bolt Used	Mass with Attachment Every 2 Links kg/m
B10150S	150	110	75	70	6.3	28.5	26	15	90°	M12	7.5
B12006S	152.4	110	75	70	7.9	35.5	26	15	90°	M12	11
B12200S	200	120	100	80						M14	10
B17200S	200	120	100	80	9.5	45.5	26	15	90°	M14	14
B17250S	250	150	140	100			32	19		M16	15
B26200N	200	120	100	80	9.5	48.5	26	15	90°	M14	20
B26250N	250	150	140	100			32	19		M16	19
B36250N	250	150	140	100	12.7	60	32	19	90°	M16	30

GA4 Attachment (Double Plated)

Chain Size and Roller Type	P	V	K	Y	T	Q	A	O	θ	Bolt Used	Mass with Attachment Every 2 Links kg/m
B26300N	300	200	170	140	12	60	38	24	90°	M20	24
B36300N	300	200	170	140	12	72	38	24	90°	M20	33
B36350N	350	240	200	170	12	72	40	28	60°	M24	34
B60300N	300	200	170	140	12	77	38	24	90°	M20	41
B60350N	350	240	200	170	12	77	40	28	60°	M24	43
B60400N	400	280	230	200	12	81	50	35	60°	M30	46
B90350N	350	240	200	170	16	89.5	40	28	60°	M24	60
B90400N	400	280	230	200	16	93.5	50	35	60°	M30	64
B120400N	400	280	230	200	16	105.5	50	35	60°	M30	85

Connecting Link

The following chains come with an easy to assemble/disassemble connecting link, which greatly reduces attachment time. A special bush is press-fitted into the pin hole of the connecting link plate, creating a slip-fit between pin and bush.



Chain Size and Roller Type	Pitch P	D	L1	L2	L1+L2	T
B36300N · B36350N	300 · 350	28	83	81	164	22
B60300N · B60350N · B60400N	300 · 350 · 400	35	88	88	176	22
B90350N · B90400N	350 · 400	42	102.5	101.5	204	16
B120400N	400	50	114.5	115.5	230	19

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Bucket Elevator Conveyor Chain

Chain Numbering Example

B12200S-CT-2LGA4

- B12 — Chain Size
- 200 — Roller Type
- S — Chain Series
- CT — Attachment Type
- 2L — Attachment Spacing
- GA4 — Attachment Type

Ordering Example

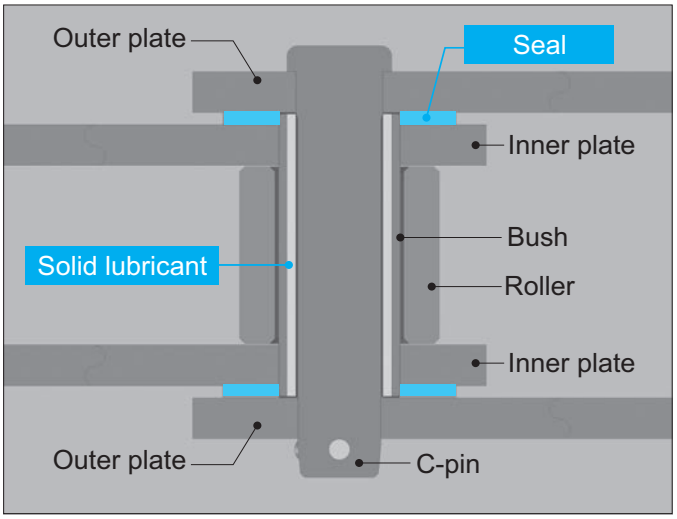
Chain Size: B12 Pitch: 200mm Roller Type: S Roller
Chain Specs: Reinforced CT Series
Attachment Spacing/Type: GA4 every 2nd link
Quantity: 400 links

Chain Number	Quantity	Unit
B12200S-CT-2LGA4	400	L

FB Series Bucket Elevator Conveyor Chain & Thermally Sprayed Replaceable Tooth Insert Sprockets

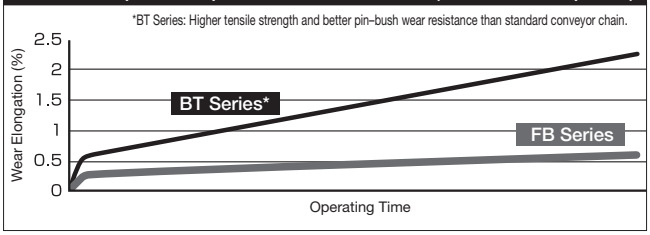
Over twice the wear life of previous bucket elevator chains and sprockets

FB Series Conveyor Chain
(RF08 – 26, RF205, and RF6205 sizes only)



A solid lubricant is bonded between pin and bush, and an O ring is attached between links to provide over twice the wear elongation life of previous bucket elevator conveyor chain. It is also quieter (-2dB(A)).

Wear Life Comparison Graph between BT and FB Series (in-house test comparison)



Condition of pin after one year operation* (FB Series)

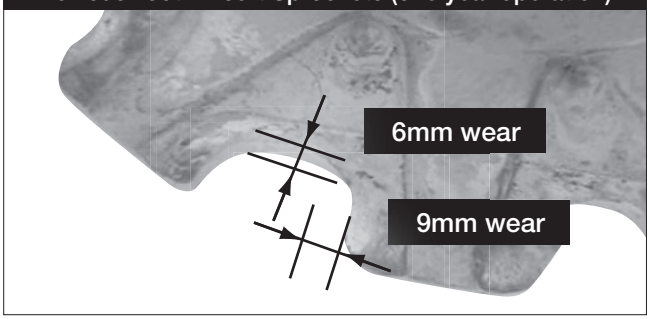
The wear surface shows a good shiny surface with extremely little wear.
(Previous chain reached its wear life in one year.)

*24hrs/day, 365 days/year

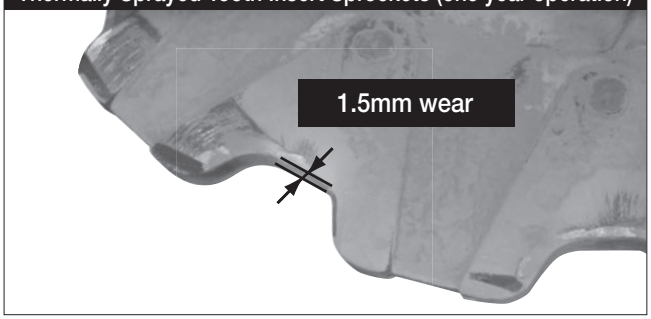
Thermally Sprayed Replaceable Tooth Insert Sprockets

While normal replaceable tooth insert sprockets suffered on average 6.0 – 9.0mm of wear in one year of operation, thermally sprayed tooth insert sprockets suffered only 1.5mm of wear.

Previous Tooth Insert Sprockets (one year operation)



Thermally Sprayed Tooth Insert Sprockets (one year operation)



We gave the tooth inserts the same hardening found on FA Series conveyor chain to increase the surface hardness and double the wear life over the previous series. Contact a Tsubaki representative regarding thermally sprayed replaceable tooth insert sprockets.

Ordering FB Series Conveyor Chain & Thermally Sprayed Replaceable Tooth Insert Sprockets

Chain Numbering Example

RF10150 S -BT-FB-2L GA4

- RF10150: Chain Size
- S: Roller Type
- BT: Chain Series
- FB: FB Series
- 2L: Attachment Spacing
- GA4: Attachment Type

Sprocket Model Numbering Example

RF10150 S 8T-BW-TK

- RF10150: Chain Size
- S: Roller Type
- 8T: No. of Teeth
- BW: Hub Type
- TK: Special Processing

Ordering Example

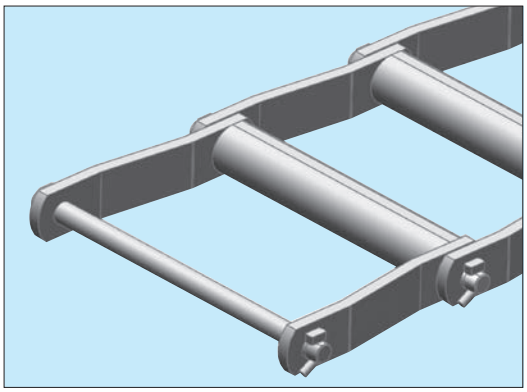
Chain Size: RF10 Pitch: 150mm Roller Type: S Roller
Chain Specs: BT Series FB Series
Attachment Type/Spacing: GA4 every 2nd link
Quantity: 400 links

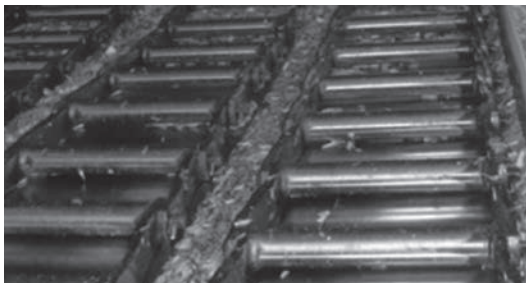
Chain Number	Quantity	Unit
RF10150S-BT-FB-2LGA4	400	L

Note: Be sure to indicate thermally sprayed replaceable tooth insert sprockets.

WD Series Drag Chain

Drag chains are solid steel chains with plates and bushes welded together. The leading face of the bush is flat so it can push conveyed material, while the trailing face of the bush is round so it can smoothly engage with the sprocket. It has superior tensile strength, wear resistance, and impact resistance compared to cast iron chains, while the chain pitch is set so as to accurately and reliably engage the sprocket.





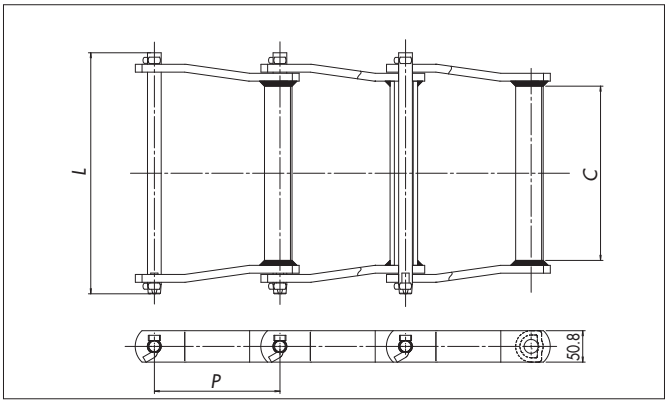
Applications

Cement industry: Clinker conveyance
Papermaking industry: Wood chip conveyance
Power generation industry: Biomass fuel conveyance, withdrawing coal from silos

Features of Tsubaki Drag Chains

1. Both ends of the cotter pin are secured with a T-pin for a simple construction.
2. Heavy Duty specs with a higher tensile strength and corrosion resistant specs also available.
3. Unique attachments also available (MTO item).

Base chain



TSUBAKI Chain Number	Pitch P	C	Average Tensile Strength kN{kgf}	Pin L1	Approximate Mass kg/m
WD480	203.2	288	353{36000}	390	30
WD122	203.2	226.5		328.5	28
WD120	152.4	226.5		328.5	33

Note: 1. Contact a Tsubaki representative regarding sprockets.
2. Made-to-order item.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering WD Series Drag Chain

● Ordering Example

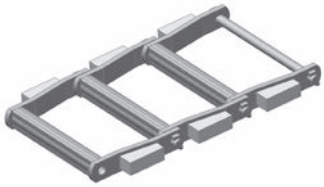
Chain Size: WD480
Quantity: 400 links

Chain Number	Quantity	Unit
WD480	400	L

Attachments

Scrapers

Better ability to scrape up conveyed material. Also useful in preventing chain floating.



Guide shoes

Minimizes wear from adjacent chains and guide rails.

Wear protection plates

Greatly minimizes wear on the bush conveyance side.

Conveyor Chains for the Steel Industry

❶ ❷ Stockyard

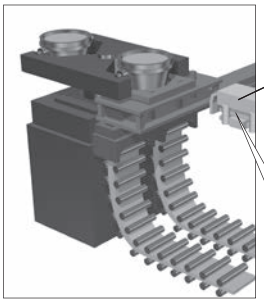
❸ Sintering Plant

❹ Pig Iron Plant

Blast Furnace

❺ Hot Strip Mill

❹ Continuous Casting



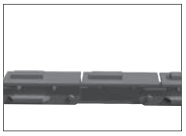
Tsubaki offers chains that fit the shape of dummy bar cars.

Dummy bar car

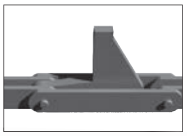
Dummy Bar Car Chain
Dummy Receiver Chain

Contact a Tsubaki representative.

❺ Hot Rolling



Slab conveyance



Billet conveyance

Chains designed for the shape, temperature, and conveyance environment of the conveyed material.

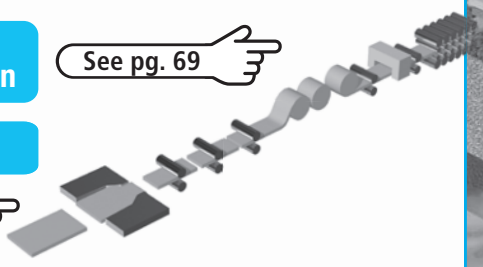
Direct conveyance

Deep Link Conveyor Chain

See pg. 69

Block Chain

See pg. 67



High Temp. Material (steel mill/hot strip)

Conveyed material exceeds 400°C

Tsubaki offers special conveyor chains for high temperatures using optimal clearances and material to match the conveyed material or temperature.

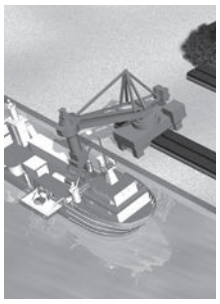
Contact a Tsubaki representative.

Cold Mill

Coking Plant

⑥ Product Yard

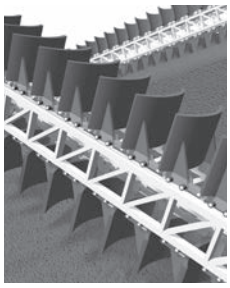
① Continuous Unloader Chains



A continuous unloader continuously unloads loose material from a ship using a chain with buckets attached. High unloading speeds mean heavy wear, so they use Tsubaki Unloader Chains to minimize wear elongation.

Contact a Tsubaki representative.

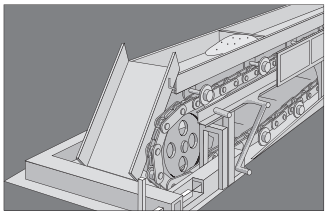
② Scraper Reclaimers



A chain used on reclaimers, which continually scrape stockpiled aggregate to supply to the next process. Heavy loads act on the chain, which can cause premature roller wear. Reclaimer chains are specially designed for use with various materials and in various conditions.

Contact a Tsubaki representative.

③ Sintered Ore Pan Conveyors



A large, specially shaped conveyor chain used to convey high temperature materials. Available in various types to meet the needs of conveyed materials or corrosive environments.

Contact a Tsubaki representative.

Ambient Temperature (Steelmaking, hot strip mill)

Conveying billets, coils, and other heavy loads

Bearing Roller Conveyor Chain

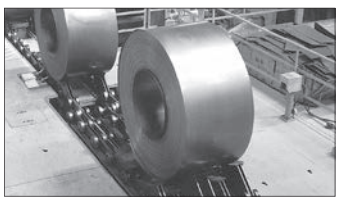
See pg. 101

Premature roller wear from billet and steel rob conveyance

Advanced DTA Series — Short conveyors

Basic ATA Series — Heavy loads/long lengths

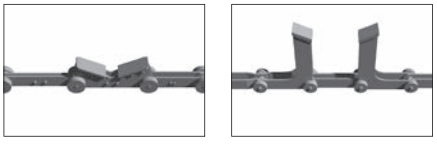
⑥ Coil Transfer



Coil Transfer Conveyor Chain

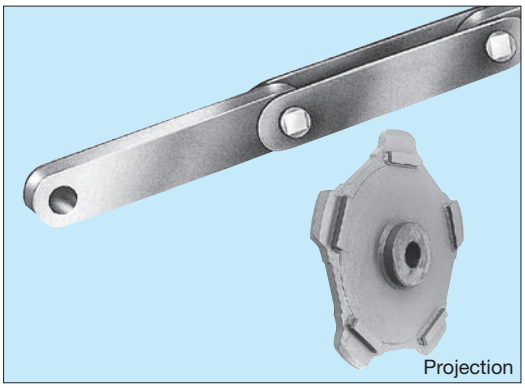
See pg. 70

Uses cylindrical bearings between rollers and bushes to minimize running resistance. This allows it to convey heavy loads.



Saddles designed to fit the shape of the conveyed material.

Block Chain



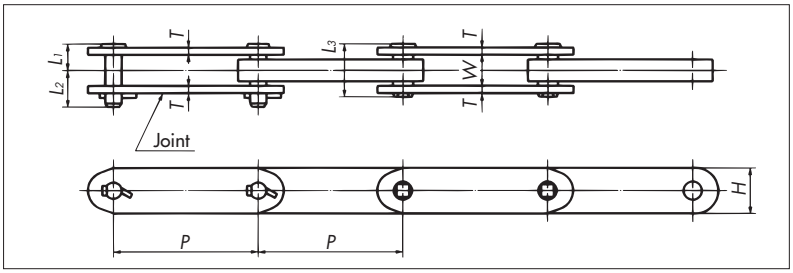
Simple, Yet Tough

This chain, consisting of two outer plates, one or two inner plates, and pins, offers structurally superior rigidity with the largest tensile strength by chain mass for toughness. The main parts use tempered steel for outstanding wear and heat resistance. Dogs are often attached as per the diagrams below.

Applications

1. Shuttle traction
2. Conveying high temperature items
3. Draw benches

■**Please use an outer plate support to reduce inner chain tension on the sprocket. Contact a Tsubaki representative for more information.**



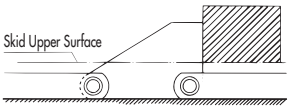
Chain Size	Pitch P	Link Height H	Pin L1	Pin L2	Pin L3	Outer Plate Thickness T	Outer Link Inner Width W	Approx. Mass kg/m	Average Tensile Strength kN	Average Tensile Strength {kgf}
NF30150	150	38.1	24	32	49	7.9	23.3	7.0	309	{31500}
NF30200	200							6.6		
NF40150	150	44.5	25.5	33.5	52	7.9	26.5	9.0	397	{40500}
NF40200	200							8.5		
NF56200	200	54	29.5	40.5	60	9.5	29.5	12.3	554	{56500}
NF56250	250							12.0		
NF63200	200	57	30.5	41.5	62	9.5	31.5	13.7	618	{63000}
NF63250	250							13.0		
NF70200	200	63.5	31.5	42.5	64	9.5	33.5	16.2	721	{73500}
NF70250	250							15.5		
NF90200	200	72	34.5	45.5	70	10.5	38	21.0	907	{92500}
NF90250	250							20.0		
NF115250	250	76.2	38	49	77	12.7	40	25.0	1120	{114000}
NF115300	300							24.0		
NF140250	250	85	44	54	88	14	47.5	32.0	1400	{143000}
NF140300	300							31.0		
NF180300	300	95	48.5	58.5	97	16	52.5	39.0	1740	{177500}
NF180350	350							37.8		
NF210300	300	110	51.5	61.5	103	16	59	50.0	2150	{219500}
NF210350	350							48.3		
NF250300	300	112	58.5	68.5	117	19	66	58.8	2440	{248500}
NF250350	350							56.7		
NF280300	300	122	58.5	68.5	117	19	67	66.0	2720	{277500}
NF280350	350							62.3		

Note: Contact a Tsubaki representative regarding delivery.
The above dimensions are nominal dimensions and may differ from actual dimensions.

There are many types of dogs, but the following outlines some of the most common ones.

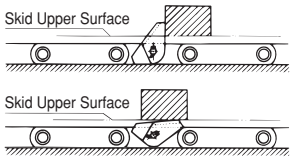
①Fixed Dog

The inner or outer plate is heightened to push conveyed items.



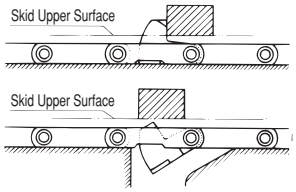
②Tilting Dog

Conveyed items in front are pushed along as with the fixed dog, but when items come from behind the dog tilts forward to allow the item to pass by. Once the item has passed, the dog automatically returns to its former position.



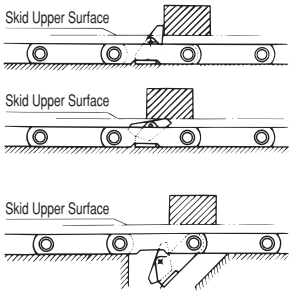
③Ducking Dog

This dog conveys items traveling on the guide rail, but when there is a break in the guide rail the dog ducks and the conveyed item is lowered as is.



④Tilting Ducking Dog

This dog combines both the functions of tilting and ducking dogs. Conveyed items running on the guide rail are pushed along, while items coming from behind are allowed to pass. When there is a break in the guide rail the conveyed item is lowered as is.



Ordering Block Chain

● Chain Numbering Example

NF56200

Chain Size — Pitch

● Ordering Example

Chain Specs: Block Chain
Chain Size: NF56
Pitch: 200mm
Quantity: 400 links

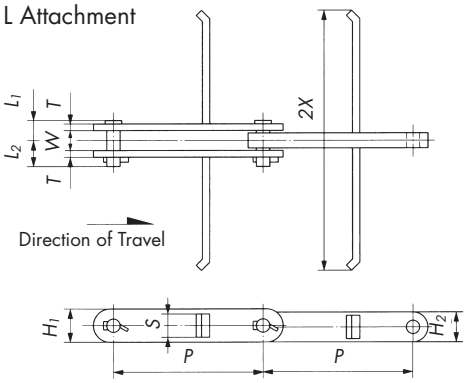
Chain Number	Quantity	Unit
NF56200	400	L

Block Chain for Flow Conveyors

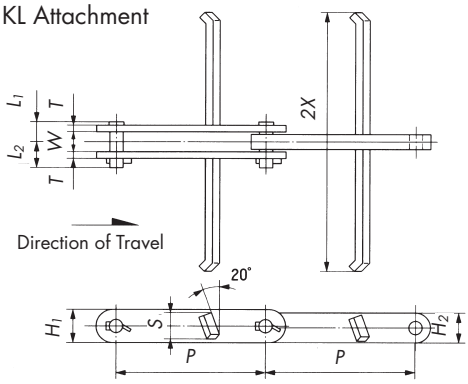
Block Chain for Flow Conveyors consists of two outer plates, one inner plate, and pins, with one of various attachments for flow conveyors added. Special alloy steel gives the chain toughness, and its high allowable wear makes it perfect for conveying highly abrasive items, relatively damp items, and high temperature items.

■ Please use an outer plate support to reduce inner chain tension on the sprocket.

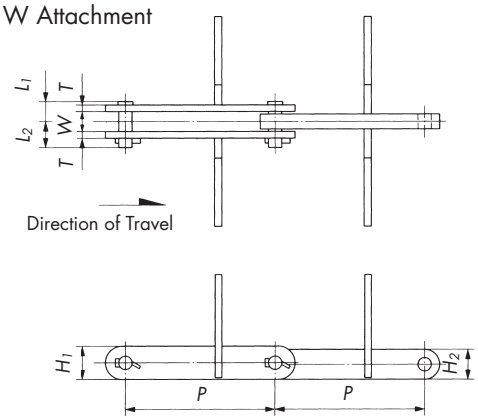
L Attachment

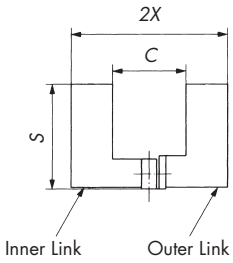


KL Attachment



W Attachment





Chain Size	Pitch P	Link Height H1	Link Height H2	Pin Length L1	Pin Length L2	Outer Plate Thickness T	Outer Plate Inner Width W	Approx. Mass {kg/m}	Average Tensile Strength kN{kgf}	Wing Width 2X	L Attachment Height S	L Attachment Additional Mass/Each (kg)	KL Attachment Height S	KL Attachment Additional Mass/Each (kg)	W Attachment Height S	W Attachment C	W Attachment Additional Mass/Each (kg)	Case Inner Width (mm)
NFX30150	150	44.5	38.1	24.5	32	7.9	23.3	7.9	309 {31500}	135	Contact a Tsubaki representative	0.18	Contact a Tsubaki representative	0.18	80	60	0.33	150
										185		0.26		0.26	115	85	0.68	200
NFX30200	200							7.6		250		0.36		0.36	140	105	1.12	270
										330		0.74		0.74	185	130	2.94	350
										430		0.98		0.98	230	135	5.14	450
NFX56200	200	63.5	54.0	28.5	39.5	9.5	29.5	14.7	554 {56500}	390		1.3		1.3	233	100	5.0	410
NFX56250	250							14.5		430		1.44		1.44	230	135	5.2	450
										560		1.92		1.92	290	160	8.6	580

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Block Chain for Flow Conveyors

Chain Numbering Example

NFX30150-1LKL15

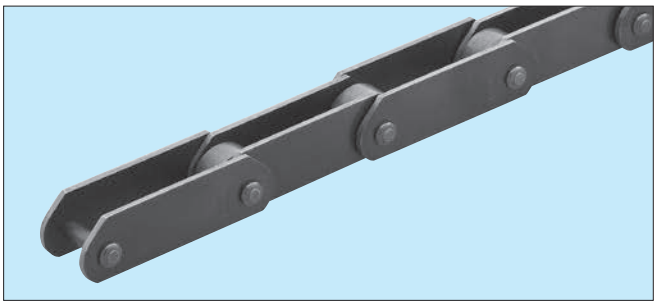
- NFX30150 — Chain Size
- 1 — Pitch
- L — Attachment Spacing
- K — Attachment Type
- L — Inner Case Width
- 15 — Inner Case Width

Ordering Example

Chain Specs: Block Chain for Flow Conveyors
Chain Size: NFX30 Pitch: 150mm
Attachment Spacing/Type: KL every Link
Inner Case Width: 150mm
Quantity: 400 links

Chain Number	Quantity	Unit
NFX30150-1LKL15	400	L

Deep Link Conveyor Chain (Direct Conveyance)

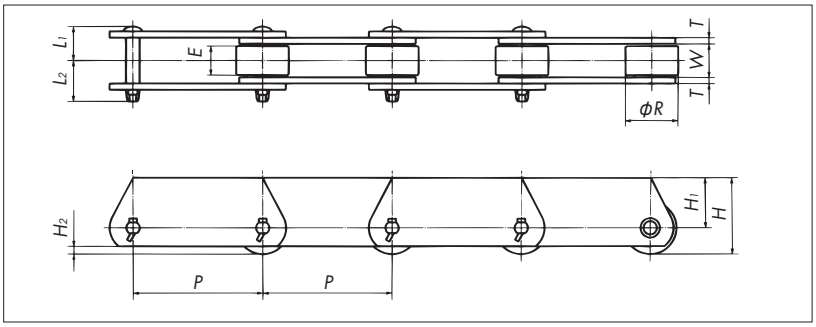


Wide link plates and R rollers with low frictional resistance are added to a base conveyor chain to allow for direct conveyance on the chain links.

1. Tsubaki also manufactures Deep Link Conveyor Chain with R rollers from Bearing Roller Conveyor Chains. These rollers will give the chain a low coefficient of friction and a higher roller allowable load, allowing users to go down two chain sizes. (It will be necessary to check allowable tension.)
2. Tsubaki can also manufacture Deep Link Conveyor Chains with top plates.
3. Tsubaki can manufacture Deep Link Chains to any specification.

Applications

1. Sheet or shaped steel conveyor lines at steelworks.
2. Automotive assembly lines, container assembly lines, etc.



Chain Size	Pitch P	Roller		Inner Link Inner Width W	Chain Height H	Plate			Pin		Approx. Mass kg/m	Roller Allowable Load kN{kgf}/each			Max Allowable Load kN{kgf}	
		Dia. R	Contact Width E			H1	H2	Thickness T	L1	L2		DT Series	AT Series	Bearing Roller	DT Series	AT Series
RF03075R-DL RF03100R-DL	75 100	31.8	15.5	16.1	36.9	21	4.9	3.2	18	20	3.2 2.8	0.54{55}	0.88{90}	1.96{200}	4.20{430}	9.95{1010}
RF05100R-DL RF05150R-DL	100 150	40	19	22	44	24	4	4.5	25	28.5	5.9 4.9	1.03{105}	1.72{175}	3.04{310}	9.80{1000}	20.3{2070}
RF08150R-DL	150	44.5	23	27	50.3	28	8	6.3	31	34.5	7.0	1.27{130}	2.11{215}	4.12{420}	11.2{1110}	20.3{2070}
RF10150R-DL RF10200R-DL	150 200	50.8	27	30	57.4	32	6.4	6.3	33	36	9.7 8.5	1.77{180}	2.94{300}	5.49{560}	16.1{1650}	32.3{3290}
RF6205R-DL	152.4	57.2	32	37.1	63.6	35	6.1	7.9	40.5	43	14.0	2.50{255}	4.17{425}	–	26.6{2710}	39.9{4060}
RF12200R-DL RF12250R-DL	200 250	65	32	37.1	73.5	41	10	7.9	40.5	43	14.9 13.5	2.50{255}	4.17{425}	8.34{850}	26.6{2710}	39.9{4060}
RF17250R-DL RF17300R-DL	250 300	80	44	51.4	90	50	13.8	9.5	51.5	58	22.5 21.5	4.02{410}	6.67{680}	14.1{1440}	35.0{3570}	55.3{5640}
RF26300R-DL	300	85*	50	57.2	95.5	53	10.5	9.5	55.5	61	24.3	5.30{540}	8.83{900}	16.7{1700}	44.9{4570}	74.3{7580}
RF36300R-DL RF36400R-DL	300 400	100*	56	66.7	112	62	12	12.7	68	78	39.0 34.2	7.45{760}	12.4{1260}	22.0{2240}	68.0{6930}	97.4{9930}
RF52450R-DL	450	110*	65	77	125	70	17	16	82	90	46.0	9.81{1000}	16.6{1690}	–	71.4{7280}	147{15000}

Note: 1. Contact a Tsubaki representative regarding delivery.
2. Roller diameters marked with * are different from RF Conveyor chain diameters and require a special sprocket.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Deep Link Conveyor Chain

Chain Numbering Example

RF12200R-DL-DT

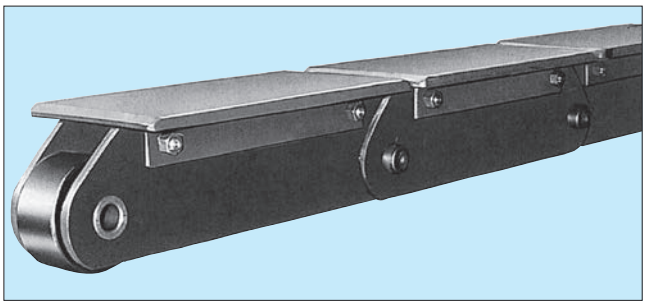
- RF12200R: Chain Size / Roller Type
- DL: Chain Type: DL: Deep Link Conveyor Chain
- DT: Chain Series

Ordering Example

Chain Size: RF12 Pitch: 200mm Roller Type: R Roller
Chain Specs: Standard DT Series
Quantity: 400 links

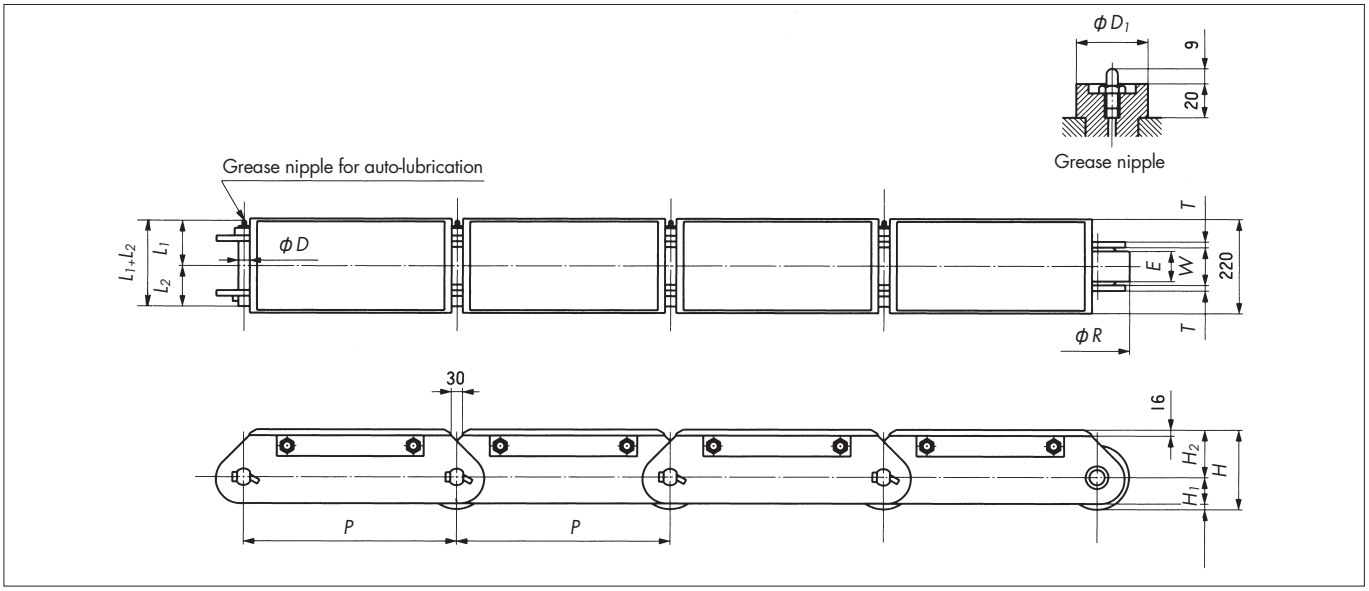
Chain Number	Quantity	Unit
RF12200R-DL-DT	400	L

Coil Transfer Conveyor Chain (For Low Friction/Heavy Load Applications)



This extremely rigid reinforced chain is used for conveying especially heavy objects, such as containers, steel structures, and cold/hot coils and slabs at steelworks.

1. Uses Tsubaki's unique bearing system of cylindrical bearings between the roller and bush.
2. This solid chain has low running resistance (coefficient of friction: 0.03) , and the top plate can be easily attached or removed, making maintenance a snap.
3. Rollers are designed with extremely high fracture resistance.



Chain Size	Pitch P	Roller		Inner Link	Plate	Chain Height				Pin					Approx. Mass (kg/m)	Max. Allowable Load Tension kN{kgf}	Roller Allowable Load kN{kgf/each}
		Dia. R	Contact Width E	Inner Width W	Thickness T	H	H1	H2	H3	Dia. D	Head Dia. D1	L1+L2	L1	L2			
CT60300	300	125	60	65	12.7	171	42.5	108.5	20	28	36	165	88	77	90	83.3 {8500}	29.4 {3000}
CT60400	400														82		
CT60500	500														78		
CT90300	300	135	65	79	12.7	182.5	54	115	13.5	30	36	179	95	84	99	126 {12800}	35.3 {3600}
CT90400	400														91		
CT90500	500														87		
CT130300	300	150	70	84	16	195	61	120	14	38	46	197	104	93	123	181 {18500}	42.2 {4300}
CT130400	400														112		
CT130500	500														105		
CT160400	400	175	80	91	16	227	69	139.5	18.5	41	46	205	108	97	135	224 {22800}	55.9 {5700}
CT160500	500														126		
CT160600	600														118		
CT200600	600	180	90	102.6	19	225	76	135	14	45	50	229	119	110	141	279 {28500}	64.7 {6600}

Note: 1. Contact a Tsubaki representative regarding delivery.
2. Roller allowable load values are when rail tensile strength is 400N/mm²{41kgf/mm²}.
3. Top plate widths over 220 available upon request. Contact a Tsubaki representative for more information.
4. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Coil Transfer Conveyor Chain

Chain Numbering Example

CT90300

Chain Size — Pitch

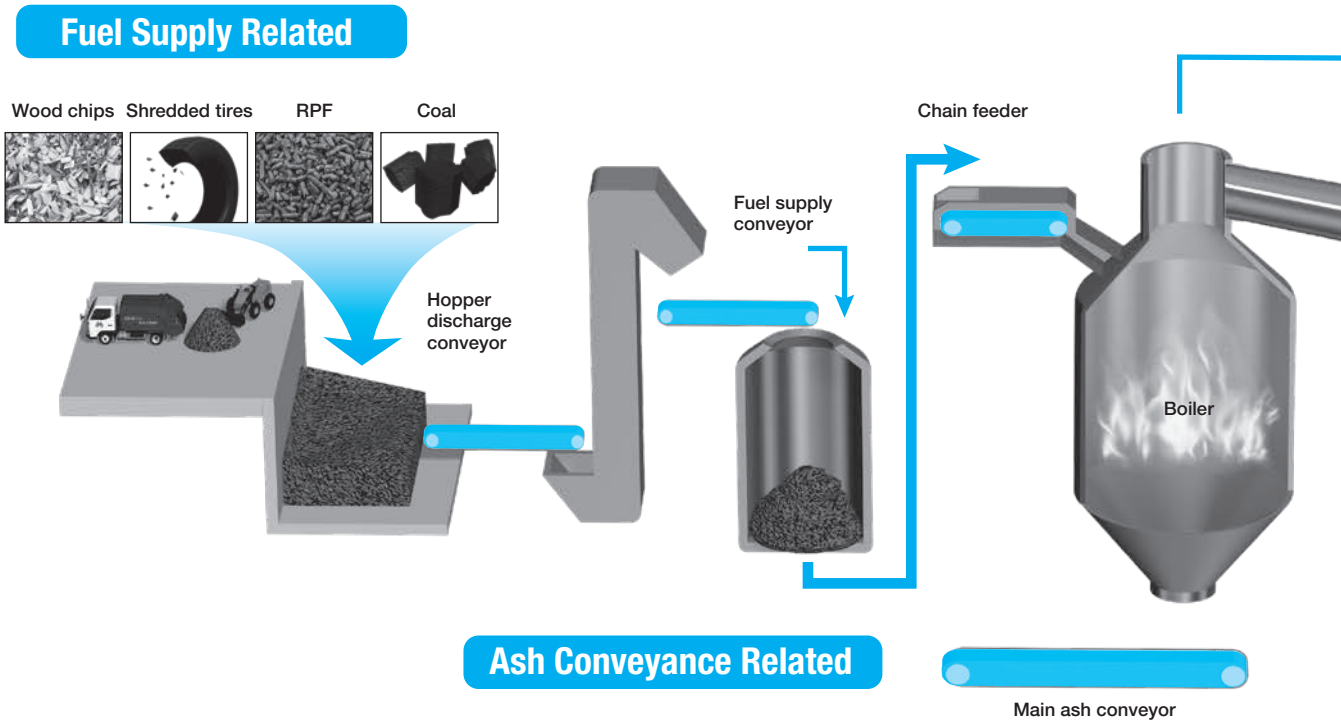
Ordering Example

Chain Size: CT90 Pitch: 300mm
Quantity: 400 links

Chain Number	Quantity	Unit
CT90300	400	L

Conveyor Chains for Biomass Power Generation Facilities

Conveyor chains for even the harshest biomass power generation processes.



Fuel Supply Conveyor

Basic
DT Series
AT Series

DT Series
Most versatile chain

AT Series
Higher allowable load and roller wear resistance

Corrosive environment

■ **Premature chain elongation**

For better pin-bush corrosion resistance
MT Series*

See pg. 115

*Tsubaki offers an MT Series with an optimal clearance to combat poor articulation.

■ **Heavy bush-roller wear**

For better bush-roller corrosion resistance
RT Series*

See pg. 115

*Tsubaki offers an RT Series with an optimal clearance to combat poor roller rotation.

■ **Rust corrosion**

Basic GS Series

Infiltration of material

■ **Premature chain elongation**

For better pin-bush corrosion resistance
CT·BT Series*

See pg. 115

*Tsubaki offers specs with an optimal clearance to combat poor articulation.

■ **Heavy bush-roller wear***

Advanced DTA Series
For short conveyors

Basic AT Series
For long conveyors

*Tsubaki offers an AT Series with an optimal clearance to combat poor roller rotation.

For better pin-bush wear resistance

For better corrosion and wear performance
GSA Series

■ **For better wear resistance**

Over twice the wear life of CT/BT Series
FB Series

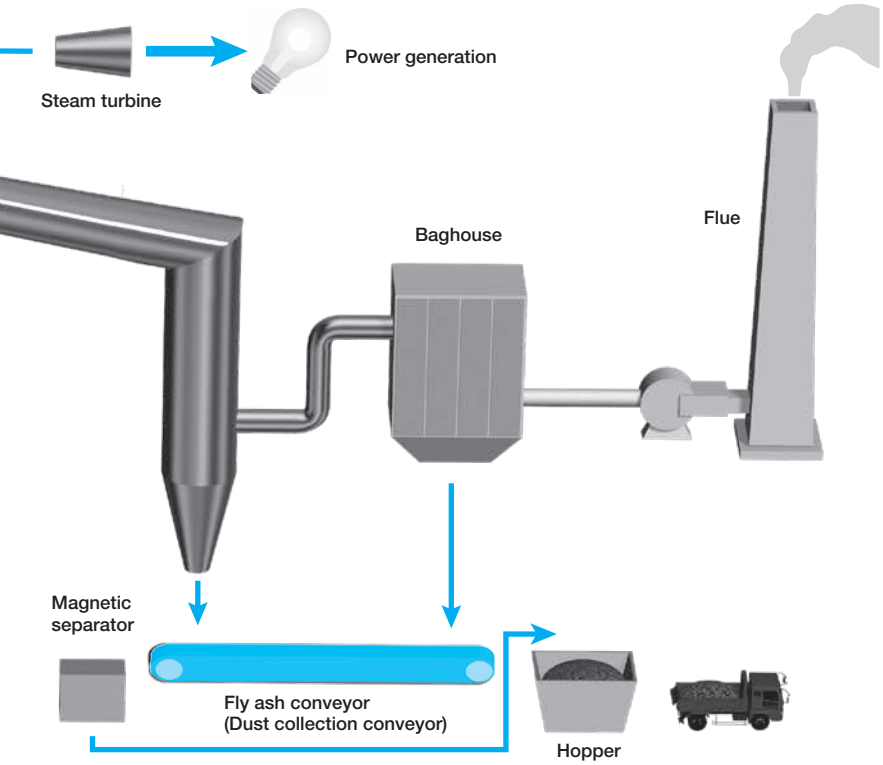
See pg. 63

Twice the roller wear performance of AT Series
ATA Series

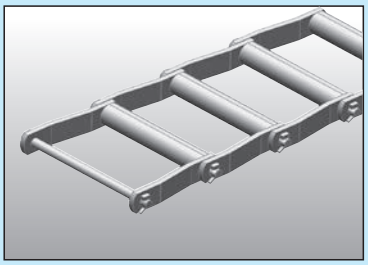
■ **For extremely harsh environments**

Triple the roller wear performance of AT Series
FA Series

See pg. 58



Wood Chip Conveyance



●WD Series Drag Chain

Conveys by pushing material with the leading face of the bush. Very effective in wood chip conveyance. Chains with better corrosion and wear resistance through a combination of materials and heat treatment are also available. Contact a Tsubaki representative for details.

See pg. 64

Ash Conveyors

Wet Ash Conveyance

■ **Premature chain elongation**

For better pin-bush corrosion resistance
MT Series*

See pg. 115

*Tsubaki offers an MT Series with an optimal clearance to combat poor articulation.

■ **Countermeasure**

Conveyor Chain
MT-FB Series

See pg. 63

- Material with corrosion resistance
- Uses optimal clearance

■ **Heavy bush-roller wear**

For better bush-roller corrosion resistance
RT Series*

See pg. 115

*Tsubaki offers an RT Series with an optimal clearance to combat poor roller rotation.

Conveyor Chain
AM/AP Series

See pg. 73

- Material with corrosion resistance
- Uses optimal clearance

Dry Ash Conveyance

■ **Premature chain elongation**

For better pin-bush corrosion resistance
CT・BT Series*

See pg. 115

*Tsubaki offers specs with an optimal clearance to combat poor articulation.

Conveyor Chain
FG Series

See pg. 73

- Uses optimal clearance
- Effective against poor articulation and poor roller rotation

Conveyor Chain
FB Series

See pg. 63

- Over twice the wear life of BT Series

■ **Heavy bush-roller wear***

Advanced ATA* Series

■ **Offers twice the bush-roller wear performance of AT Series**

*Tsubaki offers AT/ATA Series with an optimal clearance to combat poor roller rotation.

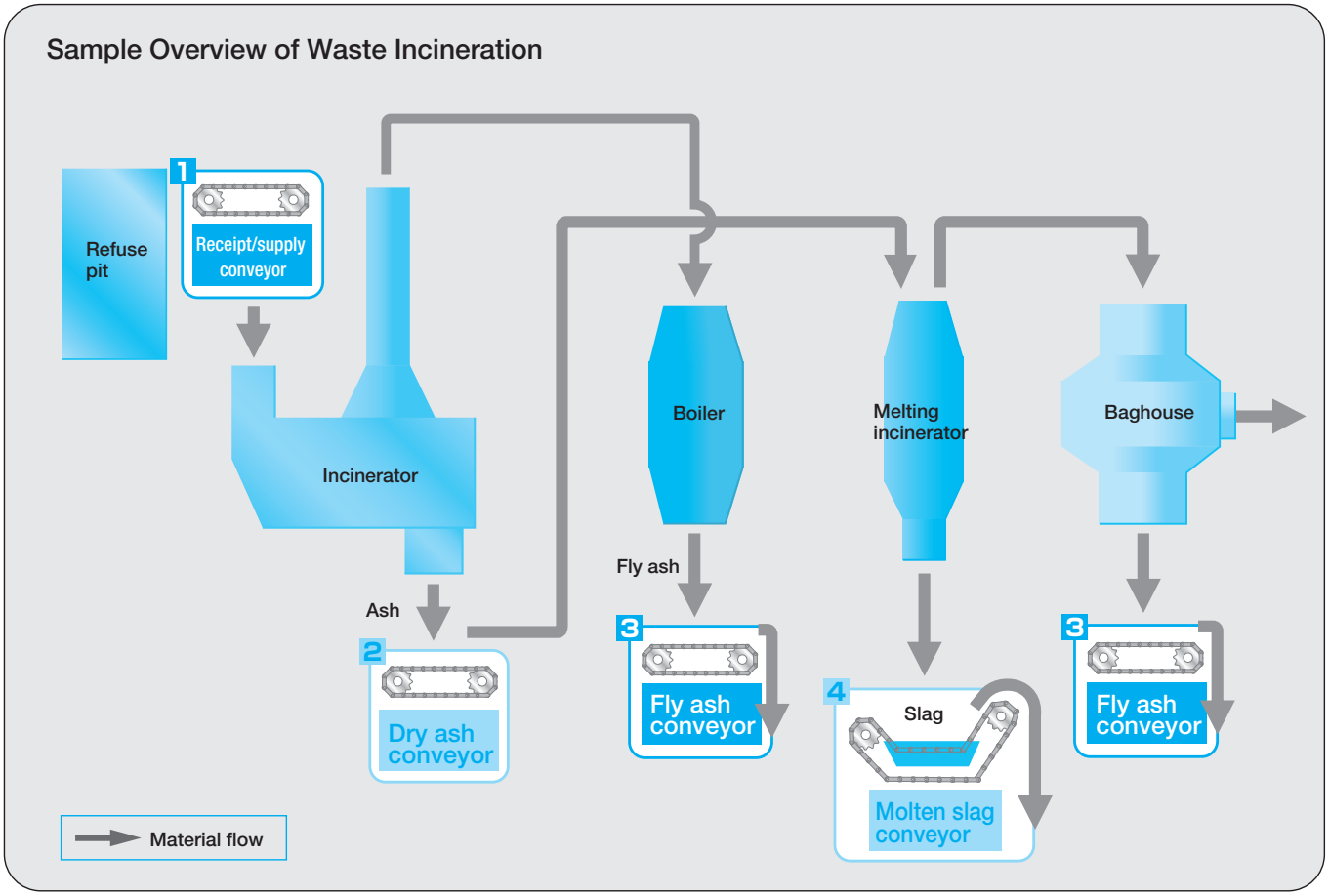
Conveyor Chain
AA/AG Series

See pg. 73

- Uses optimal clearance
- Effective against poor articulation and poor roller rotation

Conveyor Chains for Waste Incineration

The optimal conveyor chain for the harsh conditions facing each process.



1 Receipt/Supply Conveyor

The first line to convey the collected waste. The received waste can cause impacts and high loads on the chain here.

KG/KA Series

For receipt/supply conveyors

• Conveyed material: Collected waste

2 Ash Conveyor

This line conveys ash from the incinerator. In some instances, ash that has been cooled by being dropped in water is also conveyed.

AG/AA Series

For dry ash conveyance

• Conveyed material: Incinerator ash

AM/AP Series

For wet ash conveyance

• Conveyed material: Incinerator ash (wet)

3 Fly Ash Conveyor

This line conveys the fly ash that has been created by the incinerator, boiler, etc. The chain is completely enveloped in fly ash here. Chemically treated fly ash is also sometimes conveyed here.

FG Series

For general fly ash conveyors

• Conveyed material: Fly ash

FP Series

For corrosive fly ash conveyance

• Conveyed material:
Fly ash directly after treatment

4 Molten Slag Conveyor

This line conveys the slag produced by the melting incinerator. The slag will sometimes turn the cooling water into a strong alkaline or acid.

YP Series

For molten slag conveyors

• Conveyed material: Molten slag

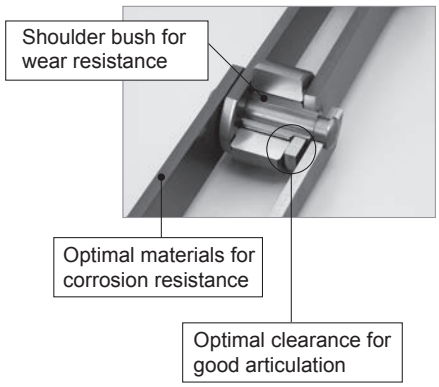
Conveyor Chains for Waste Incineration

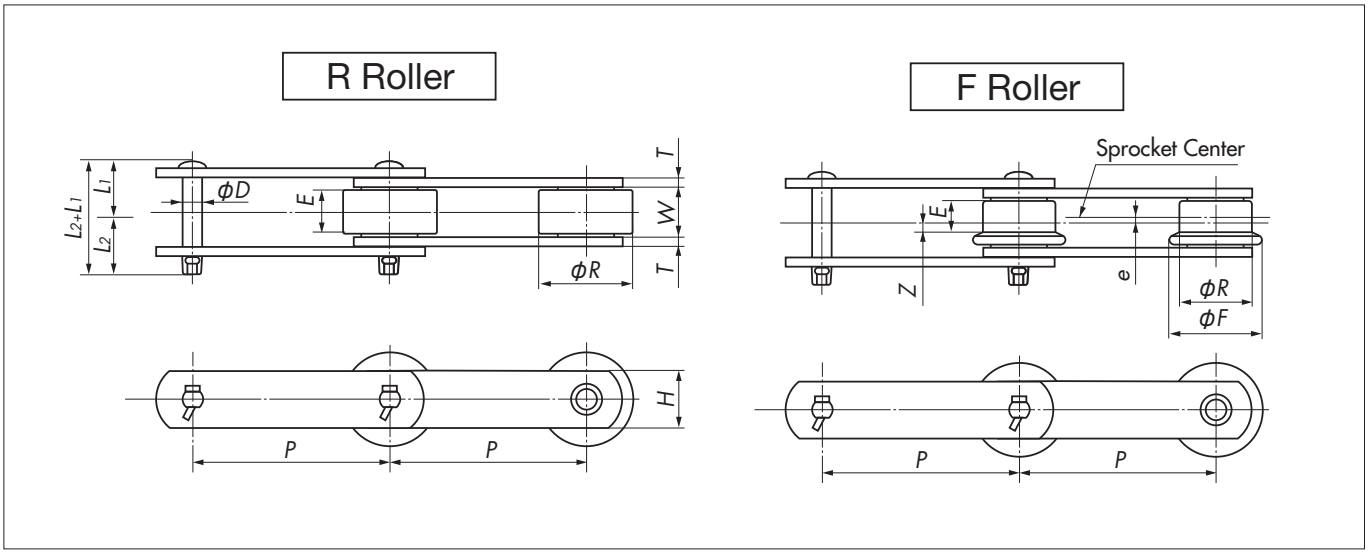
Waste Treatment Chain Series

Conveyor Type		Chain Series		Features Required for Each Process			
				Wear Resistance	Corrosion Resistance	Good Articulation	Good Roller Rotation
Intake/feed conveyor		KG	KA	◎		○	○
Bottom ash conveyor	Dry	AG	AA	○		○	○
	Wet	AM			○	○	○
		AP			◎	○	○
Fly ash conveyor	Normal	FG		○		◎	○
	Corrosive	FP			◎	◎	○
Slag conveyor		YP		◎	◎	○	○

Legend ◎ : Ideal ○ : Suitable
- Each series has features suited to the different waste treatment processes.
- KA and AA Series are stronger (double the tensile strength) versions of the KG, AG, and AM Series.

Features of Conveyor Chains for Waste Incineration



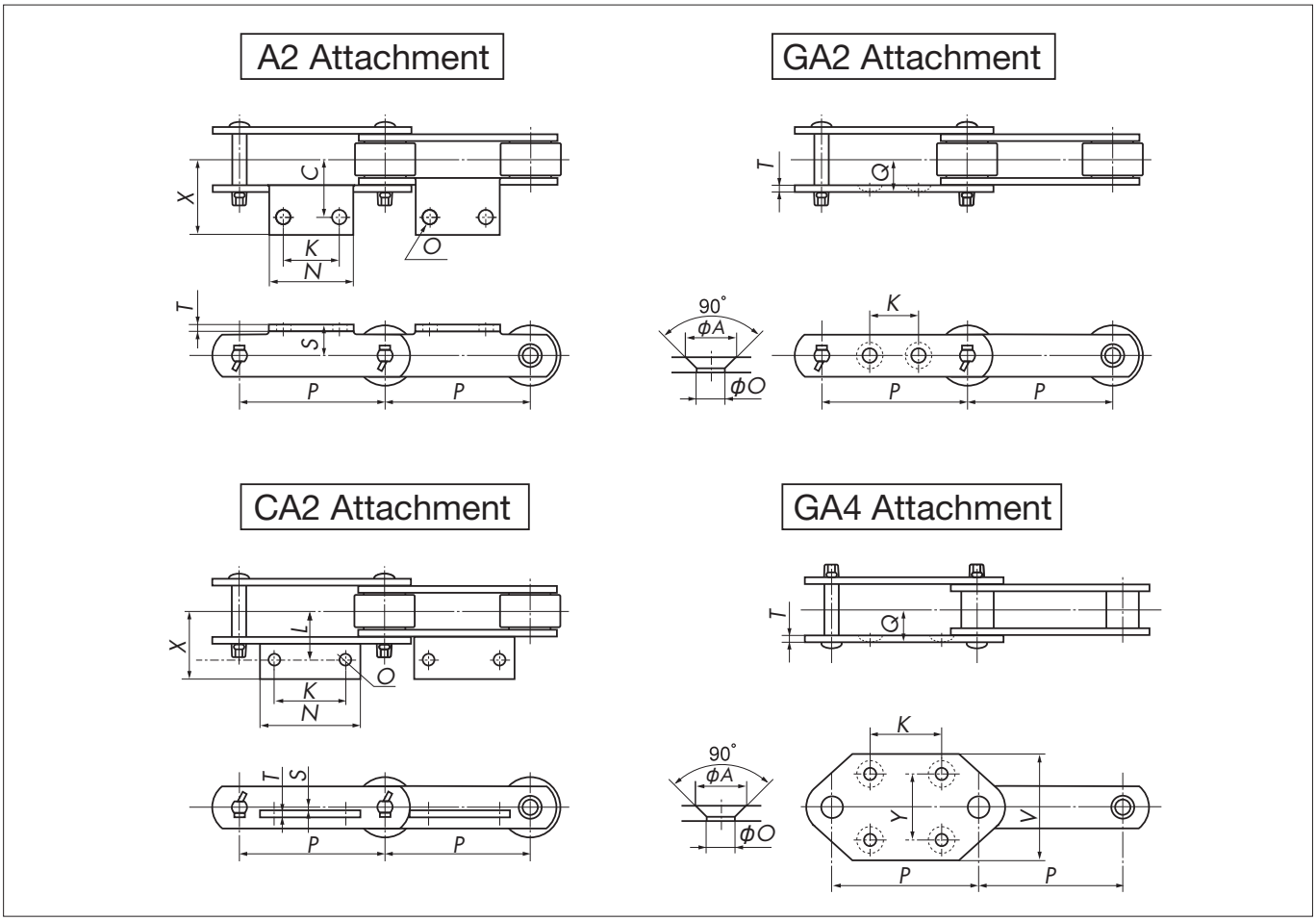


Chain Dimensions

Chain Size	Roller Type	Pitch P	Roller Type							Inner Width W	Plate		Pin			
			R Roller		F Roller											
			R	E	R	F	E	e	Z		H	T	D	L1+L2	L1	L2
RF03075	R.F	75	31.8	14.5	31.8	42	11	1.8	3.8	15.1	22	3.2	8.0	38	18	20
RF03100	R.F	100														
RF05100	R.F	100	40	19	40	50	14	2.5	4.5	21	32	4.5	11.3	53.5	25	28.5
RF05125	R.F	125														
RF05150	R.F	150														
RF10100	R	100	50.8	25	50.8	65	19	3	6.5	28	38.1	6.3	14.5	69	33	36
RF10125	R.F	125														
RF10150	R.F	150														
RF12200	R.F	200	65	32	65	80	24	4	8	35.1	44.5	7.9	14.5	83.5	40.5	43
RF12250	R.F	250														
RF17200	R.F	200	80	44	80	100	34	5	12	49.4	50.8	9.5	15.9	109.5	51.5	58
RF17250	R.F	250														
RF26250	R.F	250	100	50	100	125	38	6	13	55.2	63.5	9.5	19.1	116.5	55.5	61
RF26300	R.F	300														

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Conveyor Chains for Waste Incineration



Attachment Dimensions

Chain Size	Roller Type	A2 Attachment					CA2 Attachment						A2 CA2	GA2	GA4 Attachment			GA2 GA4		
		C	X	K	N	S	L	X	K	N	S	T	O	K	V	Y	K	A	O	Q
RF03075	R, F	30	46	30	55	20	35	46	30	55	0	3.2	10	30	—	—	—	13.5	8	15.5
RF03100	R, F			40	65				40	65				50	—	—	—			
RF05100	R, F	35	47	40	65	22	40	52	40	65	3	4.5	10	40	—	—	—	15	10	21
RF05125	R, F			50	75				50	75				50	—	—	—			
RF05150	R, F			60	85				60	85				60	—	—	—			
RF10100	R	50	67	40	70	28	50	65	40	70	4	6.3	12	30	—	—	—	20	12	28.5
RF10125	R, F			50	80				50	80				40	—	—	—			
RF10150	R, F			60	90				60	90				60	110	70	75			
RF12200	R, F	60	79	80	120	38	60	79	80	120	5	7.9	15	80	110	70	100	26	15	35.5
RF12250	R, F			125	170				125	165				125	—	—	—			
RF17200	R, F	75	100	80	120	45	75	98	80	120	6	9.5	15	70	120	80	100	26	15	45.5
RF17250	R, F			125	170				125	165				110	150	100	140			
RF26250	R, F	80	108	125	170	55	80	105	125	165	6	9.5	15	—	150	100	140	26	15	48.5
RF26300	R, F			180	220				180	220				140	150	100	180			

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Waste Treatment Conveyor Chain

Chain Numbering Example

RF12250F-KG-1LA2

- Chain Size
- Roller Type
- Chain Series
- Attachment Spacing
- Attachment Type

Ordering Example

Chain Size (Waste Treatment): RF12 Pitch: 250mm
Roller Type: F Roller
Chain Specs: KG Series
Attachment Type/Spacing: A2 every link
Quantity: 400 links

Chain Number	Quantity	Unit
RF12250F-KG-1LA2	400	L

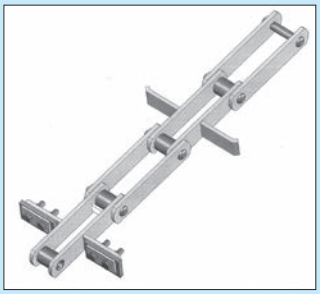
Conveyor Chains for the Food Industry

Conveyor chains that satisfy various food industry needs.

Grains and Feed

Flow Conveyor Chain for Grains

Flow Conveyor Chains are designed not to crush the grains during conveyance or to leave any grains behind in the case.

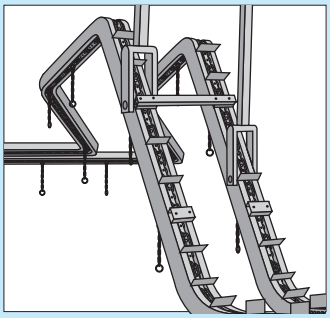


See pg. 77

Meat

3D Overhead Conveyor Chain for Meat

Specially designed chain to accommodate 3D layouts. Driven by sprockets with special tooth profiles.

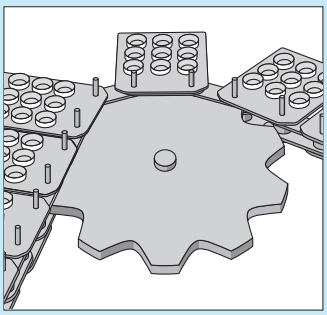


Contact a Tsubaki representative.

Frozen Treats / Ice Cream

Cold Resistant Chain

Chain designed to minimize wear elongation down to -30°C. Circulates in freezers in a spiral fashion.

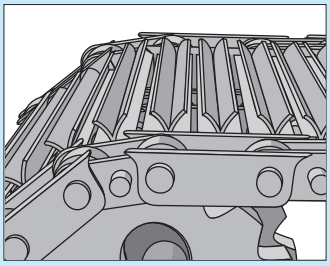


Contact a Tsubaki representative.

Food

Sterilizer Chain

Chain designed to resist stress corrosion cracking and wear elongation in steam, cold water, and harsh atmospheres on long length conveyors. They have minimal differences when used in parallel as a set.

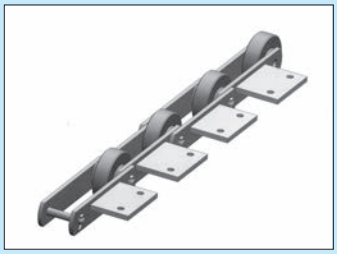


Contact a Tsubaki representative.

Bread Making

Tunnel Oven Conveyor Chain

Chain with excellent wear performance between bushes and rollers for use on long length, low speed conveyors at 200°C.

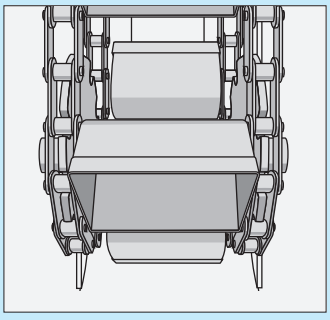


Contact a Tsubaki representative.

Sugar Refining

Bucket Elevator Chain for Refined Sugar Conveyance

Bucket Elevator Conveyor Chain that minimizes rusting and metallic debris from wear. Uses clean specifications to minimize chain grime.

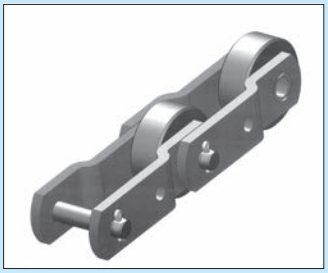


See pg. 160

Beverages

Conveyor Chain for Bottle Washers

Chain designed to minimize wear from detergents and contact with water. Customers have praised our combination of materials and heat treatments to match their usage environment.



Contact a Tsubaki representative.

Food Packaging

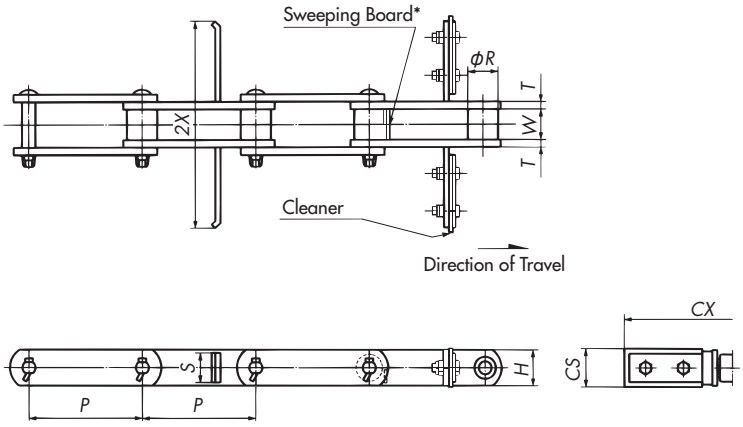
Lambda Plastic Roller Conveyor Chain for Food Packaging Conveyors

Conveyor chain that can be used without additional lubrication. Helps maintain a clean work environment.

See pg. 78

Flow Conveyor Chain

Flow Conveyor Chain for Grain



These chains are specially designed for grain conveying horizontal flow conveyors (incline/ decline gradient less than 10°).

The sweeping board prevents material on the rail from being crushed, while the cleaner prevents grain from remaining in the case.

Cleaner attachment spacing is every 6m.

Attachments are normally spaced every two links.

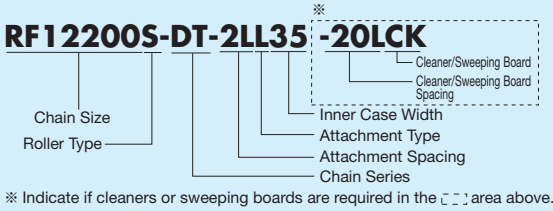
* Sweeping boards are not attached for forward and reverse operation.

Chain Size and Roller Type	Case Inner Width	Pitch *P*	Roller Diameter *R*	Inner Link Inner Width *W*	Plate		Attachment		Cleaner		Approx. Mass kg/m	DT Series	
					Height *H*	Thickness *T*	Wing Width *2X*	Height *S*	Width *CX*	Height *CS*		Max. Allowable Load kN{kgf}	Min. Tensile Strength kN{kgf}
RF03075S	110	75	15.9	16.1	22.0	3.2	95	20	105	28	2.1	4.20{430}	32.4{3300}
RF430S	150	101.6	20.1	22.6	25.4	4.8	135	22	145	32	3.4	7.70{790}	49.7{5100}
RF450S	150	101.6	22.2	27.0	28.6	6.3	135	25	145	34	5.0	11.2{1140}	74.6{7600}
RF08125S	200	125	22.2	27.0	28.6	6.3	185	25	195	34	5.0	11.2{1140}	74.6{7600}}
RF10125S	200 240	125	29	30.0	38.1	6.3	185 225	38.1	195 235	47	6.8 7.3	16.1{1650}	107{11000}
RF10150S	270 320	150	29	30.0	38.1	6.3	250 300	38.1	265 315	47	6.9 7.2	16.1{1650}	107{11000}
RF6205S	270	152.4	34.9	37.1	44.5	7.9	250	38.1	265	53	10.5	26.6{2710}	160{16500}
RF12200S	350	200	34.9	37.1	44.5	7.9	330	40	345	53	10.3	26.6{2710}	160{16500}
RF17200S	350 450	200	40.1	51.4	50.8	9.5	330 430	46	345 445	58	14.0 16.0	35.0{3570}	213{22000}
RF26200S	450	200	44.5	57.2	63.5	9.5	430	58	445	68	21.0	44.9{4570}	285{29000}

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Flow Conveyor Chain for Grain

Chain Numbering Example



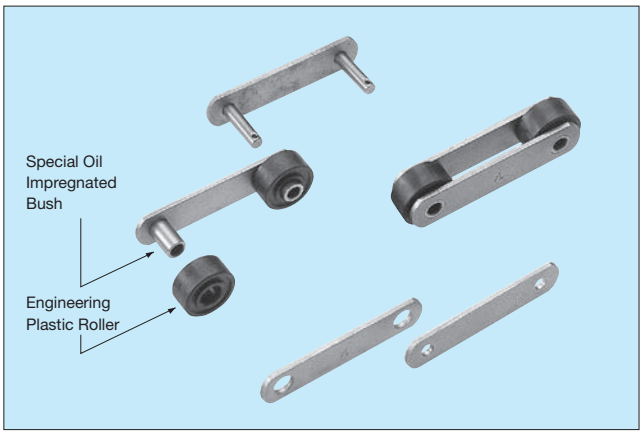
※ Indicate if cleaners or sweeping boards are required in the [ ] area above.

Ordering Example

Chain Size: RF12 Pitch: 200mm Roller Type: S Roller
Chain Specs: Standard DT Series
Attachment Spacing/Type: L every 2nd link
Inner Case Width: 350mm Quantity: 400 links

Chain Number	Quantity	Unit
RF12200S-DT-2LL35-20LCK*	400	L

LAMBDA® Plastic Roller Conveyor Chain



1. **Lube-free, long life**
   Wear life between pin-bush and bush-roller is seven times that of DT Series while being lube-free.
2. **Low noise**
   5-7db quieter than steel rollers. No grating sound when rollers rotate.
3. **Low running resistance**
   55% lower than steel rollers. (Unlubricated)
4. **Clean**
   Suppresses generation of metal wear dust.
5. **Lightweight**
   30% lighter than steel rollers.
6. **Compatible**
   Dimensionally compatible with conveyor chains. Users can switch to Lambda Plastic Roller Conveyor Chain with no additional changes. (It is necessary to check strength and other factors.)

Specifications

Material			Usage Temp.	Roller Rotational Coefficient of Friction	Chain Speed	Sprocket
Roller	Bush	Other Parts				
Engineering Plastic	Special Oil Impregnated Bush	Steel	0°C to 50°C	0.07 (lube-free)	25m/min or less	RF Standard Sprocket

Note:
1. Link plates are black-coated carbon steel.
2. Roller coefficient of friction values assume a low dust, room temperature, indoor environment.

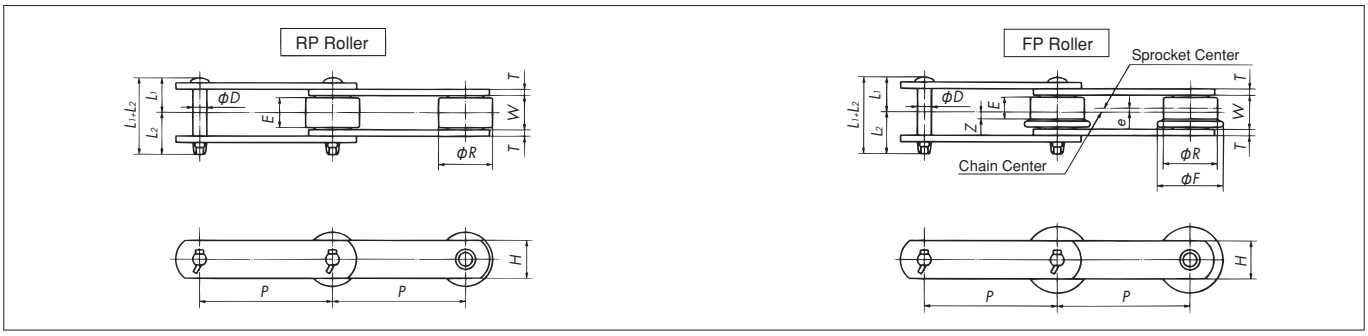
Unit : kN{kgf}

Chain Size \ Sprocket Teeth No.	6		7		8		9		10	
	kN	{kgf}	kN	{kgf}	kN	{kgf}	kN	{kgf}	kN	{kgf}
RF03075-LMC	1.47	{150}	1.86	{190}	1.96	{200}	1.96	{200}	1.96	{200}
RF03100-LMC	1.86	{190}	1.96	{200}	1.96	{200}	1.96	{200}	1.96	{200}
RF05100-LMC	2.65	{270}	3.33	{340}	4.21	{430}	5.20	{530}	5.20	{530}
RF05125-LMC	3.74	{380}	4.71	{480}	5.20	{530}	5.20	{530}	5.20	{530}
RF05150-LMC	4.90	{500}	5.20	{530}	5.20	{530}	5.20	{530}	5.20	{530}

Note:
1. R roller max. allowable tension values shown above are for chain speeds under 25m/min.
2. F rollers have 70% of the above values.
3. Refer to selection pages for chain tension calculations.

Dimensions

Base chain and attachments are the same as RF Conveyor Chain.



Chain Size	Pitch P	RP Roller		FP Roller					Inner Link Inner Width W	Plate		Pin				Roller Allowable Load (each)		Approx. Mass kg/m	Attachment Type
		Dia. R	Contact Width E	Dia. R	Flange Dia. F	Flange Dia. F	Off-center e	Z		Height H	Thickness T	Dia. D	L1+L2	L1	L2	kN	{kgf}		
RF03075-LMC	75	31.8	15.5	31.8	42	12	1.8	4.3	16.1	22	3.2	8.0	38	18	20	0.49	{50}	1.9	A
RF03100-LMC	100																	1.7	K
RF05100-LMC	100	40	19	40	50	14	2.5	4.5	22	32	4.5	11.3	53.5	25	28.5	0.83	{85}	3.6	SA
RF05125-LMC	125																	3.4	SK
RF05150-LMC	150																	3.2	G

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Lambda Plastic Roller Conveyor Chain

Chain Numbering Example

RF03100RP-LMC-1LK2

- Chain Size
- Roller Type
  RP: Engineering Plastic R Roller
  FP: Engineering Plastic F Roller
- Chain Series
  LMC: Lambda Plastic Roller Conveyor Chain
- Attachment Spacing
- Attachment Type

Ordering Example

Chain Size: RF03 Pitch: 100mm
Roller Type: Engineering plastic R roller
Quantity: 400 links

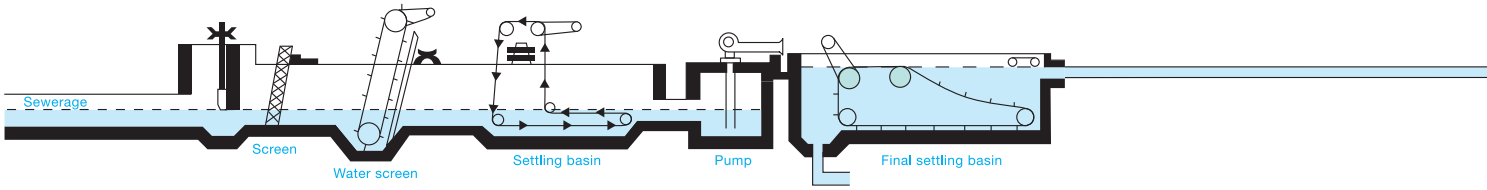
Chain Number	Quantity	Unit
RF03100RP-LMC	400	L

Water Treatment Chains

Application	Chain Type	Specification	Series	Material	Chain Number
Collector	ACP	Non-metallic	—	Engineering plastic	ACP04152
					ACP04152P
	ACR	With rollers	—	SUS400 series	ACR810
					ACR815
					ACR816
					ACR819
	ACR	Stainless steel	—	SUS300 series	ACR810SS
Sediment collectors and conveyors	ACS	Stainless steel (bushed type)	—	SUS400 series	ACS13078W
					ACS13103W
					ACS13152W
					ACS15152W
					ACS19152W
					ACS19152WT
					ACS25152W
					ACS35152W
Water screens	JAC	SS/R/F Rollers (bushed roller type)	NVJ	Pin/bush: SUS400 series Roller/plate: Alloy steel	JAC08152□-NVJ
					JAC10152□-NVJ
					JAC6205□-NVJ
					JAC21152□-NVJ
					JAC26152□-NVJ
		Stainless steel S/R/F Rollers	PJ	SUS400 series	JAC08152□-PJ
					JAC10152□-PJ
					JAC10152□-PJ-H
					JAC6205□-PJ
					JAC6205□-PJ-H
					JAC21152□-PJ
					JAC26152□-PJ
		Alternating F Rollers	PJW	SUS400 series	JAC10152F-PJW
					JAC10152F-PJW-H
					JAC6205F-PJW
					JAC6205F-PJW-H
		Stainless steel S/R/F Rollers	SJ	SUS300 series	JAC08152□-SJ
					JAC10152□-SJ
					JAC6205□-SJ
					JAC21152□-SJ
					JAC26152□-SJ
		Alternating F Rollers	SJW	SUS300 series	JAC10152F-SJW
					JAC6205F-SJW
					JAC21152F-SJW
					JAC26152F-SJW
		Plastic F Rollers (low noise type)	—	F roller: Plastic Pin/bush/plate: SUS300 series	JAC10152FP-SJW
					JAC6205FP-SJW
					JAC21152FP-SJW
Drive	ACRD	With rollers	—	SUS400 series	ACRD08
					ACRD10
					ACRD12
					ACRD17
	BF	Stainless steel (bushed type)	—	SUS400 series	BF120-N
					BF140
					BF140-E
					BF160
					BF160-E
					BF200
					BF200-E
					BF240
					ACS4124
					BF2120
	EPCD	Plastic	—	Engineering plastic	EPC78D
					EPC90D

Diagram of Water Treatment Equipment

Water screen JAC Chain
Sediment conveyor ACS Chain
Sediment collector ACS Chain
Sediment conveyor ACS Chain
Collector ACS Chain, ACR Chain, ACP Chain
Scum skimmer Power Cylinder



Sprockets

Tsubaki provides sprockets that can satisfy the type, material, or dimensional requirements of any main or drive chain.

Collector Parts

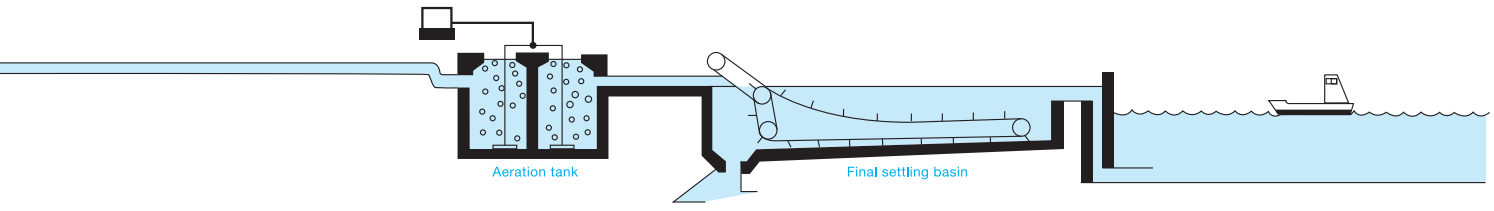
Part Name	Material
Flight	FRP
Shoe	Plastic, FCD, SCS
Distance spacer	Plastic

Average Tensile Strength kN{kgf} (average fracture strength)	Minimum Tensile Strength kN{kgf} (guaranteed fracture strength)	Features	Attachment Types
39.2 { 4000}	35.3{ 3600}	Rolling contact is made possible through chains with rollers and block tooth sprockets, increasing wear resistance. Lightening the chain will also result in cost savings by reducing the necessary drive power.	SF4 • Attachment hole-related dimensions can be changed.
29.4 { 3000}	24.5{ 2500}		
98.1 {10000}	88.3{ 9000}	Using together with a plastic sprocket will result in superior wear and corrosion resistance. And as plastic chains are lighter than steel chains, the lower power requirement will result in lower costs.	
147 {15000}	132 {13500}		
157 {16000}	142 {14500}		
186 {19000}	172 {17500}		
58.8 { 6000}	52.9{ 5400}	This chain with rollers is stronger and has better recyclability than plastic chains.	
132 {13500}	123 {12500}	This chain was the first in the industry to use tempered stainless steel for increased wear and corrosion resistance. Also available in SUS300 series stainless steel. ACS19152WT uses Tokyo Specifications with a bush diameter of ϕ30.	SF4 LA1 Extended pin • LA1 uses alloy steel.
147 {15000}	137 {14000}		
186 {19000}	172 {17500}		
186 {19000}	172 {17500}		
245 {25000}	226 {23000}		
343 {35000}	314 {32000}		
147 {15000}	127 {13000}	The right combination of material will give you the right chain for any application. NVJ Series: Most economical chain, has high strength PJ Series: Provides excellent wear resistance SJ Series: Provides superb corrosion resistance PJW Series: Same as the PJ Series but with alternating flanges SJW Series: Same as the SJ Series but with alternating flanges • PJW and SJW are wider than standard chains. Low Noise Series: Less running noise due to plastic F Roller • The rollers on attachment links are steel. • Uses special sprockets. Be sure to indicate chain specifications. • Insert the roller type code in the □ area. • NVJ Series is equivalent to VJ Series with different material for some components. • Chain size –H indicates heavy duty specifications.	Y A2 (1) A2 (2) • Attachments can be alloy steel or SUS400/300 stainless steel.
216 {22000}	196 {20000}		
275 {28000}	250 {25500}		
382 {39000}	343 {35000}		
510 {52000}	461 {47000}		
142 {14500}	132 {13500}		
167 {17000}	152 {15500}		
186 {19000}	172 {17500}		
235 {24000}	216 {22000}		
265 {27000}	245 {25000}		
353 {36000}	324 {33000}		
490 {50000}	451 {46000}		
167 {17000}	152 {15500}		
186 {19000}	172 {17500}		
235 {24000}	216 {22000}		
265 {27000}	245 {25000}		
68.6 { 7000}	58.8{ 6000}		
108 {11000}	93.2{ 9500}		
132 {13500}	113 {11500}		
186 {19000}	157 {16000}		
250 {25500}	211 {21500}		
108 {11000}	93.2{ 9500}		
132 {13500}	113 {11500}		
186 {19000}	157 {16000}		
250 {25500}	211 {21500}		
108 {11000}	93.2{ 9500}		
132 {13500}	113 {11500}		
186 {19000}	157 {16000}		
142 {14500}	132 {13500}	Rolling contact is made possible through chains with rollers and sprockets to increase wear resistance.	
186 {19000}	172 {17500}		
235 {24000}	216 {22000}		
353 {36000}	324 {33000}		
108 {11000}	99.0{10100}	Uses stainless steel for increased wear and corrosion resistance. • Also available in SUS300 series	
137 {14000}	127 {13000}		
147 {15000}	132 {13500}		
181 {18500}	167 {17000}		
233 {23800}	196 {20000}		
309 {31500}	284 {29000}		
353 {36000}	324 {33000}		
392 {40000}	363 {37000}		
186 {19000}	167 {17000}		
147 {15000}	137 {14000}		
19.6 { 2000}	17.7{ 1800}	This special plastic drive chain for collectors combines engineering plastic and SUS300 series stainless steel.	
37.3 { 3800}	32.4{ 3300}		

Drive chains: RS Roller Chain, ACRD Chain, BF Chain, EPCD Chain

Collector chains: ACS Chain, ACR Chain, ACP Chain

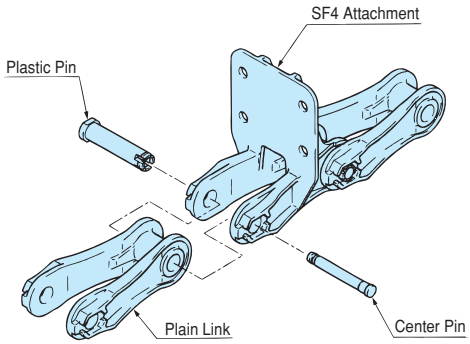
Power actuators: Miter Gear Boxes for underwater use, Shock Relays, Shock Monitors

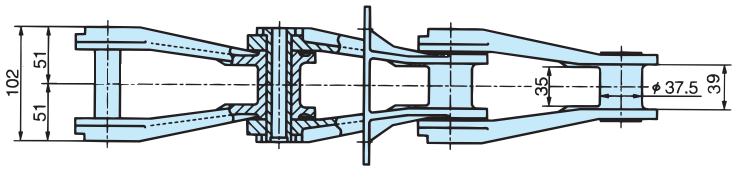


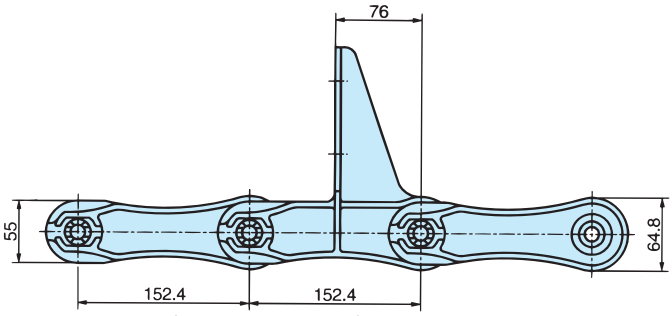
ACP Type Non-Metallic Collector Chain

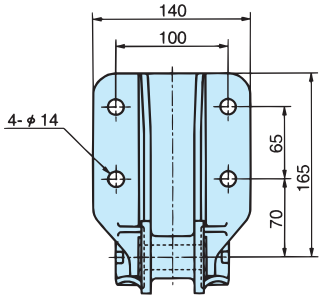
ACP Type

ACP Chains do not suffer corrosion wear, and in combination with ultrahigh molecular polyethylene sprockets they offer unsurpassed wear resistance. They are also lighter than steel chains (chain: 1/4 – 1/2 lighter, sprocket: 1/3 lighter), making them easy to handle.









Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Chain Mass kg/m	Attachment Mass kg/each set	Specific Gravity
ACP04152-SF4	39.2{4000}	35.3{3600}	2.9	0.25	1.75
ACP04152P-SF4	29.4{3000}	24.5{2500}	2.4	0.25	1.45

■ Model Numbering Example

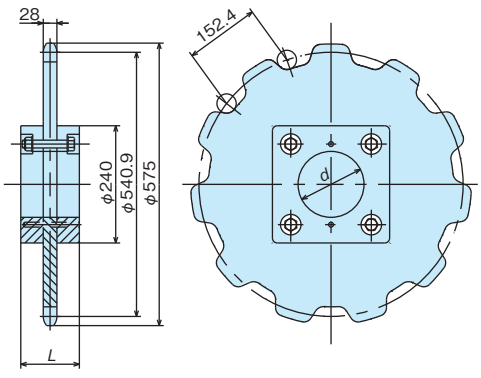
Chain: **ACP04152** □ (□–P : Plastic Center Pin; No Code : SUS Center Pin)

Chain Attachment: **ACP04152** □ **-SF4** (SF4 Attachment)

Sprocket: **ACP04152 -□-□T** (C : C type; D-split : D-split; Number of Teeth)

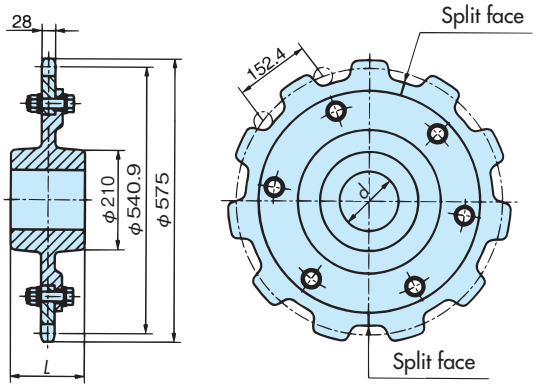
ACP Sprockets

C Type (Compound type)



Driven shart

D-split (Teeth: Plastic Hub: FCD600)



Drive shart

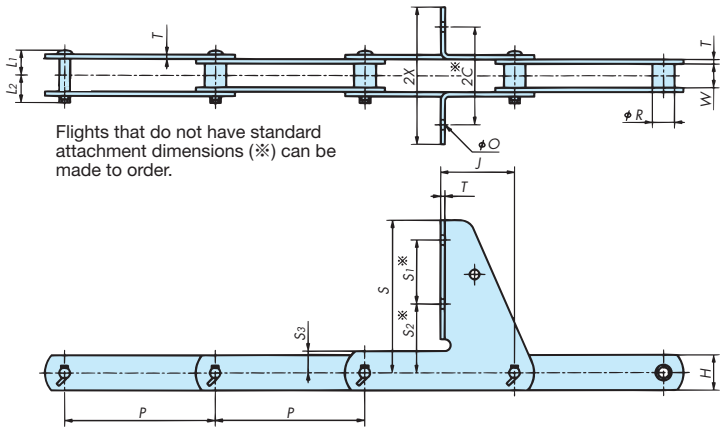
Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Hub Dim.		Pilot Bore Dia.	Max. Shaft Dia	Type/Material	Approx. Mass kg
						Dia. *DH*	Length *L*	*d*			
ACP04152	152.4	11	575	540.9	28	240	140	—	—	C (compound type)	—
ACP04152P		11	575	540.9	28	210	140	90	130	D-split (plastic teeth)	64

Note: 1. Indicate prepared hole for a square hub assembly on ACP sprockets
2. Maximum shaft diameter for prepared hole is 160mm.
3. ▭ Shaded areas are for reference and not standard dimensions.
Please indicate dimensions and number of teeth on your inquiry, or attach a diagram.
4. Please indicate finished bores on square hub assembly sets. Finished bores available up to 160mm.
5. The above dimensions are nominal dimensions and may differ from actual dimensions.

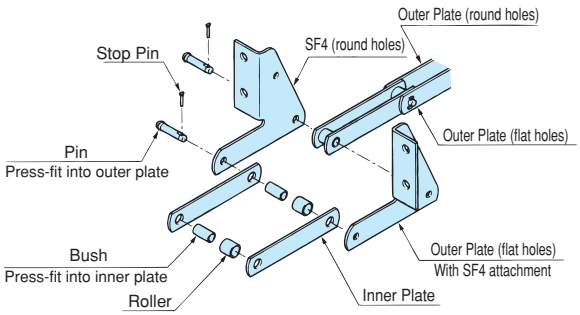
ACR Type Collector Chain

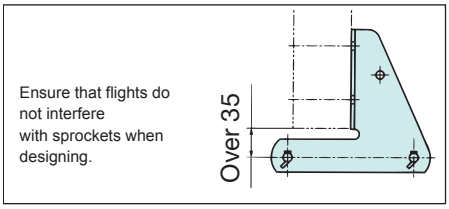
The Japan Sewage Works Corporation Examination for Privately Developed Technology (Certificate No. 109)

ACR Type



Flights that do not have standard attachment dimensions (※) can be made to order.





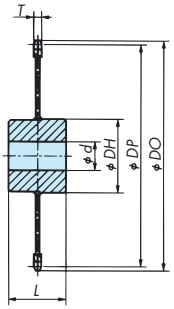
Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Pitch P	Roller Dia R	Inner Link Inner Width W	Pin		Inner Plate		Outer Plate		Mass kg/m
						L_1	L_2	T	H	T	H	
ACR810	98.1{10000}	88.3 {9000}	152.4	22.2	22	25	28.5	4.5	33	4.5	33	3.2
ACR815	147 {15000}	132 {13500}	152.4	22.2	27.6	31	34.5	6	38	6	38	5
ACR816	157 {16000}	142 {14500}	152.4	25	26	30	34	6	38	6	38	5
ACR819	186 {19000}	172 {17500}	152.4	29	30.6	33	36	6	44	6	38	6
ACR810SS	58.8 {6000}	52.9 {5400}	152.4	22.2	22	25	28.5	4.5	29	4.5	25	3.2

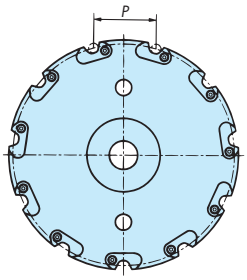
Chain Size	Attachment Dimensions									Mass kg/each
	2C	2X	J	S	S_1	S_2	S_3	O	T	
ACR810-SF4	100	140	76	155	65	70	22	14	4.5	1.0
ACR815-SF4	100	140	76	157	65	70	22	14	6	1.4
ACR816-SF4	100	138	76	157	65	70	22	14	6	1.4
ACR819-SF4	100	142.5	76	157	65	70	22	14	6	1.4
ACR810SS-SF4	100	140	76	155	65	70	22	14	4.5	1.0

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

ACR Sprockets

1C Type (Block tooth)





■ Model Numbering Example

Chain	**ACR810**
Chain Attachment	**ACR810- LSF4**
Sproket	**ACR810-□-□T**

□ : Number of Teeth

□ : 1C : Block tooth
C : Solid
D-split : Ring tooth

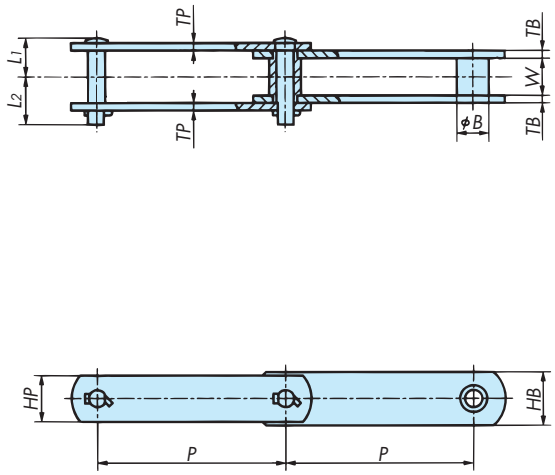
Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Hub Dim.		Pilot Bore Dia. d	Max. Shaft Dia	Type/Material	Approx. Mass kg
						Dia. DH	Length L				
ACR810	152.4	11	565	540.9	18	210	140	90	130	1C Block: SS400 or FCD600 (Arm, Hub), SCS2(Teeth) C: SCS2 or SCS13	47
ACR815		11	567	540.9	22	210	140	90	130		53
ACR816		11	566	540.9	22	210	140	90	130		53
ACR819		11	570	540.9	25	210	140	90	130		53
ACR810SS		11	565	540.9	18	200	130	80	125	C: SCS13	55

Note: 1. Indicate drive shaft diameter and key dimensions, driven shaft sleeve outer diameter, and hub dimensions when ordering.
2. Standard number of teeth is listed. Tsubaki can manufacture sprockets with teeth numbers other than listed above. Contact a Tsubaki representative for more details.
3. Chains using SUS300 Series stainless steel rollers require special sprockets.
4. ▭ Shaded areas are for reference and not standard dimensions. Please indicate dimensions and number of teeth on your inquiry, or attach a diagram.
5. The above dimensions are nominal dimensions and may differ from actual dimensions.

ACS Type Heavy Duty Collector Chain

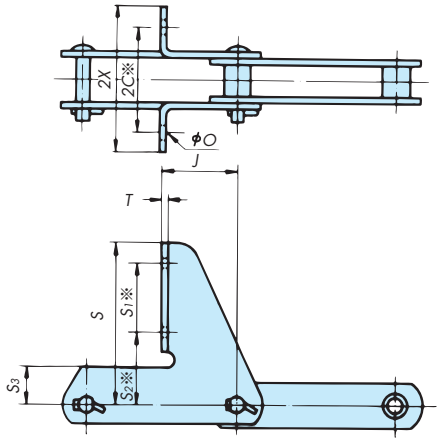
ACS Type

Main Chain



SF4 Attachment

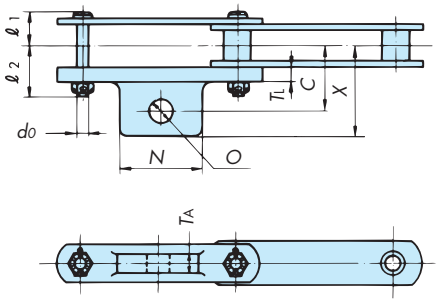
Flight attachment for grit and sediment collectors.



Flight dimensions marked with ※ available in other non-standard dimensions.

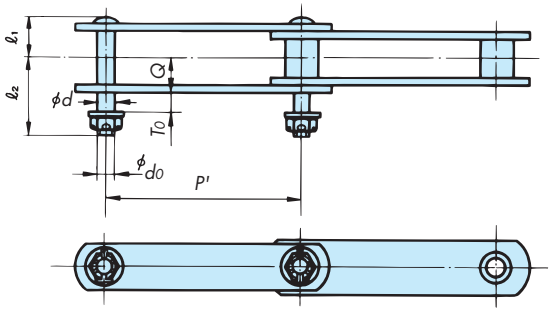
LA1 Attachment

Bucket attachment for sediment collector.
Buckets attach easily.



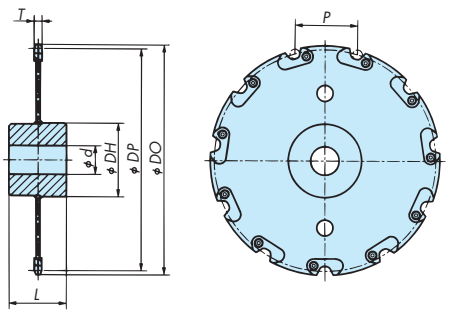
Long Pin Attachment

Bucket attachment for sediment collector.
Buckets attach easily.

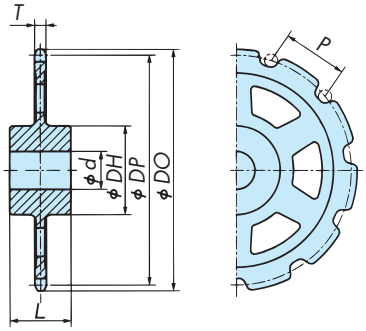


ACS Sprockets

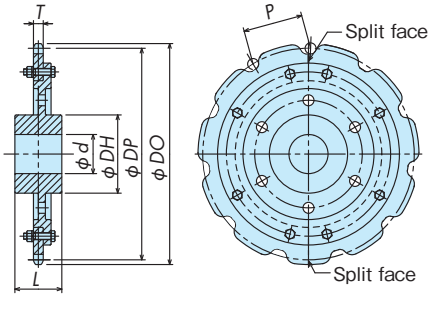
IC Type (Block tooth)



C Type (Solid)



C Type (Compound type)



ACS Type Heavy Duty Collector Chain

Main Chain

Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Pitch *P*	Bush Dia. *B*	Inner Link Inner Width *W*	Pin		Outer Plate		Inner Plate		Approx. Mass kg/m
						*L*1	*L*2	Thickness *TB*	Height *HP*	Thickness *TB*	Height *HP*	
ACS13078W	132{13500}	123{12500}	78.11	23	26	28	32	5	33	5	36	5.2
ACS13103W			103.2									4.6
ACS13152W			152.4									3.6
ACS15152W	147{15000}	137{14000}	152.4	24	26	29	33	5	36	6	38	4.8
ACS19152W	186{19000}	172{17500}	152.4	26	30	32	39.5	6	38	6	44	5.8
ACS19152WT*	186{19000}	172{17500}	152.4	30	30	32	39.5	6	38	6	44	6.8
ACS25152W	245{25000}	226{23000}	152.4	29	30	35	41	6	44	7	54	7.9
ACS35152W	343{35000}	314{32000}	152.4	35	38	41	46	7	54	7	60	10.9

Note: 1. Offset links available. 2. * Indicates Tokyo specifications. 3. All sizes also available in SUS300 Series stainless steel.

SF4 Attachment

Chain Size		Attachment Dimensions									Additional Mass per Set kg
		2C	*2X*	*J*	*S*	*S*1	*S*2	*S*3	*O*	*T*	
ACS13078W-SF4	78.11	90	131.5	38	110	35	55	28	14	5	0.6
ACS13103W-SF4	103.2			52							0.7
ACS13152W-SF4	152.4			76							1.0
ACS15152W-SF4	152.4	100	143.5	76	155	65	70	35	14	5	1.2
ACS19152W-SF4	152.4	100	141.5	76	157	65	70	38	14	6	1.4
ACS19152WT-SF4	152.4	100	141.5	76	157	65	70	38	14	6	1.4
ACS25152W-SF4	152.4	100	143.5	76	154	65	70	38	14	6	1.4
ACS35152W-SF4	152.4	110	152.0	76	160	65	75	40	14	7.9	1.6

LA1 Attachment

Chain Size		Attachment Dimensions								Additional Mass per Set kg
		do	*ℓ 1*	*ℓ 2*	*C*	*X*	*N*	*O*	*TA*	*TL*	
ACS13078W-LA1	78.11	M10	29.5	41.5	55	77	40	19	16	12	0.4
ACS13103W-LA1	103.2						56				0.6
ACS15152W-LA1	152.4	M12	30.5	44.5	55	77	68	19	16	12	0.8
ACS19152W-LA1	152.4	M12	33.5	51.5	65	90	80	24	20	16	1.2
ACS25152W-LA1	152.4	M14	36.5	53.5	65	90	80	24	20	16	1.4
ACS35152W-LA1	152.4	M16	42.5	61.5	75	102	80	26	24	19	2.0

Long Pin Attachment

Chain Size	Attachment Dimensions								Additional Mass per Set kg
	P	*P'*	*d*	*do*	*ℓ* 1	*ℓ* 2	*Q*	*To*	
ACS13078W-LONGPIN	78.11	77.7	12	M10	28	49	24	12	0.06
ACS13103W-LONGPIN	103.2	102.8							0.06
ACS15152W-LONGPIN	152.4	152.0	13	M12	29	51	25	12	0.10
ACS19152W-LONGPIN	152.4	151.9	14	M12	32	59	28	16	0.11
ACS25152W-LONGPIN	152.4	151.9	15.5	M14	35	62	29	16	0.14
ACS35152W-LONGPIN	152.4	151.8	18.5	M16	41	72	34.2	19	0.20

Note: P: Nominal dimensions P': Actual dimensions

ACS Sprockets

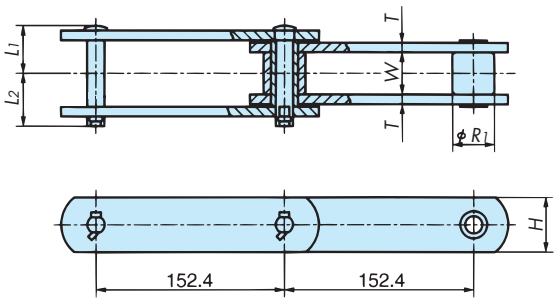
Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Hub Dim.		Pilot Bore Dia. *d*	Max. Shaft Dia	Type/Material	Approx. Mass kg
						Dia. DH	Length L				
ACS13078W	78.11	11	300	277.3	22	140	110	60	85	C, C-split: FCD600 or SCS2 D-split: FCD600 (Hub, arm) SCS2 (teeth) C-block: SS400 or FCD600 (Hub, arm) SCS2 (teeth)	15
ACS13103W	103.2	11	390	366.3	22	150	110	50	90		22
ACS13152W	152.4	11	565	540.9	22	150	130	60	90		36
ACS15152W	152.4	11	565	540.9	22	170	130	60	105		44
ACS19152W	152.4	11	565	540.9	25	210	140	80	130		51
ACS25152W	152.4	11	570	540.9	25	210	140	80	130		51
ACS35152W	152.4	11	575	540.9	32	210	140	80	130		62

Note: 1. Indicate drive shaft diameter and key dimensions, driven shaft sleeve outer diameter, and hub dimensions when ordering.
2. ☐ Standard number of teeth is listed. Tsubaki can manufacture sprockets with teeth numbers other than listed above. Contact a Tsubaki representative for more details.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

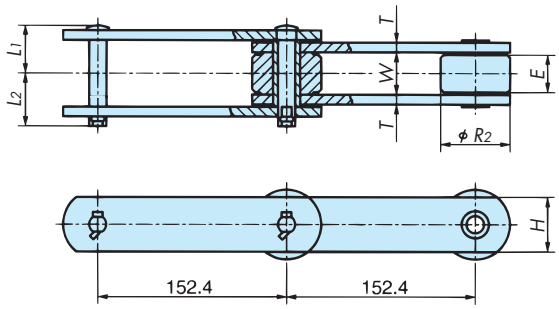
JAC Water Screen Chain Wide selection available

- **NVJ Series** — Tsubaki's most economical chain. Highly durable and wear resistant.
- **PJ Series** — Offers superb wear and corrosion resistance.
- **SJ Series** — Our most corrosion resistant chain.
- **PJW Series** — A PJ Series chain with alternating flanges, preventing chain from falling off of guide rail.
- **SJW Series** — An SJ Series chain with alternating flanges, preventing chain from falling off of guide rail.
- **FP-SJW Series** (Low Noise Series) — Reduced running noise thanks to engineering plastic F rollers.

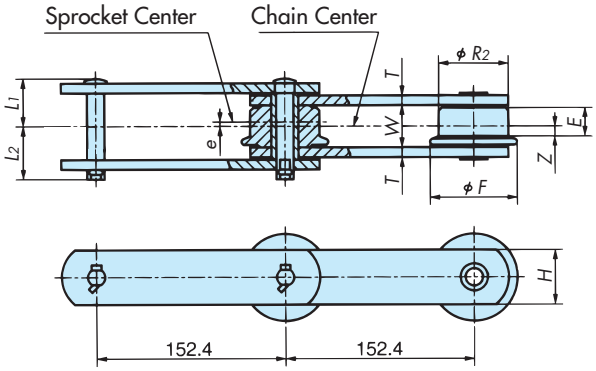
S Roller



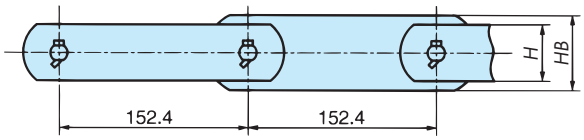
R Roller



F Roller

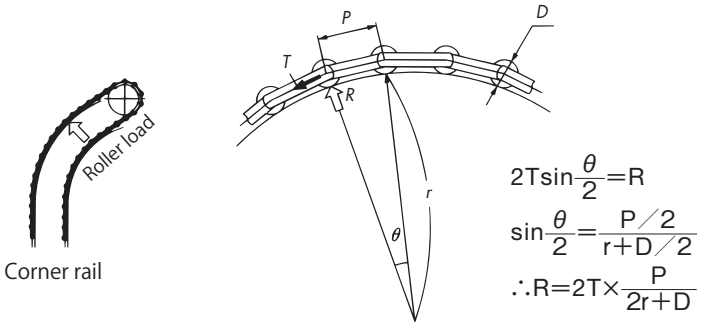


Heavy Duty Specs (Same for S, R, and F rollers)



Note: Has a wider inner plate for more strength.

Note: The following needs to be considered for FP-SJW Series (low noise type).
Use the following formula to calculate the rail reactive force R generated by chain tension T on the corner rail area.



$$2T\sin\frac{\theta}{2}=R$$

$$\sin\frac{\theta}{2}=\frac{P/2}{r+D/2}$$

$$\therefore R=2T\times\frac{P}{2r+D}$$

Next, use the following formula to calculate the Hertz stress Q (contact compression stress) from the rail reactive force.

$Q=0.591\sqrt{R/L\times[E_1+E_2/(E_1+E_2)\times(r-d)/(r\times d)]}$

$Q\leqq 49\ [N/mm^2]$

d: Roller radius (D/2) [mm]

L: Rail width [mm]

E_1: Roller Young modulus (plastic: $3.43\times10^3 N/mm^2$) E_2: Rail Young modulus (SUS304: $1.89\times10^5 N/mm^2$)

JAC Water Screen Chain Wide selection available

Water Screen Chain Dimensional Chart

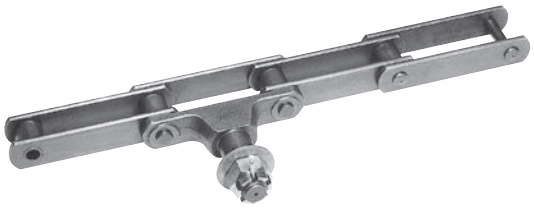
Series	Material	Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Roller Type	Inner Link Inner Width W	S Roller Dia. R1	R Roller Dia. R2	R Roller Contact Width E	F Roller Dia. R2	F Roller Flange Dia. F	F Roller Contact Width E	F Roller Contact Width E2	F Roller Off-center e	F Roller Z	Pin L1	Pin L2	Plate H	Plate HB	Plate T	Approx. Mass kg/m S Roller	Approx. Mass kg/m F Roller	Approx. Mass kg/m R Roller
NVJ	*1	JAC08152□-NVJ	147 {15000}	127 {13000}	S	26.2	22.2	—	—	—	—	—	—	—	—	31	34.5	28.6	—	6.3	3.9	—	—
		JAC10152□-NVJ	216 {22000}	196 {20000}	SRF	29.0	29.0	50.8	26	50.8	65	20	20	3	7	33	36	38.1	—	6.3	5.9	8.0	7.6
		JAC6205□-NVJ	275 {28000}	250 {25500}	SRF	35.9	34.9	65	32	65	85	24	24	4	8	40.5	43	44.5	—	7.9	9.3	14.5	13.5
		JAC21152□-NVJ	382 {39000}	343 {35000}	SRF	35.7	40.1	70	32	70	90	24	24	4	8	44.5	51	50.8	—	9.5	12.6	18.1	17.1
		JAC26152□-NVJ	510 {52000}	461 {47000}	SRF	55.6	44.5	80	52	80	95	40	40	5	15	55.5	61	63.5	—	9.5	17.8	29.3	28.0
PJ	SUS 400 Series	JAC08152□-PJ	142 {14500}	132 {13500}	S	27	22.2	—	—	—	—	—	—	—	—	31	34.5	38	—	6	5.0	—	—
		JAC10152□-PJ	167 {17000}	152 {15500}	SRF	30	29	50.8	26	50.8	65	20	20	3	7	33	36	38	—	6	5.6	7.9	7.5
		JAC10152□-PJ-H	186 {19000}	172 {17500}	SRF													38	44	6	6.0	8.3	7.9
		JAC6205□-PJ	235 {24000}	216 {22000}	SRF	37.1	34.9	65	32	65.0	85	24	24	4	8	39.5	42	44.5	—	7	8.2	13.3	12.3
		JAC6205□-PJ-H	265 {27000}	245 {25000}	SRF													44.5	54	7	8.9	14	13
		JAC21152□-PJ	353 {36000}	324 {33000}	SRF	37.1	40.1	70	32	70	90	24	24	4	8	44	50	54	—	9	12.8	19.0	18.1
		JAC26152□-PJ	490 {50000}	451 {46000}	SRF	55.2	44.5	80	32	80	95	40	40	5	15	56	61.5	63.5	—	10	18.6	30.0	28.7
PJW	SUS 400 Series	JAC10152F-PJW	167 {17000}	152 {15500}	F	36.2	—	—	—	50.8	65	26	20	—	10	36.5	39.5	38	—	6	—	8.3	—
		JAC10152F-PJW-H	186 {19000}	172 {17500}	F			—	—										44		—	8.7	—
		JAC6205F-PJW	235 {24000}	216 {22000}	F	44.5	—	—	—	65	85	32	24	—	12	43	45.5	44.5	—	7	—	14.4	—
		JAC6205F-PJW-H	265 {27000}	245 {25000}	F			—	—										54		—	15.1	—
SJ	SUS 300 Series	JAC08152□-SJ	68.6 { 7000}	58.8 { 6000}	S	27	22.2	—	—	—	—	—	—	—	—	31	34.5	28.6	—	6	3.8	—	—
		JAC10152□-SJ	108 {11000}	93.2 { 9500}	SRF	30	29	50.8	26	50.8	65	20	20	3	7	33	36	38.1	—	6	5.6	7.9	7.5
		JAC6205□-SJ	132 {13500}	113 {11500}	SRF	37.1	34.9	65	32	65	85	24	24	4	8	40.5	43	44.5	—	8	9.1	14.2	13.2
		JAC21152□-SJ	186 {19000}	157 {16000}	SRF	37.1	40.1	70	32	70	90	40	24	4	8	44.5	52	50.8	—	10	13.3	18.2	17.2
		JAC26152□-SJ	250 {25500}	211 {21500}	SRF	57.2	44.5	80	52	80	95		40	5	15	55.5	62	63.5	—	10	18.8	30.0	28.7
SJW	SUS 300 Series	JAC10152F-SJW	108 {11000}	93.2 { 9500}	F	36.0	—	—	—	50.8	65	26	20	—	10	36	39	38.1	—	6	—	8.3	—
		JAC6205F-SJW	132 {13500}	113 {11500}	F	44.5	—	—	—	65	85	32	24	—	12	44.5	46.5	44.5	—	8	—	15.3	—
		JAC21152F-SJW	186 {19000}	157 {16000}	F	44.5	—	—	—	70	90	32	24	—	12	49	55.5	50.8	—	10	—	19.1	—
		JAC26152F-SJW	250 {25500}	211 {21500}	F	57.2	—	—	—	80	95	38	26	—	13	56.5	62	50.8	63.5	10	—	28.6	—
SJW (Plastic)	F roller: Engineering plastic Pin, bush, link plate: SUS 300 Series*2	JAC10152FP-SJW	108 {11000}	93.2 { 9500}	F	36	—	—	—	50.8	65	26	20	—	10	36	39	38.1	—	6	—	6.0	—
		JAC6205FP-SJW	132 {13500}	113 {11500}	F	44.5	—	—	—	65	85	32	24	—	12	44.5	46.5	44.5	—	8	—	9.5	—
		JAC21152FP-SJW	186 {19000}	157 {16000}	F	44.5	—	—	—	70	90	32	24	—	12	49	55.5	50.8	—	10	—	12.2	—

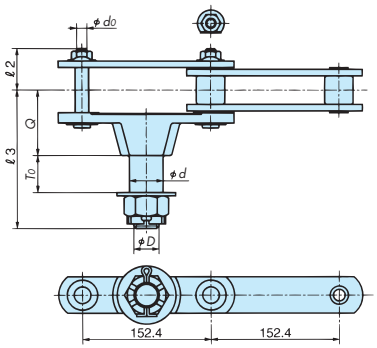
*1: NVJ Series material: Pin/bush use SUS400 Series stainless steel, while roller/link plate use alloy steel.
*2: SJW Plastic Series material: F roller uses plastic, while pin/bush/link plate use SUS300 Series stainless steel.
Note: 1. Offset link available. 2. Contact a Tsubaki representative regarding tensile strengths, chain pitches, and so on not shown above.
3. Insert roller type in the □ box. 4. The rollers on the attachments on engineering plastic F roller chains (low noise chains) are stainless steel.
5. The E dimension is the rolling contact width. E2 is the length of the roller (real rolling contact width) when there are alternating flanges (SJW, PJW).
6. NVJ Series is equivalent to the VJ Series using different material for some parts.
7. The above dimensions are nominal dimensions and may differ from actual dimensions.

JAC Water Screen Chain Wide selection available

Y Attachment Code : Y

For rotating-rake Water Screens

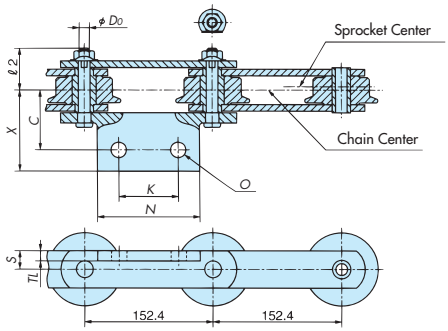




Series	Chain Size	Roller Type	d	d0	D	ℓ2	ℓ3	Q	T0	Add. Mass per Set kg/set
NVJ·PJ	JAC08152	S	25	M10	M20	38	120	60	30	1.1
	JAC10152	R/S	35	M12	M27	42	148.5	70	40	1.9
	JAC6205	R/S	40	M12	M30	49	164.5	78	44	2.7
	JAC21152	S	45	M16	M36	55	174	78	46	3.2
	JAC26152	S	50	M16	M45	65	204	95	50	5.1

A2 Attachment (Type 1) Code : A2 (1)

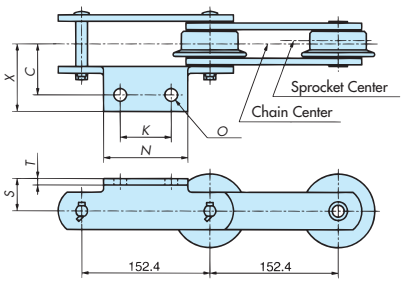
For fixed-rake Water Screens



Series	Chain Size	Roller Type	d0	ℓ2	C	X	K	N	S	O	TL	Add. Mass per Set kg/set
NVJ·PJ·SJ	JAC10152	R/F	M12	42	60	80	65	110	19.0	15	9.5	0.6
	JAC6205	R/F	M12	49	70	95	70	120	22.2	18	12	0.9

A2 Attachment (Type 2) Code : A2 (2)

For sediment conveyors



Series	Chain Size	Roller Type	C	X	K	N	S	O	T			Add. Mass per Set kg/set
									VJ Series	PJ Series	SJ Series	
NVJ·PJ · SJ	JAC10152	R/F	50	65	60	90	32	12	6.3	6	6	0.20
	JAC6205	R/F	60	79	60	100	38	15	7.9	7	8	0.37

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

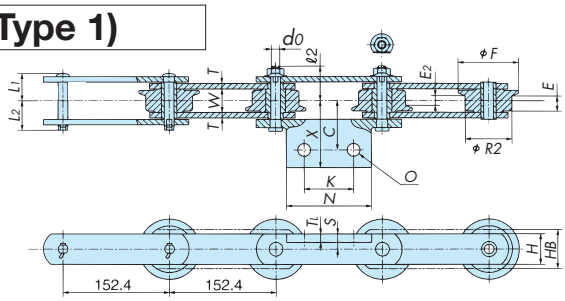
JAC Water Screen Chain

Wide selection available

PJW, SJW Series (A2 Attachment, Type 1)

For fixed-rake Water Screens.
Special sprockets are required.

HB: Inner plate width is wider on Heavy Duty specifications



PJW Series

Chain Size and Roller Type	Attachment Dimensions									Contact Width		Add. Mass per Set kg/set
	do	ℓ2	C	X	K	N	S	O	TL	E	E2	
JAC10152F	M12	45	63	83	65	110	19.0	15	9.5	26	20	0.6
JAC6205F	M12	51.5	74	99	70	120	22.2	18	12	32	24	0.9

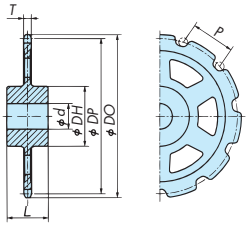
SJW Series

Chain Size and Roller Type	Attachment Dimensions									Contact Width		Add. Mass per Set kg/set
	do	ℓ2	C	X	K	N	S	O	TL	E	E2	
JAC10152F	M12	45	63	83	65	110	19.0	15	9.5	26	20	0.6
JAC6205F	M12	53	74	99	70	120	22.2	18	12	32	24	0.9
JAC21152F	M16	61	80	105	70	120	25.4	23	12	32	24	1.4
JAC26152F	M16	66	90	120	70	120	31.75	23	16	38	26	1.4

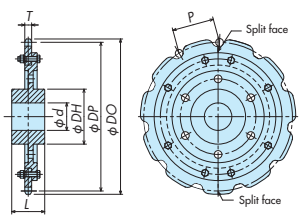
Note: 1. Attachment dimensions are the same with plastic F rollers.
2. E dimension is the contact width. E2 dimension is roller length (actual contact width) when two flanges alternate (SJW, PJW).
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

JAC Sprockets (Water Screen)

C Type (Solid)



D-split (Ring tooth)

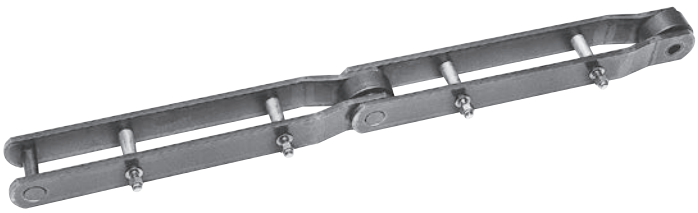


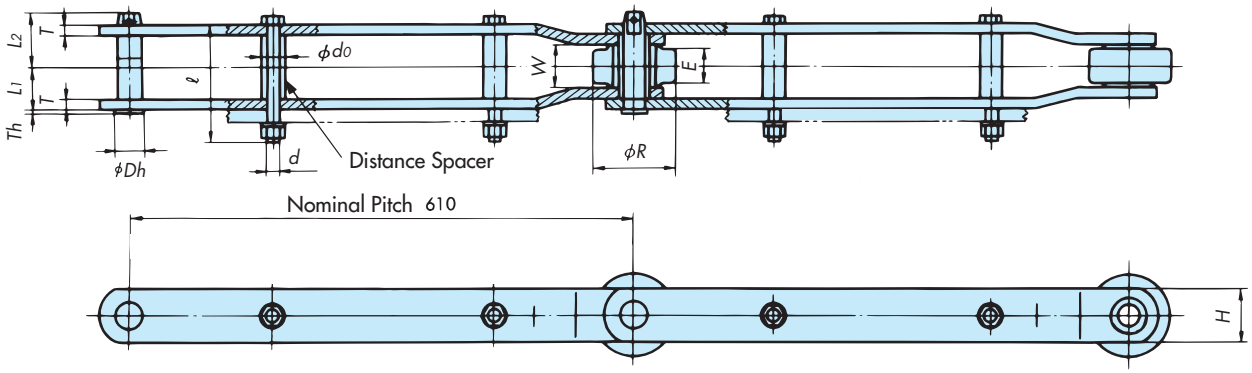
Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Boss Dim.		Pilot Bore Dia.	Max. Shaft Dia	Type/Material	Approx. Mass
						Dia. DH	Length L	d			kg
JAC08152S	152.4	11	556	540.9	21	180	130	90	110	C, C-split: FCD600 or SCS2 Note: Indicate when ordering sprockets for plastic rollers.	51
JAC10152S	152.4	11	561	540.9	24	190	130	90	115		45
JAC10152F	152.4	10	528	493.2	16	170	120	80	105		36
		11	576	540.9	16	180	130	90	110		46
JAC6205S	152.4	11	565	540.9	30	220	170	110	135		80
JAC6205F	152.4	10	539	493.2	21	180	130	90	110		47
		11	586	540.9	21	220	160	110	135		65
JAC21152S	152.4	11	569	540.9	30	230	170	110	140		78
JAC21152F	152.4	10	542	493.2	21	170	120	80	105		41
		11	590	540.9	21	230	170	110	140		68
JAC26152S	152.4	11	572	540.9	48	260	190	120	160		110
JAC26152F	152.4	10	549	493.2	24	230	170	110	140		68
		11	597	540.9	24	260	190	120	160		98
JAC10152F-PJW	152.4	10	528	493.2	16	170	120	80	105		35
		11	576	540.9	16	180	130	90	110		42
JAC6205F-PJW	152.4	10	539	493.2	21	180	130	90	110		43
		11	586	540.9	21	220	160	110	135		62
JAC10152F-SJW JAC6205FP-SJW (Plastic roller)	152.4	10	528	493.2	16	170	120	80	105		35
		11	576	540.9	16	180	130	90	110		42
JAC6205F-SJW JAC6205FP-SJW (Plastic roller)	152.4	10	539	493.2	21	180	130	90	110		43
		11	586	540.9	21	220	160	110	135		62
JAC21152F-SJW JAC21152FP-SJW (Plastic roller)	152.4	10	542	493.2	21	180	120	80	110		41
		11	590	540.9	21	220	160	110	135		68

Note 1. Indicate drive shaft diameter and key dimensions, driven shaft sleeve outer diameter, and hub dimensions when ordering.
2. Standard number of teeth is listed. Tsubaki can manufacture sprockets with teeth numbers other than listed above. Contact a Tsubaki representative for more details.
3. Sprockets must be made to order if chain rollers are SUS300 series stainless steel or plastic.
4. ▭ Standard number of teeth is listed. Tsubaki can manufacture sprockets with teeth numbers other than listed above. Contact a Tsubaki representative for more details.
5. The above dimensions are nominal dimensions and may differ from actual dimensions.

WAC Chain for Water Screens

WAC Chain for water screens is used for automatic water screens, such as those found in water intakes at thermal power plants. The pins, bushes, and rollers use tempered SUS400 series stainless steel, giving them the corrosion and wear resistance necessary to operate continuously in both seawater and air. There are special plastic bearings in the roller inner diameter, allowing for lube-free operation in seawater for easy maintenance.





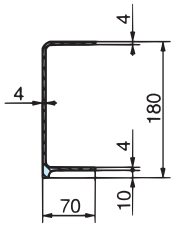
Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Roller		Inner Width	Plate		Pin				Distance Spacer			Approx. Mass
			Dia. R	E	W	T	H	L_1	L_2	Th	Dh	d_0	d	ℓ	kg/m
WAC25610	245 {25000}	216 {22000}	100	41	50	9.5	63.5	45.0	57.0	4	28	27.2	M16	130	17.0
WAC32610	314 {32000}	275 {28000}	100	41	50	12.7	63.5	51.5	65.5	4	32	27.2	M16	140	20.5
WAC45610	441 {45000}	382 {39000}	100	41	50	12.7	76.2	51.5	65.5	4	32	27.2	M16	145	23.8
WAC55610	539 {55000}	461 {47000}	100	41	50	12.7	76.2	51.5	65.5	4	32	27.2	M16	140	23.8
WAC65610	637 {65000}	549 {56000}	110	41	50	16	76.2	58.7	76.3	4	38	27.2	M20	165	30.0
WAC75610	735 {75000}	628 {64000}	110	58	66.7	16	80	67.0	84.0	4	38	27.2	M20	180	34.0
WAC100610	981{100000}	834 {85000}	130	58	66.7	22	100	79.0	98.5	8	40	34	M22	210	53.1
WAC120610	1180{120000}	1000{102000}	150	62	70	22	115	80.7	100	8	46	34	M22	210	64.5

Note: Please indicate plate coating. Dimensions are for reference only. Specify dimensions in a drawing when making your inquiry.

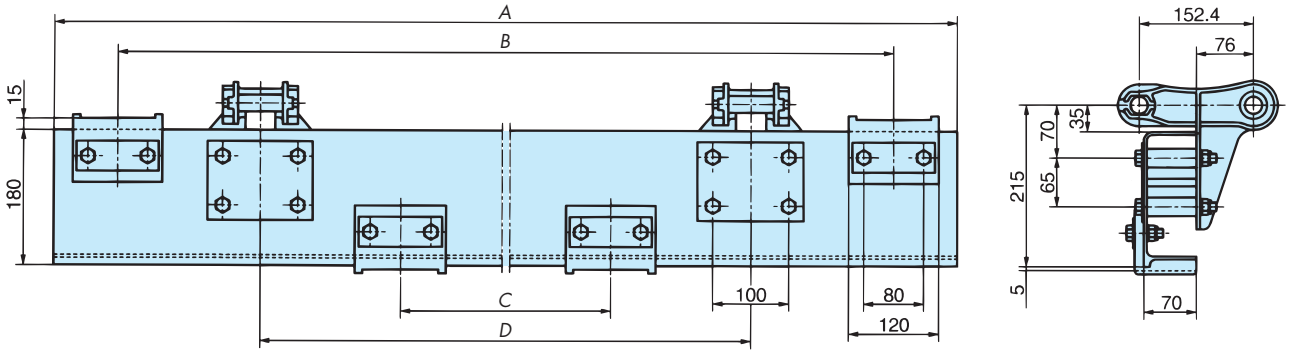
Accessories for Collection Tank Chains

F Type Flight

Specific Gravity: 1.9
Mass: 2.4kg/m
Material: FRP
Color: Blue



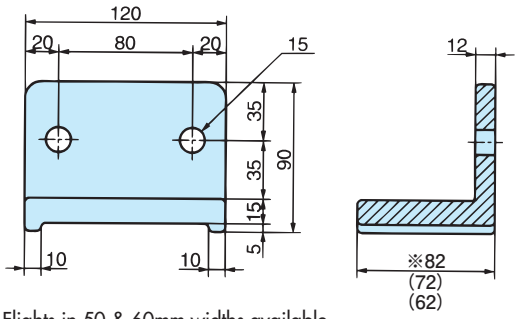
Flight Cross-section



Note: Indicate A, B, C, D dimensions when ordering flights.
Attach the SF4 attachment, distance block, flight, and retainer plate, or flight and shoe, with SUS300 bolts, nuts, washers, spring washers, etc.
Contact a Tsubaki representative when minimum order quantity is under 100m.

Shoe (dual collars)

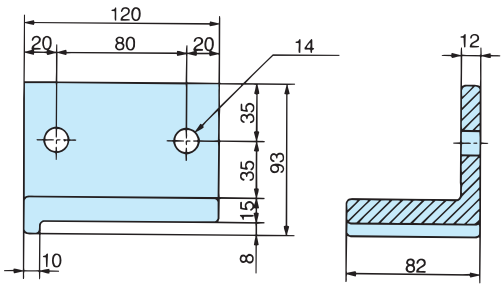
Specific Gravity: 1.14
Material: Polyurethane
Mass: 260g
Color: Black



Note: Flights in 50 & 60mm widths available.
Other dimensions are the same as above.

Shoe (single collar)

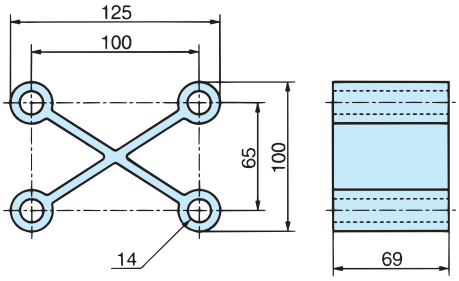
Specific Gravity: 1.17
Material: Polyurethane
Mass: 290g
Color: Black



Note: Tsubaki can custom make shoes in other dimensions.
Contact a Tsubaki representative for further details.

Distance Spacer

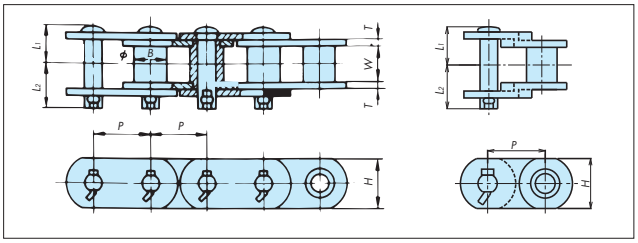
Specific Gravity: 1.4
Material: Plastic
Mass: 240g
Color: Black



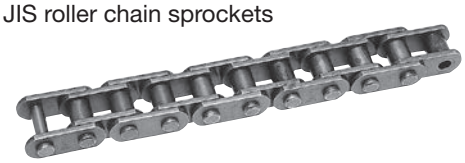
Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Drive Chains

BF Chain



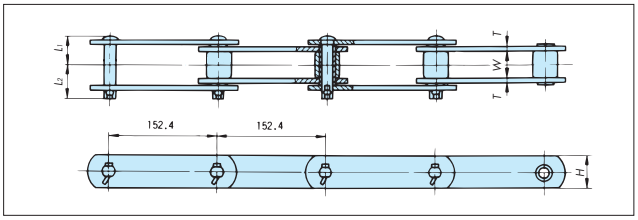
Uses a thick pin for high wear resistance. All parts use tempered SUS400 series stainless steel, giving BF chains high strength and resistance to pitting. JIS roller chain sprockets can be used as is.



Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Pitch *PB*	Bush Dia. *B*	Inner Link Inner Width *W*	Plate		Pin		Approx. Mass kg/m
						Thickness *T*	Height *H*	*L1*	*L2*	
BF120-N *1	108 {11000}	99 {10100}	38.1	22.23	25.4	5	33.0	27.5	31.5	6.8
BF140	137 {14000}	127 {13000}	44.45	25.40	25.4	6	38.0	29.5	37.0	9.5
BF140-E	147 {15000}	132 {13500}					44.0			10.6
BF160	181 {18500}	167 {17000}	50.8	28.58	31.7	6	44.0	34.5	40.5	10.9
BF160-E	233 {23800}	196 {20000}				7	44.5	35.5	38.5	12.5
BF200	309 {31500}	284 {29000}	63.5	39.69	38.1	9	54.0	45.5	50.5	20.7
BF200-E	353 {36000}	324 {33000}						44.0	50.5	20.9
BF240	392 {40000}	363 {37000}	76.2	47.62	47.6	10	63.5	53.5	57.5	27.8
ACS4124	186 {19000}	167 {17000}	103.2	43.7	37.0	6	44.0	37.0	39.5	10.5
BF2120 *1	147 {15000}	137 {14000}	76.2	22.23	26.0	6(5)	38.0(36.0)	29.0	33.0	5.9

Note: Values in parentheses ( ) are outer plate dimensions. The above dimensions are nominal dimensions and may differ from actual dimensions.
*1 BF120-N and BF2120 links resemeble offset links and look different from the above.

ACRD Chain

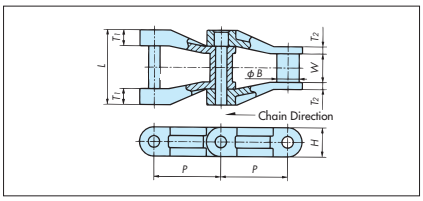


Uses an all-stainless steel chain with rollers and block tooth sprockets.

Chain Size	Pitch *P*	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Inner Width *W*	Rollew Dia. *R1*	Pin		Plate		Approx. Mass kg/m
						L1	*L2*	*T*	*H*	
ACRD 08	101.6	142 {14500}	132 {13500}	27.6	22.2	31	34.5	6	38	6
ACRD 10	127	186 {19000}	172 {17500}	30.6	29	33	36	6	44(38)	6.4
ACRD 12	152.4	235 {24000}	216 {22000}	38.9	34.9	39.4	42	7	44.5	8.2
ACRD 17	152.4	353 {36000}	324 {33000}	38.1	40.1	44	50	9	54	12.8

Note: Values in parentheses ( ) are outer plate dimensions. The above dimensions are nominal dimensions and may differ from actual dimensions.

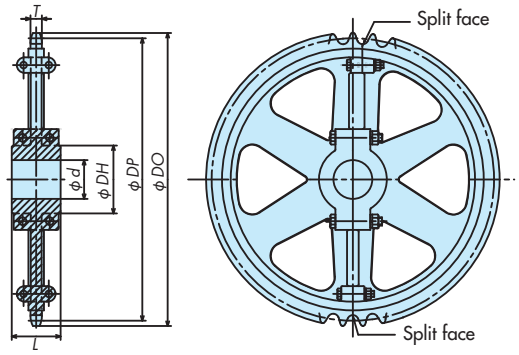
EPCD Chain Plastic Drive Chain



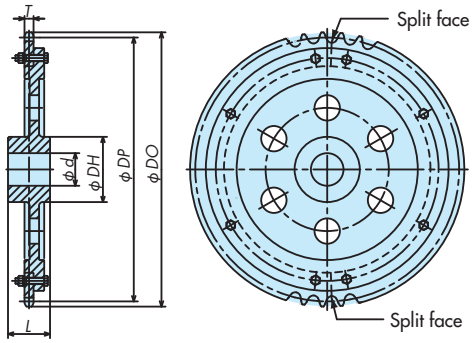
Chain Size	Ave. Tensile Strength kN{kgf}	Min. Tensile Strength kN{kgf}	Allowable Tensile Strength kN{kgf}	Pitch *P*	Bush Dia. *B*	Link Inner Width *W*	Outer Width *L*	Plate Thickness		Plate Height *H*	Approx. Mass kg/m
								T1	*T2*		
EPC78D	19.6 {2000}	17.7 {1800}	3.24 {330}	66.27	22.2	27.4	74.3	16	7	28.6	2.3
EPC90D	37.3 {3800}	32.4 {3300}	6.18 {630}	90	35	30	82.9	16	10	40.0	2.9

Note: 1. Chain should be selected using maximum allowable load.
2. Plastic links are black and highly corrosion resistant.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

C-split (Split solid)



D-split (Ring teeth)



Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Hub Dim.		Pilot Bore Dia.	Max. Shaft Dia	Type/Material	Approx. Mass
						Dia. *DH*	Length *L*	*d*			kg
ACRD08	101.6	12	419	392.6	22	140	115	50	85		26
		24	803	778.4	22	160	135	60	95		77
ACRD10	127	10	433	411	25	150	125	50	90		29
		18	751	731.4	25	180	150	70	110	SS400 (Hub)	74
ACRD12	152.4	9	480	445.6	30	160	135	60	95	SCS2 (Teeth)	40
		15	765	733	30	190	160	80	115		90
ACRD17	152.4	9	476	445.6	30	180	150	70	110		45
		15	760	733	30	230	200	100	140		110

Tsubaki Chain Number	Chain Pitch	No. of Teeth	Outer Dia.	Pitch Dia.	Tooth Width	Hub Dim.		Pilot Bore Dia.	Max. Shaft Dia	Type/Material	Approx. Mass
						Dia. *DH*	Length *L*	*d*			kg
BF120-N	38.10	15	202	183.25	24	110	100	55	65		9
		23	300	279.8	24	120	100	55	75		17
		40	507	485.6	24	170	130	80	105		49
		45	568	546.19	24	170	130	75	105		50
BF140 BF140-E	44.45	11	178	157.78	24	100	100	40	60		8
		23	350	326.44	24	120	100	55	70		21
		35	521	495.88	24	150	100	50	90		45
		40	591	566.54	24	170	110	60	105		60
		45	662	637.22	24	170	110	60	105		73
		50	733	707.91	24	170	110	60	105		87
BF160 BF160-E	50.80	11	204	180.31	30	115	120	40	70	C, C-split: SCS2 D-split: FCD600 (hub) SCS2 (teeth) Only C Type is available with 25 or fewer teeth.	12
		17	302	276.46	30	130	120	65	80		18
		23	400	373.07	30	130	120	55	80		29
		25	433	405.32	30	190	170	80	115		55
		30	514	485.99	30	170	110	60	105		55
		35	595	566.71	30	170	110	60	105		71
		40	676	647.47	30	200	130	70	125		98
		45	757	728.25	30	200	130	70	125		119
		50	838	809.04	30	200	130	70	125		142
BF200 BF200-E	63.50	11	254	225.39	36	145	120	50	85		21
		24	520	486.49	36	160	110	70	95		61
		35	744	708.39	36	250	160	90	155		150
		40	845	809.34	36	250	160	90	155		185
		45	946	910.31	36	280	180	100	175		242
BF240	76.20	11	305	270.47	45	150	120	50	90		29
		37	941	898.52	45	250	150	125	155		250
		40	1014	971.21	45	250	160	125	155		293

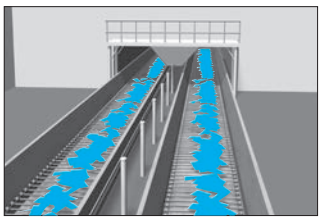
Note: 1. Standard number of teeth is listed. Tsubaki can manufacture sprockets with teeth numbers other than listed above. Contact a Tsubaki representative for more details.
2. ▭ Shaded items are for reference and not standard dimensions. Indicate individual dimensions and number of teeth on your inquiry or attach a drawing.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Conveyor Chains for the Automotive Industry

Conveyor chains that satisfy needs for wear resistance, index positioning, accumulation,

Press

Cutting, casting, forging, sheet metal presses, plastic molding, etc.



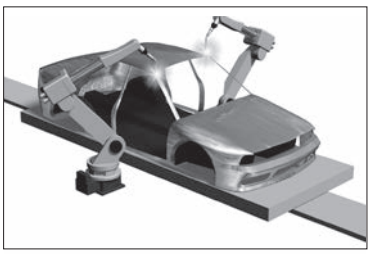
- Impact on conveyor
- Heavy wear on bush-roller interface

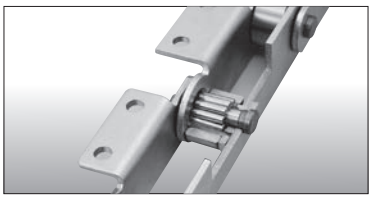
- Better bush-roller wear resistance
- Longer wear life

Advanced ATA Series

See pg. 3

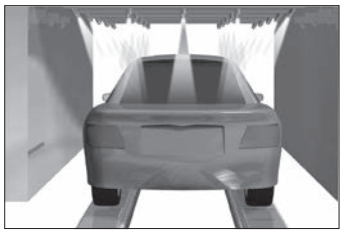
Body Welding





Bearing Bush Conveyor Chain

Inspection



Shower testers and final inspection wiping line (optional)

Shower tester/washer line

Constantly showered with water

- Poor roller rotation
- Abnormal bush-roller wear
- Rusting

Bearing Roller Conveyor Chain Water Resistant Specs → Long life in contact with water

Final inspection wiping line (optional)

Heavy loads, long conveyor

- Poor roller rotation
- Abnormal bush-roller wear

Bearing Roller Conveyor Chain → Minimizes wear and stick-slipping

See pg. 101

heavy loads, countering stick-slip (surging), and long length conveyors.

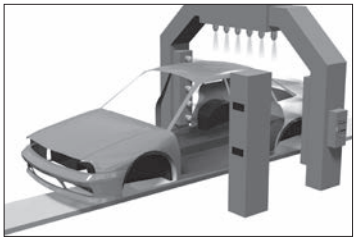
Welding and assembly of roofs and body panels

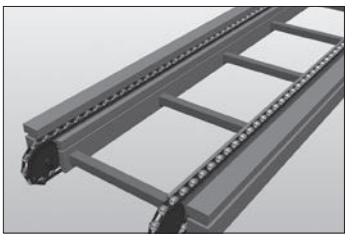
■ **Accurate indexing conveyance is required**

Bearing Bush Conveyor Chain

See pg. 95

Coating





Coating of bodies, doors, and other components

■ **Cart traction conveyance**

Conveyor chains for towing (with dogs)

See pg. 123

■ **Conveyor chains for pallet stacking (Accumulation)**

Free Flow Conveyor Chain

Double Plus Conveyor Chain

See pg. 97

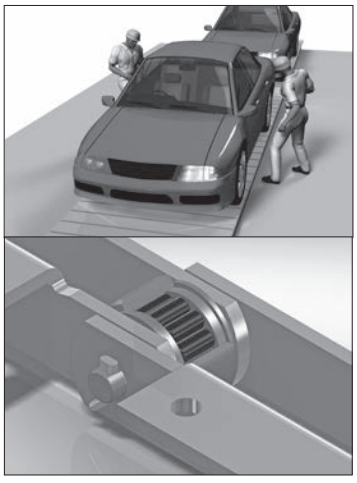
Outboard Roller Conveyor Chain

See pg. 98

Top Roller Conveyor Chain

See pg. 99

Assembly



Uses cylindrical bearings between bushes and rollers

Vehicle conveyance, manconveyors

■ **Heavy localized loads** → Heavy bush-roller wear

■ **Long conveyor**

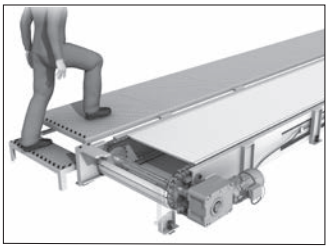
■ **Stick-slipping** → Low productivity

Bearing Roller Conveyor Chain

■ **Better bush-roller wear resistance**

■ **Stable thanks to 1/3 the coefficient of rolling friction for saving energy when conveying heavy loads.**

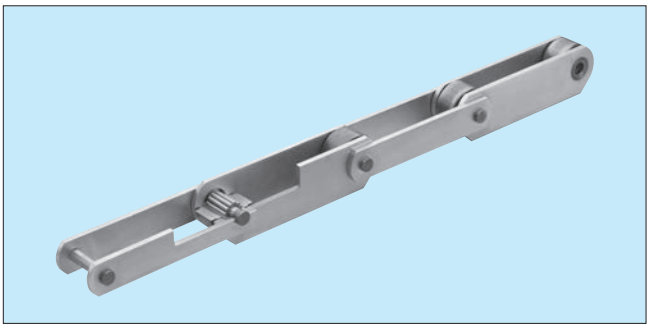
See pg. 101



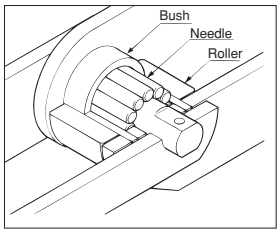
Low floor (less than 300mm) conveyor chains for long conveyors and heavy loads are also available.

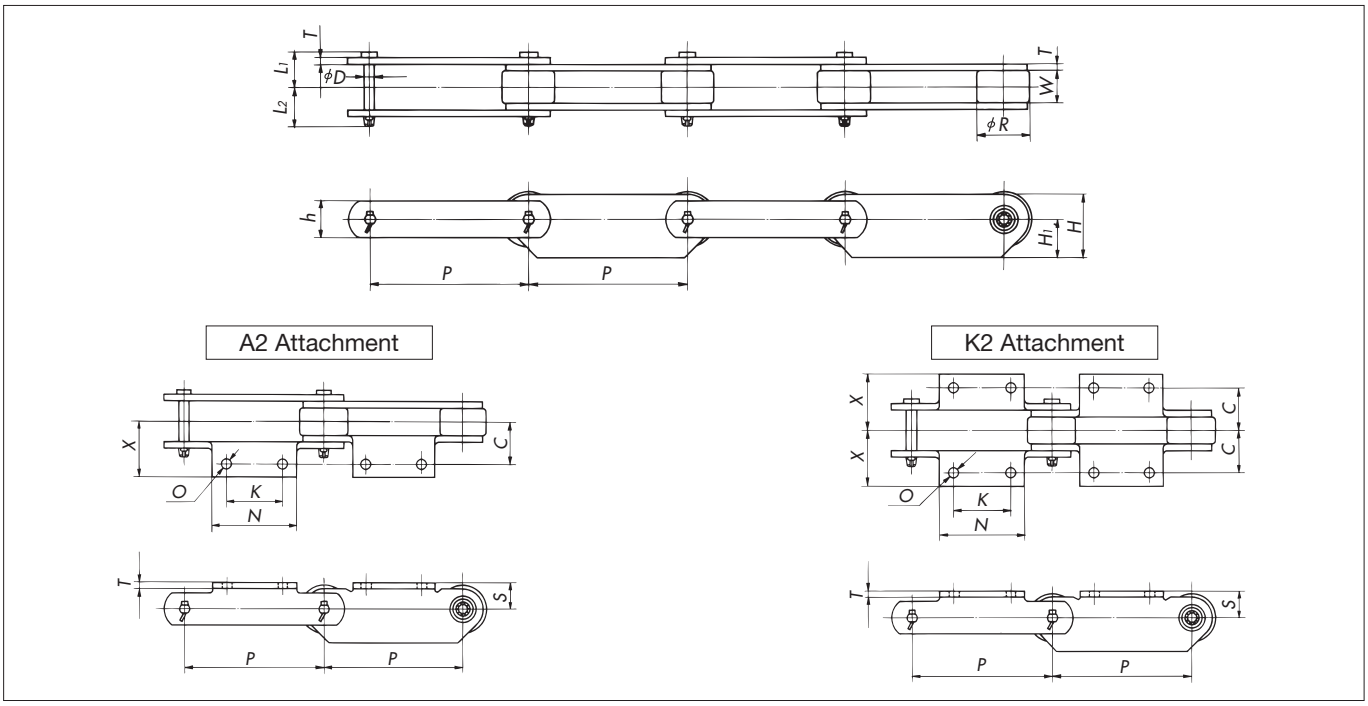
Contact a Tsubaki representative.

Bearing Bush Conveyor Chain



Features needle bearings between the pin and bush.
Reduces wear elongation to the absolute minimum possible.
Suitable for index positioning and tact conveyance.





Chain Size	Max. Allowable Tension		Roller Allowable Load		Pitch *P*	Roller Dia. *R*	Inner Link Inner Width *W*	Plate				Pin			Approx. Mass kg/m
	kN	{kgf}	kN	{kgf}				Height *h*	Height *H*	Height H_1	Thickness *T*	Dia. *D*	L_1	L_2	
RF03075R-NB	2.45	{250}	0.54	{ 55}	75	31.8	16.1	22	35	20	3.2	8.0	18	20	3.0
RF05100R-NB	4.90	{500}	1.03	{105}	100	40	22	32	47	26	4.5	11.3	25	28.5	5.8
RF10150R-NB	7.85	{800}	1.77	{180}	150	50.8	30	38.1	61	35	6.3	14.5	33	36	8.7
RF12200R-NB	9.81	{1000}	2.50	{255}	200	65	37.1	44.5	71	40	7.9	15.9	40.5	43	13.0
RF17200R-NB	12.7	{1300}	4.02	{410}	200	80	51.4	50.8	85	51	9.5	19.1	51.5	58	21.5
RF26250R-NB	19.6	{2000}	5.30	{540}	250	100	57.2	63.5	105	64	9.5	22.2	55.5	61	28.5
RF36300R-NB	24.5	{2500}	7.45	{760}	300	125	66.7	76.2	125	75	12.7	25.4	68	78	41.5

Chain Size	Pitch *P*	Attachment							Load Mass Per Attachment kg	
		S	*C*	*X*	*K*	*N*	*T*	*O*	*A2*	*K2*
RF03075R-NB	75	20	30	46	30	55	3.2	10	0.05	0.10
RF05100R-NB	100	22	35	47	40	65	4.5	10	0.08	0.16
RF10150R-NB	150	28	50	67	60	90	6.3	12	0.20	0.40
RF12200R-NB	200	38	60	79	80	120	7.9	15	0.45	0.90
RF17200R-NB	200	45	75	100	80	120	9.5	15	0.66	1.32
RF26250R-NB	250	55	80	108	125	170	9.5	15	1.07	2.14
RF36300R-NB	300	70	100	135 *	150 *	220 *	12.7	19	1.8	3.6

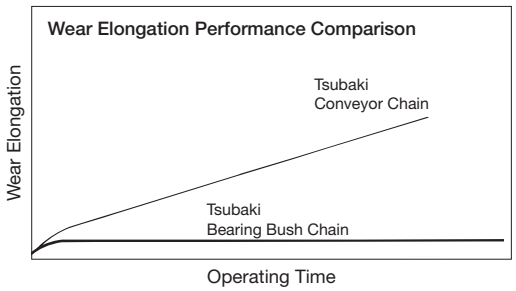
Note 1. Attachment dimensions marked with * differ from the attachment dimensions of RF Conveyor Chain.
2. Roller allowable load values given are for lubricated chain.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearing Bush Conveyor Chain

Bearing Bush Conveyor Chain Selection

1. R roller rotational coefficient of friction: 0.21
2. Chain speed: max. 30m/min
3. Operating temperature: -10℃ to 60℃
4. Needles in the bearing area may fall out when pin is extracted during chain connection or other operations. Follow handling instructions carefully.

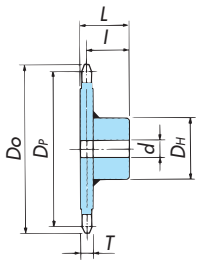
- The basic three dimensions (chain pitch, R roller diameter, width are the same as standard conveyor chain.
- Space between pin and bush have already been lubricated.
- Plates are nickel plated.
- Not for use in dusty environments.
- Consult a Tsubaki representative for specifications with a simple seal along the needle area.



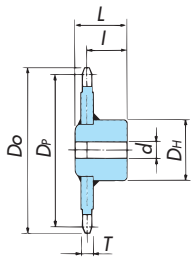
Sprockets for Bearing Bush Conveyor Chain

Sprocket teeth are precision machined to maximize performance of the chain. Teeth are machined for minimum clearance with the roller.

BW Type



BW1 Type



Sprocket Hole Processing

Tsubaki will process shaft holes and keyways upon request. Please include the following information in your request.

- Shaft hole diameter and clearance : Hole dimensions and processing precision.
- Keyway dimensions : New JIS (JISB1901-1976) or old JIS (JISB1901-1959) parallel or tapered keys, processing clearance (normal or precise).
- Used parallel in strands : Specify number of strands for parallel use.
- Standard processing specifications for Bearing Bush Conveyor Chain sprockets are H7 holes, new JIS key. Customers wishing to perform their own hole processing should use the sprocket outer circumference as a base.

TSUBAKI Sprocket Number	No. of Teeth	Series	Pitch Diameter *Dp*	Outer Diameter *Do*	Tooth Width *T*	Shaft Diameter *d*		Hub Diameter D_H	Hub Length *L*	Center Distance to Shaft *l*	Approx. Mass kg	Material
						Pilot Hole	Max.					
RF03075R-NB-8T	8	BW	196.0	209	11.9	18	55	83	62	56	4.8	Carbon steel for machinery use
RF03075R-NB-10T	10		242.7	259		18	60	93	67	61	7.1	
RF03075R-NB-12T	12		289.8	308		18	60	93	67	61	9.0	
RF05100R-NB-8T	8	BW	261.3	272	18.0	28	75	107	86	77	12.0	Carbon steel for machinery use
RF05100R-NB-10T	10		323.6	340		33	80	117	94	85	17.4	
RF05100R-NB-12T	12		386.4	405		33	85	127	104	95	24.4	
RF10150R-NB-8T	8	BW	392.0	408	22	38	100	147	123	112	33.2	Carbon steel for machinery use
RF10150R-NB-10T	10		485.4	506		38	110	157	133	122	47.6	
RF10150R-NB-12T	12		579.6	601		38	115	167	144	133	65.2	
RF12200R-NB-8T	8	BW1	522.6	551	28	60	120	177	150	125	67.4	Carbon steel for machinery use
RF12200R-NB-10T	10		647.2	682		65	130	187	160	135	96.6	
RF12200R-NB-12T	12		772.7	810		75	145	207	180	155	136.9	
RF17200R-NB-8T	8	BW1	522.6	562	40	75	145	207	180	148	98.1	Carbon steel for machinery use
RF17200R-NB-10T	10		647.2	691		75	145	207	180	148	134.0	
RF17200R-NB-12T	12		772.7	821		80	160	227	200	168	190.1	
RF26250R-NB-8T	8	BW1	653.3	703	45	80	160	227	200	164	159.7	Carbon steel for machinery use
RF26250R-NB-10T	10		809.0	864		85	175	247	240	204	244.1	
RF26250R-NB-12T	12		965.9	1026		85	175	247	240	204	321.4	
RF36300R-NB-8T	8	BW1	783.9	853	55	95	190	267	240	198	276.2	Carbon steel for machinery use
RF36300R-NB-10T	10		970.8	1046		95	190	267	270	228	398.9	
RF36300R-NB-12T	12		1159.1	1234		100	210	297	260	218	550.8	

Note: 1. Tsubaki also manufactures other sprockets with hardened tooth tips besides those listed here.
2. Sprockets with a mass over 30kg may be drilled with a hanging hole near the teeth.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Bearing Bush Conveyor Chain

Chain Numbering Example

RF05100R-NB-1LA2

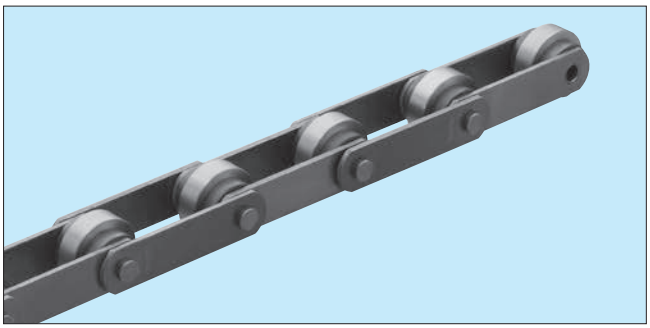
- RF05100R: Chain Size
- R: Roller Type (For R rollers only)
- NB: Chain Series — Bearing Bush Conveyor Chain
- 1: Attachment Spacing
- LA2: Attachment Type

Ordering Example

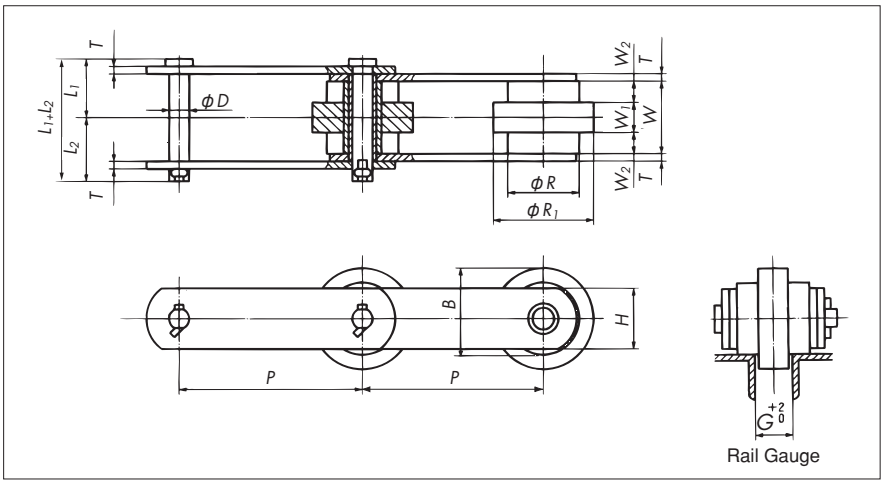
Chain Size: RF05 Pitch: 100mm Roller Type: R Roller
Chain Type: Bearing Bush Conveyor Chain
Attachment Spacing/Type: A2 every link
Quantity: 400 links

Chain Number	Quantity	Unit
RF05100R-NB-1LA2	400	L

DOUBLE PLUS® Conveyor Chain



1. **Conveying**
   The frictional force between the large and small diameter rollers cause them to rotate in unison, and the difference in the roller diameters allow for items to be conveyed at 2.3 times the speed of the base chain.
2. **Accumulating**
   As there is a braking force acting on the large diameter roller, slip occurs between the large and small diameter rollers, allowing for free flow conveyance.
3. **Energy Savings/Lower Costs**
   The small coefficient of friction means low required energy, reducing necessary chain size and costs.
4. **Longer Life**
   Chain speed is 1/2.3 with a large roller allowable load, giving the chain over twice the life of standard chains. (Compared to Top Roller Chain.)
5. **Stable Running**
   The height from rail to conveyed goods is low, allowing for stable running.



■ Cannot use standard sprockets. Use Double Plus Conveyor Chain Sprockets. Contact a Tsubaki representative for more information.

Chain Size	Pitch P	Roller		Width			Plate		Pin				B	G	Max. Allowable Load kN{kgf}	Roller Allowable Load kN{kgf/each}	Approx. Mass (kg/m)
		R_1	R	W_1	W_2	W	T	H	D	L_1+L_2	L_1	L_2					
RF03075VR	75	42.0	31.8	12	8.5	30	3.2	22	8.0	51.5	24.5	27	36.9	14.5	4.20{430}	1.27{130}	4.7
RF03100VR	100																4
RF05100VR	100	53.0	40.0	16	11	39	4.5	32	11.3	70.5	33.5	37	46.5	18.5	9.80{1000}	2.35{240}	8
RF05125VR	125																7
RF05150VR	150																6
RF10125VR	125	67.0	50.8	20	14	54	6.3	38.1	14.5	93	45	48	58.9	25	16.1{1650}	3.43{350}	14
RF10150VR	150																12
RF6205VR	152.4	75.5	57.2	22	16	62	7.9	44.5	15.9	108.5	53	55.5	66.3	28	26.6{2710}	4.90{500}	18
RF12200VR	200																15
RF17200VR	200	86.0	65.0	25	18	69	9.5	50.8	19.1	127	60.5	66.5	75.5	31	35.0{3570}	6.08{620}	20

Note: Contact a Tsubaki representative regarding delivery. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Double Plus Conveyor Chain

Chain Numbering Example

RF05100VR

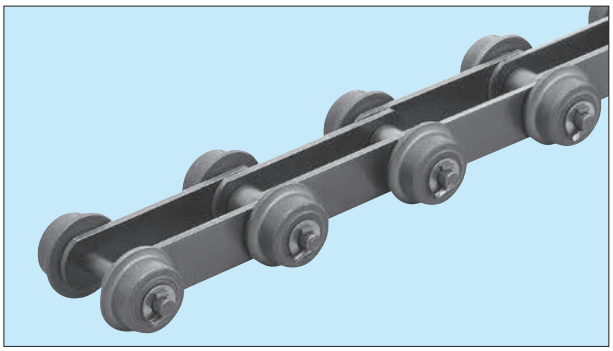
- RF05100 — Chain Size
- VR — Chain Type: VR: Double Plus Conveyor Chain

Ordering Example

Chain Size: RF05 Pitch: 100mm
Chain Type: Double Plus Conveyor Chain
Quantity: 400 links

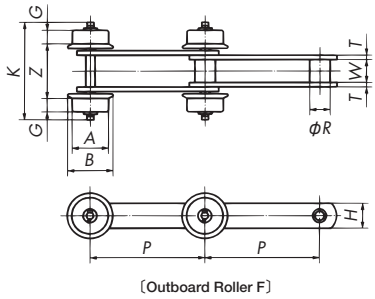
Chain Number	Quantity	Unit
RF05100VR	400	L

Outboard Roller Conveyor Chain (Free Flow Conveyance)

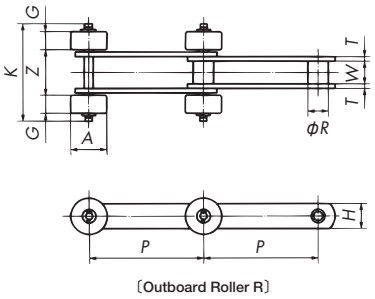


This chain features an outboard roller on the S roller of a base conveyor chain. The sprocket engages the center S rollers, while the outboard rollers handle running. Tsubaki can manufacture outboard rollers for any series.

Applications
1. For special attachments to the plate. (Fig. 1)
2. For when supporting loads on the center S roller is difficult.
3. For when having a guide on the chain's return side is difficult.
4. For giving double plus and accumulation capabilities to R roller outboard rollers. (Fig. 2)

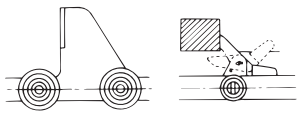


〔Outboard Roller F〕

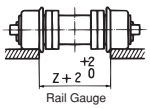


〔Outboard Roller R〕

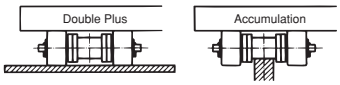
With Special Attachment (Fig. 1)



Chain Guide Method



With Double Plus/Accumulation (Fig. 2)



Chain Size	Pitch P	Roller Dia. R	Inner Link Inner Width W	Plate		Total Width K	Outboard Roller F Roller				Outboard Roller R Roller			Additional Mass of SR (both sides) kg	SR Allowable Load (both sides) kN{kgf}	
				Height H	Thickness T		A	B	G	Z	A	G	Z		SR Untreated	SR Hardened
RF03075S-SR RF03100S-SR	75 100	15.9	16.1	22	3.2	76	31.8	42	12	38	31.8	15.5	31	0.3	0.69{70}	1.08{110}
RF430S-SR	101.6	20.1	22.6	25.4	4.8	104	38.1	50	15	56.5	38.1	20	46.5	0.5	0.98{100}	1.57{160}
RF05075S-SR RF05100S-SR RF05125S-SR RF05150S-SR	75 100 125 150	22.2	22	32	4.5	102	40	50	14	55	40	19	45	0.5	1.17{120}	1.96{200}
RF450S-SR	101.6	22.2	27	28.6	6.3	130	44.5	55	20	70.5	44.5	26	58.5	0.7	1.67{170}	2.35{240}
RF10100S-SR RF10125S-SR RF10150S-SR	100 125 150	29	30	38.1	6.3	136	50.8	65	20	73	50.8	26	61	1.0	1.96{200}	3.24{330}
RF6205S-SR	152.4	34.9	37.1	44.5	7.9	167	57.2	70	25	90.5	57.2	32	76.5	1.3	2.75{280}	4.61{470}
RF12200S-SR RF12250S-SR	200 250	34.9	37.1	44.5	7.9	167	65	80	24	92.5	65	32	76.5	1.8	2.75{280}	4.61{470}
RF17200S-SR RF17250S-SR RF17300S-SR	200 250 300	40.1	51.4	50.8	9.5	189	65	80	24	112.5	65	32	96.5	1.8	3.14{320}	5.30{540}
RF26200S-SR RF26250S-SR RF26300S-SR	200 250 300	44.5	57.2	63.5	9.5	230	80	100	34	124.5	80	44	104.5	3.8	4.90{500}	8.43{860}
RF36250S-SR RF36300S-SR RF36450S-SR	250 300 450	50.8	66.7	76.2	12.7	268	100	125	38	150.5	100	50	126.5	6.9	6.57{670}	11.1{1130}

Note 1. SR allowable load values indicated are under lubricated conditions.
2. Basic chain specifications are the same as RF Conveyor Chain.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Outboard Roller Conveyor Chain

Chain Numbering Example

RF03075S-DT-1LSRFH

- Chain Size
- Roller Type
- Chain Series
- Attachment Spacing
- Outboard Roller Type
  - SRFN: Outboard Roller Untreated
  - SRFH: Outboard Roller Hardened
  - SRRN: Outboard Roller Untreated
  - SRRH: Outboard Roller Hardened

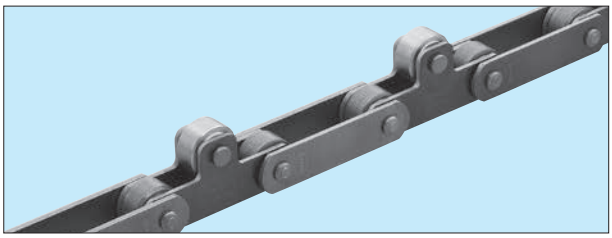
Ordering Example

Please indicate the following when ordering:
1. Chain size and base specifications
2. Top roller specifications (hardened/unhardened) and attachment spacing. (Note that top rollers attached every even link will be attached on the inner link.)

Chain Size: RF17 Pitch: 200mm Roller Type: R Roller
Chain Specs: Reinforced AT Series
Attachment Spacing: Every 2nd link
Attachment Type: Tempered Top Roller
Quantity: 400 links

Chain Number	Quantity	Unit
RF17200S-AT-2LSRFH	400	L

Top Roller Conveyor Chain (Free Flow Conveyance)



Top rollers are attached to a base conveyor chain between pitches, allowing for direct support of conveyed items. Tsubaki manufactures top rollers in any series.

- Tsubaki can manufacture engineering plastic and bearing roller top rollers.
- Tsubaki manufactures attachments to prevent toppling as well. (Fig. 3)
- Standard sprockets cannot be used as their teeth contact the top rollers. Use only top roller sprockets. Contact a Tsubaki representative regarding top roller sprockets.

Applications
1. Chain can be run continuously, and conveyed items can be accumulated or temporarily stopped on top of the conveyor through the use of dogs. (Fig 1)
2. Conveying and stopping can be performed simultaneously on top of the same chain. (Fig. 1)
3. Alleviates shock impact during operation. (Fig. 2)

Fig. 1 Conveyed item stock on a conveyor

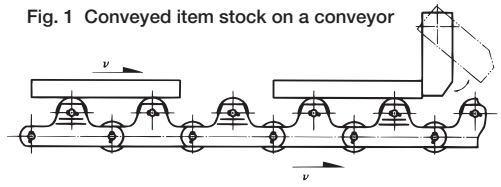


Fig. 2 Alleviates shock impact during transfer

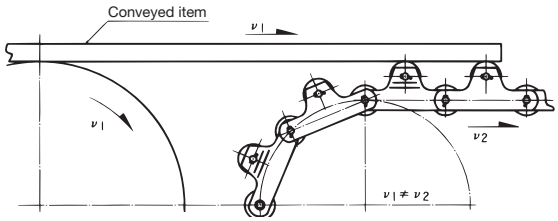
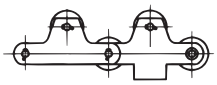
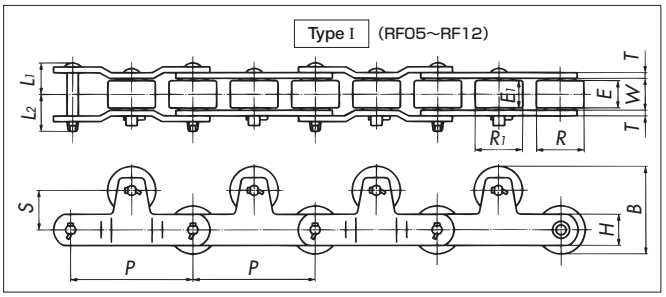
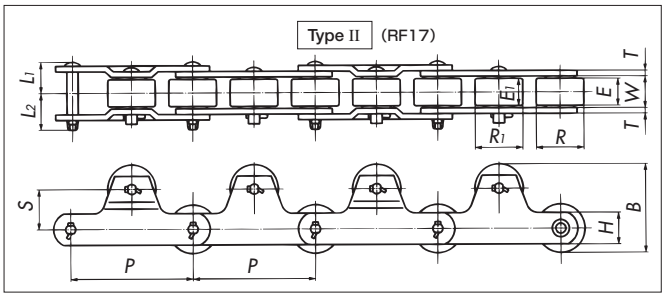


Fig. 3 Example of attachment to prevent toppling







Chain Size	Pitch P	Roller		Inner Link Inner Width W	Plate		Pin		S	Top Roller		B	Type	Chain Approx. Mass kg/m	Additional Mass per Top Roller kg	Top Roller Allowable Load kN{kgf/each}	
		Dia. R	Contact Width E		Height H	Thickness T	L1	L2		R1	E1					Untreated	Hardened
* RF03075R-TR * RF03100R-TR	75 100	31.8	15.5	16.1	22	3.2	18	20	23.1	40	PL:20 RL:13	59	*	2.7 2.3	0.18	0.34{35}	0.59{60}
RF05100R-TR RF05150R-TR	100 150	40	19	22	32	4.5	25	28.5	30	40	19	70	I	5.0 4.1	0.26	0.64{65}	1.03{105}
RF08150R-TR	150	44.5	23	27	28.6	6.3	31	34.5	30	40	23	72.2	I	5.5	0.35	0.78{80}	1.27{130}
RF10150R-TR	150	50.8	27	30	38.1	6.3	33	36	30	50.8	27	80.8	I	7.9	0.56	1.13{115}	1.91{195}
RF6205R-TR	152.4	57.2	32	37.1	44.5	7.9	40.5	43	37.8	57.2	32	95	I	12.1	0.91	1.47{150}	2.50{255}
RF12200R-TR	200	65	32	37.1	44.5	7.9	40.5	43	45	65	32	110	I	11.4	1.15	1.47{150}	2.50{255}
RF17200R-TR	200	80	44	51.4	50.8	9.5	51.5	58	65	80	44	145	II	19	2.58	2.45{250}	4.12{420}

Note 1. Sizes marked with * have flat plates. E1 dimensions are PL: 20 (width of roller attached to outer link), PL: 13 (width of roller attached to inner link).
2. Top roller allowable load is shown under lubricated conditions. 3. MoS_2 grease is applied between top roller and top roller pin when shipped.
4. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Top Roller Conveyor Chain

Chain Numbering Example

RF17200R-AT-2LTRH

- Chain Size
- Roller Type (R roller only)
- Chain Series
- Top Roller Type
  - TRN: Top Roller Untreated
  - TRH: Top Roller Hardened
- Attachment Spacing

Ordering Example

Please indicate the following when ordering:
1. Chain size and base specifications
2. Top roller specifications (hardened/unhardened) and attachment spacing. (Note that top rollers attached every even link will be attached on the inner link.)

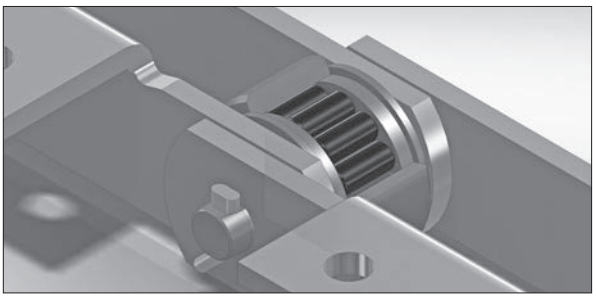
Chain Size: RF17 Pitch: 200mm Roller Type: R Roller
Chain Specs: Reinforced AT Series
Attachment Spacing: Every 2nd link
Attachment Type: Tempered Top Roller
Quantity: 400 links

Chain Number	Quantity	Unit
RF17200R-AT-2LTRH	400	L

Function Specific Products

- Bearing Roller Conveyor Chain
- Shoulder Bush Conveyor Chain
- Wear/Corrosion Resistant Chain

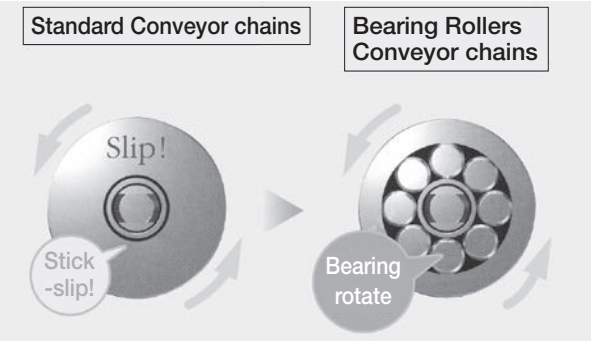
Bearing Roller Conveyor Chain



Tsubaki's Bearing Roller Conveyor Chain, with its unique cylindrical bearings within the rollers, is able to provide the high efficiency, reduced costs, suppression of stick-slip phenomenon, and longer roller/rail life that existing chains cannot.

TSUBAKI ECO LINK

● Performance and Effects of Bearing Rollers



Bearing Roller Features

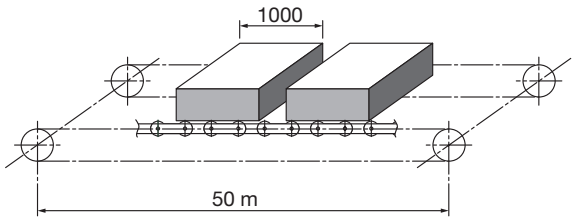
1. Reduces chain running resistance (1/3 of DT Series)
2. Greatly increases roller allowable load

Bearing Roller Effects

1. Reduces chain tension, required motor capacity
2. Prevents stick-slip phenomenon during long-length/low speed conveyance
3. Reduces rail wear and stops poor roller rotation
4. Increases wear life (bush-roller)
5. Reduces CO_2 output

● Cost Comparison with Standard Conveyor Chains

Selection Example



Conveyor length: 50 m
Chain speed: 10 m/min
Chain pitch: 250
Conveyed material: 2,000 kgf x 40 pcs
No. of strands: 2
F roller: A2 attachment

When selecting using the conditions above

For new installations

RF standard conveyor chain | Bearing roller conveyor chain

Chain tensile strength

RF26250F → (2 sizes down, Chain size) → RF12250BF

0.08 (when lubed) → (1/3, Coefficient of friction) → 0.03

31.4 kN {3200 kgf} → (1/3, Chain tensile strength) → 11.8 kN {1200 kgf}

13.5 kW → (1/2.5, Motor capacity) → 5.1 kW

Smaller chain design, energy savings

When replacing existing installations

RF standard conveyor chain | Bearing roller conveyor chain

Chain tensile strength

RF26250F → (No change in size, Chain size) → RF26250BF

0.08 (when lubed) → (1/3, Coefficient of friction) → 0.03

31.4 kN {3200 kgf} → (1/3, Chain tensile strength) → 11.8 kN {1200 kgf}

13.5 kW → (1/2.5, Motor capacity) → 5.1 kW

1 → (Replacement costs 1/3 less, Wear life) → More than 3x

Greatly increases chain life, allowing for less conveyor maintenance work and lower costs

Specification Details

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			–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	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}	3.84kN	{ 390kgf}
		RF12	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}	9.87kN	{1010kgf}
		RF26	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}	19.3kN	{1970kgf}
	F Roller	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}	2.40kN	{ 240kgf}
		RF12	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}	6.87kN	{ 700kgf}
		RF26	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}	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 Specs are designed for use in dusty environments, their coefficient of friction is slightly higher. Contact a Tsubaki representative when selecting.

Allowable Load for Standard A Attachments

Allowable vertical load for A type attachments is as per pgs.157 and 158. Where the load works with the roller, allowable roller load should be compared to that of the attachment, and the smaller value used.

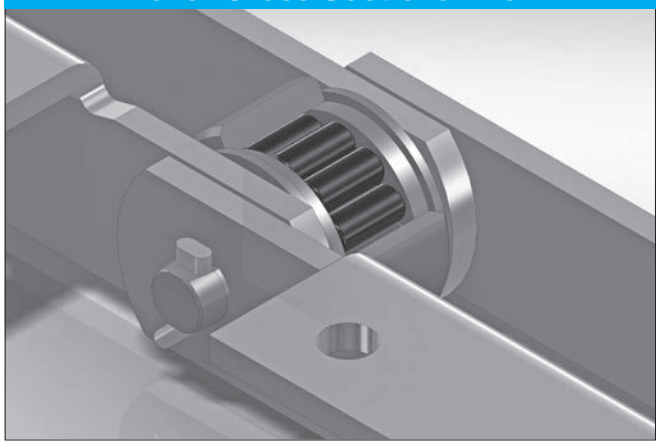
Note: Values for K Attachments are double those of A Attachments.

Bearing Roller Conveyor Chain

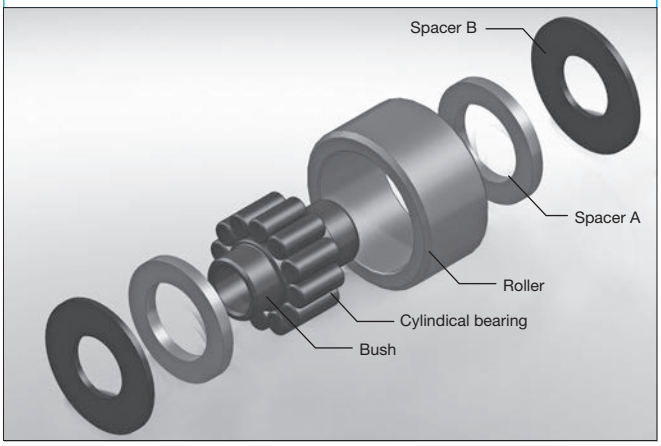
Standard Series

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.

Roller Cross Sectional View

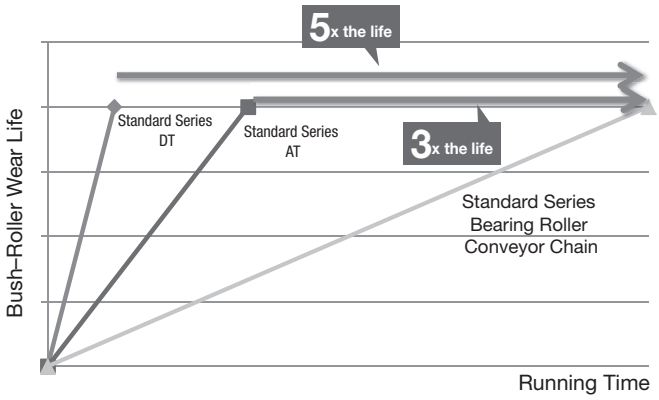


Construction



Features

In-house test comparison, no additional lubrication



5x the wear life of DT Series and 3x the wear life of AT Series, without additional lubrication.

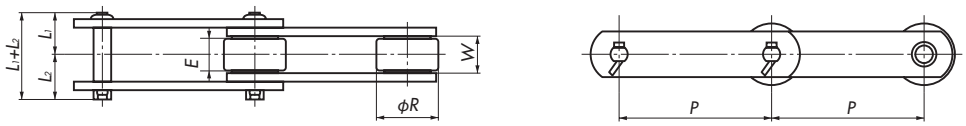
Chain Numbering Example

RF03075 BR - DT - 1L A2

- RF03075 — Chain size
- BR — Bearing roller type
  - BR: R roller
  - BF: F roller
- DT — Chain series code
  - DT: Standard series
  - AT: Heavy duty series
- 1L — Attachment spacing
- A2 — Attachment type

Bearing Roller Conveyor Chain

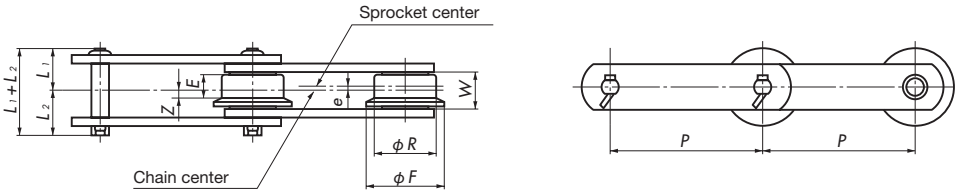
BR Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Contact Width E			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								2.4		
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								4.5		
RF05150	150								4.2		
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								5.6		
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								8.7		
RF10150	150								8.0		
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								10.4		
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								17.0		
RF17300	300								16.0		
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								23.0		
RF26450	450								19.0		
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								32.0		
RF36600	600								28.0		

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

BF Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter F	Contact Width E	Off-Center e	Z			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											2.5		
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											4.6		
RF05150	150											4.4		
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											5.8		
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		
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											10.8		
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											18.0		
RF17300	300											16.0		
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											24.0		
RF26450	450											19.0		
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											33.0		
RF36600	600											29.0		

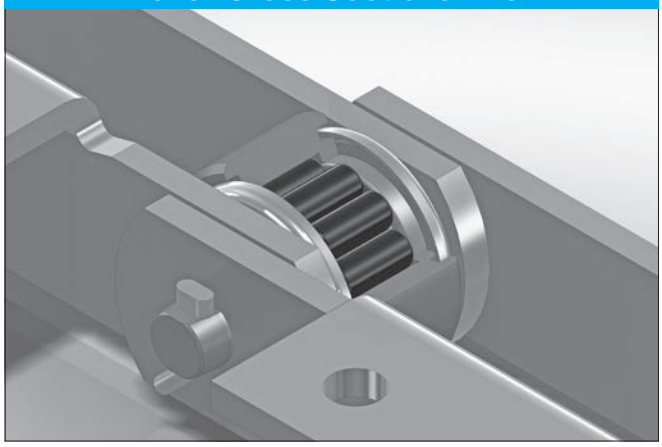
Note: 1. Contact a Tsubaki representative for inch pitch size.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearing Roller Conveyor Chain

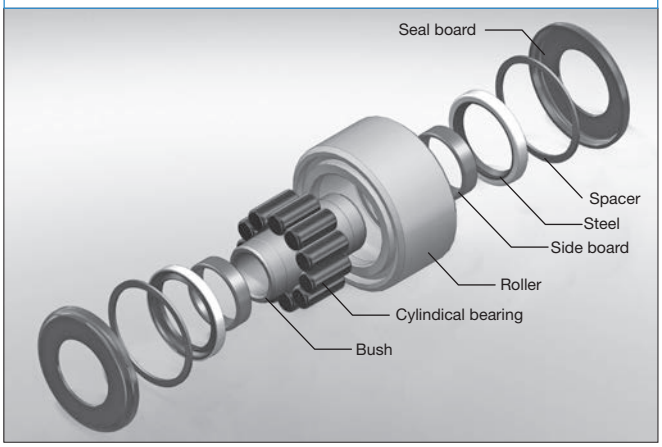
Anti-Dust Series

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.

Roller Cross Sectional View

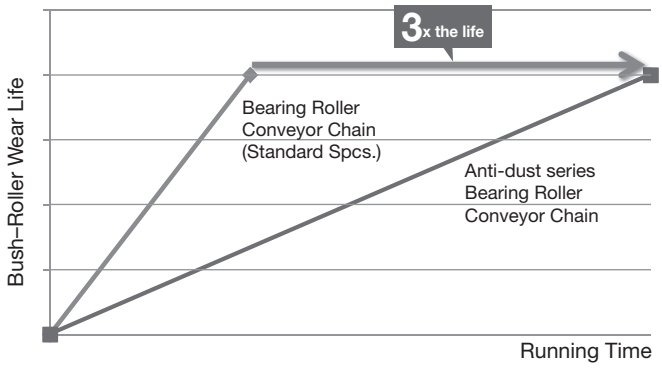


Construction



Features

In-house test comparison, no additional lubrication



3x the wear life of bearing roller coveyor chain standard specs.

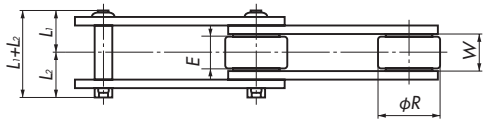
Chain Numbering Example

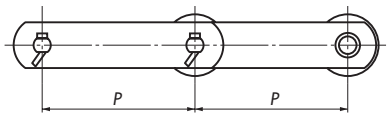
RF10150 DBR - DT - 1L A2

- RF10150: Chain size
- DBR: Anti-dust bearing roller type
  - DBR: R type
  - DBF: F type
- DT: Chain series code
  - DT: Standard series
  - AT: Heavy duty series
- 1L: Attachment spacing
- A2: Attachment type

Bearing Roller Conveyor Chain

DBR Roller

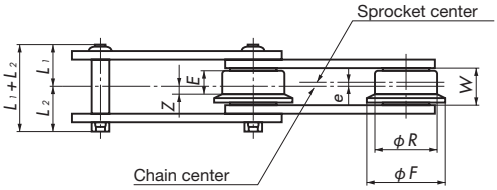


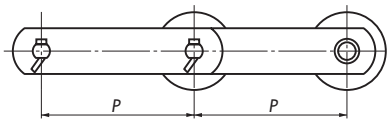


Chain Size	Pitch P	Inner Link Inner Width W	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Contact Width E			DT Series kN{kgf}	AT Series kN{kgf}
RF10100	100	30.0	69.0	33.0	36.0	50.8	26.0	5.49{560}	10.0	16.1{1650}	23.5{2400}
RF10125	125								8.7		
RF10150	150								8.0		
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								10.4		
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								17.0		
RF17300	300								16.0		
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								23.0		
RF26450	450								19.0		
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								32.0		
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 P	Inner Link Inner Width W	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter F	Contact Width E	Off-Center e	Z			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		
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											10.8		
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											18.0		
RF17300	300											16.0		
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											24.0		
RF26450	450											19.0		
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											33.0		
RF36600	600											29.0		

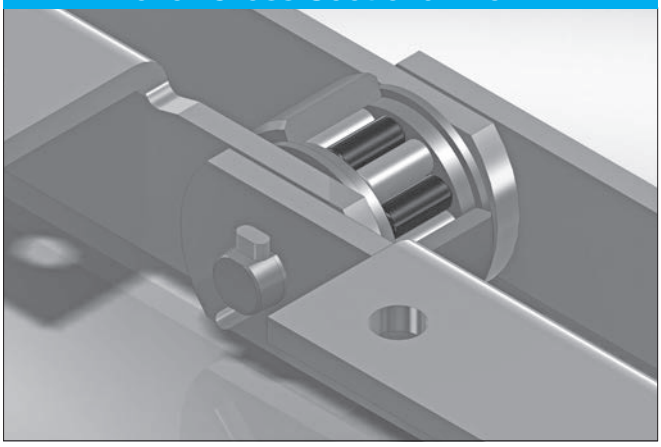
Note: 1. Chain cannot be used for conveyance in environments where it will be fully covered in dust.
2. Periodically lubricate the base chain using the grease nipple on the pin head.
3. Base chain is compatible with General Use Conveyor Chains and can use current sprockets.
4. Do not use in corrosive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

Bearing Roller Conveyor Chain

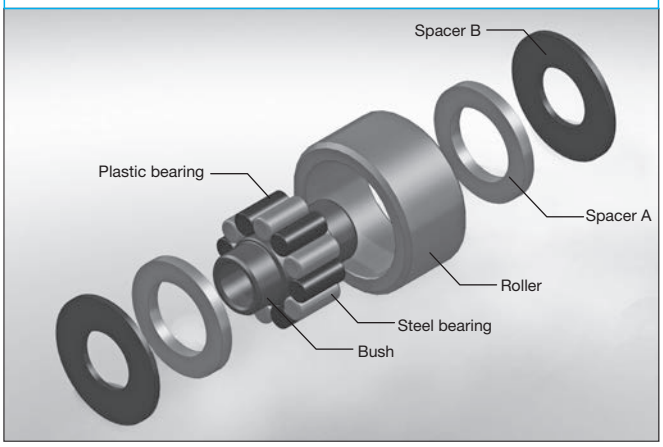
Lube-Free Series (Standard Specs)

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.

Roller Cross Sectional View

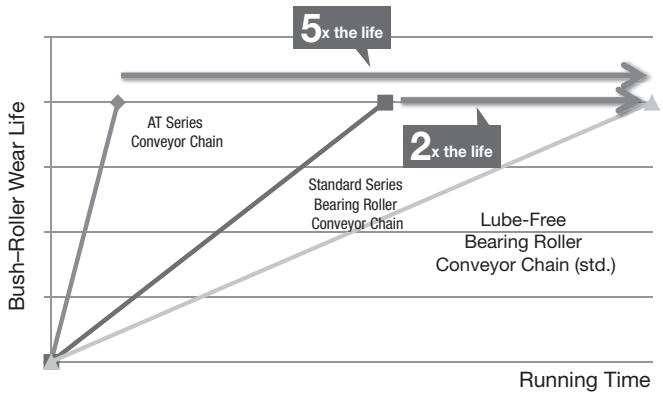


Construction



Features

In-house test comparison, no additional lubrication



Has 5x the wear life of Standard Conveyor Chain DT Series and 2x the wear life of Bearing Roller Conveyor Chain Standard Specs without additional lubrication.

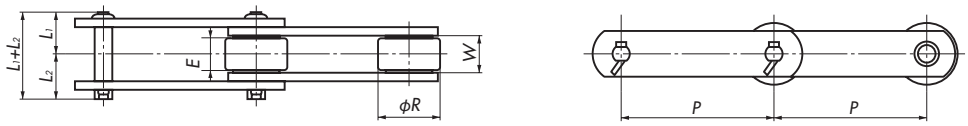
Chain Numbering Example

RF03075 EBR - DT - 1L A2

- Chain size
- Lube-free series roller type
  - EBR: R type
  - EBF: F type
- Chain series code
  - DT: Standard series
  - AT: Heavy duty series
- Attachment spacing
- Attachment type

Bearing Roller Conveyor Chain

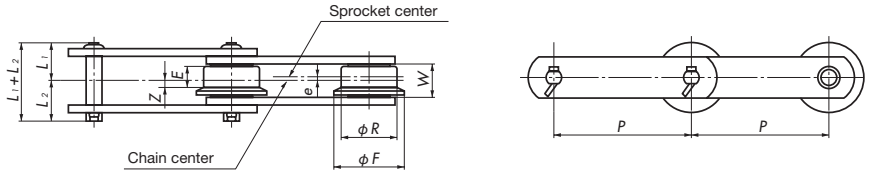
EBR Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter E			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								2.4		
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								4.5		
RF05150	150								4.2		
RF08125	125	27.0	65.5	31.0	34.5	44.5	24.0	4.12{420}	5.9	7.84{800}	10.3{1050}
RF08150	150								5.6		
RF10100	100	30.0	69.0	33.0	36.0	50.8	26.0	5.49{560}	10.0	11.3{1150}	16.5{1680}
RF10125	125								8.7		
RF10150	150								8.0		
RF12200	200	37.1	83.5	40.5	43.0	65.0	32.0	8.34{850}	11.6	18.6{1900}	25.4{2590}
RF12250	250								10.4		
RF17200	200	51.4	109.5	51.5	58.0	80.0	44.0	14.1{1440}	20.0	24.5{2500}	38.4{3920}
RF17250	250								17.0		
RF17300	300								16.0		
RF26250	250	57.2	116.5	55.5	61.0	100.0	50.0	19.6{2000}	26.0	31.4{3200}	50.8{5180}
RF26300	300								23.0		
RF26450	450								19.0		
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								32.0		
RF36600	600								28.0		

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

EBF Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter F	Contact Width E	Off-Center e	Z			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											2.5		
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											4.6		
RF05150	150											4.4		
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	7.84{800}	10.3{1050}
RF08150	150											5.8		
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	11.3{1150}	16.5{1680}
RF10150	150											8.3		
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	18.6{1900}	25.4{2590}
RF12250	250											10.8		
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	24.5{2500}	38.4{3920}
RF17250	250											18.0		
RF17300	300											16.0		
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	31.4{3200}	50.8{5180}
RF26300	300											24.0		
RF26450	450											19.0		
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	47.6{4850}	68.0{6930}
RF36450	450											33.0		
RF36600	600											29.0		

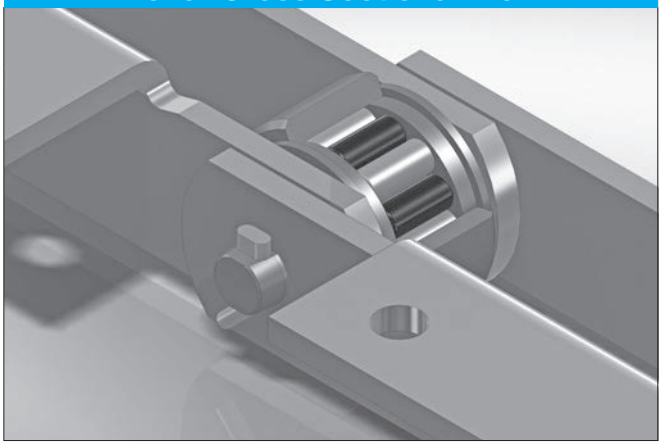
Note: 1. Contact a Tsubaki representative for inch pitch size.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearing Roller Conveyor Chain

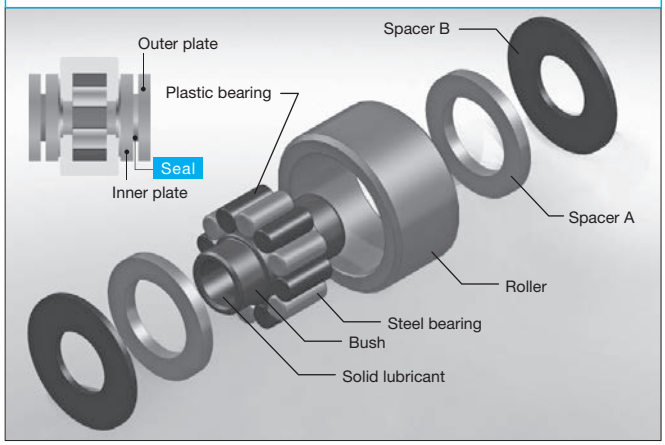
Lube-Free Series (Completely Lube-Free Specs)

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.

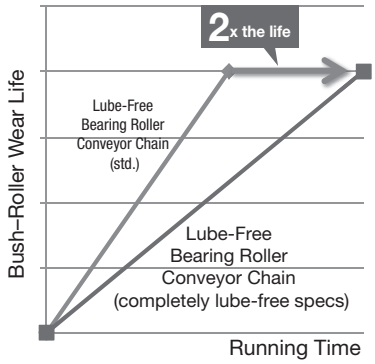
Roller Cross Sectional View

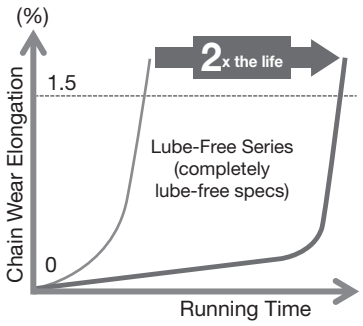


Construction



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.

Ordering Bearing Roller Conveyor Chain

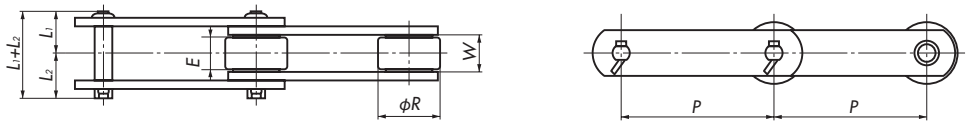
Chain Numbering Example

RF10150 AEB R - DT - 1L A2

- RF10150: Chain size
- AEB: Lube-free series completely lube-free specs
- R: Roller type (R: R roller, F: F roller)
- DT: Chain series code (DT: Standard series, AT: Heavy duty series)
- 1L: Attachment spacing
- A2: Attachment type

Bearing Roller Conveyor Chain

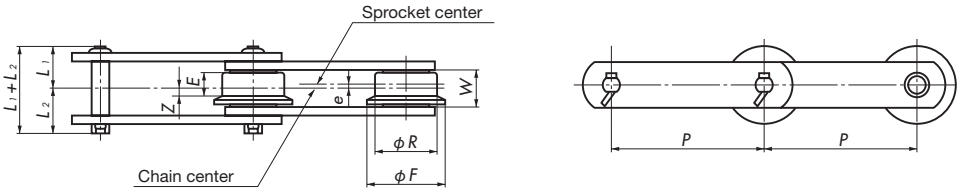
AEBR Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Contact Width E			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								4.5		
RF05150	150								4.2		
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								5.6		
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								8.7		
RF10150	150								8.0		
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								10.4		
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								17.0		
RF17300	300								16.0		
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								23.0		

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 P	Inner Link Inner Width W	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load	
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter F	Contact Width E	Off-Center e	Z			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											4.6		
RF05150	150											4.4		
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											5.8		
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											8.3		
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											10.8		
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											18.0		
RF17300	300											16.0		
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											24.0		

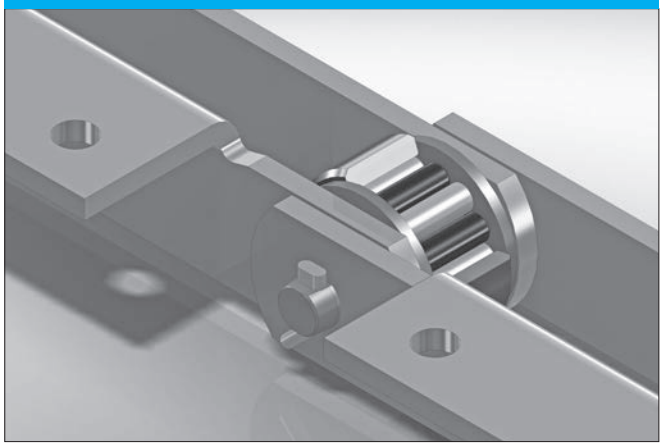
Note: 1. This chain is interchangeable with standard large size conveyor chain and can use the existing sprocket. However, the L1 + L2 dimension is different.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearing Roller Conveyor Chain

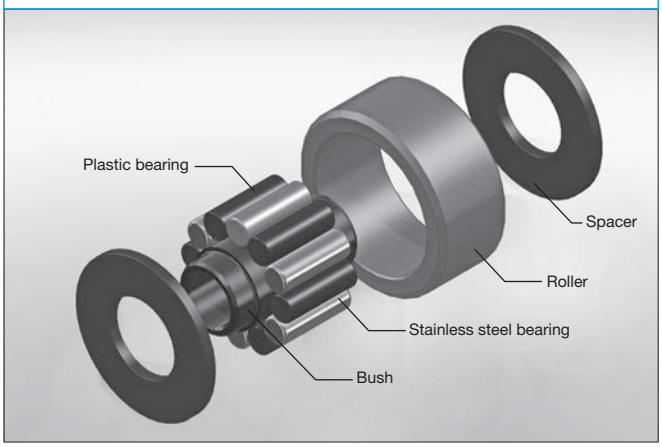
Lube-Free Series (Water Resistant Specs)

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)

Roller Cross Sectional View

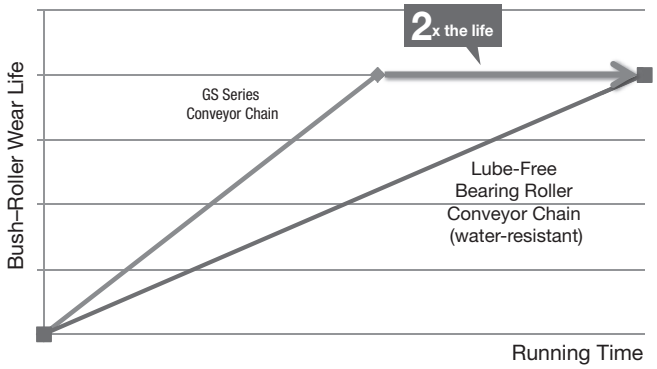


Construction



Features

In-house test comparison, no additional lubrication



2x the wear life of Standard Conveyor Chain RT Series without additional lubrication.

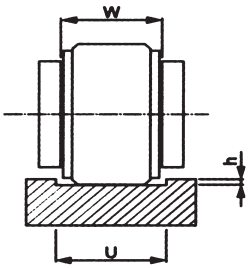
Chain Numbering Example

RF03075 WEBR GS - 1L A2

- RF03075 — Chain size
- WEBR — Lube-free series, water resistant specs roller type (WEBR: R type, WEBF: F type)
- GS — Chain series code (GS: Corrosion resistant series)
- 1L — Attachment spacing
- A2 — Attachment type

Rail mounting

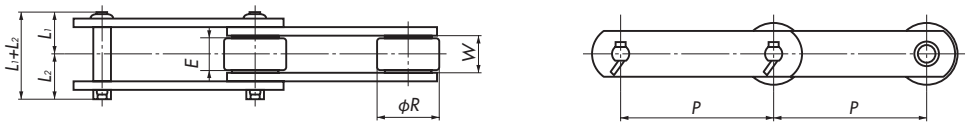
When using Lube-free Series Water Resistant Specs, be sure to use a grooved rail. There is little difference in roller and spacer diameters, so the groove width (U) needs to be larger than the inner link inner width (W). Recommended rail groove depth can be found in the table on the right.



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

Bearing Roller Conveyor Chain

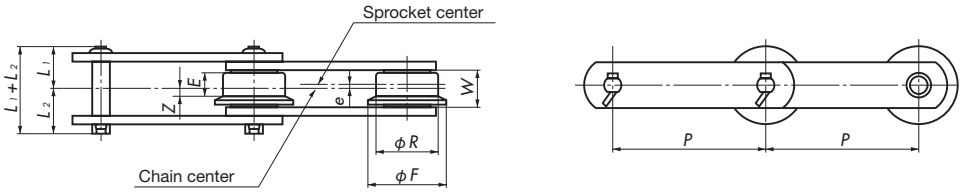
WEBR Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			R Roller		Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load kN{kgf}
			L_1+L_2	L_1	L_2	Diameter R	Contact Width E			
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 inch pitch size.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

WEBF Roller



Chain Size	Pitch P	Inner Link Inner Width W	Pin			F Roller					Roller Allowable Load kN{kgf}/pc	Approx. Mass kg/m	Max. Allowable Load kN{kgf}
			L_1+L_2	L_1	L_2	Diameter R	Flange Diameter F	Contact Width E	Off-Center e	Z			
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}

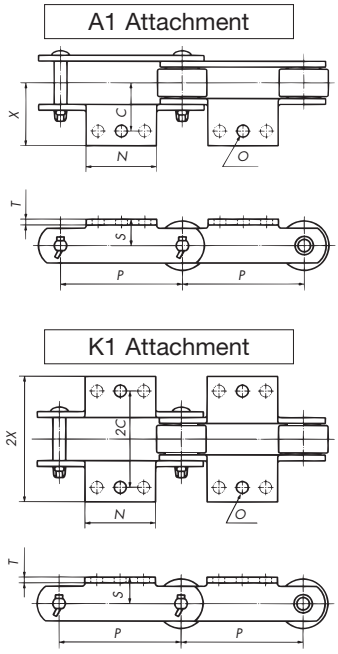
Note: 1. Contact a Tsubaki representative for inch pitch size.
2. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearing Roller Conveyor Chain

Attachment Dimensional Chart

A1/K1 Attachments

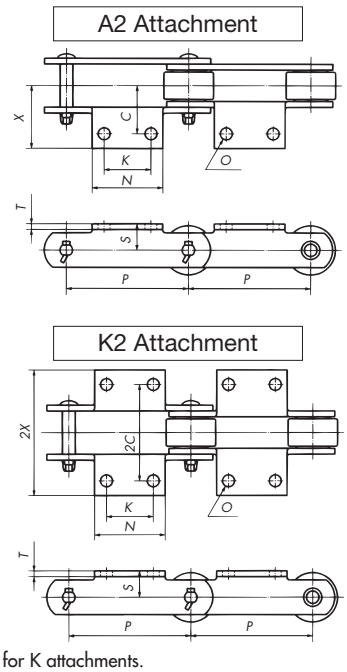
Chain Size	Bearing Roller Type R Roller	Bearing Roller Type F Roller	Pitch P	S	C	2C	X	2X	N	T	O	Bolt Used	Additional Mass/Each kg
RF03075	○	○	75	20	30	60	46	92	55	3.2	10	M8	0.06
RF03100	○	○	100						65				0.07
RF05100	○	○	100	22	35	70	47	94	65	4.5	10	M8	0.07
RF05125	○	○	125						75				0.08
RF05150	○	○	150						85				0.10
RF08125	○	○	125	28	50	100	64	128	80	6.3	12	M10	0.19
RF08150	○	○	150						90				0.23
RF10100	○	–	100	28	50	100	67	134	70	6.3	12	M10	0.16
RF10125	○	○	125						80				0.18
RF10150	○	○	150						90				0.20
RF12200	○	○	200	38	60	120	79	158	120	7.9	15	M12	0.44
RF12250	○	○	250						170				0.61
RF17200	○	○	200	45	75	150	100	200	120	9.5	15	M12	0.64
RF17250	○	○	250						170				0.88
RF17300	○	○	300						220				1.26
RF26250	○	○	250	55	80	160	108	216	170	9.5	15	M12	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. Inch sizes available upon request. 5. The above dimensions are nominal dimensions and may differ from actual dimensions.

A2/K2 Attachments

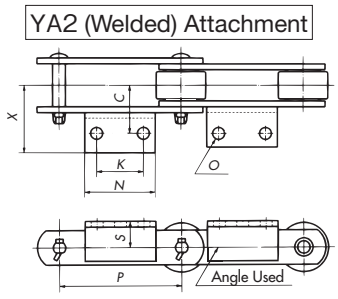
Chain Size	Bearing Roller Type R Roller	Bearing Roller Type F Roller	Pitch P	S	C	2C	X	2X	N	K	T	O	Bolt Used	Additional Mass/Each kg
RF03075	○	○	75	20	30	60	46	92	55	30	3.2	10	M8	0.06
RF03100	○	○	100						65	40				0.07
RF05100	○	○	100	22	35	70	47	94	65	40	4.5	10	M8	0.07
RF05125	○	○	125						75	50				0.08
RF05150	○	○	150						85	60				0.10
RF08125	○	○	125	28	50	100	64	128	80	50	6.3	12	M10	0.19
RF08150	○	○	150						90	60				0.23
RF10100	○	–	100	28	50	100	67	134	70	40	6.3	12	M10	0.16
RF10125	○	○	125						80	50				0.18
RF10150	○	○	150						90	60				0.20
RF12200	○	○	200	38	60	120	79	158	120	80	7.9	15	M12	0.44
RF12250	○	○	250						170	125				0.61
RF17200	○	○	200	45	75	150	100	200	120	80	9.5	15	M12	0.64
RF17250	○	○	250						170	125				0.88
RF17300	○	○	300						220	180				1.26
RF26250	○	○	250	55	80	160	108	216	170	125	9.5	15	M12	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. Inch 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 R Roller	Bearing Roller Type F Roller	Pitch P	S	C	2C	X	2X	N	K	O	Angle Used	Bolt Used	Additional Mass/Each kg
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. Inch sizes available upon request. 3. The above dimensions are nominal dimensions and may differ from actual dimensions.

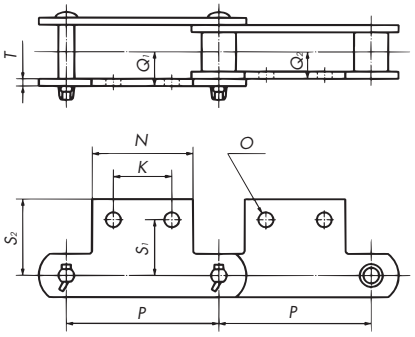
Bearing Roller Conveyor Chain

SA2/SK2 Attachments

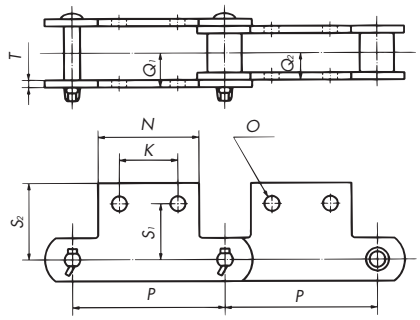
Chain Size	Bearing Roller Type R Roller	Bearing Roller Type F Roller	Pitch P	S_1	S_2	Q_1	Q_2	N	K	T	O	Bolt Used	Additional Mass/Each kg
RF03075	○	–	75	33	49	15.5	11.5	55	30	3.2	10	M8	0.06
RF03100	○	–	100					65	40				0.07
RF05100	○	–	100	33.4	50.7	21	15.5	65	40	4.5	10	M8	0.07
RF05125	○	–	125					75	50				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. Inch sizes available upon request.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

SA2 Attachment



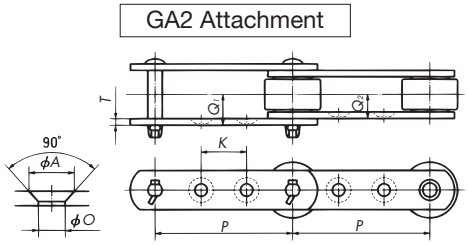
SK2 Attachment



GA2 Attachments

Chain Size	Bearing Roller Type R Roller	Bearing Roller Type F Roller	Pitch P	K	T	Q_1	Q_2	A	O	Max. Length of Attached Bolt Outer Link	Max. Length of Attached Bolt Inner Link	Bolt Used
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	6.3	28.5	21.5	20	12	49	35	M10
RF10125	○	–	125	40								
RF10150	○	○	150	60								
RF12200	○	○	200	80	7.9	35.5	26.5	26	15	63	45	M12
RF12250	○	○	250	125								
RF17200	○	○	200	70	9.5	45.5	35	26	15	81	61	M12
RF17250	○	○	250	110								
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								

GA2 Attachment



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. Inch 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.

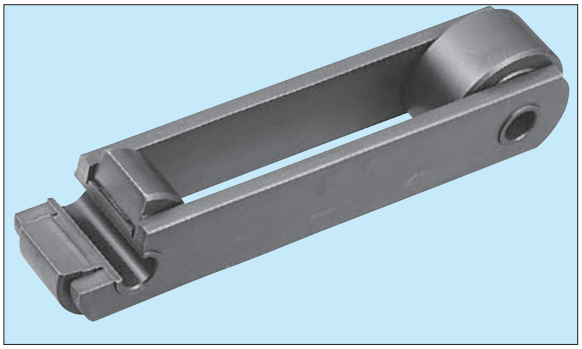
Strength Table

Unit: kN{kgf}

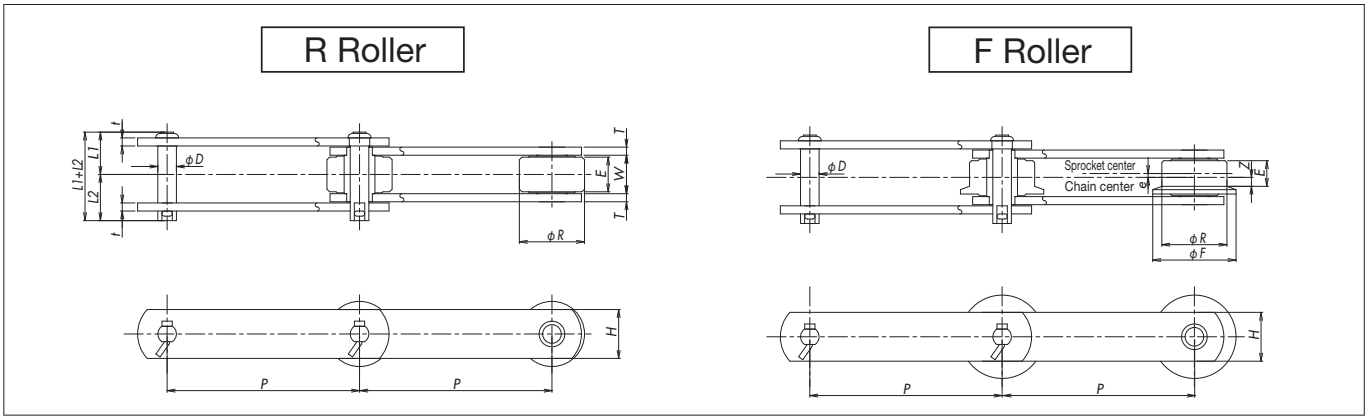
Application			Normal/Dusty Environments		Slightly Corrosive Environment			
			Countermeasure against chain elongation		Countermeasaure against chain corrosive wear		Countermeasure against wear elongation and bush-roller corrosive wear	
Series			CT	BT	MT	VT	RT	YT
Operating Temperature Environment			–20°C to 200°C	–20°C to 200°C	–20°C to 200°C	–20°C to 400°C	–20°C to 200°C	–20°C to 400°C
Metric	RF03075 RF03100	Max. allowable load	4.20{430}	7.30{745}	4.20{430}	5.40{550}	4.20{430}	5.40{550}
		Min. tensile strength	32.4{3300}	65.5{6700}	32.4{3300}	65.5{6700}	32.4{3300}	65.5{6700}
	RF05075 RF05100 RF05125 RF05150	Max. allowable load	9.80{1000}	14.0{1430}	9.80{1000}	10.8{1100}	9.80{1000}	10.8{1100}
		Min. tensile strength	67.6{6900}	127{13000}	67.6{6900}	127{13000}	67.6{6900}	127{13000}
	RF08125 RF08150	Max. allowable load	11.2{1140}	14.0{1430}	11.2{1140}	12.3{1250}	11.2{1140}	12.3{1250}
		Min. tensile strength	74.6{7600}	127{13000}	74.6{7600}	127{13000}	74.6{7600}	127{13000}
	RF10100 RF10125 RF10150	Max. allowable load	17.6{1790}	32.3{3290}	17.6{1790}	17.7{1800}	17.6{1790}	17.7{1800}
		Min. tensile strength	107{11000}	200{20500}	107{11000}	200{20500}	107{11000}	200{20500}
	RF12200 RF12250	Max. allowable load	26.6{2710}	39.9{4060}	26.5{2700}	26.5{2700}	26.5{2700}	26.5{2700}
		Min. tensile strength	160{16500}	249{25500}	160{16500}	249{25500}	160{16500}	249{25500}
	RF17200 RF17250 RF17300	Max. allowable load	35.0{3570}	55.3{5640}	35.0{3570}	35.8{3650}	35.0{3570}	35.8{3650}
		Min. tensile strength	213{22000}	348{35500}	213{22000}	348{35500}	213{22000}	348{35500}
	RF26200 RF26250 RF26300 RF26450	Max. allowable load	44.9{4570}	74.3{7580}	44.9{4570}	46.1{4700}	44.9{4570}	46.1{4700}
		Min. tensile strength	285{29000}	464{47500}	285{29000}	464{47500}	285{29000}	464{47500}
	RF36250 RF36300 RF36450 RF36600	Max. allowable load	68.0{6930}	97.4{9930}	68.0{6930}	68.2{6950}	68.0{6930}	68.2{6950}
		Min. tensile strength	457{46500}	614{62500}	457{46500}	614{62500}	457{46500}	614{62500}
	RF52300 RF52450 RF52600	Max. allowable load	71.4{7280}	147{15000}	71.4{7280}	80.4{8200}	71.4{7280}	80.4{8200}
		Min. tensile strength	481{49000}	953{97000}	481{49000}	953{97000}	481{49000}	953{97000}
	RF60300 RF60350 RF60400	Max. allowable load	71.4{7280}	149{15200}	71.4{7280}	79.9{8150}	71.4{7280}	79.9{8150}
		Min. tensile strength	479{49000}	1010{103000}	479{49000}	1010{103000}	479{49000}	1010{103000}
	RF90350 RF90400 RF90500	Max. allowable load	113{11500}	233{23700}	113{11500}	125{12750}	113{11500}	125{12750}
		Min. tensile strength	754{77000}	1600{163000}	754{77000}	1600{163000}	754{77000}	1600{163000}
	RF120400 RF120600	Max. allowable load	159{16200}	316{32200}	159{16200}	179{18250}	159{16200}	179{18250}
		Min. tensile strength	1060{108000}	2180{222000}	1060{108000}	2180{222000}	1060{108000}	2180{222000}
Imperial	RF430	Max. allowable load	7.70{790}	9.95{1020}	7.70{790}	8.35{850}	7.70{790}	8.35{850}
		Min. tensile strength	49.7{5100}	89.4{9100}	49.7{5100}	89.4{9100}	49.7{5100}	89.4{9100}
	RF204	Max. allowable load	11.2{1140}	14.0{1430}	11.2{1140}	12.3{1250}	11.2{1140}	12.3{1250}
		Min. tensile strength	74.6{7600}	127{13000}	74.6{7600}	127{13000}	74.6{7600}	127{13000}
	RF450	Max. allowable load	11.2{1140}	14.0{1430}	11.2{1140}	12.3{1250}	11.2{1140}	12.3{1250}
		Min. tensile strength	74.6{7600}	127{13000}	74.6{7600}	127{13000}	74.6{7600}	127{13000}
	RF650	Max. allowable load	16.1{1650}	16.1{1650}	14.2{1450}	14.2{1450}	14.2{1450}	14.2{1450}
		Min. tensile strength	115{11700}	127{13000}	115{11700}	127{13000}	115{11700}	127{13000}
	RF214	Max. allowable load	18.1{1850}	34.3{3500}	18.1{1850}	18.6{1900}	18.1{1850}	18.6{1900}
		Min. tensile strength	112{11500}	237{24000}	112{11500}	237{24000}	112{11500}	237{24000}
	RF205	Max. allowable load	18.1{1850}	34.3{3500}	18.1{1850}	18.6{1900}	18.1{1850}	18.6{1900}
		Min. tensile strength	112{11500}	237{24000}	112{11500}	237{24000}	112{11500}	237{24000}
	RF6205	Max. allowable load	26.6{2710}	39.9{4060}	26.5{2700}	26.5{2700}	26.5{2700}	26.5{2700}
		Min. tensile strength	160{16500}	249{25500}	160{16500}	249{25500}	160{16500}	249{25500}
	RF212	Max. allowable load	35.0{3570}	55.3{5640}	35.0{3570}	35.8{3650}	35.0{3570}	35.8{3650}
		Min. tensile strength	213{22000}	348{35500}	213{22000}	348{35500}	213{22000}	348{35500}

Note: 1. Maximum allowable load values are guaranteed values of performance based on Tsubaki standards. When using a competitor chain with similar tensile strength, be aware that wear, fatigue, and other conditions may cause a large difference in actual chain life to arise.
2. Contact a Tsubaki representative regarding average tensile strength.

Shoulder Bush Conveyor Chain



Has the same base outer dimensions as a standard conveyor chain, but the larger bush diameter increases the roller allowable load, allowing for conveyance of heavier objects. The bush also employs various measures against outer diameter wear. The chain's coefficient of running friction is 0.10 (lubricated) or 0.18 (unlubricated).



Chain Size	Roller Type	Pitch P	Roller							Inner Link Inner Width W	Plate		Pin				Roller Allowable Load kN{kgf}	Approx. Mass	
			R Roller		F Roller														
			Dia. R	Contact Width E	Dia. R	Flange Dia. F	Contact Width E	Off-Center e	Z		Width	Thickness T	Dia. D	L1+L2	L1	L2	DTA Series	R Roller	F Roller
RF10100-DB	R	100	50.8	27	50.8	65	20	3	7	30	38.1	6.3	14.5	69	33	36	3.38 {345}	10	–
RF10150-DB	R・F	150																8	8.3
RF6205-DB	R・F	152.4	57.2	32	57.2	70	25	3.5	9	37.1	44.5	7.9	15.9	83.5	40.5	43	5.00 {510}	12.2	12.6
RF12200-DB	R・F	200	65	32	65	80	24	4	8	37.1	44.5	7.9	15.9	83.5	40.5	43	5.00 {510}	11.6	12.1
RF12250-DB	R・F	250																10.4	10.8
RF17200-DB	R・F	200	80	44	80	100	34	5	12	51.4	50.8	9.5	19.1	109.5	51.5	58	8.04 {820}	20	21
RF17250-DB	R・F	250																17	18
RF17300-DB	R・F	300																16	16
RF26250-DB	R・F	250	100	50	100	125	38	6	13	57.2	63.5	9.5	22.2	116.5	55.5	61	10.6 {1080}	26	27
RF26300-DB	R・F	300																23	24
RF26450-DB	R・F	450																19	19
RF36300-DB	R・F	300	125	56	125	150	42	7	14	66.7	76.2	12.7	25.4	146	68	78	14.4 {1470}	40	42
RF36450-DB	R・F	450																32	33
RF36600-DB	R・F	600																28	29

Note: 1. Roller allowable load values indicated are under lubricated conditions.
2. Basic chain and attachment specifications are the same as RF Conveyor Chain.
3. Confirm attachment allowable load when selecting chain.
4. The above dimensions are nominal dimensions and may differ from actual dimensions.

Ordering Shoulder Bush Conveyor Chain

Chain Numbering Example

RF12200F-DB-DTA-1LA2

- Chain Size
- Roller Type
- Shoulder Bush
- Chain Series
- Attachment Spacing
- Attachment Type

Ordering Example

Chain Size: RF12 Pitch: 200mm Roller Type: F Roller
Chain Specifications: Shoulder Bush/DTA Series
Attachment Spacing/Type: A2 every link
Quantity: 400 links

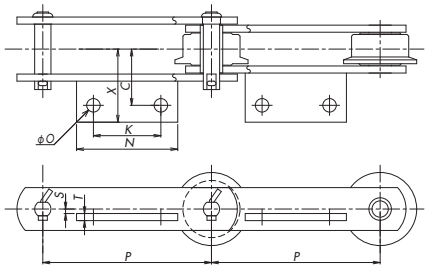
Chain Number	Quantity	Unit
RF12200F-DB-DTA-1LA2	400	L

Special Attachment Conveyor Chain

Note: Be sure to specify “half assembled in mirror image” when using two strands of special attachment conveyor chain in parallel. In addition, be sure to specify “half assembled in mirror image (incl. T-pin)” when the direction of the T-pins on the two strands of chain need to face the same direction.

CA2 Attachment

This attachment is for mounting a wire mesh or other endless belt to an inelastic chain.
Contact a Tsubaki representative about changes to the S dimension and diagonal attachments.



Chain Size	Pitch P	C	X	N	K	T	O	S
RF05100	100	40	52	65	40	4.5	10	3
RF05150	150			85	60			
RF450	101.6	50	64	70	40	6.3	12	4
RF10100	100	50	65	70	40	6.3	12	4
RF10150	150			90	60			
RF6205	152.4	60	79	100	60	7.9	15	5
RF12200	200	60	79	120	80	7.9	15	5
RF12250	250			165	125			
RF17200	200	75	98	120	80	9.5	15	6
RF17250	250			165	125			
RF26200	200	80	105	120	80	9.5	15	6
RF26250	250			165	125			
RF36300	300	100	125	180	120	12	19	8

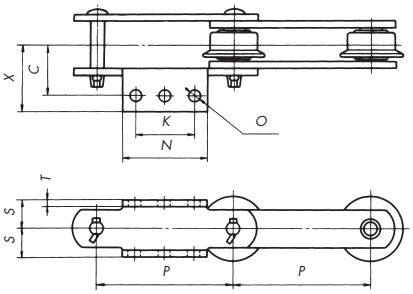
Note: If CA attachment positioning is below chain center, T-pin insertion will be opposite. (Basically, CA attachments are attached below chain center. Separate instructions are needed for attaching above chain center. The base chain is equivalent to a conveyor chain.)

Suitable Roller Types: R/F/S

Chain Numbering Example: RF05100F–DT–2LCA2

AA3 Attachment

This bracket-shaped attachment allows for mounting both above and below the chain. Perfect for times when slight phase differences from scrapers, etc. cause a variable load on the chain (use the center hole), or when a strong moment of inertia is applied to the scraper.



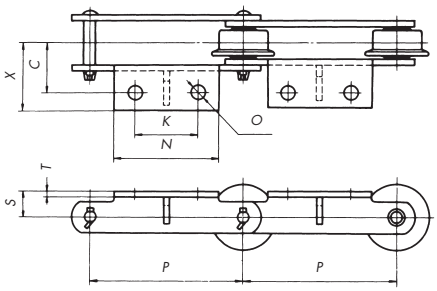
Chain Size	Pitch P	S	C	X	N	K	T	O
RF05100	100	22	35	52	65	40	4.5	10
RF05150	150				85	60		
RF10100	100	28	50	65	70	40	6.3	12
RF10150	150				90	60		
RF6205	152.4	38	60	79	100	60	7.9	15
RF12200	200	38	60	79	120	80	7.9	15
RF12250	250				165	125		

Suitable Roller Types: R/F/S

Chain Numbering Example: RF05100F–DT–2LAA3

A2R Attachment

This attachment features a supporting rib on an A2 attachment for 2 to 3 times the bending strength.



Chain Size	Pitch P	S	C	X	N	K	T	O	Bolt Used
RF05100	100	22	35	47	65	40	4.5	10	M 8
RF05150	150				85	60			
RF10100	100	28	50	67	70	40	6.3	12	M10
RF10150	150				90	60			
RF6205	152.4	38	60	79	100	60	7.9	15	M12
RF12200	200	38	60	795	120	80	7.9	15	M12
RF12250	250				170	125			
RF17200	200	45	75	100	120	80	9.5	15	M12
RF17250	250				170	125			

Suitable Roller Types: R/F/S

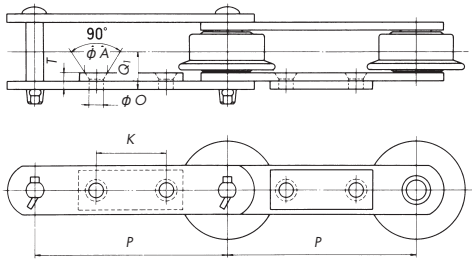
Chain Numbering Example: RF05100F–DT–2LA2R

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Special Attachment Conveyor Chain

MG2 Attachment

The mounting face is flush, so only one type of attachment is needed (pan, apron, bolt).

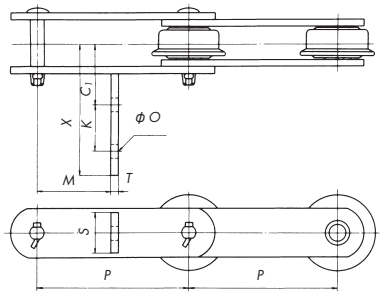


Chain Size	Roller Type	Pitch P	K	T	Q_1	A	O	Max. Length of Att. Bolt		Bolt Used
								Outer Link	Inner Link	
RF05100	R·S	100	40	9	21	15	10	31	26	M8
RF05150	R·F·S	150	60							
RF10150	R·F·S	150	60	12.6	28.5	20	12	43	35	M10
RF6205	R·F·S	152.4	50	15.8	35.5	26	15	55	45	M12
RF12200	R·F·S	200	80	15.8	35.5	26	15	55	45	M12
RF12250	R·F·S	250	125							
RF17200	R·F·S	200	70	19	45.5	26	15	71	61	M12
RF17250	R·F·S	250	110							
RF17300	R·F·S	300	150							
RF26300	R·F·S	300	140	19	48	26	15	78	67	M12
RF26450	R·F·S	450	220							
RF36450	R·F·S	450	220	25.4	59.5	32	19	92	75	M16
RF36600	R·F·S	600	300							

Chain Numbering Example: RF05100R–DT–2LMG2

AS2 Attachment

The perfect shape for mounting scrapers and other attachments. Can be attached to both sides of the chain (KS2).

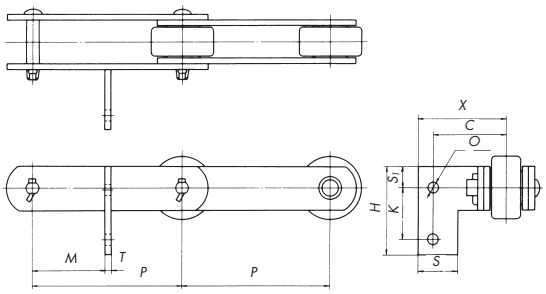


Chain Size	Pitch P	C_1	K	X	O	S	M	T
RF03075	75	28.3	20	61	9	20	36	3.2
RF03100	100							
RF05100	100	38.8	20	72	9	28	37	4.5
RF05150	150							
RF450	101.6	46.6	25	85	11	25	37	6
RF10100	100	54.6	30	100	11	34	47	6
RF10150	150							
RF6205	152.4	63.9	50	132	14	40	57	6
RF12200	200	63.9	50	132	14	40	57	6
RF12250	250							
RF17200	200	80.8	70	175	14	46	66	9
RF17250	250							
RF17300	300							
RF26200	200	91.7	100	215	14	58	75	9
RF26250	250							
RF26300	300							
RF26450	450							
RF36300	300	110	120	260	18	70	84	12
RF36450	450							

Suitable Roller Types: R/F/S
Chain Numbering Example: RF03075F–DT–2LAS2

AF2 Attachment

The perfect shape for mounting scrapers and other attachments.
Especially ideal for deep scrapers.



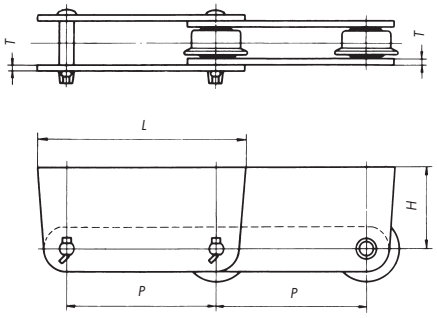
Chain Size	Pitch P	C	X	K	S_1	H	S	O	M	T
RF03075	75	31.3	48	20	10	40	32	9	36	3.2
RF03100	100									
RF05100	100	36.9	53	25	14	53	32	9	37	4.5
RF05150	150									
RF450	101.6	46.1	65	25	12.5	50	38	11	37	6
RF10100	100	47.6	67	30	17	64	38	11	47	6
RF10150	150									
RF6205	152.4	57.4	80	50	20	90	44	14	57	6
RF12200	200	57.4	80	50	20	90	44	14	57	6
RF12250	250									
RF17200	200	70.8	96	70	23	116	50	14	70	9
RF17250	250									
RF17300	300									
RF26200	200	73.7	99	100	29	158	50	14	80	9
RF26250	250									
RF26300	300									
RF26450	450									
RF36300	300	92.4	125	120	35	190	65	18	90	12
RF36450	450									

Suitable Roller Types: R/F/S
Chain Numbering Example: RF03075R–DT–2LAF2

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

WSA0 Attachment

One side of the plate is made taller to prevent conveyed items from spilling over.
Normally used with CA attachments. (See pg. 118.)

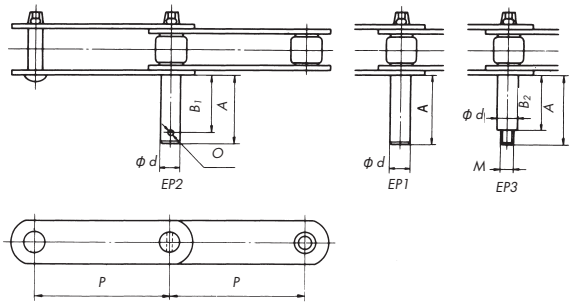


Chain Size	Pitch P	H	L	T
RF03100	100	60	160	3.2
RF05100	100	70	170	4.5
RF10100	100	80	180	6.3
RF10150	150		230	
RF6205	152.4	100	250	7.9
RF12200	200	100	300	7.9
RF12250	250		350	
RF17200	200	120	320	9.5
RF17250	250		370	

Suitable Roller Types: R/F/S
Chain Numbering Example: RF03100F–DT–2LWSA0

Extended Pin (EP)

One side of the pin is extended.
There are three different types, depending on pin shape.
See pg. 18 for attachment spacing chart.

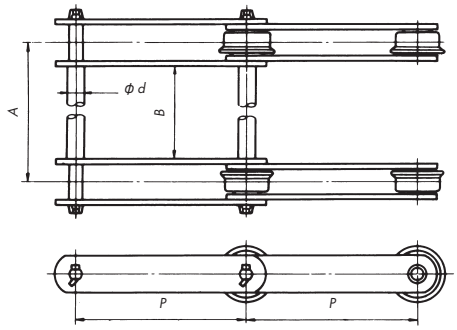


Chain Size	Pitch P	ϕd	A	B_1	B_2	O	M
RF03100	100	11	40	34	27	4	M10
RF05100	100	15	50	42	34	5	M12
RF05150	150						
RF450	101.6	15	50	42	34	5	M12
RF10100	100	18	60	51	40	6	M16
RF10150	150						
RF6205	152.4	20	70	61	50	6	M16
RF12200	200	20	70	61	50	6	M16
RF12250	250						
RF17200	200	22	80	71	56	6	M20
RF17250	250						
RF17300	300						
RF36250	250	28	90	78	61	8	M24
RF36300	300						
RF26450	450						
RF36300	300	30	100	85	71	10	M24
RF36450	450						

Suitable Roller Types: R/F/S
Chain Numbering Example: RF03100S–DT–2LEP1

Stay Pin (TN)

Two strands of chain are connected by one pin. Items can be carried on top of the pin, or nets, aprons, etc. can be mounted using a CA2 attachment.



Chain Size	Pitch P	ϕd	A MAX	B
RF03100	100	11	500	A-31
RF05100	100	15	700	A-42
RF05150	150			
RF450	101.6	15	800	A-55
RF10100	100	18	1000	A-58
RF10150	150			
RF6205	152.4	20	1100	A-71
RF12200	200	20	1100	A-71
RF12250	250			
RF17200	200	22	1300	A-92
RF17250	250			
RF17300	300			
RF26250	250	28	1500	A-98
RF26300	300			
RF26450	450			
RF36300	300	30	1500	A-120
RF36450	450			

A dimension (B dimension) can be manufactured to customer specifications within the range on the dimensional chart.

Suitable Roller Types: R/F/S
Chain Numbering Example: RF03100F–DT–2LTN

Note: Chain quantity is not in individual strands. One pitch of multiple strands of chain is considered one link. See pg. 19 for details.

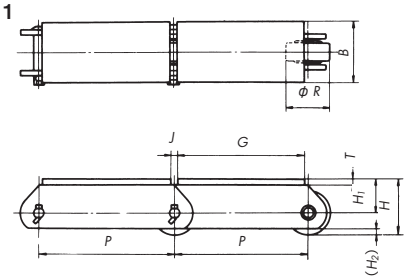
Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Special Attachment Conveyor Chain

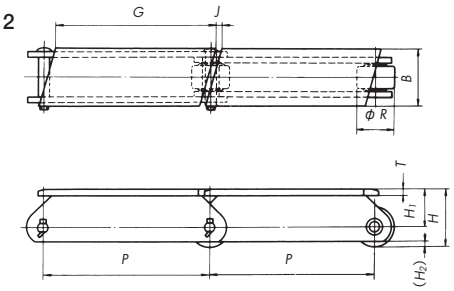
Top Plate (TP)

Top Plates are welded onto Deep Link Conveyor Chain so as not to damage items placed directly on the chain.
There are two different plate types. Type 2 prevents round objects from falling into the chain.
(Can also be manufactured as Bearing Roller Conveyor Chain.)

TP Type 1



TP Type 2



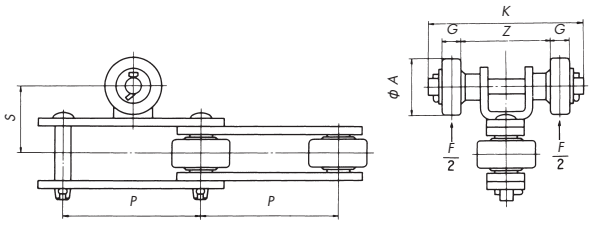
Chain Size	Pitch P	Roller Dia. R	G	J	B	H	H1	Cleavance H2	T
RF03100R	100	31.8	95	5	50	41.4	25.5	4.9	4.5
RF05100R	100	40	95	5	65	50	30	4	6
RF05150R	150		145						
RF10150R	150	50.8	145	5	75	66.4	41	6.3	9
RF6205R	152.4	57.2	147.5	5	90	72.6	44	6.3	9
RF12200R	200	65	195	5	90	82.5	50	10	9
RF12250R	250		245						
RF17250R	250	80	240	10	125	102	62	14.6	12
RF17300R	300		290						
RF26300R	300	85	290	10	125	107.5	65	10.7	12
RF36300R	300	100	290	10	150	128	78	11.9	16
RF36450R	450		440						

Chain Numbering Example: RF03100R–DT–1LTP1

Note: Contact a Tsubaki representative when using a Bearing Roller Conveyor Chain. It will be necessary to change the roller (spacer) material.

Trolley Roller (TRO)

The roller supports the chain and heavy loads on horizontal revolving conveyors.



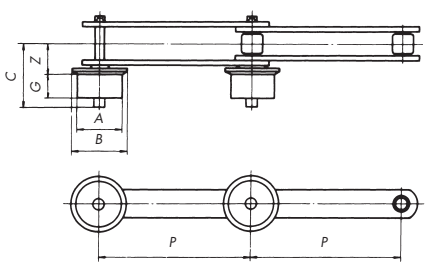
Sprocket teeth may interfere with the chain.
Use a special sprocket. Contact a Tsubaki representative for more information.

Chain Size	Pitch P	S	A	G	Z	K	Trolley Roller Allowable Load F (Total for both sides) kN{kgf}
RF03075R	75	35	31.8	12	50	88	0.69{70}
RF03100R	100						
RF05100R	100	45	40	14	60	107	1.18{120}
RF05150R	150						
RF10100R	100	60	50.8	20	75	138	1.96{200}
RF10150R	150						
RF6205R	152.4	70	57.2	25	85	173	2.75{280}
RF12200R	200	70	57.2	25	90	178	2.75{280}
RF12250R	250						
RF17200R	200	85	65	25	105	185	3.14{320}
RF17250R	250						

Chain Numbering Example: RF03075R–DT–2LTRO

Outboard Roller (OR)

An outboard roller is attached to one side of this chain to support heavy loads without damaging the pin. Bearing, anti-dust bearing, and bearing roller types are available to match your application needs.



Chain Size	Pitch P	A	B	G	Z	Max. Dims. C	Allowable Load per Roller kN{kgf}
RF10150S	150	50.8	65	20	37	72	1.77{180}
RF12200S	200	65	80	24	46	87	1.96{200}
RF12250S	250						
RF17200S	200	80	100	34	60	116	2.26{230}
RF17250S	250						
RF26250S	250	100	125	38	65	125	3.53{360}
RF26300S	300						
RF36300S	300	100	125	38	76	137	5.00{510}
RF36450S	450						

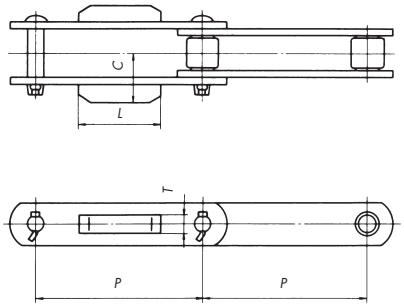
Note: Roller Allowable Load is for when attachments are added to the outboard roller side.

Chain Numbering Example: RF10150S–DT–2LOR

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Guide Shoe (GS)

Used to prevent chain meandering.
Contact a Tsubaki representative if the shoe needs tempering.
When a shoe is attached on one side of the chain it is referred to as GSA, and when attached to both sides it is GSK.

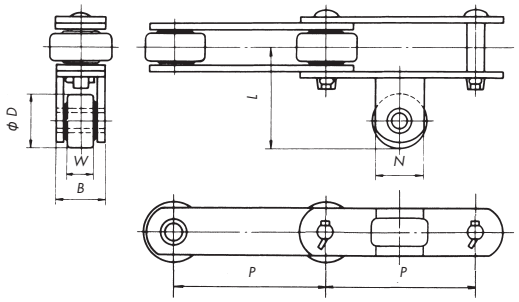


Chain Size	Pitch P	L	T	C
RF03075	75	50	9.5	25
RF03100	100			
RF430	101.6	60	13	35
RF05100	100	60	13	34
RF05150	150			
RF450	101.6	60	13	40
RF08150	150	60	13	40
RF10100	100	60	16	45
RF10150	150			
RF214	101.6	60	16	49
RF6205	152.4	100	19	52
RF12200	200	100	19	52
RF12250	250			
RF17200	200	130	22	68
RF17250	250			
RF17300	300			
RF26200	200	130	28	77
RF26250	250			
RF26300	300			
RF26450	450			
RF36250	250	150	32	92
RF36300	300			
RF36450	450			
RF36600	600			

Suitable Roller Types: R/S
Chain Numbering Example: RF03075S–DT–2LGSK

Guide Roller (GR)

Guide rollers can be used to prevent meandering and as a running roller with horizontal revolving conveyors.
The roller can be made from various materials, and heat treatment allows it to be used together with A, SA, G, and other attachments and pushers.



Chain Size	Pitch P	D	W	B	N	L	Standard Guide Roller Allowable Load kN{kgf}
RF03075R	75	31.8	15.5	22.6	22	53	0.54{55}
RF03100R	100						
RF430R	101.6	31.8	15.5	22.6	22	60	0.54{55}
RF05100R	100	31.8	15.5	22.6	22	59	0.54{55}
RF05150R	150						
RF450R	101.6	31.8	15.5	22.6	22	65	0.54{55}
RF10100R	100	40	19	31.0	32	76	1.03{105}
RF10150R	150						
RF214R	101.6	40	19	31.0	32	80	1.03{105}
RF6205R	152.4	40	19	31.0	32	83	1.03{105}
RF12200R	200	40	19	31.0	32	83	1.03{105}
RF12250R	250						
RF17200R	200	44.5	23	39.6	28.6	100	1.27{130}
RF17250R	250						
RF17300R	300						

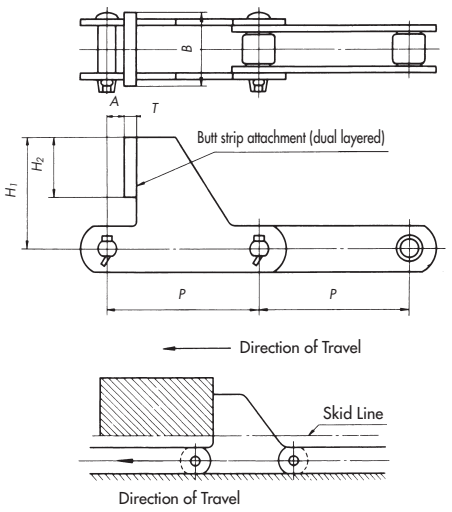
Chain Numbering Example: RF03075R–DT–2LGR

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Special Attachment Conveyor Chain

Fixed Dog (KD)

This attachment chain is used for conveying items on skids and pushing carts.
Type 1: No butt strip on attachment (KD1)
Type 2: Butt strip on attachment (KD2)

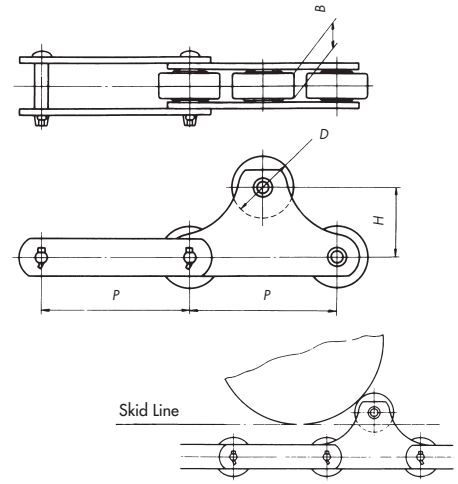


Chain Size	Pitch P	Butt Strip Attached (dual layer)					No Butt Strip (single layer)	
		H_1	H_2	A	T	B	H_1	A
RF03075	75	70	50	20	4.5	40	50	24.5
RF03100	100							
RF05100	100	100	75	25	6.0	50	70	31
RF05150	150							
RF10100	100	130	100	30	9	65	90	39
RF10150	150							
RF6205	152.4	150	110	40	9	90	100	49
RF12200	200	150	110	40	9	90	100	49
RF12250	250							
RF17200	200	180	125	50	12	100	120	62
RF17250	250							
RF26200	200	210	150	60	12	110	–	–
RF26250	200							
RF26300	250							
RF36250	250	240	170	70	16	150	–	–
RF36300	300							
RF36450	450							

Suitable Roller Types: R/S
Chain Numbering Example: RF03075S–DT–30LKD1

Dog Roller (RD)

This attachment chain is used to prevent damage on the push side when cylindrical items are being conveyed by rolling, and to reduce rolling resistance.



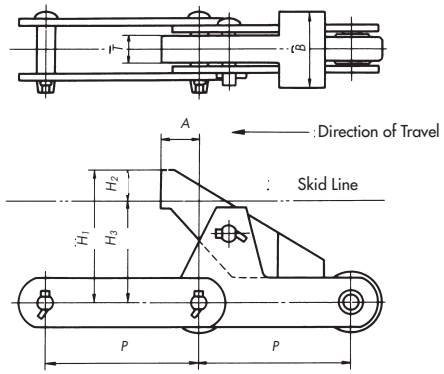
Chain Size	Pitch P	H	D	B
RF03075	75	50	31.8	15.5
RF03100	100			
RF05100	100	60	40	19
RF05150	150			
RF10100	100	70	50.8	27
RF10150	150			
RF6205	152.4	80	57.2	32
RF12200	200	80	65	32
RF12250	250			
RF17200	200	120	85	50
RF17250	250			
RF26250	250	120	85	50
RF26300	300			
RF36300	300	150	100	56
RF36450	450			

Suitable Roller Types: R/S
Chain Numbering Example: RF03075R–DT–10LRD

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Tilting Dog (CD)

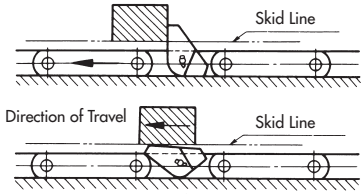
A tilting dog can push items in front of it, but when items come from behind the dog tilts forward to allow the conveyed items to pass by. Once the conveyed items have passed by, the dog automatically returns to its original position.
A side roller can also be used as the return side, or to prevent the dog from rising during conveyance.



Sprocket teeth may interfere with the chain.
Use a special sprocket. Contact a Tsubaki representative for more information.

Chain Size	Pitch P	H1	H2	H3	A	T	B
RF03100R	100	70	15	55	10	15	22
RF05100R	100	90	20	70	13	21	32
RF05150R	150						
RF10100R	100	95	20	75	22	28	45
RF10150R	150						
RF6205R	152.4	130	30	100	30	35	55
RF12200R	200	130	30	100	30	35	55
RF12250R	250						
RF17200R	200	160	40	120	30	50	70
RF17250R	250						
RF26250R	250	195	50	145	30	55	75
RF26300R	300						
RF36300R	300	265	70	195	55	65	90
RF36450R	450						

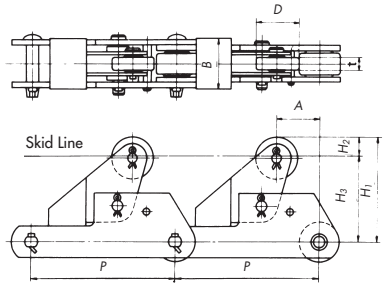
Chain Numbering Example: RF03100R–DT–30LCD



Note: Contact a Tsubaki representative regarding dog allowable push strength.

Roller Tilting Dog (RCD)

Allows for rolling conveyance of cylindrical items. It prevents items from escaping on downgrades, and when there are conveyed items in front the dog tilts, allowing for accumulation.

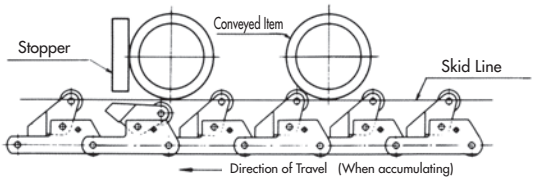


Sprocket teeth may interfere with the chain. Use a special sprocket. Contact a Tsubaki representative for more information.

Chain Size	Pitch P	H1	H2	H3	A	D	t	B
RF10150R	150	120	20	100	35	44.5	15	55
RF12200R	200	150	30	120	50	57.2	22	75
RF17250R	250	200	50	150	60	70	33	150

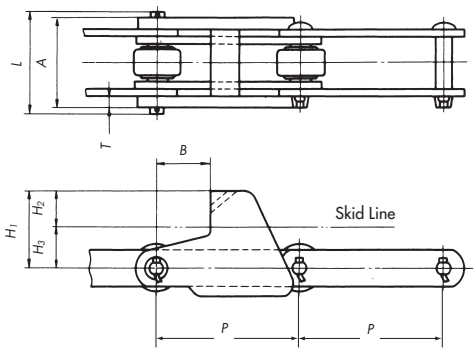
Chain Numbering Example: RF10150R–DT–30LRCD

Note: Contact a Tsubaki representative regarding tilting dog allowable push strength.



Ducking Dog (DD)

The dog conveys items on the guide rail, but when there is a break in the guide rail the dog ducks, letting conveyed items pass below.

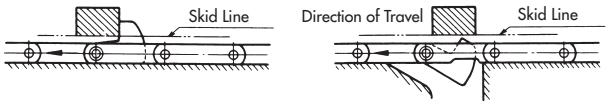


Sprocket teeth may interfere with the chain. Use a special sprocket. Contact a Tsubaki representative for more information.

Chain Size	Pitch P	H1	H2	H3	A	B	L	T
RF03100R	100	45	15	30	43	60	65	6
RF05100R	100	55	20	35	60	50	83	9
RF10100R	100	60	20	40	82	40	110	12
RF10150R	150							
RF6205R	152.4	85	30	55	103	70	134	16
RF12200R	200	85	30	55	103	70	134	16
RF12250R	250							
RF17200R	200	100	40	60	131	100	168	19
RF17250R	250							

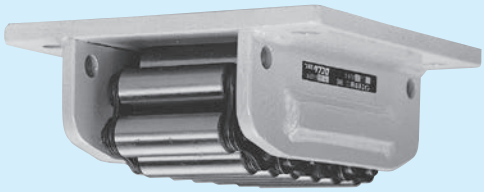
Chain Numbering Example: RF03100R–DT–30LDD

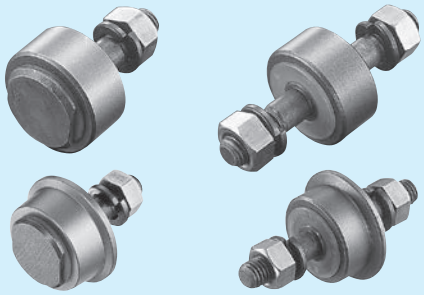
Note: Contact a Tsubaki representative regarding dog allowable push strength.



Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Large Size Conveyor Chain Related Products



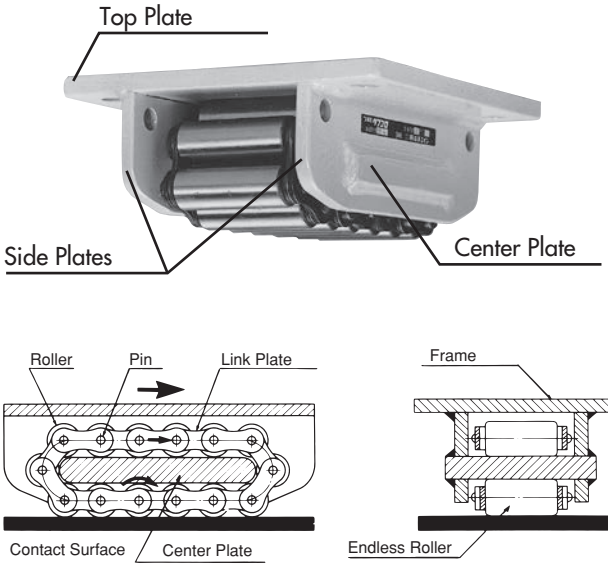


Toughroller (Endless-Type Roller)

Outstanding performance when conveying, transferring, or moving heavy items.

Consisting of a frame and endless rollers, the endless rollers (roller, pin, and link plates) wrap around a center plate on the frame. In contrast to a standard bearing, the operating principle behind Toughroller's operation is that the center plate is the inner ring, the rollers are the balls, the link plates and pins are the ball cage, and the contact surface is the outer ring.

Construction



Applications

1. Transferring/conveying heavy items.
2. When items are conveyed only infrequently and do not warrant conveyor use.
3. When efficient use of space is important.
4. As a slide guide for long items.

Steel Roller Type

Basic Load Allowance: 14.7kN (1500kgf) – 1961kN (200,000kgf)

The steel roller Toughroller is a compact device with a high load allowance made from a tempered center plate and rollers.

Plastic Roller Type

Basic Load Allowance: 2.94kN (300kgf) – 34.3kN (3500kgf)

Tsubaki's Plastic Toughroller uses engineering plastic for its rollers, which gives it increased functionality over the basic features of steel rollers. And Tsubaki's Plastic Toughroller Jr. is an economical, lightweight, simple design for easy use.

Selection

The permissible load (vertical load) for one Toughroller varies with rail material, hardness, and usage frequency. Use the following formula to select the appropriate size.

$$\frac{\text{Toughroller working load}}{\text{Rail coefficient} \times \text{Frequency coefficient}} \leqq \text{Basic load allowance}$$

Rail coefficient chart

Rail Material		Rail Coefficient	
		Steel Rollers	Plastic Rollers
Steel	SS400{SS41}	1.0	1.0
	780N{80kgf} class high tensile rail	1.5	—
Concrete		—	1.0
Linoleum/vinyl tiles		—	0.3

Note: Do not use TUF-J on 780N{80kgf} class high tensile steel rails.

Selection example (Traditional units)

Rail mat.: SS400 Operational frequency: 4–5 times/day
Rail replaceable Working load per unit: 5000kg (max)

Rail coefficient Operational frequency

TUF12 (basic load capacity 118kN) is chosen.

Rail frequency coefficient chart

Usage Conditions	Frequency Coefficient
A) When operated 1–2 times/day, rail is replaceable	1.0
B) Between A) and C)	0.5
C) When operated 10 times/day and rail needs to be protected or rail cannot be replaced	0.2
D) When using plastic rollers	1.0

Loading position

Position the Toughroller so that the weight of the conveyed items is distributed evenly, and load so that left/right and front/back are balanced.

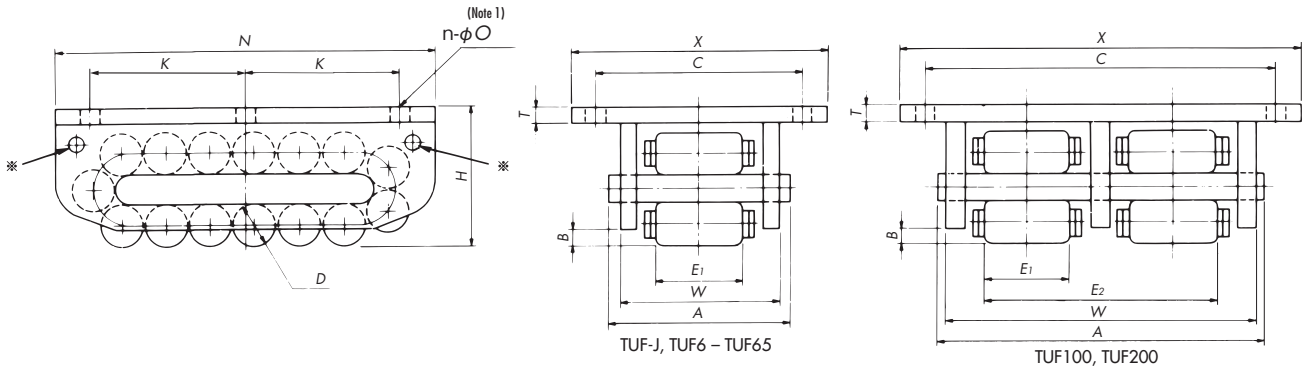
Working load

Calculate the working load for each Toughroller with consideration for center of gravity and rail surface unevenness.

Toughroller (Endless-Type Roller)

Dimensional Chart

● Steel Roller Type

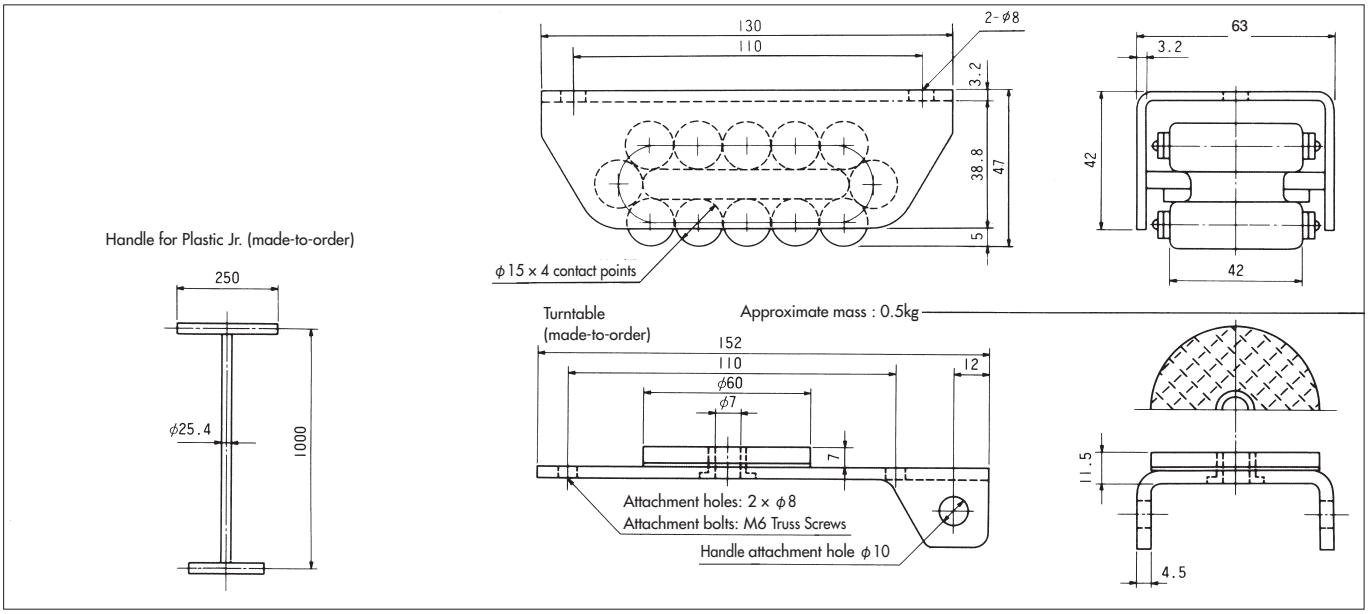


Note: 1. Contact a Tsubaki representative regarding hole positioning (n- φ○) for TUF-J to TUF25 and TUF200.
2. The holes marked ※ are not for attaching a handle. Handle attachments are restricted to extended side plate types.

Model Number	Basic Load Capacity		Frame						Top Plate				Roller				Approx. Mass kg
	kN	{Tons}	Width X	Length N	Height H	Side Plate Width W	Center Plate Width A	Space B	C	K	n-φO	T	D	E1	E2	Rollers in Contact W/Ground	
TUF-J	14.7	1.5	135	120	51.1	72.6	85.5	5	105	90	4-10	8	15	42	—	4	2.5
TUF6	58.8	6	150	160	66	92	105	6	120	120	4-12	9	18	50	—	5	5
TUF12	118	12	200	210	85	120	133	9.5	160	160	4-15	12	24	70	—	5	11
TUF25	245	25	250	300	130	162	183	14	210	240	4-18	16	36	90	—	5	31
TUF40	392	40	300	440	164	186	210	20	240	180	6-22	19	50	100	—	5	70
TUF65	637	65	300	600	167	192	215	20	240	250	6-22	22	50	100	—	8	105
TUF100	980	100	500	500	167	362	385	20	420	200	6-26	22	50	100	268	12	160
TUF200	1961	200	730	700	240	544	574	20	640	200	8-33	28	72	150	410	12	500

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

● Plastic Toughroller Jr.

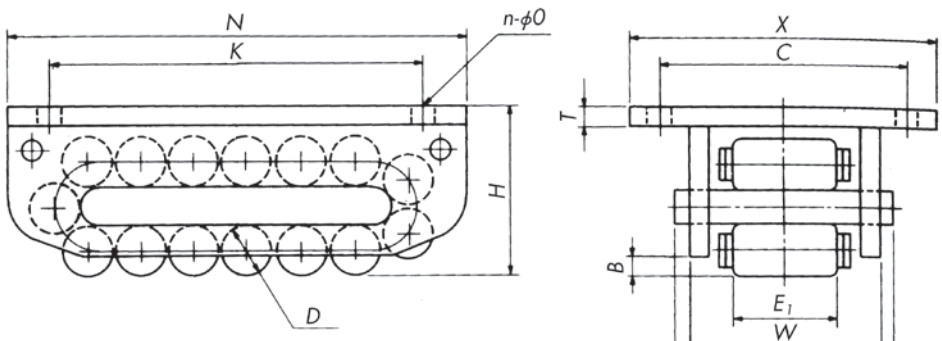


Model Number	Basic Load Capacity		Roller Type	Approximate Mass kg
	kN	{Tons}		
TUF -JP	2.94	0.3	Plastic roller	0.9

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

Toughroller (Endless-Type Roller)

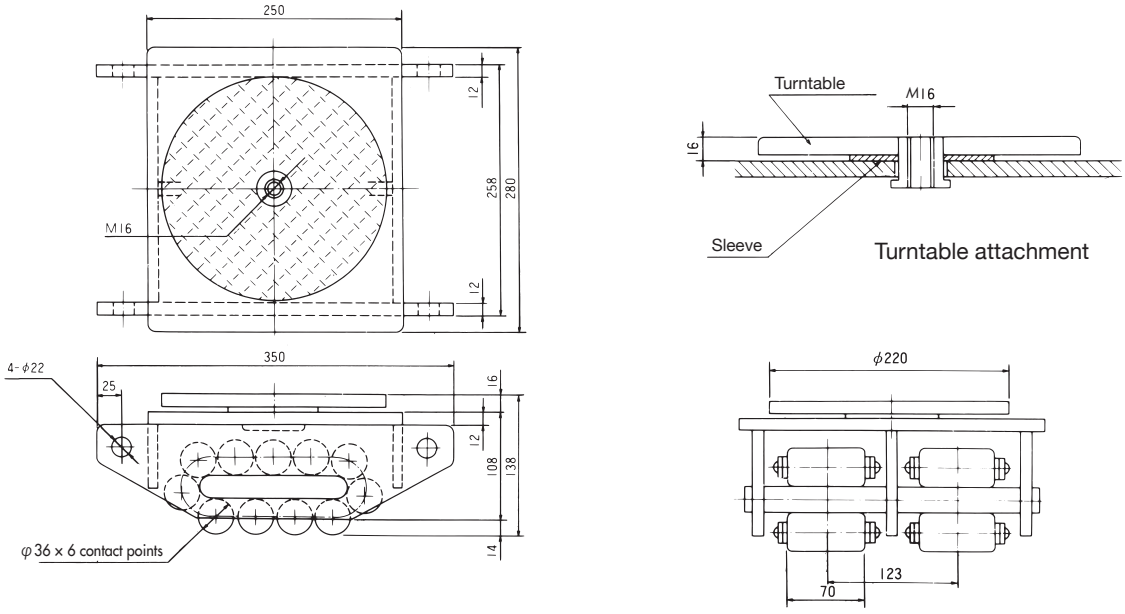
● Plastic Roller Type



Model Number	Basic Load Capacity		Frame						Top Plate				Roller			Approx. Mass kg
	kN	{Tons}	Width X	Length N	Height H	Side Plate Width W	Center Plate Width A	Space B	C	K	n-φO	T	D	E1	Rollers in Contact W/Ground	
TUF 1P	9.8	1	150	160	61	81	90	5	120	120	4-12	4.5	18	50	5	2.2
TUF 2P	19.6	2	200	210	79	112	120	9.5	160	160	4-15	6	24	70	5	5
TUF 4P	34.3	3.5	250	300	122	146	160	14	210	240	4-18	8	36	90	5	17

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

● Steel Double Roller Type (Multi-directional Type)



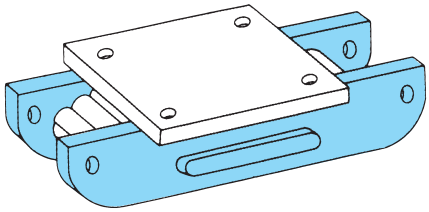
Model Number	Basic Load Capacity		Roller Type	Approximate Mass kg
	kN	{Tons}		
TUF 25W	245	25	Steel roller	42
TUF 4WP	34.3	3.5	Plastic roller	32

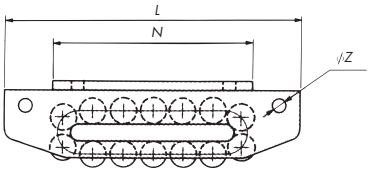
Note: Extended side plates with a turntable attachment is standard for Steel Double Roller Types.
The above dimensions are nominal dimensions and may differ from actual dimensions.

Toughroller Attachments (Optional)

1. Extended side plates

For hand pulling, directional travel, and connection with other Toughrollers.





Attachment Dimensions

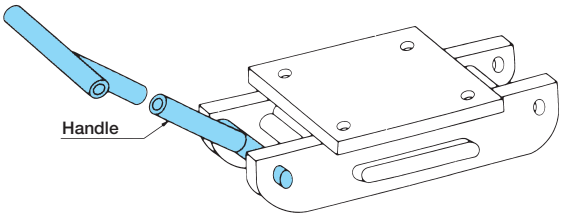
Model No.	L	Z	Approximate Mass kg
TUF-J	170	17	3
TUF 6	230	17	6
TUF12	300	17	12
TUF25	400	22	33
TUF1P	230	17	2.4
TUF2P	300	17	6
TUF4P	400	22	19

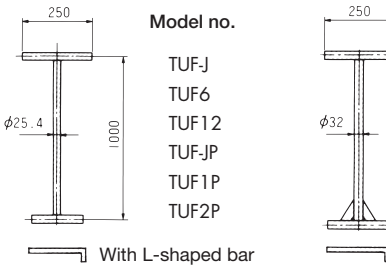
Note: Made-to-order.

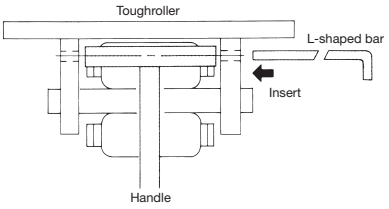
2. Handle

For hand pulling and directional travel.

Handles can only be attached to Toughrollers with extended side plates.



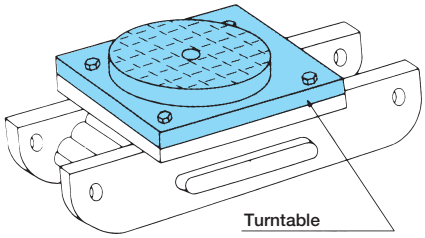


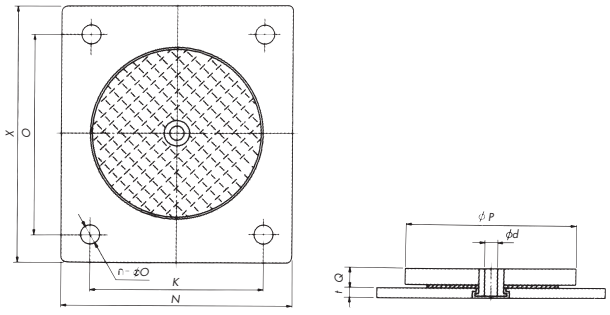


Note: Made-to-order.

3. Turntable

For directional travel.





Attachment Dimensions

Model No.	ϕ P	ϕ d	Q	t	Mounting Bolt	Approximate Mass kg
TUF-J	90	7	10	6	M8	1.3
TUF1P, TUF6	120	10	13	6	M10	2.4
TUF2P, TUF12	160	14	13	9	M12	5.3
TUF4P, TUF25	200	17.5	17	12	M16	12.1

The turntable is attached to the top plate of the Toughroller by bolts. Dimensions not listed above will be the same as the Toughroller dimensions.

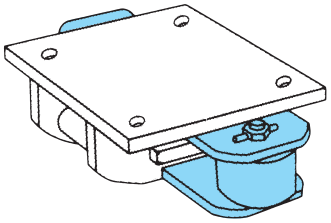
Note: Made-to-order.

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

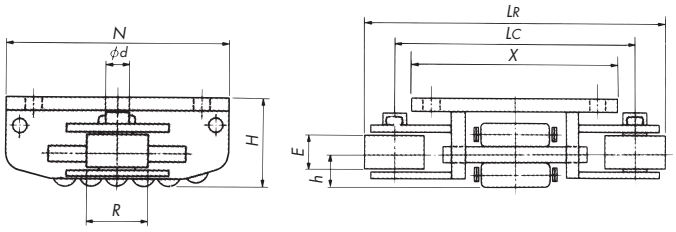
Toughroller Attachments (Optional)

4. Side guide roller

For preventing lateral vibration and for when there are lateral forces.



Side guide rollers can be installed on one or both sides.



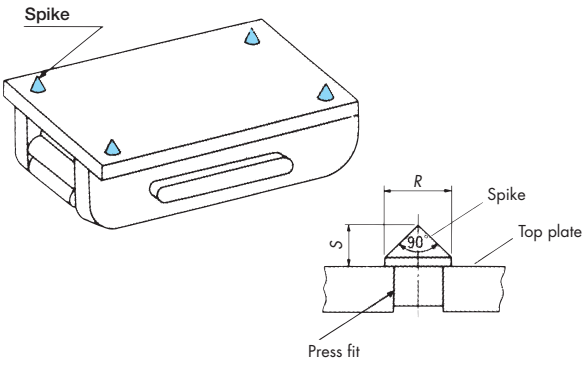
Attachment Dimensions

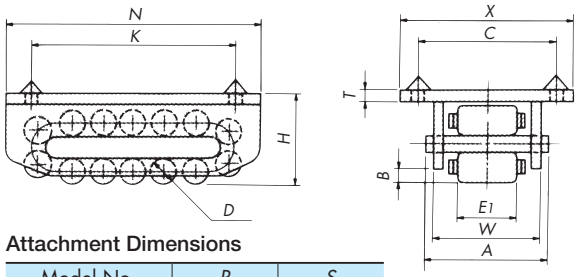
Model No.	N	X	H	R	E	d	h	L_C	L_R
TUF-J	120	135	51	38	16	14.5	20	142	180
TUF6	160	150	66	44.5	23	22	27	174	218
TUF12	210	200	85	60	38	22	40	220	280
TUF25	300	250	130	75	62	31.5	60	285	360

Note: Made-to-order.

5. Spikes

For use with wooden pallets.





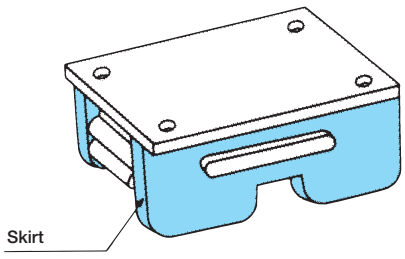
Attachment Dimensions

Model No.	R	S
TUF-J	12	7
TUF6	14	8
TUF12	19	10.5

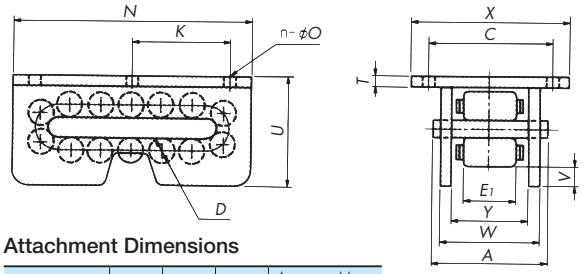
Dimensions not listed above will be the same as the Toughroller dimensions.
Note: Made-to-order.

6. Skirt

For preventing lateral vibration and when there are lateral forces.



Skirts can be attached to one or both sides. Skirts are normally attached to one side.



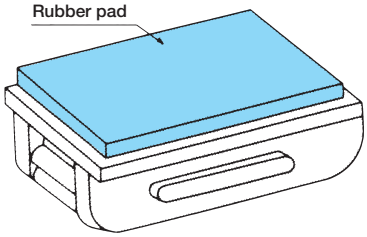
Attachment Dimensions

Model No.	U	V	Y	Approx. Mass kg (skirts on both sides)
TUF-J	65	14.0	56.5	3
TUF6	85	19.2	72	6.3
TUF12	112	27.0	100	14.5
TUF25	166	36.0	130	37.8

Dimensions not listed above will be the same as the Toughroller dimensions. Skirts are welded on and cannot be attached later.
Note: Made-to-order.

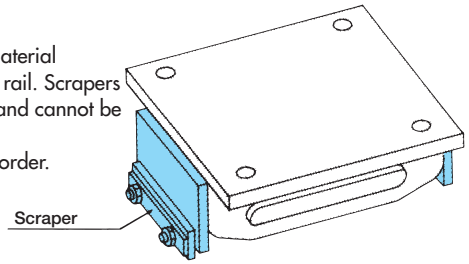
7. Rubber pad

Perfect for equally divided loads, uneven surfaces, and preventing slippage. For use with wooden pallets.
Note: Made-to-order.



8. Scraper

For use when material accumulates on rail. Scrapers are welded on and cannot be attached later.
Note: Made-to-order.

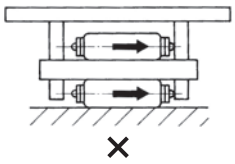


Note: The above dimensions are nominal dimensions and may differ from actual dimensions.

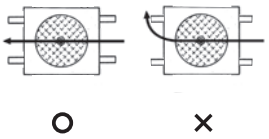
Toughroller (Endless-type Roller)

Notes on Handling

1. Standard Toughrollers cannot take thrust loads along the roller axis. If thrust loads are present, consider using the optional side guide roller and skirt, or have a rail bear the thrust load.

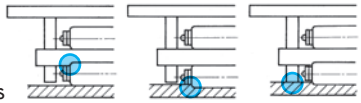


2. Except for double roller types, do not change directions while Toughroller is in motion, as this will cause a thrust load as described in 1. above. Jack up the Toughroller or use other means to change direction.

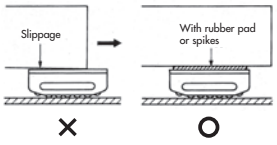


3. When using in corrosive environments (outdoors, in the rain, etc.) wash the unit and lubricate the entire chain with SAE30 – 40 oil each time. Tsubaki offers stainless steel specifications for use in extremely corrosive environments. Use in high temperatures will accelerate lube deterioration. Always lube regularly.

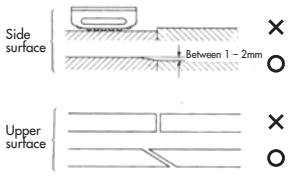
4. Usage limits are when any of the following begins to occur:
1) Center plates touch link plates
2) Link plates touch rails
3) Side plates touch rails



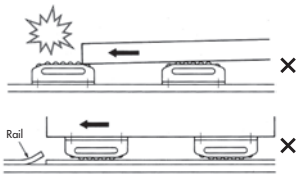
5. Ensure there is no slippage between conveyed material and the Toughroller. Tsubaki offers Toughrollers with rubber pads and spikes for this purpose. See 7. and 8. on pg. 130.



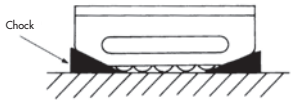
6. Ensure a gradient of less than 1.0–2.0mm when there is a step in rail connections. The rail seams should be smooth or like as shown on the right.



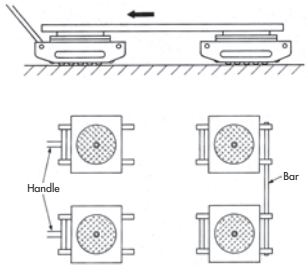
Ensure there are no severe impacts on the rollers.



7. Toughrollers do not have a stopping mechanism. When leaving a Toughroller in a stopped position, insert chocks between the side plates and rail.



8. When using a Toughroller with a turntable, the manner shown in the drawing on the right is ideal. Attaching a bar between two rear Toughrollers will allow for smooth travel.



9. After use, remove dust and the like with a brush and apply a coat of lube or grease before storing.

Toughroller (with endless rollers) Ordering Example

Product Numbering Example

TUF □ - □

Unit

Size (TUF-J for junior types)

Roller types
Steel rollers: No code
Plastic rollers: P
Double rollers: W

Attachment
Extended side plates: ESP
Handle: HDL
Turntable: TTB
Lateral guide roller: SGR
(One side: SGR-1, both sides: SGR-2)
Spikes: SPK
Skirts: SKT
(One side: SKT-1, both sides: SKT-2)
Rubber pad: GPD
Scrapers: SCR

Note: Refer to individual sections for possible model (size/roller type) and attachment assemblies. Contact a Tsubaki representative regarding installing attachments before shipping.

Ordering Example

Size: TUF4
Roller type: Plastic rollers
Attachment: Turntable
Quantity: 1

Model no.	Qty	Unit
TUF4P	1	K
TUF4P-TTB	1	K

Bearings and Bearing Roller Attachments

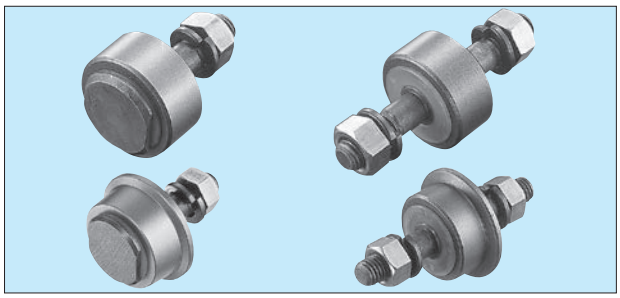
Series Overview

Roller Specification \ Bearing Specification		Lubed Specifications	Non-lubed Specifications	Water Resistant Specifications	Heat Resistant Specifications
		1. Coefficient of Friction: 0.03 2. Operating Temp: -20 to 80℃ 3. Lubed	1. Coefficient of Friction: 0.03 2. Operating Temp: -20 to 50℃ 3. Non-lubed (However, an anti-rust oil is applied during shipping.)	1. Coefficient of Friction: 0.03 2. Operating Temp: 0 to 50℃ 3. Non-lubed (However, an anti-rust oil is applied during shipping.)	1. Coefficient of Friction: 0.03 2. Operating Temp: -20 to 150℃ 3. Heat Resistant Lube (Includes grease nipple)
Usage Environment		Ambient temperatures away from water and dust	Ambient temperatures away from water and dust	Ambient temperatures in contact with water	Ambient temperatures away from water and dust
Axle Bearing Roller Series	JBR 	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.96 - 15.7kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.96 - 15.7kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 11.0kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.96 - 15.7kN
	JBF 	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 9.81kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 9.81kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 9.81kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 9.81kN
	JBFF 	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia:a ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN
	JBTF 	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN
	JBUR 	Roller Dia: ϕ40 - ϕ100 Allowable Load: 0.29 - 2.94kN ＊Operating Temap: 0 to 50℃	Roller Dia: ϕ40 - ϕ100 Allowable Load: 0.29 - 2.94kN ＊Operating Temp: 0 to 50℃		
Attachment Bearing Roller Series	ABR 	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.96 - 27.5kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.96 - 27.5kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 19.3kN	Roller Dia: ϕ40.0 - ϕ125 Allowable Load: 3.04 - 27.5kN
	ABF 	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 18.6kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 18.6kN	Roller Dia: ϕ31.8 - ϕ125 Allowable Load: 1.27 - 18.6kN	Roller Dia: ϕ40.0 - ϕ125 Allowable Load: 3.04- 18.6kN
	ABFF 	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ31.8 - ϕ80 Allowable Load: 1.27 - 6.86kN	Roller Dia: ϕ40.0 - ϕ80 Allowable Load: 3.04 - 6.86kN
	ABUR 	Roller Dia: ϕ40 - ϕ100 Allowable Load: 0.29 - 2.94kN ＊Operating Temp: 0 to 50℃	Roller Dia: ϕ40 - ϕ100 Allowable Load: 0.29 - 2.94kN ＊Operating Temp: 0 to 50℃		

Note: 1. Tsubaki can manufacture roller diameters not listed.
2. Allowable load may differ for Type 2. Heat resistant specifications may not be available for all models. See specification pages for details.
3. Non-lubed and water resistant specifications use plastic cylindrical bearings. You will need to take impact loads into account. Contact a Tsubaki representative for more information.

Bearings and Bearing Roller Attachments

Standard Axle Bearing Roller

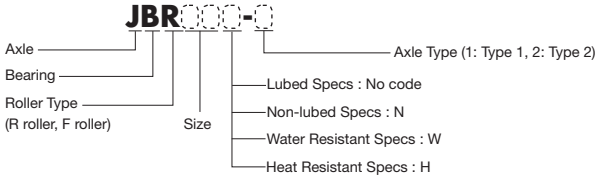


[Available Specifications]

Lubed | Non-lubed | Water Resistant | Heat Resistant

Note: Check allowable load

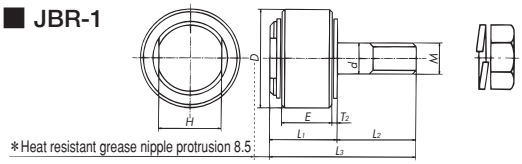
Model Numbering Example



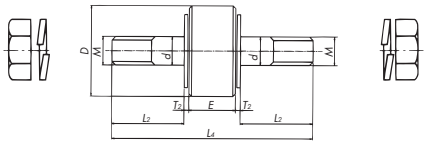
Size	Available Bolt Length	Size	Available Bolt Length
03	14mm	17	32mm
05	20mm	26	38mm
10	22mm	36	44.5mm
12	25mm		

Dimensions/Specifications

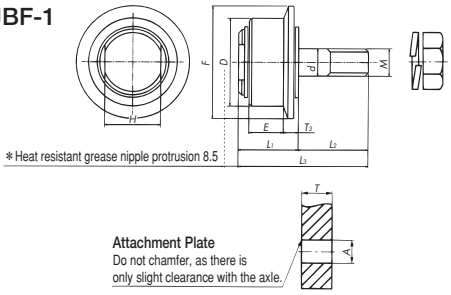
JBR-1



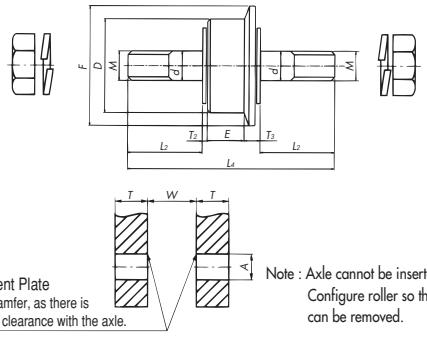
JBR-2



JBF-1



JBF-2



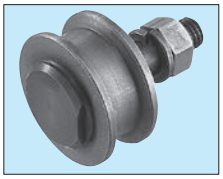
Note : Axle cannot be inserted from one side. Configure roller so that attachment plate can be removed.

Roller Specification, Size, Axle Type				Allowable Load		Allowable No. of Rotations	Max. Bolt Tightening Torque		Axle Dia. d	Outer Dia. D	Flange Dia. F	H	Bolt Dia. M	E	T2	T3	L1	L2	L3	L4	Approx. Mass kg		Attachment Plate		
				kN	{kgf}	r/min	N·m	{kgf·m}													Type1	Type2	A	T	W
R Roller	JBR03	Type 1	Type 2	1.96	200	180 (120)	11.8	1.2	10	31.8	–	19 (16)	M10	14	2 (4.5)	–	20 (25)	24.5	44.5 (49.5)	67 (72)	0.14	0.14	10.2	10~13	18 (23)
	JBR05	Type 1	Type 2	3.04	310	185 (120)	58.8	6	12	40	–	27 (21)	M12	19	2.5 (4.5)	–	26.5 (31)	35.5	62 (66.5)	95 (99)	0.28	0.30	12.2	15~20	24 (28)
	JBR10	Type 1	Type 2	5.49	560	190 (120)	78.4	8	16	50.8	–	32 (24)	M16	26	3 (6)	–	35 (41.5)	40	75 (81.5)	112 (118)	0.59	0.69	16.2	17~21	32 (38)
	JBR12	Type 1	Type 2	8.34	850	150 (100)	78.4	8	20	65	–	38 (27)	M20	32	3 (7.5)	–	41.5 (51)	48.5	90 (99.5)	135 (144)	1.15	1.23	20.2	21~25	38 (47)
	JBR17	Type 1	Type 2	9.81 (14.1)	1000 (1440)	120 (80)	162	16.5	24	80	–	48 (30)	M24	44	4 (10.5)	–	56.5 (70)	62.5	119 (132.5)	177 (190)	2.47	2.60	24.2	28~34	52 (65)
	JBR26	Type 1	Type 2	12.7 (19.6)	1300 (2000)	95 (60)	245	25	27	100	–	55 (34)	M27	50	4 (10.5)	–	63.5 (77)	73.5	137 (150.5)	205 (218)	3.60	3.80	27.2	32~39	58 (71)
	JBR36	Type 1	Type 2	15.7 (27.5)	1600 (2800)	75 (50)	529	54	30	125	–	70 (45)	M30	56	5.5 (12.5)	–	73.5 (90)	86.5	160 (176.5)	240 (254)	6.50	6.70	30.2	39~47	67 (84)
F Roller	JBF03	Type 1	Type 2	1.27	130	180 (120)	11.8	1.2	10	31.8	42	19 (16)	M10	11	2 (4.5)	5 (7.5)	20 (25)	24.5	44.5 (49.5)	67 (72)	0.15	0.15	10.2	10~13	18 (23)
	JBF05	Type 1	Type 2	1.96	200	185 (120)	58.8	6	12	40	50	27 (21)	M12	14	2.5 (4.5)	7.5 (9.5)	26.5 (31)	35.5	62 (66.5)	95 (99)	0.31	0.33	12.2	15~20	24 (28)
	JBF10	Type 1	Type 2	3.43	350	190 (120)	78.4	8	16	50.8	65	32 (24)	M16	20	3 (6)	9 (12)	35 (41.5)	40	75 (81.5)	112 (118)	0.6	0.76	16.2	17~21	32 (38)
	JBF12	Type 1	Type 2	5.49	560	150 (100)	78.4	8	20	65	80	38 (27)	M20	24	3 (7.5)	11 (15.5)	41.5 (51)	48.5	90 (99.5)	135 (144)	1.24	1.32	20.2	21~25	38 (47)
	JBF17	Type 1	Type 2	6.86 (9.81)	700 (1000)	120 (80)	162	16.5	24	80	100	48 (30)	M24	34	4 (10.5)	14 (20.5)	56.5 (70)	62.5	119 (132.5)	177 (190)	2.75	2.85	24.2	28~34	52 (65)
	JBF26	Type 1	Type 2	8.83 (13.7)	900 (1400)	95 (60)	245	25	27	100	125	55 (34)	M27	38	4 (10.5)	16 (22.5)	63.5 (77)	73.5	137 (150.5)	205 (218)	3.90	4.10	27.2	32~39	58 (71)
	JBF36	Type 1	Type 2	9.81 (18.6)	1040 (1900)	75 (50)	529	54	30	125	150	70 (45)	M30	42	5.5 (12.5)	19.5 (26.5)	73.5 (90)	86.5	160 (176.5)	240 (254)	7.0	7.20	30.2	39~47	67 (84)

Note: 1. Allowable loads shown in ( ) are for Type 2. No ( ) indicate the same values for both Type 1 and 2.
2. Values for allowable rotation speed shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
3. 03 and 05 sizes for Type 2 heat resistant specifications are unavailable.
4. The allowable load values above for JBR water resistant specifications are multiplied by a coefficient of 0.7.
5. Heat resistant specifications use a solid pin.
6. Stock Items ◎ Lubed Specifications: Type 1 JBR03 – 17, JBF03 – 17
◎ Non-lubed Specifications: Type 1 JBR03N – 12N, JBF03N – 12N All other models are made-to-order.
7. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearings and Bearing Roller Attachments

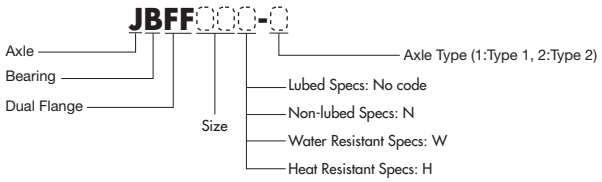
Dual Flange Roller Axle Bearing Roller



[Available Specifications]

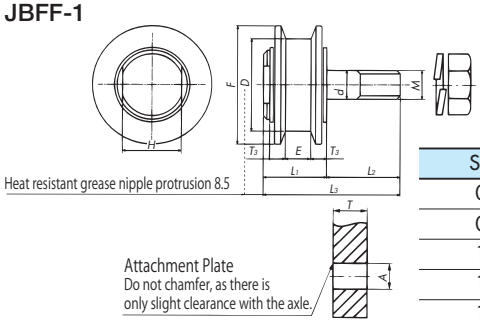
Lubed | Non-lubed | Water Resistant | Heat Resistant

Model Numbering Example



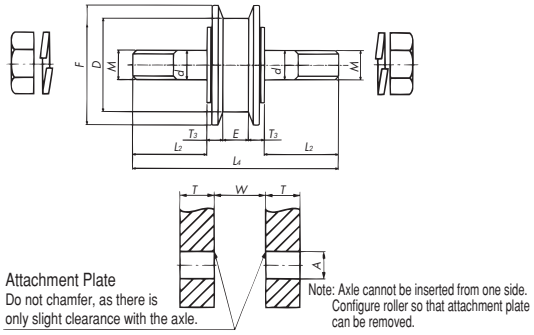
Dimensions/Specifications

JBFF-1



Size	Available Bolt Length
03	14mm
05	20mm
10	22mm
12	25mm
17	32mm

JBFF-2



Roller Specification, Size, Axle Type			Allowable Load		Allowable No. of Rotations	Max. Bolt Tightening Torque		Axle Dia.	Outer Dia.	Flange Dia.		Bolt Dia.						Approx. Mass kg		Attachment Plate		
			kN	{kgf}	r/min	N·m	{kgf·m}	*d*	*D*	*F*	*H*	*M*	*E*	*T*3	*L*1	*L*2	*L*3	*L*4	Type1	Type2	*A*	*T*	*W*
JBFF03	Type 1	Type 2	1.27	130	180 (120)	11.8	1.2	10	31.8	42	19 (16)	M10	12	5 (7.5)	24.5 (29.5)	24.5	49 (54)	71 (76)	0.19	0.19	10.2	10~13	22.5 (27)
JBFF05	Type 1	Type 2	1.67	170	185 (120)	58.8	6	12	40	50	27 (21)	M12	12	7.5 (9.5)	29.5 (34)	35.5	65 (69.5)	98 (102)	0.37	0.39	12.2	15~20	27 (31)
JBFF10	Type 1	Type 2	2.75	280	190 (120)	78.4	8	16	50.8	65	32 (24)	M16	16	9 (12)	37 (43.5)	40	77 (83.5)	114 (120)	0.75	0.85	16.2	17~21	34 (40)
JBFF12	Type 1	Type 2	3.63	370	150 (100)	78.4	8	20	65	80	38 (27)	M20	16	11 (15.5)	41.5 (51)	48.5	90 (99.5)	135 (144)	1.30	1.40	20.2	21~25	38 (47)
JBFF17	Type 1	Type 2	6.86	700	120 (80)	162	16.5	24	80	100	48 (30)	M24	24	14 (20.5)	56.5 (70)	62.5	119 (132.5)	177 (190)	3.0	3.10	24.2	28~34	52 (65)

Note: 1. Allowable loads shown in ( ) are for Type 2. No ( ) indicate the same values for both Type 1 and 2.
2. Values for allowable rotation speed shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
3. 03 and 05 sizes for Type 2 heat resistant specifications are unavailable.
4. Heat resistant specifications use a solid pin.
5. Made-to-order item.
6. The above dimensions are nominal dimensions and may differ from actual dimensions.

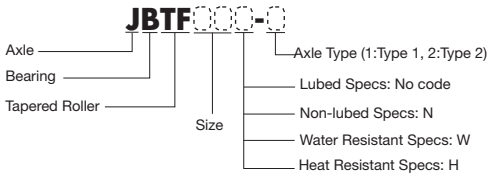
Bearings and Bearing Roller Attachments

Tapered Roller Axle Bearing Roller

[Available Specifications]

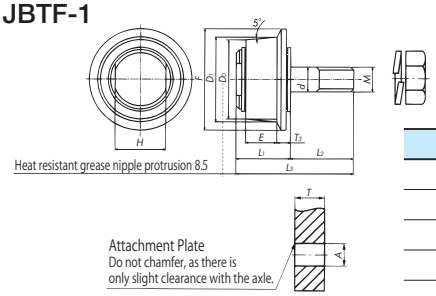
Lubed | Non-lubed | Water Resistant | Heat Resistant

Model Numbering Example



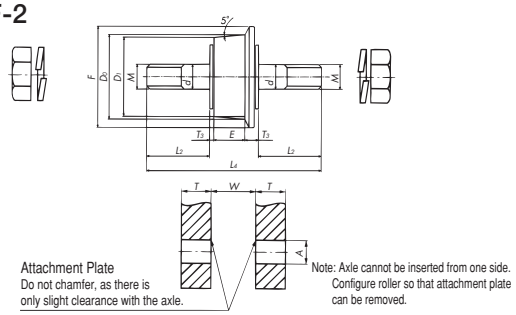
Dimensions/Specifications

■ JBTF-1



Size	Available Bolt Length
03	14mm
05	20mm
10	22mm
12	25mm
17	32mm

■ JBTF-2



Roller Specification, Size, Axle Type				Allowable Load kN	Allowable Load {kgf}	Allowable No. of Rotations r/min	Max. Bolt Tightening Torque N·m	Max. Bolt Tightening Torque {kgf·m}	Axle Dia. d	Outer Dia. D1	Outer Dia. D2	Flange Dia. F	H	Bolt Dia. M	E	T2	T3	L1	L2	L3	L4	Approx. Mass kg Type1	Approx. Mass kg Type2	Attachment Plate A	Attachment Plate T	Attachment Plate W
F Roller	JBTF03	Type 1	Type 2	1.27	130	180 (120)	11.8	1.2	10	31.8	33.7	42	19 (16)	M10	11	2 (4.5)	5 (7.5)	20 (25)	24.5	44.5 (49.5)	67 (72)	0.15	0.15	10.2	10~13	18 (23)
	JBTF05	Type 1	Type 2	1.96	200	185 (120)	58.8	6	12	40	42.5	50	27 (21)	M12	14	2.5 (4.5)	7.5 (9.5)	26.5 (31)	35.5	62 (66.5)	95 (99)	0.31	0.33	12.2	15~20	24 (28)
	JBTF10	Type 1	Type 2	3.43	350	190 (120)	78.4	8	16	50.8	54.3	65	32 (24)	M16	20	3 (6)	9 (12)	35 (41.5)	40	75 (81.5)	112 (118)	0.66	0.76	16.2	17~21	32 (38)
	JBTF12	Type 1	Type 2	5.49	560	150 (100)	78.4	8	20	65	69.2	80	38 (27)	M20	24	3 (7.5)	11 (15.5)	41.5 (51)	48.5	90 (99.5)	135 (144)	1.24	1.32	20.2	21~25	38 (47.4)
	JBTF17	Type 1	Type 2	6.86 (9.81)	700 (1000)	120 (80)	162	16.5	24	80	86.0	100	48 (30)	M24	34	4 (10.5)	14 (20.5)	56.5 (70)	62.5	119 (132.5)	177 (190)	2.72	2.85	24.2	28~34	52 (65)

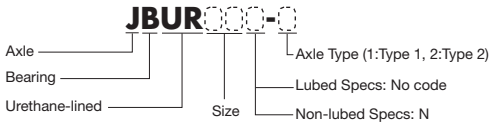
Note: 1. Allowable loads shown in ( ) are for Type 2. No ( ) indicate the same values for both Type 1 and 2.
2. Values for allowable rotation speed shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
3. 03 and 05 sizes for Type 2 heat resistant specifications are unavailable.
4. Heat resistant specifications use a solid pin. 5. Made-to-order item. 6. The above dimensions are nominal dimensions and may differ from actual dimensions.

Urethane-Lined Roller Axle Bearing Roller

[Available Specifications]

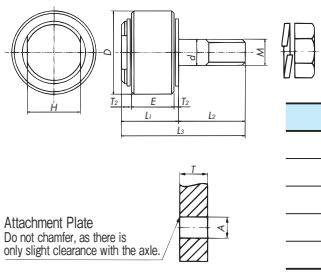
Lubed | Non-lubed

Model Numbering Example



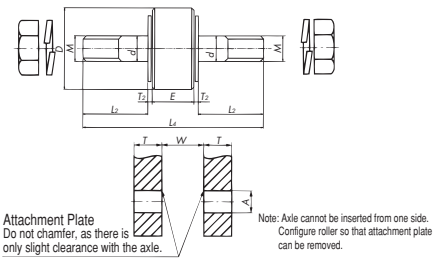
Dimensions/Specifications

■ JBUR-1



Size	Available Bolt Length
03	14mm
05	20mm
10	22mm
12	25mm
17	32mm

■ JBUR-2

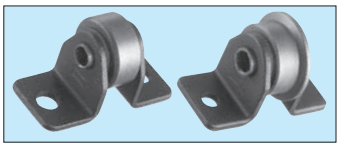


Roller Specification, Size, Axle Type				Allowable Load kN	Allowable Load {kgf}	Allowable No. of Rotations r/min	Max. Bolt Tightening Torque N·m	Max. Bolt Tightening Torque {kgf·m}	Axle Dia. d	Outer Dia. D	H	Bolt Dia. M	E	T2	L1	L2	L3	L4	Approx. Mass kg Type 1	Approx. Mass kg Type 2	Attachment Plate A	Attachment Plate T	Attachment Plate W
R Roller	JBUR03	Type 1	Type 2	0.29	30	180 (120)	11.8	1.2	10	40	19 (16)	M10	14	2 (4.5)	20 (25)	24.5	44.5 (49.5)	67 (72)	0.14	0.14	10.2	10~13	18
	JBUR05	Type 1	Type 2	0.59	60	185 (120)	58.8	6	12	50	27 (21)	M12	19	2.5 (4.5)	26.5 (31)	35.5	62 (66.5)	95 (99)	0.28	0.30	12.2	15~20	24
	JBUR10	Type 1	Type 2	0.98	100	190 (120)	78.4	8	16	60	32 (24)	M16	26	3 (6)	35 (41.5)	40	75 (81.5)	112 (118)	0.59	0.69	16.2	17~21	32
	JBUR12	Type 1	Type 2	1.47	150	150 (100)	78.4	8	20	80	38 (27)	M20	32	3 (7.5)	41.5 (51)	48.5	90 (99.5)	135 (144)	1.15	1.23	20.2	21~25	38
	JBUR17	Type 1	Type 2	2.94	300	120 (80)	162	16.5	24	100	48 (30)	M24	44	4 (10.5)	56.5 (70)	62.5	119 (132.5)	177 (190)	2.47	2.60	24.2	28~34	52

Note: 1. Values for allowable rotations shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
2. Made-to-order item.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearings and Bearing Roller Attachments

Standard Attachment Bearing Roller



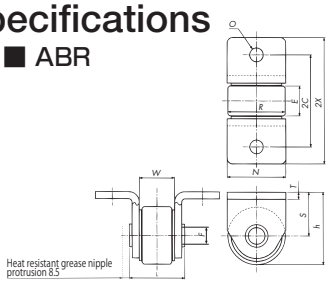
[Available Specifications]

Lubed | Non-lubed | Water Resistant | Heat Resistant

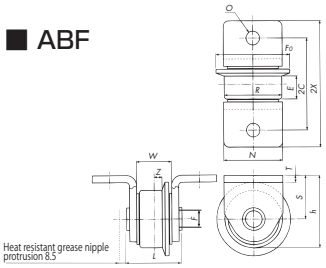
Note: Check allowable load

Dimensions/ Specifications

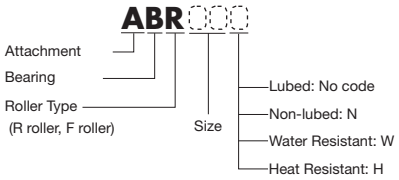
■ ABR



■ ABF



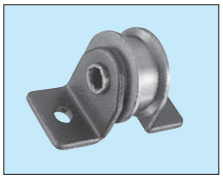
Model Numbering Example



Roller Specification, Size		Allowable Load kN	Allowable Load {kgf}	Allowable Running Speed m/min	R	E	L	h	S	T	2C	2X	N	O	W	F	Fo	Z	Approx. Mass kg
R Roller	ABR03	1.96	200	18 (12)	31.8	14	28	40	24.1	3.2	50	70	32	10	17.2	7.6	–	–	0.15
	ABR05	3.04	310	23 (15)	40	19	36.8	50	30	4.5	60	84	40	10	23	11	–	–	0.33
	ABR10	5.49	560	30 (20)	50.8	26	48.8	64	38.6	6.3	80	110	52	12	31	14	–	–	0.74
	ABR12	8.34	850	30 (20)	65	32	58.4	80	47.5	7.9	90	130	70	15	37.4	15.5	–	–	1.48
	ABR17	14.,1	1440	30 (20)	80	44	76.4	100	60	9.5	130	180	80	18	51.4	18	–	–	2.94
	ABR26	19.6	2000	30 (20)	100	50	82.6	120	70	9.5	140	200	100	21	57.6	22	–	–	5.20
	ABR36	27.5	2800	30 (20)	125	56	98.5	145	82.5	12.7	180	240	125	24	67	25	–	–	9.80
F Roller	ABF03	1.27	130	18 (12)	31.8	11	28	40	24.1	3.2	50	70	32	10	17.2	7.6	42	4.3	0.16
	ABF05	1.96	200	23 (15)	40	14	36.8	50	30	4.5	60	84	40	10	23	11	50	4.5	0.35
	ABF10	3.43	350	30 (20)	50.8	20	48.8	64	38.6	6.3	80	110	52	12	31	14	65	7	0.78
	ABF12	5.49	560	30 (20)	65	24	58.4	80	47.5	7.9	90	130	70	15	37.4	15.5	80	8	1.60
	ABF17	9.81	1000	30 (20)	80	34	76.4	100	60	9.5	130	180	80	18	51.4	18	100	12	3.10
	ABF26	13.7	1400	30 (20)	100	38	82.6	120	70	9.5	140	200	100	21	57.6	22	125	13	5.50
	ABF36	18.6	1900	30 (20)	125	42	98.5	145	82.5	12.7	180	240	125	24	67	25	150	14	10.3

Note: 1. Allowable running speeds shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
2. 03 size for heat resistant specifications are unavailable.
3. The allowable load values above for ABR water resistant specifications are multiplied by a coefficient of 0.7. 4. Heat resistant specifications use a solid pin.
5. Stock Items ◎Lubed Specifications: ABR03-17 ◎Non-lubed Specifications: ABR03N-012N All other models are made-to-order.
6. The above dimensions are nominal dimensions and may differ from actual dimensions.

Dual Flange Roller Attachment Bearing Roller

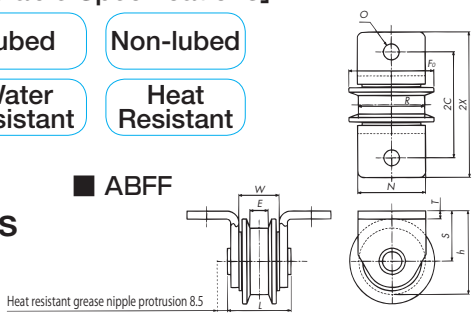


[Available Specifications]

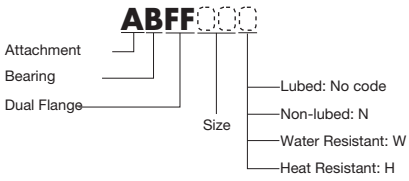
Lubed | Non-lubed | Water Resistant | Heat Resistant

Dimensions/ Specifications

■ ABFF



Model Numbering Example

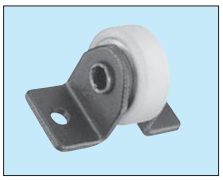


Roller Specification, Size	Allowable Load kN	Allowable Load {kgf}	Allowable Running Speed m/min	R	E	L	h	S	T	2C	2X	N	O	W	Fo	Approx. Mass kg
ABFF03	1.27	130	18 (12)	31.8	12	32	40	24.1	3.2	50	74	32	10	21.7	42	0.20
ABFF05	1.67	170	23 (15)	40	12	39.8	50	30	4.5	60	87	40	10	26	50	0.42
ABFF10	2.75	280	30 (20)	50.8	16	50.8	64	38.6	6.3	80	112	52	12	33	65	0.90
ABFF12	3.63	370	30 (20)	65	16	58.4	80	47.5	7.9	90	130	70	15	37.4	80	1.65
ABFF17	6.86	700	30 (20)	80	24	76.4	100	60	9.5	130	180	80	18	51.4	100	3.45

Note: 1. Allowable running speeds shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicates no difference between specifications.
2. 03 size for heat resistant specifications are unavailable.
3. Heat resistant specifications use a solid pin.
4. Made-to-order item.
5. The above dimensions are nominal dimensions and may differ from actual dimensions.

Bearings and Bearing Roller Attachments

Urethane-Lined Roller Attachment Bearing Roller

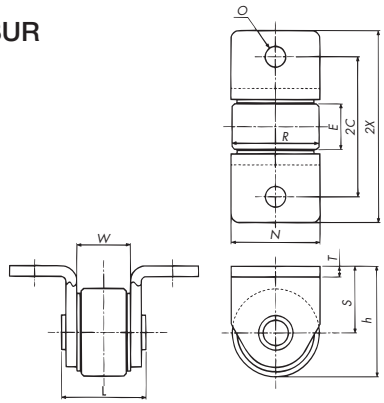


[Available Specifications]

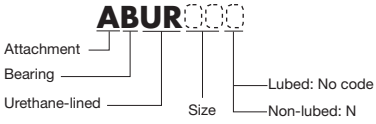
Lubed | Non-lubed

■ ABUR

● Dimensions/ Specifications



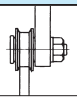
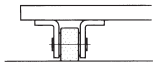
● Model Numbering Example



Roller Specification, Size		Allowable Load kN	Allowable Load {kgf}	Allowable Running Speed m/min	R	E	L	h	S	T	2C	2X	N	O	W	Approx. Mass kg
R Roller	ABUR03	0.29	30	18 (12)	40	14	28	44.1	24.1	3.2	50	70	32	10	17.2	0.15
	ABUR05	0.59	60	23 (15)	50	19	36.8	55	30	4.5	60	84	40	10	23	0.33
	ABUR10	0.98	100	30 (20)	60	26	48.8	68.6	38.6	6.3	80	110	52	12	31	0.74
	ABUR12	1.47	150	30 (20)	80	32	58.4	87.5	47.5	7.9	90	130	70	15	37.4	1.48
	ABUR17	2.94	300	30 (20)	100	44	76.4	110	60	9.5	130	180	80	18	51.4	2.94

Note: 1. Allowable running speeds shown in ( ) are for non-lubed and water resistant specifications. No ( ) indicate no difference between specifications.
2. Made-to-order item.
3. The above dimensions are nominal dimensions and may differ from actual dimensions.

Applications

Name	Model	Features	Sample Applications
Dual Flange Roller	JBFF ABFF	Flanges are attached to both sides of the F roller to prevent meandering.	 Rail running
Tapered Roller	JBTF	Roller has a 5° taper so that the channel taper can be used as a rail.	 Channel running
Urethane-lined Roller	JBUR ABUR	Roller is urethane lined. Low noise. Will not damage rail.	 Concrete floors

Notes on Use

1) Allowable load values are determined by roller-rail wheel contact pressure or bearing rotation 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 bearing roller may come in contact with water.

3) Be aware that precision is much coarser than with cam followers.

4) Do not use in acidic or alkaline environments.
Water resistant specifications (SUS400 Series parts) may rust in certain usage environments.

5) Due to the small clearance between axle and hole, do not chamfer the attachment hole for Axle Bearing Rollers. Be sure not to exceed the maximum screw tightening torque when attaching the nut.

6) Do not allow roller to come into contact with severe shock

7) This product does not come equipped with a brake. Consider installing one on the equipment side.

8) When re-lubricating lubed specifications, be sure to drip a few drops at a time between the roller and spacer on either side. Once lubrication has degraded, lube every 1 to 3 months with ISO VG100-150 {SAE30-40} oil.

9) Rotational resistance of bearings and spacers will increase if worn. Be sure to replace as necessary. Use the following to determine usage limit.
- Over 0.5mm of play between roller and bearing.
- When resin spacer has worn away.

10) All parts are coated with an anti-rust agent before shipment.

Accessories

Accessories

Automatic Conveyor Chain Lubricator

TCL Automatic Conveyor Chain Lubricator

The TCL lubricator is designed for use with conveyor chains. The chain roller pushes up the checker arm on the lubricator pump, activating the pump and causing an appropriate amount of lubrication to discharge from the nozzle. Thus, no electric or other power source is required, making installation easy and exact, stable lubrication possible.

No Power Source Required

- The lubricator pump is activated when the chain runs, making electric, air, or other power sources unnecessary. Installation and maintenance are a snap!

Correct Lubrication

- Lubrication is in tandem with chain operation for correct, stable lubrication every time.

Compact, Low Price

- Lighter and more compact than existing conveyor chain lubricators, making it easy to handle and cost effective.

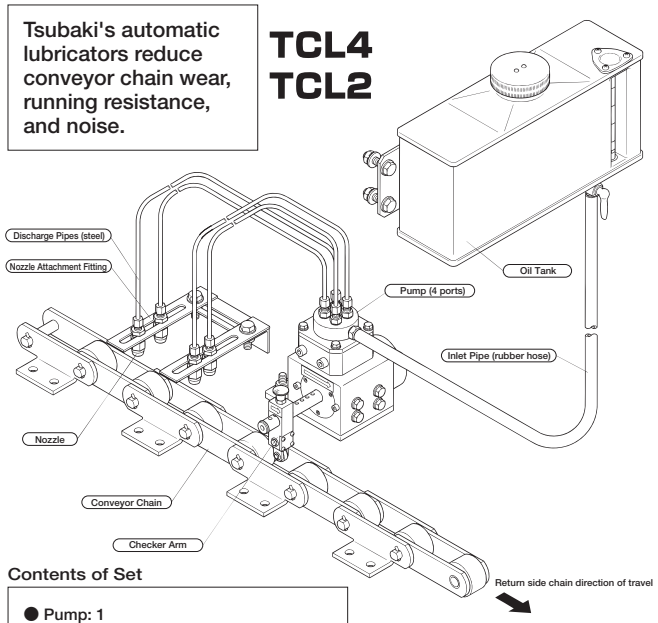
Lubricator Performance

Type	TCL4	TCL2
Nozzle	4 ports	2 ports
Number of Operations	Max. 3 times/sec. Refer to the chart on the following page for pitch and chain speed.	
Discharge Amount	Fixed: 0.05cc/shot/nozzle	
Timing Sensor	Checker arm sensor	
ON/OFF	Replace checker arm manually after stopping the conveyor.	
Oil Tank	5 L	
Operational Temperature	-10℃ to 120℃	

Note: Operational temperature is the temperature at which the nozzle tip can function. The operational temperature of the actual unit is -10°C to 60°C.

Tsubaki's automatic lubricators reduce conveyor chain wear, running resistance, and noise.

TCL4
TCL2



Contents of Set

- Pump: 1
- Oil Tank (5L) : 1
- Rubber Hose (2m) : 1
- Steel Pipe (2m) : TCL2 : 2
  TCL4 : 4
- Nozzle: TCL2 : 2
  TCL4 : 4
- Nozzle Attachment Fitting: TCL2 : 1 set
  TCL4 : 2 sets
  [Angle material : 1
  Nozzle Attachment Board : 2]

Ordering Automatic Conveyor Chain Lubricator

Product Numbering Example

TCL4-R

- TCL4: Lubricator for Conveyor Chain
- 4: No. of Nozzles (2: 2 nozzles, 4: 4 nozzles)
- R: Chain Direction of Travel (R: Right when looking at chain from checker arm side, L: Left when looking at chain from checker arm side)

Ordering Example

Type: TCL4
Chain Direction of Travel: R
Quantity: 1

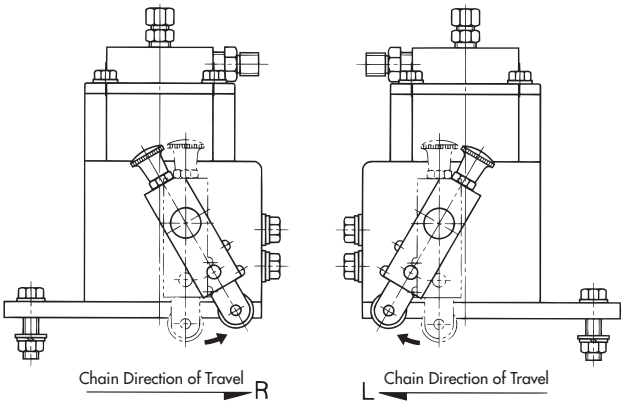
Product Number	Quantity	Unit
TCL4-R	1	S

Automatic Conveyor Chain Lubricator

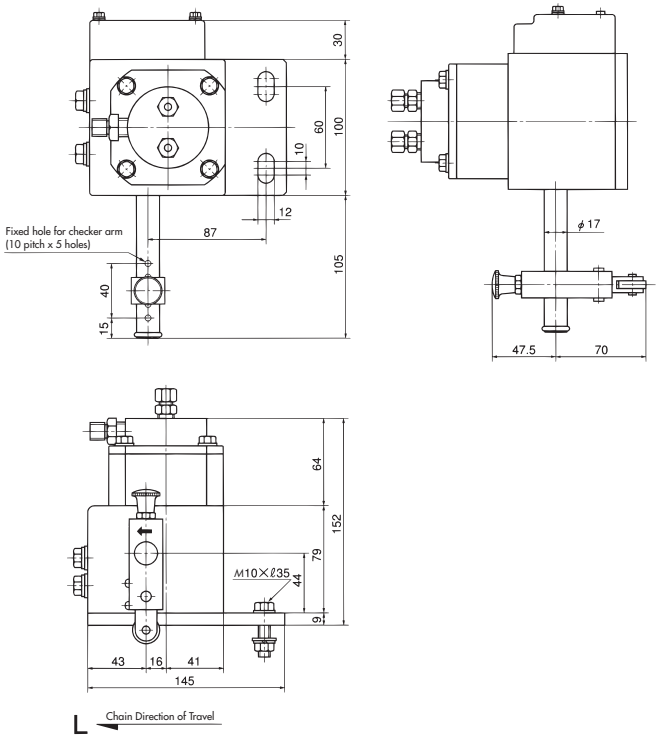
■ Allowable Chain Pitch and Speed

Chain Pitch mm \ Chain Speed m/min	5	10	15	20	25	30
75	○	×	×	×	×	×
100	○	○	＊S	×	×	×
150	○	○	○	○	○	＊S
200	○	○	○	○	○	＊S
250～600	○	○	○	○	○	○

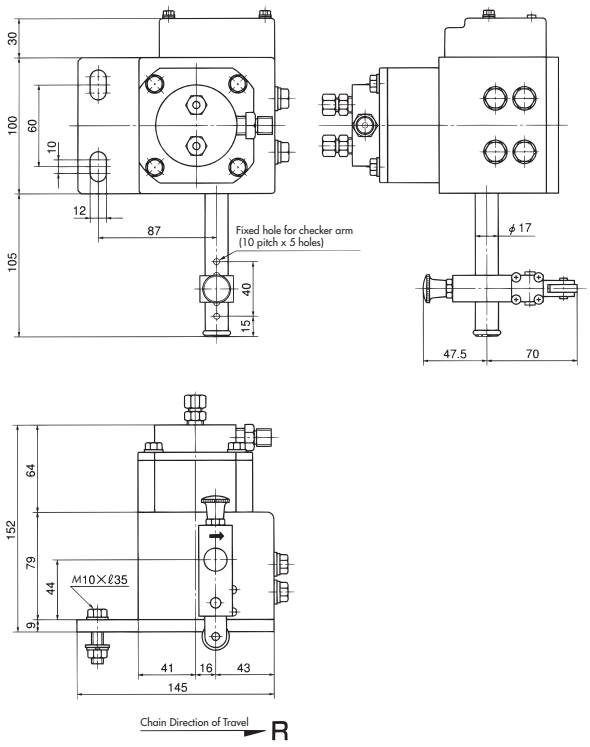
Note:
1. Boxes marked with ＊ S mean only S rollers can be used.
2. Cannot be used only with RF03 S rollers, as the chain inner width interferes with the checker arm.



■ Pump TCL□-L



■ Pump TCL□-R



Pump

Type	TCL4-R TCL4-L	TCL2-R TCL2-L
Nozzle	4 nozzles	2 nozzles
Discharge Amount	0.05cc/shot/nozzle	
Number of Operations	Max. 3 times/sec	
Discharge Pressure	0.196Pa {2kg/cm²}	
Color	Cream	
Mass	5.3kg	
Fittings	Attachment bolts (M10 × 35L), nuts (2)	

Note: Contact a Tsubaki representative regarding this and mounting parts that can be used.

■ Pipe (Nuts fitted at both ends)

Pipe	Discharge Pipe	Inlet Pipe
Material	Steel	Rubber hose (black)
Diameter	Outer dia. ϕ5	Outer dia. ϕ16
	Inner dia. ϕ3	Inner dia. ϕ8.5
Length	2000mm	2000mm

■ Lubricant

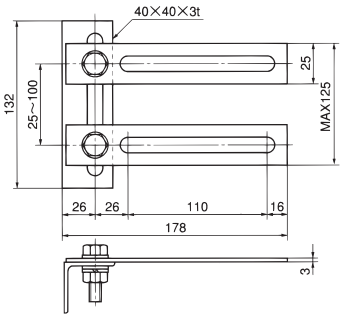
Lubricants with a viscosity index of ISO VG32-100 can be used.

Note: Lubricants with additives such as MoS2 (molybdenum disulfide) may clog nozzles. Do not use.

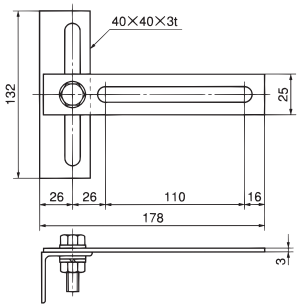
Automatic Conveyor Chain Lubricator

■ Nozzle Attachment Fitting

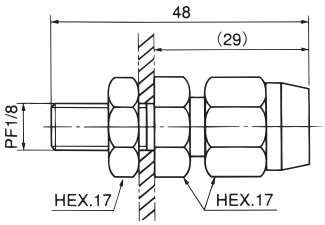
When two nozzle attachment plates are attached to the angle bar.



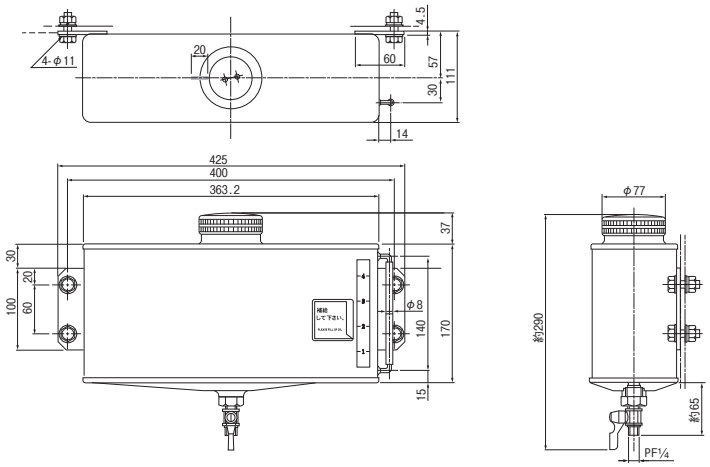
When one nozzle attachment plate is attached to the angle bar.



■ Nozzle



■ Oil Tank



Oil Tank

Capacity	5 ℓ
Filter	50 mesh filters
Color	Blue
Mass	5.3kg
Fittings	Attachment bolts (M10 x 30L), nuts (4)

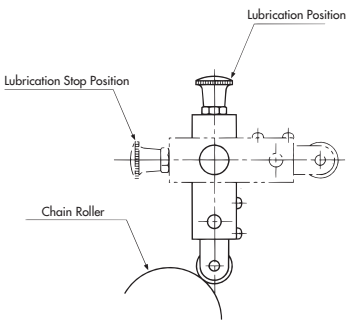
Note: The dimensions given in this catalog are nominal dimensions and may differ from actual dimensions.

■ Notes on Usage

- It is necessary to switch the checker arm ON to operate. Ensure a safe working area for this purpose.
- The pump should be installed where there is minimal lateral chain vibration or vertical movement, where it will be easy to install, and where it will be parallel to the ground.
- Attach pump (nozzle) on the chain's return side (slack side) near the sprocket to ensure maximum penetration of lubricant between pin and bush and bush and roller. (See diagram below.)
- Install oil tank 300mm or higher than the pump.
- Install the oil tank parallel to the ground and 300mm or higher than the pump.
- Pump will not operate if chain is run backwards. This is done so that the checker arm does not suffer any damage. (See diagram below.)
- Amount of lubrication necessary depends on chain size and usage conditions. 2–3 shots per spot is normal. Stop lubrication once the necessary amount of lubricant has been applied. (See diagram below.) Continuous operation will drastically hasten checker arm roller wear damage.
- Stopping lubrication using the oil tank plug while the pump is still in operation will drastically hasten wear damage on the pump and checker arm. Always stop lubrication with the checker arm. (See diagram below.)
- Be sure that the oil tank does not run out of lubrication. Operating the lubricator with no lubricant will drastically hasten wear damage on the pump. Once lubrication runs out air will enter the pump, requiring the air to be pumped out before lubrication can begin again.
- Lubrication will reduce wear on chain parts and reduce necessary power. Lubrication should generally take place more than once a week. Clean the chain first for effective lubrication.
- Pump piston may lock when not in use for extended periods. Start lubricator up once a month to prevent locking.

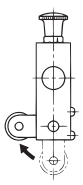
Stopping Lubrication

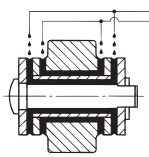
When stopping lubrication, always stop the conveyor first. Pull the knob on top of the checker arm, tilt the arm 90° until it locks into the anchor hole. Once you are sure that it is not touching the conveyor chain, stop pump operation.



Safety Feature for Reverse Chain Running

The roller of the checker arm will spring up when chain is run in reverse. (The spring will also automatically return it to position.)





Cutting Tools

All items are made-to-order items. Refer to the Selection and Handling section for more details.

① T-Pin Bending Tool

Be sure to inform your Tsubaki representative of the chain number.
Applicable chain numbering in the chart below indicates the ~~ part of RF03100S.

T Pin Nominal Diameter	Applicable Chain
ϕ 3(2.6)×15ℓ	RF03
ϕ 4(3.6)×20ℓ	RF05・RF08・RF430・RF204・RF450・RF650
ϕ 4(3.6)×25ℓ	RF10・RF12・RF205・RF6205・RF214
ϕ 6(5.6)×33ℓ	RF17・RF26・RF212
ϕ 8.5(8.1)×45ℓ	RF36
ϕ 8.5(8.1)×50ℓ	RF36N・RF52
ϕ 8.5(8.1)×55ℓ	RF60N
ϕ 10(9.7)×65ℓ	RF90N
ϕ 10(9.7)×70ℓ	RF120N

Note:
1. Bending tools for T-pin diameters not listed above are also available.
2. The ( ) next to the nominal diameter indicates actual diameter.
3. N is for N rollers.

② Holding Tool

Contact a Tsubaki representative with chain size.

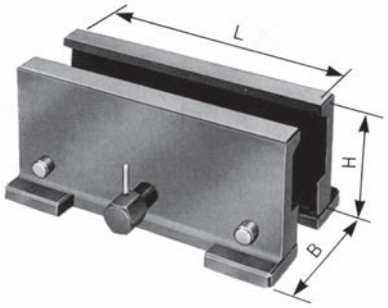
③ Hydraulic Pin Extractor

Contact a Tsubaki representative with chain size.

④ Chain Vice

Product Number	Applicable Chain	Dimensions		
		L	H	B
CV-4	RF03-RF17	300	135	120 -180

Note: The above dimensions are nominal dimensions and may differ from actual dimensions.



Selection and Handling

The conveyor chain selection method has changed.

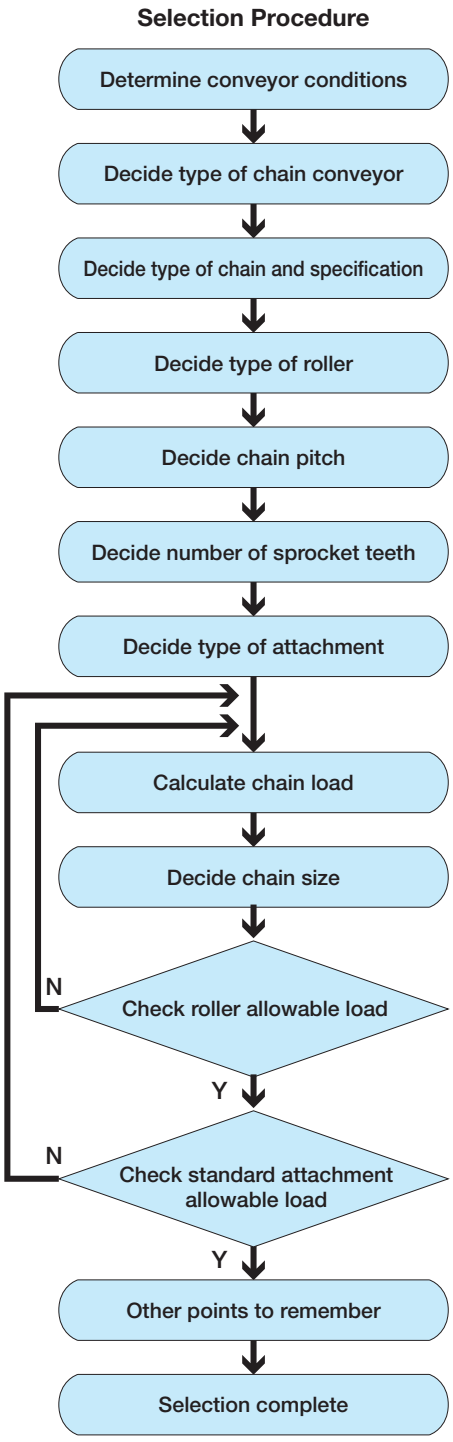
We have switched from the previous safety factor selection method (based on average tensile strength) to an allowable load selection method based on maximum allowable load, which is established by fatigue limit and allowable surface pressure.

Conveyor Chain Selection and Steps

Selecting conveyor chains for chain conveyors requires comprehensive knowledge and experience. However, the following are general points for selecting the optimum chain for your application.

1. Determine Conveyance Conditions

Determine the conveyance conditions of the conveyor chain.

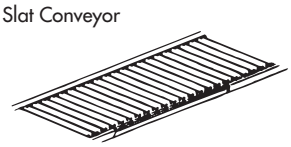
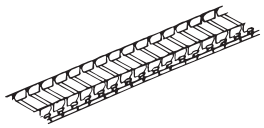
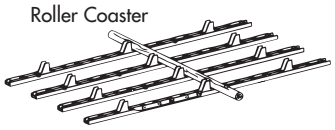
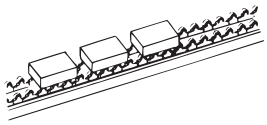
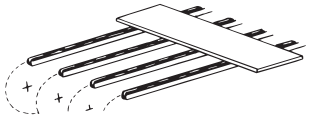
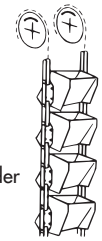
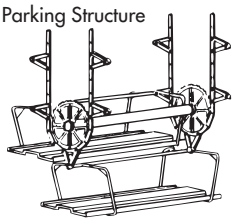
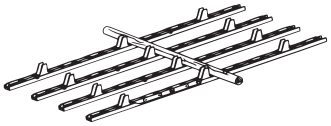
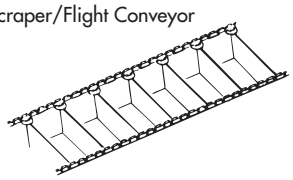
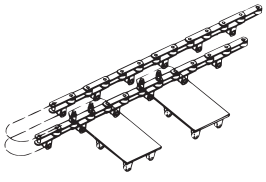
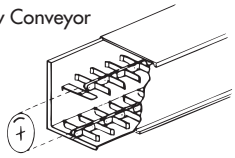


Determining Conveyor Chain Conveyance Conditions

Machine	:	
Conveyed Material	:	
Corrosion	:	
Wear	:	
Temp. of Material Conveyed	:	Room Temp. ℃
Dimensions of Conveyed Items	:	
Mass of Material Conveyed	:	MAX kg/each
Conveyed Amount (Loose Materials)	:	MAX t/h
Conveyed Amount (Item)	:	MAX kg/conveyor
Conveyor Length	:	m
Lift	:	m
Number of Chain Strands	:	(spaced m apart)
Chain Speed	:	m/min
Max Allowable Load	:	kN{kgf}
Chain Pitch	:	mm
Attachment Type and Spacing	:	att. every link
Conveyance Method	:	Pushed by dog, direct conveyance, other
Operating Time	:	h/d
Lubrication	:	Yes / No
Motor	:	AC/DC kW, r/min, unit(s)
Number of Sprocket Teeth	:	NT (PCD mm)
Sprocket Bore Diameter	:	ϕ H8 / H7
Boss	:	Type ϕ × L
Keyway	:	Unnecessary, JIS b ×t Parallel/beveled
Sprocket Tooth Finishing	:	Precision Welded, Machine Cut, Induction Hardened

1.We recommend using standard chain from a cost/delivery perspective.
2.When unable to choose between a standard or specialty chain, the materials and attachments make it a special chain with special specifications. See sections regarding conveyor chain category and type.

2. Decide Conveyor Type

Basic Conveyor Types	Conveyed Items					
	Item Conveyance	Chain Type	See Pg.	Loose Material	Chain Type	See Pg.
Top Loading Conveyance	● Slat Conveyor 	RF-BR RF-NB RF (CT)	101 95 25 70	● Apron/Pan Conveyor 	RF	25
	● Push Conveyor, Tow Conveyor, Roller Coaster 	RF RF-NB NF RF-SR	25 95 67 98			
	● Free Flow Conveyor 	RF-VR RF-SR RF-TR	97 98 99			
	● Standard Chain Conveyor 	RF NF RF-NB	25 67 95			
Suspension Conveyance	● Trolley Conveyor	RF	25 (121)	● Bucket Elevator 	RF B Class Chain	25 61
	● Tray Elevator 	RF-NB RF NF	95 25 67	● Bucket Type Continuous Unloader	Special Chain	
	● Vertical Parking Structure 	RF Specialty Chain	25			
Push Conveyance, Frictional Conveyance	● Push Conveyor 	RF NF RF-NB	25 67 95	● Scraper/Flight Conveyor 	RF	25
	● Horizontal Revolving Conveyor 	RF RF-NB	25 95	● Flow Conveyor 	RF NFX	25(55) 68
				● Drag Chain Conveyor	Special Chain	64

Note: See pg. 147, Table 1 regarding item wear and corrosion properties.

3. Decide Chain Type

When selecting conveyor chain type, it is necessary to identify the physical properties of the materials conveyed. Method of conveyance and chain conveyor type should then be determined, keeping cost performance in mind. Three basic types of conveyor are shown on pg. 95, which can be used for determining conveyor chain type.

Key Points in Determining Conveyor Chain Type

- Adopt a loading type conveyor to reduce the running resistance of the conveyor chain when conveying materials, which will lead to energy savings. Bearing Roller Conveyor Conveyor Chain and Coil Transfer Chain are ideal.
- Design layout so that powdery or liquid materials, or materials that will promote chain wear, are prevented from directly contacting the conveyor chain.
- Use a sealed conveyor, such as a flow conveyor, to prevent loose material from flying during conveyance.
- When using conveyor chains to convey very corrosive material, or in corrosive environments, select a conveyor chain with suitable specifications. (Pg. 108, Chart 13)

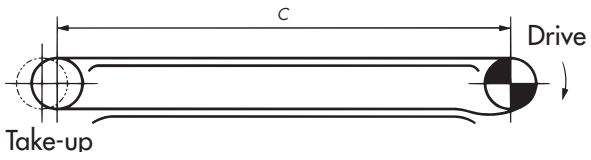
4. Decide Roller Type

Refer to "Roller Types" in the pages detailing large size conveyor chain construction.

5. Basic Conveyor Chain Layout

5.1 Horizontal Conveyor

1) Making a catenary on the drive sprocket side

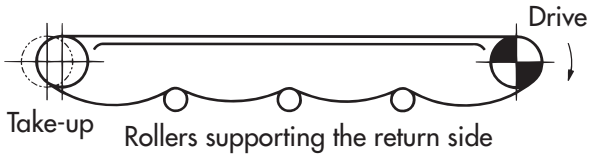


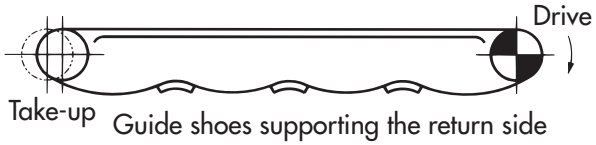
① Catenary tension makes chain-sprocket engagement smooth.
② Lubrication at the catenary is most effective.

2) No guide on the return side

For short center distance and slow chain speed.
The mass of the chain on the return side may cause vibration, affecting chain operation.

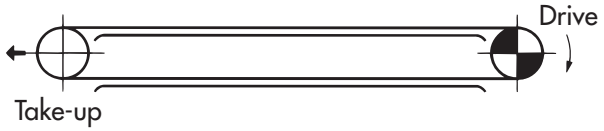
3) Supporting the chain on the return side with guides or rollers





Contact between chain and guide or roller may hasten chain wear or damage chain as it articulates at the roller or guide. This may also cause vibration, affecting chain operation. With a long center distance, it is practical to divide the return side into several catenaries.
Partial or full support by catenary on the return side (see diagrams above) can absorb chain elongation/shrinkage from heat or other factors. This arrangement can be used when chain speed is comparatively slow. Catenary sag should be about 10% of the free span. This is not recommended for reverse drives.

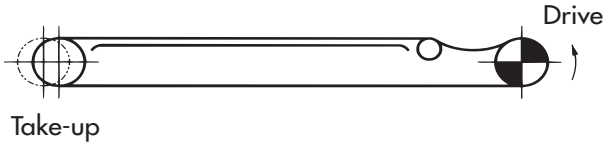
4) Supporting the entire return side



The return side is entirely supported by rails, which are fixed on the take-up of the driven sprocket. This method absorbs all chain sag, and can also be used in reverse operation. However, there is no catenary on the drive sprocket lower side, making it necessary to regularly adjust chain elongation through take-up.

Caution: Excessive tension from take-up will hasten chain wear.

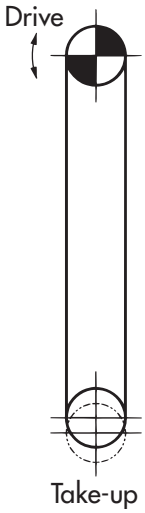
5) Return side on top



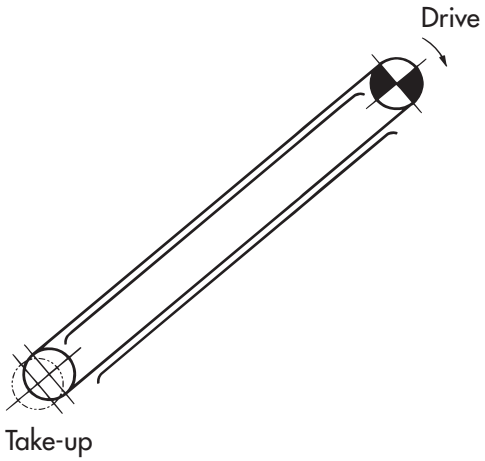
5.2 Vertical Conveyors

If the conveyor will be stopped while loaded, it will be necessary to install a brake or Tsubaki Back Stop Cam Clutch to prevent reverse operation.

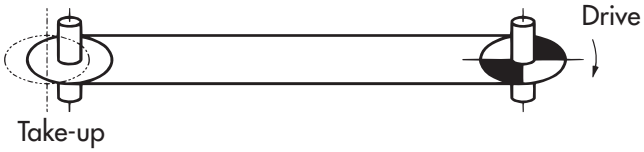
Caution: Excessive tension from take-up will hasten chain wear.



5.3 Inclined Conveyors



5.4 Vertical Shaft Conveyors



Installing a guide roller will help the chain run smoother.

Key Points in Using Conveyor Chains

- Lubricate chain to prevent elongation during use. Use a lubricant with an equivalent viscosity of ISO VG100-150 (SAE30-40). Use a drip or brush method and ensure lubricant penetrates between pins, bushes, rollers, and other areas to prevent metal-on-metal contact. (See pg. 135 for the Tsubaki Automatic Conveyor Chain Lubricator.)
- Ensure that sprocket shafts are parallel.
- At least three sprocket teeth need to engage the chain.
- Use take-up to adjust chain elongation.
- When using chains in parallel, be sure that sprocket teeth on both sides are aligned when engaging.
- New chain will prematurely wear if connected to a sprocket whose teeth have severely worn.

6. Choose a Chain Series for Conveying Loose Materials

The following table lists the chain conveyor types and chain series used in conveying typical loose materials, as well as our recommendations.
Depending on the conveyed items, the same items listed in Table 1 may differ in condition or quality. Determine conveyor type and chain series based on consideration of past performance and careful investigation.

Table 1: Material and Chain Specifications

Material			Type of Conveyor				Recommended Chain Series	Notes
Name	Abrasiveness	Corrosiveness	Scraper	Flow	Apron	Bucket		
Activated Charcoal	B	C	○	△		△	DT	
Alumina	B	E		△		△	CT	
Bagasse	C	C	○				DTA	
Barley	C	C	○	○		○	DT	
Carbide	B		○	○	○	○	DT	
Carbon	B	C	○	△		△	BT	
Cement Clinker	A	E	○	△	○	△	CT	
Cement Products	B	E		○		○	CT	
Clinker Dust	A	E		△			BT	
Coal	B	B	○		○		CT	
Coke	A	C			○	△	BT	
Coke Dust	A	C		△			BT	
Corn	C	C	○	○		○	DT	
Dolomite	B	D	○	△	○	△	DT	DTA on Apron Conveyors
Dry Ammonium Chloride	B	B	○	△		△	DT	
Dry Ammonium Sulfate	C	C	○	△		△	DT	
Dry Clay	B	C		△		△	BT	
Dry Incinerated Garbage (Room Temperature)	C	D	○				DTA	
Dry Limestone	B	D	○	△	○	△	DT	DTA on Apron Conveyors
Dry Sawdust	C	D	○	△			DT	
Dry Slaked Lime	C	E	○	△		△	DT	
Dry Unslaked Lime	B	E	○	△		△	DT	
Dry Urea Powder	C	C	○	△		△	DT	
Dry Wood Chips	C	D	○	△			DT	
Foundry Sand	A	C	○		△		BT	
Garbage	B		△		○		RT	
Glauber's Salt	B	B		△			GS	
Mixed Feed	C	B	○	△		△	DT	
Polyethylene	B	C	○	△		△	DT	
Rice	C	C	○	○		○	DT	
Rock Salt	C	C	○	△		△	DT	
Scale	B	C	○	△		△	BT	
Soda Ash	B	E	○	△		△	DT	
Soybean	C	C	○	○		○	DT	
Starch	C	C	○	△		△	DT	
Sugar	C	C	○	○		○	SS	See 3.
Sugar Cane	C	C	○		○		DTA	
Synthetic Detergent	B	C	○	△		△	DT	
Vinyl Chloride Powder	B			△		△	MT	
Wet Coal Dust	B	B		△			BT	
Wet Gypsum	B	A	○	○		○	GS, RT	
Wet Incinerated Garbage	C	D	○				RT	
Wet Urea Powder	B	E	○	△		△	GS	
Wheat	C	C	○	○		○	DT	
Wheat Flour	C	C	○	○		○	DT	

Note: 1. Abrasiveness: ABC
2. Corrosiveness: A (Strong acid), B (Moderate acid), C (Neutral), D (Moderate alkali), E (Strong alkali)
3. See pg. 160 for clean specifications.

7. Decide Chain Pitch and Number of Sprocket Teeth

1) Smoother chain operation can be expected as the number of sprocket teeth increases. This means that for a sprocket with the same outer diameter, a shorter pitch chain can operate more smoothly due to a reduction in the polygonal speed fluctuation or less articulating angle of chain on the sprocket. This also results in less wear between pin and bush.

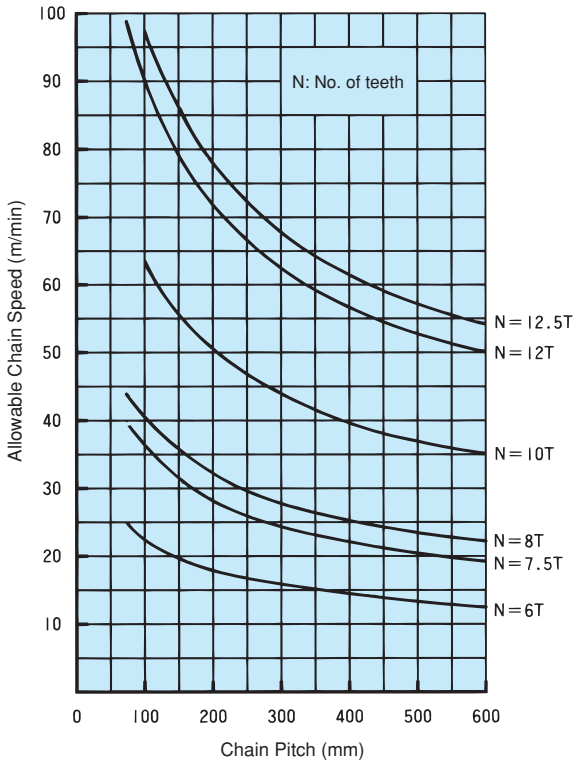
2) Longer pitch chain, though more expensive per link, would be cheaper for a unit length of chain in general. Chain pitch for Unit Conveyors is determined by unit size or attachment spacing.
(Example) Attachment spacing = 2m
- Chain pitch = 100, 200, 250
- Chain pitch can be selected by dividing attachment spacing by an even number.

3) The chain pitch for Bulk Conveyors is determined not only by material itself, but also by conveyor capacity. Conveyor capacity is determined by sizes of bucket, apron, scraper, etc. Chain pitch is in turn determined by these sizes.

4) Space limitation should also be kept in mind when selecting sprocket.

5) Chain pitch relates to the number of sprocket teeth and chain speed shown in Table 2.

Table 2: Chain Pitch and Allowable Chain Speed



8. Decide Attachment Type

See the pages concerning “Attachment Types” for more information.

9. Calculate Chain Load

Maximum static load to chain, T_{MAX}, during operation can be calculated using the formulae in Table 3. The formulae are based on mass M (weight W) × coefficient of friction. Inertial forces are extremely large when suddenly starting or stopping high speed conveyors or when rapidly conveying items using push conveyors or other such systems. Bear these inertial forces in mind when calculating the load and required kW.

9.1 Terms

		SI Units	Gravimetric Units
T_{MAX}	: Maximum static load on chain	kN	{kgf}
T'_{MAX}	: Design chain load	kN	{kgf}
T	: Static load on chain	kN	{kgf}
Q	: Maximum conveying quantity	t/h	{tf/h}
V	: Chain speed	m/min	m/min
H	: Center distance between sprockets (vertical)	m	m
L	: Center distance between sprockets (horizontal)	m	m
C	: Center distance between sprockets (inclined)	m	m
M	: Mass {weight} of conveying device (Chain X strands, buckets, aprons, etc.)	kg/m	{kgf/m}

Note: SI Units and Gravimetric Units
Calculations are listed in both SI Units and Gravimetric Units.
When calculating tension T in gravimetric units, the mass value (kgf) is the same as the mass value for SI Units (kg).

f_1 : Coefficient of friction between chain and guide rail (Tables 5 and 6)

f_2 : Coefficient of friction between material conveyed and casing (Table 7)

f : Material loaded directly on chain: f=1
Material scraped: $F = \frac{f_2}{f_1}$

g : Acceleration of gravity: 9.80665m/s²

W : Mass Conveyed Item {Weight} kg/m {kgf/m}

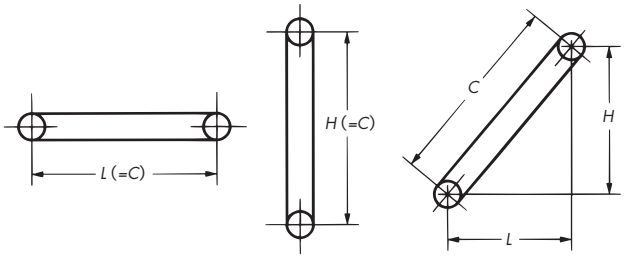
Loose

$W = 16.7 \times \frac{Q}{V}$ (*1) $\quad \{W = 16.7 \times \frac{Q}{V}\}$

Item

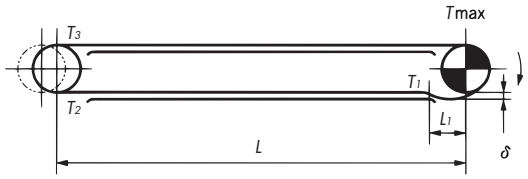
$W = \frac{\text{Mass of Item (kg/each)}}{\text{Load Spacing (m)}} \quad \{W = \frac{\text{Mass of Item (kg/each)}}{\text{Load Spacing (m)}}\}$

* 1: The coefficient for calculating the mass (weight) per meter of item conveyance is 16.7=1000/60.



9.2 Calculate Chain Load (Table 3)

Horizontal Conveyor



SI Units

$T_1 = 1.35^{*1} \times M \times L_1 \times \frac{g}{1000}$ …… kN

$T_2 = (L - L_1) \times M \times f_1 \times \frac{g}{1000} + T_1$ …… kN

$T_3 = 1.1^{*2} \times T_2$ …… kN

$T_{MAX} = (W \times f + M) \times L \times f_1 \times \frac{g}{1000} + T_3$ …… kN

{ Gravimetric Units }

$T_1 = 1.35 \times M \times L_1$ …… {kgf}

$T_2 = (L - L_1) \times M \times f_1 + T_1$ …… {kgf}

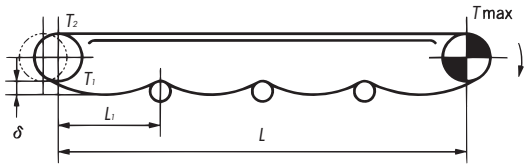
$T_3 = 1.1 \times T_2$ …… {kgf}

$T_{MAX} = (W \times f + M) \times L \times f_1 + T_3$ …… {kgf}

* 1: Refer to Table 4, pg. 151.
* 2: 1.1 is for increased load at the driven sprocket.

SI Units	{ Gravimetric Units }

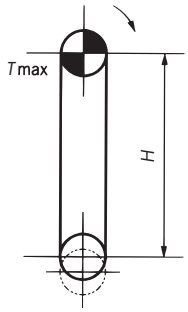
Horizontal Conveyor



SI Units	{ Gravimetric Units }
$T_1 = 1.35 \times M \times L_1 \times \frac{g}{1000} + 0.1^{*} \times M \times L \times \frac{g}{1000}$ …… kN	$T_1 = 1.35 \times M \times L_1 + 0.1^{*} \times M \times L$ ……{kgf}
$T_2 = 1.1 \times T_1$ …… kN	$T_2 = 1.1 \times T_1$ ……{kgf}
$T_{MAX} = (W \times f + M) \times L \times f_1 \times \frac{g}{1000} + T_2$ …… kN	$T_{MAX} = (W \times f + M) \times L \times f_1 + T_2$ ……{kgf}

* 0.1 is the coefficient of roller resistance at return side.

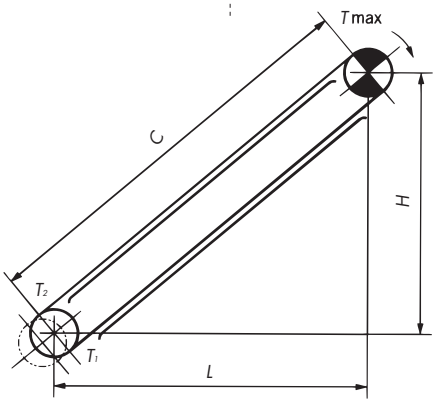
Vertical Conveyor



Note: In bucket elevators, 1m is added to center distance (H) to account for shock load when loading.

SI Units	{ Gravimetric Units }
$T_{MAX} = (W + M) \times H \times \frac{g}{1000}$ …… kN	$T_{MAX} = (W + M) \times H$ ……{kgf}

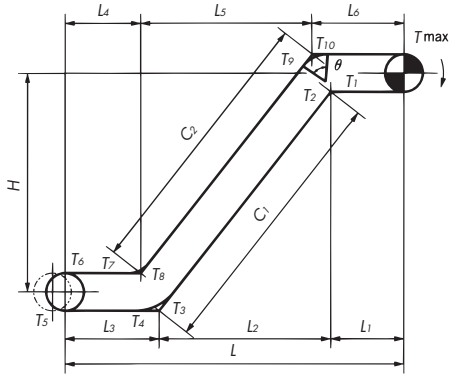
Inclined Conveyor



SI Units	{ Gravimetric Units }
$T_1 = M(Lf_1 - H) \times \frac{g}{1000}$ (kN)	$T_1 = M(Lf^1 - H)$ {kgf}
When $T_1 < 0$, $T_2 = 0$	When $T_1 < 0$, $T_2 = 0$
$T_2 = 1.1 \times T_1$ (kN)	$T_2 = 1.1 \times T_1$ {kgf}
$T_{MAX} = W(Lf_1 \times f + H) \times \frac{g}{1000} + M(Lf_1 + H) \times \frac{g}{1000} + T_2$ (kN)	$T_{MAX} = W(Lf_1 \times f + H) + M(Lf_1 + H) + T_2$ {kgf}

SI Units

Practical Example



$T_1 = M \times L_1 \times f_1 \times \frac{g}{1000}$ ..... kN

$T_2 = T_1 \times Kc_1 \frac{g}{1000}$ ..... kN

$T_3 = M(L_2 f_1 - H) \times \frac{g}{1000} + T_2$ ..... kN

$T_4 = T_3 \times Kc_2$ ..... kN

When $T_3 < 0$, $T_4 = 0$

$T_5 = M \times L_3 \times f^1 \times \frac{g}{1000} + T_4$ ..... kN

$T_6 = 1.1 \times T_5$ ..... kN

$T_7 = (M + W \times f) \times L_4 \times f_1 \times \frac{g}{1000} + T_6$ ..... kN

$T_8 = T_7 \times Kc_3$ ..... kN

$T_9 = W(L_5 f_1 \times f + H) \times \frac{g}{1000} + M(L_5 f_1 + H) \times \frac{g}{1000} + T_8$ ..... kN

$T_{10} = T_9 \times Kc_4$ ..... kN

$T_{MAX} = (M + W \times f) \times L_6 \times f_1 \times \frac{g}{1000} + T_{10}$ ..... kN

{ Gravimetric Units }

Corner Factor (Kc)

f1 \ Angle	30°	60°	90°	120°	180°
0.03	1.02	1.03	1.05	1.06	1.10
0.10	1.05	1.11	1.17	1.23	1.37
0.15	1.08	1.17	1.27	1.37	1.60
0.20	1.11	1.23	1.37	1.52	1.87
0.24	1.13	1.29	1.46	1.65	2.13
0.30	1.17	1.37	1.60	1.87	2.57
0.40	1.23	1.52	1.87	2.31	3.51

$T_1 = M \times L_1 \times f_1$ {kgf}

$T_2 = T_1 \times Kc_1$ {kgf}

$T_3 = M(L_2 f_1 - H) + T_2$ {kgf}

$T_4 = T_3 \times Kc_2$ {kgf}

When $T_3 < 0$, $T_4 = 0$

$T_5 = M \times L_3 \times f_1 + T_4$ {kgf}

$T_6 = 1.1 \times T_5$ {kgf}

$T_7 = (M + W \times f) \times L_4 \times f_1 + T_6$ {kgf}

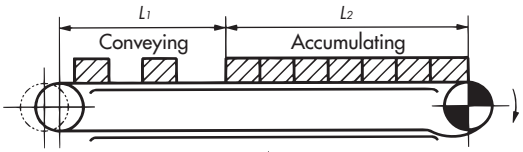
$T_8 = T_7 \times Kc_3$ {kgf}

$T_9 = W(L_5 f_1 \times f + H) + M(L_5 f_1 + H) + T_8$ {kgf}

$T_{10} = T_9 \times Kc_4$ {kgf}

$T_{MAX} = (M + W \times f) \times L_6 \times f_1 + T_{10}$ {kgf}

Example using Double Plus Chain



$T_{MAX} = 2.1M(L_1 + L_2) f_1 \times \frac{g}{1000} + (W \times L_1 \times f_1) \times \frac{g}{1000} + (W_1 \times L_2 \times f_3 \times \frac{g}{1000})$ ..... kN

$T_{MAX} = 2.1M(L_1 + L_2) f_1 + (W \times L_1 \times f_1) + (W_1 \times L_2 \times f_3)$ ..... {kgf}

L_1 : Length of conveying section (m)
L_2 : Length of accumulating section
W_1 : Mass of conveyed items accumulating (kg/m) {mass kgf/m}
f_1 : Coefficient of friction between chain and rail at conveying material = 0.05
f_3 : Coefficient of friction during accumulation = 0.2

Static load to chain varies with layouts as follows:

Horizontal $T = T_{MAX} - T_1$

Vertical $T = T_{MAX} - MH \times \frac{g}{1000}$

Inclined $T = T_{MAX} - M(H - Lf_1) \times \frac{g}{1000}$

$T = T_{MAX} - MH$

$T = T_{MAX} - M(H - Lf_1)$

When $H - Lf_1 < 0$, $T = T_{MAX}$

■ Calculating Required Power

$1kW = 1kN \cdot m/s$

$kW = \frac{T \times V}{60}$

$1kW = 102kgf \cdot m/s$

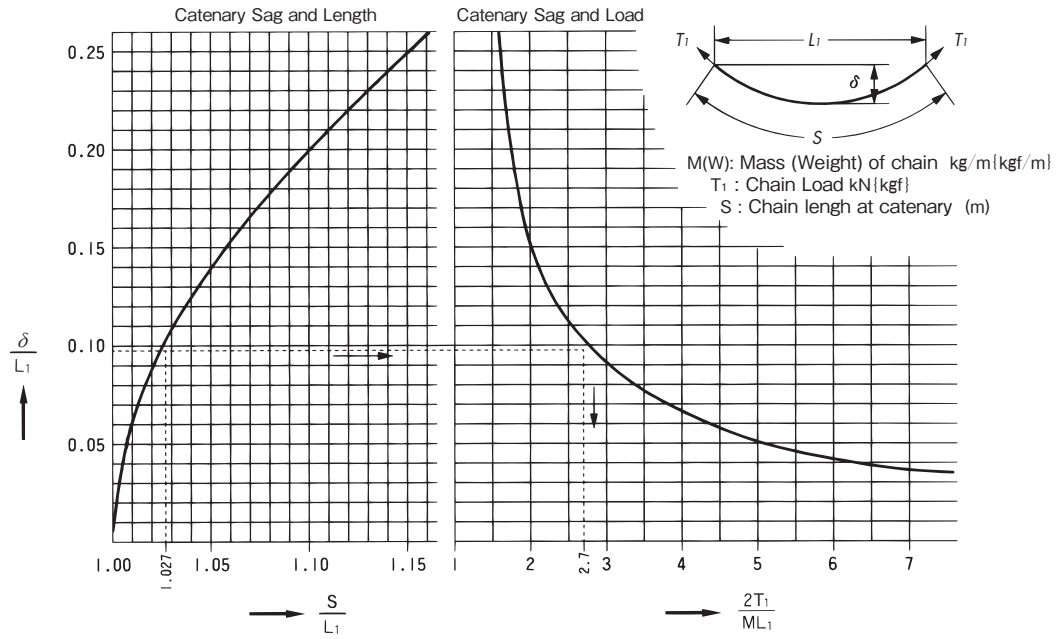
$kW = \frac{T \times V}{102 \times 60}$

Assuming that the power loss from chain–sprocket engagement and sprocket rotational friction resistance to be 10% (1/0.9 = 1.1), When the power transmission ratio of the drive section is η ,

$kW = \frac{T \times V}{60} \times 1.1 \times \frac{1}{\eta}$

$kW = \frac{T \times V}{102 \times 60} \times 1.1 \times \frac{1}{\eta}$

Table 4: Catenary Load Graph



■ Catenary Load

$T_1 = 1.35 \times M \times L_1 \times \frac{g}{1000}$ ····· kN

1.35 factor in the above formula is worked out as follows:

When catenary sag is 10%, $\delta = 0.10L_1$

Then from the graph

$\frac{\delta}{L_1} = 0.10 \longrightarrow \frac{2T_1}{ML_1} = 2.7 \quad T_1 = 1.35 \times M \times L_1 \times \frac{g}{1000}$

■ Chain Length at Catenary

$\frac{\delta}{L_1} = 0.10 \longrightarrow \frac{S}{L_1} = 1.027$

$S = 1.027L_1$

Table 5: Rolling Friction Factor f_1 Between Chain and Rail

Roller Diameter (mm)	Lubricated		Dry	
	R, F	S, M, N	R, F	S, M, N
D < 65	0.08	0.16	0.15	0.24
65 ≦ D < 100	0.08	0.15	0.14	0.23
100 ≦ D	0.08	0.14	0.13	0.22
RF 214 (exception)	0.12	0.15	0.18	0.22

Note 1. Conditions: Clean and room temperature
2. Lubricant ISO VG100 (SAE30-40)
3. The friction factor f1 between top roller and material conveyed is the same as that of R roller in the above.

Series	f_1	
Plastic Roller Series / Plastic Sleeve Series		0.08 (DRY)
Bearing Roller Series	0.03 (Lubricated)	
Bearing Bush Series	0.14 (Lubricated)	0.21 (DRY)
EPC78	0.1 (Lubricated), 0.2 (Water-Lubricated), 0.25 (Dry)	

Table 6: Sliding Coefficient of Friction f_1 Between Chain and Rail

Temperature of Conveyed Material (°C)	Lubricated	Dry
Room temperature – 400	0.20	0.30
400 – 600	0.30	0.35
600 – 800	0.35	0.40
800 – 1000	–	0.45

Table 7: Coefficient of Friction f_2 Between Material Conveyed and Casing

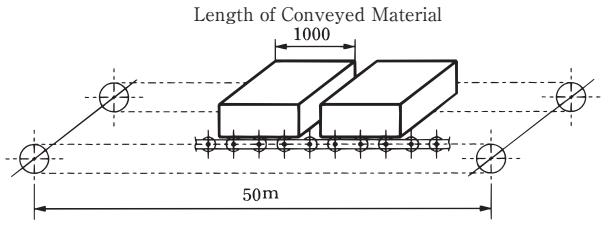
Material	f_2	Apparent Specific Gravity (g/cc)	Material	f_2	Apparent Specific Gravity (g/cc)
Alum	0.63	1.01	Phosphate rock	0.42	1.51
Alumina	0.55	0.83	Pitch	0.41	0.7
Ammonium chloride	0.79	0.67	Polyethylene	0.52	0.34
Asbestos	0.58	0.19	Pyrites	0.58	1.54
Barley	0.71	0.39	Quartz powder	0.55	1.24
Calcium carbonate	0.49	0.88	Quicklime	0.46	1.53
Calcium chloride	0.43	0.68	Red iron ore	0.47	2.99
Carbon	0.53	0.3	Rice	0.4	0.77
Cement	0.54	0.60–0.75	Rock salt	0.57	1.09
Cement clinker	0.46	1.3	Rubber powder	0.53	0.39
Charcoal	0.41	0.44	Scale	0.67	1.54
Chrome powder	0.51	1.14	Scrap	0.73	0.54
Clay	0.63	0.77	Slag	0.48	0.9
Coal		0.30–0.70	Slaked lime	0.63	0.69
Coke		0.35–0.70	Soap material	0.27	0.65
Corn	0.4	0.71	Soda ash	0.45	0.52
Dolomite	0.55	1.62	Soybean	0.41	0.68
Feldspar	0.55	1.36	Starch	0.57	0.71
Foundry sand	0.41	1.59	Sugar	0.47	0.68
Gypsum	0.64	0.77	Sulphurated calcium	0.64	1.01
Lead ore powder	0.77	3.26	Urea	0.63	0.64
Limestone	0.47	0.35–0.55	Wheat	0.43	0.73
Magnesia	0.84	1.48	Wood chips	0.74	0.36
Mixed feed	0.5	0.55			
Nickel ore powder	0.45	0.92			

Note: The above values may change depending on dryness and humidity.

10. Chain Selection Examples

10.1 Bearing Roller Conveyor Chain

1) Conditions



Conveyor Length : 50m　　Conveyed Material : 2000kg/pc × 40pcs
Chain Speed : 10m/min　　No. of Strands : 2
Chain Pitch : 250, F roller, A2 attachment

We will see selection examples for Bearing Roller Conveyor Chain and Standard DT Series Conveyor Chain.

2) Conditions

① Confirm roller load

$$\text{No. of rollers} = \frac{\text{Length of material}}{\text{Chain pitch}} = \frac{1000}{250} = 4$$

4 rollers × 2 strands = 8 rollers

However, as there is an uneven load only four rollers will receive the load.

$$\text{Roller load} = 2000 \times \frac{g}{1000} \times \frac{1}{4} = 4.9\text{kN}\{500\text{kgf}\}/\text{roller}$$

From Table 10, we can select the following Bearing Roller Conveyor Chain:
RF12250BF-1LA2, allowable load 5.49kN{560kgf}
or the following RF Conveyor Chain:
RF26250F-DT-1LA2, allowable load 5.30kN{540kgf}.

② Check allowable loading mass on conveyor

Due to simplified selection, load of conveyor weight and starting impact will not considered in the following procedure.
2000kg × 40pcs/2 strands = 40,000/strand
From the table on the right, RF10 ton type Bearing Roller Conveyor Chain (53300kg) and RF17 ton type RF Conveyor Chain (44600kg) can be selected.
When comparing roller allowable load and allowable loading mass, roller allowable load should be the first consideration in selection. Thus,
Bearing Roller Conveyor Chain = RF12250BF-1LA2
RF Conveyor Chain = RF26250-DT-1LA2

③ Select motor size

$$\text{Motor kW} = \frac{T \times V}{54.5} \times \frac{1}{\eta} = \quad (\eta = 0.85)$$

Bearing Roller Conveyor Chain (f_1 = 0.03)

$$T = 2000\text{kg} \times \frac{g}{1000} \times 40 \times 0.03 = 23.5\text{kN} \quad \{2400\text{kgf}\}$$

$$\text{kW} = \frac{23.5 \times 10}{54.5} \times \frac{1}{0.85} = 5.1\text{kW}$$

Standard Conveyor Chain (f_1 = 0.08)

$$\mathbf{T = 2000kg \times \frac{g}{1000} \times 40 \times 0.08 = 62.8kN} \quad \{6400\text{kgf}\}$$

$$\mathbf{kW = \frac{62.8 \times 10}{54.5} \times \frac{1}{0.85} = 13.6kW}$$

④ Simplified allowable loading mass chart

Values derived using a horizontal conveyor, safety factor 7, and a coefficient of friction (Conveyor chain: 0.08, Bearing roller: 0.03).

Unit: kg/per strand

Chain Size	DT Series Allowable Loading Mass kg	Bearing Roller DT Series Allowable Loading Mass kg
RF 03	5400	14000
RF 05	12500	33300
RF08, 450	14300	36700
RF 10	20500	53300
RF 12	33900	90000
RF 17	44600	116700
RF 26	57100	150000
RF 36	86600	230000
RF 60	91100	–
RF 90	143800	–
RF120	201800	–

10.2 Conveyor Type: Horizontal Slat Conveyor

Conveyed Material : Cardboard boxes　　Slat Mass : 10kg/each
Conveyor Length : 30m　　No. of Strands : 2
Loading Spacing : 1 box/m
Sprocket : 12T　　Box Mass : 100kg/box
Lubrication : Lubricated　　Chain Speed : 15m/min
Chain: Pitch = 100, F Roller chain w/A2 attachment every link
Operating Time : 8hrs/day　　Operating Enviroment : Ambient temp.

1) Required number of links　2) Chain size
3) Drive sprocket torque　4) Required kW

1) No. of links: n

$$n = \left(\frac{23.5 \times 10}{54.5} \times 2 + 12\right) \times 2 = 612 \times 2 = 1224 \text{ links}$$

2) Chain size

30 cardboard boxes will be carried on the conveyor.
Thus, conveyor total loading mass is 100 × 30 = 3000kg, and the coefficient of friction under lubricated conditions from Table 5 is 0.08.

Required power T_1 to convey the cardboard boxes only is

$$T_1 = 3000 \times \frac{g}{1000} \times 0.08 = 2.35\text{kN}$$

$\{T_1 = 3000 \times 0.08 = 240\text{kgf}\}$

Next, with each slat having a mass of 10kg,

$$\text{pitch at 100, slat mass} = 10 \times \frac{1000}{100} = 100\text{kg/m}$$

Required power T_2 to convey slats only

$$T_2 = 2.1 \times 100 \times 30 \times \frac{g}{1000} \times 0.08 = 4.94\text{kN}$$

$\{T_2 = 2.1 \times 100 \times 30 \times 0.08 = 504\text{kgf}\}$

$$T_1 + T_2 = 2.35 + 4.94 = 7.29\text{kN}$$

$\{T_1 + T_2 = 240 + 504 = 744\text{kgf}\}$

Maximum allowable load of RF03100F-DT (2 strands) is 4.20kN x 2 strands = 8.40kN{860kgf} and so can be used.
With RF03100F-DT-1LA2, the required power T_3 to move the chain only is

Chain mass, Mass from att., 2 strands, 2 strands, Pitch 100, Convert to m

$$T_3=2.1\times(2.4\times2+\frac{0.06}{100/1000}\times2)\times30\times\frac{g}{1000}\times0.08=0.30kN$$

$$\{T_3=2.1\times(2.4\times2+\frac{0.06}{100/1000}\times2)\times30\times0.08=30.2kgf\}$$

$$T_{MAX}=T_1+T_2+T_3=2.35+4.94+0.30=7.59kN$$

$$\{T_{MAX}=T_1+T_2+T_3=240+504+30.2=774kgf\}$$

Assuming the load acting on both strands is the same, then corrected chain load T'MAX for one strand

$$T'_{MAX}=7.59/2\text{ strands}\times K_V\times K_T\times K_S=7.59/2\times1.0\times1.0\times1.0=3.80kN$$

Maximum allowable load for one strand of RF03100F–1LA2 is 4.20kN, so

$$T'_{MAX}=3.80kN<4.20kN$$

Both roller allowable load and attachment allowable load satisfy the values in Tables 10 and 11, so RF03100F-DT-1LA2 can be used.

3) Drive sprocket torque: Tr

The pitch circle diameter of a sprocket with pitch=100, N=12T is ϕ386.4

$$Tr=7.59\times386.4\times\frac{1}{2}\times\frac{1}{1000}=1.47kN\cdot m$$

$$\{Tr=774\times386.4\times\frac{1}{2}\times\frac{1}{1000}=149.5kgf\cdot m\}$$

4) Required kW

$$kW=\frac{7.95\times15}{60}\times1.1\times\frac{1}{0.85}=2.46kW$$

$$\{kW=\frac{774}{102}\times\frac{15}{60}\times1.1\times\frac{1}{0.85}=2.46kW\}$$

10.3 Conveyor Type: Continuous Vertical Bucket Elevator

Lift Distance : 30m
Chain : Pitch = 250, GA4 att. every 2 links
(S roller bucket elevators)
Conveyor Capacity : 100t/h **Chain Speed** : 20m/min
Bucket Mass : 25kg/each
Sprocket : N = 12T **Lubrication** : None
Operating Environment : Ambient temp.
Operating Time : 8 hrs/day

1) Required number of links 2) Chain size
3) Drive sprocket torque 4) Required kW

1) Required number of links: n

$$n=(\frac{30000}{250}\times2+12)\times2=252\times2=504\text{ links}$$

2) Chain size

① Load T_1 of conveyed material only

$$T_1=16.7\times\frac{100}{28}\times(30+1)\times\frac{g}{1000}=18.1kN$$

$$\{T_1=16.7\times\frac{100}{28}\times(30+1)=1849kgf\}$$

② Load T_2 of bucket only

With a chain pitch of 250 and buckets attached every two links, bucket mass is 25kg×2=50kg/m.

$$T_2=50\times\frac{g}{1000}\times(30+1)=15.2kN$$

$$\{T_2=50\times(30+1)=1550kgf\}$$

③ $T_1+T_2=18.1+15.2=33.3kN$

$$\{T_1+T_2=1849+1550=3399kgf\}$$

We tentatively select B17250S (maximum allowable load: 35kN) as a chain that can satisfy the maximum allowable load requirements with two strands. The mass of B17250S with a GA4 attachment every two links is 15kg/m.

2 strands

$$T_3=15\times2\times(30+1)\times\frac{g}{1000}=9.12kN$$

$$\{T_3=15\times2\times(30+1)=930kgf\}$$

④ Assuming the offset load of conveyed material on the right and left hand chains is 6:4, chain load T_{MAX} for one strand of chain is

$$18.1\times0.6+\frac{15.2}{2}+\frac{9.12}{2}=23.0kN$$

$$\{1849\times0.6+\frac{1550}{2}+\frac{930}{2}=2349kgf\}$$

We include a 1.5 leeway in light of wear life in unlubricated conditions.

Corrected chain load $T'_{MAX}=23.0\times K_V\times K_T\times K_S\times1.5$

$$=23.0\times1.0\times1.0\times1.0\times1.5=34.5kN$$

$$\{T'_{MAX}=2349\times1.0\times1.0\times1.0\times1.5=3524kgf\}$$

From the above, B17250S–CT–2LGA4 can be used.

Note: The offset load between two strands of chain differs depending on conveyance conditions. Use a value that corresponds to actual usage conditions.

3) Drive sprocket torque: Tr

With a vertical bucket elevator, the mass of the chain and bucket are counterbalanced. Thus, load related to torque and kW is only load T_1 from the conveyed material.

Pitch circle diameter when pitch=250, N=12T is ϕ965.9, so

$$Tr=18.1\times965.9\times\frac{1}{2}\times\frac{1}{1000}=8.74kN\cdot m$$

$$\{Tr=1849\times965.9\times\frac{1}{2}\times\frac{1}{1000}=893kgf\cdot m\}$$

4) Required kW

$$kW=\frac{18.1\times28}{54.5}\times\frac{1}{0.85}=10.9kW$$

$$\{kW=\frac{1849\times28}{5565}\times\frac{1}{0.85}=10.9kW\}$$

11. Decide Chain Size

Divide the load (T_{MAX}) acting on the chain as found in Table 3 by the number of strands, multiply this by the chain speed and temperature factors and the operating time factor to find correct chain load T'_{MAX}. Select a chain with a maximum allowable load that satisfies this value. (Maximum allowable load value is a chain's strength as calculated from Tsubaki design standards.)

Chain Load T_{MAX}: kN(kgf)	×	$\frac{1}{\text{No. of Strands}}$	×	Speed Factor (Kv) (Table 8)	×	Temp. Factor (K_T) (Table 9)	×	Operating Time Factor (Ks) (Table 10)	≦	Max. Allowable Load kN(kgf)

1) When there are any regulations, guidelines, etc. affecting chain selection, select using that method and the allowable load selection method and choose the chain with more leeway.
2) When a conveyor consists of multiple strands of chain, correct the number of strands in the above formula to allow for uneven loading of the chain.
3) In the following applications, chain life will be greatly reduced. Determine the chain referring to page 159.
   1. Short distance conveyance of heavy loads
   2. Exposure of chain to abrasive, adhesive, and corrosive material
   3. High temperature/humidity environments
   4. No lubrication
4) Of the above considerations, when using a chain without lubrication be sure to include a leeway of 1.3 to 1.5 in light of wear life.

Table 8: Chain Speed Factor Kv

Your criteria should be suitable operating conditions (clean with good lubrication).

Chain Speed m/min	Speed Factor Kv
20 (inclusive)	1.00
20 to 30 (incl.)	1.05
30 to 40 (incl.)	1.15
40 to 50 (incl.)	1.30
50 to 60 (incl.)	1.45

Table 9: Chain Temperature Factor K_T

Chain Temperature °C	Temperature Factor K_T		
	DT・DTA	AT・ATA	GS・GSA SS・SSA
100 (inclusive)	1.00	1.00	1.00
100 to 200 (incl.)	1.25	1.20	1.00
200 to 300 (incl.)	—	1.35*	1.10
300 to 400 (incl.)	—	1.50*	1.15*

*See page 15 for chain operating temperature.

Chain life will remarkably shorten when using chain in high temperatures at high speeds. Contact a Tsubaki representative when using outside these parameters.
Contact a Tsubaki representative when Kv x KT is 1.5x DT, DTA, AT, and ATA values.
Contact a Tsubaki representative when Kv x KT is 1.2x GS, GSA, SS, SSA values.

Table 10: Operating Time Factor Ks

Operating Time h/day	Ks
Less than 10 hours	1.0
10 to 24 hours	1.2

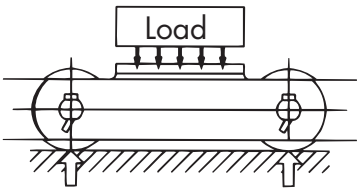
12. Roller Allowable Load under Lubricated Conditions

Allowable load per roller under lubricated conditions in loading type conveyors is as per Table 11. When using A attachments, the smaller allowable load should be used. You will need a guide rail with a tensile strength of at least 400Nmm{41kgf/mm^2}. Check the roller load when corner rails are used as well. Service life will drop appreciably when the chain is used without lubrication.

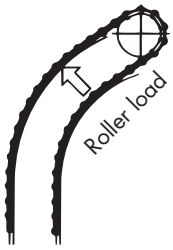
Table 11: Roller Allowable Load When Lubricated

Unit: kN{kgf}/each

Chain size	DT	DTA	AT	ATA	GS	GSA	SS	SSA	Bearing Bush
	R and F rollers								R roller
RF03	0.54 {55.0}	0.88 {90.0}	0.88 {90.0}	—	0.54 {55.0}	0.70 {70.0}	0.27 {30.0}	0.35 {35.0}	0.54 {55.0}
RF05	1.03 {105}	1.72 {175}	1.72 {175}	—	1.03 {105}	1.34 {135}	0.52 {55.0}	0.67 {70.0}	1.03 {105}
RF08	1.27 {130}	2.11 {215}	2.11 {215}	2.53 {260}	1.27 {130}	1.65 {170}	0.64 {65.0}	0.83 {85.0}	—
RF10	1.77 {180}	2.94 {300}	2.94 {300}	3.53 {360}	1.77 {180}	2.30 {235}	0.89 {90.0}	1.15 {115}	1.77 {180}
RF12	2.50 {255}	4.17 {425}	4.17 {425}	5.00 {510}	2.50 {255}	3.25 {330}	1.25 {125}	1.63 {165}	2.50 {255}
RF17	4.02 {410}	6.67 {680}	6.67 {680}	8.04 {820}	4.02 {410}	5.23 {535}	2.01 {205}	2.61 {265}	4.02 {410}
RF26	5.30 {540}	8.83 {900}	8.83 {900}	10.6 {1080}	5.30 {540}	6.89 {705}	2.65 {270}	3.45 {350}	5.30 {540}
RF36	7.45 {760}	12.4 {1260}	12.4 {1260}	14.9 {1520}	—	—	—	—	7.54 {760}
RF52	9.81 {1000}	—	16.6 {1690}	—	—	—	—	—	—
RF60	10.8 {1100}	—	18.1 {1850}	—	—	—	—	—	—
RF90	15.2 {1550}	—	25.5 {2600}	—	—	—	—	—	—
RF120	19.6 {2000}	—	33.3 {3400}	—	—	—	—	—	—
RF430	0.93 {95.0}	—	1.57 {160}	—	0.93 {95.0}	—	0.47 {45.0}	—	—
RF204	—	—	—	—	—	—	—	—	—
RF450	1.27 {130}	—	2.11 {215}	—	1.27 {130}	—	0.64 {65.0}	—	—
RF650	1.42 {145}	—	2.35 {240}	—	1.42 {145}	—	0.71 {72.0}	—	—
RF214	2.11 {215}	—	3.58 {356}	—	2.11 {215}	—	1.06 {110}	—	—
RF205	—	—	—	—	—	—	—	—	—
RF6025	2.50 {255}	—	4.17 {425}	—	2.50 {255}	—	1.25 {125}	—	—
RF212	2.89 {295}	—	4.85 {495}	—	2.89 {295}	—	1.45 {145}	—	—

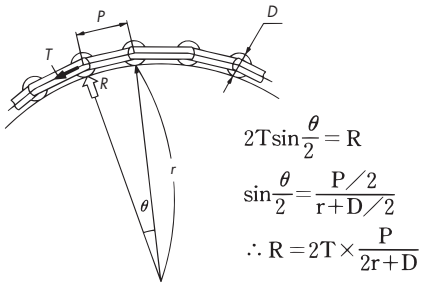


Roller allowable load



Corner rail

Reaction Force of Rail (R)



$$2T\sin\frac{\theta}{2}=R$$

$$\sin\frac{\theta}{2}=\frac{P/2}{r+D/2}$$

$$\therefore R=2T\times\frac{P}{2r+D}$$

Table 11: Roller Allowable Load When Lubricated

Unit: kN{kgf}/each

Chain size	Bearing Roller Conveyor Chain (standard, anti-dust, lube-free, completely lube-free)		Bearing Roller Conveyor Chain (water resistant)		DT	AT	GS	GSA	SS	SSA
	R roller	F roller	R roller	F roller	S, M, and N rollers					
RF03	1.96 {200}	1.27 {130}	1.96 {200}	1.27 {130}	0.54 {55.0}	0.54 {55.0}	0.32 {90.0}	0.32 {90.0}	0.16 {17.0}	0.16 {17.0}
RF05	3.04 {310}	1.96 {200}	3.04 {310}	1.96 {200}	1.03 {105}	1.03 {105}	0.62 {65.0}	0.62 {65.0}	0.31 {32.0}	0.31 {32.0}
RF08	4.12 {420}	2.65 {270}	4.12 {420}	2.65 {270}	1.27 {130}	1.27 {130}	0.76 {80.0}	0.76 {80.0}	0.38 {40.0}	0.38 {40.0}
RF10	5.49 {560}	3.43 {350}	5.49 {560}	3.43 {350}	1.77 {180}	1.77 {180}	1.06 {110}	1.06 {110}	0.53 {55.0}	0.53 {55.0}
RF12	8.34 {850}	5.49 {560}	8.34 {850}	5.49 {560}	2.50 {255}	2.50 {255}	1.50 {155}	1.50 {155}	0.75 {75.0}	0.75 {75.0}
RF17	14.1 {1440}	9.81 {1000}	14.1 {1440}	9.81 {1000}	4.02 {410}	4.02 {410}	2.41 {245}	2.41 {245}	1.21 {125}	1.21 {125}
RF26	19.6 {2000}	13.7 {1400}	19.6 {2000}	13.7 {1400}	5.30 {540}	5.30 {540}	3.81 {325}	3.81 {325}	1.59 {160}	1.59 {160}
RF36	27.5 {2800}	18.6 {1900}	27.5 {2800}	18.6 {1900}	7.45 {760}	7.45 {760}	—	—	—	—
RF52	—	—	—	—	9.81 {1000}	9.81 {1000}	—	—	—	—
RF60	—	—	—	—	10.8 {1100}	10.8 {1100}	—	—	—	—
RF90	—	—	—	—	15.2 {1550}	15.2 {1550}	—	—	—	—
RF120	—	—	—	—	19.6 {2000}	19.6 {2000}	—	—	—	—
RF430	—	—	—	—	0.93 {95.0}	0.93 {95.0}	0.56 {60.0}	—	0.28 {30.0}	—
RF204	—	—	—	—	1.27 {130}	1.27 {130}	0.76 {80.0}	—	0.38 {40.0}	—
RF450	—	—	—	—	1.27 {130}	1.27 {130}	0.76 {80.0}	—	0.38 {40.0}	—
RF650	—	—	—	—	1.42 {145}	1.42 {145}	0.85 {85.0}	—	0.43 {45.0}	—
RF214	—	—	—	—	2.11 {215}	2.11 {215}	1.27 {130}	—	0.63 {65.0}	—
RF205	—	—	—	—	2.50 {255}	2.50 {255}	1.50 {155}	—	0.75 {75.0}	—
RF6025	—	—	—	—	2.50 {255}	2.50 {255}	1.50 {155}	—	0.75 {75.0}	—
RF212	—	—	—	—	2.89 {295}	2.89 {295}	1.73 {175}	—	0.87 {90.0}	—

13. Allowable Load for Standard A Attachments

Allowable vertical load (generated by conveyed items or slat mass) for A attachments is as per Table 12. Where the load works with the roller, allowable roller load should be contrasted to that of the attachment, and the smaller value used.
Note: K attachments have twice the allowable load of A attachments.

Table 12: A Attachment Allowable Load

Chain size	Pitch	R, S, M and N rollers							
		DT	DTA	AT	ATA	GS	GSA	SS	SSA
RF03	75	0.89 {90.0}	0.89 {90.0}	1.39 {140}		1.36 {140}	1.36 {140}	0.93 {95.0}	0.93 {95.0}
	100	1.05 {105}	1.05 {105}	1.65 {170}		1.61 {165}	1.61 {165}	1.10 {105}	1.10 {105}
RF05	75	1.19 {120}	1.19 {120}	1.87 {190}		1.83 {185}	1.83 {185}	1.26 {130}	1.26 {130}
	100	1.41 {145}	1.41 {145}	2.21 {225}		2.16 {220}	2.16 {220}	1.48 {150}	1.48 {150}
	125	1.62 {165}	1.62 {165}	2.55 {260}	—	2.49 {255}	2.49 {255}	1.71 {175}	1.71 {175}
	150	1.84 {185}	1.84 {185}	2.89 {295}		2.83 {290}	2.83 {290}	1.94 {200}	1.94 {200}
RF08	125	2.68 {275}	2.68 {275}	4.23 {430}	6.05 {615}	4.13 {420}	4.13 {420}	2.60 {265}	2.60 {265}
	150	3.02 {310}	3.02 {310}	4.75 {485}	6.80 {695}	4.64 {475}	4.64 {475}	2.92 {300}	2.92 {300}
RF10	100	2.21 {225}	2.21 {225}	3.48 {355}	4.98 {510}	3.40 {350}	3.40 {350}	2.14 {220}	2.14 {220}
	125	2.53 {260}	2.53 {260}	3.98 {405}	5.69 {580}	3.88 {395}	3.88 {395}	2.45 {250}	2.45 {250}
	150	2.84 {290}	2.84 {290}	4.47 {455}	6.40 {655}	4.37 {445}	4.37 {445}	2.75 {280}	2.75 {280}
RF12	200	4.54 {465}	4.54 {465}	7.14 {730}	10.2 {1040}	6.98 {715}	6.98 {715}	4.89 {500}	4.89 {500}
	250	6.43 {655}	6.43 {655}	10.1 {1030}	14.5 {1480}	9.88 {1010}	9.88 {1010}	6.93 {705}	6.93 {705}
RF17	200	5.18 {530}	5.18 {530}	8.16 {830}	11.7 {1190}	7.97 {815}	7.97 {815}	5.98 {610}	5.98 {610}
	250	7.34 {750}	7.34 {750}	11.6 {1180}	16.5 {1690}	11.3 {1120}	11.3 {1120}	8.47 {865}	8.47 {865}
	300	9.50 {970}	9.50 {970}	15.0 {1530}	21.4 {2180}	14.6 {1490}	14.6 {1490}	11.0 {1120}	11.0 {1120}
RF26	200	4.85 {495}	4.85 {495}	7.63 {780}	10.9 {1110}	7.45 {760}	7.45 {760}	5.59 {570}	5.59 {570}
	250	6.87 {700}	6.87 {700}	10.8 {1100}	15.5 {1580}	10.6 {1080}	10.6 {1080}	7.92 {805}	7.92 {805}
	300	8.89 {905}	8.89 {905}	14.0 {1430}	20.0 {2040}	13.7 {1400}	13.7 {1400}	10.2 {1040}	10.2 {1040}
	450	8.34 {850}	8.34 {850}	8.34 {850}	8.34 {850}	—	—	—	—
RF36	300	4.22 {430}	4.22 {430}	4.22 {430}	4.22 {430}	—	—	—	—
	450	8.70 {885}	8.70 {885}	8.70 {885}	8.70 {885}	—	—	—	—
	600	10.8 {1100}	10.8 {1100}	10.8 {1100}	10.8 {1100}	—	—	—	—
RF52	300	5.89 {600}	—	5.89 {600}	—	—	—	—	—
	450	12.1 {1240}	—	12.1 {1240}	—	—	—	—	—
	600	15.1 {1540}	—	15.1 {1540}	—	—	—	—	—
RF60	300	6.86 {700}	—	6.86 {700}	—	—	—	—	—
	350	8.88 {905}	—	8.88 {905}	—	—	—	—	—
	400	10.5 {1070}	—	10.5 {1070}	—	—	—	—	—
RF90	350	8.14 {830}	—	8.14 {830}	—	—	—	—	—
	400	10.4 {1060}	—	10.4 {1060}	—	—	—	—	—
	500	15.4 {1570}	—	15.4 {1570}	—	—	—	—	—
RF120	400	7.91 {805}	—	7.91 {805}	—	—	—	—	—
	600	15.8 {1610}	—	15.8 {1610}	—	—	—	—	—
RF430		1.62 {165}	—	2.55 {260}	—	2.49 {255}	2.49 {255}	1.71 {175}	1.71 {175}
RF204	A1	1.17 {120}	—	1.85 {185}	—	1.81 {185}	1.81 {185}	1.14 {115}	1.14 {115}
	A2	1.85 {190}	—	2.91 {295}	—	2.84 {290}	2.84 {290}	1.79 {180}	1.79 {180}
RF450		2.35 {240}	—	3.70 {375}	—	3.61 {370}	3.61 {370}	2.27 {230}	2.27 {230}
RF650		2.83 {290}	—	4.46 {455}	—	4.35 {445}	4.35 {445}	2.74 {280}	2.74 {280}
RF214		3.58 {365}	—	5.63 {575}	—	5.50 {565}	5.50 {565}	3.86 {395}	3.86 {395}
RF205		2.65 {270}	—	4.17 {425}	—	4.07 {415}	4.07 {415}	2.86 {290}	2.86 {290}
RF6205		4.07 {415}	—	6.41 {655}	—	6.26 {640}	6.26 {640}	4.40 {450}	4.40 {450}
RF212		5.23 {535}	—	8.23 {840}	—	8.04 {825}	8.04 {825}	6.03 {615}	6.03 {615}

Chain size	Pitch	F roller							
		DT	DTA	AT	ATA	GS	GSA	SS	SSA
RF03	75	0.75 {75.0}	0.75 {75.0}	1.19 {120}		1.16 {120}	1.16 {120}	0.80 {80.0}	0.80 {80.0}
	100	0.89 {90.0}	0.89 {90.0}	1.40 {145}		1.37 {140}	1.37 {140}	0.94 {95.0}	0.94 {95.0}
RF05	75	1.02 {105}	1.02 {105}	1.61 {165}		1.58 {160}	1.58 {160}	1.08 {110}	1.08 {110}
	100	1.21 {125}	1.21 {125}	1.91 {195}		1.86 {190}	1.86 {190}	1.28 {130}	1.28 {130}
	125	1.40 {145}	1.40 {145}	2.20 {225}		2.15 {220}	2.15 {220}	1.48 {150}	1.48 {150}
	150	1.58 {160}	1.58 {160}	2.49 {255}		2.43 {250}	2.43 {250}	1.67 {170}	1.67 {170}
RF08	125	2.40 {245}	2.40 {245}	3.78 {385}	5.41 {550}	3.69 {380}	3.69 {380}	2.33 {235}	2.33 {235}
	150	2.70 {275}	2.70 {275}	4.26 {435}	6.09 {620}	4.16 {425}	4.16 {425}	2.62 {265}	2.62 {265}
RF10	100	1.95 {200}	1.95 {200}	3.07 {315}	4.39 {450}	3.00 {305}	3.00 {305}	1.89 {190}	1.89 {190}
	125	2.23 {225}	2.23 {225}	3.51 {360}	5.02 {510}	3.43 {350}	3.43 {350}	2.16 {220}	2.16 {220}
	150	2.51 {255}	2.51 {255}	3.95 {405}	5.65 {575}	3.85 {395}	3.85 {395}	2.43 {245}	2.43 {245}
RF12	200	4.04 {410}	4.04 {410}	6.36 {650}	9.09 {925}	6.21 {635}	6.21 {635}	4.35 {445}	4.35 {445}
	250	5.72 {580}	5.72 {580}	9.00 {920}	12.9 {1310}	8.79 {900}	8.79 {900}	6.17 {630}	6.17 {630}
RF17	200	4.74 {485}	4.74 {485}	7.47 {760}	10.7 {1090}	7.29 {745}	7.29 {745}	5.47 {560}	5.47 {560}
	250	6.72 {685}	6.72 {685}	10.6 {1080}	15.1 {1540}	10.3 {1060}	10.3 {1060}	7.75 {790}	7.75 {790}
	300	8.70 {885}	8.70 {885}	13.7 {1400}	19.6 {2000}	13.4 {1370}	13.4 {1370}	10.0 {1020}	10.0 {1020}
RF26	200	4.35 {445}	4.35 {445}	6.84 {700}	9.80 {1000}	6.68 {685}	6.68 {685}	5.01 {510}	5.01 {510}
	250	6.16 {630}	6.16 {630}	9.69 {990}	13.9 {1410}	9.46 {970}	9.46 {970}	7.10 {725}	7.10 {725}
	300	7.97 {815}	7.97 {815}	12.5 {1280}	17.9 {1830}	12.2 {1250}	12.2 {1250}	9.19 {935}	9.19 {935}
	450	7.61 {775}	7.61 {775}	7.61 {775}	7.61 {775}	—	—	—	—
RF36	300	3.95 {405}	3.95 {405}	3.95 {405}	3.95 {405}	—	—	—	—
	450	8.15 {830}	8.15 {830}	8.15 {830}	8.15 {830}	—	—	—	—
	600	10.1 {1030}	10.1 {1030}	10.1 {1030}	10.1 {1030}	—	—	—	—
RF52	300	5.49 {560}	—	5.49 {560}	—	—	—	—	—
	450	11.3 {1155}	—	11.3 {1155}	—	—	—	—	—
	600	14.1 {1430}	—	14.1 {1430}	—	—	—	—	—
RF60	300	6.39 {650}	—	6.39 {650}	—	—	—	—	—
	350	8.28 {845}	—	8.28 {845}	—	—	—	—	—
	400	9.78 {995}	—	9.78 {995}	—	—	—	—	—
RF90	350	7.44 {760}	—	7.44 {760}	—	—	—	—	—
	400	9.51 {970}	—	9.51 {970}	—	—	—	—	—
	500	14.1 {1430}	—	14.1 {1430}	—	—	—	—	—
RF120	400	7.23 {735}	—	7.23 {735}	—	—	—	—	—
	600	14.5 {1470}	—	14.5 {1470}	—	—	—	—	—
RF430		—	—	—	—	—	—	—	—
RF204	A1	—	—	—	—	—	—	—	—
	A2	—	—	—	—	—	—	—	—
RF450		2.06 {210}	—	3.25 {325}	—	3.17 {325}	—	2.00 {205}	—
RF650		2.47 {250}	—	3.89 {390}	—	3.80 {390}	—	2.39 {245}	—
RF214		—	—	—	—	—	—	—	—
RF205		—	—	—	—	—	—	—	—
RF6205		3.68 {375}	—	5.79 {580}	—	5.65 {580}	—	3.97 {405}	—
RF212		—	—	—	—	—	—	—	—

14. Considerations for Special Environments

"Special environments" are anything but ambient temperatures and clean conditions: e.g. low/high temperatures, humidity, dust, and chemical reactive environments. Conveyor chains are often used in these types of complex conditions, so it is vital that chains with just the right combination of part materials are selected to ensure a long service life.

14.1 Low Temperatures

When chain is used in freezers and cold regions, the following should be considered.

1) Low temperature brittleness of material

In general materials become brittle at low temperatures, and their impact strength drops. The amount of drop varies with the material. Usage limits with this in mind can be found in Table 13 below.

Table 13: Applicable Lowest Temperature

Conveyor Chain	Lowest Temperature (°C)
DT, DTA, and ATA Series	– 20
AT Series	– 60 *
GS and GSA Series	– 70 *
SS and SSA Series	– 100 *

*Contact a Tsubaki representative regarding use under -20°C.

2) Poor Articulation and Poor Roller Rotation from Freezing

Using chain at low temperatures will allow water to infiltrate between pin-bush, plate-plate, and roller-bush to freeze, or for condensation to form, resulting in poor chain articulation, poor roller rotation, and chain-rail freezing. This will put an excessive load on the chain and drive equipment. Freezing should be avoided by generally filling gaps between parts with a lube that will not freeze at the operating temperature. A silicon grease is recommended for this purpose.

14.2 High Temperatures (Over 400ºC)

The strength of the chain decreases as the temperature of the chain increases from the heat of the material conveyed or the environment. Usage limits for each chain are determined by the temperature of the chain and material. For the Safety Factor at temperatures up to 400ºC, please refer to Table 8, and for over 400ºC, please contact a Tsubaki representative.

1) Points Concerning Hot Chain

① Friction factor increases more than usual.
② There is a possibility of heat fatigue when different materials have been welded, due to the difference in heat expansion coefficients.
③ In environments over 400°C, heat expansion and clearance must be considered.
④ Creep breakage
⑤ High temperature brittleness
⑥ Carbide precipitation brittleness
⑦ Repeated thermal shock (cooling and expansion)

2) Points Concerning Lubricant

Silicon, graphite, and molybedenum disulphide lubes have superior heat resistance.

14.3 Abrasiveness

Points concerning abrasive conditions

1) Select a conveyor that will not allow highly abrasive material to fall onto the chain. Install a cover.
2) Select the adequate conveyor type when exposing chain to abrasive material.
3) Slow down chain speed as much as possible.
4) Increase the chain size to reduce pin-bush bearing pressure.
5) Lubricate using a grease nipple.
(Please contact a Tsubaki representative.)

14.4 Corrosiveness

When chain is exposed to corrosive material:

1) Chain parts get thinner.
2) Wear from corrosion accelerates wear in general.
3) Special considerations should be made for stress corrosion and intergranular corrosion when chains are used in acidic or alkaline environments.

Refer to Table 14 for the corrosion resistance of chain material to various kinds of solvents. GS and GSA Series (SUS400 Series) parts can rust depending on conditions. Specifications against stress corrosion are available. Please inform your Tsubaki representative of the material used for accessories and related equipment (e.g. rails, tanks, etc.).

Table 14: Corrosion Resistance to Various Kinds of Solvent

When selecting your chain, please check whether or not the material is fully corrosion resistant by referring to this table. This table shows properties of material at 20℃ and is only to be taken as a guide. To determine final specifications of the chain, please consider all conditions together.

○ : Resistant × : Not resistant
△ : Resistant depending upon conditions – : Unknown

Solvent	Steel	SUS 400 Stainless Steel	SUS 300 Stainless Steel
Acetic Acid 10%	×	○	○
Acetone	–	○	○
Alcohol Methyl-, Ethyl-, Propyl-, Butyl	○	○	○
Ammonia Gas (Cold)	–	–	–
Ammonia Gas (Hot)	–	–	–
Ammonia Water	△	○	○
Beer	×	○	○
Benzene	○	○	○
Boric Acid 5%	×	○	○
Butyric Acid 20°C	–	○	○
Calcium Hydroxide 20% Boil	–	○	○
Calcium Hypochlorite	×	×	○
Carbolic Acid 20°C	–	○	○
Carbon Tetrachloride (Dry) 20°C	×	○	○
Carbon Tetrachloride (Water Cont. 1%) Boil	–	–	–
Carbonated Water	×	○	○
Caustic Soda 25%	–	○	○
Chlorine Gas (Wet) 20°C	×	×	×
Citric Acid 50%	×	○	○
Formaldehyde	○	○	○
Formic Acid 50%	×	○	○
Gasoline	○	○	○
Glycerin 20°C	○	○	○
Hydorogen Peroxide 30%	–	△	○
Hydrochloric Acid (2%)	×	×	×
Iodine	–	–	–
Kerosene	○	○	○
Lactic Acid 10% 20°C	×	△	○
Milk	×	○	○
Nitric Acid 5%	×	△	○
Oil (Vegetable, Mineral)	○	○	○
Oxalic Acid 10% 20°C	×	△	○
Paraffin	○	○	○
Petroleum 20°C	○	○	○
Phosphoric Acid 10%	×	△	△
Potassium Permanganic Acid (Saturation) 20%	–	○	○
Sea Water	×	×	△
Soap Solution	×	○	○
Sodium Bicarbonate 20°C	–	○	○
Sodium Carbonate (Saturation) Boiling Point	–	○	○
Sodium Chloride	×	△	○
Sodium Hypochlorite 10%	×	×	×
Sodium Sulfate Saturation 20°C	–	○	○
Soft Drinks	×	○	○
Sulphuric Acid 5%	×	×	×
Sulphurous Acid Gas (Dry) 20°C	–	–	–
Sulphurous Acid Gas (Wet) 20°C	×	×	○
Tartaric Acid 10% 20°C	×	○	○
Vegetable Juice	×	○	○
Vinegar	×	×	△
Water	×	○	○
Whiskey	×	○	○
Wine	×	○	○

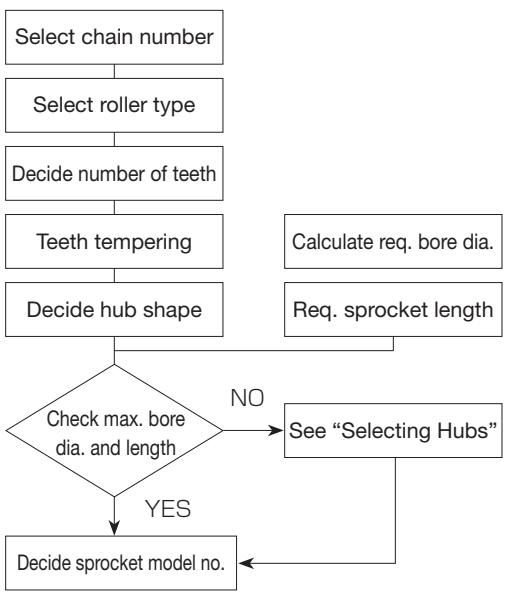
15. Clean Specifications

Class	For	Cleanliness	Application	Anti-rust Oil	Packaging
Class 1	All stainless steel parts (SUS300)	No extraneous matter (oil, grime, scale) or burrs, wiped with a clean cloth to remove dirt.	Pharmaceuticals or other materials come in direct contact with chain	No	Wrapped in a sheet, boxed in heavy duty paper and plastic
Class 2	All stainless steel parts (SUS 400 or SUS400/300 mix)	No extraneous matter (oil, grime, scale) or burrs.			Anti-atmospheric rust agent added to packaging. Boxed in heavy duty paper and plastic.
Class 3	Some or all parts regular steel	After assembly, chain is wiped of oil and cleaned to remove oil and grime. Scale still remains.			

• Oil may be present on the chain from the manufacturing process. Contact a Tsubaki representative regarding other clean specifications not shown above.
• Material surfaces are generally black (film), but some reddish scale may be evident on some chain models. Contact a Tsubaki representative regarding long-term storage.

16. Sprocket Selection

Select a sprocket model using the following steps. The maximum bore diameter and length of standard sprockets strike the proper strength balance with AT Series chain, and are set to efficient dimensions. Please contact a Tsubaki representative should a larger or smaller hub be required.



Handling Conveyor Chain

1. Installation

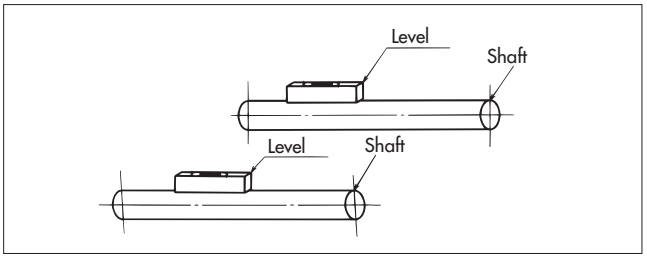
Proper attachment of the sprocket has a major influence on smooth conveyance and will affect chain life as well. Follow the instructions below for proper sprocket attachment.

1.1 Attaching the Sprocket

1.1.1 Find the levelness of the shaft using a level.

Adjust precision to within ±1/300.

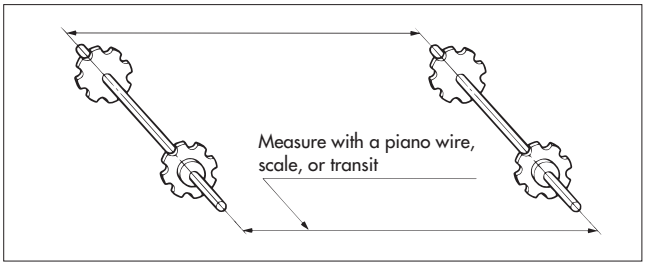
Dia. 1 Measuring shaft parallelism



1.1.2 Find the levelness of the shaft.

Use a scale to adjust the levelness of the shaft to ±1mm.

Dia. 2 Measuring shaft parallelism



1.1.3 Correct the difference in sprockets.

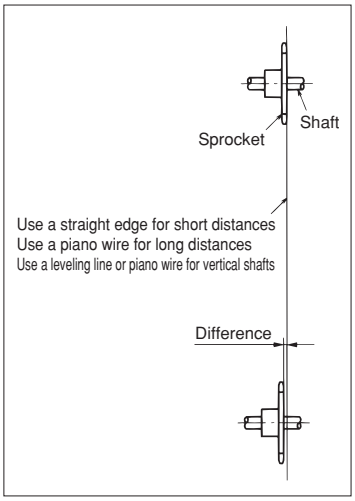
Distance between shafts
up to 1m:
±1mm

Distance between shafts
from 1m–10m:

$$\pm \frac{\text{Distance between shafts (mm)}}{1000}$$

Distance between shafts
over 10m:
±10mm

Dia. 3 Measuring sprocket difference



1.1.4 Attaching sprockets

Attach the properly installed sprocket to the shaft with a key. Sprockets used in parallel strands should be fixed so that two teeth above the shaft center are in phase. Tsubaki can also supply keyless locking sprockets.

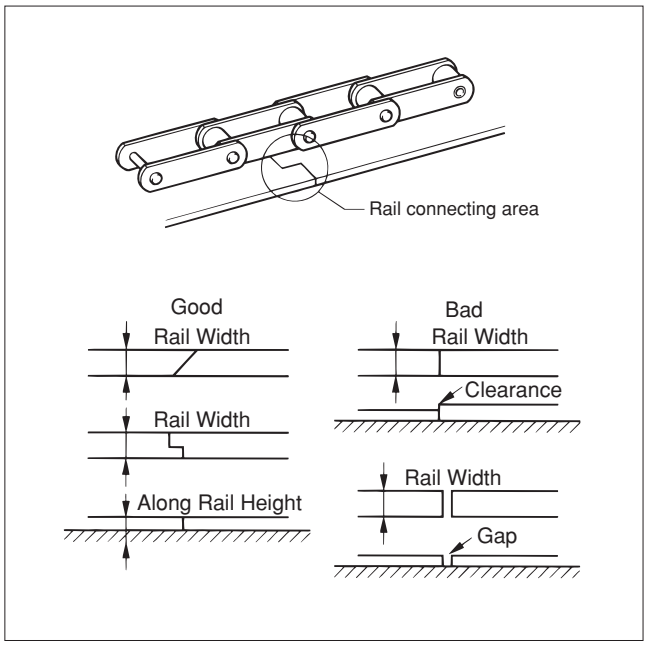
1.2 Rails for Conveyor Chains

1) Rail connecting areas should be smooth and free of any edges, clearances, or gaps. (See diagram below.)

2) Remove any welding spatter or scales.

3) Test operation with a lubed chain with no load, and check condition of chain and rail.

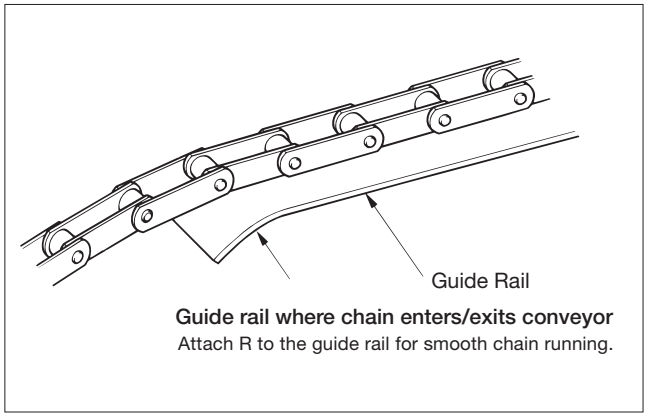
Rail connecting area



4) Chain enter/exit point

Ensure there is a curve to the guide rail for smooth chain running.

Guide rail where chain enters/exits conveyor



Guide rail where chain enters/exits conveyor
Attach R to the guide rail for smooth chain running.

2. Connection/Disconnection

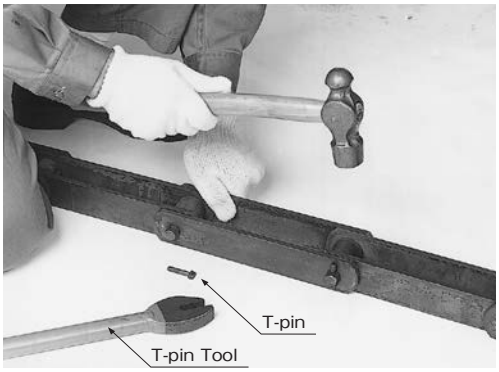
(1) When connecting or disconnecting the chain, always begin by attaching or removing the outer plate on the T-pin side.
(2) Loosen the take-up so that there is no tension on the chain.

> ⚠ **Caution on Handling**
> Whether the conveyor is parallel, slanted, or vertical, always attach a chain block or piano wire to the area to be connected/disconnected to ensure there is no tension on the chain.

2.1 Disconnecting Chain

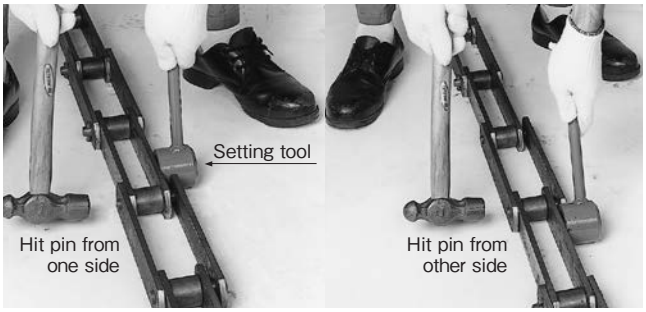
1) Remove the T-pin

Use a T-pin tool or monkey wrench to bend the T-pin straight before removal. Always use a new T-pin—never reuse straightened T-pins.



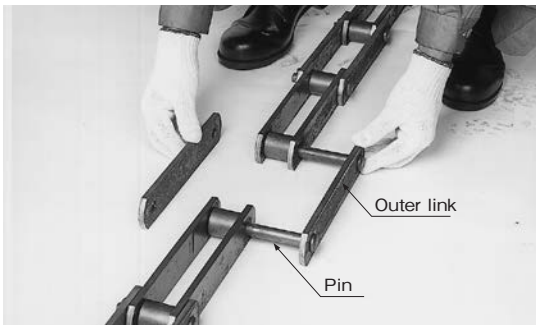
2) Alternate Hitting Two Pins

Place a holding tool against the inner link and hit the pin with a hammer to remove as shown in the photo below.



3) Remove the Outer Link

Remove the outer plate along with the two pins as shown in the photo below.



4) Specialty Tools

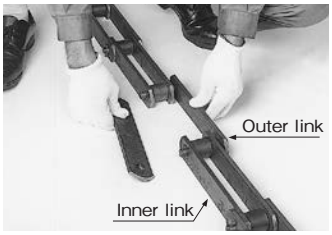
Pins can be safely and quickly inserted and removed without affecting chain performance by using a chain breaker. The photos below show a chain being disconnected using specialty tools.

2.2 Connecting Chain

1) Preparation

With a new chain, remove the outer plate on the outer link on the T-pin side. Refer to the previous section for pin removal.

> ⚠ **Caution:** Widening the plate holes or narrowing the pin diameter to make pin insertion or removal easier will lead to dramatic loss of chain performance and accidents.



2) Connecting Two Strands of Chain

Draw the two ends together and connect with outer plates.

3) Pin Insertion

Hold the concave portion of a pin tool against the pin on the T-pin side. Hit pin head with a hammer until the pin pokes out through the T-pin hole on the outer plate. The pin can be inserted easily by using a chain breaker. Check the chain at this point to ensure that it articulates smoothly.

4) Bend the T-pin

Insert the T-pin into the pin and bend the tip 30 degrees or more with a T-pin tool or monkey wrench so that it will not come out.

Once a T-pin is used, bending it back will result in cracking. Do not reuse T-pins.

3. Test Operation

Perform a test operation after attaching the chain and before actual operation. Use the following checkpoints as a guide.

3.1 Before Beginning Test Operation

1) Is the T-pin on the connecting link properly attached?
2) Does the chain have the proper amount of catenary?
3) Does the chain have the proper amount of lubrication?
4) Does the chain hit the case or cover?
5) Have all the bolts and nuts been tightened?

3.2 Test Operation

1) Are there any abnormal noises?
2) Does the chain vibrate?
3) Does the chain ride up on the sprocket?
4) Does the chain wind up on the sprocket?
5) Are the rail(s) and sprocket(s) properly installed?
6) Are the rollers rotating smoothly?
7) Does the entire chain articulate smoothly?
8) Does the chain list or snake when viewed from above?

Caution: Test operation after installation should consist of repeatedly starting and stopping the conveyor with no load, followed by continuous operation with no load. Lubricate chain before test operation so that parts wear in.

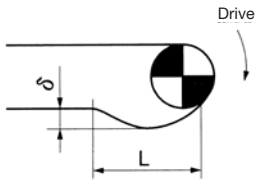
4. Adjust Chain Tension

Take-up the chain to ensure proper operation of the conveyor. As a guide, chain should be adjusted 1.5–2 pitches.

The correct amount of slack is essential. Wear will advance on chains with too much tension, while chains with too much slack will ride up on the sprocket, causing accidents.

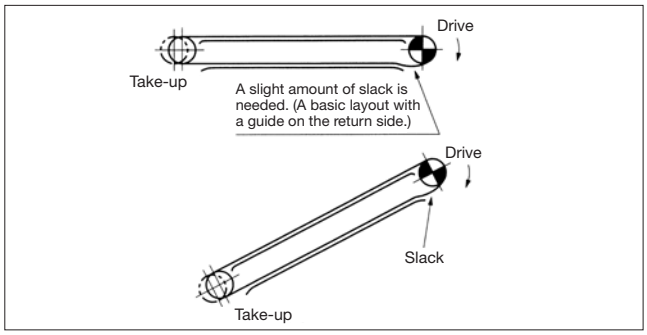
4.1 Chain Slack

In a basic layout, a small amount of slack (δ) is needed on the return side as shown in the diagram below. Too much tension will promote chain wear, and too much slack will cause the chain to ride up on the sprocket teeth and cause damage.



Chain slack (δ) ≒ 0.1L

Chain slack



4.2 Frequency of Adjustment

The chain will undergo initial elongation when first used, as well as elongation resulting from wear between pin and bush after operation. Therefore, it is necessary to regularly adjust the chain through take-up to ensure proper chain tension. A chain operated for eight hours per day should be checked and adjusted as per the following chart. It becomes easier to neglect take-ups the longer the chain is used, which leads to chain catenary and accidents. Thus, performing regular checks is essential.

Within one week after initial operation	Once/day
Within one month after initial operation	Twice/week
Over one month after initial operation	Twice/month

Shorten interval between checks if chain speed is fast or chain operating time per day is over eight hours.

4.3 Adjustment Frequency

4.3.1. When Chain Cannot Be Adjusted by Take-up Alone

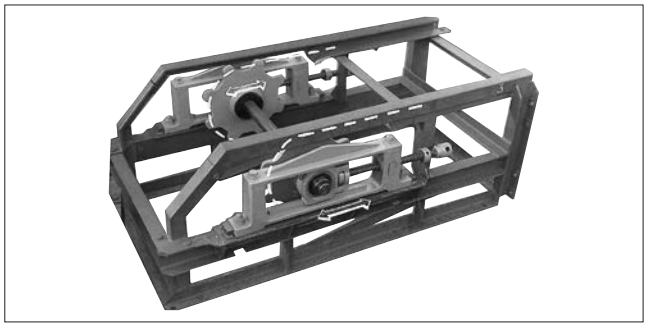
If there is still some slack in the chain, despite taking up the chain as much as possible, remove two (2) links from the chain and shorten the overall length. See our guide to connecting and disconnecting chain.

4.3.2 Even Adjustment of Take-up on Both Sides

When two parallel chains are adjusted by two independently operated take-ups, care must be taken to ensure even stroke on both the left and right sides. For this, we will assume that the length of the left and right chains is roughly equal. Therefore, it may be necessary to insert chain lengths at times to align the two lengths.

(This is unnecessary with continuous or balance take-up.)

An uneven adjustment will cause the link plate and the side of the sprocket teeth to interfere with each other and result in an overload condition.



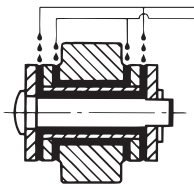
5. Lubrication

Lubrication is essential to ensure long life for your chain.

5.1 Lubricating

Lubricating your chain will reduce the wear on all chain parts as well as reduce required drive. Generally, lubricate once per week with ISO VG100 – VG150 (SAE30 – 40) oil by drip method or brush. Lubrication points are indicated by the diagram below. Ensure that chain is clean for maximum lubrication effectiveness.

Lubrication points



Lubricate between outer and inner plate (between pin and bushing)

Lubricate between outer plate and roller (between bushing and roller)

Note: Lubrication on the roller outer diameter may lead to uneven roller wear. Take care when lubricating the chain.

5.2 When to Avoid Lubrication

- When chain is buried within the items conveyed.
- When conveying powders in pan conveyors, apron conveyors, etc, or when powders may adhere to the chain and cause problems during lubrication.
- When the chain is used in high temperature environments.

5.3 Commercially Available Lubricants

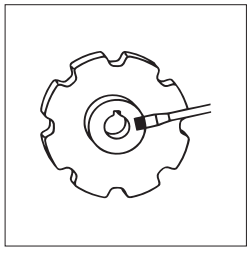
Lubricant	Lubricant		
	ISOVG100 (SAE30)	ISOVG150 (SAE40)	ISOVG220 (SAE50)
Idemitsu Kosan	Daphne Mechanics Oil 100	〃 150	〃 220
EMG Lubricants	Teresso 100	Teresso 150	—
	DTE Heavy Oil	DTE Extra Heavy Oil	DTE BB Oil
Showa Shell	Tellus Oil C100	〃 C150	〃 C220
JXTG Energy	FBK Oil RO100	〃 RO150	〃 RO220
	Diamond Lube RO100	〃 RO150	〃 RO220
	Panol 100	〃 150	〃 220

Manufacturer names are listed in no particular order.

6. Storage

Do not store chains or sprockets in areas where they will be exposed to, or risk exposure to, dust or water. Carefully brush lubrication on the edge face of the boss and sprocket holes especially to prevent rusting. Chains are not treated with an anti-rust treatment when delivered. Apply an anti-rust treatment when storing and check periodically.

Sprocket anti-rust treatment



7. Limits of Conveyor Chain Use

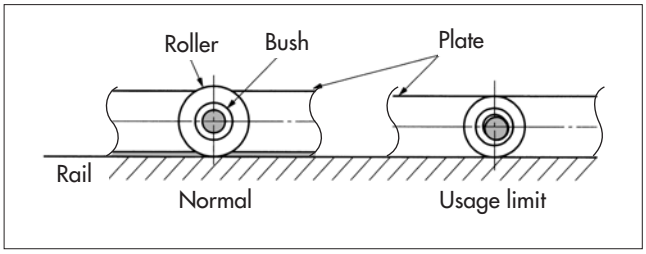
The following details the limits of conveyor chain parts. Check regularly for part wear.

7.1 Part Usage Limit

7.1.1 R Roller, F Roller

The plate has reached its limit when the bottom of the plate begins to touch the rail due to wear on the contact surface or the sliding area with the bush.

R and F roller limits

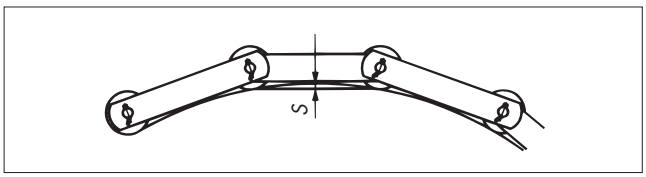


If there is a curve in the rail then there will be less wear allowance for the corresponding S dimension only as per the diagram below. Special care is needed compared to flat conveyance.

7.1.2 S, M, and N Rollers

When roller thickness wears to 40%.

Roller wear



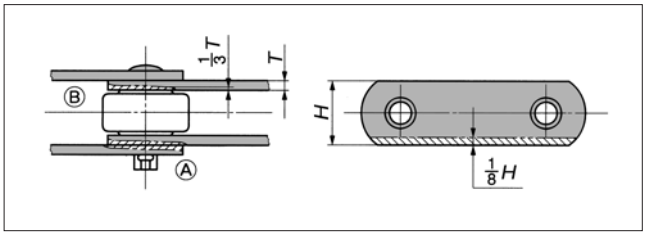
7.1.3 Bush

When bush thickness wears to 40%.

7.1.4 Measuring Plate Width or Height Wear

Wear will develop from abrasion between plates and roller and plate contact at (A) and (B) below. Chain strength will be insufficient when wear exceeds 1/3 of the plate's normal thickness. If items are conveyed directly on the plate as with flow conveyors, or if they slide on top of steel plates, then chain life will have been reached when plate height is worn by 1/8 as per the diagram below.

Plate wear

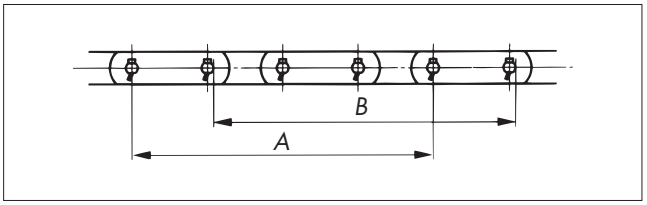


7.1.5 Measuring Chain Wear Elongation

A chain articulates when it engages the sprocket or along the curved portion of a rail, at which time a chain will elongate due to sliding wear between the bush and pin. The chain elongation limit is 2% (2mm of elongation on one link if pitch is 100mm) of a standard basic length (pitch × no. of links).

1) Measuring chain length (measured dimensions)

Measuring dimensions



Measure as many links as possible (at least four links) as per the diagram above. Measure from:
(A) center of pin to center of pin
(B) end of pin to end of pin

2) Chain elongation (%)

Measure chain using one of the above methods, compare to standard length, and determine chain elongation (%).

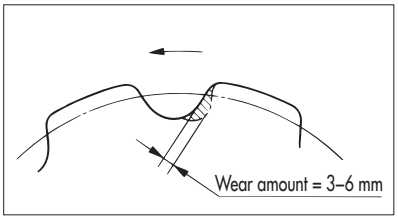
$$\text{Chain Elongation} = \frac{\text{Measuring method} - \text{Standard length}}{\text{Standard length}} \times 100(\%)$$

7.1.6 Wear on Sprocket Teeth Face or Sides

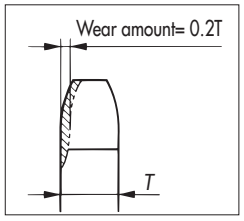
Worn sprocket teeth may accelerate chain wear during engagement. Regularly inspect both sprockets and chains.

1) Wear limits for sprocket teeth surfaces are roughly shown in the diagram below.

Tooth surface wear



Tooth side surface wear



2) Tsubaki recommends replacing the sprocket when teeth are worn. Avoid flipping the sprocket over and continuing to use sprockets with worn teeth bottoms. When performing welding repairs, use a tooth gauge to check the tooth profile.

8. Other Points to Remember

1) Conveyor Downtime

Always remove load from conveyors before stopping. Starting with load may cause overloading. Inspect chain before starting a conveyor that has been stopped for extended periods.

2) Lubrication

Always regularly lubricate the chain.

3) Fixing Parts

The nuts of buckets, aprons, slats, and other items that are bolted to the chain can come loose and fall off due to chain vibration during operation. Spot weld them or take other action to ensure they do not loosen.

4) Amount of Chain Slack

Regularly inspect and adjust chain slack.

5) Temperature and Freezing

Conveyors may freeze when there is a difference in temperature, such as between day and night temperatures in winter. Lubricate chain and inspect often while paying attention to temperature changes when conveying liquid items. Condensation may form when conveying high temperature items in a case conveyor.

6) Storing Extra Chain

Tsubaki recommends having extra chain on hand in the event of chain failure. Store extra chain indoors where there is low humidity. Apply an anti-rust oil when storing for extended periods.
It may be convenient to attach a tag to the chain with the chain name, drawing number, date of purchase, equipment name, and other pertinent information.

7) Preventative Maintenance for the Conveyor

In addition to the above maintenance and inspection, create a conveyor history log and periodically record conveyor capacity, conveyor speed, main shaft rotation speed, current, voltage, power, actual operating time, actual conveyance load, inspection/lubrication days, accidents, etc. This can help prevent unexpected accidents and facilitate repairs.

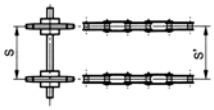
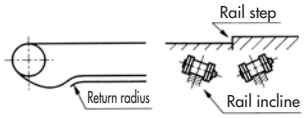
8) Cleaning

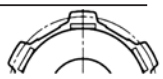
Periodically clean chain and rail if in contact with foreign matter or conveyed items.

9. Troubleshooting

Refer to the table below if you experience problems with your conveyor chain or sprocket, which should be replaced with new products as necessary.

9.1 Chain and Sprocket

Problem	Possible Cause	Solution
Chain rides up on sprocket 	Chain and sprocket do not match.	Replace chain or sprocket with the correct size.
	Total arc of contact with the chain on the sprocket is insufficient.	Have total arc of contact be at least three teeth on the sprocket.
	Excessive load.	Reduce the load (ex. install a shock absorber).
	Inadequate back tension.	Adjust the catenary of take-up idler, or install a tensioner.
	Excessive chain elongation due to wear.	Replace with a new chain.
	Distance between the center of the chain and sprocket do not match S≠S'.	Inspect and correct.
Chain winds on sprocket	Too much slack in chain.	Adjust the chain length or distance between axles, or install a tensioner.
	Excessively worn sprocket, or chain and sprocket do not match.	Replace chain and/or sprocket with the correct sized part.
Unusual noises	Inadequate lubrication to the contacting portions of the pin and bush.	Provide sufficient lubrication.
	Inadequate lubrication to the contacting portions of the bushing and roller.	Provide sufficient lubrication. Use a bearing roller or plastic roller.
	Winding or riding on the sprocket.	See above.
	Loose chain casing or axle bearing.	Tighten all nuts and bolts.
	Interference of the casing with the chain or other moving part.	Inspect and correct.
	Excessive wear in the chain or sprocket.	Replace the chain or sprocket (replace all connect chains).
	Improper setting of the guide rail. 	Inspect and correct.
Excessive wear at the inside of the chain's link plates or the teeth surfaces 	Improper centering of the sprocket.	Remove the chain and correct the centering of the drive and driven sprockets.
	Chain is being pushed to the side.	Remove the cause of the push and/or install a guide roller.
	Vibration caused by the inaccurate finishing of the sprocket's shaft hole.	Check and correct the faulty locations and replace the sprocket with a new part.
Excessive wear of the sprocket teeth valleys and drive sides	Excessively worn chain.	Replace both the chain and the sprocket.
	Insufficient number of teeth.	Increase the number of teeth.
	BF Chain being used (no rollers).	Change to an RF Chain (w/rollers).
	Tooth hardness is insufficient with respect to the load and conveyed materials or foreign particles.	Use a sprocket with hardened or changeable teeth.
	Chain and sprocket do not match.	Replace chain or sprocket with correct sized parts.
Poor articulation	Rusting or corrosion.	● Install a partition to protect the chain. ● Select a suitable chain (GS series, etc.).
	Particles of conveyed material have contaminated the pins, rollers, or bushes, or contamination from foreign particles.	● Install a partition to protect the chain. ● Select a chain with large clearance between pin, bush, and roller. ● Use Chesterton #601 or #610.
	Deformation of the chain from improper installation.	Inspect and correct installation of the sprockets and shafts.
	Inadequate lubrication.	Inspect the lubrication or look into wear resistant chain (CT/BT specifications, etc.).
	Operation in extremely high temperatures (over 400℃).	Provide adequate clearance.
	Seizure from excessive loads.	Lubricate regularly, reduce load.
	Pin bending due to excessively high loading.	Reduce load.

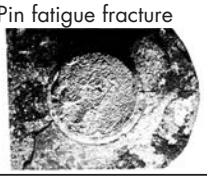
Problem	Possible Cause	Solution
The chain sticks and slips This can be caused by a combination of many problems; therefore, the listed remedies may not solve the problem.	Change the rolling friction coefficient of the chain.	● Clean and lubricate moving parts with Tsubaki oil. ● Replace sprocket. ● Switch to Bearing Roller Chain.
	The conveyor speed is too slow.	Increase conveyor speed.
	Insufficient rigidity in the frame. The conveyor chain is small compared to the device.	● Increase the frame rigidity; increase the chain model number. ● Decrease the slack in the drive roller chain.
	The force of friction is excessively large.	● Lubricate between the guide rail and chain. ● Switch to Bearing Roller Chain.
	The machine is too long.	Divide the conveyor system into sections to decrease the length.
	Inconsistent speeds due to movement along a polygonal path.	Use a 12 or more toothed drive sprocket, or reinforce the sprocket.
Excessive wear on the inside link and pin on one side of an NF Block Chain or BF Chain (no roller)	Increased internal tension when engaging the sprocket.	● Attach a supporting block to the sprocket.  ● Reduce load, and lubricate the chain and sprocket.
Chain is rusting	Inappropriate selection of material.	Select a more suitable chain material. Protect the chain from the environment. Apply a rust inhibitor.
	Condensation	Eliminate the temperature difference between the inside and outside of the conveyor (using insulation, etc.).
Excessive wear caused by the conveyed material 	The chain is contaminated with especially abrasive materials, such as mineral powders, etc., and the chain surface is being worn away.	● Prevent material from falling onto the chain. ● Use a wear-resistant chain. → Contact a Tsubaki representative.
Excessive wear from corrosion 	The chain is exposed to acidic or alkaline substances and therefore becomes more susceptible to machine wear, which then progresses much faster.	● Use a chemical-resistant material. ● Use a wear-resistant material for the machine-worn parts. → Contact a Tsubaki representative.
Excessive wear from electro-chemical corrosion 	When the chain is covered with water or passes through a solvent, the portions in contact suffer galvanic corrosion.	● Use a chemical-resistant material. ● Use a wear-resistant material for the machine-worn parts. → Contact a Tsubaki representative.

9.2 Plate

Problem	Possible Cause	Solution
Sudden fracture of link plate	Excessive load, too much tension on take-up.	● Eliminate the cause of overloading. ● Install a safety device (e.g. a Tsubaki Shock Relay). ● Increase chain size.
	Weakening of chain caused by excessive wear or corrosion.	● Replace with a new part. Install a cover to protect the chain. ● Lubricate regularly. ● Select a chain with the proper specs for the application.
	The link plates are pressed outward by the sprocket. 	● Check and correct the installation ● Check for excessively worn chain or sprocket, and replace as necessary. ● Check if the chain and sprocket match, and correct as necessary.
Deformed link plate holes and poor pin rotation (The pin is shifted from its normal position) 	Excessive load.	Eliminate the cause of overloading and replace chain with a larger size.
	Improper installation of the connecting link.	Replace connecting link with a new one.
	Excessive load and inadequate lubrication.	Replace with a new chain and improve the lubrication and loading conditions.
	Seizure of the pin and bush, poor articulation.	● Increase the chain size. ● Use a chain with a larger clearance between pin and bush.

Problem	Possible Cause	Solution
Crack in the link plate ① Fatigue breakage 	Excessive load, or excessive take-up tension. Excessively large repetitive load.	Eliminate overloading or large repetitive loads.
	Insufficient safety factor.	● Increase the size or specs of the chain to increase the safety factor. ● Replace with a new chain. ● Eliminate overloading or large repetitive loads.
	Repetitive load on attachment.	● Increase the chain size to increase the allowable load of the attachment.
② Corrosion stress crack  (Bow-shaped crack in heat treated metal plates)	The chain is being used in an acidic or alkaline environment. (Crack not caused by a repetitive load.)	● Install a cover to protect the chain from the environment. Replace with a new part. ● Use a chain with a high resistance to corrosion stress cracks.
Red pattern found on plates	There is scale on the base plate material.	● Can continue to be used as is (DT, DTA, AT, etc.).

9.3 Pin

Problem	Possible Cause	Solution
① Pin fatigue fracture 	The factor of safety used for calculation of the peak load versus the breakage load was too small. The peak load acted like a repetitive load on the chain.	Recheck the size of the peak load and eliminate its cause. Replace the chain with a larger size (larger pin diameter).
② Pin corrosive fatigue	The pin was subjected to a tensile load at the side of the fracture origin, from whence the break then progresses. Chain is especially susceptible to this when the pin surface is corroded and weak against bending stresses.	● Recheck the size of the peak load, and eliminate its cause. Replace the chain with a larger size (larger pin diameter). Use a cover to protect the chain. ● Use a pin made of an anti-corrosion material.
③ Pin brittle fracture	Poor environment.	Use an appropriate pin material.
④ Pin sudden fracture	Excessive load.	Eliminate the cause of overloading and replace the chain with a larger size.

9.4 Roller, Bush

Problem	Possible Cause	Solution
Improper roller rotation and uneven roller wear	Excessive load on roller.	Provide sufficient lubrication. Consider bearing roller or GT Series.
	Particles of conveyed material, or other foreign particles, have gotten between bush and roller.	Clean regularly, and install a partition to protect the chain.
	Particles of conveyed material, or other foreign particles, have built up on the rail.	Clean regularly, and install a partition to protect the chain.
	Lubricant is falling on the roller surface and rail without entering between the bush and roller or between roller and link plate.	Select an appropriate lubricant and lubrication method.
	Roller/bush rust.	Select an appropriate specification (RT, etc.).
	Inner plate is moving sidewards.	Replace with a new chain. Re-inspect the installation and load conditions.
	Bush is cracked.	Reduce the load and lower the speed of rotation.
	The side surface of the roller is contacting the side of the link plate due to a thrust load.	Eliminate the cause of the thrust load.
	The chain and sprocket do not match, or excessively worn teeth.	Check for tooth deformation.
Roller is opening up	Excessive load.	Reduce the load, provide adequate lubrication, and remove any large steps in the rail.
Roller or bush is split (falling off)	Excessive load.	Reduce the load and provide adequate lubrication.
	Too few teeth with respect to conveyor speed.	Increase the number of teeth or decrease the speed.
The roller is becoming hourglass-shaped	Excessive load or inadequate lubrication.	Increase the lubrication, improve the loading conditions, and replace the chain with a new one.
	Excessively worn rail.	Correct or replace the rail.

10. Repair Parts

Indicate the following when inquiring about or ordering repair parts.

10.1 Conveyor Chains

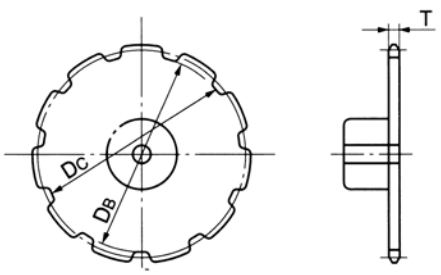
1) Chain size. (e.g. RF03075R)
2) Attachment type and spacing.
   (e.g. A2 attachment every 2 links)
3) Total chain length. (e.g. 250 links)
4) Specification name (Standard, Heavy Duty, Corrosion Resistant).
   (e.g. AT Heavy Duty Conveyor Chain)
5) Once the above is known, it can be referred to as follows.
   RF03075R-AT-2LA2 · · · · · · · · · · · · 250 links
6) Indicate differences from standard chain for special specifications.
   Provide the Tsubaki drawing number when known.
7) If chain size or chain drawing number are unknown, please provide the following information.
   A. Chain pitch
   B. Roller diameter and type
   C. Inner link inner width
   D. Plate width and height
   E. Pin type
   F. Attachment type and dimensions
   G. Material and hardness if used in special applications

10.2 Sprockets

1) Chain size. (e.g. RF03075R)
2) Roller type and dimensions.
   (e.g. R roller, ϕ 31.8 diameter, 15.5 contact width)
3) Number of sprocket teeth. (e.g. 6)
4) Type. (BW, CW, BW1, CW1)
5) Tooth tip hardness. (e.g. Normal N specs, Wear Resistant Q specs)
6) Shaft hole diameter and key dimensions. (e.g. ϕ 40H8, Js9)
7) Parallel use.
8) Once the above is known, it can be referred to as follows.
   RF03075R6T-BWQH40J
   Parallel use.
9) Indicate differences from standard sprockets for special specifications.
10) Provide the Tsubaki drawing number when known.

When chain size is unknown

In addition to information 2) – 10) above, indicate tooth width (T), radius of tooth valley (D_B), and distance between tooth valleys (D_C) if there are an odd number of teeth.



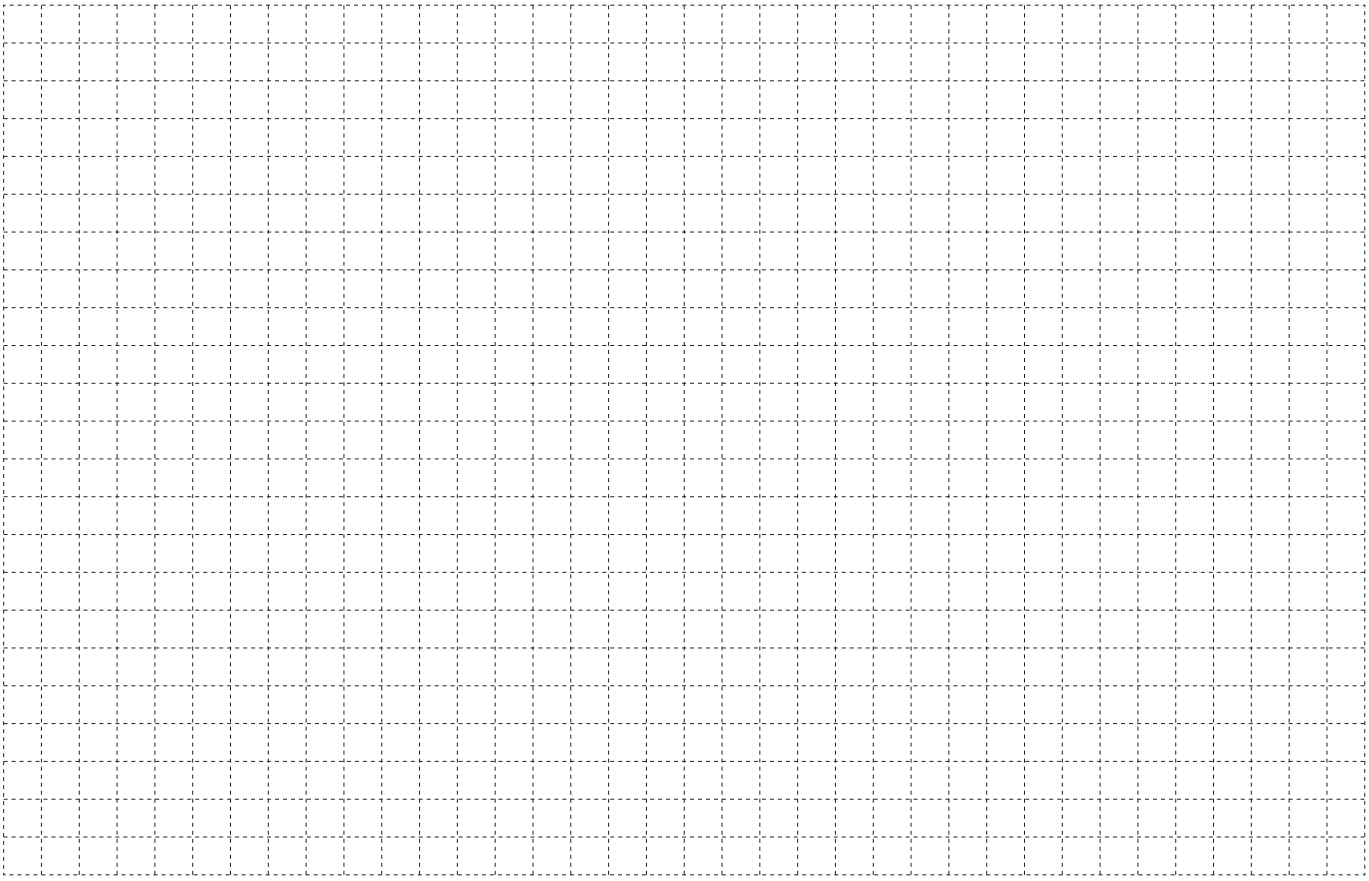
MEMO

Large Size Conveyor Chain Inquiry Sheet

Specify the following when ordering Large Size Conveyor Chain.

Conveyor Name			Max. Allowable Load or Ave. Tensile Strength	kN{kgf}	
Items Conveyed			Chain Pitch	mm	
Corrosion Resistance			Attachment	every link	
Wear Resistance			Conveyance Method	Pushed by Dog	Direct Conveyance Other
Temp. of Items	Temp.	°C	Operating Time	h/d	
Dimensions of Items			Running Method	Continuous, Intermittent, Reverse (yes/no)	
Mass of Items	MAX	kg/each	Lubrication	Can/cannot use	
Amt. Conveyed	MAX	t/h (loose items) kg/conveyor (individual items)	Motor	AC/DC kW ×	r/min × motor(s)
			Sprocket No. of Teeth	NT	(PCD mm)
Conveyor Length		m	Sprocket Shaft Hole Dia.	ϕ	H8・H7
Lifting Height		m	Hub	Type（ ） ϕ	× L
No. of Strands		strands (spacing m)	Keyway	No（ ）JIS・b ×t	parallel
Chain Speed		m/min	Tooth Finishing	Precision fused	Machine cut Induction hardened

Simple diagram of conveyor and chain: Include conveyor configuration, intake, discharge methods, rail configuration, return side uptake, etc.



Co. Name: Division or Department:

Name: Tel:

Date: Fax:

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

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INDIAN OCEAN RIM

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CHINA

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

Note: In accordance with the policy of TSUBAKIMOTO CHAIN CO. to constantly improve its products, the specifications in this catalog are subject to change without notice.

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