TSUBAKI
ENGINEERING CLASS CHAIN

ENGINEERING CLASS DRIVE CHAIN

Keep Your Operation Moving with Tsubaki Chain

Tsubaki Drive Chains are designed to exceed the listed ultimate strength ratings. These ratings are very significant. Chains with greater ultimate strength have higher actual yield and greater fatigue strength. With Tsubaki chains, you get extra reserve strength to withstand high shock loads.

Precision Manufacturing Means Greater Fatigue Strength

Tsubaki Engineering Class Drive Chains are built to withstand the most rugged conditions. We use the latest manufacturing and heat-treating techniques to manufacture every component. Each component is carefully machined to close tolerances to ensure precise pitch control for smooth sprocket/chain interaction. That means longer service life for chain and sprockets.

Add the Power of Alloy

When parts require extra hardness, we use alloy steel to make the components. This provides more uniform core strength, which is particularly important for heavy duty applications. Every Tsubaki Drive Chain with an ultimate strength rating higher than 112,000 pounds is made entirely of alloy steel. All Tsubaki Drive Chains are furnished with alloy steel pins.

Reduce Maintenance Costs and Downtime

Tsubaki Drive Chains stand up to the toughest environments for hour after hour of uninterrupted service.

- Optimum strength
- Fatigue resistant
- Pre-tested
- Alloy steel parts
- Press fit construction
- Accurate pitch control

Your equipment is on the line. Count on Tsubaki Chain.

Drive Chain

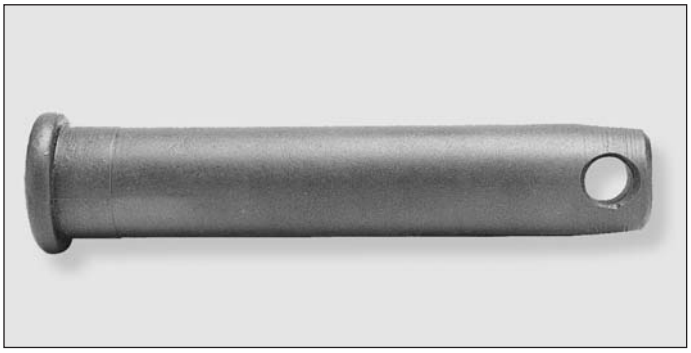
Quality Components

High-Strength Sidebars

Sidebars for Tsubaki Drive Chains with an ultimate strength rating higher than 112,000 pounds are manufactured from alloy steel and are through-hardened. This adds strength and extends the service life of the chain. In addition, our advanced manufacturing techniques ensure accurate hole size and precise pitch control, distributing the load equally and providing smooth sprocket interaction.

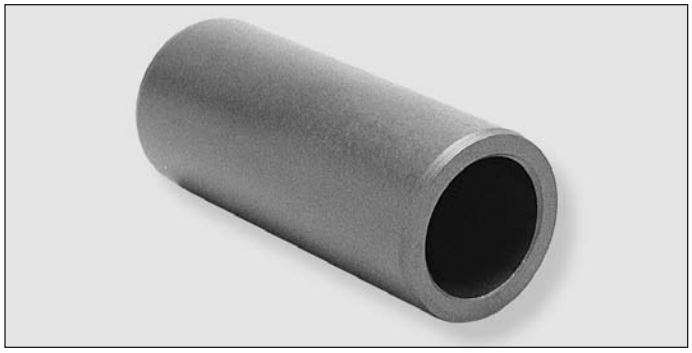
Alloy Steel Induction Hardened Pins

All Drive Chain pins are made from alloy steel and are through-hardened for toughness and strength. In addition, chains designed for heavy duty power shovel applications have ground bearing surfaces and full round induction hardening. This provides the best combination of high yield strength and superior wear resistance.



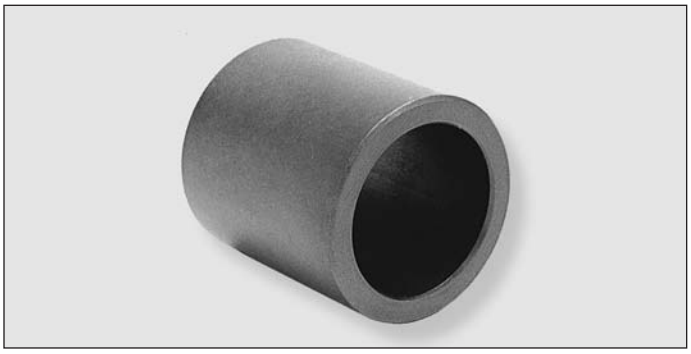
Precision Machined Bushings

Bushings for Drive Chain are precision machined to provide smooth bearing surfaces—that means less resistance on-line. They are through-hardened or case hardened to meet your application. The result is smooth riding bushings that last.

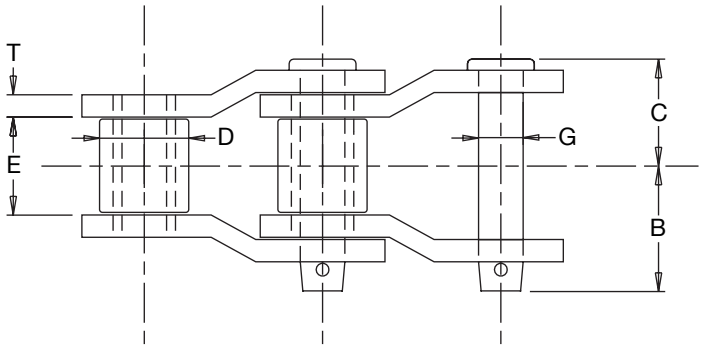


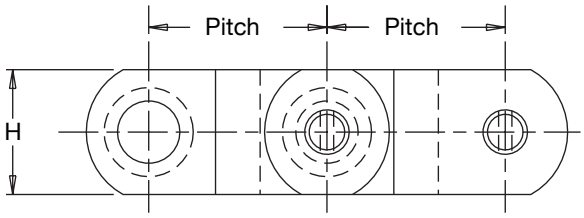
Shock-Resistant Rollers

Our rollers are made from a high quality material for use when critical tolerances and superior finish are required. Then they are through-hardened to withstand high shock loads. For chains with high ultimate strength ratings, rollers are typically made from alloy steel.

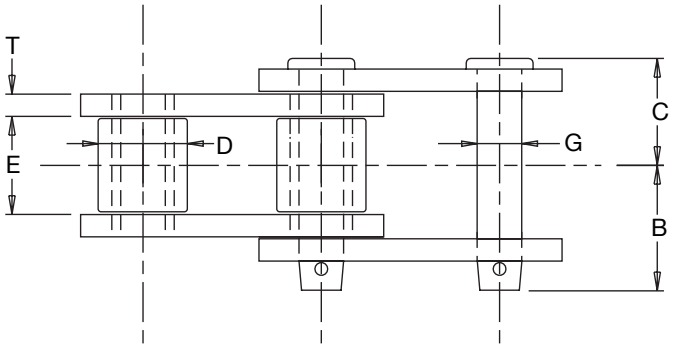


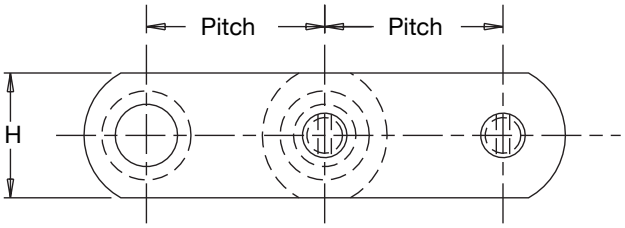
offset sidebar style



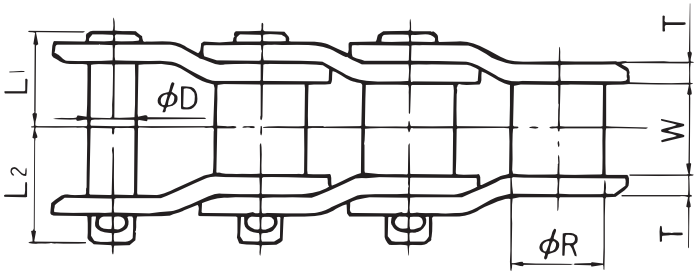


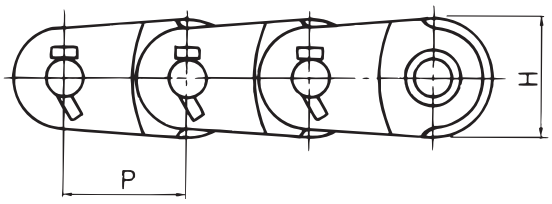
straight sidebar style





"U" sidebar style





Drive Chain Specifications

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Sty.[1]	ANSI No.	Pin						Roller		Sidebar			Bushing		Stocked Lengths		Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Wgt. (lbs./ft.)
				Pin End to CL	Pin Head to CL	Inside Wdth.	Dia.	Sty.[2]	Matl.[3]	Dia.	Matl.[3]	Hgt.	Th.	Matl.[3]	Dia.	Matl.[3]	Pitches	Feet			
				B	C	E	G			D		H	T								
US-2065	2.000	O		1.66	1.44	1.27	.59	K	AHT	1.13	AHT	1.63	.31	AHT	.81	ACH	60	10.00	65,000	4,000	7.6
RO-3140	1.750	U		1.34	1.12	1.00	.48	K	AHT	1.00	AHT	1.70	.22	AHT	.70	ACH	69	10.00	52,800	2,500	5.2
RO-3160	2.000	U		1.53	1.31	1.25	.54	K	AHT	1.13	AHT	1.94	.25	AHT	.80	ACH	60	10.00	67,300	3,450	6.7
RO-3180	2.250	U		1.72	1.47	1.43	.69	K	AHT	1.41	AHT	2.13	.28	AHT	1.00	CHT	53	10.00	80,000	4,800	9.6
RO-25H	2.500	O		1.95	1.70	1.50	.65	K	AHTIH	1.25	AHT	1.63	.38	AHT	.91	ACH	48	10.00	87,000	4,900	9.2
520RX	2.563	O		1.44	1.22	1.06	.50	A	CHT	1.13	CHT	1.25	.25	CHT	.75	CCH	47	10.00	25,000	2,800	4.8
US-882	2.609	O		1.44	1.25	1.13	.44	K	CHT	.88	AHT	1.13	.25	CHT	.64	CCH	46	10.00	26,000	2,500	3.6
US-3011	3.067	O	2512	2.13	1.72	1.56	.75	K	AHTIH	1.63	AHT	2.25	.38	AHT	1.13	ACH	39	10.00	110,000	6,100	12.0
US-1030	3.075	O		1.88	1.56	1.50	.63	K	AHT	1.25	AHT	1.50	.31	HC	.91	ACH	39	10.00	28,000	4,650	7.0
US-1031	3.075	O		1.88	1.59	1.50	.63	K	AHT	1.25	AHT	1.50	.31	CHT	.91	ACH	39	10.00	48,000	4,650	7.0
US-3075	3.075	O		2.00	1.68	1.50	.65	K	AHT	1.25	AHT	1.75	.38	AHT	.91	ACH	39	10.00	75,000	5,100	9.6
US-3514	3.500	O	2814	2.34	1.97	1.50	.88	K	AHT	1.75	AHT	2.25	.50	AHT	1.25	ACH	34	9.90	140,000	7,700	16.1
US-1241	4.063	O		2.59	2.19	1.94	.88	K	AHTIH	1.75	AHT	2.25	.50	CHT	1.25	CCH	30	10.20	112,000	9,000	16.3
US-1242	4.063	O		2.56	2.19	1.94	.88	K	AHTIH	1.75	AHT	2.25	.50	AHT	1.25	ACH	30	10.20	140,000	9,000	16.1
US-1245	4.073	O	3315	2.75	2.38	1.94	.94	K	AHTIH	1.78	AHT	2.38	.56	AHT	1.31	ACH	30	10.20	170,000	10,100	18.0
US-4121	4.090	O		2.75	2.38	1.94	1.00	K	AHTIH	1.88	AHT	2.75	.56	AHT	1.49	AHT	30	10.20	210,000	10,700	13.6
US-4122	4.090	O		2.75	2.38	1.94	1.00	K	AHTIH	2.00	AHT	2.75	.56	AHT	1.49	AHT	30	10.20	210,000	10,700	14.0
US-4522	4.500	O	3618	2.88	2.44	2.06	1.10	K	AHTIH	2.25	AHT	3.00	.56	AHT	1.62	AHT	27	10.10	220,000	12,300	25.4
US-5031	5.000	O	4020	3.38	3.06	2.75	1.25	K	AHTIH	2.50	AHT	3.50	.63	AHT	1.75	AHT	24	10.00	310,000	17,500	34.0
US-5035	5.000	O		3.50	3.06	2.56	1.38	K	AHTIH	2.50	AHT	3.50	.75	AHT	1.88	AHT	24	10.00	350,000	19,600	38.1
US-5542	5.500	O		3.88	3.40	3.00	1.50	K	AHTIH	3.00	AHT	4.00	.75	AHT	2.00	AHT	62	28.40	420,000	23,600	49.1
US-5738	5.750	O		3.69	3.31	3.00	1.50	K	AHTIH	3.00	AHT	4.00	.69	AHT	2.00	AHT	21	10.10	380,000	23,000	46.0
US-6042	6.000	O	4824	3.88	3.40	3.00	1.50	K	AHTIH	3.00	AHT	4.00	.75	AHT	2.00	AHT	20	10.00	420,000	23,600	45.0
US-6066	6.000	O		3.88	3.38	3.00	1.75	K	AHTIH	—	—	4.75	.75	AHT	3.00	AHT	57	28.50	600,000	27,600	51.7
US-64S	2.500	S		2.00	1.69	1.50	.88	K	AHT	1.56	AHT	2.13	.38	AHT	1.19	ACH	48	10.00	125,000	6,900	13.1
344SXX	3.000	S		2.75	2.38	1.94	.94	K	AHTIH	1.78	AHT	2.38	.56	AHT	1.31	AHT	40	10.00	170,000	10,050	22.0
US-4031	4.000	S		3.38	2.91	2.75	1.25	K	AHTIH	2.50	AHT	3.50	.63	AHT	1.75	AHT	30	10.00	310,000	17,500	40.0
US-1353	4.090	S		3.13	2.69	2.25	1.31	K	AHTIH	2.63	AHT	3.50	.63	AHT	1.88	ACH	30	10.20	210,000	16,000	37.6
US-5042	5.000	S		3.88	3.40	3.00	1.50	K	AHTIH	3.00	AHT	4.00	.75	AHT	2.00	AHT	24	10.00	420,000	23,600	53.0
US-6566	6.500	S		4.38	3.95	3.25	1.75	K	AHTIH	3.50	AHT	6.00	.88	AHT	2.44	AHT	36	19.50	600,000	30,600	71.1
US-7080	7.000	S		4.19	3.81	3.25	2.13	K	AHTIH	4.50	AHT	6.00	.88	AHT	3.13	AHT	24	14.00	800,000	37,150	89.6

[1]Style: O= offset sidebar; S= straight sidebar

[2]Pin style: K = Full round; A = Double flat.

[3]Material: HC = High carbon; CHT = Carbon heat-treated; AHT = Alloy heat-treated; AHTIH = Alloy heat-treated and induction hardened; CCH = Carbon case hardened; ACH = Alloy case hardened.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Drive Chain Selection Guidelines

SELECTION GUIDELINES

There are two methods to determine the right drive chain for your application: Standard and Working Load. To determine the suggested chain, follow Steps 1-10 of the Standard Selection Procedure on pages C-6 through C-8. An example procedure is shown on page C-16. Each selection procedure is intended to be used for Engineering Class Drive Chain (ASME/ANSI Standard B29.10).

STANDARD SELECTION PROCEDURE

Step 1: Determine Class of Driven Load
From the Application Classifications Table 1 determine the class of the driven load: uniform load, moderate shock, heavy shock.

Table 1 — Application Classifications

Application	Load Class[1]
Agitators	
Pure Liquids	U
Liquids and Solids	M
Liquids – Variable Density	M
Blowers	
Centrifugal	U
Lobe	M
Vane	U
Brewing and Distilling	
Bottling Machinery	U
Brew Kettles – Cont. Duty	U
Cookers – Cont. Duty	U
Mash Tubs – Cont. Duty	U
Scale Hopper, Freq. Starts	M
Can Filling Machines	U
Cane Knives	M
Car Dumpers	H
Car Pullers	M
Clarifiers	U
Classifiers	M
Clay Working Machinery	
Brick Press	H
Briquette Machine	H
Clay Working Machinery	M
Pub Mill	M
Compressors	
Centrifugal	U
Lobe	M
Reciprocating, Multi-Cylinder	M
Reciprocating, Single-Cylinder	H
Conveyors – Uniformly Loaded or Fed	
Apron	U
Assembly	U
Belt	U
Bucket	U
Chain	U
Flight	U
Conveyors – Uniformly Loaded or Fed (Continued)	
Oven	U
Screw	U
Conveyors – Heavy Duty Not Uniformly Fed	
Apron	M
Assembly	M
Belt	M
Bucket	M
Chain	M
Flight	M
Live Roll	M
Oven	M
Reciprocating	H
Screw	M
Shaker	H
Cranes	
Main Hoists	U
Bridge Travel	M
Trolley Travel	M
Crusher	
Ore	H
Stone	H
Sugar	M
Dredges	
Cable Reels	M
Conveyors	M
Cutter Head Drives	H
Jig Drives	H
Maneuvering Winches	M
Pumps	M
Screen Drive	H
Stackers	M
Utility Winches	M
Dry Dock Cranes	
Main Hoist, Auxiliary Hoist, Boom (Luffing)	U
Dry Dock Cranes (Continued)	
Rotating (Swing or Slew)	M
Tracking (Drive Wheels)	H
Elevators	
Bucket – Uniform Load	U
Bucket – Heavy Load	M
Bucket – Cont. Centrifugal Discharge	U
Escalators	U
Freight	M
Gravity Discharge	U
Man Lifts	H
Passenger	H
Fans	
Centrifugal	U
Cooling Towers – Induced Draft	U
Cooling Towers – Forced Draft	U
Induced Draft	M
Large (Mine, etc.)	M
Large (Industrial)	M
Light (Small Diameter)	U
Feeders	
Apron	M
Belt	M
Disc	U
Reciprocating	H
Screw	M
Food Industry	
Beet Slicer	M
Cereal Cooker	U
Dough Mixer	M
Meat Grinders	M
Generators (Not Welding)	U
Hammer Mills	H
Hoists	
Heavy Duty	H
Medium Duty	M
Skip Hoist	M
Laundry Washers	
Reversing	M
Laundry Tumblers	M
Line Shafts	
Driving Processing Equipment	M
Light	U
Other Line Shafts	U
Lumber Industry	
Barkers – Hydraulic, Mechanical	M
Burner Conveyor	M
Chain Saw and Drag Saw	H
Chain Transfer	H
Craneway Transfer	H
De-barking Drum	H
Edger Feed	M
Gang Feed	M
Green Chain	M
Live Rolls	H
Log Deck	H
Log Haul – Incline	H
Log Haul – Well Type	H
Log Turning Device	H
Main Log Conveyor	H
Off Bearing Rolls	M
Planer Feed Chains	M
Planer Floor Chains	M
Planer Tilting Hoist	M
Re-saw Merry-go-round Conveyor	M
Roll Cases	H
Slab Conveyor	H
Small Waste Conveyor – Belt	U
Small Waste Conveyor – Chain	M
Sorting Table	M
Tipple Hoist Conveyor	M
Tipple Hoist Drive	M
Transfer Conveyors	M

[1]U = Uniform load; M = Moderate shock; H = Heavy shock.

Drive Chain Selection Guidelines

Required Information for Drive Selection

- Type of input horsepower (electric motor, internal combustion engine, etc.).
- Type of equipment to be driven.
- Horsepower to be transmitted.
- Full load speed of the fastest running shaft (RPM).
- Desired speed of the slow speed shaft (RPM).
  Note: If speeds are variable, determine maximum and minimum speed and HP to be transmitted at each speed.
- Diameters of the driving and driven shafts.
- Center to center distance of shafts.
  Note: If this dimension is adjustable, determine amount of adjustment.
- Position of drive and space limitations, if any.
- Proposed method of lubrication.
- Conditions of drive. Drives with more than two sprockets, idlers, or unusual conditions such as severely abrasive or corrosive atmosphere, extremely high or low temperatures, severely fluctuating loads, frequent stops and starts, etc., require special consideration. It is advisable to Contact Tsubaki Technical Support for selections of this nature.

Table 1 — Application Classifications (Continued)

Application	Load Class[1]
Lumber Industry (Continued)	
Transfer Rolls	M
Tray Drive	M
Trimmer Feed	M
Waste Conveyor	M
Machine Tools	
Bending Roll	M
Punch Press – Gear Driven	H
Notching Press – Belt Driven	H
Plate Planers	H
Tapping Machine	H
Other Machine Tools – Main Drives	M
Other Machine Tools – Auxiliary Drives	U
Metal Mills	
Draw Bench Carriage and Main Drive	M
Pinch, Dryer and Scrubber Rolls, Reversing	H
Slitters	M
Table Conveyors – Non-Reversing Group Drives	M
Table Conveyors – Non-Reversing Individual Drives	H
Table Conveyors – Reversing	H
Wire Drawing and Flattening Machine	M
Wire Winding Machine	M
Mills, Rotary Type	
Ball	M
Cement Kilns	M
Dryers and Coolers	M
Kilns	M
Pebble	M
Rod, Plane and Wedge Bar	M
Tumbling Barrels	H
Mixers	
Concrete Mixers – Cont.	M
Concrete Mixers – Intermittent	M
Constant Density	U
Variable Density	M
Oil Industry	
Chillers	M
Oil Well Pumping	H
Paraffin Filter Press	M
Rotary Kilns	M
Paper Mills	
Agitators (Mixers)	M
Barker – Auxiliaries – Hydraulic	M
Barker – Mechanical	M
Barking Drum	H
Beater and Pulper	M
Bleacher	U
Calendars	M
Calendars – Super	H
Converting Machine, Except Cutters, Platers	M
Conveyors	U
Couch	M
Cutters – Platers	H
Cylinders	M
Dryers	M
Felt Stretcher	M
Felt Whipper	H
Jordans	H
Log Haul	H
Presses	U
Pulp Machine Reel	M
Stock Chests	M
Suction Roll	U
Washers and Thickeners	M
Winders	U
Printing Presses	U
Pullers	
Barge Haul	H
Pumps	
Centrifugal	U
Proportioning	M
Reciprocating – Single Acting, Three or more Cylinders	M
Reciprocating – Double Acting, Two or more Cylinders	M
Reciprocating – Single Acting, One or Two Cylinders	M
Reciprocating – Double Acting, Single Cylinder	M
Reciprocating – Rotary – Gear Type	U
Rotary – Lobe, Vane	U
Rubber and Plastics Industries	
Crackers	H
Laboratory Equipment	M
Mixing Mills	H
Refiners	M
Rubber Calendars	M
Rubber Mill (Two on Line)	M
Rubber Mill (Three on Line)	M
Sheeter	M
Tire Building Machines	M
Tire and Tube Press Openers	M
Tubers and Strainers	M
Warming Mills	M
Sand Muller	M
Sewage Disposal Equipment	
Bar Screens	U
Chemical Feeders	U
Collectors	U
Dewatering Screws	M
Scum Breakers	M
Sewage Disposal Equipment (Continued)	
Slow or Rapid Mixers	M
Thickeners	M
Vacuum Filters	M
Screens	
Air Washing	U
Rotary – Stone or Gravel	M
Traveling Water Intake	U
Slab Pushers	M
Steering Gear	H
Stokers	U
Sugar Industry	
Cane Knives	M
Crushers	M
Mills	H
Textile Industry	
Batchers	M
Calendars	M
Cards	M
Dry Cans	M
Dryers	M
Dyeing Machinery	M
Knitting Machines	M
Looms	M
Mangles	M
Nappers	M
Pads	M
Range Drives	M
Slashers	M
Soapers	M
Spinners	M
Tenter Frames	M
Washers	M
Winders	M
Windless	M

[1]U = Uniform load; M = Moderate shock; H = Heavy shock.

Drive Chain Selection Guidelines

Step 2: Select Service Factor
From the Service Factors Table 2 below, select the number under the type of input power and opposite the class of driven load that most closely relates to the application.

Table 2 — Service Factors

Type of Driven Load	Type of Input Power		
	Internal Combustion Engine with Hydraulic Drive	Electric Motor or Turbine	Internal Combustion Engine with Mechanical Drive
Uniform	1.0	1.0	1.2
Moderate Shock	1.2	1.3	1.4
Heavy Shock	1.4	1.5	1.7

Step 3: Calculate Design Horsepower
Design Horsepower = HP x Service Factor.

The Design Horsepower equals the Horsepower to be transmitted multiplied by the Service Factor selected in Step 2.

Step 4: Select Chain Pitch
Use the Quick Selection Chart (page C-11), to find chain pitch, as follows:

- Locate the design horsepower from Step 4 on the vertical axis.
- Locate the RPM of the small sprocket on the horizontal axis.
- The intersection of the two lines (design horsepower and RPM) will be in an area designated with the suggested chain pitch. If the intersection is near the borderline of the pitch area, the pitches on both sides of the line should be evaluated to obtain the most suitable selection.
- If the chain is not listed in the Quick Selection Chart, go to the Working Load Selection Guidelines.

Step 5: Select Number of Teeth in Small Sprocket
Horsepower Table Ratings for single strand chains are given on pages C-12 - C-15 for each chain pitch. Turn to the page giving the chain pitch obtained in Step 4 and select the number of teeth in the small sprocket:

- Read down the column in the Horsepower Ratings Table under the RPM of the small sprocket until the requested HP Table Rating is located. Read across the table to the first column (Number of Teeth Small Sprocket). This is the smallest number of teeth to specify for this application.
- Note the lubrication type specification in the table for this chain. This type of lubrication must be used to obtain reasonable service life.

Step 6: Determine Number of Teeth in Large Sprocket

$$N = \frac{rn}{R}$$

The number of teeth in the large sprocket equals the RPM of the small sprocket times the number of teeth in the small sprocket divided by the RPM of the large sprocket. Note: Hardened teeth are suggested for sprockets with less than 15 teeth, speeds greater than 600 RPM, ratios over 4:1, or in heavy loading or abrasive environments.

Step 7: Determine Suggested Minimum Center Distance; C = Chain Pitches

$$C = \frac{2N + n}{6}$$

This formula is to be used as a guide to MINIMUM center distances only. The final selection may vary slightly to suit clearance dimensions.

Step 8: Check Final Drive Design
Be sure that the sprockets and chain will fit into the available space.

Step 9: Specify Sprockets
Specify the sprockets selected. See Sprocket section in this catalog.

Step 10: Calculate Chain Length

To order the proper length of chain, use the following calculation:

$$\text{Chain Length in Pitches} = \frac{S}{2} + 2C + \frac{K}{C}$$

- Add number of teeth in small sprocket and number of teeth in large sprocket to obtain S.
- Subtract number of teeth in small sprocket from number of teeth in large sprocket to obtain value D. Find D in Table 3, and note corresponding value K.
- Divide center distance in inches by pitch of chain, obtaining C.
- Using these values, solve the formula above.

$$\text{Chain Length in Feet} = \frac{\text{Length in Pitches x Pitch in Inches}}{12}$$

A chain cannot contain a fractional part of a pitch. If the chain length obtained contains a fractional part of a pitch, use the next higher whole number.

Glossary

N = Number of teeth in large sprocket

n = Number of teeth in small sprocket

R = RPM large sprocket

r = RPM small sprocket

C = Shaft center distance in pitches

S = N + n

D = N - n

Drive Chain Selection Guidelines

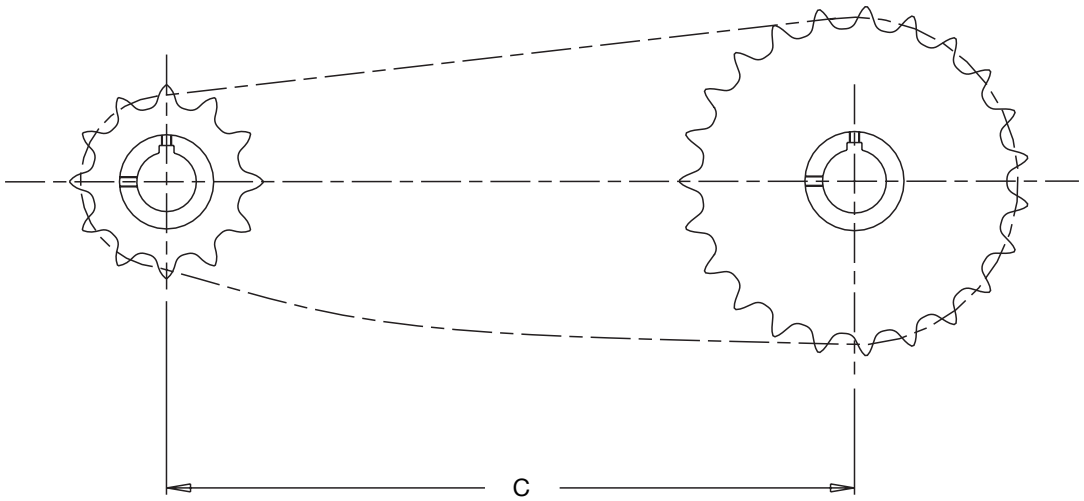


Table 3 — K Values[1]

D	K	D	K	D	K	D	K	D	K	D	K
1	.03	32	25.94	63	100.54	94	223.82	125	395.79	156	616.44
2	.10	33	27.58	64	103.75	95	228.61	126	402.14	157	624.37
3	.23	34	29.28	65	107.02	96	233.44	127	408.55	158	632.35
4	.41	35	31.03	66	110.34	97	238.33	128	415.01	159	640.38
5	.63	36	32.83	67	113.71	98	243.27	129	421.52	160	648.46
6	.91	37	34.68	68	117.13	99	248.26	130	428.08	161	656.59
7	1.24	38	36.58	69	120.60	100	253.30	131	434.69	162	664.77
8	1.62	39	38.53	70	124.12	101	258.39	132	441.36	163	673.00
9	2.05	40	40.53	71	127.69	102	263.54	133	448.07	164	681.28
10	2.53	41	42.58	72	131.31	103	268.73	134	454.83	165	689.62
11	3.06	42	44.68	73	134.99	104	273.97	135	461.64	166	698.00
12	3.65	43	46.84	74	138.71	105	279.27	136	468.51	167	706.44
13	4.28	44	49.04	75	142.48	106	284.67	137	475.42	168	714.92
14	4.96	45	51.29	76	146.31	107	290.01	138	482.39	169	723.46
15	5.70	46	53.60	77	150.18	108	295.45	139	489.41	170	732.05
16	6.48	47	55.95	78	154.11	109	300.95	140	496.47	171	740.68
17	7.32	48	58.36	79	158.09	110	306.50	141	503.59	172	749.37
18	8.21	49	60.82	80	162.11	111	312.09	142	510.76	173	758.11
19	9.14	50	63.33	81	166.19	112	317.74	143	517.98	174	766.90
20	10.13	51	65.88	82	170.32	113	323.44	144	525.25	175	775.74
21	11.17	52	68.49	83	174.50	114	329.19	145	532.57	176	784.63
22	12.26	53	71.15	84	178.73	115	334.99	146	539.94	177	793.57
23	13.40	54	73.86	85	183.01	116	340.84	147	547.36	178	802.57
24	14.59	55	76.62	86	187.34	117	346.75	148	554.83	179	811.61
25	15.83	56	79.44	87	191.73	118	352.70	149	562.36	180	820.70
26	17.12	57	82.30	88	196.16	119	358.70	150	569.93	181	829.85
27	18.47	58	85.21	89	200.64	120	364.76	151	577.56	182	839.04
28	19.86	59	88.17	90	205.18	121	370.86	152	585.23	183	848.29
29	21.30	60	91.19	91	209.76	122	377.02	153	592.96	184	857.58
30	22.80	61	94.25	92	214.40	123	383.22	154	600.73	185	866.93
31	24.34	62	97.37	93	219.08	124	389.48	155	608.56		

[1]Used to calculate chain length. See Step 10 on page C-8.

Alternate Working Load Selection Guidelines

Selection of drive chains not listed in the Quick Selection Chart by the Working Load method:

To use a chain that is not listed in the Quick Selection Chart ,
the proper chain can be selected from the working load values given in the chain listings. The working load required can be determined from the following:

Working Load

$$\frac{(HP) \times (396{,}000) \times (E) \times (V)}{(CP) \times (T) \times (RPM)}$$

Where:

HP = Actual horsepower required. (Use motor HP if actual is not known.)

CP = Chain pitch (inches)

T = Number of teeth in smaller sprocket. (12T are suggested.)

RPM = Speed of smaller sprocket.

E = Speed factor (from Speed Correction Factors Table 11 on page C-51. A 12T sprocket is suggested.)

V = Service factor (obtain from Service Factors Table 10 on page C-51.)

This Working Load formula is not to be compared with the selection tables since the tables involve other considerations in addition to working load. **This formula is intended only to supplement the selection tables for those cases where a chain other than the ones listed in the selection procedure is required.**

When the Working Load has been determined, select a chain which has a rated working load equal to or greater than the working load value.

Calculation of Shaft Centers

Use the following formula to determine the approximate centers in pitches for chain lengths in pitches already determined. Contact Tsubaki Technical Support for fixed center drives.

$$C = \frac{L - \frac{N+n}{2} + \sqrt{\left(L - \frac{N+n}{2}\right)^2 - 8\,\frac{(N-n)^2}{4\pi^2}}}{4}$$

Where:

C = Shaft center distance in pitches.

L = Length of chain in pitches.

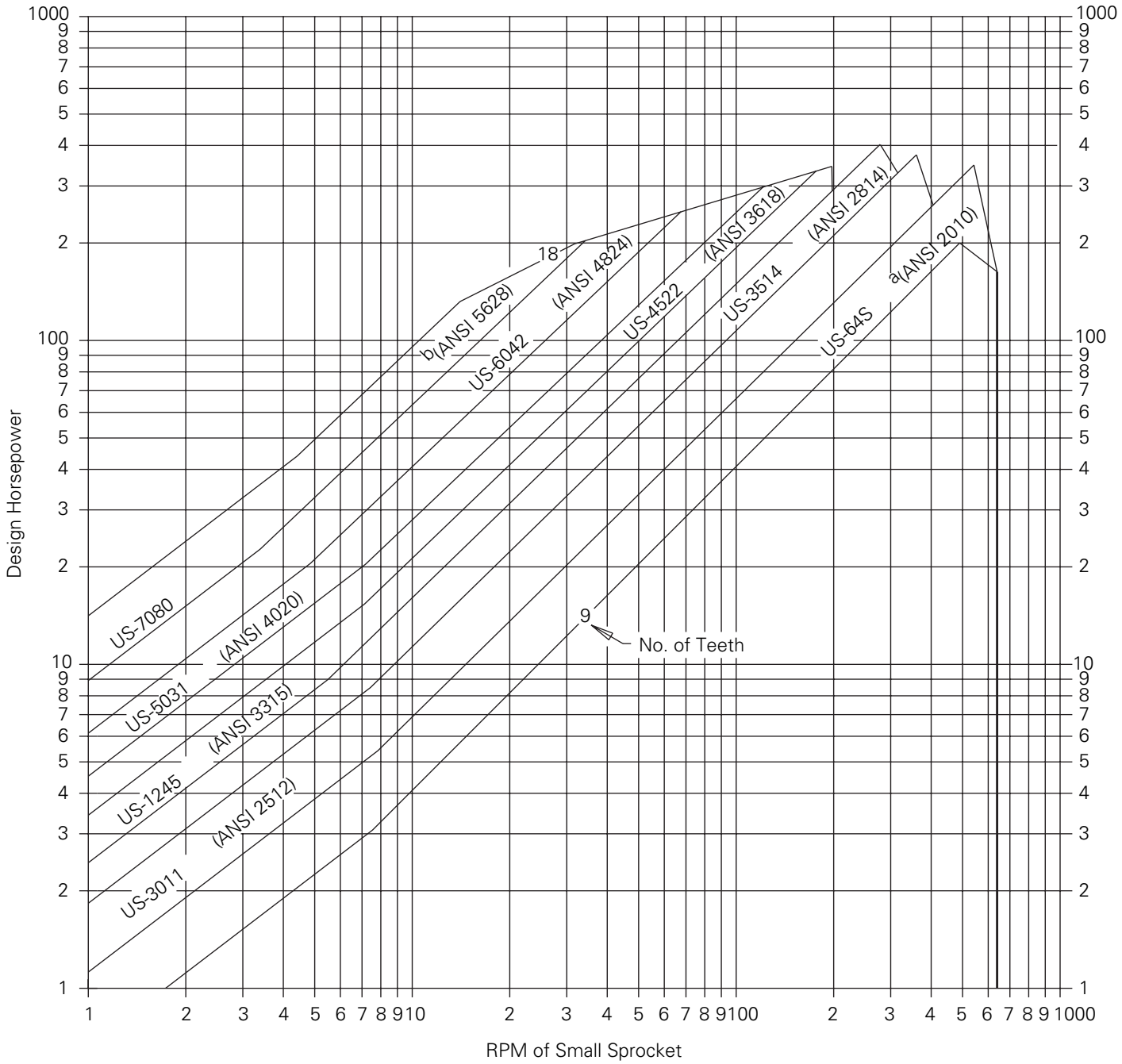
N = Number of teeth in larger sprocket.

n = Number of teeth in smaller sprocket.

π = 3.1416.

Drive Chain Selection Guidelines

Quick Selection Chart



a.This chain has straight sidebars. No. 2010 ANSI standard chain has been assigned. (US-64S does not run on 2010 (US-2570) sprockets.)

b.This chain has straight sidebars. No. 5628 ANSI standard chain has been assigned. (US-7080 does not run on 5628 (US-7060) sprockets.)

Lower line is for 9 tooth US-64S. Top line is for 18 tooth US-7080. Intermediate lines are approximate mid-points for sprocket tooth range shown in HP charts, pages C-12 - C-15. Where the horsepower-RPM intersection lands near a line, both chains on each side should be checked on the charts.

The horsepower ratings in the following pages apply to lubricated single strand Engineering Drive Chains operating on cut tooth sprockets.

Drive Chain Selection Guidelines

Horsepower Ratings US-64S
Heavy Duty Straight Sidebar Power Transmission Chain **2.500" Pitch**

	Horsepower Capacity RPM													
Teeth	**2**	**3**	**7**	**10**	**20**	**30**	**40**	**100**	**200**	**250**	**350**	**450**	**600**	**700**
9	1.1	1.4	2.7	3.9	7.7	11.6	15.4	38.6	77.2	96.5	135.1	100.1	65.0	—
10	1.1	1.5	3.0	4.3	8.6	12.9	17.2	42.9	85.8	107.3	150.2	117.2	76.1	—
11	1.2	1.7	3.3	4.7	9.4	14.2	18.9	47.2	94.4	118.0	165.2	135.2	87.8	—
12	1.3	1.8	3.6	5.1	10.3	15.4	20.6	51.5	103.0	128.7	180.2	154.1	100.1	—
13	1.4	1.9	3.9	5.6	11.2	16.7	22.3	55.8	111.5	139.4	195.2	173.7	112.8	—
14	1.5	2.0	4.2	6.0	12.0	18.0	24.0	60.1	120.1	150.2	210.2	194.2	126.1	—
15	1.5	2.1	4.5	6.4	12.9	19.3	25.7	64.4	128.7	160.9	225.2	215.3	139.9	—
16	1.6	2.2	4.8	6.9	13.7	20.6	27.5	68.6	137.3	171.6	240.3	237.2	154.1	—
17	1.7	2.3	5.1	7.3	14.6	21.9	29.2	72.9	145.9	182.3	255.3	259.8	168.8	—
18	1.8	2.4	5.4	7.7	15.4	23.2	30.9	77.2	154.5	193.1	270.3	283.1	183.9	—
19	1.9	2.5	5.7	8.2	16.3	24.5	32.6	81.5	163.0	203.8	285.3	307.0	—	—
20	1.9	2.6	6.0	8.6	17.2	25.7	34.3	85.8	171.6	214.5	300.3	331.5	—	—
21	2.0	2.7	6.3	9.0	18.0	27.0	36.0	90.1	180.2	225.2	315.3	356.7	—	—
22	2.1	2.8	6.6	9.4	18.9	28.3	37.8	94.4	188.8	236.0	330.4	382.5	—	—
23	2.1	3.0	6.9	9.9	19.7	29.6	39.5	98.7	197.4	246.7	345.4	405.3	—	—
24	2.2	3.1	7.2	10.3	20.6	30.9	41.2	103.0	205.9	257.4	360.4	414.4	—	—
	Manual Lubrication						**Oil Bath**		**Oil Stream Lubrication**					

Horsepower Ratings US-3011
Heavy Duty Offset Sidebar Power Transmission Chain **3.067" Pitch**

	Horsepower Capacity RPM													
Teeth	**1**	**3**	**6**	**10**	**20**	**40**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**
9	1.0	2.4	4.0	6.4	12.7	25.5	63.7	95.6	127.4	159.3	191.1	171.8	140.6	—
10	1.1	2.6	4.3	7.1	14.2	28.3	70.8	106.2	141.6	177.0	212.4	198.9	164.7	—
11	1.2	2.7	4.7	7.8	15.6	31.1	77.9	116.8	155.7	194.7	231.3	215.5	190.0	—
12	1.3	2.9	5.1	8.5	17.0	34.0	85.0	127.4	169.9	212.4	248.6	231.5	216.5	—
13	1.4	3.1	5.5	9.2	18.4	36.8	92.0	138.0	184.1	230.1	265.3	247.0	232.3	—
14	1.4	3.3	5.9	9.9	19.8	39.6	99.1	148.7	198.2	247.8	281.4	262.1	246.4	—
15	1.5	3.5	6.4	10.6	21.2	42.5	106.2	159.3	212.4	265.5	296.9	276.6	260.0	—
16	1.6	3.7	6.8	11.3	22.7	45.3	113.3	169.9	226.5	283.2	312.0	290.6	273.2	—
17	1.7	3.8	7.2	12.0	24.1	48.1	120.3	180.5	240.7	300.9	326.5	304.1	285.9	—
18	1.7	4.0	7.6	12.7	25.5	51.0	127.4	191.1	245.9	318.6	340.5	317.1	—	—
19	1.8	4.2	8.1	13.5	26.9	53.8	134.5	201.8	269.0	336.3	354.0	329.7	—	—
20	1.9	4.3	8.5	14.2	28.3	56.6	141.6	212.4	283.2	354.0	367.1	341.9	—	—
21	1.9	4.5	8.9	14.9	29.7	59.5	148.7	233.0	297.3	371.7	379.6	353.6	—	—
22	2.0	4.7	9.3	15.6	31.1	62.3	155.7	233.6	311.5	389.4	391.7	364.8	—	—
23	2.1	4.9	9.8	16.3	32.6	65.1	162.8	244.2	325.6	407.1	403.4	375.7	—	—
24	2.2	5.1	10.2	17.0	34.0	68.0	169.9	254.9	339.8	424.8	414.6	386.1	—	—
	Manual Lubrication					**Oil Bath**			**Oil Stream Lubrication**					

For continuous operation, some galling of the live bearing surfaces of the chain joints may be expected even though lubrication is as suggested.

The ratings shown on these charts are based on chain which operates over machine cut tooth sprockets.

Drive Chain Selection Guidelines

Horsepower Ratings US-3514
Heavy Duty Offset Sidebar Power Transmission Chain **3.500" Pitch**

	Horsepower Capacity RPM													
Teeth	**1**	**3**	**6**	**10**	**20**	**35**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**325**
9	1.4	3.3	5.5	8.8	17.6	30.8	52.8	88.1	110.1	132.1	176.1	178.7	170.8	—
10	1.5	3.5	6.0	9.8	19.6	34.2	58.7	97.8	122.3	146.8	195.7	196.1	187.4	—
11	1.6	3.8	6.5	10.8	21.5	37.7	64.6	107.6	134.5	161.4	215.2	213.0	203.6	—
12	1.8	4.1	7.0	11.7	23.5	41.1	70.4	117.4	146.8	176.1	234.8	229.5	219.4	—
13	1.9	4.3	7.6	12.7	25.4	44.5	76.3	127.2	159.0	190.8	254.4	245.6	234.7	—
14	2.0	4.6	8.2	13.7	27.4	47.9	82.2	137.0	171.2	205.5	273.9	261.2	249.6	—
15	2.1	4.8	8.8	14.7	29.4	51.4	88.1	146.8	183.4	220.1	292.1	276.3	264.1	—
16	2.2	5.1	9.4	15.7	31.3	54.8	93.9	156.5	195.7	234.8	307.7	291.1	278.2	—
17	2.3	5.3	10.0	16.6	33.3	58.2	99.8	166.3	207.9	249.5	322.8	305.5	—	—
18	2.4	5.5	10.6	17.6	35.2	61.6	105.7	176.1	220.1	264.2	337.6	319.4	—	—
19	2.5	5.8	11.2	18.6	37.2	65.1	111.5	185.9	232.4	278.8	351.9	333.0	—	—
20	2.6	6.0	11.7	19.6	39.1	68.5	117.4	195.7	244.6	293.5	365.8	346.1	—	—
21	2.7	6.2	12.3	20.5	41.1	71.9	123.3	205.5	256.8	308.2	379.3	358.9	—	—
	Manual Lubrication						**Oil Bath**		**Oil Stream Lubrication**					

Horsepower Ratings US-1245
Heavy Duty Offset Sidebar Power Transmission Chain **4.073" Pitch**

	Horsepower Capacity RPM													
Teeth	**1**	**3**	**6**	**10**	**20**	**30**	**40**	**65**	**80**	**100**	**125**	**150**	**200**	**225**
9	2.0	4.7	8.0	12.8	25.5	38.3	51.1	83.0	102.1	127.7	159.6	168.2	166.3	—
10	2.2	5.1	8.7	14.2	28.4	42.6	56.7	92.2	113.5	141.8	177.3	185.0	182.9	—
11	2.4	5.5	9.4	15.6	31.2	46.8	62.4	101.4	124.8	156.0	195.0	201.5	199.2	—
12	2.5	5.9	10.2	17.0	34.0	51.1	68.1	110.6	136.2	170.2	212.8	217.6	215.1	—
13	2.7	6.3	11.1	18.4	36.9	55.3	73.8	119.9	147.5	184.4	230.5	233.4	230.7	—
14	2.9	6.6	11.9	19.9	39.7	59.6	79.4	129.1	158.9	198.6	248.2	248.8	246.0	—
15	3.0	7.0	12.8	21.3	42.6	63.8	85.1	138.3	170.2	212.8	265.9	263.9	261.0	—
16	3.2	7.3	13.6	22.7	45.4	68.1	90.8	147.5	181.6	227.0	280.7	278.7	275.6	—
17	3.3	7.7	14.5	24.1	48.2	72.3	96.5	156.7	192.9	241.1	295.3	293.2	289.9	—
18	3.5	8.0	15.3	25.5	51.1	76.6	102.1	166.0	204.3	255.3	309.6	307.3	303.9	—
19	3.6	8.4	16.2	27.0	53.9	80.9	107.8	175.2	215.6	269.5	323.5	321.2	317.6	—
20	3.8	8.7	17.0	28.4	56.7	85.1	113.5	184.4	227.0	283.7	337.1	334.7	—	—
21	3.9	9.0	17.9	29.8	59.6	89.4	119.2	193.6	238.3	297.9	350.5	347.9	—	—
	Manual Lubrication						**Oil Bath**			**Oil Stream Lubrication**				

For continuous operation, some galling of the live bearing surfaces of the chain joints may be expected even though lubrication is as suggested.

The ratings shown on these charts are based on chain which operates over machine cut tooth sprockets.

Drive Chain Selection Guidelines

TSUBAKI

Horsepower Ratings US-4522
Heavy Duty Offset Sidebar Power Transmission Chain **4.500" Pitch**

	Horsepower Capacity RPM													
Teeth	**1**	**3**	**6**	**10**	**20**	**30**	**35**	**50**	**65**	**80**	**100**	**125**	**150**	**175**
9	2.6	6.0	10.2	16.3	32.6	48.9	57.0	81.5	105.9	130.4	153.8	156.6	158.8	—
10	2.8	6.5	11.1	18.1	36.2	54.3	63.4	90.5	117.7	144.9	169.5	172.5	175.0	—
11	3.0	7.0	12.0	19.9	39.8	59.8	69.7	99.6	129.5	159.4	184.8	188.1	190.8	—
12	3.3	7.5	13.0	21.7	43.5	65.2	76.1	108.7	141.3	173.9	199.8	203.4	206.3	—
13	3.5	8.0	14.1	23.5	47.1	70.6	82.4	117.7	153.0	188.3	214.6	218.4	221.6	—
14	3.7	8.5	15.2	25.4	50.7	76.1	88.7	126.8	164.8	202.8	229.1	233.2	236.6	—
15	3.9	8.9	16.3	27.2	54.3	81.5	95.1	135.8	176.6	217.3	243.4	247.7	251.3	—
16	4.1	9.4	17.4	29.0	58.0	86.9	101.4	144.9	188.3	231.8	257.4	261.9	265.7	—
17	4.2	9.8	18.5	30.8	61.6	92.4	107.8	153.9	200.1	246.3	271.1	275.9	279.9	—
18	4.4	10.2	19.6	32.6	65.2	97.8	114.1	163.0	211.9	260.8	284.6	289.6	293.8	—
19	4.6	10.7	20.6	34.4	68.8	103.2	120.4	172.0	223.7	275.3	297.8	303.1	307.5	—
20	4.8	11.1	21.7	36.2	72.4	108.7	126.8	181.1	235.4	289.8	310.7	316.3	320.9	—
21	5.0	11.5	22.8	38.0	76.1	114.1	133.1	190.1	247.2	304.2	323.5	329.2	334.0	—
	Manual Lubrication						**Oil Bath**			**Oil Stream Lubrication**				

Horsepower Ratings US-5031
Heavy Duty Offset Sidebar Power Transmission Chain **5.000" Pitch**

	Horsepower Capacity RPM													
Teeth	**.5**	**1**	**3**	**6**	**10**	**20**	**30**	**35**	**50**	**65**	**80**	**100**	**125**	**130**
9	2.0	3.4	7.8	13.3	21.1	42.2	63.3	73.8	105.5	133.9	139.3	145.3	151.6	—
10	2.2	3.7	8.5	14.4	23.4	46.9	70.3	82.0	117.2	147.6	153.6	160.2	—	—
11	2.3	3.9	9.1	15.5	25.8	51.6	77.4	90.3	128.9	161.2	167.7	174.9	—	—
12	2.5	4.2	9.7	16.9	28.1	56.3	84.4	98.5	140.7	174.5	181.6	189.4	—	—
13	2.6	4.5	10.3	18.3	30.5	61.0	91.4	106.7	152.4	187.7	195.2	203.7	—	—
14	2.8	4.7	10.9	19.7	32.8	65.6	98.5	114.9	164.1	200.6	208.7	217.7	—	—
15	2.9	5.0	11.5	21.1	35.2	70.3	105.5	123.1	175.8	213.4	222.0	231.6	—	—
16	3.1	5.2	12.1	22.5	37.5	75.0	112.5	131.3	187.5	225.9	235.0	245.2	—	—
17	3.2	5.5	12.7	23.9	39.9	79.7	119.6	139.5	199.3	238.2	247.8	258.6	—	—
18	3.4	5.7	13.3	25.3	42.2	84.4	126.6	147.7	211.0	250.4	260.5	271.7	—	—
	Manual Lubrication							**Oil Bath**		**Oil Stream Lubrication**				

For continuous operation, some galling of the live bearing surfaces of the chain joints may be expected even though lubrication is as suggested.

The ratings shown on these charts are based on chain which operates over machine cut tooth sprockets.

Drive Chain Selection Guidelines

Horsepower Ratings US-6042
Heavy Duty Offset Sidebar Power Transmission Chain **6.000" Pitch**

	Horsepower Capacity RPM													
Teeth	**.5**	**1**	**3**	**6**	**10**	**20**	**30**	**35**	**40**	**45**	**50**	**60**	**70**	**75**
9	3.1	5.3	12.2	20.7	33.0	66.0	96.1	101.5	106.3	110.8	115.0	122.6	129.0	—
10	3.4	5.7	13.2	22.4	36.6	73.3	106.2	112.1	117.5	122.5	127.1	135.5	—	—
11	3.6	6.2	14.2	24.2	40.3	80.6	116.1	122.6	128.5	133.9	139.0	148.2	—	—
12	3.9	6.6	15.2	26.4	44.0	87.9	126.0	133.0	139.4	145.3	150.8	160.8	—	—
13	4.1	7.0	16.2	28.6	47.6	95.3	135.7	143.2	150.1	156.5	162.4	173.2	—	—
14	4.4	7.4	17.1	30.8	51.3	102.6	145.3	153.4	160.8	167.6	173.9	185.4	—	—
15	4.6	7.8	18.0	33.0	55.0	109.9	154.8	163.4	171.3	178.5	185.3	197.5	—	—
16	4.8	8.2	18.9	35.2	58.6	177.3	164.2	173.3	181.6	189.3	196.5	209.5	—	—
17	5.1	8.6	19.8	37.4	62.3	124.6	173.4	183.1	191.9	200.0	207.6	221.3	—	—
18	5.3	9.0	20.7	39.6	66.0	131.9	182.6	192.7	202.0	210.6	218.5	233.0	—	—
	Manual Lubrication									**Oil Bath**		**Oil Stream Lubrication**		

Horsepower Ratings US-7080
Heavy Duty Offset Sidebar Power Transmission Chain **7.000" Pitch**

	Horsepower Capacity RPM													
Teeth	**.1**	**.5**	**1**	**2**	**4**	**6**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**
9	1.3	4.6	7.7	13.1	22.2	30.2	48.1	67.1	76.7	85.0	92.5	99.4	105.7	—
10	1.4	4.9	8.4	14.2	24.0	32.7	53.5	74.2	84.8	94.0	102.3	109.9	—	—
11	1.6	5.3	9.0	15.2	25.9	35.3	58.8	81.2	92.8	103.0	112.0	120.3	—	—
12	1.7	5.7	9.6	16.3	27.6	38.5	64.2	88.2	100.8	111.8	121.7	130.7	—	—
13	1.8	6.0	10.2	17.3	29.4	41.7	69.5	95.1	108.7	120.6	131.2	140.9	—	—
14	1.9	6.4	10.8	18.3	31.1	44.9	74.8	102.0	116.5	129.2	140.6	151.1	—	—
15	2.0	6.7	11.4	19.3	32.7	48.1	80.2	108.8	124.3	137.8	150.0	161.1	—	—
16	2.1	7.1	12.0	20.3	34.4	51.3	85.5	115.5	132.0	146.4	159.3	171.1	—	—
17	2.2	7.4	12.5	21.2	36.4	54.5	90.9	122.2	139.6	154.8	168.5	180.9	—	—
18	2.3	7.7	13.1	22.2	38.5	57.7	96.2	128.8	147.1	163.2	177.5	190.7	—	—
	Manual Lubrication													**Oil Bath**

For continuous operation, some galling of the live bearing surfaces of the chain joints may be expected even though lubrication is as suggested.

The ratings shown on these charts are based on chain which operates over machine cut tooth sprockets.

Drive Chain Selection Guidelines

Standard Selection Procedure Example

Engineering Class Drive Chain From Reducer to Apron Feeder Head Shaft

Select the proper Engineering Drive Chain to transmit power from a reducer to an apron feeder head shaft. The input power will be a 25 HP electric motor. The reducer output RPM will be 15 RPM and the head shaft RPM will be 5 RPM. Reducer shaft is 2 15/16" diameter. Head shaft is 3 15/16" diameter. The shaft centers should be minimum suggested.

Step 1: Determine Class of Driven Load

From Table 1 (Application Classifications), the load class for an apron feeder is M, representing moderate shock. (See Feeders, Apron.)

Step 2: Select Service Factor

From Table 2 (Service Factors), for electric motor and moderate shock is 1.3.

Step 3: Calculate Design Horsepower

Design horsepower equals the horsepower transmitted x service factor of 25 x 1.3 = 32.5.

Step 4: Select Chain Pitch

- From the Engineering Drive Chain Quick Selection Chart locate the vertical axis 32.5 design horsepower.
- Locate on the horizontal axis 15 RPM of the small sprocket.
- The intersection of the 32.5 design horsepower and 15 RPM of the small sprocket lines intersect in the area designating 4.5" pitch US-4522 Engineering Drive Chain as the appropriate selection.

Step 5: Select Number of Teeth in Small Sprocket

Interpolating the US-4522 rating table for 15 RPM, a 12-tooth sprocket will transmit 32.6 HP. **Hardened teeth suggested.** Required lubrication is Type I, manual.

Step 6: Determine Number of Teeth in Large Sprocket

$$\text{Number of teeth in large sprocket} = \frac{15 \times 12}{5} = 36$$

Step 7: Determine Suggested Minimum Center Distance

Approximate minimum center distance =

$$\frac{2\,(36) + 12}{6} = \frac{84}{6} = 14 \text{ Pitches}$$

Step 8: Check Final Drive Design

Check the final drive design.

Step 9: Specify Sprockets

12-Tooth Sprocket for US-4522 Chain. Hardened Steel, Type C Hub, 2 15/16" Diameter Bore, 3/4" x 3/8" KW, and 5/8" SS.

36 Tooth Sprocket for US-4522 Chain. Steel Type C Hub, 3 15/16" Diameter Bore, 1" x 1/2" KW, and 5/8" SS.

Step 10: Calculate Chain Length

$$\text{Chain length} = \frac{S}{2} + 2C + \frac{K}{C}$$

$$= \frac{36 + 12}{2} + 2\,(14) + \frac{14.6}{14}$$

$$= 24 + 28 + 1 = 53 \text{ Pitches}$$

Where:

$S = N + n$

C = Shaft center distance in pitches

K = Constant from Table 3, (page C-9)

Roller Conveyor Chain

Reliable Performance for Your Operation

Protect your in-plant processes with high-quality Roller Conveyor Chain. Tsubaki is an expert in the manufacture of specialized conveyors and chain for all major industries.

Performance Is Built In

Tsubaki Roller Conveyor Chain is backed by innovative engineering. Every step in the process is designed to deliver long-lasting Conveyor Chain for your application. You get better performance and longer service life from Tsubaki.

High-Quality Materials

The steels used to make Tsubaki Roller Conveyor Chain are selected for optimum wear and performance. They are manufactured to fine grain practice to ensure greater strength and toughness. We use premium grades of carbon steels on heat-treated and non-heat-treated chains. That means high strength for long-term, reliable performance at your operation.

Precision Manufacturing

Tsubaki uses sophisticated tooling to maximize precision. Our modern press tools pierce and then broach the holes in the sidebars to provide the best bearing area between the pin and sidebar. This careful attention to detail means longer wear life and greater fatigue strength.

Exacting Assembly

Extreme force is required to set the round parts in sidebars to produce a high interference fit. Tsubaki has developed special, high-speed equipment to ensure accurate assembly.

Stock Chain Items

Tsubaki conducted a survey of the marketplace and identified the most commonly used chains. We stock a large inventory of these chains—the largest in the industry. That means you get the chain you need faster than ever before.

Stock Chain Numbers

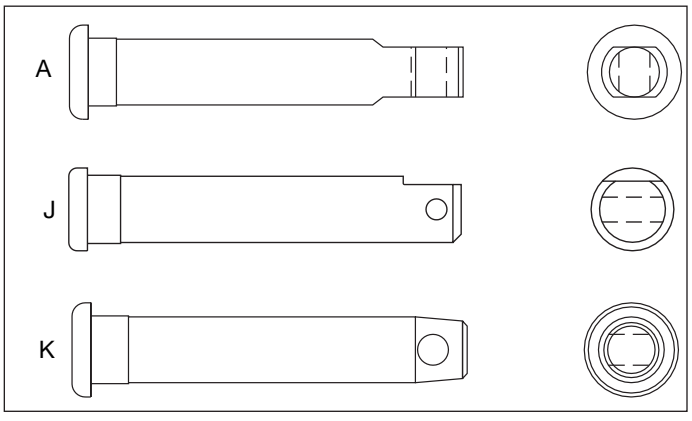
- 53R
- 95R
- 94R
- US-90R
- 89R
- US-196R
- 604R
- 607R
- 627R
- 614R

Roller Conveyor Components

Strong, Long-Lasting Pins

Pins for Tsubaki Conveyor Chains are produced from carbon or alloy steel to stand up to the most rugged conditions. Each is produced with the utmost care to ensure proper fit in the sidebars and a smooth bearing surface. Pins are available in through-hardened, case-hardened, and induction-hardened steel to extend the service life even more.

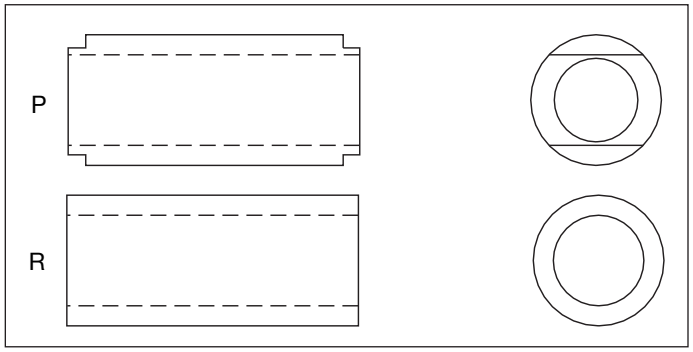
Pin Styles



Smooth Bushings

Bushings are usually produced from carbon or alloy steels, then carburized and case hardened. This heat-treatment, using computer-controlled furnaces, produces high surface hardness for excellent wear with a tough core. Dimensions are carefully controlled to provide a uniform bearing surface and precise fit into the sidebars. Stainless steel bushings are available.

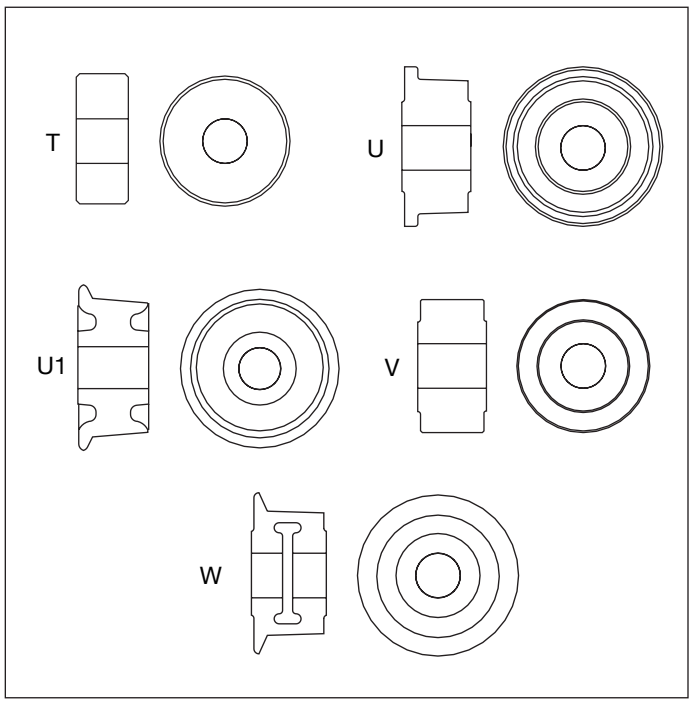
Bushing Styles



Reliable Rollers

Tsubaki offers a variety of steel grades and heat treatments for rollers. Our standard rollers are fabricated using carbon and alloy steels that are carburized and case hardened. They are heat-treated in computer-controlled furnaces to produce a hard bearing surface with a ductile core. Rollers are also available in stainless steels, various plastics, including Delrin and UHMW, and with plastic inserted sleeves on the rollers.

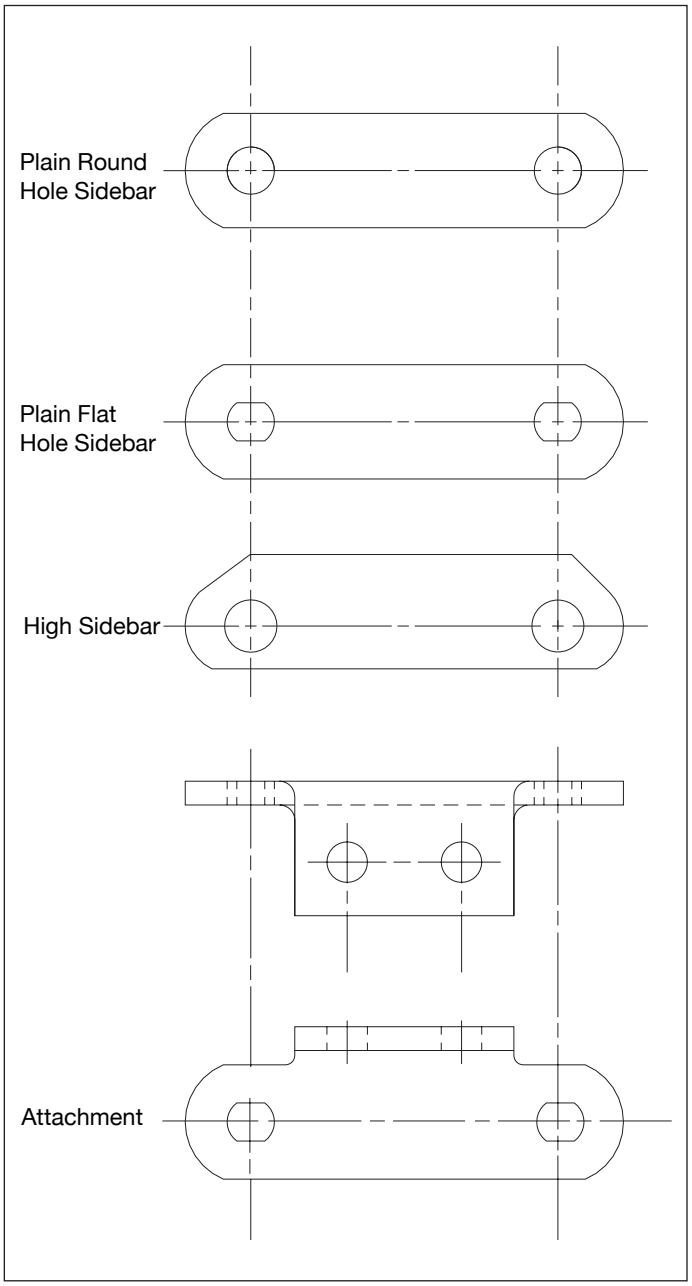
Roller Styles



Precision Manufactured Sidebars

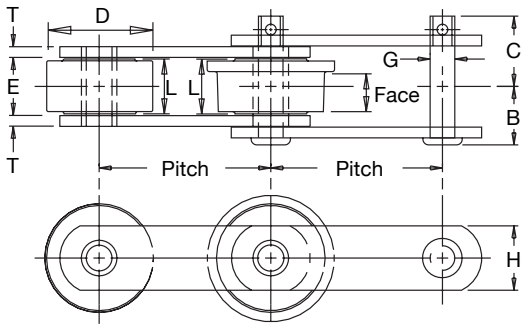
Standard sidebars are made from special grades of carbon or alloy steels to provide tough, long-lasting performance. Stainless steel sidebars are also available for corrosive and high-temperature environments. Pitch and hole size is care-fully controlled to enable the chain to fit precisely with sprockets. This provides proper articulation, extending the life of the chain and the sprockets. Look for the “RX” suffix, which indicates heat-treated sidebars. That means even greater strength and toughness. Also, a wide variety of attachments are available.

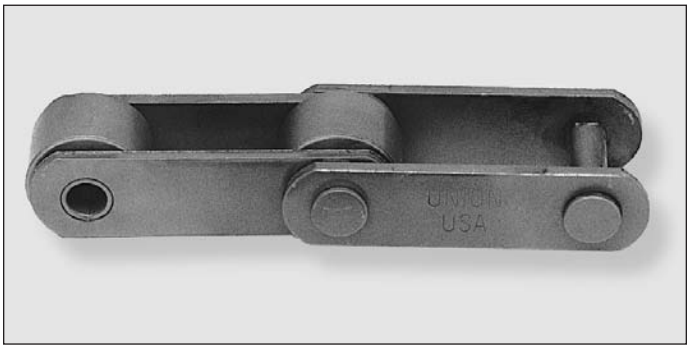
Sidebar Styles



Roller Conveyor Chain

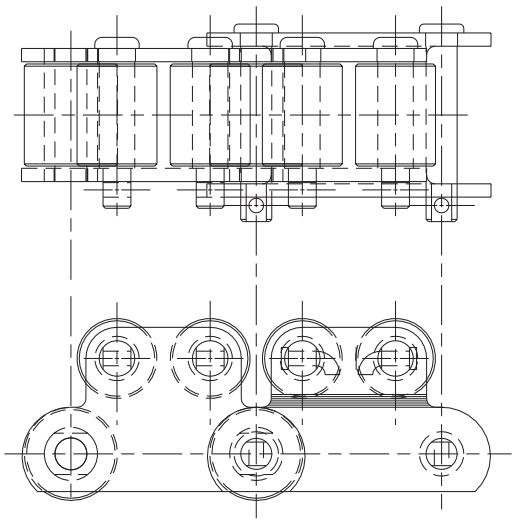
Roller Conveyor Plain Chain



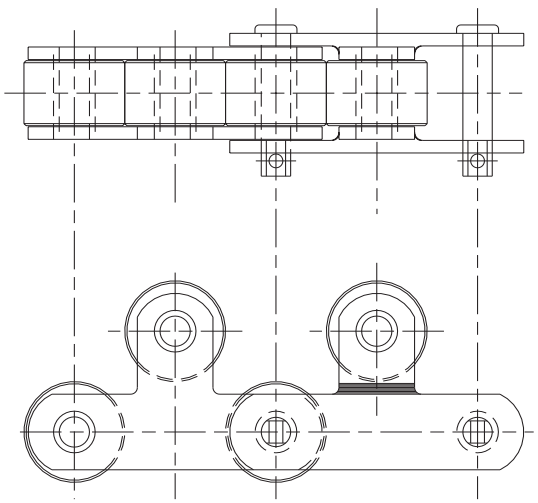


Top Roller Chain

2.609“ Pitch Top Roller Chain



53R Top Roller Chain



Roller Conveyor Chain

TSUBAKI

Roller Conveyor Chain Specifications

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Width			Roller					Pin			Sidebar			Bushing	Bearing Area (in^2)	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Wgt. (lbs./ft.)
		Pin Head to CL	Pin End to CL	Inside	Dia.	Lgth.	Sty.[1]	Matl.[2]	Face Width	Dia.	Sty.[1]	Matl.[2]	Hgt.	Th.	Matl.[2]	Matl.[2]				
		B	**C**	**E**	**D**	**L**				**G**			**H**	**T**						
378R	1.654	1.03	1.25	1.00	.88	.97	T	AHT		.44	A	CHT	1.13	.19	HC	ACH	.61	13,000	2,100	3.7
378RX	1.654	1.03	1.25	1.00	.88	.97	T	AHT		.44	A	CHT	1.13	.19	CHT	ACH	.60	20,000	2,100	3.7
US-278R	2.609	1.13	1.31	1.13	.88	1.09	T	AHT		.44	J	CHT	1.13	.19	HC	CCH	.66	13,000	2,300	3.0
*81X	2.609	.91	1.16	1.06	.91	1.00	T	CCH		.44	K	CCH	1.13	.16	CHT	CCH	.61	24,000	3,480	2.42
87R	2.609	1.20	1.45	1.13	.88	1.06	T	AHT		.44	A	CHT	1.13	.25	HC	CCH	.72	18,000	2,500	3.8
*53R	3.000	1.03	1.25	1.00	1.50	.97	T	PMHT		.44	A	CHT	1.13	.19	CRS	ACH	.61	13,000	2,100	3.9
93R	3.000	1.28	1.47	1.25	1.50	1.19	T	CCH		.50	A	CHT	1.25	.25	HC	ACH	.88	20,000	3,000	4.8
119R	3.075	1.59	1.84	1.50	1.25	1.44	T	AHT		.63	A	ACH	1.50	.31	HC	ACH	1.34	28,000	4,600	6.8
119RX	3.075	1.59	1.84	1.50	1.25	1.44	T	AHT		.63	A	ACH	1.50	.31	CHT	ACH	1.34	48,000	4,600	6.8
*95R	4.000	1.03	1.25	1.00	1.50	.97	T	PMHT		.44	A	CHT	1.13	.19	CRS	ACH	.61	13,000	2,100	3.4
1188R	4.000	1.13	1.28	1.13	1.75	1.06	T	CRS		.44	A	ACH	1.13	.19	CRS	CCH	.66	13,000	2,100	3.3
*94R	4.000	1.11	1.30	.88	1.50	.81	T	PMHT		.50	A	CHT	1.25	.25	CRS	ACH	.61	19,000	2,400	4.1
97R	4.000	1.11	1.30	.88	1.75	.81	T	PMHT		.50	A	CHT	1.25	.25	CRS	ACH	.61	19,000	2,400	4.5
*US-90R	4.000	1.11	1.33	1.19	2.00	1.13	T	CCH		.44	A	CHT	1.25	.19	HC	ACH	.69	16,500	2,400	5.3
83R	4.000	1.38	1.63	1.31	2.00	1.25	T	CCH		.63	A	CHT	1.50	.25	HC	CCH	1.14	22,000	3,650	6.6
91R	4.000	1.50	1.75	1.31	1.75	1.25	T	CRS		.63	A	CHT	1.50	.31	HC	ACH	1.11	28,000	4,100	7.0
*89R	4.000	1.59	1.88	1.31	2.25	1.25	T	CCH		.63	A	CHT	1.50	.38	HC	CCH	1.10	28,000	4,500	10.6
84R	4.000	2.08	2.44	2.31	2.25	2.25	T	CCH		.63	A	CHT	1.50	.38	HC	ACH	1.93	28,000	4,700	13.5
1113R	4.040	1.50	1.75	1.31	2.00	1.25	T	CCH		.63	A	CHT	1.50	.31	HC	ACH	1.09	26,000	4,250	7.4
50001	5.000	1.48	1.68	1.19	2.25	1.16	T	CCH		.63	A	ACH	1.50	.31	CHT	ACH	1.01	45,000	3,960	7.1
6053R	6.000	1.03	1.25	1.00	1.50	.97	T	PMHT		.44	A	CHT	1.13	.19	HC	ACH	.61	13,000	2,100	3.1
*US-196R	6.000	1.20	1.45	1.13	2.00	1.06	T	CCH		.44	A	CHT	1.25	.25	HC	CCH	.72	18,000	2,500	5.0
*604R	6.000	1.33	1.58	1.31	2.00	1.25	T	CCH		.56	A	CHT	1.50	.25	HC	ACH	1.01	21,000	3,500	5.4
*607R	6.000	1.33	1.58	1.31	2.50	1.25	T	CCH		.56	A	CHT	1.50	.25	HC	ACH	1.01	21,000	3,500	6.5
603R	6.000	1.33	1.58	1.31	2.50	1.25	U	AIHT	.88	.56	A	CHT	1.50	.25	HC	ACH	1.01	21,000	3,500	5.5
86R	6.000	1.38	1.63	1.31	2.00	1.25	V	AIHT		.63	A	CHT	1.50	.25	HC	CCH	1.14	22,000	3,600	5.4
1604[3]	6.000	1.22	1.44	1.06	3.00	.88	T	CCH		.50	A	ACH	1.25	.25	CHT	CCH	.78	24,000	2,750	5.4
625R	6.000	1.56	1.81	1.69	3.00	1.63	U	AIHT	1.13	.63	A	CHT	2.00	.25	HC	CCH	1.38	25,000	4,750	9.8
*627R	6.000	1.47	1.75	1.31	2.00	1.25	T	CCH		.63	A	CHT	1.50	.31	HC	ACH	1.22	26,000	4,250	6.6
629R	6.000	1.59	1.84	1.50	3.00	1.44	V	CCH	1.31	.63	A	ACH	1.50	.31	HC	ACH	1.30	26,000	4,650	9.7
628R	6.000	1.59	1.88	1.31	2.25	1.25	T	CRS		.63	A	ACH	1.75	.38	HC	CCH	1.11	28,000	4,500	8.7

Dimensions shown are nominal. Obtain certified prints for design and construction.

*Indicates this chain is normally stocked. All others are made-to-order.

[1]Styles for rollers, pins, sidebars and bushings are shown on pages C-17 - C-18.

[2]Material: CHT = Carbon heat-treated; CCH = Carbon case hardened; AHT = Alloy heat-treated; CRS = Cold rolled steel; AIHT = Alloy iron heat-treated; ACH = Alloy case hardened; HC = High carbon; PMHT = Powdered metal heat-treated.

[3]Offset sidebar.

[4]CC5 is only provided in high sidebar design.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Roller Conveyor Chain

Roller Conveyor Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Width			Roller					Pin			Sidebar			Bushing	Bearing Area (in.^{2})	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Wgt. (lbs./ft.)
		Pin Head to CL	Pin End to CL	Inside	Dia.	Lgth.	Sty.[1]	Matl.[2]	Face Width	Dia.	Sty.[1]	Matl.[2]	Hgt.	Th.	Matl.[2]	Matl.[2]				
		B	C	E	D	L				G			H	T						
626R	6.000	1.59	1.88	1.31	3.00	1.25	V	CCH	1.13	.63	A	ACH	2.00	.38	HC	CCH	1.10	28,000	4,500	10.7
60001	6.000	1.39	1.68	1.19	2.50	1.16	T	CCH		.63	A	ACH	1.50	.31	CHT	ACH	1.01	45,000	3,960	7.4
1126R[3]	6.000	1.59	1.91	1.31	2.25	1.25	T	CRS		.63	A	ACH	1.50	.38	HC	CCH	1.10	28,000	4,500	8.0
1126RS[3]	6.000	1.59	1.91	1.31	3.00	1.25	T	CCH		.63	A	ACH	1.50	.38	HC	CCH	1.10	28,000	4,500	10.0
2130R[3]	6.000	1.72	2.00	1.31	2.50	1.25	T	CCH		.75	A	ACH	2.00	.38	HC	CCH	1.55	38,000	5,250	11.0
631R	6.000	1.63	2.03	1.38	3.00	1.31	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	1.61	38,000	5,600	12.2
614R	6.000	1.63	2.03	1.38	2.50	1.31	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	1.48	38,000	5,600	11.0
B-663R	6.000	1.94	2.38	2.00	3.00	1.94	U	AIHT	1.50	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	14.0
1630R[3]	6.000	1.66	2.03	1.38	2.50	1.31	T	CCH		.88	A	ACH	2.00	.38	HC	ACH	1.66	43,000	6,500	11.0
2184R[3]	6.000	1.66	2.03	1.38	3.00	1.31	V	PMHT	1.18	.88	J	ACH	2.00	.38	HC	ACH	1.66	43,000	6,500	12.3
2184RX[3]	6.000	1.66	2.03	1.38	3.00	1.31	V	PMHT	1.18	.88	J	ACH	2.00	.38	CHT	ACH	1.66	75,000	6,500	12.0
CC5[4]	6.000	1.50	1.69	1.38	2.50	1.31	T	CCH		.69	A	CCH	2.50	.31	HC	CCH	1.38	50,000	4,800	11.0
610R	6.000	1.78	2.19	1.69	2.75	1.63	T	CCH		.88	A	ACH	2.25	.38	HC	CCH	2.16	45,000	7,450	13.5
96R	6.000	1.69	2.09	1.50	2.75	1.44	T	CCH		.75	A	ACH	2.00	.38	HC	ACH	1.61	47,000	5,900	11.8
1131R	6.000	1.69	2.09	1.50	3.00	1.44	T	CCH		.75	A	ACH	2.00	.38	HC	ACH	1.61	47,000	5,900	12.5
96RX	6.000	1.69	2.09	1.50	2.75	1.44	T	CCH		.75	A	ACH	2.00	.38	CHT	ACH	1.61	70,000	5,900	11.8
2198RX	6.000	1.97	2.38	1.50	2.75	1.44	V	CCH	1.31	.88	A	AHT	2.25	.50	CHT	ACH	1.80	100,000	7,700	15.3
2178RX	6.000	1.72	2.09	1.50	2.75	1.44	V	CCH	1.31	.88	A	AHT	2.25	.38	CHT	ACH	2.00	85,000	6,900	13.1
800RX	8.000	2.19	2.63	1.81	3.50	1.75	V	CCH	1.63	1.00	K	ACH	3.00	.50	CHT	ACH	2.81	125,000	9,800	22.5
806R	8.000	2.22	2.63	1.81	3.00	1.75	T	CCH		1.00	K	AHT	2.50	.50	CHT	CCH	2.81	95,000	9,800	22.5
896R	8.000	1.69	2.09	1.50	3.50	1.44	V	CCH	1.31	.75	A	ACH	2.00	.38	HC	ACH	1.70	47,000	5,900	14.3
925R	9.000	1.56	1.84	1.69	3.00	1.63	U	AIHT	1.13	.63	A	CHT	2.00	.25	HC	CCH	1.38	25,000	4,150	8.2
B-912R	9.000	1.59	1.88	1.50	3.00	1.44	V	CCH	1.38	.63	A	ACH	2.00	.31	HC	ACH	1.34	47,000	4,650	8.6
B-963R	9.000	1.94	2.34	2.00	3.50	1.94	U	AIHT	1.25	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	13.0
D-963R	9.000	1.94	2.34	2.00	3.50	1.94	V	CCH	1.81	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	13.0
E-963R	9.000	1.94	2.34	2.00	4.00	1.94	W	AIHT	1.25	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	14.0
961R[3]	9.000	2.25	2.69	1.91	1.75	1.91	T	AHT		.88	A	ACH	2.25	.50	HC	CCH	2.56	60,000	9,000	10.0
4004	9.000	2.63	3.03	2.63	3.00	2.56	T	CCH		1.00	K	AHTIH	2.50	.50	HC	ACH	3.63	75,000	12,700	18.0
973R	9.000	2.59	3.06	2.63	5.00	2.56	U1	AIHT	1.75	1.00	K	AHT	2.50	.50	HC	ACH	3.63	75,000	12,700	23.6
B-964R	9.000	2.09	2.47	2.25	4.00	2.19	W	AIHT	1.50	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	9,200	17.0
965R	9.000	2.09	2.47	2.25	3.00	2.19	V	CCH	2.06	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	9,200	16.5
4009	9.000	2.06	2.50	2.19	3.00	2.13	T	CCH		.88	K	AIH	2.50	.38	AHT	ACH	2.60	67,000	9,200	13.0
4065	9.000	3.06	3.38	3.06	4.25	3.00	V	CCH	2.88	1.25	K	AIH	3.50	.63	HC	CCH	5.40	148,000	18,900	35.7
B-1212R	12.000	1.59	1.88	1.50	3.00	1.44	V	CCH	1.38	.63	A	ACH	2.00	.31	HC	ACH	1.34	41,000	4,650	7.5
B-1263R	12.000	1.94	2.34	2.00	3.50	1.94	U	AIHT	1.25	.75	A	CHT	2.00	.38	HC	CCH	2.07	41,000	7,200	11.0
D-1263R	12.000	1.94	2.34	2.00	3.50	1.94	V	CCH	1.81	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	11.0
E-1263R	12.000	1.94	2.34	2.00	4.00	1.94	W	AIHT	1.25	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	12.0
B-1266R	12.000	1.88	2.16	1.63	3.25	1.56	V	CCH	1.38	.75	A	CHT	2.00	.38	HC	CCH	1.79	41,000	6,300	9.5
1276R	12.000	1.94	2.22	2.00	4.00	1.94	U	AIHT	1.25	.75	A	CHT	2.50	.31	HC	CCH	1.97	41,000	7,200	12.0
1273R	12.000	2.59	3.06	2.63	5.00	2.56	U1	AIHT	1.75	1.00	K	CHT	2.50	.50	HC	ACH	3.63	75,000	12,700	21.5
B-1264R	12.000	2.09	2.47	2.25	4.00	2.19	W	AIHT	1.50	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	9,200	15.0
1265R	12.000	2.09	2.47	2.25	3.00	2.19	V	CCH	2.06	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	10,000	12.7
1271R	12.000	2.66	3.06	2.75	5.00	2.69	W	AIHT	1.75	1.25	K	AHT	3.00	.50	HC	CCH	4.69	100,000	16,400	27.0
B-1863R	18.000	1.94	2.34	2.00	3.50	1.94	V	AIHT	1.81	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	9.5
D-1863R	18.000	1.94	2.34	2.00	3.50	1.94	U	AIHT	1.25	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	9.5
F-1863R	18.000	1.94	2.34	2.00	4.00	1.94	U1	AIHT	1.25	.75	A	CHT	2.00	.38	HC	ACH	2.07	41,000	7,200	10.0
B-1864R	18.000	2.09	2.47	2.25	4.00	2.19	W	AIHT	1.50	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	9,200	12.0
G-1864R	18.000	2.09	2.47	2.25	4.00	2.19	V	CCH	2.00	.88	J	CHT	2.50	.38	HC	ACH	2.65	70,000	9,200	11.0
1873R	18.000	2.59	3.06	2.63	5.00	2.56	U1	AIHT	1.75	1.00	K	AHT	2.50	.50	HC	ACH	3.63	75,000	12,700	17.0
1871R	18.000	2.66	3.06	2.75	5.00	2.69	W	AIHT	1.75	1.25	K	AHT	3.00	.50	HC	ACH	4.69	100,000	16,400	21.0
1866R	18.000	3.03	3.47	2.75	6.00	2.69	U1	AIHT	1.88	1.25	K	CCH	3.00	.63	HC	CCH	5.01	115,000	17,500	26.5
1867R	18.000	3.28	3.59	3.00	6.00	2.94	U1	AIHT	1.88	1.50	K	CCH	3.50	.63	HC	CCH	6.39	150,000	22,300	31.5

Dimensions shown are nominal. Obtain certified prints for design and construction.

[1]Styles for rollers, pins, sidebars, and bushings are shown on pages C-17 - C-18.

[2]Material: CHT = Carbon heat-treated; CCH = Carbon case hardened; AHT = Alloy heat-treated; CRS = Cold rolled steel; AIHT = Alloy iron heat-treated; ACH = Alloy case hardened; HC = High carbon; PMHT = Powdered metal heat-treated.

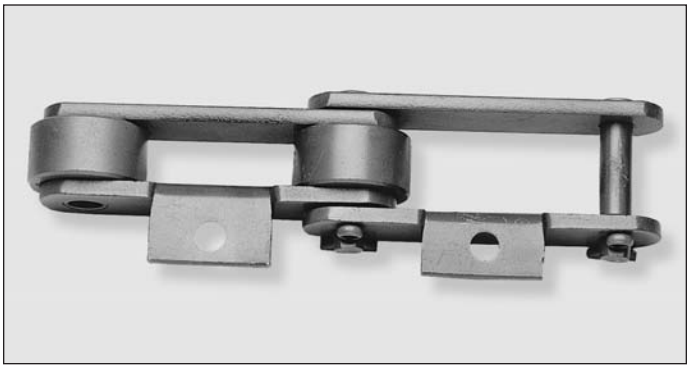
[3]Offset sidebar.

[4]CC5 is only provided in high sidebar design.

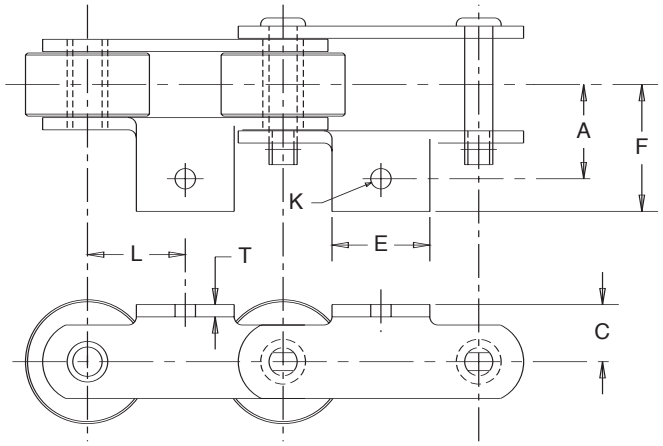
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

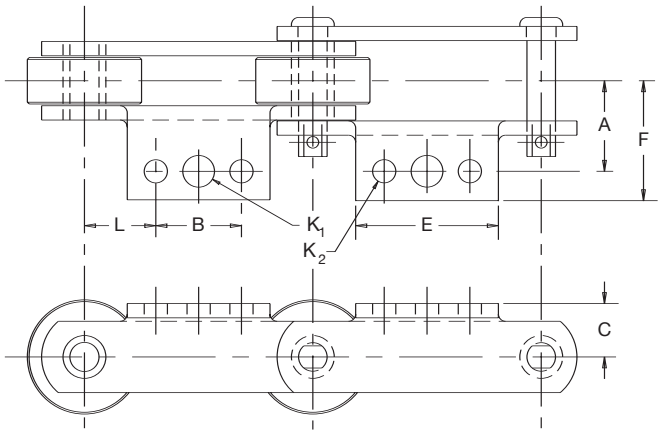
Roller Conveyor Chain Attachments



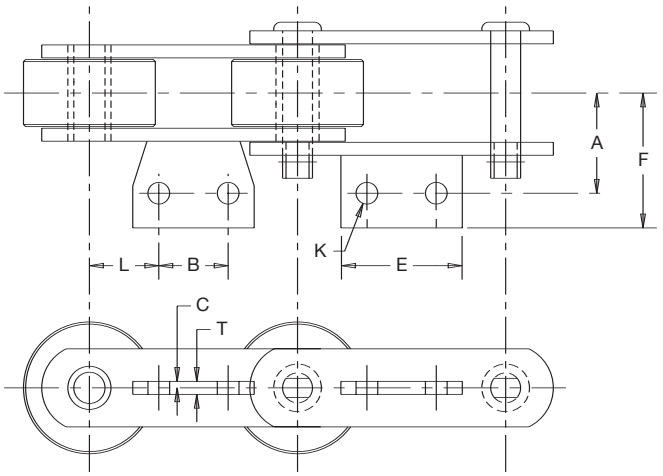
A-1 Attachment



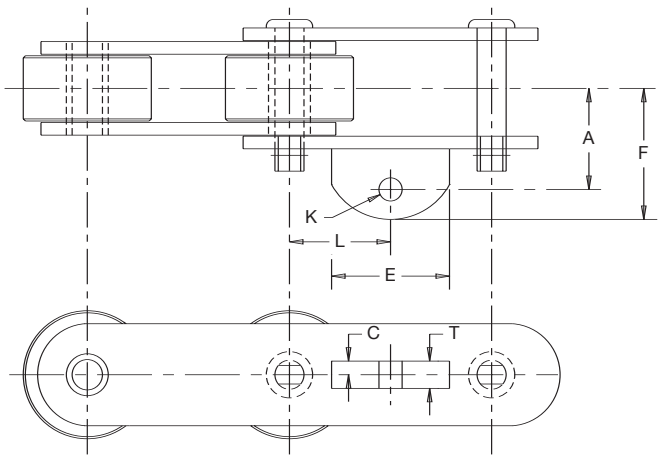
A-1/A-2 Attachment



A-11 and A-63 Attachment



A-22 and A-42 Attachment



Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications

All dimensions are in inches unless otherwise indicated.

Attachment Number	Chain Number						Bolt Diameter				Approx. Weight (lbs./ft.)
		A	B	C	E	F	K_1	K_2	L	T	
A-1	53R	1.47		.81	2.00	2.16	.31		1.50	.19	4.4
	83R	2.00		1.00	2.00	2.84	.38		2.00	.25	8.1
	84R	2.66		1.25	2.00	3.66	.63		2.00	.38	18.0
	89R	2.00		1.25	2.00	3.17	.38		2.00	.38	11.0
	US-90R	2.00		1.13	3.13	2.63	.38		2.00	.19	6.3
	91R	1.81		1.06	2.88	2.47	.50		2.00	.31	7.9
	93R	1.88		1.00	1.63	2.69	.50		1.34	.25	5.5
	94R	1.38		.88	2.50	1.88	.38		2.00	.25	4.7
	95R	1.38		.81	2.63	2.16	.38		2.00	.19	3.9
	119R	2.09		1.06	2.88	2.80	.50		1.54	.31	7.9
	US-196R	2.00		1.25	3.50	2.63	.38		3.00	.25	6.6
	US-278R	1.91		.88	2.13	2.52	.38		1.30	.19	3.5
	378R	1.50		.88	.88	1.89	.31		.83	.19	4.4
	603R	2.00		1.13	3.50	2.70	.38		3.00	.25	8.8
	604R	2.00		1.13	3.50	2.72	.38		3.00	.25	6.3
	607R	2.00		1.13	3.50	2.70	.38		3.00	.25	7.4
	610R	2.56		1.50	4.00	3.33	.63		3.00	.38	15.4
	614R	2.13		1.63	2.50	3.08	.50		3.00	.38	13.0
	1188R	1.72		1.00	3.38	2.53	.38		2.00	.19	5.0
	50001	1.69		1.13	2.25	2.31	.50		2.50	.31	8.1
A-1/A-2	53R	1.47	1.06	.81	2.00	2.16	.31	.25	.97	.19	4.4
	US-90R	2.00	2.00	1.13	3.13	2.63	.38	.38	1.00	.19	6.3
	94R	1.38	1.50	.88	2.50	1.88	.38	.38	1.25	.25	4.7
	95R	1.38	1.19	.81	2.63	2.16	.31	.38	1.41	.19	3.9
A-11	53R	1.58	1.06	.09	2.00	1.94	.25		.97	.19	4.4
	94R	1.75	1.38	.13	2.50	2.50	.50		1.31	.25	5.2
	603R	2.56	2.25	.13	3.25	3.06	.25		1.88	.25	7.6
	604R	2.56	2.25	.13	3.25	3.06	.38		1.88	.25	7.6
	607R	2.56	2.25	.13	3.25	3.17	.38		1.88	.25	7.6
	614R	2.75	2.88	.19	4.50	3.56	.50		1.56	.38	12.5
	626R	2.19	2.25	.13	3.25	2.88	.38		1.88	.25	12.0
A-63	53R	1.63	.63	.09	1.50	2.09	.25		1.19	.19	4.4
A-22	94R	1.84		.19	1.25	2.44	.38		2.00	.38	4.5
	614R	2.25		.25	2.00	3.06	.50		3.00	.38	11.9
A-42	53R	1.56		.13	1.00	2.00	.38		1.50	.25	4.2
	86R	2.34		.19	2.00	3.16	.50		3.00	.38	6.4
	95R	1.63		.19	1.25	2.13	.38		2.00	.38	3.6
	119R	2.00		.25	1.38	2.69	.63		1.50	.50	7.5
	604R	2.34		.25	2.00	3.16	.63		3.00	.50	6.2
	614R	2.75		.25	2.00	3.75	.63		3.00	.50	12.3
	631R	2.75		.25	2.00	3.50	.63		3.00	.50	13.5
	1131R	2.84		.25	2.00	3.84	.63		3.00	.50	13.8
	1604R	2.31		.25	2.00	3.06	.63		3.00	.50	6.7
	2184RX	2.63		.25	2.00	3.63	.63		3.00	.50	13.6

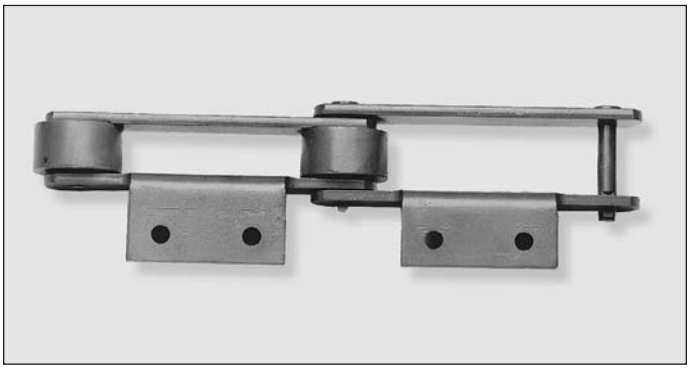
Note: Some A-1 attachments are supplied with three holes. Use the center hole.

Style “A” attachments are furnished on the cottered side as standard. If requested, they can be furnished on the opposite side of the chain.

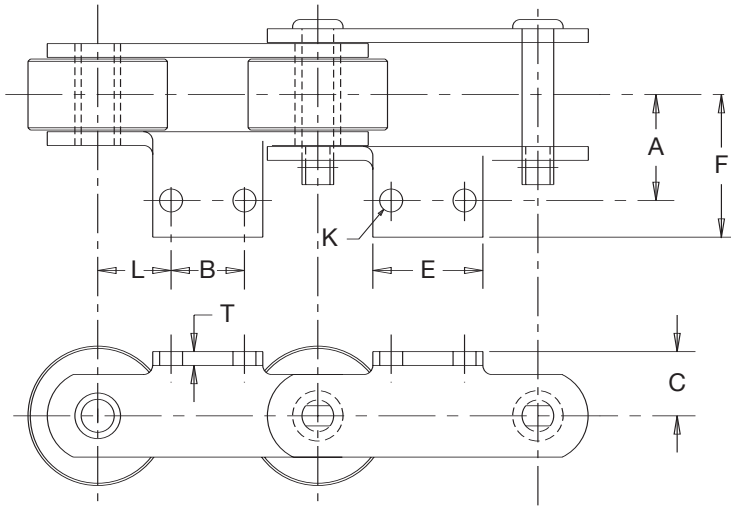
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

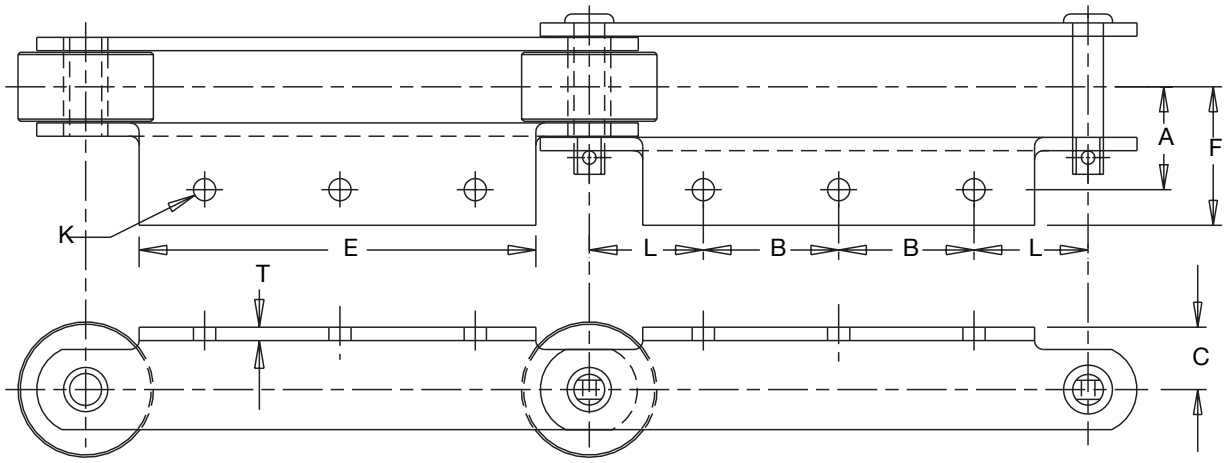
Roller Conveyor Chain Attachments

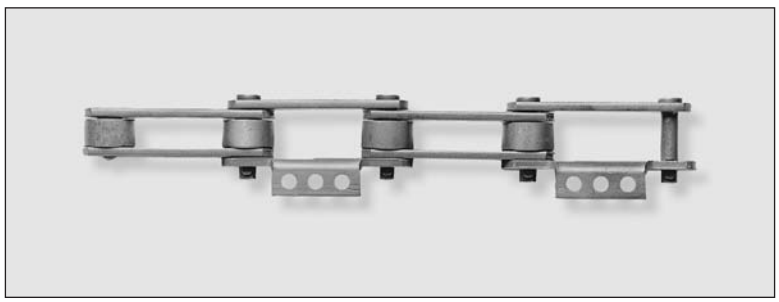


A-2 Attachment



A-3 Attachment





Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

Attachment Number	Chain Number						Bolt Diameter			Approx. Weight (lbs./ft.)
		A	B	C	E	F	K	L	T	
A-2	53R	1.47	1.06	.81	2.00	2.16	.25	.97	.19	4.4
	83R	2.00	1.75	1.00	2.88	2.84	.38	1.13	.25	8.1
	84R	2.66	1.75	1.25	2.88	3.41	.38	1.13	.38	18.0
	86R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	6.2
	87R	2.13	1.25	.81	2.13	2.63	.31	.68	.25	4.8
	US-90R	2.00	2.00	1.13	3.13	2.63	.38	1.00	.19	6.3
	91R	1.81	1.75	1.06	2.88	2.47	.50	1.13	.31	7.9
	93R	1.88	1.25	1.00	2.00	2.69	.38	.88	.25	5.5
	94R	1.38	1.50	.88	2.50	1.88	.38	1.25	.25	4.7
	95R	1.38	1.19	.81	2.63	2.16	.31	1.41	.19	3.9
	96R	2.19	3.00	1.63	5.50	3.00	.50	1.50	.38	13.7
	119R	2.00	1.88	1.25	2.88	2.56	.31	.59	.31	7.9
	US-196R	2.00	2.00	1.25	3.50	2.63	.38	2.00	.25	6.6
	US-278R	2.09	1.25	.81	2.13	2.72	.31	.68	.19	3.9
	603R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	8.9
	604R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	6.0
	607R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	6.9
	614R	2.13	2.63	1.63	5.50	2.92	.50	1.69	.38	13.0
	625R	2.19	2.00	1.63	4.63	2.91	.38	2.00	.25	12.5
	626R	2.19	2.00	1.63	3.50	3.05	.38	2.00	.38	12.7
	627R	2.00	2.00	1.13	3.50	2.80	.38	2.00	.31	8.5
	628R	2.36	2.00	1.63	3.50	3.25	.50	2.00	.38	10.2
	629R	2.00	2.50	2.00	3.50	2.86	.38	1.75	.31	11.7
	631R	2.13	2.63	1.63	5.50	2.92	.50	1.69	.38	14.2
	60001	2.08	2.13	1.25	3.25	2.69	.38	1.94	.31	8.4
	B-912R	2.56	3.50	1.75	5.50	3.91	.50	2.75	.25	11.1
	925R	2.50	3.50	1.75	5.50	3.38	.50	2.75	.25	10.7
	B-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	14.6
	C-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	15.0
	D-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	13.9
	E-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	13.9
	B-964R	3.00	3.50	2.88	5.50	4.41	.50	2.75	.31	19.4
	973R	3.75	3.50	3.63	5.50	4.88	.50	2.75	.38	26.0
	1113R	2.06	1.50	1.25	2.88	2.77	.38	1.27	.31	9.3
	1131R	3.00	2.63	1.63	5.50	3.75	.50	1.69	.38	15.5
	1188R	2.00	2.00	1.00	3.50	2.78	.38	1.00	.19	5.0
	B-1212R	2.56	6.00	1.75	8.00	3.56	.50	3.00	.25	9.5
	B-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	12.9
	D-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	13.1
	E-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	14.3
	B-1264R	3.00	6.00	2.88	8.00	4.41	.50	3.00	.31	17.1
	B-1266R	2.69	6.00	1.88	8.00	3.69	.50	3.00	.25	11.5
	1273R	3.75	6.00	3.63	8.00	5.34	.50	3.00	.38	25.8
	1276R	3.03	6.00	2.75	8.00	4.13	.50	3.00	.25	16.9
A-3	B-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	11.4
	D-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	11.9
	F-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	12.3
	B-1864R	3.00	11.00	2.88	14.00	4.00	.50	3.50	.31	15.1
	G-1864R	3.00	11.00	2.88	14.00	4.00	.50	3.50	.31	14.9
	1866R	4.00	11.00	4.13	13.50	5.17	.50	3.50	.38	32.0
	1867R	4.13	10.00	4.13	13.00	5.28	.50	4.00	.38	37.0
	1871R	3.75	11.00	3.63	14.00	4.91	.50	3.50	.38	26.3
	1873R	3.75	11.00	3.63	14.00	4.84	.50	3.50	.38	22.3

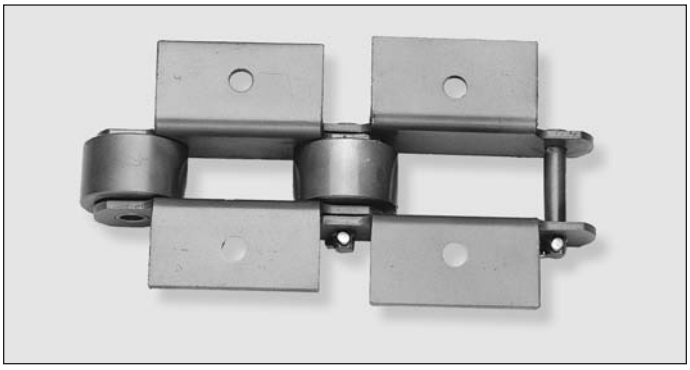
Note: Some A-2 attachments are supplied with three holes. Use the two outside holes.

Style “A” attachments are furnished on the cottered side as standard. If requested, they can be furnished on the opposite side of the chain.

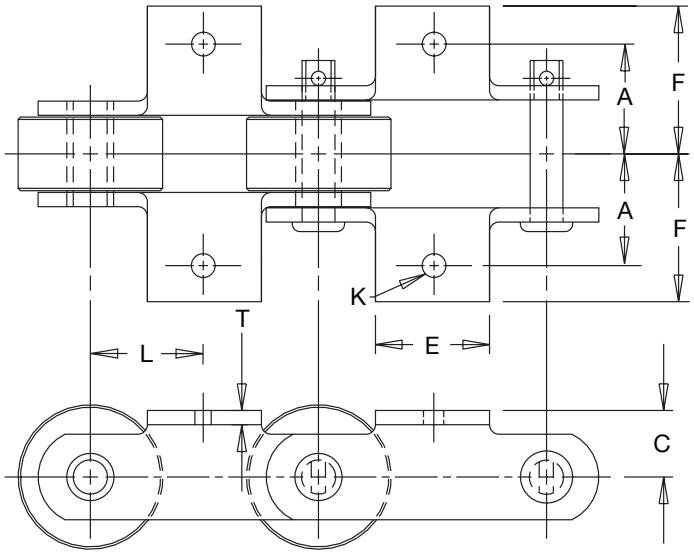
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

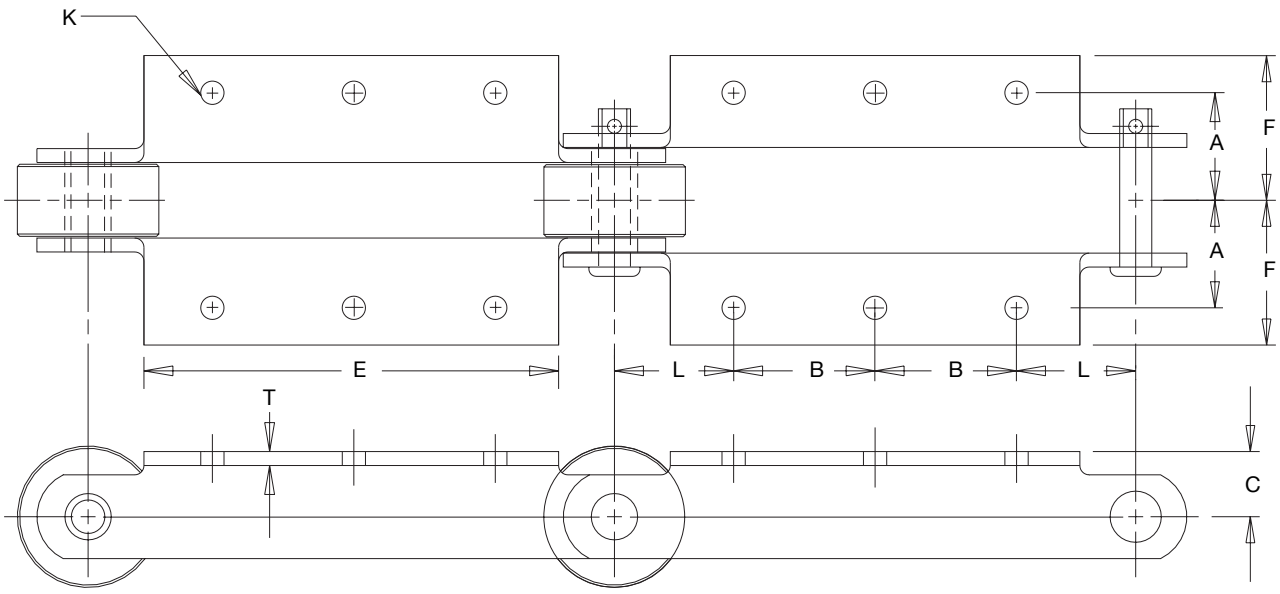
Roller Conveyor Chain Attachments

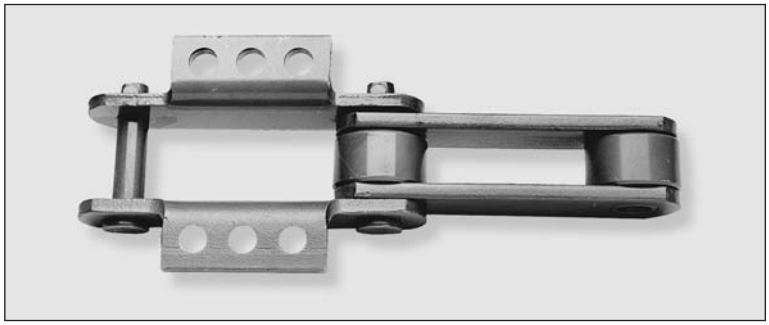


K-1 Attachment



K-3 Attachment





Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

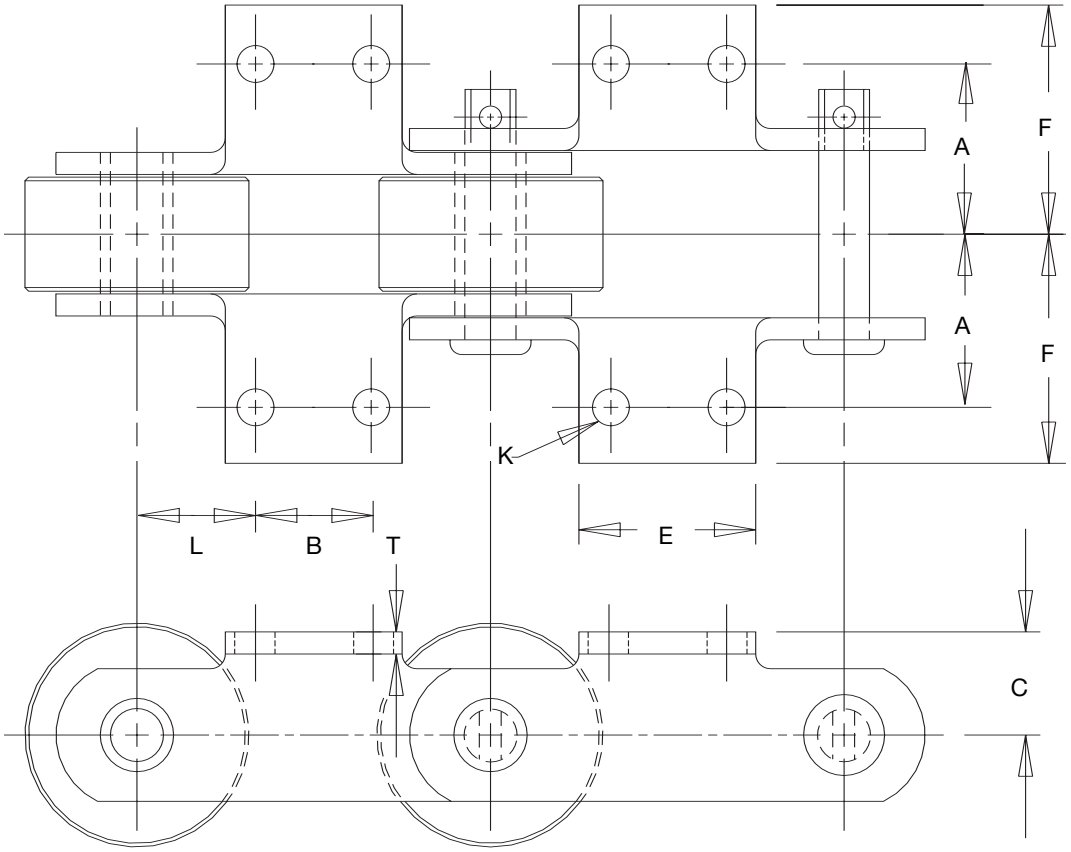
Attachment Number	Chain Number						Bolt Diameter			Approx. Weight (lbs./ft.)
		A	B	C	E	F	K	L	T	
K-1	53R	1.47		.81	2.00	2.16	.31	1.50	.19	4.9
	83R	2.00		1.00	2.00	2.84	.38	2.00	.25	9.4
	84R	2.66		1.25	2.00	3.66	.63	2.00	.38	20.7
	89R	2.00		1.25	2.00	3.17	.38	2.00	.38	13.0
	US-90R	2.00		1.13	3.13	2.63	.38	2.00	.19	7.3
	91R	1.81		1.06	2.88	2.47	.50	2.00	.31	8.8
	93R	1.88		1.00	1.63	2.69	.50	1.34	.25	6.0
	94R	1.38		.88	2.50	1.88	.38	2.00	.25	5.3
	95R	1.38		.81	2.63	2.16	.38	2.00	.19	4.4
	96R	2.19		1.63	5.50	2.89	.63	3.00	.38	15.8
	119R	2.09		1.06	2.88	2.80	.50	1.54	.31	9.0
	US-196R	2.00		1.25	3.50	2.63	.38	3.00	.25	7.5
	US-278R	1.91		.81	2.13	2.47	.38	1.30	.19	4.1
	378R	1.50		.88	.88	1.89	.31	.83	.19	5.1
	603R	2.00		1.13	3.50	2.72	.38	3.00	.25	9.7
	604R	2.00		1.13	3.50	2.72	.38	3.00	.25	7.2
	607R	2.00		1.13	3.50	2.78	.38	3.00	.25	8.3
	610R	2.56		1.50	4.00	3.32	.63	3.00	.38	17.3
	614R	2.13		1.63	2.50	3.08	.50	3.00	.38	15.0
	1188R	1.72		1.00	3.38	2.58	.38	2.00	.19	5.9
K-3	B-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	14.1
	D-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	14.6
	F-1863R	2.88	5.50	2.50	14.00	4.28	.50	3.50	.25	15.0
	B-1864R	3.00	5.50	2.88	14.00	4.00	.50	3.50	.31	17.3
	G-1864R	3.00	5.50	2.25	14.00	4.00	.50	3.50	.31	18.6
	1866R	4.00	5.50	4.13	13.50	5.16	.50	3.50	.38	37.7
	1867R	4.13	5.00	4.13	13.00	5.28	.50	4.00	.38	42.5
	1871R	3.75	5.50	3.63	14.00	4.91	.50	3.50	.38	31.7
	1873R	3.75	5.50	3.63	14.00	4.84	.50	3.50	.38	27.7

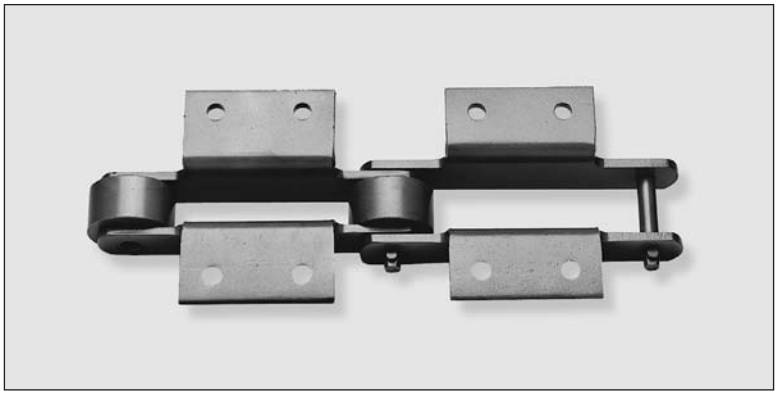
Note: Some K-1 attachments are supplied with three holes. Use the center hole.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

K-2 Attachment





Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

Attachment Number	Chain Number						Bolt Diameter			Approx. Weight (lbs./ft.)
		A	B	C	E	F	K	L	T	
K-2	53R	1.47	1.06	.81	2.00	2.16	.25	.97	.19	4.9
	83R	2.00	1.75	1.00	2.88	2.84	.38	1.13	.25	9.4
	84R	2.66	1.75	1.25	2.88	3.41	.38	1.13	.38	20.7
	87R	2.13	1.25	.81	2.13	2.63	.31	.68	.25	5.8
	US-90R	2.00	2.00	1.13	3.25	2.63	.38	1.00	.19	7.3
	91R	1.81	1.75	1.06	2.88	2.47	.50	1.13	.31	8.8
	93R	1.88	1.25	1.00	2.00	2.69	.38	.88	.25	6.0
	94R	1.38	1.50	.88	2.50	1.88	.38	1.25	.25	5.3
	95R	1.38	1.19	.81	2.63	2.16	.31	1.41	.19	4.4
	96R	2.19	3.00	1.63	5.50	3.00	.50	1.50	.38	15.8
	96RX	2.19	3.00	1.63	5.50	2.93	.50	1.50	.38	15.8
	119R	2.00	1.88	1.25	2.88	2.56	.31	.59	.31	9.0
	US-196R	2.00	2.00	1.25	3.50	2.63	.38	2.00	.25	7.5
	US-278R	2.09	1.25	.81	2.13	2.72	.31	.68	.19	4.1
	603R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	9.1
	604R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	7.0
	607R	2.00	2.00	1.13	3.50	2.72	.38	2.00	.25	7.4
	614R	2.13	2.63	1.63	5.50	2.92	.50	1.69	.38	15.0
	625R	2.19	2.00	1.63	4.63	2.91	.38	2.00	.25	13.9
	626R	2.19	2.00	1.63	3.50	3.05	.38	2.00	.38	14.7
	627R	2.00	2.00	1.13	3.50	2.80	.38	2.00	.31	10.7
	628R	2.38	2.00	1.63	3.50	3.25	.50	2.00	.38	11.7
	629R	2.00	2.50	2.00	3.50	2.86	.38	1.75	.31	13.7
	631R	2.13	2.63	1.63	5.50	2.92	.50	1.69	.38	16.4
	800RX	2.59	4.50	2.19	7.00	3.55	.63	1.75	.50	26.1
	806R	2.59	3.50	2.19	6.88	3.80	.63	2.25	.50	22.5
	B-912R	2.56	3.50	1.75	5.50	3.91	.50	2.75	.25	13.1
	925R	2.50	3.50	1.75	5.50	3.38	.50	2.75	.25	13.2
	B-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	16.6
	D-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	16.0
	E-963R	2.88	3.50	2.50	5.50	4.28	.50	2.75	.25	18.5
	B-964R	3.00	3.50	2.88	5.50	4.41	.50	2.75	.31	22.3
	973R	3.00	3.00	3.00	5.00	4.00	.50	2.00	.38	30.0
	1113R	2.06	1.50	1.25	2.88	2.77	.38	1.27	.31	11.0
	1131R	3.00	2.63	1.63	5.50	3.75	.50	1.69	.38	18.4
	1188R	2.00	2.00	1.00	3.50	2.78	.38	1.00	.19	5.9
	B-1212R	2.56	6.00	1.75	8.00	3.56	.50	3.00	.25	11.7
	B-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	15.2
	D-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	15.4
	E-1263R	2.88	6.00	2.50	8.00	4.28	.50	3.00	.25	16.6
	B-1264R	3.00	6.00	2.88	8.00	4.41	.50	3.00	.31	20.3
	B-1266R	2.69	6.00	1.88	8.00	3.69	.50	3.00	.25	14.0
	1273R	3.75	6.00	3.63	8.00	5.34	.50	3.00	.38	30.4
	1276R	3.03	6.00	2.75	8.00	4.13	.50	3.00	.25	19.2
	2178RX	2.19	3.00	1.63	4.50	3.02	.50	1.50	.38	15.3
	2198R	2.19	3.00	1.63	4.50	3.31	.50	1.50	.50	18.2
	2198RX	2.19	3.00	1.63	4.50	3.31	.50	1.50	.50	18.2

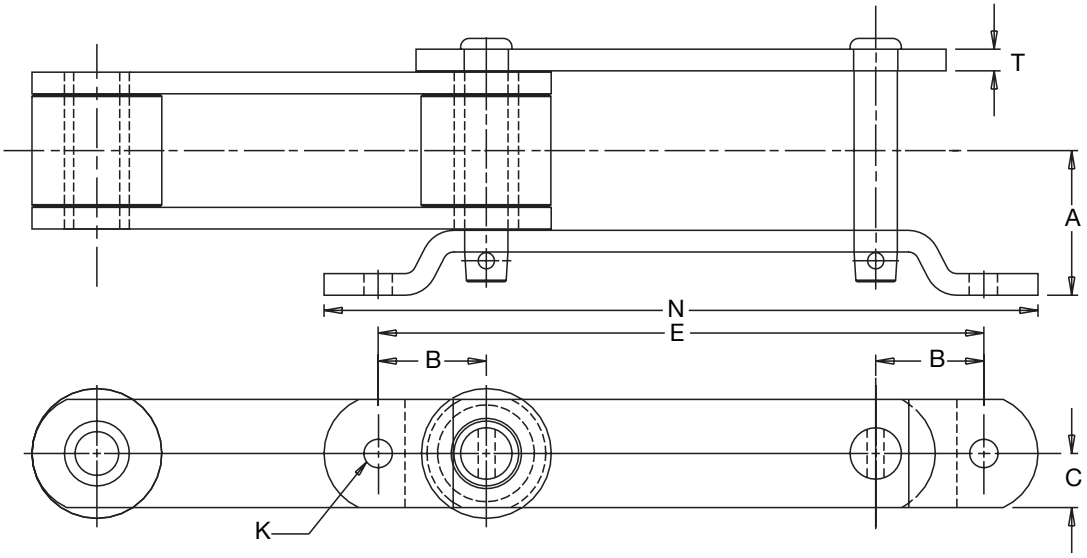
Note: Some K-2 attachments are supplied with three holes. Use the two outside holes.

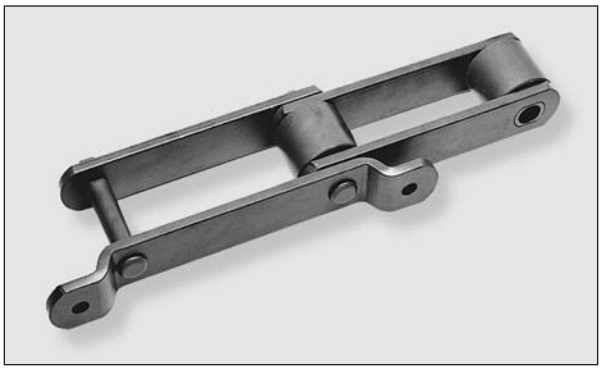
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

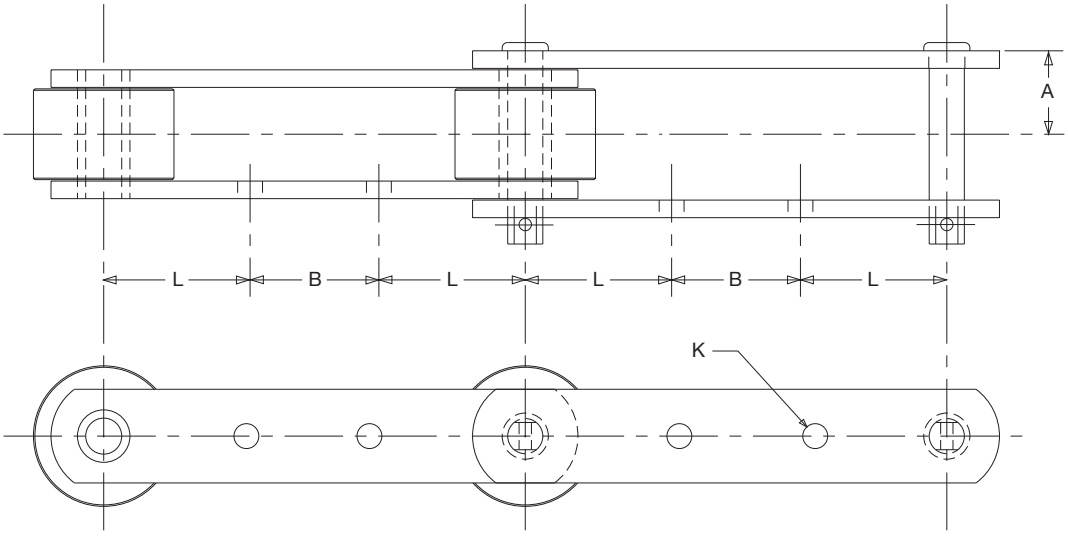
Roller Conveyor Chain Attachments

G-5 Attachment





G-6 Attachment



Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

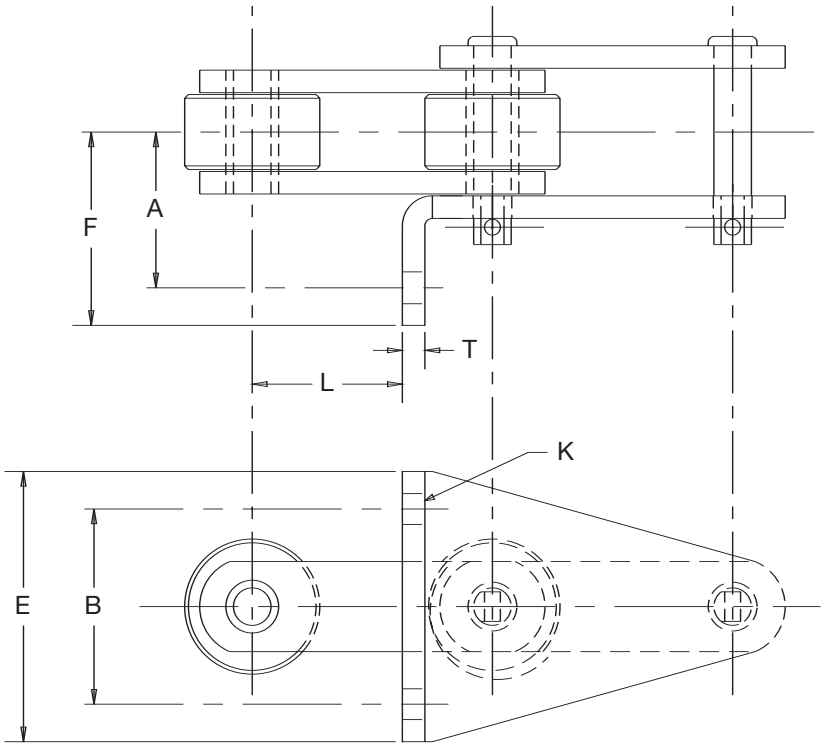
Attachment Number	Chain Number	A	B	C	E	Bolt Diameter K	L	N	T	Approx. Weight (lbs./ft.)
G-5	4004	3.34	2.50	1.25	14.00	.63	—	16.50	.50	18.5
	4009	3.03	2.50	1.25	14.00	.63	—	16.50	.38	14.7
	4065	3.94	2.50	1.75	14.00	.63	—	16.50	.63	38.6
G-6	809R	1.53	2.75			.50	3.13			14.2
	B-912R	1.41	2.75			.50	3.13			10.0
	925R	1.38	2.75			.50	3.13			8.5
	B-963R	1.78	3.00			.50	3.00			13.9
	D-963R	1.78	3.00			.50	3.00			13.2
	E-963R	1.78	3.00			.50	3.00			15.8
	B-964R	1.91	2.50			.50	3.25			18.1
	973R	2.34	3.50			.63	2.75			25.5
	B-1212R	1.41	3.75			.50	4.13			8.2
	B-1263R	1.78	3.75			.50	4.13			11.6
	C-1263R	1.78	3.75			.50	4.13			11.9
	D-1263R	1.78	3.75			.50	4.13			11.8
	E-1263R	1.78	3.75			.50	4.13			13.0
	B-1264R	1.91	3.75			.50	4.13			15.4
	B-1266R	1.59	3.75			.50	4.13			10.1
	1273R	2.34	3.75			.63	4.13			23.2
	1276R	1.66	5.50			.50	3.25			20.6
	B-1863R	1.78	6.00			.50	6.00			9.9
	D-1863R	1.78	6.00			.50	6.00			10.4
	F-1863R	1.78	6.00			.50	6.00			10.8
	B-1864R	1.91	6.00			.63	6.00			12.8
	G-1864R	1.91	6.00			.63	6.00			12.6
	1867R	2.78	6.00			.63	6.00			34.9
	1871R	2.41	6.00			.63	6.00			23.3
	1873R	2.34	6.00			.63	6.00			18.8

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

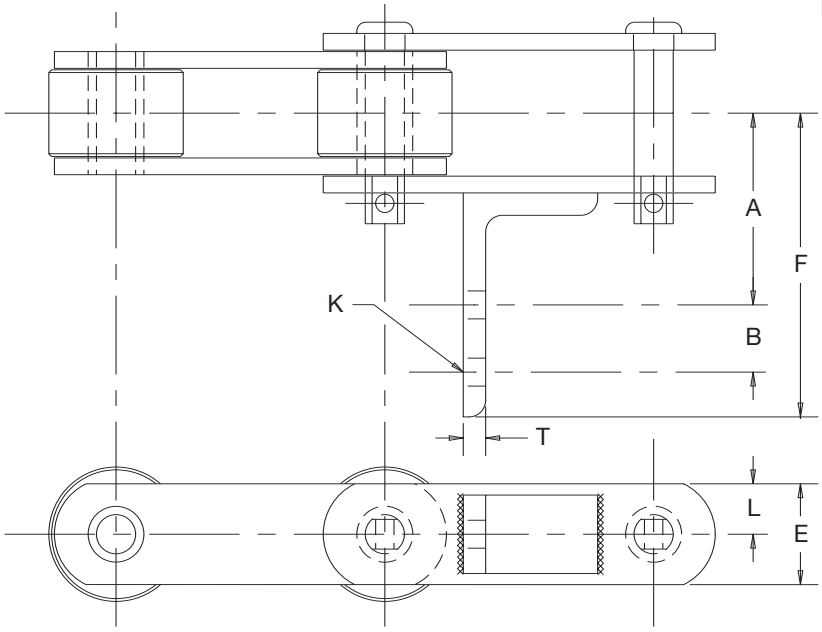
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Roller Conveyor Chain Attachments

G-19 Attachment



G-29 Attachment



Roller Conveyor Chain Attachments

Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

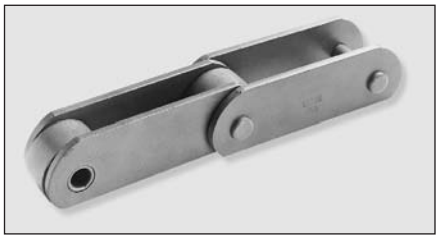
Attachment Number	Chain Number					Bolt Diameter			Approx. Weight (lbs./ft.)
		A	B	E	F	K	L	T	
G-19	89R	2.63	3.25	4.50	3.44	.50	2.50	.38	11.7
	89RX	2.63	3.25	4.50	3.24	.50	2.50	.38	11.7
	925R	2.56	3.50	5.50	3.38	.50	2.63	.25	9.8
	B-1263R	2.78	3.50	5.50	3.78	.50	2.63	.25	13.9
	C-1263R	2.78	3.50	5.50	3.78	.50	2.63	.25	14.2
	D-1263R	2.78	3.50	5.50	3.78	.50	2.63	.25	13.4
	E-1263R	2.78	3.50	5.50	3.78	.50	2.63	.25	15.3
	B-1264R	2.91	3.50	5.50	3.91	.50	2.63	.31	18.2
	B-1266R	2.59	3.50	5.50	3.59	.50	2.63	.25	12.0
	1273R	3.34	5.00	7.50	4.34	.50	2.63	.38	27.6
	B-1863R	2.78	3.50	5.50	3.78	.50	5.63	.25	11.0
	D-1863R	2.78	3.50	5.50	3.78	.50	5.63	.25	11.5
	F-1863R	2.78	3.50	5.50	3.78	.50	5.63	.25	11.9
	B-1864R	2.91	3.50	5.50	3.91	.50	5.63	.31	14.2
	G-1864R	2.91	3.50	5.50	3.91	.50	5.63	.31	14.0
	1867R	3.78	3.50	5.50	4.78	.50	5.63	.38	35.9
	1871R	3.41	3.50	5.50	4.41	.50	5.63	.38	24.7
	1873R	3.34	5.00	7.50	4.34	.50	5.63	.38	21.2
G-29	94R	1.84	1.13	1.25	3.69	.38	.63	.25	5.3
	1131R	2.78	1.50	2.00	5.03	.44	1.00	.38	15.2

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Roller Conveyor Chain Attachments

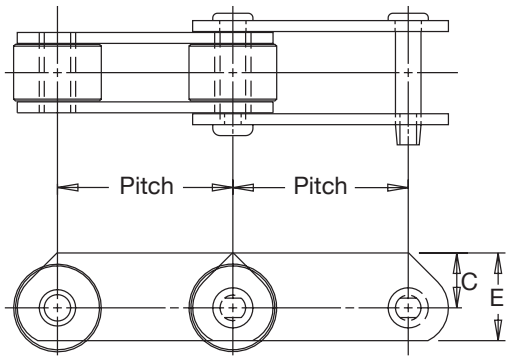
High Sidebar Chains



Roller Conveyor Chain Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

Attach. Number	Chain Number	Pitch	C	E	Approx. Weight (lbs./ft.)
High Side Bar Chains	53R	3.000	.94	1.50	5.0
	94R	4.000	.88	1.50	4.8
	95R	4.000	.94	1.50	4.1
	US-90R	4.000	1.25	2.00	7.0
	89R	4.000	1.25	2.00	11.9
	84R	4.000	1.50	2.25	16.4
	6053R	6.000	1.38	2.00	5.1
	627R	6.000	1.25	2.00	6.6
	CC5	6.000	1.50	2.50	11.0
	614R	6.000	2.00	3.00	14.7

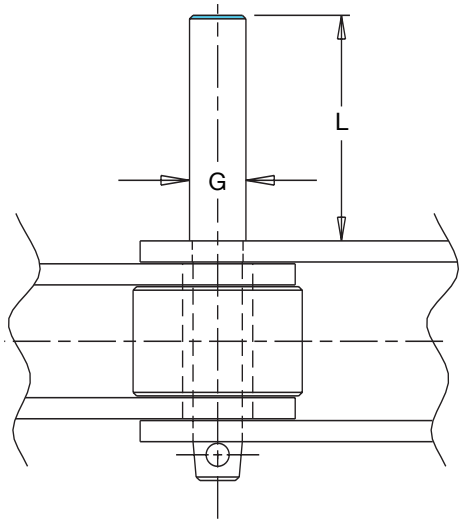


D-1 and D-5

D-1, D-5 Attachments

All dimensions are in inches unless otherwise indicated.

Chain Number	Diameter G	L	Approx. Weight (lbs./ft.)
53R	.75	2.00	4.9
94R	.75	2.00	4.8
US-196R	.75	3.00	5.8



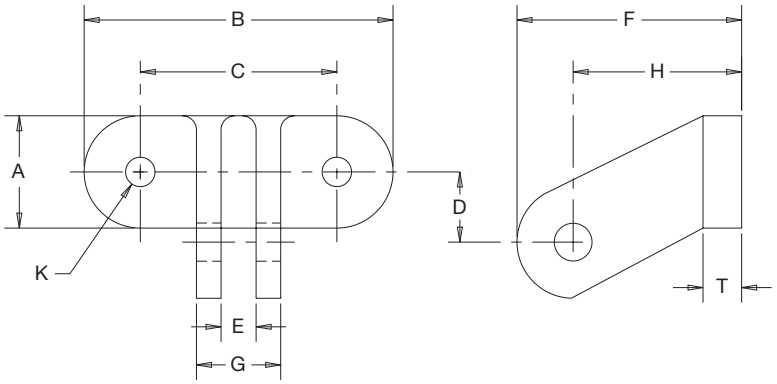
Extended pin attachments of any length can be furnished on all chains listed provided "G" dimension is the same as or exceeds the chain pin diameter.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Roller Conveyor Chain Attachments

Style C Attachment

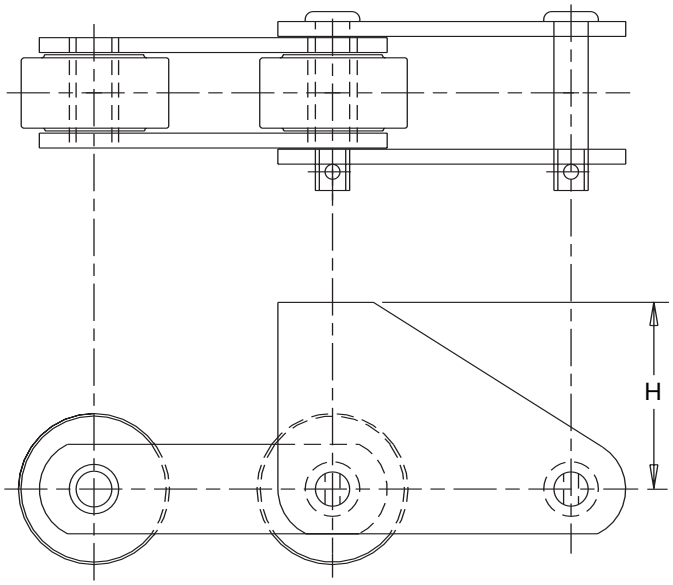


Hinged Bucket and Scraper Flight Wing Attachment Specifications

All dimensions are in inches unless otherwise indicated.

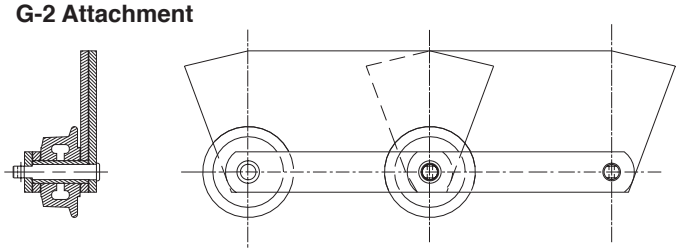
Bucket Wing Style	Attach. No.									Bolt Dia.	Rivet Dia.		Approx. Weight (lbs./ft.)
		A	B	C	D	E	F	G	H	K	L	T	
Style C	2C 15C	2.00 1.75	5.13 3.50	3.50 2.50	1.00 .81	.63 .44	4.00 1.81	1.50 1.00	3.08 1.13	.50 .31	.63 .38	.69 .28	2.8 .7

L-2 and S-1 Attachments



Attachments L-2 and S-1 can be furnished with any chain to suit special requirements provided height of dimension “H” does not exceed five inches from center line of chain.

G-2 Attachment



Attachment G-2 is simply an extra height chain sidebar with attachment angle usually used as pan ends on style B and D apron conveyors as shown on page C-40. It can be furnished with any chain in any reasonable height to suit requirements. The attachment is designated by G-2 followed by a hyphen and number giving overall height in inches. For example, G-2-5 is a sidebar with overall height of 5". G-2-6 1/2 is a sidebar with overall height of 6 1/2".

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

APRON CONVEYORS

Move loose bulk materials like coal, lime, sand, stone, and sugar cane along horizontal or inclined conveyors. Apron Conveyors are especially useful as feeders to elevating systems, for picking tables and loading booms, and for long horizontal or inclined conveyors.

Create Custom Solutions

Tsubaki engineers will help you create a complete apron conveyor system for your application, including the right attachments, rollers, and lubrication packages to meet your specific requirements.

Apron Conveyors from Tsubaki

- Wide selection and styles.
- Customized for your application.
- Reliable, hassle-free operation.
- Cost-efficient value for your investment.

Choosing Metal Thickness

Experience is usually the best guideline for specifying the metal thickness for pans and aprons. Make sure you consider the following points.

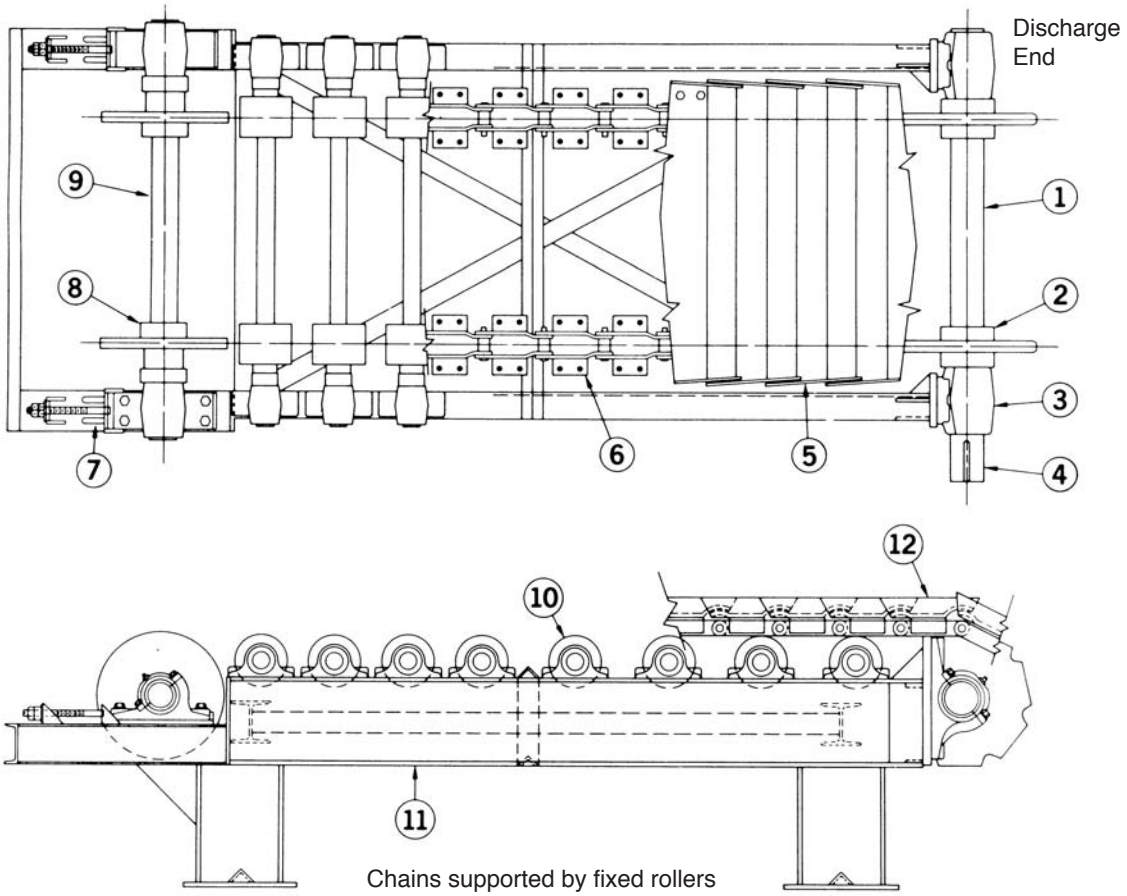
1. Number of chain strands to be used.
2. Required service life.
3. Manufacturing restrictions.
4. Weight of each apron support. Deflection must be limited to prevent binding between overlapping pans.
5. Corrosive and abrasive properties of conveyed materials.
   1. Head shaft — Discharge end.
   2. Head shaft sprockets — Keyed to shaft.

Applications Chart

Pan/Apron Suggested Thickness (inches)	Service Conditions	Material Handled
3/8	Heavy	Highly abrasive, corrosive or large impact loads
1/4 - 5/16	Medium	Moderately corrosive, abrasive or impact loads
3/16	Light	Mildly abrasive, corrosive or impact loads

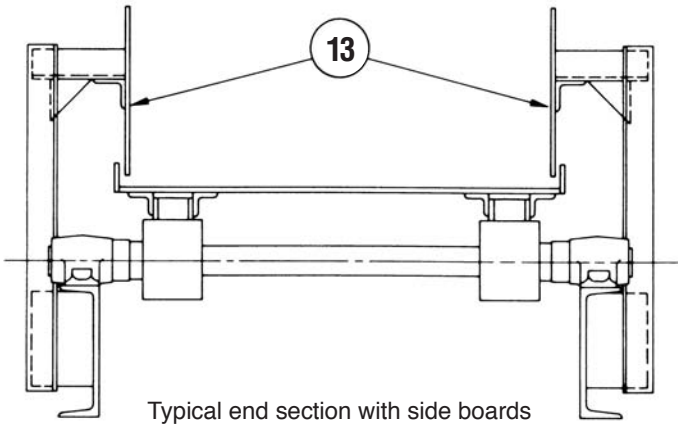
Apron Conveyor Chain

Typical Arrangement—Apron Conveyors



Chains supported by fixed rollers

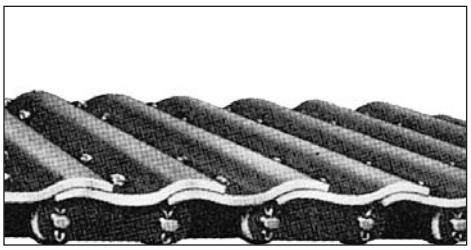
3. Pillow blocks.
4. Drive end — Chain drive.
5. Apron assembly — Bolted to chain attachments.
6. Conveyor chain — Offset sidebar or straight sidebar (two or three strands normally used).
7. Take up — Normally located on tail shaft end.
8. Tail shaft sprockets — Only one keyed to shaft (other sprockets locked in place with collars).
9. Tail shaft.
10. Intermediate rollers — Supports chain sections when conveyor is heavily loaded.
11. Conveyor structure.
12. Pan ends — Welded to aprons.
13. Stationary sideboards — Offer additional capacity.

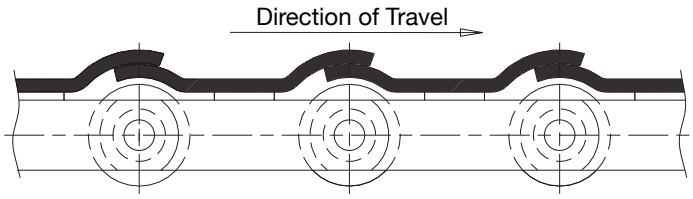


Typical end section with side boards

Apron Conveyor Chain

Style A



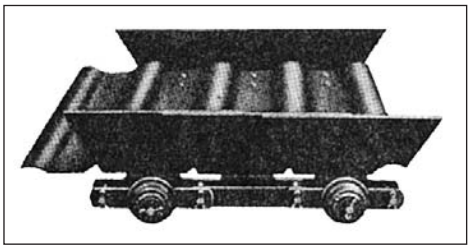


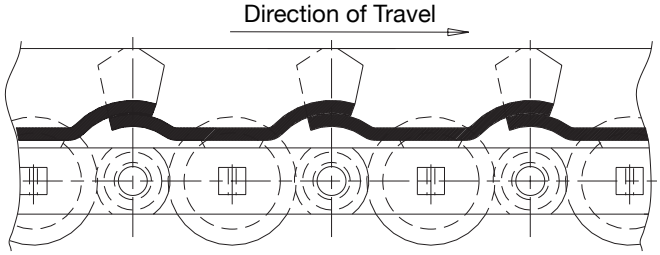
Uses
- Adaptable for any pitch conveyor.
- Most widely used style for horizontal or incline applications up to 35 degrees.

Advantages
- More leakproof than other styles of apron conveyor.
- With K attachments, the load is distributed evenly on both chains.
- Pan ends, when needed, fasten directly to apron and not to chain.

Attachments
- A attachments (one side of chain only) for long center distances.
- K attachments (both sides of chain) for short center distances.

Style A — Outboard Roller Support (OBR)



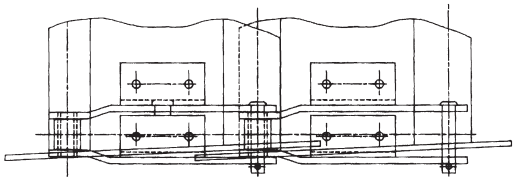


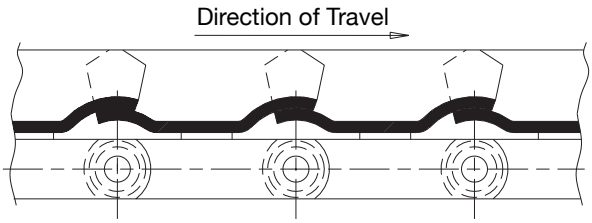
Uses
- Handles fine abrasive materials on incline applications up to 35 degrees.
- Longer pitch conveyors with two strands of chain mounted below and close to the ends of the pans.

Advantages
- Close-fitting members hold leakage to a minimum, protecting the conveyor and avoiding damage when handling abrasives.
- Reduced maintenance costs because outboard rollers may be removed for inspection or renewal without dismantling chains or pans.
- Conveyed load is carried on outboard rollers.
- Head shaft terminal load is carried on chain rollers.

Attachments
- A-2, E-2, M-1 attachments are commonly used.

Style A — Fixed Roller Support





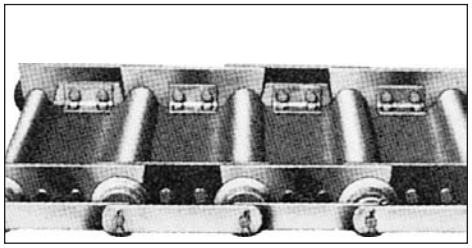
Uses
- Handles heavy conveyed materials.
- Withstands high-impact loads.

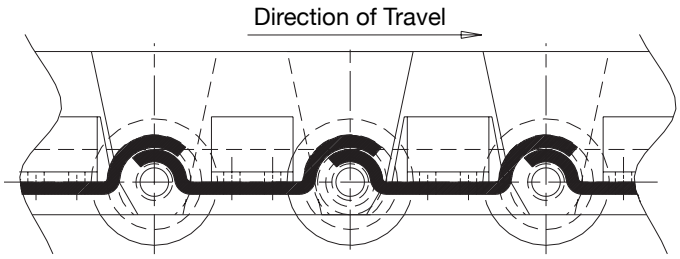
Advantages
- Chain is supported under sidebars by fixed frame rolls that transfer load instead of chain joint rollers.
- The close-fitting members keep leakage to a minimum, protecting your equipment from abrasives.

Attachments
- K attachments usually improve load distribution.
- K-1, K-2, A-1, A-2, E-2 attachments are commonly used.

Apron Conveyor Chain

Style B





Uses

- Suitable for heaviest duty conditions; generally used in longer pitch conveyors.
- Adaptable to various service and operational conditions for horizontal or incline applications as much as 35 degrees.

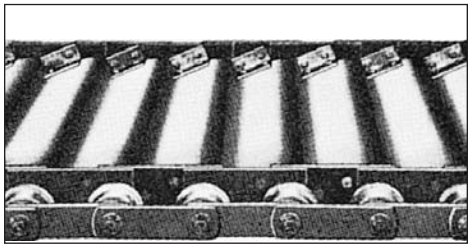
Advantages

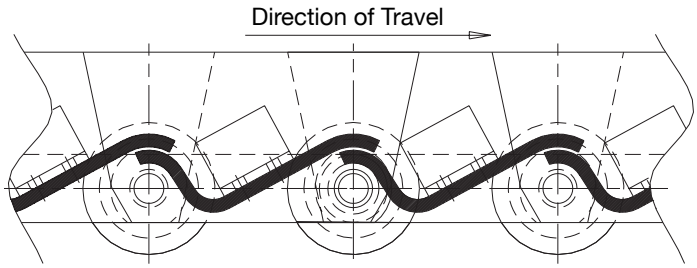
- Deep beads form a rigid pan for heavy loads on wide conveyors.
- Chain rollers permit return strand to roll on a track.
- Through-rods and load deflection rail supports may be used to prevent excessive chain loading under heavy impact conditions.

Attachments

- G-2 attachments (high sidebars with angles) contain material, add strength, and function as moving pan ends.

Style D





Uses

- Positive discharge aprons.
- Adaptable to various service and operating conditions for horizontal or incline applications as much as 35 degrees.

Advantages

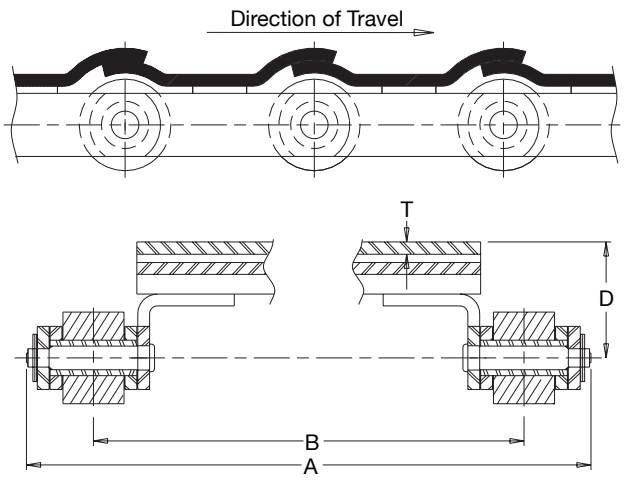
- Higher angle of discharge reduces height of fall when unloading, reducing lump breakage.
- Angular mounting of apron on chain helps resist rollback motion of material on inclined conveyors.

Attachments

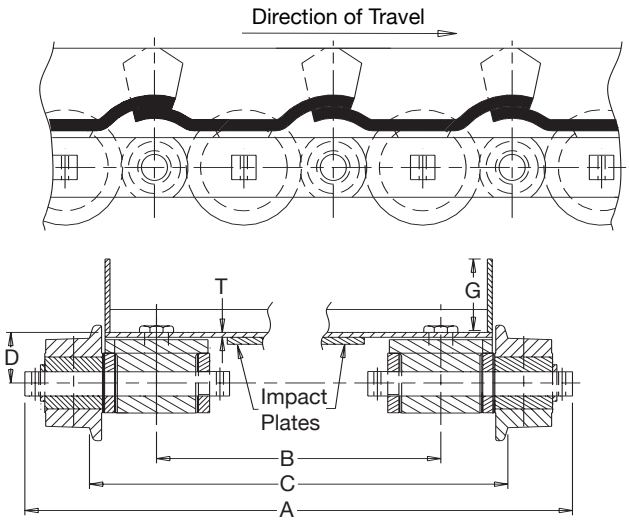
- G-2 attachments (high sidebars with angles) contain material, add strength, and function as moving pan ends.

TSUBAKI

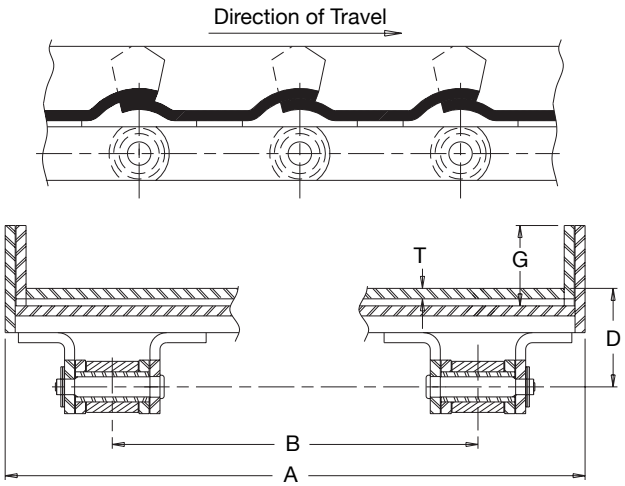
Style A Aprons



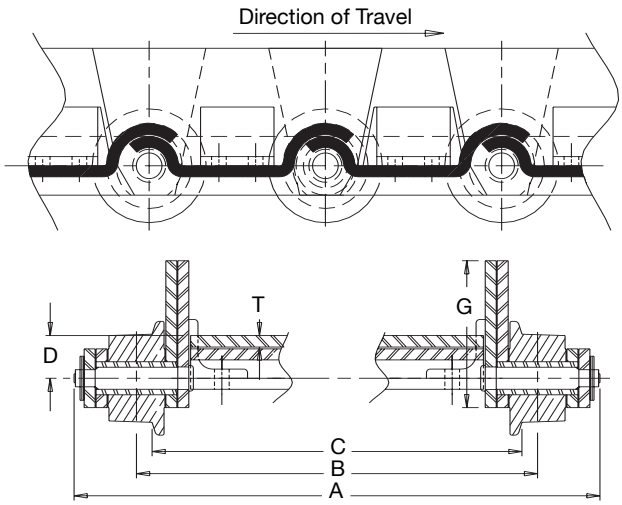
Style A-OBR Aprons



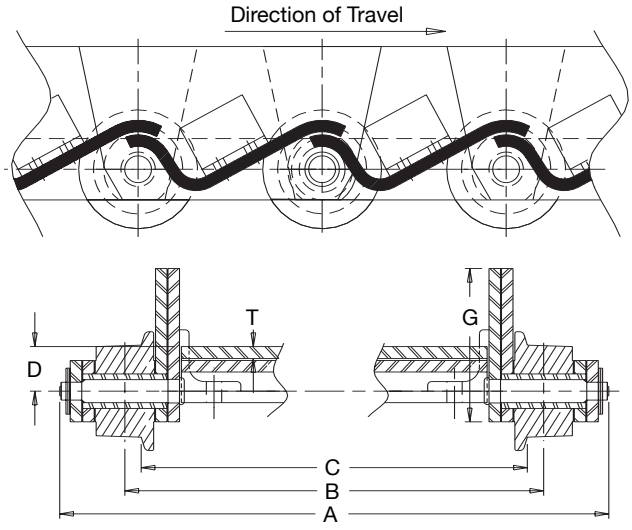
Style A-FRS Aprons



Style B Aprons



Style D Aprons



Apron Conveyor Chain

Apron Conveyors

All dimensions are in inches unless otherwise indicated.

Style	Chain Number	Pitch	Width[1]			Centerline Chain to Top of Pan Bead	Pan End Height	Pan Th.	Work Load (lbs.)[2]	Approximate Weight (lbs.)		
			Overall	Center to Center Sprocket	Track Gauge					Conveyor Weight (ft.) 18" Pan[3]	Approx. Wgt. Each 1" Added to Height	Weight Added Each 6" of Width
			A	B	C	D	G	T				
Style A Aprons	95R	4.000	21.88	19.38		2.00		.19	4,200	24.2		3.8
	US-90R	4.000	21.44	19.56		2.00		.19	4,800	28.0		3.8
	US-90R	4.000	21.44	19.56		2.06		.25	4,800	33.7		5.1
	89R	4.000	23.94	20.06		2.06		.25	9,000	44.3		5.1
	89R	4.000	23.94	20.06		2.31		.31	9,000	50.0		6.4
	89R	4.000	23.94	20.06		2.38		.38	9,000	55.7		7.7
	604R	6.000	23.00	19.81		2.19		.19	7,000	27.0		5.4
	631R	6.000	24.19	20.13		2.25		.25	11,200	43.0		7.2
	631R	6.000	24.19	20.13		2.31		.31	11,200	48.6		9.0
	610R	6.000	24.81	20.44		2.88		.38	14,900	59.6		10.8
Style A OBR Aprons[4]	961R	9.000	28.06	14.75	22.56	2.88	4.00	.25	18,000	115.2	2.9	8.3
	2397R	12.000	27.25	15.19	21.81	3.75	4.00	.25	18,400	92.5	2.6	7.5
	1706R	12.000	28.06	14.75	22.56	3.75	4.00	.25	28,000	108.7	2.6	7.5
	2614R	12.000	27.69	14.19	22.06	4.25	4.00	.25	35,000	157.1	2.6	7.5
	2614R	12.000	27.69	14.19	22.06	4.38	4.00	.38	35,000	172.4	4.0	11.3
Style A FRS	961R	9.000	19.25	14.75 max.		2.88	4.00	.25	18,000	61.5	2.9	8.3
	2614R	12.000	19.75	14.19 max.		4.38	4.00	.38	35,000	76.6	4.0	11.3
Style B Aprons	603R	6.000	23.69	20.75	20.13	1.06	3.50	.19	7,000	40.5	3.0	5.4
	625R	6.000	24.63	21.16	20.31	1.06	3.50	.19	8,300	43.4	3.0	5.4
	625R	6.000	24.63	21.16	20.31	1.13	3.50	.25	8,300	48.8	3.0	7.2
	625R	6.000	24.63	21.16	20.31	1.19	4.00	.31	8,300	55.6	3.0	9.0
	B-663R	6.000	26.38	22.13	21.13	1.13	3.50	.25	14,400	56.0	4.6	7.2
	B-663R	6.000	26.38	22.13	21.13	1.19	4.00	.31	14,400	63.2	4.6	9.0
	B-963R	9.000	26.38	22.13	21.13	1.38	4.00	.25	14,400	56.7	4.6	7.1
	B-963R	9.000	26.38	22.13	21.13	1.44	4.00	.31	14,400	60.0	4.6	8.2
	B-963R	9.000	26.38	22.13	21.13	1.75	4.00	.38	14,400	67.3	4.6	10.6
	B-964R	9.000	26.88	22.44	21.19	1.44	4.00	.31	18,400	66.7	4.2	8.2
	B-964R	9.000	26.88	22.44	21.19	1.75	5.00	.38	18,400	78.1	4.2	10.6
	B-1263R	12.000	26.38	22.13	21.13	1.38	4.00	.25	14,400	53.1	3.8	7.0
	B-1263R	12.000	26.38	22.13	21.13	1.44	4.00	.31	14,400	58.3	3.8	8.8
	B-1263R	12.000	26.38	22.13	21.13	1.75	4.00	.38	14,400	63.6	3.8	10.5
	B-1264R	12.000	26.88	22.44	21.19	1.44	4.00	.31	18,400	61.5	3.8	8.8
	B-1264R	12.000	26.88	22.44	21.19	1.75	5.00	.38	18,400	70.6	3.8	10.5
Style D Aprons	625R	6.000	24.63	21.16	20.31	1.06	3.50	.19	8,300	43.4	3.0	5.4
	625R	6.000	24.63	21.16	20.31	1.13	3.50	.25	8,300	48.8	3.0	7.2
	625R	6.000	24.63	21.16	20.31	1.19	4.00	.31	8,300	55.6	3.0	9.0
	B-963R	9.000	26.38	22.13	21.13	1.38	4.00	.25	14,400	56.7	4.6	7.1
	B-963R	9.000	26.38	22.13	21.13	1.44	4.00	.31	14,400	60.0	4.6	8.2
	B-963R	9.000	26.38	22.13	21.13	1.75	4.00	.38	14,400	67.3	4.6	10.6
	B-964R	9.000	26.88	22.44	21.19	1.44	4.00	.31	18,400	66.7	4.2	8.2
	B-964R	9.000	26.88	22.44	21.19	1.75	5.00	.38	18,400	78.1	4.2	10.6
	B-1263R	12.000	26.38	21.13	21.13	1.38	4.00	.25	14,400	53.1	3.8	7.0
	B-1263R	12.000	26.38	21.13	21.13	1.44	4.00	.31	14,400	58.3	3.8	8.8
	B-1263R	12.000	26.38	21.13	21.13	1.75	4.00	.38	14,400	63.6	3.8	10.5
	B-1264R	12.000	26.88	22.44	21.19	1.44	4.00	.31	18,400	61.5	3.8	8.8
	B-1264R	12.000	26.88	22.44	21.19	1.75	5.00	.38	18,400	70.6	3.8	10.5

[1]All widths and weights are based on 18" apron pan widths. For weight est. refer to "Approximate Weight (lbs.)" column for your specific conveyor width.

[2]Indicates working load for two strands of chain.

[3]Indicates without through-rods. Refer to page C-43 for rod weights.

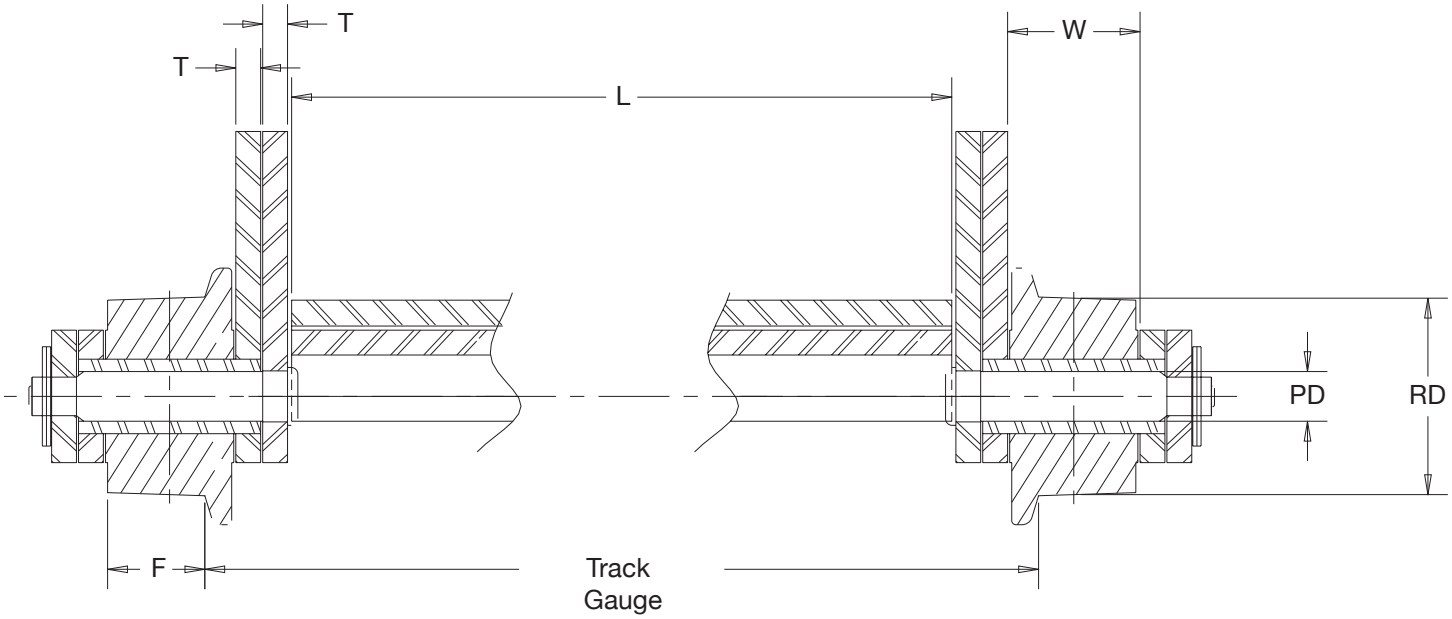
[4]OBR style can be furnished stub shaft every pitch or every 2nd pitch depending on load criteria. All weights shown above are for OBR every pitch. Consult with Tsubaki engineers for selection assistance.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Apron Conveyor Chain

Apron Conveyor Dimensions



Apron Conveyor Dimensions for Chain with Single Flange Rollers Styles B & D Conveyors

Center to Center of chain = L + 4T + W + 3/16"
Track Gauge = L + 4T + 2k + 1/2"
Center to Center of sprocket = L + 4T + 2k + F + 1/4"
Overall Width = L + 8T + 2W + 2c + 1/4"

Where:

L = Length of apron

T = Thickness of sidebars (chain dimension)

W = Inside width (chain dimension)

F = Width or face of roller tread

k = Constant for diameter of roller

c = Constant for diameter of pin

Values of F and k

Roller Diam. RD	F	k
2.50	.88	.31
3.00	1.09	.41
3.00	1.25	.31
3.50	1.25	.56
4.00	1.25	.59
4.00	1.50	.59
5.00	1.75	.66
5.00	1.75[1]	.72
6.00	1.88	.69
6.00	1.88[1]	.81

[1]Indicates heavier wheel of same width of roller tread.

Values of c

Pin Diam. PD	c
.56	.41
.63	.47
.75	.56
.88	.56
1.00	.69
1.13	.69
1.25	.69
1.50	.81

Apron Conveyor Chain

Apron Weights/Each Unassembled

All dimensions are in inches unless otherwise indicated.

Pitch	Thickness	Approximate Weight (lbs.)											
		18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	78"	84"
3.000[1]	.19	4.3	5.7	7.2	8.6	10.0	11.5	12.9	14.3	15.7	17.2	18.6	20.0
4.000[1]	.19	5.8	7.7	9.6	11.5	13.4	15.3	17.3	19.2	21.1	23.0	24.9	26.8
4.000[1]	.25	7.7	10.2	12.7	15.3	17.8	20.4	23.0	25.5	28.0	30.6	33.2	35.7
4.000[1]	.31	9.6	12.8	16.0	19.2	22.4	25.6	28.8	31.9	35.1	38.3	41.5	44.7
4.000[1]	.38	11.5	15.3	19.1	23.0	26.8	30.6	34.4	38.3	42.0	45.9	49.8	53.6
6.000	.19	8.1	10.8	13.5	16.4	19.0	21.7	24.4	27.1	29.8	32.5	35.2	38.0
6.000	.25	10.8	14.5	18.1	21.7	25.3	28.9	32.6	36.2	39.8	43.5	47.0	50.6
6.000	.31	13.6	18.1	22.6	27.1	31.6	36.2	40.7	45.2	49.7	54.2	58.8	63.3
6.000[1]	.38	16.3	21.7	27.2	32.5	38.0	43.4	48.7	54.2	59.6	65.0	71.5	76.0
6.000[1]	.50	21.7	28.9	36.1	43.4	50.6	57.9	65.0	72.3	79.4	86.6	93.9	101.0
9.000	.19	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0	52.0	56.0
9.000	.25	16.0	21.2	26.6	31.9	37.2	42.5	47.9	53.2	58.5	63.8	69.0	74.5
9.000	.31	18.4	24.6	30.7	36.9	43.0	49.1	55.3	61.5	67.6	73.8	80.0	86.1
9.000	.38	23.9	31.9	39.8	47.8	55.8	63.7	71.7	79.7	87.7	95.7	103.6	111.6
12.000[2]	.19	15.8	21.0	26.3	31.6	37.9	42.1	47.4	52.6	58.0	63.2	68.5	73.8
12.000[2]	.25	21.1	28.1	35.1	42.1	49.1	56.1	63.1	70.1	77.1	84.1	91.1	98.1
12.000[2]	.31	26.3	35.1	43.9	52.6	61.4	70.2	79.0	87.7	96.5	105.2	113.9	122.7
12.000[2]	.38	31.6	42.2	52.7	63.2	73.8	84.4	94.8	105.2	115.9	126.3	136.9	147.5

[1]Style A aprons only.

[2]Style B aprons only.

Steel Pan Ends

Separate Steel Pan Ends Approximate Weight (lbs.)						
Chain Pitch	Thick. of Ends	Unassembled Height of End Above Center Line of Chain				
		2"	3"	4"	5"	6"
3.000	.19	.7	.8	.9	1.0	1.3
4.000	.19	.6	.8	1.3	1.5	1.7
4.000	.25	.8	1.1	1.7	2.0	2.3
6.000	.19	1.0	1.3	1.8	2.1	2.4
6.000	.25	1.4	1.9	2.4	2.9	3.3

Through-Rod Weights

Approximate Weight/Through-Rods (lbs.)								
Chain Pin Dia.	Distances Between Centers							
	18"	24"	30"	36"	42"	48"	54"	60"
.63	1.6	2.1	2.6	3.0	3.7	4.2	4.7	5.2
.75	2.3	3.0	3.8	4.5	5.3	6.0	6.8	7.5
.88	3.1	4.1	5.1	6.1	7.1	8.1	9.1	10.1
1.00	4.0	5.4	6.7	8.0	9.4	10.7	12.0	13.4
1.13	5.1	6.8	8.5	10.2	11.8	13.5	15.2	16.9
1.25	6.3	8.4	10.4	12.5	14.6	16.7	18.8	21.9
1.50	9.0	12.0	15.0	18.0	21.0	24.0	27.0	30.0

Note: Through-rods are made from high carbon steel. The portions of the ends that act as chain pins are heat-treated for wear resistance.

Roller Conveyor Chain Selection Guidelines

SELECTION GUIDELINES

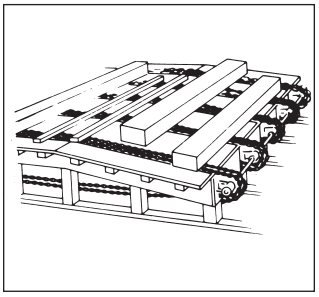
A wide variety of chains are available for the purpose of material handling, conveying, and elevating. An accurate assessment of the basic conditions in which the chain will function is essential for optimum performance. In general, the basic steps of conveyor chain selection are as follows:

- Select a conveyor type appropriate for the material being handled.
- Choose the chain type best suited for the conveyor style selected and the material being handled.
- Select the specific chain size necessary to successfully handle the loading conditions of the conveyor, attachment spacing, space limitations, and other service conditions that are encountered.

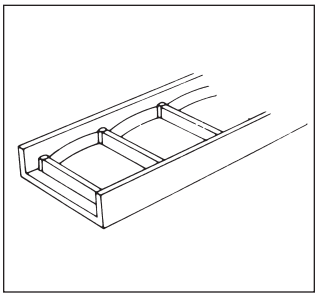
Tsubaki Conveying and Elevating Chains are built to withstand challenging operating conditions including shock loadings and exposure to environments conducive to abrasive wear and/or corrosion. In some more severe applications, special materials or heat treatments are required for successful performance. If you have any questions, contact Tsubaki Technical Support engineering for assistance in making the best choice for your conveying application.

Conveyor Types

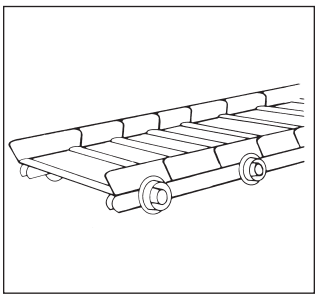
There are, in general, nine types of chain conveyors. The material being handled and the service environment typically determine which type is chosen.



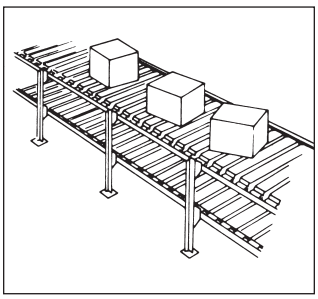
Plain Chain
The chain runs in tracks and the load is carried directly on the chain.



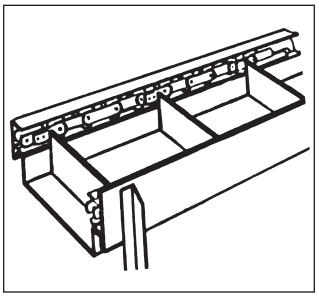
Drag Conveyors
One or more endless strands with or without integral flights moves material in a trough or pan.



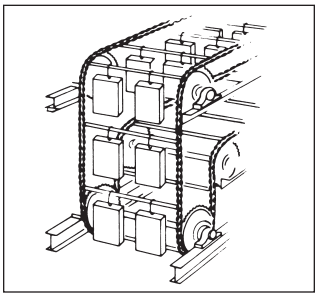
Apron Conveyors
Die formed steel plates or pans mounted on two or more strands of chain. They are good for impact, abrasion and high temperature applications.



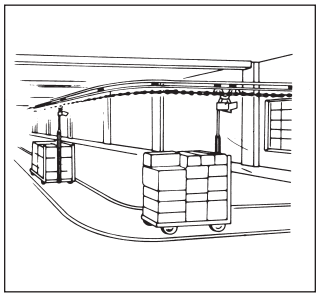
Slat Conveyors
Two or more strands of chain with slats attached at intervals. This is used primarily for unit handling.



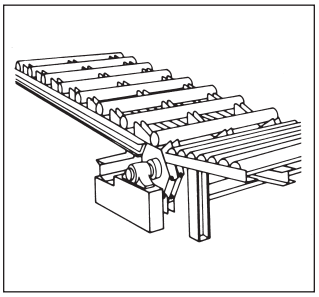
Scraper Flight
One or two endless chains with flights attached to push material in a trough.



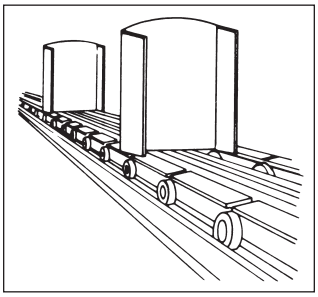
Cross Bar
Two strands of chain connected by cross-bars, which can be arranged in paths from inclined to serpentine.



Trolley and Tow
An endless strand of chain is suspended from an overhead track with carrying attachments at intervals. Tow conveyors have pickups to engage truck masts.



Pusher Chain
One or more strands of endless chain are utilized with attachments to push the load. Load slides or rolls on rails. The chain does not carry the load.



Carrier Chain
Attachments are connected to part of the chain and form a carrying surface for an individual part on a continuous surface.

Roller Conveyor Chain Selection Guidelines

Material Classifications

- Bulk materials (example: limestone)
- Unit materials (example: TV sets)

Table 1 — Typical Material Classifications of Conveyor Types

Conveyor Type	Bulk[1]	Unit[2]
Plain Chain		X
Drag Conveyors	X	
Apron Conveyors	X	
Slat Conveyors		X
Scraper Flight	X	
Cross Bar		X
Trolley and Tow		X
Pusher Chain		X
Carrier Chain		X

[1]Bulk material capacities are typically given as tons per hour (TPH).

[2]Unit material capacities are typically given as pieces (or units) per hour (pcs./hr.)

General Conveyor Chain Types

- Roller Conveyor Chains
- Steel Bushed Rollerless
- Welded Steel Mill Chain
- Welded Steel Drag Chain
- Cast Combination Chain
- Drop Forged Rivetless Chain
- Bar/Pin Chain

Table 2 — Typical Chain Types for Conveyor Service

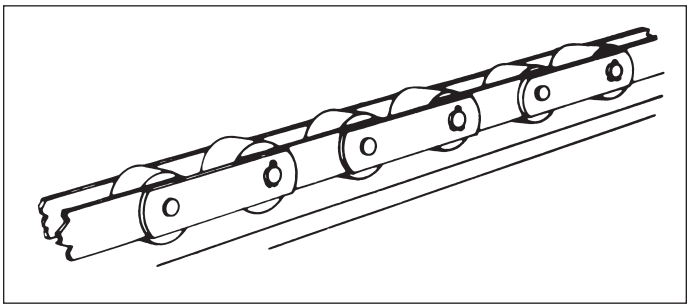
Conveyor Types	Conveyor Chain Types						
	Roller Conveyor	Steel Bushed	Welded Steel	Welded Drag	Cast Combination	Drop Forged	Bar/Pin
Plain Chain	X	X	X	X	X		X
Drag Conveyors		X	X	X	X		
Apron Conveyors	X						
Slat Conveyors	X						
Scraper Flight	X	X	X		X	X	X
Cross Bar	X						
Trolley and Tow						X	X
Pusher Chain	X	X	X	X	X		X
Carrier Chain	X						

Roller Conveyor Chain Selection Guidelines

Table 3 — General Characteristics of Conveyor Chain Types

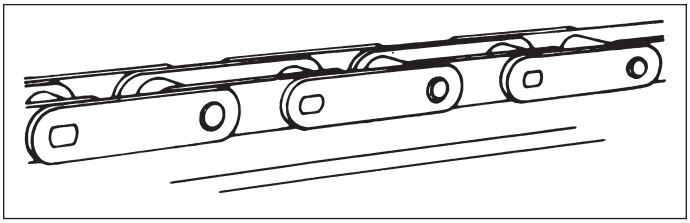
Chain Type	Pitch Range (in.)	Weight Range (lbs./ft.)	Working Loads (lbs.)	Operating Speeds (fpm)	Wear Life Rating
Roller Conveyor	1.654 to 24.0	3.7 to 35.0	2,100 to 22,300	10 to 200	A
Steel Bushed	2.609 to 7.0	3.8 to 67.0	2,750 to 21,800	10 to 150	B
Welded Steel	2.609 to 6.05	4.0 to 30.0	3,000 to 15,300	10 to 100	C
Welded Drag	5.0 to 8.0	12.0 to 29.0	8,500 to 15,000	10 to 100	C
Cast Combination	2.609 to 6.05	3.6 to 16.3	2,340 to 10,400	10 to 75	D
Drop Forged	3.031 to 9.031	2.2 to 10.0	1,100 to 21,600	10 to 75	C
Bar/Pin	4.0 to 12.0 (Avg.)	5.2 to 33.0	—	10 to 50	C

Chain Rolling or Sliding



Chain Rolling

- Best suited when chain carries materials.
- Smoother operation, less pulsation.
- Less friction — allows longer centers, smaller motors, and lower operating costs.
- Less horsepower required.
- Not suited for “dirty” applications where foreign materials can jam rollers.



Chain Sliding

- Best suited when conveyor deck supports materials and chains carry, push, drag or scrape.
- Rugged construction — ideal for impact loadings.
- Greater horsepower required.
- Works well in “dirty” applications because this chain has fewer moving parts.

Roller Conveyor Chain Selection Guidelines

Friction Coefficients

Table 4 — Sliding Friction Coefficients (f_s)

	Dry	Lubricated
Chains on Steel Rail	.33	.20
Chains on Bronze	—	.15
Chains on Hardwood	.35	.25
Chains on UHMW Plastic	.25	.15
Cast Iron on Steel	.50	.30

Table 5 — Sliding Friction of Materials on Steel Troughs (f_s)

Material	Friction	Material	Friction	Material	Friction
Aluminum	.40	Coal, Bituminous, Run of Mine	.60	Lime, Ground	.40
Ashes Dry < 3"	.50	Coal, Bituminous, Slack, Dry	.50	Lime, Pebble	.50
Ashes Wet < 3"	.60	Coal, Bituminous, Slack, Wet	.70	Sand, Dry	.60
Bagasse	.40	Coke, Sized	.40	Sand, Foundry, Shakeout	.70
Beans, Whole	.35	Coke, Mixed	.60	Sand, Foundry, Tempered	.85
Cement, Portland	.65	Coke, Breeze	.65	Sawdust	.40
Cement, Clinker	.70	Cottonseed	.35	Stonedust	.50
Coal, Anthracite	.30	Grains	.40	Stone, Screened Lumps	.60
Coal, Anthracite, Run of Mine	.40	Gravel, Dry, Screened	.45	Stone Lumps and Fines	.65
Coal, Anthracite, Pea	.45	Gravel, Run of Bank	.60	Wood Chips	.40
Coal, Anthracite, Buckwheat	.55	Ice, Crushed	.20		
Coal, Bituminous, Sized	.55	Ice Cakes	.10		

Table 6 — Approximate Rolling Friction Coefficients (f_r)

Roller O.D.	Dry	Lubricated
1 1/2	.22	.16
2	.20	.15
2 1/2	.16	.12
3	.14	.09
4	.12	.08
5	.11	.07
6	.10	.06

Roller Bearing f_r = .05
Ball Bearing with hardened race f_r = .03

Specific Rolling Friction Coefficients (f_r)

$$f_r = \frac{d}{D} f_s$$

Where:

D = O.D. of chain roller (in.)
d = O.D. of chain bushing (in.)
f_s = Sliding friction coefficient from Table 4

Roller Conveyor Chain Selection Guidelines

Table 7 — Maximum Speeds of Conveyor Chains (fpm)

All dimensions are in inches unless otherwise indicated.

Number of Teeth	Pitch				
	4	6	9	12	18
6	180	145	120	105	85
7	210	170	140	120	100
8	240	195	160	140	115
9	270	220	180	155	125
10	300	245	200	175	140
11	330	270	220	190	155
12	360	295	240	205	170
13	390	320	260	225	185
14	420	345	280	240	200
15	450	365	300	260	210

For economical speeds when conveyors are heavily loaded and the load is carried over the terminal sprockets use 75% of above values.

Table 8 — Allowable Roller and Bushing Bearing Pressures

Roller and Bushing Materials	Allowable Bearing Pressure (PSI)	
	Dry	Lubricated
Case Hardened Steel and Case Hardened Steel	700	1,400
Case Hardened Steel and Through-Hardened Steel	700	1,400
Case Hardened Steel and Untreated Steel	500	1,200
Case Hardened Steel and Chrome Iron	500	1,100
Case Hardened Steel and Chilled Iron	600	1,000
Case Hardened Steel and Bronze	200	400
Case Hardened Steel or Stainless Steel on Plastic	100	150

Engineering Formulas

Material Weight per ft. on Conveyor (M) for Bulk Materials (lbs./ft.)

$$M = \frac{(33.3)\ (Q)}{S}$$

$$M = \frac{(CFM)\ (d)}{S}$$

Where:

Q = Capacity (tons/hr.)

S = Chain speed (ft./min.)

CFM = Capacity or conveyed material flow rate ($ft.^3$/min.)

d = Material density ($lbs./ft.^3$)

Chain Speed (S)

$$S = \frac{(P)\ (N)\ (RPM)}{12}$$

Where:

S = Speed (ft./min.)

P = Chain pitch (in.)

N = Number of teeth in sprocket

RPM = Rotational speed of sprocket

Horsepower (HP)

$$HP = \frac{(t)\ (rpm)\ (1.1)}{63{,}025}$$

$$HP = \frac{(T)\ (rpm)\ (1.1)}{5{,}252}$$

$$HP = \frac{(P)\ (S)\ (1.1)}{33{,}000}$$

Where:

t = Torque transmitted by headshaft (in./lb.)

T = Torque transmitted by headshaft (ft./lb.)

rpm = Speed of headshaft

P = Total conveyor pull (lbs.)

S = Chain Speed (ft./min.) (Note: 1.1 compensates for motor efficiency.)

Estimated Chain Weight for Selection (lbs./ft.*)

- For Chain Rolling: Chain Weight = (.002) (M) (C)
- For Chain Sliding: Chain Weight = (.004) (M) (C)

Where:

M = Weight of material being conveyed on conveyor (lbs./ft.)

C = Center distance between sprockets

* = Weight of each strand without slats

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Roller Conveyor Chain Selection Guidelines

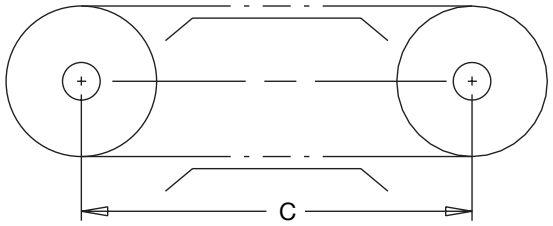
Conveyor Chain Pull Formulas

Horizontal

Material Carried: $P = (2.1W + M) f_r C$
(Slat or Apron Conv.)

Material Sliding: $P = (2.1Wf_S + Mf_S) C + J$
(Drag or Scraper Conv.)

Horizontal



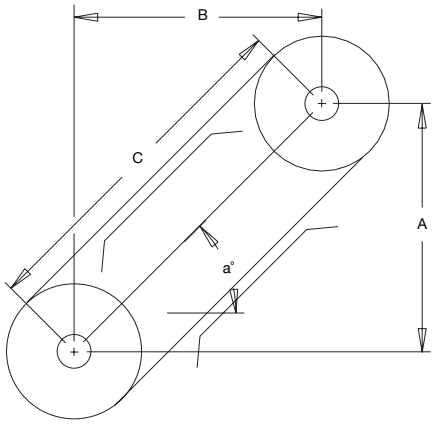
Inclined

Material Carried: $P = [(M + W) f_r COSa + (M + W) SINa] C + (Wf_r COSa - WSINa) C + J$
(Slat or Apron Conv.)

Material Sliding: $P = [(Mf_S + Wf_S) COSa + (M + W) SINa] + J$
(Scraper Conv.)

Note: When $(Wf_r COSa - WSINa) C$ is positive, multiply quantity by 1.1 to account for tail shaft friction.

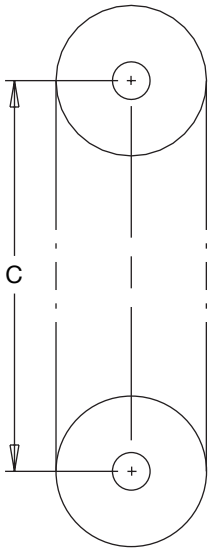
Inclined



Vertical

Material Carried: $P = (M + W) C + \frac{P_1}{2}$

Vertical



Glossary

- P = Total Conveyor Pull (lbs.)
- P_1 = Take-up Force (lbs.)
- W = Weight of chains, attachments, slats, etc., and other moving elements of the conveyor per ft. (lbs./ft.)
- M = Weight of material per ft. on the conveyor (lbs./ft.)
- f_r = Friction coefficient of chain rolling on support rail (Table 6)
- f_S = Sliding friction coefficient of material or chain sliding (Tables 4 and 5)
- C = Center distance (ft.)
- J = Pull (lbs.) caused by sideboard sliding friction (Table 9)

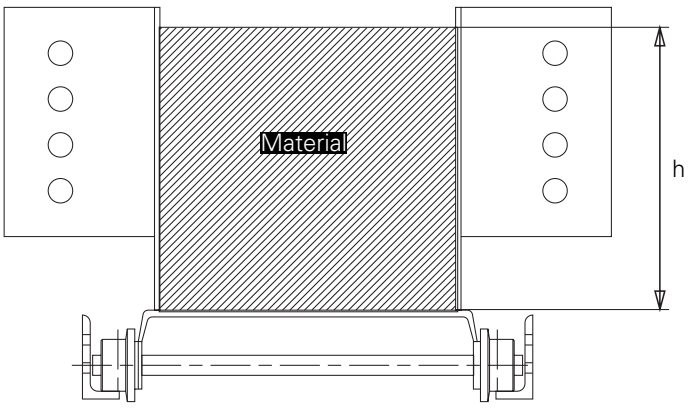
Table 9 — Additional Pull on Conveyor (J)
Material Sliding Against Sideboards

Material	R
Coal	14.0
Coke	35.0
Limestone	7.5
Gravel	7.0
Sand	5.5
Ashes	14.0

$J = \frac{Ch^2}{R}$ $SINa = \frac{A}{C}$

Where: $COSa = \frac{B}{C}$

h = Height of material in inches
R= Variable factor for different materials
C= Length of conveyor in feet



Roller Conveyor Chain Selection Guidelines

Selection Procedure

Step 1: Determine the Conveyor's Basic Requirements

- Type of conveyor to be used and layout of its dimensions (C, a, etc.).
- Type of chain including attachments.
- Determine weight of conveyed material (M) on the conveyor (lbs./ft.).
- Estimate weight of chain, attachments, and other moving parts of conveyor (W) (lbs./ft.).
- Friction Coefficients (Tables 4–6).
- Conveyor speed (S) (ft./min.).
- Determine pull due to sideboard friction (J).
- Determine service factor (V) from Table 10.

Step 2: Calculate Conveyor Pull

Use the appropriate formula from page C-49 to determine conveyor pull (P).

Step 3: Select Sprocket Size

Using Table 11, under conveyor speed read down to the number nearest 1.00 (this will be in the vicinity of the heavy dividing line). Read across to the left to obtain the optimum sprocket size. If space limitations require using smaller sprockets read across from the right from the number of teeth to the column under conveyor speed — obtain the Speed Correction Factor (E).

Step 4: Calculate Design Conveyor Pull (DP)

DP = (P) (V) (E)

Step 5: Calculate Chain Tensions (T)

- Single strand conveyor — T = DP
- Double strand conveyor — T = (DP) (1.2) /2
- Triple strand conveyor — T = (DP) (1.2) /3
- More than three strands — Contact Tsubaki Technical Support

Step 6: Select Chain Size

Choose a chain that has a maximum allowable load rating greater than the calculated chain tension of Step 5.

Step 7: Recalculate Actual Chain Tension

Repeat Steps 2–5 using actual chain weights. For roller conveyor chains, specific rolling friction coefficient values can be obtained from Table 6 on page C-47.

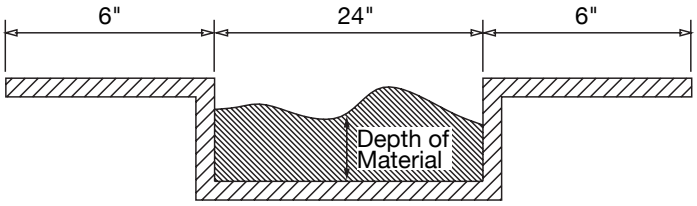
Step 8: Check Roller/Bushing Bearing Pressure (Roller Conveyor Chain Only)

Calculate bearing pressure from:

$$\text{Bearing Pressure} = \frac{\text{Maximum Load per Roller (lbs.)}}{\text{Bushing OD (in.) x Roller Length (in.)}}$$

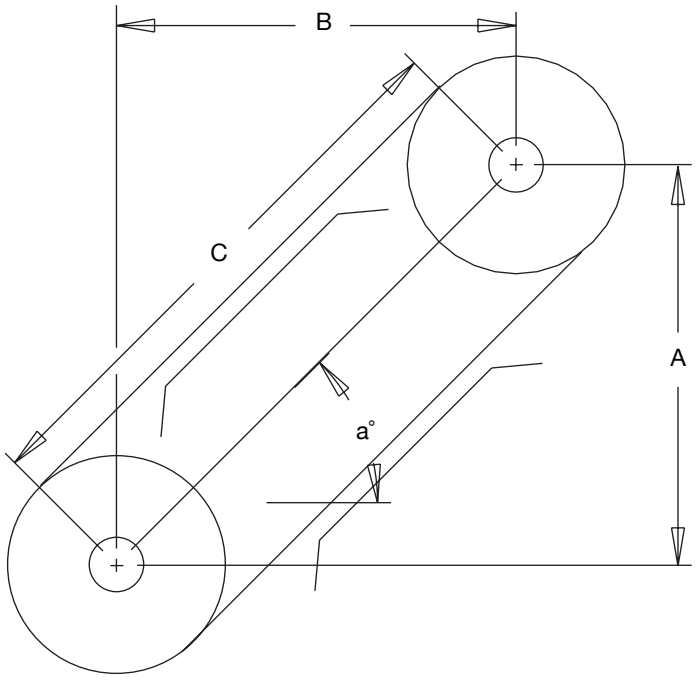
This value should be less than that shown in Table 8.

Selection Example



An incline scraper conveyor has been tentatively selected to handle bituminous coal. The sketch above shows the steel trough; other details are given below:

- Operating capacity: Q = 150 ton/hr.
- Operating speed: S = 100 ft./mn.
- Depth of material: d = 6"
- Total lift: A = 30 ft.
- Total horizontal run: B = 40 ft.
- Sprocket centers: C = 50 ft.
- Infrequent moderate shock
- 24-hour operation—"Dirty" conditions
- Scraper paddle: 5/16" x 12" x 23"—22.8 lbs. each, spaced every 12."
- Use roller conveyor chain



Roller Conveyor Chain Selection Guidelines

Selection Chain Pull Factors

Table 10 — Service Factors (V)

Frequency of Shock	Character of Conveyor Loading	Conditions of Operation	Daily Operating Period
Infrequent (1)	Uniform or Steady (1)	Relatively clean and moderate room temperature (1)	8–10 hours (1)[1]
	Moderate Shock (1.2)[1]	Moderately dusty (1.2)	
Frequent (1.2)[1]	Heavy Shock (1.5)	Unprotected from weather, dirty corrosive conditions or unusual temperatures within permissible operating range (1.4)[1]	24 Hours (1.2)

[1]Example V = 1.2 x 1.2 x 1.4 x 1.0 = 2.02

Table 11 — Speed Correction Factors (E)

All dimensions are in inches unless otherwise indicated.

	Conveyor Speed (ft./min.)														
Teeth	**10**	**25**	**50**	**75**	**100**	**125**	**150**	**175**	**200**	**225**	**250**	**275**	**300**	**400**	**500**
6	.92	1.09	1.37	1.68	2.00	2.40	2.91	3.57	4.41	5.65	7.35	10.60	16.70		
7	.86	.97	1.13	1.27	1.44	1.61	1.81	2.04	2.29	2.60	2.96	3.42	3.95	8.62	
8	.81	.91	1.04	1.16	1.26	1.37	1.49	1.63	1.76	1.93	2.10	2.29	2.48	3.62	6.21
9	.79	.87	.98	1.07	1.17	1.26	1.36	1.45	1.55	1.65	1.76	1.88	2.00	2.56	2.94
10	.78	.84	.94	1.02	1.09	1.16	1.24	1.31	1.37	1.45	1.53	1.61	1.68	2.03	2.41
11	.76	.82	.90	.97	1.03	1.09	1.15	1.22	1.28	1.34	1.40	1.46	1.52	1.78	2.05
12	.74	.79	.86	.93	.99	1.05	1.10	1.16	1.21	1.26	1.32	1.37	1.42	1.63	1.84
14	.74	.77	.83	.89	.94	.98	1.02	1.07	1.11	1.15	1.19	1.24	1.28	1.47	1.61
16	.73	.76	.81	.86	.89	.94	.97	1.01	1.05	1.08	1.12	1.16	1.19	1.34	1.48
18	.72	.75	.80	.83	.88	.91	.94	.98	1.01	1.04	1.08	1.11	1.14	1.27	1.40
20	.72	.75	.79	.83	.86	.89	.92	.95	.98	1.01	1.04	1.07	1.10	1.22	1.34
24	.71	.74	.77	.80	.82	.85	.88	.90	.94	.96	.98	1.01	1.04	1.15	1.26

Roller Conveyor Chain Selection Guidelines

Conveyor Selection Example

Step 1: Determine the Conveyor's Basic Requirements

- Incline scraper conveyor
- Roller conveyor chain with attachment for flight every 12".
- Determine (M) from formula on page C-48.

$$M = \frac{33.3\ (Q)}{S} = \frac{33.3\ (150)}{100}$$

$M = 50$ lbs./ft.

- Determine W:

$W = (CW)\ (N) + Ws$

CW = Wt. of Chain (lbs./ft.)
N = No. of chain strands = 2
Ws = Wt. of slats = 22.8 lbs./ft.

From formula on page C-47.

For Chain Rolling	For Chain Sliding
CW = .002 (M) (C)	CW = .004 (M) (C)
CW = .002 (50) (50)	CW = .004 (50) (50)
CW = 5.00 lbs./ft. (very light duty rolling)	CW = 10.00 lbs./ft. (sliding)

From Table 3 note that minimum chain weight = 3.70 lbs./ft., so use the 5.00 value rather than the 3.70 (lbs./ft.)

For Chain Rolling	For Chain Sliding
W = (5.00) (2) + 22.8	W = 10.00 (2) + 22.8
W = 32.8 lbs./ft. (rolling)	W = 42.8 lbs./ft. (slide)

Friction Coefficients
From Table 5:

$f_s = .55$ (Sliding Coal)

From Table 6:

$f_r = .20$ (Rolling Chain)

- Conveyor Speed:

(s) = 100 ft./min.

- Determine Sideboard Friction (J) from Table 9:

$$J = \frac{Ch^2}{R}$$

$$J = \frac{50\ (6)^2}{14}$$

$J = 128$ lbs.

- Determine Service Factor (V) from Table 10:

$V = (1.0)\ (1.2)\ (1.4)\ (1.2)$
$V = 2.02$

Step 2: Calculate Conveyor Pull (P)

From formula on page C-49.

For Chain Rolling

$P = [(Mf_s + Wf_r)\ COSa + (M + W)\ SINa]\ C + (Wf_r\ COSa - W\ SINa)\ C$
$P = [((50)\ (.55) + (32.8)\ (.2))\ .8 + (50 + 32.8)\ .6]\ 50 + [(32.8)\ (.2)\ (.8) - 32.8\ (.6)]\ 50$
$P = 3{,}850$ lbs. - 720 lbs.
$P = 3{,}130$ lbs. (rolling)

For Chain Sliding

$P = [(Mf_s + Wf_s)\ COSa + (M + W)\ SINa]\ C + (Wf_s\ COSa - W\ SINa)\ C$
$P = [(50)\ (.55) + (42.8)\ (.33)\ .8 + (50 + 42.8)\ .6]\ 50 + [(42.8)\ (.33)\ (.8) - 42.8\ (.6)]\ 50$
$P = 4{,}450$ lbs. - 720 lbs.
$P = 3{,}730$ lbs. (sliding)

Step 3: Select Sprocket Size

From Table 11 we obtain 12-tooth sprocket as best selection choice.

$E = .990$

Step 4: Calculate Design Conveyor Pull (DP)

For Chain Rolling	For Chain Sliding
DP = (P) (V) (E)	DP = (P) (V) (E)
DP = (3130) (2.02) (.99)	DP = (3,730) (2.02) (.99)
DP = 6,260 lbs. (rolling)	DP = 7,460 lbs. (sliding)

Step 5: Calculate Chain Tension

For Chain Rolling	For Chain Sliding
T = (DP) (1.2)/2	T = (DP) (1.2)/2
T = (6,260) (1.2)/2	T = (7,460) (1.2)/2
T = 3,760 lbs. (rolling)	T = 4,480 lbs. (sliding)

Step 6: Select Chain Size

For Chain Rolling

Referring to page C-32, the G-29 or G-19 attachments are convenient for bolting scraper flights. Since attachment spacing is every 12", choose either 4", 6", or 12" pitch chain.

Select 1131R with G-29 every 2nd pitch.

For Chain Sliding

Note that chain U-3945 with K-3 attachments every 3rd pitch could suit this application. In addition, mining industry chains should be considered. Choose the chain that offers the best overall economy.

Select U-3945 with K-3 attachments every third pitch.

Step 7: Recalculate Chain Tension

For Chain Rolling

W = 22.8 + 13.9

W = 36.7 lbs./ft.

f_r = .33 (1.125/3)

f_r = .12

DP = 2,960 (2.02) (.99)

DP = 5,920 lbs.

T = 5,920 lbs. (1.2)/2

T = 3,550 lbs./strand (rolling)

Since the maximum allowable working load rating of 1131R is 5,900 lbs., the selection is satisfactory. We could, however, economize by selecting a smaller chain (for example, 627R). To do this, recalculate chain tension by repeating Steps 2, 3, 4, and 5.

For Chain Sliding

W = 22.8 + 9.8

W = 32.6

f_s = .33 (Sliding Steel)

f_s = .55 (Sliding Coal)

DP = 3,720 (2.02) (.99)

DP = 7,440 lbs.

T = 7,440 lbs. (1.2)/2

T = 4,460 lbs./strand (sliding)

Since the maximum allowable working load rating of U-3945 is 5,740 lbs., the selection is satisfactory. If bolted flight attachments are not necessary, mining industry chain could be considered.

Steel Bushed Chain

Tsubaki Steel Bushed Chains are specially designed and manufactured to provide excellent service in severe working conditions. Our chains are manufactured to close tolerances with the most modern equipment in the industry.

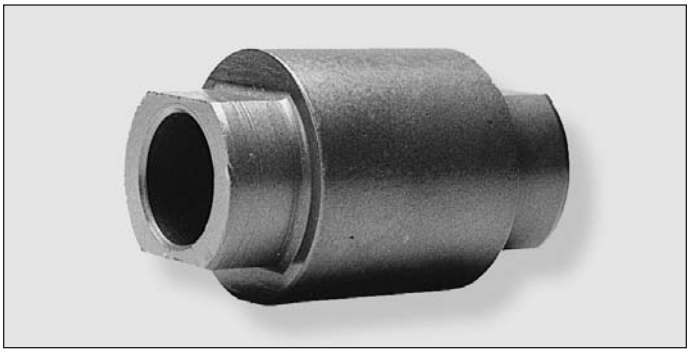
Each component is made from high-quality steels and then specially heat-treated to provide maximum performance and long wear life. Joint parts are hardened to provide greater strength and wear resistance. Sidebars are hardened to achieve ultra-high strength throughout.

Specify Tsubaki Steel Bushed Chains when the system operates under gritty or abrasive conditions, such as bucket elevators and other challenging conveyor applications. Tsubaki Steel Bushed Chains are also used to replace combination chains when installations are modified to handle heavier loads or operating conditions become more severe.

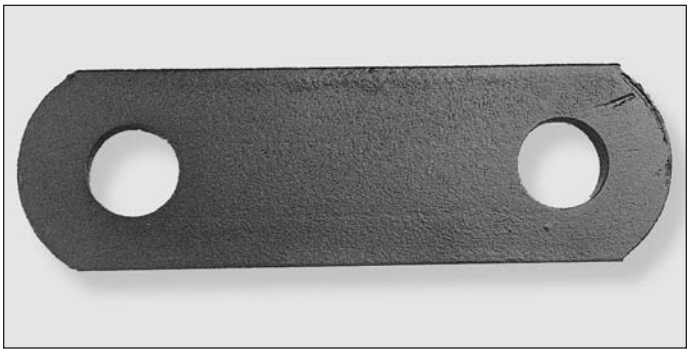
Steel Bushed Chain Components

Strong, Tough Pins
Pins are made of select alloy steel or high-quality carbon steel. They are hardened to achieve superior strength and extend wear life. This creates the ideal combination of surface hardness for wear resistance and core toughness to resist impact.

Long-Wearing Bushings
Bushings are manufactured to rigid specifications for optimum wear resistance and strength. Select steels are precision machined to maintain consistently high sidebar interference. This results in positive sidebar hold and favorable residual stress to resist fatigue. Bushings are case-hardened and heat-treated to extend the wear life.

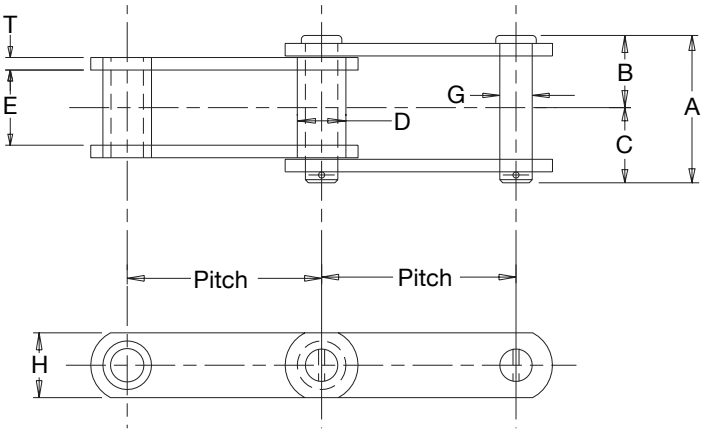


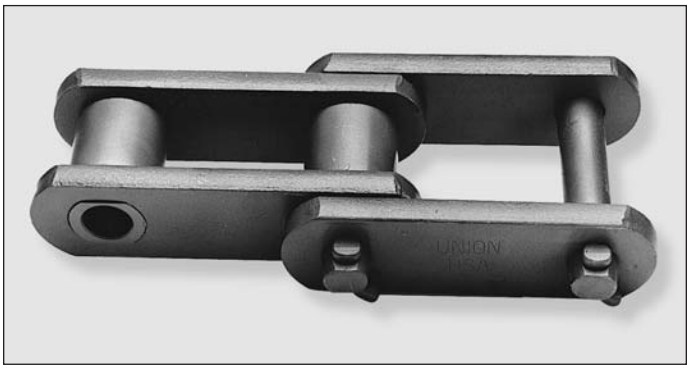
Fatigue-Resistant Sidebars
Sidebars are through-hardened to achieve ultra-high strength. This keeps the chain hanging failure-free, ensuring consistent service life. Tsubaki has developed superior techniques to ensure hole quality and pitch control. The result is fatigue resistance and premium performance.



Steel Bushed Chain

Steel Bushed Plain Chain





Steel Bushed Plain Chain Specifications

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Width				Bushing			Pin			Sidebar			Average Ultimate Strength (lbs.)	Max. Work Load (lbs.)	Approx. Wgt. (lbs./ft.)
		Overall	Pin Head to CL	Pin End to CL	Inside	Dia.	Sty.[1]	Matl.[2]	Dia.	Sty.[3]	Matl.[2]	Height	Thick.	Matl.[2]			
		A	B	C	E	D			G			H	T				
188	2.609	2.69	1.25	1.44	1.06	.88	P	CCH	.50	A	CHT	1.13	.25	CHT	25,000	2,750	3.8
131	3.075	3.53	1.66	1.88	1.31	1.25	P	CCH	.63	A	CHT	1.50	.38	CHT	40,000	4,500	7.5
102B	4.000	4.31	2.03	2.28	2.13	1.00	P	ACH	.63	A	ACH	1.50	.38	CHT	40,000	6,300	6.9
102-1/2	4.040	4.75	2.25	2.50	2.25	1.38	P	CCH	.75	A	ACH	1.75	.38	CHT	50,000	8,850	9.4
111	4.760	5.06	2.38	2.69	2.63	1.44	P	CCH	.75	A	ACH	2.00	.38	CHT	50,000	8,850	10.2
111SP	4.760 & 7.240	5.06	2.38	2.69	2.63	1.44	P	CCH	.75	A	ACH	2.00	.38	CHT	50,000	8,850	8.8
110	6.000	4.31	2.03	2.28	2.13	1.25	P	CCH	.63	A	ACH	1.50	.38	CHT	40,000	6,300	6.3
4856	6.000	6.13	2.88	3.22	3.00	1.75	R	ACH	1.00	K	AHTIH	2.50	.50	AHT	145,000	14,000	16.5
4857	6.000	6.13	2.88	3.22	3.00	1.75	R	ACH	1.00	K	AHTIH	3.25	.50	AHT	175,000	14,000	21.0
4859	6.000	7.38	3.56	3.81	3.75	2.38	R	ACH	1.25	K	AHTIH	4.00	.63	AHT	275,000	21,800	34.0
150X	6.050	6.41	3.03	3.38	3.31	1.75	P	ACH	1.00	A	ACH	2.50	.50	CHT	100,000	15,100	16.6
4864	7.000	7.38	3.56	3.81	3.75	2.38	R	ACH	1.25	K	AHTIH	4.00	.63	AHT	275,000	21,800	31.0

[1]Bushing style: P = Double-flat; R = Full-round.

[2]Material: CHT = Carbon heat-treated; CCH = Carbon case hardened; AHT = Alloy heat-treated; ACH = Alloy case-hardened; AHTIH = Alloy heat-treated induction hardened.

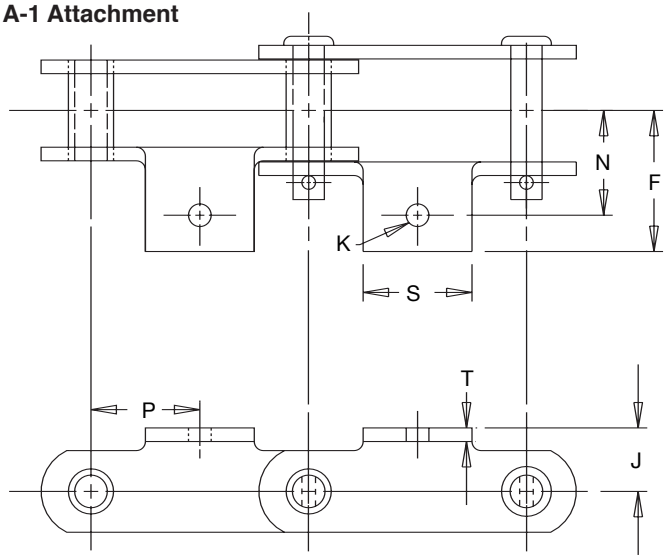
[3]Pin style: K = Full round; A = Double flat.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

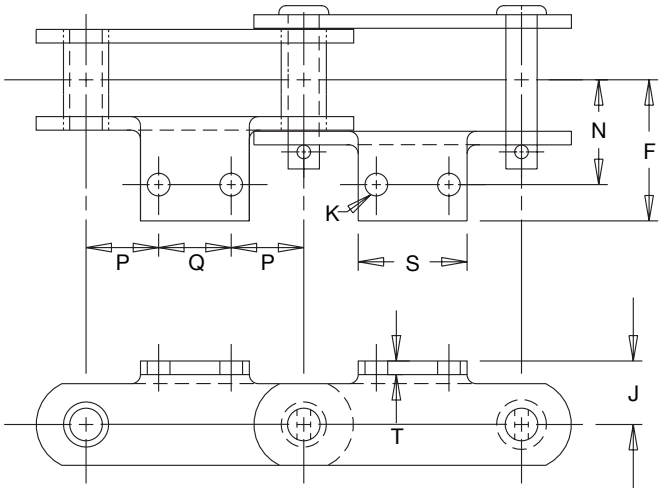
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Steel Bushed Chain Attachments

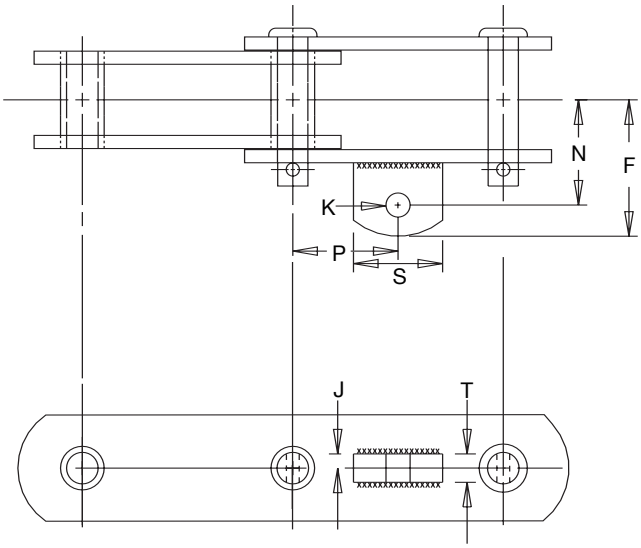
A-1 Attachment



A-2 Attachment



A-22 and A-42 Attachment



Steel Bushed Chain Attachments

Steel Bushed Attachment Specifications

All dimensions are in inches unless otherwise indicated.

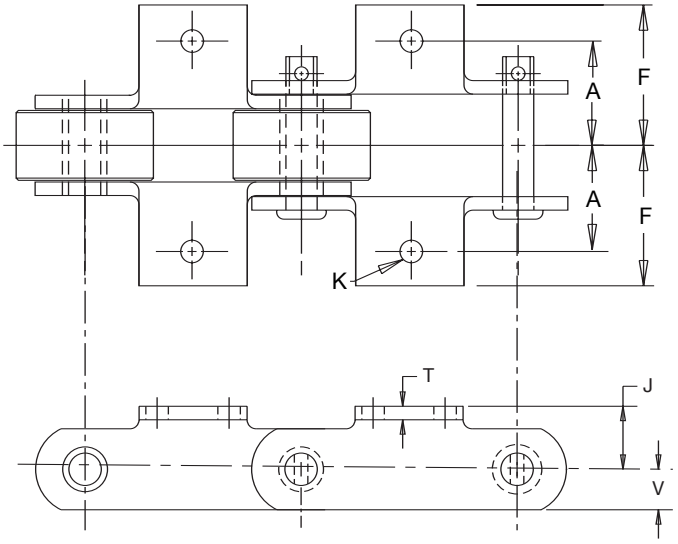
Attach. Number	Chain Number							Bolt Diameter		Approx. Weight (lbs./ft.)
		N	Q	J	S	F	P	K	T	
A-1	188	1.88		.81	2.13	2.61	1.30	.38	.25	4.8
	131	2.06		1.00	1.31	3.02	1.54	.50	.38	8.9
	102B	2.38		1.00	2.81	3.34	2.00	.38	.38	8.9
	111	3.13		1.50	3.63	3.75	2.38	.50	.38	12.7
	110	2.66		1.00	2.81	3.53	3.00	.38	.38	8.6
A-2	188	2.09	1.25	.81	2.13	2.61	.68	.31	.25	4.8
	131	2.06	1.50	1.13	2.88	2.91	.78	.50	.38	8.9
	102B	2.66	1.75	1.00	2.81	3.34	1.13	.38	.38	8.0
	111	3.13	2.31	1.50	3.63	4.13	1.22	.38	.38	12.4
	110	2.66	1.75	1.00	2.89	3.32	2.13	.38	.38	7.5
A-22 & A-42	188	1.78		.19	1.25	2.38	1.19	.38	.38	4.8
	131	2.63		.16	1.25	3.50	1.53	.38	.38	8.4
	102B	3.13	1.75	.16	1.25	3.88	2.00	.38	.31	7.8
	111	3.38		.19	1.25	4.13	2.38	.50	.38	10.8
	110	3.13		.19	2.00	4.13	3.00	.50	.38	7.1

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

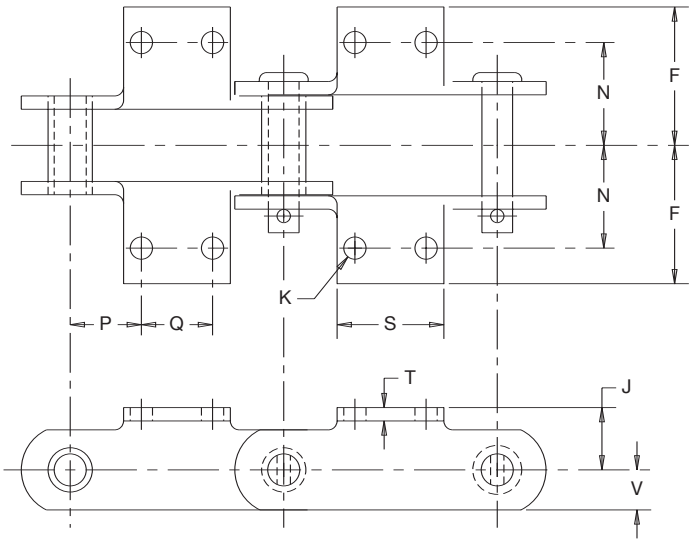
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Steel Bushed Chain Attachments

K-1 Attachment



K-2 and K-22 Attachment



Steel Bushed Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

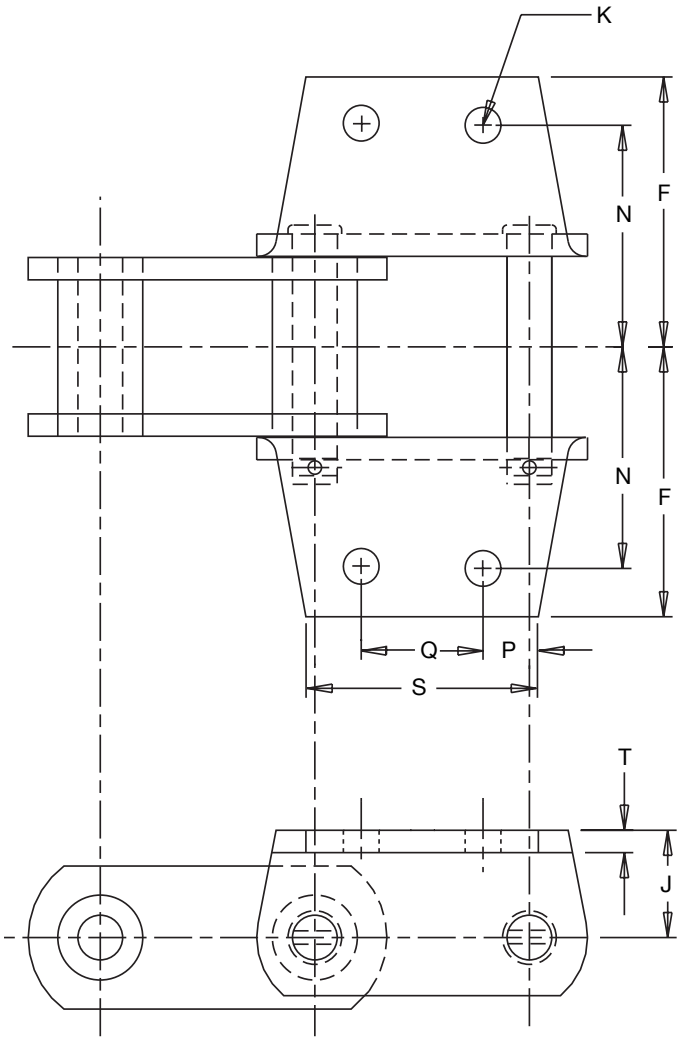
Attach. Number	Chain Number	N	F	Q	S	P	K	J	T	Bolt Dia. V	Approx. Weight (lbs./ft.)
K-1	188	1.88	2.61		2.13	1.30	.38	.81	.25	.56	5.8
	131	2.06	3.02		1.31	1.54	.50	1.00	.38	.75	10.2
	102B	2.38	3.34		2.81	2.00	.38	1.00	.38	.75	9.0
	111	3.13	3.75		3.63	2.38	.50	1.50	.38	1.00	15.2
K-2	188	2.09	2.61	1.25	2.13	.68	.31	.81	.25	.56	5.8
	131	2.06	2.91	1.50	2.88	.78	.50	1.13	.38	.75	10.2
	102B	2.66	3.34	1.75	2.81	1.13	.38	1.00	.38	.75	9.0
	110	2.66	3.32	1.75	2.88	2.13	.38	1.00	.38	.75	8.6
	111	3.13	4.13	2.31	3.63	1.22	.50	1.50	.38	1.00	15.2
	111SP	3.13	4.13	2.31	3.63	1.22	.50	1.50	.38	1.00	15.2
	150X	3.75	4.91	2.75	4.25	1.66	.50	1.88	.50	1.25	23.0
	4856	3.31	4.41	2.25	4.25	1.88	.50	1.88	.50	1.25	23.0
K-22	102-1/2	2.66	3.27	1.75	3.13	1.16	.50	1.13	.38	.88	24.0
	111	3.13	4.13	2.31	3.63	1.23	.38	1.50	.38	1.00	15.2
	4856	3.16	4.25	2.25	4.25	1.88	.63	1.88	.50	1.25	23.0

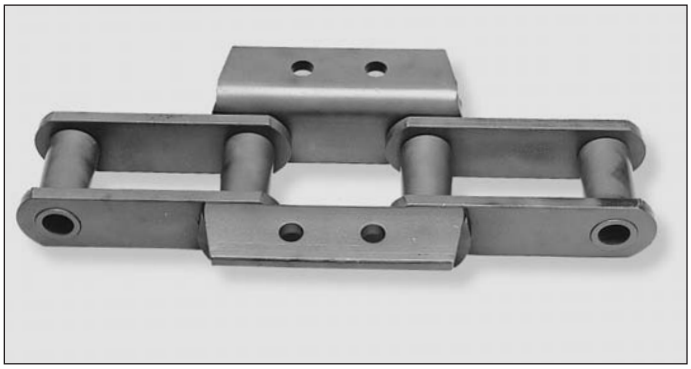
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Steel Bushed Chain Attachments

K-24 Attachment





Steel Bushed Attachment Specifications (continued) All dimensions are in inches unless otherwise indicated.

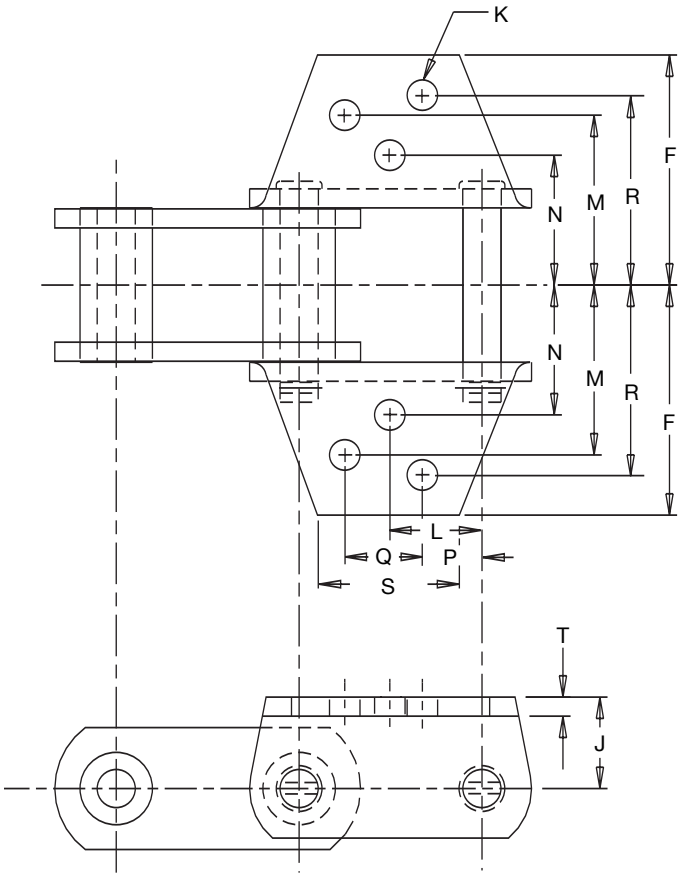
Attach. Number	Chain Number						Bolt Dia.			Approx. Weight (lbs./ft.)
		N	F	Q	S	P	K	J	T	
K-24	4856	3.63	4.75	2.50	7.25	1.75	.63	1.88	.50	27.5

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

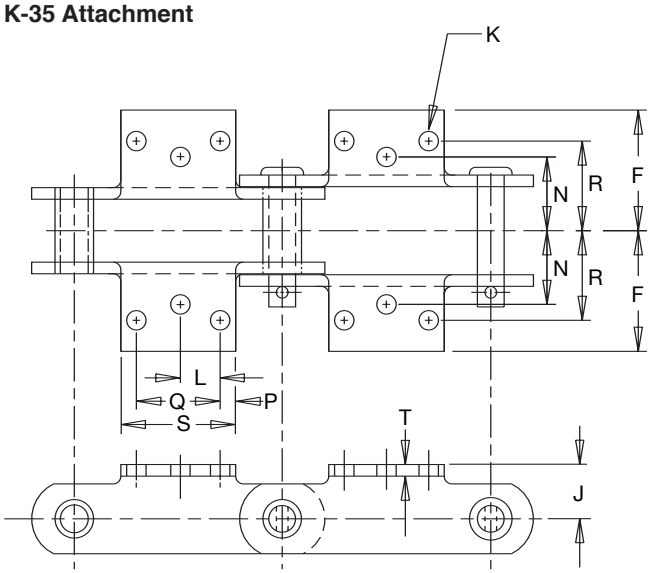
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Steel Bushed Chain Attachments

K-3 Attachment



K-35 Attachment



Steel Bushed Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

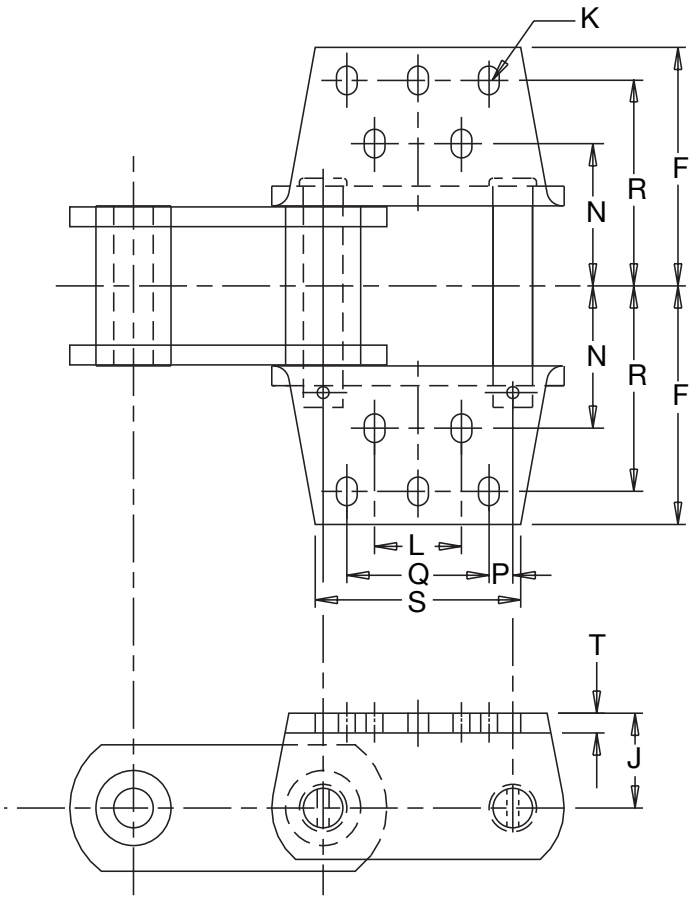
Attach. Number	Chain Number									Bolt Dia.				Approx. Weight (lbs./ft.)
		N	M	R	F	L	Q	S	P	K	J	T	V	
K-3	150X	3.75		5.75	6.53	3.02	2.75	4.25	1.66	.50	1.88	.50		26.9
	4856	3.28	5.47	6.03	6.75	3.00	2.75	4.25	1.63	.50	1.88	.50		27.5
K-35	4856	3.63		6.13	6.75	1.25	2.50	6.44	1.75	.63	1.88	.50	1.25	27.5

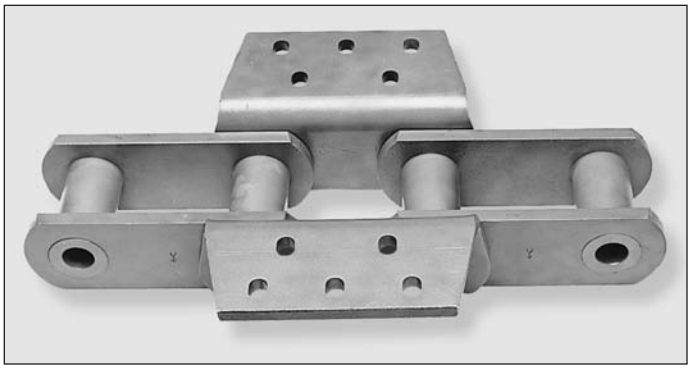
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Steel Bushed Chain Attachments

K-44 and K-443 Attachment





Steel Bushed Attachment Specifications (Continued)

All dimensions are in inches unless otherwise indicated.

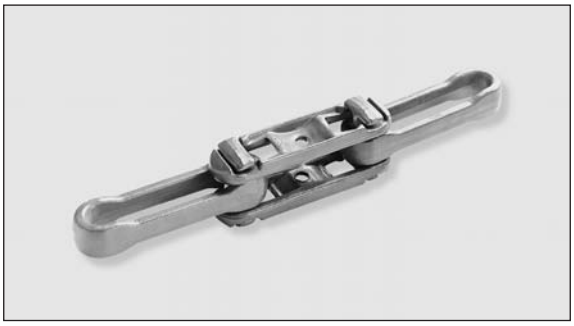
Attach. Number	Chain Number									Bolt Dia.		Approx. Weight (lbs./ft.)
		N	R	F	L	Q	S	P	K	J	T	
K-44	4857 4859	3.50 4.50	6.00 6.50	7.25 7.55	3.50 2.75	3.50 4.50	6.56 6.50	1.25 .75	.50 .63	2.50 3.00	.50 .63	42.0 67.0
K-443	4864	4.50	6.50	7.55	3.75	5.50	8.56	.75	.63	3.00	.63	53.0

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

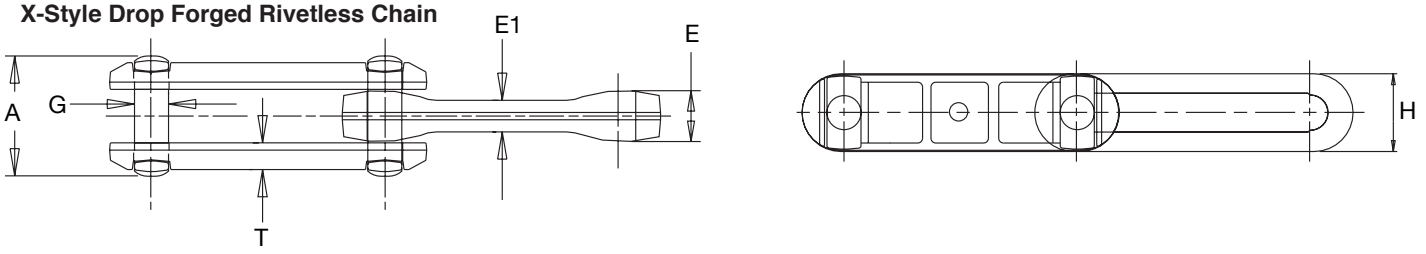
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Drop Forged Rivetless Chain

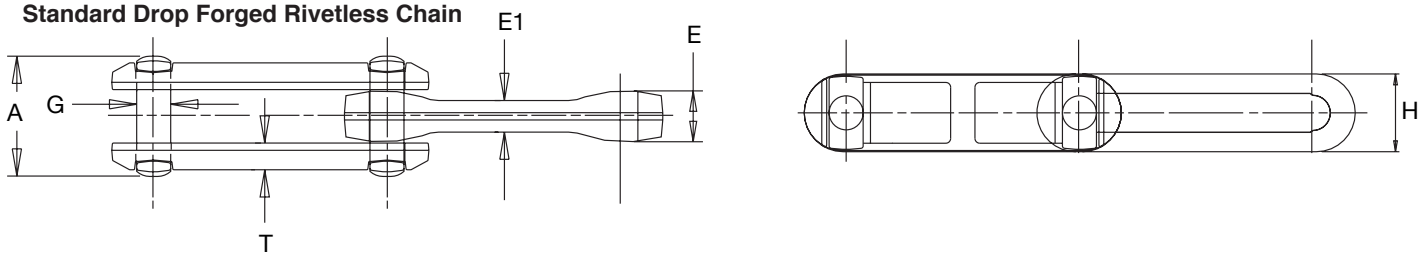
Drop Forged Rivetless Chain has widespread use in many industries on trolleys, scraper flights, assembly and similar conveyors. Because materials do not tend to pack in its open structure, the Drop Forged Rivetless Chain is used extensively for flight conveyors. Its design permits both horizontal and vertical operation over irregular routes, making it particularly acceptable for trolley conveyor service. Related chain products and accessories are Barloop Chain, trolleys, drive dogs and Caterpillar Chain.



X-Style Drop Forged Rivetless Chain



Standard Drop Forged Rivetless Chain



X-Style and Standard Drop Forged Rivetless Chain

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Chain Width			Pin	Sidebars		Min. Side Flex Radius (in.)	Average Ultimate Strength (lbs.)		Max. Work Load (lbs.)		Avg. Pitches (ft.)	Approx. Weight (lbs./ft.)
		Overall	Inside		Diameter	Thick.	Height		Alloy Heat-Treated[1]	Heat-Treated	Normal	Freq. Flex.		
		A	**E**	**E1**	**G**	**T**	**H**							
X-348[2]	3.015	1.73	.75	.50	.50	.41	1.09	10.0	24,000		2,600	1,200	3.95	2.2
X-458[2]	4.031	2.19	1.00	.63	.63	.47	1.38	24.0	60,000	48,000	4,000	1,900	2.98	3.2
468	4.031	3.19	1.59	1.13	.75	.41	1.88		70,000			2.98	7.5	
X-658[2]	6.031	2.19	1.00	.63	.63	.47	1.38		48,000			1.99	2.7	
X-678[2]	6.031	3.03	1.28	.81	.88	.72	2.00	35.0	100,000	85,000	7,100	3,300	1.99	6.7
698	6.031	3.75	1.56	1.00	1.13	.56	2.56		150,000	130,000	10,800	5,200	1.99	11.4
998	9.031	3.75	1.56	1.00	1.13	.63	2.53		150,000	130,000	10,800	5,200	1.33	9.0

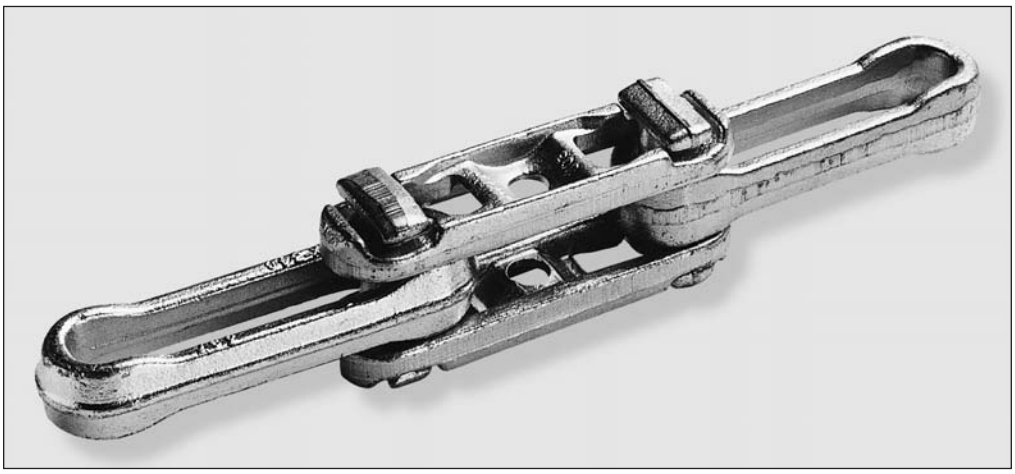
Note: Magna-flux inspected chain is available.
Component hardness: BHN 344 (Nom.) = Carbon steel chains; BHN 380 (Nom.) = Alloy steel chains.

[1]ANSI/SAE 8642

[2]The prefix "X" designates a design proportioned to flex transversely on a shorter radius. The outside bars are made with a mid-pitch panel that strengthens the sidebar and prevents material from falling through the link. X-Styles are used on overhead conveyors and other special applications. Attachments shown on the following pages fit both Standard and X-Style Chain.

UWL Drop Forged Rivetless Chain

UWL Drop Forged Rivetless Chain

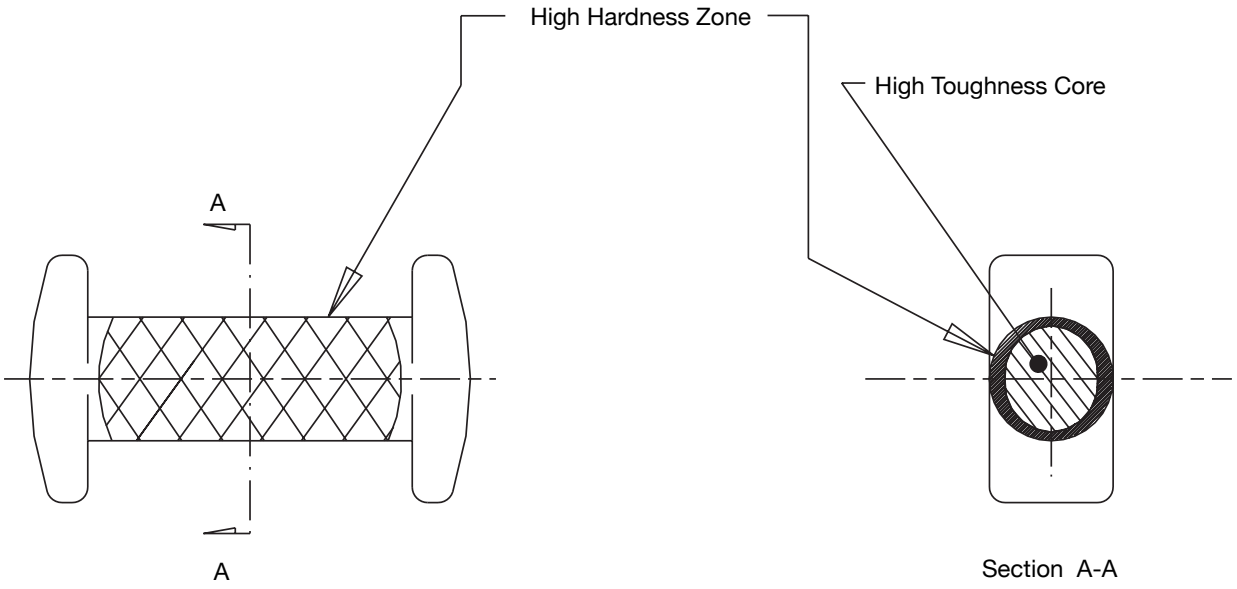


UWL (Ultra Wear Life)

Drop Forged Rivetless Chains

Ultra Wear Life Drop Forged Rivetless Chain extends wear life of rivetless chain. Tests under real-life conditions have proven that UWL chain lasts 40 to 50 percent longer than ordinary rivetless chain. This extraordinary performance has been achieved with special steels and a proprietary pin hardening process. Since pin wear is the major limiting factor with rivetless chain, Tsubaki's specially produced pins greatly increase the chain's wear life. UWL Drop Forged Rivetless Chain is available in X-348, X-458, X-678, 698 and barloop styles.

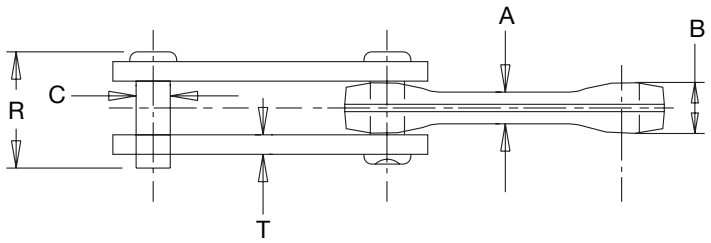
Higher Hardness Pin for "Ultra Wear Life" Performance

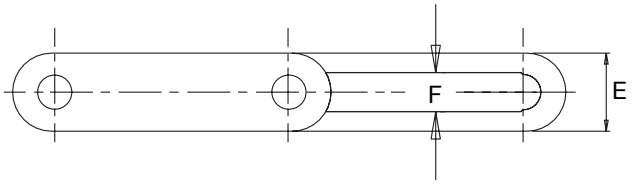


Drop Forged Rivetless Barloop Chain

Barloop Chains

A solid side bar chain with standard rivetless chain center links and hardened wear surfaces to assure long life in sliding applications. Barloop Chains consist of a standard forged rivetless inside block, fabricated steel sidebars, and cold drawn steel pins. Barloop Chain offers the advantage of a flat sidebar for welding attachments. The pin is securely locked in the sidebars eliminating both the wear between the pin and sidebar and the possibility of the chain coming apart when slack exists. Tsubaki offers Barloop Chain with a nut and bolt assembly that rotates. This permits easy assembly and quick replacement.





Barloop (Bar Link) Chains

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Dimensions							Average Ultimate Stgth.(lbs.)	Average Pitches per Foot	Approx. Weight (lbs./ft.)
		A	B	C	E	F	T	R			
S-348[1]	3.015	.50	.75	.50	1.06	.53	.25	1.75	24,000	3.95	2.4
S-458	4.031	.63	1.02	.63	1.38	.69	.31	2.06	48,000	2.98	3.5
S-678	6.031	.81	1.31	.88	2.00	1.00	.50	3.00	85,000	1.99	8.6
S-698	6.031	1.00	1.56	1.13	2.69	1.25	.50	3.13	130,000	1.33	13.2
S-998	9.031	1.00	1.56	1.13	2.69	1.25	.50	3.13	130,000	1.33	10.4

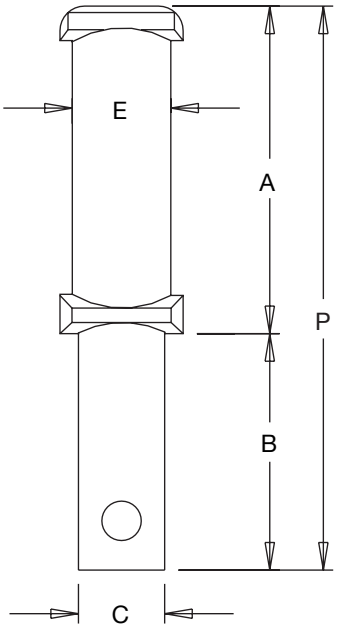
[1]Standard chain inventory features nut and bolt construction.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

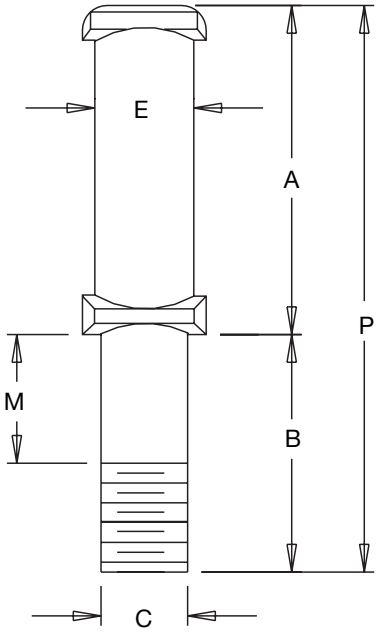
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Drop Forged Rivetless Chain Attachments

Extended Pin

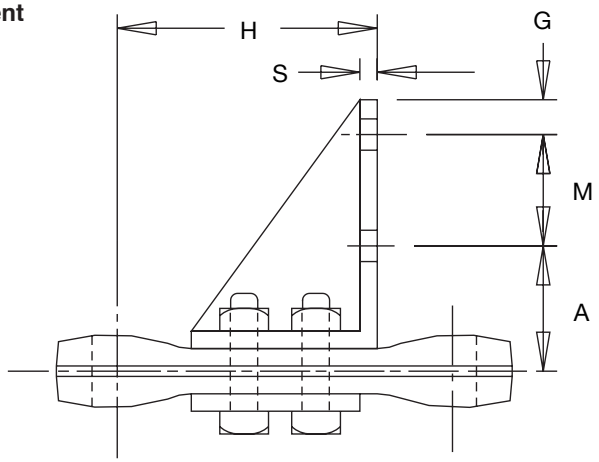


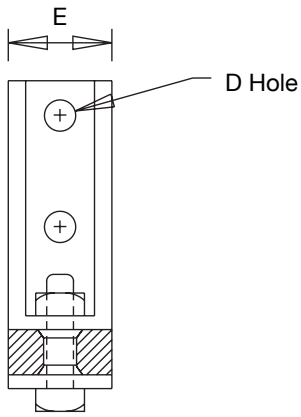
Style A



Style B

S-22 Attachment





Drop Forged Rivetless Chain Attachments

All dimensions are in inches unless otherwise indicated.

Attach. Number	Chain Number	A	B	C	D	E	G	H	M	P	S	Approx. Weight (lbs./ft.)
Extended Pin[1]	X-458	2.25	1.13	.50		.63			.31	3.38		.3
	X-678	3.13	1.50	.75		.88			.19	4.63		1.5
	X-678	3.13	1.50	.88		.88			.19	4.63		1.6
	998	3.88	1.75	.75		1.13			.38	5.63		1.9
S-22	X-458	2.25			.56	1.38	.63	3.18	2.00		.31	2.0
	X-678	2.88			.68	1.81	.88	4.75	2.25		.31	4.7

[1]Attachment pins also available with hexnut and lock washer.
Attachments other than those shown available upon request.

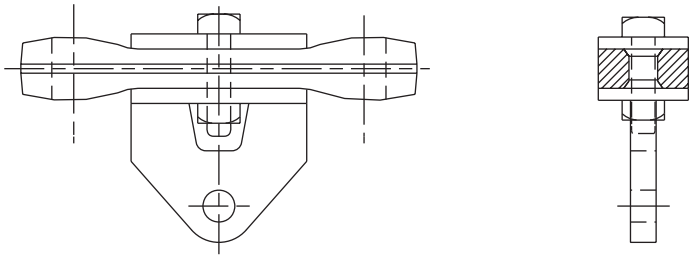
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

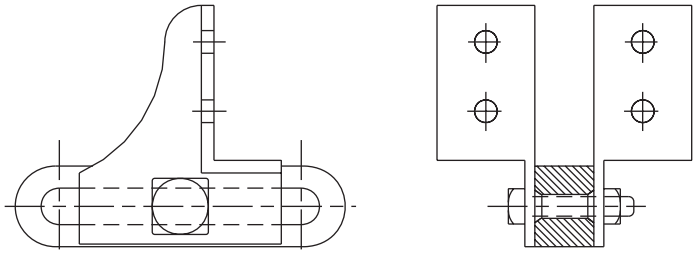
Drop Forged Rivetless Chain Attachments

The following are examples of additional attachments available with Drop Forged Rivetless Chain. Attachments are also available for special applications.

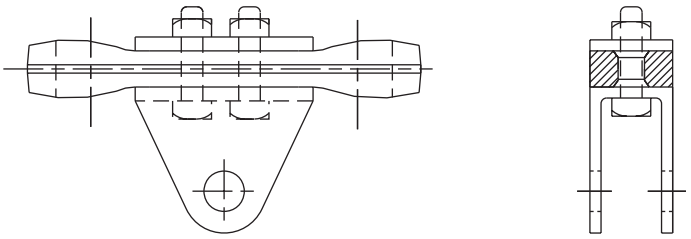
A-22 Attachment



F-2 Attachment

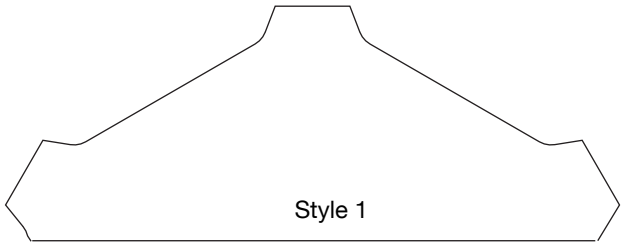


A-53 Attachment



Sprockets for Drop Forged Rivetless Chain

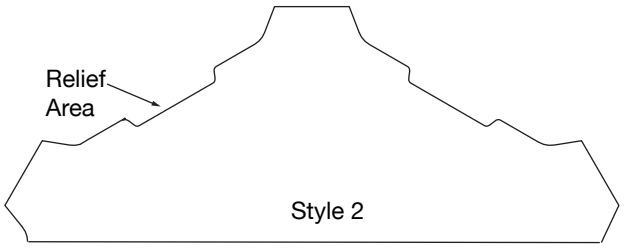
Drop Forged Rivetless Sprockets are designed to work with the chain and attachments. Some setups, such as slider attachments on overhead slaughter house lines, require extra clearance that is not part of standard sprocket construction (Style 1).



Standard sprockets are not designed for some applications like overhead slaughter house lines where the attachment requires extra clearance.

Our specially developed sprocket (Style 2) has a “relief area”. This keeps the chain from riding out of the sprocket pocket and reduces premature joint wear.

Select the right sprocket for your application. Contact --- Chain if you have any questions.



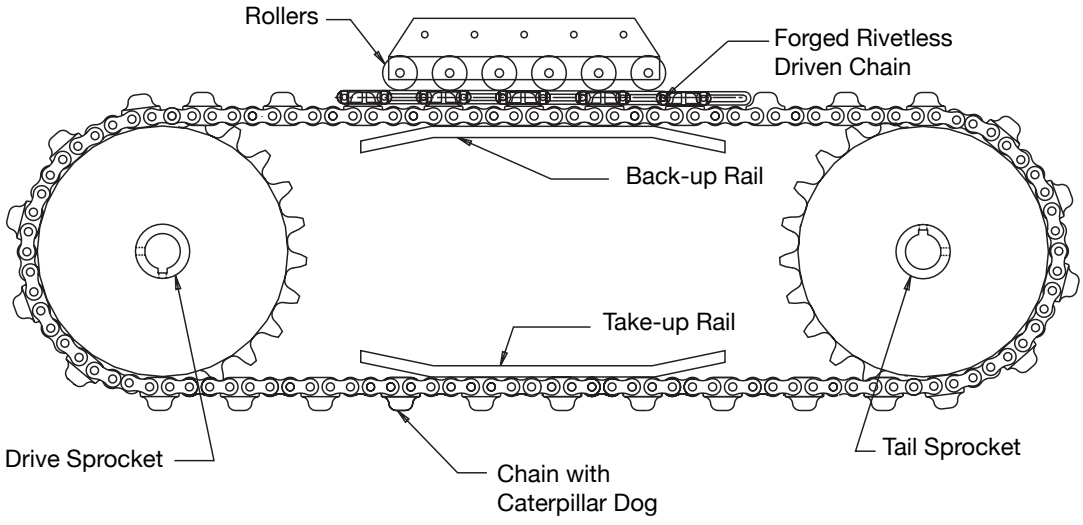
Drop Forged Rivetless Sprockets from Tsubaki have a “relief area” that allows for attachment protrusion. This means better articulation and longer wear life.

Drop Forged Rivetless Chain (Caterpillar Drive)

Caterpillar Drive (Power) Chains

Caterpillar Drive Chains are chains with pushers used to drive drop forged chain. They are vital in driving drop forged chain conveyors, so they must deliver fatigue-free operation. The Tsubaki Caterpillar Drive Chain features high-quality roller chain with drive dogs made of one-piece forged, induction-hardened steel. The entire assembly is designed to operate flawlessly in combination with our forged rivetless chain. Our chain also meets ANSI standards.

Power Chain

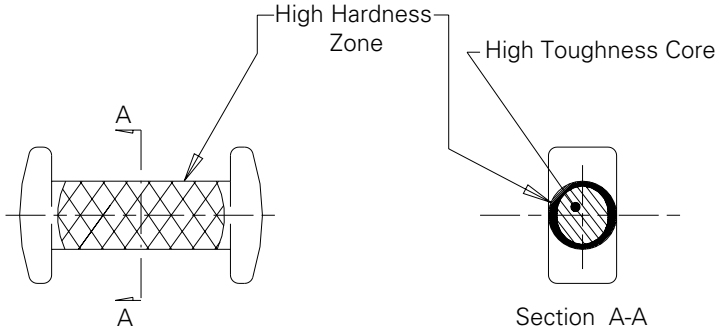


Drop Forged Rivetless Chain (Caterpillar Drive)

UWL-Drop Forged Rivetless Chains

Ultra Wear Life Drop Forged Rivetless Chains are innovative products that extend wear life of rivetless chain 40 percent or more. This extraordinary performance is achieved with special steels and a special pin hardening process. That means significant savings of time and money, by reducing maintenance and changeout costs, decreasing downtime, and lowering repair bills.

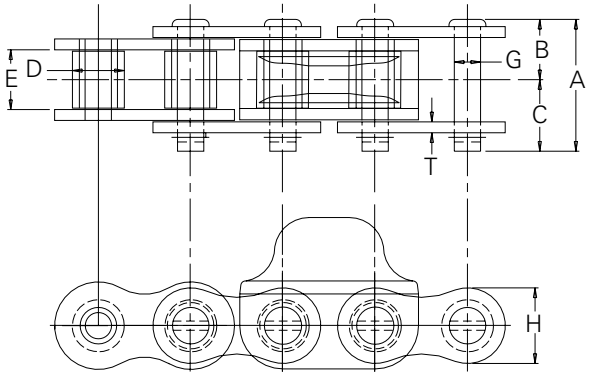
Higher Hardness Pin for "Ultra Wear Life" Performance



Caterpillar Drive (Power) Chains

Caterpillar Drive Chains must deliver fatigue-free operation. Every part of Caterpillar Drive Chain from TsubakI is top of the line. The roller chain is high-quality, with many drive dogs made of one-piece forged, induction-hardened steel. Special, made-to-order caterpillar chains are also available. The entire assembly is designed to operate flawlessly in combination with Drop Forged Rivetless Chain.

Caterpillar Drive Dog



Caterpillar Drive Chain

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Chain Width				Diameter		Sidebars		Driving Dog Pitch Spacing	Average Ultimate Strength (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Pin Head to CL	Pin End to CL	Inside Width	Roller	Pin	Thick.	Height			
		A	**B**	**C**	**E**	**D**	**G**	**T**	**H**			
160/348	2.000	2.64	1.23	1.41	1.25	1.13	.56	.25	1.90	6	58,000	8.3
160/458	2.000	2.64	1.23	1.41	1.25	1.13	.56	.25	1.90	4 or 6	58,000	8.3or 10.0
160/678	2.000	2.64	1.23	1.41	1.25	1.13	.56	.25	1.90	6	58,000	9.8

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

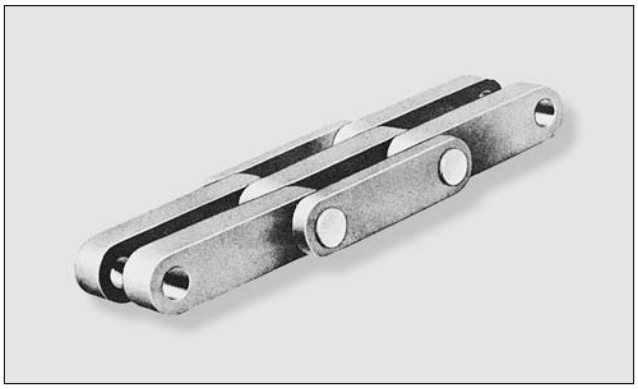
Bar and Pin Chain

Bar and Pin Chain is designed for economical applications/installations where the speed is relatively slow and/or heavy load lifting is needed. It can be used in the steel industry for cooling high-temperature steel bars, seamless pipes, or for pushing red-hot slabs and billets. In addition to the steel industry, Bar and Pin Chain is used for vertical conveyance of sand and earth, and for shuttle traction.
Construction and Features This chain is usually composed of three parts: two outer plates and one (or sometimes two) inner plate (block) that are connected with pins. The tensile strength ranges from 309 to 2,720 kN.
In comparison to roller chain, Bar and Pin Chain has the following features:

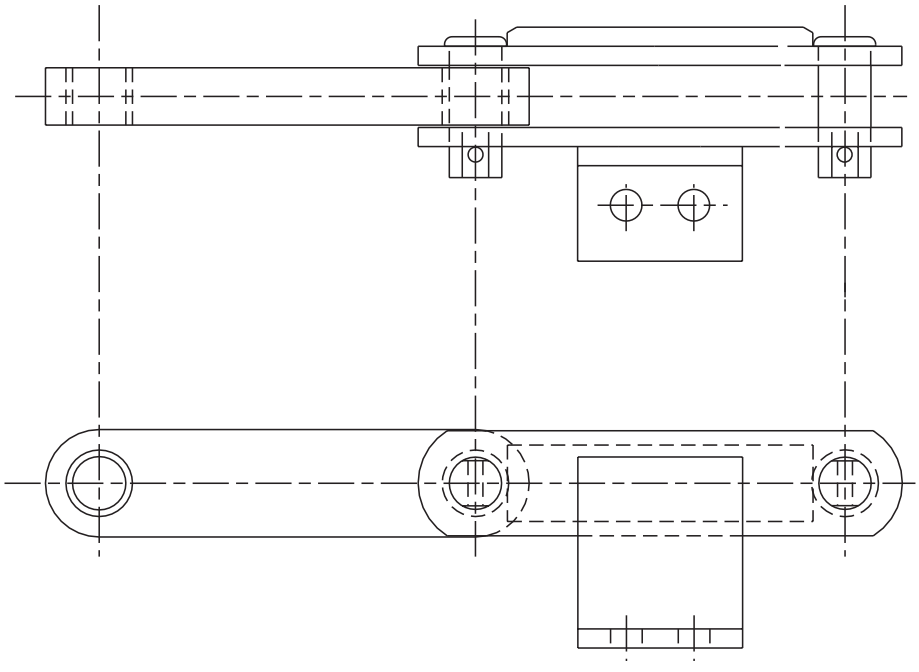
(1) Greater impact resistance due to the strong construction and high rigidity.
(2) Higher strength considering chain weight.
(3) All the main parts are heat-treated for greater wear resistance against the guide rails.
(4) Usually the bottom side of the plate slides on the guide rail; the chain does not have rollers.

Conveyed objects can be pushed/carried on the guide rails using special pushers (dogs) attached to the chain. Sprocket teeth engage the inside plate of the chain, entering the area between outer links. The sprocket skips every second tooth to allow for the solid block.

A few standard styles are illustrated. The bar and pin chains are normally manufactured on a made-to-order basis. Our engineering and design services provide maximum flexibility, allowing us to create the right chain with the right attachments for your application.



Bar and Pin Type Scraper Reclaimer Chain with A-2 Attachment



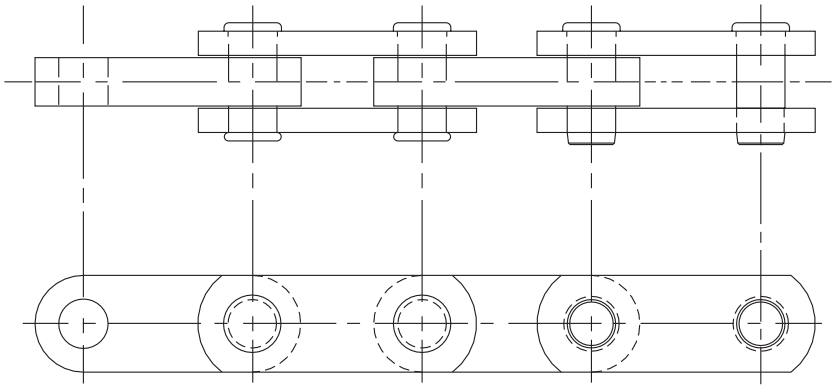
Draw Bench Chain
Bar and Pin Chain

Draw Bench Chains

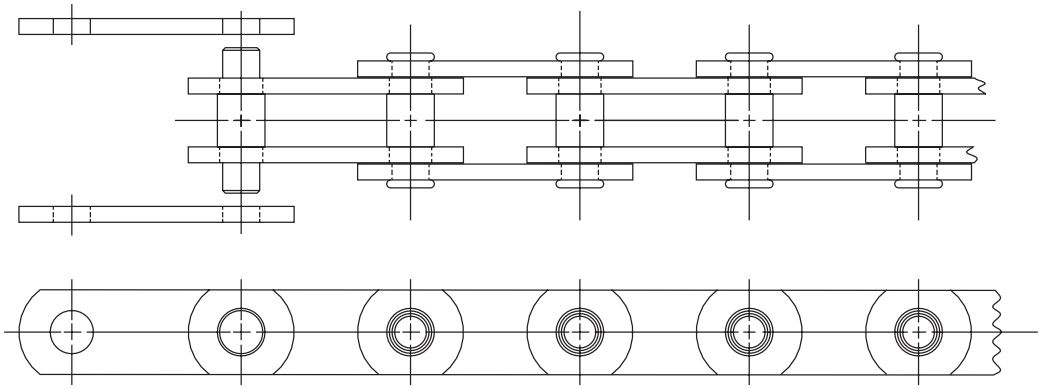
The primary metals and steel industries rely on draw bench chain to meet their specific metal drawing requirements. Tsubaki manufactures a wide range of sizes, materials, and ultimate strength ratings up to 1,000,000 pounds. Tsubaki Draw Bench Chains are manufactured on a made-to-order basis. Our Technical Support staff work closely with you to select and design the draw bench chain that meets the requirements of your specific application.

Style 1

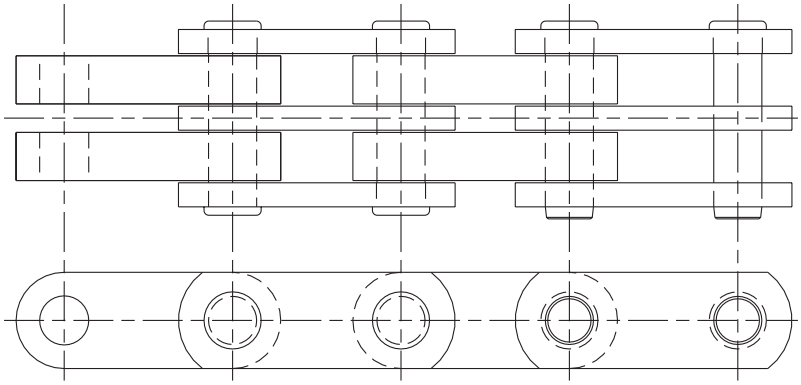
Double Flex Chains



Style 2



Style 3



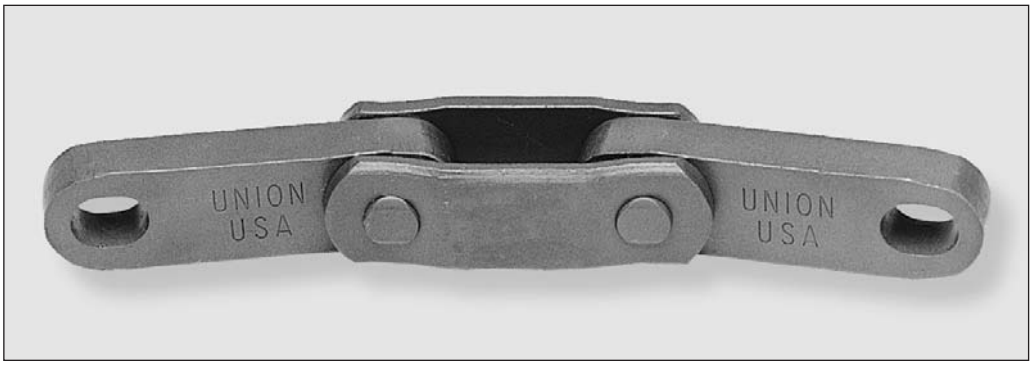
Double Flex Chain Bar and Pin Chain

Double Flex Chain (or dairy case conveyor chain) rotates on two planes, making it an ideal choice for a wide variety of applications. The pin bearing surfaces and selected sliding surfaces are induction hardened for extended wear life.

The Double Flex Chain offers a large sliding area to decrease shear on the chain and the sliding surface because design allows maximum flexibility for both horizontal and vertical movement.

This versatility allows compact layouts and economical cost. The mechanically designed cupped shape of the outer link plates of DF-3500 and DF-3910 eases side flex movement and protects rivet ends. This feature also prevents pin wear at the ends. DF-3498 offers flexibility with straight outer link plates.

The drawings shown are examples of just a few double flex chain styles. Many additional styles and configurations are available on a made-to-order basis. Sprockets are also available — split, solid, or bronze bushed.

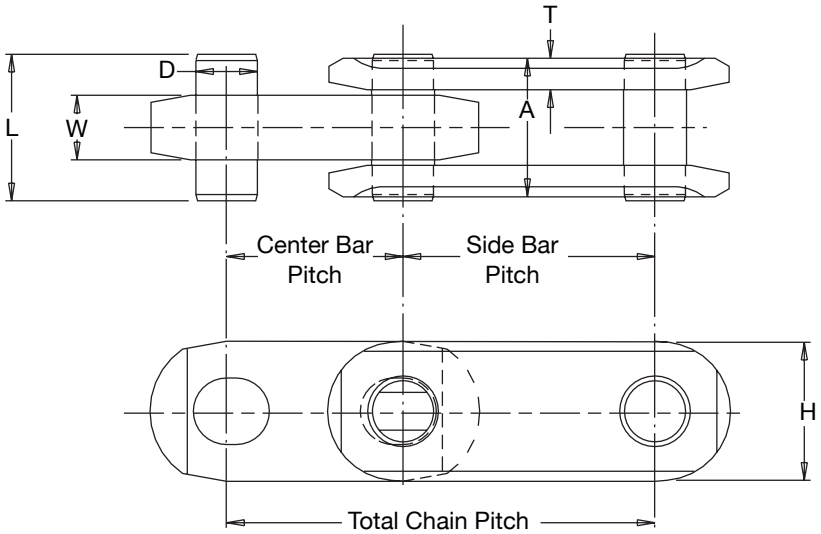


Ratio of Chain Speed (FPM) to Conveyor Length (ft.)	Maximum Allowable Working Load (lbs.)
0.1–0.6	4,000
1.0	3,400
1.5	2,900
2.0	2,600
2.5	2,300
3.0	2,100
3.0–15.0	2,100

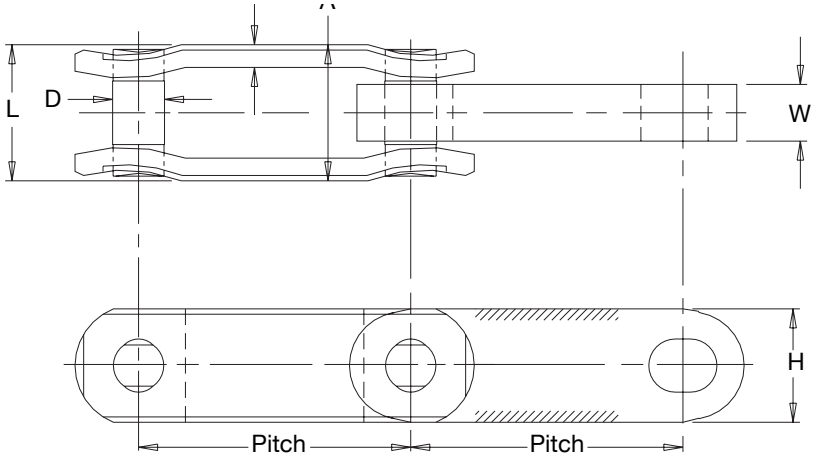
For ratios less than 0.1 or more than 15.0, contact Tsubaki Technical Support for suggested working load.

Double Flex Chain
Bar and Pin Chain

DF-3498



DF-3500 and DF-3910



Note: Hatching shows induction hardened area.

Double Flex Chain

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Chain Width		Link Plate		Pin		Minimum Flex Radius	Average Tensile Stgth.(lbs.)	Maximum Allowable Work Load[1] (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Inside Link								
		A	**W**	**T**	**H**	**D**	**L**				
DF-3498	1.750 2.500	1.45	.64	.31	1.40	.63	1.45	18.00	50,000	4,000	3.9
DF-3500	2.500 3.000	1.50	.63	.25	1.25	.57	1.46	20.00	48,000	4,000	3.3
DF-3910	3.000 3.000	1.50	.63	.25	1.25	.57	1.46	22.00	48,000	4,000	3.3

[1]Working load for speed length ratio V/S up to 0.6., where V = chain speed (ft./min.) and S = conveyor length (ft.). For other speed length ratios, see Table 1.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Engineering Class Chain
Selected Industry Applications

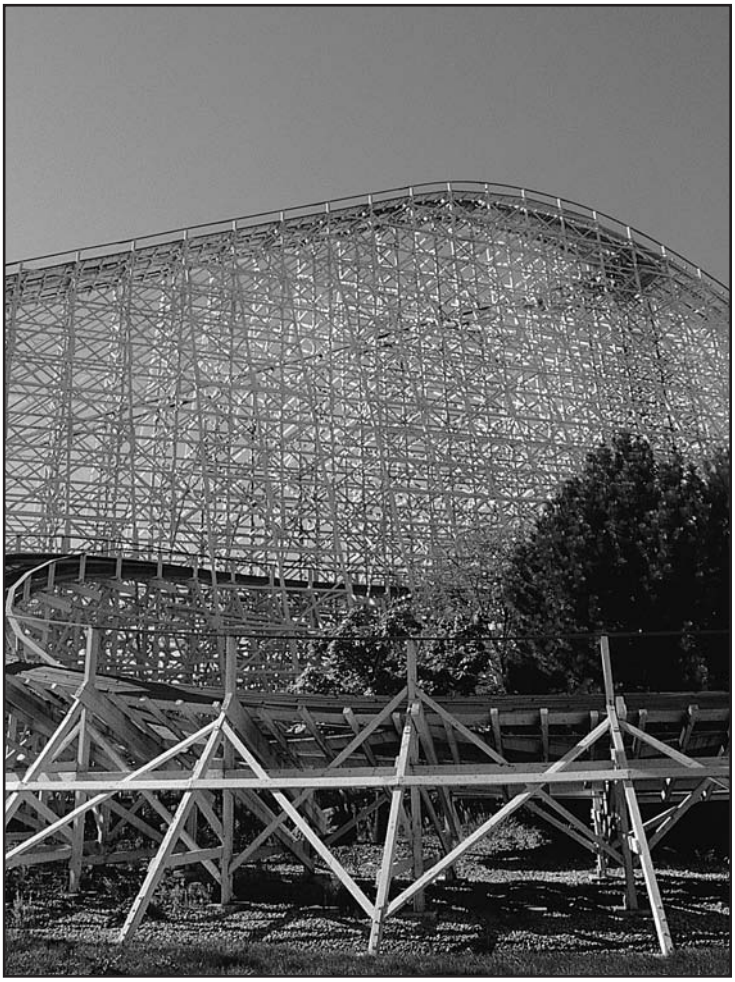
Count on Tsubaki chain and sprockets to provide the right solution for your application.

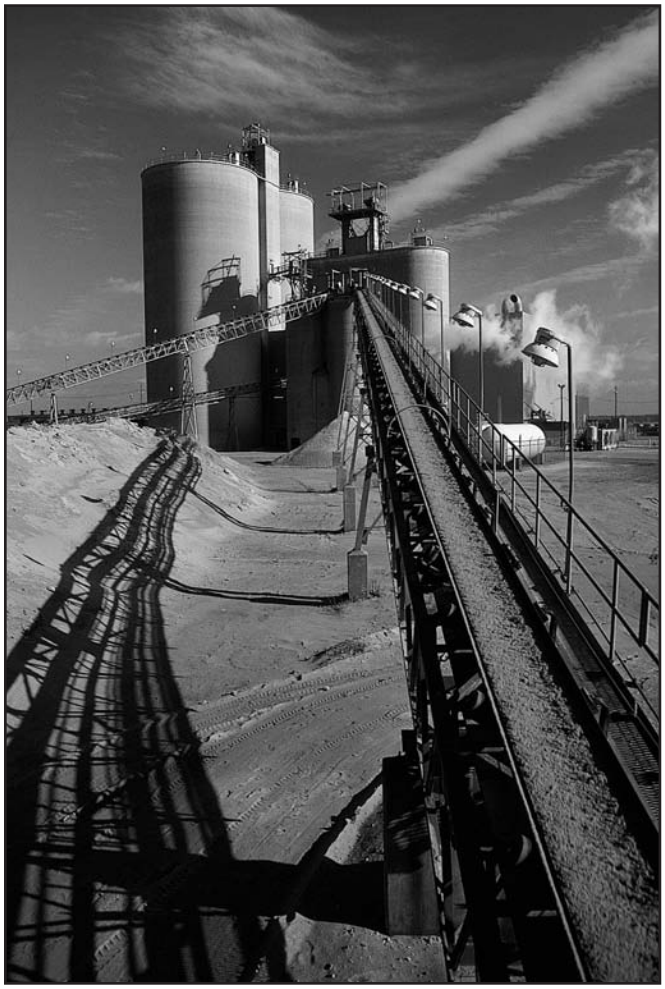
You've got to keep production moving without unplanned shutdowns. In today's competitive marketplace, line breaks are expensive. Downtime... repairs... damaged product on-line at the time of the break... they come right off your bottom line.

Reduce your risk with heavy-duty engineering class chains and sprockets from Tsubaki.

Tsubaki builds the most reliable chain products for your heavy-duty application. That means you get real value for your investment. With Tsubaki, you have a qualified, reliable, single source for dependable heavy-duty chains and sprockets.

Whether you are an original equipment manufacturer or you want to revitalize equipment at your plant, Tsubaki has the products you need.





Amusement Parks

Tsubaki brings fun – and safety – to amusement parks across the United States and Canada. We are the preferred supplier for hundreds of parks and a member of the Amusement Industry Manufacturers & Suppliers (AMIS) International. This helps us keep abreast of the strict requirements with today's safety and quality standards.

Tsubaki Amusement Park Chains and Sprockets are individually designed to ensure maximum strength and durability. This is of the utmost importance in an application like this where safety and reliability are paramount. We use rigorous quality assurance procedures, including dimensional measurements, metallurgical analysis and hardness testing.

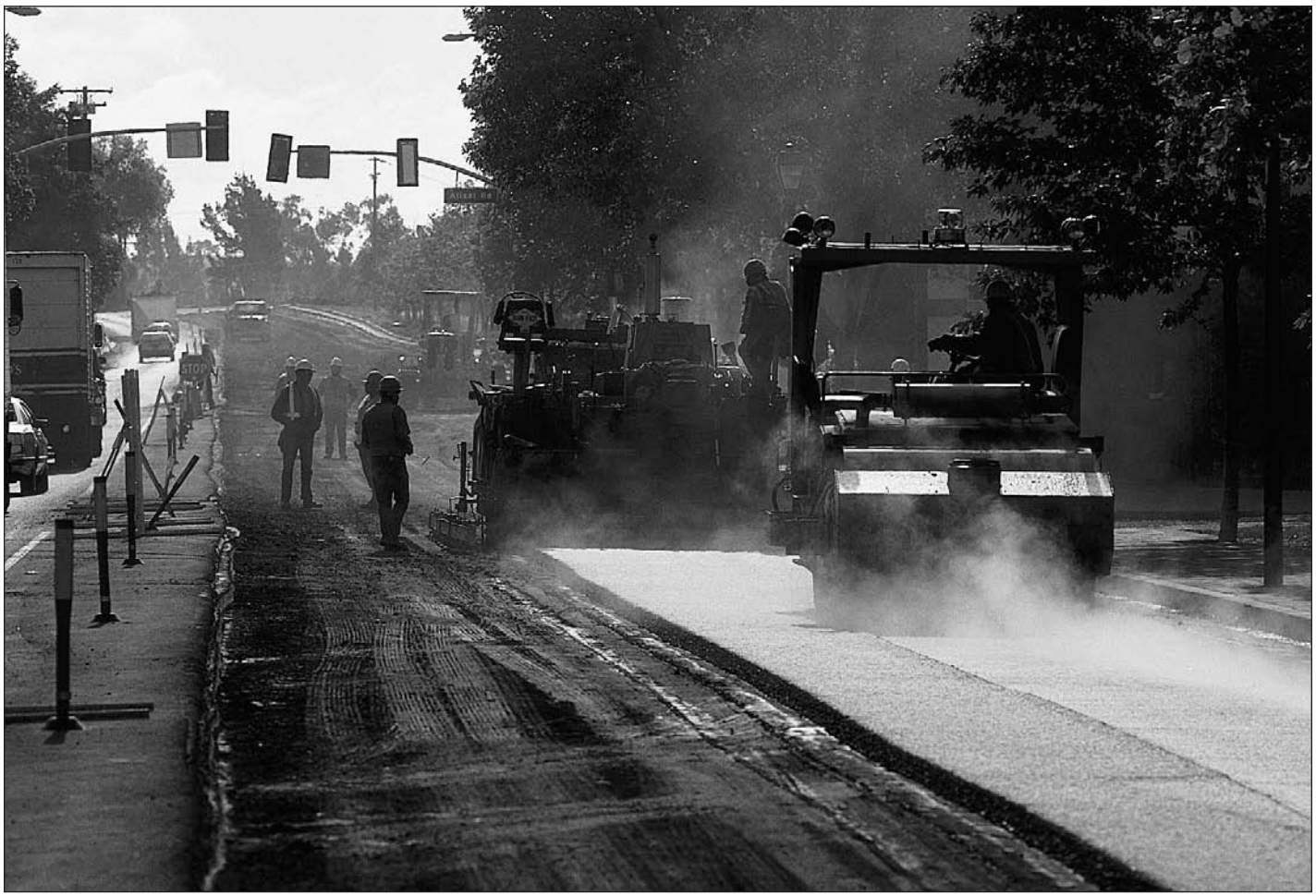
Amusement Park Chains and Sprockets are individually manufactured and tested on a made-to-order basis to meet your exact specification. Please note that an indemnification agreement may be required prior to the sale of Amusement Park Products. Contact Tsubaki Technical Support with details of your rides and let us select the best products to meet your needs.

THE TSUBAKI SOLUTION

- Strong, long lasting chain and sprockets.
- Handles shock loads.
- Reliable service.
- Weather and water resistant.
- Quality manufacturing at every step.
- Made to your exact specifications.

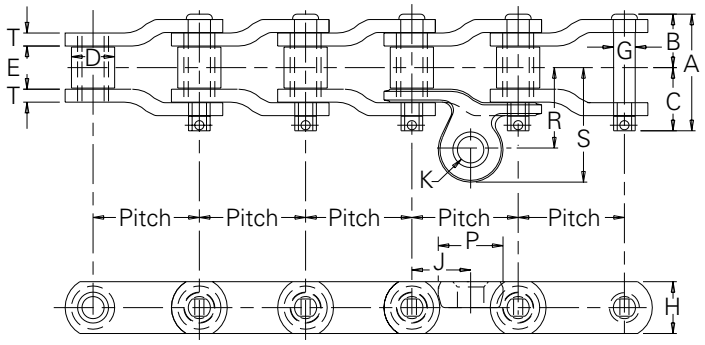
Asphalt Batch Plants and Finishing

We make a variety of chains for the asphalt and paving industry. The combination of hard aggregates, asphalt, and the necessity to run almost continuously during the paving season calls for tough chains with long wear life.



Paving Machines

When hot asphalt arrives at a road construction site, the mix flows from dump trucks into the paving machine hopper. An asphalt paving machine uses a special scraper conveyor to transfer hot asphalt from the hopper to the road surface. We have designed chains specifically to fit O.E.M. equipment and to function in this hot, abrasive environment.



Paver Chains

All dimensions are in inches unless otherwise indicated.

Dwg. No.	Pitch	Width				Roller	Pin	Sidebar			Attachment				Bearing Area ($in.^2$)	Average Ultimate Strength (lbs.)	Work Load (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Pin Head to CL	Pin End to CL	Inside		Dia.	Hgt.	Th.					Rivet Dia.				
		A	**B**	**C**	**E**	**D**	**G**	**H**	**T**	**P**	**J**	**R**	**S**	**K**				
21460	3.075	3.37	1.55	1.83	1.25	1.25	.63	1.50	.38	1.97	1.70	2.31	3.30	1.02	1.09	56,900	4,375	7.5
20842	3.075	3.37	1.55	1.83	1.25	1.25	.63	1.50	.38	1.88	1.70	2.38	3.31	.77	1.09	56,900	4,375	7.6

Asphalt Batch Plants and Finishing

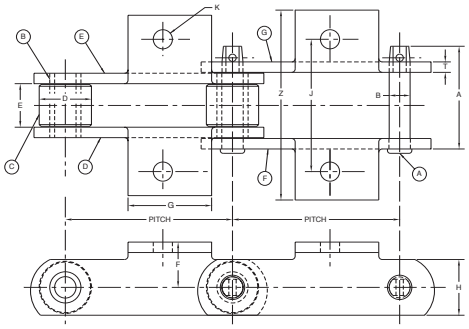
Asphalt Plants

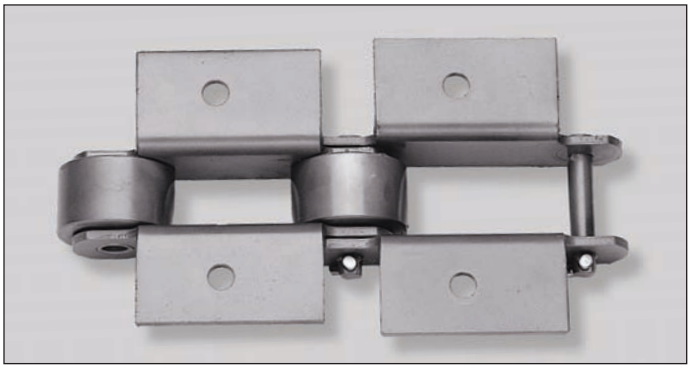
Three types of chains are typically used in asphalt plants:

- Inclined Scraper Conveyor Chains are used to move the asphalt mix into storage hoppers.
- Drive Chains are used on rotating drums to mix the aggregate and asphalt.
- Bucket Elevator Chains are used to move aggregates to storage silos and are sometimes used to move the asphalt mix to storage hoppers.

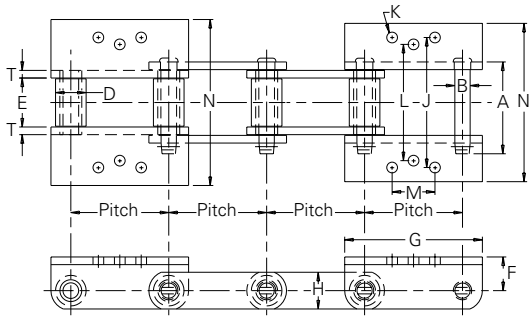
Tsubaki supplies Inclined Scraper Conveyor Chains in 4" to 6" pitch with both K- and slotted-M-style attachments. These chains are designed and constructed to give the best combination of strength and toughness. The chains are balanced to ensure continued safe operation. Sidebars are hardened to resist the impact loading that may occur. Rollers are specially heat-treated to resist outside diameter abrasion inherent in asphalt conveyors. These special features make our chains long-lasting and keep your operation running smoothly.

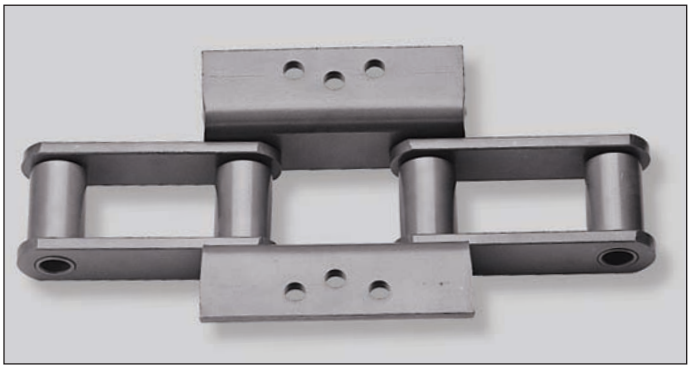
K-11 Style Attachment



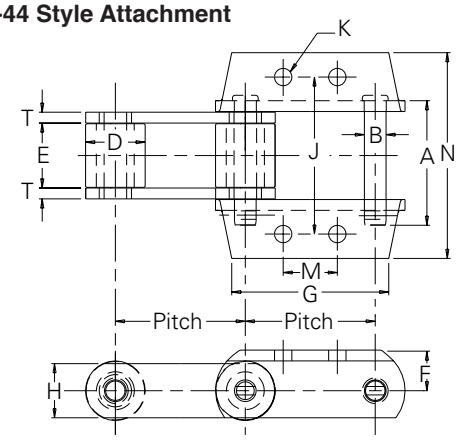


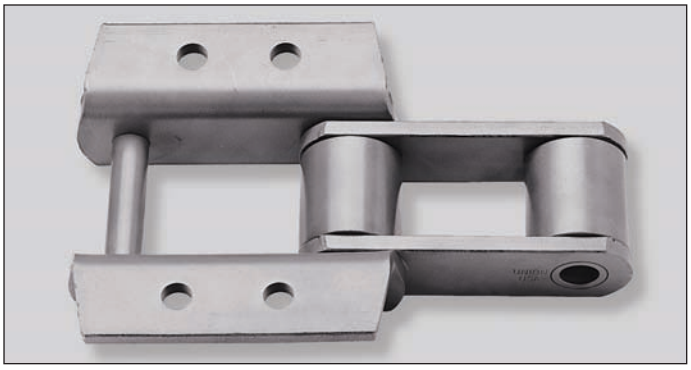
K-1/K-2 or K-3 Style Attachment





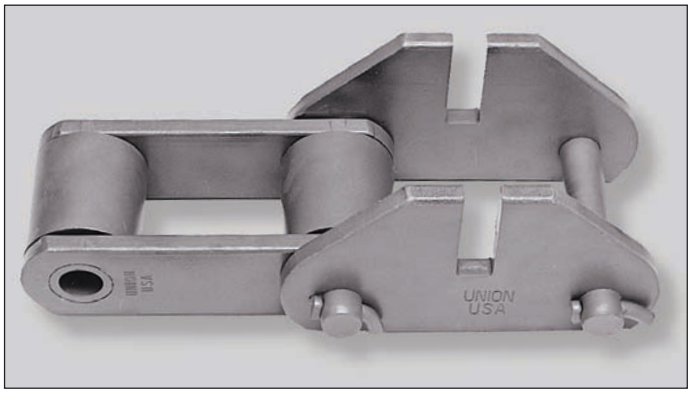
K-2 or K-44 Style Attachment

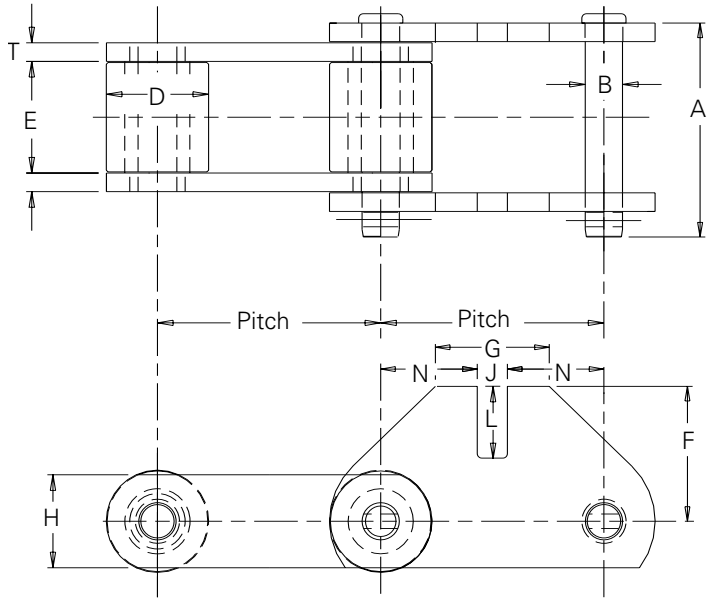




TSUBAKI

MM-1 Style Attachment





Incline Conveyor Chart

All dimensions are in inches unless otherwise indicated.

Dwg. No.	Description	Pitch	Pin		Inside Width	Roller Dia.	Sidebar		Attachment						Bolt Dia.	Average Tensile Strength	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
			A	B	E	D	H	T	F	G	M	N	J	L	K			
P-10024	2111/K-11 E/Pitch	6	3.69	0.75	1.56	1.88	2.00	0.38	1.63	3.00	—	6.79	4.75	—	0.69	83,000	5,900	12.1
P-10020	U-3945/K-3 E/3rd Pitch	4	3.75	0.63	2.00	1.25	1.50	0.31	1.38	5.63	1.75	6.50	5.31	4.75	0.44	44,000	5,740	9.8
P-10021	U-3952/K-2 *E/3rd Pitch	4	4.13	0.75	2.00	1.44	1.75	0.38	1.63	6.00	1.75	6.69	5.50	—	0.53	60,000	7,220	12.8
P-10022	3433 w/K-1/K-2 E/3rd (1.5" roller)	4	4.13	0.63	2.13	1.50	1.50	0.38	1.00	2.82	1.75	4.84	5.31	4.75	0.41	40,000	6,300	9.7
P-10023	U-3940/K-2 E/2nd Pitch	6	4.06	0.75	2.00	1.63	2.25	0.38	2.00	7.38	2.31	7.78	6.25	—	0.56	90,000	7,220	14.8
P-10025	856/K-24 E/2nd Pitch	6	5.75	1.00	3.00	—	2.50	0.50	1.88	7.25	2.50	9.50	7.25	—	0.75	145,000	14,000	16.5
P-10026	U-9856/K-44 E/2nd Pitch	6	5.75	1.00	3.00	2.75	2.50	0.50	1.88	7.25	2.50	9.52	7.25	—	0.81	140,000	14,000	30.0
P-10027	U-9856/MM-1[1] E/2nd Pitch	6	5.75	1.00	3.00	2.75	2.50	0.50	3.75	3.06	—	2.59	0.81	2.75	—	140,000	14,000	29.1

[1]Verify attachment sidebar slot width and depth dimensions prior to ordering

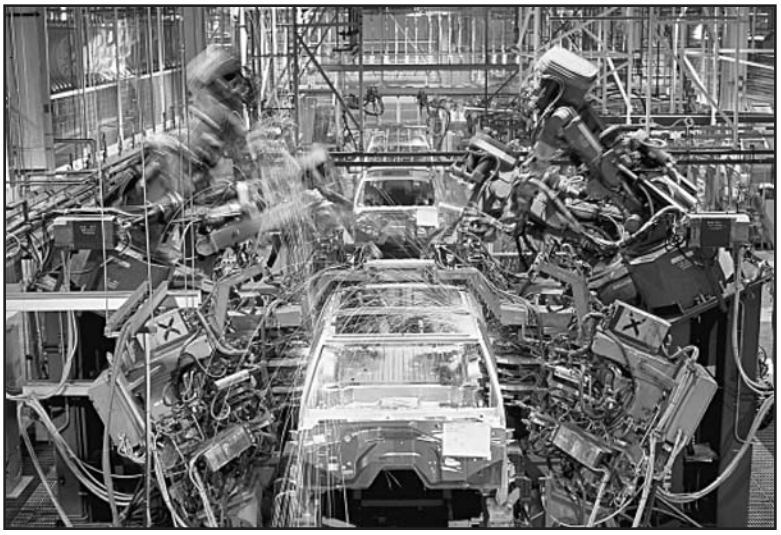
* Square hole on attachment

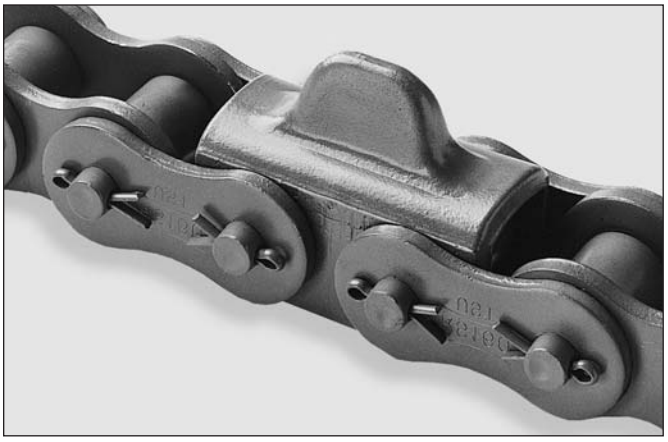
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

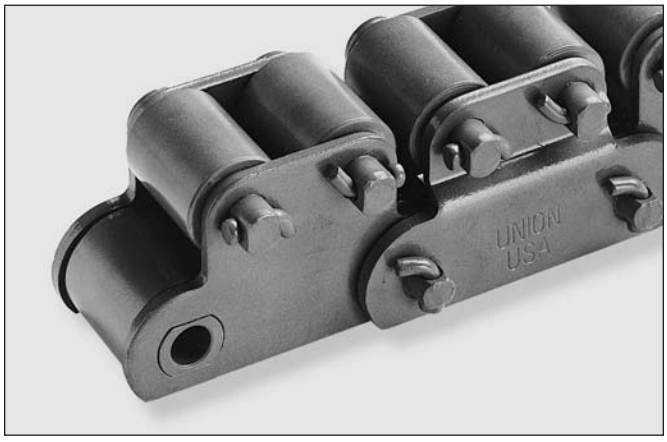
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Automotive Industry

Tsubaki is a partner of the automotive industry. Our chains are found in plants throughout North America. Only Ts offers such a wide selection of chain sizes, types and configurations. Tsubaki can offer both standard and custom made-to-order chains to suit many applications. Tsubaki delivers added value and longer service life for your heavy-duty applications.







Bottling Industry

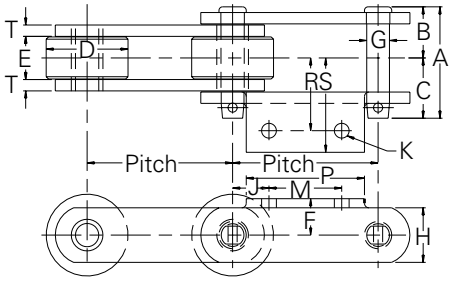
Tsubaki keeps the beverages flowing at breweries, soft drink bottlers, and juice manufacturers throughout the world. We make chain that is used in bottlewashers, pasteurizers, and sterilizers. There are hundreds of specifications and configurations that can be used in these applications, depending on the type and capacity of equipment, size of bottles, and many other factors. We have a wide range of chains available, or we can make a chain to your exact specifications.

Factors to Consider

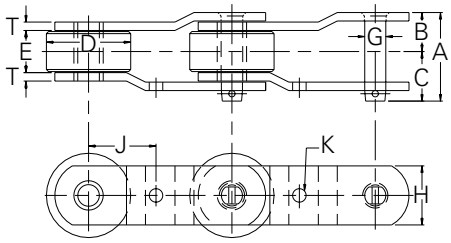
Bottlewasher/Pasteurizer Chains are used to convey large quantities of bottles at a slow speed through the washer or pasteurizer. Chains are generally matched and tagged to hold bottle racks in exact position between chains without skewing. Chain and attachment tolerances are very important. Usually the chains are constructed of carbon steel for increased economy. Since the environment is wet, stainless steel or plated parts can be used to improve corrosion resistance. Chains can be almost any pitch size; however, they are
commonly in the 4" to 6" range. Attachments are usually mid-pitch holes or A styles, but may be made to fit your units. Sterilizers use two strands of chain. Bottles are sterilized by steam, which creates a wet, high-temperature environment (200˚F). That means chains must be constructed from temperature- and corrosion-resistant materials, such as stainless steel. Sterilizer chains frequently have a 4" to 6" pitch.

Bottling Industry

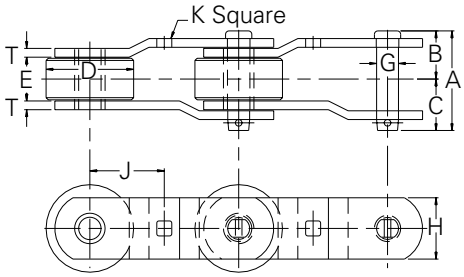
40001, 60001, 60002



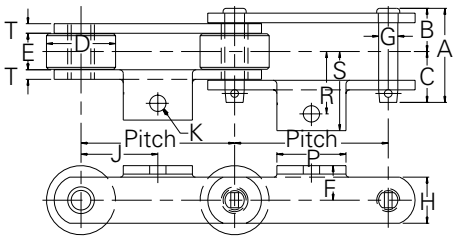
40002



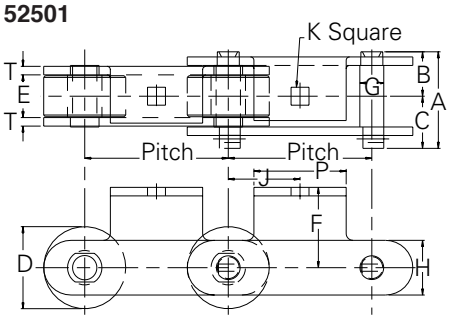
40003, 42501



50001, 52502



52501



Bottle Washing, Pasteurizing and Sterilizing Chains

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Width				Roller	Pin	Sidebar		Attachment							Bearing Area ($in.^2$)	Average Ultimate Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Pin Head to CL	Pin End to CL	Inside		Dia.	Hgt.	Thk.											
		A	B	C	E	D	G	H	T	F	P	J	M	R	S	K				
40001	4.000	2.91	1.31	1.60	1.25	2.00	.56	1.50	.25	1.00	3.25	1.00	2.00	2.00	2.59	.38	.97	27,000	3,440	7.4
40002	4.000	2.63	1.12	1.51	.94	2.50	.56	1.50	.31			2.00				.38	.69	50,000	3,075	7.8
40003	4.000	3.09	1.50	1.59	1.25	2.50	.56	1.50	.31			2.00				.43	1.03	31,000	3,995	10.6
42501	4.250	2.84	1.37	1.47	1.25	2.50	.56	1.75	.25			2.13				.43	1.03	31,000	3,825	8.9
50001	5.000	3.06	1.39	1.67	1.19	2.25	.63	1.50	.31	1.13	2.25	2.50		1.69	2.31	.50	1.01	43,000	3,995	8.0
52501	5.250	3.53	1.62	1.91	1.56	3.00	.88	2.00	.31	2.94	3.38	2.63				.66	1.89	47,000	6,890	15.2
52502	5.250	3.41	1.56	1.85	1.44	2.75	.63	1.50	.31	3.06	2.25	2.63		2.00	2.80	.53	1.26	37,000	4,645	11.0
60001	6.000	3.06	1.39	1.67	1.19	2.50	.63	1.50	.31	1.25	3.25	1.94	2.13	2.08	2.69	.38	1.01	46,000	3,995	8.3
60002	6.000	3.06	1.39	1.67	1.19	3.00	.63	1.50	.31	1.25	3.25	1.94	2.13	2.08	2.69	.38	1.01	46,000	3,995	9.7

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

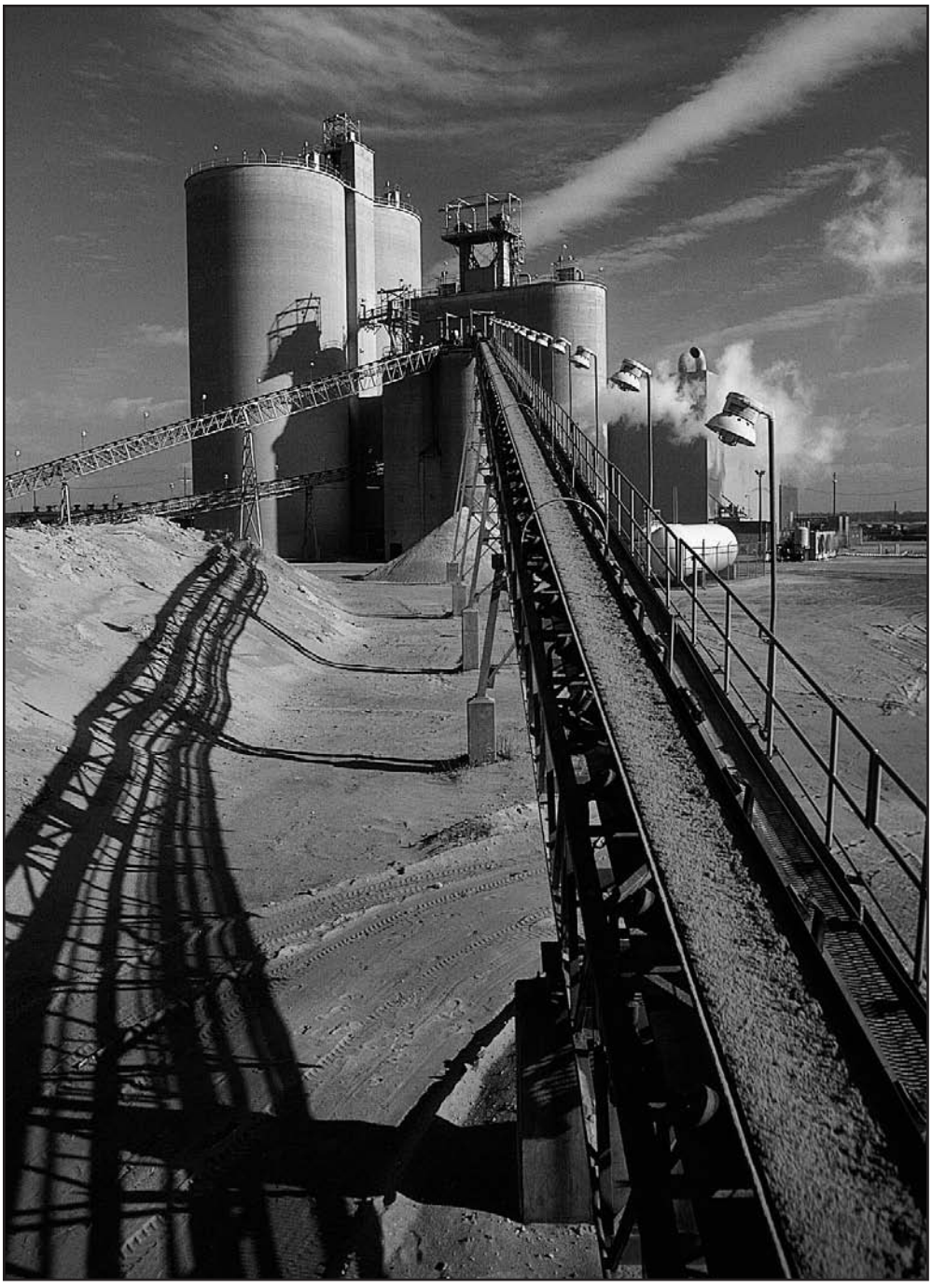
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Cement Plants

Tsubaki Chain has developed a truly remarkable line of bucket elevator chains designed especially for service in cement plants. These chains provide the highest ultimate and fatigue strengths available for this application. In addition, our innovative barrier seal design in the 4000 Series Chains helps prevent abrasive materials from entering and attacking the chain joints.

We are so confident in our Cement Plant Elevator Chains that we offer an exclusive Three-Year Limited Performance Guarantee, which protects against breakage and excessive elongation due to wear.

Matching sprockets, designed expressly for use with the 4000 Series Chains, are also available. These include standard-size sprockets furnished with a minimum 58R (Rockwell C) tooth hardness. Sprockets with even greater hardness can also be ordered.



Maximum Strength

Tsubaki 4000 Series Chains are made of specially selected 100% alloy steel, and they possess ultimate strength ratings approximately 45% higher than competitive brands. A special piercing technique developed by Tsubaki makes exceptionally smooth pitch holes for high interference fits. This piercing method, combined with shot peening, yields maximum fatigue strength and protects against failure—even when chains are challenged by the most severe applications.

Tsubaki Builds the Strongest Chain

Chain Number	Average Tensile Strength	
	4000 Series	Competitor's Product
4856	145,000	100,000
4857	174,000	130,000
4859	264,000	200,000
4864	275,000	200,000

Precision Manufacturing Eliminates Staggered Pins

Side bowing (when the chain hangs crooked) has been a problem in bucket elevator chains for years. The condition occurs when the pitch of the outer sidebars is not held to tight tolerances or when pin links are not built straight. Staggering pins or pin links had been believed to correct the problem.

We have a better idea. We manufacture 4000 Series Chains to exacting tolerances using state-of-the-art production equipment and methods. This enables us to produce high performance cement plant elevator chains **without** staggered pins. Tsubaki 4000 Series Chains hang straight and true without compromising strength or wear life.

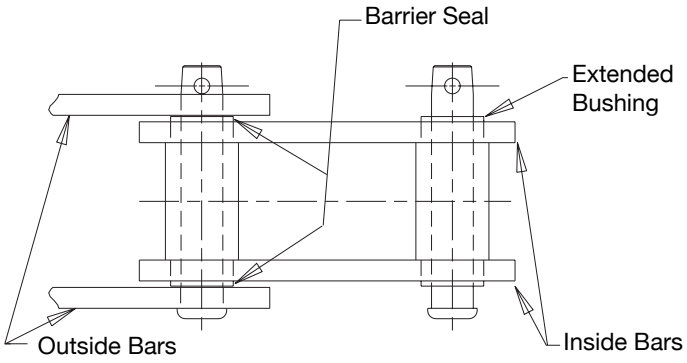
Maximum Wear Life

Extra deep induction hardening of pins and carburizing of bushings provide unsurpassed wear life. After years of testing, we developed a high hardness specification so our 4000 Series Chains resist abrasion by cement. This ensures maximum wear life and the toughness necessary to survive extended periods of service in cement plant bucket elevators.

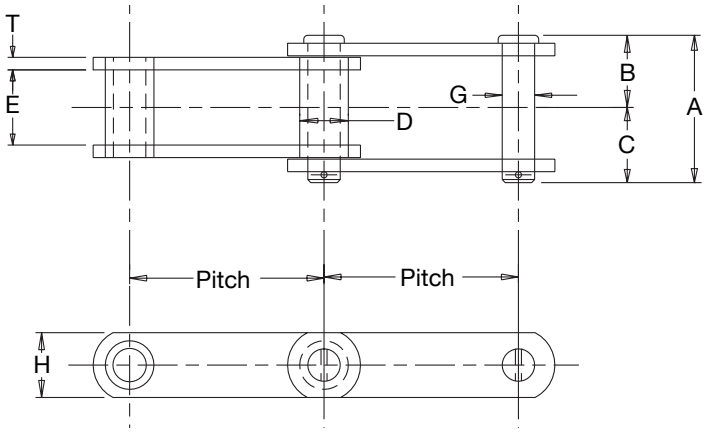
Barrier Seal Design for Longer Wear Life

The 4000 Series Chain bushings extend beyond the inside sidebar to establish a barrier. This virtually eliminates abrasive material from entering the pin/bushing joint area. This heavy-duty hardened part will not wear out prematurely, and it will not separate from the chain and contaminate current plant production batches. Located between the inside and outside sidebars, the barrier seals prevent a build-up of material due to "flooding" of the elevator boot section, which can result in dry cavitation of pins.

4000 Series Elevator Chain with Barrier Seals



4000 Series Cement Plant Bucket Elevator Chains

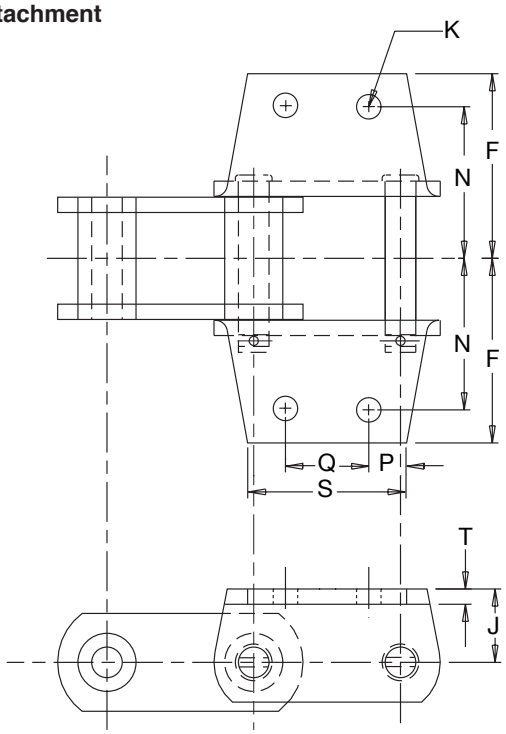


4000 Series Cement Plant Bucket Elevator Chains

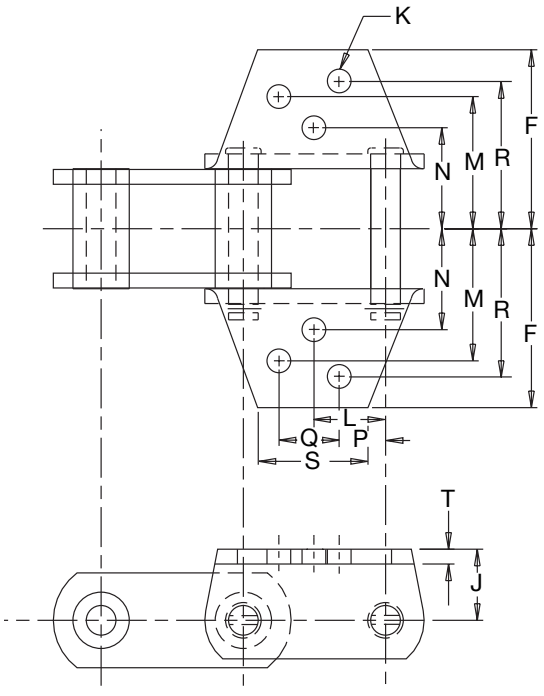
All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Width				Bushing	Pin	Sidebars		Approx. Weight (lbs./ft.)
						Diameter	Diameter	Height	Thickness	
		A	B	C	E	D	G	H	T	
4856	6.000	6.13	2.88	3.22	3.00	1.75	1.00	2.50	.50	16.5
4857	6.000	6.13	2.88	3.22	3.00	1.75	1.00	3.25	.50	21.0
4859	6.000	7.38	3.56	3.81	3.75	2.38	1.25	4.00	.63	34.0
4864	7.000	7.38	3.56	3.81	3.75	2.38	1.25	4.00	.63	31.0

K-24 Attachment



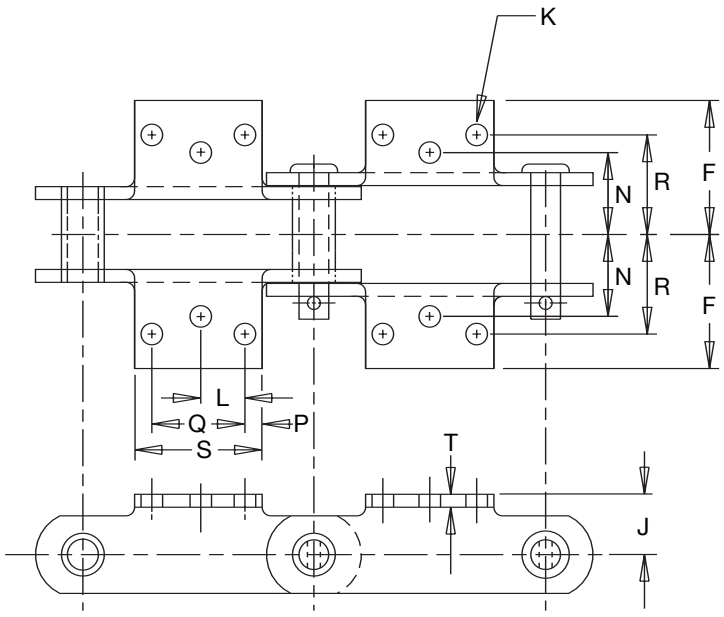
K-3 Attachment



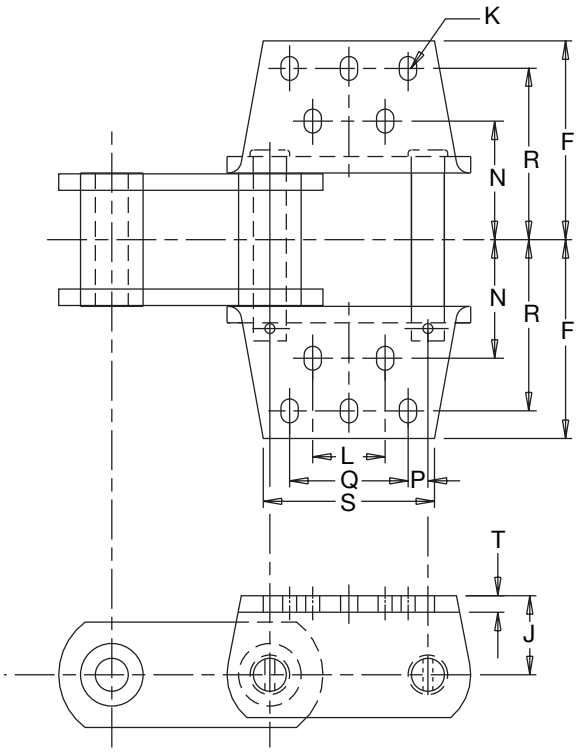
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

K-35 Attachment



K-44, K-443 Attachment



4000 Series Chains with Attachments

Attachment Number	Chain No.									Bolt Size			Approx. Weight (lbs./ft.)
		N	M	R	F	L	Q	S	P	K	J	T	
K-24	4856	3.63			4.75		2.50	7.25	1.75	.63[1]	1.88	.50	27.5
K-3	4856	3.28	5.47	6.03	6.75	3.00	2.75	4.25	1.63	.50	1.88	.50	27.5
K-35	4856	3.63		6.13	6.75	1.25	2.50	6.44	1.75	.63	1.88	.50	27.5
K-44	4857	3.50		6.00	7.25	3.50	3.50	6.56	1.25	.50	2.50	.50	42.0
	4859	4.50		6.50	7.55	2.75	4.50	6.50	.75	.63	3.00	.63	67.0
K-443	4864	4.50		6.50	7.55	3.75	5.50	8.56	.75	.63	3.00	.63	53.0

[1]Hole can also be supplied for 1/2" size bolt.

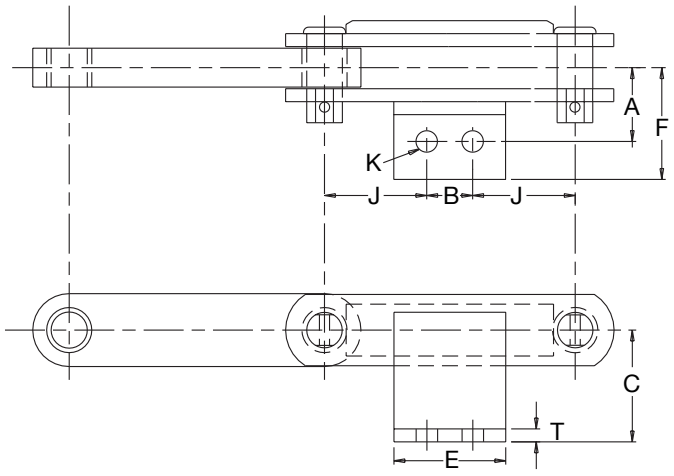
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

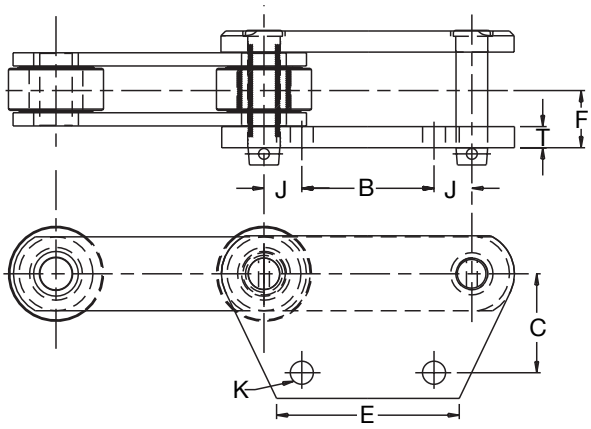
Stack Reclaimers

Stack Reclaimers are popular when heavy industrial processes require that large storage piles of lump material are necessary. Reclaimer chain and flight assemblies function like scraper conveyors, less the trough, with flight blades that push material toward a belt feeding conveyor. The reclaimer conveyor's chain with digging flights are supported by rails and structure which span over or across the pile being reclaimed for transfer to plant processes.

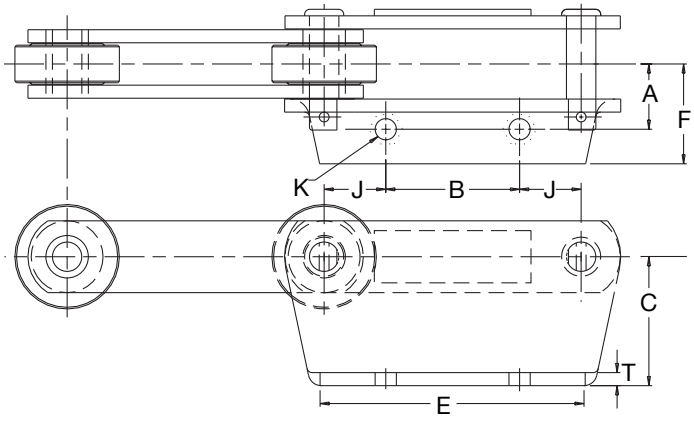
22568



22535



22220



Reclaimer Chains

All dimensions are in inches unless otherwise indicated.

Drawing Number	Pitch								
		A	B	C	E	F	J	K	T
22568	9.843	2.85	1.77	4.31	4.31	4.31	4.04	.83	.50
22535	9.843		6.26	4.69	8.65	2.11	1.79	1.09	1.00
22220	9.843	2.50	5.12	4.94	10.15	3.82	2.36	.81	.50

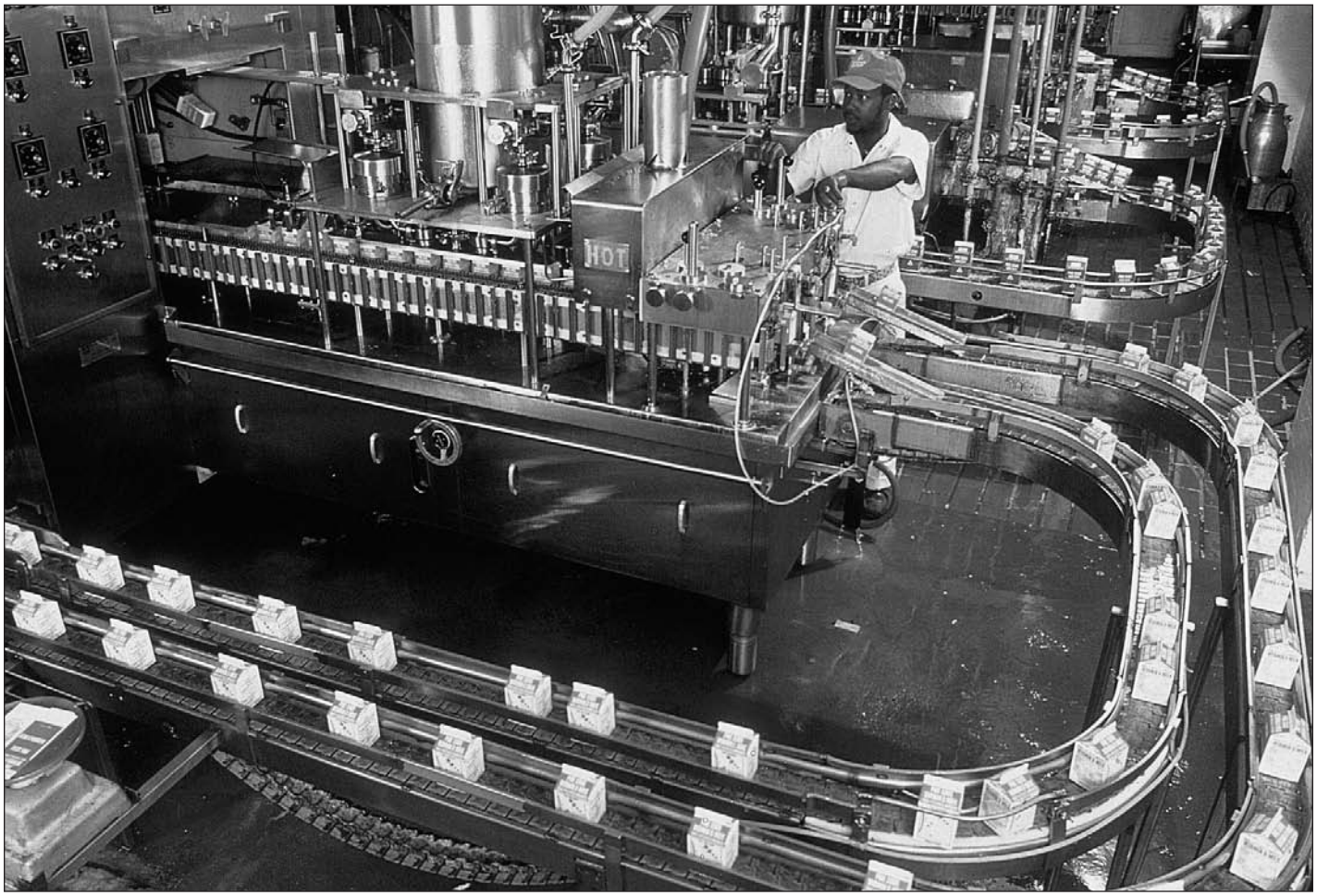
Note: Reclaimer chains are normally manufactured on a made-to-order basis. A few standard styles are shown above.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Dairy Handling

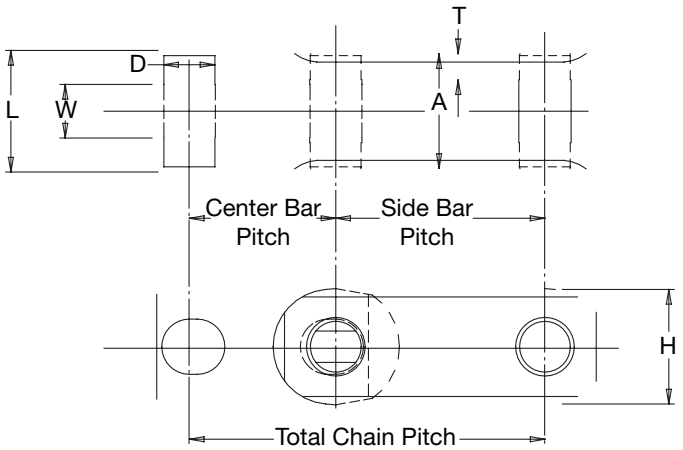
In-floor conveyor systems move the dairy industry. Tsubaki makes outstanding conveyor chains for this application. These conveyors are usually designed with two endless chains running parallel on 7" to 8" centerlines. Typical chain manufactured lengths are 40 to 50 feet; conveyor track lengths are usually about 100 feet.



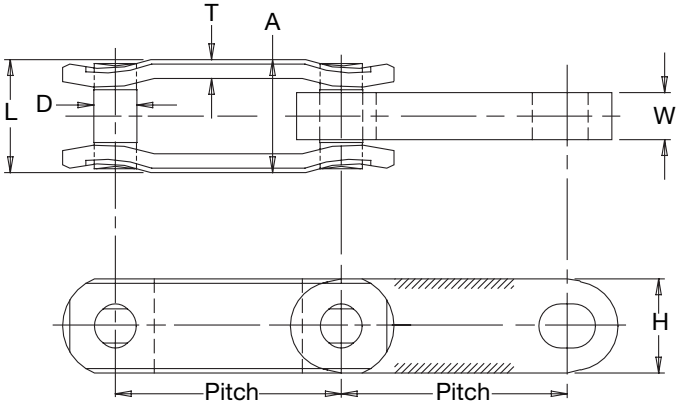
Dairy Handling

In-floor conveyors at dairy plants generally move case weights of up to 15,000 pounds; however, Tsubaki Dairy Handling Chains have an ultimate strength rating of up to 48,000 pounds per strand. The added strength means longer-lasting chain for your application—chain that can stand up to variable or shock loads and keep performing. We have a variety of Dairy Handling Chains in stock; we've listed a few standard chains in the following chart. We can also manufacture a chain to your exact specifications. With Tsubaki, you get the flexibility to make your business succeed.

DF-3498



DF-3500 and DF-3910



Note: Hatching shows induction hardened area.

Dairy Case Conveyor Chain

All dimensions are in inches unless otherwise indicated.

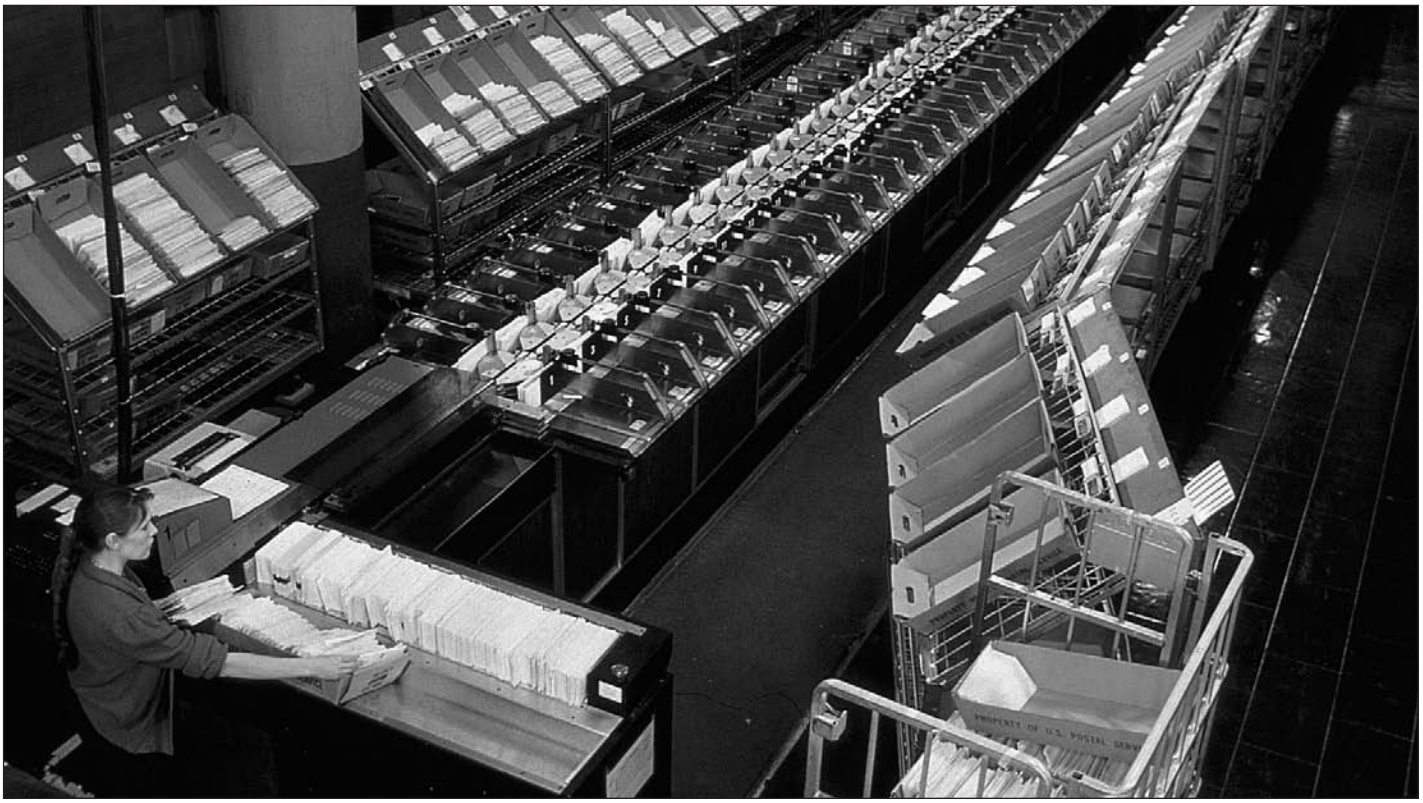
Chain Number	Chain Width			Link Plate		Pin		Minimum Flex Radius	Average Tensile Strength (lbs.)	Maximum Allowable Work Load (lbs.)	Approx. Weight (lbs./ft.)
	Pitch	Overall Width	Width of Inner Link								
		A	W	T	H	D	L				
DF-3498	1.750 2.500	1.45	.64	.31	1.40	.63	1.45	18.00	50,000	4,000	3.9
DF-3500	2.500 3.000	1.50	.63	.25	1.25	.57	1.46	20.00	48,000	4,000	3.3
DF-3910	3.000 3.000	1.50	.63	.25	1.25	.57	1.46	22.00	48,000	4,000	3.3

Note: For additional chain application information, refer to the section on Double Flex Bar and Pin Chains beginning on page C-71. To locate compatible sprockets for your chain, refer to the Product Cross-Reference in the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki to obtain certified prints for design and construction.

Distribution/Material Handling

Tsubaki is a leading supplier of Sortation and Bi-planer Chains in the distribution and material handling industries for some very good reasons.



Tsubaki welds hold better.

Most manufacturers use hand welds, which frequently introduce defects into the chain system. We developed an automatic method to weld the bosses to the sidebars. Welds are consistently sound and the proper size.

Sidebars are treated for extra strength and long wear.

We heat-treat sidebars with atmosphere-controlled furnaces to match the carbon levels. Temperatures are controlled by microprocessors to maintain proper austenitizing and tempering conditions. The result is stronger chains for your sortation machinery.

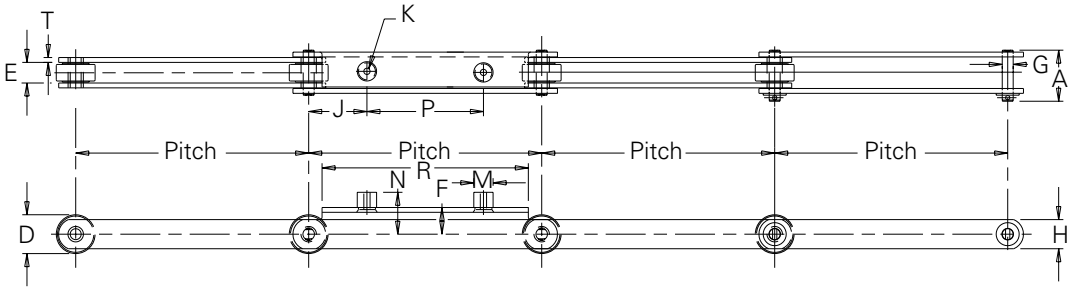
Quality checks ensure accuracy.

We test every temper load to make sure parts meet your specifications. That means you get reliable chain for your operation.

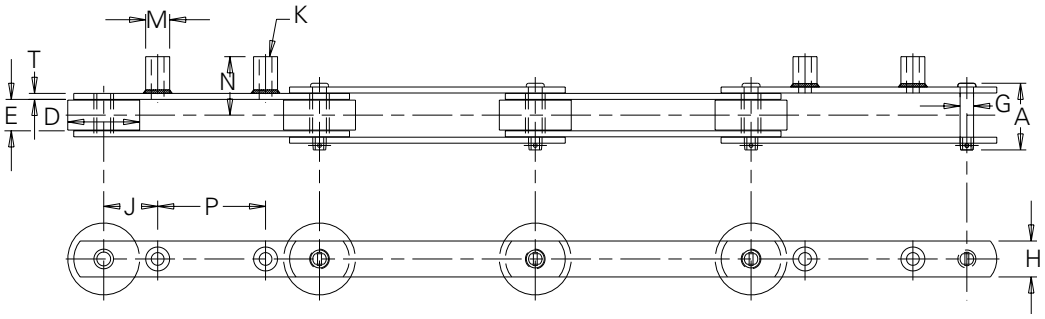
Select the right chain for your application.

Sortation and Bi-planer Chains are usually supplied in either 9" or 12" pitch. Attachments are welded boss or E-Style. They can be furnished with Urethane, Hytrel, or UHMW rollers.

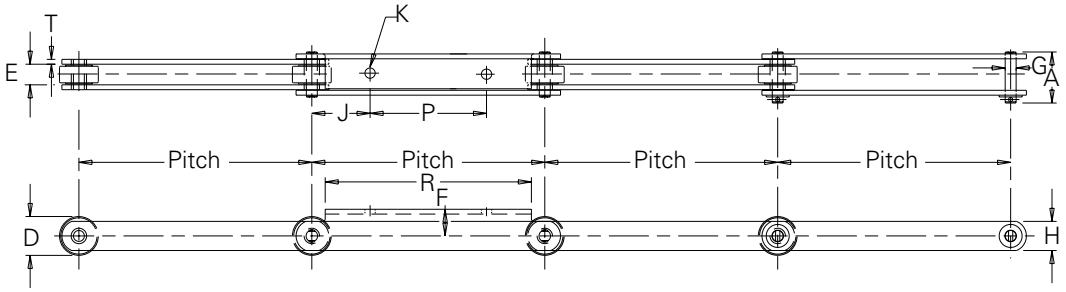
90003, 12001



90004, 12002



12003



Sortation Chains

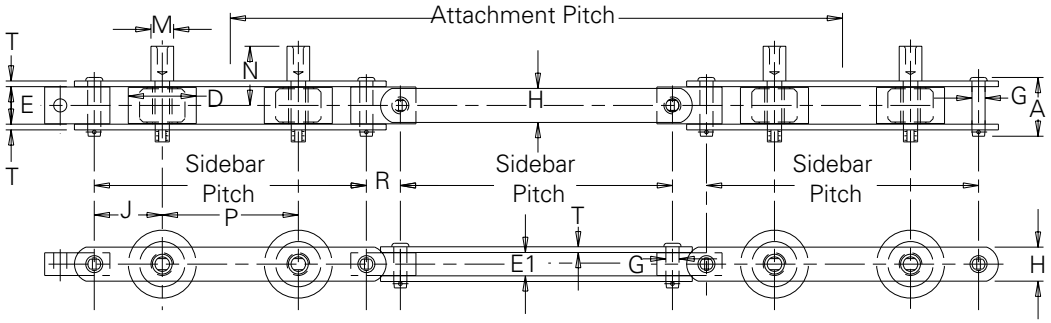
All dimensions are in inches unless otherwise indicated.

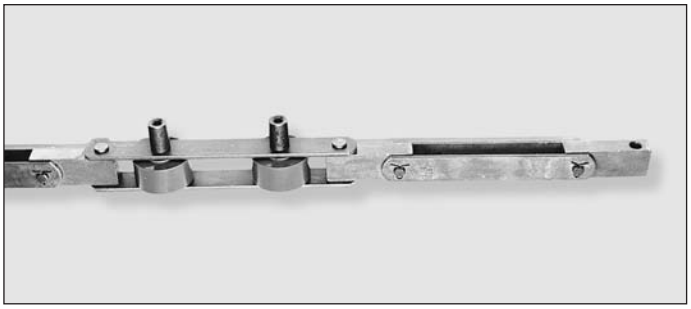
Chain No.	Pitch	Overall	Roller Dia.	Inside Width	Pin Dia.	Sidebar		Attachment						Bolt Dia.
		A	D	E	G	H	T	F	J	P	M	N	R	K
90003	9.000	2.66	2.00	1.31	.56	1.50	.25	1.38	1.50	6.00	1.00	2.94	7.63	.50
12001	12.000	2.73	2.00	1.31	.56	1.50	.25	1.38	3.00	6.00	1.00	2.94	10.63	.50
90004	9.000	2.78	3.00	1.31	.56	1.50	.25		1.50	6.00	1.00	2.44		.50
12002	12.000	2.78	3.00	1.31	.56	1.50	.25		3.00	6.00	1.00	2.44		.50
12002	12.000	2.78	3.00	1.31	.56	1.50	.25		2.25	7.50	1.00	2.44		.63
12003	12.000	2.73	2.00	1.06	.56	1.50	.25	1.38	3.00	6.00			10.63	.50

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

27001, 30001





Bi-Planer Sortation Chains

All dimensions are in inches unless otherwise indicated.

Chain No.	Sidebar Pitch	Att. Pitch	Overall	Roller Dia.	Inside Width		Pin Dia.	Sidebar		Attachment				
			A	D	E	E1	G	H	T	J	P	M	N	R
27001	12.000	27.000	2.59	3.00	1.66	1.03	.63	1.50	.25	3.00	6.00	1.00	2.61	1.50
30001	12.000	30.000	2.59	3.00	1.66	1.03	.63	1.50	.25	3.00	6.00	1.00	2.61	3.00

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Food Processing

Food processing is a large industry with several subcategories, and each has special needs and requirements. Tsubaki manufactures chain for a wide variety of applications in the food industry. Some carry heavy loads, some are subjected to high temperatures, and others endure frequent washdowns. Each requires reliable chain to move product quickly and efficiently. However, the types of chain vary, depending on the application.

Engineering Class Chains and Sprockets from Tsubaki are used extensively in six areas:

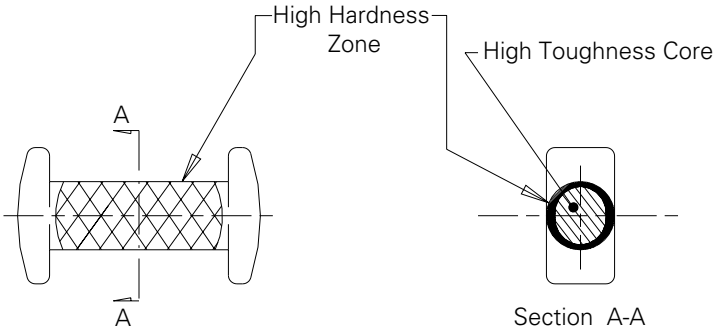
- Red meat processing
- Poultry processing
- Commercial baking ovens
- Dehydrator ovens
- Citrus processing
- Cooker ovens

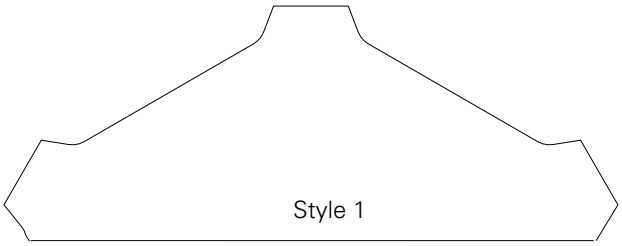
Food Processing

Red Meat Processing

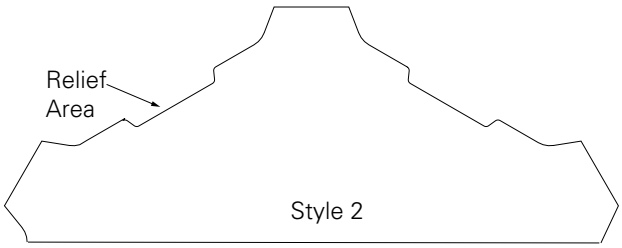
Delrin (Acetal) Bushed Conveyor Chain is used primarily in meat processing and packing plants. Even in these wet, corrosive environments, the Delrin (Acetal) insert eliminates the need for lubrication. These chains feature K-2 attachments; Acetal insert rollers; stainless steel bushings; and electro-galvanized sidebars, pins, and rollers, see page C-94. You get lube-free operation for a clean environment. Trolley conveyors and long, complex, overhead conveyor systems such as on the primary processing line in a slaughterhouse require Drop Forged Rivetless Chain, see page C-65. The open joint construction allows for easy washdowns and helps prevent contamination. For extended wear, select Ultra Wear Life-Drop Forged Rivetless Chain, an innovative product that extends wear life of rivetless chain 40 percent or more. This extraordinary performance is achieved with special steels and a proprietary pin hardening process. The result is a pin with a very hard, wear-resistant surface over a ductile core. UWL-Drop Forged Rivetless Chain is available in both X-Style and Barloop Style. Pay particular attention to the style of sprocket you select and use with Drop Forged Rivetless Chain. Some attachments on overhead slaughterhouse lines, including slider attachments, require additional clearance that is not accounted for in standard sprockets. The Tsubaki Technical Support Division offers sprockets that are specially designed with relief areas to accommodate attachment protrusion, helping the Drop Forged Rivetless Chain to stay in the sprocket and preventing premature chain joint wear.

Higher Hardness Pin for "Ultra Wear Life" Performance



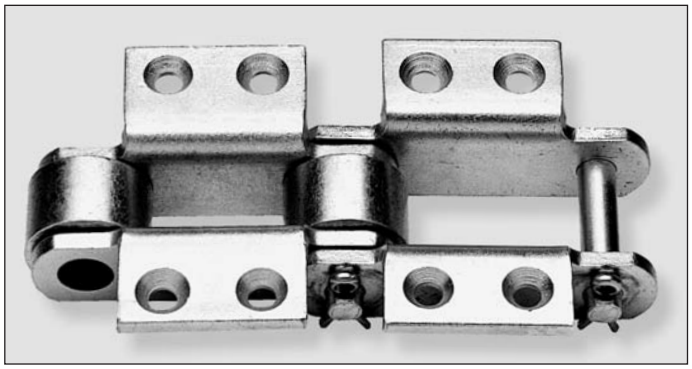


Standard sprockets are not designed for some applications like overhead slaughterhouse lines where the attachment requires extra clearance.

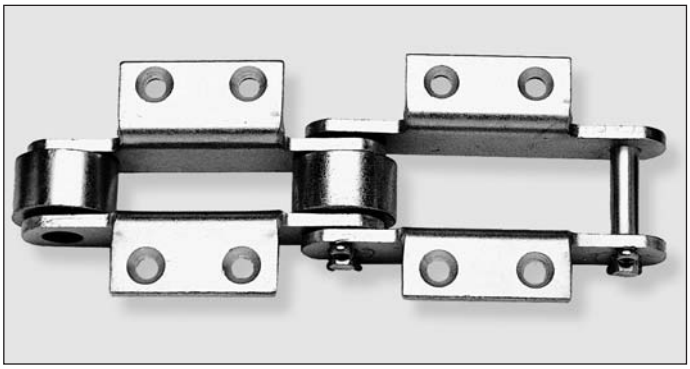


Drop Forged Rivetless Sprockets from the Tsubaki Technical Support Division have a "relief area" that allows for attachment protrusion. This means better articulation and longer wear life.

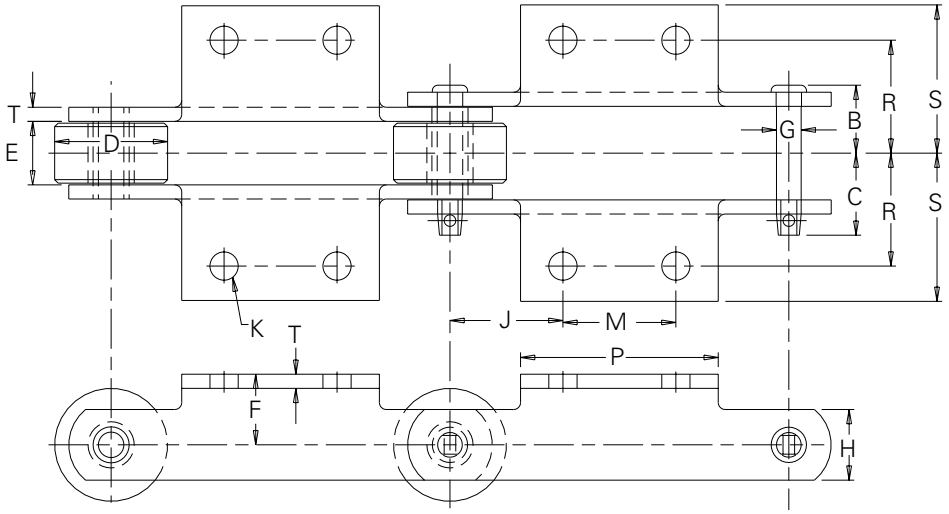
DS-1113 Chain



DS-6272 Chain



Red Meat Processing Chain



Red Meat Processing (DS Series Chains)

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Chain Width		Inside Width	Roller		Pin		Sidebar			Bushing	Attachment						Bolt Dia.	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		B	C	E	D	Matl.[2]	G	Matl.[2]	H	T	Matl.[2]	Matl.[2]	P	M	J	R	S	F	K			
DS-1113[1]	4.04	1.47	1.75	1.31	2.00	AHT	.63	CHT	1.50	.31	HC	SSHT	2.88	1.50	1.27	2.06	2.77	1.25	.38	26,000	3,150	11.4
DS-196R	6.00	1.20	1.45	1.13	2.00	CCH	.44	CHT	1.25	.25	HC	SSHT	3.50	2.00	2.00	2.00	2.63	1.25	.38	18,000	1,950	7.5
DS-6272[1]	6.00	1.47	1.75	1.31	2.25	PMHT	.63	CHT	1.50	.31	HC	SSHT	3.50	2.00	2.00	2.00	2.64	1.38	.38	26,000	3,150	9.2

[1]DS-1113 and DS-6272 furnished with counter sunk attachment holes.

[2]Material: CCH = Carbon case hardened; CHT = Carbon heat-treated; HC = High carbon; SSHT = Stainless steel heat-treated; AHT= Alloy heat-treated; PMHT= Powdered metal heat-treated.

Notes: DS Series Chains have zinc-plated sidebars, pins, and rollers. The bushings are heat-treated stainless steel.

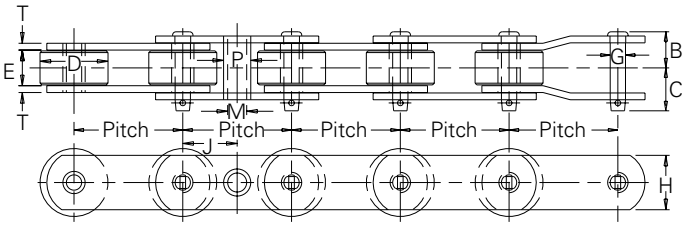
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

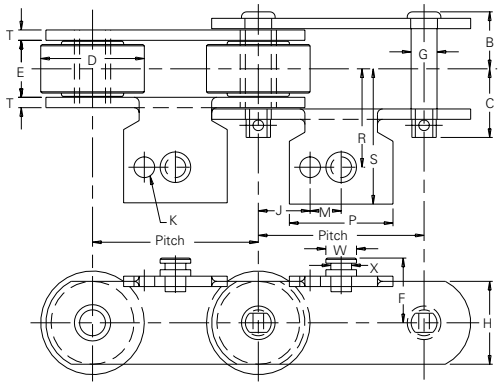
Commercial Baking Ovens

Engineering Class Chains are excellent in this application because they stand up to high temperatures and can be used in horizontal and vertical configurations. We offer a variety of constructions for baking and proofer ovens. Contact Tsubaki for more information.

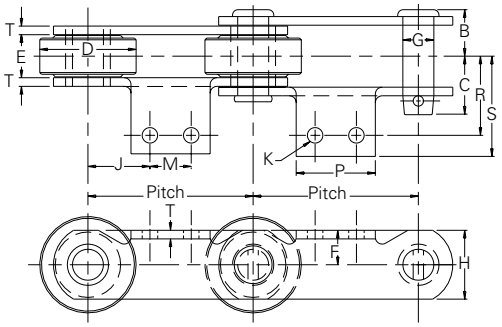
40004



40005



60003

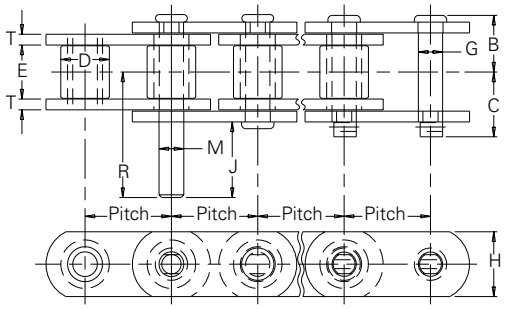


Baking Ovens

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Pin Head to CL	Pin End to CL	Roller Dia.	Inside Width	Pin Dia.	Sidebar		Attachment								Bolt Dia.	Average Ultimate Strength (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		B	C	D	E	G	H	T	P	M	J	R	S	F	W	X	K			
40004	4.000	1.20	1.52	2.50	1.06	.63	2.00	.25	1.31	1.15	2.00							31,000	3,400	9.6
40005	4.000	1.37	1.66	2.50	1.38	.63	2.00	.25	2.50	.75	1.25	2.38	3.27	1.56	.74	.50	.47	31,000	4,100	11.5
60003	6.000	1.69	2.13	3.50	1.56	1.13	2.50	.31	2.88	1.50	2.25	2.88	3.70	1.19			.53	60,000	8,600	16.8

20002



Proofer Oven Chain

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Pin Head to CL	Pin End to CL	Roller Dia.	Inside Width	Pin Dia.	Sidebar		Attachment			Average Ultimate Strength (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		B	C	D	E	G	H	T	M	J	R			
20002	2.000	1.31	1.50	1.13	1.25	.56	1.50	.25	.57	1.75	2.91	21,000	3,500	6.2

Note: Extended pins either every 14th or 18th pitch.

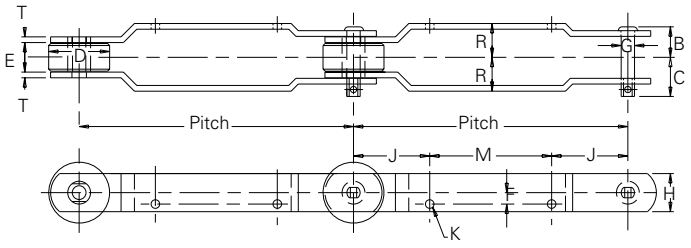
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

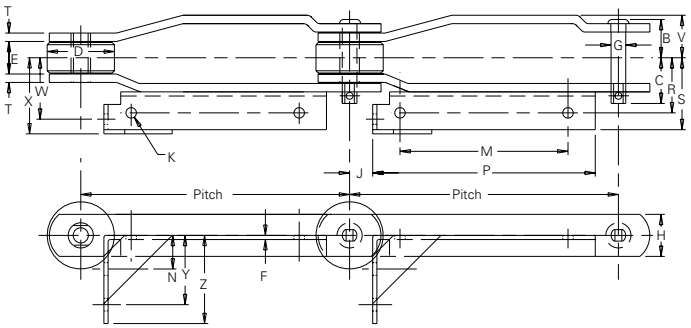
Dehydrator Ovens

Dehydrator ovens remove moisture from foods at a temperature around 200˚F. This mildly corrosive environment can be hard on some chains. That's why we provide heat-treated carbon steels or stainless steels.

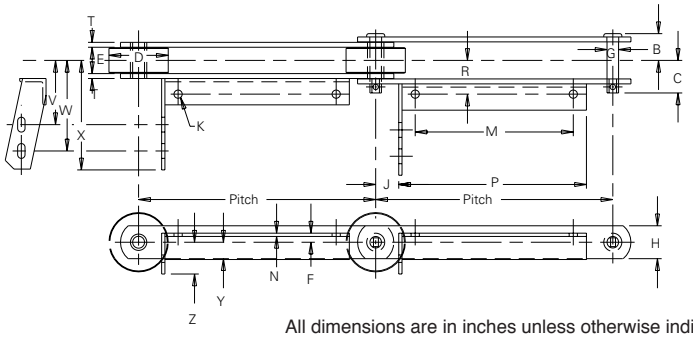
90001



80002 and 80003



90002



Dehydrator Ovens

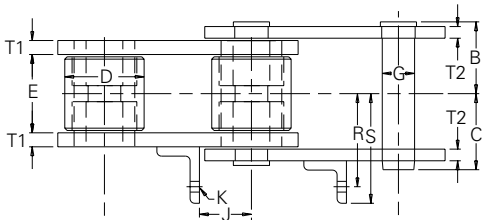
All dimensions are in inches unless otherwise indicated.

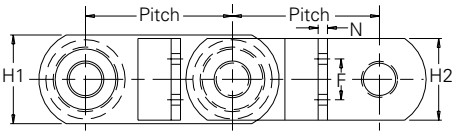
Chain No.	Pitch	Pin Head to CL	Pin End to CL	Roller Dia.	Inside Width	Pin Dia.	Sidebar		Attachment												Bolt Dia.	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		B	C	D	E	G	H	T	P	M	J	R	S	F	N	V	W	X	Y	Z	K			
80002	8.000	.89	1.61	2.00	.97	.44	1.25	.25	6.50	5.00	.69	1.64	2.14	.13	1.00	1.27	1.83	2.27	2.06	2.62	.28	18,000	2,500	4.6
80003	8.000	1.42	1.47	2.50	1.25	.63	1.50	.25	6.50	5.00	.69	1.78	2.28	.13	1.00	1.41	1.79	2.41	2.06	2.62	.28	37,000	3,800	5.9
90001	9.000	1.02	1.11	2.50	1.00	.44	1.13	.19		4.00	2.50	1.13		.31							.25	13,000	2,100	3.8
90002	9.000	1.02	1.24	2.25	1.00	.44	1.25	.19	7.13	6.00	.88	1.28		.34	.13	2.64	3.64	4.33	.59	1.21	.28	16,500	2,100	4.1

Cooker Ovens

Transferring canned goods through a pressurized steam-filled chamber is an important step in food processing. These Tsubaki chains are designed for corrosion resistance to withstand the hot, damp environment within the cooker unit.

European Style Can Cooker Chain





European Style Can Cooker Chain

All dimensions are in inches unless otherwise indicated.

Pitch	Pin Head to CL	Pin End to CL	Inside Width	Roller Dia.	Pin Dia.	Sidebar				Attachment					Bolt Dia.
	B	C	E	D	G	H1	T1	H2	T2	R	S	J	N	F	K
3.937[1]	1.88	2.08	2.08	2.05	.87	2.38	.38	2.19	.31	2.56	3.45	1.06	.19	1.18	.39
7.283[1]	1.88	2.08	2.08	2.36	1.10	3.00	.38	2.75	.31	2.56	3.45	2.74	.19	1.18	.39

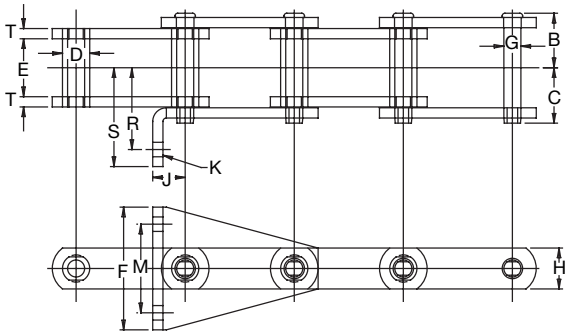
[1]Chains furnished with special insert bearings between pin-bushing and roller-bushing areas.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

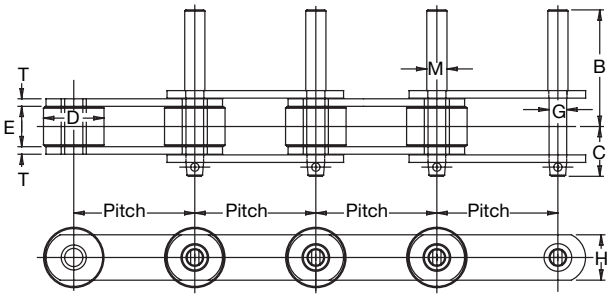
Citrus Processing

This can be a harsh environment for chain—continual operation, minimal lubrication, and corrosion. We have a line of citrus processing chains that have been engineered to meet these specialized demands. The conveyor and elevator chains with G-19 attachments that we show are commonly used to convey or elevate citrus products. The conveyor chain with D-5 attachments is used in washing, sorting, and inspection lines. These are just a few of the chains that the Tsubaki Technical Support Division can make to meet your specifications.

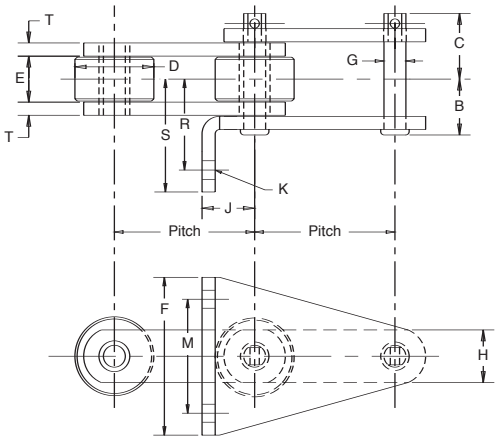
188 and 102B with G-19 Attachment



303R and 53R with D-5 Attachment



89R with G-19 Attachment



Citrus Chain

All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Pin Head to CL	Pin End to CL	Roller Dia.	Inside Width	Pin Dia.	Sidebar		Attachment					Bolt Dia.	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		B	C	D	E	G	H	T	M	J	R	S	F	K			
303R w/D-5	3.000	1.44	.77	.88	.50	.44	.88	.19	.50						8,300	1,340	2.2
53R w/D-5	3.000	2.39	1.25	1.50	1.00	.44	1.13	.19	.63						13,000	2,100	4.3
188[1] w/G-19	2.609	1.43	1.43	.88	1.06	.50	1.12	.25	2.62	.94	2.19	2.64	3.75	.41	25,000	2,750	4.0
102B[1] w/G-19	4.000	2.00	2.03	1.00	2.13	.63	1.50	.38	3.25	1.13	3.00	3.63	4.50	.50	40,000	6,300	7.9
89R[1] w/G-19	4.000	1.59	1.88	2.25	1.31	.63	1.50	.38	3.25	1.50	2.63	3.44	4.50	.50	28,000	4,500	10.8

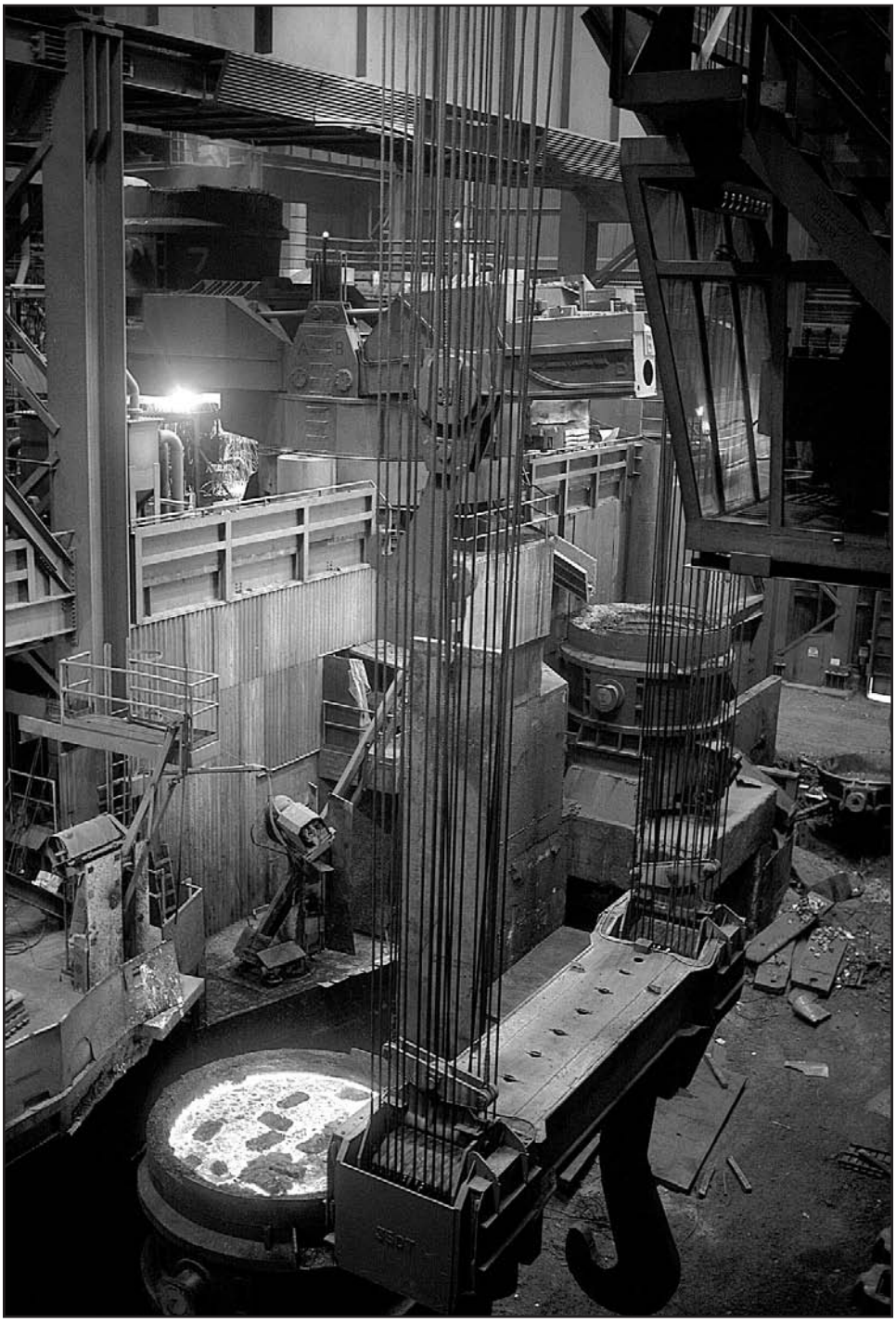
[1]Furnished standard with G-19 attachment every 4th pitch.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Metal Processing

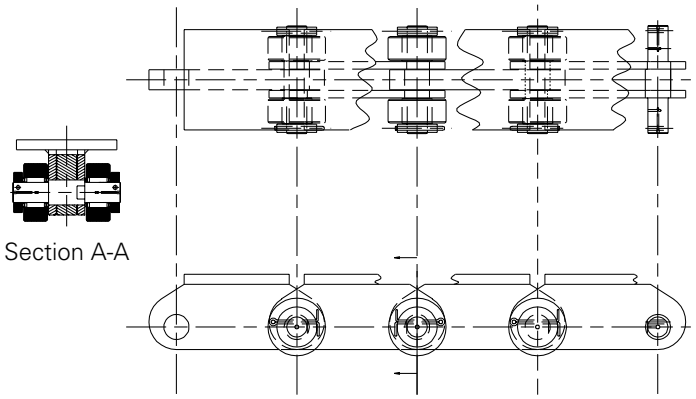
The metal processing industry has special conveyor needs. The weight of the materials, distance to be conveyed, and the environment make great demands on chain. Tsubaki Conveyor Chains are designed to stand up to the punishing conditions as raw metals are turned into finished goods. We offer a variety of Conveyor Chains for the metal processing industry. Some are listed on the following pages. In addition, we can manufacture a chain to meet your exact specifications. Contact Tsubaki Technical Support to discuss your application.



Flat Top Chains

Flat Top Chains are designed to convey ingots, billets, large structural shapes, upended coils, and more to and from process operations. The flat top plate design offers large areas to evenly distribute product load. This minimizes the effect of transfer impacts that can cause product damage. In addition, the top plate protects the chain joint from unwanted exposure to heat or abrasive particles. Because of the heavy load, bearing rollers are widely used to provide the lowest chain tension and trouble-free operation.

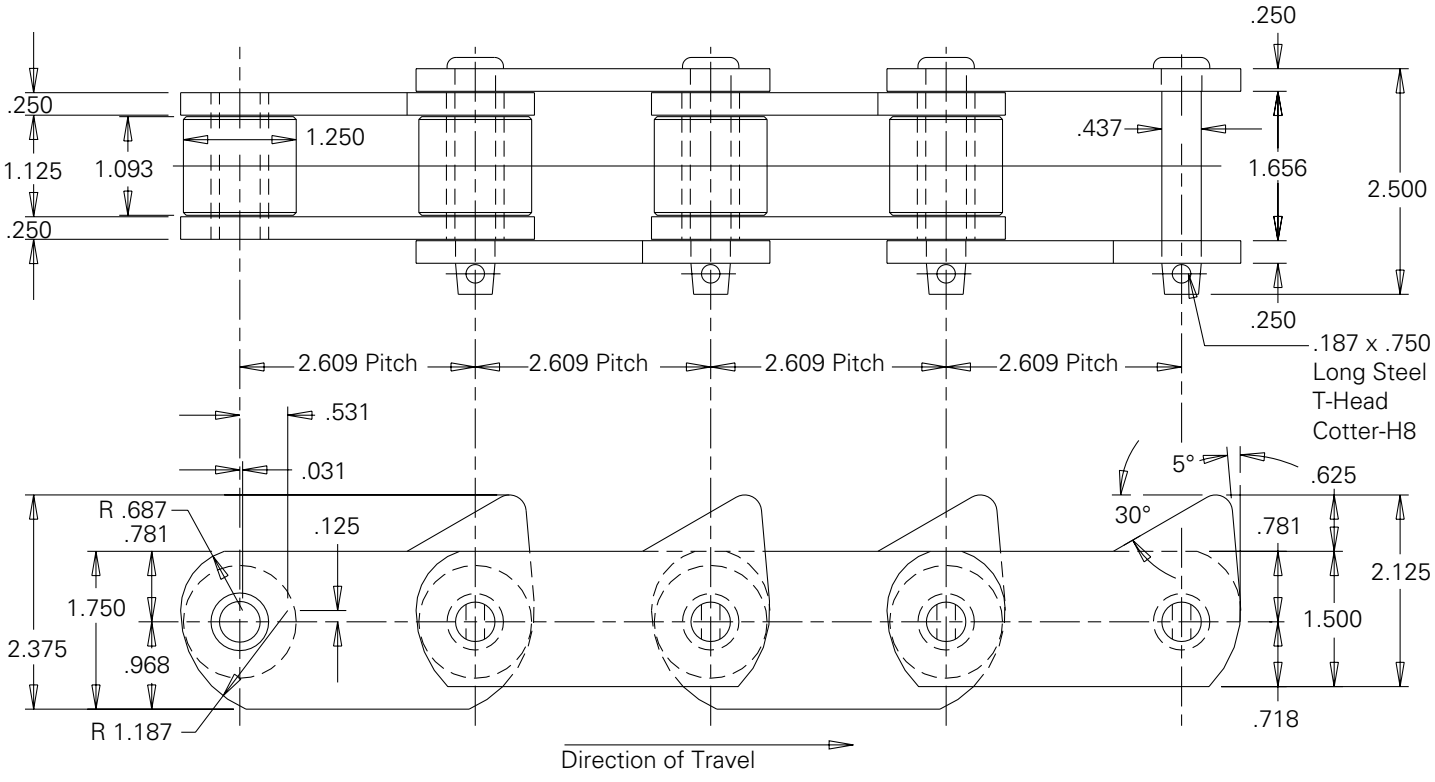
Flat Top Chain



Coiled Wire Chains

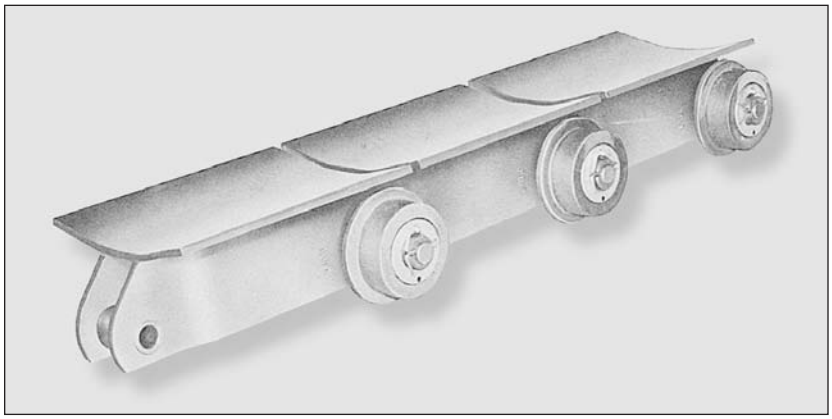
Coiled Wire Chains are designed to run conveyors in hot wire mills. These conveyors act as cooling lines, transferring continuous loops of hot wire, which are coiled after cooling down. Coiled Wire Chains are offered with special M-style attachments at every pitch to force the wire to fall between as it is loaded onto the moving conveyor.

Coiled Wire Chain with M Attachment

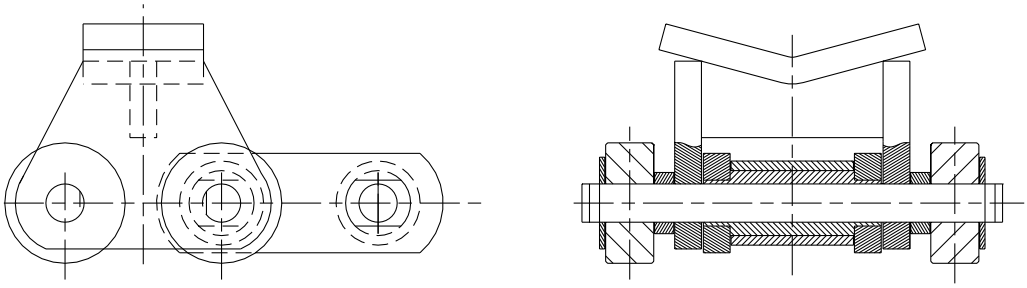


Coil Conveyor Chains

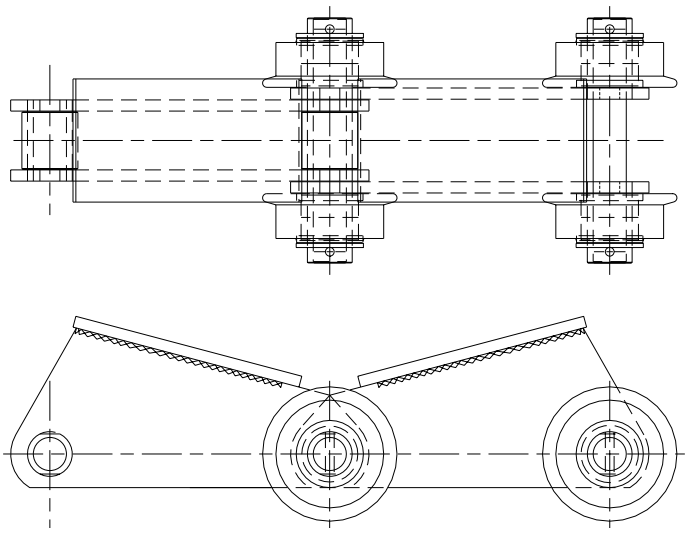
Move coils, pipe, tubing, or other large, round shapes with Gull Wing Chains or Saddle Attachments on Roller Conveyor Chains. The “V” shape is designed to accommodate a range of diameter sizes that run within the process. The saddle or “V” plate corner edges can be ground smooth to avoid scratching product during transfers. Gull Wing Chains or Saddle Attachments on Roller Conveyor Chains can be adapted to a variety of conveyor configurations, from top plates to bearing rollers and from inboard to outboard carrier rollers. Often economy is achieved through the use of multiple chain strands or chain strands independent of carrier assemblies.



Gull Wing Chain



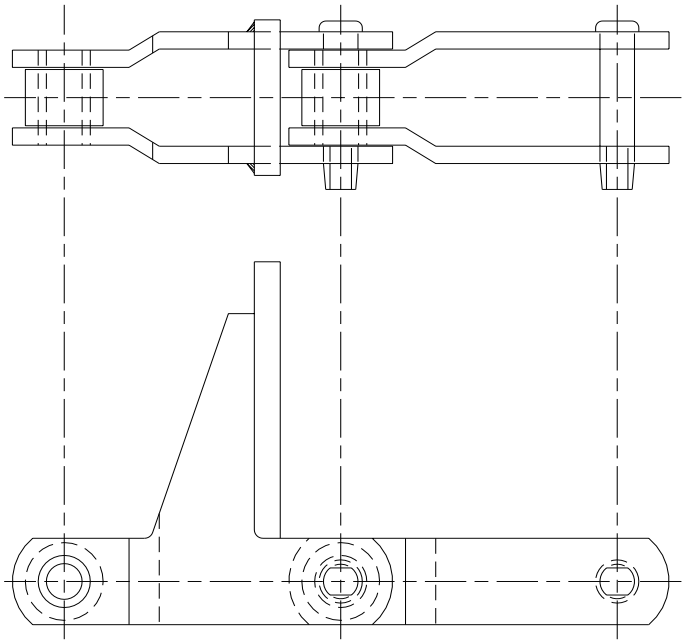
Saddle Attachment



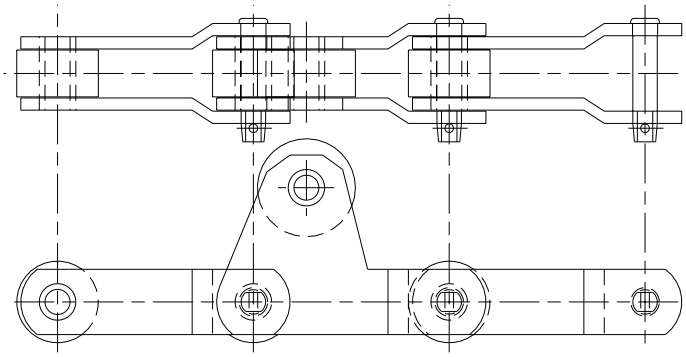
Pusher Attachment Chains

Pusher Attachment Chains are designed for cooling beds where temperatures can reach 1,900°F. Special finger attachments push against sliding or rolling product such as billet or bars, keeping it on-line. Pusher Attachment Chains are usually designed with three to six strands across to side push evenly through the bar length. Attachments are generally MM-style with top rollers or pusher bars that project upward to engage product for side transfer movement. Designs are customized to your operation, based on the width or shape of the conveyed material.

MM Attachment

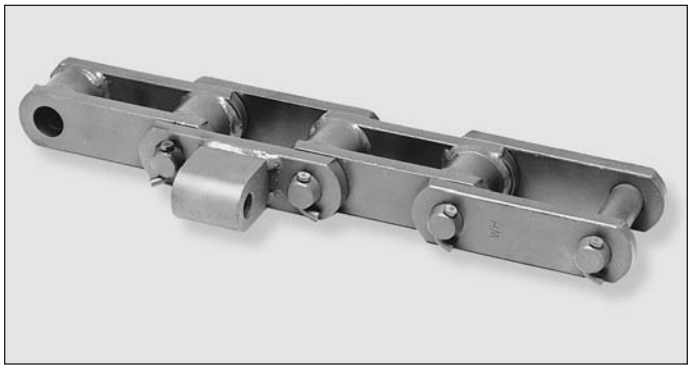


Top Roller Attachment

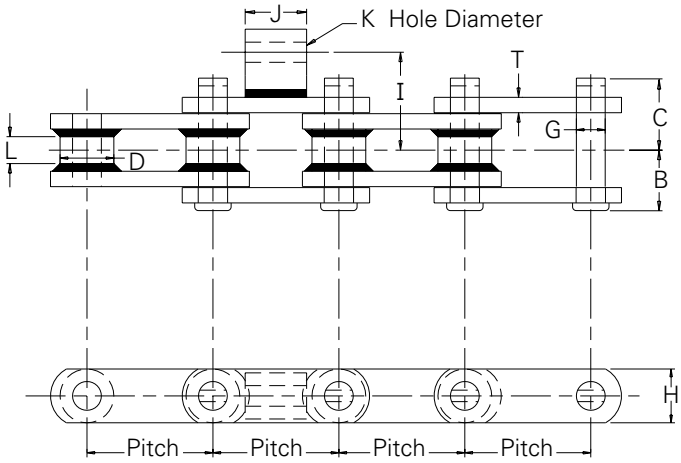


Mining

Tsubaki is a leading manufacturer of mining chains that are used in underground, above ground, and preparation plant applications. We use alloy-grade steels, heat-treated to precise specifications and assembled with the heavy press-fits required to withstand the punishment of today's more powerful, high production mining equipment. Our complete line of mining chains includes: Shuttle Car Chain, Feeder Breaker Chain, Tram Drive Chain, Wash Box Chain, Drop Forged Rivetless Chain, and Jig Washer Chain. To better service your industry, nearly all of the mining chains are in-stock and ready for immediate shipment. We also manufacture made-to-order chains and attachment configurations for your individual requirements.



Super Shuttle 4



Super Shuttle 4—Shuttle Car Chain Specifications

All dimensions are in inches unless otherwise indicated.

Chain No.	Dwg. No.	Pitch	Style	Chain Width			Chain Dimensions								Attachments				Approx. Wgt. (lbs./ft.)
							Pins		Bushings			Sidebars							
				Overall	Head to CL	End to CL	Dia.	Matl.[1]	Dia.		Matl.[1]	Thick.	Height	Matl.[1]	Space				
				(B+C)	**B**	**C**	**G**		**D**	**L**		**T**	**H**			**I**	**J**	**K**	
41001	21752	4.100	S[2]	4.31	1.97	2.34	.94	AHT	1.75	.88	AHT	.50	1.75	CHT	Ev.6th	3.00	2.00	.67	12.5

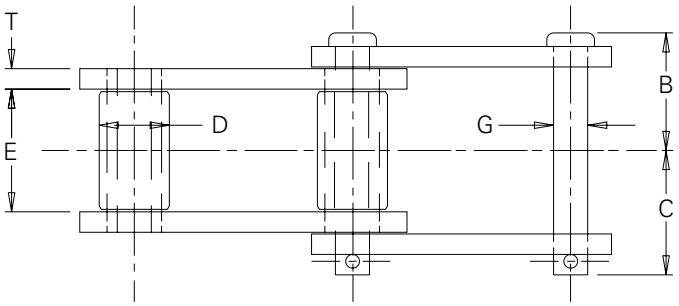
[1]Material: AHT = Alloy heat-treated; CHT = Carbon heat-treated.

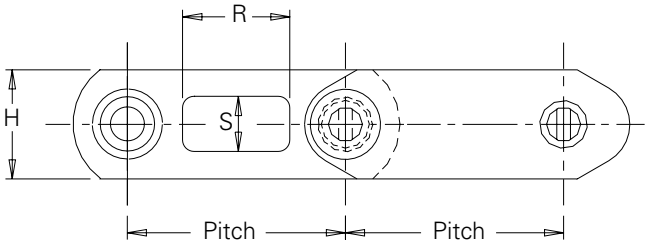
[2]Indicates straight sidebar style.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Standard Shuttle Car Chain





Standard Shuttle Car Chains Specifications

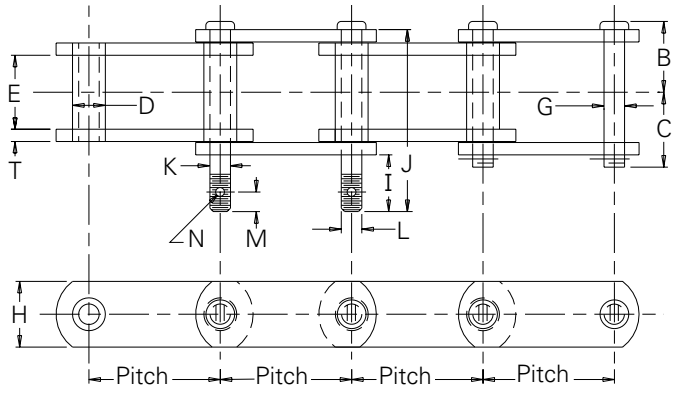
All dimensions are in inches unless otherwise indicated.

Chain No.[1]	Dwg. No.	Pitch	Space	Chain Width			Inside Width	Pins		Rollers		Sidebars			Attachments		Approx. Weight (lbs./ft.)
				Overall	Head to CL	End to CL		Dia.	Matl.[2]	Dia.	Matl.[2]	Thick.	Height	Matl.[2]			
				(B+C)	**B**	**C**	**E**	**G**		**D**		**T**	**H**		**R**	**S**	
26001	17108	2.609	Ev. 6th	2.91	1.36	1.55	1.13	.56	AHT	1.13	ACH	.31	1.63	AHT	1.28	.66	6.3
26001	22304	2.609	Ev. 8th	2.91	1.36	1.55	1.13	.56	AHT	1.13	ACH	.31	1.63	AHT	1.28	.66	6.3
30701	22376	3.075	Ev. 6th	3.56	1.89	1.67	1.50	.63	AHT	1.25	ACH	.38	1.75	CHT	1.28	.66	8.8

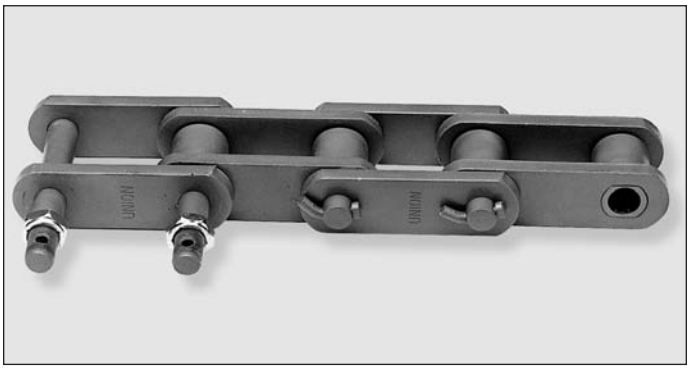
[1]Chain number 26001 has the slotted attachment hole on the cottered side only and Chain number 30701 has slotted attachment holes on both sides.

[2]Material: AHT = Alloy heat-treated; CHT = Carbon heat-treated.

Feeder Breaker Chain



Chain Number 30703



Feeder Breaker Chain Specifications

All dimensions are in inches unless otherwise indicated.

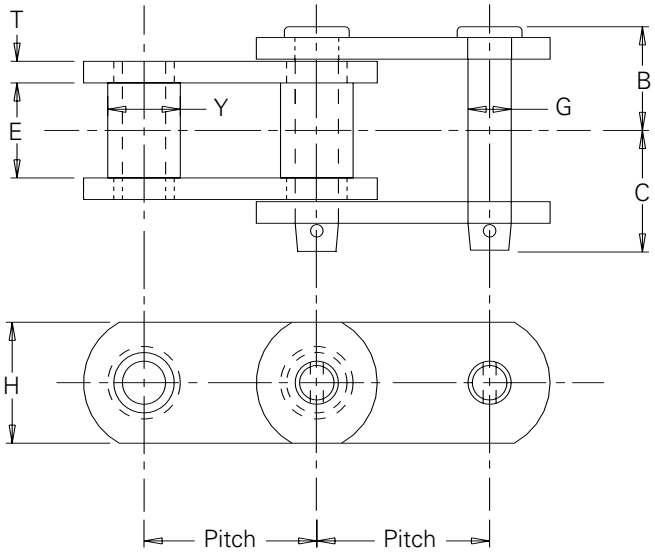
Chain No.	Dwg. No.	Pitch	Chain Width			Inside Width	Pins		Bushings		Sidebars			Attachments						Approx. Weight (lbs./ft.)
			Over-all	Head to CL	End to CL		Dia.	Matl.[1]	Dia.	Matl.[1]	Thick.	Height	Matl.[1]							
			(B+C)	**B**	**C**	**E**	**G**		**D**		**T**	**H**		**I**	**J**	**K**	**L**	**M**	**N**	
30703	19501	3.075	3.44	1.63	1.81	1.31	.68	AHT	1.25	CCH	.38	1.50	CHT	2.06	4.94	.67	.63	.50	.25	4.6

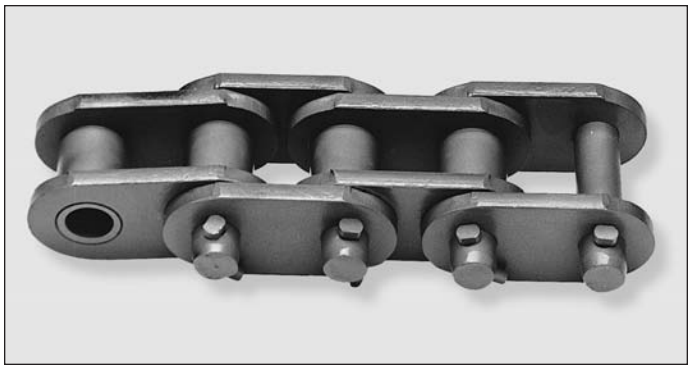
[1]Material: CHT = Carbon heat-treated; ACH = Alloy case hardened; AHT = Alloy heat-treated.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

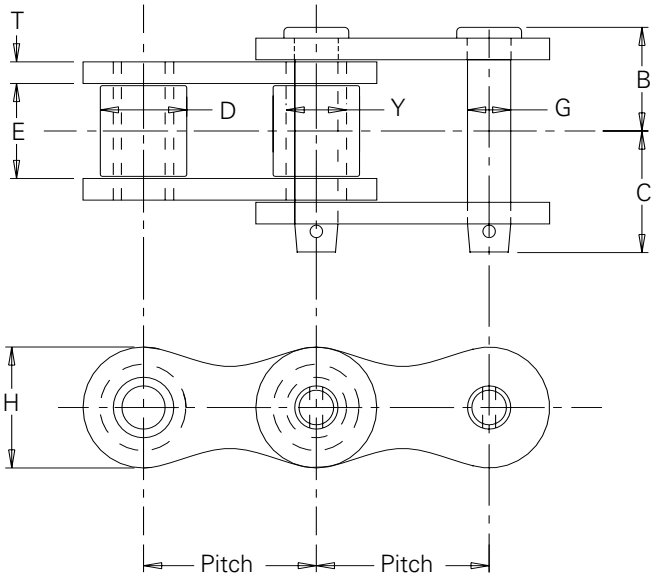
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Style A





Style B



Tram Chains Specifications

All dimensions are in inches unless otherwise indicated.

Chain Number	Pitch	Style	Chain Width			Inside Width	Pins		Bushings		Rollers		Sidebars			Approx. Weight (lbs./ft.)
			Overall	Head to CL	End to CL		Dia.	Matl.[1]	Dia.	Matl.[1]	Dia.	Matl.[1]	Thick.[2]	Height	Matl.[1]	
			(B+C)	**B**	**C**	**E**	**G**		**Y**		**D**		**T**	**H**		
US-2[3]	2.000	A	3.38	1.44	1.72	1.25	0.72	AHT	1.13	ACH	—	—	0.31	1.88	AHT	8.3
US-64S	2.500	B	3.72	1.69	2.00	1.50	0.88	AHT	1.13	ACH	1.56	AHT	0.38	2.13	AHT	13.5
US-64SH	2.500	B	4.13	1.91	2.22	1.50	0.88	AHT	1.13	ACH	1.56	AHT	.44x.50	2.13	AHT	14.5

[1]Material: AHT = Alloy heat-treated; ACH = Alloy case hardened.

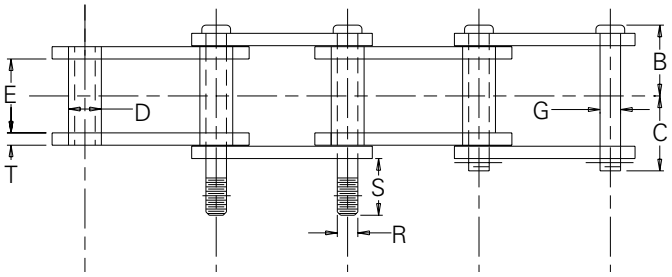
[2]US-64SH sidebar thickness on roller links is .50" and pin link .44".

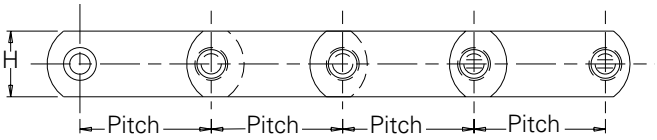
[3]US-2 is a bushing type chain and does not have rollers.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Wash Box Chain





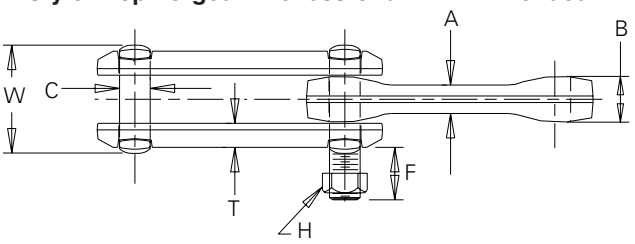
Wash Box Chains Specifications

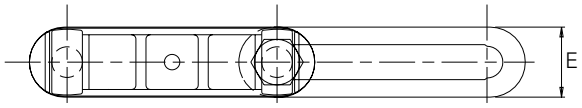
All dimensions are in inches unless otherwise indicated.

Chain No.	Dwg. No.	Pitch	Space	Chain Width			Inside Width	Pins		Bushings		Sidebars			Attachments		Approx. Weight (lbs./ft.)
				Overall	Head to CL	End to CL		Dia.	Matl.[1]	Dia.	Matl.[1]	Thick.	Height	Matl.[1]			
				(B+C)	B	C	E	G		D		T	H		R	S	
30702	16290	3.075	Ev. 4th	1.69	2.00	2.00	1.31	.75	ACHCP	1.25	CCH	.38	1.75	CHT	.75	1.25	10.2
30702	14143	3.075	Ev. 6th	1.69	2.00	2.00	1.31	.75	ACHCP	1.25	CCH	.38	1.75	CHT	.75	1.25	9.8

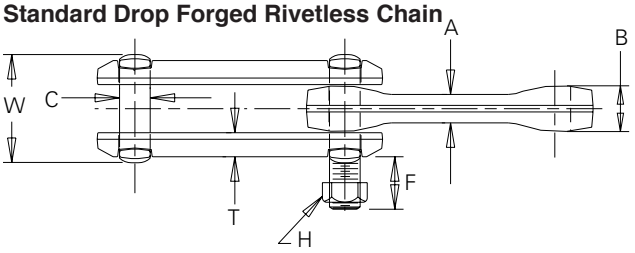
[1]Material: ACHCP = Alloy case hardened chrome plated; CCH = Carbon case hardened; CHT = Carbon heat-treated.

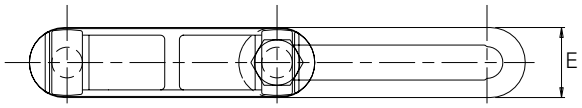
X-Style Drop Forged Rivetless Chain with Extended Pins





Standard Drop Forged Rivetless Chain



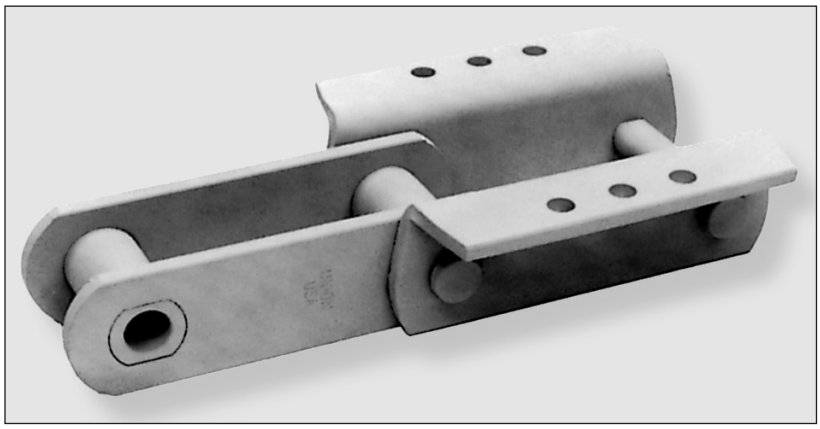


Drop Forged Rivetless Chain Specifications

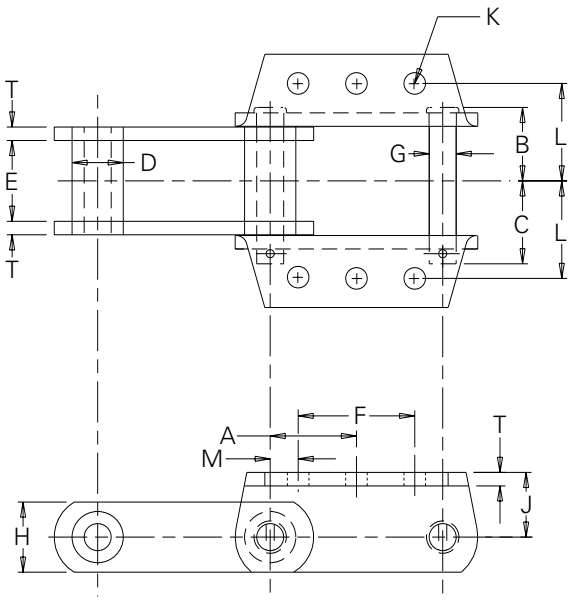
All dimensions are in inches unless otherwise indicated.

Chain Number	Drawing Number	Pitch	Average Tensile Strength							Attachments			Approx. Weight (lbs./ft.)
										Space			
				A	B	C	E	T	W		F	H	
X-678	18371	6.031	85,000	.81	1.31	.88	2.00	.50	3.09	2 Ext. Pins Ev. 4th	1.50	.75	6.9
698	21652	6.031	130,000	1.00	1.56	1.13	2.52	.63	3.75	2 Ext. Pins Ev. 4th	1.50	.75	12.1

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.
Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.



Jig Washer Chain



6826 Jig Washer Chains

All dimensions are in inches unless otherwise indicated.

Chain Number	Dwg. No.	Pitch	Chain Width			Inside Width	Pins		Bushings		Sidebars			Attachments						Approx. Weight (lbs./ft.)
			Over-all	Head to CL	End to CL		Dia.	Matl.[1]	Dia.	Matl.[1]	Thick.	Height	Matl.[1]							
			(B+C)	**B**	**C**	**E**	**G**		**D**		**T**	**H**		**A**	**F**	**J**	**M**	**L**	**K**	
6826 K1/K2 Ev. 2nd	19583	6.000	4.75	2.22	2.53	2.38	.88	AHTIH	1.50	ACH	.38	2.50x3	CHT	3.00	2.63	1.75	1.69	3.00	.53	15.5
6826 K1/K2 Ev. 3rd	19442	6.000	4.75	2.22	2.53	2.38	.88	AHTIH	1.50	ACH	.38	2.50x3	CHT	3.00	2.63	1.75	1.69	3.00	.53	14.0
6826 K1/K2 Ev. 4th	19448	6.000	4.75	2.22	2.53	2.38	.88	AHTIH	1.50	ACH	.38	2.50x3	CHT	3.00	2.63	1.75	1.69	3.00	.53	13.0

[1]Material: AHTIH = Alloy heat-treated induction hardened; ACH = Alloy case hardened; CHT = Carbon heat-treated.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Sugar Manufacturing

Sugar mills require strong, reliable chains to move cane through the manufacturing processes. We manufacture many types of chains used in the sugar industry, including Conveyor, Bagasse Carrier, Drop Forged Rivetless, Welded Steel, Cast Combination, and Main Cane Apron Conveyors. Our chains are specially designed to meet the high tonnage and extensive operating conditions of modern mills.

We build quality into every Tsubaki Sugar Chain.

Proper Fit

Tsubaki Sugar Chains are designed to fit your equipment properly, with precision where you need precision and ruggedness where you need ruggedness.

Strong, Long-Lasting Materials

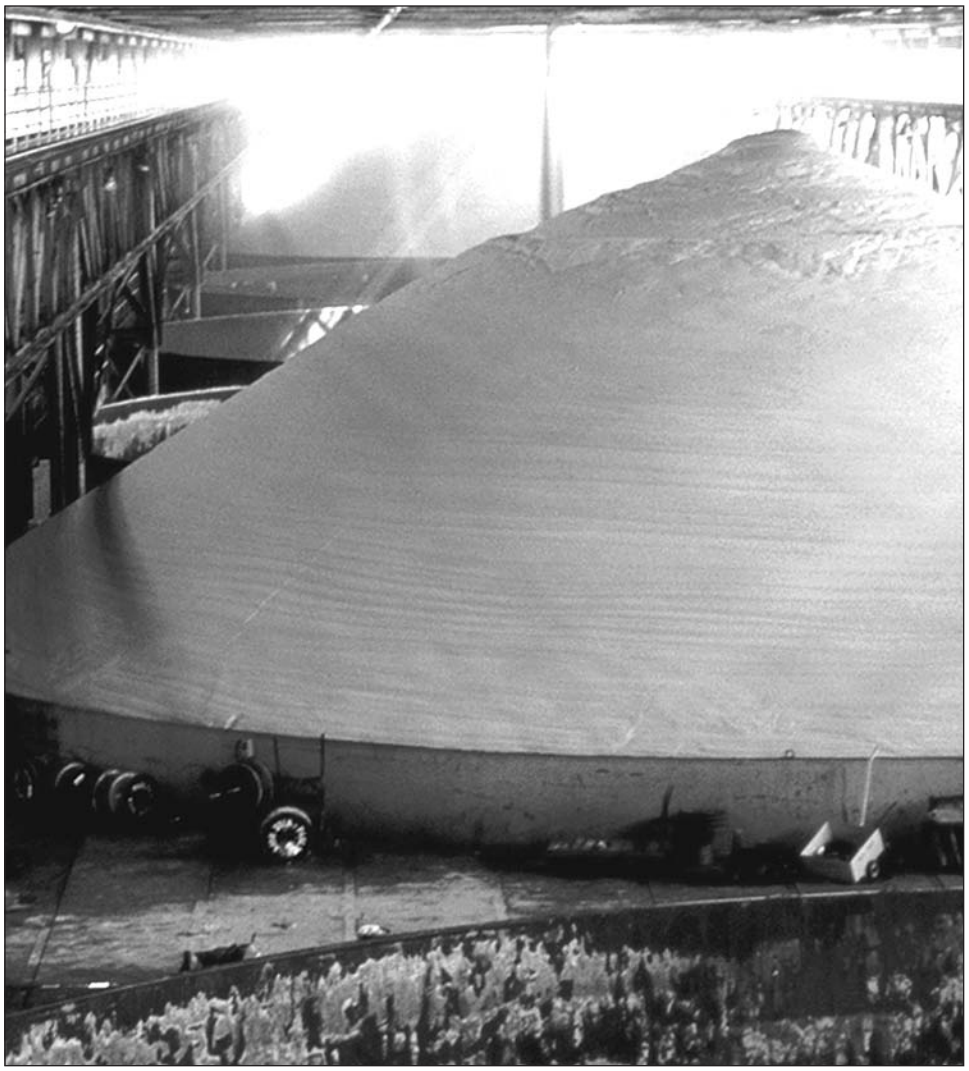
We create the right balance of high carbon and alloy steel in every component to ensure proper hardness and strength. You get chain that can stand up to the hard use of sugar mills.

Heat-Treated for Extended Wear Life

All chain components are heat-treated to our rigid specifications for longer wear life. You get long-lasting, cost-effective chain for your sugar mill.

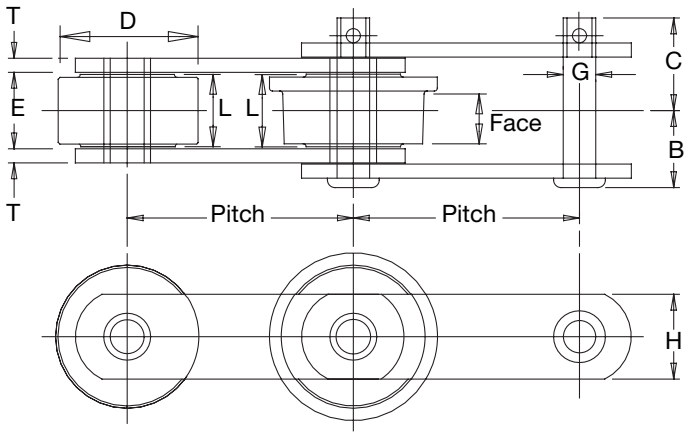
Constructed to Resist Breakage

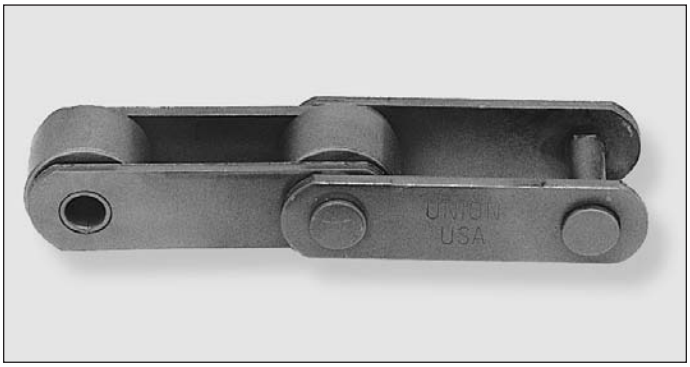
Links are subassembled on rigid presses with accurate fixturing. The result is a very high press fit of pins and bushings in sidebars, which produces the highest resistance to breakage under shock loads and keeps the chain straight and square to rigidly support chain flights.



Roller Conveyor Chains

Tsubaki Roller Conveyor Chains are constructed to last in your operation. These chains are typically used for conveying or elevating applications. Sidebars are fabricated from carbon or alloy steels for long wear life. Pins and bushings are made from carbon or alloy steel and heat-treated and hardened. Dimensions of pins are checked to ensure straight, smooth-wearing surface and a proper fit of the pin in the link bar. Pin and bushing holes are carefully finished to ensure true pitch accuracy and correct interference fit.





Roller Conveyor Plain Chain

All dimensions are in inches unless otherwise indicated.

	Chain Number	Pitch	Width			Roller					Pin			Sidebar			Bushing[1]	Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
			Pin Head to CL	Pin End to CL	Inside	Dia.	Lgth.	Sty.[2]	Matl.[3]	Face Width	Dia.	Sty.[2]	Matl.[3]	Hgt.	Th.	Matl.[2]	Matl.[3]			
			B	C	E	D	L				G		H	T						
Straight Sidebar	95R	4.000	1.03	1.25	1.00	1.50	.97	T	PMCCH		.44	A	CHT	1.13	.19	CRS	ACH	13,000	2,100	3.4
	83R	4.000	1.38	1.63	1.31	2.00	1.25	T	CCH		.63	A	CHT	1.50	.25	HC	CCH	22,000	3,650	6.6
	1113R	4.040	1.50	1.75	1.31	2.00	1.25	T	CCH		.63	A	CHT	1.50	.31	HC	CCH	26,000	4,250	7.4
	US-196R	6.000	1.20	1.45	1.13	2.00	1.06	T	CCH		.44	A	CHT	1.25	.25	HC	CCH	18,000	2,500	5.0
	607R	6.000	1.33	1.58	1.31	2.50	1.25	T	CCH		.56	A	CHT	1.50	.25	HC	CCH	21,000	3,500	6.5
	631R	6.000	1.78	2.03	1.38	3.00	1.31	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	38,000	5,600	12.2
	96R	6.000	1.84	2.09	1.50	2.75	1.44	V	CCH	1.31	.75	A	CHT	2.00	.38	HC	CCH	47,000	5,900	11.8
	1131R	6.000	1.84	2.09	1.50	3.00	1.44	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	47,000	5,900	12.5
	96RX	6.000	1.84	2.09	1.50	2.75	1.44	V	CCH	1.31	.75	A	CHT	2.00	.38	CHT	CCH	70,000	5,900	11.8
	614R	6.000	1.78	2.03	1.38	2.50	1.31	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	38,000	5,600	11.0
	625R	6.000	1.56	1.81	1.69	3.00	1.63	U	AIHT	1.13	.63	A	CHT	2.00	.25	HC	CCH	25,000	4,750	9.8
Offset Sidebar	1604R	6.000	1.28	1.63	1.06	3.00	.88	T	CCH		.50	A	ACH	1.25	.25	CHT	CCH	24,000	2,750	5.4
	2130R	6.000	1.72	2.00	1.31	2.50	1.25	T	CCH		.75	A	CHT	2.00	.38	HC	CCH	38,000	5,250	11.0
	1630R	6.000	1.72	2.03	1.38	2.50	1.31	T	CCH		.88	A	CHT	2.00	.38	HC	CCH	43,000	6,500	11.0
	2184R	6.000	1.72	2.03	1.38	3.00	1.31	V	PMCCH	1.18	.88	A	ACH	2.00	.38	HC	CCH	43,000	6,500	12.3
	2184RX	6.000	1.72	2.03	1.38	3.00	1.31	V	PMCCH	1.18	.88	A	ACH	2.00	.38	CHT	ACH	75,000	6,500	12.0

[1]Bushing styles are typically full round or double flat, but may differ depending on the specific application.

[2]Styles for rollers, pins and sidebars are shown on pages C-17 – C-18.

[3]Material: CHT = Carbon heat-treated; CCH = Carbon case hardened; AHT = Alloy heat-treated; CRS = Cold rolled steel; AIHT = Alloy iron heat-treated; ACH = Alloy case hardened; HC = High carbon; PMCCH = Powdered metal carbon case hardened.

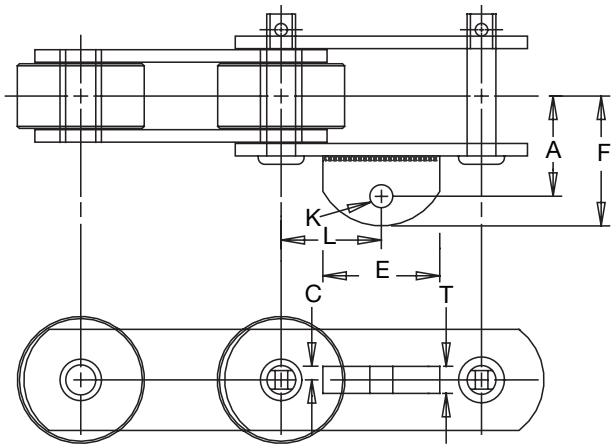
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

TSUBAKI

Bagasse Carriers

Bagasse Carriers are the efficient, economical way to handle bagasse that is to be fed to boilers, put into storage, or further processed. The alloy steel pins are heat-treated for wear resistance and can be nickel-plated to prevent corrosion fatigue. The high-strength sidebars are designed to withstand heavy shock loads. We even made the base of the 2-C flight wings thicker to last longer.



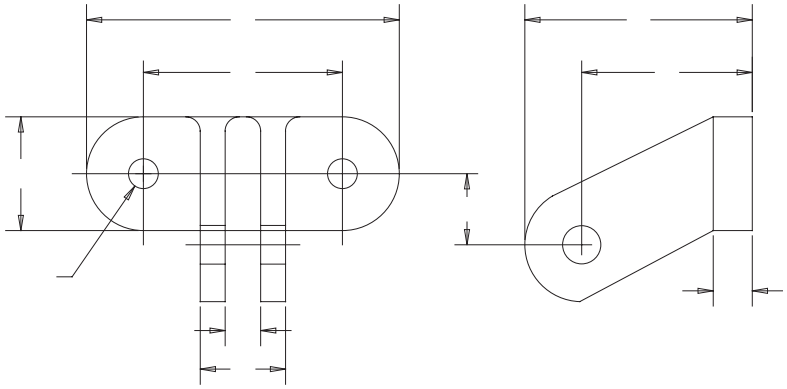
Bagasse Carriers

All dimensions are in inches unless otherwise indicated.

Attachment Number	Chain Number					Bolt Diameter			Approximate Weight (lbs/ft.)
		A	C	E	F	K	L	T	
A-42	53R	1.56	.13	1.00	2.00	.38	2.00	.25	4.2
	86R	2.34	.19	2.00	3.16	.50	1.50	.38	6.4
	95R	1.63	.19	1.25	2.13	.38	3.00	.38	3.6
	119R	2.00	.25	1.38	2.69	.63	1.50	.50	7.5
	604R	2.34	.25	2.00	3.16	.63	3.00	.50	6.2
	614R	2.75	.25	2.00	3.75	.63	3.00	.50	12.3
	631R	2.56	.25	2.00	3.56	.69	3.00	.50	13.5
	1131R	2.84	.25	2.00	3.84	.63	3.00	.50	13.8
	1604R	2.31	.25	2.00	3.06	.63	3.00	.50	6.7
	2184RX	2.63	.25	2.00	3.63	.63	3.00	.50	13.6

Hinged Bucket and Scraper Flight Wings for Bagasse Carriers

Flight wings are used with double strands of parallel chain and are usually connected to the A-42 chain attachments. This helps prevent the chain from binding by compensating for irregularities in the length of the two strands.



Hinged Bucket and Scraper Flight Wings

All dimensions are in inches unless otherwise indicated.

Bucket Wing Style	Attach. Number										Bolt Dia.	Rivet Dia.	Approx. Weight Ea. Unit (lbs.)
		A	B	C	D	E	F	G	H	K	L	T	
Style C	2C	2.00	5.00	3.50	1.00	0.63	4.00	1.50	3.00	0.50	0.63	0.69	2.8
	15C	1.75	3.50	2.50	0.81	0.44	1.81	1.00	1.13	0.31	0.38	0.28	0.7

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

Water Treatment

Tsubaki offers a variety of drive and conveyor chains for use in water treatment applications. Many industrial plants and power stations draw water from nearby lakes, rivers, or bays for use in process and cooling applications and to feed boilers. Traveling water and bar screens prevent the intake of fish, rocks, debris, and suspended solids that could damage equipment or foul water circulation systems. Both types of screens use special chains that must be replaced periodically because of corrosion and wear.

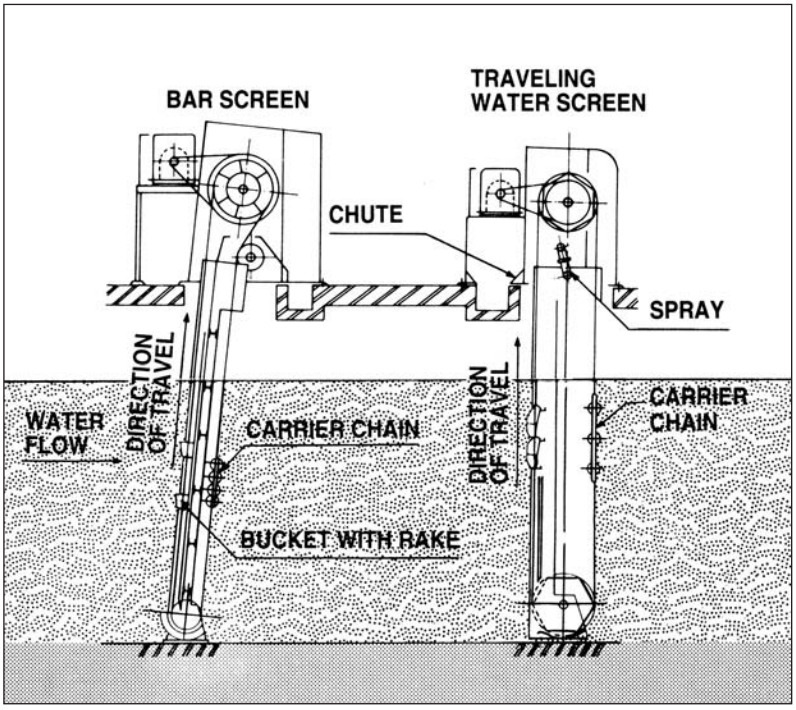
Industries commonly screening inlet waters include:

- Power generating plants (coal, petroleum, nuclear)
- Pulp and paper mills (also removing wastes from in-plant streams)
- Steel mills
- Chemical and processing plants
- Refineries
- Food processors
- Any plant operating a large power boiler to produce steam

Water Treatment

Select Tsubaki Chains

Tsubaki Traveling Water and Bar Screens are specially designed to stand up to this corrosive environment. Pins and bushings are through hardened for extended wear life. Rollers are constructed of cast iron or through hardened stainless steel and have a special synthetic resin bushing for smooth operation. The resin bushings require no lubrication, saving you time and money. To add even more protection, Tsubaki Treatment Chains are double-treated for extra corrosion resistance—first with an adhesive sealant in the pin, bushing and link plate press-fit areas, and then with an anti-corrosion, rust-prevention coating. That means strong, long-lasting chain for your screening environment.



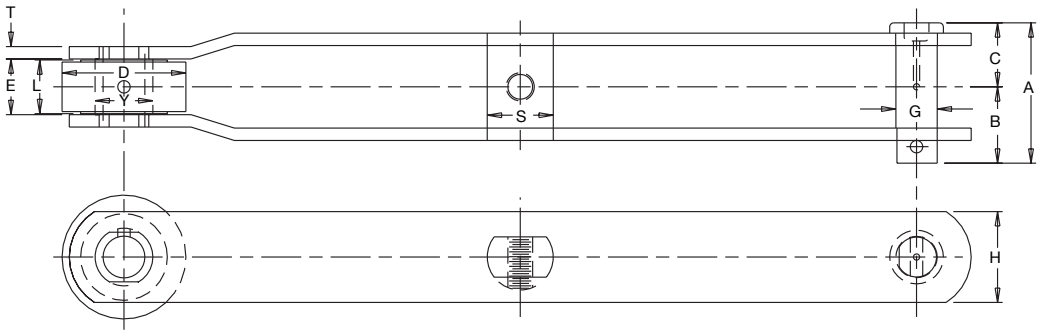
Factors to Consider

Kind of water. Fresh water has a different chemistry than salt or brackish water and has a different impact on chain. Several different types of materials are used, including heat-treatable, stainless steels, alloy steels, and cast iron rollers. Choose the construction that is right for your application. If you have any questions, contact Tsubaki Technical Support.

Types of water screen chain. There are three main types of water screen carrier chain. Tsubaki produces all three with either 3/8"- or 1/2"-thick sidebars. Pitch is usually 24", but each type has distinctive characteristics.

Styles of bar screen chain. 700 series, 6-inch pitch
chains are widely used. Sidebars are usually 5/16" for standard and 3/8" for heavy-duty applications. Other chain series are also available.

Style A



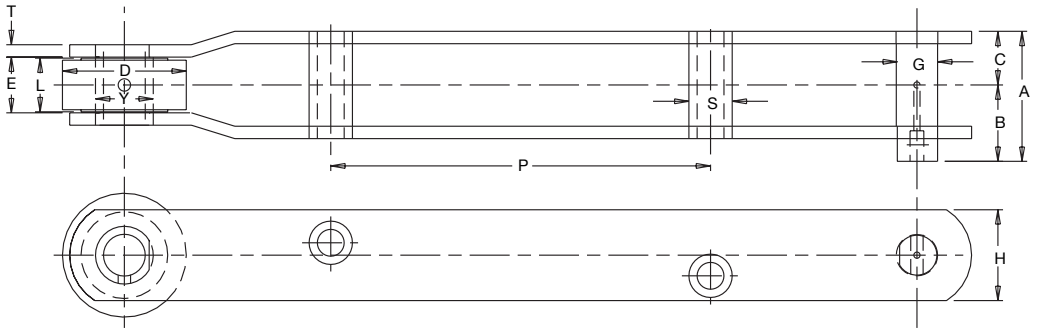
Traveling Water Screen Chains

All dimensions are in inches unless otherwise indicated.

		Width				Roller		Pin	Sidebar		Bushing	Bushing Attach.	
	Pitch	Overall	Pin Head to CL	Pin End to CL	Inside	Diameter	Length	Diameter	Height	Thick.	Diameter	Diameter	Approx. Weight (lbs./ft.)
		A	**C**	**B**	**E**	**D**	**L**	**G**	**H**	**T**	**Y**	**S**	
Style A	24.000	4.25	1.94	2.31	1.69	3.75	1.63	1.25	2.75	.38	1.75	2.00	12.3
	24.000	4.75	2.19	2.19	1.69	3.75	1.63	1.25	2.75	.50	1.75	1.94	15.1

Note: Dimensions shown are nominal. Obtain certified prints for design and construction.

Style B



Traveling Water Screen Chains

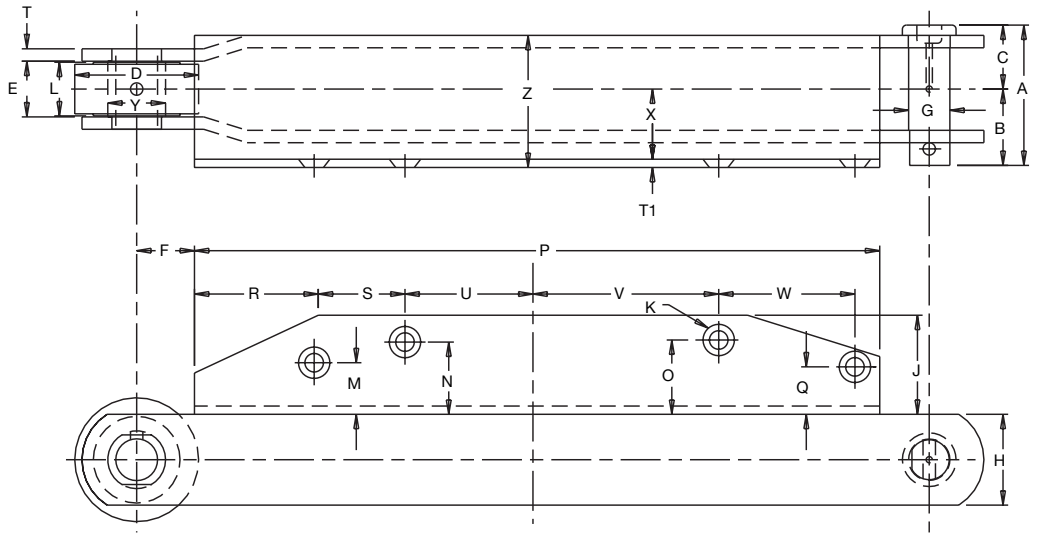
		Width				Roller		Pin	Sidebar		Bushing	Bushing Attach.		
	Pitch	Overall	Pin Head to CL	Pin End to CL	Inside	Dia.	Length	Dia.	Height	Thick.	Dia.	Dia.		Approx. Weight (lbs./ft.)
		A	**C**	**B**	**E**	**D**	**L**	**G**	**H**	**T**	**Y**	**S**	**P**	
Style B	24.000	3.63	1.56	2.06	1.56	4.00	1.50	1.21	3.00	.38	1.75	1.31	11.50	12.3
	24.000	4.13	1.81	2.31	1.56	4.00	1.50	1.21	3.00	.50	1.75	1.31	11.50	15.4

Note: Dimensions shown are nominal. Obtain certified prints for design and construction.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. contact Tsubaki Technical Support to obtain certified prints for design and construction.

Style C



Traveling Water Screen Chains

All dimensions are in inches unless otherwise indicated.

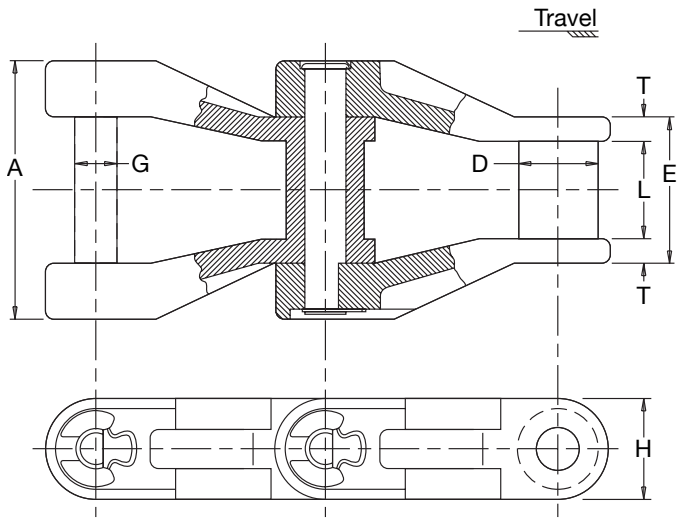
	Pitch	Width				Roller		Pin	Sidebar		Bushing	Bushing Attachment																Approx. Weight (lbs./ft.)
		Over-all	Pin Hd. to CL	Pin End to CL	In-side	Dia.	Lgth.	Dia.	Hgt.	Th.	Dia.																Bolt Dia.	
		A	C	B	E	D	L	G	H	T	Y	P	T1	J	M	N	O	Q	R	S	U	V	W	F	X	Z	K	
Style C	24.000	4.19	1.89	2.31	1.69	3.75	1.63	1.25	2.75	.38	1.75	20.75	.25	3.00	1.56	2.19	2.25	1.44	5.38	2.75	3.88	5.63	4.13	1.75	2.38	4.00	.53	15.8
	24.000	4.75	2.19	2.56	1.69	3.75	1.63	1.25	2.75	.50	1.75	20.75	.25	3.00	1.56	2.19	2.25	1.44	5.38	2.75	3.88	5.63	4.13	1.75	2.63	5.00	.53	18.6

Note: Dimensions shown are nominal. Obtain certified prints for design and construction.

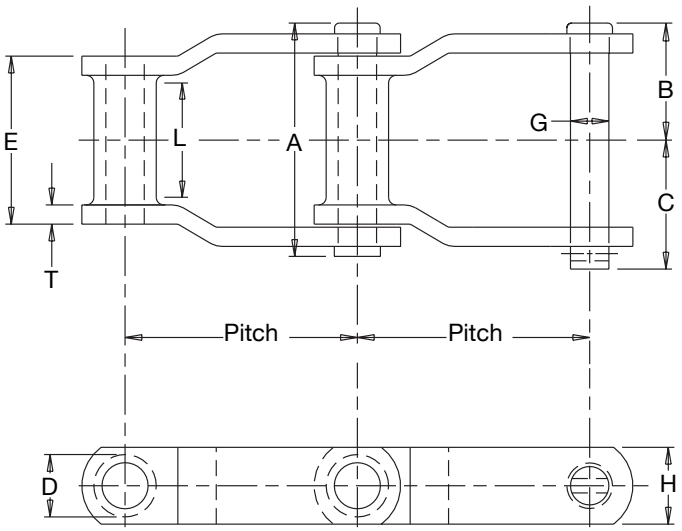
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. contact Tsubaki Technical Support to obtain certified prints for design and construction.

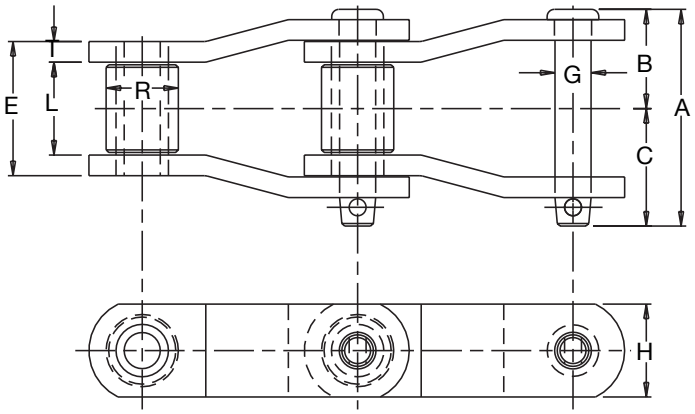
EPC-78 Chain



WH-78 and 488 Chains



US-882 Chain



Drive Chains (Rectangular Settling Tanks)

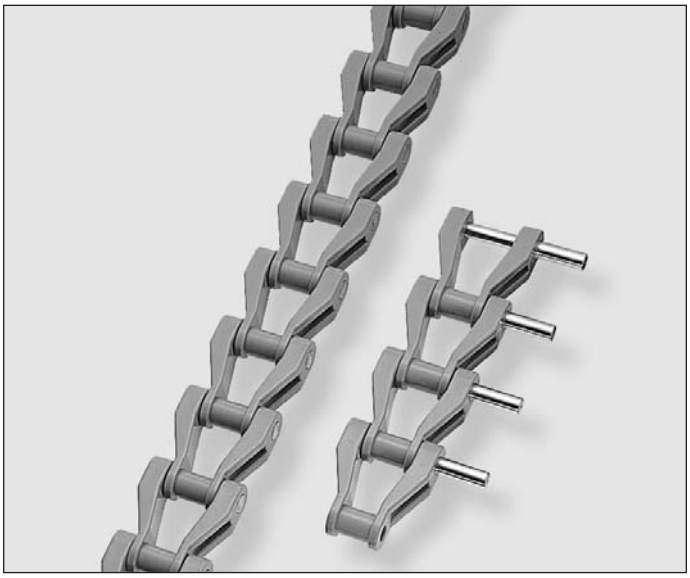
All dimensions are in inches unless otherwise indicated.

Chain No.	Pitch	Chain Width				Roller	Barrel		Pin	Sidebar		Avg. Ult. Stgth. (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Pin Head to Center-line	Pin End to Center-line	Length of Bearing	Dia.			Dia.	Th.	Height	All Parts Heat Treated	All Parts Heat Treated	
		A	B	C	E	R	D	L	G	T	H			
EPC-78	2.609	2.93			1.63		.88	1.09	.45	.27	1.13			1.5
WH-78	2.609	3.00	1.44	1.56	2.00		.88	1.13	.50	.25	1.13	33,000	3,500	4.0
488	2.609	2.75	1.31	1.44	1.63		.88	.94	.44	.25	.94	13,750	2,130	2.9
US-882	2.609	2.69	1.25	1.44	1.63	.88		1.13	.44	.25	1.13	26,000	2,500	3.6

Note: US-1030 and WH-82 are also commonly used.

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. contact Tsubaki Technical Support to obtain certified prints for design and construction.

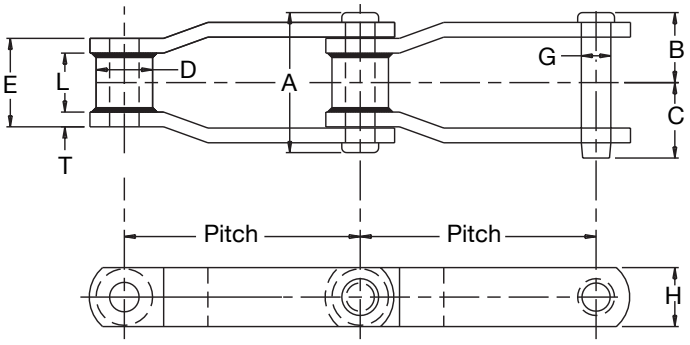


EPC-78 Allowable Load and Speed

Chain Speed (ft./min.)	Number of Sprocket Teeth			
	6	8	10	12
33	1,348	1,348	1,348	1,348
44	1,348	1,348	1,348	1,348
66	1,348	1,348	1,348	1,348
82	1,057	1,348	1,348	1,348
98	804	1,233	1,348	1,348

For higher chain speeds than shown above, please consult with Tsubaki.

WH-720S and WH-720SH Chains



Conveyor Chains (Rectangular Settling Tanks)

All dimensions are in inches unless otherwise indicated.

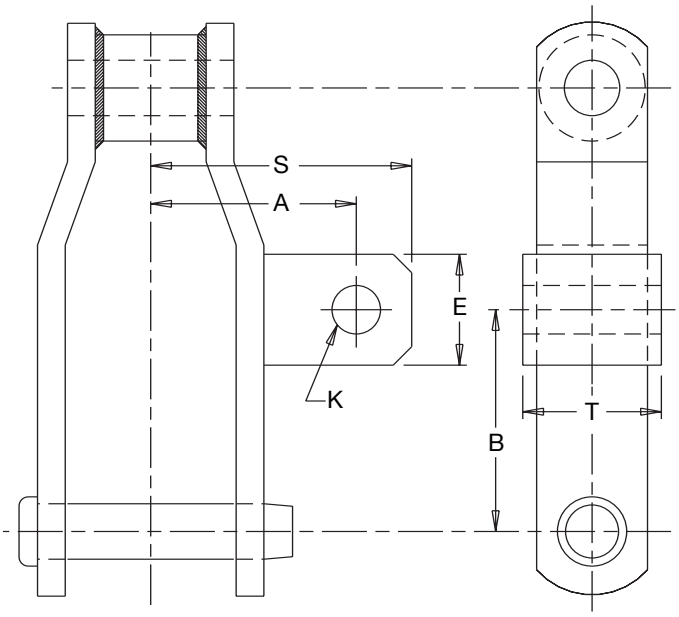
Chain Number	Pitch	Chain Width				Barrel		Pin	Sidebars		Average Ultimate Strength (lbs.)	Max. Work Load (lbs.)	Approx. Weight (lbs./ft.)
		Overall	Pin Head to Center-line	Pin End to Center-line	Length of Bearing			Dia.	Thick.	Height	All Parts Heat Treated	All Parts Heat Treated	
		A	B	C	E	D	L	G	T	H			
WH-720S	6.000	3.94	1.81	2.13	2.13	1.44	1.50	.75	.31	1.50	60,000	5,570	5.2
WH-720SH	6.000	4.06	1.88	2.19	2.25	1.44	1.50	.75	.38	1.50	60,000	5,900	6.1

To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

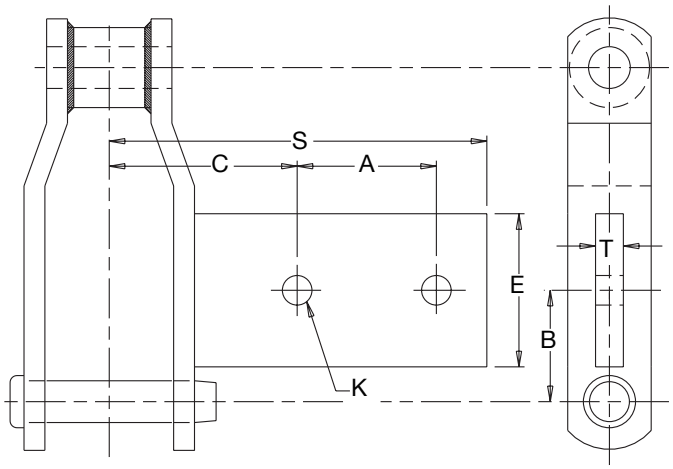
Note: Dimensions are subject to change. contact Tsubaki Technical Support to obtain certified prints for design and construction.

Water Treatment

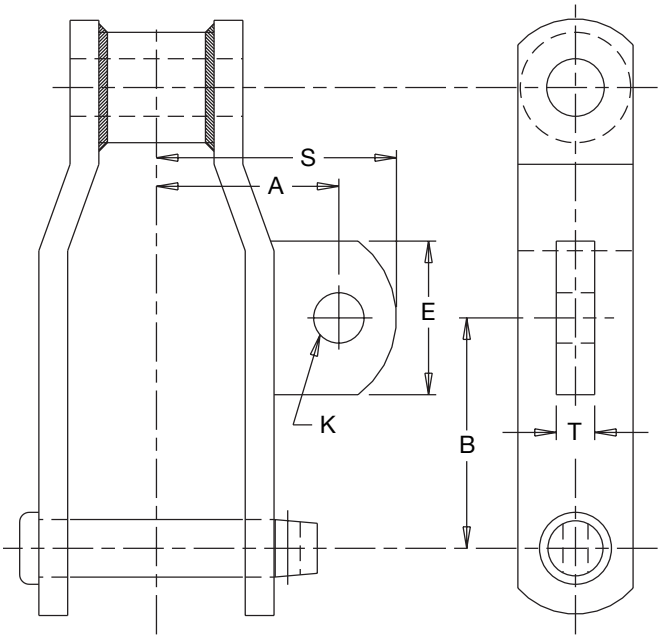
AM-116 Attachment



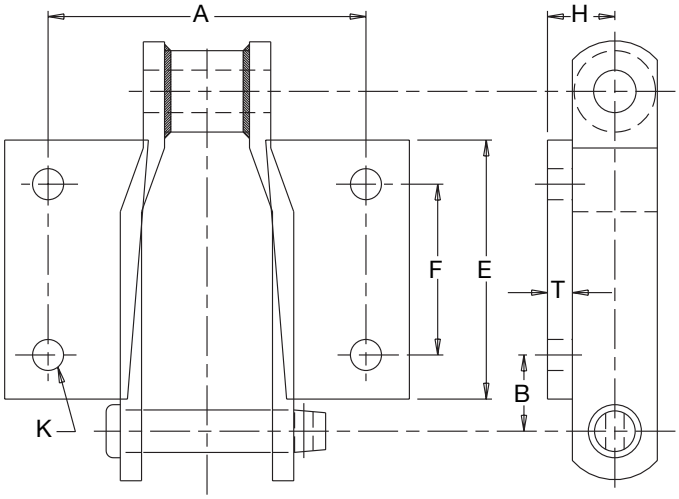
AD-474 Attachment



A-42 Attachment



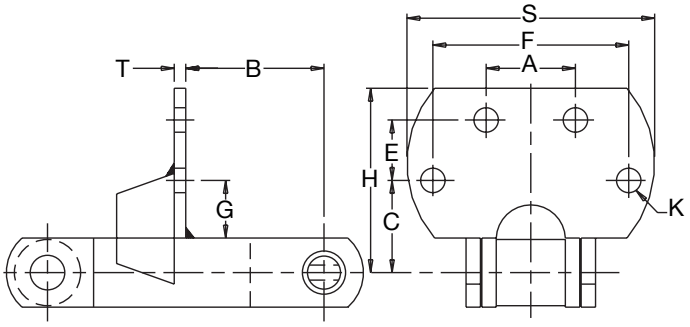
K-2 Attachment



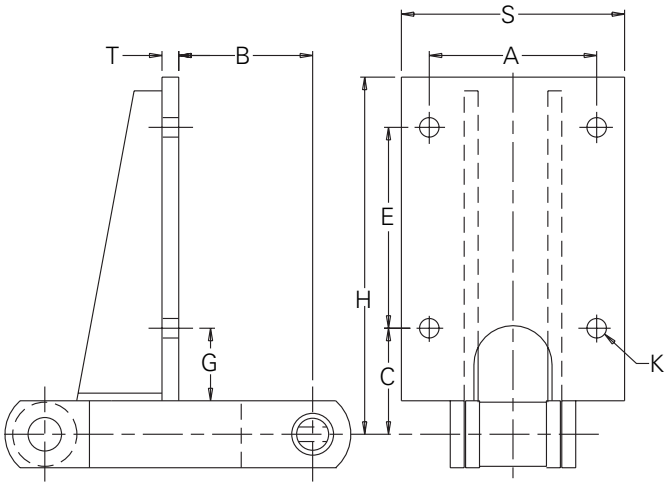
To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. contact Tsubaki Technical Support to obtain certified prints for design and construction.

F-2 Attachment



F-22-6 and F-22-8 Attachments

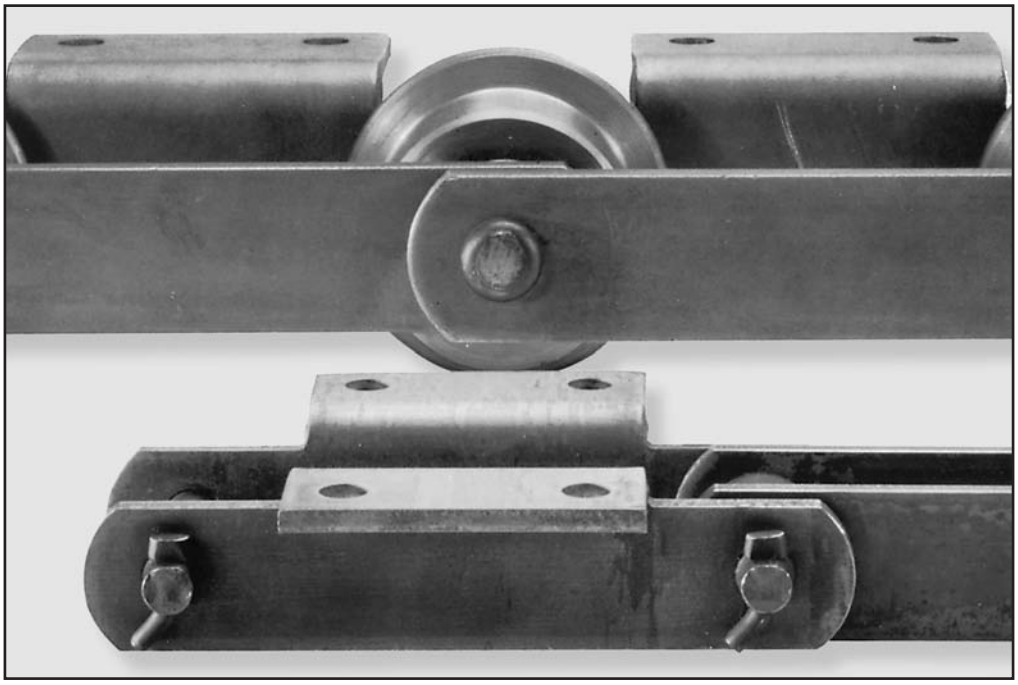


Conveyor Chain Attachments

All dimensions are in inches unless otherwise indicated.

Attach. Number							Maximum	Maximum		Bolt Diameter
	A	**B**	**C**	**E**	**F**	**G**	**H**	**S**	**T**	**K**
AM-116	2.78	3.00		1.50				3.56	1.88	.63
AD-474	2.50	2.00	3.38	2.75				6.81	.50	.50
A-42	2.38	3.00		2.00				3.19	.50	.63
K-2	6.00	1.69		4.14	2.62		.94		.31	.50
F-2	1.94	3.00	2.00	1.31	4.25	1.06	3.94	5.44	.25	.38
F-22-6	3.75	3.00	2.38	2.63		1.47	6.14	5.64	.25	.38
F-22-8	3.75	3.00	2.38	4.50		1.47	8.14	5.64	.25	.38

RF Metric Series Chain Introduction



Solve Special Material Handling Problems

Tsubaki is proud to offer Specialty Conveyor Chains for conveying applications that run in extreme conditions. Sanitation systems; flow conveyors; grain, cement, or adhesive powder conveyors; and auto assembly plants are just a few of the operations that require special chains. Our Specialty Conveyor Chains are designed and manufactured to meet the needs of a variety of continuous and intermittent material handling applications when belt, screw, or pneumatic conveyors are not appropriate. Specialty Conveyor Chains provide high strength, accurate handling, and minimal wear elongation. In fact, they are superior to any other kind of conveyor equipment.

Conveyor Chains for Special Applications

Smooth and stable flow of material depends on the performance of your conveyor chain. Even a simple conveying system will not run smoothly and provide stable on-line loads without the proper chain. To move raw materials or heavy bulk items or to operate in extreme conditions, rely on Specialty Conveyor Chains to get the job done.

Built to Work in Your Applications

Specialty Conveyor Chains are built to last in the most chal-lenging conditions. In fact, we build the quality into every step.

- Materials are selected to stand up to extreme temperatures and shock loads.
- Each chain is manufactured to tight tolerances to ensure the highest standards.
- Components are finely finished and accurately assembled to provide high wear resistance and top performance for long periods.

When the going is tough—choose Specialty Conveyor Chains from Tsubaki.

RF Metric Series Chain Introduction

Types of Specialty Conveyor Chains

DT (Basic) Series
The pins and bushings are heat-treated and hardened for high wear resistance. The link plates are made of carbon steel and can be welded to attachments easily. The chains in this series are suitable for handling a wide variety of materials. DT (Basic) Series chain offers versatility and economy for your operation.

AT Series
All parts, mainly produced from special alloy steels, are heat-treated for higher tensile strength and better wear resistance. Average tensile strength of AT Series chain is about twice as high as the DT (Basic) Series. Link plates are all heat-treated and hardened.

AT Series chain is suggested for compact conveyor designs and when high wear resistance of link plates and long chain service are required.

PT Series
All parts are made of ANSI 400 Series stainless steel and are heat-treated and hardened. PT Series chain is suggested for corrosive or abrasive applications.

ST Series
All parts are made of 18-8 stainless steel (ANSI 300 Series). This chain is suggested for strong acid/alkali applications and very hot or sub-zero environments.

CT Series
CT Series chain is ideal for handling hard abrasive materials such as cement.

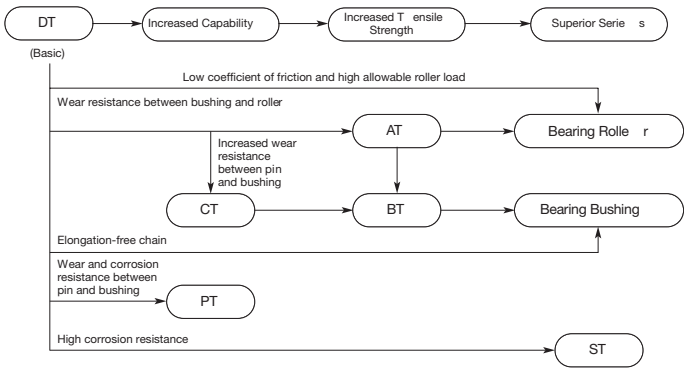
BT Series
BT Series chain has higher tensile strength than CT Series. The wear resistance of BT Series chains is much greater than that of the AT Series.

Other
We offer a wide variety of made-to-order combinations of steel materials and heat-treatments to create the chain you need for your application. contact Tsubaki Technical Support for details.

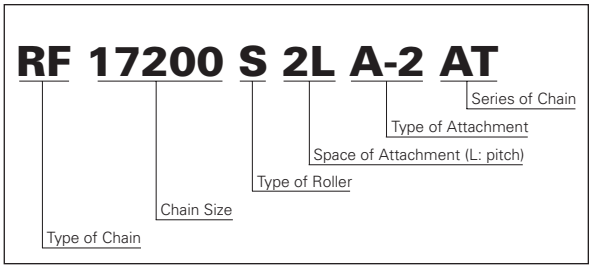
Chain Series	Component Parts[1]					
	Link Plate	Pin	Bushing	"R" Roller	"F" Roller	"S" Roller
DT (Basic)	Car	Aly-TH	Car-CH Aly-TH	Car CI	Car CI	Car-CH Aly-TH
AT	Aly-TH	Aly-TH	Aly-CH Aly-TH	Aly-TH Car-IH	Aly-TH Car-IH	Aly-TH
PT	S4-TH	S4-TH	S4-TH	S4-TH	S4-TH	S4-TH
ST	S3	S3	S3	S3	S3	S3
CT	Car	Aly-CH Aly-TH-IH	Car-CH Aly-TH	Aly-TH Car-IH	Aly-TH Car-IH	Car-CH Aly-TH
BT	Aly-TH	Aly-CH Aly-TH-IH	Aly-CH Aly-TH	Aly-TH Car-IH	Aly-TH Car-IH	Aly-TH

[1]Materials: Car = Carbon steel; Aly = Alloy steel; CI = Cast iron; S3 = 300 Series stainless steel; S4 = 400 Series stainless steel.
Heat-Treatments: TH = Through-hardened; CH = Case-hardened; IH = Induction-hardened.

Feature Diagram for RF Conveyor Chain Series



Model Identification



To locate compatible sprockets for your chain, refer to the Product Cross-Reference at the back of this section.

Note: Dimensions are subject to change. Contact Tsubaki Technical Support to obtain certified prints for design and construction.

RF Metric Series Chain Introduction

RF Metric Series Chain
Average Tensile Strengths
All values in kilograms.

Chain Number	DT (Basic)	AT	NT	PT	ST	BT	GT-CT-MT-RT	YT
RF03075	3,000	7,100	3,000	5,500	3,400	5,200	3,000	7,100
RF03100	3,000	7,100	3,000	5,500	3,400	5,200	3,000	7,100
RF05075	7,000	14,500	7,000	11,000	7,000	10,000	7,000	14,500
RF05100	7,000	14,500	7,000	11,000	7,000	10,000	7,000	14,500
RF05125	7,000	14,500	7,000	11,000	7,000	10,000	7,000	14,500
RF05150	7,000	14,500	7,000	11,000	7,000	10,000	7,000	14,500
RF08125	8,000	14,500	8,000	12,500	7,000	10,000	8,000	14,500
RF08150	8,000	14,500	8,000	12,500	7,000	10,000	8,000	14,500
RF10100	11,500	23,000	11,500	18,000	11,000	23,000	12,500	23,000
RF10125	11,500	23,000	11,500	18,000	11,000	23,000	12,500	23,000
RF10150	11,500	23,000	11,500	18,000	11,000	23,000	12,500	23,000
RF12200	19,000	28,500	17,000	27,000	13,500	28,500	19,000	28,500
RF12250	19,000	28,500	17,000	27,000	13,500	28,500	19,000	28,500
RF17200	25,000	39,500	22,500	36,500	19,000	39,500	25,000	39,500
RF17250	25,000	39,500	22,500	36,500	19,000	39,500	25,000	39,500
RF17300	25,000	39,500	22,500	36,500	19,000	39,500	25,000	39,500
RF26200	32,000	53,000	30,000	47,000	25,500	53,000	32,000	53,000
RF26250	32,000	53,000	30,000	47,000	25,500	53,000	32,000	53,000
RF26300	32,000	53,000	30,000	47,000	25,500	53,000	32,000	53,000
RF26450	32,000	53,000	30,000	47,000	25,500	53,000	32,000	53,000
RF36250	48,500	69,500	-	-	-	69,500	48,500	69,500
RF36300	48,500	69,500	-	-	-	69,500	48,500	69,500
RF36450	48,500	69,500	-	-	-	69,500	48,500	69,500
RF36600	48,500	69,500	-	-	-	69,500	48,500	69,500
RF52300	51,000	105,000	-	-	-	105,000	51,000	105,000
RF52450	51,000	105,000	-	-	-	105,000	51,000	105,000
RF52600	51,000	105,000	-	-	-	105,000	51,000	105,000
RF60300	51,000	106,000	-	-	-	106,000	51,000	106,000
RF60350	51,000	106,000	-	-	-	106,000	51,000	106,000
RF60040	51,000	106,000	-	-	-	106,000	51,000	106,000
RF90350	80,500	166,000	-	-	-	166,000	80,500	166,000
RF90400	80,500	166,000	-	-	-	166,000	80,500	166,000
RF90500	80,500	166,000	-	-	-	166,000	80,500	166,000
RF120400	113,000	225,000	-	-	-	225,000	113,000	225,000
RF120600	113,000	225,000	-	-	-	225,000	113,000	
RF280400	-	310,000	-	-	-	-	-	-
RF280600	-	310,000	-	-	-	-	-	-
RF360400	-	370,000	-	-	-	-	-	-
RF360600	-	370,000	-	-	-	-	-	-
RF440400	-	455,000	-	-	-	-	-	-
RF440600	-	455,000	-	-	-	-	-	-
RF430	5,500	10,000	5,300	8,500	4,900	7,100	5,500	10,000
RF204	8,000	14,500	8,000	12,500	7,000	10,000	8,000	14,500
RF450	8,000	14,500	8,000	12,500	7,000	10,000	8,000	14,500
RF650	8,000	14,500	8,000	14,500	7,000	10,000	11,500	14,500
RF214	13,000	24,500	12,000	19,000	12,500	24,500	13,000	24,500
RF205	13,000	24,500	12,000	19,000	12,500	24,500	13,000	24,500
RF6205	19,000	28,500	17,000	27,000	13,500	28,500	19,000	28,500
RF212	25,000	39,500	2,250	36,500	19,000	39,500	25,000	39,500

RF Metric Series Chain Introduction

Conveyor Specifications & Characteristics

O = available
X = Contact Tsubaki Technical Support
- = not available

Series	Characteristics	Temperature Range	Type of Conveyor						
			Slat	Direct Mounting	Pusher	Scraper	Apron	Flow: S, M, N type Roller	Bucket Elevator: S, M, N type roller
DT	Heat treated pin and bushing.	-20°C to 200°C	O	O	O	O	O	O	O
GT	Higher allowable load than DT	-20°C to 200°C	O	O	O	O	O	-	-
AT	Double tensile strength compared to DT. Higher allowable load than DT.	-60°C to 400°C	O	O	O	O	O	O	O
CT	Special heat-treated pin and bushing.	-20°C to 200°C	O	O	O	O	O	O	O
BT	Twice the tensile strength of CT.	-20°C to 200°C	O	O	O	O	O	O	O
FA	Special hardening treatment on bushing and roller.	-20°C to 200°C	-	-	-	-	-	O	-
BR-DT BR-AT	Cylindrical roller between bushing and roller. Low coefficient of friction. Higher roller allowable load.	-20°C to 80°C	O	O	O	-	O	-	-
RFN	Needle installed between pin and bushing. Zero stretch.	-20°C to 60°C	O	O	O	-	O	-	-
RFC-Lambda	Plastic type roller. Self-lubricating.	-20°C to 80°C	O	O	O	X	O	-	-
NT	All parts are 400 series stainless steel.	-70°C to 400°C	O	O	O	O	O	O	O
PT	1.6 times greater tensile strength than NT. All parts are 400 series stainless steel.	-70°C to 400°C	O	O	O	O	O	O	O
ST	All parts are 300 series stainless steel.	-100°C to 400°C	O	O	O	O	O	O	O
DP	5 times greater corrosion resistance than zinc coating. 20 times greater corrosion resistance than nickel plated. Any material can be DP coated.	-20°C to 200°C	O	O	O	O	O	X	X
MT	Pin and bushing are made of 400 series stainless steel.	-20°C to 200°C	O	O	O	O	O	O	O
RT	Pin, bushing and roller are made of 400 series stainless steel.	-20°C to 200°C	O	O	O	O	O	O	O
YT	2 times greater tensile strength than RT. Pin, bushing and roller are made of 400 series stainless steel.	-20°C to 400°C	O	O	O	O	O	O	O
ERB-DT EBR-AT	Special cylindrical roller installed between bushing and roller. Lube free, low coefficient of friction.	-20°C to 50°C	O	O	O	-	O	-	-
WEBR	Special cylindrical roller installed between bushing and roller. Lube free, low coefficient of friction.	0°C to 50°C	O	O	O	-	O	-	-
KEBR	Special cylindrical roller installed between bushing and roller. Lube free, low coefficient of friction.	300°C	O	O	O	-	O	-	-

Notes: Please Contact Tsubaki Technical Support when temperatures are greater than 752°F.
The 400 material used for the "S" roller on RF03075 and RF03100 is 600 series stainless steel, not 400 series stainless steel.

RF Metric Series Chain Introduction

As a leading manufacturer of chains and conveyor equipment, with over 85 years of experience, Tsubaki has undertaken extensive research and development in both the design and manufacture of conveyor chains. Many of Tsubaki's conveyor chains have been standardized to meet various applications for different operating conditions and circumstances. Any standardized chain can now be supplied within a short delivery time. Apply the most suitable chain to meet your application by selecting from the wide range of standardized Tsubaki Conveyor Chains.

Specifications			Features • Applications	Temperature	Series
Normal Conditions	Standard Series		Can be used for a wide variety of applications.	-20˚C to 200˚C	DT
	Plastic Sleeve Series		The chain is self-lubricating, light weight, low noise and has a low coefficient of friction. This chain has a very long life, while requiring no lubrication.	-20˚C to 80˚C	RFS
	Wear resistant between bushing and roller		The composition of R and F rollers is altered, increasing the wear life between the bushing and roller allowing a higher allowable roller load.	-20˚C to 200˚C	GT
	Reinforced Series		Approximately two times tensile strength of the standard series with much higher roller load capacity.	-60˚C to 450˚C	*AT
	Wear resistant pin and bushing	Standard	Wear resistance between pin and bushing is improved using a special heat-treating process.	-20˚C to 200˚C	CT
		Standard	Increased wear resistance between in and bushing.	-20˚C to 200˚C	FA
		Reinforced	For use where high tensile strength is required without added weight. Tensile strength approximately. Two times as strong as that of the CT Series.	-20˚C to 200˚C	BT
	Bearing Roller Series - Standard		With a low coefficient of friction and high allowable roller load, a chain two sizes smaller may be used.	-20˚C to 80˚C	B-DT
					B-AT
	Bearing Roller Series - Lube Free		With a low coefficient of friction and high allowable roller load, a chain two sizes smaller may be used. EBR-DT/EBR-AT: lube free, WEBR: lube-free and water resistant, KEBR: lube free and heat resistant.	-20˚C to 50˚C	EBR-DT, EBR-AT
				0˚C to 50˚C	WEBR
				300˚C	KEBR
	Bearing Bushing Series		For use with equipment for which where even slight elongation is unacceptable. Assures smooth movement and accurate positioning.	-10˚C to 60˚C	RFN
	Lube free and low noise		Plastic type roller, self lubricating.	-20˚C to 80˚C	RFC-Lambda
Corrosive Environments	DP		Special surface coating on top of zinc base coating.	-20˚C to 200˚C	DP
	Stainless 400 Series	Standard	For use in sanitary environments where high temperatures are present. Long life. Avoid alkali environments.	-70˚C to 600˚C	*NT
		Plastic Roller Series	Self-lubricating, low coefficient of friction, low noise, lightweight and anti-corrosive. Avoid alkali environments.	-20˚C to 80˚C	NTP
		Reinforced	With a tensile strength 1.6 times as strong as that of the NT Series, it is useful where a light-weight, strong chain is required.	-70˚C to 600˚C	*PT
	Stainless 300 Series	Standard	For high temperature, strictly sanitary environments, and for rust prevention.	-100˚C to 700˚C	*ST
		Plastic Roller Plastic Sleeve	Self-lubricating, low coefficient of friction, low noise, lightweight and highly anti-corrosive with a long life that is completely free of oil.	-20˚C to 80˚C	STP RFS
Light Corrosive Environments	Corrosion resistant between bushing and roller	Standard	Increased wear resistance between bushing and roller, tolerance of slightly wet conditions.	-20˚C to 200˚C	KT
		Plastic Roller Series	Self-lubricating, low coefficient of friction, low-noise, lightweight for use in sanitary environments with slightly wet conditions.	-20˚C to 80˚C	KTP
	Wear and corrosion resistant between pin and bushing	Standard	Corrosion resistant between pin and bushing with an increased wear life	-20˚C to 200˚C	MT
		Reinforced	Stronger than the MT Series.	-20˚C to 200˚C	VT
	Corrosion resistant between pin, bushing and roller	Standard	Corrosion resistant between pin and bushing, and between bushing and roller. Effective for applications in water.	-20˚C to 200˚C	RT
		Plastic Roller Series	Low noise, lightweight, low coefficient of friction with a longer wear life than the RT Series.	-20˚C to 80˚C	RTP
		Reinforced	Tensile strength approximately two times as strong as that of the RT Series.	-60˚C to 450˚C	*YT
Others			From our wide selection, we can select a suitable chain material to match your requirements.	-	-

* Note: Please consult Tsubaki Technical Support if temperatures reach 400˚C or greater.

RF Metric Series Chain Introduction

RF CONVEYOR CHAINS

FEATURES

1) Wide Selection
Thousands of combinations of steel materials and specifications of component parts are available in addition to standardized chain specifications.

2) Quick Delivery
RF Conveyor Chains, even if made of special alloy steels, are standardized in the respective stages from design to production and are always carried in stock in large quantity to ensure quick delivery.

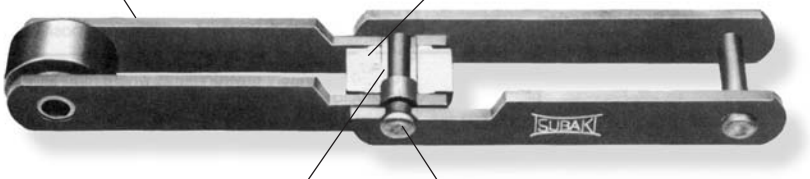
3) High Quality
RF Standard Conveyor Chains have uniform and high quality based on our ever improving production technology and standardization. This high quality gives longer life and reduced maintenance costs.

CONSTRUCTION OF RF CONVEYOR CHAINS

The RF Conveyor Chains are the basic TSUBAKI Conveyor Chain line.

LINK PLATES
Link plates are the component parts receiving chain tension. The holes for press-fitted pins or bushings are accurately punched to maintain uniform pitch.

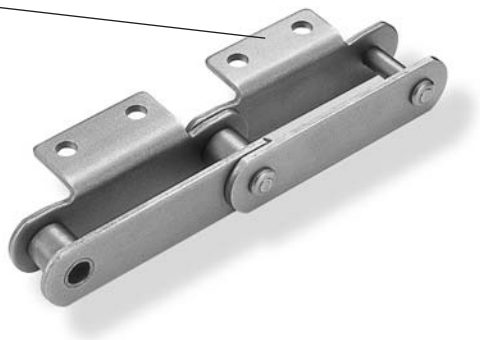
ROLLERS
Rollers are free to rotate over the bushings. When the chain engages with the sprocket, rollers work as bearings and serve to reduce shock and wear. When the chain is running on rails or wear strips, the rollers reduce running friction on the chain.



BUSHINGS
Bushings are made to obtain high wear resistance then press-fitted to the roller link plates, providing a bearing surface for pin rotation.

PINS
Pins are made to exact specifications for high strength, sturdiness and wear resistance, then rigidly press-fitted to the link plates. Pins resist shearing force through chain tension and rotate in the bushings, providing bearing surfaces when the chain articulates over a sprocket.

ATTACHMENT LINKS
Attachments are provided when necessary for fixing attachments to the chain.



Easy detachable T-pins are used on every pin to facilitate easy disconnection at the required link. Connecting links are not necessary.

RF Metric Series Chain Introduction

TSUBAKI CONVEYOR CHAINS

TYPES OF ROLLERS

TSUBAKI Conveyor Chains have three basic types of rollers. Illustrated below are examples used with guide rails.

1) R ROLLERS

Outside diameter of roller is larger than the height of the link plate, so the chain can roll on the guide rail. R Rollers are suitable for carrying large and heavy materials.

2) F ROLLERS

Flanged rollers serve to retain the chain on the rails. F Rollers are also suitable for carrying large and heavy materials.

3) S, M and N ROLLERS

The outside diameters of the S, M and N rollers are less than the height of the link plate and are specified depending on the application. The M Roller is a little larger than the S Roller, but the same size as the N Roller. For chains with the N Roller, the pin diameter is a little larger than that of the M Roller chain.

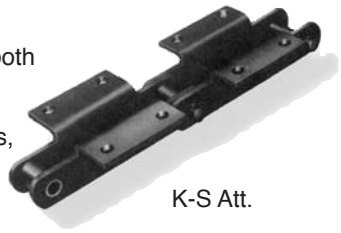
TYPES OF ATTACHMENTS

Various types of chain attachments can be provided according to the application and the size and shape of the material to be conveyed. Some of them are standardized with the A, K, SK and G Attachments. For details and dimensions, see pages C-129 - C-138. Attachments can be assembled at any required spacing.

STANDARD ATTACHMENTS

1) K Attachment

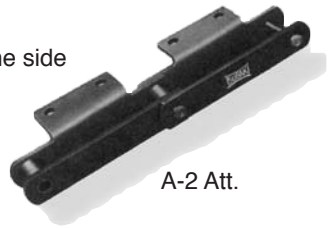
K Attachment: bent type link plate on both sides. K-1, K-2, or K-3 indicates K Attachment with one, two or three holes, respectively.



K-S Att.

2) A Attachment

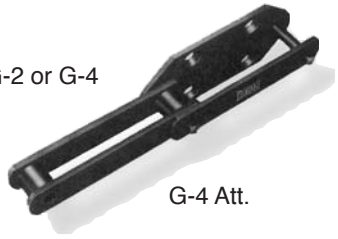
A Attachment: bent type link plate on one side only. A-1, A-2, or A-3 indicates A Attachment with one, two or three, holes, respectively.



A-2 Att.

3) G Attachment

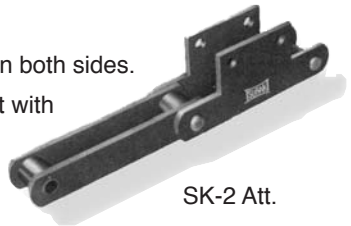
G Attachment: Link plate with holes. G-2 or G-4 indicates G Attachment with two or four holes, respectively.



G-4 Att.

4) SK Attachment

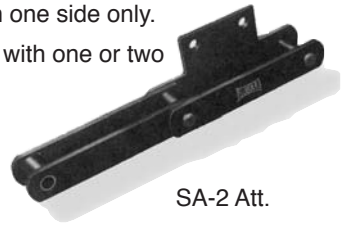
SK Attachment: straight attachment on both sides. SK-1 or SK-2 indicates SK Attachment with one or two holes, respectively.



SK-2 Att.

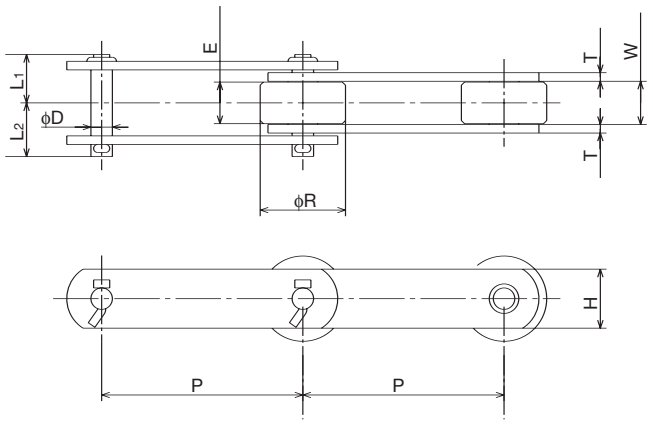
5) SA Attachment

SA attachment: straight attachment on one side only. SA-1 or SA-2 indicates SA Attachment with one or two holes, respectively.

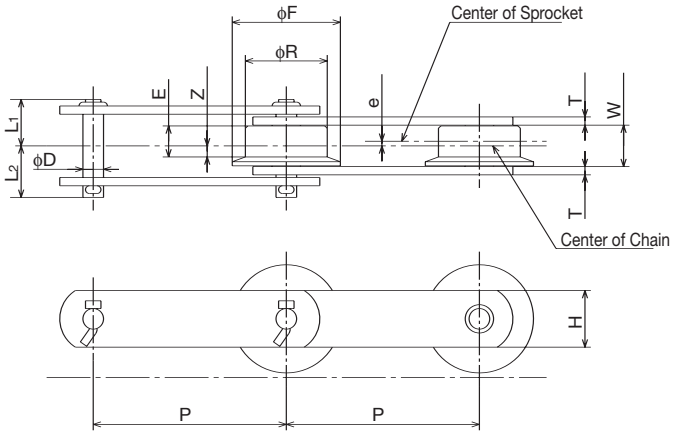


SA-2 Att.

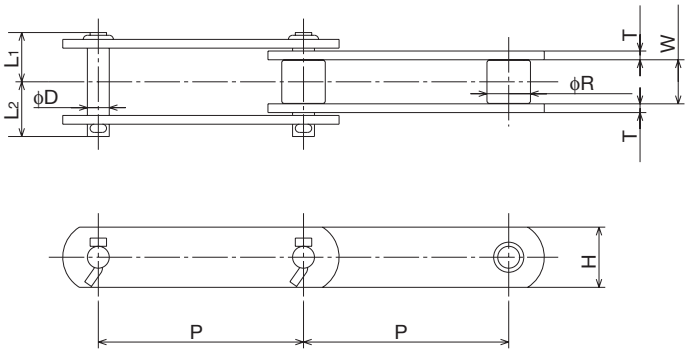
"R" Roller Type



"F" Roller Type



"S", "M" and "N" Roller Type



RF Metric Series Chain

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	"R" Roller		"F" Roller					"S" Roller	"M" & N" Roller	Width Between Inner Link Plates W
		Dia. R	Height E	Dia. R	Dia. F	Height E	e	Z	Dia. R	Dia. R	
RF03075	75.0	31.8	15.5	31.8	42.0	12.0	1.8	4.3	15.9	-	16.1
RF03100	100.0	31.8	15.5	31.8	42.0	12.0	1.8	4.3	15.9	-	16.1
RF05075	75.0	-	-	-	-	-	-	-	22.2	-	22.0
RF05100	100.0	40.0	19.0	40.0	50.0	14.0	2.5	4.5	22.2	-	22.0
RF05125	125.0	40.0	19.0	40.0	50.0	14.0	2.5	4.5	22.2		22.0
RF05150	150.0	40.0	19.0	40.0	50.0	14.0	2.5	4.5	22.2	-	22.0
RF08125	125.0	44.5	23.0	44.5	55.0	18.0	2.5	6.5	22.2	-	26.0
RF08150	150.0	44.5	23.0	44.5	55.0	18.0	2.5	6.5	22.2	-	27.0
RF10100	100.0	50.8	27.0	-	-	-	-	-	29.0	31.8	30.0
RF10125	125.0	50.8	27.0	50.8	65.0	20.0	3.0	7.0	29.0	31.8	30.0
RF10150	150.0	50.8	27.0	50.8	65.0	20.0	3.0	7.0	29.0	31.8	30.0
RF12200	200.0	65.0	32.0	65.0	80.0	24.0	4.0	8.0	34.9	38.1	37.1
RF12250	250.0	65.0	32.0	65.0	80.0	24.0	4.0	8.0	34.9	38.1	37.1
RF17200	200.0	80.0	44.0	80.0	100.0	34.0	5.0	12.0	40.1	44.5	51.4
RF17250	250.0	80.0	44.0	80.0	100.0	34.0	5.0	12.0	40.1	44.5	51.4
RF17300	300.0	80.0	44.0	80.0	100.0	34.0	5.0	12.0	40.1	44.5	51.4
RF26200	200.0	-	-	-	-	-	-	-	44.5	50.8	57.2
RF26250	250.0	100.0	50.0	100.0	125.0	38.0	6.0	13.0	44.5	50.8	57.2
RF26300	300.0	100.0	50.0	100.0	125.0	38.0	6.0	13.0	44.5	50.8	57.2
RF26450	450.0	100.0	50.0	100.0	125.0	38.0	6.0	13.0	44.5	50.8	57.2
RF36250	250.0	-	-	-	-	-	-	-	50.8	57.2	66.7
RF36300	300.0	125.0	56.0	125.0	150.0	42.0	7.0	14.0	50.8	57.2	66.7
RF36450	450.0	125.0	56.0	125.0	150.0	42.0	7.0	14.0	50.8	57.2	66.7
RF36600	600.0	125.0	56.0	125.0	150.0	42.0	7.0	14.0	50.8	57.2	66.7
RF52300	300.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	57.2	-	77.0
RF52450	450.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	57.2	-	77.0
RF52600	600.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	57.2	-	77.0
RF60300	300.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	-	70.0	77.0
RF60350	350.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	-	70.0	77.0
RF60040	400.0	140.0	65.0	140.0	170.0	49.0	8.0	16.5	-	70.0	77.0
RF90350	350.0	-	-	-	-	-	-	-	-	85.0	88.0
RF90400	400.0	170.0	76.0	170.0	205.0	56.0	10.0	18.0	-	87.3	88.0
RF90500	500.0	170.0	76.0	170.0	205.0	56.0	10.0	18.0	-	85.0	88.0
RF120400	400.0	200.0	87.0	-	-	-	-	-	-	100.0	100.0
RF120600	600.0	200.0	87.0	200.0	240.0	64.0	11.5	20.5	-	100.0	100.0
RF280400	400.0	-	-	-	-	-	-	-	-	120.0	120.0
RF280600	600.0	220.0	105.0	-	-	-	-	-	-	120.0	120.0
RF360400	400.0	-	-	-	-	-	-	-	-	130.0	130.0
RF360600	600.0	230.0	115.0	-	-	-	-	-	-	130.0	130.0
RF440400	400.0	-	-	-	-	-	-	-	-	145.0	145.0
RF440600	600.0	250.0	130.0	-	-	-	-	-	-	145.0	145.0
RF430	101.6	38.1	19.0	-	-	-	-	-	20.1	-	22.6
RF204	66.3	-	-	-	-	-	-	-	22.2	-	27.0
RF450	101.6	44.5	23.0	44.5	55.0	18.0	2.5	6.5	22.2	-	27.0
RF650	152.4	50.8	26.0	50.8	65.0	20.0	3.0	7.0	25.8	31.8	30.2
RF214	101.6	44.5	27.0	-	-	-	-	-	31.8	34.9	31.6
RF205	78.1	-	-	-	-	-	-	-	31.8	-	37.1
RF6205	152.4	57.2	32.0	57.2	70.0	25.0	3.5	9.0	34.9	38.1	37.1
RF212	152.4	69.9	32.5	-	-	-	-	-	40.1	44.4	37.1

RF Metric Series Chain

TSUBAKI

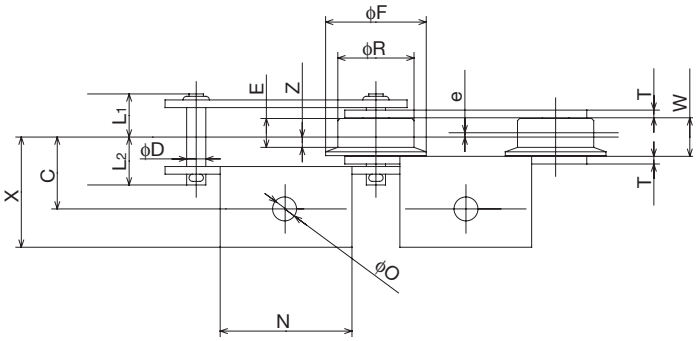
All dimensions are in mm unless otherwise indicated.

Chain Number	Link Plate		Pin				Average Tensile Strength (kg.)	"R" Roller Approx. Weight (kg/m)	"F" Roller Approx. Weight (kg/m)	"S" Roller Approx. Weight (kg/m)	"M" & "N" Roller Approx. Weight (kg/m)
	*Thickness T	**Height H	Dia. D	Length $L_1 + L_2$	Length L_1	Length L_2					
RF03075	3.2	22.0	8.0	38.0	18.0	20.0	3,000	2.8	2.9	1.8	-
RF03100	3.2	22.0	8.0	38.0	18.0	20.0	3,000	2.4	2.5	1.6	-
RF05075	4.5	32.0	11.3	53.5	25.0	28.5	7,000	-	-	4.3	-
RF05100	4.5	32.0	11.3	53.5	25.0	28.5	7,000	5.2	5.4	3.8	-
RF05125	4.5	32.0	11.3	53.5	25.0	28.5	7,000	4.5	4.6	3.4	-
RF05150	4.5	32.0	11.3	53.5	25.0	28.5	7,000	4.1	4.4	3.3	-
RF08125	6.3 (6)	28.6	11.3	65.5	31.0	34.5	8,000	5.9	6.2	4.2	-
RF08150	6.3 (6)	28.6	11.3	65.5	31.0	34.5	8,000	5.6	5.8	4.0	-
RF10100	6.3 (6)	38.1	14.5	69.0	33.0	36.0	11,500	10.0	-	7.0	7.3
RF10125	6.3 (6)	38.1	14.5	69.0	33.0	36.0	11,500	8.7	9.0	6.3	6.5
RF10150	6.3 (6)	38.1	14.5	69.0	33.0	36.0	11,500	8.0	8.3	5.9	6.1
RF12200	7.9	44.5	15.9	83.5	40.5	43.0	19,000	11.6	12.1	8.3	8.6
RF12250	7.9	44.5	15.9	83.5	40.5	43.0	19,000	10.4	10.8	7.8	8.0
RF17200	9.5 (10)	50.8	19.1	109.5	51.5	58.0	25,000	20.0	31.0	12.0	13.0
RF17250	9.5 (10)	50.8	19.1	109.5	51.5	58.0	25,000	17.0	18.0	11.0	12.0
RF17300	9.5 (10)	50.8	19.1	109.5	51.5	58.0	25,000	16.0	16.0	11.0	11.0
RF26200	9.5 (10)	63.5	22.2	116.5	55.5	61.0	32,000	-	-	16.0	17.0
RF26250	9.5 (10)	63.5	22.2	116.5	55.5	61.0	32,000	26.0	27.0	15.0	16.0
RF26300	9.5 (10)	63.5	22.2	116.5	55.5	61.0	32,000	23.0	24.0	14.0	15.0
RF26450	9.5 (10)	63.5	22.2	116.5	55.5	61.0	32,000	19.0	19.0	13.0	13.0
RF36250	12.7	76.2	25.4	146.0	68.0	78.0	48,500	-	-	25.0	26.0
RF36300	12.7	76.2	25.4	146.0	68.0	78.0	48,500	40.0	42.0	23.0	24.0
RF36450	12.7	76.2	25.4	146.0	68.0	78.0	48,500	32.0	33.0	21.0	21.0
RF36600	12.7	76.2	25.4	146.0	68.0	78.0	48,500	28.0	29.0	19.0	20.0
RF52300	16.0	76.2	31.8	172.0	82.0	90.0	51,000	55.0	58.0	30.0	-
RF52450	16.0	76.2	31.8	172.0	82.0	90.0	51,000	43.0	45.0	26.0	-
RF52600	16.0	76.2	31.8	172.0	82.0	90.0	51,000	37.0	38.0	25.0	-
RF60300	12.7	90.0	35.0	160.5	77.0	83.5	51,000	54.0	57.0	-	32.0
RF60350	12.7	90.0	35.0	160.5	77.0	83.5	51,000	49.0	51.0	-	30.0
RF60040	12.7	90.0	35.0	160.5	77.0	83.5	51,000	45.0	47.0	-	28.0
RF90350	16.0	110.0	42.0	185.0	89.5	95.5	80,500	-	-	-	49.0
RF90400	16.0	110.0	42.0	185.0	89.5	95.5	80,500	74.0	78.0	-	46.0
RF90500	16.0	110.0	42.0	185.0	89.5	95.5	80,500	65.0	68.0	-	42.0
RF120400	19.0	130.0	50.0	211.5	103.5	108.0	113,000	113.0	-	-	69.0
RF120600	19.0	130.0	50.0	211.5	103.5	108.0	113,000	88.0	92.0	-	59.0
RF280400	19.0	160 [135]	56.0	242.0	118.5	123.5	310,000	-	-	-	90.0
RF280600	19.0	160 [135]	56.0	242.0	118.5	123.5	310,000	112.0	-	-	75.0
RF360400	22.0	170 [160]	61.0	258.0	126.5	131.5	370,000	-	-	-	112.0
RF360600	22.0	170 [160]	61.0	258.0	126.5	131.5	370,000	135.0	-	-	92.0
RF440400	25.0	185 [170]	68.0	285.0	140.0	145.0	455,000	-	-	-	145.0
RF440600	25.0	185 [170]	68.0	285.0	140.0	145.0	455,000	-	-	-	120.0
RF430	4.8 (5)	25.4	9.7	55.0	25.5	29.5	5,500	4.4	-	3.0	-
RF204	6.3 (6)	28.6	11.3	65.5	31.0	34.5	8,000	-	-	5.5	-
RF450	6.3 (6)	28.6	11.3	65.5	31.0	34.5	8,000	6.9	7.2	4.6	4.8
RF650	6.3 (6)	38.1	11.3	69.0	32.5	36.5	8,000	7.9	8.2	5.7	6.1
RF214	7.9	38.1	15.9	77.5	37.5	40.0	13,000	10.5	-	8.7	9.1
RF205	7.9	38.1	15.9	83.5	40.5	43.0	13,000	-	-	10.3	-
RF6205	7.9	44.5	15.9	83.5	40.5	43.0	19,000	12.2	12.6	9.2	9.5
RF212	9.5 (10)	50.8	19.1	95.5	44.5	51.0	25,000	18.0	-	13.0	13.0

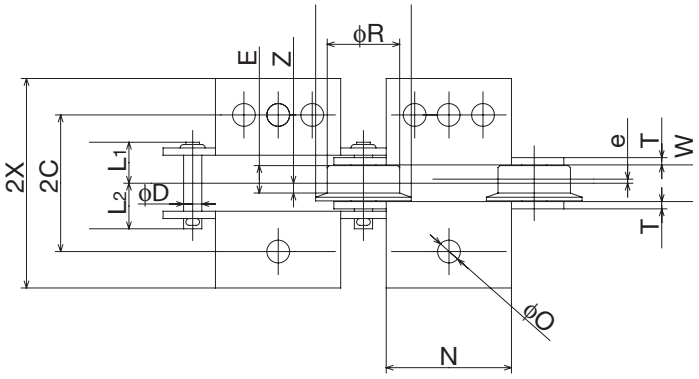
Notes:
* denotes that value in round brackets ( ) for link plate thickness is when 300 series stainless steel is used.
** denotes that the value in square brackets [ ] for link plate height is the outer plate height. The outer plate height is lower than the inner plate height.

RF CONVEYOR CHAIN ATTACHMENTS

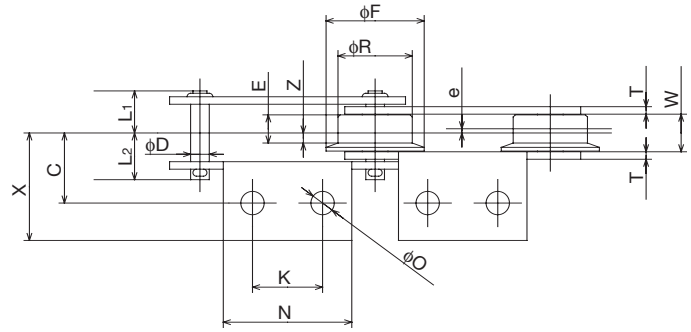
A-1 Attachment*

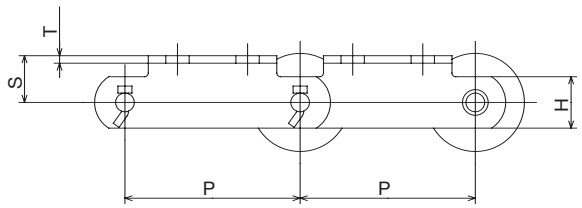


K-1 Attachment*

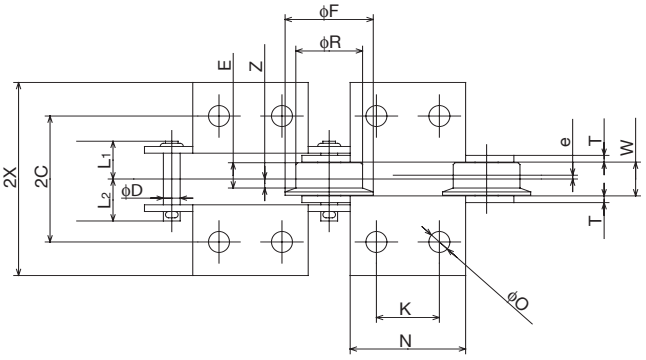


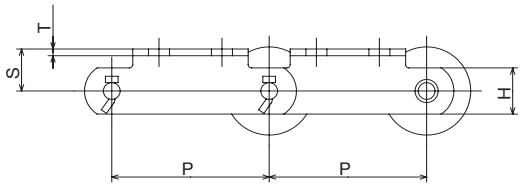
A-2 Attachment





K-2 Attachment

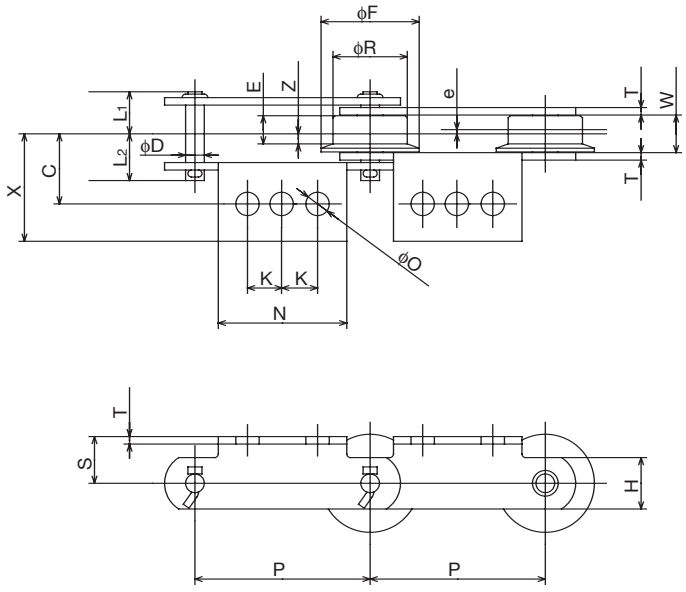




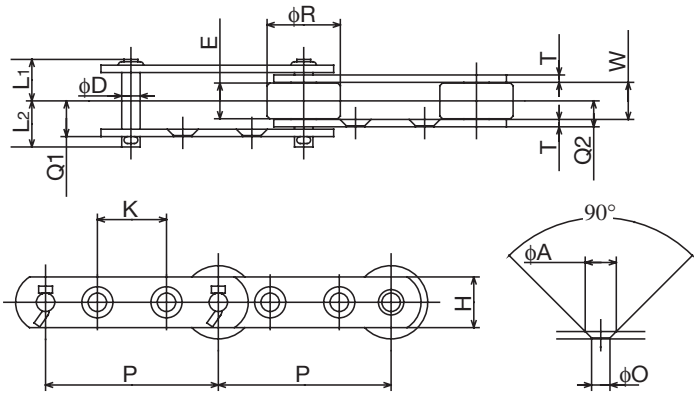
*For DT (Basic Series) A-1 (K-1) attachment is supplied with three holes, unless otherwise specified.

RF Metric Series
Chain Attachments

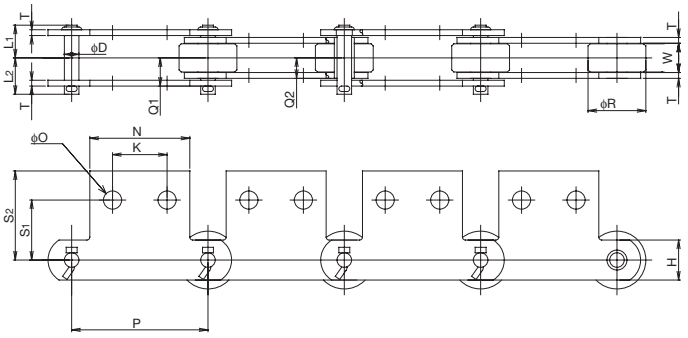
A-3 Attachment



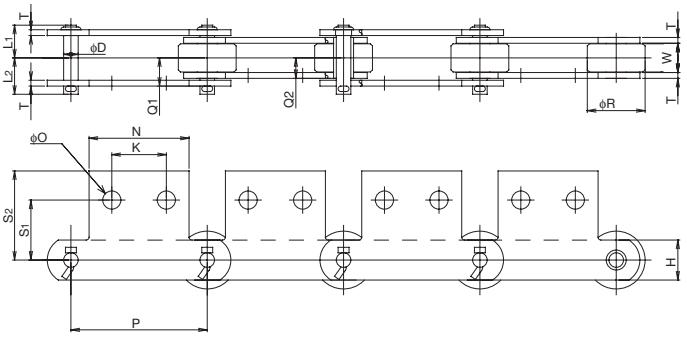
G-2 Attachment



SA-2 Attachment

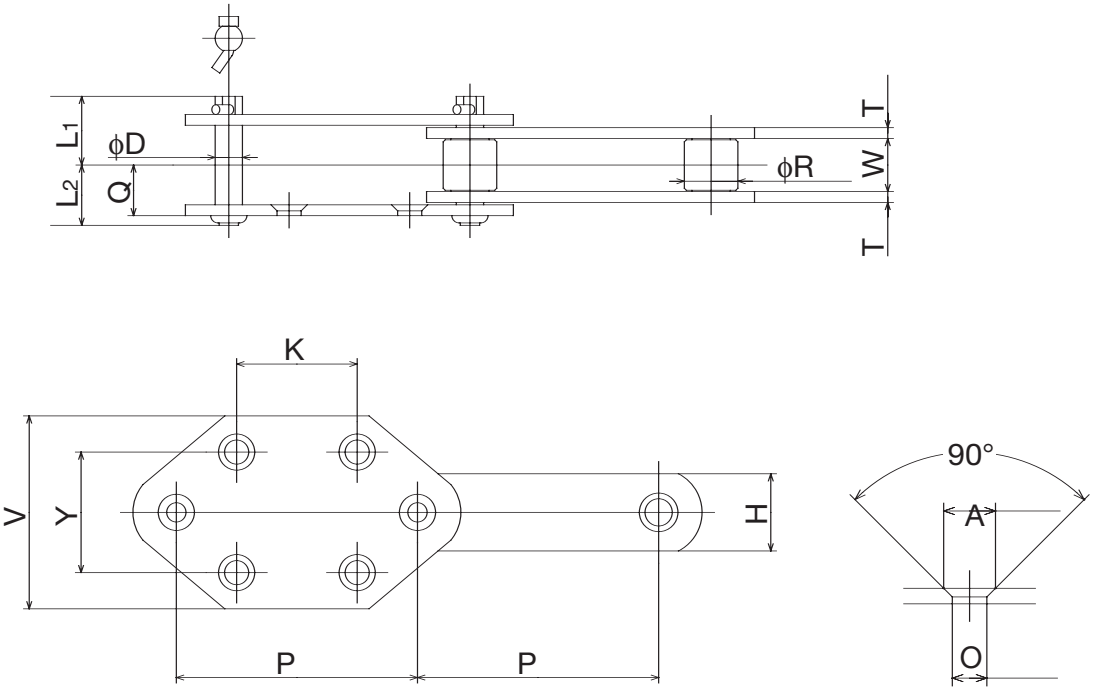


SK-2 Attachment



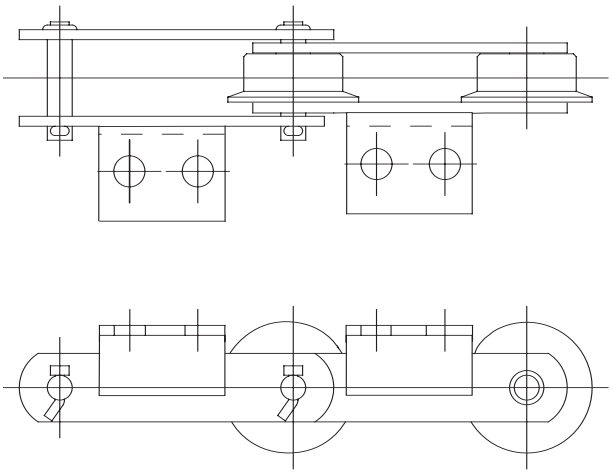
RF Metric Series Chain Attachments

G-4 Attachment

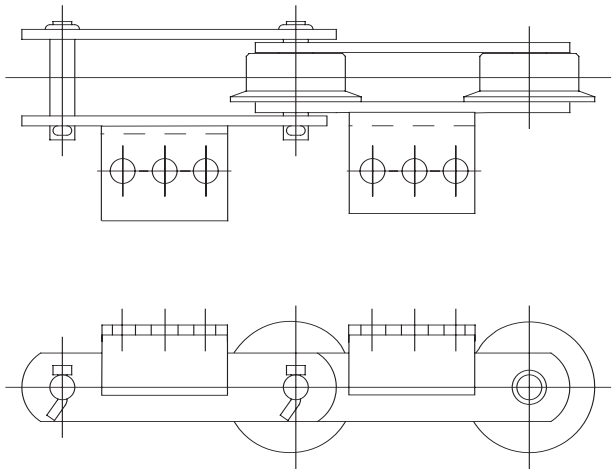


WELDED ATTACHMENTS

A-2 Attachment



A-3 Attachment



RF Metric Series Chain Attachments

RF Metric Series Chain
Attachment/Roller Cross-Reference

All dimensions are in mm unless otherwise indicated.

Chain Number	A-1/K-1	A-2/K-2	A-2	A-3	SA-2/SK-2	G-2	G-4
RF03075	R,F,S	R,F,S	-	-	R,F,S	R,S	-
RF03100	R,F,S	R,F,S	-	-	R,F,S	R,S	-
RF05075	S	S	-	-	-	-	-
RF05100	R,F,S	R,F,S	-	-	R,F,S	R,S	S
RF05125	R,F,S	R,F,S	-	-	R,S	R,F,S	-
RF05150	R,F,S	R,F,S	-	-	R,S	R,F,S	S
RF08125	R,F,S	R,F,S	-	-	R,S	-	-
RF08150	R,F,S	R,F,S	-	-	R,S	R,F,S	-
RF10100	R,S,M	R,S,M	-	-	R,S,M	S,M	-
RF10125	R,F,S,M	R,F,S,M	-	-	R,S,M	R,S,M	-
RF10150	R,F,S,M	R,F,S,M	-	-	R,S,M	R,F,S,M	S,M
RF12200	R,F,S,M	R,F,S,M	-	-	R,S,M	R,F,S,M	S,M
RF12250	R,F,S,M	R,F,S,M	-	-	R,S,M	R,F,S,M	-
RF17200	R,F,S,M	R,F,S,M	-	-	-	R,F,S,M	S,M
RF17250	R,F,S,M	R,F,S,M	-	-	-	R,F,S,M	S,M
RF17300	-	R,F,S,M	-	-	-	R,F,S,M	-
RF26200	S,M	-	-	-	-	-	-
RF26250	R,F,S,M	-	-	-	-	-	-
RF26300	R,F,S,M	-	-	-	-	-	-
RF26450	-	R,F,S,M	-	R,F,S,M	-	R,F,S,M	-
RF36250	-	-	-	-	-	-	S,M
RF36300	R,F,S,M	-	R,F,S,M	-	-	-	S,M
RF36450	R,F,S,M	-	R,F,S,M	R,F,S,M	-	R,F,S,M	-
RF36600	-	-	R,F,S,M	R,F,S,M	-	-	-
RF52300	-	-	R,F,S	-	-	-	-
RF52450	-	-	R,F,S	R,F	-	-	-
RF52600	-	-	R,F,S	R,F	-	-	-
RF60300	-	-	R,F,N	-	-	-	-
RF60350	-	-	R,F,N	R,F,N	-	-	-
RF60040	-	-	R,F,N	R,F,N	-	-	-
RF90350	-	-	N	-	-	-	-
RF90400	-	-	R,F,N	-	-	-	-
RF90500	-	-	R,F,N	R,F,N	-	-	-
RF120400	-	-	R,N	-	-	-	-
RF120600	-	-	R,F,N	R,F,N	-	-	-
RF280400	-	-	-	-	-	-	-
RF280600	-	-	-	-	-	-	-
RF360400	-	-	-	-	-	-	-
RF360600	-	-	-	-	-	-	-
RF440400	-	-	-	-	-	-	-
RF440600	-	-	-	-	-	-	-
RF430	R,S	R,S	-	-	R,S	-	-
RF204	S	S	-	-	-	-	-
RF450	R,F,S	R,F,S	-	-	R,S	-	-
RF650	R,F,S,M	R,F,S,M	-	-	R,S,M	R,F,S,M	S.M
RF214	R,S,M	R,S,M	-	-	R,S,M	-	-
RF205	S	S	-	-	-	-	-
RF6205	R,F,S,M	R,F,S,M	-	-	R,S,M	R,F,S,M	S.M
RF212	R,S,M	R,S,M	-	-	R,S,M		

RF Metric Series Chain Attachments

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	* Thickness T	A1/K1 Attachment Dimensions							Bolt Size (metric)	Additonal weight per attachment (kg.)	
			S	X	2X	C	2C	N	O		A1	K1
RF03075	75.0	3.2	20	46	92	30	60	55	10	M8	0.06	0.12
RF03100	100.0	3.2	20	46	92	30	60	65	10	M8	0.07	0.14
RF05075	75.0	4.5	22	47	94	35	70	55	10	M8	0.06	0.12
RF05100	100.0	4.5	22	47	94	35	70	65	10	M8	0.07	0.14
RF05125	125.0	4.5	22	47	94	35	70	75	10	M8	0.08	0.16
RF05150	150.0	4.5	22	47	94	35	70	85	10	M8	0.10	0.20
RF08125	125.0	6.3 (6)	28	64	128	50	100	80	12	M10	0.19	0.38
RF08150	150.0	6.3 (6)	28	64	128	50	100	90	12	M10	0.23	0.46
RF10100	100.0	6.3 (6)	28	67	134	50	100	70	12	M10	0.16	0.32
RF10125	125.0	6.3 (6)	28	67	134	50	100	80	12	M10	0.18	0.36
RF10150	150.0	6.3 (6)	28	67	134	50	100	90	12	M12	0.20	0.40
RF12200	200.0	7.9	38	79	158	60	120	120	15	M12	0.44	0.88
RF12250	250.0	7.9	38	79	158	60	120	170	15	M12	0.61	1.22
RF17200	200.0	9.5 (10)	45	100	200	75	150	120	15	M12	0.64	1.28
RF17250	250.0	9.5 (10)	45	100	200	75	150	170	15	M12	0.88	1.76
RF17300	300.0	9.5 (10)	45	100	200	75	150	220	15	M12	1.26	2.52
RF26200	200.0	9.5 (10)	-	-	-	-	-	-	-	-	-	-
RF26250	250.0	9.5 (10)	-	-	-	-	-	-	-	-	-	-
RF26300	300.0	9.5 (10)	-	-	-	-	-	-	-	-	-	-
RF26450	450.0	9.5 (10)	-	-	-	-	-	-	-	-	-	-
RF36250	250.0	12.7	-	-	-	-	-	-	-	-	-	-
RF36300	300.0	12.7	-	-	-	-	-	-	-	-	-	-
RF36450	450.0	12.7	-	-	-	-	-	-	-	-	-	-
RF36600	600.0	12.7	-	-	-	-	-	-	-	-	-	-
RF52300	300.0	16.0	-	-	-	-	-	-	-	-	-	-
RF52450	450.0	16.0	-	-	-	-	-	-	-	-	-	-
RF52600	600.0	16.0	-	-	-	-	-	-	-	-	-	-
RF60300	300.0	12.7	-	-	-	-	-	-	-	-	-	-
RF60350	350.0	12.7	-	-	-	-	-	-	-	-	-	-
RF60040	400.0	12.7	-	-	-	-	-	-	-	-	-	-
RF90350	350.0	16.0	-	-	-	-	-	-	-	-	-	-
RF90400	400.0	16.0	-	-	-	-	-	-	-	-	-	-
RF90500	500.0	16.0	-	-	-	-	-	-	-	-	-	-
RF120400	400.0	19.0	-	-	-	-	-	-	-	-	-	-
RF120600	600.0	19.0	-	-	-	-	-	-	-	-	-	-
RF280400	400.0	19.0	-	-	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	22	54	108	40	80	70	12	M10	0.11	0.22
RF204	66.3	6.3 (6)	24	60	120	45	90	35	12	M10	0.07	0.14
RF450	101.6	6.3 (6)	28	64	128	50	100	70	12	M10	0.18	0.36
RF650	152.4	6.3 (6)	32	64	128	50	100	90	12	M10	0.23	0.46
RF214	101.6	7.9	35	73	146	55	110	80	15	M12	0.28	0.56
RF205	78.1	7.9	30	73	146	55	110	45	12	M10	0.13	0.26
RF6205	152.4	7.9	38	79	158	60	120	100	15	M12	0.37	0.74
RF212	152.4	9.5 (10)	45	83	166	65	130	100	15	M12	0.47	0.94

Notes:
* denotes that value in round brackets ( ) for link plate thickness is when 300 series stainless steel is used.

RF Metric Series
Chain Attachments

TSUBAKI

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	* Thickness T	A2/K2 Attachment Dimensions								Bolt Size (metric)	Welded attachment dimensions	Additonal weight per attachment (kg.)	
			S	X	2X	C	2C	K	N	O			A2	K2
RF03075	75.0	3.2	20	46.0	92	30	60	30	55	10	M8	-	0.06	0.12
RF03100	100.0	3.2	20	46.0	92	30	60	40	65	10	M8	-	0.07	0.14
RF05075	75.0	4.5	22	47.0	94	35	70	30	55	10	M8	-	0.06	0.12
RF05100	100.0	4.5	22	47.0	94	35	70	40	65	10	M8	-	0.07	0.14
RF05125	125.0	4.5	22	47.0	94	35	70	50	75	10	M8	-	0.08	0.16
RF05150	150.0	4.5	22	47.0	94	35	70	60	85	10	M8	-	0.10	0.20
RF08125	125.0	6.3 (6)	28	64.0	128	50	100	50	80	12	M10	-	0.19	0.38
RF08150	150.0	6.3 (6)	28	64.0	128	50	100	60	90	12	M10	-	0.23	0.46
RF10100	100.0	6.3 (6)	28	67.0	134	50	100	40	70	12	M10	-	0.16	0.32
RF10125	125.0	6.3 (6)	28	67.0	134	50	100	50	80	12	M10	-	0.18	0.36
RF10150	150.0	6.3 (6)	28	67.0	134	50	100	60	90	12	M12	-	0.20	0.40
RF12200	200.0	7.9	38	79.0	158	60	120	80	120	15	M12	-	0.44	0.88
RF12250	250.0	7.9	38	79.0	158	60	120	125	170	15	M12	-	0.61	1.22
RF17200	200.0	9.5 (10)	45	100.0	200	75	150	80	120	15	M12	-	0.64	1.28
RF17250	250.0	9.5 (10)	45	100.0	200	75	150	125	170	15	M12	-	0.88	1.76
RF17300	300.0	9.5 (10)	45	100.0	200	75	150	180	220	15	M12	-	1.26	2.52
RF26200	200.0	9.5 (10)	55	108.0	216	80	160	80	120	15	M12	-	0.74	1.48
RF26250	250.0	9.5 (10)	55	108.0	216	80	160	125	170	15	M12	-	1.01	2.02
RF26300	300.0	9.5 (10)	55	108.0	216	80	160	180	220	15	M12	-	1.34	2.68
RF26450	450.0	9.5 (10)	55	108.0	216	80	160	280	320	15	M12	-	3.19	-
RF36250	250.0	12.7	-	-	-	-	-	-	-	-	-	-	-	-
RF36300	300.0	12.7	70	160.0	-	100	-	100	160	19	M16	L100 x 100 x 10	2.40	-
RF36450	450.0	12.7	70	160.0	-	100	-	280	330	19	M16	L100 x 100 x 10	4.90	-
RF36600	600.0	12.7	70	160.0	-	100	-	360	410	19	M16	L100 x 100 x 10	6.10	-
RF52300	300.0	16.0	80	171.4	-	120	-	100	160	24	M20	L100 x 100 x 13	3.10	-
RF52450	450.0	16.0	80	171.4	-	120	-	280	330	24	M20	L100 x 100 x 13	6.30	-
RF52600	600.0	16.0	80	171.4	-	120	-	360	410	24	M20	L100 x 100 x 13	7.80	-
RF60300	300.0	12.7	90	165.0	-	115	-	110	170	24	M20	L100 x 100 x 13	3.20	-
RF60350	350.0	12.7	90	165.0	-	115	-	160	220	24	M20	L100 x 100 x 13	4.20	-
RF60040	400.0	12.7	90	165.0	-	115	-	200	260	24	M20	L100 x 100 x 13	5.00	-
RF90350	350.0	16.0	100	210.0	-	140	-	100	180	28	M24	L130 x 130 x 15	5.20	-
RF90400	400.0	16.0	100	210.0	-	140	-	150	230	28	M24	L130 x 130 x 15	6.60	-
RF90500	500.0	16.0	100	210.0	-	140	-	260	340	28	M24	L130 x 130 x 15	9.80	-
RF120400	400.0	19.0	120	220.0	-	150	-	120	200	28	M24	L130 x 130 x 15	5.80	-
RF120600	600.0	19.0	120	220.0	-	150	-	320	400	28	M24	L130 x 130 x 15	11.50	-
RF280400	400.0	19.0	-	-	-	-	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	22	54.0	-	40	-	40	70	12	M10	-	0.11	0.22
RF204	66.3	6.3 (6)	24	60.0	-	45	-	35	55	12	M10	-	0.07	0.14
RF450	101.6	6.3 (6)	28	64.0	-	50	-	40	70	12	M10	-	0.18	0.36
RF650	152.4	6.3 (6)	32	64.0	-	50	-	60	90	12	M10	-	0.23	0.46
RF214	101.6	7.9	35	73.0	-	55	-	40	80	15	M12	-	0.28	0.56
RF205	78.1	7.9	35	75.0	-	60	-	30	65	12	M10	-	0.13	0.26
RF6205	152.4	7.9	38	79.0	-	60	-	60	100	15	M12	-	0.37	0.74
RF212	152.4	9.5 (10)	45	83.0	-	65	-	60	100	15	M12	-	0.47	0.94

Notes:
* denotes that value in round brackets ( ) for link plate thickness is when 300 series stainless steel is used.

RF Metric Series Chain Attachments

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	* Thickness T	A3 Attachment Dimensions						Bolt Size (metric)	Welded attachment dimensions	Add'l wt./ attach. (kg.)
			S	X	C	K	N	O			
RF03075	75.0	3.2	-	-	-	-	-	-	-	-	-
RF03100	100.0	3.2	-	-	-	-	-	-	-	-	-
RF05075	75.0	4.5	-	-	-	-	-	-	-	-	-
RF05100	100.0	4.5	-	-	-	-	-	-	-	-	-
RF05125	125.0	4.5	-	-	-	-	-	-	-	-	-
RF05150	150.0	4.5	-	-	-	-	-	-	-	-	-
RF08125	125.0	6.3 (6)	-	-	-	-	-	-	-	-	-
RF08150	150.0	6.3 (6)	-	-	-	-	-	-	-	-	-
RF10100	100.0	6.3 (6)	-	-	-	-	-	-	-	-	-
RF10125	125.0	6.3 (6)	-	-	-	-	-	-	-	-	-
RF10150	150.0	6.3 (6)	-	-	-	-	-	-	-	-	-
RF12200	200.0	7.9	-	-	-	-	-	-	-	-	-
RF12250	250.0	7.9	-	-	-	-	-	-	-	-	-
RF17200	200.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF17250	250.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF17300	300.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF26200	200.0	9.5 (10)	55	123.5	80	140	320	15	M12	-	0.74
RF26250	250.0	9.5 (10)	55	123.5	80	140	320	15	M12	-	1.01
RF26300	300.0	9.5 (10)	55	123.5	80	140	320	15	M12	-	1.34
RF26450	450.0	9.5 (10)	70	100.0	160	140	330	19	M12	-	3.19
RF36250	250.0	12.7	-	-	-	-	-	-	-	-	-
RF36300	300.0	12.7	-	-	-	-	-	-	-	-	-
RF36450	450.0	12.7	70	160.0	100	140	330	19	M16	L100 x 100 x 10	4.90
RF36600	600.0	12.7	70	160.0	100	180	410	19	M16	L100 x 100 x 10	6.10
RF52300	300.0	16.0	-	-	-	-	-	-	-	-	-
RF52450	450.0	16.0	80	171.4	120	180	410	24	M20	L100 x 100 x 13	6.30
RF52600	600.0	16.0	80	171.4	120	80	220	24	M20	L100 x 100 x 13	7.80
RF60300	300.0	12.7	-	-	-	-	-	-			-
RF60350	350.0	12.7	90	115.0	165	80	220	24	M20	L100 x 100 x 13	4.20
RF60040	400.0	12.7	90	115.0	165	100	260	24	M20	L100 x 100 x 13	5.00
RF90350	350.0	16.0	-	-	-	-	-	-	-	-	-
RF90400	400.0	16.0	-	-	-	-	-	-	-	-	-
RF90500	500.0	16.0	100	210.0	140	130	340	28	M24	L130 x 130 x 15	9.80
RF120400	400.0	19.0	-	-	-	-	-	-	-	-	-
RF120600	600.0	19.0	220	220.0	150	160	400	28	M24	L130 x 130 x 15	11.50
RF280400	400.0	19.0	-	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	-	-	-	-	-	-	-	-	-
RF204	66.3	6.3 (6)	-	-	-	-	-	-	-	-	-
RF450	101.6	6.3 (6)	-	-	-	-	-	-	-	-	-
RF650	152.4	6.3 (6)	-	-	-	-	-	-	-	-	-
RF214	101.6	7.9	-	-	-	-	-	-	-	-	-
RF205	78.1	7.9	-	-	-	-	-	-	-	-	-
RF6205	152.4	7.9	-	-	-	-	-	-	-	-	-
RF212	152.4	9.5 (10)	-	-	-	-	-	-	-	-	-

Notes:
* denotes that value in round brackets ( ) for link plate thickness is when 300 series stainless steel is used.

RF Metric Series
Chain Attachments

TSUBAKI

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	* Thickness T	SA-2/SK-2 Attachment Dimensions							Additonal weight per attachment (kg.)	
			* Q_1	* Q_2	S_1	S_2	K	N	O	SA2	SK2
RF03075	75.0	3.2	15.5	11.5	33.0	46.0	30	55	10	0.06	0.12
RF03100	100.0	3.2	15.5	11.5	33.0	46.0	40	65	10	0.07	0.14
RF05075	75.0	4.5	21.0	15.5	33.4	50.7	30	55	10	0.06	0.12
RF05100	100.0	4.5	21.0	15.5	33.4	50.7	40	65	10	0.07	0.14
RF05125	125.0	4.5	21.0	15.5	33.4	50.7	50	75	10	0.08	0.16
RF05150	150.0	4.5	21.0	15.5	33.4	50.7	60	85	10	0.10	0.20
RF08125	125.0	6.3 (6)	27 (26.5)	20 (19.5)	46.1	60.7	50	80	12	0.19	0.38
RF08150	150.0	6.3 (6)	27 (26.5)	20 (19.5)	46.1	60.7	60	90	12	0.23	0.46
RF10100	100.0	6.3 (6)	28.5 (28)	21.5 (21)	46.1	63.0	40	70	12	0.16	0.32
RF10125	125.0	6.3 (6)	28.5 (28)	21.5 (21)	46.1	63.0	50	80	12	0.18	0.36
RF10150	150.0	6.3 (6)	28.5 (28)	21.5 (21)	46.1	63.0	60	90	12	0.20	0.40
RF12200	200.0	7.9	35.6	26.5	55.0	75.7	80	120	15	0.44	0.88
RF12250	250.0	7.9	35.6	26.5	55.0	75.7	125	170	15	0.61	1.22
RF17200	200.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF17250	250.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF17300	300.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF26200	200.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF26250	250.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF26300	300.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF26450	450.0	9.5 (10)	-	-	-	-	-	-	-	-	-
RF36250	250.0	12.7	-	-	-	-	-	-	-	-	-
RF36300	300.0	12.7	-	-	-	-	-	-	-	-	-
RF36450	450.0	12.7	-	-	-	-	-	-	-	-	-
RF36600	600.0	12.7	-	-	-	-	-	-	-	-	-
RF52300	300.0	16.0	-	-	-	-	-	-	-	-	-
RF52450	450.0	16.0	-	-	-	-	-	-	-	-	-
RF52600	600.0	16.0	-	-	-	-	-	-	-	-	-
RF60300	300.0	12.7	-	-	-	-	-	-	-	-	-
RF60350	350.0	12.7	-	-	-	-	-	-	-	-	-
RF60040	400.0	12.7	-	-	-	-	-	-	-	-	-
RF90350	350.0	16.0	-	-	-	-	-	-	-	-	-
RF90400	400.0	16.0	-	-	-	-	-	-	-	-	-
RF90500	500.0	16.0	-	-	-	-	-	-	-	-	-
RF120400	400.0	19.0	-	-	-	-	-	-	-	-	-
RF120600	600.0	19.0	-	-	-	-	-	-	-	-	-
RF280400	400.0	19.0	-	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	22 (22.5)	16 (16.5)	37.6	51.6	40	70	12	0.11	0.22
RF204	66.3	6.3 (6)	-	-	-	-	-	-	-	-	-
RF450	101.6	6.3 (6)	27 (26.5)	20 (19.5)	47.6	60.7	40	70	12	0.18	0.36
RF650	152.4	6.3 (6)	28.5 (28)	21.5 (21)	50.0	63.0	60	90	12	0.23	0.46
RF214	101.6	7.9	32.5	23.5	50.0	70.0	40	80	15	0.28	0.56
RF205	78.1	7.9	-	-	-	-	-	-	-	-	-
RF6205	152.4	7.9	35.5	26.5	55.0	75.7	60	100	15	0.37	0.74
RF212	152.4	9.5 (10)	38.5 (39.5)	28 (28.5)	60.0	83.6	60	100	15	0.47	0.94

Notes:
* denotes that value in round brackets ( ) is when 300 series stainless steel is used.

RF Metric Series Chain Attachments

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	* Thickness T	G-2 Attachment Dimensions					Bolt Size (metric)	Maximum Length of Bolt	
			* Q_1	* Q_2	K	A	O		Pin Link	Roller Link
RF03075	75.0	3.2	15.5	11.5	30	13.5	8	M6	26	19
RF03100	100.0	3.2	15.5	11.5	50	13.5	8	M6	26	19
RF05075	75.0	4.5	-	-	-	-	-	-	-	-
RF05100	100.0	4.5	21.0	15.5	40	15	10	M8	36	26
RF05125	125.0	4.5	21.0	15.5	50	15	10	M8	36	26
RF05150	150.0	4.5	21.0	15.5	60	15	10	M8	36	26
RF08125	125.0	6.3 (6)	-	-	-	-	-	-	-	-
RF08150	150.0	6.3 (6)	27 (26.5)	20 (19.5)	60	20	12	M10	45	31
RF10100	100.0	6.3 (6)	28.5 (28)	21.5 (21)	30	20	12	M10	49	35
RF10125	125.0	6.3 (6)	28.5 (28)	21.5 (21)	40	20	12	M10	49	35
RF10150	150.0	6.3 (6)	28.5 (28)	21.5 (21)	60	20	12	M10	49	35
RF12200	200.0	7.9	35.5	26.5	80	26	15	M12	63	45
RF12250	250.0	7.9	35.5	26.5	125	26	15	M12	63	45
RF17200	200.0	9.5 (10)	45.5 (46.5)	35 (35.5)	70	26	15	M12	81	61
RF17250	250.0	9.5 (10)	45.5 (46.5)	35 (35.5)	110	26	15	M12	81	61
RF17300	300.0	9.5 (10)	45.5 (46.5)	35 (35.5)	150	26	15	M12	81	61
RF26200	200.0	9.5 (10)	-	-	-	-	-	-	-	-
RF26250	250.0	9.5 (10)	-	-	-	-	-	-	-	-
RF26300	300.0	9.5 (10)	48.5 (49)	38 (38.5)	140	26	15	M12	88	67
RF26450	450.0	9.5 (10)	48.5 (49)	38 (38.5)	220	26	15	M12	88	67
RF36250	250.0	12.7	-	-	-	-	-	-	-	-
RF36300	300.0	12.7	-	-	-	-	-	-	-	-
RF36450	450.0	12.7	60.0	46.0	220	32	19	M16	105	75
RF36600	600.0	12.7	60.0	46.0	300	32	19	M16	105	75
RF52300	300.0	16.0	-	-	-	-	-	-	-	-
RF52450	450.0	16.0	72.0	54.5	300	38	24	M20	125	90
RF52600	600.0	16.0	72.0	54.5	300	38	24	M20	125	90
RF60300	300.0	12.7	-	-	-	-	-	-	-	-
RF60350	350.0	12.7	-	-	-	-	-	-	-	-
RF60040	400.0	12.7	-	-	-	-	-	-	-	-
RF90350	350.0	16.0	-	-	-	-	-	-	-	-
RF90400	400.0	16.0	-	-	-	-	-	-	-	-
RF90500	500.0	16.0	-	-	-	-	-	-	-	-
RF120400	400.0	19.0	-	-	-	-	-	-	-	-
RF120600	600.0	19.0	-	-	-	-	-	-	-	-
RF280400	400.0	19.0	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	-	-	-	-	-	-	-	-
RF204	66.3	6.3 (6)	-	-	-	-	-	-	-	-
RF450	101.6	6.3 (6)	-	-	-	-	-	-	-	-
RF650	152.4	6.3 (6)	28.5 (28)	21.5 (21)	60	20	12	M10	49	35
RF214	101.6	7.9	28.5 (28)	21.5 (21)	50	26	15	M12	63	45
RF205	78.1	7.9	-	-	-	-	-	-	-	-
RF6205	152.4	7.9	-	-	-	-	-	-	-	-
RF212	152.4	9.5 (10)	-	-	-	-	-	-	-	-

Notes:
* denotes that value in round brackets ( ) is when 300 series stainless steel is used.

RF Metric Series
Chain Attachments

TSUBAKI

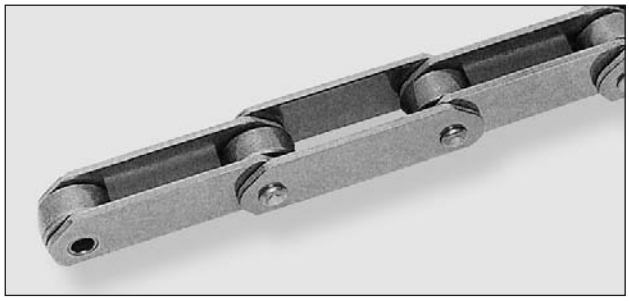
All dimensions are in mm unless otherwise indicated.

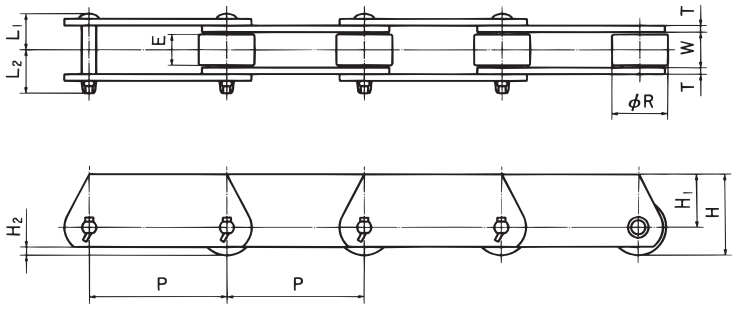
Chain Number	Pitch P	* Thickness T	G-4 Attachment Dimensions						Bolt Size (metric)	Add'l wt of attach. (kg./m)
			Q	K	Y	V	A	O		
RF03075	75.0	3.2	-	-	-	-	-	-		
RF03100	100.0	3.2	-	-	-	-	-	-		
RF05075	75.0	4.5	-	-	-	-	-	-	-	-
RF05100	100.0	4.5	21.0	50	50	80	15	10	M8	4.6
RF05125	125.0	4.5	-	-	-	-	-	-	-	-
RF05150	150.0	4.5	21.0	70	50	80	15	10	M8	4.1
RF08125	125.0	6.3 (6)	-	-	-	-	-	-	-	-
RF08150	150.0	6.3 (6)	-	-	-	-	-	-	-	-
RF10100	100.0	6.3 (6)	-	-	-	-	-	-	-	-
RF10125	125.0	6.3 (6)	-	-	-	-	-	-	-	-
RF10150	150.0	6.3 (6)	28.5	75	70	110	20	12	M10	7.7 (7.9)
RF12200	200.0	7.9	35.5	100	70	110	26	15	M12	10.3 (10.6)
RF12250	250.0	7.9	-	-	-	-	-	-	-	-
RF17200	200.0	9.5 (10)	45.5	100	80	120	26	15	M12	14 (15)
RF17250	250.0	9.5 (10)		140	100	150	26	15	M12	15 (16)
RF17300	300.0	9.5 (10)	-	-	-	-	-	-	-	-
RF26200	200.0	9.5 (10)	48.5	100	80	120	26	15	M12	19 (20)
RF26250	250.0	9.5 (10)	48.5	140	100	150	26	15	M12	18 (19)
RF26300	300.0	9.5 (10)	48.5	180	100	150	26	15	M12	17 (18)
RF26450	450.0	9.5 (10)	-	-	-	-	-	-	-	-
RF36250	250.0	12.7	60.0	140	100	150	32	19	M16	29.0
RF36300	300.0	12.7	60.0	180	100	150	32	19	M16	27.0
RF36450	450.0	12.7	-	-	-	-	-	-	-	-
RF36600	600.0	12.7	-	-	-	-	-	-	-	-
RF52300	300.0	16.0	-	-	-	-	-	-	-	-
RF52450	450.0	16.0	-	-	-	-	-	-	-	-
RF52600	600.0	16.0	-	-	-	-	-	-	-	-
RF60300	300.0	12.7	-	-	-	-	-	-	-	-
RF60350	350.0	12.7	-	-	-	-	-	-	-	-
RF60040	400.0	12.7	-	-	-	-	-	-	-	-
RF90350	350.0	16.0	-	-	-	-	-	-	-	-
RF90400	400.0	16.0	-	-	-	-	-	-	-	-
RF90500	500.0	16.0	-	-	-	-	-	-	-	-
RF120400	400.0	19.0	-	-	-	-	-	-	-	-
RF120600	600.0	19.0	-	-	-	-	-	-	-	-
RF280400	400.0	19.0	-	-	-	-	-	-	-	-
RF280600	600.0	19.0	-	-	-	-	-	-	-	-
RF360400	400.0	22.0	-	-	-	-	-	-	-	-
RF360600	600.0	22.0	-	-	-	-	-	-	-	-
RF440400	400.0	25.0	-	-	-	-	-	-	-	-
RF440600	600.0	25.0	-	-	-	-	-	-	-	-
RF430	101.6	4.8 (5)	-	-	-	-	-	-	-	-
RF204	66.3	6.3 (6)	-	-	-	-	-	-	-	-
RF450	101.6	6.3 (6)	-	-	-	-	-	-	-	-
RF650	152.4	6.3 (6)	28.5	75	70	110	20	12	M10	7.5
RF214	101.6	7.9	35.5	75	70	110	26	15	M12	11.2
RF205	78.1	7.9	-	-	-	-	-	-	-	-
RF6205	152.4	7.9	-	-	-	-	-	-	-	-
RF212	152.4	9.5 (10)	-	-	-	-	-	-	-	-

Notes:
* denotes that value in round brackets ( ) for link plate thickness is when 300 series stainless steel is used.

RF Metric Series
Deep Link Chain

RFD Chain provides solid contact between the chain and the material to be conveyed. In it's construction, the side plate is higher than the top of the roller. Friction is reduced because the roller will rotate over the chain guide rail. Typical applications include conveying thick plate or section steel in steel mills and also in automotive or container assembly lines.





All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	Roller Dia. R	Roller Height E	Width Between Inner Link Plates W	Link Plate Thickness T	Link Plate Height H_1	Link Plate Height H_2	Chain Height H	Pin Length $L_1 + L_2$	Pin Length L_1	Pin Length L_2
RFD03075R	75.0	31.8	15.5	16.1	3.2	21.0	4.9	36.9	38.0	18.0	20.0
RFD03100R	100.0	31.8	15.5	16.1	3.2	21.0	4.9	36.9	38.0	18.0	20.0
RFD05100R	100.0	40.0	19.0	22.0	4.5	24.0	4.0	44.0	53.5	25.0	28.5
RFD05150R	150.0	40.0	19.0	22.0	4.5	24.0	4.0	44.0	53.5	25.0	28.5
RFD08150R	150.0	44.5	23.0	27.0	6.3	28.0	8.0	50.3	65.5	31.0	34.5
RFD10150R	150.0	50.8	27.0	30.0	6.3	32.0	6.4	57.4	69.0	33.0	36.0
RFD10200R	200.0	50.8	27.0	30.0	6.3	32.0	6.4	57.4	69.0	33.0	36.0
RFD6205R	152.4	57.2	32.0	37.1	7.9	35.0	6.1	63.6	83.5	40.5	43.0
RFD12200R	200.0	65.0	32.0	37.1	7.9	41.0	10.0	73.5	83.5	40.5	43.0
RFD12250R	250.0	65.0	32.0	37.1	7.9	41.0	10.0	73.5	83.5	40.5	43.0
RFD17250R	250.0	80.0	44.0	51.4	9.5	50.0	13.8	90.0	109.5	51.5	58.0
RFD17300R	300.0	80.0	44.0	51.4	9.5	50.0	13.8	90.0	109.5	51.5	58.0
RFD26300R	300.0	85.0	50.0	57.2	9.5	53.0	10.5	95.5	116.5	55.5	61.0
RFD36300R	300.0	100.0	56.0	66.7	12.7	62.0	12.0	112.0	146.0	68.0	78.0
RFD36400R	400.0	100.0	56.0	66.7	12.7	62.0	12.0	112.0	146.0	68.0	78.0
RFD52450R	450.0	110.0	65.0	77.0	16.0	70.0	17.0	125.0	172.0	82.0	90.0

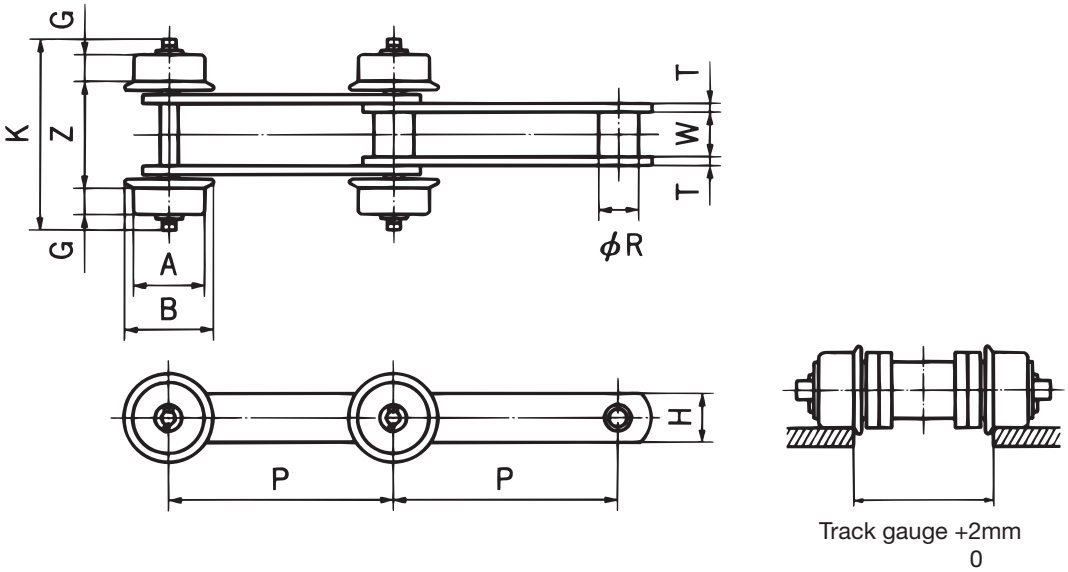
Chain Number	Maximum Allowable Roller Load (DT Series) (kgf)	Maximum Allowable Roller Load (AT Series) (kgf)	Maximum Allowable Roller Load (Brg. Roller) (kgf)	Average Tensile Strength (DT/BrgRllr) (kg.)	Average Tensile Strength (AT) (kg.)	Approx. Weight (kg./m.)
RFD03075R	55	90	200	3,000	7,100	3.2
RFD03100R	55	90	200	3,000	7,100	2.8
RFD05100R	105	175	310	7,000	14,500	5.9
RFD05150R	105	175	310	7,000	14,500	4.9
RFD08150R	105	175	310	8,000	14,500	7.0
RFD10150R	130	215	420	11,500	23,000	9.7
RFD10200R	180	300	560	11,500	23,000	8.5
RFD6205R	255	425	-	19,000	28,500	14.0
RFD12200R	255	425	850	19,000	28,500	14.9
RFD12250R	255	425	850	19,000	28,500	13.5
RFD17250R	410	680	1,440	25,000	39,500	22.5
RFD17300R	410	680	1,440	25,000	39,500	21.5
RFD26300R	540	900	2000	32,000	53,000	24.3
RFD36300R	760	1260	2800	48,500	69,500	39.0
RFD36400R	760	1260	2800	48,500	69,500	34.2
RFD52450R	1000	1690	-	51,000	10,500	46.0

RF Metric Series
Side Roller Chain

This chain is based on the standard S roller type conveyor chain. The pins have been extended to produce flanged side rollers on both sides. The sprockets engage the standard S roller at the chain center. The side rollers are for running and supporting the load. When ordering, specify the series name (DT Basic Series, AT, or BT) and the required interval spacing of the side rollers.

Applications

- Installing special attachments such as pushers or tilting dogs.
- Supporting heavy loads
- Installing guides for return strand of chain since special attachments interfere with the return guide.



RF Metric Series Side Roller Chain

All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate	
				Thickness T	Height H
RF03075S-SR	75.0	15.9	16.1	3.2	22.0
RF03100S-SR	100.0	15.9	16.1	3.2	22.0
RF430S-SR	101.6	20.1	22.6	4.8	25.4
RF05075S-SR	75.0	22.2	22.0	4.5	32.0
RF05100S-SR	100.0	22.2	22.0	4.5	32.0
RF05125S-SR	125.0	22.2	22.0	4.5	32.0
RF05150S-SR	150.0	22.2	22.0	4.5	32.0
RF450S-SR	101.6	22.2	27.0	6.3	28.6
RF10100S-SR	100.0	29.0	30.0	6.3	38.1
RF10125S-SR	125.0	29.0	30.0	6.3	38.1
RF10150S-SR	150.0	29.0	30.0	6.3	38.1
RF6205S-SR	152.4	34.9	37.1	7.9	44.5
RF12200S-SR	200.0	34.9	37.1	7.9	44.5
RF12250S-SR	250.0	34.9	37.1	7.9	44.5
RF17200S-SR	200.0	40.1	51.4	9.5	50.8
RF17250S-SR	250.0	40.1	51.4	9.5	50.8
RF17300S-SR	300.0	40.1	51.4	9.5	50.8
RF26200S-SR	200.0	44.5	57.2	9.5	63.5
RF26250S-SR	250.0	44.5	57.2	9.5	63.5
RF26300S-SR	300.0	44.5	57.2	9.5	63.5
RF36250S-SR	250.0	50.8	66.7	12.7	76.2
RF36300S-SR	300.0	50.8	66.7	12.7	76.2
RF36450S-SR	450.0	50.8	66.7	12.7	76.2

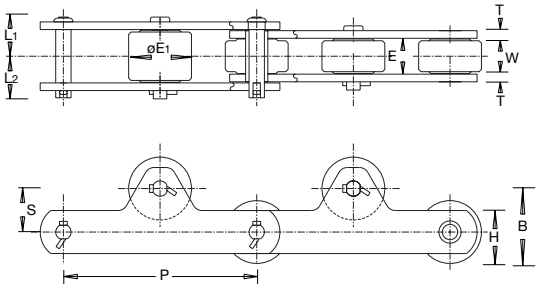
All dimensions are in mm unless otherwise indicated.

Chain Number	Side Roller Length K	"F" Side Roller Dimensions				"R" Side Roller			Weight of Side Rollers per Pitch (kg.)	Per Side Roller Pair	
		A	B	G	Z	A	G	Z		Maximum Allowable Load (non-heat treated) (kgf)	Maximum Allowable Load (heat treated) (kgf)
RF03075S-SR	76.0	31.8	42.0	12.0	38.0	31.8	15.5	31.0	0.3	70	110
RF03100S-SR	76.0	31.8	42.0	12.0	38.0	31.8	15.5	31.0	0.3	70	110
RF430S-SR	104.0	38.1	50.0	15.0	56.5	38.1	20.0	46.5	0.5	100	160
RF05075S-SR	102.0	40.0	50.0	14.0	55.0	40.0	19.0	46.5	0.5	120	200
RF05100S-SR	102.0	40.0	50.0	14.0	55.0	40.0	19.0	46.5	0.5	120	200
RF05125S-SR	102.0	40.0	50.0	14.0	55.0	40.0	19.0	46.5	0.5	120	200
RF05150S-SR	102.0	40.0	50.0	14.0	55.0	40.0	19.0	46.5	0.5	120	200
RF450S-SR	130.0	44.5	55.0	20.0	70.5	44.5	26.0	58.5	0.7	170	240
RF10100S-SR	136.0	50.8	65.0	20.0	73.0	50.8	26.0	61.0	1.0	200	330
RF10125S-SR	136.0	50.8	65.0	20.0	73.0	50.8	26.0	61.0	1.0	200	330
RF10150S-SR	136.0	50.8	65.0	20.0	73.0	50.8	26.0	61.0	1.0	200	330
RF6205S-SR	167.0	57.2	70.0	25.0	90.5	57.2	32.0	76.5	1.3	280	470
RF12200S-SR	167.0	65.0	80.0	24.0	92.5	65.0	32.0	76.5	1.3	280	470
RF12250S-SR	167.0	65.0	80.0	24.0	92.5	65.0	32.0	76.5	1.3	280	470
RF17200S-SR	189.0	65.0	80.0	24.0	112.5	65.0	32.0	96.5	1.8	320	540
RF17250S-SR	189.0	65.0	80.0	24.0	112.5	65.0	32.0	96.5	1.8	320	540
RF17300S-SR	189.0	65.0	80.0	24.0	112.5	65.0	32.0	96.5	1.8	320	540
RF26200S-SR	230.0	80.0	100.0	34.0	124.5	80.0	44.0	104.5	3.8	500	540
RF26250S-SR	230.0	80.0	100.0	34.0	124.5	80.0	44.0	104.5	3.8	500	860
RF26300S-SR	230.0	80.0	100.0	34.0	124.5	80.0	44.0	104.5	3.8	500	860
RF36250S-SR	268.0	100.0	125.0	38.0	150.5	100.0	50.0	126.5	6.9	670	1,130
RF36300S-SR	268.0	100.0	125.0	38.0	150.5	100.0	50.0	126.5	6.9	670	1,130
RF36450S-SR	268.0	100.0	125.0	38.0	150.5	100.0	50.0	126.5	6.9	670	1,130

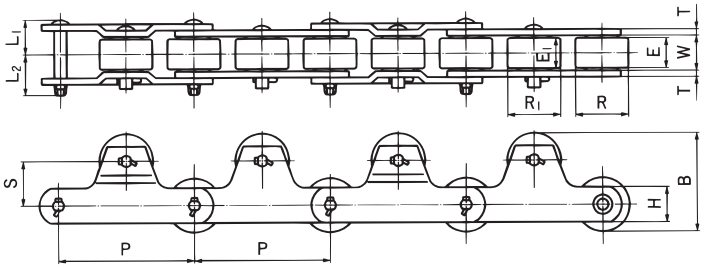
RF Metric Series
Top Roller Chain

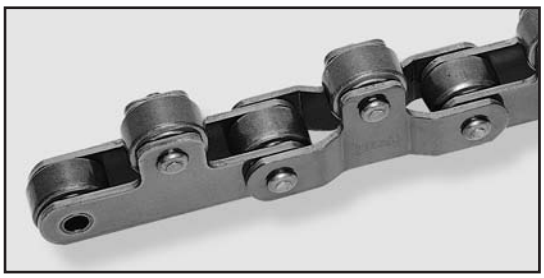
These chains are based on RF conveyor chain. Extra rollers are mounted on top of the chain pitch line in the middle of each link to directly support conveyed materials. These chains are used in applications such as stopping material whicle the chain is running. They are also used for the smooth transfer of material from conveyor to conveyor where conveyor speeds are considerably different. When ordering, specify the series name (DT Basic Series, AT or BT) and the required spacing of the top rollers.

Type I



Type II





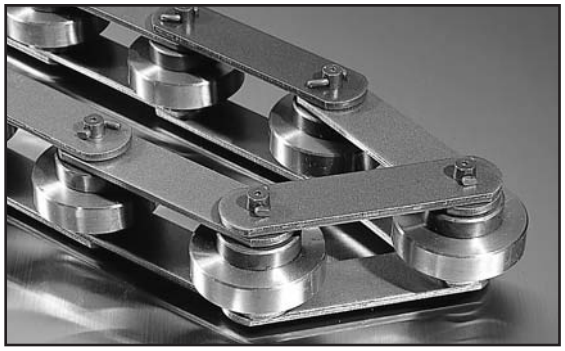
All dimensions are in mm unless otherwise indicated.

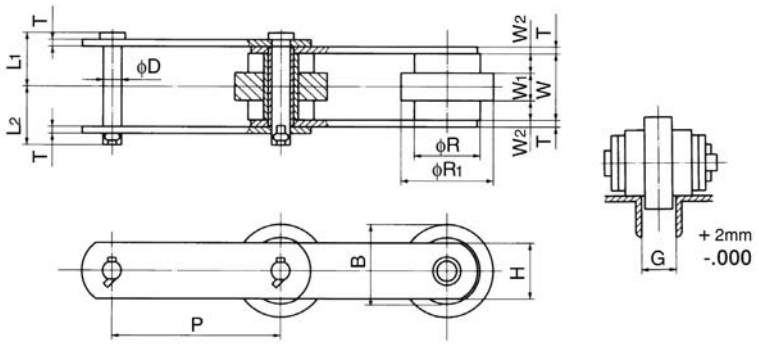
Chain Number	Pitch P	Roller Dia. R	Roller Width E	Width Between Inner Link Plates W	Link Plate		Pin	
					Thickness T	Height H	Length L_1	Length L_2
RF03075R-TR	75.0	31.8	15.5	16.1	3.2	22.0	18.0	20.0
RF03100R-TR	100.0	31.8	15.5	16.1	3.2	22.0	18.0	30.0
RF05100R-TR	100.0	40.0	19.0	22.0	4.5	32.0	25.0	28.5
RF05150R-TR	150.0	40.0	19.0	22.0	4.5	32.0	25.0	28.5
RF10150R-TR	150.0	50.8	27.0	30.0	6.3	38.1	33.0	36.0
RF6205R-TR	152.4	57.2	32.0	37.1	7.9	44.5	40.5	43.0
RF12200R-TR	200.0	65.0	32.0	37.1	7.9	44.5	40.5	43.0
RF17200R-TR	200.0	80.0	44.0	51.4	9.5	50.8	51.5	58.0

Chain Number	Top Roller				Type	Average Tensile Strength (kg.)	Per top roller		Weight per Top Roller (kgf/roller)	Approx. Weight (kg./m)
	S	Dia. R_1	Height E_1	B			Maximum Allowable Load (non-heat treated) (kgf)	Maximum Allowable Load (heat treated) (kgf)		
RF03075R-TR	23.1	40.0	13.0	59.0	na	3,000	35	60	0.18	2.7
RF03100R-TR	23.1	40.0	13.0	59.0	na	3,000	35	60	0.18	2.3
RF05100R-TR	30.0	40.0	19.0	70.0	I	7,000	65	105	0.26	5.0
RF05150R-TR	30.0	40.0	19.0	70.0	I	7,000	65	105	0.26	4.1
RF10150R-TR	30.0	50.8	27.0	80.8	I	11,500	115	195	0.56	7.9
RF6205R-TR	37.8	57.2	32.0	95.0	I	19,000	150	255	0.91	12.1
RF12200R-TR	45.0	65.0	32.0	110.0	I	19,000	150	255	1.15	11.4
RF17200R-TR	65.0	80.0	44.0	145.0	II	25,000	250	420	2.58	19.0

RF Metric Series
Large Size Double Plus Chain

Tsubaki's unique Large Size Double Plus free flow conveyor chain conveys objects 2.3 times faster than the actual chain speed. As a result, motor speeds up to 60% slower can be used, leading to improved system reliability and substantial reductions in energy costs and chain noise, the latter by as much as 15dB compared to side plastic roller chains. Large Size Double Plus employs a unique design, which incorporates a large centre roller, and a smaller outer roller, which supports the chain on a guide rail. When engaged, the large centre rollers (upon which conveyed objects travel) rotate at the same rpm as the small rollers. However, since the diameter of the large rollers is larger than that of the smaller ones, conveyed objects move along faster than the chain. The benefits of this unique design are that chain speeds up to 60% slower can be used without affecting the object conveying speed. Motor drive speeds can be reduced leading to substantial power savings, and to reduced noise levels some 15dB lower than those of plastic side roller chains. Added to these advantages are the excellent start-up and acceleration facilities provided by the large roller/small roller combination and the fact that Large Size Double Plus is safer than side roller chains because the chain is fully covered by a guide rail.





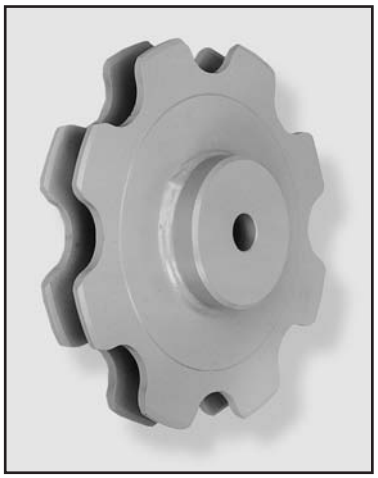
All dimensions are in mm unless otherwise indicated.

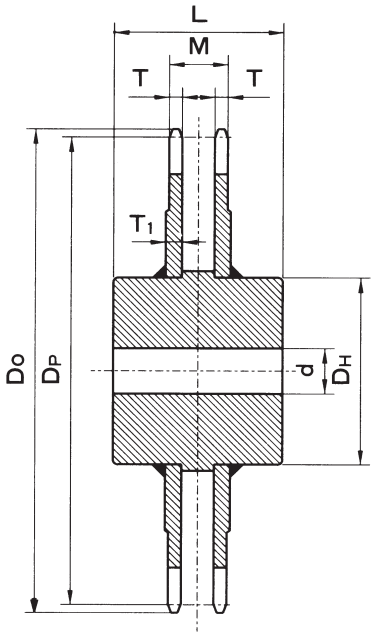
Chain Number	Pitch P	Roller Dia. R	Roller Dia. R_1	Width Between Inner Link Plates W	W_1	W_2	Link Plate Thickness T	Link Plate Height H	Pin Dia. D	Pin Length $L_1 + L_2$	Pin Length L_1	Pin Length L_2
RF3075VR	75.0	31.8	42.0	30	12	8.5	3.2	22.0	8.0	51.5	24.5	27.0
RF03100VR	100.0	31.8	42.0	30	12	8.5	3.2	22.0	8.0	51.5	24.5	27.0
RF05100VR	100.0	40.0	53.0	39	16	11.0	4.5	32.0	11.3	70.5	33.5	37.0
RF05150VR	150.0	40.0	53.0	39	16	11.0	4.5	32.0	11.3	70.5	33.5	37.0
RF10150VR	150.0	50.8	67.0	54	20	14.0	6.3	38.1	14.5	93.0	45.0	48.0
RF6205VR	152.4	57.2	75.5	62	22	16.0	7.9	44.5	15.9	108.5	53.0	55.5
RF12200VR	200.0	57.2	75.5	62	22	16.0	7.9	44.5	15.9	108.5	53.0	55.5
RF17200VR	200.0	65.0	86.0	69	25	18.0	9.5	50.8	19.1	127.0	60.5	66.5

All dimensions are in mm unless otherwise indicated.

Chain Number	B	G	Maximum Allowable Load (kgf)	Maximum Allowable Roller Load (kgf/roller)	Approx. Weight (kg./m.)
RF3075VR	36.9	14.5	420	130	4.7
RF03100VR	36.9	14.5	420	130	4.0
RF05100VR	46.5	18.5	1,000	240	8.0
RF05150VR	46.5	18.5	1,000	240	6.0
RF10150VR	58.9	25.0	1,590	350	12.0
RF6205VR	66.3	28.0	2,705	500	18.0
RF12200VR	66.3	28.0	2,705	500	15.0
RF17200VR	75.5	31.0	3,500	620	20.0

Large Size Double Plus Sprocket Specifications



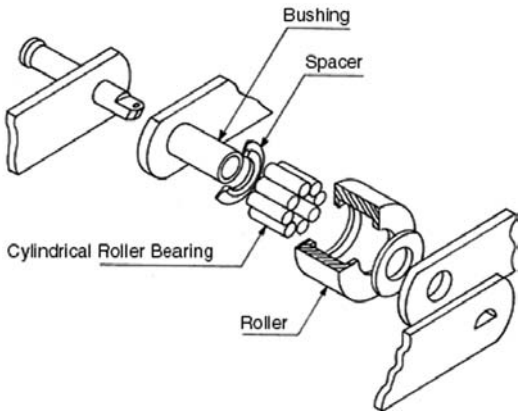


All dimensions are in mm unless otherwise indicated.

Sprocket Number	No. Of Teeth	Roller		Tooth Thickness T	Tooth Thickness T_1	M	Stock Bore Dia. d	Max. Bore	Hub Dia. D_H	Hub Length L	Approx. Weight (kg.)
		Pitch Dia. D_P	Outer Dia D_0								
RF3075VR-6T	6	150.0	158	5	6	26.0	20	40	65	55	3.0
RF3075VR-8T	8	196.0	209	5	6	26.0	20	45	70	60	4.5
RF03100VR-6T	6	200.0	206	5	6	26.0	20	45	70	60	4.5
RF03100VR-8T	8	261.3	272	5	6	26.0	20	50	80	70	7.5
RF05100VR-6T	6	200.0	205	8	9	35.5	25	60	95	80	7.5
RF05100VR-8T	8	261.3	273	8	9	35.5	25	70	105	90	13.0
RF05150VR-6T	6	300.0	304	8	9	35.5	25	70	105	90	15.0
RF05150VR-8T	8	392.0	402	8	9	35.5	30	75	115	100	24.0
RF10150VR-6T	6	300.0	309	11	12	48.0	30	80	125	105	20.0
RF10150VR-8T	8	392.0	408	11	12	48.0	35	85	135	115	32.0
RF6205VR-6T	6	304.8	330	14	16	56.0	35	95	145	125	29.0
RF6205VR-8T	8	398.2	432	14	16	56.0	35	100	145	125	42.0
RF12200VR-6T	6	400.0	434	14	16	56.0	35	100	145	125	43.0
RF12200VR-8T	8	522.6	557	14	16	56.0	40	110	155	135	67.0
RF17200VR-6T	6	400.0	439	15	16	62.0	40	110	155	135	47.0
RF17200VR-8T	8	522.6	562	15	16	62.0	45	120	175	150	76.0

RF Metric Series
Bearing Roller Chain (Standard)

Bearing Roller Conveyor Chain is a general purpose high performance chain used for large conveyance. In this large conveyor chain, cylindrical roller bearings are installed between the bushing and roller of the RF Conveyor Chain. Applications can be found in automotive, steel, electrical, and other industries. Tusbaki's unique Bearing Roller Conveyor Chain integrates cylindrical roller bearings inside its chain rollers, reducing friction to one third of conventally constructed conveyor chain.



RF Bearing Roller Conveyor Chain has the following features:

(1) ***Lower coefficient of rolling friction***. The coefficient of rolling friction for RF Bearing Roller Conveyor Chain is one-third to one-sixth that for RF Conveyor Chain.

Basic RF Conveyor Chain: without lubrication, 0.13 to 0.18; with lubrication, 0.08 to 0.12.

RF Bearing Roller Conveyor Chain: 0.03.

This means the chain tension is reduced, and, frequently, a smaller chain size can be used. The conveyor will also require less energy to operate, making it more economical.

(2) ***The initial cost of equipment is reduced***. Because the coefficient of rolling friction is lower, you can use smaller sprockets, motors, reducers, shafts, bearings, and frames.

(3) ***The allowable load of the roller is increased***. The allowable roller load for RF12000-R Bearing Roller Conveyor Chain is about 1,880 lbs. which is 1.6 to 3.3 times greater than the equivalent size of a basic type with lubrication (560 lbs. for nonheat-treated roller; 940 lbs. for heat-treated roller). Capacity of the roller for RF12000-R Bearing Roller Conveyor Chain is equivalent to RF26200-R Conveyor Chain with heat-treated rollers. This is two sizes larger. In horizontal and slightly inclined conveying, usually the chain size is determined by the allowable load of the roller.

This means that you can select a chain two to three sizes smaller. Rollers are also exposed to high load when they engage with sprockets. Even though this load may be several times greater than the vertical load on rollers during conveying, it is within the capacity range of the bearing rollers.

(4) ***Lower maintenance. RF Bearing Roller Conveyor Chain has grease pockets on both its sides***. Although we have received reports that these chains have been operated for five years without any maintenance, we suggest that you lubricate the bearing roller occasionally.

(5) ***Longevity of the bearing roller***. The bearing roller is large in diameter and short in length; reducing the likelihood of foreign particles getting inside.

(6) ***"Stick-slip" resistance***. "Stick-slip" is virtually eliminated because of the low coefficient of friction in a wide range of speeds. Contact Tsubaki Technical Support when conveyor speed is less than 0.5m/min.

(7) ***Wide range of chain sizes is available***. Bearing roller conveyor chains are readily available in a wide range of specifications from small pitch up to larger heavy-duty sizes.

RF Metric Series
Bearing Roller Chain (Standard)

BR Type

BF Type

All dimensions are in mm unless otherwise indicated.

Chain Number	Chain Number	Pitch P	"R" Roller		"F" Roller				
			Roller Dia. R	Track Width E	Dia. R	Dia. F	Height E	e	Z
RF03075BR	RF03075BF	75	31.8	14.0	31.8	42	11	1.5	4.3
RF03100BR	RF03100BF	100	31.8	14.0	31.8	42	11	1.5	4.3
RF05100BR	RF05100BF	100	40.0	19.0	40.0	50	14	2.5	4.5
RF05150BR	RF05150BF	150	40.0	19.0	40.0	50	14	2.5	4.5
RF08150BR	RF08150BF	150	44.5	23.0	44.5	55	18	2.5	4.5
RF10100BR	-	100	50.8	26.0	-	-	-	-	-
RF10150BR	RF10150BF	150	50.8	26.0	50.8	65	20	3.0	7.0
RF12200BR	RF12200BF	200	65.0	32.0	65.0	80	24	4.0	8.0
RF12250BR	RF12250BF	250	65.0	32.0	65.0	80	24	4.0	8.0
RF17200BR	RF17200BF	200	80.0	44.0	80.0	100	34	5.0	12.0
RF17250BR	RF17250BF	250	80.0	44.0	80.0	100	34	5.0	12.0
RF17300BR	RF17300BF	300	80.0	44.0	80.0	100	34	5.0	12.0
RF26250BR	RF26250BF	250	100.0	50.0	100.0	125	38	6.0	13.0
RF26300BR	RF26300BF	300	100.0	50.0	100.0	125	38	6.0	13.0
RF26450BR	RF26450BF	450	100.0	50.0	100.0	125	38	6.0	13.0
RF36300BR	RF36300BF	300	125.0	56.0	125.0	150	42	7.0	14.0
RF36450BR	RF36450BF	450	125.0	56.0	125.0	150	42	7.0	14.0
RF36600BR	RF36600BF	600	125.0	56.0	125.0	150	42	7.0	14.0

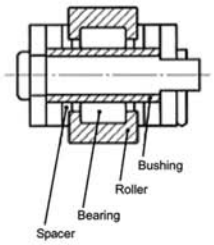
Chain Number	Chain Number	Width Between Inner Link Plates W	Link Plate		Pin			
			Thickness T	Height H	Dia. D	Length $L_1 + L_2$	Length L_1	Length L_2
RF03075BR	RF03075BF	16.1	3.2	22.0	8.0	38.0	18.0	20.0
RF03100BR	RF03100BF	16.1	3.2	22.0	8.0	38.0	18.0	20.0
RF05100BR	RF05100BF	22.0	4.5	32.0	11.3	53.5	25.0	28.5
RF05150BR	RF05150BF	22.0	4.5	32.0	11.3	53.5	25.0	28.5
RF08150BR	RF08150BF	27.0	6.3	28.6	11.3	65.5	31.0	34.5
RF10100BR	-	30.0	6.3	38.1	11.3	69.0	33.0	36.0
RF10150BR	RF10150BF	30.0	6.3	38.1	11.3	69.0	33.0	36.0
RF12200BR	RF12200BF	37.1	6.3	44.5	15.9	83.5	40.5	43.0
RF12250BR	RF12250BF	37.1	6.3	44.5	15.9	83.5	40.5	43.0
RF17200BR	RF17200BF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF17250BR	RF17250BF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF17300BR	RF17300BF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF26250BR	RF26250BF	57.2	9.5	63.5	22.2	116.5	55.5	61.0
RF26300BR	RF26300BF	57.2	9.5	63.5	22.2	116.5	55.5	61.0
RF26450BR	RF26450BF	57.2	9.5	63.5	22.2	116.5	55.5	61.0
RF36300BR	RF36300BF	66.7	12.7	76.2	25.4	146.0	68.0	78.0
RF36450BR	RF36450BF	66.7	12.7	76.2	25.4	146.0	68.0	78.0
RF36600BR	RF36600BF	66.7	12.7	76.2	25.4	146.0	68.0	78.0

RF Metric Series
Bearing Roller Chain (Standard)

Chain Number	Chain Number	Maximum Allowable Load (DT type) (kgf.)	Maximum Allowable Load (AT type) (kgf.)	Maximum Roller Load "R" Roller (kgf./roller)	Maximum Roller Load "F" Roller (kgf./roller)	"R" Roller Approx. Weight (kg./m)	"F" Roller Approx. Weight (kg./m)
RF03075BR	RF03075BF	420	800	200	130	2.8	2.9
RF03100BR	RF03100BF	420	800	200	130	2.4	2.5
RF05100BR	RF05100BF	1,000	1,500	310	200	5.2	5.4
RF05150BR	RF05150BF	1,000	1,500	310	200	4.5	4.6
RF08150BR	RF08150BF	1,000	1,500	310	200	4.2	4.4
RF10100BR	RF10100BF	1,100	1,500	420	270	5.9	6.2
RF10150BR	RF10150BF	1,100	1,500	420	270	5.6	5.8
RF12200BR	RF12200BF	1,600	2,400	560	350	10.0	-
RF12250BR	RF12250BF	1,600	2,400	560	350	8.7	9.0
RF17200BR	RF17200BF	1,600	2,400	560	350	8.0	8.3
RF17250BR	RF17250BF	2,700	3,700	850	560	11.6	12.1
RF17300BR	RF17300BF	2,700	3,700	850	560	10.4	10.8
RF26250BR	RF26250BF	3,500	5,600	1,440	1,000	20.0	21.0
RF26300BR	RF26300BF	3,500	5,600	1,440	1,000	17.0	18.0
RF26450BR	RF26450BF	3,500	5,600	1,440	1,000	16.0	16.0
RF36300BR	RF36300BF	4,500	7,400	2,000	1,400	26.0	27.0
RF36450BR	RF36450BF	4,500	7,400	2,000	1,400	23.0	24.0
RF36600BR	RF36600BF	6,900	9,900	2,800	1,900	40.0	42.0

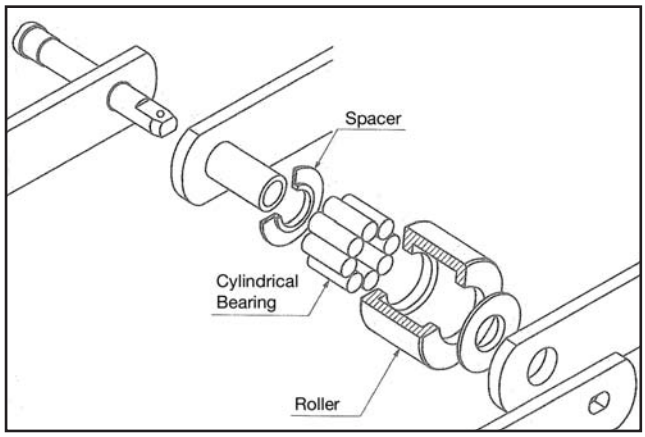
Chain Number	Chain Number	Available Attachments			
		A-1 K-1	A-2 K-2	A-2 Welded	G-2
RF03075BR	RF03075BF	R-F	R-F	-	R
RF03100BR	RF03100BF	R-F	R-F	-	R
RF05100BR	RF05100BF	R-F	R-F	-	R
RF05150BR	RF05150BF	R-F	R-F	-	R-F
RF08150BR	RF08150BF	R-F	R-F	-	R-F
RF10100BR	RF10100BF	R-F	R-F	-	-
RF10150BR	RF10150BF	R-F	R-F	-	R-F
RF12200BR	RF12200BF	R	R	-	-
RF12250BR	RF12250BF	R-F	R-F	-	R-F
RF17200BR	RF17200BF	R-F	R-F	-	R-F
RF17250BR	RF17250BF	R-F	R-F	-	R-F
RF17300BR	RF17300BF	R-F	R-F	-	R-F
RF26250BR	RF26250BF	R-F	R-F	-	R-F
RF26300BR	RF26300BF	R-F	R-F	-	R-F
RF26450BR	RF26450BF	-	R-F	-	R-F
RF36300BR	RF36300BF	-	R-F	-	-
RF36450BR	RF36450BF	-	R-F	-	R-F
RF36600BR	RF36600BF	-	-	R-F	-

Note: The attachment dimensions are the same as RF Metric Series Chain.

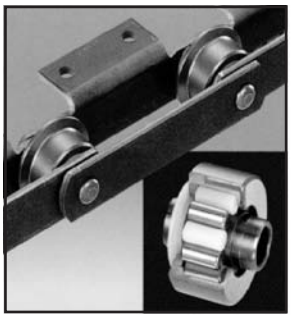
				BR and BF
Chain Series				Standard Type
Roller Construction				
Roller Material				Roller: Hardened Alloy Steel Cylindrical Roller: Case Hardened Alloy Steel and Plastic Bushing: Case Hardened Alloy Steel Spacer: Plastic
Chain Specification				**SERIES DT** Plate: Carbon Steel Pin: Hardened Alloy Steel **SERIES AT** Plate: Hardened Alloy Steel Pin: Hardened Alloy Steel
Optimum Operating Environment				Normal temperature range. No dust. No water.
Lubrication on Roller				Periodical lubrication required.
Temperature Range				normal range is: -20°C ~ 80°C and up to 150°C available as MTO.
Allowable Roller Load (kgf)	R Type Roller	CHAIN SIZE	RF03	200
			RF05	310
			RF08	420
			RF10	560
			RF12	850
			RF17	1,440
			RF26	2,000
			RF36	2,800
	F Type Roller		RF03	130
			RF05	200
			RF08	270
			RF10	350
			RF12	560
			RF17	1,000
			RF26	1,400
			RF36	1,900
Friction Coeficient Between Roller and Guide Rail				0.03
Maximum Chain Speed (m./min.)	NUMBER OF SPROCKET TEETH		6	15
			8	25
			10	30
			12	30

RF Metric Series
Bearing Roller Chain (Lube-Free)

Tsubaki Bearing Roller Conveyor Chain is a general purpose high performance chain used for large conveyance. In this large conveyor chain, cylindrical roller bearings are installed between the bushing and roller of the RF Conveyor Chain. Applications can be found in automotive, steel, electrical, and other industries. To respond to customer needs for longer chain life and reduced maintenance, Tsubaki also offers Bearing Roller Conveyor Chain in a "lube-free" specification.



Tsubaki offers 2 kinds of "lube-free" bearing roller conveyor chain specifications:
EBR/EBF (standard series) and WEBR/WEBF (water resistant).



EBR/EBF

WEBR/WEBF

Basic Series Specification (EBR/EBF):
Identical construction to Standard Bearing Roller Conveyor Chain (non-lube free). Alternating steel and resin cylinder bearings allow lube-free functioning.

Water Resistant Specification (WEBR/WEBF):
Modified construction/materials of the Standard Bearing Roller Conveyor Chain (non-lube free). Alternating steel and resin cylinder bearings provide lube-free operation in wet conditions.

Selected Applications:

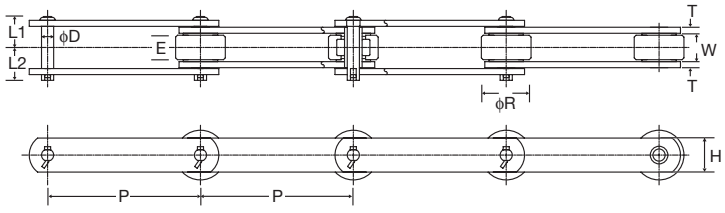
EBR/EBF Lube-free Basic Series
- Automobile assembly lines
- Paper manufacturing and paper related businesses
- Manufacture of building materials
- Electrical and household appliance assembly lines

WEBR/WEBF Lube-free Water Resistant Series
- Automotive shower testing or washing lines
- Food products
- Paper manufacturing and paper related businesses
- For outdoor applications and wet environments

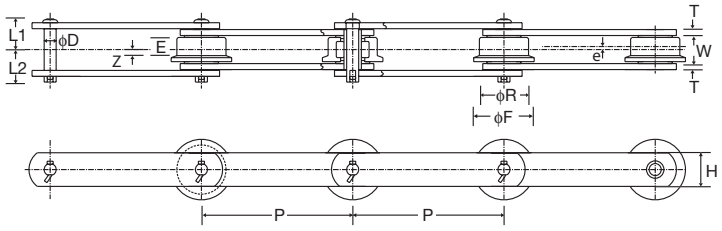
RF Metric Series
Bearing Roller Chain (Lube-Free)

TSUBAKI

EBR Type



EBF Type



All dimensions are in mm unless otherwise indicated.

Chain Number	Chain Number	Pitch P	"R" Roller		"F" Roller				
			Roller Dia. R	Track Width E	Dia. R	Dia. F	Height E	e	Z
RF03075EBR	RF03075EBF	75	31.8	14.0	31.8	42.0	11.0	1.5	4.3
RF03100EBR	RF03100EBF	100	31.8	14.0	31.8	42.0	11.0	1.5	4.3
RF05100EBR	RF05100EBF	100	40.0	19.0	40.0	50.0	14.0	2.5	4.5
RF05125EBR	RF05125EBF	125	40.0	19.0	40.0	50.0	14.0	2.5	4.5
RF05150EBR	RF05150EBF	150	40.0	19.0	40.0	50.0	14.0	2.5	4.5
RF08125EBR	RF08125EBF	125	44.5	23.0	44.5	55.0	18.0	2.5	6.5
RF08150EBR	RF08150EBF	150	44.5	23.0	44.5	55.0	18.0	2.5	6.5
RF10100EBR	-	100	44.5	23.0	-	-	-	-	-
RF10125EBR	RF10125EBF	125	44.5	23.0	50.8	65.0	20.0	3.0	7.0
RF10150EBR	RF10150EBF	150	44.5	23.0	50.8	65.0	20.0	3.0	7.0
RF12200EBR	RF12200EBF	200	65.0	32.0	65.0	80.0	24.0	4.0	8.0
RF12250EBR	RF12250EBF	250	65.0	32.0	65.0	80.0	24.0	4.0	8.0
RF17200EBR	RF17200EBF	200	80.0	44.0	80.0	100.0	34.0	5.0	12.0
RF17250EBR	RF17250EBF	250	80.0	44.0	80.0	100.0	34.0	5.0	12.0
RF17300EBR	RF17300EBF	300	80.0	44.0	80.0	100.0	34.0	5.0	12.0
RF26250EBR	RF26250EBF	250	100.0	50.0	100.0	125.0	38.0	6.0	13.0
RF26300EBR	RF26300EBF	300	100.0	50.0	100.0	125.0	38.0	6.0	13.0
RF36300EBR	RF36300EBF	300	125.0	56.0	125.0	150.0	42.0	7.0	14.0

Chain Number	Chain Number	Width Between Inner Link Plates W	Link Plate		Pin			
			Thickness T	Height H	Dia. D	Length $L_1 + L_2$	Length L_1	Length L_2
RF03075EBR	RF03075EBF	16.1	3.2	22.0	8.0	38.0	18.0	20.0
RF03100EBR	RF03100EBF	16.1	3.2	22.0	8.0	38.0	18.0	20.0
RF05100EBR	RF05100EBF	22.0	4.5	32.0	11.3	53.5	25.0	28.5
RF05125EBR	RF05125EBF	22.0	4.5	32.0	11.3	53.5	25.0	28.5
RF05150EBR	RF05150EBF	22.0	4.5	32.0	11.3	53.5	25.0	28.5
RF08125EBR	RF08125EBF	27.0	6.3	28.6	11.3	65.5	31.0	34.5
RF08150EBR	RF08150EBF	27.0	6.3	28.6	11.3	65.5	31.0	34.5
RF10100EBR	-	30.0	6.3	38.1	14.5	69.0	33.0	36.0
RF10125EBR	RF10125EBF	30.0	6.3	38.1	14.5	69.0	33.0	36.0
RF10150EBR	RF10150EBF	30.0	6.3	38.1	14.5	69.0	33.0	36.0
RF12200EBR	RF12200EBF	37.1	7.9	44.5	15.9	83.5	40.5	43.0
RF12250EBR	RF12250EBF	37.1	7.9	44.5	15.9	83.5	40.5	43.0
RF17200EBR	RF17200EBF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF17250EBR	RF17250EBF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF17300EBR	RF17300EBF	51.4	9.5	50.8	19.1	109.5	51.5	58.0
RF26250EBR	RF26250EBF	57.2	9.5	63.5	22.2	116.5	55.5	61.0
RF26300EBR	RF26300EBF	57.2	9.5	63.5	22.2	116.5	55.5	61.0
RF36300EBR	RF36300EBF	66.7	12.7	76.2	25.4	146.0	68.0	78.0

RF Metric Series
Bearing Roller Chain (Lube-Free)

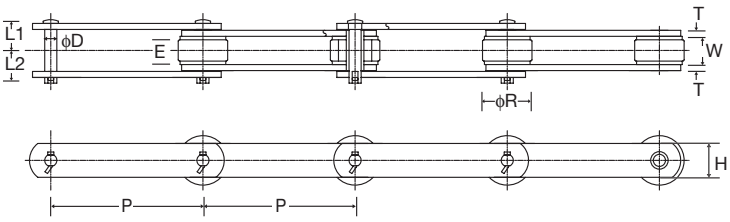
Chain Number	Chain Number	Maximum Allowable Load (DT type) (kgf.)	Maximum Allowable Load (AT type) (kgf.)	Maximum Roller Load "R" Roller (kgf./roller)	Maximum Roller Load "F" Roller (kgf./roller)	"R" Roller Approx. Weight (kg/m)	"F" Roller Approx. Weight (kg./m)
RF03075EBR	RF03075EBF	638	1,232	200	130	2.8	2.9
RF03100EBR	RF03100EBF	638	1,232	200	130	2.4	2.5
RF05100EBR	RF05100EBF	1,540	2,310	310	200	5.2	5.4
RF05125EBR	RF05125EBF	1,540	2,310	310	200	4.5	4.6
RF05150EBR	RF05150EBF	1,540	2,310	310	200	4.2	4.4
RF08125EBR	RF08125EBF	1,694	2,310	420	270	5.9	6.2
RF08150EBR	RF08150EBF	1,694	2,310	420	270	5.6	5.8
RF10100EBR	-	264	3,696	560	350	10.0	-
RF10125EBR	RF10125EBF	264	3,696	560	350	8.7	9.0
RF10150EBR	RF10150EBF	264	3,696	560	350	8.0	8.3
RF12200EBR	RF12200EBF	4,180	5,698	850	560	11.6	12.1
RF12250EBR	RF12250EBF	4,180	5,698	850	560	10.4	10.8
RF17200EBR	RF17200EBF	5,390	8,624	1,440	1,000	20.0	21.0
RF17250EBR	RF17250EBF	5,390	8,624	1,440	1,000	17.0	18.0
RF17300EBR	RF17300EBF	5,390	8,624	1,440	1,000	16.0	16.0
RF26250EBR	RF26250EBF	6,930	11,396	2,000	1,400	26.0	27.0
RF26300EBR	RF26300EBF	6,930	11,396	2,000	1,400	23.0	24.0
RF36300EBR	RF36300EBF	10,626	15,246	2,800	1,900	40.0	42.0

Chain Number	Chain Number	Available Attachments			
		A-1 K-1	A-2 K-2	A-2 Welded	G-2
RF03075EBR	RF03075EBF	R-F	R-F	-	R
RF03100EBR	RF03100EBF	R-F	R-F	-	R
RF05100EBR	RF05100EBF	R-F	R-F	-	R
RF05125EBR	RF05125EBF	R-F	R-F	-	R-F
RF05150EBR	RF05150EBF	R-F	R-F	-	R-F
RF08125EBR	RF08125EBF	R-F	R-F	-	-
RF08150EBR	RF08150EBF	R-F	R-F	-	R-F
RF10100EBR	-	R	R	-	-
RF10125EBR	RF10125EBF	R-F	R-F	-	R-F
RF10150EBR	RF10150EBF	R-F	R-F	-	R-F
RF12200EBR	RF12200EBF	R-F	R-F	-	R-F
RF12250EBR	RF12250EBF	R-F	R-F	-	R-F
RF17200EBR	RF17200EBF	R-F	R-F	-	R-F
RF17250EBR	RF17250EBF	R-F	R-F	-	R-F
RF17300EBR	RF17300EBF	-	R-F	-	R-F
RF26250EBR	RF26250EBF	-	R-F	-	-
RF26300EBR	RF26300EBF	-	R-F	-	R-F
RF36300EBR	RF36300EBF	-	-	R-F	-

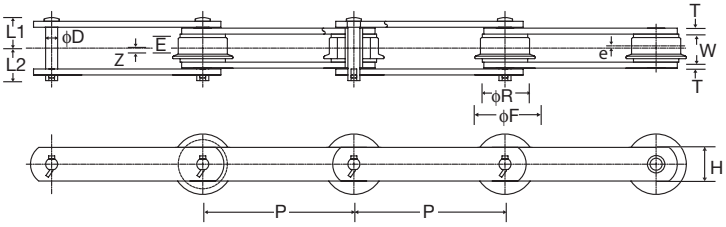
Note: The attachment dimensions are the same as RF Metric Series Chain.

RF Metric Series
Bearing Roller Chain (Lube-Free)

WEBR Type



WEBF Type



All dimensions are in mm unless otherwise indicated.

RF Metric Series
Bearing Roller Chain (Lube-Free)

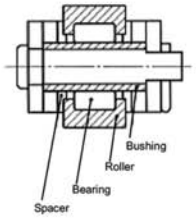
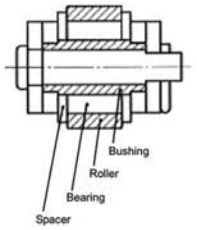
Chain Number	Chain Number	Maximum Allowable Load (kgf.)	Maximum Roller Load "R" Roller (kgf./roller)	Maximum Roller Load "F" Roller (kgf./roller)	"R" Roller Approx. Weight (kg/m)	"F" Roller Approx. Weight (kg./m)
RF03075WEBR	RF03075WEBF	290	140	286	2.8	2.9
RF03100WEBR	RF03100WEBF	290	140	286	2.4	2.5
RF05100WEBR	RF05100WEBF	700	220	440	5.2	5.4
RF05125WEBR	RF05125WEBF	700	220	440	4.5	4.6
RF05150WEBR	RF05150WEBF	700	290	440	4.2	4.4
RF08125WEBR	RF08125WEBF	770	290	594	5.9	6.2
RF08150WEBR	RF08150WEBF	770	390	594	5.6	5.8
RF10100WEBR	-	1,120	390	770	10.0	-
RF10125WEBR	RF10125WEBF	1,120	390	770	8.7	9.0
RF10150WEBR	RF10150WEBF	1,120	600	770	8.0	8.3
RF12200WEBR	RF12200WEBF	1,900	600	1,232	11.6	12.1
RF12250WEBR	RF12250WEBF	1,900	600	1,232	10.4	10.8
RF17200WEBR	RF17200WEBF	2,450	1,010	2,200	20.0	21.0
RF17250WEBR	RF17250WEBF	2,450	1,010	2,200	17.0	18.0
RF17300WEBR	RF17300WEBF	2,450	1,010	2,200	16.0	16.0
RF26250WEBR	RF26250WEBF	3,150	1,400	3,080	26.0	27.0
RF26300WEBR	RF26300WEBF	3,150	1,400	3,080	23.0	24.0
RF36300WEBR	RF36300WEBF	4,830	1,970	4,180	40.0	42.0

		Available Attachments			
Chain Number	Chain Number	A-1 K-1	A-2 K-2	A-2 Welded	G-2
RF03075WEBR	RF03075WEBF	R-F	R-F	-	R
RF03100WEBR	RF03100WEBF	R-F	R-F	-	R
RF05100WEBR	RF05100WEBF	R-F	R-F	-	R
RF05125WEBR	RF05125WEBF	R-F	R-F	-	R-F
RF05150WEBR	RF05150WEBF	R-F	R-F	-	R-F
RF08125WEBR	RF08125WEBF	R-F	R-F	-	-
RF08150WEBR	RF08150WEBF	R-F	R-F	-	R-F
RF10100WEBR	-	R	R	-	-
RF10125WEBR	RF10125WEBF	R-F	R-F	-	R-F
RF10150WEBR	RF10150WEBF	R-F	R-F	-	R-F
RF12200WEBR	RF12200WEBF	R-F	R-F	-	R-F
RF12250WEBR	RF12250WEBF	R-F	R-F	-	R-F
RF17200WEBR	RF17200WEBF	R-F	R-F	-	R-F
RF17250WEBR	RF17250WEBF	R-F	R-F	-	R-F
RF17300WEBR	RF17300WEBF	-	R-F	-	R-F
RF26250WEBR	RF26250WEBF	-	R-F	-	
RF26300WEBR	RF26300WEBF	-	R-F	-	R-F
RF36300WEBR	RF36300WEBF	-		R-F	-

Note: The attachment dimensions are the same as RF Metric Series Chain.

RF Metric Series
Bearing Roller Chain (Lube-Free)

TSUBAKI

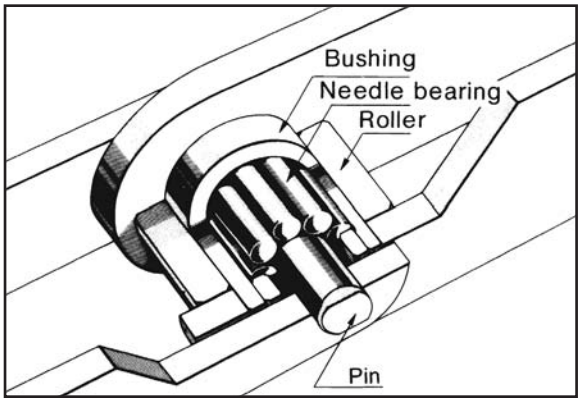
				EBR EBF	WEBR WEBF
Chain Series				Lube Free Basic Type	Lube Free Water Resistant Type
Roller Construction					
Roller Material				Roller: Hardened Alloy Steel Cylindrical Roller: Case Hardened Alloy Steel and Plastic Bushing: Case Hardened Alloy Steel Spacer: Plastic	Roller: Stainless Steel 400 series Cylindrical Roller: Stainless Steel 400 series and Plastic Bushing: Stainless Steel 400 series Spacer: Plastic
Chain Specification				**SERIES DT** Plate: Carbon Steel Pin: Hardened Alloy Steel **SERIES AT** Plate: Hardened Alloy Steel Pin: Hardened Alloy Steel	Plate: Carbon Steel Pin: Stainless Steel 400 series
Optimum Operating Environment				Normal temperature range. No dust. No water.	Normal temperature range. Can be exposed to water.
Lubrication on Roller				No need for additional lubrication. Roller already pre-greased.	No need for additional lubrication. Roller already pre-greased.
Temperature Range				-20°C ~ 50°C	0°C ~ 50°C
Allowable Roller Load (kgf)	R Type Roller	CHAIN SIZE	RF03	200	140
			RF05	310	220
			RF08	420	290
			RF10	560	390
			RF12	850	600
			RF17	1,440	1,010
			RF26	2,000	1,400
			RF36	2,800	1,970
	F Type Roller		RF03	130	90
			RF05	200	140
			RF08	270	190
			RF10	350	240
			RF12	560	390
			RF17	1,000	700
			RF26	1,400	980
			RF36	1,900	1,330
Friction Coeficient Between Roller and Guide Rail				0.03	0.03
Maximum Chain Speed (m./min.)	NUMBER OF SPROCKET TEETH		8	15	15
			10	20	20
			12	25	25

RF Metric Series
Bearing Bush Chain

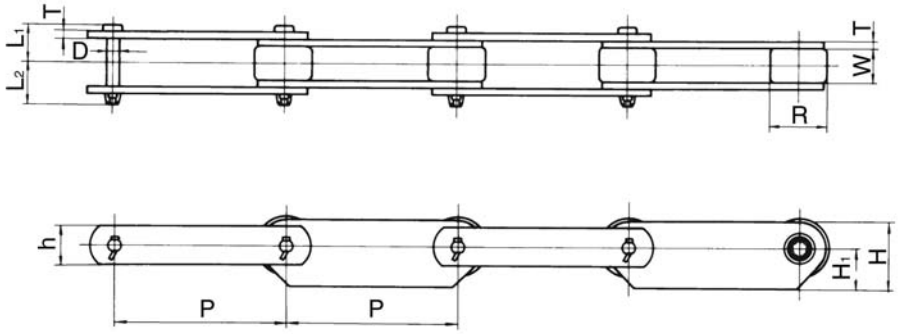
Bearing Bush Chain is used in automatic assembling, packaging, filling, and parts installation for a variety of industries, including electric, electronic, semiconductor, automobile, and food as well as in other precision machinery. It includes the following features:

- High accuracy and no elongation.
- Interchangeability with other double pitch roller chains and large pitch conveyor chains.
- Long wear life without lubrication.

Usually chains are designed with gaps between the pins and bushings for proper operation. With Bearing Bush Chain, needle bearings are installed between the pins and bushings. These add rolling elements between these components and eliminate the sliding friction. Immediately after installation, the chain stretches a little (less than 0.03%) to fit the contacting surface of chain parts. After that, it doesn't stretch.
Major dimensions of the Bearing Bush Chain and attachments are the same as our ANSI standard double pitch conveyor chains (RF Type Standard Conveyor Chains). Tsubaki Bearing Bush Chain works perfectly with standard over-sized roller sprockets.
Changeover from standard roller chains to Tsubaki Bearing Bush Chains can be accomplished with minimal redesign of equipment.

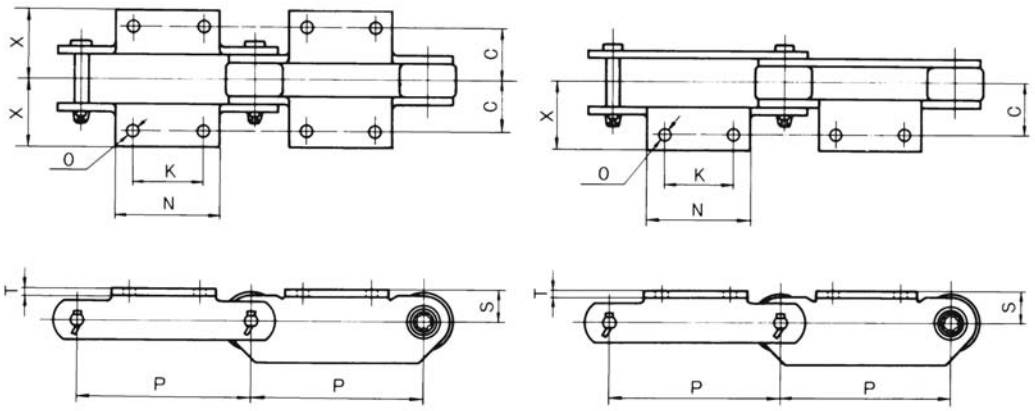


RF Metric Series
Bearing Bush Chain



All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate				Pin				Average Tensile Strength (kgf.)	Maximum Allowable Load (kgf.)	Approx. Weight (kg./m)
				Thickness T	Height h	Height H	Height H_1	Dia. D	Length $L_1 + L_2$	Length L_1	Length L_2			
RFN03075R	75	31.8	16.1	3.2	22.0	35.0	20.0	8.0	38.0	18.0	20.0	250	55	3.0
RFN05100R	100	40.0	22.0	4.5	32.0	47.0	26.0	11.3	53.5	25.0	28.5	500	105	5.8
RFN10150R	150	50.8	30.0	6.3	38.1	61.0	35.0	14.5	69.0	33.0	36.0	800	180	8.7
RFN12200R	200	65.0	37.1	7.9	44.5	71.0	40.0	15.9	83.5	40.5	43.0	1,000	255	13.0
RFN17200R	200	80.0	37.1	9.5	50.8	85.0	51.0	19.1	109.5	51.5	58.0	1,300	410	21.5
RFN26250R	250	100.0	51.4	9.5	63.5	105.0	64.0	22.2	116.5	55.5	61.0	2,000	540	28.5
RFN36300R	300	125.0	57.2	12.7	76.2	125.0	75.0	25.4	146.0	68.0	78.0	2,500	760	41.5



K-2 attachment

A-2 attachment

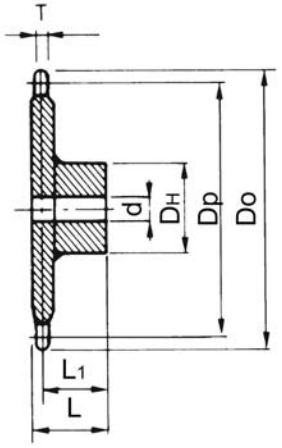
All dimensions are in mm unless otherwise indicated.

Chain Number	Attachment Dimensions								Add'l Wt/.Attachment (kg.)	
	Pitch P	Thickness T	S	C	X	K	N	O	A2	K2
RFN03075R	75	3.2	20	30	46	30	55	10	0.05	0.10
RFN05100R	100	4.5	22	35	47	40	65	10	0.08	0.16
RFN10150R	150	6.3	28	50	67	60	90	12	0.20	0.40
RFN12200R	200	7.9	38	60	79	80	120	15	0.45	0.90
RFN17200R	250	9.5	45	75	100	80	120	15	0.66	1.32
RFN26250R	250	9.5	55	80	108	125	170	15	1.07	2.14
RFN36300R	300	12.7	70	100	135	150	220	19	1.80	3.60

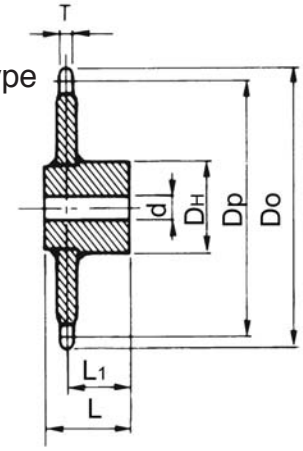
RF Metric Series
Bearing Bush Chain

Bearing Bush Sprocket Specifications

BW Type



BWI Type



All dimensions are in mm unless otherwise indicated.

Sprocket Number	Number of Teeth	Type	Pitch Diameter Dp	Outer Diameter Do	Tooth Thickness T	Minimum Bore Diameter	Maximum Bore Diameter	Hub Diameter DH	Hub Length L	Hub Length L_1	Approx. Weight (kg.)
RFN03075R-8T	8	BW	196.0	209	11.9	18	55	83	62	56	4.8
RFN03075R-10T	10	BW	242.7	259	11.9	18	60	93	67	61	7.1
RFN03075R-12T	12	BW	289.8	308	11.9	18	60	93	67	61	9.0
RFN05100R-8T	8	BW	261.3	272	18.0	28	75	107	86	77	12.0
RFN05100R-10T	10	BW	323.6	340	18.0	33	80	117	94	85	17.4
RFN05100R-12T	12	BW	386.4	405	18.0	33	85	127	104	95	24.4
RFN10150R-8T	8	BW	392.0	408	22.0	38	100	147	123	112	33.2
RFN10150R-10T	10	BW	485.4	506	22.0	38	110	157	133	122	47.6
RFN10150R-12T	12	BW	579.6	601	22.0	38	115	167	144	133	65.2
RFN12200R-8T	8	BW	522.6	551	28.0	60	120	177	150	125	67.4
RFN12200R-10T	10	BW	647.2	682	28.0	65	130	187	160	135	96.6
RFN12200R-12T	12	BW	772.7	810	28.0	75	145	207	180	155	136.9
RFN17200R-8T	8	BW	522.6	562	40.0	75	145	207	180	148	98.1
RFN17200R-10T	10	BW	647.2	691	40.0	75	145	207	180	148	134.0
RFN17200R-12T	12	BW	772.7	821	40.0	80	160	227	200	168	190.1
RFN26250R-8T	8	BW	653.3	703	45.0	80	160	227	200	164	159.7
RFN26250R-10T	10	BW	809.0	864	45.0	85	175	247	240	204	244.1
RFN26250R-12T	12	BW	965.9	1026	45.0	85	175	247	240	204	321.4
RFN36300R-8T	8	BW	783.9	853	55.0	95	190	267	240	198	276.2
RFN36300R-10T	10	BW	970.8	1046	55.0	95	190	267	270	228	398.9
RFN36300R-12T	12	BW	1159.1	1234	55.0	100	190	267	260	218	550.8

RF Metric Series
Flow Conveyor Chain

Introduction:

Flow Conveyor Chain moves bulk materials in a closed case. It conveys the particles horizontally, on a slight incline, or vertically in an arrangement shaped like the letter L. Generally, a flow conveyor is used widely in the conveyance of bulk materials such as cement and fertilizer in chemical industries, and grain in food industries. Because it is enclosed, dust from the conveyed materials is contained, and will not pollute the surrounding area. A flow conveyor is not usually used to move sticky, dusty, or low-density products.

Construction and Features:

Specially shaped attachments with large clearances are installed on small pitch or large pitch conveyor chains. The chain operates in a casing filled with conveyed material, such as grain, flour, or ash.

In the flow conveyor, the attachments work as moving walls, and the conveyed material moves along with it. To lift conveyed objects, the friction at the bottom wall of the conveyor must support the weight of the vertical portion, therefore, the conveyor must have a bottom line "L" shape.

Because there is very little relative movement among the conveyed materials in this application, breakage is rare. The case width is determined by the attachment dimensions; usually it is less than 750 mm.

Standard sprockets for RF-type conveyor chain are used for flow conveyors.

Selection and Handling:

(1) There are several types of attachments available, depending on design and arrangement of the conveyor and whether material pushed against the bottom of the casing or its side walls. The specific properties of the material conveyed determine the type of attachments that should be used. Refer to the application chart below and also discuss your application with Tsubaki Technical Support.

(2) KL-type attachment is an inclined version of an L attachment. This attachment can convey low-density and sticky materials.

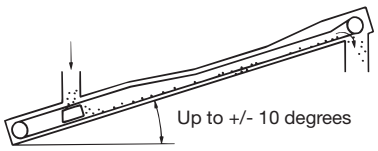
(3) In grain applications, installation of a cleaner prevents mixing of different types of grains, and the cleaner removes any particles in the casing that could go bad. Usually the cleaner is installed at intervals of 6 m.

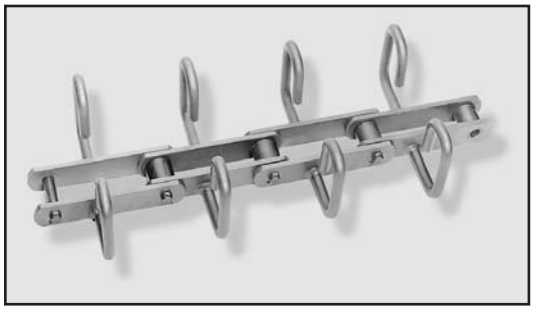
(4) An M-roller, which rotates more smoothly than an S-roller, is typically used in the base chain.

Attachment	Application
L	Conveying grain or cement
KL	Conveying adhesive powder
B (round)	Conveying powdered material like flour or cements at higher conveying efficiency than L attachment
B (square)	Conveying massive, powdered, or adhesive materials that are hard to convey with B (round) attachment
U_2V (round)	A larger conveyor than L, KL, B, or for an upgrade
U_2V (square)	Conveying massive, powdered, or adhesive materials that are hard to convey with U_2V (round)

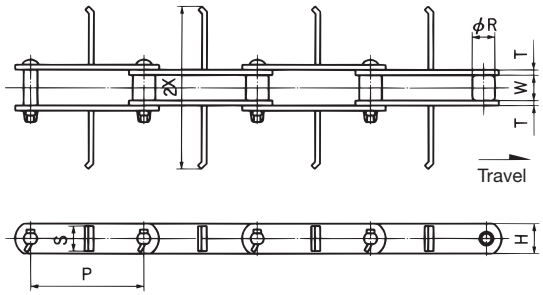
RF Metric Series
Flow Conveyor Chain

RF Conveyor Chain for FC Type Horizontal Flow Conveyor

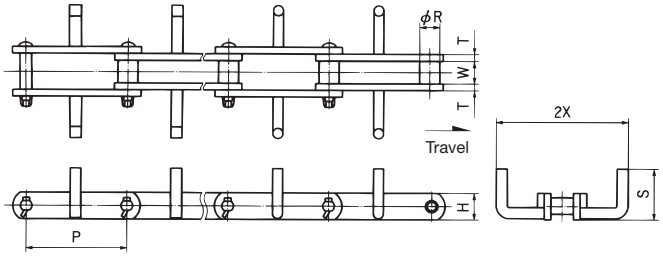




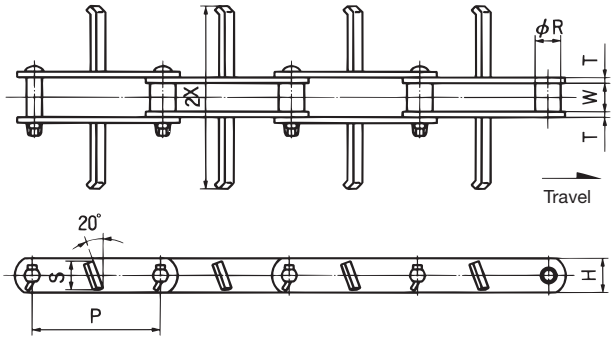
"L" Attachment



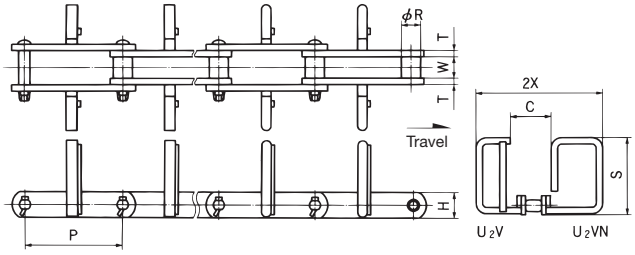
"B" (square) and "B" (round) Attachments



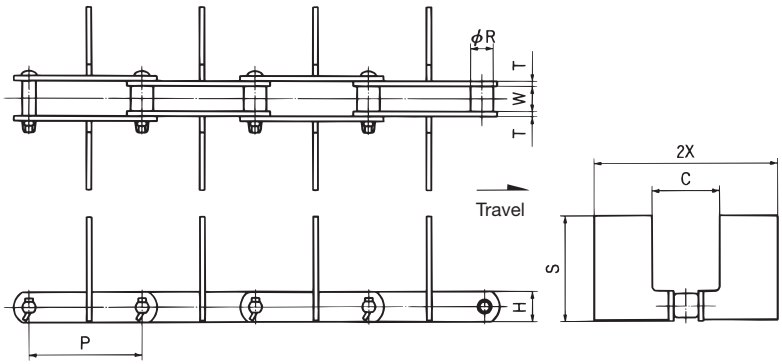
"KL" Attachment



"U2V" (square) and "U2VN" (round) Attachments



"KL" Attachment



RF Metric Series
Flow Conveyor Chain

TSUBAKI

RF Flow Conveyor (FC Type) Specifications

All dimensions are in mm unless otherwise indicated.

Chain Number	Former Chain Number	Inner Width of Case	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate		Average Tensile Strength (DT) (kgf)	Average Tensile Strength (AT) (kgf)
						Thickness T	Height H		
RF450WM	F4, FW4	150	101.6	25.4	27.0	6.3	31.8	11,000	14,500
RF08125WM		200	125.0	25.4	27.0	6.3	31.8	11,000	14,500
RF10125M		200	125.0	31.8	30.0	6.3	38.1	11,500	23,000
RF10150M		270	150.0	31.8	30.0	6.3	38.1	11,500	23,000
RF6205M	F6, FA6	270	152.4	38.1	37.1	7.9	44.5	19,000	28,500
RF12200M		350	200.0	38.1	37.1	7.9	44.5	19,000	28,500
RF17200M		350	200.0	44.5	51.4	9.5	50.8	25,000	39,500
RF17250M		450	250.0	44.5	51.4	9.5	50.8	25,000	39,500
RF26200M	F8, FA8	410	200.0	50.8	57.2	9.5	63.5	32,000	53,000
RF26250N		450	250.0	50.8	57.2	9.5	63.5	30,500	57,500
RF26300N		580	300.0	50.8	57.2	9.5	63.5	30,500	57,500
RF36300M	F12, FA12	580	300.0	57.2	66.7	12.7	76.2	48,500	69,500
RF36300N	F12, FA12	580	300.0	57.2	66.7	12.7	76.2	48,500	69,500

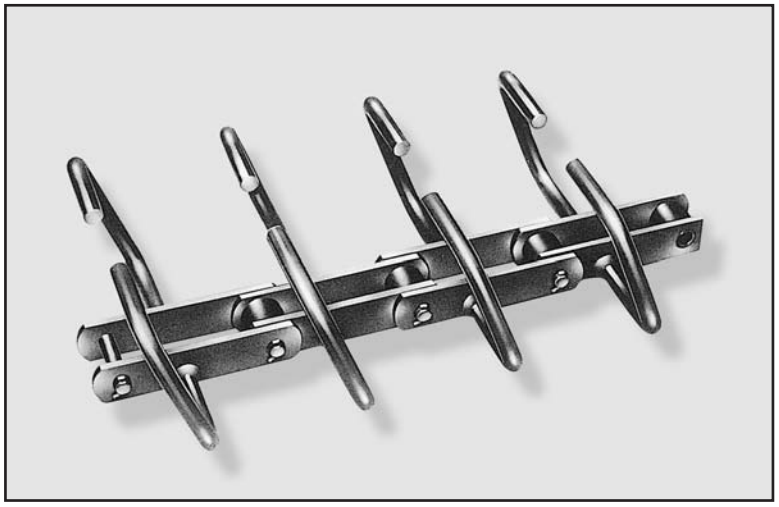
RF Flow Conveyor (FC Type) Attachment Specifications

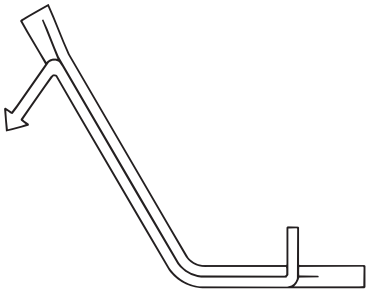
All dimensions are in mm unless otherwise indicated.

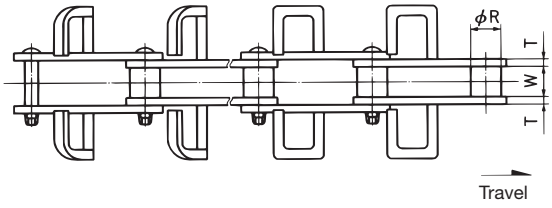
Chain Number	2X	"L" Attachment		"KL" Attachment		"B" Attachment		"U_2V"/"U_2VN" Attachment			"W" Attachment		
		S	Added weight/ attach. (kg/m)	S	Added weight/ attach. (kg/m)	S	Added weight/ attach. (kg/m)	S	C	Added weight/ attach. (kg/m)	S	C	Added weight/ attach. (kg/m)
RF450WM	135	28	6.5	28	6.5	55	7.4	80	60	9.1	80	60	8.1
RF08125WM	185	28	6.5	28	6.5	80	8.2	115	85	10.1	115	85	10.3
RF10125M	185	34	8.1	34	8.1	80	8.9	115	85	10.1	115	85	11.3
RF10150M	250	34	8.1	34	8.1	100	9.8	140	105	12.0	140	105	13.0
RF6205M	250	40	12.0	40	12.0	100	14.4	140	105	18.5	140	105	17.2
RF12200M	330	40	12.0	40	12.0	125	16.3	185	130	20.0	185	130	22.6
RF17200M	330	46	17.0	46	17.0	125	18.7	185	130	23.0	185	130	26.3
RF17250M	430	46	17.0	46	17.0	160	19.3	230	135	23.7	230	135	31.5
RF26200M	390	58	28.0	58	28.0	150	25.0	233	100	33.4	233	100	41.7
RF26250N	430	58	23.0	58	23.0	160	25.0	230	135	29.0	230	135	35.7
RF26300N	560	58	23.0	58	23.0	200	27.0	290	160	30.6	290	160	53.0
RF36300M	560	70	34.0	70	34.0	200	37.0	290	160	40.0	290	160	61.3
RF36300N	560	70	34.0	70	34.0	200	37.0	290	160	40.0	290	160	61.3

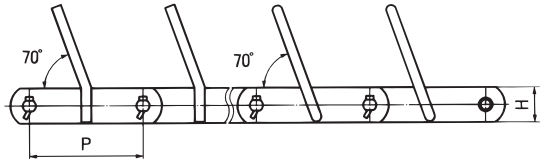
RF Metric Series
Flow Conveyor Chain

RF Conveyor Chain for LC Type Inclined Flow Conveyor









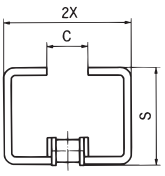
RF Flow Conveyor LC Type Specifications

All dimensions are in mm unless otherwise indicated.

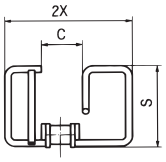
Chain Number	Former Chain Number	Inner Width of Case	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate		Average Tensile Strength (DT) (kgf)	Average Tensile Strength (AT) (kgf)
						Thickness T	Height H		
RF450WM	F4, FW4	160	101.6	25.4	27.0	6.3	31.8	11,000	14,500
RF10125M		240	125.0	31.8	30.0	6.3	38.1	11,500	23,000
RF6205M	F6, FA6	320	152.4	38.1	37.1	7.9	44.5	19,000	28,500
RF17200M		410	200.0	44.5	51.4	9.5	50.8	25,000	39,500
RF26200M	F8	410	200.0	50.8	57.2	9.5	63.5	32,000	53,000
RF26200N	FA8	410	200.0	50.8	57.2	9.5	63.5	30,500	57,500
RF36300M	F12, FA12	500	300.0	57.2	66.7	12.7	76.2	48,500	-
RF36300M	F12, FA13	600	300.0	57.2	66.7	12.7	76.2	48,500	-
RF36300N	F12, FA12	500	300.0	57.2	66.7	12.7	76.2	-	69,500
RF36300N	F12, FA13	600	300.0	57.2	66.7	12.7	76.2	-	69,500

RF Metric Series Flow Conveyor Chain

RF Conveyor Chain Attachments for LC Type Inclined Flow Conveyor



"U" Attachment



"U_2" "U_2N" Attachment

Attachment	Application	Attachment	Application
U (round steel bar)	for conveying general powdered materials	U_2 (round steel bar)	for conveying material at higher efficiency than U (round)
U (square steel bar)	for conveying massive, powdered, or adhesive materials	U_2 (square steel bar)	for conveying material at higher efficiency than U (square)

RF Flow Conveyor LC Type Attachment Specifications

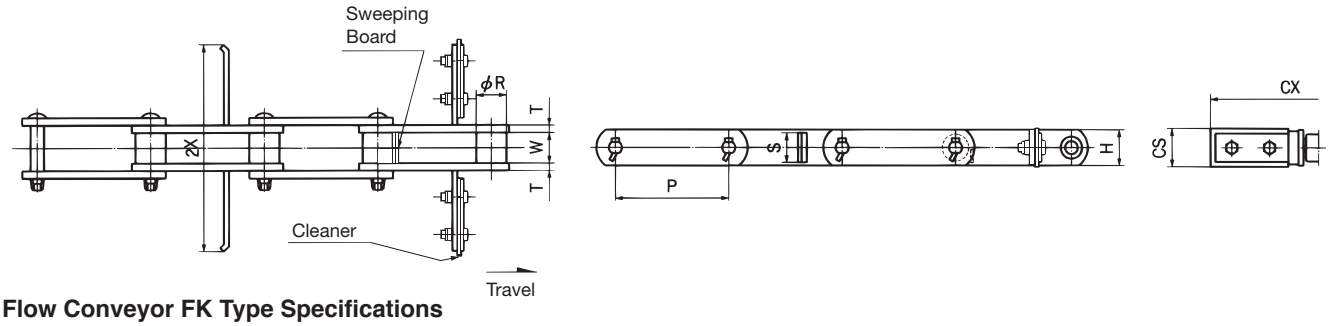
All dimensions are in mm unless otherwise indicated.

		"U" Attachment			"U_2"/"U_2N" Attachment		
Chain Number	2X	S	C	Added weight/ attach. (kg/m)	S	C	Added weight/ attach. (kg/m)
RF450WM	145	110	50	10.1	110	50	10.9
RF10125M	225	140	65	14.3	140	65	15.7
RF6205M	300	1750	80	20.1	175	80	21.7
RF17200M	390	220	100	27.9	220	100	30.3
RF26200M	390	220	100	30.9	220	100	33.3
RF26200N	390	220	100	30.9	220	100	33.3
RF36300M	480	260	120	42.5	260	120	44.8
RF36300M	580	305	140	47.0	305	140	48.1
RF36300N	480	260	120	42.5	260	120	44.8
RF36300N	580	305	140	47.0	305	140	48.1

RF Metric Series
Flow Conveyor Chain

RF Conveyor Chain for FK Type Flow Conveyor for Grain

This chain is specially designed for horizontal flow conveyors (upgrade or downgrade 3 meters) that handle grain. The sweeping board prevents material on the rail from being crushed and the cleaner sweeps the material off the case.



RF Flow Conveyor FK Type Specifications

All dimensions are in mm unless otherwise indicated.

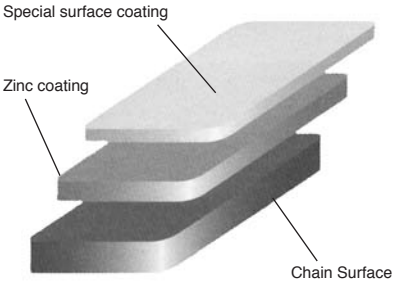
Chain Number	Inner Width of Case	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate		Average Tensile Strength (kgf)
					Thickness T	Height H	
RF03075S	110	75.0	15.9	16.1	3.2	22.0	3,000
RF430S	150	101.6	20.1	22.6	4.8	25.4	5,500
RF450S	150	101.6	22.2	27.0	6.3	28.6	8,000
RF08125S	200	125.0	22.2	27.0	6.3	28.6	8,000
RF10125S	200	125.0	29.0	30.0	6.3	38.1	11,500
RF10125S	240	125.0	29.0	30.0	6.3	38.1	11,500
RF10150S	270	150.0	29.0	30.0	6.3	38.1	11,500
RF10150S	320	150.0	29.0	30.0	6.3	38.1	19,000
RF6205S	270	152.4	34.9	37.1	7.9	44.5	19,000
RF12200S	350	200.0	34.9	37.1	7.9	44.5	19,000
RF17200S	350	200.0	40.1	51.4	9.5	50.8	25,000
RF17200S	450	200.0	40.1	51.4	9.5	50.8	25,000
RF26200S	450	200.0	44.5	57.2	9.5	63.5	32,000

RF Flow Conveyor FK Type Attachment Specifications

All dimensions are in mm unless otherwise indicated.

Chain Number	Attachment		Cleaner		Added weight/ attach. (kg/m)
	2X	S	CX	CS	
RF03075S	95	20	105	28	2.1
RF430S	135	22	145	32	3.4
RF450S	135	25	145	34	5.0
RF08125S	185	25	195	34	5.0
RF10125S	185	34	195	47	6.8
RF10125S	225	34	235	47	7.3
RF10150S	250	34	265	47	6.9
RF10150S	300	34	315	47	7.2
RF6205S	250	40	265	53	10.5
RF12200S	330	40	345	53	10.3
RF17200S	330	46	345	58	14.0
RF17200S	430	46	445	58	16.0
RF26200S	430	58	445	68	21.0

DP Coated Anti-Corrosive Chain



DP engineering class chain has been zinc galvanized and then specially treated on the surface with a coating that together provide a double plated effect. (The surface treatment is applied to each individual part of the chain before it is assembled). This highly durable chain has superior corrosion resistance to salt-water and all types of weather. There is no reduction in tensile strength as a result of coating the chain. Applications include outdoor conveyor systems, bottle washer lines, shower testers and many other applications subject to harsh environments. DP coated chain should not be used where the chain comes into direct contact with food products. Nor should it be used where the special coating flakes may mix with and or contaminate food products. In non-food applications, a cover should be used where the coating flakes or where dust may pose a problem.

DP Engineering Class Chain Specifications:

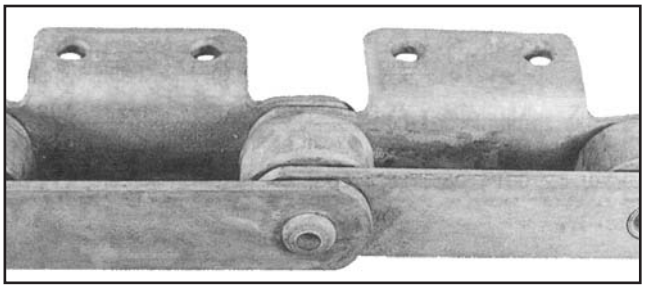
Chain Size	RF03 – RF36 (and MTO chains)
Chain Series	Coating can be applied to any chain material including stainless steel.
Working Temperature Range	-20˚C - +200˚C
Colour of Coating	Silver

Corrosion Resistance Specifications:

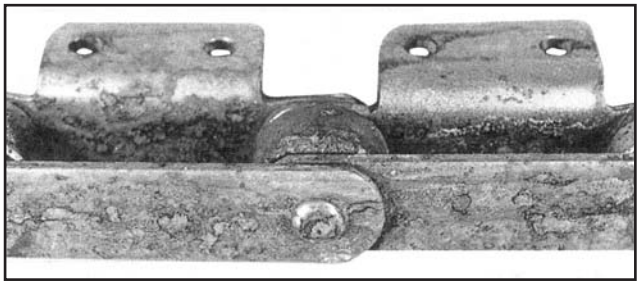
DP coated chain has 5 times greater corrosion resistance than zinc plated chain and 20 times greater corrosion resistance than nickel plated chain.

In house Corrosion testing (salt water):

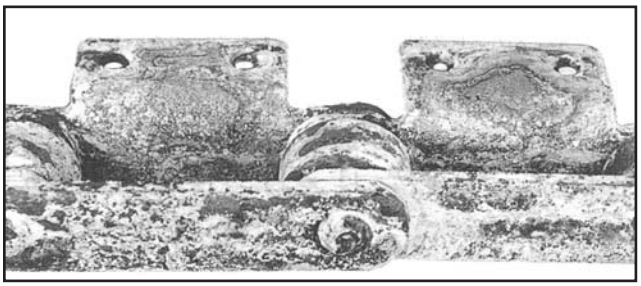
DP Conveyor Chain
(120 hours – no rust)



Nickel Plated Conveyor Chain
(120 hours – corroded)



Zinc Plated Conveyor Chain
(120 hours – very corroded)



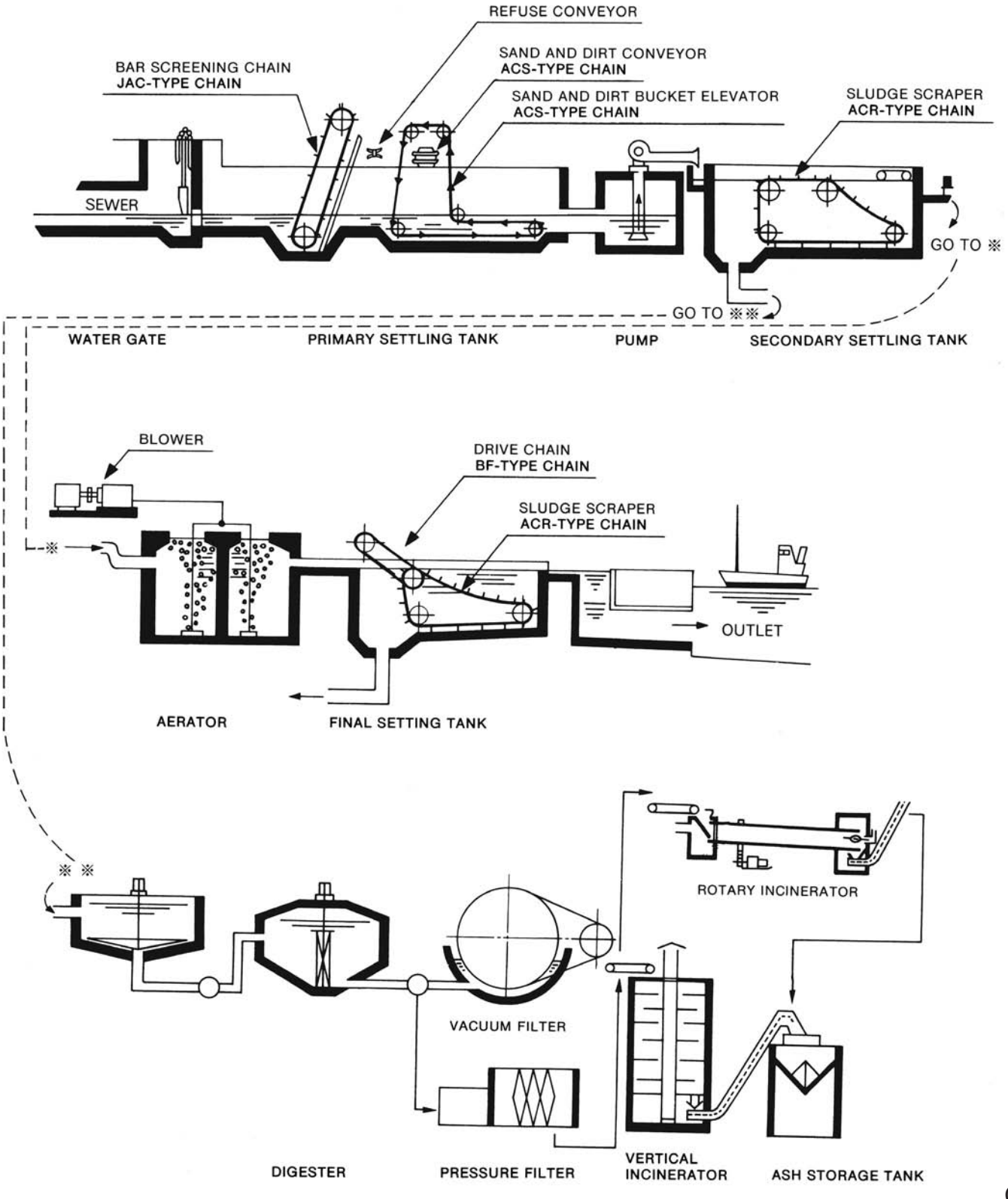
RF03100DPF-1LA2-DT

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

Sewage Treatment Chain

Sewage Disposal Process

One of the main uses of large pitch conveyor chain is in water treatment facilities. In a large sewage treatment facility, sewage goes through several tanks in which solid wastes are eliminated.

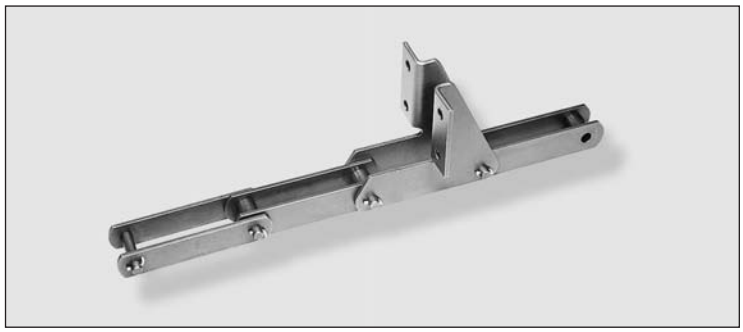


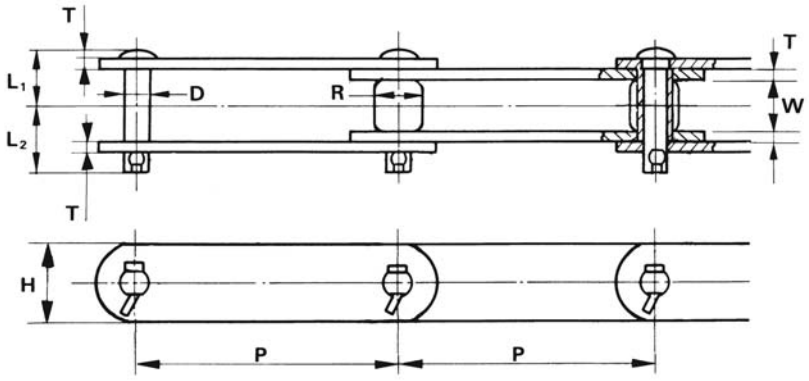
ACR Collector Tank Sewage Treatment Chain

Chains used in water treatment applications are operated at low speeds and not subjected to any heavy shock loads.

For that reason, ACR chains were developed:

ACR Chain is a small chain made of type 403 stainless steel. This was the first chain to be used in scraper applications to be equipped with rollers. The rollers reduce wear on the sprocket and the chain. Insert-tooth sprockets have been developed for this chain as well.



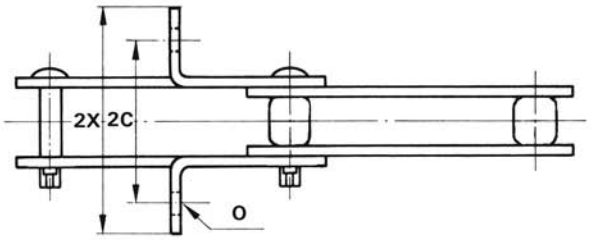


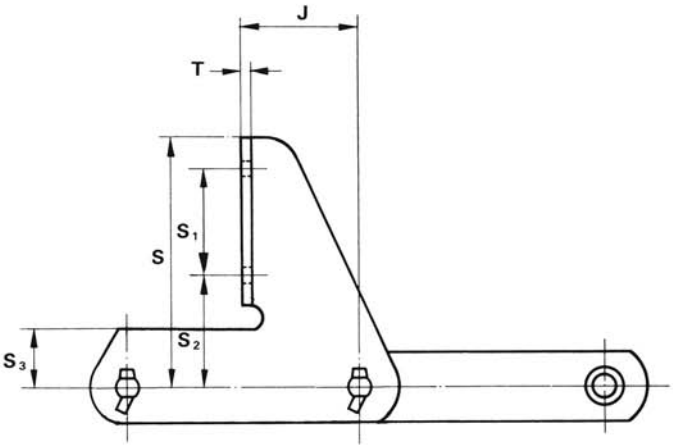
All dimensions are in mm unless otherwise indicated.

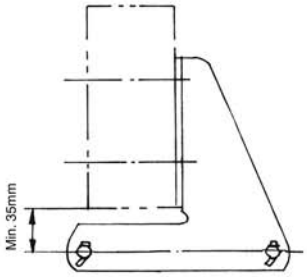
Chain Number	Pitch P	Roller Dia. R	Width Between Inner Link Plates W	Link Plate		Pin				Average Tensile Strength (kgf)	Approx. Weight (kg/m)
				Thickness T	Height H	Diameter D	Length $L_1 + L_2$	Length L_1	Length L_2		
ACR810	152.4	22.2	22.0	4.5	33	11.3	53.5	25.0	28.5	10,000	3.2
ACR815	152.4	22.2	27.6	6.0	38	11.3	65.5	31.0	34.5	15,000	5.0
ACR816	152.4	25.0	26.0	6.0	38	12.7	64.0	30.0	34.0	16,000	5.0
ACR819	152.4	29.0	30.6	6.0	44	14.5	69.0	33.0	36.0	19,000	6.0

ACR Collector Tank
Sewage Treatment Chain

"SF-4" Attachment







When the dimensions of the flight attachment are decided, please check for interference between chain and sprocket.

All dimensions are in mm unless otherwise indicated.

Attachment Style	Chain Number	Attachment Specifications									Additional Wt. per Attach. (kg.)
		2C	2X	J	S	S_1	S_2	S_3	O	T	
SF-4	ACR810	100	140.0	76	155	65	70	22	14	4.5	1.0
SF-4	ACR815	100	140.0	76	157	65	70	22	14	6.0	1.4
SF-4	ACR816	100	140.0	76	157	65	70	22	14	6.0	1.4
SF-4	ACR819	100	142.5	76	157	65	70	22	14	6.0	1.4

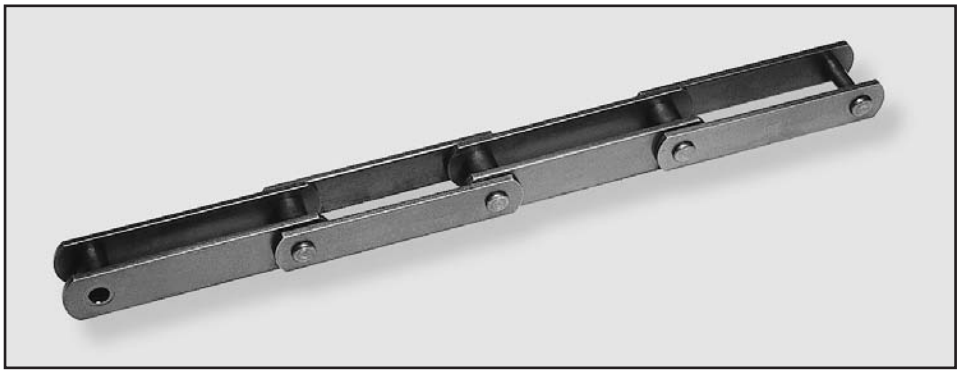
ACS Collector Tank Sewage Treatment Chain

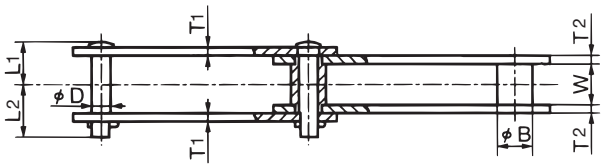
In the silt tank, sand and dirt are removed using vacuum or V-buckets. In the settling tank, sludge in the water, or on its surface, is scraped to the exit with "flights" (boards) installed between two strands of chains at intervals of 3 m. Sewage Treatment Chain (ACS Chain) is used in this process. Accumulated dirt is removed with pumps. ACS stainless steel chains assure excellent corrosion resistance, so there is no need for old-style extra-heavy cast iron chains. This chain is also used to convey corrosive objects in general scraper conveyors. ACS Chain has large-diameter bushings. It does not have rollers. Plates, pins, and bushings are made of type 403 stainless steel and all these components are press-fit. The T-head cotter key is made of type 304 stainless steel, which ensures high corrosion resistance. SF-4 attachments are used for installing flights, and extended pins or LA-1 attachments for installing buckets in the dredger. Both of these attachments are placed on the outer plates. LA-1 attachments are made of heat-treated carbon steel.

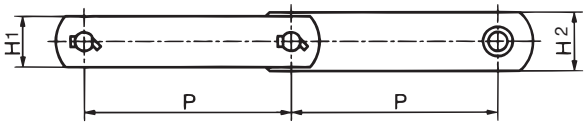
Selection and Handling:

(1) The chain speed of a scraper application is slow, 0.3 to 0.6 m/min., and 3 m/min. in the bucket application. The chain tension is the highest during the test period, before water is poured into the tank. Before water is poured into a 40-m tank, one chain is exposed to tension of 10,000 kgf.

(2) The Type 403 stainless steel chain has sufficient corrosion resistance for most sewage facilities. If there is a high concentration of chlorine (as found in sea water, for example), if there are high levels of sulfur from hot springs, or if the tanks are contaminated, 304 stainless steel should be used, at least for side plates.





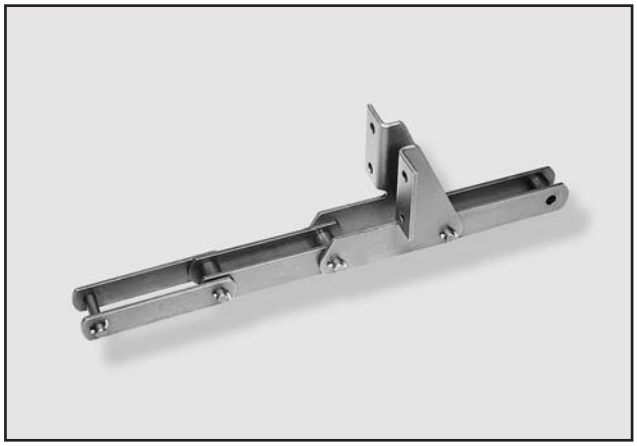


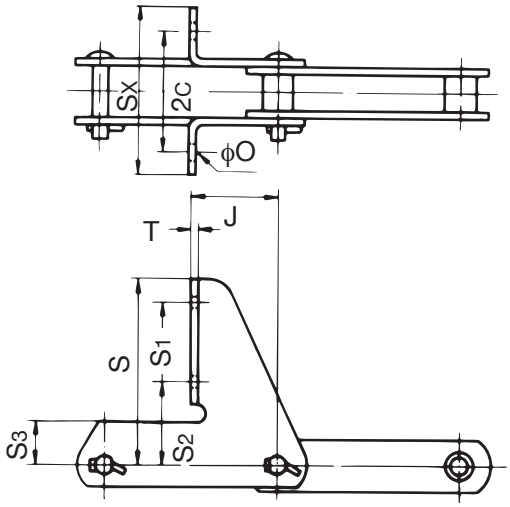
All dimensions are in mm unless otherwise indicated.

Chain Number	Pitch P	Bushing Dia. B	Width Between Inner Link Plates W	Link Plate				Pin				Average Tensile Strength (kgf)	Approx. Weight (kg/m)
				Thickness T_1	Thickness T_2	Height H_1	Height H_2	Diameter D	Length $L_1 + L_2$	Length L_1	Length L_2		
ACS13078W	78.1	23	26	5	5	33	36	12.7	60.0	28.0	32.0	13,500	5.2
ACS13103W	103.2	23	26	5	5	33	36	12.7	60.0	28.0	32.0	13,500	4.6
ACS13152W	152.4	23	26	5	5	33	36	12.7	60.0	28.0	32.0	13,500	3.6
ACS15152W	152.4	24	26	5	6	36	38	13.5	62.0	29.0	33.0	15,000	4.8
ACS19152W	152.4	30	30	6	6	38	44	14.5	71.5	32.0	39.5	19,000	5.8
ACS25152W	152.4	29	30	6	7	44	54	15.8	76.0	35.0	41.0	25,000	7.9
ACS35152W	152.4	35	38	7	7	54	60	19.0	87.0	41.0	46.0	35,000	10.9

ACS Collector Tank Sewage Treatment Chain

"SF-4" Attachment





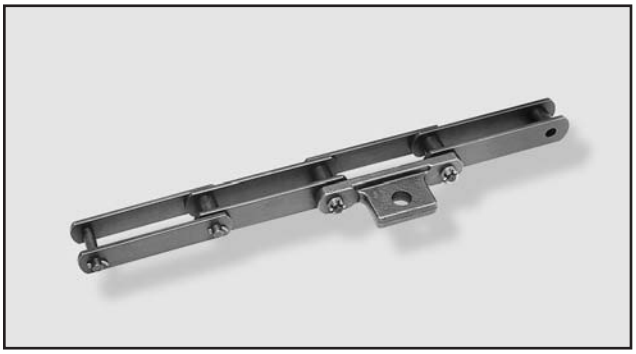
All dimensions are in mm unless otherwise indicated.

Attachment Style	Chain Number	Attachment Specifications									Additional Wt. per Attach. (kg.)
		2C	2X	J	S	S_1	S_2	S_3	O	T	
SF-4	ACS13078W	90	131.5	38	110	35	55	28	14	5	0.6
SF-4	ACS13103W	90	131.5	52	110	35	55	28	14	5	0.7
SF-4	ACS13152W	90	131.5	76	100	35	55	28	14	5	1.0
SF-4	ACS15152W	100	143.5	76	155	65	70	35	14	5	1.2
SF-4	ACS19152W	100	141.5	76	157	65	70	38	14	6	1.4
SF-4	ACS25152W	100	143.5	76	154	65	70	38	14	6	1.4
SF-4	ACS35152W	110	152.0	76	160	65	75	40	14	7	1.6

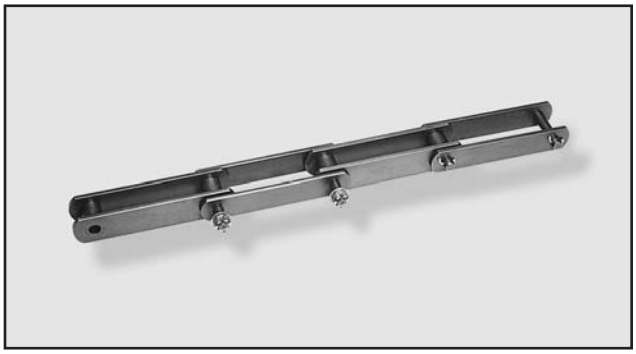
ACS Collector Tank Sewage Treatment Chain

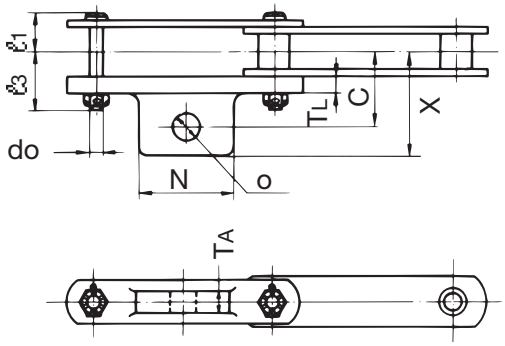
TSUBAKI

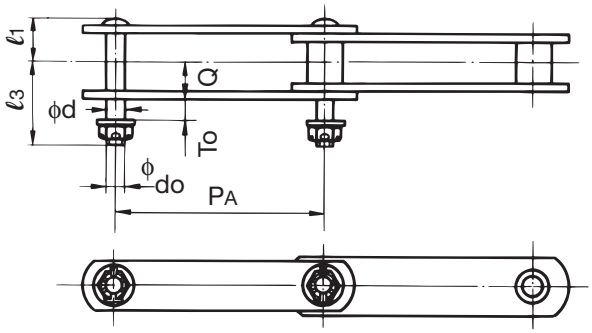
"LA-1" Attachment



Long Pin Attachment







All dimensions are in mm unless otherwise indicated.

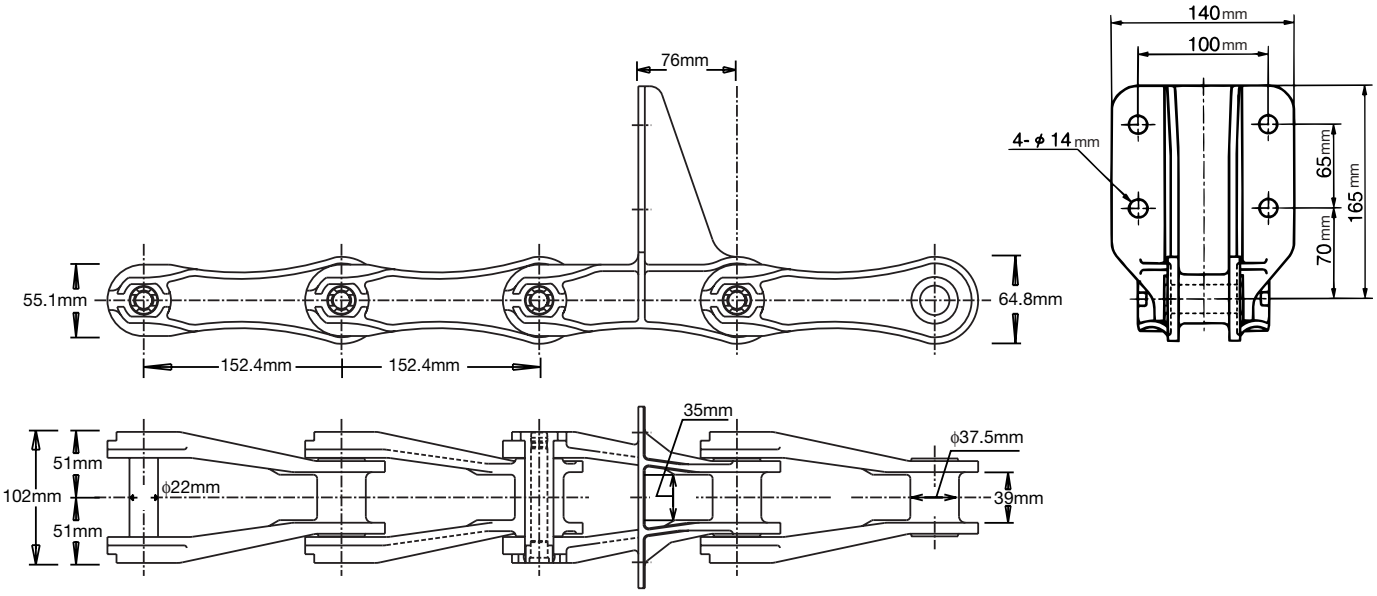
Attachment Style	Chain Number	Attachment Specifications									Additional Wt. per Attach. (kg.)
		d_o	ℓ_1	ℓ_3	C	X	N	O	T_A	T_L	
LA-1	ACS13078W	M10	29.5	41.5	55	77	40	19	16	12	0.4
LA-1	ACS13103W	M10	29.5	41.5	55	77	56	19	16	12	0.6
LA-1	ACS15152W	M12	30.5	44.5	55	77	68	19	16	12	0.8
LA-1	ACS19152W	M12	33.5	51.5	65	90	80	24	20	16	1.2
LA-1	ACS25152W	M14	36.5	53.5	65	90	80	24	20	16	1.4
LA-1	ACS35152W	M16	42.5	61.5	75	102	80	26	24	19	2.0

All dimensions are in mm unless otherwise indicated.

Attachment Style	Chain Number	Attachment Specifications							Additional Wt. per Attach. (kg.)
		P_A	d	d_o	ℓ_1	ℓ_3	Q	T_o	
Long Pin	ACS13078W	77.7	12.0	M10	28	49	24.0	12	0.06
Long Pin	ACS13103W	102.8	12.0	M10	28	49	24.0	12	0.06
Long Pin	ACS15152W	152.4	13.0	M12	29	51	25.0	12	0.10
Long Pin	ACS19152W	152.4	14.0	M12	32	59	28.0	16	0.11
Long Pin	ACS25152W	152.4	15.5	M14	35	62	29.0	16	0.14
Long Pin	ACS35152W	152.4	18.5	M16	41	72	34.2	19	0.20

ACP Collector Tank Sewage Treatment Chain

Chains used in water treatment applications are operated at low speeds and not subjected to any heavy shock loads.
For that reason, ACP chains were developed: Engineered plastic ACP chain is a light-weight chain with high corrosion resistance. It does not have rollers (similar to cast iron chain). Due to its light weight (one-half to one-fourth the weight of stainless steel chain), installation is relatively simple. One of the problems with this chain is that engineered plastic expands and contracts as the water temperature changes. Therefore, it is difficult to keep the chain under constant tension. Average Tensile Strength of ACP chain is much lower than either cast iron or stainless steel chain.



Chain Number	Average Tensile Strength (kgf)	Approximate Weight (kg/m)	Additonal Weight per Attachment (kg)
ACP04152-SF4	4,000	2.9	.25
ACP04152P-SF4	3,000	2.4	.25

JAC Type Bar Screen Sewage Treatment Chain

At the water gate of sewage treatment plants, there are gratings (called bar screens) arranged lengthwise to catch floating objects. In addition to water treatment plants, bar screens may be installed at the mouths of rivers. In some bar screen setups, chains are set on guide rails and used as wide gratings or screens. Eventually gratings fill up with contaminant's, and they have to be cleaned. A comb-shaped rake installed between two strands of chain is used for this purpose.

Construction and Features:

(1) Bar Screen Chain is constructed like roller chain. There are several specifications in this kind of chain. Select the appropriate type based on the corrosiveness of the operating environment.

(2) VJ and PJ attachments are made of heat-treated steel except the Type 304 stainless steel SJ attachment.

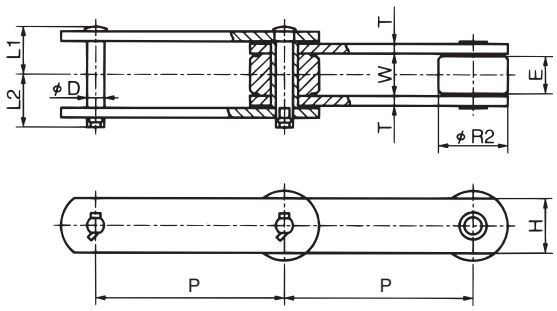
(3) S-rollers and F-rollers may be used with this chain. The difference between the two include the following points: S-roller: Adapted to a rake with wheels. The rake rotates and sweeps out the waste. (This is sometimes called a rotating-rake design.) F-roller: Adapted to the rake without wheels. The rake is fixed on the chain. The F-rollers support the weight of the rake. In an F-roller set-up, the flange may alternate sides every one or two rollers. This arrangement prevents derailment. Each chain attachment is exposed to high load, because there are only two or three rakes installed on the chain. Y attachments are used in the rotating-rake design, and A-2 (Type I) attachments are used in the fixed rake type. The A-2 (Type II) attachment is used for scrapping mud and sand at the bottom of the collector tank. All attachments have additional features that increase their strength: the end of the connecting pin is threaded and equipped with a nut to prevent it from falling off.

Bar Screen Selection Table

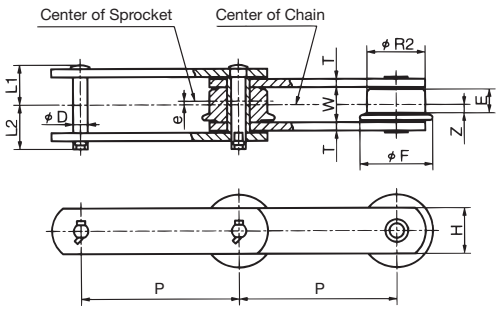
Series	Materials and Heat-Treatment			Standardized Attachment
	Pin Bushing	"S" Roller Link Plate	"F" Roller	
VJ[1]	400 Series, stainless steel heat-treated	alloy steel, heat-treated	alloy steel, heat-treated	Y, A-2(I), A-2 (II)
PJ	400 Series, stainless steel, heat-treated			Y, A-2(I), A-2 (II)
SJ	300 Series, stainless steel			A-2(I), A-2 (II)

[1]Bushings project slightly for smoother running.

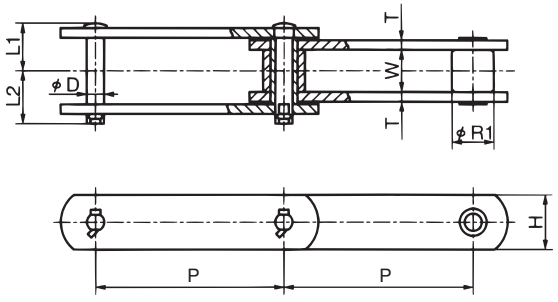
"R" Type Roller



"F" Type Roller

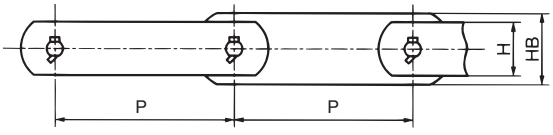


"S" Type Roller



PJ Series"R", "F" and"S" Type Roller

JAC10152 and JAC6205 - Model Numbers Only
(Inner link plate has greater height and the chain has greater tensile strength)



JAC Type Bar Screen Sewage Treatment Chain

JAC Type Bar Screen Chain Specifications

All dimensions are in mm unless otherwise indicated.

Series	Chain Number	Pitch P	"R" Roller		"F" Roller					"S" Roller	Width Between Inner Link Plates W	Link Plate		
			Dia. R_2	Height E	Dia. R_2	Dia. F	Height E	e	Z	Dia. R_1		Thickness T	Height H	Bush Link Height HB
VJ	JAC08152	152.4	-	-	-	-	-	-	-	22.2	26.2	6.3	28.6	-
	JAC10152	152.4	50.8	26.0	50.8	65.0	20.0	3	7	29.0	29.0	6.3	38.1	-
	JAC6205	152.4	65.0	32.0	65.0	85.0	24.0	4	8	34.9	35.9	7.9	44.5	-
	JAC21152	152.4	-	-	-	-	-	-	-	40.1	35.7	9.5	50.8	-
	JAC26152	152.4	-	-	-	-	-	-	-	44.5	55.6	9.5	63.5	-
PJ	JAC8152	152.4	-	-	-	-	-	-	-	22.2	27.0	6.0	38.0	-
	JAC10152	152.4	50.8	26.0	50.8	65.0	20.0	3	7	29.0	30.0	6.0	38.0	-
	JAC10152	152.4	50.8	32.0	50.8	65.0	20.0	3	7	29.0	30.0	6.0	38.0	44.0
	JAC6205	152.4	65.0	-	65.0	85.0	24.0	4	8	34.9	37.1	7.0	44.5	-
	JAC6205	152.4	65.0	-	65.0	85.0	24.0	4	8	34.9	37.1	7.0	44.5	54.0
	JAC21152	152.4	-	-	-	-	-	-	-	40.1	37.1	9.0	54.0	-
	JAC26152	152.4	-	-	-	-	-	-	-	44.5	55.2	10.0	63.5	-
SJ	JAC08152	152.4	-	-	-	-	-	-	-	22.2	27.0	6.0	28.6	-
	JAC10152	152.4	50.8	26.0	50.8	65.0	20.0	3	7	29.0	30.0	6.0	38.1	-
	JAC6205	152.4	65.0	32.0	65.0	85.0	24.0	4	8	34.9	37.1	8.0	44.5	-
	JAC21152	152.4	-	-	-	-	-	-	-	40.1	37.1	10.0	50.8	-
	JAC26152	152.4	-	-	-	-	-	-	-	44.5	57.2	10.0	63.5	-

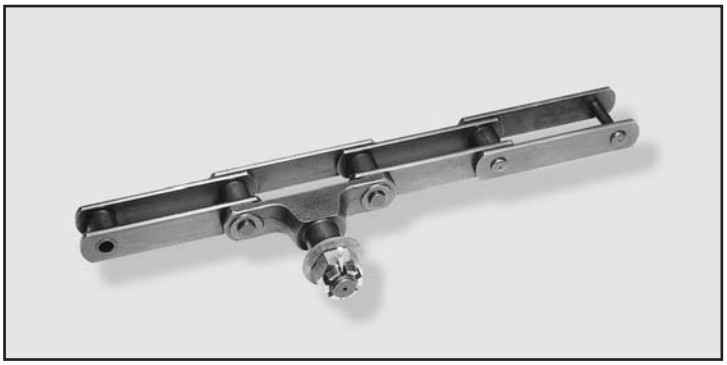
All dimensions are in mm unless otherwise indicated.

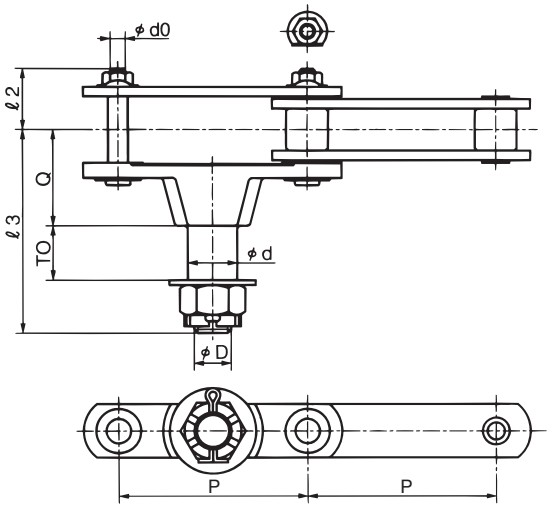
Series	Chain Number	Pin				Average Tensile Strength (kgf.)	"R" Roller Approx. Weight (kg/m)	"F" Roller Approx. Weight (kg/m)	"S" Roller Approx. Weight (kg/m)
		Dia. D	Length $L_1 + L_2$	Length L_1	Length L_2				
VJ	JAC08152	11.3	65.5	31.0	34.5	15,000	-	-	3.9
	JAC10152	14.5	69.0	33.0	36.0	22,000	7.6	8.0	5.9
	JAC6205	15.9	83.5	40.5	43.0	28,000	13.5	14.5	9.3
	JAC21152	19.1	95.5	44.5	51.0	39,000	-	-	12.6
	JAC26152	22.2	116.5	55.5	61.0	52,000	-	-	17.8
PJ	JAC8152	11.3	65.5	31.0	34.5	14,500	-	-	5.0
	JAC10152	14.5	69.0	33.0	36.0	17,000	7.5	7.9	5.6
	JAC10152	14.5	69.0	33.0	36.0	19,000	7.9	8.3	6.0
	JAC6205	15.9	81.5	39.5	42.0	24,000	12.3	13.3	8.2
	JAC6205	15.9	81.5	39.5	42.0	27,000	13.0	14.0	8.9
	JAC21152	19.1	94.0	44.0	50.0	36,000	-	-	12.8
	JAC26152	22.2	117.5	56.0	61.5	50,000	-	-	18.6
SJ	JAC08152	11.3	65.5	31.0	34.5	7,000	-	-	3.8
	JAC10152	14.5	69.0	33.0	36.0	11,000	7.5	7.9	5.6
	JAC6205	15.9	83.5	40.5	43.0	13,500	13.2	14.2	9.1
	JAC21152	19.0	96.5	44.5	52.0	19,000	-	-	13.3
	JAC26152	22.2	107.5	55.5	52.0	25,500	-	-	18.8

JAC Type Bar Screen Sewage Treatment Chain

JAC Type Bar Screen Chain Attachment Specifications

"Y" Attachment





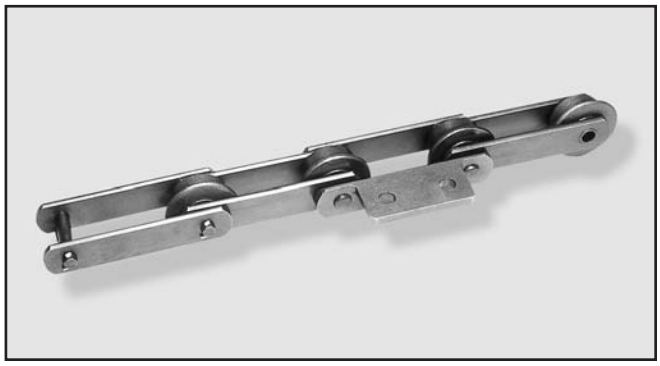
All dimensions are in mm unless otherwise indicated.

Series	Chain Number	Roller Types	Pitch P	d	d0	D	ℓ_2	ℓ_3	Q	T0	Weight per Attachment (kg)
VJ	JAC08152	S	152.4	25	M10	M20	38	120.0	60	30	1.1
	JAC10152	R-S	152.4	35	M12	M27	42	148.5	70	40	1.9
	JAC6205	R-S	152.4	40	M12	M30	49	164.5	78	44	2.7
	JAC21152	S	152.4	45	M16	M36	55	174.0	78	46	3.2
	JAC26152	S	152.4	50	M16	M45	65	204.0	95	50	5.1

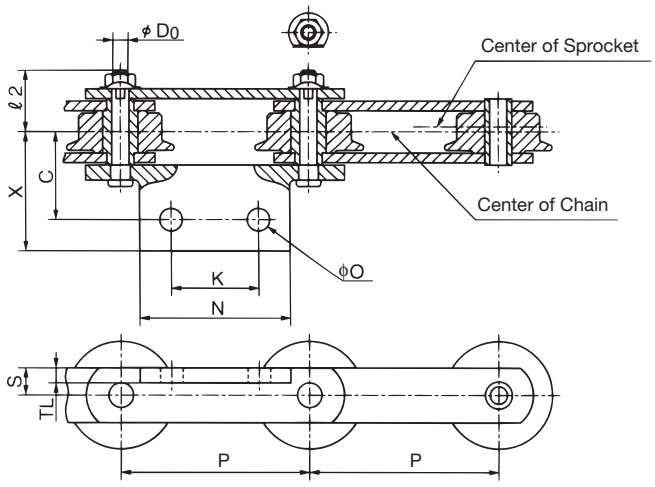
JAC Type Bar Screen Sewage Treatment Chain

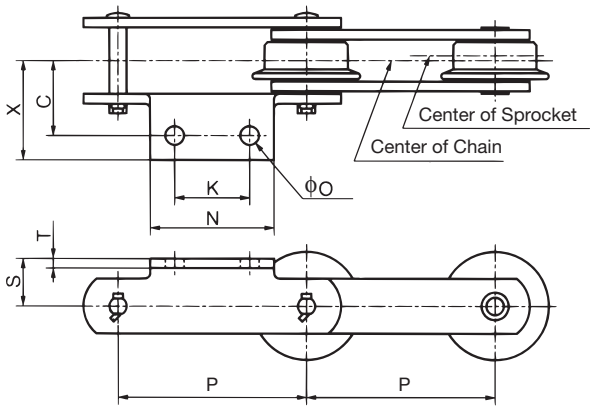
JAC Type Bar Screen Chain Attachment Specifications

"A-2 (I)" Attachment



"A-2 (II)" Attachment





A-2 Attachment Type I

All dimensions are in mm unless otherwise indicated.

Series	Chain Number	Roller Types	Pitch P	Do	ℓ_2	C	X	K	N	S	O	TL	Weight per Attachment (kg)
VJ-PJ-SJ	JAC10152	R-F	152.4	M12	42	60	80	65	110	19	15	9.5	0.6
	JAC6205	R-F	152.4	M12	49	70	95	70	120	22	18	12	0.9

A-2 Attachment Type II

All dimensions are in mm unless otherwise indicated.

Series	Chain Number	Roller Types	Pitch P	C	X	K	N	S	O	T			Weight per Attachment (kg)
										VJ	PJ	SJ	
VJ-PJ-SJ	JAC10152	R-F	152.4	50	65	60	90	32	12	6	6	6	0.2
	JAC6205	R-F	152.4	60	79	60	100	38	15	8	7	8	0.37

RF Metric Series Chain Selection Guide

TSUBAKI

INTRODUCTION TO TSUBAKI CONVEYOR CHAINS

NAME	FEATURES	APPLICATION
RF Conveyor Chain	Most popular and economical	Standard
Bearing Roller Series	Two chain sizes smaller Minimum maintenance	Compact applications High allowable roller load
RF Type Bucket Elevator Chain	Wear resistant High fatigue resistant	Cement bucket elevator
BF Type Bucket Elevator Chain	Wear resistant High fatigue resistant	Cement bucket elevator
Flow Conveyor Chain	A variety of attachments standardized for material handling	Conveying bulky materials
NF Flow Conveyor Chain	Strong and highly abrasion resistant	Abrasive, high-temperature and high-humidity environments
RF Conveyor Chain with Side Roller Chain	Stable operation	Special attachments and outboard rollers support heavier loads
RF Conveyor Chain with Top Roller	Conveys and accumulates materials	Assembly and transport lines
NF Block Chain	Strong and compact, highly wear resistant	Pushing trucks conveying hot materials and drawbench
RFD Deep Link Chain	Direct loading	Conveying heavy materials in steel and automobile assembly lines, etc.
Water Screen Chain	Through-hardened stainless steel pins and bushings; rollers have special bushings for smoother operation and longer service life, anti-corrosive	Water inlet screening processor at paper and steel mills, water purification plants, etc.
Sanitation Chain	Strong stainless steel chain which is both lightweight and highly corrosion resistant	Sewage disposal and processing
Tooth Insert Sprockets for Sanitation Chain	Minimal maintenance corrosion resistant low operation costs	Sewage disposal and processing

Chain Series	Component Parts				
	Link Plate	Pin	Bushing	Roller Type	
				R, F	S, M, N
DT (Basic)	Car	Aly-TH	Car-CH Aly- TH	Car Cl	Car-CH Aly- TH
AT	Aly-TH	Aly-TH	Aly-CH Aly- TH	Car-CH Aly- TH	Aly-TH
CT	Car	Aly-TH	Car-CH Aly- TH	Car-CH Aly- TH	Car-CH Aly- TH
BT	Aly-TH	Aly-TH Aly-TH-IH	Aly-CH Aly-TH	Car-CH Aly- TH	Aly-TH
PT	S4-TH	S4-TH	S4-TH	S4-TH	S4-TH
ST	S3	S3	S3	S3	S3

Steel Materials
Car: Carbon Steel
Aly: Alloy Steel
CI: Cast Iron
S4: 400 Series Stainless Steel
S3: 300 Series Stainless Steel

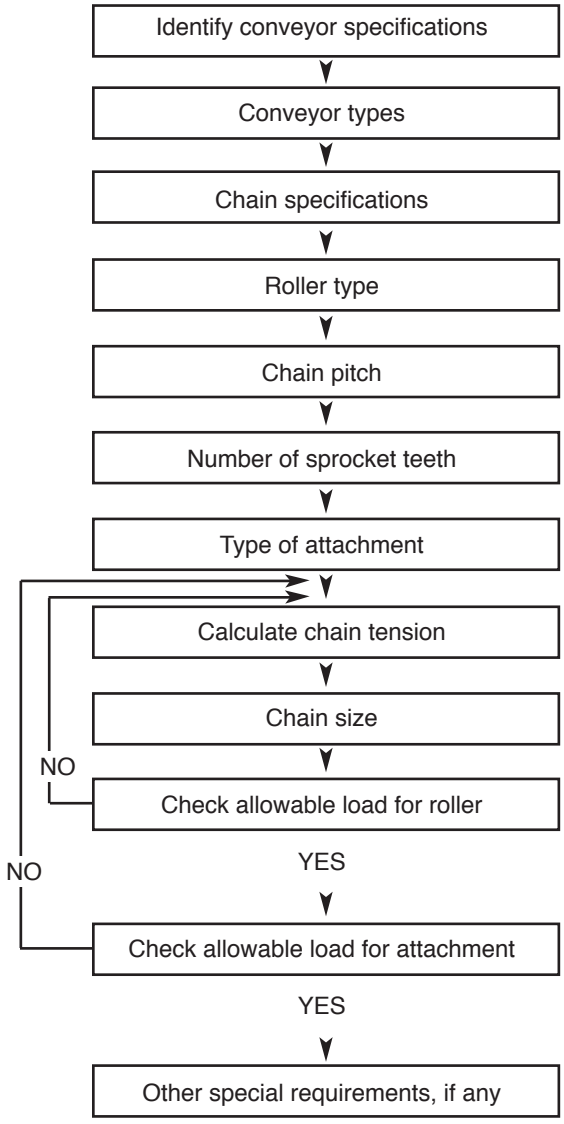
Heat Treatment
TH: Through Hardened
CH: Case Hardened
IH: Induction Hardened

RF Metric Series Chain Selection Guide

1. CHAIN SELECTION

The following are the general procedures for selecting various types of conveyor chains.

SELECTION PROCEDURE



*Please utilize INQUIRY CHART on the right.

INQUIRY CHART

Type of Conveyor:

Conveyed Material:

Corrosion:

Wear:

Temperature of Material Conveyed: °C

Size of Material Conveyed: Max

Mass of Material Conveyed: Max kg/pc

Conveying Quantity (Bulk): Max ton/h

Conveying Quantity (Unit): Max

kg

(Total mass of material conveyed on conveyor)

Center Distance Between Shafts: m

Lift: m

Number of Chain Strands: Strand(s)

Traverse Distance Between Chains: m

Average Tensile Strength: kN(kgf)

Chain Pitch: mm

Chain Speed: m/min

Attachment Type and Spacing:

Conveying Method: e.g. Material to be loaded directly to chain.

Operating Time: hrs/days

Use Lubrication: Yes/No

Motor: AC/DC kW, r/min, unit(s)

Number of Sprocket Teeth:

Bore Diameter: mm

Specifications of Boss: Type

Diameter mm

Length mm

Specifications of Keyway:

Specifications of Sprocket Teeth:

2. CONVEYOR TYPES

CONVEYOR TYPES	MATERIAL CONVEYED			
	UNIT	TYPE OF CHAIN	BULK	TYPE OF CHAIN
LOADING	Slat Conveyor	RF-B RFN RF (CT)	Apron Conveyor	RF
	Pusher Conveyor Tow Conveyor Roller Coaster	RF RFN NF RF-SR		
	Free Flow Conveyor	RF-VR RF-TR RF-SR		
	Plain Chain Conveyor	RF NF EPC RFD		
ELEVATING	Trolley Conveyor	RF	Bucket Elevator	RF B-type
	Tray Elevator	RFN RF NF	Bucket Type Continuous Unloader	Special Chain
	Tower Parking	RF Special Chain		
PUSHING OR CONVEYING WITH FRICTION			Scraper/Flight Conveyor	RF
	Pusher Conveyor	RF NF RFD	Flow Conveyor	RF NFX
	Horizontal Circulating-Conveyor	RF RFN	Drag Conveyor	Special Chain

Note: Please refer to Table 1 (page C-181) for the wear and corrosive characteristics of materials conveyed.

3. CONVEYOR CHAIN SPECS

When selecting the type of conveyor chain, it is necessary to identify the physical properties of the materials conveyed. Then, the conveying method and the type of chain conveyor should be determined, considering cost performance.

Key Points in Determining the Type of Conveyor Chain

1) To reduce the running resistance of the conveyor chain when conveying material, a Loading Type Conveyor is adopted. Energy saving can be achieved with this conveyor. Bearing Roller Chain and CT Chain are most suitable for this application.

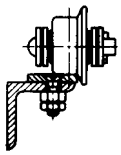
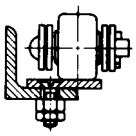
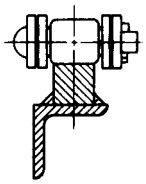
2) Powdery or dusty material should be conveyed in a sealed casing such as with Flow Conveyor.

3) When material conveyed is very abrasive, the conveyer should be designed to prevent the material from directly contacting the conveyor chain. If this cannot be done, the chain speed should be reduced as much as possible.

4) When the chain is used in corrosive conditions refer to table 13 on page C-192 to select a suitable chain material.

4. ROLLER TYPE

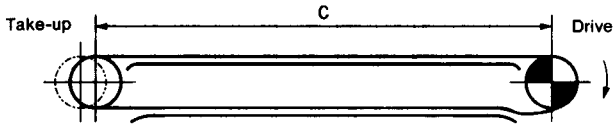
The most suitable type of roller should be selected according to the requirements of the application.

	F roller	R roller	S.M.N. roller
TYPE			
REMARKS	*Most basic type *Less friction *For large and heavy materials *Long center distance	*Lateral movement to be avoided *Long center distance *Less friction	*Lower cost *For light conveyor *Vertical conveyor *Shorter center distance

5. BASIC LAYOUT OF CONVEYOR CHAIN

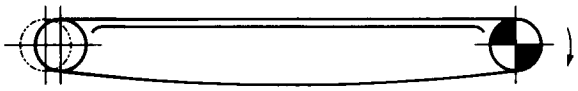
Horizontal Conveyor

1) A catenary is made on the drive sprocket side.



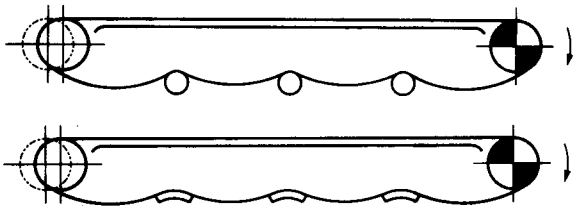
Tension of the catenary makes chain-sprocket engagement smooth. Lubrication at the catenary is effective.

2) No guide on return side



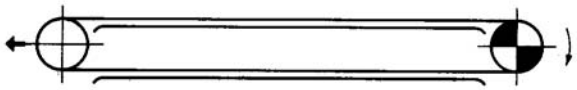
For short center distance and slow chain speed. The mass of the chain on the return side may cause vibration and this affects chain operation.

3) To support the chain on return side by guide or roller.



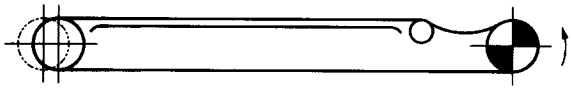
Contact between chain and guide or roller may enhance wear of chain or damage chain as chain articulates at the roller or guide. This may also cause vibration and affect chain operation. In case of a long center distance, it is practical to divide the return side into several catenaries. Catenary sag can absorb chain elongation/shrinkage by heat, etc. This arrangement can be used when chain speed is comparatively slow and the catenary sag should be about 10 percent of free span. This cannot be recommended for reverse drive.

4) To support all the return side

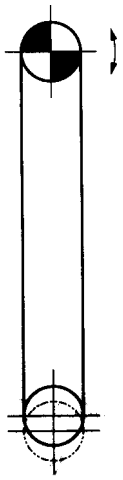


Chain sag should be adjusted regularly by take-up as there is no catenary. This arrangement can be used for reverse drive.
Caution: If tension given by take-up is excessive, it will increase wear of chain.

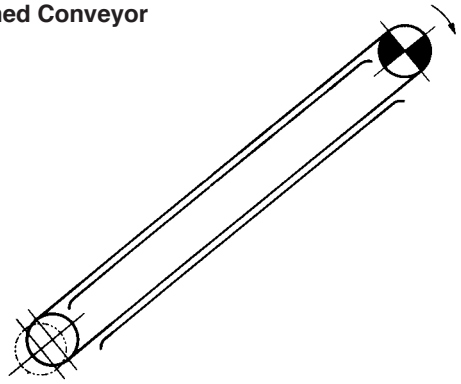
5) Tension side under type



Vertical Conveyor
When the conveyor stops while loaded, it is necessary to install a brake or Tsubaki Back Stop Cam Clutch on the drive side.
Caution: If tension given by take-up is excessive, it will increase wear of chain.

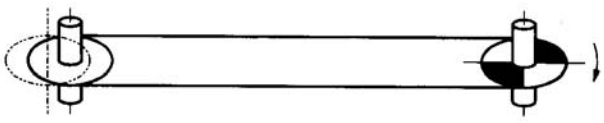


Inclined Conveyor



Vertical Shaft Conveyor

Installation of guide roller makes chain running smoother.



6. CHAIN SPECIFICATIONS FOR CONVEYING BULK MATERIALS

Table 1 shows popular types of conveyor and recommended chain specifications. The properties of the listed material are not always the same. Type of conveyor and specifications of chain should be determined taking this point and past performance into consideration.

RF Metric Series Chain Selection Guide

Table 1: Material and Chain Specifications

Material	Abrasive-ness	Corrosive-ness	Type of Conveyor				Recomm. Chain Series
			Scraper	Flow	Apron	Bucket	
Rice	C	C	O	O		O	DT
Barley	C	C	O	O		O	DT
Wheat	C	C	O	O		O	DT
Soybean	C	C	O	O		O	DT
Maize	C	C	O	O		O	DT
Wheat Flour	C	C	O	O		O	DT
Starch	C	C	O	▲		▲	DT
Suger Cane	C	C	O		O		GT
Bagasse	C	C	O				GT
Sugar	C	C	O	O		O	ST
Rock Salt	C	C	O	▲		▲	DT
Mixed Feed	C	B	O	▲		▲	DT
Soda Ash	B	E	O	▲		▲	DT
Carbide	B		O	O	O	O	DT
Glauber's Salt	B	B		▲			PT
Dry Unslaked Lime	B	E	O	▲		▲	DT
Dry Slaked Lime	C	E	O	▲		▲	DT
Polyethylene	B	C	O	▲		▲	DT
Vinyl Chloride Powder	B			▲		▲	MT
Carbon	B	C	O	▲		▲	BT
Activated Charcoal	B	C	O	▲		▲	DT
Dry Ammonium Sulfate	B	B	O	▲		▲	DT
Dry Ammonium Chloride	C	C	O	▲		▲	DT
Dry Urea Powder	C	C	O	▲		▲	DT
Wet Urea Powder	B	E	O	▲		▲	NT
Synthetic Detergent	B	C	O	▲		▲	DT
Wet Gypsum	B	A	O	O		O	PT/RT
Dolomite	B	D	O	▲	O	▲	DT (*GT)
Dry Limestone	B	D	O	▲	O	▲	DT (*GT)
Dry Clay	B	C		▲		▲	ET
Cement Clinker	A	E	O	▲	O	▲	CT
Cement Products	B	E		O		O	CT
Dry Wood Chips	C	D	O	▲			DT
Dry Sawdust	C	D	O	▲			DT
Coal	B	B	O		O		CT
Coke	A	C			O	▲	BT
Alumina	B	E		▲		▲	CT
Foundry Sand	A	C	O		▲		BT
Scale	B	C	O	▲		▲	BT
Coke Dust	A	C		▲			BT
Wet Coal Dust	B	B		▲			RT
Clinker Dust	A	E		▲			BT
Garbage	B		▲		O		RT
Dry Incinerated Garbage (Room Temperature)	C	D	O				GT
Wet Incinerated Garbage	C	D	O				RT

Note: Abrasiveness – A B C
Corrosiveness - A (Strong acid), B (Moderate acid), C (Neutral), D (Moderate alkali), E (Strong alkali)
Type of Conveyor – O (Common), ▲ (Sometimes), Blank (Seldom)
*GT in case of Apron Conveyor

7. 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 bushing.

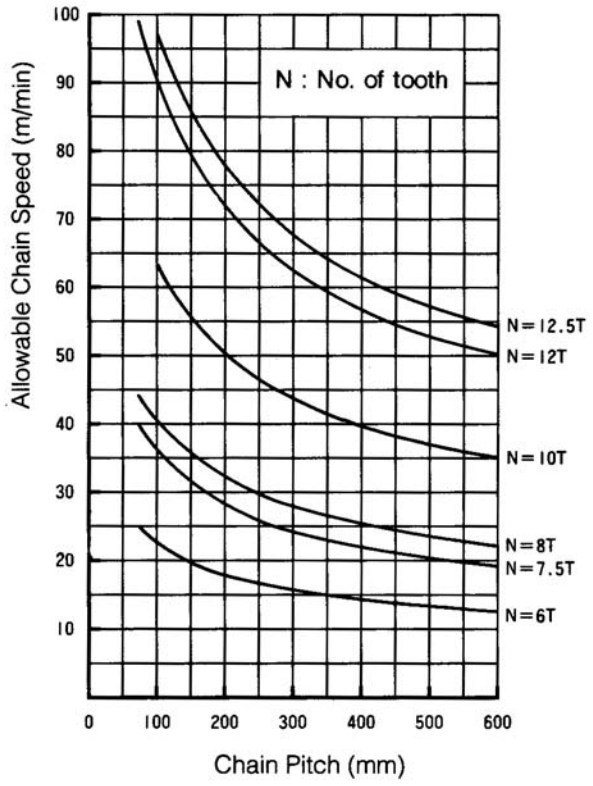
2) Longer pitch chain, though more expensive per link, would be cheaper for a unit length of chain in general. Chain pitch for Unit Conveyor is determined by unit size or attachment spacing.
(Example) Attachment spacing = 2 m
*Chain pitch = 100, 200, 250
*Chain pitch can be selected by dividing attachment spacing by an even number.

3) The chain pitch for Bulk Conveyor 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. TYPE OF ATTACHMENT

Please refer to pages C-129 - C-131.

9. CALCULATE CHAIN TENSION

Maximum static tension to chain, T max, during operation can be calculated using the formulas in Table 3. The formulas are based on mass M (weight W) X friction factor. In the following cases, inertia becomes very large, and the tension and required kW should be calculated while considering the inertia.

Sudden start or stop in high speed conveyor
Sudden load in pusher conveyor, etc.

9.1 Terms

T_{max} : Maximum static tension to chain: kN (kgf)
T : Static tension to chain: kN (kgf)
Q : Maximum conveying quantity: t/h (tf/h)
V : Chain speed: m/min
H : Center distance between sprockets (Vertical): m
L : Center distance between sprockets (Horizontal): m
C : Center distance between sprockets (Inclined direction):m
m(W) : Mass (weight) of conveying device (Chain X Strands, Buckets, Apron, etc.): kg/m (kgf/m)
f_1 : Friction factor between chain and guide rail (Tables 5 and 6)
f_2 : Friction factor between material conveyed and casing (Table 7)
f : Material to be loaded directly to chain: f = 1
Material to be scraped: f = (f_2/f_1)
g : Gravity acceleration : 9.80665m/s^2
M(W) : Mass (Weight) of material conveyed : kg/m (kgf/m)
(Bulk)

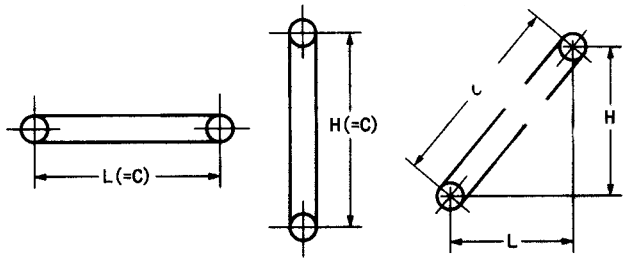
$$M = *16.7 \times Q/V \quad (w = 16.7 \times Q/V)$$

(Unit)

$$M = \frac{\text{Mass of material conveyed (kg/pc)/Loading spacing}}{\text{Loading Spacing (m)}}$$

$$W = \left(\frac{\text{Weight of material conveyed (kgf/m)}}{\text{Loading Spacing (m)}} \right)$$

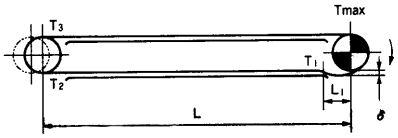
*Factor to get mass (weight) per meter, 16.7 = 1000/60



9.2 Calculate Chain Tension (Table 3)

Horizontal Conveyor

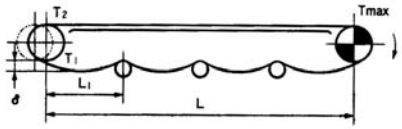
SI Unit	Gravimetric Unit
$T_1 = 1.35^{*1} \times m \times L_1 \times g/1000$ (kN)	$T_1 = 1.35 \times \omega \times L_1$ (kgf)
$T_2 = (L-L_1) \times m \times f_1 \times g/1000 + T_1$ (kN)	$T_2 = (L-L_1) \times \omega \times f_1 + T_1$ (kgf)
$T_3 = 1.1^{*2} \times T_2$ (kN)	$T_3 = 1.1 \times T_2$ (kgf)
$T_{MAX} = (M \times f + m) \times L \times f_1 \times g/1000 + T_3$ (kN)	$T_{MAX} = (W \times f + \omega) \times L \times f_1 + T_3$ (kgf)



*1) Refer to Table 4.

*2) 1.1 is for increase of tension at driven sprocket.

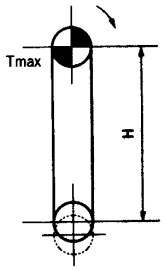
$T_1 = 1.35 \times m \times L_1 \times g/1000$ $0.1^* \times m \times L \times g/1000$ (kN)	$T_1 = 1.35 \times \omega \times L_1 + 0.1^* \times \omega \times L$ (kgf)
$T_2 = 1.1 \times T_1$ (kN)	$T_2 = 1.1 \times T_1$ (kgf)
$T_{MAX} = (M \times f + m) \times L \times f_1 \times g/1000 + T_2$ (kN)	$T_{MAX} = (W \times f + \omega) \times L \times f_1 + T_2$ (kgf)



*0.1 is coefficient of roller resistance at return side.

Vertical Conveyor

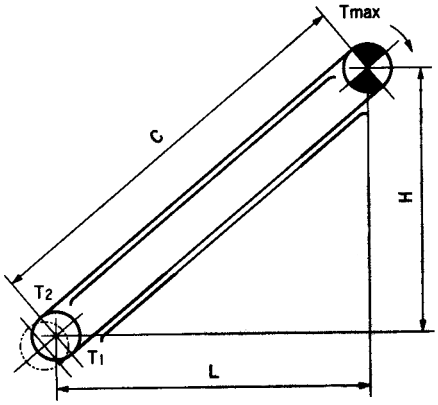
$T_{MAX} = (M + m) \times H \times g/1000$ (kN) $T_{MAX} = (W \times \omega) \times H$ (kgf)



Note: In bucket elevator, 1 m is added to center distance (H) for shock load at loading material.

Inclined Conveyor

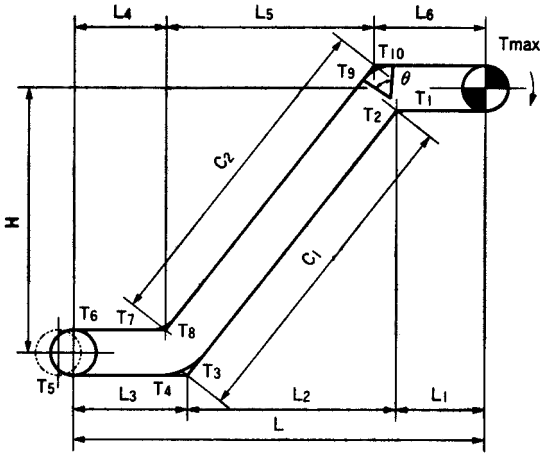
$T_1 = m (Lf_1 - H) \times g/1000$ (kN)	$T_1 = w (Lf_1 - H)$ (kgf)
When $T_1 < O$, $T_2 = 0$	When $T_1 < O$, $T_2 = 0$
$T_2 = 1.1 \times T_1$ (kN)	$T_2 = 1.1 \times T_1$ (kN)
$T_{MAX} = M (Lf_1 \times f + H) \times g/1000 + m (Lf_1 + H) \times g/1000 + T_2$ (kN)	$T_{MAX} = W (Lf_1 \times f + H) + w (Lf_1 + H) + T_2$ (kgf)



RF Metric Series Chain Selection Guide

SI Unit

Practical Example



T_1= m x L_1 x f_1 x g/1000 (kN)
T_2 = T_1 x kc_1 (kgf)
T_3 = m ($L2f_1$ – H) x g/1000 + T_2 (kN)
T_4 = T_3 x kc_2 (kN)
when T_3 < 0, T_4 = 0
T_5 = m x L_3 x f_1 x g/1000 (kN)
T_6 = 1.1 x T_5 (kN)
T_7 = (m + M x f) x L_4 x f_1 x g/1000 + T_6 (kN)
T_8 = T_7 x kc_3 (kN)
T_9 = M ($L5f_1$ x f + H) x g/1000 + m ($L5f_1$ + H) x g/1000 + T_8 (kN)
T_{10} = T_9 x kc_4 (kN)
T_{MAX} = (m + M x f) x L_6 x f_1 x g/1000 + T_{10} (kN)

Gravity Unit

Corner Factor (kc) σ: Radian

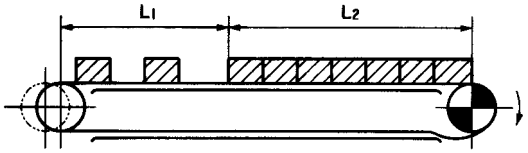
f_1 \ Angle	30°	60°	90°	120°	180°
0.03	1.02	1.03	1.05	1.06	1.10
0.10	1.05	1.11	1.17	1.23	1.37
0.15	1.08	1.17	1.27	1.37	1.60
0.20	1.11	1.23	1.37	1.52	1.87
0.24	1.13	1.29	1.46	1.65	2.13
0.30	1.17	1.37	1.60	1.87	2.57
0.40	1.23	1.52	1.87	2.31	3.51

T_1 = ω x L_1 x f_1 (kgf)
T_2 = T_1 x kc_1 (kgf)
T_3 = ω ($L2f_1$ – H) + T_2 (kgf)
T_4 = T_3 x kc_2 (kgf)
when T_3 < 0, T_4 = 0
T_5 = ω x L_3 x f_1 (kgf)
T_6 = 1.1 x T_5 (kgf)
T_7 = (ω + W x f) x L_4 x f_1 + T_6 (kgf)
T_8 = T_7 x kc_3 (kgf)
T_9 = W ($L5f_1$ x f + H) + w ($L5f_1$ + H) + T_8 (kgf)
T_{10} = T_9 x kc_4 (kgf)
T_{MAX} = (ω + W x f) x L_6 x f_1 + T_{10} (kgf)

Example using Double Plus Chain

T_{MAX} = 2.1m (L_1 + L_2) f_1 x g/1000 + (M x L_1 x f_1) x g/1000 + (M_1 x L_2 x f_3 x g/1000) (kN)

T_{MAX} = 2.1 ω (L_1 + L_2) f_1 + (W x L_1 x f_1) + (W_1 x L_2 x f_3) (kgf)



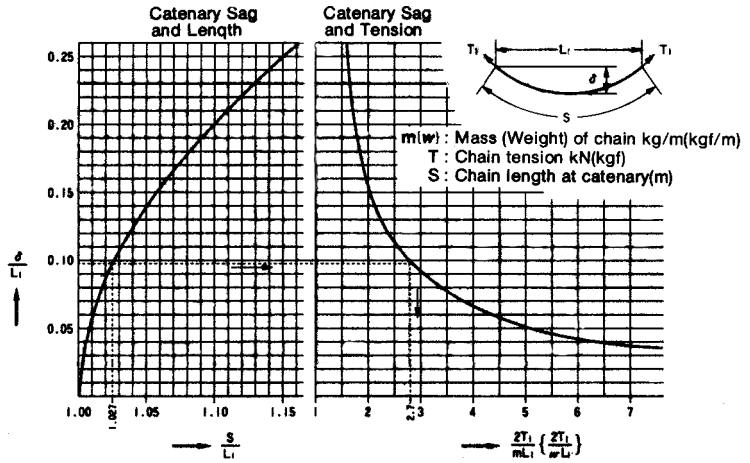
L_1: Length of conveying section (m)
L_2: Length of accumulating section (m)
M_1 (W_1): Mass of material conveyed at accumulating section (kg)
Weight of material conveyed at accumulating section (kgf/m)
f_1: Friction factor between chain and rail at conveying material = 0.05
f_3: Friction factor at accumulation = 0.2

Static tension to chain varies with layouts as follows:

Horizontal $T = T_{MAX} – T_1$
Vertical $T = T_{MAX} – mH$ x g/1000 {$T = T_{MAX} – ω H$}
Inclined $T = T_{MAX} – m (Lf1 – H)$ x g/1000 {$T = T_{MAX} – ω (Lf_1 – H)$}
When $Lf_1 – H < 0$, $T = T_{MAX}$

RF Metric Series Chain Selection Guide

Table 4 : Catenary Tension Graph



Catenary Tension
$T_1 = 1.35 \times m \times L_1 \times g/1000$ (kN)
1.35 factor in the above formula is worked out as follows:

When catenary sag is 10%, $\varepsilon = 0.10L$

Then from the graph
$\varepsilon/L_1 = 0.10 \rightarrow 2T1/mL_1 = 2.7$
$T_1 = 1.35 \times m \times L_1 \times g/1000$

Chain Length at Catenary
$\varepsilon/L_1 = 0.10 \rightarrow S/L_1 = 1.027$
$S = 1.027L_1$

Table 5: Rolling Friction Factor f_1 Between Chain And Rail

Roller diameter	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
RF214 (exception)	0.12	0.15	0.18	0.22

Conditions: Clean and room temperature lubricant ISO VG100 (SAE30-40)
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)

Table 6: Sliding Friction Factor f_1 Between Chain And Rail

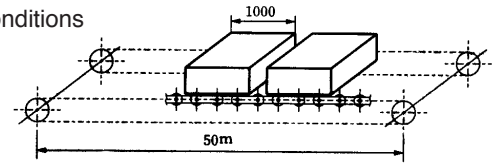
Temperature of conveyed material	Lubricated	Dry
Room temperature — 400°C	0.20	0.30
400°C-600°C	0.30	0.35
600°C- 800°C	0.35	0.40
800°C-1000°C	---	0.45

Table 7: Friction Factor f_2 Between Material Conveyed And Casing

Material	f_2	Apparent specific gravity (g/cc)
Scale	0.67	1.54
Red iron ore	0.47	2.99
Pyrites	0.58	1.54
Slag	0.48	0.90
Scrap	0.73	0.54
Lead ore powder	0.77	3.26
Zinc ore powder	0.79	1.93
Nickel ore powder	0.45	0.92
Chrome powder	0.51	1.14
Alumina	0.55	0.83
Magnesium	0.84	1.48
Gypsum	0.64	0.77
Quartz powder	0.55	1.24
Feldspar	0.55	1.36
Dolomite	0.54	1.62
Clay	0.63	0.77
Molding sand	0.41	1.59
Phosphate rock	0.42	1.51
Quicklime	0.46	1.53
Slaked lime	0.63	0.69
Asbestos	0.58	0.19
Limestone	0.47	0.35-0.55
Cement	0.54	0.60-0.75
Cement clinker	0.46	1.30
Charcoal	0.41	0.44
Carbon	0.53	0.30
Pitch	0.41	0.70
Soda ash	0.45	0.52
Alum	0.63	1.01
Polyethylene	0.52	0.34
Rubber powder	0.53	0.39
Soap material	0.27	0.65
Urea	0.63	0.64
Ammonium chloride	0.79	0.67
Calcium chloride	0.43	0.68
Surphurated calcium	0.64	1.01
Calcium carbonate	0.49	0.88
Wood chips	0.74	0.36
Rice	0.40	0.77
Barley	0.71	0.39
Wheat	0.43	0.73
Soybean	0.41	0.68
Corn	0.40	0.71
Starch	0.57	0.71
Sugar	0.47	0.68
Rock salt	0.57	1.09
Mixed feed	0.50	0.55
Coal		0.30-0.70
Coke		0.35-0.70

10. EXAMPLES OF CHAIN SELECTION
10.1 Bearing Roller Conveyor Chain

1) Conditions



Chain speed: 10 m/min
Material conveyed: 2000 kg/pc x 40 pcs
Chain strand: 2
Chain pitch: 250 mm
"F" roller, A2 attachment
Standard Chain (DT) is selected tentatively.

2) Selection
1. Roller Load No. of rollers = Length of material/Chain pitch = 1000/25 = 4 pcs
Chain pitch 4 pcs x 2 (strands) = 8 pcs
Considering uneven load, if only 4 rollers receive load, roller load per roller is:
2000 x g/1000 x 1/4 = 4.9 kN (500 kgf)/pc
From Table 10, the following chains can be selected:
Bearing Roller Chain = RF12250BF-1LA2
RF Standard Chain = RF26250F-1LA2

2. Allowable Loading Mass on Conveyor
Due to simplified selection, tension of conveyor weight and starting impact is not considered in the following procedure.
2000 kg x 40 pcs/2 strands = 40000kg
From the table below, RF10ton type Bearing Roller Chain and RF17ton type RF conveyor Chain can be selected.

Allowable Loading Mass Quick Reference Table
Conditions: Horizontal Conveyor, Safety Factor = 7, Friction Factor = RF type: 0.08, Bearing Roller Chain: 0.03

(kg/strand)

Chain Size	RF Chain (DT)	Bearing Roller Chain (DT)
RF 03	5,400	14,000
RF 05	12,500	33,300
RF 08 • 450	14,300	36,700
RF 10	20,500	53,300
RF 12	33,900	90,000
RF 17	44,600	116,700
RF 26	57,100	150,000
RF 36	86,600	230,000
RF 60	91,100	-
RF 90	143,800	-
RF120	201,800	-

From the comparison between allowable roller load and allowable loading mass, chain should be selected from allowable roller load as follows:
Bearing Roller Chain = RF12250F-1LA2 (DT)
RF Standard Chain = RF26250F-1LA2 (DT)
3. Motor Size

Motor kW = (TXV/54.5) x (1/η)
Bearing Roller Chain (When f = 0.03 and η = 0.85)
T = 2000 kg x g/1000 x 40 pcs x 0.03 = 23.5 kN (2400 kgf)
kW = 23.5 X 10/54.5 x 1/0.85 = 5.1 kW
RF Standard Chain (When f = 0.08 and η = 0.85)
T = 2000 kg x g/1000 x 40 pcs x 0.08 = 62.8 kN (6400 kgf)
kW = (62.8x10/54.5) x (1/0.85) = 13.6kW

10.2 Conveyor Type: Horizontal Slat Conveyor

Material conveyed: Carton Box
Mass of material conveyed: 40 kg/pc
Slat mass: 2 kg/pc Chain strand: 2 strands
Loading spacing: One carton box/m
Center distance: 30 m
Chain speed: 15 m/min
Sprocket: 12T
Chain spec.: Pitch = 100 mm, A2 attachment every link F roller
Others: No lubrication

The following are calculated or selected:
(1) Required chain quantity in links
(2) Chain size at safety factor 10
(3) Drive sprocket torque
(4) Required kW

1) Required Chain Quantity in Link (n)
n = (30000/100 x 2 + 12) x 2 = 612 x 2 = 1224 links

2) Chain Size at Safety Factor 10
From the above conditions and Table 5, tension T_1 required to convey only carton boxes is:
T_1 = 1200 x g/1000 x 0.15 = 1.77 kN
(T_1= 1200 x 0.15 = 180 kgf)
Tension T2 required to convey only slats is:
Slat Mass = 2 x 1000/100 = 20 kg/m
T_2 = 2.1 x 20 x 30 x g/1000 x 0.15 = 1.85 kN
(T_2 = 2.1 x 20 x 30 x 0.15 = 189 kgf)
$T_1 + T_2$ = 1.77 + 1.85 = 3.62 kN
($T_1 + T_2$ = 180 + 189 = 369 kgf)
Tentatively select *RF03100F-1LA2 to calculate tension T3 required to move only chain.
A.T.S = 29 kN/strand x 2 strands = 58 kN (6000 kgf)
T_3 = 2.1 x (2.4 x 2 + [0.06/(100/1000)] x 2) x 30 x g/1000 x 0.15 = 0.56 kN
(2.4 = Chain mass, 0.06 = Attachment mass, 2 = 2 strands, 100 = pitch, 1000 = To convert to mass per meter)
(T_3 = 2.1 x (2.4 x 2 + [0.06/(100/1000)] x 2) x 30 x 0.15 = 426 kgf)

Safety Factor when RF03100F 1LA2 is used is:

$T = T_1+T_2 + T_3 = 1.77 + 1.85 + 0.56 = 4.18$ kN
($T = T_1 + T_2 + T_3 = 180 +189 + 56.7 = 426$ kgf)

Sf = (29X2)/4.18 = 14 (Sf = (3000 X 2)/426 = 14)

Allowable roller load and allowable attachment load are satisfied with RF03100F 1LA2.

3) Drive Sprocket Torque: Tr

PCD = 386.4mm
Tr = 4.18 x 386.4 x 1/2 x 1/1000 = 0.8 kN _m
(Tr = 426 x 386.4 x 1/2 x 1/1000 = 82.3 kgf_m)

4) Required kW

kW = ((4.18 x 15)/54.5) x 1/0.85 = 1.35 kW
(kW = ((426 x 15)/5565) x 1/0.85 = 1.35 kW)

10.3 Conveyor Type: Continuous Vertical Bucket Elevator

Lift distance:	30 m
Chain spec.:	Pitch = 250, G4 attachment, at every 2nd link, S roller, Bucket elevator chain
Conveyor capacity:	100 ton/hour
Chain speed:	28 m/min
Sprocket:	12T
Mass of bucket:	25 kg/pc

The following are calculated or selected:
(1) Required chain quantity in links
(2) Chain size at Safety Factor 10 or over
(3) Drive sprocket torque
(4) Required kW

1) Required Chain Quantity in Links (n)

n = (30000/250 x 2+12) x 2 = 252 x 2 = 504 links

2) Chain Size

Tension T required to convey only material is:
$T_1 = 16.7 \times 100/28 \times (30+1) \times g/1000 = 18.1$ kN
($T_1 = 16.7 \times 100/28 \times (30 + 1) = 1849$ kgf)

Tension T required to convey only buckets is:
Mass of Bucket = 25 kg x 2 = 50 kg/m
$T_2 = 50 \times g/1000 \times (30 + 1) = 15.2$ kN
($T_2 = 50 \times (30 + 1) = 1550$ kgf)
$T_1 + T_2 = 18.1 + 15.2 = 33.3$ kN
($T_1 + T_2 = 1849 + 1550 = 3399$ kgf)
Tentatively select*B17250S 2LG4 (15 kg/m) to calculate tension T_3 required to move only chain.
A.T.S. = 245 x 2 = 490 kN
(25000 x 2 = 50000 kgf)
$T_3 = 15 \times 2 \times (30+1) \times g/1000 = 9.12$ kN
($T_3 = 15 \times 2 \times (30+1) = 930$ kgf)
$T = T_1 + T_2 + T_3 = 18.1 + 15.2 + 9.12 = 42.4$ kN
($T = T_1 + T_2 + T_3 = 1849 + 1550 + 930 = 4329$ kgf)
Safety Factor when B17250S 2LG4 is used is:
Sf = 490/42.4 = 11.6
(Sf = 50000/4329 = 11.6)
B17250S 2LG4 can be selected.

3) Drive Sprocket Torque: Tr

In vertical bucket elevator, mass of chain and bucket are counterbalanced. From this, tension related to torque and kW is only tension T.
PCD = 965.9mm
Tr = 18.1 x (965.9 x 1/2) x 1/1000 = 8.74 kN/m.
(Tr =1849 x (965.9 x 1/2) x 1/1000 = 893 kgf/m)

4) Required kW

kW = ((18.1 x 28)/54.5) x 1/0.85 = 10.9 kW
kW = ((1849 x 28)/5565) x 1/0.85 = 10.9 kW

Calculation of Required kW
1 kW = 1 kW•m/s (1 kW = 102 kgf•m/s)
kW = ((T x V)/60)
kW = ((T x V)/(102 x 60))

Supposed power transmission loss due to rotating friction of sprocket, engagement of chain and sprocket, etc. is about 10%.
(1/0.9 = 1.1)

η = Mechanical efficiency of drive unit
kW = ((T x V)/60) x 1.1 x 1/ η
kW =((T x V)/(102 x 60)) x 1.1 x 1/ η

11.CHAIN SIZE

Multiply tension TMAX calculated with formulas in Table 3 by Safety Factors in Table 8 for required tensile strength, and then select chain which satisfies the strength.

Chain Tension TMAX: kN (kgf)
x
1/Chain Strands
x
Chain Speed-Temperature Safety Factor (Kv)
x
Operation Time Factor (Ks)
≤
Average Tensile Strength kN (kgf)

Notes:

1) When there are any regulations, guidelines, etc. effecting chain selection, select chain based on the regulation and the Safety Factor Selection explained in this page. Then take the larger or stronger chain.

2) When a conveyor consists of multiple strands of chain, correct the number of strands in the above formula to allow for uneven load to the chain.

3) In the following applications, chain life is reduced to 1/2 - 1/10. Determine safety factor referring to point 14 on page C-191.

CONSIDERATIONS FOR SPECIAL ENVIRONMENTS
1. Short distance transportation of heavy load
2. Exposure of chain to abrasive, adhesive and corrosive material
3. High temperature environments
4. High humidity
5. No lubrication

4) Bearing Roller Chain, Plastic Sleeve chain, Bearing Bush Chain and EPC78 to be selected by allowable tension.

Table 8: Chain Speed-Temperature Safety Factor Kv conditions: Clean environment and well lubricated

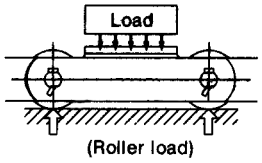
Chain Series / Temperature / Chain Speed m/min	Standard Series		Reinforced Series				Stainless Steel 400 Series				Stainless Steel 300 Series			
	Under 100	100-200	Under 100	100-200	200-300	300-400	Under 100	100-200	200-300	300-400	Under 100	100-200	200-300	300-400
Over 50 - Under 60 (incl.) 50-60	10		10				14				19			
Over 40 - Under 50 (incl.) 40-50	9		9				13				15			
Over 30 - Under 40 (incl.) 30-40	8	10	8	10			12	12			14	14		
Over 20 - Under 30 (incl.) 20-30	7	9	7	9	10		11	11	12		13	13		
Under 20 (incl.) 20	7	8	7	8	9	10	10	10	10	10	12	12	12	12

Table 9: Operation Time Factor Ks

Operation Time h/day	Ks
Less than 10 hours	1
10 to 24 hours	1.2

12. ALLOWABLE ROLLER LOAD UNDER LUBRICATED CONDITIONS

Allowable load per roller under lubricated condition in loading type conveyor is as per Table 10. Where A2 attachment is used, its allowable load should be compared to that of roller, and smaller value to be taken. Tensile strength 400N/mm^2 (41 kgf/ mm^2) is minimum requirement for guide rail. Allowable roller load should also be checked when corner rail is set up in a conveyor.



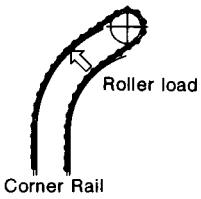


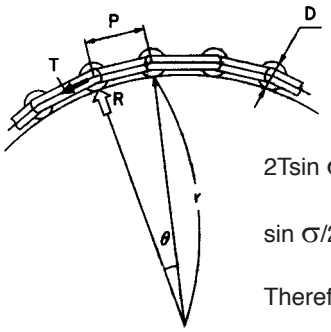
Table 10: Allowable Roller Load Under Luricated Conditions kN(kgf)/pc

Chain Size	R, F		S, M, N, Roller (Heat Treated)	Plastic Roller Series	Bearing Roller Series		Bearing Bush Series
	Standard Series	Reinforced Series			R Roller	F Roller	
RF03075 RF03100	0.54 (55)	0.88 (90)	0.54 (55)	0.88 (90)	1.96 (200)	1.27 (130)	0.54 (55)
RF430	0.93 (95)	1.57 (160)	0.93 (95)	-	-	-	-
RF05075 RF05100 RF05125 RF05150	1.03 (105)	1.72 (175)	1.03 (105)	1.42 (145)	2.94 (310)	1.96 (200)	1.03 (105)
RF204	-	-	1,27 (130)	-	-	-	-
RF450	1.27 (130)	2.11 (215)	1.27 (130)	2.06 (210)	4.12 (420)	2.65 (270)	-
RF08125 RF08150	1.27 (130)	2.11 (215)	1.27 (130)	-	4.12 (420)	2.65 (270)	-
RF650	1.42 (145)	2.35 (240)	1,42 (145)	-	-	-	-
RF10100 RF10125 RF10150	1.77 (180)	2.94 (300)	1.77 (180)	2.45 (250)	5.49 (560)	3.43 (350)	1.77 (180)
RF214	2.11 (215)	3.58 (365)	2.11 (215)	-	-	-	-
RF205	-	-	2.50 (255)	-	-	-	-
RF6205	2.50 (255)	4.17(425)	2.50 (255)	-	-	-	-
RF12200 RF12250	2.50 (255)	4.17 (425)	2.50 (255)	-	8.34 (850)	5.49 (560)	2.50 (255)
RF212	2.89 (295)	4.85 (495)	2.89 (295)	-	-	-	-
RF17200 RF17250 RF17300	4.02 (410)	6.67 (680)	4.02 (410)	-	14.1 (1440)	9.81 (1000)	4.02 (410)
RF26200 RF26250 RF26300 RF26450	5.30 (540)	8.83 (900)	5.30 (540)	-	19.6 (2000)	13.7 (1400)	5.30 (540)
RF36250 RF36300 RF36450 RF36600	7.45 (760)	12.4 (1260)	7.45 (760)	-	27.5 (2800)	18.6 (1900)	7.54 (760)
RF52300 RF52450 RF52600	9.81 (1000)	16.6 (1690)	9.81 (1000)	-	-	-	-
RF60300 RF60350 RF60400	10.8 (1100)	18.1 (1850)	10.8 (1100)	-	-	-	-
RF90350 RF90400 RF90500	15.2 (1550)	25.5 (2600)	15.2 (1550)	-	-	-	-
RF120400 RF120600	19.6 (2000)	33.3 (3400)	19.6 (2000)	-	-	-	-

13. ALLOWABLE LOAD FOR STANDARD "A" ATTACHMENT

Allowable vertical load for A type attachment is as per Table 11. Where the load works with roller, allowable roller load should be compared to that of attachment, and smaller value to be taken. When "A" attachment receives twisting force, please Contact Tsubaki Technical Support.

Reaction Force of Rail (R)



$2T\sin\sigma/2 = R$

$\sin\sigma/2 = (P/2)/(r + D/2)$

Therefore $R = 2T \times P/(2r + D)$

Table 11: Allowable Load For "A" Attachment kN(kgf)/pc

Chain Size	Standard Series DT	Reinforced Series AT
RF03075	0.78 (80)	1.18 (120)
RF03100	0.93 (95)	1.42 (145)
RF430	1.57 (160)	2.35 (240)
RF05075	1.03 (105)	1.57 (160)
RF05100	1.32 (135)	1.96 (200)
RF05125	1.52 (155)	2.26 (230)
RF05150	1.72 (175)	2.55 (260)
RF204	1.08 (110)	1.62 (165)
RF450	2.16 (220)	3.24 (330)
RF08125	2.45 (250)	3.68 (375)
RF08150	2.79 (285)	4.17 (425)
RF650	2.35 (240)	2.35 (240)
RF10100	2.06 (210)	3.09 (315)
RF10125	2.30 (235)	3.48 (355)
RF10150	2.60 (265)	3.92 (400)
RF214	3.24 (330)	4.81 (490)
RF205	2.40 (245)	3.63 (370)
RF6205	3.68 (375)	4.31 (440)
RF12200	4.41 (450)	5.30 (540)
RF12250	5.30 (540)	5.30 (540)
RF212	4.95 (505)	5.88 (600)
RF17200	4.85 (495)	5.74 (585)
RF17250	6.72 (685)	6.86 (700)
RF17300	2.21 (225)	2.21 (225)
RF26300	4.61 (470)	4.61 (470)
RF26450	6.67 (680)	6.67 (680)
RF36450	6.86 (700)	6.86 (700)
RF36600	8.63 (880)	8.63 (880)
RF52450	9.71 (990)	9.71 (990)
RF52600	12.1 (1230)	12.1 (1230)
RF60300	5.49 (560)	5.49 (560)
RF60350	7.06 (720)	7.06 (720)
RF60400	8.34 (850)	8.34 (850)
RF90350	6.47 (660)	6.47 (660)
RF90400	8.29 (845)	8.29 (845)
RF90500	12.3 (1250)	12.3 (1250)
RF120400	6.33 (645)	6.33 (645)
RF120600	12.7 (1290)	12.7 (1290)

Note: Please multiply "A" by two for "K" attachment.

14. CONSIDERATIONS FOR SPECIAL ENVIRONMENTS

Special environments mean the following conditions:
- high temperature
- low temperature
- high humidity
- high dust
- high chemical reactions

Combinations of the above conditions often exist where chain is used. Therefore, to achieve satisfactory chain life, it is important that to select adequate material.

14.1 At Low Temperatures

When chain is used at low temperatures, the following should be considered.

1. Low temperature brittleness of material.

In general, steel materials become brittle at low temperatures depending on chemical composition, etc. RF Conveyor Chain should not be used at temperatures lower than those specified in Table 12.

Table 12: Applicable Lowest Temperature

RF Conveyor Chain	Lowest Temperature
Standard Series (DT)	-20°C
Reinforced Series (AT)	-60°C
400 Stainless Series (NT, PT)	-70°C
300 Stainless Series (ST)	-100°C

2. Freezing of chain.

Freezing between pin and bushing, inner and outer linkplates, or bushing and roller will cause an excessive load on chain and drive unit. Freezing should be avoided by generally filling gaps between parts with lubricant, which does not freeze at the temperature the chain is used in. For this purpose, silicon grease is recommended.

14.2 At High Temperatures Over 400°C

Strength of chain decreases as temperature of chain increases by being heated up by the heat of material conveyed or environment. Limits to use of each chain are determined by temperature of chain and material. For Safety Factor at temperature up to 400°C, please refer to Table 8, and for over 400°C, please consult with TSUBAKI.

Points Concerning Heated Chain

1. Friction factor gets larger than usual.
2. There is a possibility to cause heat fatigue when different materials have been welded, due to the difference of heat expansion coefficient.
3. In environments at temperatures over 400°C, heat expansion and clearance are to be considered.
4. Creep breakage.
5. High temperature brittleness.
6. Carbide precipitation brittleness.
7. Effect of fluctuating temperatures (cooling and expansion).

Points Concerning Lubricant

1. Heat resistance of silicon, graphite and molybedenum disulphide oil are superior.

14.3 Abrasiveness

Points Concerning Abrasive Conditions

1. Install chain cover to avoid exposure to abrasive material.
2. Select adequate conveyor type when exposing chain to abrasive material.
3. Slow down chain speed as much as possible.
4. Make chain size larger to reduce bearing pressure between pin and bushing.
5. Lubricate through grease fitting. (Please consult with Tsubaki Technical Support).

14.4 Corrosiveness

When chain is exposed to corrosive material:

1. Chain parts get thin. Wear is accelerated.
2. Rust affects rotation of roller and articulation of chain.
3. Special considerations to be taken for stress corrosiveness and intergranular corrosiveness when chain is used under acid or alkaline environments.

Please refer to Table 13 when selecting chain. It shows anticorrosiveness of chain material to various kinds of solvent. Chain parts made of 400 stainless steel may rust depending upon conditions.

Specifications for antistress corrosiveness are available. (Please Contact Tsubaki Technical Support.) With regard to corrosiveness, please inform Tsubaki Technical Support of materials of accessories and related equipment. For example, when chain is used in a tank, the material of the tank is important information. In this case, it may be possible to prevent electric corrosion beforehand.

Table 13: Anti-corrosiveness to Various Kinds of Solvent

When selecting chain, please check whether or not material is fully anticorrosive by referring to this table. This table shows properties of material at 20°C and is only to be taken as a guide. To determine final specifications of chain, please consider all conditions together.

O: Resistant
X: Not resistant
▲: Resistant depending upon conditions
- : Unknown

Table 13: Anti-corrosiveness to Various Kinds of Solvent

Solvent	Steel	400 Stainless Steel	300 Stainless Steel	EPC78 STP
Acetone	-	O	O	O
Oil (Vegetable, Mineral)	O	O	O	O
Sulphurous Acid Gas (Wet) 20°C	X	X	O	-
Sulphurous Acid Gas (Dry) 20°C	-	-	-	-
Methyl-, Ethyl-, Propyl-, Butyl Alcohol	O	O	O	O
Ammonia Water	▲	O	O	O
Ammonia Gas (Cold)	-	-	-	-
Ammonia Gas (Hot)	-	-	-	-
Whisky	X	O	O	O
Sodium Chloride	X	▲	O	-
Hydrochloric Acid (2%)	X	X	X	X
Chlorine Gas (Wet) 20°C	X	X	X	-
Sea Water	X	X	▲	▲
Hydorogen Peroxide 30%	-	▲	O	X
Caustic soda 25%	-	O	O	O
Gasoline	O	O	O	O
Potassium Permanganic Acid (Saturation)	-	O	O	-
Formic Acid	X	O	O	X
Formaldehyde	O	O	O	O
Milk	X	O	O	O
Citric Acid	X	O	O	-
Glycerin 20°C	O	O	O	O
Acetic Acid 10%	X	O	O	O
Carbon Tetrachloride (Water Cont. 1%) Boil	-	-	-	-
Carbon Tetrachloride (Dry) 20°C	O	O	O	O
Tartaric Acid 10% 20°C	X	O	O	O
Oxalic Acid	X	▲	O	-
Vitric Acid 5%	X	▲	O	X
Vinegar	X	X	▲	▲
Sodium Hypochlorite 10%	X	X	X	X
Calcium Hypochlorite	X	X	O	X
Sodium Bicarbonate 20°C	-	O	O	O
Soft Drinks	X	O	O	O
Water	X	O	O	O
Calcium Hydroxide 20%Boil	-	O	O	O
Carbolic Acid 20°C	-	O	O	X
Petroleum 20°C	O	O	O	O
Soap Solution	X	O	O	O
Carbonated Water	X	O	O	-
Sodium Carbonate (Saturation) Boiling	-	O	O	-
Kerosene	O	O	O	-
Lactic Acid 10%20°C	X	▲	O	O
Paraffin	O	O	O	O
Beer	X	O	O	O
Benzene	O	O	O	O
Boric Acid 5%	X	O	O	-
Vegetable Juice	X	O	O	O
Iodine	-	-	-	-
Butyric Acid 20°C	-	O	O	O
Sulphuric Acid 5%	X	X	X	X
Phosphoric Acid 10%	X	▲	▲	X
Sodium Sulfate Saturation 20°C	-	O	O	-
Wine	X	O	O	O

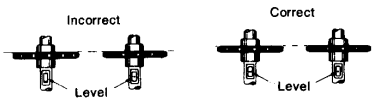
RF Metric Series Chain Selection Guide

INSTALLATION AND MAINTENANCE

1. Installation of Sprocket

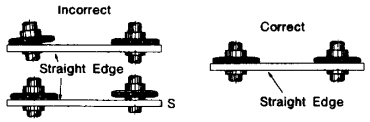
Proper alignment of sprocket and shaft is essential for smooth operation of conveyors and long lasting service of conveyor chain. To ensure correct alignment, proceed using following steps.

a. Level the shaft. Angular alignment should be adjusted within a gradient of 1/300.



b. Align the shaft for parallelism using a straight edge or a scale. Tolerance for parallel alignment of shafts should be within 1mm.

c. Align the sprockets axially on the shafts using a straight bar or a stretched wire as illustrated below.



Alignment accuracy should be as follows:

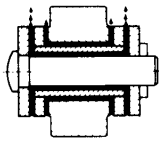
Center distance up to 1 m: ± 1 mm
1 m to 10m: Center Distance (mm)/1000
over 10m: ±10 mm

Notes:

1. It is required that at least three teeth of the sprocket are engaged with chain.
2. Installation of take-up unit is an effective way to adjust for chain elongation.
3. It is required to phase teeth of sprockets when multiple strands of chain are used in parallel.

2. Lubrication

Conveyor chain requires proper lubrication, which reduces wear on the conveyor chain and economizes the horsepower. Lubrication is generally applied once a week by pouring or brushing ISO VG100-150 (SAE30-40) oil.



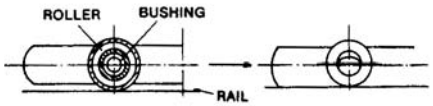
3. Life of Conveyor Chain and Sprocket

As conveyor chain runs, wear appears on each part of the chain. The life of conveyor chain is determined not only by the pitch elongation but also by the wear of each component part. It is recommended to do periodical inspection on the wearing parts as per the following examples.

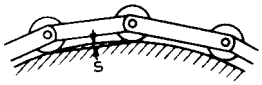
1) Roller

A) "R" roller, "F" roller

If the link plates start to contact with the track or rail due to wear of the rollers, replacement of chain is required. When there is a corner rail, allowable wear amount is decreased by a dimension equivalent to "S".

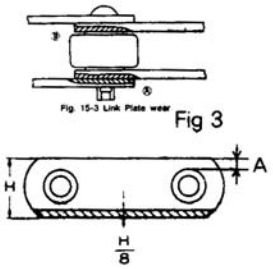


B) "S" roller Chain life comes to an end when holes or crevices appear on some rollers due to wear.



2) Bushing Chain can last until holes appear on bushings.

3) Link plate Reciprocal friction between inner and outer link plates and contact between side surface of roller and inside surface of link plate develop such wear as (A) and (B) in Fig. 3. If the amount of wear exceeds 1/3 of original plate thickness, tensile strength of chain is decreased critically. When such wear appears prior to that of other component parts, misalignment is the probable cause in most cases. Careful and periodical inspection is required to keep correct alignment of sprockets and shafts, refer to the first paragraph of INSTALLATION OF SPROCKET. For Flow Conveyor Chain, link plates slide directly on the material conveyed or on casing steel plate, the chain life ends when the wear amount reaches approx. 1/3 of "H".

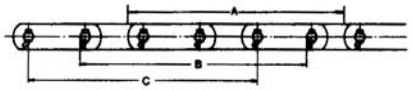


The following should be avoided as it may deform link plate hole or break chain:

1. To apply overload
2. To grind down outer diameter of pin, outer diameter of bushing and link plate hole or to heat up link plate at disassembly or assembly of chain.

4) Elongation of chain pitch

When chain engages with sprocket or runs on the bent section of the track rail, flexion of the chain arises, thereby causing the chain to stretch due to the wear of such bearing parts as pins and bushings. When the chain pitch becomes larger, the chain tends to climb the sprocket tooth. The limit of pitch elongation is generally 2% of the chain pitch.



To check elongation of chain pitch, measure as many number of pitches as possible (at least 4 pitches required). Measuring points are:

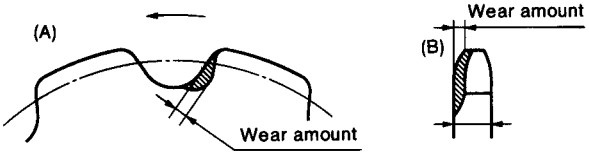
A=Pin center to pin center
B = Pin edge to pin edge

The elongation of chain is calculated by comparing the actually measured pitch with the original chain pitch.

5) Wear of sprocket

When a sprocket is worn out, chain tends to cling to the sprocket and to vibrate. In this case, build up welding is required for repair. Although allowable wear amount slightly varies with conveyor type and chain size, it is recommended to repair or replace sprocket with wear amount 3-6 mm to prevent chain from being damaged.

(A) Misalignment causes wear on side of sprocket teeth. Correction of the alignment is required. (B)



INSTALLATION AND MAINTENANCE FOR CONVEYOR CHAINS

Checkpoint

When handling and dismantling Conveyor chains:

- Always wear the proper protective clothing (safety glasses, gloves, safety shoes, etc.) suitable for the operations involved.
- When supporting Conveyor chains, make sure that the Conveyor chain and it's parts do not move freely.
- The use of pressing equipment is recommended. Jigs should be properly used.
- Pins should be inserted and removed in the correct direction.

Make sure to install safety devices (safety covers, etc.) on the equipment of all Conveyor chains and sprockets.

Make sure that power is OFF before installation, dismantling, lubrication and maintenance inspection of Conveyor chains and take precautions to ensure that the power will remain off throughout.

Perform operations in a safe manner by arranging the surroundings so that no secondary accidents may occur.

When replacing Conveyor chains, note the following:

- The strengths of Conveyor chains differ depending on the maker. When a selection has been made at the time of purchasing or replacing based on this catalog, make sure to use our company's products.
- Avoid replacing only areas that are partially worn or damaged. In such cases replace all with new parts.

Universal Product Cross-Reference

This chart is a quick, easy way to replace your current chains and sprockets with high-quality, reliable products from Tsubaki The list is sorted by chain number, and you'll find the corresponding Tsubaki number listed for each.

The chart was compiled with great care and with the latest information available at the time of printing. Because of the possibility of errors in competitors' publications or changes in product specifications, Tsubaki does not assume responsibility for the accuracy of competitors' information. Please check the chain or sprocket specifications on the corresponding page numbers carefully before ordering.

Chain Interchangeability Guidelines

There are several degrees of interchangeability for chain replacement between manufacturers' chains.

1. **Intercoupling of Chains**
   The pin of one chain can be put through the bushing of another. However, the pin and outside sidebars must be produced by the same manufacturer. When connected, the two chains form one strand.

2. **Interchanging of Parts**
   Because each manufacturer has different part designs and tolerances, interchanging parts is not suggested. Due to the differences in tolerances, we suggest you use Tsubaki replacement parts for Tsubaki chains.

3. **Running on the Same Sprocket**
   Many replacement chains will run on the same sprockets even though they are not the same chains. The following dimensions must be equivalent in the original and replacement chains to run on the same sprocket.
   - Pitch
   - Roller, barrel, or bushing diameter (depending on chain type)
   - Inside width

If you have any questions about using the Universal Product Cross-Reference or interchangeability in general, contact Tsubaki Technical Support. We can help you select the right replacement chain or sprocket for your application.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
JB-2	2.000	D	US-2	C-105	-	-
US-2	2.000	D	US-2	C-105	-	-
3DD	3.075	D	US-3075	C-5	US-3075	E-153
API-3	3.075	D	US-3075	C-5	US-3075	E-153
CHAMP3	3.075	D	US-3075	C-5	US-3075	E-153
4	4.000	RC	94R	C-20	94R	E-162
HP-4	4.063	D	US-1242	C-5	US-1242	E-155
RO-4	4.063	D	US-1242	C-5	US-1242	E-155
SS-4	4.000	RC	94R	C-20	94R	E-162
CC5	6.000	RC	CC5	C-21	CC5	E-167
6	6.000	RC	614R	C-21	CC5	E-167
6-SP	6.000	RC	631 R	C-21	626R	E-168
SS-6	6.000	RC	614R	C-21	CC5	E-167
SS-6SP	6.000	RC	631R	C-21	626R	E-168
S-17	2.563	D	520RX	C-5	-	-
RO-25H	2.500	D	RO-25H	C-5	-	-
SS-39	3.075	RC	119R	C-20	119RX	E-162
RO-40	3.075	D	US-1030	C-5	US-3075	E-153
RO-40HYPER	3.075	D	US-3075	C-5	US-3075	E-153
SS-40	3.075	D	US-1030	C-5	US-3075	E-153
SS-40HYPER	3.075	D	US-3075	C-5	US-3075	E-153
SS-40P	3.075	D	US-1031	C-5	US-3075	E-153
XXS-40	3.075	D	US-1031	C-5	US-3075	E-153
R-51A	2.500	D	US-2570	**	US-3075	E-153
53R	3.000	RC	53R	C-20	53R	E-161
C-55	1.631	C	C-55	**	-	-
EC-62	1.654	RC	162R	**	378RX	E-159
SS-62P	1.654	D	US-622	**	378RX	E-159
US-64S	2.500	D	US-64S	C-5	US-64S	E-151
US-64SH	2.500	D	US-64SH	C-105	US-64S	E-151
EPC-78	2.609	Plastic	EPC-78	C-115	-	-
W-78	2.609	WS	W-78	-	WH-78	E-184
W-78S	4.125	WS	WH-78S	-	-	-
WH-78	2.609	WS	WH-78	-	WH-78	E-184
WR-78	2.609	WS	W-78	-	WH-78	E-184
WR78-4	4.000	WS	-	-	WR78-4	E-186
WS-78	2.609	WS	W-78	-	WH-78	E-184
WS-78P	2.609	WS	WH-78	-	WH-78	E-184
81C	2.609	RC	81X	C-20	81X	E-160
81X	2.609	RC	81X	C-20	81X	E-160
82R	4.000	RC	82R	**	US-90R	E-164
SS-82	6.000	RC	614R	C-21	CC5	E-167
W-82	3.075	WS	W-82	-	WH-82	E-185
W-82H	3.075	WS	W-82H	-	WH-82	E-185
WH-82	3.075	WS	WH-82	-	WH-82	E-185
WH-82H	3.075	WS	WH-82H	-	WH-82	E-185
WR-82	3.075	WS	W-82	-	WH-82	E-185
WR-82XHD	3.075	WS	-	-	WR-82XHD	E-185
WS-82	3.075	WS	W-82	-	WH-82	E-185
WS-82P	3.075	WS	WH-82	-	WH-82	E-185
83R	4.000	RC	83R	C-20	US-90R	E-164
84R	4.000	RC	84R	C-20	84R	E-164
85R	4.000	RC	85R	-	-	-
86R	6.000	RC	86R	C-20	627R	E-165
87R	2.609	RC	87R	C-20	87R	E-161
SS-87	2.609	RC	87R	C-20	87R	E-161
SS-88P	2.609	D	US-881	**	US-882	E-152
89R	4.000	RC	89R	C-20	89R	E-164
US-90R	4.000	RC	US-90R	C-20	US-90R	E-164
91 R	4.000	RC	91R	C-20	91R	E-163

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Paqe Number	Tsubaki Sprocket Number	Sprocket Page Number
93R	3.000	RC	93R	C-20	93R	E-161
94R	4.000	RC	94R	C-20	94R	E-162
95R	4.000	RC	95R	C-20	95R	E-163
96R	6.000	RC	96R	C-21	610R	E-167
96RX	6.000	RC	96RX	C-21	610R	E-167
SS-96	6.000	RC	96R	C-21	610R	E-167
97R	4.000	RC	97R	C-20	97R	E-163
102B	4.000	SB	102B	C-55	102B	E-181
H-102	5.000	WS	WD-102	-	-	-
A-102B	4.000	C	C-102B	-	102B	E-181
C-102B	4.000	C	C-102B	-	102B	E-181
HSB-102B	4.000	SB	102B	C-55	102B	E-181
N-102B	4.000	C	C-102B	-	102B	E-181
S-102B	4.000	SB	102B	C-55	102B	E-181
SBS-102B	4.000	SB	102B	C-55	102B	E-181
SS-102B	4.000	SB	102B	C-55	102B	E-181
WD-102	5.000	WS	WD-102	-	-	-
WDH-102	5.000	WS	WDH-102	-	-	-
WSD-102	5.000	WS	WD-102	-	-	-
WSD-102P	5.000	WS	WDH-102	-	-	-
102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
HSB-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
S-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
SBS-102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
103RC	3.075	D	US-1032	**	US-3075	E-153
H-104	6.000	WS	WD-104	-	-	-
WD-104	6.000	WS	WD-104	-	-	-
WDH-104	6.000	WS	WDH-104	-	-	-
WSD-104	6.000	WS	WD-104	-	-	-
WSD-104P	6.000	WS	WDH-104	-	-	-
H-106	6.000	WS	W-106	-	WH-106	E-189
W-106	6.000	WS	W-106	-	WH-106	E-189
WH-106	6.000	WS	WH-106	-	WH-106	E-189
WR-106	6.000	WS	W-106	-	WH-106	E-189
WR-106XHD	6.050	WS		-	WR-106XHD	E-190
110	6.000	SB	110	C-55	110	E-182
C-110	6.000	C	C-110	-	110	E-182
C-110M	6.000	C	C-110	-	110	E-182
HSB-110	6.000	SB	110	C-55	110	E-182
S-110	6.000	SB	110	C-55	110	E-182
SBS-110	6.000	SB	110	C-55	110	E-182
WD-110	6.000	WS	WD-110	-	-	-
WDH-110	6.000	WS	WDH-110	-	-	-
WSD-110	6.000	WS	WD-110	-	-	-
WSD-110P	6.000	WS	WDH-110	-	-	-
111	4.760	SB	111	C55	111	E-182
111SP	4.76X7.24	SB	111SP	C-55	-	-
A-111	4.760	C	C-111	-	111	E-182
C-111	4.760	C	C-111	-	111	E-182
C-111M	4.760	C	C-111	-	111	E-182
HSB-111	4.760	SB	111	C-55	111	E-182
HSB-111SP	4.76X724	SB	111SP	C-55	-	-
N-111	4.760	C	C-111	-	111	E-182
S-111	4.760	SB	111	C-55	111	E-182
S-111SP	4.76X724	SB	111SP	C-55	-	-
SBS-111	4.760	SB	111	C-55	111	E-182
SBS-111SP	4 76X7.24	SB	111SP	C-55	-	-
SS-111	4.760	SB	111	C-55	111	E-182
SS-111SP	4.76X724	SB	111SP	C-55	-	-

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
W-111	4.760	WS	W-111	-	WH-111	E-188
WH-111	4.760	WS	WH-111	-	WH-111	E-188
WR-111	4.760	WS	-	-	WH-111	E-188
H-112	8.000	WS	WD-112	-	-	-
WD-112	8.000	WS	WD-112	-	-	-
WDH-112	8.000	WS	WDH-112	-	-	-
WSD-112	8.000	WS	WD-112	-	-	-
WSD-112P	8.000	WS	WDH-112	-	-	-
H-113	6.000	WS	WD-113	-	-	-
WD-113	6.000	WS	WD-113	-	-	-
WDH-113	6.000	WS	WDH-113	-	-	-
H-116	8.000	WS	WD-116	-	-	-
WD-116	8.000	WS	WD-116	-	-	-
WDH-116	8.000	WS	WDH-116	-	-	-
WSD-116	8.000	WS	WD-116	-	-	-
WSD-116P	8.000	WS	WDH-116	-	-	-
119R	3.075	RC	119R	C-20	119RX	E-162
119RX	3.075	RC	119RX	C-20	119RX	E-162
WSD-120	6.000	WS	WD-120	**	-	-
WSD-120P	6.000	WS	WDH-120	**	-	-
H-122	8.000	WS	WD-122	**	-	-
WD-122	8.000	WS	WD-122	**	-	-
WDH-122	8.000	WS	WDH-122	**	-	-
WSD-122	8.000	WS	WD-122	**	-	-
WSD-122P	8.000	WS	WDH-122	**	-	-
H-124	4.000	WS	W-124	-	WH-124	E-186
H-124HD	4.063	WS	W-124H	-	WH-124H	E-187
RO-124	4.063	D	US-1242	C-5	US-1242	E-155
SS-124	4.063	D	US-1242	C-5	US-1242	E-155
SS-124DP	4.063	D	US-1242	C-5	US-1242	E-155
W-124	4.000	WS	W-124	-	WH-124	E-186
W-124H	4.063	WS	W-124H	-	WH-124H	E-187
WH-124	4.000	WS	WH-124	-	WH-124	E-186
WH-124H	4.063	WS	W-124H	-	WH-124H	E-187
WH-124HD	4.063	WS	WH-124H	-	WH-124H	E-187
WR-124XHD	4.063	WS	-	-	WR-124XHD	E-187
WR-124	4.000	WS	W-124	-	WH-124	E-186
WR-124HD	4.063	WS	W-124H	-	WH-124H	E-187
WS-124	4.000	WS	W-124	-	WH-124	E-186
WS-124HD	4.063	WS	W-124H	-	WH-124H	E-187
WS124HDP	4.063	WS	WH-124H	-	WH-124H	E-187
WS-124P	4.000	WS	WH-124	-	WH-124	E-186
131	3.075	SB	131	C-55	131	E-180
C-131	3.075	C	C-131	-	131	E-180
HSB-131	3.075	SB	131	C-55	131	E-180
S-131	3.075	SB	131	C-55	131	E-180
SBS-131	3.075	SB	131	C-55	131	E-180
SS-131	3.075	SB	131	C-55	131	E-180
132	6.050	WS	-	-	WH-132	E-190
A-132	6.050	C	C-132	-	WH-132	E-190
C-132	6.050	C	C-132	-	WH-132	E-190
C-132M	6.050	C	C-132	-	WH-132	E-190
H-132	6.050	WS	W-132	-	WH-132	E-190
N-132	6.050	C	C-132	-	WH-132	E-190
W-132	6.050	WS	W-132	-	WH-132	E-190
WCH-132	6.050	WS	WCH-132	-	WH-132	E-190
WH-132	6.050	WS	WH-132	-	WH-132	E-190
WH-132SS	6.050	WS	WH-132SS	-	WH-132	E-190
WR-132	6.050	WS	W-132	-	WH-132	E-190
WRC-132	6.050	WS	-	-	WH-132	E-190
WR-132XHD	6.050	WS	-	-	WR-132XHD	E-191
WS-132	6.050	WS	-	-	WH-132	E-190
WS-132P	6.050	WS	WH-132	-	WH-132	E-190

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
134	6.000	SB	US-850	-	-	-
149	4.000	RC	89R	C-20	89R	E-164
MSR-149	4.000	RC	89R	C-20	89R	E-164
150X	6.050	SB	150X	C-55	150X	E-183
HSB-150PLUS	6.050	SB	150X	C-55	150X	E-183
SA-150	6.050	SB	150X	C-55	150X	E-183
SBS-150PLUS	6.050	SB	150X	C-55	150X	E-183
SS-150X	6.050	SB	150X	C-55	150X	E-183
SX-150	6.050	SB	150X	C-55	150X	E-183
W-150	6.050	WS	W-150	-	WH-132	E-190
WH-150	6.050	WS	WH-150	-	WH-132	E-190
WR-150	6.050	WS	-	-	WH-132	E-190
WS-150P	6.050	WS	WH-150	-	WH-132	E-190
W-155	6.050	WS	W-155	-	WH-155	E-191
WH-155	6.050	WS	WH-155	-	WH-155	E-191
160/348	2.000	D	160/348	C-68	-	-
160/458	2.000	D	160/458	C-68	-	-
160/678	2.000	D	160/678	C-68	-	-
162R	1.654	RC	162R	**	378RX	E-159
SS-162P	1.654	RC	378R	C-20	378RX	E-159
180	12.000	RC	B-1264R	C-21	B-1264R	E-175
SR-183	3.000	RC	53R	C-20	53R	E-161
188	2.609	SB	188	C-55	188	E-179
188Z	2.609	C	C-188	-	WH-78	E-184
C-188	2.609	C	C-188	-	WH-78	E-184
C-188M	2.609	C	C-188	-	WH-78	E-184
HSB-188	2.609	SB	188	C-55	188	E-179
S-188	2.609	SB	188	C-55	188	E-179
SBS-188	2.609	SB	188	C-55	188	E-179
SR-188	4.000	RC	1188R	C-20	91R	E-163
SS-188	2.609	SB	188	C-55	188	E-179
SR-194	4.000	RC	US-90R	C-20	US-90R	E-164
DS-196R	6.000	RC	DS-196R	C-94	627R	E-165
SR-196	6.000	RC	US-196R	C-20	627R	E-165
SRD-196	6.000	RC	DS-196R	C-94	627R	E-165
US-196R	6.000	RC	US-196R	C-20	627R	E-165
RF-205	3.075	RC	119R	C-20	119RX	E-162
234PB	3.510	D	351 RX	**	-	-
SS-234PLUS	3.510	D	351 RX	**	-	-
RX-238	3.500	D	US-3514	C-55	US-3514	E-154
276	12.000	RC	1276R	C-21	E-1263R	E-175
SS-276	12.000	RC	1276R	C-21	E-1263R	E-175
US-278R	2.609	RC	US-278R	C-20	87R	E-161
327R	2.980	RC	327R	**	-	-
344SXX	3.000	D	344SXX	C-5	344SXX	E-152
X-345	3.000	D	344SXX	C-5	344SXX	E-152
S-348	3.015	R	S-348	C-64	X-348	E-194
X-348	3.015	R	X-348	C-62	X-348	E-194
362	1.654	RC	US-620X	**	378RX	E-159
362R	1.654	RC	US-620X	**	378RX	E-159
A-362	1.654	RC	US-620X	**	378RX	E-159
B-362	1.654	RC	162R	**	378RX	E-159
R-362	1.654	RC	162R	**	378RX	E-159
RC-362	1.654	RC	162R	**	378RX	E-159
378R	1.654	RC	378R	C-20	378RX	E-159
378RX	1.654	RC	378RX	C-20	378RX	E-159
R-432	1.654	D	US-622	**	378RX	E-159
RR-432	1.654	RC	378R	C-20	378RX	E-159
SS-433	2.609	D	US-881	**	US-882	E-152

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Paqe Number
433 1/2	2.609	D	US-881	**	US-882	E-152
433 1/2P	2.609	D	US-882	**	US-882	E-152
R-434	1.654	D	US-622	**	378RX	E-159
450SXX	4.500	D	US-4522	C-5	US-4522	E-156
S-458	4.031	R	S-458	C-64	X-458	E-194
X-458	4.031	R	X-458	C-62	X-458	E-194
462R	1.654	RC	462R	**	378RX	E-159
462RX	1.654	D	US-622	**	378RX	E-159
468	4.031	R	468	C-62	-	-
H-480	8.000	WS	WD-480	-	-	-
WD-480	8.000	WS	WD-480	-	-	-
WDH-480	8.000	WS	WDH-480	-	-	-
WSD-480	8.000	WS	WD-480	-	-	-
WSD-480P	8.000	WS	WDH-480	-	-	-
R-506	2.300	D	US-770	**	-	-
R-514	2.500	D	US-2570	**	-	-
S-517	2.609	D	US-881	**	US-882	E-152
520P	2.563	D	520RX	C-5	-	-
520RX	2.563	D	520RX	C-5	-	-
A-520	2.563	D	520RX	C-5	-	-
RO-520	2.563	D	520RX	C-5	-	-
S-520	2.563	D	520RX	C-5	-	-
XS-520	2.563	D	520RX	C-5	-	-
A-522	2.640	D	1184RX	**	-	-
SS-522	2.640	D	1184RX	**	-	-
SS-522P	2.640	D	1184RX	**	-	-
527R	3.075	D	US-1031	C-5	US-3075	E-153
527RX	3.075	D	US-1031	C-5	US-3075	E-153
531	4.000	RC	89R	C-20	89R	E-164
S-531	4.000	RC	89R	C-20	89R	E-164
S-554	3.075	D	US-1030	C-5	US-3075	E-153
S-554PLUS	3.075	D	US-1031	C-5	US-3075	E-153
S-557	4.063	D	US-1242	C-5	US-1242	E-155
S-557PLUS	4.063	D	US-1242	C-5	US-1242	E-155
SS-568P	3.067	D	US- 3011	C-5	US-3011	E-153
X-568	3.067	D	US- 3011	C-5	US-3011	E-153
588RX	2.609	D	US-882	C-5	US-882	E-152
A-588	2.609	D	US-882	C-5	US-882	E-152
R-588	2.609	D	US-882	C-5	US-882	E-152
RO-588	2.609	D	US-882	C-5	US-882	E-152
RR-588	2.609	RC	87R	C-20	87R	E-161
602R	6.000	RC	602 R	**	-	-
603R	6.000	RC	603 R	C-20	603 R	E-166
604R	6.000	RC	604 R	C-20	627R	E-165
DS-604R	6.000	RC	604 R	C-20	627R	E-165
607 R	6.000	RC	607 R	C-20	CC5	E-167
610R	6.000	RC	610R	C-21	610R	E-167
SS-610	6.000	RC	610R	C-21	610R	E-167
614R	6.000	RC	614R	C-21	CC5	E-167
LXS-620	1.654	RC	162R	**	378RX	E-159
IS-622	1.654	D	US-622	**	378RX	E-159
LXS-622	1.654	D	US-622	**	378RX	E-159
RO-622	1.654	D	US-622	**	378RX	E-159
IS-624	1.654	RC	162R	**	378RX	E-159
625R	6.000	RC	625R	C-20	625R	E-167
LXS-625	1.654	RC	162R	**	378RX	E-159
626R	6.000	RC	626R	C-21	626R	E-168
627R	6.000	RC	627R	C-20	627R	E-165

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
LXS-627	1.654	RC	378R	C-20	378RX	E-159
RS-627	1.654	RC	378RX	C-20	378RX	E-159
RX-627	1.654	RC	378RX	C-20	378RX	E-159
628R	6.000	RC	628R	C-20	DS-6272	E-166
629R	6.000	RC	629R	C-20	629R	E-168
631	6.000	RC	631R	C-21	626R	E-168
631 R	6.000	RC	631R	C-21	626R	E-168
632R	6.000	RC	632R	**	-	-
633R	6.000	RC	633R	**	-	-
634R	6.000	RC	634R	**	627R	E-165
635A	4.500	D	US-4522	C-5	US-4522	E-156
B-635	4.500	D	US-4522	C-5	US-4522	E-156
RO-635	4.500	D	US-4522	C-5	US-4522	E-156
FXS-635	4.500	D	US-4522	C-5	US-4522	E-156
X-635	4.500	D	US-4522	C-5	US-4522	E-156
XXS-635	4.500	D	US-4522	C-5	US-4522	E-156
SS-658	6.000	RC	625R	C-20	625R	E-167
X-658	6.031	R	X-658	C-62	-	-
B-663R	6.000	RC	B-663R	C-21	629R	E-168
678	6.031	R	678	-	X-678	E-195
S-678	6.031	R	S-678	C-64	X-678	E-195
X-678	6.031	R	X-678	C-62	X-678	E-195
698	6.031	R	698	C-62	698	E-195
S-698	6.031	R	S-698	C-64	698	E-195
W-720S	6.000	WS	WH-720S	C-116	WH-720S	E-189
W-720SH	6.000	WS	WH-720SH	C-116	WH-720S	E-189
WH-720S	6.000	WS	WH-720S	C-116	WH-720S	E-189
WH-720SH	6.000	WS	WH-720SH	C-116	WH-720S	E-189
LXS-770	2.300	D	US-770	**	-	-
R-778	2.609	D	US-881	**	US-882	E-152
RR-778	2.609	RC	US-278R	C-20	87R	E-161
SS-793	6.000	RC	US-196R	C-20	627R	E-165
SS-796	6.000	RC	2178R	**	610R	E-167
800RX	8.000	RC	800RX	C-21	800RX	E-169
SS-800	8.000	RC	800RX	C-21	800RX	E-169
806 R	8.000	RC	806R	C-21	806R	E-168
809	9.000	RC	809R	**	-	-
809R	9.000	RC	809R	**	-	-
825	4.000	SB	825	**	-	-
S-825	4.000	SB	825	**	-	-
830	6.000	SB	830	**	-	-
S-830	6.000	SB	830	**	-	-
834R	8.000	RC	834R	**	-	-
F-840	18.000	RC	B-1864R	C-21	B-1864R	E-177
844	6.000	SB	844	**	-	-
844X	6.000	SB	844X	**	-	-
S-850	6.000	SB	US-850	**	-	-
SS-850	6.000	SB	US-850	**	-	-
US-850	6.000	SB	US-850	**	-	-
S-856	6.000	SB	4856	C-55	4856	E-182
856	6.000	SB	4856	C-55	4856	E-182
SX-856	6.000	SB	4856	C-55	4856	E-182
X-857	6.000	SB	4857	C-55	4856	E-182
X-859	6.000	SB	4859	C-55	4859	E-182
IS-881	2.609	D	US-881	**	US-882	E-152
LXS-881	2.609	D	US-881	**	US-882	E-152
RO-881	2.609	D	US-881	**	US-882	E-152
US-881	2.609	D	US-882	**	US-882	E-152

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
IS-882	2.609	D	US-882	C-5	US-882	E-152
JS-882	2.609	D	US-882	C-5	US-882	E-152
LXS-882	2.609	D	US-882	C-5	US-882	E-152
RO-882	2.609	D	US-882	C-5	US-882	E-152
US-882	2.609	D	US-882	C-5	US-882	E-152
IS-886	2.609	RC	US-278R	C-20	87R	E-161
LXS-886	2.609	RC	US-278R	C-20	87R	E-161
RS-886	2.609	RC	US-278R	C-20	87R	E-161
SX-886	7.000	SB	US-7038	**	-	-
IS-887	2.609	RC	87R	C-20	87R	E-161
LXS-887	2.609	RC	87R	C-20	87R	E-161
RS-887	2.609	RC	87R	C-20	87R	E-161
SS-889	6.000	RC	603R	C-20	603R	E-166
896R	8.000	RC	896R	C-21	896R	E-169
911	9.000	RC	B-912R	C-21	B-912R	E-170
911C	9.000	RC	B-912R	C-21	B-912R	E-170
E-911	9.000	RC	B-912R	C-21	B-912R	E-170
IS-911	9.000	RC	B-912R	C-21	B-912R	E-170
SS-911	9.000	RC	B-912R	C-21	B-912R	E-170
A-912R	9.000	RC	B-912R	C-21	B-912R	E-170
B-912R	9.000	RC	B-912R	C-21	B-912R	E-170
E-912	9.000	RC	B-912R	C-21	B-912R	E-170
SS-912	9.000	RC	B-912R	C-21	B-912R	E-170
E-921	9.000	RC	B-912R	C-21	B-912R	E-170
922	9.000	RC	B-963R	C-21	B-963R	E-171
922C	9.000	RC	B-963R	C-21	B-963R	E-171
E-922	9.000	RC	D-963R	C-21	D-963R	E-171
F-922	9.000	RC	B-963R	C-21	B-963R	E-171
SS-922	9.000	RC	B-963R	C-21	B-963R	E-171
925R	9.000	RC	925R	C-21	925R	E-169
SS-927	9.000	RC	D-963R	C-21	D-963R	E-171
SS-928	9.000	RC	D-963R Special	**	-	-
F-929	9.000	RC	E-963R	C-21	E-963R	E-172
SS-929	9.000	RC	E-963R	C-21	E-963R	E-172
F-930	9.000	RC	B-963R	C-21	B-963R	E-172
SS-930	9.000	RC	B-963R	C-21	B-963R	E-171
932	9.000	RC	E-963R	C-21	E-963R	E-172
F-932	9.000	RC	E-963R	C-21	E-963R	E-172
SS-932	9.000	RC	E-963R	C-21	E-963R	E-172
933	9.000	RC	B-964R	C-21	B-964R	E-172
933C	9.000	RC	B-964R	C-21	B-964R	E-172
F-933	9.000	RC	B-964R	C-21	B-964R	E-172
SS-933	9.000	RC	B-964R	C-21	B-964R	E-172
F-940	9.000	RC	B-964R	C-21	B-964R	E-172
SS-940	9.000	RC	B-964R	C-21	B-964R	E-172
SS-945	6.000	RC	629R	C-20	629R	E-168
951	6.000	RC	626R	C-21	626R	E-168
S-951	6.000	RC	626R	C-21	626R	E-168
SS-951	6.000	RC	626R	C-21	626R	E-168
RS-958	9.000	RC	925R	C-21	925R	E-169
RS-958W	9.000	RC	925R	C-21	925R	E-169
SS-960	6.000	RC	2198RX	C-21	610R	E-167
961R	9.000	RC	961R	C-21	-	-
A-963R	9.000	RC	B-963R	C-21	B-963R	E-171
B-963R	9.000	RC	B-963R	C-21	B-963R	E-171
D-963R	9.000	RC	D-963R	C-21	D-963R	E-171
E-963R	9.000	RC	E-963R	C-21	E-963R	E-172
F-963R	9.000	RC	E-963R	C-21	E-963R	E-172

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
A-964R	9.000	RC	B-964R	C-21	B-964R	E-172
B-964R	9.000	RC	B-964R	C-21	B-964R	E-172
965R	9.000	RC	4009	C-21	4009	E-170
967R	9.000	RC	4004	C-21	4004	E-171
973R	9.000	RC	973R	C-21	973R	E-173
SS-996	6.000	RC	96RX	C-21	610R	E-167
998	9.031	R	998	C-62	998	E-195
S-998	9.031	R	S-998	C-64	998	E-195
1007	6.000	RC	96R	C-21	610R	E-167
1007D	6.000	RC	96R	C-21	610R	E-167
1007DP	6.000	RC	96RX	C-21	610R	E-167
1007P	6.000	RC	96RX	C-21	610R	E-167
1030	3.075	D	US-1030	C-5	US-3075	E-153
IS-1030	3.075	D	US-1030	C-5	US-3075	E-153
JS-1030	3.075	D	US-1030	C-5	US-3075	E-153
US-1030	3.075	D	US-1030	C-5	US-3075	E-153
IS-1031	3.075	D	US-1031	C-5	US-3075	E-153
JS-1031	3.075	D	US-1031	C-5	US-3075	E-153
LXS-1031	3.075	D	US-1031	C-5	US-3075	E-153
LXS-1031M	3.075	D	US-1031	C-5	US-3075	E-153
RO-1031	3.075	D	US-1031	C-5	US-3075	E-153
US-1031	3.075	D	US-1031	C-5	US-3075	E-153
1033	3.075	D	US-1031	C-5	US-3075	E-153
R-1033	3.075	D	US-1031	C-5	US-3075	E-153
SS-1033	3.075	D	US-1031	C-5	US-3075	E-153
1037	3.075	D	US-3075	C-5	US-3075	E-153
IS-1037	3.075	D	US-3075	C-5	US-3075	E-153
1041AA	2.500	D	US-2570	**	-	-
SS-1088	2.609	RC	81X	C-20	81X	E-160
1094	2.300	D	US-770	**	-	-
1094C	2.300	D	US-770	**	-	-
1095	12.000	RC	1272R	**	-	-
1113R	4.040	RC	1113R	C-20	DS-1113	E-165
SR-1113	4.040	RC	1113R	C-20	DS-1113	E-165
SS-1113	4.040	RC	1113R	C-20	DS-1113	E-165
SR-1114	6.000	RC	627R	C-20	627R	E-165
SS-1114	6.000	RC	627R	C-20	627R	E-165
SS-1116	6.000	RC	604R	C-20	627R	E-165
SS-1116CR	6.000	RC	DS-604R	**	627R	E-165
RR-1120	4.000	RC	95R	C-20	95R	E-163
S-1120	4.000	RC	95R	C-20	95R	E-163
SS-1120	4.000	RC	95R	C-20	95R	E-163
1126	6.000	RC	1126R	C-21	DS-6272	E-166
1126C	6.000	RC	1126RS	C-21	626R	E-168
1126R	6.000	RC	1126R	C-21	DS-6272	E-166
1126RS	6.000	RC	1126RS	C-21	626R	E-168
SS-1126	6.000	RC	1126R	C-21	DS-6272	E-166
SS-1126 1/2	6.000	RC	1126RS	C-21	626R	E-168
1131R	6.000	RC	1131R	C-21	629R	E-168
S-1131	6.000	RC	1131R	C-21	629R	E-168
SS-1131	6.000	RC	1131R	C-21	629R	E-168
S-1183	3.000	RC	53R	C-20	53R	E-161
SR-1183	3.000	RC	53R	C-20	53R	E-161

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
SS-1183	3.000	RC	53R	C-20	53R	E-161
1184R	2.640	D	1184RX	**	-	-
1184RX	2.640	D	1184RX	**	-	-
1188R	4.000	RC	1188R	C-20	91R	E-163
SS-1188	4.000	RC	1188R	C-20	91R	E-163
1190R	3.075	D	US-1030	C-5	US-3075	E-153
1190R3	3.075	D	US-1032	**	US-3075	E-153
1190RX	3.075	D	US-1031	C-5	US-3075	E-153
1190RXX	3.075	D	US-3075	C-5	US-3075	E-153
1190SXX	3.075	D	US-3075	C-5	US-3075	E-153
SS-1194	4.000	RC	US-90R	C-20	US-90R	E-164
S-1196	6.000	RC	US-196R	C-20	627R	E-165
SS-1196	6.000	RC	US-196R	C-20	627R	E-165
1202P	5.000	D	US-5031	C-5	US-5035	E-157
A-1202	5.000	D	US-5031	C-5	US-5035	E-157
SS-1202	5.000	D	US-5031	C-5	US-5035	E-157
SS-1202P	5.000	D	US-5031	C-5	US-5035	E-157
SS-1204P	5.000	D	US-5031	C-5	US-5035	E-157
XXXS-1205	5.000	D	US-5031	C-5	US-5035	E-157
1207	5.000	D	US-5031	C-5	US-5035	E-157
RO-1207	5.000	D	US-5031	C-5	US-5035	E-157
RX-1207	5.000	D	US-5031	C-5	US-5035	E-157
1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
1211C	12.000	RC	B-1212R	C-21	B-1212R	E-173
1211P	12.000	RC	B-1212R	C-21	B-1212R	E-173
E-1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
SS-1211	12.000	RC	B-1212R	C-21	B-1212R	E-173
1212	6.000	RC	628R	C-20	DS-6272	E-166
A-1212R	12.000	RC	B-1212R	C-21	B-1212R	E-173
B-1212R	12.000	RC	B-1212R	C-21	B-1212R	E-173
E-1212	12.000	RC	B-1212R	C-21	B-1212R	E-173
SS 1212	12.000	RC	B-1212R	C-21	B-1212R	E-173
1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
1222C	12.000	RC	B-1263R	C-21	B-1263R	E-174
E-1222	12.000	RC	D-1263R	C-21	D-1263R	E-174
F-1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
SS-1222	12.000	RC	B-1263R	C-21	B-1263R	E-174
SS-1227	12.000	RC	D-1263R	C-21	D-1263R	E-174
SS-1230	12.000	RC	B-1263R	C-21	B-1263R	E-174
F-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
RS-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
SS-1232	12.000	RC	E-1263R	C-21	E-1263R	E-175
1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
1233C	12.000	RC	B-1264R	C-21	B-1264R	E-175
F-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
RS-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
SS-1233	12.000	RC	B-1264R	C-21	B-1264R	E-175
SS-1236	12.000	RC	1272R	**	-	-
SS-1240	12.000	RC	B-1264R	C-21	B-1264R	E-175
XXS-1240	4.063	D	US-1242	C-5	US-1242	E-155
1240RXX	4.063	D	US-1242	C-5	US-1242	E-155
1240	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1241M	4.063	D	US-1241	C-5	US-1242	E-155
US-1241	4.063	D	US-1241	C-5	US-1242	E-155
IS-1242	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1242M	4.063	D	US-1242	C-5	US-1242	E-155
LXS-1242	4.063	D	US-1242	C-5	US-1242	E-155
RO-1242	4.063	D	US-1242	C-5	US-1242	E-155

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
US-1242	4.063	D	US-1242	C-5	US-1242	E-155
F-1244	12.000	RC	1273R	C-21	1273R	E-175
SS-1244	12.000	RC	1273R	C-21	1273R	E-175
1244	12.000	RC	1273R	C-21	-	-
1244	4.063	D	US-1242	C-5	US-1242	E-155
1245SXX	4.073	D	US-1245	C-5	US-1245	E-155
B-1245	4.073	D	US-1245	C-5	US-1245	E-155
IS-1245	4.073	D	US-1245	C-5	US-1245	E-155
J-1245A	4.073	D	US-1245	C-5	US-1245	E-155
LXS-1245	4.073	D	US-1245	C-5	US-1245	E-155
RO-1245	4.073	D	US-1245	C-5	US-1245	E-155
RX-1245	4.073	D	US-1245	C-5	US-1245	E-155
US-1245	4.073	D	US-1245	C-5	US-1245	E-155
XXS-1245	4.073	D	US-1245	C-5	US-1245	E-155
R-1248	4.063	D	US-1242	C-5	US-1242	E-155
1251	12.000	RC	DWG, 14419	**	-	-
1258	6.000	RC	625R	C-20	625R	E-167
A-1263R	12.000	RC	B-1263R	C-21	B-1263R	E-174
B-1263R	12.000	RC	B-1263R	C-21	B-1263R	E-174
D-1263R	12.000	RC	D-1263R	C-21	D-1263R	E-174
E-1263R	12.000	RC	E-1263R	C-21	E-1263R	E-175
A-1264R	12.000	RC	B-1264R	C-21	B-1264R	E-175
B-1264R	12.000	RC	B-1264R	C-21	B-1264R	E-175
1265R	12.000	RC	1265R	C-21	1265R	E-173
B-1266R	12.000	RC	B-1266R	C-21	B-1266R	E-174
1267	12.000	RC	1276R	C-21	-	-
1271R	12.000	RC	1271R	C-21	1273R	E-175
1272R	12.000	RC	1272R	**	E-1263R	E-175
1273	12.000	RC	B-1266R	C-21	B-1266R	E-174
1273R	12.000	RC	1273R	C-21	-	-
1276R	12.000	RC	1276R	C-21	-	-
1288	2.609	RC	81X	C-20	81X	E-160
1297	4.040	RC	1113R	C-20	DS-1113	E-165
R-1305	3.075	D	US-1032	**	US-3075	E-153
A-1306	6.000	D	US-6042	C-5	US-6042	E-158
RO-1306	6.000	D	US-6042	C-5	US-6042	E-158
RO-1307	7.000	D	US-7060	**	-	-
A-1309	7.000	D	US-7080	C-5	US-7080	E-158
X-1311	6.500	D	US-6560	**	-	-
1322	12.000	RC	D-1263R	C-21	D-1263R	E-174
1322C	12.000	RC	D-1263R	C-21	D-1263R	E-174
SS-1326	6.000	RC	DWG, 20463	**	-	-
1338	8.000	RC	DWG 17758	**	-	-
RO-1343	4.090	D	US-4121	C-5	-	-
X-1343	4.090	D	US-4121	C-5	-	-
X-1345	4.090	D	US-4122	C-5	US-4122	E-156
1347	4.063	D	US-1242	C-5	US-1242	E-155
US-1353	4.090	D	US-1353	C-5	-	-
X-1353	4.090	D	US-1353	C-5	-	-
1378	1.654	RC	378R	C-20	378RX	E-159
1510RXX	5.000	D	US-5031	C-5	US-5035	E-157
RS-1513	3.075	RC	119R	C-20	119RX	E-162
1520	4.000	RC	95R	C-20	95R	E-163
1520C	4.000	RC	95R	C-20	95R	E-163
153500	3.075	SB	30702	C-106	-	-
1536M6	3.075	RC	30701	C-104	-	-
1539	3.075	RC	119R	C-20	119RX	E-162
1568	3.067	D	US-3011	C-5	US-3011	E-153

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Paqe Number	Tsubaki Sprocket Number	Sprocket Page Number
AX-1568	3.065	D	US-3011	C-5	US-3011	E-153
1578	2.609	RC	-	-	81X	E-160
1583	3.000	RC	53R	C-20	53R	E-161
1583C	3.000	RC	53R	C-20	53R	E-161
1588	4.000	RC	1188R	C-20	91 R	E-163
1589	4.000	RC	DWG. 14382	**	89R	E-164
1594	4.000	RC	US-90R	C-20	US-90R	E-164
1601A	5.750	D	US-5738	C-5	-	-
1602A	5.000	D	US-5031	C-5	US-5035	E-157
1602AA	5.000	D	US-5031	C-5	US-5035	E-157
RO-1602AA	5.000	D	US-5031	C-5	US-5035	E-157
1604R	6.000	RC	1604R	**	-	-
1605AAA	5.000	D	US-5035	C-5	US-5035	E-157
1606	6.000	RC	603R	C-20	603 R	E-166
1606AA	6.000	D	US-6042	C-5	US-6042	E-168
1607AA	7.000	D	US-7060	**	-	-
1613A	2.000	D	US-2065	C-5	-	-
RO1613AK	2.000	D	US-2065	C-5	-	-
1616A	3.500	D	US-3514	C-5	US-3514	E-154
RO-1616	3.500	D	US-3514	C-5	US-3514	E-154
1617	6.000	RC	CC5	C-21	CC5	E-167
1625A	2.500	D	US-64S	C-5	US-64S	E-151
1626A	6.000	D	US-6042	C-5	US-6042	E-158
1627B	2.500	D	US-64S	C-5	US-64S	E-151
1630A	3.000	D	344SXX	C-5	344SXX	E-152
1630R	6.000	RC	1630R	C-21	CC5	E-167
1640A	3.075	D	US-1032	**	US-3075	E-153
1641AA	2.500	D	US-2570	**	-	-
1645A	4.073	D	US-1245	C-5	US-1245	E-155
1645AB	4.073	D	US-1245	C-5	US-1245	E-155
1702	6.000	RC	628R	C-20	DS-6272	E-166
1706	6.000	RC	614R	C-21	CC5	E-167
1706R	12.000	RC	1706R	-	-	-
RO-1706	3.075	D	DWG. 16750	**	-	-
1709	9.000	RC	925R	C-21	925R	E-169
1721	4.000	RC	94R	C-20	94R	E-162
1734	6.000	RC	1131R	C-21	629R	E-168
1743	12.000	RC	B-1266R	C-21	B-1266R	E-174
1743 1/2	12.000	RC	B-1266R	C-21	B-1266R	E-174
1751	9.000	RC	D-963R	C-21	D-963R	E-171
1751C	9.000	RC	D-963R	C-21	D-963R	E-171
SS-1769	6.000	RC	2178RX	C-21	610R	E-167
1796	6.000	RC	US-196R	C-20	627R	E-165
SS-1796	6.000	RC	2178RX	C-21	610R	E-167
1803AB	3.067	D	US-3011	C-5	US-3011	E-153
1807	6.000	RC	2198RX	C-21	610R	E-167
1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
1822C	18.000	RC	B-1863R	C-21	B-1863R	E-176
E-1822	18.000	RC	D-1863R	C-21	D-1863R	E-176
F-1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
SS-1822	18.000	RC	B-1863R	C-21	B-1863R	E-176
1823	6.000	RC	634R	**	627R	E-165
SS-1827	18.000	RC	D-1863R	C-21	D-1863R	E-176
1829	6.000	RC	604R	C-20	627R	E-165
F-1830	18.000	RC	B-1863R	C-21	B-1863R	E-176
SS-1830	18.000	RC	B-1863R	C-21	B-1863R	E-176
1831	18.000	RC	D-1863R	C-21	D-1863R	E-176
1832	18.000	RC	F-1863R	C-21	E-1863R	E-176
F-1832	18.000	RC	F-1863R	C-21	E-1863R	E-176

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
SS-1832	18.000	RC	F-1863R	C-21	E-1863R	E-176
1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
1833C	18.000	RC	B-1864R	C-21	B-1864R	E-177
F-1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
SS-1833	18.000	RC	B-1864R	C-21	B-1864R	E-177
SS-1840	18.000	RC	B-1864R	C-21	B-1864R	E-177
1844	18.000	RC	1873R	C-21	1873R	E-177
F-1844	18.000	RC	1873R	C-21	1873R	E-177
SS-1844	18.000	RC	1873R	C-21	1873R	E-177
1855	18.000	RC	1866R	C-21	1866R	E-177
F-1855	18.000	RC	1866R	C-21	1866R	E-177
SS-1855	18.000	RC	1866R	C-21	1866R	E-177
1862	1.654	RC	378R	C-20	378RX	E-159
1862C	1.654	RC	378R	C-20	378RX	E-159
A-1863R	18.000	RC	B-1863R	C-21	B-1863R	E-176
B-1863R	18.000	RC	B-1863R	C-21	B-1863R	E-176
D-1863R	18.000	RC	D-1863R	C-21	D-1863R	E-176
E-1863R	18.000	RC	F-1863R	C-21	E-1863R	E-176
F-1863R	18.000	RC	F-1863R	C-21	E-1863R	E-176
A-1864R	18.000	RC	B-1864R	C-21	B-1864R	E-177
B-1864R	18.000	RC	B-1864R	C-21	B-1864R	E-177
G-1864R	18.000	RC	G-1864R	C-21	G-1864R	E-177
1866	18.000	RC	1867R	C-21	1866R	E-177
1866R	18.000	RC	1866R	C-21	1866R	E-177
F-1866	18.000	RC	1867R	C-21	1866R	E-177
SS-1866	18.000	RC	1867R	C-21	1866R	E-177
1867R	18.000	RC	1867R	C-21	1866R	E-177
1871R	18.000	RC	1871R	C-21	1873R	E-177
1873R	18.000	RC	1873R	C-21	1873R	E-177
1906	6.000	RC	631R	C-21	626R	E-168
1972BM5	2.609	RC	26001	C-104		-
RO-2010	2.500	D	US-2570	**		-
LXS-2055	2.000	D	US-2065	C-5		-
IS-2065	2.000	D	US-2065	C-5		-
IS-2065S	2.000	D	US-2065	C-5		-
LXS-2065	2.000	D	US-2065	C-5		-
US-2065	2.000	D	US-2065	C-5		-
SS-2066	4.000	RC	82R	**	US-90R	E-164
2102	4.000	RC	US-3433	**		-
2111	6.000	RC	**	**		-
B-2111	6.000	RC	**	**		-
RO-2113	4.040	RC	2113R	**	DS-1113	E-165
SS-2113	4.040	RC	2113R	**	DS-1113	E-165
SS-2115	6.000	RC	602 R	**		-
2124	6.000	RC	96R	C-21	610R	E-167
A-2124	6.000	RC	96RX	C-21	610R	E-167
2126	6.000	RC	604R	C-20	627R	E-165
2130R	6.000	RC	2130R	C-21	CC5	E-167
2146	6.000	RC	U-3940	C-78	U-3940	E-193
S-2174	4.000	RC	U-3952	C-78	U-3952	E-192
2178A	6.000	RC	2178RX	C-21	610R	E-167
2178R	6.000	RC	2178R	**	610R	E-167
2178RX	6.000	RC	2178RX	C-21	610R	E-167
A-2178	6.000	RC	2178RX	C-21	610R	E-167
RF-2178	6.000	RC	2198RX	C-21	610R	E-167
2180	6.000	RC	628R	C-20	DS-6272	E-166
SS-2180	6.000	RC	628R	C-20	DS-6272	E-166
2183	6.000	RC	629R	C-20	629R	E-168

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
F-2183	6.000	RC	629R Special	**	625R	E-167
2184	6.000	RC	2184R	C-21	629R	E-168
2184P	6.000	RC	2184RX	C-21	629R	E-168
2184R	6.000	RC	2184R	C-21	629R	E-168
2184RX	6.000	RC	2184RX	C-21	629R	E-168
A-2184	6.000	RC	2184RX	C-21	629R	E-168
SS-2184P	6.000	RC	2184R	C-21	629R	E-168
SS-2184	6.000	RC	2184R	C-21	629R	E-168
2190	6.000	RC	607R	C-20	CC5	E-167
2190P	6.000	RC	607R	C-20	CC5	E-167
SS-2190	6.000	RC	607R	C-20	CC5	E-167
2198A	6.000	RC	2198RX	C-21	610R	E-167
2198RX	6.000	RC	2198RX	C-21	610R	E-167
A-2198	6.000	RC	2198RX	C-21	610R	E-167
2268	4.083	RC	US-2858	**	-	-
2348	12.000	RC	B-1264R	C-21	B-1264R	E-175
R-2362	1.654	D	US-620X	**	378RX	E-159
2397R	12.000	RC	2397R	-	-	-
2507	18.000	RC	1871R	C-21	1873R	E-177
RO-2512	3.067	D	US-3011	C-5	US-3011	E-153
LXS-2560	2.500	D	US-2570	**	-	-
US-2560	2.500	D	US-2570	**	-	-
IS-2570	2.500	D	US-2570	**	-	-
IS-2570A	2.500	D	US-2570	**	-	-
LXS-2570	2.500	D	US-2570	**	-	-
US-2570	2.500	D	US-2570	**	-	-
LXS-2585	2.500	D	RO-1625	**	US-64S	E-151
2614R	12.000	RC	2614R	-	-	-
C-2614	12.000	RC	2614R	-	-	-
ISS-2625	2.563	D	520RX	C-5	-	-
2800	8.000	RC	800RX	C-21	800RX	E-169
2800PB	8.000	RC	800RX	C-21	800RX	E-169
A-2800	8.000	RC	800RX	C-21	800RX	E-169
RO-2814	3.500	D	US-3514	C-5	US-3514	E-154
SS-2857	6.000	SB	4857	C-55	4856	E-182
US-2858	4.083	RC	US-2858	**	-	-
SS-2859	6.000	SB	4859	C-55	4859	E-183
SS-2864	7.000	SB	4864	C-55	4864	E-183
2995	4.250	D	X-3808	**	-	-
IS-3010	3.067	D	US-3011	C-5	US-3011	E-153
IS-3011	3.067	D	US-3011	C-5	US-3011	E-153
LXS-3011	3.067	D	US-3011	C-5	US-3011	E-153
RO-3011	3.067	D	US-3011	C-5	US-3011	E-153
US-3011	3.067	D	US-3011	C-5	US-3011	E-153
LXS-3013	3.000	RC	53R	C-20	53R	E-161
RS-3013	3.000	RC	53R	C-20	53R	E-161
XS-3013D6	3.000	RC	DWG. 17175	**	-	-
3067X	3.067	D	US-3011	C-5	US-3011	E-153
IS-3075	3.075	D	US-3075	C-5	US-3075	E-153
JS-3075	3.075	D	US-3075	C-5	US-3075	E-153
US-3075	3.075	D	US-3075	C-5	US-3075	E-153
3113	2.000	D	US-2065	C-5	-	-
B-3113	2.000	D	US-2065	C-5	-	-
3125	3.125	D	3125R	**	-	-

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
3125HY	3.125	D	3125R	**	-	-
3125HY2	3.125	D	D-3125R	**	-	-
3125HY3	3.125	D	1-3125R	**	-	-
3125R	3.125	D	3125R	**	-	-
D-3125	3.125	D	D-3125R	**	-	-
D-3125R	3.125	D	D-3125R	**	-	-
RO-3125	3.125	D	RO-3125	**	-	-
SS-3125HY	3.125	D	3125R	**	-	-
SS-3125	3.125	D	3125R	**	-	-
T-3125	3.125	D	T-3125R	**	-	-
T-3125R	3.125	U	T-3125R	**	-	-
RO-3140	1.750	D	RO-3140	C-5	-	-
3146	3.075	SB	30703	C-104	131	E-180
RO-3160	2.000	D	RO-3160	**	-	-
RO-3180	2.250	D	RO-3180	C-5	-	-
RO-3200	2.500	D	RO-1625	**	US-64S	E-151
RO-3315	4.073	D	US-1245	C-5	US-1245	E-151
3420	4.040	RC	1113R	C-20	DS-1113	E-155
3433	4.000	RC	3433	-	-	-
DF-3498	1.75 X 2.5	BP	DF-3498	C-72	DF-3498	E-178
DF-3500	2.5 X 3.0	BP	DF-3500	C-72	DF-3500	E-178
IS-3514	3.500	D	US-3514	C-5	US-3514	E-154
JS-3514	3.500	D	US-3514	C-5	US-3514	E-154
LXS-3514	3.500	D	US-3514	C-5	US-3514	E-154
US-3514	3.500	D	US-3514	C-5	US-3514	E-154
RO-3618	4.500	D	US-4522	C-5	US-4522	E-156
X-3808	4.250	D	X-3808	**	-	-
DF-3910	3.0 X 3.0	BP	DF-3910	C-72	DF-3910	E-178
U-3940	6.000	RC	U-3940	C-78	U-3940	E-193
U-3945	4.000	RC	U-3945	C-78	U-3945	E-192
U-3952	4.000	RC	U-3952	C-78	U-3952	E-192
US-3957	4.000	RC	US-3957	**	-	-
S-4000	4.000	RC	94R	C-20	94R	E-162
4002	9.000	RC	809R	**	B-963R	E-171
SS-4002	9.000	RC	809R	**	B-963R	E-171
4004	9.000	RC	4004	C-21	4004	E-171
X-4004	9.000	RC	4004	C-21	4004	E-171
4009	9.000	RC	4009	C-21	4009	E-170
LXS-4013	4.000	RC	95R	C-20	95R	E-163
RS-4013	4.000	RC	95R	C-20	95R	E-163
JS-4014	4.063	D	US-1242	C-5	US-1242	E-155
LXS-4019	4.000	RC	94R	C-20	94R	E-162
RS-4019	4.000	RC	94R	C-20	94R	E-162
RO-4020	5.000	D	US-5031	C-5	US-5035	E-157
4023	18.000	RC	1871R	C-21	1873R	E-177
SS-4023	18.000	RC	1871R	C-21	1873R	E-177
US-4028	4.000	D	US-4031	C-5	-	-
US-4031	4.000	U	US-4031	C-5	-	-
4038	12.000	RC	B-1266R	C-21	B-1266R	E-174
SS-4038	12.000	RC	B-1266R	C-21	B-1266R	E-174
SS-4043	12.000	RC	B-1266R	C-21	B-1266R	E-174
4065	9.000	RC	4065	C-21	4065	E-172
JS-4106	4.063	D	US-1242	C-5	US-1242	E-155
JS-4110	4.063	D	US-1241	C-5	US-1242	E-155
LXS-4113	4.000	RC	1188R	C-20	91R	E-163
RS-4113	4.000	RC	1188R	C-20	91R	E-163
LXS-4119	4.000	RC	97R	C-20	97R	E-163
RS-4119	4.000	RC	97R	C-20	97R	E-163

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

TSUBAKI

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
US-4121	4.090	D	US-4121	C-5		-
US-4122	4.090	D	US-4122	C-5	US-4122	E-156
RO-4214	4.000	D	DWG. 16751	**		-
IS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
LXS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
RS-4216	4.000	RC	US-90R	C-20	US-90R	E-164
RS-4238	4.000	RC	89R	C-20	89R	E-164
LXS-4328	4.000	RC	89R	C-20	89R	E-164
LXS-4328G19	4.000	RC	DWG. 21758	**	89R	E-164
RS-4328	4.000	RC	89R	C-20	89R	E-164
IS-4522	4.500	D	US-4522	C-5	US-4522	E-156
US-4522	4.500	D	US-4522	C-5	US-4522	E-156
RO-4824	6.000	D	US-6042	C-5	US-6042	E-158
SS-4850	12.000	RC	1265R	C-21	1265R	E-173
4851	9.000	RC	4009	C-21	4009	E-170
SS-4851	9.000	RC	4009	C-21	4009	E-170
4852	9.000	RC	4004	C-21	4004	E-171
SS-4852	9.000	RC	4004	C-21	4004	E-171
4856	6.000	SB	4856	C-55	4856	E-182
4857	6.000	SB	4857	C-55	4856	E-182
4859	6.000	SB	4859	C-55	4859	E-183
4864	7.000	SB	4864	C-55	4864	E-183
IS-5022	5.000	D	US-5031	C-5	US-5035	E-157
LXS-5022	5.000	D	US-5031	C-5	US-5035	E-157
US-5022	5.000	D	US-5031	C-5	US-5035	E-157
IS-5028	5.000	D	US-5031	C-5	US-5035	E-157
LXS-5028	5.000	D	US-5031	C-5	US-5035	E-157
US-5028A	5.000	D	US-5031	C-5	US-5035	E-157
US-5028N	5.000	D	US-5031	C-5	US-5035	E-157
US-5028	5.000	D	US-5031	C-5	US-5035	E-157
IS-5031	5.000	D	US-5031	C-5	US-5035	E-157
US-5031	5.000	D	US-5031	C-5	US-5035	E-157
US-5035	5.000	D	US-5035	C-5	US-5035	E-157
US-5042	5.000	D	US-5042	C-5	US-5042	E-157
5208	6.000	RC	DWG. 18708	**		-
5520	2.563	D	520RX	C-5		-
US-5542	5.500	D	US-5542	C-5	US-5542	E-158
5602	6.000	RC	DS-196R	C-94	627R	E-165
US-5738	5.750	D	US-5738	C-5		-
IS-6018	6.000	RC	US-196R	C-20	627R	E-165
LXS-6018	6.000	RC	US-196R	C-20	627R	E-165
RS-6018	6.000	RC	US-196R	C-20	627R	E-165
RS-6018CR	6.000	RC	DS-196R	C-94	627R	E-165
IS-6022	6.000	RC	607R	C-20	CC5	E-167
IS-6040	6.000	D	US-6042	C-5	US-6042	E-158
US-6040	6.000	D	US-6042	C-5	US-6042	E-158
IS-6042	6.000	D	US-6042	C-5	US-6042	E-158
JS-6042	6.000	D	US-6042	C-5	US-6042	E-158
US-6042	6.000	D	US-6042	C-5	US-6042	E-158
6053R	6.000	RC	6053R	C-20	6053R	E-165
US-6066	6.000	D	US-6066	C-5	US-6042	E-158
6101	6.000	RC	631R	C-21	627R	E-165
6102B	4.000	SB	102B	C-55	102B	E-181
6102BM	4.000	SB	102B	C-55	102B	E-181
6102 1/2	4.040	SB	102 1/2	C-55	102 1/2	E-181
6110	6.000	SB	110	C-55	110	E-182
6110BM	6.000	SB	110	C-55	110	E-182
6111	4.760	SB	111	C-55	111	E-182

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

Universal Product Cross-Reference

Chain Number	Pitch	Style*	Tsubaki Chain Number	Chain Page Number	Tsubaki Sprocket Number	Sprocket Page Number
6111 M	4.760	SB	111	C-55	111	E-182
6111SP	4.76 X 7.24	SB	111SP	C-55		-
6131	3.075	SB	131	C-55	131	E-180
6150DM	6.050	SB	150X	C-55	150X	E-183
6150P	6.050	SB	150X	C-55	150X	E-183
6188	2.609	SB	188	C-55	188	E-179
6188M	2.609	SB	188	C-55	188	E-179
LXS-6238	6.000	RC	614R	C-21	CC5	E-167
RS-6238	6.000	RC	614R	C-21	CC5	E-167
DS-6272	6.000	RC	DS-6272	C-94	DS-6272	E-166
LXS-6438	6.000	RC	631R	C-21	626R	E-168
RS-6438	6.000	RC	631R	C-21	626R	E-168
US-6560	6.500	D	US-6560	**		-
US-6566	6.500	D	US-6566	C-55		-
6825	4.000	SB	825	**		-
6826	6.000	SB	6826	C-107		-
6830	6.000	SB	830	**		-
6850	6.000	SB	US-850	**		-
6856	6.000	SB	4856	C-55	4856	E-182
6864	7.000	SB	4864	C-55	4864	E-183
6867	6.000	SB	4857	C-55	4856	E-182
6869	6.000	SB	4859	C-55	4859	E-183
JS-7055	7.000	D	US-7060	**		-
IS-7060	7.000	D	US-7060	**		-
US-7060	7.000	D	US-7060	**		-
US-7080	7.000	D	US-7080	C-55	US-7080	E-158
7601	2.800	SB	DWG. 20003	**		-
7602	2.609	SB	DWG. 16109	**		-
7774MO6	2.609	RC	26001	C-104		-
9063RXX	6.000	RC	9063RXX	-		-
U-9856	6.000	RC	U-9856	C-78	U-9856	E-193
12001	12.000	RC	12001	C-90		-
12002	12.000	RC	12002	C-90		-
12003	12.000	RC	12003	C-90		-
20001	2.000	SB	20001	-		-
20002	2.000	RC	20002	C-95		-
26001	2.609	RC	26001	C-104		-
27001	12 X 15	BP	27001	C-91		-
30701	3.075	RC	30701	C-104	US-3075	E-153
30702	3.075	SB	30702	C-106	131	E-180
30703	3.075	SB	30703	C-104	131	E-180
40001	4.000	RC	40001	C-81	US-90R	E-164
40002	4.000	RC	40002	C-81		-
40003	4.000	RC	40003	C-81		-
41001	4.100	WS	41001	C-103		-
42501	4.250	RC	42501	C-81		-
50001	5.000	RC	50001	C-20		-
52501	5.250	RC	52501	C-81		-
52502	5.250	RC	52502	C-81		-
60001	6.000	RC	60001	C-21		-
60002	6.000	RC	60002	C-81	625R	E-167
60175	6.000	RC	60175	-		-
80002	8.000	RC	80002	C-96		-
80003	8.000	RC	80003	C-96		-
90001	9.000	RC	90001	C-96		-
90002	9.000	RC	90002	C-96		-
90003	9.000	RC	90003	C-90		-
90004	9.000	RC	90004	C-90	925R	E-169

*Style abbreviations: D = Drive chain; RC = Roller chain; R = Drop forged rivetless chain; SB = Steel bushed chain; WS = Welded steel chain; C = Cast combination chain, BP = Bar and pin chain.

**Available on a made-to-order basis. Dimensions for this item are not listed in this catalog. Contact Tsubaki for more information.

TSUBAKI